

Department of Public Works

Engineering Division

Robert F. Phillips, P.E., City Engineer

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April 7, 2017

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Financial Manager Steven B. Danner-Rivers

NOTICE OF ADDENDUM ADDENDUM NO. 2

CONTRACT NO. 7939 MADISON MUNICIPAL BUILDING - RENOVATION

Revise and amend the contract document(s) for the above project as stated in this addendum, otherwise, the original document shall remain in effect.

Please acknowledge this addendum on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

Electronic version of these documents can be found on the Bid Express web site at:

http://www.bidexpress.com

If you are unable to download plan revisions associated with the addendum, please contact the Engineering office at 608-266-4751 receive the material by another route.

Sincerely,

Robert F. Phillips, P.E., City Engineer

Cc: Mike Dailey

NOTICE OF ADDENDUM ADDENDUM NO. 2

CONTRACT NO. 7939 MADISON MUNICIPAL BUILDING - RENOVATION

This addendum is issued to modify, explain or correct the original Drawings, Specifications, or Contract Documents and is hereby made a part of the contract documents.

This addendum consists of the following documents:

1. GENERAL CONTRACT CONDITIONS

This section is not used.

- 2. **GENERAL QUESTIONS/REQUESTS AND ANSWERS** (see attachment from Architect for additional questions/answers).
 - a. **Question/Request** Please provide a list of SBE bidders who bid on contract 7751 (i.e. the first Madison Municipal Building Restoration bid).
 - **Answer** SBE Subcontractors included on prime bidders' utilization reports were Capitol Steel Erectors, Inc., Integral Building Systems, Inc., Santa Rosa Maintenance, Inc., Artisan Plastering, Byco, Inc.
 - b. **Question/Request** Please provide the sign-in sheet from the building tour on Wednesday, April 05, 2017.
 - **Answer** See attached.
 - c. **Question/Request** During the SBE pre-bid meeting it was stated that there are labor utilization goals for the project for minorities and women. We are unable to find where these goals are provided, please provide.
 - **Answer** This is an item in the Affirmative Action Plan (Section VII Goals, Good Faith Efforts and Timetable) for City of Madison Public Works Prequalification Applications.
 - d. **Question/Request** No soil borings are provided as part of the bid documents. Please provide so bidders know what types of soil to expect when performing earth moving operations.
 - **Answer:** See attached Geotech Report dated 8/31/2010 and Geotech Report dated 11/5/2015.
 - e. **Question/Request** Sheet C103 indicates the project limits on the plan North side to be tight to the new addition. Please clarify if we will be able to layback the excavation beyond these limits or if we will be required to use earth retention to allow us to install foundations.
 - **Answer:** Contractor may "layback" the excavation beyond the plan North side limit. Please note the adjacent parking structure project is scheduled to commence construction in October 2017.
 - f. Per section D special provisions article 104.1 it states that an adjacent underground parking structure is to be built parallel with this project. Please answer the following questions.....

Question: When is the anticipated start construction and will we be able to use the area plan North prior to the ramp starting?

Answer: Per Section D Special Provisions Article 104.1 the parking structure shall commence in October 2017. In review with the project manager for the parking structure the construction for that project is scheduled to commence on October 30, 2017. The Contractor for this contract may use the area beyond the plan North side limit for

activities related to building the new annex until Friday, October 13. After this date future access will need to be coordinated with the adjacent contractor and the City's Construction Manager. No materials will be permitted to be placed on any grass or planting areas. The Contractor for this contract will be responsible for set up of temporary fence around all staged materials. The Contractor for this contract will be responsible for leaving the site properly draining, to be approved by the City Construction Manager. The site must be approved by the City Construction Manager following the removal of all material, fencing, and rough grading. All costs associated with City action required, due to the Contractor for this contract not complying with these conditions, will be issued as a deductive change order to the Contractor for this contract.

Question: Sheet C104 – Landscaping shows us providing new landscaping north of the adjusted property boundary. Is this correct or should this work not be required since it is in the new parking structure area?

Answer: This is not new landscaping. All landscaping plan North of the adjusted property boundary is existing (i.e. "EX"). No new landscaping is required plan North of the adjusted property boundary for this contract.

Question: Please confirm that we are not required to provide any landscape restoration in the removed annex area. None is shown.

Answer: No landscape restoration is required at the removed annex area.

3. **ACCEPTABLE EQUIVALENTS**

This section is not used.

4. SPECIFICATIONS

See attached additional information from architect/engineer consultant.

5. **DRAWINGS**

See attached additional information from architect/engineer consultant.

6. PROPOSAL

This section is not used.

Please acknowledge this addendum on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

Electronic version of these documents can be found on Bid Express at https://www.bidexpress.com/

If you are unable to download plan revisions associated with the addendum, please contact the Engineering office at 608-266-4751.

For questions regarding this bid, contact:

Mike Schuchardt, Construction Manager Department of Public Works Engineering Division – Facilities Management PH: (608) 261-9249 mschuchardt@cityofmadison.com Bryan Cooper, Architect IV
Department of Public Works
Engineering Division – Facilities Management
PH: (608) 261-5533

bcooper@cityofmadison.com

Contract #7939 - MADISON MUNICIPAL BUILDING - RENOVATION

Contract #7946 - MADISON MUNICIPAL BUILDING - EXTERIOR HISTORIC WINDOW PAINTING

PRE-BID SITE BUILDING TOUR WEDNESDAY, APRIL 5, 2017 (11:00 am - 1:00 pm)

ATTENDEES PLEASE SIGN-IN

NAME	COMPANY	EMAIL	PHONE
Randy Williams	Miron	estimating @miron - construction	920-886-7838
Gea Winte	USAFP	greg. hinter Usaffix	3 924-536 739-5.
Mike Russell	Morse Elic.	mikerpthemorsegroup.co	815-378-92/1
ZAL SEFFROOD	Alchemy Pointing	ZAC. SEFFROOD @gmp./	
Rockery KATILIA		E LUAN Q EXCALIBUR	
Agrom Laine	an Clair	higheststandardspc. agmillion	(b08) 320-6893
Michael Berndsen	$\langle A \rangle \langle A $	miteB@ maly Roofing.com	
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Scott Lungum	Drax Inc		
MAXBADE/STELE	FJA CHRISTIANSEN	Scott langum Cdraxio. 10 mbade@Ehristiansensorfing. 857UCKEYE Christiansenson	om 414/445.412 Ding.com
BART BOWERS	B.DEMO	BLCKCRK 6anto,	920-660 0878 401. Com
Dora Mourau	Class Aclaning		
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Contract #7939 - MADISON MUNICIPAL BUILDING - RENOVATION

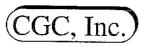
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Contract #7946 - MADISON MUNICIPAL BUILDING - EXTERIOR HISTORIC WINDOW PAINTING

PRE-BID SITE BUILDING TOUR WEDNESDAY, APRIL 5, 2017 (11:00 am - 1:00 pm)

ATTENDEES PLEASE SIGN-IN

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NAME	COMPANY	EMAIL	PHONE
CHRIS BARNET	PIEPER SCHUN EVER	Chris. bathelle prepripouted.	ion 829-4496
Jay Stassa	Electric Custodin	JSMSSi cecidesijn.com	608-2021-7079
Moric Mazin	BRC	Mark Mazur & Building Dostarate	608770-1285
Maric Marin Belmontes	JP Cullen	Mark Mazur & Building Destoration LUISO BELMONTESE JPCULLEN. Com	262-781-
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Construction • Geotechnical Consulting Engineering/Testing

August 31, 2010 C10041-5

Mr. Bill Knobeloch City of Madison Parking Utility 215 Martin Luther King, Jr. Boulevard, Room 100 Madison, WI 53703

Re: Preliminary Geotechnical Exploration Report

Proposed Parking Ramp

Between E. Doty Street and E. Wilson Street

Madison, Wisconsin

Dear Mr. Knobeloch:

Construction • Geotechnical Consultants, Inc. (CGC) has completed the first phase of the subsurface exploration program for the proposed parking ramp project. The purpose of this preliminary exploration program was to evaluate the subsurface conditions at the site from a geotechnical engineering viewpoint and to provide related recommendations for foundation, floor slab and below-grade wall design/construction. One paper copy and an electronic copy of this report are submitted for your use. An electronic copy is being forwarded to the project structural engineering consultant, Mr. Jeff Edge of JSD Professional Services.

PROJECT DESCRIPTION

We understand the existing parking lot and building north of the City of Madison Municipal Building, as well as the existing Government East parking ramp, will be razed and replaced with a five story below-grade parking ramp and up to twelve stories above grade. Existing grades along East Doty Street are near EL 60 to 65 (Madison city datum - MCD) and site grades along East Wilson range from about EL 49 to 56 ft. Site grades drop moderately to the east (using project north) toward Lake Monona and drop more gently to the north across most of the building footprint. Note that the water level of Lake Monona is at approximately EL 0.

The proposed building will have five below-grade parking levels (for a maximum 1600 automobiles) plus up to 12 levels above the parking ramp that may involve retail, office and/or residential space. Column loads up to 2500 kips are projected. The lowest parking level will be established near EL 19 (footing grade near EL 15), with first floor near EL 64 (MCD) to match East Doty Street grade. As a reference, the first floor elevation of the Municipal Building is at EL 68.3 ft. The footprint will extend from the City of Madison Municipal building across Pinckney Street to the Great Dane Brew Pub and from East Doty Street to East Wilson Street. Pinckney Street will be reconstructed over the parking ramp. The project will likely be constructed in



phases to maintain current parking levels with the portion of the ramp south of Pinckney constructed first followed by construction of the north portion of the ramp. An earth retention system will be required during construction.

SUBSURFACE CONDITIONS

The first phase of the geotechnical exploration consisted of drilling seven Standard Penetration Test (SPT) soil borings (B-1 through B-7) to depths of 90 to 100 ft below existing site grades. The borings were completed by Badger State Drilling (under subcontract to CGC) on August 6 through 16, 2010 using a truck-mounted rotary D-120 drill rig equipped with hollow-stem augers and rotary wash equipment. A monitoring well (MW-1) was installed about 5 ft north of Boring 5. A second drilling phase is planned, which will include two or three borings where pressuremeter testing will be performed. Pressuremeter testing measures the *in situ* strength and deformation properties of the soil, which allows for more accurate determination of the allowable bearing pressure. The allowable bearing pressure determined from pressuremeter testing is typically significantly higher (usually about double) than the bearing pressure determined based on conventional methods using SPT blow counts (N-values). More information regarding the drilling program is included in Appendix A of this report, with the boring locations presented on a Soil Boring Location Map found in Appendix B.

The subsurface conditions encountered across the site are fairly uniform and consist of medium dense to very dense silty sand strata below about 3 to 12 ft of miscellaneous sand and clay fill with scattered brick or concrete debris or layers and/or native lean clay. Otherwise, very dense sand strata extend to the maximum depths explored. Standard penetration resistances (N-values on the boring logs) average greater than 50 blows/ft below proposed footing grade (EL 15). The conditions described above are typical for the glacial tills found in the Capitol Hill area. Note that a very dense sandy clayer silt layer was encountered in the lower 5 ft of Boring 7. Additionally, occasional sand layers with lower silt content were encountered near 25 ft in Boring 3, near 90 ft in Boring 5, near 35 in Boring 6 and near 80 ft in Boring 7. Also note that a possible petroleum odor was encountered near 50 ft in Boring 1, which may be the result of contamination from a previous gas station at this site with underground fuel storage tanks or other unknown source. We understand the tanks were previously removed.

Based on the very dense nature of the silty sandy till and use of drilling mud to advance the boreholes, the groundwater elevation could not be accurately determined in the borings, and where water levels are indicated on the boring logs, these depths should be considered very approximate. Therefore, a monitoring well (MW-1) was installed near Boring 5 to obtain long-term water level readings. The water level measured in the well a few to several days after being installed was near EL 17 to 17.5 ft MCD. As the groundwater generally follows the topography, the water level on

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the higher, Doty Street, end of the site could be a few feet higher. In our opinion, an apparent perched groundwater seam was located near 32.5 to 35 ft below existing site grades (approx. EL 24.5 to 27 ft) in Boring 6 in a "cleaner" sand layer between silty sand layers. A similar clean sand layer was encountered near 22.5 to 25 ft below existing site grades (approx. EL 36 to 38.5 ft) in Boring 3 that also appeared to contain perched water. Such water bearing perched clean sand layers have been encountered on other projects in the Capitol Hill area. As a reference, the historical water level of Lake Monona is around EL 0 MCD, which corresponds to EL 845.6 ft above mean seal level (USGS datum). Our experience indicates that a groundwater mound above lake level such as at this location is frequently seen in the Capitol Hill area. Groundwater levels drop to approximate lake level as the ground surface falls off near the lake. Fluctuations in the groundwater level should be expected in response to seasonal variations in precipitation, infiltration, lake levels, pumping rates from nearby wells and other factors.

More detailed information regarding soil and groundwater conditions at the site are presented in the Boring Logs found in Appendix B. Grain size distribution test reports on soil boring samples are also included in Appendix B.

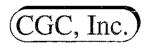
DISCUSSION AND RECOMMENDATIONS

Subject to the limitations discussed below, it is our opinion that this site is suitable for the proposed construction and that the structure can be supported on conventional spread footing foundations bearing on the very dense sandy glacial till encountered across the site. However, a number of issues will need to be addressed during design and construction. These include earth retention, protection of footing subgrades from disturbance, and a perimeter and subfloor drainage system. These issues are related to the lower level extending as deep as EL 19 and footing excavations extending as deep as EL 15, which is near to about 2.5 to 3 below the groundwater level measured in the monitoring well. Specific recommendations regarding the geotechnical aspects of design and construction follow. Additional information regarding this report is discussed in Appendix C.

1. Site Preparation

a. General Excavation

An initial step in preparing the site for construction will be the demolition of the existing building on the south side of the site and demolition of the parking ramp on the north side. Because of the depth of excavation required for five below-grade parking levels, we anticipate that the entire substructure of the existing structures will be removed in their entirety. The demolition debris should be taken to an appropriate waste disposal site. Except for minor amounts of on-site



granular soils reused for backfill, we anticipate that the bulk of the soils in the excavation will be hauled off site. Note that a petroleum odor was noted in Boring 1, and other contaminated soil may be encountered due to the presence of previously-removed underground petroleum storage tanks at the northeast corner of Doty and Pinckney Streets. CGC is not aware of the remedial action taken when the tanks were removed. We recommend that an environmental consultant be retained to provide environmental-specific guidance or review previous remedial measures. It may be prudent to conduct supplemental environmental borings or test pits in the vicinity of the former service station (and Boring 1) to better evaluate the extent of contaminated soil at this site. Contaminated soil hauled off site should be disposed of in a licensed solid waste landfill.

b. Recommended Earth Retention

As space is limited due to adjacent buildings and streets, excavation retention systems are likely to be required on all sides. Retention systems should be designed by a qualified registered professional engineer.

In our opinion, soil nailing may be the most cost-effective earth retention system for this project along Wilson and Doty Streets. Soil nailing is a method of earth retention that is based on in-situ reinforcement of the earth mass adjacent to the excavation. The reinforcement is accomplished by inserting steel bars ("nails") into the soil in a grid pattern, spaced typically about 5 to 6 ft in both horizontal and vertical directions. The depth to which the reinforcement extends beyond the excavation face is usually in the range of 60 to 80 percent of the depth of excavation. Nails typically consist of rebar grouted in 4-in. (minimum) diameter predrilled holes. Both spacing and length of the nails are easily modified to accommodate different soil conditions. To retain the soil at the face of the excavation, shotcrete about 4-in. thick and reinforced with wire mesh is applied to the face and anchored to the nails. The excavation, installation of nails and shotcrete application proceed in "lifts" equal to one vertical grid space.

The predominant soil type on-site, a sand till with some silt, is generally suitable for the soil nailing method, in our opinion. The upper soils could possibly be sloped back to a stable angle (if space allows) and protected from erosion with shotcrete or reinforced plastic. Special attention must be provided during both design and installation of the retention system to adequately support the adjacent roadways and avoid damage to buried utilities. More challenging installation, including the use of hollow core nails, should be anticipated in deeper portions of the excavation that extend near or below the water table or in zones containing clean sands that may include perched water (such as near 25 ft in Boring 3, near 35 ft in Boring 6 and potentially elsewhere). Three-dimensional drainage board behind the shotcrete face that drains through the shotcrete face using weep holes (wrapped in non-woven geotextile filter fabric) will likely be required in some locations to adequately drain perched water lenses.



Where retention systems are required next to existing structures, a stiffer retention system able to accommodate the heavier loads may be required, depending on the excavation depth, separation distance between the buildings and the relative foundation grades. Where slopes cut back to stable angles would encroach on the existing foundations, we recommend that a soldier pile/wood lagging system be implemented because it is less susceptible to potential movement, particularly in winter. The H-piles are installed in pre-drilled holes that are backfilled with concrete. The H-piles will likely require intermediate tie-back anchoring pending site details and loading conditions. Provisions will need to be included in the wood lagging face, such as the use of three-dimensional drainage board or filter fabric, to accommodate water seepage from perched water seams behind the wall while preventing soil erosion.

Typical costs for soil nailing are about \$25 to \$30 per sq ft, while pile/lagging is about \$35 to \$40 per sq ft. We recommend that a precondition survey be performed on adjacent properties prior to the start of excavation. It is also important that a monitoring program be established and implemented until the permanent, below-grade walls are backfilled. The program should check for visual signs of wall and/or adjacent structure movement on a regular basis during the excavation stage of construction. Regular monitoring should continue until the lower level walls are backfilled or a sufficient amount of data is generated to draw a conclusion on the retention system's performance. If optical surveys of settlement and horizontal movement indicators show little movement is occurring, the frequency of monitoring could potentially be reduced.

c. Underground Utilities

A number of critical utilities exist along Wilson Street on the east side and Doty Street on the west side of the proposed ramp footprint. Where possible, utilities should be disconnected at a significant distance away from the ramp limits (i.e., typically 5 ft or more) and abandoned or rerouted. Abandoned utility lines should be capped or plugged to eliminate potential unexpected seepage into the excavations. Utilities in the vicinity of the excavation which cannot be rerouted or disconnected may require special temporary support measures beyond soil nailing. On past projects, active gas lines, electric cables, and fiber optic lines have sometimes required special protection and support structures.

d. Dewatering Evaluation

Based on a lowest level slab grade near EL 19 and an approximate footing grade near EL 15, the information gathered from the exploration program and our experience on projects within the area, it appears that footing excavations will extend about 2.5 to 3 feet below the groundwater level measured in the monitoring well near Boring 5. Note that since groundwater generally follows the topographical trends, the groundwater table on the higher west portion (Doty Street side) could be a few feet higher. Additionally, perched water lenses should be anticipated above the static water



level that will need to be drained as construction advances deeper. The presence of water within the silty sand soils can result in unstable footing subgrades and excavation sideslopes if not handled properly. The silty sand soils are generally expected to have a relatively low permeability and will be difficult to dewater.

Although there are some risks with this approach, the usual practice in the Capitol Hill area of Madison is not to dewater the dense sandy till soils for groundwater drawdowns of only a few feet. This approach is generally successful for two primary reasons: First, the silty sand soils have a very low permeability and groundwater inflows are typically minimal, and second, the extreme density of the soils reduces their potential for disturbance or loosening by inflowing groundwater. The risk associated with not dewatering in advance of excavation is that water-bearing seams of more permeable sands or gravels may be encountered (as noted in Borings 3 and 6, but likely present elsewhere), leading to groundwater seepage, subgrade disturbance and base instability. Most of these conditions can be effectively dealt with through a combination of pumping from sumps inside the excavation, using thin concrete "mud mats" to protect footing subgrades from disturbance, and placing 12 in. of compacted 3-in. clear stone to stabilize floor slab areas. However, a large pocket of permeable sand and gravel could conceivably halt construction until it can be drained with well points or deep wells. Additionally, if the excavation extends more than a few feet below the water table, well points may be required to lower the water table in advance of excavation.

e. Floor Slab Subgrades

The subgrade soils present at base grade for the lowest parking level are expected to consist of natural silty sands. As the excavation base will be close to the groundwater table and will be exposed to typical construction traffic, precautions should be taken to protect the subgrade from disturbance until the time floor slab and footing construction is to proceed. The recommended procedure for floor subgrade protection is as follows:

• Excavate a minimum of 1 ft below proposed floor slab subgrade elevation with a backhoe equipped with a smooth-edged bucket. If groundwater seepage occurs, some areas may need to be exposed in small sections and backfilled immediately with a 6 to 12-in. thick layer of 3-in. nominal diameter crushed stone containing a P200 content of 8 percent or less. Supplemental dewatering should be provided where needed by pumping from sumps within the breaker rock. If isolated subgrade disturbance persists, deeper undercutting and thicker stone placement may be necessary. On the other hand, if conditions are reasonably dry and subgrade stabilization is not required in some portions of the excavation, the breaker rock layer can be deleted in these locations.



> After footing excavation is complete (see below), place a heavy duty non-woven geotextile fabric on the breaker rock in accordance with manufacturer's guidelines. Recommended minimum properties of the non-woven geotextile fabric (whose primary purpose is to allow water infiltration and to a lesser degree provide soil separation) are presented below:

Property	Minimum Roll Value			
Grab Strength ASTM D4632	180 lbs			
Puncture Strength ASTM D3787	75 lbs			
Burst Strength ASTM D3786	290 psi			
Trapezoid Tear ASTM D4533	50 lbs			
Maximum EOS	No. 30 sieve			
Minimum Hydraulic Conductivity	1 x 10 ⁻² cm/sec			

- The fabric should be overlapped per manufacturer specifications (typically an 18in. minimum). To prevent piping of fines from the subgrade soils, extra care
 should be taken to completely cover the subgrade with geotextile. Particular
 attention is required at the interfaces between the fabric and the structure and pipes.
- Place and compact 12-inches of WDOT No. 1 crushed stone to complete the slab subgrade surface. This layer will serve as the drainage medium below the slab in which drain tile will be installed (discussed subsequently).

2. Foundations

Based on the anticipated grades, foundations for the structure are anticipated to bear within natural silty sand soils. In our opinion, the proposed structure may be supported by conventional spread foundations. This opinion is based on undisturbed soils existing at footing subgrades. A backhoe with a smooth-edged bucket should be used to excavate to footing grade within the structure limits. The footing subgrades should then be observed by CGC using a dynamic cone penetrometer (DCP) to check for loose or soft pockets that will require removal. To restore



footing grades in undercut excavations and to protect subgrades from disturbance, we recommend that a minimum 3-in. thick "mud mat" be placed as soon as possible after excavation. The mud mat should be a lean mix concrete capable of developing a compressive strength of 500 psi after 28 days. Some dewatering of the relatively low permeability silty sands may be required from pumps operating from shallow sump pits, with supplemental dewatering of cleaner sand seams with well points or deep wells possibly being required, as discussed above.

Provided the foundations are installed on the very dense, natural sand strata and protected with a lean mix mud mat in accordance with the preceding recommendations, the following parameters should be used for foundation design:

•	Maximum	allowable bearing pressure:	15,000 psf ⁺⁺
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• Minimum foundation widths:

-- Continuous wall footings: 18 in. -- Column pad footings: 36 in.

• Minimum footing depths for frost protection: 4 ft

Provided the foundation design/construction recommendations discussed above are followed, we estimate that total and differential settlements should not exceed 1.0 and 0.5 in., respectively.

3. Seismic Design

Because SPT blow counts (N-values) exceed 50 blows/ft, on average, it is our opinion that the average soil properties in the upper 100 ft of the site can be characterized as very dense soil. This characterization would place the site in Site Class C for seismic design according to the International Building Code (Table 1615.1.1).

4. Floor Slabs

In our opinion, the floor slab for the lowest parking level may be supported on the natural silty sand soils. The recommended subgrade modulus for floor slab design is 200 pci. Before floor slab construction, exposed subgrades should be stabilized as described previously with breaker rock, geotextile and No. 1 stone. The concrete slab should be a minimum of 6-in. thick.

Groundwater levels may rise at times to intersect the lower parking level floor slab, particularly on the higher west (Doty Street) side of the site. Accordingly, provisions should be made to

^{**}Note that the bearing pressure will be revised pending pressuremeter testing.



effectively drain the water from below the slab through the incorporation of a subfloor drainage system. The subfloor drainage system should be constructed using the following guidelines:

- 1. Drain lines should be positioned on approximately 25-ft spacings in the longitudinal direction. The maximum drain slot size should be equal to 0.25 inches.
- 2. The subgrade should be sloped to promote positive drainage to the drain lines.
- 3. The drainage system should be designed so that it is continuously connected to an interior perimeter drain line which discharges to one or more sump pits. A qualified civil or mechanical engineering consultant experienced in the design of permanent drainage systems should be included on the design team for the project to detail the system required on this project. Redundant systems should be included in the design, such as duplicate sumps, pumps and possibly a backup generator.
- 4. Pressure relief ports should be included in the slab design to prevent slab uplift in the event of a system shutdown. Note that the pressure relief ports are included to allow the lowest level to flood in the event that the subfloor drainage system is inoperable (e.g., during a power outage, etc.) during high water events. Although flooding of the lowest level may occur, damage to the slab is prevented.
- 5. The drainage course should be at least 12 inches thick and conform to the gradation requirements set forth as follows:

Recommended Drainage Course Gradation⁽¹⁾ (WDOT No. 1 Stone)

Sieve Size	% Passing
1 :	100
1 in.	100
3/4 in.	90-100
⅓ in.	
3/8 in.	20-55
No. 4	0-10
No. 8	0-5

⁽I)Alternative gradations are acceptable providing soils are "clean" (less than 5% P200) and satisfy filter requirements for subgrade and drainage pipe slot size. As discussed previously, use of a non-woven geotextile layer is required to separate the drainage layer from the subgrade soils.



The slab should be structurally separate from the walls and be isolated with compressible foam filler.

5. Below-Grade Walls

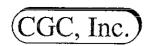
a. Parking Levels

We anticipate that below-grade walls will be restrained by the lower-level floor slab, as well as lower level and ground level framing. These walls should be designed for at-rest lateral earth pressures. To minimize the development of lateral pressures on the walls, a high quality backfill should be placed within 3 to 5 ft of the walls. The backfill should consist of well-graded sand or gravel having no more than 12 percent passing the No. 200 U.S. Standard Sieve. The on-site granular soils are too silty for this purpose and should not be used, unless a three dimensional drainage board is used directly against the below-grade walls and is hydraulically connected to the perimeter drain system. Imported pea gravel or 3/4-in. clear stone is commonly used to backfill the space between the new walls and the temporary retention system. The stone or pea gravel should be compacted in 12 in. thick lifts. As a minimum, the pea gravel/clear stone material should extend above EL 22, and be incorporated in the perimeter drain system described in the next paragraph. Note that the gravel/stone backfill should be separated on all sides from the native sands or other fill materials by a non-woven geotextile (e.g., Mirafi 160N or equivalent)

The granular backfill placed behind the walls should be hydraulically connected to the underlying natural granular soils. To impede the inflow of surface moisture, the final 2 ft of backfill should consist of a clayey fill cap or pavement. The cap should be graded in a manner which promotes positive drainage away from the walls. Also, a perimeter drainage system should be installed to prevent hydrostatic pressure from developing against the walls (refer to Appendix E for details). The exterior perimeter drains should be integrated with the underfloor drainage system.

Prior to placing backfill, the exterior of the walls should be damp-proofed with a spray-applied or mopped-on rubber or bituminous sealer. Compaction of the backfill within 3 to 5 ft of the walls should be performed with hand-operated compaction equipment to prevent excess lateral earth pressures. The backfill should be compacted to at least 92% compaction (ASTM D1557).

Below-grade walls constructed in accordance with the above recommendations may be designed for an equivalent fluid pressure of 55 psf per ft of depth. The wall design should take into account surcharge effects that could be applied either during or after construction.



b. Retaining/Loading Dock Walls

Retaining and loading dock walls (if any) will be not be laterally restrained. Therefore, these walls should be designed for active earth pressures behind the walls and passive pressures in front of the walls. Lateral pressures behind the retaining walls can be minimized by backfilling as described in the preceding section. In addition, weepholes should be placed near the base of these walls on 10-ft centers to provide adequate drainage of the wall backfill. The weepholes should be hydraulically connected with the backfill and should be protected with a geotextile fabric to minimize soil loss through the weepholes.

Retaining walls constructed in accordance with the above recommendations may be designed for an active equivalent fluid pressure of 35 psf per foot of depth. Passive pressures are expected to be on the order of 200 psf per ft. The passive pressure includes a safety factor of 2 to prevent excessive wall deflection. The retaining wall design should also take into account any surcharge or hydrostatic effects which could be applied during or after construction.

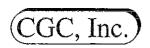
6. Pavement Design

We anticipate that only minor sections of pavement will be constructed, primarily the entrance ramp to the parking levels. Assuming that this will be rigid, Portland cement concrete pavement, we recommend that it be designed for a subgrade modulus of 150 pci, based on a subgrade comprised of sand backfill. Likewise, pavement areas subjected to concentrated wheel loads (i.e., loading docks, dumpster pads, etc.) should be constructed of Portland cement concrete. The slabs should be a minimum of 6-in, thick and should contain mesh reinforcement for crack control.

CONSTRUCTION CONSIDERATIONS

Due to variations in weather, construction methods and other factors, specific construction problems are difficult to predict. Soil related difficulties which could be encountered on the site are discussed below:

- We recommend that final site grading activities be completed during dry weather, if
 possible. Earthwork construction during the early spring or late fall could be complicated
 as a result of wet weather and freezing temperatures.
- During cold weather, exposed subgrades should be protected from freezing before and after footing construction. Fill should never be placed while frozen or on frozen ground.



- Excavations extending greater than 4 ft in depth below the existing ground surface should be sloped in accordance with current OSHA standards. The granular soils generally appear to be classified as Type B per OSHA and therefore, excavation slopes of 1H:1V or flatter should be developed. Flatter side slopes will be required if perched water seams or when excavating near or below the water table.
- The special subgrade preparation procedures (i.e., concrete mud mats) discussed in the text are critical to the success of the foundations at this site.
- Groundwater seepage should be controlled by pumping from filtered sumps.
- If abandoned cisterns and/or wells are encountered on-site that coincide with footing locations, special procedures will be required, such as plugging the holes with concrete.
- When excavating adjacent to existing structures, exercise care to prevent undermining of their foundations. These issues should be addressed in advance during design of the earth retention systems.

RECOMMENDED CONSTRUCTION MONITORING

The quality of the foundation and floor slab subgrades will be largely determined by the level of care exercised during site development. To check that earthwork and foundation construction proceeds in accordance with our recommendations, the following operations should be monitored by CGC:

- Floor slab subgrade checking within the construction areas;
- Earth retention system construction. We also recommend that the contractor monitor vertical and lateral movement of the earth retention system via optical survey. Reading frequency can be established when appropriate. The optical survey points should have an accuracy of 0.005 ft. Data should be provided to CGC for review on a regular basis;
- Footing subgrade preparation/protection with lean mix concrete mud mats;
- Concrete placement; and
- Backfill placement and compaction (including drainage medium).



* * * * *

It has been a pleasure to serve you on this project. We look forward to continuing our project involvement by providing testing services during the construction phase of the project. If you have any questions or need additional consultation, please contact us.

Sincerely,

CGC, INC.

David Stant
David A. Staab, P.E., LEED AP

Consulting Professional

Michael N. Schultz, P.E.

Principal/Consulting Professional

Encl: Appendix A - Field Exploration and Laboratory Testing

Appendix B - Soil Boring Location Map

Logs of Test Borings and Monitoring Well (8)
Particle Size Distribution Test Reports (5)

Log of Test Boring-General Notes Unified Soil Classification System

Appendix C - Document Qualifications

Appendix D - Recommended Compacted Fill Specifications

Appendix E - Typical Perimeter Drain Details

cc: Mr. Jeff Edge, JSD Professional Services, Verona, WI (via email)

APPENDIX A

FIELD EXPLORATION

APPENDIX A

FIELD EXPLORATION

A total of seven Standard Penetration Test (SPT) soil borings (B-1 through B-7) were drilled to depths of 90 to 100 ft below existing site grades. The borings were completed by Badger State Drilling (under subcontract to CGC) on August 6 through 16, 2010 using truck-mounted rotary D-120 drill rigs equipped with hollow-stem augers and rotary wash equipment. The boring locations were selected by JSD Professional Services and CGC, and located in the field by CGC. Elevations are referenced to Madison City Datum (MCD), with the pavement at the northwest corner of the Municipal Building used as a benchmark at EL 65.15 ft.

In each boring, soil samples were obtained at 2.5-ft intervals to 10 ft and at 5-ft intervals thereafter by Badger State Drilling using a drill rig equipped with hollow stem augers and mud rotary equipment. Soil samples were obtained in general accordance with specifications for Standard Penetration Testing, ASTM D1586. Pressuremeter tests will also be conducted in two of the boreholes under the direction of WKG² (also under subcontract to CGC). The specific procedures used for drilling and sampling are described below:

1. <u>Drilling Procedures Bétween Samples</u>

The boring was extended downward between samples using a roller bit and circulating drilling mud. Hollow stem augers were also used in the upper reaches of borings.

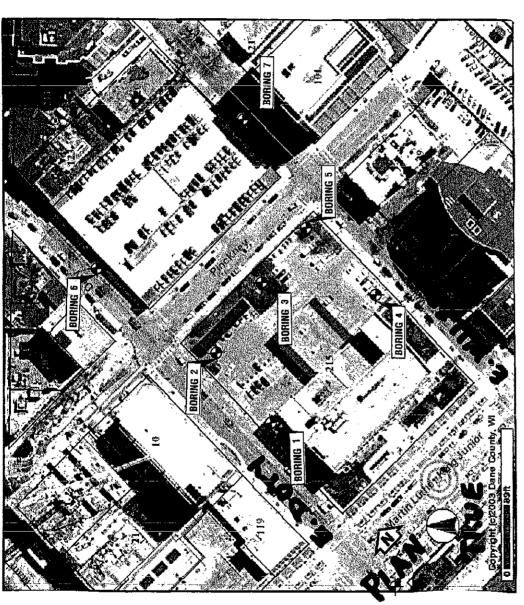
2. <u>Standard Penetration Test and Split-Barrel Sampling of Soils</u> (ASTM Designation: D1586)

This method consists of driving a 2-inch outside diameter split barrel sampler using a 140-pound weight falling freely through a distance of 30 inches. The sampler is first seated 6 inches into the material to be sampled and them driven 12 inches. The number of blows required to drive the sampler the final 12 inches is recorded on the log of borings and is known as the Standard Penetration Resistance.

During the field exploration, the driller visually classified the soil and prepared a field log. Field screening of the samples for possible environmental contaminants was outside CGC's work scope and is not addressed in this report. The apparent petroleum odor noted in Boring 1 was based solely on olfactory observations. Water level observations were made in the hollow stem auger boring during and after drilling and are shown at the bottom of each boring log. Upon completion of drilling, the open boreholes were backfilled with bentonite in accordance with WDNR guidelines. The soils were then delivered to our laboratory for visual classification and laboratory testing. The soils were visually classified by a geotechnical engineer using the Unified Soil Classification System. Particle size distribution tests were performed on representative boring samples to aid in classification. The final logs prepared by the engineer and a description of the Unified Soil Classification System are presented in Appendix B.

APPENDIX B

SOIL BORING LOCATION MAP
LOGS OF TEST BORINGS (7)
LOG OF MONITORING WELL (1)
PARTICLE SIZE DISTRIBUTION TEST REPORTS (5)
LOG OF TEST BORING-GENERAL NOTES
UNIFIED SOIL CLASSIFICATION



Proposed Parking Ramp Between E. Doty St. & E. Wilson St. Madison, Wisconsin SOIL BORING LOCATION MAP

Denotes soil boring location and number

Notes

1. Soil borings performed by Badger State Drilling in August 2010.

2. Base map provided by Dane County DCI Map.

3. Boring locations are approximate.

Job No. C10041-5 Date: 08/10

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Boring No. 1
Surface Elevation (ft) 64.6 Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St. Job No. **C10041-5** Location Madison, WI Sheet 1 of 3

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887-

SAMPLE			VISUAL CLASSIFICATION		SOIL PROPERTIES						
No.	Rec P(in.)	Moist	N	Depth (ft)		and Remarks	qu (qa) (tsf)	W	LL	PL	LI
		1		<u> </u>	X	5 in. Asphalt Pavement/5 in. Concrete					
1	6	М	4	<u>-</u>		FILL: Medium Stiff, Brown Silty Clay, Scattered	(0.75-1.0)				
	10	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	12	├ ~		Asphalt Debris Stiff, Brown Lean CLAY, Trace Sand (CL)	<u> </u>		<u> </u>		
2	12	M	13	<u> </u>		L	(1.7)		<u> </u>		
			4.4	<u></u>		Medium Dense, Brown Fine to Medium SAND,					
3	12	М	11	<u> -</u> -	иii	Some Silt, Little Gravel, Trace Clay (SM)			<u> </u>		
	14	3.7	20	 		Dense to Very Dense, Brown Fine to Medium			 		
4	14	М	30	<u>⊢</u> ⊢ 10	ŕģ	SAND, Some Silt, Little to Some Gravel, Scattered					
			1			Cobbles/Boulders (SM)					
			ŀ								
	10			├─ ┌					<u> </u>		
5	18	M	70	 ├ ├ 15-							
				L 13 1 ├─							
	1.4	3 6 73 7	00	F					<u> </u>		
6	14	M/W	92	├- - - 20-							
				Ļ -~ ⊢				<u> </u>	[
		2 6 7 7 7	00	F					<u> </u>	ļ <u> </u>	
7	14	M/W	93	├- - - 25-					ļ. <u>.</u>		
				L ~~ ├-							
				<u></u>							
			= 0.143	ļ		P200 = 30.9%			 	ļ	
8	8	М	50/4"	<u>├</u> 30-	6 00° 2 00°						
				- -							
				<u></u>							
		3.603**	0010	<u> </u>					1	-	
9	4	M/WI	00/6	- - - 35-							
				⊢ "°		Numerous Cobbles Near 35 ft				1	
				<u></u>							
10	1	1.5	00 /O"	<u> </u>				-	-	-	
10	16	M	80/9"							<u> </u>	
	- -		W	ATEF		EVEL OBSERVATIONS	GENERA	LNC	ίΤΕ	}	<u> </u>
U/hil	Drill	ina	立			Upon Completion of Drilling Start	3/6/10 End	8/6	/10		
		nıg Drillir				Driller B	adger Chief	A	P I	Rig D	120
Depti	ı to W	ater	~			▼ Logger	KD Editor	· DA	S		
	to Ca		ior 1	ines ro	nro		od 41/4" H	SA 0-	15'; 3	-7/8"	• • • • • • • • • • • • • • • • • • • •
soi	1 type	and	the t	ransiti	on m	ent the approximate boundary between RB/DM 1	Y. J. A.Y.Y		••••••		

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Project Proposed Parking Ramp
Between E. Doty St. & E. Wilson St.
Location Madison, WI

Boring No. 1
Surface Elevation 64.6
Job No. C10041-5
Sheet 2 of 3

			_	-2921 PI	RRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (60						
SAMPLE			<u>.</u> E	1	VISUAL CLASSIFICATION	SOIL PROPERTIES					
No.	T Rec P(in.)	Moist	N	Depth (ft)	and Remarks	qu (qa)	w	LL	PL	ΓI	
11	0	М	100/1		Dense to Very Dense, Brown Fine to Medium SAND, Some Silt, Little Gravel, Scattered Cobbles/Boulders (SM) Pushed Stone (No Recovery) Near 45 ft	(tsf)					
12	6	М	50/3"	50-	*Color Changed to Gray-Brown with Possible Petroleum Odor Near 50 ft*						
13	10	M	50/4"	55							
14	8		50/3"	- - - - - - - - -							
15		M/W								-	
16	10	M/W	50/4"								
17	8		50/3"	75—					p of the state of		
18		M/W	5/4"	80	Fewer Cobbles Near 80 ft						
19	18	М	60	85-						:	

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Boring No. 1
Surface Elevation 64.6 Project Proposed Parking Ramp Job No. **C10041-5** Between E. Doty St. & E. Wilson St. Sheet 3 of 3 Location Madison, WI

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887											
SAMPLE				VISUAL CLASSIFICATION	SOIL PROPERTIES						
No. Propries	Moist	st I		Oepth (ft)		and Remarks	qu (qa) (tsf)	W	гL	PI,	ΓI
20 3	M/W	W 50/	/5" -	- 90		Dense to Very Dense, Brown Fine to Medium SAND, Some Silt, Little Gravel, Scattered Cobbles/Boulders (SM)					
21 5	M	1 65/	- 61								
				95							
22 3	M	1 65/	6"	- - 100							
				110-		End Boring at 100 ft Borehole backfilled with bentonite slurry, chips and asphalt patch					

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Project Proposed Parking Ramp
Between E. Doty St. & E. Wilson St.
Location Madison, WI

Boring No. 2
Surface Elevation (ft) 63.7
Job No. C10041-5
Sheet 1 of 3

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887-SAMPLE SOIL PROPERTIES VISUAL CLASSIFICATION Depth and Remarks Moist No. (qa) (ft) (tsf) 5 in. Asphalt Pavement/5 in. Concrete 1 8 M 13 FILL: Stiff, Brown/Dark Brown Lean Clay, Little (1.5-2.0)Sand and Gravel FILL: Very Loose to Medium Dense, Brown Silty 2 6 M 17 Fine to Medium Sand, Little to Some Gravel, Intermixed with Brick, Cobbles, Boulders, etc. 3 3 M 3 Possible Brick Layer Near 5 ft 4 8 24 M Very Dense, Brown Fine to Medium SAND, Some 5 50/5" M Silt, Little to Some Gravel, Scattered Cobbles/Boulders (SM) 6 M/W 50/5" 7 M/W 50/2' Pushed Stone (No Recovery) at 25 ft 8 M/W 50/3" 9 M/W 50/3" 10 M 50/4" WATER LEVEL OBSERVATIONS **GENERAL NOTES** Start 8/6/10 End 8/6/10
Driller Badger Chief AP Rig D-120
Logger KD Editor DAS
Drill Method 4 1/4" HSA 0-15"; 3-7/8" While Drilling Upon Completion of Drilling Time After Drilling Depth to Water Depth to Cave in The stratification lines represent the approximate boundary between soil types and the transition may be gradual. RB/DM 15'- 100'

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Boring No. 2 Surface Elevation 63.7 Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St. Job No. **C10041-5** Sheet 2 of 3 Location Madison, WI

	SA	MPI	.E	-6321 11	I	VISUAL CLASSIFICATION	SOIL	PRO	PEF	RTIE	S
No.	Rec P (in.)	Moist	n	Depth (ft)		and Remarks	qu (qa) (tsf)	W	LŁ	PL	LI
11	0	М	50/3"	- - - - - - - - - - - - - - - - - - -		Dense to Very Dense, Brown Fine to Medium SAND, Some Silt, Little to Some Gravel, Scattered Cobbles/Boulders (SM) Pushed Stone (No Recovery) at 45 ft					
12	10	M	50/5"	50-							
13	5	М	50/5"	55							
14	3	M/W	50/3"	60-		D000 20 504					
15	4	M/W	50/5"	65-		P200 = 30.7%					
16	4	M/W	50/4"	70-							
17	4	M/W	50/4"	75-							
18	4	M/W	50/5"					With the second			
		1 1 1		80-		Fewer Cobbles Near 80 ft					
19	3	M/W	50/3"	85							

	Inc.)
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Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St. Location Madison, WI

Boring No. 2 Surface Elevation 63.7 Job No. **C10041-5** Sheet 3 of 3

				2921 P	ERRY	STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608						
	- -	MPL				VISUAL CLASSIFICATION	SOIL PROPERTIES					
No.	Rec P(in.)	Moist	N	Depth (ft)		and Remarks	qu (qa) (tsf)	W	LL	PL	LI	
20	3	M/W	50/3"	- - - - - - - 90-		Dense to Very Dense, Brown Fine to Medium SAND, Some Silt, Little to Some Gravel, Scattered Cobbles/Boulders (SM)	(002)					
21	4	M/W	50/4"		in the second							
22	9	M	50/3"	95- - - - -	10000000000000000000000000000000000000							
22	9	1V1	DU/3	100	iii	Color Changed to Gray Near 100 ft						
				- 105		End Boring at 100 ft Borehole backfilled with bentonite slurry, chips and asphalt patch						

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Boring No. 3
Surface Elevation (ft) 60.9 Project Proposed Parking Ramp Job No. C10041-5 Between E. Doty St. & E. Wilson St. Location Madison, WI Sheet 1 of 3

2921 Dervis Street Medison WT 52712 (608) 288-4100 FbV (608) 288-7887.

	SA	MPL	E			VISUAL CLASSIFICATION	1	SOIL	PRO	PEF	TIE	S
No.	Rec P(in.)	Moist	N	Depth (ft)		and Remarks	Ī	qu (qa) (tsf)	W	LŁ	PL	LI
	1			<u> </u>	7777	12 in. Black Silty Clay TOPSOIL FILL (OL)		. (===/				
1	12	M	8	F		FILL: Stiff to Very Stiff, Brown to Dark Brown Silty to Lean Clay, Little Sand and Gravel	1	(2.2)				
2	12	M	12			only to boar only, brine bare and orderer						
	12	IAT	12	<u>├</u> ├ 5				(2.5)				
3	10	3.6	1.4	<u> </u>	1111		}	·				
J	12	M	14					(1.7)				
				<u> </u>	##			··· - <u>-</u> · · ·-				
4	12	M	15	└─ ├ ├ 10-				(1.7)				
		!		<u> </u>	\mathbb{H}	Describle Commute I commet 11 to 12 ft						
					###	Possible Concrete Layer at 11 to 12 ft						
	1.5	,,	2.1	⊢ ⊏	i i i	Dense to Very Dense, Brown Fine to Medium SAND, Some Silt, Little to Some Gravel, Scatte	red					
5	16	M	34	- - 15-		Cobbles/Boulders (SM)						
				- -		· · · · · · ·						
-				<u>F</u>	iii							
				<u> </u>	f-(f							
6	6	M/W	50/2"	<u>└</u> ┝								
				20-	븳							
												}
				⊢ ⊢		Very Dense, Light Brown Fine to Medium SAN	ī <u>ō</u> . – ન			Ì		
7	10	M/W	50/5"			Trace to Little Silt (SP/SP-SM)			·			
			<u> </u>	25_		(Lost 175 gallons of mud after augers advanced	to					
						25 ft - possibly in above concrete layer)						
				<u> </u>	iiii	Very Dense, Brown Sandy SILT, Trace Gravel						
8	2	M/W	50/3"	<u> </u>		(ML)						
				L 30-	Ш	• •			-	├		
-	-			<u> -</u>	$\ \ $		-					
[<u> </u>	111	Dense to Very Dense, Brown Fine to Medium						1
9	3	M/W	50/3"			SAND, Some Silt, Little to Some Gravel, Scatte	ered		 		 	
		**** 11		35-		Cobbles/Boulders (SM)	ļ			<u> </u>		
				<u>-</u>	iri					1		
				_ -	rii)							
10	<u> -~-</u>	1.6/57	50 /O"	<u> </u>							<u> </u>	ļ
10	2	M/W	00/2"	⊢ ∟ 40–	toti Gri							
	1		W	ATER		VEL OBSERVATIONS		ENERA	LNC	TES	5	
	Drill After	ing Drillin		<u>5'±</u>	ί	Jpon Completion of Drilling Start		7/10 End	8/9/		Rig D	.120
	Aner 1 to W		15					dger Chief D Editor			ΩR 'n.	140
Deptl	to Ca	ive in				Drill 1	Method	1 41/4" H	SA 0-	15'; 3	-7/8"	· · · · · · · · · · · · · · · · · · ·
The soi	strat 1 type	ificat s and	ion l	ines re ransiti	orese on ma	RB/D y be gradual.)M 15'	- 95'				

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Project Proposed Parking Ramp
Between E. Doty St. & E. Wilson St.
Location Madison, WI

Boring No. 3
Surface Elevation 60.9
Job No. C10041-5
Sheet 2 of 3

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887-SAMPLE SOIL PROPERTIES VISUAL CLASSIFICATION Depth and Remarks No. Moist (qa) PL (in.) ĿΙ (ft) (tsf) Dense to Very Dense, Brown Fine to Medium SAND, Some Silt, Little to Some Gravel, Scattered 11 M 50/3" Cobbles/Boulders (SM) 12 50/4" M Pushed Stone (No Recovery) at 50 ft 13 М 50/5" P200 = 34.6%14 W 50/5" 15 3 M 50/3" 16 M 50/4" 17 5 M 50/5" 18 M 50/51 5 19 M 50/3"

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	inc.)

Boring No. 3
Surface Elevation 60.9 Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St. Job No. **C10041-5** Location Madison, WI Sheet 3 of 3

SAMPLE No. Rec Rec	2921 P	RRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608)	3) 288-7887 —		-		
And Remarks (qs) (sef) Dense to Very Dense, Brown Fine to Medium SAND, Some Silt, Little to Some Gravel, Scattered Cobbles/Boulders (SM) 20 4 W 80/4" 90 60 60 60 60 60 60 60 60 60 60 60 60 60				PRC	PEF	RTIE	S
SAND, Some Silt, Little to Some Gravel, Scattered Cobbles/Boulders (SM) 21 2 W 50/3" 95 61 61 61 61 61 61 61 6	No. Property Recurrence No. Property Recurrence No. Property (in.) Moist N (ft)	and Remarks	(qa)	W	TL .	PL	LI
End Boring at 95 ft		SAND, Some Silt, Little to Some Gravel, Scattered Cobbles/Boulders (SM)					
End Boring at 95 ft Borehole backfilled with bentonite slurry and chips		60 60 60 60 60 60 60					
Borehole backfilled with bentonite slurry and chips 105 110 115 115 1120 120 120 12	100-	id id					
	110-	Borehole backfilled with bentonite slurry and chips					



Project Proposed Parking Ramp
Between E. Doty St. & E. Wilson St.
Location Madison, WI

Boring No. 4
Surface Elevation (ft) 55.9
Job No. C10041-5
Sheet 1 of 3

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887-SAMPLE **SOIL PROPERTIES** VISUAL CLASSIFICATION Rec Depth and Remarks No. Moist (qa) (in,) (ft) (tsf) 5 in. Concrete/6 in. Base Course 1 10 M 12 FILL: Stiff, Brown Lean Clay, Intermixed with (1.2)Sand and Gravel Medium Dense to Very Dense, Brown Fine to 2 12 26 M Medium SAND, Some Silt, Little to Some Gravel, Scattered Cobbles/Boulders (SM) 3 16 M 44 Possible Fill in Upper Few Feet of Layer 4 18 M 77 5 16 M/W 71 6 16 M/W 74 7 50/3" M 8 50/3" M 97 16 Μ P200 = 31.2%10 M/W 50/4" 10 WATER LEVEL OBSERVATIONS GENERAL NOTES Start 8/10/10 End 8/10/10

Driller Badger Chief AP Rig D-120

Logger KD Editor DAS

Drill Method 4 1/4" HSA 0-10"; 3-7/8"

RR/DM 101 001 Page 2 County 1001 Page 2 Co While Drilling Upon Completion of Drilling Time After Drilling Depth to Water Depth to Cave in The stratification lines represent the approximate boundary between soil types and the transition may be gradual. RB/DM 10'- 90' Rope & Cathead Hammer

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Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St. Location Madison, WI

Boring No. 4 Surface Elevation 55.9 Job No. **C10041-5** Sheet 2 of 3

				-2921 Pi	ERRY	STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608						
		MPL	E		VISUAL CLASSIFICATION	SOIL PROPERTIES						
No.	Y Rec P E(in.)	Moist	ห	Depth (ft)		and Remarks	(qa) (tsf)	W	FF	ÞL	Ι·Ι	
	1			E	10		(031)					
				<u> </u>	1.11	Medium Dense to Very Dense, Brown Fine to				•		
11	4	M/W	50/5"	E	1111 1111	Medium SAND, Some Silt, Little to Some Gravel,		 	-			
		1111111	0,3	45-	1. ' ' - 1	Scattered Cobbles/Boulders (SM)		-	<u> </u>			
				Ē	1-11			ļ				
				<u> </u>	iri			ļ				
12	4	W	50/2"	50-					<u> </u>			
				<u> </u>	1.11							
				E	iri							
13	5	М	50/5"	_								
				55-	i i i							
				F								
14	14	М	90	F	igi				+-	 	-	
				60-	(.) (.)				+			
				E								
15	3	R.f.	50/5"	E	li (i				_	<u> </u>	ļ	
		IVI	50/3	E 65-					+	-		
				E								
				E	1:11							
16	4	M/W	50/4"		f (i f ri)							
					iri							
				E	rii Tii							
17	3	М	50/5"		rtr							
				75-	1 (I 1 (I							
				<u> </u>	i di i di							
18	3	M/W	50/3"	E	jii.			-	1		 	
				80-	H-CI I-ri		-	+		-	 	
				E	iii							
		1	6076°	_				1	-	ļ	<u> </u>	
19	4	M	50/5"	85-	irii	Color Changes to Gray-Brown Near 85 ft						
<u>1</u>	1		<u> </u>	<u> </u>	╙							



Project Proposed Parking Ramp
Between E. Doty St. & E. Wilson St.
Location Madison, WI

 Boring No.
 4

 Surface Elevation
 55.9

 Job No.
 C10041-5

 Sheet
 3 of
 3

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887-										
SAMPLE		VISUAL CLASSIFICATION	SOIL	PRO	PEF	≀TIE	S			
No. TRec Moist N	Depth (ft)	and Remarks	qu (qa) (tsf)	W	LL	PL	LI			
20 4 M 50/4	95- - - - - - - - - - - - - - - - - - -	Medium Dense to Very Dense Proven Fine to	(551)							

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Boring No. 5 Surface Elevation (ft) 56.4 Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St. Job No. **C10041-5** Location Madison, WI Sheet 1 of 3

292	Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608)	288-7887					
SAMPLE	VISUAL CLASSIFICATION	SOIL PROPERTIES					
No. Property Rec Moist N Dept (ft)	and Remarks	qu (qa) (tsf)	W	IL	PL	LI	
	12 in. Dark Gray Silty Clay TOPSOIL FILL (OL)						
1 6 M 13 -	FILL: Stiff, Brown to Dark Brown Silty to Lean	(1.5-2.0)					
	Clay, Little Sand and Gravel						
2 4 M 24 —	FILL: Medium Dense, Brown Fine to Medium						
· · · · · · · · · · · · · · · · ·	Sand, Some Gravel, Little to Some Silt, Intermixed						
3 14 M 20 F	with Concrete and Brick Debris Possible Concrete Layer Near 5 ft						
	Medium Dense to Very Dense, Brown Fine to	·····					
4 8 M 50/4"L	Medium SAND, Some Silt, Little to Some Gravel,			 			
10	Scattered Cobbles/Boulders (SM)						
	Numerous Cobbles/Boulders near 10 ft			}			
	(i)						
5 12 M/W 89	(60) (23)	-					
15			<u> </u>	ļ	ļ	ļ	
	<u>(ci)</u>						
6 14 M 96	[6:0] [6:3]			\leftarrow	ļ	<u> </u>	
0 17 17 30 H 20				L			
				1] .	ĺ	
	<u>(60)</u>						
7 2 M/W 50/5"	[60] [22]						
7 2 IVI/ W DU/3" - 25				<u> </u>			
<u> </u>	[60] [23]						
8 3 M/W 50/3" —	[24] [677]						
30							
						ŀ	
	[60]			1			
9 10 M/W 50/4" -	[20] [63]						
J 35	ind			†	 		
	[60] [83]						
10 10 M 50/4"I—	[23] [24]			1			
40			<u> </u>	<u> </u>			
WATE	R LEVEL OBSERVATIONS G	ENERA	LNC	TES	3		
While Drilling	Upon Completion of Drilling Start 8/1	1/10 End	8/11	/10		-	
Time After Drilling 8-16	-10 8-17-10 8-19-10 8-24-10 Driller Bac	lger Chief	A	P F	Rig D	120	
Depth to Water 39			$\mathbf{D}A$	S			
Depth to Cave in The stratification lines r	present the approximate boundary between RB/DM 10'.						
soil types and the transit	present the approximate boundary between RB/DM 10'. on may be gradual.	- No Trope c	- Cau	ican i	Temn	161	

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Boring No. 5 Project Proposed Parking Ramp Surface Elevation 56.4 Between E. Doty St. & E. Wilson St. Job No. **C10041-5** Location Madison, WI Sheet **2** of **3**

-2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE			2921 P	ERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608)		SOIL PROPERTIES							
- Ind				<u> </u>	VISUAL CLASSIFICATION								
No.	T Rec P (in.)	Moist	N	Depth (ft)		and Remarks	qu (qa) (tsf)	M	LL	PL	LI		
11	16	М	100	45-	型的 (1) (1) (1) (1) (1) (1) (1) (1)	Medium Dense to Very Dense, Brown Fine to Medium SAND, Some Silt, Little to Some Gravel, Scattered Cobbles/Boulders (SM)							
12	4	M/W		50- - - -									
13	10	M/W	50/4"	55- - - - -									
14		M/W		- 60- - - -									
15	5		50/5"	65—									
16	5		50/5"										
17		M/W			的复数的自然								
18	5	M/W	50/5"	- - - - - - - -									
19	4	W	50/4"	85									

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Boring No. 5
Surface Elevation 56.4 Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St. Job No. **C10041-5** Location Madison, WI Sheet 3 of 3

No.					2921 P	CRRY	STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608					
No. 5 (111.) Noist N (21) (21) (111 (111 (111 (111 (111 (111												
20 3 M 50/3" End Boring at 90 ft Borehole backfilled with bentonite slurry and chips 100- 11	No. Projection	Rec	Moist	N			and Remarks	(qa)	W	LL	PL	LI
End Boring at 90 ft Borehole backfilled with bentonite slurry and chips 100 110 110 1110 1110 1120 1	20	3	M	50/3"		1	Very Dense, Gray Fine SAND, Little Silt (SP-SM)					
Borehole backfilled with bentonite slurry and chips 105 115 115 115 115 115 115 11				_	90-		End Boring at 90 ft			 -		
		TWATER TO THE TRANSPORT OF THE TRANSPORT										And the state of t
												er midre side
	The second secon		900,000,000		115-							
			den de la companya de									The state of the s



Boring No. 6
Surface Elevation (ft) 59.6 Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St. Job No. **C10041-5** Location Madison, WI Sheet 1 of 3

- 2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887 -

	SAMPLE				VISUAL CLASSIFICATION											
No.	Rec (in.)	Moist	N	Depth (ft)		and Remarks		φι (qa) (tsf)	W	LL	PL	ГI				
				<u> </u>		Air Knife (No Sampling) to 4 ft		(002)								
				<u> </u> -						:						
1	6	M	20	<u>Г.</u> - - 5		FILL: Medium Dense to Dense, Brown Fi										
2	6	M	40	<u> </u>		Medium Sand, Some Silt, Little to Some G Intermixed with Clay Pockets, Cobbles and										
	1.5			<u>L</u> }		Boulders Very Dense, Brown Fine to Medium SANI						-				
3	16	M	54	<u>├</u> 10−	iii. Iii	Silt, Little to Some Gravel, Scattered	D, Some									
				├- - -		Cobbles/Boulders (SM)										
4	2	M	50/5"	<u>-</u>	iii. iii											
				- 15 								-				
				<u>-</u>	1:11 1:41											
5	3	M/W	50/5"	- -	i ii Tiri											
				20- 	iri											
					m											
6	3	M/W	50/5"													
			İ													
7	2	M/W	50/2"							_						
			<u></u>	30-					:			·				
			! !													
8	3	W	50/5"	- 1		Very Dense, Light Brown Fine to Medium Little Silt (SP-SM)	SAND,									
				— 35— —							-					
			} f			Very Dense, Brown Fine to Medium SANI	D, Some		,							
9	3	М	0/5"		1411 1411	Silt, Little to Some Gravel, Scattered			_							
	l		W	TER	LE	VEL OBSERVATIONS		ENERA	_ NO	TES	•					
While Time				5'±	Į			6/10 End	8/16/	,	; _a D	120				
Depth	Depth to Water Logger KD Editor DAS								140							
			ion li	ines repransitio	rese		RB/DM 10'		3A 4-1	U ; 3-	7/8"					

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Boring No. 6
Surface Elevation 59.6 Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St.
Location Madison, WI Job No. **C10041-5** Sheet 2 of 3

2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

	SAMPLE VIGUAL CLASSIFICATION SOIL PROPERTIES										
						VISUAL CLASSIFICATION		FAC	rer	(116	.
No.	Y Rec P (in.)	Moist	N	Depth (ft)	1	and Remarks	qu (qa) (tsf)	W	LL	PL	LI
10	10		50/4'			Cobbles/Boulders (SM) Very Dense, Brown Fine to Medium SAND, Some Silt, Little to Some Gravel, Scattered Cobbles/Boulders (SM)					
11	1	M/W		50 - - -							
12	4		50/5"	55·							
13	1	M/W		- 60· 	前頭頭頭頭						
14	8		50/3"	65-							
15	4	M/W		70-		Very Dense, Gray Silty Fine to Medium SAND, Little Gravel, Trace Clay (SM)					
16	18	М	62	75-		mine Sinters Lines Diny (MAL)					
17	0		50/0"	80-		Drove Stone (No Recovery) at 80 ft Very Dense, Brown Fine to Medium SAND, Some Silt, Little to Some Gravel, Scattered					
18	3	W :	50/3"	85-		Cobbles/Boulders (SM)					

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Boring No. 6 Project Proposed Parking Ramp Surface Elevation 59.6 Between E. Doty St. & E. Wilson St. Job No. **C10041-5** Sheet 3 of 3 Location Madison, WI

				-2921 P	ERRY	STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887-				
		MPL	-E			VISUAL CLASSIFICATION		PRO	PEF	RTIE	S
No.	Rec (in.)	Moist	N	Depth (ft)		and Remarks	qu (qa) (tsf)	M	LL	PL	LI
19	3	M	50/3"	90-		Very Dense, Gray Sandy SILT, Laminated with Fine Sand and Clay Seams (ML) Very Dense, Gray Sandy SILT, Laminated with Fine Sand and Clay Seams (ML)					
20	1	М	50/3"	95-		Hard, Gray Lean CLAY, Some Sand, Little to Some Gravel (CL)	(-)				
21	1	1600	50/11	- 3 							
21	1	M/W	50/1"	100-			(-)				
				- 105		End Boring at 100 ft Borehole backfilled with bentonite slurry, chips, and concrete patch					

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Boring No. 7
Surface Elevation (ft) 49.3 Project Proposed Parking Ramp Job No. C10041-5 Sheet 1 of 3 Between E. Doty St. & E. Wilson St.

Location Madison, WI

					2921	Peri	ry Street, Madison, WI 53713 (608) 288-410	0, FAX (608)			==		
	<u> </u>	AN	/PL	.E			VISUAL CLASSIFICATION	۱	SOIL	PRO	PER	RTIE	S
No.	I#I	ec n.)	oist	N	Depth (ft)		and Remarks	A	qu (qa) (tsf)	₩	LL	PL	LI
					<u></u>	_	Air Knife (No Sampling) from 0 to 8 ft		(,				
					<u> </u>								
					<u></u> ⊢								
					<u>-</u> 5-					-			
					- - - -								
					<u> -</u>								
1	1	6	M	23	<u>†</u>) () - -	Medium Dense to Very Dense, Brown Fine Medium SAND, Some Silt, Little to Some						
		\top			<u> </u> 10-	14(1)	Scattered Cobbles/Boulders (SM)	Giavoi,			 		
					<u> </u>	ίζί							
2	1	8	M	77	_ 	(ii							
	<u> </u>	<u>^</u>	IVI	11	 - 15-	l II.							
					<u> </u>								
					Ë	; . ; .] [],							
3	1	6	M	96	<u> </u>								
					<u> </u>	i ii							
			-										
4	1	6 N	1/W	92	<u> </u>	ŢŢ				<u> </u>	1	_	
7	,	0 1	27 V V	74	25-					<u> </u>	ļ		
				· :	<u>-</u>								
					_								
5	1	0	М	50/5"		i ii.							
-	П	1			- 30-	HI.							
					<u></u>	(ri							
6	Î	0	M	50/5"					<u> </u>	-	-		
		+		1	35—						_		
						fri Tri							
	<u> </u>	\perp				Ιij				L			
7	5	M	1/W	0/5"	40	iji.i teri							
WATER LEVEL OBSERVATIONS GENERAL NOTES							<u> </u>						
While Drilling Upon Completion of Drilling S						Start 8/1	3/10 End	8/13	3/10				
Time	Time After Drilling							Driller Ba	dger Chief	A	P I	Rig D	-120
	Depth to Water Log Depth to Cave in Dri							Logger KD Editor DAS Drill Method 4 1/4" HSA 8-15"; 3-7/8"					
	The stratification lines represent the approximate boundary between soil types and the transition may be gradual. RB/DM 15'-90'												

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Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St.
Location Madison, WI

Boring No. 7
Surface Elevation 49.3 Job No. **C10041-5** Sheet 2 of 3

	84	MPL	F	-2921 P	ERRY	STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608	,		Diri	7715	·C		
		VIAIL P	- -	 		VISUAL CLASSIFICATION	SOIL PROPERTIES						
No.	Rec P(in.)	Moist	N	Depth (ft)		and Remarks	qu (qa) (tsf)	W	LL	PL	ΓI		
				-									
8	10	M	50/4"	45~	riri Tiri	P200 = 34.3%							
						Medium Dense to Very Dense, Brown Fine to Medium SAND, Some Silt, Little Gravel, Scattered Cobbles/Boulders (SM)							
9	10	М	50/3"	50-	rii Iri								
					rii rii rii								
10	18	М	84	55-	rir Gij								
					iri iri iri								
11	10	M/W	50/4"	60-	iai iai								
				-									
12	4	M/W	50/5"					-					
13	4	W	50/4"	- - - 70-						<u> </u>			
14	3	W	0/5"	_ _ _ 75_	igi Gil								
			-	_ _ _									
15	2	M/W 5	0/2"	- - - - 80-		Very Dense, Gray-Brown Fine to Medium SAND, Trace to Little Silt and Gravel (SP/SP-SM)							
				- 00-						-			
16	0	5	0/2"	- - 85-									
				0.5									

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Boring No. 7
Surface Elevation 49.3 Project Proposed Parking Ramp Job No. C10041-5 Between E. Doty St. & E. Wilson St. Sheet 3 of 3 Location Madison, WI

2021 DEDDY CUDEUM MANTON MIC 82712 (600) 200-4100 PNV (600) 289-7897

	2921 PERRY STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887										
SAMPLE					VISUAL CLASSIFICATION	SOIL		PEF	TIE	S	
No.	T Rec P (in.)	Moist	N	Depth (ft)		and Remarks	वृधं (qa) (tsf)	W	IL	PL	ГI
17	5	M	50/5"	90		Pushed Stone (No Recovery) at 85 ft Very Dense, Gray Sandy Clayey SILT, Little Gravel (ML) End Boring at 90 ft					
				95- - - - - - - - - - - - - - - - - - -		Borehole backfilled with bentonite slurry, chips and asphalt patch					

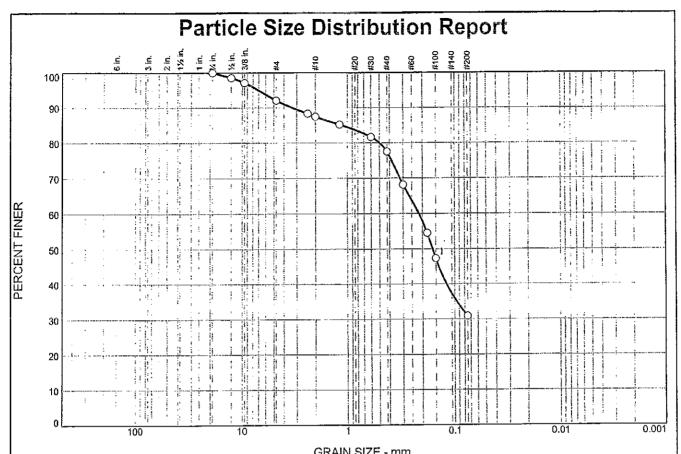


Project Proposed Parking Ramp Between E. Doty St. & E. Wilson St. Location Madison, WI

MW-1 Boring No. Surface Elevation (ft) 56.4 Job No. **C10041-5** Sheet 1 of 1

RB/DM 10'- 66'

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887— SAMPLE **SOIL PROPERTIES** VISUAL CLASSIFICATION Rec Depth and Remarks No. Moist (qa) (in.) ЬL PL(ft) (tsf) Monitoring Well No. 1 located approximately 4 ft north of Boring 5 Blind drilled with 4-1/4 in. HSA to 10 ft and then switched to 3-7/8 in. roller bit to 66 ft 10-Set well at 65 ft 20 ft of screen (65 ft to 45 ft) Filter Sand 66 ft to 40 ft 20-Fine Sand from 40 ft to 39 ft Bentonite chips from 39 ft to 1 ft Flush mount top concreted in place 35-40-45-50-55-60-End Boring at 66 ft WATER LEVEL OBSERVATIONS **GENERAL NOTES** While Drilling Upon Completion of Drilling Start 8/12/10 End 8/12/10 Time After Drilling 8-16-10 8-17-10 Driller Badger Chief AP Rig D-120 Logger KD Editor DAS 8-19-10 8-24-10 Depth to Water 391 39.31 39.1 39.01 Depth to Cave in Drill Method 4 1/4" HSA 0-10"; 3-7/8" The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



			U	LAIM OITE -	[[]][]			
	% G		% Sand			% Fines		
76 +3	Coarse	Fine	Coarse	Medlum	Fine	Silt	i	Clay
0.0	0.0	7.9	4.6	10.0	46.6	30.9		

SIEVE	PERCENT	\$PEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3/4	100.0		
1/2	98.5		
3/8	97.1		
#4	92.1		
#8	88.3		
#10	87.5		
#16	85.2		
#30	81.6		
#40	77.5		
#50	68. 1		
#80	54.5		
#100	47.3		
#200	30.9		
		ı	I

Material Description									
Brown Fine to Me	Brown Fine to Medium Sand, Some Silt, Little Gravel								
PL=	Atterberg Limits LL=	PI=							
D ₉₀ = 3.3185 D ₅₀ = 0.1605 D ₁₀ =	Coefficients D ₈₅ = 1.1351 D ₃₀ = C _u =	D ₆₀ = 0.2147 D ₁₅ = C _c =							
USCS= SM	Classification AASHT	O=							
	<u>Remarks</u>								

(no specification provided)

Sample Number: B1-S8 (30 ft)

Date: 8/16/10

CGC,Inc.

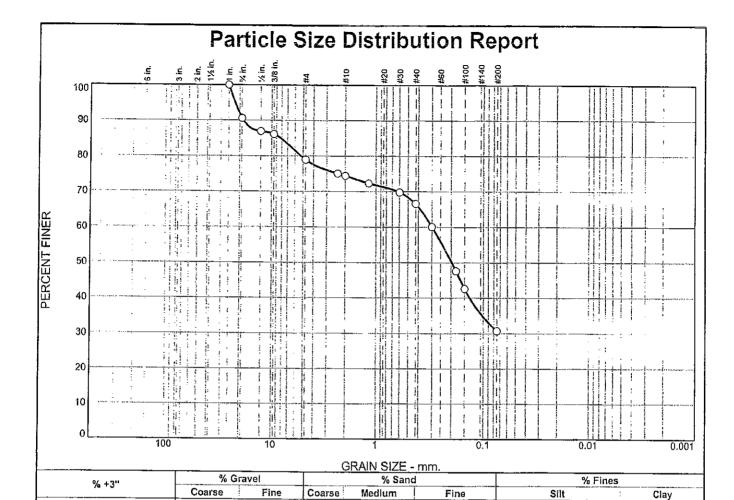
Client:

Project: Madison Parking Ramp

Project No: C10041-5

Figure

Tested By: JSG



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0	_	
3/4	90.6		
1/2	86.9		
3/8	86.1		
#4	79.0	ł	
#8	75.1	1	
#10	74.4		
#16	72.3		
#30	69.8		
#40	66.6	1	
#50	60.1	[.	
#80	47.6		
#100	42.6	i	
#200	30.7		
	ı	1	

9.4

11.6

4.6

7.8

35.9

Material Description Brown Fine to Medium Sand, Some Silt and Gravel							
		5 5 6 8					
PL=	Atterberg Limits LL=	Pl=					
D ₉₀ = 18.5421 D ₅₀ = 0.1965 D ₁₀ =	Coefficients D ₈₅ = 8.2372 D ₃₀ = C _u =	D ₆₀ = 0.2988 D ₁₅ = C _c =					
USCS= SM	Classification AASHTC)=					
	<u>Remarks</u>						
		e e e e e e e e e e e e e e e e e e e					

(no specification provided)

0.0

Sample Number: B2-S15 (65 ft)

Date: 8/16/10

30.7

CGC,Inc.

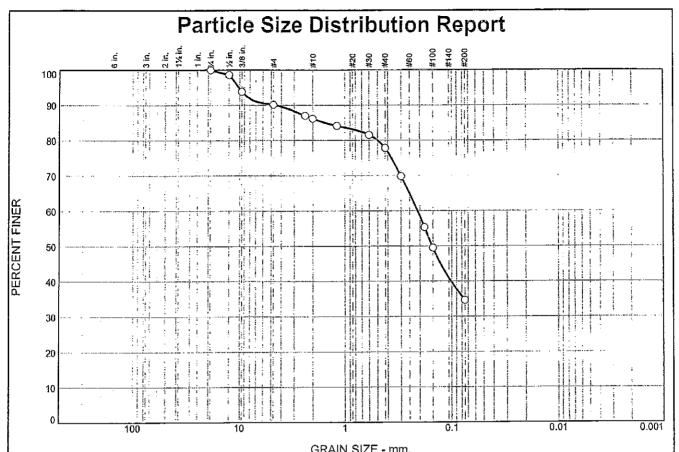
Client:

Project: Madison Parking Ramp

Project No: C10041-5

Figure

Tested By: JSG



				G	NAIN SIZL *	11,0316			
N/ . OII	% Gravel			% Sand			% Fines		
% +3"	Coarse		Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0		9.8	4.1	8.3	43.2	34.6		

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	3/4	100.0		
	1/2	98.6		
	3/8	93.9		
	#4	90.2		
	#8	87.0		
	#10	86.1		
	#16	84.1		
	#30	81.5		
	#40	77.8		
	#50	69.9		
l	#80	55.4		
	#100	49.5		
İ	#200	34.6		
ĺ				
Î				
		1	l .	

<u>Material Description</u>								
Brown Fine to Mo	Brown Fine to Medium Sand, Some Silt, Little Gravel							
	Atterberg Limits							
PL=	LL=	PI=						
	Coefficients							
D ₉₀ = 4.4649 D ₅₀ = 0.1525	$D_{85} = 1.5285$	D ₆₀ = 0.2094						
D50= 0.1323 D10=	D30-	C _C =						
10	Classification	Ū						
USCS= SM	AASHT(O=						
	Rema <u>rks</u>							
								

(no specification provided)

Sample Number: B3-S14 (60 ft)

Date: 8/16/10

CGC,Inc.

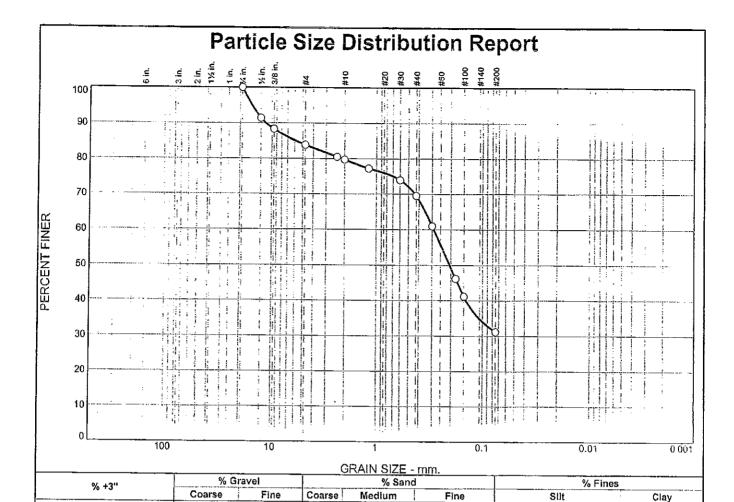
Client:

Project: Madison Parking Ramp

Project No: C10041-5

Figure

Tested By: JSG



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3/4	100.0		
1/2	91.4	1	
3/8	88.3		
#4	83.8		
#8	80.5		
#10	79.7		
#16	77.2		
#30	74.0	ļ	
#40	69.6		
#50	61.0		
#80	46.2		
#100	4].2		
#200	31.2		
		İ	

0.0

Material Description Brown Fine to Medium Sand, Some Silt and Gravel								
PL=	Atterberg Limits LL=	PI=						
D ₉₀ = 11.4115 D ₅₀ = 0.2051 D ₁₀ =	Coefficients D85= 5.8752 D30= Cu=	D ₆₀ = 0.2899 D ₁₅ = C _c =						
USCS= SM	Classification AASHT0	D=						
	<u>Remarks</u>							
	· · · · · · · · · · · · · · · · · · ·							

Silt

31.2

(no specification provided)

Sample Number: B4-S10 (40 ft)

0,0

Date: 8/16/10

Clay

CGC, Inc.

Client:

Coarse

4.1

16.2

Medium

10.1

Fine

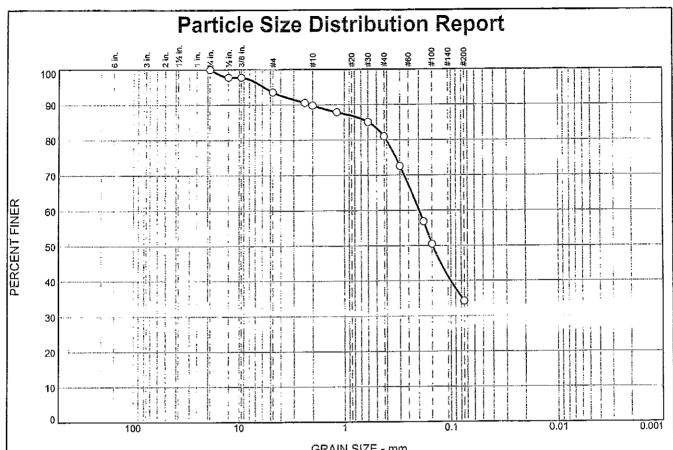
38.4

Project: Madison Parking Ramp

Project No: C10041-5

Figure

Tested By: JSG



			G	KAIN DIZE -	1111 <u>11.</u>			
24 - 011	% Gra		% Sand			% Fines		
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	6.4	3.8	8.9	46.6	34.3		
	<u> </u>		<u> </u>				· · · · · · · · · · · · · · · · · · ·	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3/4	100.0		_
1/2	97.8		
3/8	97.8		
#4	93.6		
#8	90.5		
#10	89.8		
#16	87.8		
#30	85.0		
#40	80.9		
#50	72.6	·	
#80	56.9		
#1.00	50.5		
#200	34.3		
	3/4 1/2 3/8 #4 #8 #10 #16 #30 #40 #50 #80 #100	SIZE FINER 3/4 100.0 1/2 97.8 3/8 97.8 #4 93.6 #8 90.5 #10 89.8 #16 87.8 #30 85.0 #40 80.9 #50 72.6 #80 56.9 #100 50.5	SIZE FINER PERCENT 3/4 100.0 1/2 97.8 3/8 97.8 97.8 44 93.6 48 90.5 410 89.8 416 87.8 430 85.0 440 80.9 450 72.6 480 56.9 4100 50.5

	Material Description Brown Fine to Medium Sand, Some Silt, Little Gravel		
PL=	Atterberg Limits LL=	PI=	
D ₉₀ = 2.1012 D ₅₀ = 0.1476 D ₁₀ =	Coefficients D ₈₅ = 0.6008 D ₃₀ = C _u =	D ₆₀ = 0.1974 D ₁₅ = C _c =	
USCS= SM	Classification AASHT)=	
	<u>Remarks</u>		

(no specification provided)

Sample Number: B7-S8 (45 ft)

Date: 8/16/10

CGC,Inc.

Client:

Project: Madison Parking Ramp

Project No: C10041-5

Figure

Tested By: JSG

APPENDIX C

DOCUMENT QUALIFICATIONS

APPENDIX C

DOCUMENT QUALIFICATIONS

I. GENERAL RECOMMENDATIONS/LIMITATIONS

CGC, Inc. should be provided the opportunity for a general review of the final design and specifications to confirm that earthwork and foundation requirements have been properly interpreted in the design and specifications. CGC should be retained to provide soil engineering services during excavation and subgrade preparation. This will allow us to observe that construction proceeds in compliance with the design concepts, specifications and recommendations, and also will allow design changes to be made in the event that subsurface conditions differ from those anticipated prior to the start of construction. CGC does not assume responsibility for compliance with the recommendations in this report unless we are retained to provide construction testing and observation services.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices and no other warranties are expressed or implied. The opinions and recommendations submitted in this report are based on interpretation of the subsurface information revealed by the test borings indicated on the location plan. The report does not reflect potential variations in subsurface conditions between or beyond these borings. Therefore, variations in soil conditions can be expected between the boring locations and fluctuations of groundwater levels may occur with time. The nature and extent of the variations may not become evident until construction.

II. IMPORTANT INFORMATION ABOUT YOUR

GEOTECHNICAL ENGINEERING REPORT

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared solely for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. And no one - not even you - should apply the report for any purpose or project except the one originally contemplated.

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse.
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or project ownership.

As a general rule, always inform your geotechnical engineer of project changes - even minor ones - and request an assessment of their impact. CGC cannot accept responsibility or liability for problems that occur because our reports do not consider developments of which we were not informed.

SUBSURFACE CONDITIONS CAN CHANGE

A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

MOST GEOTECHNICAL FINDINGS ARE PROFESSIONAL OPINIONS

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgement to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ - sometimes significantly from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A REPORT'S RECOMMENDATIONS ARE NOT FINAL

Do not over-rely on the construction recommendations included in your report. Those recommendations are not final, because geotechnical engineers develop them principally from judgement and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. CGC cannot assume responsibility or liability for the report's recommendations if we do not perform construction observation.

A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having CGC participate in prebid and preconstruction conferences, and by providing construction observation.

DO NOT REDRAW THE ENGINEER'S LOGS

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

GIVE CONTRACTORS A COMPLETE REPORT AND GUIDANCE

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited;

encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

READ RESPONSIBILITY PROVISIONS CLOSELY

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to

disappointments, claims, and disputes. To help reduce such risks, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineer's responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly,

GEOENVIRONMENTAL CONCERNS ARE NOT COVERED

The equipment, techniques, and personnel used to perform a geoenvironmental study differ significantly from those used to perform a geotechnical study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. Do not rely on an environmental report prepared for someone else.

RELY ON YOUR GEOTECHNICAL ENGINEER FOR ADDITIONAL ASSISTANCE

Membership in ASFE exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with CGC, a member of ASFE, for more information.

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ASFE 8811 Colesville Road, Suite G 106 Silver Spring, MD 20910

APPENDIX D

RECOMMENDED COMPACTED FILL SPECIFICATIONS

APPENDIX D

CGC, INC.

RECOMMENDED COMPACTED FILL SPECIFICATIONS

General Fill Materials

Proposed fill shall contain no vegetation, roots, topsoil, peat, ash, wood or any other non-soil material which by decomposition might cause settlement. Also, fill shall never be placed while frozen or on frozen surfaces. Rock, stone or broken concrete greater than 6 in. in the largest dimension shall not be placed within 10 ft of the building area. Fill used greater than 10 ft beyond the building limits shall not contain rock, boulders or concrete pieces greater than a 2 sq ft area and shall not be placed within the final 2 ft of finish subgrade or in designated utility construction areas. Fill containing rock, boulders or concrete pieces should include sufficient finer material to fill voids among the larger fragments.

Special Fill Materials

In certain cases, special fill materials may be required for specific purposes, such as stabilizing subgrades, backfilling undercut excavations or filling behind retaining walls. For reference, WisDOT gradation specifications for various types of granular fill are attached in Table 1.

Placement Method

The approved fill shall be placed, spread and leveled in layers generally not exceeding 10 in. in thickness before compaction. The fill shall be placed at a moisture content capable of achieving the desired compaction level. For clay soils or granular soils containing an appreciable amount of cohesive fines, moisture conditioning will likely be required.

It is the Contractor's responsibility to provide all necessary compaction equipment and other grading equipment that may be required to attain the specified compaction. Hand-guided vibratory or tamping compactors will be required whenever fill is placed adjacent to walls, footings, columns or in confined areas.

Compaction Specifications

Maximum dry density and optimum moisture content of the fill soil shall be determined in accordance with modified Proctor methods (ASTM D1557). The recommended field compaction as a percentage of the maximum dry density is shown in Table 2. Note that these compaction guidelines would generally not apply to coarse gravel/stone fill. Instead, a method specification would apply (e.g., compact in thin lifts with a vibratory compactor until no further consolidation is evident).

Testing Procedures

Representative samples of proposed fill shall be submitted to CGC, Inc. for optimum moisture-maximum density determination (ASTM D1557) prior to the start of fill placement. The sample size should be approximately 50 lb.

CGC, Inc. shall be retained to perform field density tests to determine the level of compaction being achieved in the fill. The tests shall generally be conducted on each lift at the beginning of fill placement and at a frequency mutually agreed upon by the project team for the remainder of the project.

Table 1
Gradation of Special Fill Materials

	WisDOT Section 311	WisDOT Section 312	WisDOT Section 305		WisDOT Section 209		WisDOT Section 210	
Material	Breaker Run	Select Crushed Material	3-in. Dense Graded Base	1 1/4-in. Dense Graded Base	3/4-in, Dense Graded Base	Grade 1 Granular Backfill	Grade 2 Granular Backfill	Structure Backfill
Sieve Size	Percent Passing by Weight							
6 in.	100							
5 in.		90-100						
3 in.			90-100					100
1 1/2 in.		20-50	60-85				,	
1 1/4 in.				95-100				
1 in.					100			
3/4 in.			40-65	70-93	95-100			
3/8 in.				42-80	50-90			
No. 4			15-40	25-63	35-70	100 (2)	100 (2)	25-100
No. 10		0-10	10-30	16-48	15-55	75 (2)		_1
No. 40			5-20	8-28	10-35	15 (2)	30 (2)	
No. 200			2-12	2-12	5-15	8 (2)	15 (2)	15 (2)

Notes:

- 1. Reference: Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction.
- 2. Percentage applies to the material passing the No. 4 sieve, not the entire sample.
- 3. Per WisDOT specifications, both breaker run and select crushed material can include concrete that is 'substantially free of steel, building materials and other deleterious material'.

Table 2
Compaction Guidelines

	Percent Compaction (1)	
Area	Clay/Silt	Sand/Gravel
Within 10 ft of building lines		
Footing bearing soils	93 - 95	95
Under floors, steps and walks		
- Lightly loaded floor slab	90	90
- Heavily loaded floor slab and thicker fill zones	92	95
Beyond 10 ft of building lines		
Under walks and pavements		
- Less than 2 ft below subgrade	92	95
- Greater than 2 ft below subgrade	90	90
Landscaping	85	90

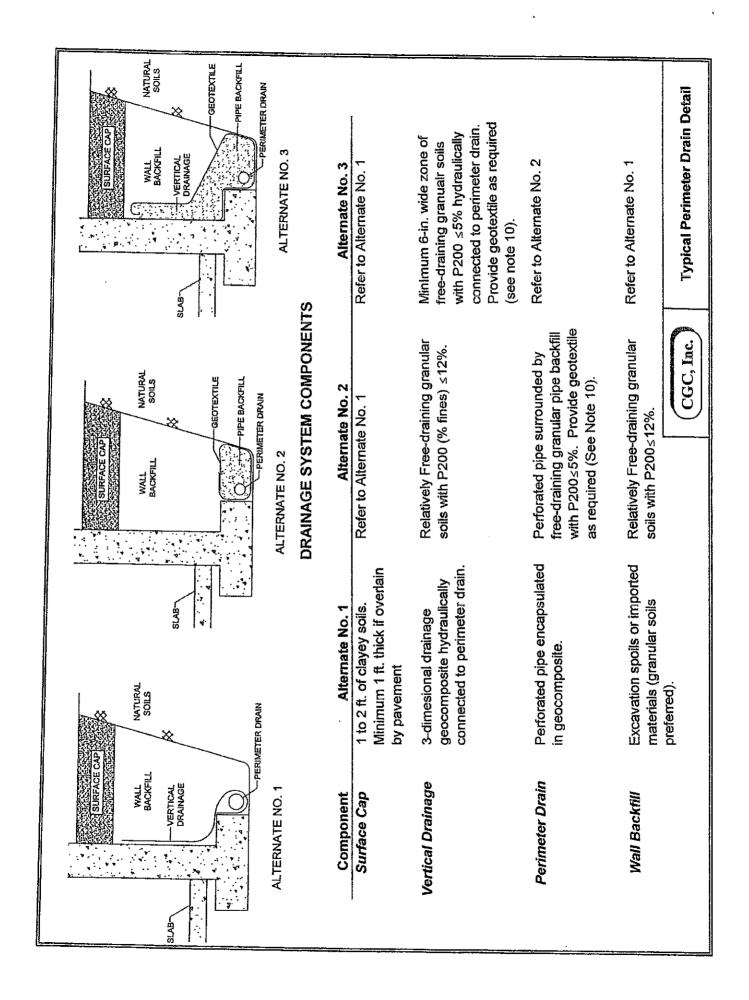
Notes:

1. Based on Modified Proctor Dry Density (ASTM D 1557)

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APPENDIX E

TYPICAL PERIMETER DRAIN DETAILS



General Notes

- This system's primary function is to intercept infiltrating surface water. These Alternates are not appropriate for use in situations of high groundwater (i.e., cases where the water table approaches floor slab elevation).
- Grade surface cap to slope away from structure.
- 3. Exterior surface of walls below grade should be damp-proofed.
- 4. A plastic vapor barrier should be installed below the slab.
- 5. Recommended types of drain pipes:

Description	Polyvinyl Chloride (PVC) Drain Pipe Corrugated Polyethylene Drain Pipe Styrene-Rubber Plastic Drain Pipe Corrugated Metal Underdrain Pipe
Specification	ASTM D2729 ASTM F405 ASTM D2852 AASHTO M136

6. Minimum slope of drain pipes should be 2 in, per 100 lin ft.

- Place drain pipe below basement floor level and orient the perforations toward the bottom.
- 8. Clean-outs should be provided to service the pipe.
- Collected field water should be discharged to a sump, storm sewer or drainage field.
- 10. The geotextile for Alternative Nos. 2 and 3 may be eliminated if filter requirements are satisfied between the wall and pipe backfill, as well as between backfill materials and natural soils.
- 11. Pipe backfill materials should satisfy filter requirements for the slot width or hole diameter of the perforated pipe.
- 12. Care should be taken during backfilling not to damage the integrity of the system. For compaction requirements, refer to geotechnical report.
- 13. Pipe, geotextile, and geocomposite should be installed according to manufacturer specifications.

(CGC, Inc.

Typical Perimeter Drain Detail General Notes



Construction • Geotechnical Consulting Engineering/Testing

November 5, 2015 C15237

Mr. Matt Morris Hammes Company Sports Development, Inc. 33 East Main Street, Suite 500 Madison, WI 53703

Re: Supplemental Geotechnical Report

Proposed Judge Doyle Square Development East Wilson Street and East Doty Street

Madison, WI

Dear Mr. Morris:

As requested, Construction • Geotechnical Consultants, Inc. (CGC) is providing additional recommendations regarding foundation design within the western portion of the proposed building. Since the eastern portion of the project will be somewhat deeper than originally envisioned in 2010 when our initial report (and addendum) was prepared, we are also providing updated information and recommendations regarding the impact of groundwater on excavation, foundation and floor slab design and construction in this portion of the building. This report supplements our preliminary geotechnical report and addendum (Reports C10041-5, dated August 31, 2010 and September 27, 2010). Our analysis and recommendations are provided in the following sections.

BRIEF PROJECT DESCRIPTION

A mixed-use development is planned for this site, which will include one to four levels of below-grade parking. The western portion of the building (closest to the Madison Municipal Building) will have one level of below-grade parking (basement level 01) with slab elevation near EL 885 ft and corresponding footing elevation generally near EL 880 ft. There will be one partially exposed parking/loading and mechanical level and eight above-grade levels. Maximum column loads will be around 1,800 kips.

The eastern part of the project will have four levels of below-grade parking with the lowest level (basement level 04) having a slab-on-grade elevation near EL 855 ft. Since the 04 level will partially extend below the water table, a sub-floor dewatering system will need to be installed to permanently lower the water table below the slab.

SUBSURFACE EXPLORATION

The supplemental geotechnical exploration consisted of drilling two Standard Penetration Test (SPT) soil borings (Borings 2A and 4A) to depths of 35 to 55 ft below existing site grades in order to conduct additional pressuremeter testing. The borings were completed by Badger State Drilling (under subcontract to CGC) on October 5, 2015 using a truck-mounted rotary D-120 drill rig

2921 Perry Street, Madison WI 53713

Telephone: 608/288-4100 FAX: 608/288-7887



equipped with hollow-stem augers and rotary wash equipment, as well as an automatic SPT hammer. A groundwater monitoring well was installed in Boring 2A. Pressuremeter testing was performed in the two soil borings by Wagner Komurka Geotechnical Group (WKG² - also under subcontract to CGC). Pressuremeter testing measures the *in situ* strength and deformation properties of the soil, which allows for more accurate determination of the allowable bearing pressure. More information regarding the drilling program is included in Appendix A, with the boring locations presented on a Soil Boring Location Map found in Appendix B.

As described in the original report, the subsurface conditions encountered across the site are fairly uniform and consist of medium dense to very dense silty *sand strata* (glacial till) below about 3 to 12 ft of *fill/possible fill*. Note that the variable fill encountered in Boring 2 with brick, cobbles/boulders, etc. was also encountered in Boring 2A. Standard penetration resistances (N-values on the boring logs) average greater than 50 blows/ft starting 10 ft to 20 ft below existing grade. The conditions described above are typical for the glacial tills found in the Capitol Hill area, and although only limited sampling was completed in the supplemental pressuremeter test borings, the soil conditions in the recent borings are similar to the initial borings. As noted in the initial report, layers of sand with low silt content (denoted as SP and SP-SM on the boring logs) were encountered in Borings 3, 5, 6 and 7.

Based on the very dense nature of the silty sandy till and the use of drilling mud to advance the boreholes, the groundwater elevation could not be accurately determined in the borings. Therefore, a monitoring well (MW-2) was installed in Boring 2A to obtain long-term water level readings. The water level measured in the well about 16 days after being installed was 45.8 ft below existing grade (near EL 864.3 ft). The water level in MW-1 installed in 2010 near Boring 5 was 42.2 ft below existing grade or near EL 859.8 ft. As groundwater generally follows the topography, the higher water level in MW-2 on the higher northern (Doty Street) portion of the site is fairly typical, although dewatering beneath nearby buildings could also influence the water level elevation. Note that perched groundwater seams/lenses involving water bearing sands/gravels with low silt content, such as in Borings 3, 5, 6 and 7 and encountered on other projects in the Capitol Hill area, should also be expected. As a reference, the historical average water level of Lake Monona is near EL 845 ft, and the historical average water level in Lake Mendota is around EL 849.6 ft. Our experience indicates that a groundwater mound above lake level such as at this location is frequently seen in the Capitol Hill area. Groundwater levels drop to approximate lake level as the ground surface falls off near the lake. Fluctuations in the groundwater level should be expected in response to seasonal variations in precipitation, infiltration, lake levels, pumping rates from nearby wells and other factors.



Groundwater Measurements

Two groundwater monitoring wells exist on the site. Monitoring well (MW-1) was installed in 2010 near Boring 5 near the southeast corner of S. Pinckney Street and E. Wilson Street, and MW-2 was installed in Boring 2A during recent pressuremeter testing near S. Pinkney Street and E. Doty Street. Water level readings in MW-1 have been recorded periodically since August 2010 are summarized in Table 1 along with the recent groundwater reading in MW-2.

Table 1 - Summary of Groundwater Readings

	Approximate Water Level Elevation		
Date	MW-1 (Near B-5)	MW-2 (Boring 2A)	
8/16/2010	863.0	-	
8/17/2010	862.7	-	
8/19/2010	862.9	-	
8/24/2010	863.0	-	
9/4/2010	863.0	-	
12/23/2011	859.7	-	
6/2/2015	857.1	-	
8/20/2015	858.3	_	
10/20/2015	859.8	864.3	

More detailed information regarding the soil and groundwater conditions at the site are presented on the Boring Logs found in Appendix B. Grain size distribution test reports on four soil boring samples are also included in Appendix B.

DISCUSSION AND RECOMMENDATIONS

Subject to the limitations discussed below and based on the subsurface exploration, it is our opinion that supplemental soil borings revealed similar soil conditions to the initial soil borings, including very dense native silty sand (glacial till) at proposed footing grade in the western portion of the development. Therefore, similar geotechnical recommendations are applicable for this portion of the site with slab grade near EL 885 ft, including the recommended use of spread footing foundations proportioned using a fairly high bearing pressure. However, the eastern portion of the project with lower slab grade near EL 855 ft will extend below the water table. Therefore, we are providing updated Site Preparation, Floor Slab and Foundation sections of the report. The major points of emphasis include the following:



- Dewatering will be an important component of the excavation process to minimize foundation and floor slab subgrade disturbance in the deeper portion of the building.
- Special earth retention considerations will also be required due to groundwater, and dewatering should be considered in the design of the earth retention system.
- Provisions will need to be made to <u>permanently</u> dewater below the portion of the building extending below the water table. (Alternatively, the below-grade portion of the building can be designed as a watertight system.)

Specific recommendations regarding the geotechnical aspects of design and construction follow. Additional information regarding this report is discussed in Appendix C.

1. Site Preparation

Although most of the recommendations in the original report are still current, especially for the higher (western portion of the project), since the eastern portion of the project is about 10 ft lower than initially planned in 2010 with footing and floor excavations extending below the water table, we are providing some addition recommendations.

a. Dewatering Evaluation

Based on the below grade parking level slab grade near EL 855 ft over most of the footprint, which will extend below the water table, dewatering will be an important consideration during the excavation process. Based on a lowest basement level (04) slab grade near EL 855 ft and footing grade near EL 850 ft, it appears that the floor slab will be about 5 to 10 ft below the water table, and footing excavations will extend about 10 to 15 ft below the groundwater level measured in monitoring wells MW-1 and MW-2. (The elevator and stairwell footings are expected to be a few feet deeper than typical column pads.) Note that groundwater may also be higher due to seasonal fluctuations, including higher lake levels. Additionally, perched water lenses could be encountered above the static water level that will need to be drained as construction advances deeper.

Since the very dense silty sands at and below slab and footing grade have a very low permeability, dewatering will be a slow process. We recommend that groundwater be lowered at least 1 ft below footing grade prior to beginning footing excavation. Groundwater levels should be monitored in wells located throughout the site to determine when sufficient groundwater drawdown has been achieved and foundation excavation can begin. The risk associated with ineffective dewatering in advance of excavation is that the subgrade integrity may be compromised. Additionally, water-bearing seams of more permeable sands or gravels may be encountered resulting in subgrade instability and potentially earth retention stability issues.

Appropriate dewatering system/implementation should be provided by an experienced dewatering contractor. This can be accomplished by presenting the relevant data in this report to the dewatering contractor, which they can in turn use along with their experience to develop a means and methods dewatering system, which is the dewatering contractor's responsibility. Based on the grain size



distribution curves developed from samples collected from the soil borings (attached), we expect that a vacuum well-point system with regular, closely-spaced well points throughout the excavation area, including around the perimeter and within the excavation will be required to effectively dewater the soils. Additional well points may be required around deeper excavations (elevator, etc.) or to drain zones of highly permeable sand and gravel, which were encountered in Borings 3 near 22.5 ft below existing grade, Boring 5 near 87.5 ft, Boring 6 near 32.5 ft and in Boring 7 near 78 ft, and have been encountered on previous projects in the Capitol Hill area. The well point screen and filter pack around the screen should be properly sized to prevent loss of soil through dewatering. The water from the dewatering system should be monitored for evidence of soil loss in a sedimentation basis prior to discharge. If there is evidence of significant soil loss, the screen size and/or filter pack may require adjustment. Supplemental localized dewatering using pumps in filtered sump pits may be required to dry up the subgrade in between well points.

Even with an effective dewatering system in the lower (i.e., slab near EL 855 ft) eastern portion of the development, the low permeability silty sand soils will be difficult to completely dewater, and because of this likelihood, along with the high soil bearing pressure determined through pressuremeter testing, we recommend that thin concrete "mud mats" be used to protect footing subgrades from disturbance immediately after excavation.

In general, dewatering has the potential for causing settlement of nearby structures. However, assuming that the dewatering system is properly installed, we expect minimal (if any) settlement attributed to dewatering at this site because of the relatively incompressible nature of the glacial till layer that will be dewatered. Although the amount of settlement is not expected to be detrimental, we recommend that a precondition survey and monitoring program be implemented prior to installation of the earth retention and dewatering systems as a means of determining if settlement takes place. Note that some minor cracking of the existing structures (especially masonry structures) may occur as a result of various construction activities (e.g., vibrations, excavations, etc.). If significant settlement or cracking is noted, the dewatering and/or earth retention system will require reevaluation.

b. Earth Retention – Supplemental Dewatering Considerations

The earth retention system should be designed in conjunction with the dewatering system, with the two most common earth retention systems used in the Madison area for this type of excavation, soil nailing or soldier pile/wood lagging, generally designed assuming the water table is lowered below the retention system such that hydrostatic pressures do not exist. This assumption should be verified by the earth retention designer and installer, and the dewatering system should be designed and installed accordingly to prevent the build-up of hydrostatic pressures.

The predominant soil type on site, a silty sand till, is generally suitable for the soil nailing method, in our opinion. However, more challenging installation, including the use of hollow core nails, should be anticipated in deeper portions of the excavation that extend near or below the water table or in zones containing clean sands/gravels that may include perched water. Three-dimensional drainage



board behind the shotcrete face that drains through the shotcrete face using weep holes (wrapped in non-woven geotextile filter fabric) will likely be required in some locations to adequately drain perched water lenses and partially dewatered soils to prevent the build-up of hydrostatic pressures.

A soldier pile/wood lagging system could also be considered for earth retention and may be preferred to soil nailing where existing structures are located adjacent to the excavation. Provisions will likely be needed to allow water to seep out the face of the lagging while preventing the loss of soil from behind the wall. Non-woven geotextile fabric (e.g., Mirafi 160N or equivalent) may be required behind the lagging to minimize soil migrating through the lagging, and three-dimensional drainage board may be required behind the lagging to drain water and prevent the build-up of hydrostatic pressures behind the lagging.

c. Floor Slab Subgrades

The subgrade soils present at basement level 04 level (EL 855 ft) are expected to consist of natural silty sands. As the excavation base will be about 5 to 10 ft below the groundwater table and will be exposed to typical construction traffic, precautions should be taken to protect the subgrade from disturbance until the time floor slab and footing construction is to proceed. The recommended procedure for floor subgrade protection is to excavate a minimum of 1.5 to 2 ft below proposed floor slab subgrade elevation with a backhoe equipped with a smooth-edged bucket. If groundwater seepage occurs, the excavation may need to advance in small sections that are backfilled immediately with 12-in. of 3-in. nominal diameter crushed stone containing a P200 content of 8 percent or less. Supplemental dewatering should be provided where needed by pumping from sumps within the stone layer. If isolated subgrade disturbance persists, deeper undercutting and thicker stone placement may be necessary. The stone layer should be underlain by a woven geotextile fabric (e.g., Mirafi 600X or equivalent), with attention required between adjacent sheets such that a minimum of 2 ft of overlap is achieved.

2. Floor Slabs

a. Floor Slab - Eastern Portion of the Building

Within the eastern portion of the building where the slab will be located near EL 855 ft, the slab will be permanently below the water table, and a sub-floor dewatering system will be required to permanently lower the water table below the floor slab. (Alternatively, the deeper portion of the building could be designed as a watertight "bathtub" system, and we can provide additional details upon request.) For this portion of the building, we expect that the floor slab subgrades will need to be stabilized upon excavation to develop a firm subgrade, as discussed in the previous section. Above the stabilization layer we expect the subfloor dewatering system to consist of the components:

• The drainage blanket below the floor slab should be a minimum 12-in. thick layer of Size No. 1 washed stone (WDOT Specification Section 501.2.5.4.4) or an equivalent opengraded crushed clear stone.



- A geotextile (e.g., Mirafi 160N or approved equivalent) should be carefully placed and positioned prior to stone placement to separate the drainage blanket from the silty sand subgrade soils. A minimum 2-ft overlap is recommended between adjoining geotextile sheets and the fabric should be wrapped up the sides of foundations, walls and columns a minimum of 2 ft. Careful attention is required so that the fabric is also sealed around vertical pipe penetrations. If perimeter walls will be backfilled with clear stone, the fabric should also be wrapped up the sides of the earth retention.
- Interior drain lines should be positioned about 20 to 25 ft on-center. A slightly wider spacing may be acceptable if the plumbing designer determines that wider-spaced drain tile can adequately remove the water. The drain lines should be bedded in trenches that extend slightly below the drainage blanket, and the drain lines should be sloped towards either a header/collector pipe or the sump crocks. Note that we assume that the subgrade will be sloped towards the sump crocks and the drain lines will follow the general slope of the subgrade. The geotextile should be draped inside the trench before installing the bedding stone and pipe. Drainage holes in the pipe should be 0.25 in. or less.
- Schedule 40 PVC drain pipe is recommended for the main/central drainage pipes. However, if flexible, corrugated ABS pipe can be effectively cleaned/jetted without damage through cleanouts extending through the slab, this type of material can be substituted for the PVC pipe.
- Pressure relief ports should be installed in the concrete slab-on-grade in case of a long-term system shut down. The pressure relief ports are essentially sleeves through the slab with a standard slotted drain cover at the surface. They are intended to prevent the build-up of hydrostatic pressures below the slab, which would damage the slab.
- Exterior basement walls below approximately EL 870 ft should be waterproofed with a waterproofing membrane.
- Details such as sump locations/sizes, pump selection, backup generator, pumps and alarm systems, final pipe sizes and locations should be completed by a plumbing designer and are not addressed in this letter. We recommend that redundancy be built into the system in the event of pump break-down or loss of primary power. If possible, critical electrical and mechanical equipment should not be located in the basement level to avoid potential damage in the event of subfloor drainage system shutdown and subsequent flooding.

Note that there is considerable flexibility in the details of the drainage system, and we would be happy to work with you and the design team to develop a system that works best for all. We can also



provide additional details regarding long-term dewatering rates. The *in situ* hydraulic conductivity can be estimated by conducting drawdown and recovery (slug) tests in the monitoring wells, which can in turn be used to estimate sub-floor dewatering rates based on the building footprint and groundwater drawdown.

b. Floor Slab - Western Portion of the Building

We anticipate that the soils exposed at floor slab subgrade within the western portion of the development where the slab will be located near EL 885 ft will primarily consist of natural silty sand glacial till. The floor slab subgrade is expected to be above the groundwater table. Prior to slab construction, the subgrades should be thoroughly proof-rolled/recompacted to densify soils that may become disturbed or loosened during construction activities. Areas that remain loose after recompaction should be undercut and replaced with compacted 3-in. dense graded base or granular fill. The design subgrade modulus is based on a recompacted subgrade such that non-yielding conditions are developed.

The final 6 in. of soil placed below the slab should consist of well-graded sand/gravel with no more than 5 percent by weight passing a No. 200 U.S. standard sieve to act as a capillary break. (Note that some structural engineers require a 6 in. layer of ¾ in. or 1-¼ in. dense graded base below the slab to increase the subgrade modulus immediately below the slab.) The base layer material below the floor slab should be thoroughly compacted until deflection ceases. A subgrade modulus of 100 pci may be used for slab design if the slab is supported on well-graded sand/gravel over a firm subgrade. If 6 in. of dense graded base is included below the slab, the subgrade modulus can be increased to 150 pci. To further minimize the potential for moisture migration, a plastic vapor barrier can also be utilized below the slab. The slab should be structurally separate from the foundations and have construction joints and reinforcement for crack control.

2. Supplemental Foundation Design

a. Western Portion of the Development

Based on the anticipated footing grade of EL 880 ft, foundations for the western portion of the structure are anticipated to bear within natural very dense silty sand soils similar to the deeper part of the project. In our opinion, based on pressuremeter testing completed by WKG² the proposed structure may be supported by conventional spread foundations at a relatively high bearing pressure. A backhoe with a smooth-edged bucket should be used to excavate to footing grade within the structure limits. The footing subgrades should then be observed by CGC using a dynamic cone penetrometer (DCP) to check for loose or soft pockets that will require removal. To restore footing grades in undercut excavations and to protect subgrades from disturbance, we recommend that a minimum 4-in. thick "mud mat" be placed as soon as possible after excavation over the footing subgrades. The mud mat should be a lean mix (or footing mix) concrete capable of developing a compressive strength of 1,000 psi after 28 days.



Provided the foundations are installed on the very dense, natural sand silty strata and protected with a lean mix mud mat in accordance with the preceding recommendations such that minimal subgrade disturbance occurs, the following parameters should be used for foundation design:

• Maximum net allowable bearing pressure Footings bearing near EL 880 ft:

30,000 psf

• Minimum foundation widths:

-- Continuous wall footings:

18 in.

-- Column pad footings:

36 in.

• Minimum footing depths:

greater of one quarter of the foundation width or 4 ft

We recommend that CGC be retained during construction to document that the soil conditions are suitable for the design bearing pressure or recommend corrective measures, if required. The foundation soils should be checked using a dynamic cone penetrometer (DCP), where the DCP blow count should be equivalent to a minimum SPT blow count of 62 blows/ft. Note that this technique has been successfully used on numerous projects in the Madison area where relatively high bearing pressures were determined with pressuremeter testing. The silty sand subgrade soils will be susceptible to disturbance from groundwater, precipitation, construction traffic, etc., so we recommend that the subgrades be protected from disturbance by placing a 4-in. thick lean mix concrete layer *immediately* after excavation. The mud mat is recommended for all footings designed using the 30,000 psf bearing pressure, even if above the water table. This operation will require special attention and coordination between the general contractor, the excavator and CGC in the field.

Undercutting below footing grade will be required if native clays (if any) or loose/disturbed sands are observed at or slightly below footing grade. Where undercutting is required, the base of the undercut excavation should be widened beyond the footing edges at least 0.5 ft beyond the edge of the footing and extended vertically to the required bearing stratum. (Undercuts deeper than 4 ft will require proper slopes or bracing to meet OSHA guidelines, if workers need to enter the excavation.) Footing grade should be re-established using lean mix concrete or regular footing mix concrete. Alternatively, the foundations can be lowered to bear on the suitable bearing stratum.

We recommend using a smooth-edged backhoe bucket for footing excavations. Additionally, the granular soils exposed at footing grade should be hand trimmed to remove loose soil prior to concrete mud mat placement. As discussed in the previous section, a lean mix concrete mud mat will be required for the footings, and prompt lean mix placement is critical to protect the bearing soils. Provided the foundation design/construction recommendations discussed above are followed, we estimate that total and differential settlements should be less than 1.0 and 0.5 in., respectively.



Note that if footings are planned above the parking level grades such they will bear on wall backfill, careful consideration will be needed so that these footings are properly supported. Footings bearing on backfill will require careful and systematic wall backfilling to reduce the chance of excessive post-construction settlement. *If clear stone will be used as below-grade wall backfill, it is imperative that the clear stone be placed in controlled lifts of approximately 12 in. and compacted with a vibratory compactor until deflection ceases.* Granular backfill supporting footings should be placed in 8 in. to 12 in. loose lifts and compacted to a minimum of 95% compaction based on modified Proctor methods (ASTM D 1557). Footings that bear on well compacted clear stone or granular backfill compacted to a minimum of 95% can be designed using an allowable bearing pressure of 3,000 psf. As an alternative, lightly loaded shallow foundations could be designed to cantilever off the below grade wall.

b. Eastern Portion of the Development

At the time of the initial report in 2010, footing grade was expected to be near EL 860 ft or about 10 ft higher than currently planned, and therefore dewatering was not expected to be a significant issue during footing excavation. However, since footing grade is now planned to be near EL 850 ft for most footings (and few feet deeper for elevator and stairwell footings), dewatering is now a critical component of the excavation process in order to lower the water table below footing grade to minimize disturbance during footing construction. Recent groundwater readings indicated groundwater was near EL 859.8 ft in MW-1 (near Boring 5) on the lower part of the site to EL 864.3 ft in MW-2 (in B-2A) on the higher part of the site.

In other words, for footings bearing near EL 850 ft, footing excavations are expected to extend about 10 to 15 ft below the water table, and we recommend lowering groundwater at least 1 ft below footing grade. Therefore, dewatering will be an important part of the footing excavation process, as previously discussed. Footing subgrades should be protected from disturbance using a minimum 4-in. thick mud mat immediately after excavation.

Based on previous soil borings and pressuremeter testing, footings near EL 850 ft are expected to bear on native very dense silty sand, and the recommended maximum allowable bearing pressure is 30,000 psf. It should be emphasized that the high bearing pressure is predicated on a firm and undisturbed subgrade being maintained during footing excavation and construction.



We trust that this information is sufficient for your current needs. Additional important design and construction recommendations are included in our original report (and addendum). Please contact us if you have any questions.

Sincerely,

CGC, Inc.

David A. Staab, P.E., LEED AP

Consulting Professional

William W. Wuellner, P.E. Senior Geotechnical Engineer

Mul Wash

Encl: Appendix A - Field Exploration

Appendix B - Soil Boring Location Map

Logs of Test Borings and Monitoring Well (2) Particle Size Distribution Test Reports (4)

Log of Test Boring-General Notes Unified Soil Classification System

Appendix C - Document Qualifications

Appendix D - WKG² Pressuremeter Test Report

APPENDIX A

FIELD EXPLORATION

APPENDIX A

FIELD EXPLORATION

A total of two Standard Penetration Test (SPT) soil borings (Borings 2A and 4A) were drilled to depths of 35 to 55 ft below existing site grades. The borings were completed by Badger State Drilling (under subcontract to CGC) on October 5, 2015 using a truck-mounted rotary D-120 drill rig equipped with hollow-stem augers and rotary wash equipment, as well as an automatic SPT hammer. A groundwater monitoring well was installed in Boring 2A. In addition to conventional SPT sampling, pressuremeter testing was performed in the three soil borings by Wagner Komurka Geotechnical Group (WKG² - also under subcontract to CGC). Pressuremeter testing measures the *in situ* strength and deformation properties of the soil, which allows for more accurate determination of the allowable bearing pressure. The boring logs and Soil Boring Location Plan are presented in Appendix B.

In each boring, soil samples were obtained at the pressuremeter test location by Badger State Drilling using a drill rig equipped with hollow stem augers and mud rotary equipment. Soil samples were obtained in general accordance with specifications for Standard Penetration Testing, ASTM D1586. Pressuremeter tests were conducted in the two boreholes under the direction of WKG² (also under subcontract to CGC). The specific procedures used for drilling and sampling are described below:

1. <u>Drilling Procedures Between Samples</u>

The boring was extended downward between samples using a roller bit and circulating drilling mud. Hollow stem augers were also used in the upper reaches of borings.

2. <u>Standard Penetration Test and Split-Barrel Sampling of Soils</u> (ASTM Designation: D1586)

This method consists of driving a 2-inch outside diameter split barrel sampler using a 140-pound weight falling freely through a distance of 30 inches. The sampler is first seated 6 inches into the material to be sampled and them driven 12 inches. The number of blows required to drive the sampler the final 12 inches is recorded on the log of borings and is known as the Standard Penetration Resistance.

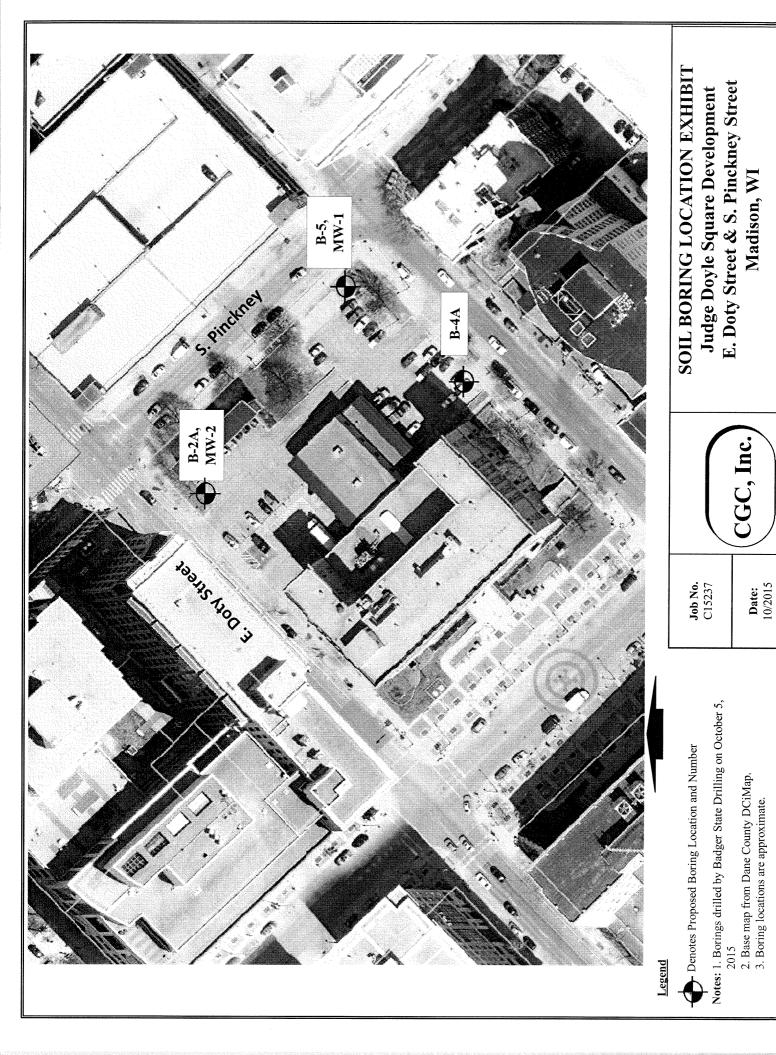
3. Pressuremeter Testing

Pressuremeter testing consists of inflating a flexible probe against the sidewalls of a predrilled borehole. The Pressuremeter tests were completed at pre-determined depths by trained field personnel in accordance with established WKG² and ASTM procedures. The data obtained from the tests was evaluated following ASTM standards and using guidelines presented in FHWA Publication No. FHWA-1P-89-008. A total of eight tests were conducted. Additional details can be found in Appendix D.

During the field exploration, the driller visually classified the soil and prepared a field log. Field screening of the samples for possible environmental contaminants was outside CGC's work scope and is not addressed in this report. Water level observations were made in the hollow stem auger boring during and after drilling and are shown at the bottom of each boring log. Upon completion of drilling, the open boreholes were backfilled with bentonite in accordance with WDNR guidelines. The soils were then delivered to our laboratory for visual classification and laboratory testing. The soils were visually classified by a geotechnical engineer using the Unified Soil Classification System. Particle size distribution tests were performed on representative boring samples to aid in classification. The final logs prepared by the engineer and a description of the Unified Soil Classification System are presented in Appendix B.

APPENDIX B

SOIL BORING LOCATION MAP LOGS OF TEST BORINGS (2) LOG OF MONITORING WELL (1) PARTICLE SIZE DISTRIBUTION TEST REPORTS (4) LOG OF TEST BORING – GENERAL NOTES UNIFIELD SOIL CLASSIFICATION SYSTEM





LOG OF TEST BORING

Project Proposed Judge Doyle Square
E. Doty & S. Pinckney Street
Location Madison, Wisconsin

Boring No. 2A
Surface Elevation (ft) 910.1
Job No. C15237
Sheet 1 of 2

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

	(SA	MPL	E.		VISUAL CLASSIFICATION	SOIL	PRO	PEF	RTIE	S
No.	121	Rec	Moist	N	Depth (ft)	and Remarks	qu (qa) (tsf)	W	LL	PL	LI
	PE (1	in.)			(ft)	6 in. ± TOPSOIL FILL (OL) Blind-Drilled (No Sampling) from 0 to 28.5 ft (See Boring 2)	(tsf)				
1		24	M	94		Very Dense, Brown Silty Fine to Medium SAND, Some Gravel, Scattered Cobbles/Boulders (SM)					
					+ - - - - -	PMT #1: 28.5 - 31 ft					
2		15	M 8	8/11	35— — — — — — — — — 40—	PMT #2: 35 to 37.5 ft P200 (Sample 2): 35.2%		9.5			
			I	W	ATER	LEVEL OBSERVATIONS (GENERA	L NC	TES	5	
While Drilling Time After Drilling Depth to Water Depth to Cave in			ıg	ines re	10/20/15 45.8 45.8	MC Edito	10/5/ KD/l r DA HSA 0'- ohamm	DD R S 28.5';			
so	11 1	type	s and	the t	ransıti	ton may be gradual.					



LOG OF TEST BORING

Project Proposed Judge Doyle Square
E. Doty & S. Pinckney Street
Location Madison, Wisconsin

 Boring No.
 2A

 Surface Elevation
 910.1

 Job No.
 C15237

 Sheet
 2 of
 2

2921 PERRY STREET; MADISON, WIS. 53713 (608) 288-4100, FAX (608) 288-7887

	SAMPLE				PERRY	Y STREET, MADISON, WIS. 53713 (608) 288-4100, FAX (608)	γ		<u></u>		
		MPL	_ _	1		VISUAL CLASSIFICATION	SOIL	PRO	PEF	₹IIE	:S
No.	Rec P (in.)	Moist	N	Depth (ft)	ļ	and Remarks	qu (qa) (tsf)	w	LL	PL	LI
3	12	M/W	85/9"			PMT #3: 41 to 43.5 ft		10.7			
						P200 (Sample 3): 42.2%					
			on the state of th	▼ 45-							
				50-		PMT #4: 52.5 to 55 ft					
4	6	M/W	50/5"	_		P200 (Sample 4): 42.1%		9.3			
				55-		Blind-Drilled (Witout Sampling) from 54 to 63 ft	***************************************				
				E 60-							
				_							
						End Boring at 63 ft					
				65—		Set 2 in. PVC Monitoring Well with Flush Mount Cover					
				_							
				70 -							
				75— 							
				80-							



LOG OF TEST BORING

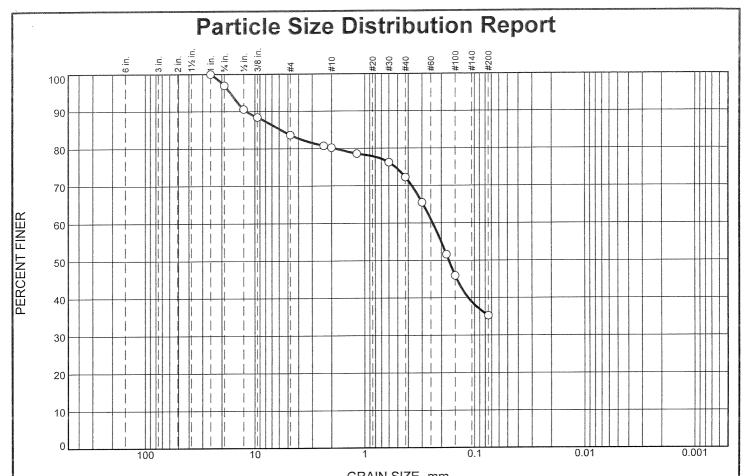
Project Proposed Judge Doyle Square
E. Doty & S. Pinckney Street
Location Madison, Wisconsin

Boring No. **4A**Surface Elevation (ft) **900.7**Job No. **C15237**Sheet **1** of **1**

						292	l Pe	rry Street, Madison, WI 53713 (608) 288-410	0, FAX (608)	288-7887 —	***************************************			
		SA	MPL	E.				VISUAL CLASSIFICATIO	N	SOIL	PRO	PEF	RTIE	S
No.	T Y P E	Rec (in.)	Moist	N	1	epth ft)		and Remarks		qu (qa) (tsf)	w	LL	PL	LI
					E		X	4 in. Concrete Pavement/6 in. Base Cours	e					
						5—10—		Blind-Drilled (No Sampling) from 0 to 20 Boring 4)						
					Ë									
1		24	M	72		20-	T:1.1. T:1.1. T:11.	Some Gravel, Scattered Cobbles/Boulders (SM)						
							1:11 1:11	PMT #1: 20.5 to 23 ft						
2		24	M	78	Ë E E	25-		PMT #2: 25.5 to 28.5 ft P200 (Sample 2): 36.9%						
3		24	М	62		30-		PMT #3: 30 to 32.5 ft			6.9			
						35		End Boring at 32.5 ft Backfilled with Bentonite Chips and Aspl	halt Patch					
				W	AT	ER	LE	EVEL OBSERVATIONS		SENERA	L NO	TES		
Time Deptl Deptl	While Drilling Variable Drilling NW Variable Dri								Start 10/5/15 End 10/5/15 Driller BSD Chief KD/DD Rig D-120 Logger MC Editor DAS Drill Method 4.25" HSA; Autohammer					

Demants ant of Natural Descriptions	id Waste 🛘 Haz. Waste 🗖 & Repair 🔲 Undergrour		MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 4-90
Facility/Project Name	Local Grid Location of We		Well Name
Julie Doule Soularie	ft. DN.	ft. $\begin{bmatrix} E \\ w \end{bmatrix}$	MW-24
Facility License, Permit or Monitoring Number	Grid Origin Location		Wis Unique Wall Number DNR Well Number
	Lat]	Long or	
Type of Well Water Table Observation Well 11	St. Planef	ît. N, ft. E.	Date Well Installed
Piezometer 12	Section Location of Waste		7/1/2/2/3 mm d d y y
Distance Well Is From Waste/Source Boundary	1/4 of 1/4 of Sec.	,TN, R W.	Well Installed By: (Person's Name and Firm)
ft.	Location of Well Relative	to Waste/Source	Levix Duerst
Is Well A Point of Enforcement Std. Application?		s Sidegradient	B5D
Yes No	d Downgradient	n ☐ Not Known 1. Cap and lock?	
	ft. MSL	2. Protective cov	
B. Well casing, top elevation	ft. MSL —	a. Inside diam	• • • • • • • • • • • • • • • • • • • •
C. Land surface elevation	ft. MSL	b. Length:	
		c. Material:	Steel 2 04
D. Surface seal, bottom ft. MSL or	fr.	Ye.	Other 🗆
12. USCS classification of soil near screen:		d. Additional	protection?
GP GM GC GW SW GSW GSM GSC ML MH CL G	SP 🔲	If yes, desc	
	сн 🗆 📜	3. Surface seal:	Bentonite 🔲 30
Bedrock 🗆		J. Surface sear.	Concrete 💆 01
13. Sieve analysis attached? Yes	1 100	X \	Other 🗀 🏬
14. Drilling method used: Rotary		4. Material betw	een well casing and protective pipe:
Hollow Stem Auger	41 📓		Bentonite 30
Other 🔲	**	-	Annular space seal Other M
15. Drilling fluid used: Water □ 02 Air □	01	#	Her Darid Other D
Drilling Mud Z 03 None	99	5. Annular space	
0 /2 00 11020	01 99 No		al mud weight Bentonite-sand slurry 1 35
16. Drilling additives used?	No 🔛		al mud weight Bentonite slurry 3 1 ntonite Bentonite-cement grout 5 0
			Intonite Bentonite-cement grout 50 Ft 3 volume added for any of the above
Describe	l 🐰	e f. How instal	
17. Source of water (attach analysis):		1. HOW HISTORY	Tremie pumped 🔲 02
			Gravity 📈 08
		6. Bentonite sea	
E. Bentonite seal, top ft. MSL or	.4- ft. 🛭	В / b. □1/4 in.	Ø3/8 in. □1/2 in. Bentonite pellets □ 32
		C	Other 🗖 💮
F. Fine sand, top ft. MSL or 3	46 ft.	7. Fine sand ma	terial: Manufacturer, product name & mesh size
		7. Fine sand ma	7 Ohio ====
G. Filter pack, top ft. MSL or 3	76 ft.	b. Volume ad	
6 3403	mc.	8. Filter pack m	aterial: Manufacturer, product name and mesh size
H. Screen joint, top ft. MSL or _4		2	3 Ohio
I. Well bottom ft. MSL or	A = 6	b. Volume ac	
I. Well bottom ft. MSL or	Q 1.	9. Well casing:	Flush threaded PVC schedule 40 23 Flush threaded PVC schedule 80 24
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		a. ociocniy,	Continuous slot 🖸 01
L. Borehole, diameter			Other □
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M. O.D. well casing 250 in.		c. Slot size:	0. \(\(\) \(\) in.
•		d. Slotted len	ngth: QQ ft.
N. I.D. well casing \mathcal{A}_{\cdot} in.			rial (below filter pack): None 🔲 14
		#3	
I hereby certify that the information on this		rrect to the best of my	knowledge.
Signature	Firm		

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.



GRAIN SIZE -IIIII										
	% G	ravel	% Sand			% Fines				
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay			
0.0	3.0	13.4	3.4	7.9	37.1	35.2				

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1	100.0		
3/4	97.0		
1/2	90.6		
3/8	88.4		
#4	83.6		
#8	80.7		
#10	80.2		
#16	78.6		
#30	76.2		
#40	72.3		
#50	65.5		
#80	51.6		
#100	45.9		
#200	35.2		
ľ	l		

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USCS= SM	Classification AASHT	O=						
Remarks								

(no specification provided)

Sample Number: B-2A/2A+2B+2C

Client: Hammes Co. Sports Dev. **Project:** JDS Supplemental PMTs

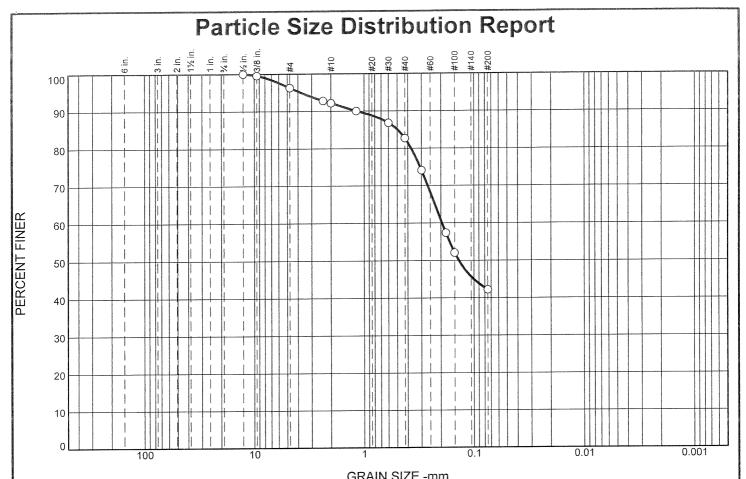
Figure

Date: 10/7/15

CGC,Inc.

Project No: C15237

Checked By: DAS Tested By: DRW



GIVAIN SIZE -IIIII											
	% G	ravel		% Sand	d	% Fines					
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay				
0.0	0.0	3.7	4.1	9.5	40.5	42.2					

?	PASS?	SPEC.*	PERCENT	SIEVE	
))	(X=NO	PERCENT	FINER	SIZE	
			100.0	1/2	
			99.6	3/8	
			96.3	#4	
			92.8	#8	
			92.2	#10	
			90.0	#16	
			86.8	#30	
			82.7	#40	
			74.1	#50	
			57.4	#80	
			52.1	#100	
			42.2	#200	
			92.8 92.2 90.0 86.8 82.7 74.1 57.4 52.1	#8 #10 #16 #30 #40 #50 #80 #100	

Frace Gravel
24
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<u>n</u> HTO=
1110-

(no specification provided)

Sample Number: B-2A/3+3B

Client: Hammes Co. Sports Dev. **Project:** JDS Supplemental PMTs

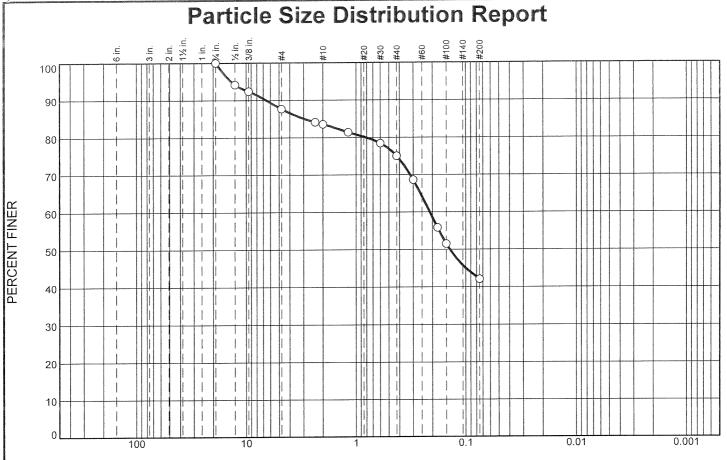
Project No: C15237

Figure

Date: 10/7/15

CGC, Inc.

Tested By: DRW Checked By: DAS



GRAIN SIZE -mm

		% Gı	ravel		% Sand	t t	% Fines		
-	% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
-	0.0	0.0	12.3	4.1	8.6	32.9	42.	1	

SIEVE	PERCENT	SPEC.*	PASS?	
SIZE	FINER	PERCENT	(X=NO)	
3/4	100.0			
1/2	94.2			
3/8	92.4			
#4	87.7			
#8	84.1			
#10	83.6			
#16	81.4			
#30	78.4			
#40	75.0			
#50	68.6			
#80	55.8			
#100	51.5			
#200	42.1			
i		l .		

	Material	Descri	ption	
Cilty Eine	to Madium	n Sand	Some	Grava

Brown Silty Fine to Medium Sand, Some Gravel

Natural Moisture = 9.3%

(no specification provided)

Sample Number: B-2A/4

Date: 10/7/15

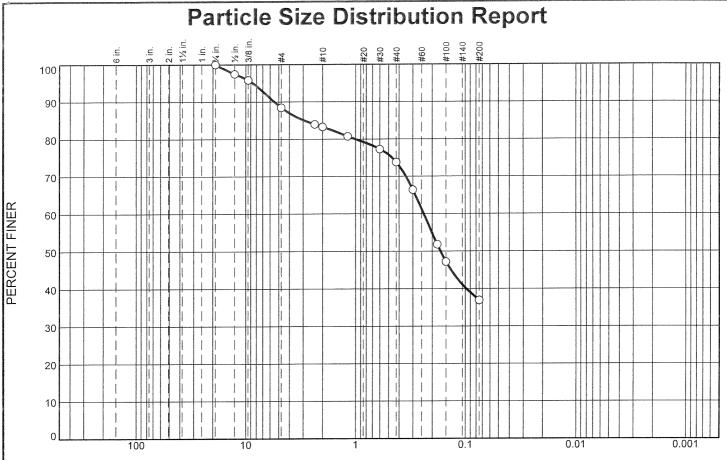
CGC,Inc.

Client: Hammes Co. Sports Dev. **Project:** JDS Supplemental PMTs

Project No: C15237

Figure

Tested By: DRW Checked By: DAS



GRAIN SIZE -mm

% +3"	% Gravel		% Sand			% Fines		
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	11.5	5.3	9.4	36.9	36.9		

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3/4	100.0		
1/2	97.5		
3/8	95.8		
#4	88.5		
#8	83.9		
#10	83.2		
#16	80.7		
#30	77.3		
#40	73.8		
#50	66.4		
#80	51.8		
#100	47.2		
#200	36.9		

<u>Material</u>	De	sc	ri	p	tio	n

Brown Silty Fine to Coarse Sand, Little Gravel

Atterberg Limits PI= PL=

Coefficients D₉₀= 5.4835 D₅₀= 0.1682 D₁₀= $D_{60} = 0.2388$ $D_{85} = 2.9586$ D30= C_u=

Classification AASHTO=

USCS= SM

Remarks

Natural Moisture = 6.9%

(no specification provided)

Sample Number: B-4A/2

Date: 10/7/15

Figure

CGC, Inc.

Client: Hammes Co. Sports Dev. Project: JDS Supplemental PMTs

Project No: C15237

Checked By: DAS Tested By: DRW

APPENDIX C

DOCUMENT QUALIFICATIONS

APPENDIX C DOCUMENT QUALIFICATIONS

I. GENERAL RECOMMENDATIONS/LIMITATIONS

CGC, Inc. should be provided the opportunity for a general review of the final design and specifications to confirm that earthwork and foundation requirements have been properly interpreted in the design and specifications. CGC should be retained to provide soil engineering services during excavation and subgrade preparation. This will allow us to observe that construction proceeds in compliance with the design concepts, specifications and recommendations, and also will allow design changes to be made in the event that subsurface conditions differ from those anticipated prior to the start of construction. CGC does not assume responsibility for compliance with the recommendations in this report unless we are retained to provide construction testing and observation services.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices and no other warranties are expressed or implied. The opinions and recommendations submitted in this report are based on interpretation of the subsurface information revealed by the test borings indicated on the location plan. The report does not reflect potential variations in subsurface conditions between or beyond these borings. Therefore, variations in soil conditions can be expected between the boring locations and fluctuations of groundwater levels may occur with time. The nature and extent of the variations may not become evident until construction.

II. IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL ENGINEERING REPORT

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one - not even you* - should apply the report for any purpose or project except the one originally contemplated.

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- · not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or project ownership.

As a general rule, , *always* inform your geotechnical engineer of project changes - even minor ones - and request an assessment of their impact. *CGC cannot accept responsibility or liability for problems that occur because our reports do not consider developments of which we were not Informed.*

SUBSURFACE CONDITIONS CAN CHANGE

A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

MOST GEOTECHNICAL FINDINGS ARE PROFESSIONAL OPINION

Site exploration identifies subsurface conditions only at those points where surface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgement to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ - sometimes significantly - from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A REPORT'S RECOMMENDATIONS ARE NOT FINAL

Do not over-rely on the construction recommendations included in your report. Those recommendations are not final, because geotechnical engineers develop them principally from judgement and opinion, geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. CGC cannot assume responsibility or liability for the report's recommendations if we do not perform construction observation.

A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having CGC participate in prebid and preconstruction conferences, and by providing construction observation.

DO NOT REDRAW THE ENGINEER'S LOGS

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

GIVE CONTRACTORS A COMPLETE REPORT AND GUIDANCE

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

READ RESPONSIBILITY PROVISIONS CLOSELY

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce such risks, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes

labeled "limitations," many of these provisions indicate where geotechnical engineer's responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

GEOENVIRONMENTAL CONCERNS ARE NOT COVERED

The equipment, techniques, and personnel used to perform a geoenvironmental study differ significantly from those used to perform a geotechnical study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. Do not rely on an environmental report prepared for someone else.

OBTAIN PROFESSIONAL ASSISTANCE TO DEAL WITH MOLD

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the express purpose of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.

RELY ON YOUR GEOTECHNICAL ENGINEER FOR ADDITIONAL ASSISTANCE

Membership in ASFE exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with CGC, a member of ASFE, for more information.

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ASFE/The Best People on Earth 881 Colesville Road, Suite G 106 Silver Spring, MD 20910

APPENDIX D

WKG² PRESUREMETER TEST REPORT



October 20, 2015

Mr. David A. Staab, P.E., LEED AP CGC, Inc. 2921 Perry Street Madison, Wisconsin 53713

Re:

Judge Doyle Square Pressuremeter Testing – Madison, Wisconsin

WKG² Project No. 15024

Dear Mr. Staab:

At your request, Wagner Komurka Geotechnical Group, Inc. ("WKG²") arranged for in-situ pressuremeter tests to be performed for The Judge Doyle Square project in Madison, Wisconsin. The pressuremeter tests were performed to evaluate soil strength and compressibility to optimize allowable foundation bearing stress. The pressuremeter test results, and the results of our analysis using the pressuremeter test data, are presented in the attached report.

If you have any questions regarding this report, please feel free to contact us. We appreciate this opportunity to provide geotechnical engineering services to CGC, Inc.

Samue L. Hawo & H. Lam Van E. Formurka

Sincerely,

WAGNER KOMURKA GEOTECHNICAL GROUP, INC.

Janine L. Grauvogl-Graham, P.E.

Geotechnical Engineer

Van E. Komurka, P.E., D.GE, F.ASCE

President



PRESSUREMETER ENGINEERING REPORT

JUDGE DOYLE SQUARE

MADISON, WISCONSIN

October 20, 2015

Prepared for:

CGC, Inc.

by:

Wagner Komurka Geotechnical Group, Inc.

WKG² Project No. 15024

JUDGE DOYLE SQUARE MADISON, WISCONSIN PRESSUREMETER ENGINEERING REPORT

PROJECT DESCRIPTION

The project involves construction of a new 8- to 10-story building in the block bordered by E. Doty Street, S. Pinckney Street, E. Wilson, and Martin Luther King Junior Boulevard in Madison, Wisconsin. The structure will have two to five belowgrade levels. This report addresses the western portion of the building which will have two below-grade levels with column footings bearing at approximately Elevation 880¹. We understand that the maximum column load is 1,800 kips.

A pressuremeter testing program was previously completed for the portion of the building with five below-grade levels and column footings bearing at approximately 855. The results of that pressuremeter program were presented in our previous report².

Existing site grades range from approximately Elevation 900 to 910, resulting in anticipated depths to footing subgrades, for this portion of the building, ranging from approximately 20 to 30feet.

PRESSUREMETER TESTING PROGRAM

The scope of Wagner Komurka Geotechnical Group, Inc.'s ("WKG²'s") services is limited to foundation-related design (bearing capacity assessment and settlement estimation). This was accomplished using data from soil borings drilled by Badger State Drilling, Inc. ("Badger") of Stoughton, Wisconsin, the logs of which were provided by CGC. Pressuremeter tests were arranged by WKG², and performed for CGC, Inc., by AECOM of Vernon Hills, Illinois, in Borings 2A and 4A. The borings for pressuremeter testing, and number of tests and test depths (elevations) in each boring, were selected by WKG². Pressuremeter test zones were prepared using a split-barrel sampler and specially sized roller bits and hand augers.

In a pressuremeter test, a cylindrical probe is inserted to the (then current) borehole bottom, and hydraulically expanded radially against the borehole sides. Probe volume versus pressure is recorded. A more-detailed description of pressuremeter testing is provided on the sheet titled "Pressuremeter Procedures" in the Appendix. Plots of probe volume versus pressure for each individual test are also included in the Appendix.

¹ Unless indicated otherwise, elevations are positive, have units of feet, and are with respect to USGS Datum.

² Wagner Komurka Geotechnical Group, Inc., "Pressuremeter Engineering Report – City of Madison Parking Ramp – Madison, Wisconsin," WKG² Project No. 10020, prepared for Mr. David A. Staab, P.E. of CGC, Inc., September 23, 2010.

SOIL CONDITIONS

A review of CGC's boring logs indicates that the site is covered with either 5 inches of asphalt pavement over 5 inches of concrete, 5 inches of concrete pavement over 6 inches of basecourse, or 12 inches of topsoil fill. Fill, consisting of silty clay or silty sand, was present below the pavement section or surficial topsoil fill, and extended to depths ranging from 2.5 to 12.5 feet. Dense to very dense granular soils were typically encountered below the fill, and extended to the maximum depth explored (90 to 100 feet). Hard clay was encountered in Boring 6 at a depth of 91 feet, and extended to the maximum depth explored (100 feet).

The conditions encountered below anticipated spread-footing bearing elevations consist of very dense sand. More-detailed descriptions of the subsurface conditions are presented on CGC's logs in their report.

GROUNDWATER CONDITIONS

CGC measured the groundwater level in a monitoring well at approximately Elevation 863. CGC also noted perched groundwater seams at approximately Elevations 882 and 873. The upper perched groundwater seam is above the footing bearing elevation for this portion of the project. The groundwater level was not observed in the all of the borings due to the use of drilling mud to extend the borings.

Fluctuations in the water table should be expected with variations in precipitation, evapotranspiration, surface runoff, etc., and the water elevations in nearby surface waters. Development of perched groundwater may occur above the primary groundwater table, especially following precipitation events.

PRESSUREMETER TEST RESULTS

Pressuremeter test results for the proposed structure are presented in Table 1.

The at-rest pressure, P_o , represents the pressure at which the probe has expanded into firm contact with the borehole sides, and the pressure at which the plot of probe volume versus pressure becomes linear. The creep pressure, P_f , represents the pressure at which the plot ceases to be linear (i.e., the pressure at which deformations increase for a given incremental pressure increase). The limit pressure, P_I , is the pressure at which complete soil failure has occurred (i.e., the plot is vertical). The deformation modulus, E_d , is the slope of the initial linear portion of the plot. The rebound modulus, E^+ , is the slope of the linear reload portion of the plot. The ratio E_d/E^+ (commonly referred to as the α parameter) is used, along with the deformation modulus, to estimate settlement.

TABLE 1
Pressuremeter Test Results Summary

Boring							
Number	Elevation, ft.	P _o , tsf	P _f , tsf	P _I , tsf	E _d , tsf	E ⁺ , tsf	E_d/E^+
2 A	879.1-881.6	2.0	A		1636	4454	0.37
2A	872.6-875.1	3.0	^A		1401	2473	0.57
2A	866.6-869.1	3.0	^B		1532	3147	0.49
2A	855.1-857.6	4.0	35.0	C	861	1923	0.45
4A	877.7-880.2	2.0	^A		1493	5279	0.28
4A	872.7-875.2	2.0	A		1410	2639	0.53
4A	868.2-870.7	2.0	D		1342	3027	0.44
						Average	0.45

Notes: A: Pressurized test area to 42 tsf, P_f not reached.

B: Pressurized test area to 41 tsf, P_f not reached.

C: Pressurized test area to 41 tsf, P_I not reached.

D: Pressurized test area to 45 tsf, P_f not reached.

ANALYSES AND RECOMMENDATIONS

Foundation Recommendations

Allowable Bearing Stress

Based on lower-bound pressuremeter test program results, the maximum net allowable bearing stress for foundations bearing on native very dense sand is 50,000 psf. We anticipate that foundation performance will likely be affected by potential subgrade disturbance, and potential intersection of perched groundwater seams. Based on these factors and discussions with CGC, the recommended maximum net allowable bearing stress to be used for design is 30,000 psf. The recommended maximum net allowable bearing stress is the stress transmitted by the foundation to the soil in excess of the minimum final adjacent overburden stress. The recommended maximum net allowable bearing stress incorporates a minimum safety factor of 3.0 against bearing capacity failure.

The recommended maximum net allowable bearing stress is predicated on a square foundation with minimum foundation embedment depth of ¼ the footing width. Foundations with shallower embedment must be designed for a lower allowable bearing stress. Conversely, foundations with greater embedment could possibly be designed for a higher allowable bearing stress. For stability considerations, continuous wall and isolated column foundations should have minimum plan dimensions of 18 and 36 inches, respectively. This minimum width requirement may control the size of certain lightly loaded foundations. In this event, the actual soil/foundation contact stress will be less than the recommended maximum net allowable.

Settlement Estimates

Based on lower-bound pressuremeter testing soil deformation moduli, and the recommended maximum net allowable bearing stresses presented above, estimated foundation settlement is on the order of 1/3 to 1/2 inch for foundations bearing on native very dense sand.

Smaller, or more-lightly loaded, foundations are expected to experience proportionately less settlement. It is our opinion that differential settlement between similarly sized foundations will be on the order of half these foundations' total settlement.

Construction Considerations

We recommend that CGC provide observation and testing at the base of each foundation excavation to confirm that the soils are the same type as encountered by the subsurface exploration and pressuremeter testing program, and that the soils meet minimum strength criteria associated with the maximum net allowable bearing stresses presented above. Given the relatively high allowable bearing stress, the soil type, appropriate subgrade observation and testing is considered especially important. The subgrade soils should exhibit a minimum equivalent Standard Penetration Test ("SPT") blow count ("N" value) (comparable to the SPT hammer used) of 62 blows per foot.

Testing in granular soil should be performed using a device such as a dynamic cone penetrometer ("DCP"). DCP testing should extend a minimum of 2 feet below foundation subgrade, unless DCP refusal (greater than 50 blows per 6 inches) is encountered shallower.

If soils of the anticipated type or exhibiting the minimum required strength criteria are not found at the base of foundation excavations, it will be necessary to extend excavations deeper, or the affected foundations will have to be re-designed for a lower bearing stress. We recommend that any foundation excavations that must be extended below their design bearing elevation be backfilled to that elevation with cementitious backfill. The cementitious backfill could consist of lean concrete or controlled low-strength material ("CLSM"). The cementitious backfill should have a minimum 28-day compressive strength of 500 pounds per square inch (psi), and the backfill should be at least as wide as the foundation it supports.

Positive steps should be taken to limit subgrade disturbance from construction activities, groundwater inflows, precipitation, runoff, etc. Use of a lean mix concrete layer may be necessary to protect the subgrade soils from disturbance. Footing excavation should be completed with a flat-blade bucket to minimize subgrade soil disturbance. Precipitation should not be allowed to pond on subgrade soils. Subgrade soils which become disturbed or softened should be removed to suitable material and replaced with properly compacted engineered granular fill or CLSM.

All excavations deeper than 4 feet that will be entered by workers should have sloped or braced sidewalls that are consistent with OSHA guidelines for excavation safety.

GENERAL QUALIFICATIONS

The services provided by WKG² on this project were performed with the degree of skill and care typically performed by other members of our profession practicing in this locale at this time. No other warranty, expressed or implied, is given.

APPENDIX

- General Report Qualifications
- Pressuremeter Procedures
- Pressuremeter Test Results



This geotechnical engineering report was prepared as part of the evaluation of the specific area covered by the soil borings, specifically for the project described in the report. The description of the project represents our understanding of the project. Should there be any changes in the concept of the project, its location, orientation, or elevation, we request that we be notified so that we may assess any impacts of the changes on our recommendations. The drawings and specifications for the project shall be submitted to WKG² for review of conformance with the recommendations contained in the report. Failure to submit the plans and specifications for this review relieves WKG² from any liability for failure to comply with our recommendations.

The recommendations presented in this report have been based on subsurface information obtained from soil samples at intervals in the soil borings which were drilled at the locations shown on the soil boring location diagram. The number of borings and the sampling intervals used are considered to be consistent with standards of the industry.

It should be recognized that variations in subsurface conditions can occur both between soil samples in a given boring, and between soil borings. Further, groundwater conditions should be expected to vary with time. The extent of the variations in subsurface conditions may not become apparent until construction begins. If variations in subsurface conditions become apparent, we request that we be notified so that we can observe the site conditions and evaluate how our recommendations may be affected.

We strongly recommend that all construction work related to geotechnical issues be monitored by an experienced geotechnical engineer or technician to determine if the subsurface conditions are as anticipated, and if the intent of our recommendations is met. We are available to provide the monitoring and testing services required during construction on this project.

Due to possible variation in subsurface conditions, we recommend that the Standard General Conditions of the construction contract prepared by the Engineers Joint Contract Documents Committee (1910-8-(Latest Edition)) be included in the contract with the general contractor and any subcontractors who will be involved in geotechnical issues on this project. We also advise incorporating a dispute resolution clause in the contract, based on non-binding mediation, to resolve any disputes among the parties involved with geotechnical issues on the project.

The services provided by WKG² on this project were performed with the degree of skill and care typically performed by other members of our profession practicing in this locale at this time. No other warranty, expressed or implied, is given.



Introduction

The pressuremeter is a soil testing device which measures stress-strain characteristics of soils in-situ. It is a portable piece of equipment consisting of three main components:

- a cylindrical expanding probe which is inserted into a bore hole.
- 2. a pressure source for expanding the probe, and
- 3. a metering system.

A schematic drawing showing these components is shown in Figure 1.

Pressuremeter Test

The test consists of inserting the probe into the bore hole and expanding the probe against the side of the hole at measured intervals of time until failure of the soil is reached.

The pressurermeter can be used to test nearly all soil types, from loose sand or silt to hard cohesive or dense granular soils and soft rock. Tests can be performed in a drilled bore hole or hand augered hole at depths normally achieved by these methods of drilling. Tests can be performed above or below the water table. Special procedures or techniques including the use of a bore hole shaver have been developed to prepare the bore hole in squeezing or caving soils so that reliable test parameters are measured.

Using correlations with routine or special laboratory tests, a pressuremeter is a very useful geotechnical tool

General Uses

The following is a summary of some of the applications of the pressuremeter investigation.

- Determination of bearing capacity of pile or cassion type foundations,
- 2. Determination of bearing capacity for shallow foundations,
- 3. Estimates of foundation settlement.
- 4. Determination of soil shear strength.
- Determination of horizontal subgrade modulus to predict horizontal movement under lateral loads for piles, sheet pile walls, cast-in-place concrete walls, and drilled piers.
- Determination of the modulus of vertical subgrade reaction, and
- 7. Determining the improvement in soil properties following site densification.

Apparatus

The probe measures 2.5 inches in diameter, is 2 ft. 2 inches long, fits inside of a BX size casing, with the

length of the center expanding cell of the probe measuring 7 inches. A liquid (water in summer and glycerin in winter) is used to expand the center cell of the probe and gas pressure, usually carbon dioxide, is used to expand the two end cells of the probe. When the probe is inserted into the soil and the cells are expanded, the top and bottom portions of the probe tend to seal off the bore hole while the volume change in the center portion is measured. By this method, a nearly plane stress, plane strain condition is set up on the soil. Volume changes in the center portion of the probe are measured versus the pressure increment. Six to fourteen load increments are used per test, each increment being applied to the soil for a 1 minute period. Readings are to be at 30 seconds and 60 seconds after head increment.

Interpretation of Test Results

The results of the pressuremeter tests are generally plotted as pressure versus volume change at 60 seconds for each pressure increment. A typical curve is shown in Figure 2. The interpretation of the test results is generally in conformance with Menard's Theory. The soil behavior generally follows two zones, pseudo-elastic and plastic. The elastic zone, in which strains are completely recoverable, is generally not noticed due to the bore hole disturbance. The lower limit of this elastic zone is defined as P_0 . As pressures above P_0 , the solid behaves as a pseudo-elastic material which is indicated as a straight line on the pressure verses probe volume curve. The strains occurring within this zone are not completely recoverable.

The upper limit of the pseudo-elastic zone is defined as P_F . At pressures greater than the value of P_F , creep deformation of the soil particles occurs as the pressure increases and eventually causes failure of the soil. The pressure at which the failure occurs is called the limit pressure, P_L and is related to the ultimate bearing capacity of the soil.

The pressuremeter modulus is calculated for the pseudo-elastic zone portion of the test. From classical soil mechanics principles in which soil anisotropy is often assumed, the vertical modulus may be significantly different from the horizontal modulus and one might expect erratic predictions of vertical settlement of footings. However, recent theoretical as well as full scale experimental studies have shown that in many situations this test still permits a much better prediction of foundation settlements predictions based on pressuremeter test results are presently the most reliable for granular materials and preconsolidated glacial tills.

General Equations

The analysis of the pressuremeter test is based upon the principles of theoretical soil mechanics. The parameters obtained from these tests have been correlated to parameters obtained from laboratory tests. The general equation for bearing capacity and settlement have been modified by and confirmed with numerous field tests including full scale load tests.

The bearing capacity of a foundation is derived from the following general equation:

 $q = P_V + k(P_L - P_O)$

where

q = Ultimate bearing capacity

P_O = Lateral pressure at rest of the soil at the elevation of the foundation element

 P_L = Limit pressure of the soil

 k = A coefficient depending upon soil type, geometric shape of the foundation, and depth of embedment.

P_V = Overburden pressure at foundation level

The calculations of settlements for a foundation are based upon the following formula:

$$w = \underline{1.33 p(\lambda_2 R)^{\alpha}} + \underline{\alpha p \lambda_3 R}$$

$$3E_B \qquad 4.5E_A$$

Where P equals pressure transmitted to the soil by the foundation, E is the weighted pressuremeter modulus, R is the radius of the foundation, λ_2 and λ_3 are shape coefficients and α is the rheologic coefficient depending upon the type of soil.

The above equations are generally used in soil evaluation and interpretation, depending upon loading conditions, shape and size of the foundation, weaker compressible layers and other factors associated with the soil conditions.

This is intended to be a summary of the test interpretation procedures and references are included for details for these procedures.

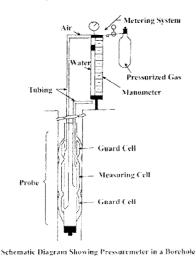


Figure 1

PRESSUREMETER DATA REDUCTION

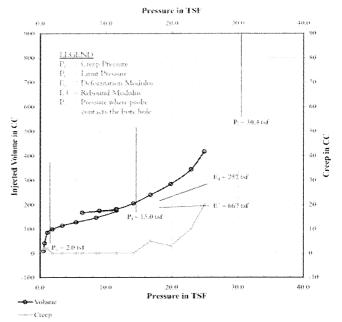


Figure 2

List of References

- The Menard Pressuremeter Investigation and Application of Pressuremeter Test Results – Sol – Soils 26, 1975.
- 2. Gibson, R.E. and Anderson, W.F., "In-Situ Measurement of Soil Properties with the Pressure-Meter," <u>Civil Engineering And Public Works Review</u>, London, May, 1981.
- 3. Goodman, R.E., Van, T.K. and Heuze, F.E., "The Measurement of Rock Deformability in Bore Holes," 10th Symposium on Rock Mechanics.
- Higgins, C.M., "Pressuremeter Correlation Study," <u>Highway Research Record No. 284</u>, Highway Research Board, 1969.
- Menard, L., "The Application of the Pressuremeter for Investigation of Rock Masses," presented at the 1965 Colloquium of the International Society for Rock Mechanics in Salzburg, Austria.
- 6. <u>Canadian Manual on Foundation Engineering</u>, (Draft for Public Comment), Issued by the Associate Committee on the National Building Code, National Research Council of Canada Ottawa, 1975.
- 7. Lukas, Robert G. and DeBussy, Bruno, "Pressuremeter and Laboratory Test Correlations for Clays," <u>ASCE Geotechnical Division, GTS</u>, September 1976.
- 8. Baguelin F., Jezequel J.F., Shields, D.H., "The pressuremeter and Foundation Engineering," <u>Trans Tech Publications</u>, 1978.
- Lukas, Robert G. and Seiler, Norman H., "Experience with Menard Pressuremeter Testing," Engineering Foundation Conference, <u>Updating</u> <u>Subsurface Sampling of Soils and Rocks and Their</u> <u>In-Situ Testing</u>, January 1983.

AECOM

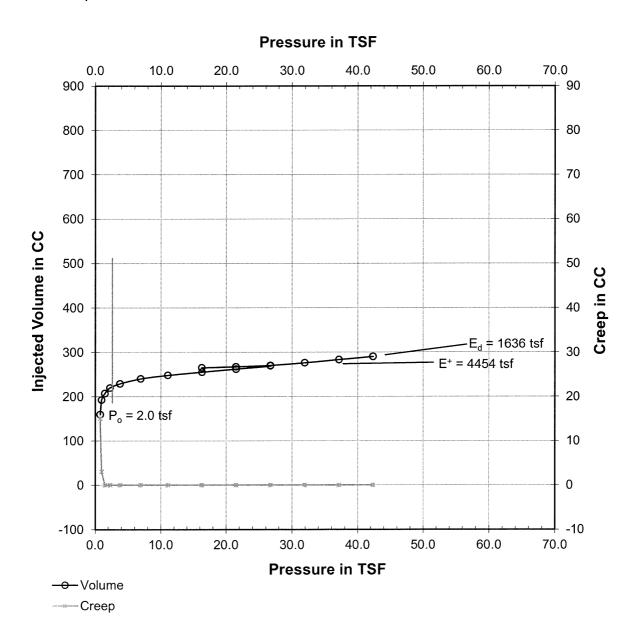
Pressuremeter Data Reduction (BX)

AECOM Job Number: 60444805

Date: 10-05-15

Boring No.: 2A

Test Depth: 28.5-31.0 Feet



AECOM

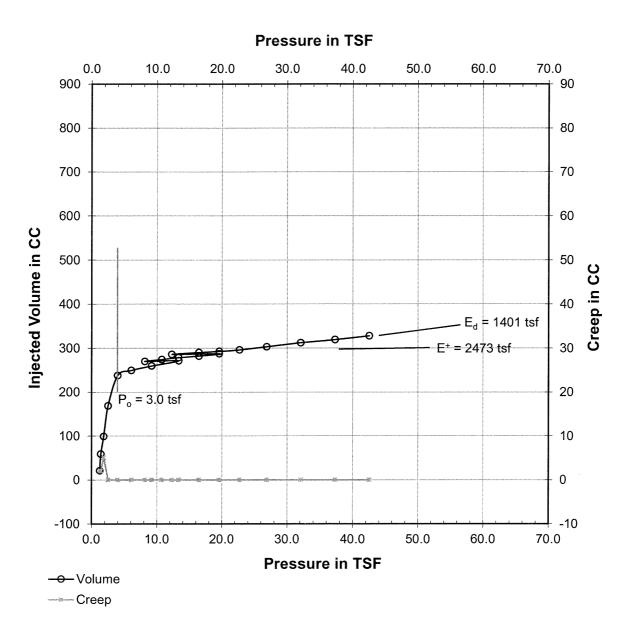
Pressuremeter Data Reduction (BX)

AECOM Job Number: 60444805

Date: 10-05-15

Boring No.: 2A

Test Depth: 35.0-37.5 Feet



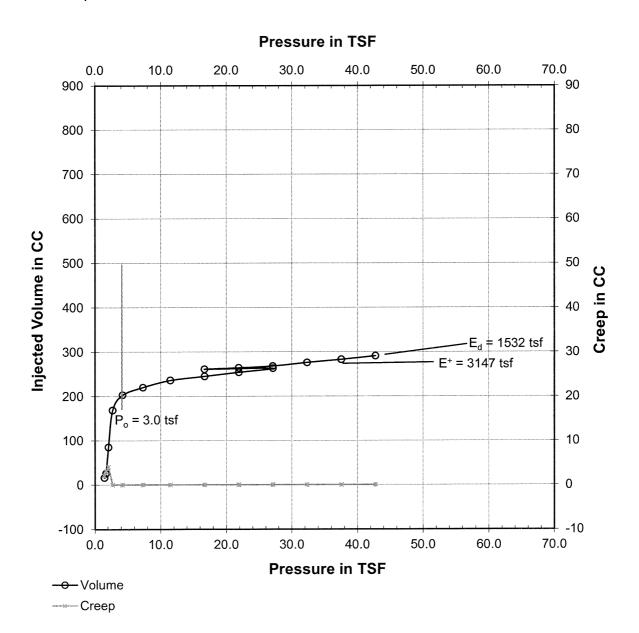


Pressuremeter Data Reduction (BX)

AECOM Job Number: 60444805 Date: 10-05-15

Boring No.: 2A

Test Depth: 41.0-43.5 Feet





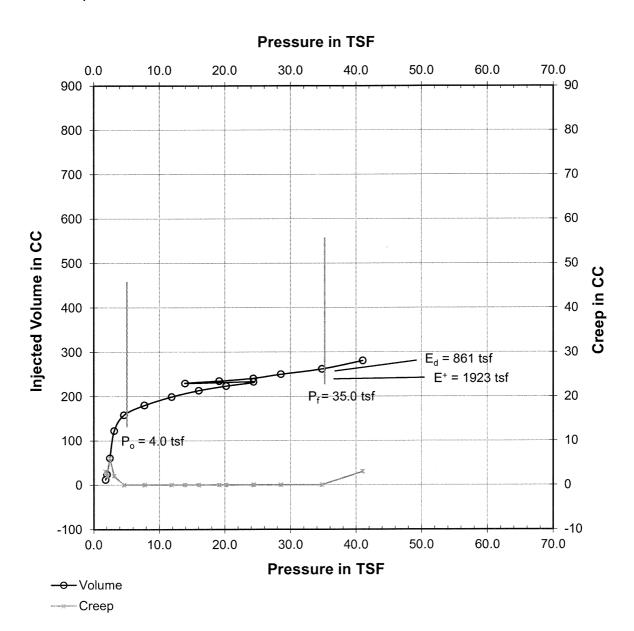
Pressuremeter Data Reduction (BX)

AECOM Job Number: 60444805

Date: 10-05-15

Boring No.: 2A

Test Depth: 52.5-55.0 Feet





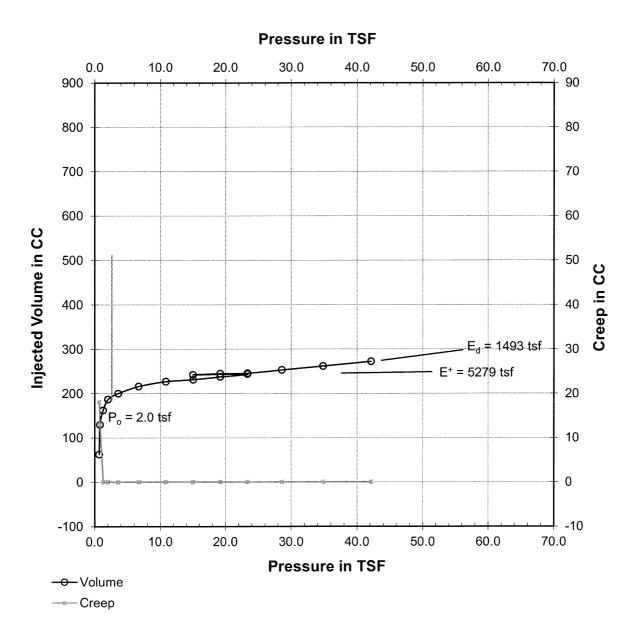
Pressuremeter Data Reduction (BX)

AECOM Job Number: 60444805

Date: 10-05-15

Boring No.: 4A

Test Depth: 20.5-23.0 Feet



AECOM

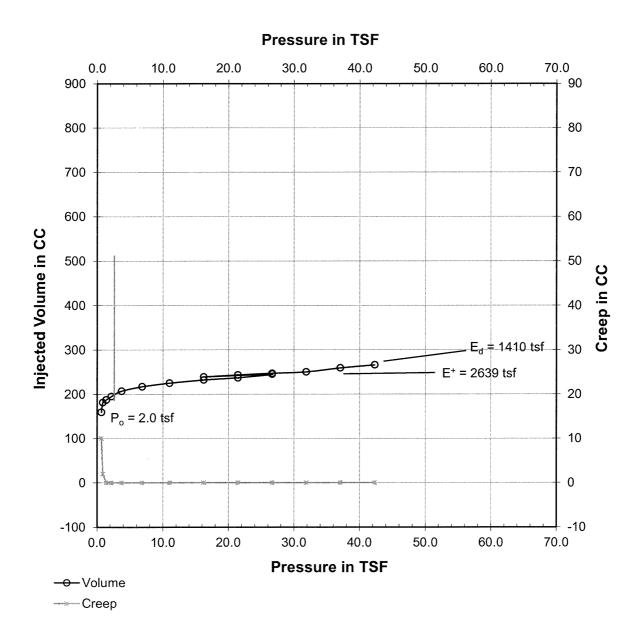
Pressuremeter Data Reduction (BX)

AECOM Job Number: 60444805

Date: 10-05-15

Boring No.: 4A

Test Depth: 25.5-28.0 Feet



AECOM

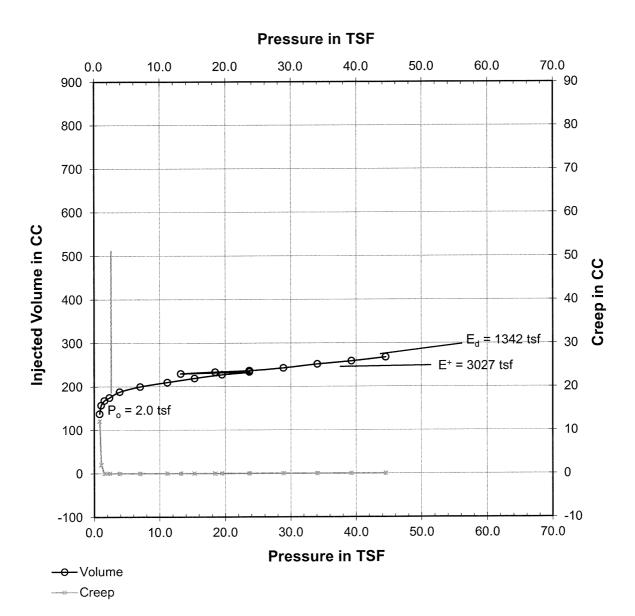
Pressuremeter Data Reduction (BX)

AECOM Job Number: 60444805

Date: 10-05-15

Boring No.: 4A

Test Depth: 30.0-32.5 Feet



ADDENDUM NO. 002

MSR

Architecture Interiors and Urban Design

Date: 4/7/2017

Project Name: Madison Municipal Building Refurbishment

Project No: 2014057.00

Project Phase: Bid

Project Location: Madison, WI

Issue Date: 4/7/2017 Bid Date: 3/24/2017

To: Plan Holders From: MSR Design

701 South 2nd Street, 8th Floor Minneapolis, MN USA 55401-2294

T 612 375 0336 F 612 342 2216

Introduction

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated 12/2/2016. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification. Reference made below to Specifications and Drawings shall be used as a guide only. When Specification Sections or Drawings are issued, changes made in Specification or on Drawings will take precedence over narrative explanation below. Contractor shall determine for themselves the work affected by Addendum items. It is assumed that specification sections and drawings are not attached unless specifically indicated as *Attached*.

Attachments

Specification Sections: 00 00 20; 22 11 19

Detail Drawings: None

Drawings: A192; A301; A353; A620 through A624; A651 through A654; BE001; BE219; BE338; BE356;

BE356.1; BE356.2; S101; S102; S103; S104; S190; S201; S302; S304; E300

Special Attachments: 1. STRUCTURAL ADDENDUM 2 Memorandum

MEP ADDENDUM No. 2 Memorandum
 Exhibit G revised and Dated 04/07/2017

If attachments are not as stipulated above, please notify MSR Design promptly.

Changes to Project Manual

Modifications to Specifications

- 1. 00 00 20 Material Tag Index. Revised the "ADDITIONAL INFORMATION" column to clarify the descriptions of WP-1 and WP-2; and deleted MTL 3 from project.
- 2. 22 11 19. See MEP Memo Attached.

Changes to Drawings

- 1. Detail I/A192 Revised to center vestibule on exterior doors.
- 2. Details 7 and 8/A301. Revised details to clarify waterproofing notes.
- 3. Details 5,7 and 9/A353. Revised details to clarify waterproofing notes.



- 4. Details A620 through A624, and A651 through A654. Due to durability and cost concerns regarding the new metal window stools, these have been changed from MTL-3 to solid surface material SSF-3.
- 5. BE001. Amend general note 10 on sheet BE001 (drawing); Add language to general note 16 on sheet BE001 (drawing)
- 6. BE219. Revised stone numbers
- 7. BE338. See Clarifications Section below
- 8. BE356. See Clarifications Section Below
- 9. BE356.1. See Clarifications Section Below
- 10. BE356.2. See Clarifications Section Below
- 11. S101. See Structural Memo Attached.
- 12. S102. See Structural Memo Attached.
- 13. \$103. See Structural Memo Attached.
- 14. \$104. See Structural Memo Attached.
- 15. S190. See Structural Memo Attached.
- 16. S201. See Structural Memo Attached.
- 17. S302. See Structural Memo Attached.
- 18. S304. See Structural Memo Attached.
- 19. E300. See MEP Memo Attached.

Substitution requests.

I. None

Clarifications.

1. Question: "Are the sills for the windows that are part of Alt. I getting new window sills in alternate # I as well, or are they part of the base bid?"

Answer: The window sills for the Ground Level (Level 0) and Level 1 windows will need to be replaced at Level 1 for both the Base Bid and the Alternate 1 scope, but can stay as existing at Ground Level for the base bid.

- 2. Question: "Sheet BE340 detail 2 has note that everything below the parapet cap is NIC unless noted otherwise. Please confirm that this means that we are to not include any work below that point unless it is specifically called out (example would be, we are to rework the flashing at the windows but not do any tuck pointing of the field brick even though it appears to be drawn as getting tucked) This would apply for all similar details."
 - Answer: Confirmed. Below the cornice, the majority of the masonry restoration work is being deferred to a later time. The work that is intended to be included is that which comes into direct contact with or is in near proximity to any fenestration work. Refer to the revised Drawings.
- 3. Question: "Detail 4/BE340.3 and similar call for reworking the existing jambs at the brick. As part of this detail it states to repoint and patch. Please confirm if we are to repoint all joints within this area or only a portion of them. Also please confirm how much patching with brick patch material we are to figure."

Answer: Confirmed. Below the cornice, the majority of the masonry restoration work is being deferred to a later time. The work that is intended to be included is that which comes into direct contact with - or is in near proximity to - any fenestration work. Refer to the revised Drawings.



4. **Question:** For detail 1/BE340.2 and similar please clarify how much patching we are to figure at the limestone sills.

Answer: Refer to general notes on BE001 – Note 6.

5. **Question:** Elevation 1/BE002 where cut section 1/BE346 is cut we are to remove the existing doors and install a new window. Please answer the following questions

Please confirm that these doors where placed in a masonry infill and the necessary lintel is already in place or if we need to provide a new lintel when we remove the doors and masonry around it.

Answer: Confirmed.

- 6. Question: Detail 3/A302 calls for installing a solid masonry wall below the new window per the BE drawings to infill the area. Referencing the architectural, structural, and BE drawings there is no information as to how we are to demo the area below the existing doors or how to construct the infill. Please provide more detail.
 Answer: The conditions behind the existing dock construction are unknown. The intent of this work is to recreate the existing mass wall construction in this location as shown on the drawings using the materials specified.
- 7. Question: Elevation 1/BE002 there is a large blank space roughly where cut section 1/BE342 is taken. Referencing AD202 and A202 there are windows and patching that needs to be done at this area and it refers bidders back to the BE drawings for what to do. Please provide information in this area for what we need to patch and or restore. This would particularly apply to the 2 windows that are not shown.

 Answer: At the time of the preparation of these bidding documents, the conditions behind demolished construction was not known. This condition has been accounted for in the general notes.
- 8. Question: Cut section 1/BE340 (taken on 1/BE002) calls for a new limestone sill and it appears to be new brick as well. No details are given on the architectural drawings or demo drawings indicating that we are to put new brick back in this location or if the existing is to remain. Please clarify what work we are to provide at this location (new veneer, new backup etc.)

Answer: Provide infill construction, matching the adjacent historic materials as shown in the BE series. The underlying backup masonry is assumed to be both present and suitable as a substrate for the new masonry.

9. **Question:** Sheet A601 – Door Schedule-Existing to Remain, the new Hardware Sets show new hardware for the doors, even new continuous hinges. As these are Historic Doors is this correct, please verify.

Answer: Yes, and specific existing door hardware needs to be reviewed with hardware sub-contractor per specification.

- 10. Question: Sheet A601 Door Schedule, at the bottom of the schedule there are several doors listed as "Historic". Are these doors part of the "Existing to Remain"? Please verify.

 Answer: Yes.
- 11. Question: Sheet A301 shows elevations for the new North addition. Please answer the following questions.

Answer: See revised sheet A301 and A353 issued with this addendum. Also, refer to details called out on A301 for additional information on details.



12. Question: Detail 2/BE338 calls for repointing of head and bed joints and points to 1 particular band of stone starting at the Attic level. Please clarify if we are to only point this one particular band or if we are to repoint all stone joints from the parapet down to the head of window elevation.

Answer: See revised BE338 attached with this Addendum.

13. Question: Exhibit G stone repair N3 F10 4L calls for 144sf of redressing of stone. Please confirm that square feet is correct (more area then then actual stone) or if it should be square inches. The same question applies to stones N3 F11 6H, N3 F8 7R, and similar that call for redressing of stone and give a large square foot quantity.

Answer: See revised Exhibit G attached with this Addendum.

14. **Question:** Sheet BE356 detail 7 states to reuse existing chimney cap while detail 1/BE356.1 (and elevations on A201) state to provide a new cap. Please clarify if we are to reuse or provide a new chimney cap.

Answer: See BE356 attached to this Addendum.

15. **Question:** Per the specifications it states that contractors can use owners stock of stone for stone repairs. Please confirm that there is enough existing stone material for all repairs called out. If not how much new stone should bidders include in their bid.

Answer: Confirmed.

16. Question: Detail 2/BE340.4 and similar call for reconditioning of existing steel lintels. Please confirm that we are to assume for bidding that all lintels are structurally sound and will not require replacement. If this is not the case please indicate what lintels need to be replaced.

Answer: Confirmed.

17. **Question:** Specification section 040120.63 page 4 lists Belden brick for inner wythes and states that color and size shale be confirmed by approval process. Please answer the following questions. a. What size and color are we to use for bidding purposes?

Answer: Size should match existing face brick. Color is contractor's choice.

18. **Question:** Are alternate brick suppliers acceptable for the inner wythe brick replacement if they meet the severe weathering requirement?

Answer: Yes.

19. **Question:** Specification 09 66 13 – Portland Cement Terrazzo Flooring is specified for the new stair at the circulation area (shown on A401) please confirm that it is intended to be poured and finished in place terrazzo as specified or if we are to provide precast terrazzo treads and landings.

Answer. Poured and finished in place as specified.

End of Addendum 002

STRUCTURAL ADDENDUM 002

STRUCTURAL:

DRAWING ITEMS

- 1. Drawing S101 FIRST FLOOR FRAMING PLAN
 - REVISE column base plate tags at entry vestibule, conference rooms and north addition per revised sheet S101.
- 2. Drawing S102 SECOND FLOOR FRAMING PLAN
 - a. ADD section cut per revised sheet S102.
- 3. Drawing S103 THIRD FLOOR FRAMING PLAN
 - a. ADD section cut per revised sheet S103.
- 4. Drawing S104 ROOF SLAB FRAMING PLAN
 - a. **REVISE** keynote 1 detail reference to be 9/S304 per revised sheet S104.
- 5. Drawing S190 ENLARGED PLANS
 - a. **REVISE** enlarged ceiling framing plans per revised sheet S190.
- 6. Drawing S201 FOUNDATION DETAILS
 - a. ADD dowel spacing in detail 6 to be 16" oc per revised sheet S201.
- 7. Drawing S302 FRAMING DETAILS
 - a. **REVISE** details 9 and 12 per revised sheet S302.
- 8. Drawing S304 FRAMING DETAILS
 - a. **REVISE** detail 7 per revised sheet S304.
 - b. ADD details 16, 17 and 18 per revised sheet S304.

END OF ADDENDUM # 002

AAP

Enclosures



ADDENDUM No. 2

Client: MSR

Project Name: Madison Municipal Building Project Location: Madison, Wisconsin

Issue Date: April 7, 2017

Owner: City of Madison

Engineer: MEP Associates, LLC

MEP Project No. M10.15.02

To: Prospective Bidders.

This Addendum forms a part of the Contract Documents and modifies the Bidding Documents dated March 24, 2017, with amendments and additions noted below.

Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may disqualify Bidder.

CHANGES TO BIDDING REQUIREMENTS

None.

CHANGES TO CONTRACT REQUIREMENTS

None.

CHANGES TO THE SPECIFICATIONS

- 22 11 19: section re-issued.
 - o 2.7: revised wall hydrants to be surface-mount in lieu of recessed, to match plans.

CHANGES TO THE DRAWINGS

➤ E300: sheet re-issued.

- Added (2) strobes to restrooms.
- Noted that exterior horn and strobes shall be weather-proof.

Revisions have been made to the following drawings and are issued in the form of full-size plans. Edits are indicated by a revision delta and a cloud surrounding the affected portion of the drawing.

END OF ADDENDUM

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
DIVISION 2	DEMOLITION		
	XSTONE-1	Historic exterior limestone cladding	to be retained and protected for re-use.
	XSTONE-2	Historic exterior limestone cladding	to be removed.
	XBRICK-1	Historic exterior brick cladding	to be retained and protected for re-use.
	XBRICK-2	Historic exterior brick cladding	to be salvaged (on existing annex)
	XTRIM	Historic wood trim	to be demounted and set aside for re-use.
	XPANEL-1	Historic wood paneling	to be retained and protected for re-use.
.== .== .	XPANEL-2	Historic wood paneling	to be demounted and set aside for re-use.
SEE SPEC	XBASE-1	Historic wood wall base	to be retained and protected for re-use.
SECTIONS BELOW FOR SPECIFIC	XBASE-2	Historic wood wall base	to be demounted and set aside for re-use.
DETAILS AND	XBASE-3	Historic marble base	to be retained and protected for re-use.
TAGS	XBASE-4	Historic marble base	to be demounted and set aside for re-use.
., .00	XWIN	Historic windows and frames	to be retained and protected for re-use.
	XENTRY	Historic entry doors	to be retained and protected for re-use.
	XDOOR	Historic interior doors and frames	to be demounted and set aside for re-use.
	XTHOLD-1	Historic marble door thresholds	to be retained and protected for re-use.
	XTREAD	Existing exterior granite stair treads	to be demounted and set aside for re-use.
	XEIFS	Existing EIFS finish to elevator penthouse exterior walls	to be retained and trimmed and refinished to new base line for new roof flashing.
	XTOIL	Existing marble toilet partition	to be retained and protected for re-use.
DIVISION 3	CONCRETE	+	
033000	XCONC	EXISTING CONCRETE INCLUDING PATCHING	
031000	WSTOP-1	WATERSTOP	BASE OF RETAINING WALL JUNCTION WITH FOOTING
033000	CONC SLAB	NEW CONCRETE SLAB	DI OL OL KELLIMINE WILESON ON WILLIAM WILESON OF WILESO
033000	SAF	SLIP-RESISTANT AGGREGATE FINISH	
035300	TPNG-1	CONCRETE TOPPING	AT LOCATIONS PER DRAWINGS TO BRING EXISTING FLOORS UP TO GENERAL FLOOR ELEVATIONS PRIOR TO FINAL FINISH.
033000	VB-1	UNDER-SLAB VAPOR RETARDER	
033543	CFF-1	POLISHED CONCRETE FINISHING	AT INTERIOR FLOOR SLABS - SEE FINISH PLANS
DIVISION 4	MASONRY		
040120.63	XBRICK-1	EXTERIOR BRICK CLADDING TO BE REPAIRED	
040120.63	XBRICK-2	EXTERIOR BRICK CLADDING TO BE SALVAGED	
040120.63	BRICK-1	NEW EXTERIOR BRICK CLADDING	IN SELECTED LOCATIONS - SEE
042200	CMU-1	CONCRETE MASONRY UNIT (6" NOM.)	
042200	CMU-2	CONCRETE MASONRY UNIT (8" NOM.)	Class C-3 CMU - FILL ALL CELLS WHERE INDICTED ON THE DRAWINGS
	····- =		1 - And the Division of the Di

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
044550	XTILE-2C	NEW WHITE CARRARA FLOOR TILE TO MATCH FEATURE DIAMOND TILE AND PERIMETER MARGINS.	LEVEL 1 PUBLIC AREA
044550	XTILE-2D	NEW "VERDE ANTIQUE" (GREEN) MARBLE FLOOR TILE TO MATCH FEATURE TRANGLE TILE.	LEVEL 1 PUBLIC AREA
044550	XTILE-3	HISTORIC MARBLE WALL PANEL - REFURBISH	EXISTING RESTROOMS AT LEVELS 2 AND 3
044550	XBASE-3	HISTORIC MARBLE BASE - RETAIN	to be retained and protected for re-use.
044550	XBASE-4	HISTORIC MARBLE BASE - REUSE ELSEWHERE	to be demounted and set aside for re-use.
DIVISION 5	METALS		
051223	STL FRAME	STEEL FRAMING COMPONENTS	
052100	STL JOIST	STEEL JOIST FRAMING	
053100	STL DECK	STEEL DECKING	
054000	CFSF	COLD FORMED METAL FRAMING	
054500	ESS-1	EQUIPMENT SUPPORT SYSTEM AT ACT-3 ZONES	PROVIDED FOR SERVICES SUPPORT IN OPEN CEILING AREAS.
055000	MTLFAB-1	METAL FABRICATIONS	
055000	GUARD-1	STEEL PIPE OR DOWNSPOUT GUARDS	
055113	STAIR-1	METAL PAN STAIRS	CIRCULATION STAIR BETWEEN LEVELS G AND 1
055116	STAIR-2	STEEL SERVICE STAIR	FROM ROOF HATCH TO LEVEL 3 ROOF, AND TO L-2 ROOF
055116	NOSING-1	SERVICE STAIR NOSINGS: SLIPNOT 3" x 1/8" thick stainless steel.	FOR EXTERIOR AND INTERIOR STEEL AND CONCRETE SERVICE STAIRS.
055213	RAIL-4	PIPE AND TUBE RAILINGS	FOR STAIR-2
057000	GR-1	LINEAR BAR GRILLE: Harrington & King: Large Sea Shell, Style 30067. Made from either 20ga. steel, factory painted PT- 2H, or 20ga. clear anodized alum. sheet.	NEW AT LEVEL 1 PUBLIC AREA: 65% OPEN AREA.
057000	GR-2	HYDRONIC RADIATOR COVER PANEL: EXTG AT ROOM 260	EXISTING AT ROOM 260, REPAINTED.
057000	GUARD-2	STAINLESS STEEL WALL CORNER GUARD: 2" x 2" x 48" high. 90 Degree, 16ga, Type 304, Satin #4 (Brushed) Finish.	
057300	RAIL-1	EXTERIOR METAL GUARD RAILS AT LIGHT WELLS AND STAIRS	SEE DRAWINGS FOR LOCATIONS AND DETAILS
057300	RAIL-2	BRACKETS FOR NEW HARDWOOD HANDRAILS: SEE WD-3 FOR HANDRAIL MATERIAL.	NEW HANDRAILS AT HISTORIC STAIRS AT EAST AND WEST, AND NEW INTERIOR STAIR.
057300	RAIL-3	METAL GUARD RAIL AT NEW INTERIOR STAIR - SEE DRAWINGS	
057500	MTL-1	ALUMINUM CLOSURE PANELS	
057500	MTL-2	POCKETS FOR WINDOW TREATMENT	IF NOT PART OF WINDOW TREATMENT PRODUCT RANGE
057500	MTL-3	WINDOW STOOLS	AT BASE OF NEW STORM WINDOWS
142100	SS-1	STAINLESS STEEL FINISH PANEL - SNAPCAB 5WL TEXTURED PANELS.	ELEVATOR CAR - NEW WALL PANELS - "INDUSTRIAL 1" STYLE. SEE ELEVATOR SPEC.
055000	GRATE-1	PEDESTRIAN GRATE: McNichols GW-125, Galv. steel.	AT LIGHT WELLS AT DOTY PLAZA
055000	GRATE-2	TRANSFORMER VAULT EQUIPMENT COVER: Hughes Bros C4270.13	CENTRAL SERVICE GRATE
055000	GRATE-3	TRANSFORMER VAULT MANHOLE COVER: Hughes Bros C4270.1	MAN HOLE DOORS

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
DIVISION 6	WOOD, PLASTICS	AND COMPOSITES	
060312	XTRIM	Historic wood trim repair/refinishing	to be demounted and set aside for re-use.
060312	XPANEL-1	Historic wood paneling repair/refinishing	to be retained and protected for re-use.
060312	XBASE-1	Historic wood wall base repair/refinishing	to be retained and protected for re-use.
061000	WD-FRMG	INTERIOR ROUGH CARPENTRY FRAMING	
061000	WD-BLKG	WOOD BLOCKING - LUMBER & PLYWOOD	
061000	CURB-2	WOOD CURB BASE	FOR ROOF EQUIPMENT SUPPORT
061516	WD-DECK	WOOD ROOF DECK BOARDS	
061600	SHTG-1	EXTERIOR WALL SHEATHING	
061600	SHTG-2	ROOF AND PARAPET SHEATHING	
064023	PLSHLF-1	PLASTIC LAMINATE SHELVING: White melamine	MELAMINE FACED WOOD SHELVING
064023	WDSHLF-1	STORAGE SHELVING	MAY NOT BE NEEDED
064116	PLAM-1	PLASTIC LAMINATE: Formica - Paloma Polar Finish - 6698-58	ARCHITECTURAL FACED CABINETS
064116	PLAM-2	PLASTIC LAMINATE: Not used	ARCHITECTURAL FACED CABINETS
064116	HRDW	CABINET HARDWARE	VARIES - SEE SPEC SECTION - Doug Mockett DP105A/2 26M Matte Chrome 4-3/16" 3/8" square profile
064116	MA-1	GROMMET-Not Used	IN COUNTER TOPS FOR CABLE ACCESS TO/FROM BELOW
064116	MA-3	GROMMET: Doug Mockett MAX11/B/M - Satin Aluminum	IN COUNTER TOPS FOR CABLE ACCESS TO/FROM BELOW
DIVISION 7	THERMAL AND MO	DISTURE PROTECTION	
070150.19	AB-1	AIR AND VAPOR BARRIER (ROOF SYSTEM)	
071416	WP-1	COLD FLUID APPLIED WATERPROOFING	BELOW GRADE WALLS AROUND EXTERIOR AREAWAYS AND LIGHT WELLS, NEW ADDITION, AT WILSON ST STAIR BELOW FINISH, AND AT ROOF OF ELECTRICAL VALUET
071613	WP-2	TROWEL APPLIED WATER PROOFING AND PROTECTION BOARD	ABOVE GRADE WALLS AROUND NEW ADDITION SUBSTRUCTURE WALLS
071800	PTC-1	TRAFFIC COATING FOR CONCRETE FLOORS	MECHANICAL ROOM FLOORS
072100	INSUL-1	UNDERSLAB BOARD INSULATION	EXTRUDED POLYSTYRENE
072100	INSUL-2	POLYISOCYANURATE INSULATION BOARD	AT ROOFS (MANUF. LIMITED) AND EXTERIOR WALLS AROUND ADDITION.
072100	INSUL-3	MINERAL WOOL BLANKET INSULATION	VOID FILLING AT EXTERIOR DETAILS, INTERIOR SOUND-RATED PARTITIONS
072100	INSUL-4	MINERAL WOOL BOARD INSULATION	UNDERSIDE L-1 SLAB AT TRASH ROOM AND EQUIPMENT STORAGE ROOM.
072100	TAPE-1	ADHESIVE FOR BONDING INSULATION	
072100	INSUL-5	CLOSED CELL SPRAY FOAM OR GLASS FIBER INSULATION	MISCELLANEOUS SMALL VOIDS WHERE THERMAL LINE NEEDS CONT.
072129	SAI-1	SPRAY-APPLIED ACOUSTICAL INSULATION: K13 SonaSpray "fc", 1.5" THICK, WHITE.	AT UNDERSIDE FLOOR DECK ABOVE L-0 MECH ROOM
072715.13	AB-2	SELF-ADHERING SHEET AIR BARRIER	CAVITY WALLS BEHIND NEW RAINSCREEN SYSTEM (074213)
074213.13	MTLP-1	FORMED METAL WALL PANELS	EXTERIOR CLADDING TO NEW ADDITION - ZINC
074213.13	CLIP-1	THERMALLY BROKEN GIRT CLIPS	SMARTci 200 PULTRUDED FIBERGLASS CLIPS

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
075213	ROOF-1 (OPTION A)	APP MODIFIED BITUMEN ROOFING - OPTION 1	ALL NEW AND REFURBISHED ROOFING
075216	ROOF-1 (OPTION B)	SBS MODIFIED BITUMEN ROOFING - OPTION 2	ALL NEW AND REFURBISHED ROOFING
075213 / 075216	SHTG-3	ROOF SUBSTRATE BOARD / THERMAL BARRIER	
076200	FLASH-3	TERNE-COATED STAINLESS STEEL BRAKE METAL FLASHING	
077100	SCUPPER-1	METAL PARAPET SCUPPER	
077100	REGLET-1	TERNE-COATED STAINLESS STEEL REGLET AND COUNTERFLASHING	
077100	COPING-1	ALUM. PARAPET CAP	
077129	ROOFJNT-1	ROOF EXPANSION JOINT	AT JUNCTION OF NEW ADDITION ROOF AND MMB NORTH WALL
077200	HATCH-1	ROOF HATCH	UPPER ROOF ACCESS TO ATTIC OVER ROOM 260
078110	SFRM-2	SPRAY-APPLIED FIRE RESISTANT MATERIAL	FOR 1HR FIRE PROTECTION OF NON-VISIBLE INTERIOR STEEL STRUCTURE
078413	FB-1	PENETRATION FIRE BARRIER FOR VERTICAL ASSEMBLIES	
078413	FB-2	PENETRATION FIRE BARRIER FOR HORIZONTAL ASSEMBLIES	
078443	JFS	JOINT FIRESTOPPING	
079200	JS-X	JOINT SEALANT (SEE SCHEDULE FOR TYPES 1 through 8)	
079200	JS-EXP	EXPANDING FOAM SEALANT: EMSEAL	
079219	AJS-1	ACOUSTICAL JOINT SEALANT	
079500	JNT-1	FLOOR MOVEMENT JOINT: EMSEAL FP-55, GREY	AT FLOOR JOINT BETWEEN EXISTING BUILDING NEW ADDITION.
079500	JNT-2	WALL MOVEMENT JOINT: JOINTMASTER 620 SERIES, GREY	AT WALL JOINT BETWEEN EXISTING BUILDING NEW ADDITION, BELOW GRADE.
DIVISION 8	OPENINGS		
082110	XDOOR	INTERIOR HISTORIC WOOD DOORS AND FRAMES	TO BE DEMOUNTED AND SET ASIDE FOR RE-USE.
083113	ACCESS-1	ACCESS PANEL 1	FLUSH ACCESS PANELS WITH EXPOSED FRAME
083113	ACCESS-2	FIRE RATED ACCESS PANEL 1	FIRE RATED ACCESS PANEL WITH EXPOSED FRAME
083326	COIL-1	OVERHEAD COILING GRILLES	AT GROUND LEVEL SERVICE COUNTERS
083323	COIL-2	OVERHEAD COILING DOOR	AT GROUND LEVEL TRASH STORAGE ROOM
084113	GLWS-1	ALUMINUM FRAMED INTERIOR STOREFRONT SYSTEM. B.O.D.: Kawneer Trifab 451 SSG, single glazed.	TYPICAL INTERIOR STOREFRONT SYSTEM
084113	GLWS-2	ALUMINUM FRAMED STOREFRONT SYSTEM (acoustical). B.O.D.: Kawneer Trifab 451 SSG, double glazed.	ACOUSTICAL INTERIOR STOREFRONT SYSTEM
084410	GLWS-3	FIRE RATED ALUMINUM CURTAIN WALL. B.O.D.: SaftiFirst GPX.	AT EGRESS STAIR SHAFTS ON ALL FLOORS (120 MIN FR)
084410	PT-11_	INTERIOR PAINT FOR GLWS-3 DOORS TO MATCH CLEAR ANODIZED ALUM.	FACTORY-APPLIED
084413	GLWS-4	GLAZED ALUMINUM CURTAIN WALL (exterior). B.O.D.: Kawneer 1600-series.	CURTAIN WALL SYSTEM AT NEW ADDITION

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
085113	WIN-1	ALUMINUM WINDOWS (New, generally). B.O.D.: Wausau 4250 Invention Retro series.	t new windows replacing existing 1980s windows
085113	WIN-2	ALUMINUM WINDOWS (Ground and First in North bricked up openings): B.O.D.: St Cloud 2500.	NEW WINDOWS REPLACING BRICK-FILLED OPENINGS NORTH
085113.23	IAW-1	ALUMINUM INTERIOR ACCESSORY WINDOWS: B.O.D.: Wausau SEAL IAWs.	INTERIOR "STORM" WINDOWS AT LEVELS 2 AND 3
085113	AL-A	ALUMINUM COLOR PAINT FINISH: Benjamin Moore HC-131	PVF2 FACTORY FINISH ON ALUMINUM WINDOW EXTRUSIONS
085113	AL-B	CLEAR ANODIZED ALUM. FINISH	FINISH TO INTERIOR STOREFRONT SYSTEMS
086210	XENTRY	REHABILITATED EXISTING HISTORIC DOORS AND FRAMES	EXISTING, HISTORIC DOORS AND CAST IRON SUBFRAMES AND GRILLES ABOVE.
086210	PT-6A	EXTERIOR HISTORIC DOOR, FRAME AND SUBFRAME PAINT	EXISTING, HISTORIC DOORS AND CAST IRON SUBFRAMES AND GRILLES ABOVE.
086210	PT-12A	INTERIOR SATIN OIL-ALKYD PAINT ON WROUGHT IRON AND CAST IRON WINDOW FRAMES	INSIDE FACES OF 1929 HISTORIC WINDOW FRAMES AT LEVELS 2 AND 3.
086300	SKYLIGHT-1	MODULAR UNIT SKYLIGHTS, B.O.D. VELUX, WITH WASCO AS ACCEPTABLE ALTERNATE.	WITH INTEGRAL OSHA FALL PROTECTION LOAD CHARACTERISTICS
087100	HW	DOOR HARDWARE	REFER TO HW SCHEDULE AND SETS.
088000	GL-1	1/8" MONOLITHIC CLEAR GLASS	NEW GLASS IN EXISTING, REHABILITATED WINDOWS
088000	GL-2	MONOLITHIC CLEAR GLASS, THICKNESS BASED ON SIZE.	NEW GLASS IN INTERIOR PARTITIONS - NON ACOUSTIC RATED
088000	GL-3	1" THICK INSULATED LOW-E CLEAR GLASS	NEW GLASS IN NEW EXTERIOR DOORS AND WINDOWS
088000	GL-3A	INSULATED AND LAMINATED CLEAR GLASS	NEW GLASS IN NEW EXTERIOR WINDOWS AT U-SHAPED ROOF AREA: PER GL-3, BUT WITH INNER PANE LAMINATED. SEE WINDOW SCHEDULE FOR LOCATIONS.
088000	GL-4	1" THICK INSULATED LOW-E CLEAR GLASS	NEW GLASS IN INTERIOR ACCESSORY WINDOWS
088000	GL-5	1-1/6" INSULATED, LAMINATED CLEAR GLASS	NEW GLASS IN INTERIOR ACOUSTIC RATED PARTITIONS
088000	GL-7	INSULATED, LAMINATED INNER PANE (OSHA FALL RESISTANT)	FOR NEW UNIT SKYLIGHTS
088000	GL-8	BACK-PAINTED GLASS FOR INTERIOR USE: Paint color to match paint color PTK as closely as possible using manufacturer's standard color range.	FOR BASE PANELS OF SERVICE DESKS: SAFLEX VANCEVA RANGE
088113	WF-1	3M Fasara decorative film: Essen	DECORATIVE ARCHITECTURAL WINDOW FILM
088813	FRGL-1	FIRE RESISTANT RATED GLASS	INTERIOR PARTITIONS TO EGRESS STAIRS (120 MIN FR)
088853	SGL-1	FORCED ENTRY RESISTANCE SECURITY GLASS	AT H.O.D. RECEPTION COUNTER
089119	LOUVER-1	ALUMINUM FIXED LOUVERS	MECHANICAL LOUVERS
DIVISION 9	FINISHES		
090320	PLASTER-1	HISTORIC PLASTER REPAIR: CEILINGS	SEE DRAWINGS FOR LOCATIONS
090320	PLASTER-2	HISTORIC PLASTER REPAIR: MASONRY WALLS	SEE DRAWINGS FOR LOCATIONS
092116.23	GYP-1	GYPSUM BOARD AT FIRE RATED SHAFT WALL ASSEMBLIES	SEE DIVIVATINGS FOR ECONTIONS
092116.23	FURR-1	METAL FURRING	REFER TO DETAILS FOR TYPE: "Z", "HAT", CEILING, ETC.
092210.23	GYP-2	GYPSUM BOARD AT CEILINGS	INCIENTO DETAILSTON TITE. Z., TIAT, GLILINO, ETG.
092900	GYP-3	GYPSUM BOARD AT ACOUSTIC SEPARATION CEILINGS	
U7Z7UU	G1F-3	G I F SOIVI DOAND AT ACOUSTIC SEPARATION CEILINGS	

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
092900	GYP-4	GYPSUM BOARD AT INTERIOR WALLS	
092900	TRIM-1	"J" EDGE BEAD	
092900	TRIM-2	CORNER BEAD	
092900	TRIM-3	SHADOW GAP TRIM	
092900	TRIM-4	SHADOW GAP TRIM AT EDGE	
093013	CT-1A	GLAZED MOSAIC WALL TILE: 'Tile X Design - Market Collection - Ashbury - 4x7 Rhomboid - Pale Powder	
093013	CT-2A	GLAZED MOSAIC WALL TILE COLOR A: 'Rubble Tile - Rewind 8x8 hexagon Vanilla [light grey/ white] - 88HEXRW90	
093013	CT-2B	GLAZED MOSAIC WALL TILE COLOR B: 'Rubble Tile - Rewind 8x8 hexagon Polvere [light grey] - 88HEXRW91	
093013	CT-2C	GLAZED MOSAIC WALL TILE COLOR C: 'Rubble Tile - Rewind 8x8 hexagon Tabacco [dark brown] - 88HEXRW93	
093013	CT-3	PORCELAIN FLOOR TILE: 'Rubble Tile - Royal Mosa - Global collection 12x12 Agate Grey - 12575050	-
093013	CTACC-1	GLAZED TILE COVE BASE: 'Rubble Tile - Royal Mosa - Global collection - 4x6 Cove base - Agate Grey 75050P	
093013	CT1ACC-2	GLAZED TILE INTERNAL CORNER STRIP	
093013	CT1ACC-3	GLAZED TILE EXTERNAL CORNER STRIP	
093013	CT1ACC-4	GLAZED TILE EDGE STRIP	
093013	CT2ACC-2	GLAZED TILE INTERNAL CORNER STRIP	
093013	CT2ACC-3	GLAZED TILE EXTERNAL CORNER STRIP	
093013	CT2ACC-4	GLAZED TILE EDGE STRIP	
093013	THOLD-1	NEW STONE THRESHOLDS	WHITE CARRERA MARBLE, POLISHED
093013	CTTRIM-1	TILE TRIM: Schluter - DECO-DE - Stainless steel	AT OUTSIDE CORNERS OF WALL TILE AREAS
093013	CTTRIM-2	TILE TRIM: Schluter – SCHIENE AE-100	For floor transition from WD-2 to CT-3
093016	XTILE-1	CLAY FLOOR TILE TO BE REHABILITATED	LEVEL 1 PUBLIC AREA
093016	XTILE-2A	NEW CLAY FLOOR TILE TO MATCH XTILE-1	LEVEL 1 PUBLIC AREA
093016	XTILE-2E	NEW CLAY FLOOR TILE TO MATCH XTILE-1 BUT 6" SQUARE.	LEVEL 1 PUBLIC AREA
093016	QT-1	EXTERIOR QUARRY TILE: 'Daltile 6" x 6" quarry tile (field tile). Grout bed: St. Astier, NHL 3.5.	AT EXTERIOR LANDING OUTSIDE WILSON ST STAIR EXIT/ENTRY DOORS.
093016	QT1ACC-1	DRAINAGE PLANE BELOW QT-1: Schluter DITRA Drain.	at exterior landing outside wilson st stair exit/entry doors.
095113	ACT-1	ACOUSTIC CEILING TILE 1: Armstrong Optima Tegular	AT FULL HEIGHT WALLS TO DECK, WITH AXIOM TRIM AT ACT "CLOUDS" AT SELECT LOCATIONS PER THE DRAWINGS.
095113	ACT-2	ACOUSTIC CEILING TILE 2: Armstrong Ultima Vector	AT OFFICES/CONF ROOMS WITH PARTIAL HEIGHT WALLS
095123	ACT-3	ACOUSTIC CEILING TILE 3: Armstrong Optima Capz	AT UNDERSIDE EXISTING FLOOR SLABS

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
092900	ACA-1	ACOUSTIC CEILING ASSEMBLY	BENEATH MECHANICAL ROOMS AT 3, AND IN CHILLER ROOM AT GF
096429	XFLOOR	EXISTING WOOD FLOOR RESTORATION	2ND FLOOR OFFICES AT NORTH AND WEST WINGS, AND ROOM 260
096429	WD-1	SOLID WOOD FLOOR AT FLOOR BOXES (ROOM 260)	WOOD FLOOR TO MATCH ROOM 260 WOOD FLOOR
096429	WD-2	SOLID WOOD FLOOR OVER EXISTING FLOOR TOPPING	LEVEL 2 OFFICE AREAS SOUTH OF HISTORIC CORRIDOR
060312	WD-3	NEW HARDWOOD HANDRAILS, PANELS AND TRIM TO MATCH XTG WAINSCOT: WHITE OAK STAINED TO MATCH EXISTING.	LEVEL 2 HISTORIC CORRIDOR, ROOM 260 PANELING, AND NEW HANDRAILS AT HISTORIC STAIRS AT EAST AND WEST, AND NEW STAIR.
096429	MAT-2	RESILIENT ACOUSTICAL MAT: SONUS 1/8" MAT	BELOW WD-2 AT L-2 SOUTH OF CORRIDOR.
096513	RB-1	RESILIENT BASE (GREY): Johnsonite 63 Burnt Umber	GENERAL (NON-HISTORIC) AREAS THROUGHOUT
142100	RF-1	RUBBER SHEET FLOORING (GREY): Noraplan Sentica, Color 6521 Sunday Paper.	EXISTING ELEVATOR CAB FLOOR FINISH - SEE ELEVATOR SPEC.
096613	TZ-1	PORTLAND CEMENT TERRAZZO FLOORING: Color based on Tectura TZ-03: Foggy Day. Use inset non-slip strips per the drawings.	AT TREADS AND LANDINGS OF NEW STAIR BTWN LEVELS G AND 1.
096723	EPOXY-1	EPOXY FLOOR FINISH	AT FINAL PREP KITCHEN
096813	CPT-1	CARPET TILE: Tandus Centiva Avant 04840 Galvanized Pewter 11709	SELECTED OFFICE AREAS, PER FINISHES PLAN
096813	CPTTRIM-1	CARPET TRIM: TRAFFIC MASTER – 1/4" height, Silver hammered carpet tack bar	EDGES OF CARPET AT TRANSITIONS, PER FINISHES PLAN
096813	MAT-1	ENTRY FLOOR MAT 1, Interface - Style 1290102500 - Entry Level Color 7187 - Black	
097516	BASE-1	NEW GREEN STONE WALL BASE TO MATCH HISTORIC	SPECIES: TINOS OASIS GREEN MARBLE, POLISHED
097516	BASE-2	NEW WHITE STONE WALL BASE TO MATCH XTG PROFILE	SPECIES: WHITE CARRARA MARBLE, POLISHED
098433	AWP-1A	ACOUSTICAL WALL PANEL: ROOM 260 WALLS	1" THICK: ROOM 260 WALLS
098433	AWP-1B	ACOUSTICAL WALL PANEL: ROOM 260 CEILING	2" THICK: ROOM 260 CEILING
098433	AWP-2	ACOUSTICAL WALL PANEL - CONF. ROOMS GENERALLY	2" THICK: MEETING / CONFERENCE ROOMS
098433	FABRIC-A	ACOUSTICAL WALL PANEL FABRIC COVER 1: Luum, Linen Weave Sesame, 1018-07.	FABRIC COVER TYPE 1, ROOM 260 WALLS, GRILLES, & CEILING
098433	FABRIC-B	ACOUSTICAL WALL PANEL FABRIC COVER 2: DesignTex, Gammut 3468-808	FABRIC COVER TYPE 2, CONFERENCE ROOM WALLS GENERALLY
	PT-6A	REFER TO 086210 ABOVE	EXISTING, HISTORIC DOOR AND FRAME PAINT
099113	PT-7_	EXTERIOR ALKYD, GLOSS LEVEL 3, PAINT	EXISTING AND NEW, HISTORIC AND NEW METAL DOORS AND RAILINGS
099113	PT-8_	EXTERIOR LATEX, GLOSS LEVEL 1 (FLAT), PAINT	CONCRETE STAIR STRINGERS ETC. AT WILSON ST
099113	PT-9_	EXTERIOR WATER-BASED INDUSTRIAL, GLOSS LEVEL 3, PAINT	DUNNAGE AND OTHER EXTERIOR SUPPORT GALVANIZED STEEL
099113 / 099123	PT-10_	PAINT APPLIED OVER EXISTING ANODIZED ALUM. WINDOW FRAMES AT LEVELS 0 AND 1, IF ALTERNATE-1 IS NOT TAKEN.	TO MATCH PTA IN COLOR.

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
099123	PT-1_	INTERIOR SATIN LATEX PAINT	INTERIOR PAINTING AND FINISHING
099123	PT-2_	INTERIOR EGGSHELL LATEX PAINT	INTERIOR PAINTING AND FINISHING
099123	PT-3_	INTERIOR SEMI-GLOSS LATEX PAINT	INTERIOR PAINTING AND FINISHING
099123	PT-4_	INTERIOR FLAT DRYFALL CEILING AND BDG SERVICES PAINT	INTERIOR PAINTING AND FINISHING
099123	PT-5_	INTERIOR ABRASION-RESISTANT PAINT	INTERIOR PAINTING AND FINISHING
	PT-11_	REFER TO 084410 ABOVE	FACTORY-APPLIED FINISH TO GLWS-3 DOORS
	PT-12A	REFER TO 086210 ABOVE	INSIDE FACES OF 1929 HISTORIC WINDOW FRAMES AT LEVELS 2 AND 3.
099123	PTA	Benjamin Moore Lehigh Green HC-131.	HISTORIC GREEN
099123	PTB	Benjamin Moore Chantily Lace 2121-70	NEW SPACES
099123	PTC	[NOT USED]	
099123	PTD	[NOT USED]	
099123	PTE	[NOT USED]	
099123	PTF	Benjamin Moore Woodland Snow 2161-70	Room 260 upper walls, level 1 historic public zone, level 2 corridor, Historic Bathrooms and historic stair walls
099123	PTG	Benjamin Moore 2121-10 (Gray)	steel balustrades externally, metal exterior signage letters.
099123	PTH	Benjamin Moore Metallic Silver 2132-60 [similar to AL-B: Clear anodized aluminum]	new metal balustrades internally and other interior exposed metal components as noted on the drawings.
099123	PTJ	Benjamin Moore 1099 Byzantine Gold: Apply tinted Umber glaze finish coat to match half-circle plaster medallion above Judge's bench.	Plaster "supports" at ends of fake beams on north and south walls of Room 260 ceiling.
099123	PTK	Scuffmaster: Scrubtough Max, Ref GOH 11459544, Color XC 019 STM	Feature walls at levels G and 1, per the drawings.
099123	PTL	PPG Light Silver, ref: AD3Y1346N	steel doors at GLWS-3, to match clear anodized alum.
099300	CCT-1	STAIN TO MATCH HISTORIC TRIM, DOORS, PANELS.	
099300	CCT-2	CLEAR COAT FINISH TO HISTORIC TRIM, DOORS, PANELS.	
099646	SFRM-1	INTUMESCENT PAINT	FOR 1HR FIRE PROTECTION OF VISIBLE INTERIOR STEEL STRUCTURE

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
DIVISION 10	SPECIALTIES		
101100	MKBD-1	MARKER BOARD: Clarus Glassboards, Pure White C100	IN ALL CONFERENCE ROOMS EXCEPT ROOM 111 - SEE DRAWINGS FOR LOCATION AND SIZE.
101100	TACK-1	TACKABLE BOARD: Forbo, Bulletin Board, Koroseal - Aluminum J-Cap Frame, See drawings for size, Color: per manuf. std range at time of procurement.	At staff areas where noted on the drawings
101200	DISPLAY-1	GLASS DISPLAY CASE: CRL Architectural Products, Self-healing cork, satin anodized frame. Size 48" high x 48" wide.	AT ENTRY VESTIBULES AND OTHER SELECT LOCATIONS - SEE FLOOR PLANS.
102113.15	TOIL-1	STAINLESS STEEL TOILET ROOM PARTITION	AT NEW RESTROOMS, AND AT SELECTED LOCATIONS ON LEVELS 2 AND 3. NOTE THAT THE NEW TOILET PARTITIONS IN THE EXISTING, HISTORIC RESTROOMS AT LEVEL 2 AND 3 WOMEN'S ROOMS ARE FLOOR MOUNTED NOT HUNG FROM THE DECK ABOVE.
102113	TOIL-2	TOILET ROOM URINAL SCREEN	AT ALL MEN'S ROOMS.
102116.19	SHOWER-1	SHOWER COMPARTMENT WALL PANEL	AT SHOWER COMPARTMENTS, LEVEL 1.
102116.19	SHOWER-2	TERRAZZO SHOWER TRAY: Acorn Engineering Company: Terrazzo ADA Shower Base, Model SBADA-36-3F.	TERRAZZO - RECESS INTO SLAB FOR ADA COMPLIANCE
102800	TA-04	TOILET PAPER DISPENSER - Wausau Paper, Model 80300, Double-roll dispenser, Surface mounted. Color: Black.	
102800	TA-05	PAPER TOWEL DISPENSER: Bobrick B-2860, surface mounted, SS finish.	FOR KITCHENETTES AND COMFORT ROOMS.
102800	TA-07	WASTE RECEPTACLE: ULINE, Model H3622. free standing.	
102800	TA-11	LIQUID SOAP DISPENSER: Gojo 2789-12	
102800	TA-12	GRAB BARS: Bobrick, satin finish	
102800	TA-13	SANITARY NAPKIN VENDOR: Bobrick B-2706C Classic Series, surface mounted, satin stainless.	TO BE INSTALLED IN ALL NEW PUBLICLY ACCESSIBLE RESTROOMS
102800	TA-14	SANITARY NAPKIN DISPOSAL: Bobrick B-270, Partition mounted, Stainless steel	
102800	TA-18	TOWEL HOLDER	
102800	TA-17	WALL MOUNT MIRRORS	FRAMED MIRRORS
102800	TA-19	COAT / ROBE HOOK: Bobrick, B-542, Single prong	
102800	TA-21	FOLDING SHOWER SEAT: Bobrick B-5181, single phenolic, fold-up.	
102800	TA-23	WARM AIR DRYER: XCELRATOReco	AT RESTROOMS ONLY
102800	TA-24	DIAPER CHANGING STATION: Koala Kare KB200.	LEVEL 0 AND 1 PUBLIC RESTROOMS, AND L-2 NEW UNISEX RESTROOMS ONLY.
102800	TA-25	UNDER-LAVATORY GUARDS: Truebro LAV Shield, Model 2018.	

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
102800	TA-30	MOP HOLDER: American Specialties, Inc.: 0795	
102800	TA-31	UTILITY SHELF: American Specialties, Inc.: 1308-3	
102800	AED-1	RECESSED AED CABINET: ALLIED MEDICAL PRODUCTS, STANDARD, SEMI-RECESSED, 14-1/8" SQUARE X 7" DEEP, COLOR: WHITE.	SEE FLOOR PLANS FOR LOCATIONS. OWNER TO CONFIRM IF AED UNITS THEMSELVES TO BE INCLUDED IN THE CABINETS FOR BID (THIS IS NORMALLY AN O.F.O.I. ITEM).
102800	KNOX BOX	KNOX SERIES 3200 SURFACE MOUNTED KNOX BOX WITH HINGED DOOR, IN BLACK.	MOUNT TO BOLLARD ADJACENT MLK BLVD ENTRY DOOR, PER THE DRAWINGS.
104416	FEX-1	FIRE EXTINGUISHER TYPE 1: UL Rated 2A-20B	
105113	LOCKER-1	SOLID PHENOLIC LOCKERS - Hollman: Corporate Locker, Z-style with integrated bench. Finish - Solid Surface White Quartz	STAFF SHOWER ROOM
105113	LOCKER-2	P-LAM LOCKERS - Color: Grey	FACILITIES STAFF ROOM
105113	BENCH	LOCKER ROOM BENCH: AJW, HPDE	
DIVISION 11	EQUIPMENT		
113100	MICRO-1	MICROWAVE, General Electric, JEM3072SHSS, counter top unit - OWNER FURNISHED OWNER INSTALLED (OFOI)	IN STAFF KITCHENETTES (OFOI)
113100	REF-1	FULL SIZE FRIDGE, General Electric GDE25ESKSS - OFOI .	IN STAFF KITCHENETTES (OFOI)
113100	REF-2	UNDER-COUNTER FRIDGE, General Electric GCE06GSHSB - <i>OFOI</i> .	IN COMFORT ROOMS BELOW COUNTER (OFOI)
113100	REF-3	COMMERCIAL KITCHEN FRIDGE: Central Restaurant Products: True T 23 Reach-In Refrigerator - One Door. Product ref 675-001 <i>OFOI</i> .	IN FINAL PREP KICHEN AT LEVEL 2 (OFOI)
113100	WASHER-1	CLOTHES WASHER, Bosch, WAT28401UC - OFOI.	IN FACILITIES LAUNDRY ROOM (OFOI)
113100	DRYER-1	CLOTHES DRYER, Bosch WTG86401UC - <i>OFOI</i> .	IN FACILITIES LAUNDRY ROOM (OFOI)
113100	KEG-1	KEGERATOR - UBC KegMaster Double Tap Model KM15CT2 - <i>OFOI</i> .	IN FINAL PREP KICHEN AT LEVEL 2 (OFOI)
	ICE-1	ICE MAKER - Ice-O-Matic ICE0320 - <i>OFOI</i> .	IN FINAL PREP KICHEN AT LEVEL 2 (OFOI)
DIVISION 12	FURNISHINGS		
122413	SHADE-1	MANUAL ROLLER SHADE - MECHOSHADE, Thermoveil Shadow Grey, 3% openness.	
123661	SSF-1	SOLID SURFACE 1: Formica Classics - Luna Concrete 781	
123661	SSF-2	SOLID SURFACE 2: Sileston - Niebla	
123661	SSF-3	SOLID SURFACE 3: Formica Classics - Luna Sand 757	

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
124813	MAT-3	RECESSED MODULAR MATTING, JL Industries: Activar JL-600 series roll-up grating, 3/4" deep, clear anodizd alum. frame JL-AA. Color - Grey	AT ENTRY ZONES AT GROUND LEVEL AND LEVEL 1 - SEE PLANS.
129313	RACK-1	BICYCLE HANGING RACKS: PARK-A-BIKE SS10.	AT NEW ADDITION, LEVEL 1
DIVISION 14	CONVEYING EQUIPMENT		
142100	ELEV-1	EXISTING ELEVATOR TO BE REFURBISHED	REFER TO DRAWINGS FOR SCOPE AND FINISHES
DIVISION 22	PLUMBING		
224713	DF-X	DRINKING FOUNTAIN AND BOTTLE FILLER	
221316 / 221423	CO	CLEANOUT	
221423	DS-X	DOWN SPOUT	
221316	FCO	FLOOR CLEANOUT	
221316	FD	FLOOR DRAIN	
221119	FWH-X	FREEZELESS WALL HYDRANT	
224216.16	MS-X	JANITOR'S MOP SINK	
224216.13	L-X	LAVATORY	
224216.16	S-1	COUNTERTOP SINK AT KITCHENETTES	REFER TO PLUMBING DRAWINGS AND SPECS FOR LOCATIONS AND TYPES
224216.16	S-2	HANDWASH SINK AT FINAL PREP KITCHEN	
224216.16	S-3	FOOD PREP SINK AT FINAL PREP KITCHEN	
224216.16	S-4	FOUR-BOWL WASHUP SINK AT FINAL PREP KITCHEN	
224223	SH-1	SHOWER HEAD	
224213.16	UR-X	WALL-HUNG URINAL	
221316	VTR	VENT THROUGH ROOF	
224213.13	WC-X	WATER CLOSET	
221119	GGB	OUTLET BOX	AT LAUNDRY EQUIPMENT AND KITCHENETTE WATER APPLIANCES
DIVISION 23	MECHANICAL		
237313	AHU-X	MECHANICAL AIR HANDLING UNIT	
233600	AV-X	MECHANICAL AIR VALVE	
238219	FCU-X	FAN COIL UNIT	
233300	FDAMPER	FIRE DAMPER	SEE MECHANICAL DRAWINGS FOR LOCATIONS
233713	LPH-X	MECHANICAL AIR INTAKE/EXHAUST	SEE MECHANICAL DRAWINGS FOR LOCATIONS
233713	MGRILLE	MECHANICAL RETURN/TRANSFER GRILLE	
233713	MVENT	MECHANICAL VENT	
238229	PR-X	MECHANICAL HYDRONIC UNIT / RADIATOR	

SECTION	TAG	DESCRIPTION	ADDITIONAL INFORMATION
DIVISION 26	ELECTRICAL		
260533	FBOX	RECESSED FLOOR BOX FOR POWER/DATA/AV	
260923	OS	OCCUPANCY SENSOR	
260923	PC	PHOTOCELL	
262726	REC	RECEPTACLE	
DIVISION 27	TECHNOLOGY		
	AV-MON	AV FLAT PANEL MONITOR (OFCI)	
	AV-MNT	AV FLAT PANEL MONITOR MOUNT	
	CAM	CLOSED CIRCUIT CAMERA	
	CM-X	AV SYSTEM PTZ CAMERA (OFCI)	
	CR-X	CARD READER	
	DR	SECURITY DURESS/PANIC BUTTON	SEE TECHNOLOGY DRAWINGS FOR LOCATIONS AND SIZES
	SP-X	AV SYSTEM SPEAKER (OFCI)	
	SM-X	SOUND MASKING SPEAKER	
	TP-X	TABLE TOP AV CONNECTIVITY BOX AND PLATE	
	WAP	WIRELESS ACCESS POINT	
	WP-1	WALL AV CONNECTIVITY BOX AND PLATE	
DIVISION 28	FIRE ALARM AND SECURIT	-Y	
283111	ANNC	ANNUNCIATOR	
283111	FAAP	FIRE ALARM ANNUNCIATOR PANEL	SEE ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES
283111	FACP	FIRE ALARM CONTROL PANEL	SEE ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES
283111	0	SMOKE DETECTOR	

1 2 3	SECTION 221119 DOMESTIC WATER PIPING SPECIALTIES		
4 5 6 7 8 9 110 111 112 113 114 115 116 117 118 119 120 121 122 122 123 124 125 125 125 125 125 125 125 125 125 125	1.1 1.2 1.3 1.4 1.5 PART 2 - 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 2.10	GENERAL RELATED DOCUMENTS SUMMARY ACTION SUBMITTALS INFORMATIONAL SUBMITTALS CLOSEOUT SUBMITTALS PRODUCTS GENERAL REQUIREMENTS FOR PIPING SPECIALTIES PERFORMANCE REQUIREMENTS BACKFLOW PREVENTERS BALANCING VALVES TEMPERATURE-ACTUATED, WATER MIXING VALVES OUTLET BOXES WALL HYDRANTS ROOF HYDRANTS WATER-HAMMER ARRESTERS WATER METERS EXECUTION INSTALLATION LABELING AND IDENTIFYING FIELD QUALITY CONTROL ADJUSTING	
25 26	3.4	ADJUSTING	
27 28 29 30	1.1	RELATED DOCUMENTS A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.	
31 332 333 34 335 336 337 338 339 440 441 442 443 444 445 446 447	1.2	A. Section Includes: 1. Backflow preventers. 2. Balancing valves. 3. Temperature-actuated, water mixing valves. 4. Outlet boxes. 5. Wall hydrants. 6. Water-hammer arresters. 7. Water meters. B. Related Requirements: 1. Section 220519 "Meters and Gages for Plumbing Piping" for thermometers, pressure gages, and flow meters in domestic water piping. 2. Section 221116 "Domestic Water Piping" for water meters. 3. Section 223200 "Domestic Water Filtration Equipment" for water filters in domestic water piping. 4. Section 224500 "Emergency Plumbing Fixtures" for water tempering equipment. 5. Section 224713 "Drinking Fountains" for water filters for water coolers.	
48 49	1.3	ACTION SUBMITTALS A. Product Data: For each type of product.	
50 51	1.4	INFORMATIONAL SUBMITTALS A. Field quality-control reports.	
52 53 54	1.5	CLOSEOUT SUBMITTALS A. Operation and Maintenance Data: For domestic water piping specialties to include in emergency, operation, and maintenance manuals.	

PART 2 - PRODUCTS

2 3	2.1	GENERAL REQUIREMENTS FOR PIPING SPECIALTIES A. Potable-water piping and components shall comply with NSF 61.
	2.2	PERFORMANCE REQUIREMENTS
4 5	2.2	A. Minimum Working Pressure for Domestic Water Piping Specialties: 125 psig unless otherwise
6		indicated.
7	2.3	BACKFLOW PREVENTERS
8		A. Reduced-Pressure-Principle Backflow Preventers :
9		 Manufacturers: Subject to compliance with requirements, provide product by one of the
10		following:
11		a. Conbraco Industries, Inc.
12		b. Watts; a Watts Water Technologies company.
13		c. Zurn Industries, LLC.
14		Standard: ASSE 1013. Operations Continues procesure applications.
15 16		 Operation: Continuous-pressure applications. Pressure Loss: 12 psig maximum, through middle third of flow range.
16 17		5. Body: Bronze for NPS 2 and smaller; steel with interior lining that complies with AWWA
18		C550 or that is FDA approved for NPS 2-1/2 and larger.
19		6. End Connections: Threaded for NPS 2 and smaller; flanged for NPS 2-1/2 and larger.
20		7. Accessories:
21		a. Valves NPS 2 and Smaller: Ball type with threaded ends on inlet and outlet.
22		b. Valves NPS 2-1/2 and Larger: Outside-screw and yoke-gate type with flanged ends
23		on inlet and outlet.
24		 c. Air-Gap Fitting: ASME A112.1.2, matching backflow-preventer connection.
25		B. Beverage-Dispensing-Equipment Backflow Preventers:
26		1. Manufacturers: Subject to compliance with requirements, provide product by one of the
27		following:
28		a. Conbraco Industries, Inc.
29		b. Watts; a Watts Water Technologies company.
30 31		c. Zurn Industries, LLC. 2. Standard: ASSE 1022.
32		3. Operation: continuous-pressure applications.
33		4. Size: NPS 1/4 or NPS 3/8.
34		5. Body: Stainless Steel.
35		6. End connection: threaded.
36	2.4	BALANCING VALVES
37		A. Memory-Stop Balancing Valves:
38		1. Manufacturers: Subject to compliance with requirements, provide product by one of the
39		following:
40		a. Conbraco Industries, Inc.
41		b. Crane; Crane Energy Flow Solutions.
42 43		c. Hammond Valve. d. Milwaukee Valve Company.
43 44		d. Milwaukee Valve Company. e. NIBCO INC.
45		2. Standard: MSS SP-110 for two-piece, copper-alloy ball valves.
46		3. Pressure Rating: 400-psig minimum CWP.
47		4. Size: NPS 2 or smaller.
48		5. Body: Copper alloy.
49		6. Port: Standard or full port.
50		7. Ball: Chrome-plated brass.
51		8. Seats and Seals: Replaceable.
52		End Connections: Solder joint or threaded.
53		10. Handle: Vinyl-covered steel with memory-setting device.
54	2.5	TEMPERATURE-ACTUATED, WATER MIXING VALVES
55		A. Primary, Thermostatic, Water Mixing Valves:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17		 Manufacturers: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following: a. Lawler Manufacturing Company, Inc. b. Leonard Valve Company. c. Powers. d. Symmons Industries, Inc. e. Zurn Industries, LLC. Standard: ASSE 1017. Pressure Rating: 125 psig minimum unless otherwise indicated. Type: Exposed-mounted, thermostatically controlled, water mixing valve. Material: Bronze body with corrosion-resistant interior components. Connections: Threaded or union inlets and outlet. Accessories: Manual temperature control, check stops on hot- and cold-water supplies, and adjustable, temperature-control handle. Tempered-Water Setting: 110F Valve Finish: Rough bronze. Piping Finish: Copper.
18	2.6	OUTLET BOXES
19 20 21 22 23 24 25 26 27 28 29 30 31		 Clothes Washer Outlet Boxes / Water Connection Boxes: Manufacturers: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
32	2.7	WALL HYDRANTS
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48		 A. Nonfreeze Wall Hydrants: 1. Manufacturers: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following: a. Jay R. Smith Mfg. Co. b. Josam Company. c. Watts; a Watts Water Technologies company. d. Woodford Manufacturing Company. e. Zurn Industries, LLC. 2. Standard: ASME A112.21.3M for self-draining wall hydrants. 3. Pressure Rating: 125 psig. 4. Operation: Loose key. 5. Casing and Operating Rod: Of length required to match wall thickness. Include wall clamp. 6. Inlet: NPS 3/4 or NPS 1. 7. Outlet: Surface-mount, with integral vacuum breaker and garden-hose thread complying with ASME B1.20.7. 8. Finish: Chrome plated. 9. Operating Keys(s): One with each wall hydrant.
50	2.8	ROOF HYDRANTS
51		A. Non-freeze Roof Hydrants:
52 53		 Manufacturers: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
54		a. Jay R. Smith Mfg. Co.
55 56		b. Josam Company.
56 57		c. Watts; a Watts Water Technologies company.d. Woodford Manufacturing Company.
58		e. Zurn Industries, LLC.
59		2. Standard: ASME A112.21.3M.

4. Operation: Loose key. 5. Outlet: garden-hose thread complying with ASME B1.20.7. 6. Operating Keys(s): One with each wall hydrant. 5. Vater-Hammer Arresters: 7. Water-Hammer Arresters: 8. A. Water-Hammer Arresters: 9. a. Jay R. Smith Mfg. Co. 10. b. Josam Company. 11. c. Precision Plumbing Products. 12. d. Sioux Chief Manufacturing Company, Inc. 13. e. Waters, a Watts Water Technologies company. 14. f. Zum Industries, LLC. 15. 2. Standard: ASSE 1010 or PDI-WH 201. 16. 3. Type: Copper tube with piston. 17. d. Size: ASSE 1010, Sizes AA and A through F, or PDI-WH 201, Sizes A through F. 18. 2.10 WATER METERS 18. A. Compound-Type Water Meters - furnished by local utility 19. Description: 19. a. Standard: AWWA C702. 20. b. Pressure Rating: 150-psig working pressure. 21. c. Body Design: With integral mainline and bypass meters; totalization meter. 22. d. Case: Bronze. 23. e. Pipe Connections: Flanged. 24. d. Case: Bronze. 25. e. Pipe Connections: Flanged. 26. B. Remote Registration System: Direct-reading type complying with AWWA C706; modifies signal-transmitting assembly, low-voltage connecting wiring, and remote register assemi required by utility company. 29. PART 3 - EXECUTION 20. B. Backlow prevention installation: 20. Install backflow preventers in each water supply to mechanical equipment and systems in the requirement and water systems that may be sources of contamination. Provide be prevention in the following locations, and as required by sultivities having jurisdiction. 21. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 22. Loe-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Barrewenters. 23. Install data in the proper prevention in the following locations, and as required by authorities having jurisdiction. 33. Do not install bypass piping around backflow preventers. 44. C. Install balancing valves in locations where they can easily be adjusted. 45. Install balancing valves in locations where they can easily be adjusted. 46. Install culted boxes re		A. B. C. D. E.	Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Provide backflow prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Backflow Preventers. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application. 3. Do not install bypass piping around backflow preventers. Install balancing valves in locations where they can easily be adjusted. Install temperature-actuated, water mixing valves with check stops or shutoff valves on inlets and with shutoff valve on outlet. 1. Install cabinet-type units recessed in or surface mounted on wall as specified. Install outlet boxes recessed in wall or surface mounted on wall. Install 2-by-4-inch fire-retardant-treated-wood blocking, wall reinforcement between studs. Comply with requirements for fire-retardant-treated-wood blocking in Section 061000 "Rough Carpentry." Install water-hammer arresters in water piping according to PDI-WH 201, manufacturer
4. Operation: Loose key. 5. Outlet; garden-hose thread complying with ASME B1.20.7. 6. Operating Keys(s): One with each wall hydrant. 5. A. Water-Hammer Arresters: 7. Manufacturers: Subject to compliance with requirements, provide product by one following: 8. Jay R. Smith Mfg. Co. 9. B. Josam Company. 10. C. Precision Plumbing Products. 11. G. Precision Plumbing Products. 12. d. Sioux Chief Manufacturing Company, Inc. 13. G. Watts: a Watts Water Technologies company. 14. C. Jum Industries, LLC. 15. Z. Standard: ASSE 1010 or PDI-WH 201. 16. 3. Type: Copper tube with piston. 17. 4. Size: ASSE 1010, Sizes AA and A through F, or PDI-WH 201, Sizes A through F. 18. 2.10 WATER METERS 19. A. Compound-Type Water Meters - furnished by local utility 10. Description: 10. Description: 11. Description: 12. Body Design: With integral mainline and bypass meters; totalization meter. 18. C. Body Design: With integral mainline and bypass meters; totalization meter. 19. C. Body Design: With integral mainline and bypass meters; totalization meter. 20. B. Pressure Rating: 150-psig working pressure. 21. Body Design: With integral mainline and bypass meters; totalization meter. 22. B. Pressure Rating: 150-psig working pressure. 23. B. Remote Registration System: Direct-reading type complying with AWWA C706; modifies signal-transmitting assembly, low-voltage connecting wiring, and remote register assemi required by utility company. 24. PART 3 - EXECUTION 25. B. Backflow preventers in each water supply to mechanical equipment and systems in the following locations, and as required by authorities having jurisdiction. 14. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 18. Backflow prevention installation: 19. Locate backflow preventers with atmospheric-vent drain connection with a fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two diameters in drain piping around backflow preventers air-gap fevice attached to or backflow preventers. 20. Install drain for backflow preven		A. B. C. D. E.	Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Provide backflow prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Backflow Preventers. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application. 3. Do not install bypass piping around backflow preventers. Install balancing valves in locations where they can easily be adjusted. Install temperature-actuated, water mixing valves with check stops or shutoff valves on inlets and with shutoff valve on outlet. 1. Install cabinet-type units recessed in or surface mounted on wall as specified. Install outlet boxes recessed in wall or surface mounted on wall. Install 2-by-4-inch fire-retardant-treated-wood blocking, wall reinforcement between studs. Comply with requirements for fire-retardant-treated-wood blocking in Section 061000 "Rough Carpentry." Install water-hammer arresters in water piping according to PDI-WH 201, manufacturer
4. Operation: Loose key. 5. Outlett garden-hose thread complying with ASME B1.20.7. 6. Operating Keys(s): One with each wall hydrant. 6. Operating Keys(s): One with each wall hydrant. 6. Operating Keys(s): One with each wall hydrant. 6. Operating Keys(s): One with each wall hydrant. 6. Operating Keys(s): One with each wall hydrant. 6. Operating Keys(s): One with each wall hydrant. 7. Manufacturers: Subject to compliance with requirements, provide product by one following: 8. Jay R. Smith Mfg. Co. 9. Losam Company. 9. C. Precision Plumbing Products. 9. C. Precision Plumbing Products. 9. C. Precision Plumbing Products. 9. C. Precision Plumbing Products. 9. C. J. Standard: ASSE 1010 or PDI-WH 201. 9. Type: Copper tube with piston. 9. Type: Copper		A. B. C. D.	Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Provide backflow prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Backflow Preventers. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application. 3. Do not install bypass piping around backflow preventers. Install balancing valves in locations where they can easily be adjusted. Install temperature-actuated, water mixing valves with check stops or shutoff valves on inlets and with shutoff valve on outlet. 1. Install cabinet-type units recessed in or surface mounted on wall as specified. Install outlet boxes recessed in wall or surface mounted on wall. Install 2-by-4-inch fire-retardant-treated-wood blocking, wall reinforcement between studs. Comply with requirements for fire-retardant-treated-wood blocking in Section 061000 "Rough Carpentry."
4. Operation: Loose key. 5. Outlet: garden-hose thread complying with ASME B1.20.7. 6. Operating Keys(s): One with each wall hydrant. 6. Operating Keys(s): One with each wall hydrant. 7. Outlet: garden-hose thread complying with ASME B1.20.7. 8. Water-Hammer Arresters: 8. Mater-Hammer Arresters: 9. Manufacturers: Subject to compliance with requirements, provide product by one following: 9. a. Jay R. Smith Mfg. Co. 9. b. Josam Company. 9. c. Precision Plumbing Products. 9. d. Sioux Chief Manufacturing Company, Inc. 9. d. Sioux Chief Manufacturing Company, Inc. 9. d. Sioux Chief Manufacturing Company, Inc. 9. d. Sioux Chief Manufacturing Company, Inc. 9. d. Standard: ASSE 1010 or PDI-WH 201. 9. Type: Copper tube with piston. 9. Size: ASSE 1010, Sizes AA and A through F, or PDI-WH 201, Sizes A through F. 9. A. Compound-Type Water Meters - furnished by local utility 9. Description: 9. a. Standard: AWWA C702. 9. Pressure Rating: 150-psig working pressure. 9. c. Body Design: With integral mainline and bypass meters; totalization meter. 9. d. Case: Bronze. 9. Pipe Connections: Planged. 9. Remote Registration System: Direct-reading type complying with AWWA C706; modifies signal-transmitting assembly, low-voltage connecting wiring, and remote register asseming required by utility company. PART 3 - EXECUTION 9. PART 3 - EXECUTION 10. Install backflow preventers in each water supply to mechanical equipment and systems other equipment and water systems that may be sources of contamination. Provide be prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ico-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Barvewnters. 3. De not install drain for backflow preventers with atmospheric-vent drain connection with a fifting, fixed air-gap fitting, or equivalent positive pipe separation of at least two diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to		A. B. C. D.	Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Provide backflow prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Backflow Preventers. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application. 3. Do not install bypass piping around backflow preventers. Install balancing valves in locations where they can easily be adjusted. Install temperature-actuated, water mixing valves with check stops or shutoff valves on inlets and with shutoff valve on outlet. 1. Install cabinet-type units recessed in or surface mounted on wall as specified. Install outlet boxes recessed in wall or surface mounted on wall. Install 2-by-4-inch fire-retardant-treated-wood blocking, wall reinforcement between studs. Comply with requirements for fire-
4. Operating Keys(s): One with each wall hydrant. 2.9 WATER-HAMMER ARRESTERS A. Water-Hammer Arresters: 1. Manufacturers: Subject to compliance with requirements, provide product by one following: a. Jay R. Smith Mfg. Co. b. Josam Company. c. Precision Plumbing Products. d. Sioux Chief Manufacturing Company, Inc. e. Watts; a Watts Water Technologies company. f. Zum Industries, LLC. 2. Standard: ASSE 1010 or PDI-WH 201. 3. Type: Copper tube with piston. 4. Size: ASSE 1010, Sizes AA and A through F, or PDI-WH 201, Sizes A through F. 2.10 WATER METERS A. Compound-Type Water Meters - furnished by local utility 1. Description: a. Standard: AWWA C702. b. Pressure Rating: 150-psig working pressure. c. Body Design: With integral mainline and bypass meters; totalization meter. d. Case: Stronze. e. Pipe Connections: Flanged. B. Remote Registration System: Direct-reading type complying with AWWA C706; modifies signal-transmitting assembly, low-voltage connecting wiring, and remote register assemi required by utility company. PART 3 - EXECUTION 3.1 INSTALLATION A. Install backflow preventers in each water supply to mechanical equipment and systems is other equipment and water systems that may be sources of contamination. Provide be prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Barteventers. B. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with a fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least with sharp and preventers. B. Backflow preventers in locations where they can easily be adjusted. D. Install balancing valves in locations where they can easily be adjusted. D. Install balancing valves in locations where they can easily be adjusted. E		A. B. C. D.	Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Provide backflow prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Backflow Preventers. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application. 3. Do not install bypass piping around backflow preventers. Install balancing valves in locations where they can easily be adjusted. Install temperature-actuated, water mixing valves with check stops or shutoff valves on inlets and with shutoff valve on outlet. 1. Install cabinet-type units recessed in or surface mounted on wall as specified. Install outlet boxes recessed in wall or surface mounted on wall. Install 2-by-4-inch fire-retardant-
4. Operating Keys(s): One with each wall hydrant. 6. Operating Keys(s): One with each wall hydrant. 7. Water-Hammer Arresters: 1. Manufacturers: Subject to compliance with requirements, provide product by one following: a. Jay R. Smith Mfg. Co. b. Josam Company. c. Precision Plumbing Products. d. Sioux Chief Manufacturing Company, Inc. e. Water, a Watts Water Technologies company. f. Zurn Industries, LLC. 2. Standard: ASSE 1010 or PDI-WH 201. 3. Type: Copper tube with piston. 4. Size: ASSE 1010, Sizes AA and A through F, or PDI-WH 201, Sizes A through F. 7. WATER METERS 7. Compound-Type Water Meters - furnished by local utility 7. Description: 8. Standard: AWWA C702. 8. Pressure Rating: 150-psig working pressure. 9. Body Design: With integral mainline and bypass meters; totalization meter. 9. Case: Bronze. 9. Pipe Connections: Flanged. 9. Remote Registration System: Direct-reading type complying with AWWA C706; modifies signal-transmitting assembly, low-voltage connecting wiring, and remote register assemine required by utility company. PART 3 - EXECUTION 7. Install backflow preventers in each water supply to mechanical equipment and systems other equipment and water systems that may be sources of contamination. Provide be prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Barteventers. 3. Backflow prevention installation: 4. Locate backflow preventers in same room as connected equipment or system. 5. Install drain for backflow preventers with atmospheric-vent drain connection with a fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least twe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or backflow preventers. Simple air breaks are unacceptable for this application. 5. Install temperature-actuated, water mixing valves with check stops or shuto		A. B. C. D.	Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Provide backflow prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Backflow Preventers. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application. 3. Do not install bypass piping around backflow preventers. Install balancing valves in locations where they can easily be adjusted. Install temperature-actuated, water mixing valves with check stops or shutoff valves on inlets and with shutoff valve on outlet. 1. Install cabinet-type units recessed in or surface mounted on wall as specified.
4. Operation: Loose key. 5. Outlet: garden-hose thread complying with ASME B1.20.7. 6. Operating Keys(s): One with each wall hydrant. 2.9 WATER-HAMMER ARRESTERS A. Water-Hammer Arresters: 1. Manufacturers: Subject to compliance with requirements, provide product by one following: a. Jay R. Smith Mfg. Co. b. Josam Company. c. Precision Plumbing Products. d. Sioux Chief Manufacturing Company, Inc. e. Watts; a Watts Water Technologies company. f. Zum Industries, LLC. 2. Standard: ASSE 1010 or PDI-WH 201. 3. Type: Copper tube with piston. 4. Size: ASSE 1010, Sizes AA and A through F, or PDI-WH 201, Sizes A through F. 2.10 WATER METERS A. Compound-Type Water Meters - furnished by local utility 1. Description: a. Standard: AWWA C702. b. Pressure Rating: 150-psig working pressure. c. Body Design: With integral mainline and bypass meters; totalization meter. d. Case: Bronze. e. Pipe Connections: Flanged. B. Remote Registration System: Direct-reading type complying with AWWA C706; modifies signal-transmitting assembly, low-voltage connecting wiring, and remote register assemi required by utility company. PART 3 - EXECUTION 3.1 INSTALLATION A. Install backflow preventers in each water supply to mechanical equipment and systems is other equipment and water systems that may be sources of contamination. Provide ba prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Loe-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Ba Preventers. B. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with a fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or backflow preventers. Simple air breaks are unacceptable for this application.		A. B. C. D.	 Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Provide backflow prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Backflow Preventers. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application. 3. Do not install bypass piping around backflow preventers. Install balancing valves in locations where they can easily be adjusted. Install temperature-actuated, water mixing valves with check stops or shutoff valves on inlets and with shutoff valve on outlet.
4. Operation: Loose key. 5. Outlet: garden-hose thread complying with ASME B1.20.7. 6. Operating Keys(s): One with each wall hydrant. 2.9 WATER-HAMMER ARRESTERS A. Water-Hammer Arresters: 1. Manufacturers: Subject to compliance with requirements, provide product by one following: a. Jay R. Smith Mfg. Co. b. Josam Company: c. Precision Plumbing Products. d. Sloux Chief Manufacturing Company, Inc. e. Watts; a Watts Water Technologies company. f. Zurn Industries, LLC. 2. Standard: ASSE 1010 or PDI-WH 201. 3. Type: Copper tube with piston. 4. Size: ASSE 1010, Sizes AA and A through F, or PDI-WH 201, Sizes A through F. 2.10 WATER METERS A. Compound-Type Water Meters - furnished by local utility 1. Description: a. Standard: AWWA C702. b. Pressure Rating: 150-psig working pressure. c. Body Design: With integral mainline and bypass meters; totalization meter. d. Case: Bronze. e. Pipe Connections: Flanged. B. Remote Registration System: Direct-reading type complying with AWWA C706; modifies signal-transmitting assembly, low-voltage connecting wiring, and remote register assemi required by utility company. PART 3 - EXECUTION 3.1 INSTALLATION A. Install backflow preventers in each water supply to mechanical equipment and systems in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Ba Prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. B. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with a fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or backflow preve		A. B. C. D.	Install backflow preventers in each water supply to mechanical equipment and systems and to other equipment and water systems that may be sources of contamination. Provide backflow prevention in the following locations, and as required by authorities having jurisdiction. 1. Hydronic system fill location: Reduced-Pressure-Principle Backflow Preventers. 2. Ice-makers, coffee machines, refrigerators: Beverage-Dispensing-Equipment Backflow Preventers. Backflow prevention installation: 1. Locate backflow preventers in same room as connected equipment or system. 2. Install drain for backflow preventers with atmospheric-vent drain connection with air-gap fitting, fixed air-gap fitting, or equivalent positive pipe separation of at least two pipe diameters in drain piping and pipe-to-floor drain. Locate air-gap device attached to or under backflow preventer. Simple air breaks are unacceptable for this application. 3. Do not install bypass piping around backflow preventers. Install balancing valves in locations where they can easily be adjusted. Install temperature-actuated, water mixing valves with check stops or shutoff valves on inlets and
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4. Operation: Loose key.			
5. Type: Non-ineeze, draining.			
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on or near each of the following:

A.

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Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplate or sign

1 2 3 4 5 6 7 8 9		 Reduced-pressure-principle backflow preventers. Calibrated balancing valves. Primary, thermostatic, water mixing valves. Primary water tempering valves. Outlet boxes. Distinguish among multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations, in addition to identifying unit. Nameplates and signs are specified in Section 220553 "Identification for Plumbing Piping and Equipment." 	
10	3.3	ELD QUALITY CONTROL	
11		A. Perform the following tests and inspections:	
12 13		 Test each reduced-pressure-principle backflow preventer according to authorities having jurisdiction and the device's reference standard. 	
14		B. Domestic water piping specialties will be considered defective if they do not pass tests and	
15		inspections.	
16		C. Prepare test and inspection reports.	
17	3.4	ADJUSTING	
18		A. Set field-adjustable flow set points of balancing valves.	
19		B. Set field-adjustable temperature set points of temperature-actuated, water mixing valves.	

20 END OF SECTION



4/7/2017

E1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E1 B9 1



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Cu. In. Phase I True

Page 1 of 3 Zone: **E1**



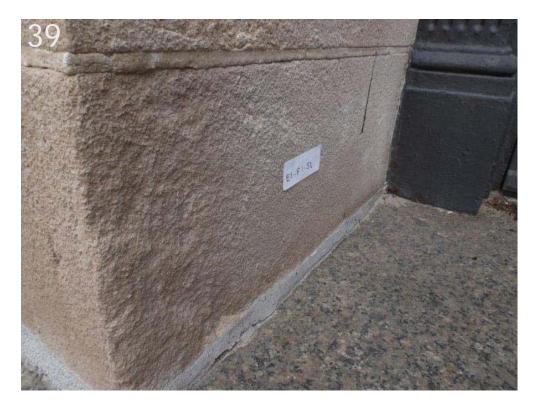
4/7/2017

E1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E1 F1 5L



Description of Work:

8. CONSOLIDATION REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.13; INSTALL CONSOLIDATION MATERIAL AS SPECIFIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. ESTIMATES FOR SCOPE OF THIS TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

Quantity: 2 Sq. Ft. Phase I True

Page 2 of 3 Zone: **E1**



4/7/2017

E1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E1 F2 4L



Description of Work:

8. CONSOLIDATION REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.13; INSTALL CONSOLIDATION MATERIAL AS SPECIFIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. ESTIMATES FOR SCOPE OF THIS TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

Quantity: 2 Sq. Ft. Phase I True

Page 3 of 3 Zone: **E1**



4/7/2017

Zone: E2A

Stone Number-Refer to Exhibit F
Building Elevations

E2 B5 4



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 1 of 10 Zone: **E2A**



4/7/2017

Zone: E2A

Stone Number-Refer to Exhibit F Building Elevations

E2 B6 4L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2;
REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING
THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE
VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE
MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 96 Cu. In. Phase I True

Page 2 of 10 Zone: **E2A**

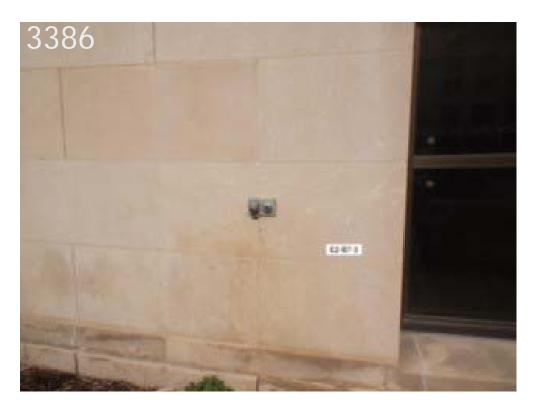


4/7/2017

Zone: E2A

Stone Number-Refer to Exhibit F Building Elevations

E2 B7 3



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Cu. In. Phase I True

Page 3 of 10 Zone: **E2A**



4/7/2017

Zone: E2A

Stone Number-Refer to Exhibit F Building Elevations

E2 B9 3L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 120 Cu. In. Phase I True

Page 4 of 10 Zone: **E2A**



4/7/2017

Zone: E2A

Stone Number-Refer to Exhibit F Building Elevations

E2 P3 4



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

Page 5 of 10 Zone: **E2A**



4/7/2017

Zone: E2A

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Cu. In. Phase I True

Page 6 of 10 Zone: **E2A**



4/7/2017

Zone: E2A

Stone Number-Refer to Exhibit F Building Elevations

E2 P3 6



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

Page 7 of 10 Zone: **E2A**



4/7/2017

Zone: E2A

Stone Number-Refer to Exhibit F Building Elevations

E2 P4 6



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 144 Cu. In. Phase I True

Page 8 of 10 Zone: **E2A**



4/7/2017

Zone: E2A

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 9 of 10 Zone: **E2A**



4/7/2017

Zone: E2A

Stone Number-Refer to Exhibit F Building Elevations

E2 S1 4S



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 24 Ln. In. Phase I True

Page 10 of 10 Zone: **E2A**



3/21/2017

Zone: E2B

Stone Number-Refer to Exhibit F Building Elevations

E2 P4 7



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

Page 1 of 3 Zone: **E2B**



3/21/2017

Zone: E2B

Stone Number-Refer to Exhibit F Building Elevations

E2 S1 10SL



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 24 Ln. In. Phase I True

Page 2 of 3 Zone: **E2B**



3/21/2017

Zone: E2B

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 24 Ln. In. Phase I True

Page 3 of 3 Zone: **E2B**



3/21/2017

Zone: E2C

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 5 Ln. In. Phase I True

Page 1 of 6 Zone: **E2C**



3/21/2017

Zone: E2C

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

12. ROUT, LIME INJECTION, SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2 AND 3.8; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 12 Sq. In. Phase I True

Page 2 of 6 Zone: **E2C**



3/21/2017

Zone: E2C

Stone Number-Refer to Exhibit F Building Elevations

E2 P5 43



Description of Work:

13. MASONRY ADHESIVE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.9; REMOVE STONE FRAGMENTS AND RESERVE FOR ADHESION, APPLY ADHESIVE AND REINSTALL FRAGMENTS USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF MASONRY ADHESIVE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Sq. In. Phase I True

Page 3 of 6 Zone: **E2C**



3/21/2017

Zone: E2C

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 4 of 6 Zone: **E2C**



3/21/2017

Zone: E2C

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

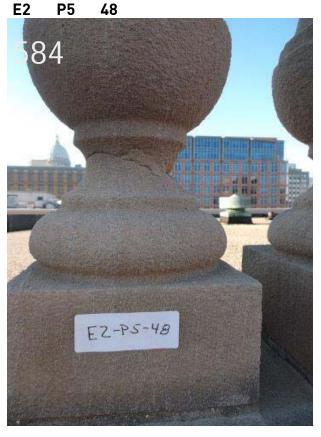
Page 5 of 6 Zone: **E2C**



3/21/2017

Zone: E2C

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 6 of 6 Zone: **E2C**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 B5 5S



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 16 Ln. In. Phase I True

Page 1 of 20 Zone: **E3**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 B6 3L



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 216 Cu. In. Phase I True

Page 2 of 20 Zone: E3



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 B6 5R



Description of Work:

12. ROUT, LIME INJECTION, SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2 AND 3.8; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity:

6 Ln. In.

Phase I

True

12

Page 3 of 20 Zone: E3



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 B9 5R



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 15 Cu. In. Phase I True

Page 4 of 20 Zone: **E3**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 F13 3SL



Description of Work:

12. ROUT, LIME INJECTION, SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2 AND 3.8; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity:

72 Ln. ln.

Phase I True

72 Ln. In.

12

Page 5 of 20 Zone: **E3**



3/21/2017

Zone: E3

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 475 Cu. In. Phase I True

Page 6 of 20 Zone: **E3**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 F8 4L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 15 Cu. In. Phase I True

Page 7 of 20 Zone: **E3**



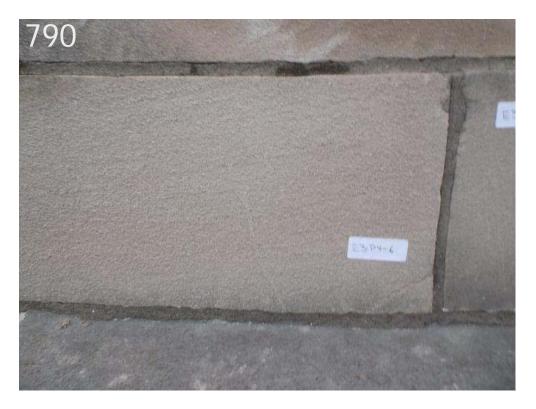
3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F
Building Elevations

E3 P4 6



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 5 Ln. In. Phase I True

Page 8 of 20 Zone: **E3**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 S10 3



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 14 Ln. In. Phase I True

Page 9 of 20 Zone: **E3**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 S10 4



Description of Work:

5. SACRED STONE - THIS IS A STONE THAT HAS SPECIAL INSTRUTIONS OR MULTIPLE PRESERVATION TECHNIQUES. ESTIMATES FOR SCOPE OF EACH TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

The stone arch at window S-23 will require some measure of deconstruction and temporary support. Final scope will require inspection in the field by Architect. Assume for the purposes of this bid all of the stones identified as sacred will require replace

Phase I	True
	Phase I

Page 1 of 9 Zone: **E3**



3/21/2017

Zone: E3

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

4. MORTAR PATCH - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.12; THIS IS A PASSIVE REPAIR, NO EXCESSIVE PATCHING OF STONE IS REQUIRED. CAREFULLY REMOVE ANY DETERIORATED STONE AND ADJACENT STONE THAT HAS BEEN DAMAGED. PLACE WITH NEW MORTAR, AS PART OF THE REQUIRED 100% REPOINTING WORK AT ALL MASONRY AREAS. THIS WORK SHOULD BE INCLUDED IN THE OVERALL COST FOR REPOINTING - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: Phase I True

Page 11 of 20 Zone: **E3**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 S12 4



Description of Work:

5. SACRED STONE - THIS IS A STONE THAT HAS SPECIAL INSTRUTIONS OR MULTIPLE PRESERVATION TECHNIQUES. ESTIMATES FOR SCOPE OF EACH TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

The stone arch at window S-23 will require some measure of deconstruction and temporary support. Final scope will require inspection in the field by Architect. Assume for the purposes of this bid all of the stones identified as sacred will require replace

Phase I	True
	Phase I

Page 2 of 9 Zone: **E3**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 S12 4H



Description of Work:

5. SACRED STONE - THIS IS A STONE THAT HAS SPECIAL INSTRUTIONS OR MULTIPLE PRESERVATION TECHNIQUES. ESTIMATES FOR SCOPE OF EACH TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

The stone arch at window S-23 will require some measure of deconstruction and temporary support. Final scope will require inspection in the field by Architect. Assume for the purposes of this bid all of the stones identified as sacred will require replace

Phase I	True
	Phase I

Page 3 of 9 Zone: **E3**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 S12 5H



Description of Work:

5. SACRED STONE - THIS IS A STONE THAT HAS SPECIAL INSTRUTIONS OR MULTIPLE PRESERVATION TECHNIQUES. ESTIMATES FOR SCOPE OF EACH TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

The stone arch at window S-23 will require some measure of deconstruction and temporary support. Final scope will require inspection in the field by Architect. Assume for the purposes of this bid all of the stones identified as sacred will require replace

Quantity:	Phase I	True
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Page 4 of 9 Zone: **E3**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 S12 6H



Description of Work:

5. SACRED STONE - THIS IS A STONE THAT HAS SPECIAL INSTRUTIONS OR MULTIPLE PRESERVATION TECHNIQUES. ESTIMATES FOR SCOPE OF EACH TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

The stone arch at window S-23 will require some measure of deconstruction and temporary support. Final scope will require inspection in the field by Architect. Assume for the purposes of this bid all of the stones identified as sacred will require replace

Quantity:	Phase I	True
•		

Page 5 of 9 Zone: **E3**



3/21/2017

E3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

E3 T4 4R



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Cu. In. Phase I True

Page 20 of 20 **Zone: E3**



3/21/2017

E4

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N3 P6 1E



Description of Work:

13. MASONRY ADHESIVE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.9; REMOVE STONE FRAGMENTS AND RESERVE FOR ADHESION, APPLY ADHESIVE AND REINSTALL FRAGMENTS USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF MASONRY ADHESIVE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Sq. In. Phase I True

Page 1 of 1 Zone: **E4**



4/7/2017

N1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N1 B2 4



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 768 Cu. In. Phase I True

Page 1 of 16 Zone: N1



4/7/2017

N1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N1 B2 6



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 384 Cu. In. Phase I True

Page 2 of 16 Zone: N1



4/7/2017

Zone: N1

Stone Number-Refer to Exhibit F Building Elevations

N1 B3 6



Description of Work:

15. REDRESS IN-SITU - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.10; CAREFULLY REMOVE LOOSE STONE FRAGMENTS FROM FACE OF STONE AND FINISH FACE OF STONE TO MATCH EXISTING TEXTURE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AREA OF REDRESS IN-SITU NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Sq. Ft. Phase I True

Page 3 of 16 Zone: N1



4/7/2017

Zone: N1

Stone Number-Refer to Exhibit F Building Elevations

N1 B3 9



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 4 of 16 Zone: N1



4/7/2017

Zone: N1

Stone Number-Refer to Exhibit F Building Elevations

N1 B4 5



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity:

8 Ln. In.

4 Ln. ln.

Phase I

True

Page 5 of 16 Zone: N1



4/7/2017

N1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N1 B5 5S



Description of Work:

6. ADHESIVE WITH HELICAL ANCHOR AND SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTIONS 3.9 AND 3.2; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 6 of 16 Zone: N1



4/7/2017

N1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N1 B5 8S



Description of Work:

6. ADHESIVE WITH HELICAL ANCHOR AND SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTIONS 3.9 AND 3.2; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 7 of 16 Zone: N1



4/7/2017

N1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N1 B6 3L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 12 Cu. In. Phase I True

Page 8 of 16 Zone: N1



4/7/2017

Zone: N1

Stone Number-Refer to Exhibit F Building Elevations

N1 B6 4



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

Page 9 of 16 Zone: N1



4/7/2017

Zone: N1

Stone Number-Refer to Exhibit F Building Elevations

N1 B6 4R



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 100 Cu. In. Phase I True

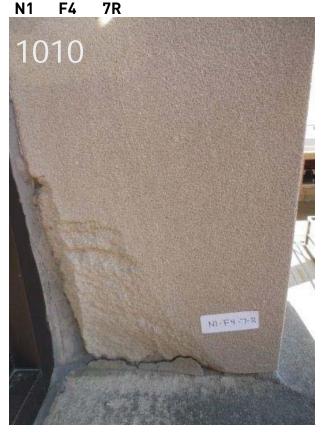
Page 10 of 16 Zone: N1



4/7/2017

Zone: N1

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 120 Cu. In. Phase I True

Page 11 of 16 Zone: N1



4/7/2017

N1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N1 P3 1



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 18 Cu. In. Phase I True

Page 12 of 16 Zone: N1



4/7/2017

Zone: N1

Stone Number-Refer to Exhibit F Building Elevations

N1 P3 2



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 10 Cu. In. Phase I True

Page 13 of 16 Zone: N1



4/7/2017

N1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N1 P4 4



Description of Work:

7. REMOVE, REVERSE, REDRESS, RESET - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.5; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 14 of 16 Zone: N1



4/7/2017

N1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N1 P4 5



Description of Work:

7. REMOVE, REVERSE, REDRESS, RESET - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.5; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 15 of 16 Zone: N1



4/7/2017

N1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N1 S1 5L



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 16 Cu. In. Phase I True

Page 16 of 16 Zone: N1



4/7/2017

N3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N3 B9 9



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 1 of 12 Zone: **N3**



4/7/2017

Zone: **N3**

Stone Number-Refer to Exhibit F **Building Elevations**





Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Phase I Quantity: True 144 Sq. In

> Page 2 of 12 Zone: **N**3



4/7/2017

N3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N3 F10 7R



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 60 Cu. In. Phase I True

Page 3 of 12 Zone: N3



4/7/2017

Zone: N3

Stone Number-Refer to Exhibit F Building Elevations

N3 F11 6H



Description of Work:

15. REDRESS IN-SITU - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.10; CAREFULLY REMOVE LOOSE STONE FRAGMENTS FROM FACE OF STONE AND FINISH FACE OF STONE TO MATCH EXISTING TEXTURE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AREA OF REDRESS IN-SITU NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 72 Sq. In. Phase I True

Page 4 of 12 Zone: **N3**



4/7/2017

Zone: N3

Stone Number-Refer to Exhibit F Building Elevations

N3 F13 5



Description of Work:

5. SACRED STONE - THIS IS A STONE THAT HAS SPECIAL INSTRUTIONS OR MULTIPLE PRESERVATION TECHNIQUES. ESTIMATES FOR SCOPE OF EACH TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

Quantity: 1 Each Phase I True

Page 5 of 12 Zone: **N3**



4/7/2017

Zone: N3

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 48 Sq. In. Phase I True

Page 6 of 12 **Zone: N3**



4/7/2017

Zone: N3

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 240 Sq. In. Phase I True

Page 7 of 12 **Zone: N3**



4/7/2017

N3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N3 F9 6L



Description of Work:

15. REDRESS IN-SITU - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.10; CAREFULLY REMOVE LOOSE STONE FRAGMENTS FROM FACE OF STONE AND FINISH FACE OF STONE TO MATCH EXISTING TEXTURE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AREA OF REDRESS IN-SITU NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 144 Sq. In. Phase I True

Page 8 of 12 Zone: **N3**



4/7/2017

Zone: N3

Stone Number-Refer to Exhibit F Building Elevations

N3 P5 10



Description of Work:

13. MASONRY ADHESIVE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.9; REMOVE STONE FRAGMENTS AND RESERVE FOR ADHESION, APPLY ADHESIVE AND REINSTALL FRAGMENTS USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF MASONRY ADHESIVE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Sq. In. Phase I True

Page 9 of 12 Zone: **N3**



4/7/2017

Zone: N3

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

Page 10 of 12 **Zone: N3**



4/7/2017

N3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

N3 S12 5H



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 108 Cu. In. Phase I True

Page 11 of 12 **Zone: N3**



4/7/2017

Zone: N3

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Ln. In. Phase I True

Page 12 of 12 **Zone: N3**



4/7/2017

S1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

S1 B10 7



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 15 Cu. In. Phase I True

Page 1 of 6 Zone: S1



4/7/2017

Zone: S1

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

Page 2 of 6 Zone: S1



4/7/2017

Zone: S1

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

Page 3 of 6 Zone: S1



4/7/2017

S1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

S1 P3 2



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 25 Cu. In. Phase I True

Page 4 of 6 Zone: S1



4/7/2017

Zone: S1

Stone Number-Refer to Exhibit F Building Elevations

S1 P3 5



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 12 Cu. In. Phase I True

Page 5 of 6 Zone: S1



4/7/2017

S1

Zone:

Stone Number-Refer to Exhibit F Building Elevations

S1 P5 8



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 10 Ln. In. Phase I True

Page 6 of 6 Zone: S1



3/21/2017

Zone: S2A

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 20 Cu. In. Phase I True

Page 1 of 10 Zone: **S2A**



3/21/2017

Zone: S2A

Stone Number-Refer to Exhibit F Building Elevations

S2 F8 7R



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

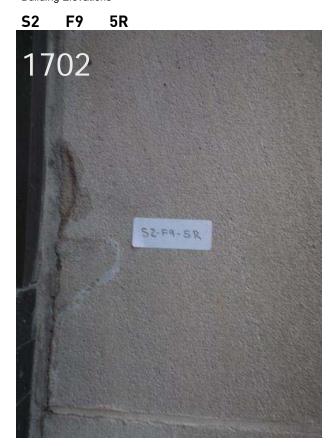
Page 2 of 10 Zone: **S2A**



3/21/2017

Zone: S2A

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

Page 3 of 10 Zone: **S2A**



3/21/2017

Zone: S2A

Stone Number-Refer to Exhibit F Building Elevations

S2 P3 1RT



Description of Work:

13. MASONRY ADHESIVE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.9; REMOVE STONE FRAGMENTS AND RESERVE FOR ADHESION, APPLY ADHESIVE AND REINSTALL FRAGMENTS USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF MASONRY ADHESIVE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Sq. In. Phase I True

Page 4 of 10 Zone: **S2A**



3/21/2017

Zone: S2A

Stone Number-Refer to Exhibit F Building Elevations

S2 P4 5



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Ln. In. Phase I True

Page 5 of 10 Zone: **S2A**



3/21/2017

Zone: S2A

Stone Number-Refer to Exhibit F Building Elevations

S2 P4 7



Description of Work:

15. REDRESS IN-SITU - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.10; CAREFULLY REMOVE LOOSE STONE FRAGMENTS FROM FACE OF STONE AND FINISH FACE OF STONE TO MATCH EXISTING TEXTURE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AREA OF REDRESS IN-SITU NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 12 Sq. Ft. Phase I True

Page 6 of 10 Zone: **S2A**



3/21/2017

Zone: S2A

Stone Number-Refer to Exhibit F Building Elevations

S2 P5 13



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 7 of 10 Zone: **S2A**



3/21/2017

Zone: S2A

Stone Number-Refer to Exhibit F Building Elevations

S2 P5 18



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 8 of 10 Zone: **S2A**



3/21/2017

Zone: S2A

Stone Number-Refer to Exhibit F Building Elevations

S2 P5 2



Description of Work:

6. ADHESIVE WITH HELICAL ANCHOR AND SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTIONS 3.9 AND 3.2; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 9 of 10 Zone: S2A



3/21/2017

Zone: S2A

Stone Number-Refer to Exhibit F Building Elevations

S2 S1 5S



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 5 Cu. In. Phase I True

Page 10 of 10 **Zone: S2A**



3/21/2017

Zone: S2B

Stone Number-Refer to Exhibit F Building Elevations

S2 B10 13H



Description of Work:

15. REDRESS IN-SITU - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.10; CAREFULLY REMOVE LOOSE STONE FRAGMENTS FROM FACE OF STONE AND FINISH FACE OF STONE TO MATCH EXISTING TEXTURE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AREA OF REDRESS IN-SITU NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 48 Sq. Ft. Phase I True

Page 1 of 10 Zone: **S2B**



3/21/2017

Zone: S2B

Stone Number-Refer to Exhibit F Building Elevations

S2 F7 13L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

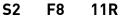
Page 2 of 10 Zone: S2B



3/21/2017

Zone: S2B

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 16 Cu. In. Phase I True

Page 3 of 10 Zone: S2B



3/21/2017

Zone: S2B

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

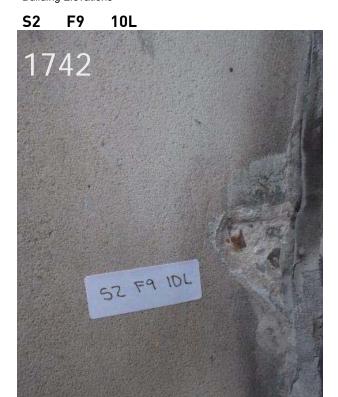
Page 4 of 10 Zone: S2B



3/21/2017

Zone: S2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

16. FASTENER REMOVAL AND SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTIONS 3.3 AND 3.2; REMOVE EXISTING FERROUS AND NON-FERROUS ANCHOR USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; INSTALL ENGINEERED STONE PATCH AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. CLEAN ALL FERROUS STAINING USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE NUMBER OF FASTENER AND SSP REPAIRS NEEDED FOR THIS WORK ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 5 of 10 Zone: S2B



3/21/2017

Zone: S2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

16. FASTENER REMOVAL AND SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTIONS 3.3 AND 3.2; REMOVE EXISTING FERROUS AND NON-FERROUS ANCHOR USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; INSTALL ENGINEERED STONE PATCH AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. CLEAN ALL FERROUS STAINING USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE NUMBER OF FASTENER AND SSP REPAIRS NEEDED FOR THIS WORK ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 6 of 10 Zone: S2B



3/21/2017

Zone: S2B

Stone Number-Refer to Exhibit F Building Elevations

S2 P3 10



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 20 Ln. In. Phase I True

Page 7 of 10 Zone: S2B



3/21/2017

Zone: S2B

Stone Number-Refer to Exhibit F Building Elevations

S2 P5 28



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 8 of 10 Zone: **S2B**



3/21/2017

Zone: S2B

Stone Number-Refer to Exhibit F Building Elevations

S2 P5 44L



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Ln. In. Phase I True

Page 9 of 10 Zone: **S2B**



3/21/2017

Stone Number-Refer to Exhibit F
Building Elevations
Zone: S2B

S2 P5 49



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 10 of 10 **Zone: S2B**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 B11 18.2T



Description of Work:

5. SACRED STONE - THIS IS A STONE THAT HAS SPECIAL INSTRUTIONS OR MULTIPLE PRESERVATION TECHNIQUES. ESTIMATES FOR SCOPE OF EACH TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

Remove all coatings from granite tread stone and prepare stone for review of options to improve foot traffic traction. The foot traffic traction work will be by separate contract.

Quantity:	1	Each	Phase I	True
		Lacii		

Page 7 of 9 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 B11 18.4T



Description of Work:

5. SACRED STONE - THIS IS A STONE THAT HAS SPECIAL INSTRUTIONS OR MULTIPLE PRESERVATION TECHNIQUES. ESTIMATES FOR SCOPE OF EACH TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

Remove all coatings from granite tread stone and prepare stone for review of options to improve foot traffic traction. The foot traffic traction work will be by separate contract.

Quantity:	1	Each	Phase I	True
		Lacii		

Page 8 of 9 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 B11 18.6T



Description of Work:

5. SACRED STONE - THIS IS A STONE THAT HAS SPECIAL INSTRUTIONS OR MULTIPLE PRESERVATION TECHNIQUES. ESTIMATES FOR SCOPE OF EACH TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

Remove all coatings from granite tread stone and prepare stone for review of options to improve foot traffic traction. The foot traffic traction work will be by separate contract.

Quantity:	1	Each	Phase I	True
		Lacii		

Page 9 of 9 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 F1 19L



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 4 of 18 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 F1 20R



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 5 of 18 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 F1 22L



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 6 of 18 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 F1 23R



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 8 of 18 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 9 of 18 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 F1 26



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 10 of 18 **Zone: S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 F2 20L



Description of Work:

8. CONSOLIDATION REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.13; INSTALL CONSOLIDATION MATERIAL AS SPECIFIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. ESTIMATES FOR SCOPE OF THIS TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

Quantity: 2 Sq. Ft. Phase I True

Page 11 of 18 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 F2 21R



Description of Work:

8. CONSOLIDATION REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.13; INSTALL CONSOLIDATION MATERIAL AS SPECIFIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. ESTIMATES FOR SCOPE OF THIS TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

Quantity: 2 Sq. Ft. Phase I True

Page 12 of 18 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 F2 23L



Description of Work:

8. CONSOLIDATION REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.13; INSTALL CONSOLIDATION MATERIAL AS SPECIFIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. ESTIMATES FOR SCOPE OF THIS TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

Quantity: 3 Sq. Ft. Phase I True

Page 13 of 18 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 P3 22



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

Page 14 of 18 Zone: **S2C**



3/21/2017

Stone Number-Refer to Exhibit F
Building Elevations
Zone: S2C

S2 P4 19



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Ln. In. Phase I True

Page 15 of 18 **Zone: S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 P5 56



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

Page 16 of 18 Zone: **S2C**



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 P5 73



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 17 of 18 Zone: S2C



3/21/2017

Zone: S2C

Stone Number-Refer to Exhibit F Building Elevations

S2 P6 18



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 64 Cu. In. Phase I True

Page 18 of 18 Zone: S2C



3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 B6 21L



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Ln. In. Phase I True

Page 1 of 19 Zone: S2D

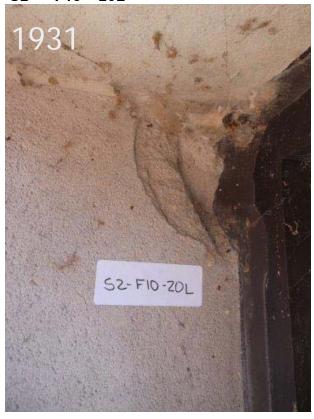


3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 F10 20L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 25 Cu. In. Phase I True

Page 2 of 19 Zone: S2D



3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 F10 22L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

Page 3 of 19 Zone: S2D



3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 F10 23R



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

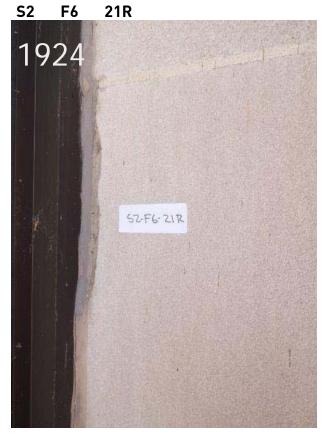
Page 4 of 19 Zone: S2D



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Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 10 Cu. In. Phase I True

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Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

Page 6 of 19 Zone: S2D



3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 F7 27L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

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3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 F9 27L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

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Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

Page 9 of 19 Zone: S2D



3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 P3 28



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

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Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 P3 29



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

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Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 P3 34



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 32 Cu. In. Phase I True

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3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 P4 28



Description of Work:

18. REMOVE, REDRESS, RESET - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.5; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 13 of 19 Zone: S2D



3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

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3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 P4 33



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

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Stone Number-Refer to Exhibit F

Madison Municipal Building - Renovation Exhibit G

3/21/2017

Building Elevations Zone: S2D



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

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3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 P5 93



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

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3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 P5 94



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 18 of 19 Zone: S2D



3/21/2017

Zone: S2D

Stone Number-Refer to Exhibit F Building Elevations

S2 P5 95



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 19 of 19 Zone: S2D



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Zone: S2E

Stone Number-Refer to Exhibit F **Building Elevations**





Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Phase I Quantity: True 24 Cu. In.

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3/21/2017

Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations

S2 B6 28



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2;
REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING
THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE
VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE
MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

Page 2 of 13 Zone: **S2E**



3/21/2017

Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

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3/21/2017

Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations

S2 B7 19



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Ln. In. Phase I True

Page 4 of 13 Zone: **S2E**



3/21/2017

Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations

S2 B7 19L



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 10 Ln. In. Phase I True

Page 5 of 13 Zone: **S2E**



3/21/2017

Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Cu. In. Phase I True

Page 6 of 13 Zone: **S2E**

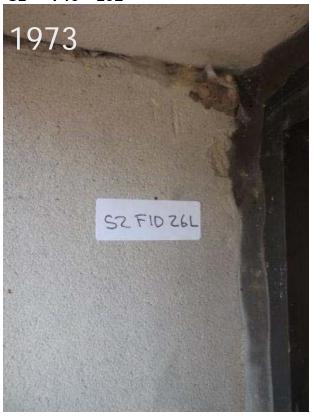


3/21/2017

Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations

S2 F10 26L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

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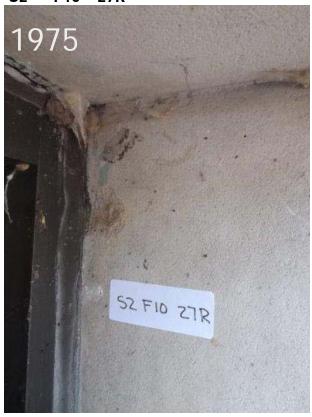


3/21/2017

Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations

S2 F10 27R



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

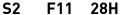
Page 8 of 13 Zone: **S2E**



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Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

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Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations

S2 P3 37



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

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3/21/2017

Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations

S2 P3 41



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 36 Ln. In. Phase I True

Page 11 of 13 Zone: **S2E**



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Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations

S2 P4 37



Description of Work:

18. REMOVE, REDRESS, RESET - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.5; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 12 of 13 Zone: **S2E**



3/21/2017

Zone: S2E

Stone Number-Refer to Exhibit F Building Elevations

S2 P4 41



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

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3/21/2017

S3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

S3 F3 4S



Description of Work:

12. ROUT, LIME INJECTION, SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2 AND 3.8; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 9 Ln. In. Phase I True

Page 1 of 2 Zone: S3



3/21/2017

Zone:

S3

Stone Number-Refer to Exhibit F Building Elevations

S3 T2 3L



Description of Work:

6. ADHESIVE WITH HELICAL ANCHOR AND SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTIONS 3.9 AND 3.2; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 2 of 2 Zone: **S3**



3/21/2017

W1

Zone:

Stone Number-Refer to Exhibit F
Building Elevations

W1 B1 3R



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 10 Ln. In. Phase I True

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3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations

W1 B2 4R



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 2 of 15 Zone: W1



3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 3 of 15 Zone: W1



3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations

W1 B4 2



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 4 of 15 Zone: W1



3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 5 of 15 Zone: W1



3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations

W1 B6 1



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

Page 6 of 15 Zone: W1



3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

15. REDRESS IN-SITU - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.10; CAREFULLY REMOVE LOOSE STONE FRAGMENTS FROM FACE OF STONE AND FINISH FACE OF STONE TO MATCH EXISTING TEXTURE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AREA OF REDRESS IN-SITU NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 64 Sq. In. Phase I True

Page 7 of 15 Zone: W1



3/21/2017

Zone:

Stone Number-Refer to Exhibit F Building Elevations

W1 B7 2



Description of Work:

14. STONE PLUG - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.4; CORE-DRILL REPLACEMENT STONE AND ADHERE REPAIR PIECE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE NUMBER OF STONE PLUGS NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

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3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

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3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations

W1 B8 3



Description of Work:

1. REPLACE STONE - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.6: REMOVE STONE THAT HAS DETERIORATED, IS DAMAGED BEYOND REPAIR AND IS SCHEDULED FOR REPLACEMENT. CAREFULLY DEMOLISH OR REMOVE ENTIRE UNITS FROM BED JOINT TO BED JOINT AND FROM HEAD JOINT TO HEAD JOINT, WITHOUT DAMAGING SURROUNDING STONE, IN A MANNER THAT PERMITS REPLACEMENT WITH FULL SIZE UNITS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Each Phase I True

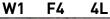
Page 10 of 15 Zone: W1



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Zone: W1

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

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3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations

W1 P3 3



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 8 Cu. In. Phase I True

Page 12 of 15 Zone: W1

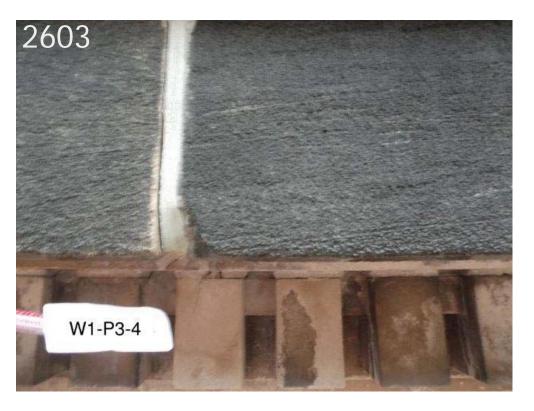


3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations

W1 P3 4



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

Page 13 of 15 Zone: W1



3/21/2017

Zone: W1

Stone Number-Refer to Exhibit F Building Elevations

W1 P5 1



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Ln. In. Phase I True

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3/21/2017

Zone:

Stone Number-Refer to Exhibit F Building Elevations

W1 P6 6



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Cu. In. Phase I True

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3/21/2017

Zone: W2A

Stone Number-Refer to Exhibit F Building Elevations

W2 P4 5



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

Page 1 of 6 Zone: W2A



3/21/2017

Zone: W2A

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 10



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 2 of 6 Zone: W2A



3/21/2017

Zone: W2A

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 4



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 3 of 6 Zone: W2A



3/21/2017

Zone: W2A

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 5



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 4 of 6 Zone: W2A



3/21/2017

Zone: W2A

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 6



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 5 of 6 Zone: W2A

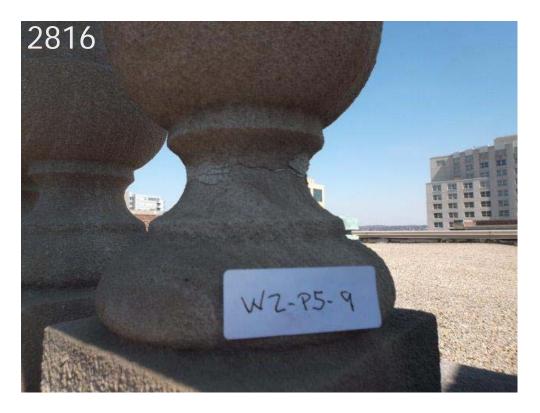


3/21/2017

Zone: W2A

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 9



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 6 of 6 Zone: W2A



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Cu. In. Phase I True

Page 1 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 F10 14R



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

Page 2 of 32 Zone: W2B

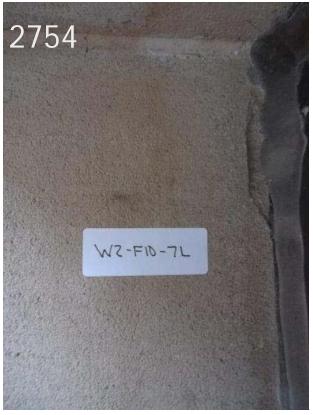


3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F **Building Elevations**





Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Phase I Quantity: True 3 Cu. In.

> Page 3 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 F3 6S



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 5 Cu. In. Phase I True

Page 4 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

Page 5 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 F4 13L



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

Page 6 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 F4 8R



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 10 Cu. In. Phase I True

Page 7 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

Page 8 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

Page 9 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

Page 10 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

Page 11 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Cu. In. Phase I True

Page 12 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

Page 13 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

Page 14 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

Page 15 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Ln. In. Phase I True

Page 16 of 32 Zone: W2B



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Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

15. REDRESS IN-SITU - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.10; CAREFULLY REMOVE LOOSE STONE FRAGMENTS FROM FACE OF STONE AND FINISH FACE OF STONE TO MATCH EXISTING TEXTURE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AREA OF REDRESS IN-SITU NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Sq. Ft. Phase I True

Page 17 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P4 7



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 80 Cu. In. Phase I True

Page 18 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P4 7



Description of Work:

15. REDRESS IN-SITU - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.10; CAREFULLY REMOVE LOOSE STONE FRAGMENTS FROM FACE OF STONE AND FINISH FACE OF STONE TO MATCH EXISTING TEXTURE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AREA OF REDRESS IN-SITU NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 24 Sq. In. Phase I True

Page 19 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 14



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 20 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 15



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 21 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 16



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 22 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 17



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 23 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 18



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 24 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 19



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 25 of 32 Zone: W2B

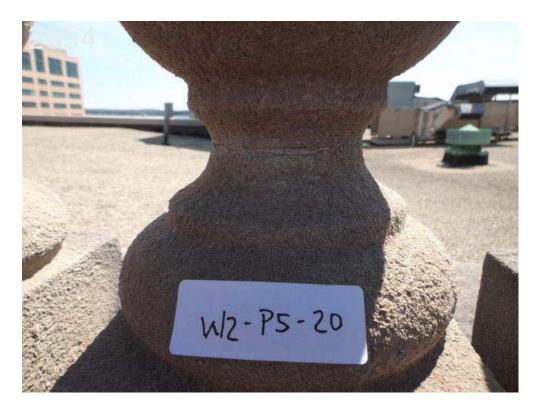


3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 20



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

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3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 21



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

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3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 22



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 28 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 23



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 64 Cu. In. Phase I True

Page 29 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 26



Description of Work:

19. BALUSTER REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.11; IT IS THE INTENT OF THIS PROJECT TO PRESERVE ALL BALUSTERS FOR REINSTALLATION. THE WORK INCLUDES THE BINDING AND CAREFUL REMOVAL OF THE BALUSTERS FOR SHOP-EXECUTED PRESERVATION PROCEDURES. THIS NOTE APPLIES TO ALL BALUSTERS

Quantity: 1 Each Phase I True

Page 30 of 32 Zone: W2B

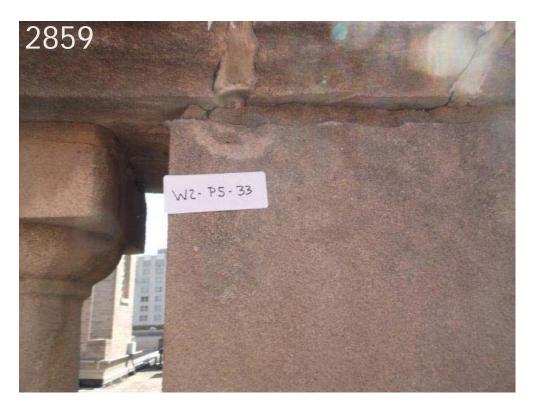


3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P5 33



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 32 Cu. In. Phase I True

Page 31 of 32 Zone: W2B



3/21/2017

Zone: W2B

Stone Number-Refer to Exhibit F Building Elevations

W2 P6 10



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1728 Cu. In. Phase I True

Page 32 of 32 Zone: W2B



3/21/2017

Zone: W2C

Stone Number-Refer to Exhibit F Building Elevations

W2 P3 15



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1 Cu. In. Phase I True

Page 1 of 4 Zone: W2C



3/21/2017

Zone: W2C

Stone Number-Refer to Exhibit F Building Elevations

W2 P3 19



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 5 Ln. In. Phase I True

Page 2 of 4 Zone: W2C



3/21/2017

Zone: W2C

Stone Number-Refer to Exhibit F Building Elevations

W2 P4 13



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 4 Ln. In. Phase I True

Page 3 of 4 Zone: W2C



3/21/2017

Zone: W2C

Stone Number-Refer to Exhibit F Building Elevations

W2 P4 17



Description of Work:

15. REDRESS IN-SITU - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.10; CAREFULLY REMOVE LOOSE STONE FRAGMENTS FROM FACE OF STONE AND FINISH FACE OF STONE TO MATCH EXISTING TEXTURE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AREA OF REDRESS IN-SITU NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 16 Sq. Ft. Phase I True

Page 4 of 4 Zone: W2C



3/21/2017

W3

Zone:

Stone Number-Refer to Exhibit F Building Elevations

W3 F1 4L



Description of Work:

16. FASTENER REMOVAL AND SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTIONS 3.3 AND 3.2; REMOVE EXISTING FERROUS AND NON-FERROUS ANCHOR USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; INSTALL ENGINEERED STONE PATCH AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. CLEAN ALL FERROUS STAINING USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE NUMBER OF FASTENER AND SSP REPAIRS NEEDED FOR THIS WORK ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Each Phase I True

Page 1 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 F1 5



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 650 Cu. In. Phase I True

Page 2 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

8. CONSOLIDATION REPAIR - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.13; INSTALL CONSOLIDATION MATERIAL AS SPECIFIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. ESTIMATES FOR SCOPE OF THIS TREATMENT ARE INCLUDED IN THE NOTES. NO WORK IS TO COMMENCE ON A SACRED STONE WITHOUT FIRST RECEIVING APPROVAL FOR THE FINAL SCOPE FROM THE ARCHITECT

Quantity: 1 Sq. Ft. Phase I True

Page 3 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

15. REDRESS IN-SITU - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.10; CAREFULLY REMOVE LOOSE STONE FRAGMENTS FROM FACE OF STONE AND FINISH FACE OF STONE TO MATCH EXISTING TEXTURE USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AREA OF REDRESS IN-SITU NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 12 Sq. Ft. Phase I True

Page 4 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 F2 5R



Description of Work:

12. ROUT, LIME INJECTION, SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2 AND 3.8; THIS IS A MULTIPLE TECHNIQUE SCOPE ITEM. FOR ALL SCOPES/TECHNIQUES USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 15 Ln. In. Phase I True

Page 5 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations





Description of Work:

16. FASTENER REMOVAL AND SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTIONS 3.3 AND 3.2; REMOVE EXISTING FERROUS AND NON-FERROUS ANCHOR USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; INSTALL ENGINEERED STONE PATCH AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. CLEAN ALL FERROUS STAINING USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE NUMBER OF FASTENER AND SSP REPAIRS NEEDED FOR THIS WORK ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Each Phase I True

Page 6 of 17 Zone: W.



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 P3 2



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 200 Cu. In. Phase I True

Page 7 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 P3 3



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 40 Cu. In. Phase I True

Page 8 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 P3 4



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 2 Cu. In. Phase I True

Page 9 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 P3 6



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 40 Cu. In. Phase I True

Page 10 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 P3 7



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

Page 11 of 17 Zone: W3

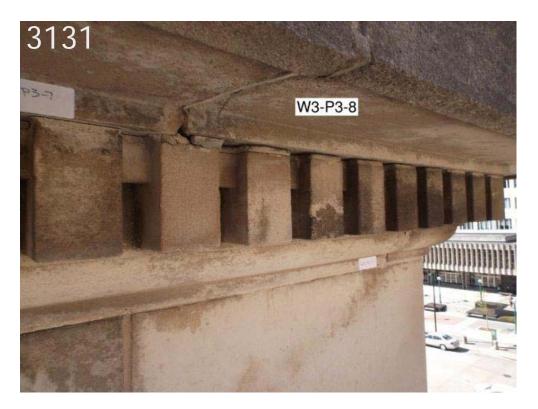


3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 P3 8



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 5 Ln. In. Phase I True

Page 12 of 17 Zone: W.



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 P4 2



Description of Work:

2. CRACK INJECTION AND STAIN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.8: DRILL INJECTION HOLES AS DIRECTED BY THE MANUFACTURER, INJECT DISPERSED HYDRATED LIME, USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; STAIN AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE AMOUNT OF CRACK INJECTION NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - ALTERNATIVE METHODS MAY BE PROPOSED TO REDUCE IMPACT ON EXISTING MATERIAL. FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Ln. In. Phase I True

Page 13 of 17 Zone: W.



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 P4 4



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

Page 14 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 P4 4



Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 32 Cu. In. Phase I True

Page 15 of 17 Zone: W3



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 3 Cu. In. Phase I True

Page 16 of 17 **Zone: W**.



3/21/2017

Zone: W3

Stone Number-Refer to Exhibit F Building Elevations

W3 S12 4H



Description of Work:

3. SUBSTITUTE STONE PATCH (SSP) - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.2; REPAIR SPALLS AND OTHER ANOMALIES IN STONE USING CEMENTITIOUS PATCHING MATERIAL USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF MATERIAL REMOVED AND NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 40 Cu. In. Phase I True

Page 17 of 17 **Zone: W3**



3/21/2017

W4

Zone:

Stone Number-Refer to Exhibit F
Building Elevations

W4 P3 15



Description of Work:

16. FASTENER REMOVAL AND SSP - REFER TO SPECIFICATION SECTION 04 01 40, SECTIONS 3.3 AND 3.2; REMOVE EXISTING FERROUS AND NON-FERROUS ANCHOR USING THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS; INSTALL ENGINEERED STONE PATCH AS REQUIRED USING TRAINED METHODS AND CERTIFIED WORKERS. CLEAN ALL FERROUS STAINING USING TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE NUMBER OF FASTENER AND SSP REPAIRS NEEDED FOR THIS WORK ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 6 Each Phase I True

Page 1 of 2 Zone: WA



3/21/2017

Zone: W4

Stone Number-Refer to Exhibit F Building Elevations

W4 P3 15S

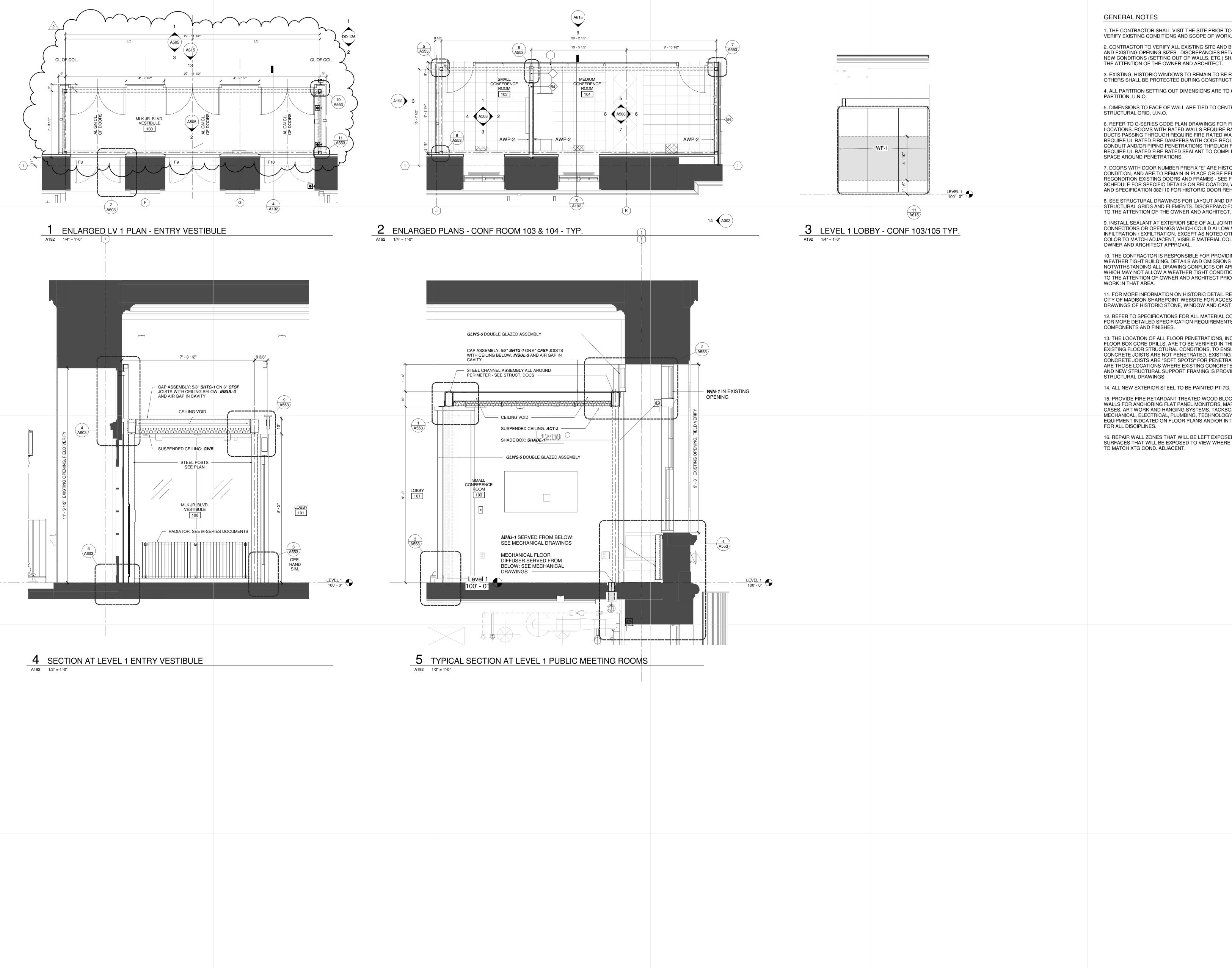


Description of Work:

9. DUTCHMAN - REFER TO SPECIFICATION SECTION 04 01 40, SECTION 3.7; REMOVE DAMAGED STONE TO A SPECIFIED DEPTH AND INSERT A NEW PIECE OF STONE TO FIT IN THE OPENING TO CREATE THE APPEARANCE OF A SEAMLESS PATCH, USE THE MATERIALS SPECIFIED, TRAINED METHODS AND CERTIFIED WORKERS. ESTIMATES FOR THE VOLUME OF EACH TECHNIQUE/SCOPE NEEDED FOR THIS REPAIR ARE PROVIDED BELOW - FINAL SCOPE MAY VARY DEPENDING ON CONDITIONS ENCOUNTERED IN THE FIELD

Quantity: 1600 Cu. In. Phase I True

Page 2 of 2 Zone: WZ



1. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID AND VERIFY EXISTING CONDITIONS AND SCOPE OF WORK.

AND EXISTING OPENING SIZES. DISCREPANCIES BETWEEN EXISTING AND

3. EXISTING, HISTORIC WINDOWS TO REMAIN TO BE REHABILITATED BY OTHERS SHALL BE PROTECTED DURING CONSTRUCTION.

4. ALL PARTITION SETTING OUT DIMENSIONS ARE TO CENTERLINE OF

5. DIMENSIONS TO FACE OF WALL ARE TIED TO CENTERLINE OF

6. REFER TO G-SERIES CODE PLAN DRAWINGS FOR FIRE RATED WALL LOCATIONS. ROOMS WITH RATED WALLS REQUIRE RATED DOORS AND ANY DUCTS PASSING THROUGH REQUIRE FIRE RATED WALLS OR FLOORS REQUIRE UL RATED FIRE DAMPERS WITH CODE REQUIRED RATING. ANY CONDUIT AND/OR PIPING PENETRATIONS THROUGH FIRE WALLS OR FLOORS REQUIRE UL RATED FIRE RATED SEALANT TO COMPLETELY SEAL ANNULAR

7. DOORS WITH DOOR NUMBER PREFIX "E" ARE HISTORIC, IN VERY GOOD CONDITION, AND ARE TO REMAIN IN PLACE OR BE RELOCATED. RECONDITION EXISTING DOORS AND FRAMES - SEE FLOOR PLANS AND SCHEDULE FOR SPECIFIC DETAILS ON RELOCATION, WHERE APPLICABLE, AND SPECIFICATION 082110 FOR HISTORIC DOOR REHABILITATION.

8. SEE STRUCTURAL DRAWINGS FOR LAYOUT AND DIMENSIONING OF STRUCTURAL GRIDS AND ELEMENTS. DISCREPANCIES SHALL BE BROUGHT

9. INSTALL SEALANT AT EXTERIOR SIDE OF ALL JOINTS, SEAMS, CONNECTIONS OR OPENINGS WHICH COULD ALLOW WATER OR AIR INFILTRATION / EXFILTRATION, EXCEPT AS NOTED OTHERWISE. SEALANT COLOR TO MATCH ADJACENT, VISIBLE MATERIAL COLOR AND REQUIRES OWNER AND ARCHITECT APPROVAL.

WEATHER TIGHT BUILDING. DETAILS AND OMISSIONS ON DRAWINGS, NOTWITHSTANDING ALL DRAWING CONFLICTS OR APPARENT CONFLICTS, WHICH MAY NOT ALLOW A WEATHER TIGHT CONDITION, SHALL BE BROUGHT TO THE ATTENTION OF OWNER AND ARCHITECT PRIOR TO COMMENCING

11. FOR MORE INFORMATION ON HISTORIC DETAIL REFERENCES, REFER TO CITY OF MADISON SHAREPOINT WEBSITE FOR ACCESS TO ORIGINAL SHOP

FOR MORE DETAILED SPECIFICATION REQUIREMENTS RELATED TO ALL

13. THE LOCATION OF ALL FLOOR PENETRATIONS, INCLUDING LOCATIONS OF FLOOR BOX CORE DRILLS, ARE TO BE VERIFIED IN THE FIELD BY XRAYING EXISTING FLOOR STRUCTURAL CONDITIONS, TO ENSURE EXISTING CONCRETE JOISTS ARE NOT PENETRATED. EXISTING CLAY TILES BETWEEN CONCRETE JOISTS ARE "SOFT SPOTS" FOR PENETRATIONS. EXCEPTIONS ARE THOSE LOCATIONS WHERE EXISTING CONCRETE RIBS NEED TO BE CUT AND NEW STRUCTURAL SUPPORT FRAMING IS PROVIDED, PER THE

14. ALL NEW EXTERIOR STEEL TO BE PAINTED PT-7G, U.N.O.

2. CONTRACTOR TO VERIFY ALL EXISTING SITE AND BUILDING CONDITIONS

NEW CONDITIONS (SETTING OUT OF WALLS, ETC.) SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ARCHITECT.

10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING A

DRAWINGS OF HISTORIC STONE, WINDOW AND CAST IRON PROFILES. 12. REFER TO SPECIFICATIONS FOR ALL MATERIAL CODES / CALLOUTS AND

15. PROVIDE FIRE RETARDANT TREATED WOOD BLOCKING AT ALL GYP WALLS FOR ANCHORING FLAT PANEL MONITORS, MARKERBOARDS, DISPLAY CASES, ART WORK AND HANGING SYSTEMS, TACKBOARD, AND ANY OTHER MECHANICAL, ELECTRICAL, PLUMBING, TECHNOLOGY AND AUDIO-VISUAL EQUIPMENT INDCATED ON FLOOR PLANS AND/OR INTERIOR ELEVATIONS

16. REPAIR WALL ZONES THAT WILL BE LEFT EXPOSED, AND FLOOR SURFACES THAT WILL BE EXPOSED TO VIEW WHERE XTG WALLS REMOVED TO MATCH XTG COND. ADJACENT.

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Architecture 612 375 0336 tel Interiors and 612 342 2216 fax Urban Design www.msrdesign.com

Civil Engineering and Landscape Architects Ken Saiki Design, Inc 303 South Paterson St Madison, WI 53703

608.251.3600 tel Structural Engineering, Technology, AV

1800 Deming Way, Suite 200 Middleton, WI 53713 608.223.9600 tel

MEP Engineers MEP Associates 860 Blue Gentian Road, Suite 175

651.379.9120 tel

Lighting Designer Gallina Design 30232 County 7 Chatfield, MN 55923

507.867.1628 tel Preservation Architect

Charles Quagliana, AIA 5641 Willoughby Rd Mazomanie, WI 53560

608.449.9589 tel Building Envelope Consultant

Insite Consulting Architects 115 E. Main Street, Suite 200 Madison, WI 53703 608.204.0825 tel

Fire & Code Sonsultant Summit Fire Consulting St. Paul, MN 55103

Acoustical Consultant

651.251.1879 tel

4826 Chicago Avenue South, Suite 206 612.374.3800 tel

Civil Engineers **VIERBICHER**

Blvd

BPW Project #7939 5 Martin Luther King, Jr. Madison, WI 53703

2

999 Fourier Drive, Suite 201

Renovation Madison Building F

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the Laws of the State of Wisconsin.

ARCHITECT SEAL



Print Names: Jack Poling

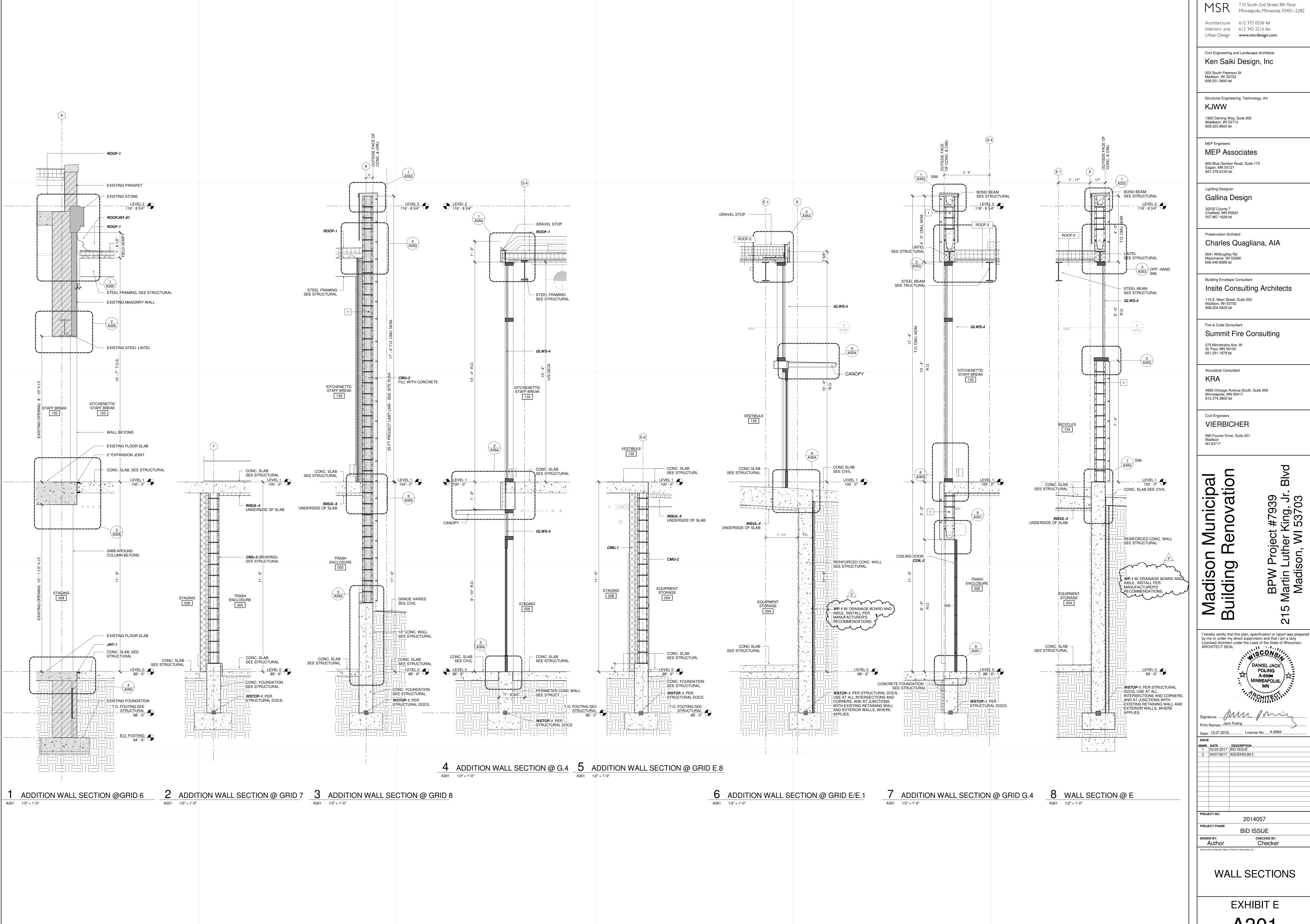
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2 04/07/2017 ADDENDUM 2

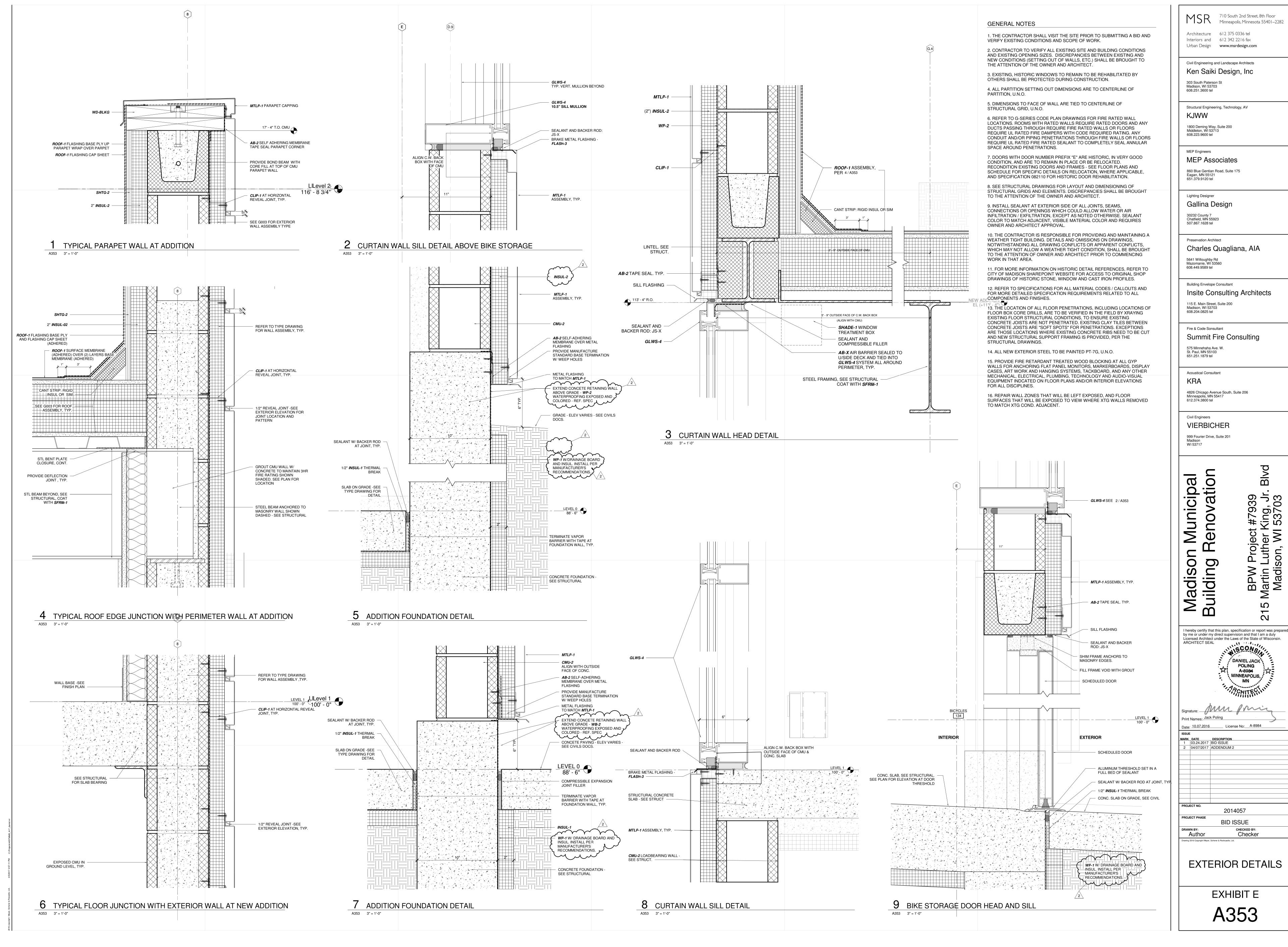
2014057 BID ISSUE

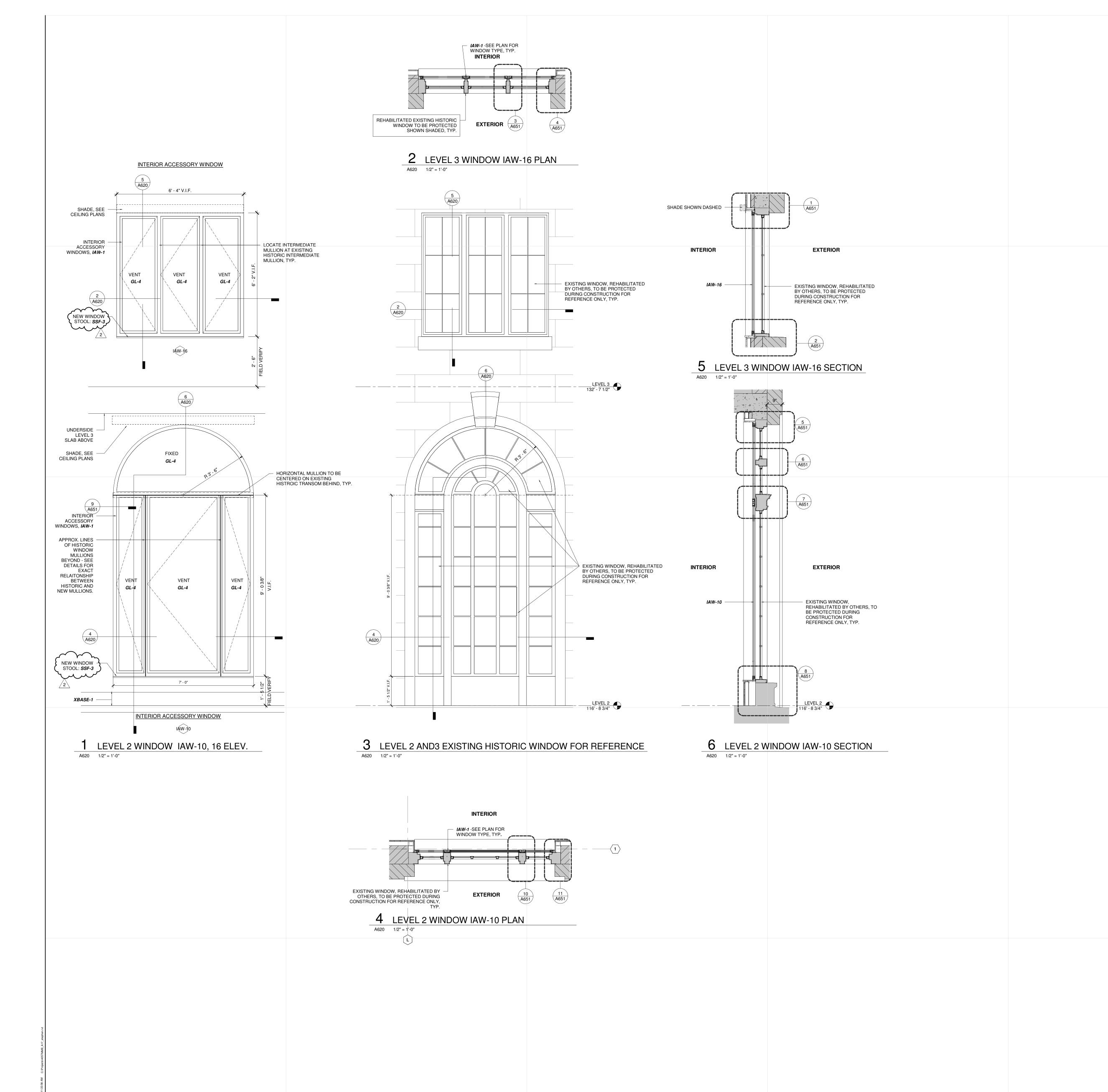
Author

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A301





GENERAL NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID AND VERIFY EXISTING CONDITIONS AND SCOPE OF WORK.

2. CONTRACTOR TO VERIFY ALL EXISTING SITE AND BUILDING CONDITIONS AND EXISTING OPENING SIZES. DISCREPANCIES BETWEEN EXISTING AND NEW CONDITIONS (SETTING OUT OF WALLS, ETC.) SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ARCHITECT.

3. EXISTING, HISTORIC WINDOWS TO REMAIN TO BE REHABILITATED BY OTHERS SHALL BE PROTECTED DURING CONSTRUCTION.

4. ALL PARTITION SETTING OUT DIMENSIONS ARE TO CENTERLINE OF PARTITION, U.N.O.

5. DIMENSIONS TO FACE OF WALL ARE TIED TO CENTERLINE OF STRUCTURAL GRID, U.N.O.

6. REFER TO G-SERIES CODE PLAN DRAWINGS FOR FIRE RATED WALL LOCATIONS. ROOMS WITH RATED WALLS REQUIRE RATED DOORS AND ANY DUCTS PASSING THROUGH REQUIRE FIRE RATED WALLS OR FLOORS REQUIRE UL RATED FIRE DAMPERS WITH CODE REQUIRED RATING. ANY CONDUIT AND/OR PIPING PENETRATIONS THROUGH FIRE WALLS OR FLOORS REQUIRE UL RATED FIRE RATED SEALANT TO COMPLETELY SEAL ANNULAR SPACE AROUND PENETRATIONS.

7. DOORS WITH DOOR NUMBER PREFIX "E" ARE HISTORIC, IN VERY GOOD CONDITION, AND ARE TO REMAIN IN PLACE OR BE RELOCATED. RECONDITION EXISTING DOORS AND FRAMES - SEE FLOOR PLANS AND SCHEDULE FOR SPECIFIC DETAILS ON RELOCATION, WHERE APPLICABLE, AND SPECIFICATION 082110 FOR HISTORIC DOOR REHABILITATION.

8. SEE STRUCTURAL DRAWINGS FOR LAYOUT AND DIMENSIONING OF STRUCTURAL GRIDS AND ELEMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ARCHITECT.

9. INSTALL SEALANT AT EXTERIOR SIDE OF ALL JOINTS, SEAMS, CONNECTIONS OR OPENINGS WHICH COULD ALLOW WATER OR AIR INFILTRATION / EXFILTRATION, EXCEPT AS NOTED OTHERWISE. SEALANT COLOR TO MATCH ADJACENT, VISIBLE MATERIAL COLOR AND REQUIRES OWNER AND ARCHITECT APPROVAL.

10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING A WEATHER TIGHT BUILDING. DETAILS AND OMISSIONS ON DRAWINGS, NOTWITHSTANDING ALL DRAWING CONFLICTS OR APPARENT CONFLICTS, WHICH MAY NOT ALLOW A WEATHER TIGHT CONDITION, SHALL BE BROUGHT TO THE ATTENTION OF OWNER AND ARCHITECT PRIOR TO COMMENCING WORK IN THAT AREA.

11. FOR MORE INFORMATION ON HISTORIC DETAIL REFERENCES, REFER TO CITY OF MADISON SHAREPOINT WEBSITE FOR ACCESS TO ORIGINAL SHOP DRAWINGS OF HISTORIC STONE, WINDOW AND CAST IRON PROFILES.

12. REFER TO SPECIFICATIONS FOR ALL MATERIAL CODES / CALLOUTS AND FOR MORE DETAILED SPECIFICATION REQUIREMENTS RELATED TO ALL COMPONENTS AND FINISHES.

13. THE LOCATION OF ALL FLOOR PENETRATIONS, INCLUDING LOCATIONS OF FLOOR BOX CORE DRILLS, ARE TO BE VERIFIED IN THE FIELD BY XRAYING EXISTING FLOOR STRUCTURAL CONDITIONS, TO ENSURE EXISTING CONCRETE JOISTS ARE NOT PENETRATED. EXISTING CLAY TILES BETWEEN CONCRETE JOISTS ARE "SOFT SPOTS" FOR PENETRATIONS. EXCEPTIONS ARE THOSE LOCATIONS WHERE EXISTING CONCRETE RIBS NEED TO BE CUT AND NEW STRUCTURAL SUPPORT FRAMING IS PROVIDED, PER THE STRUCTURAL DRAWINGS.

14. ALL NEW EXTERIOR STEEL TO BE PAINTED PT-7G, U.N.O.

15. PROVIDE FIRE RETARDANT TREATED WOOD BLOCKING AT ALL GYP WALLS FOR ANCHORING FLAT PANEL MONITORS, MARKERBOARDS, DISPLAY CASES, ART WORK AND HANGING SYSTEMS, TACKBOARD, AND ANY OTHER MECHANICAL, ELECTRICAL, PLUMBING, TECHNOLOGY AND AUDIO-VISUAL EQUIPMENT INDCATED ON FLOOR PLANS AND/OR INTERIOR ELEVATIONS FOR ALL DISCIPLINES.

16. REPAIR WALL ZONES THAT WILL BE LEFT EXPOSED, AND FLOOR SURFACES THAT WILL BE EXPOSED TO VIEW WHERE XTG WALLS REMOVED TO MATCH XTG COND. ADJACENT.

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Renovation Municipal Madisor Building

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BPW Project #7939 5 Martin Luther King, Jr. Madison, WI 53703

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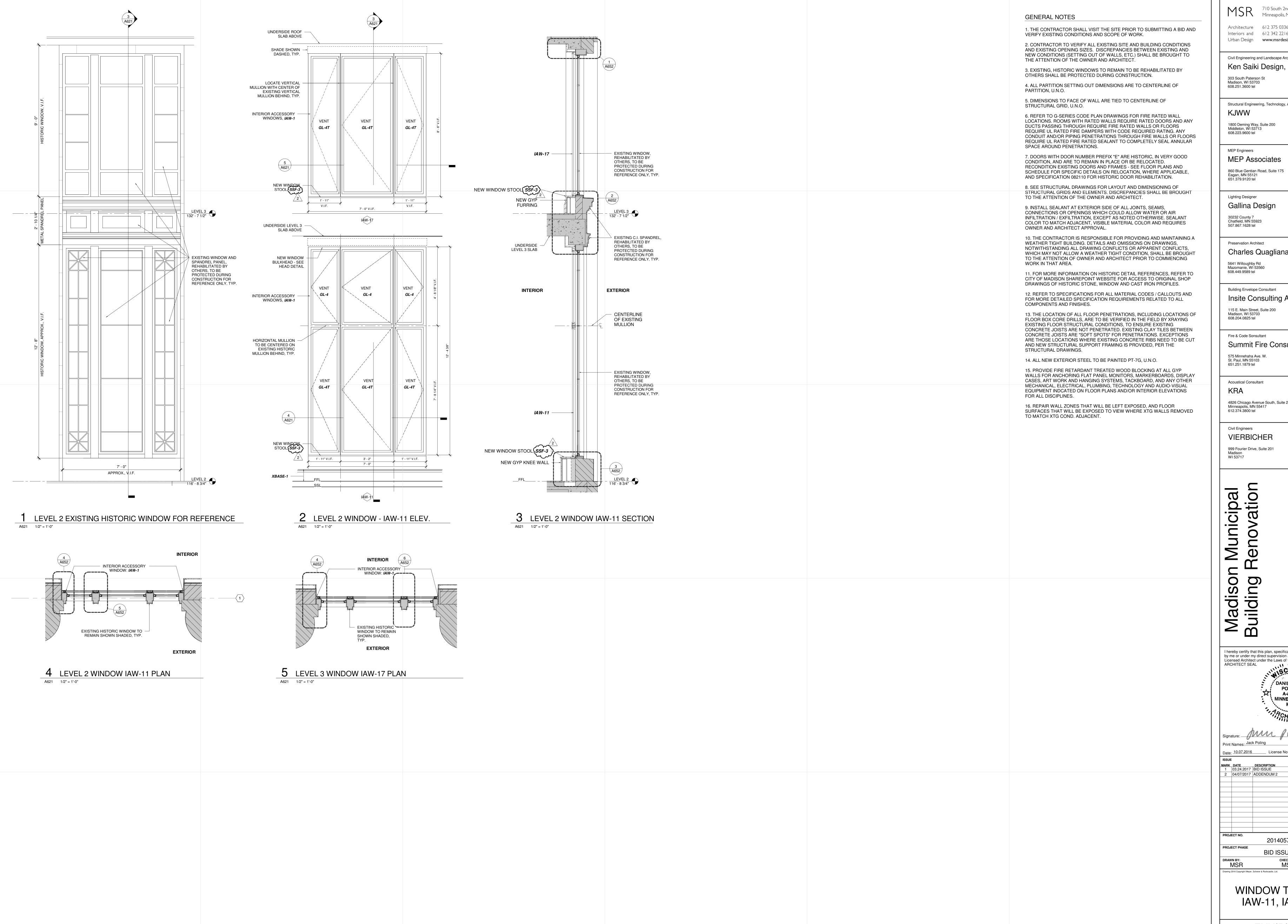
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2 04/07/2017 ADDENDUM 2

2014057

BID ISSUE ES/SK/SF

WINDOW TYPES -IAW-10, IAW-16



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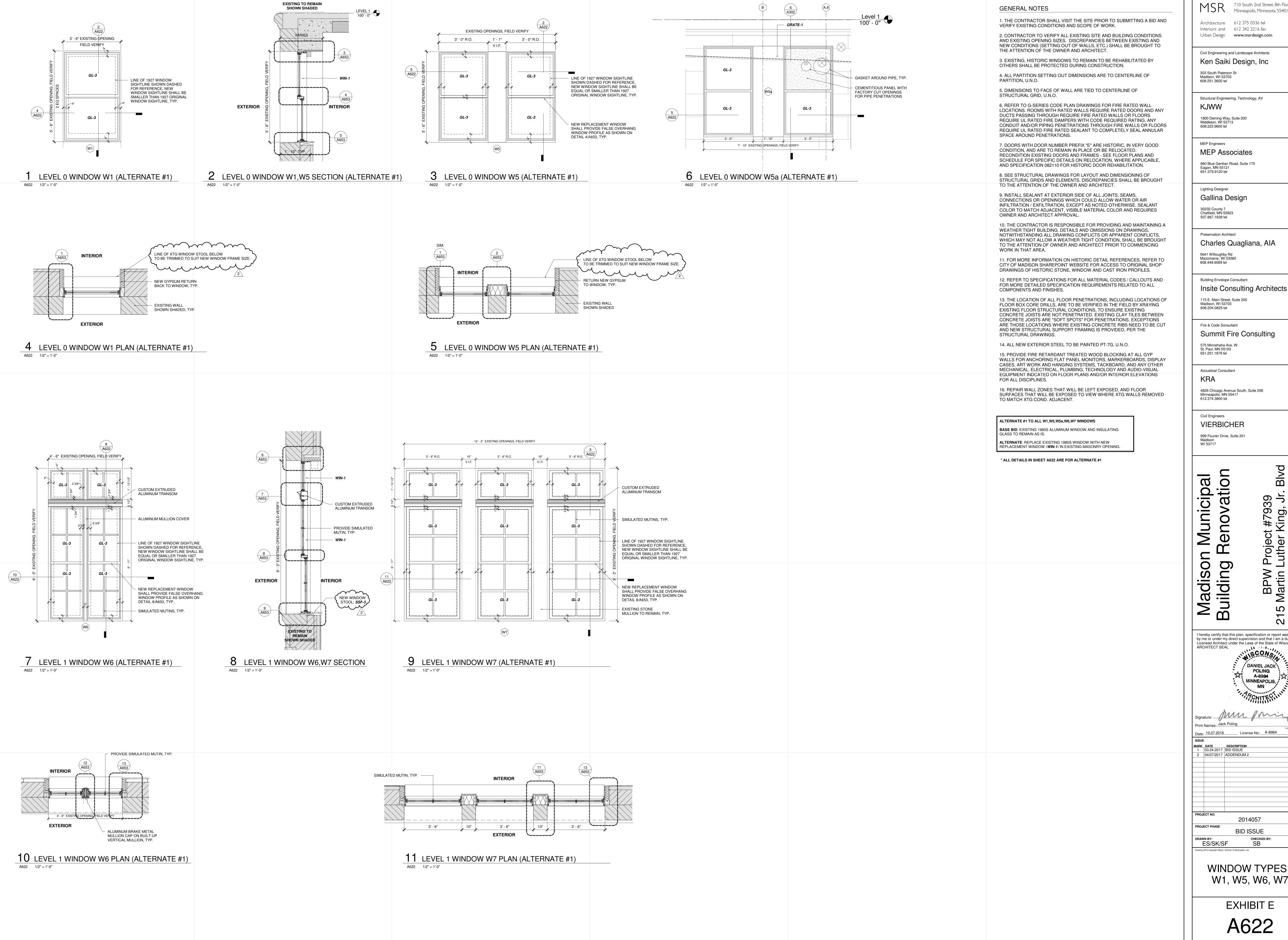
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> WINDOW TYPES -IAW-11, IAW-17



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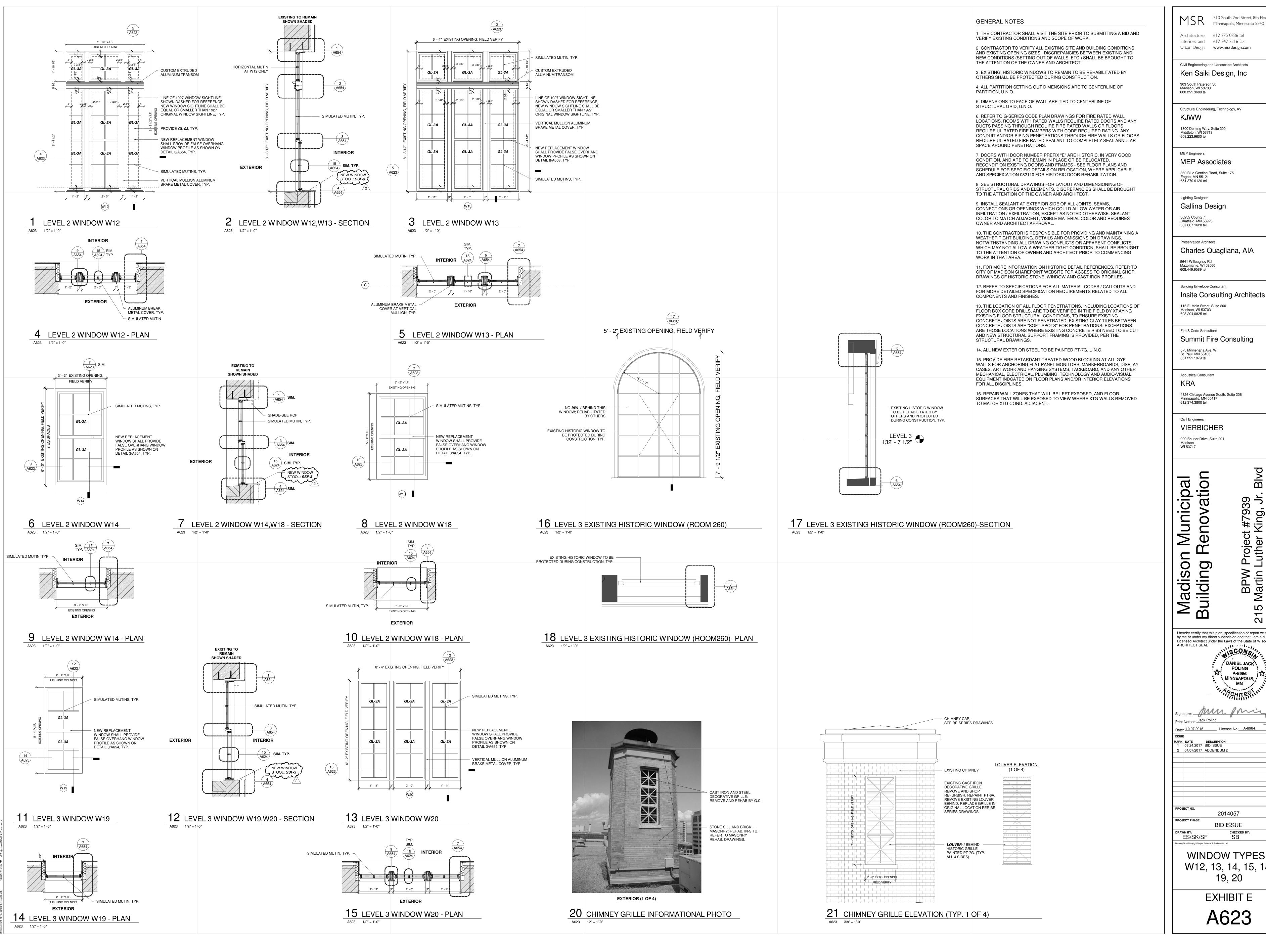


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1 03.24.2017 BID ISSUE 2 04/07/2017 ADDENDUM 2

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WINDOW TYPES -W1, W5, W6, W7



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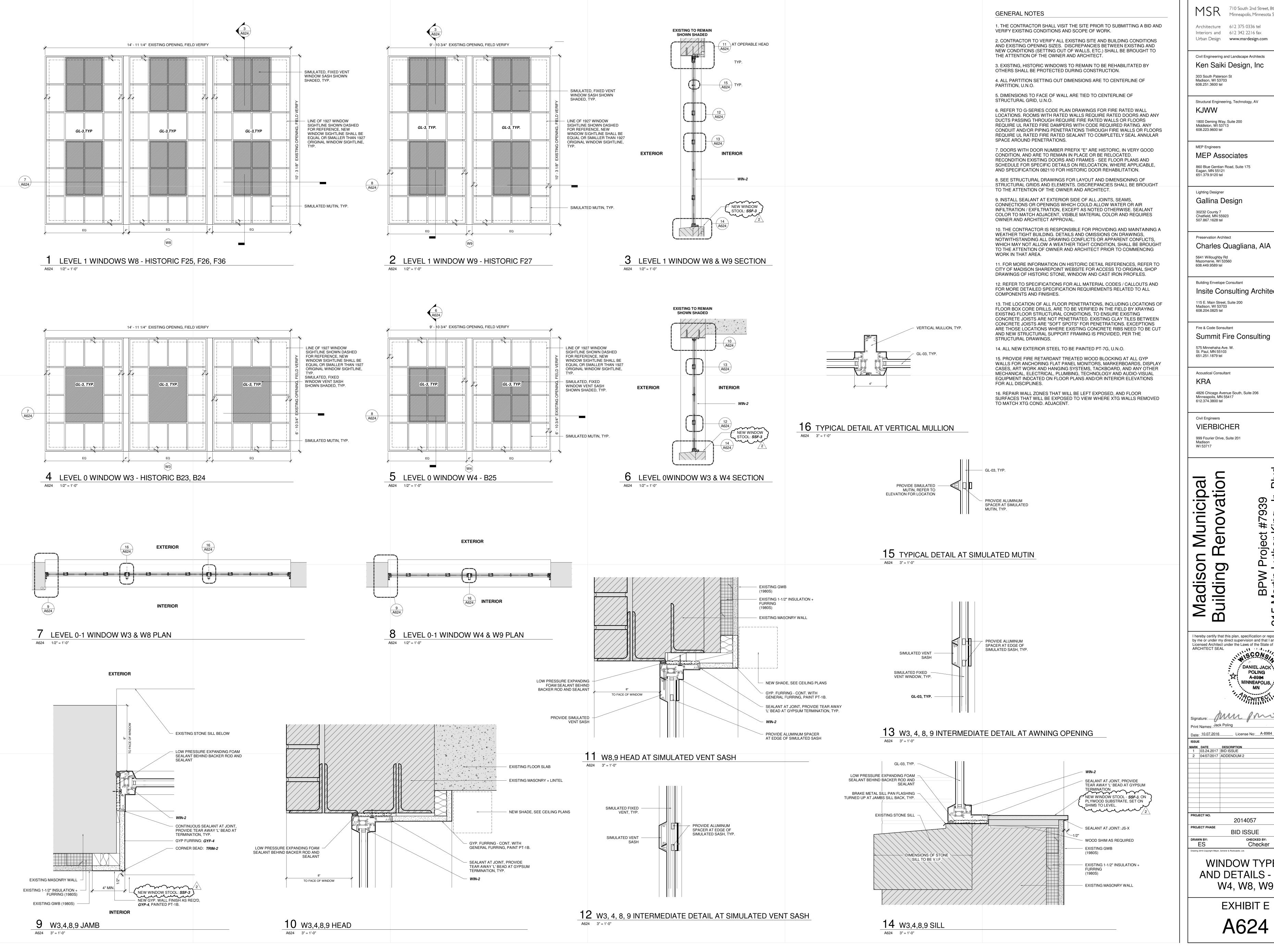
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WINDOW TYPES -W12, 13, 14, 15, 18, 19, 20



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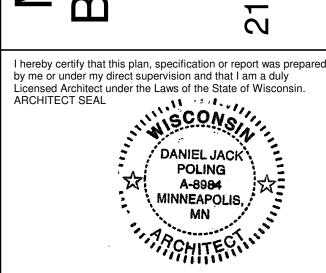
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Insite Consulting Architects

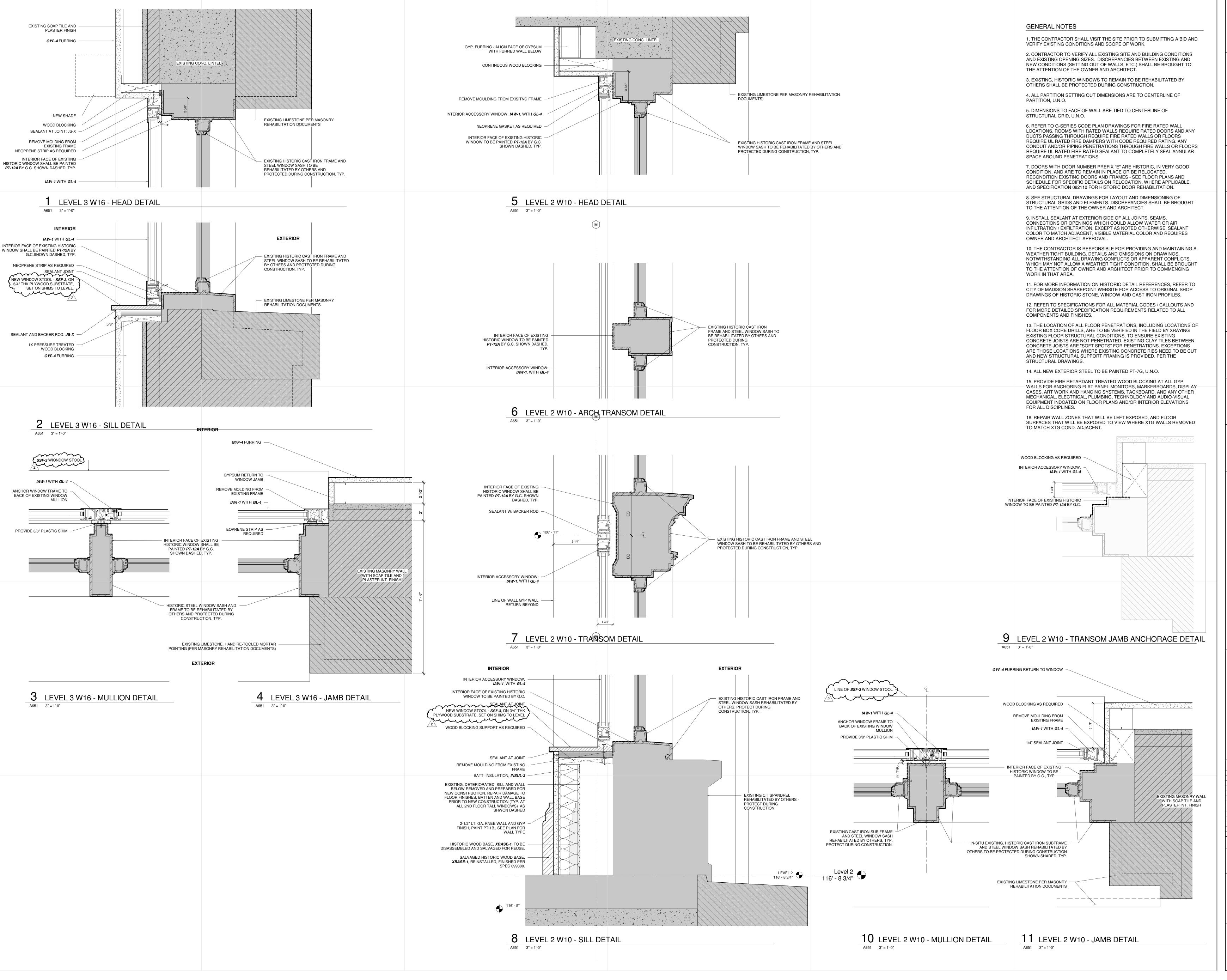
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WINDOW TYPES AND DETAILS - W3,



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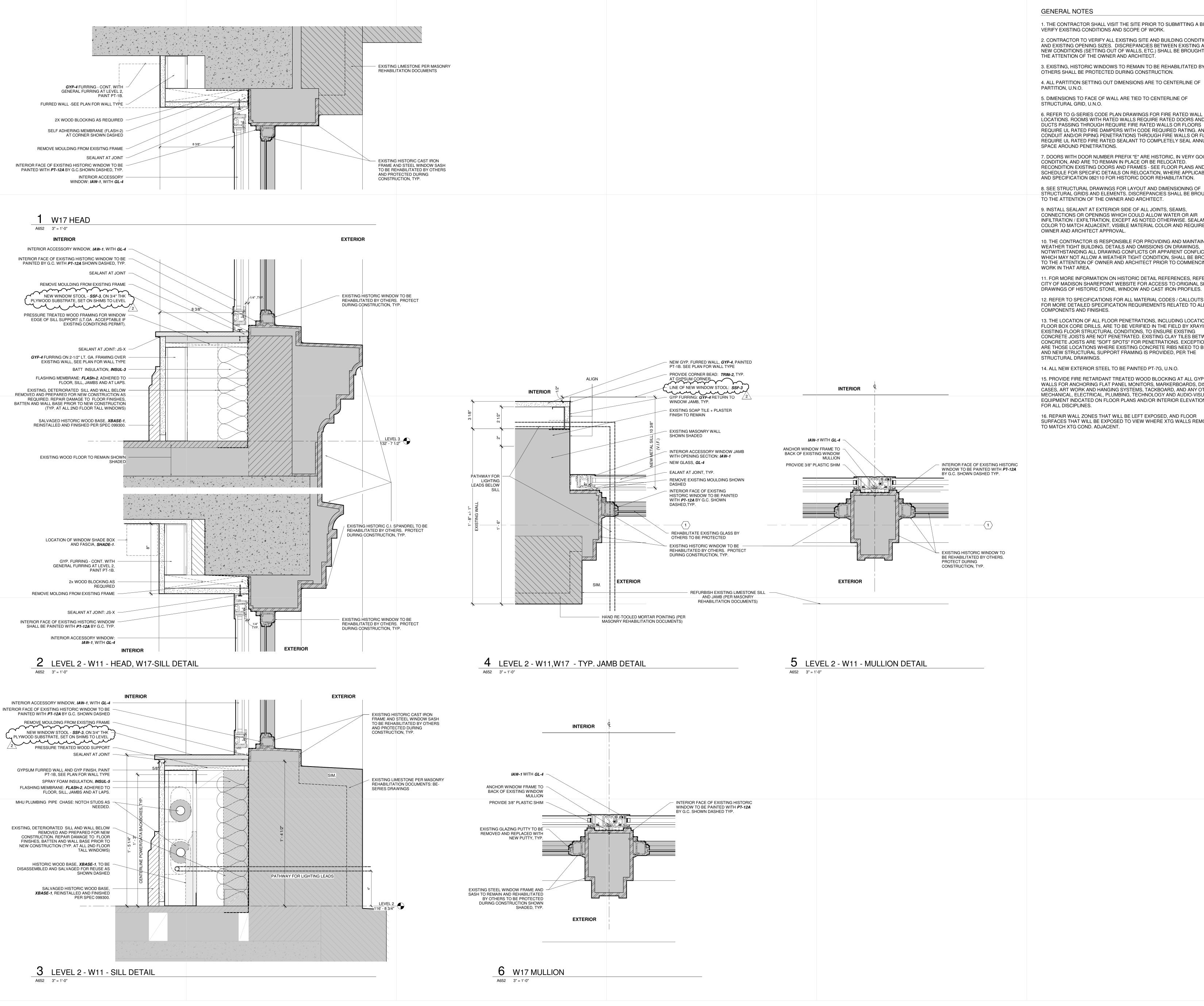
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Author

PROJECT NO. 2014057 PROJECT PHASE **BID ISSUE**

> WINDOW DETAILS IAW-10, IAW-16

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1. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID AND VERIFY EXISTING CONDITIONS AND SCOPE OF WORK. 2. CONTRACTOR TO VERIFY ALL EXISTING SITE AND BUILDING CONDITIONS

AND EXISTING OPENING SIZES. DISCREPANCIES BETWEEN EXISTING AND NEW CONDITIONS (SETTING OUT OF WALLS, ETC.) SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ARCHITECT.

3. EXISTING, HISTORIC WINDOWS TO REMAIN TO BE REHABILITATED BY OTHERS SHALL BE PROTECTED DURING CONSTRUCTION.

4. ALL PARTITION SETTING OUT DIMENSIONS ARE TO CENTERLINE OF

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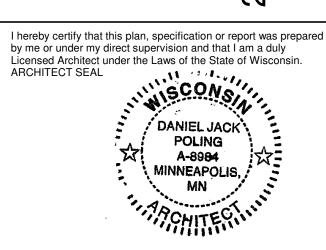
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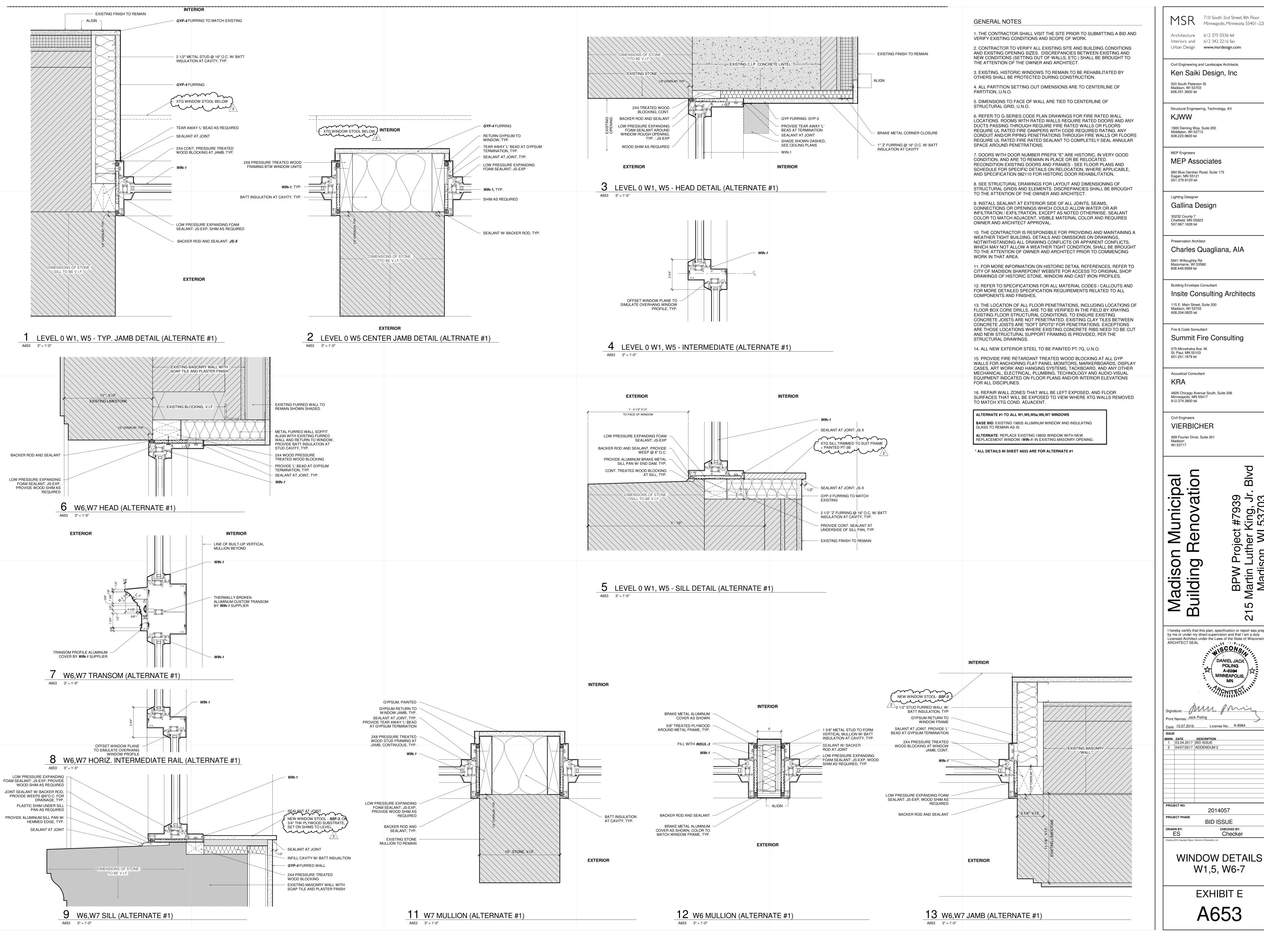


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WINDOW DETAILS IAW-11, IAW-17



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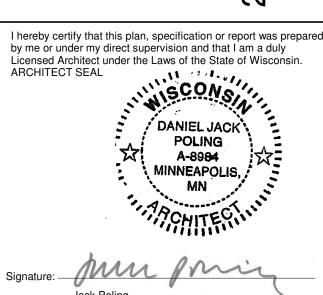
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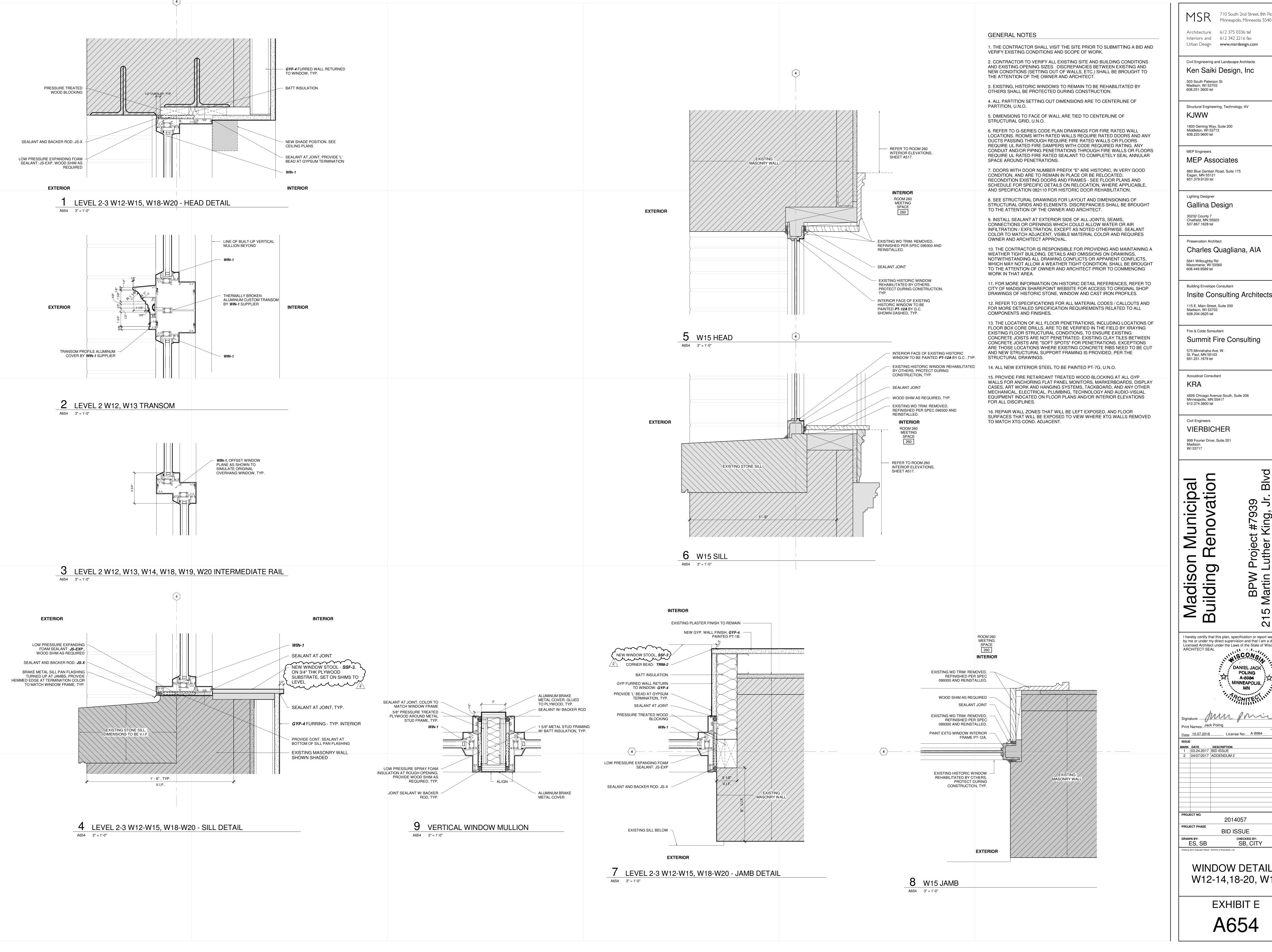
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W1,5, W6-7

A653



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ARCHITECT SEAL POLING A-8984 MINNEAPOLIS,

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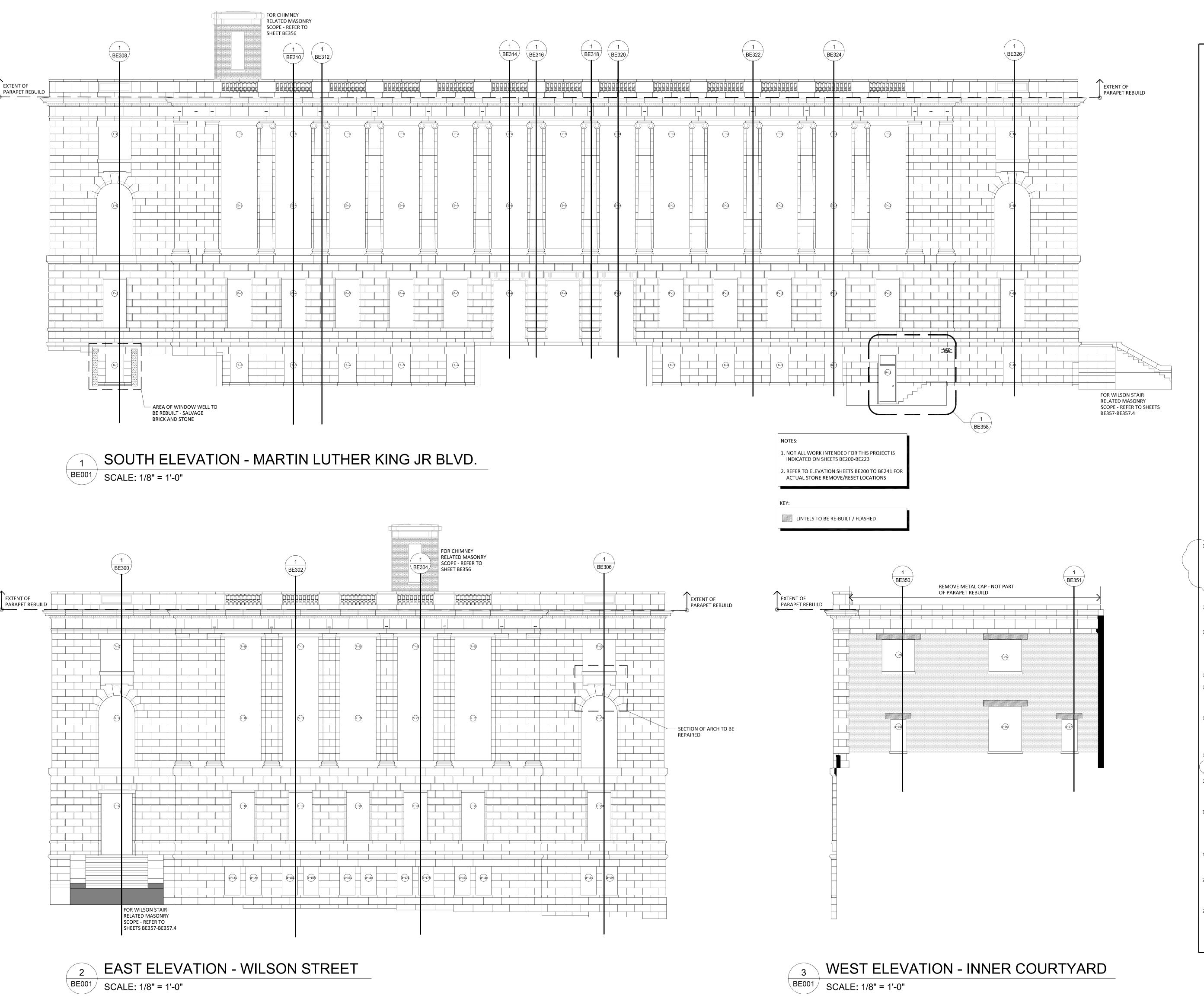
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2014057 **BID ISSUE** CHECKED BY: SB, CITY

WINDOW DETAILS W12-14,18-20, W15



GENERAL NOTES:

ALL STONE MASONRY REPAIR AND REPLACEMENT SCOPE IS INCLUDED IN EXHIBIT G - MASONRY TREATMENT REPORT. REFER TO THE EXHIBIT FOR A DESCRIPTION OF THE WORK REQUIRED AND THE APPARENT SCOPE. ALL BIDDERS MUST ACCOUNT FOR ALL OF THE SCOPE INCLUDED IN THIS EXHIBIT. ALTERATIONS TO THIS SCOPE WILL BE HANDLED ON A DAILY BASIS FOR THE FIRST TWO WEEKS OF THE PROJECT AT A MINIMUM. AFTER TWO WEEKS OF DAILY REVIEWS, THE OWNER MAY AUTHORIZE THE REDUCTION OF THE REVIEW PERIODS TO WEEKLY. FURTHER REDUCTIONS WILL BE AT THE OWNER'S FULL DISCRETION. ANY DEVIATION FROM THE SCOPE IDENTIFIED IN THESE DOCUMENTS SHALL BE DOCUMENTED ON DAILY REPORTS WITH A FULL ACCOUNTING OF THE IMPACT OF EACH DEVIATION IN TERMS OF CHANGES IN TIME AND/OR COST.

. GENERAL NOTE REGARDING EXHIBIT G - MASONRY TREATMENT REPORT ALL STONE MASONRY REPAIR AND REPLACEMENT SCOPE IS AVAILABLE IN RAW DATABASE FORMAT (MICROSOFT ACCESS). ANY BIDDER WHO WISHES, MAY RECEIVE THE DATABASE AS A COURTESY, BUT THE DATABASE ITSELF SHALL NOT BE RELIED UPON FOR THE PURPOSES OF DEVELOPING BIDS AS THE DATA, IF MISHANDLED, CAN LEAD TO IRREGULAR RESULTS. THE ARCHITECT WILL PROVIDE INDIVIDUAL ASSISTANCE TO ALL BIDDERS WHO WISH TO ACCESS THIS

INTENT OF THE OWNER TO RETAIN ALL OF THE ORIGINAL STONE FOR ITS EVENTUAL REUSE.

I. GENERAL NOTE FOR REPAIR OF STONE/BRICK MASONRY THAT IS CURRENTLY COVERED WITH ALL EXISTING STONE THAT IS CURRENTLY COVERED IN SHEET METAL IS SCHEDULED TO BE EXPOSED. UPON REMOVAL OF THE SHEET METAL THE STONE IS TO BE SURVEYED (BY THE MASONRY CONTRACTOR, ARCHITECT AND OWNER) AND ASSESSED FOR FINAL SCOPE VERIFICATION. FOR THE PURPOSES OF THIS BID, INCLUDE 1 (ONE) FASTENER REMOVAL AND SUBSTITUTE STONE PATCH FOR EVERY 12" OF MASONRY LENGTH. THIS WORK WILL INCLUDE, BUT MAY NOT BE LIMITED TO, THE STONE WORK AT THE NORTH FACADES AND INTERIOR COURTYARDS. ADDITIONALLY, CLEANING ALL NEWLY EXPOSED MASONRY.

ALL EXISTING STONE AND BRICK MASONRY THAT IS CURRENTLY PENETRATED WITH FASTENERS AT ROOF MEMBRANE/FLASHING TERMINATIONS ARE SCHEDULED TO BE EXPOSED UPON REMOVAL OF THE SHEET METAL COUNTERFLASHINGS. AFTER THE EXISTING ROOF MEMBRANE AND FLASHING SYSTEM IS REMOVED, THE STONE IS TO BE SURVEYED (BY THE MASONRY CONTRACTOR, ARCHITECT AND OWNER) AND ASSESSED FOR FINAL SCOPE VERIFICATION. FOR THE PURPOSES OF THIS BID, INCLUDE 1 (ONE) SUBSTITUTE STONE PATCH FOR EVERY 12" OF ROOF MEMBRANE/FLASHING LENGTH. THE ROOF MEMBRANE SYSTEM INSTALLER SHALL REMOVE ALL

WITH SUBSTITUTE STONE/BRICK PATCH MATERIAL WILL BE REQUIRED AT ALL WINDOW OPENINGS. IT IS THE INTENT THAT ALL EXPOSED DAMAGED BRICK AND STONE BE REPAIRED AT ALL WINDOW OPENINGS IN BRICK AND STONE. FOR THE PURPOSES OF THIS BID: 300 CUBIC IN. ALL WINDOWS SCHEDULED FOR REPLACEMENT WILL BE REMOVED, AT WHICH TIME THE EXPOSED MASONRY SURFACES SHALL BE INSPECTED FOR LOCATIONS WHERE DAMAGE WILL BE EXPOSED AFTER THE NEW CONSTRUCTION IS COMPLETE. REFER TO EXHIBIT G - MASONRY TREATMENT REPORT FOR INFORMATION REGARDING CURRENTLY EXPOSED CONDITIONS.

ANOMALIES THAT ARE 1" IN DIAMETER AND SMALLER SHALL BE ADDRESSED USING A CORE DRILLED SUBSTITUTE STONE PATCH FOLLOWING THE MANUFACTURER'S INSTRUCTIONS. ALL ANOMALIES THAT ARE GREATER THAN 1" SHALL BE CORE DRILLED AND FILLED WITH LIMESTONE RECLAIMED FROM ONSITE.

ALL REPAIRS TO EXISTING GRANITE AT REMOVED DOOR STOPS, RELOCATED GUARDRAIL AND HANDRAIL SUPPORTS, ETC. SHALL USE SUBSTITUTE STONE PATCH SPECIFICALLY FORMULATED FOR THE GRANITE ONSITE. BIDDERS SHALL INCLUDE A \$15,000 ALLOWANCE FOR LABOR/MATERIALS. CONSULT WITH OWNER AND ARCHITECT PRIOR TO COMMENCEMENT OF WORK ASSOCIATED WITH REDRESSING THE EXISTING GRANITE IN-SITU TO PROVIDE A NON-SLIP SURFACE AT THE MLK (SOUTH) ENTRANCE THRESHOLDS (3) AND AT THE STAIRS AT E. WILSON.

. PARAPET DE-STACK AS SHOWN ON THE DRAWINGS (COURSES P4, P5, P6 - ALL ELEVATIONS) THE PARAPET IS TO BE CAREFULLY DE-CONSTRUCTED AND REBUILT. THE FOLLOWING ARE MINIMUM REQUIREMENTS THAT ARE ADDITIVE TO THE INFORMATION PROVIDED IN EXHIBIT G: CAREFULLY REMOVE ALL EXISTING STONE AND BRICK MASONRY AT THE PARAPETS AS SHOWN ON THE DRAWINGS. NUMBER AND RESERVE ALL STONE ONSITE FOR FUTURE REINSTALLATION. ALL BRICK MASONRY AT THE PARAPET SHALL BE NEW.

50 LINEAL FEET OF BED JOINT TAMP-POINTED AREAS (AREAS WHERE THE EXISTING MORTAR DOES NOT COMPLETELY FILL THE BED JOINT)

ALL EXISTING BRICK MASONRY LINTELS THAT INCLUDE A STEEL SUBSTRUCTURE (STRUCTURAL

SPOT CLEANING OF MISCELLANEOUS CONTAMINANTS SUCH AS (BUT NOT LIMITED TO): ASPHALT, TAR, FERROUS STAINS, EFFLORESCENCE, BIOLOGICAL (LICHEN, MOSS, MOLD, ETC.) ALL CONTAMINANTS SHALL BE REMOVED USING THE GENTLEST MEANS POSSIBLE. NO MECHANICAL OR ABRASIVE METHODS WILL BE ALLOWED.

AS A MATTER OF COURSE (AS IT RELATES TO MEANS AND METHODS) THERE MAY BE OTHER

AREAS THAT REQUIRE THE TEMPORARY REMOVAL OF STONE. THE BIDDER IS EXPECTED TO

UNDERSTAND THESE REQUIREMENTS AND INCLUDE ALL SUCH WORK IN THEIR BID.

INCLUDE 750 S.F. OF 1 WYTHE OF FACE BRICK FOR PATCHING AT DEMOLISHED LOADING DOCK AND OTHER LOCATIONS THROUGHOUT THE BRICK FACED FACADES. THIS IS IN ADDITION TO THE BRICK THAT WILL REQUIRE REPLACEMENT TO RECONDITION EXISTING STEEL LINTELS IN EXISTING BRICK MASONRY OPENINGS. ALL STEEL LINTELS WITH EXPOSURE TO EXTERIOR WILL REQUIRE

INSPECT AND PREPARE ALL EXISTING SUBSTRATES TO RECEIVE NEW MEMBRANE FLASHINGS (SHEET AND/OR LIQUID) ADHERE TO MANUFACTURER'S SPECIFIC INSTRUCTIONS.

INSTALL NEW DUTCHMAN REPAIR AT ALL ABANDONED HOSE BIBS/HYDRANTS. INSTALL NEW HYDRANTS IN LOCATIONS IDENTIFIED HEREIN OR AS DIRECTED BY THE OWNER. REFER TO DETAIL 5/BE355.

PROCEDURES: TRAINING AND CERTIFICATION: ALL OF THE WORK IDENTIFIED FOR TRAINING IN THE SPECIFICATIONS SHALL BE EXECUTED BY WORKERS THAT HAVE HAD PROJECT-SPECIFIC TRAINING AND CERTIFICATION FOR THAT SPECIFIC WORK. NO WORKERS WILL BE ALLOWED TO PERFORM WORK FOR WHICH THEY HAVE NOT HAD TRAINING AND CERTIFICATION FOR THIS SPECIFIC PROJECT.

. GENERAL NOTE REGARDING EXHIBIT G - MASONRY TREATMENT REPORT

. GENERAL NOTE FOR ALL STONE SCHEDULED FOR REPLACEMENT ALL EXISTING STONE THAT IS CURRENTLY SCHEDULED FOR REPLACEMENT MUST BE REMOVED FROM THE WALL IN A MANNER THAT ALLOWS FOR ITS REUSE IN ITS GREATEST DIMENSIONS. MANY EXISTING STONES ARE 8", 12" AND 16" DEEP. THESE STONES CAN BE MILLED AND/OR REDRESSED TO REPLACE OTHER STONES THAT REQUIRE REPLACEMENT. IT IS THE GOAL AND

TERMINATION BAR FASTENER REPAIR WITH SUBSTITUTE STONE PATCH

5. IN ADDITION TO SPECIFIC REPAIRS IDENTIFIED IN EXHIBIT G, MISCELLANEOUS PATCHES EXECUTED

ALL PLUG REPAIRS AT LIMESTONE ALL REPAIRS IDENTIFIED AS "STONE PLUG" REPAIRS SHALL BE HANDLED AS FOLLOWS: ALL

. REPAIRS AT GRANITE

FOR EXISTING MORTAR JOINTS THAT ARE SCHEDULED FOR REPOINTING. ALL NEWLY LAID AND RE-LAID MASONRY SHALL HAVE RAKED JOINTS SO THAT A SINGLE, FINAL REPOINTING CAN TAKE PLACE OVER THE ENTIRETY OF THE PROJECT. ALL REPOINTING PERSONNEL WILL BE CAREFULLY VETTED BY THE ARCHITECT AND OWNER TO MAKE CERTAIN THAT THERE IS CONTINUITY IN THE FINISH, TEXTURE AND COLOR OF THE RE-POINTED MASONRY. FOR THE PURPOSES OF THIS BID

BRICK STAINING WILL BE REQUIRED FOR NEW RECLAIMED BRICK (SEE SPECIFICATION) FOR THE PURPOSES OF THIS BID, STAIN 60% OF ALL NEW RECLAIMED BRICK ON ALL FACADES - DO NOT

ALL MASONRY LINTELS THAT HAVE STEEL COMPONENT WILL REQUIRE FLASHING

LINTEL) ARE SCHEDULED FOR RECONDITIONING. THIS WORK INCLUDES PREPARING THE STEEL FOR NEW CORROSION RESISTANT COATINGS, MEMBRANE FLASHING SYSTEMS WITH BACK DAMS, END DAMS AND SEALED COMPRESSION TERMINATIONS. REFER TO DRAWINGS AND SPECIFICATIONS FOR MORE INFORMATION.

ALL DUTCHMAN PIECES SHALL BE CUSTOM MEASURED AND MILLED. NO STONE PROFILE CAN BE APPROXIMATED. TAKE PRECISE MEASUREMENTS IN THE FIELD USING A CONTOUR GAUGE OR ALTERNATIVELY, REMOVE THE SUBJECT MATERIAL AND FABRICATE A DUTCHMAN/REPLACEMENT

STONE(S) SCHEDULED FOR REMOVAL AND REUSE INSPECT ALL STONES REMOVED AND RESERVED FOR REUSE FOR ADDITIONAL DAMAGE AND REPAIRS REQUIRED BEYOND WHAT IS NOTED IN EXHIBIT G. COORDINATE REPAIR OPTIONS WITH ARCHITECT AND OWNER.

RECONDITIONING AS DETAILED HEREIN.

MSR 710 South 2nd Street, 8th Floor Minneapolis, Minnesota 55401–2282 Architecture 612 375 0336 tel Interiors and 612 342 2216 fax

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Acoustical Consultant 4826 Chicago Avenue South, Suite 206

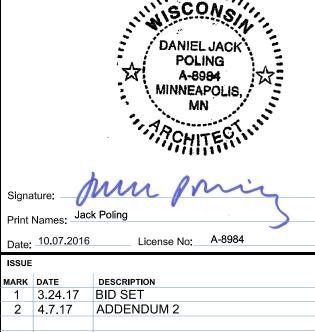
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Minneapolis, MN 55417

612.374.3800 tel

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hereby certify that this plan, specification or report was prepared



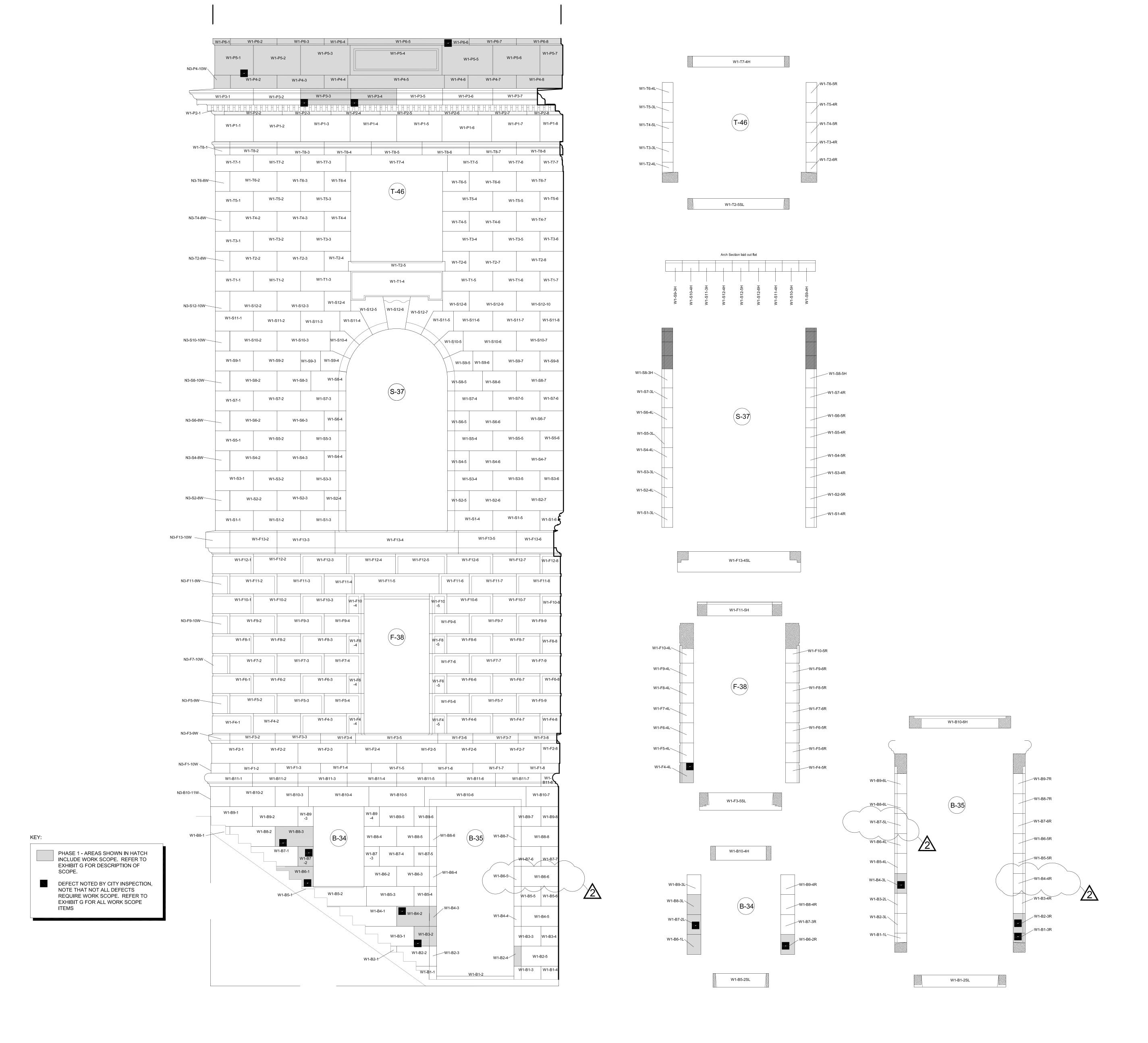
by me or under my direct supervision and that I am a duly

2014057 PROJECT PHASE

BID SET ZMP/MD SMP **MASONRY**

> **ELEVATIONS EXHIBIT F**

BE001



PARTIAL WEST ELEVATION - ZONE W1

BE219 SCALE: N.T.S.

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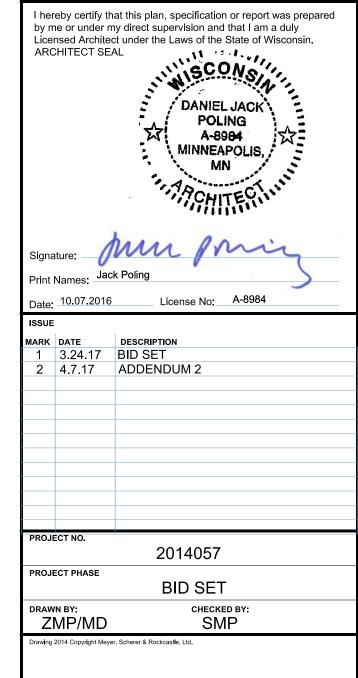
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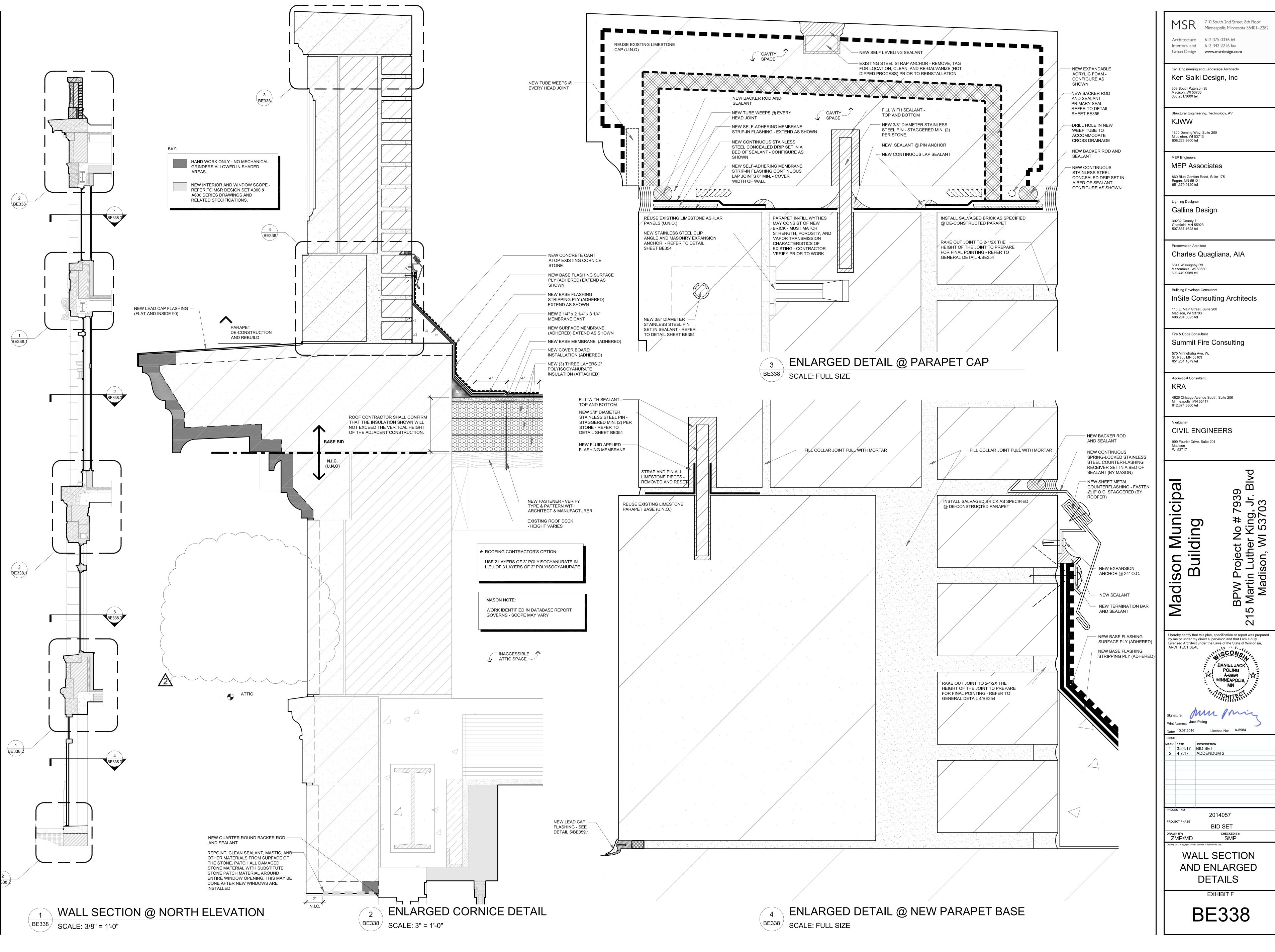
215 Martin Luther King, Jr.

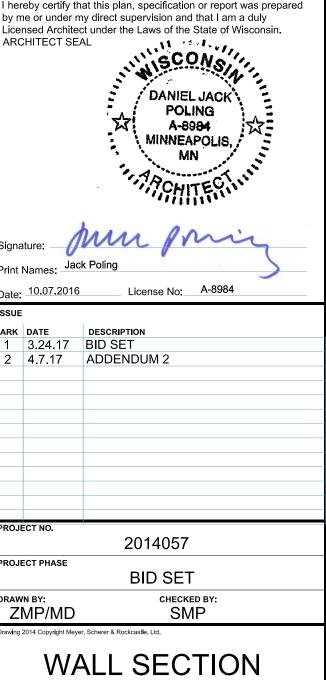


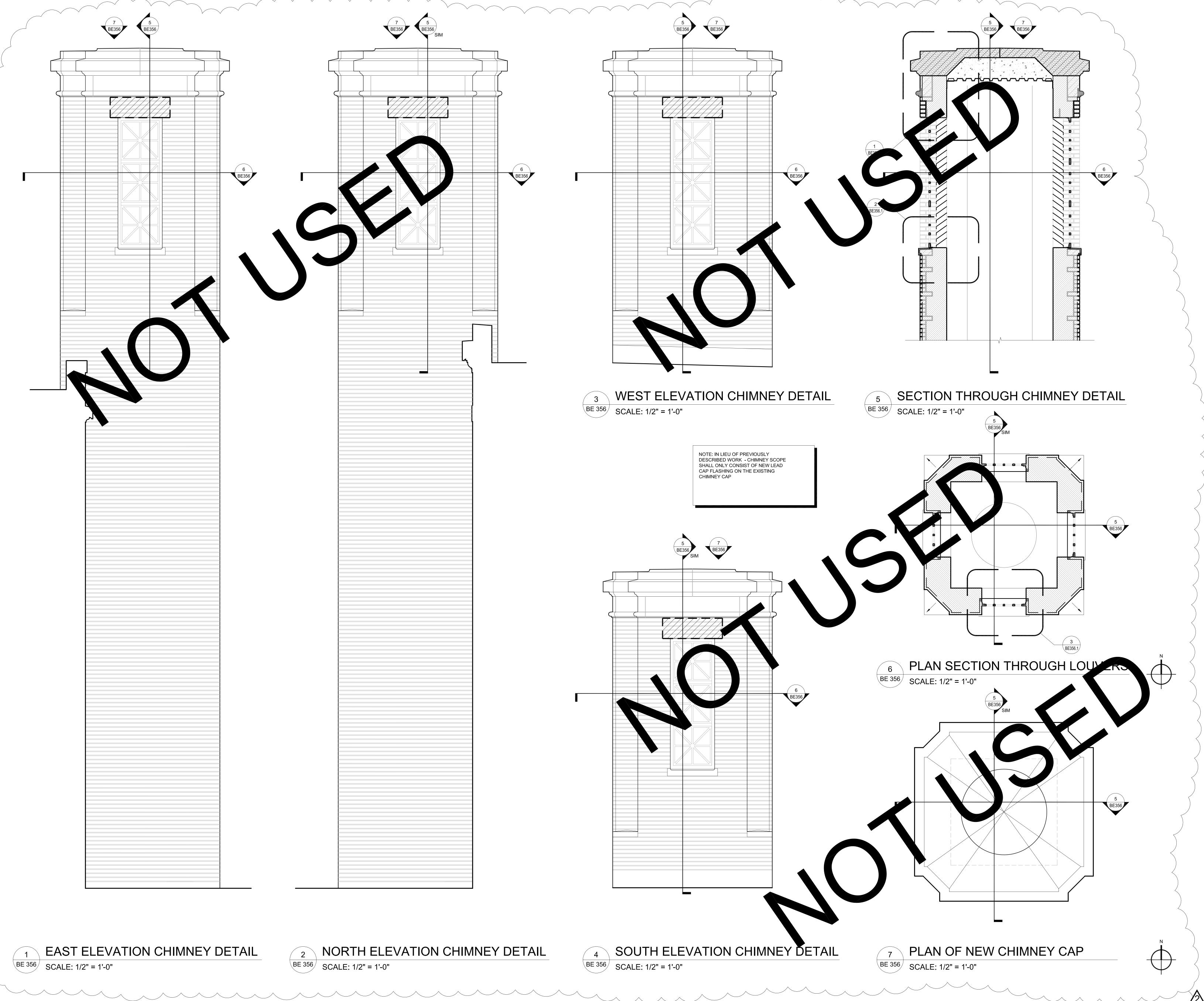
MASONRY ELEVATIONS

EXHIBIT F

BE219







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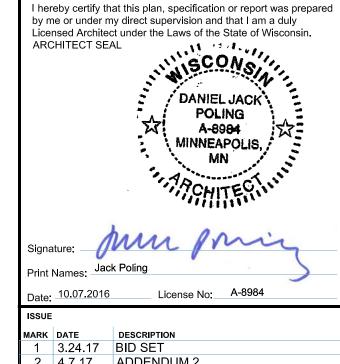
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Madison Municipal Building

BPW Project No # 793 215 Martin Luther King, Ji



MARK DATE DESCRIPTION

1 3.24.17 BID SET

2 4.7.17 ADDENDUM 2

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ROJECT NO.

2014057

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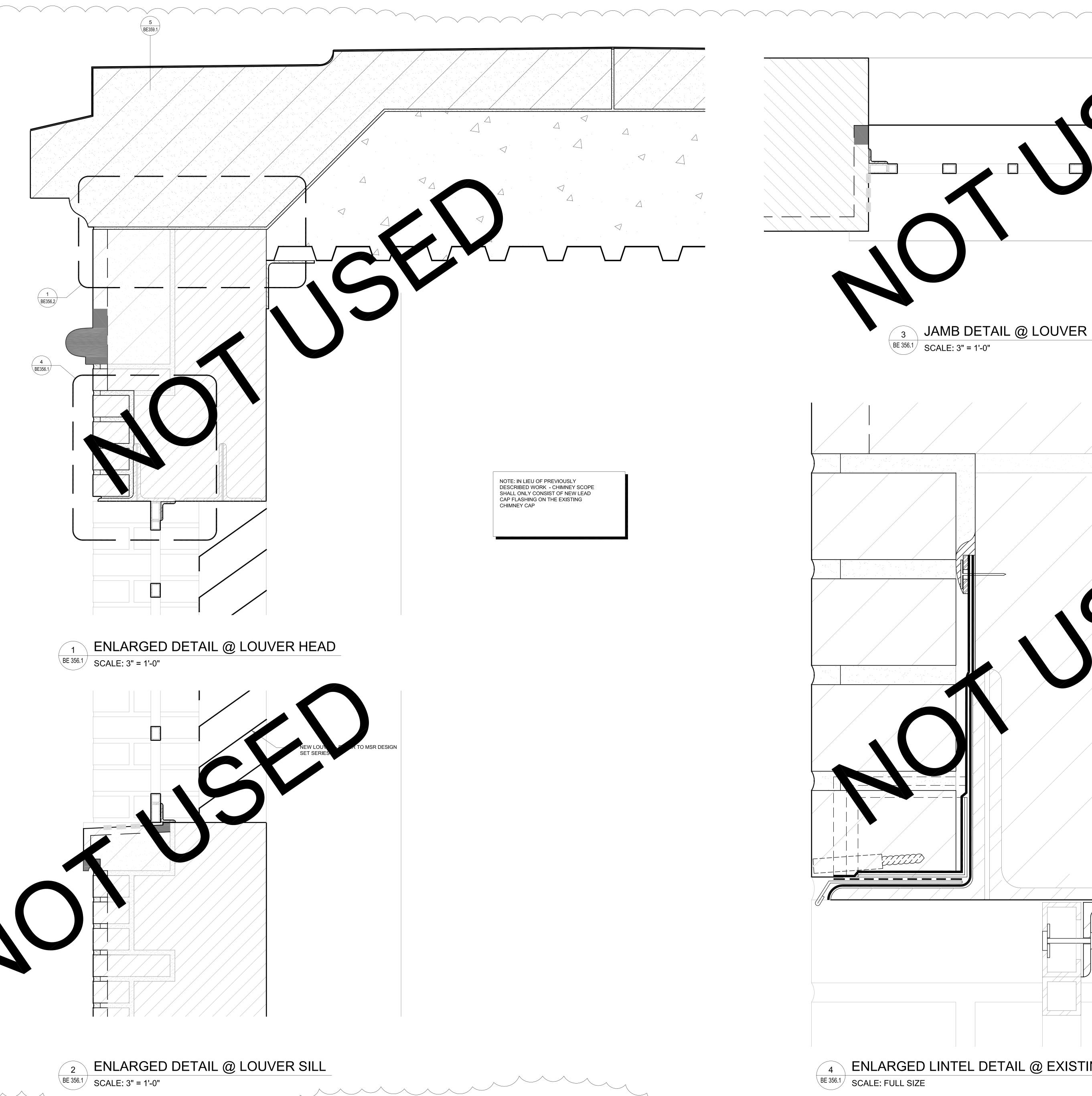
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RAWN BY: CHECKED BY:
ZMP/MD SMP

CHIMNEY DETAILS

EXHIBIT F

BE356



ENLARGED LINTEL DETAIL @ EXISTING LOUVER HEAD

BE356.1

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 DATE
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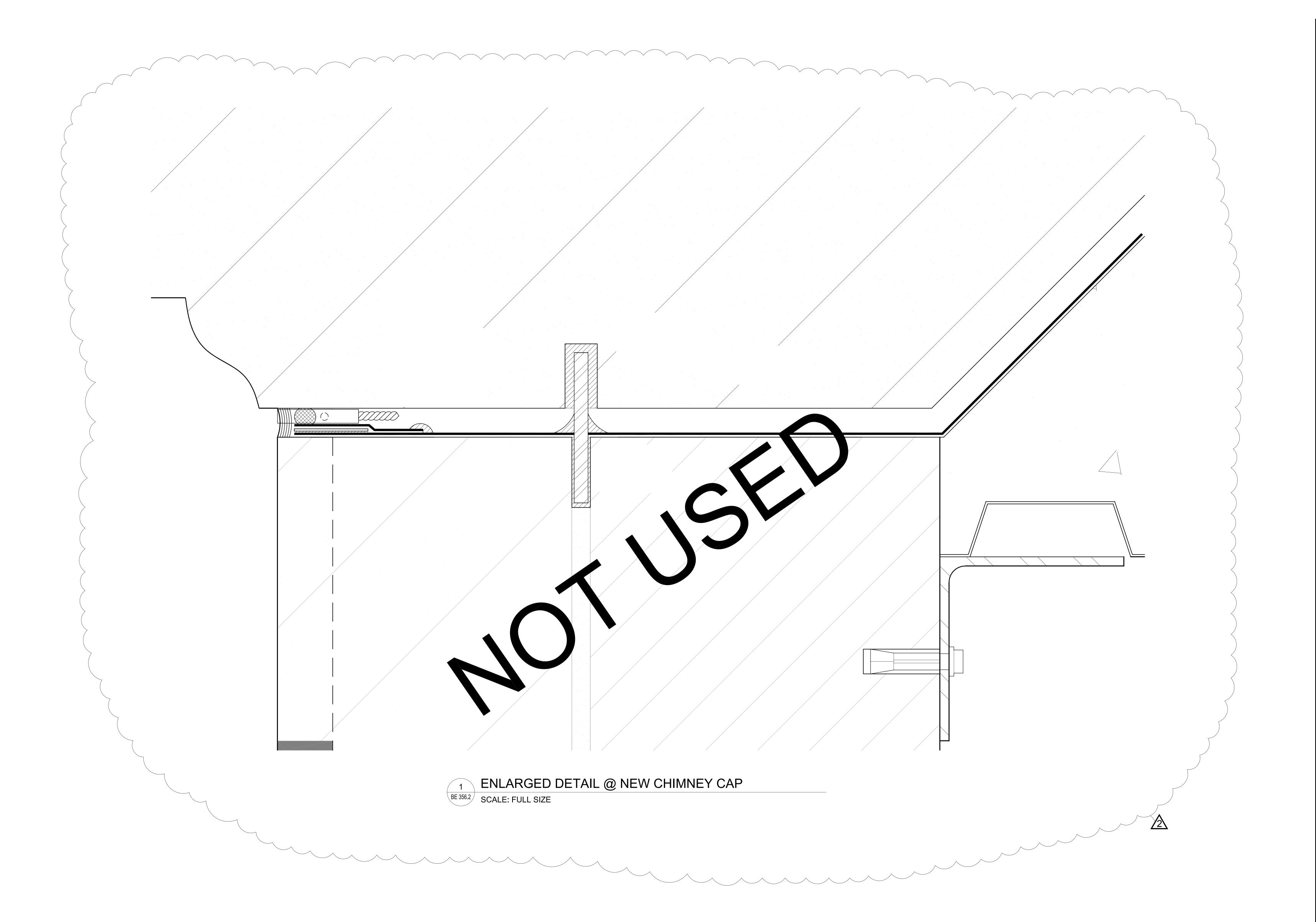
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> CHIMNEY **DETAILS**

EXHIBIT F



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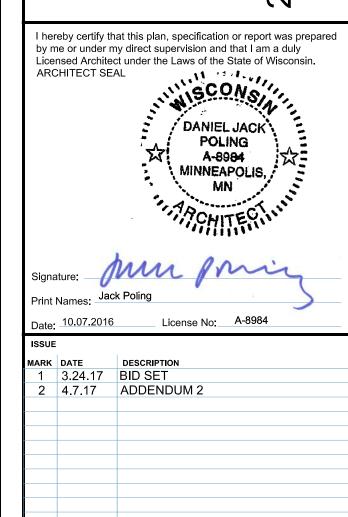
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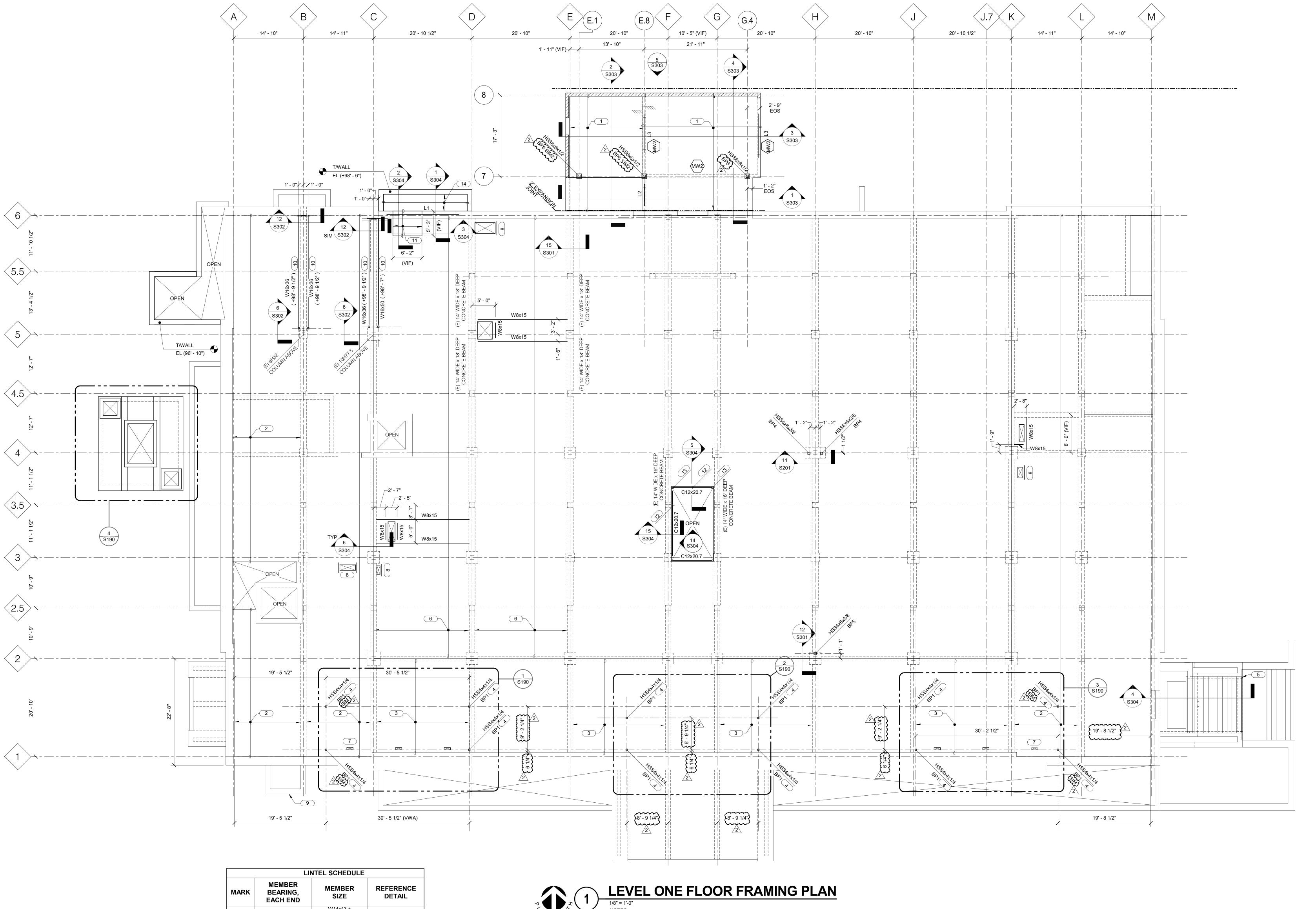
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CHECKED BY:
SMP

CHIMNEY DETAILS

EXHIBIT F

BE356.2



LINTEL SCHEDULE					
MARK	MEMBER BEARING, EACH END	MEMBER SIZE	REFERENCE DETAIL		
L1	8"	W14x43 + 3/8" BOTTOM PLATE	1/S305		
L2	8"	8" DEEP BOND BEAM WITH (2) #5 BARS	2/S301		
L3	8"	16" DEEP BOND BEAM WITH (2) #5 BARS	2/\$301		
1.4	0.11	W8x24 +	4/0004		

3/8" BOTTOM PLATE

1. REFER TO 8/S301 FOR TYPICAL MASONRY OPENING DETAIL.

MASONRY WALL REINFORCING SCHEDULE					
MARK	WALL THICKNESS	VERTICAL WALL REINFORCING SIZE AND SPACING	HORIZONTAL WALL REINFORCING SIZE AND SPACING		
(MW1)	8"	(2) #5 @ 8" OC	TYPICAL		
(MW2)	8"	#5 @ 24" OC	TYPICAL		

- 1. TYPICAL HORIZONTAL REINFORCING IS AS PER SPECIFICATIONS. IT IS INTENDED TO BE A 'DUROWAL TRUSS
- 2. 'GROUT ALL CORES' INDICATES EVERY REINFORCED CORE AND UNREINFORCED CORE.
- 3. REINFORCED CORES ARE ALWAYS GROUTED.



1. L# INDICATES LINTEL IN STRUCTURAL MASONRY WALL. REFER TO THIS SHEET FOR SCHEDULE. REFER TO GENERAL NOTES FOR LINTELS IN NON-STRUCTURAL WALLS

2. (MW#) INDICATES MASONRY WALL - REFER TO THIS SHEET FOR SCHEDULE.

- 1 8" CONCRETE SLAB WITH #5 @ 8" OC, EACH WAY, TOP AND BOTTOM. REFER TO SECTIONS FOR TOP OF SLAB ELEVATIONS. REINFORCEMENT PLACEMENT SEQUENCE: EAST-WEST BOTTOM LAYER BARS
- NORTH-SOUTH BOTTOM LAYER BARS NORTH-SOUTH TOP LAYER BARS EAST-WEST TOP LAYER BARS
- 2 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC. 2" THICK SLAB + 8" DEEP JOIST RIBS = 10" TOTAL THICKNESS.
- 3 EXISTING 7" THICK CONCRETE SLAB.
- 4 COLUMN TO EXTEND DOWN TO STRUCTURAL SLAB BELOW, T/SLAB = (+99' 8") VIF. PATCH FLOORING PER ARCHITECTURAL DRAWINGS.
- NEW CONCRETE STAIR TO SUPPORT STONE STAIR TREADS. COORDINATE WITH BE-SERIES SHEETS AND EXISTING CONDITIONS.
- 6 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC. 2 1/2" THICK SLAB + 10" DEEP JOIST RIBS = 12 1/2" TOTAL THICKNESS.
- 7 LOCATE NEW MECHANICAL OPENING BETWEEN EXISTING CONCRETE JOIST RIBS.
- ADJACENT CONCRETE JOIST RIBS PER 9/S304. LOCATE OPENING SO ONLY ONE EXISTING JOIST IS CUT.
- 10 REFER TO DETAIL 13/S302 FOR TYPICAL BEAM BRACING DETAIL.
- THICKNESS = 4". TOP OF SLAB ELEVATION TO MATCH EXISTING.
- 12 SINGLE PLATE HANGER DOWN TO STAIR LANDING, REFER TO ARCHITECTURAL
- 13 DOUBLE PLATE HANGER DOWN TO STAIR LANDING, REFER TO ARCHITECTURAL DRAWINGS. WELD PLATES TOGETHER TO FORM L-SHAPE.
- LIVE LOAD.
- 8 PROVIDE ANGLE REINFORCING AT NEW MECHANICAL OPENING. ANCHOR TO
- WITH NEW CONCRETE CURB, DOWELED INTO EXISTING CONCRETE BELOW.
- 11 INFILL EXISTING DOCK LEVELER PIT WITH 2 1/2" NORMAL WEIGHT CONCRETE ON 1 1/2" (18 GA) CONFORM DECK, SINGLE SPAN, WITH 6x6 -W1.4xW1.4 WWR. TOTAL
- 1 1/2" BAR GRATING. SELECT BAR THICKNESS AND SPACING TO SUPPORT 100 PSF
- 9 DEMO DAMAGED MASONRY PORTION OF EXISTING AREA WAY AND REPLACE

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REFERENCE SCALE IN INCHES

FIRST FLOOR FRAMING PLAN

PROJECT NO.

PROJECT PHASE

PRIPAN

EXHIBIT H

2014057

BID SET

ABBPER

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Acoustical Consultant

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2 04.07.2017 ADDENDUM 2

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly

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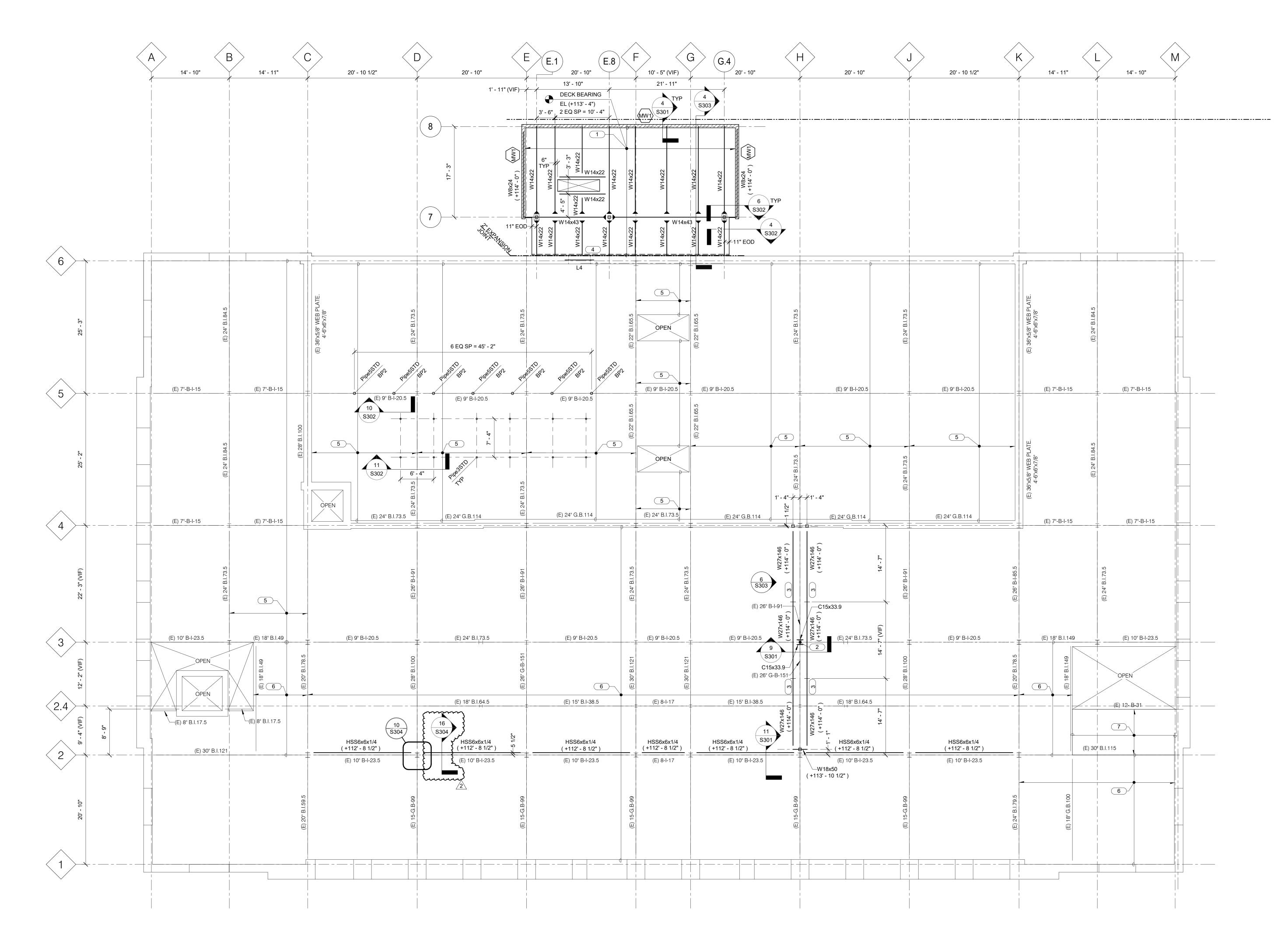
Charles Quagliana, AIA

Insite Consulting Architects

Summit Fire Consulting

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LEVEL TWO FLOOR FRAMING PLAN

1. L# INDICATES LINTEL IN STRUCTURAL MASONRY WALL. REFER TO S101 FOR SCHEDULE REFER TO GENERAL NOTES FOR LINTELS IN NON-STRUCTURAL WALLS.

2. (MW#) INDICATES MASONRY WALL - REFER TO S101 FOR SCHEDULE.

3. BP# INDICATES BASE PLATE. REFER S302 FOR BASE PLATE DETAILS.

1 1/2" (20 GA) TYPE B STEEL ROOF DECK, 2-SPAN MINIMUM. FASTEN WITH 36/4 (1) PATTÈRN PÉR 2/S302.

2 CONTRACTOR TO DESIGN, FURNISH AND INSTALL SHORING PRIOR TO DEMOLITION

3 REFER TO 10/S301 FOR BEAM SPLICE DETAIL.

4 L4x4x1/4 x CONT DECK EDGE ANGLE.

5 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC. 2" THICK SLAB + 8" DEEP JOIST RIBS = 10" TOTAL THICKNESS. TOP OF EXISTING STRUCTURAL SLAB (+116'-4 3/4"), VIF.

6 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC. 2" THICK SLAB + 10" DEEP JOIST RIBS = 12" TOTAL THICKNESS.

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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the Laws of the State of Wisconsin.

Signa	ature:	
Oigile		
Print	Names:——	
Date:		License No:
ISSUE		
MARK	DATE	DESCRIPTION
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2	04.07.2017	ADDENDUM 2
PROJE	ECT NO.	
		2014057

PROJECT PHASE **BID SET** ABBPER PRIPAN

SECOND FLOOR FRAMING PLAN

EXHIBIT H

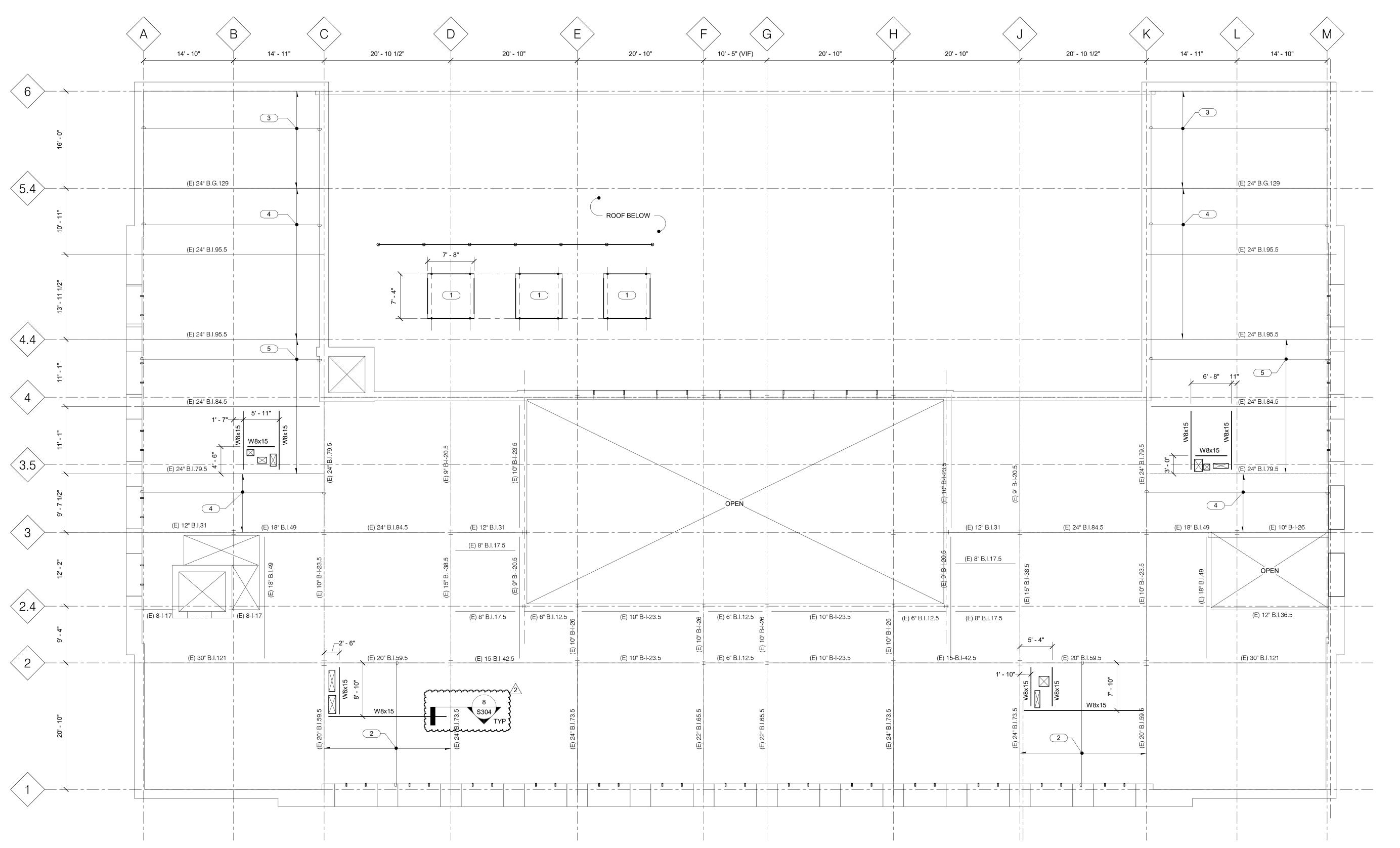
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LEVEL THREE FLOOR FRAMING PLAN

1/8" = 1'-0"

- 1 CONDENSING UNIT: PROVIDE PLATFORM WITH W8x15 SUPPORT BEAMS ON ALL SIDES. LOCATE PLATFORM TO PROVIDE 18" CLEAR UNDERNEATH. COORDINATE PLATFORM DIMENSIONS WITH MECHANICAL CONTRACTOR AND SELECTED EQUIPMENT.
- 2 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC. 2" THICK SLAB + 10" DEEP JOIST RIBS = 12" TOTAL THICKNESS.
- 3 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC.
- 2" THICK SLAB + 8" DEEP JOIST RIBS = 10" TOTAL THICKNESS.

 4 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC.
- 2" THICK SLAB + 6" DEEP JOIST RIBS = 8" TOTAL THICKNESS.
- 5 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC. 2" THICK SLAB + 4" DEEP JOIST RIBS = 6" TOTAL THICKNESS.

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Madisor Building

ARCHITECT SEAL

Print Names:—

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PROJECT PHASE

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 04.07.2017
 ADDENDUM 2

I hereby certify that this plan, specification or report was prepared

_ License No:__

by me or under my direct supervision and that I am a duly

Licensed Architect under the Laws of the State of Wisconsin.

'939 g, Jr 703

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THIRD FLOOR FRAMING PLAN

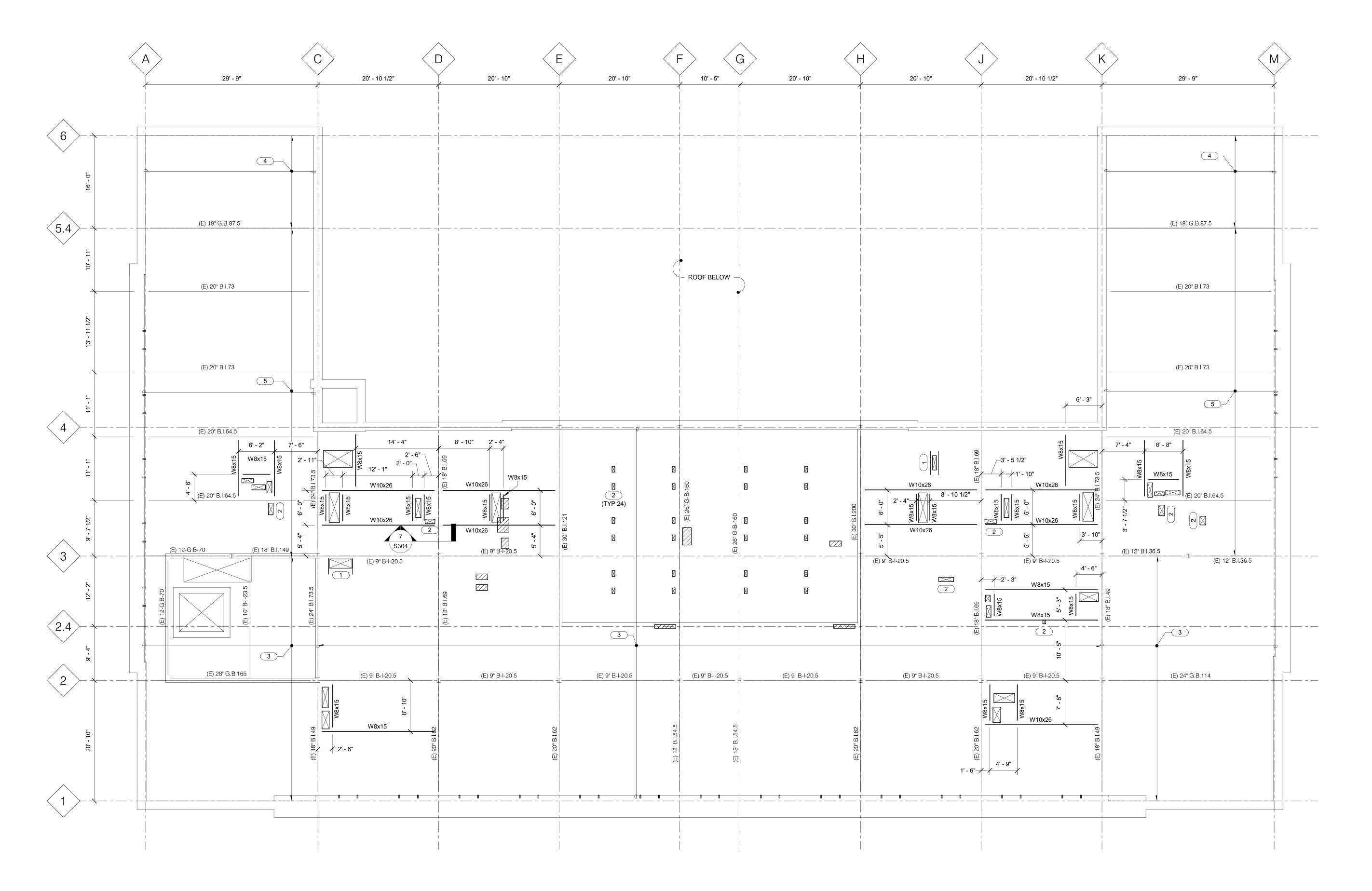
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RIBS = 6" TOTAL THICKNESS.

- 1 PROVIDE ANGLE REINFORCING AT NEW MECHANICAL OPENING. ANCHOR TO ADJACENT CONCRETE JOIST RIBS. PER 9 304. LOCATE OPENING SO ONLY ONE EXISTING JOIST IS CUT.
- 2 LOCATE NEW MECHANICAL OPENING BETWEEN EXISTING CONCRETE JOIST RIBS.
- 3 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC. 2" THICK SLAB + 8" DEEP JOIST RIBS = 10" TOTAL THICKNESS.
- 4 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC. 2" THICK SLAB + 6" DEEP JOIST RIBS = 8" TOTAL THICKNESS.
- 5 EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB: 5" WIDE JOISTS AT 17" OC. 2" THICK SLAB + 4" DEEP JOIST

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Lighting Designer

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Preservation Architect
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Building Envelope Consultant

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VIERBICHER

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Madison Municipal Building Renovation

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'939 g, Jr 703

PROJECT NO.

2014057

PROJECT PHASE

BID SET

PRIPAN

ROOF SLAB FRAMING PLAN

ABBPER

EXHIBIT H **S104**

ENGINEERING

MIDDLETON, WISCONSIN 53562
608.223.9600 FAX: 608.836.0415
www.kjww.com

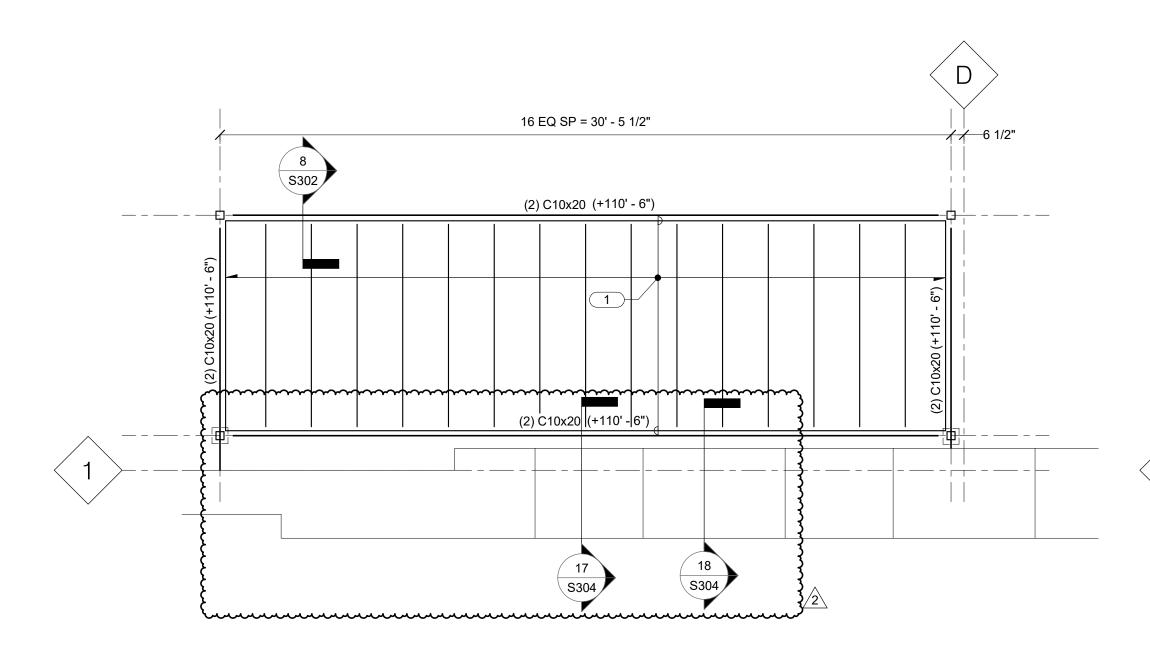
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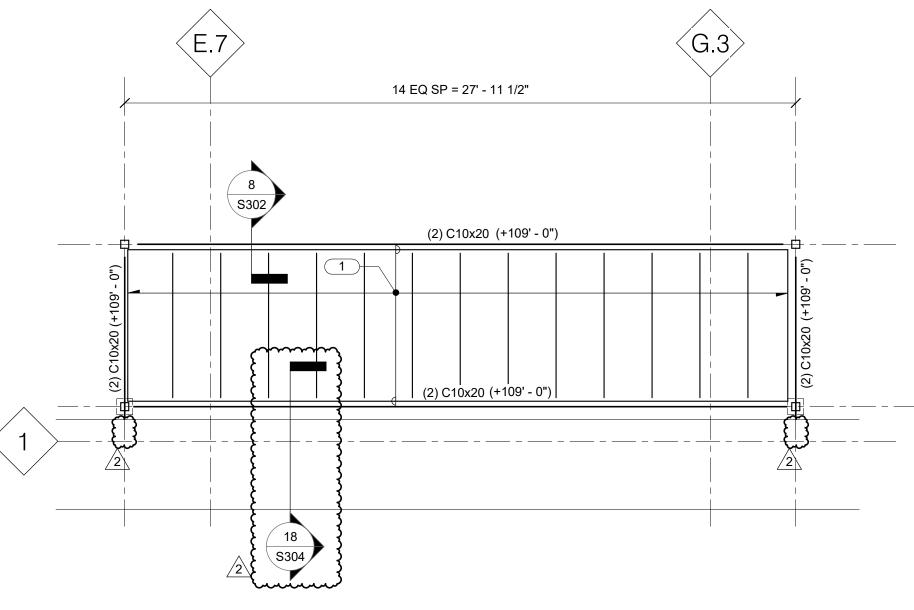
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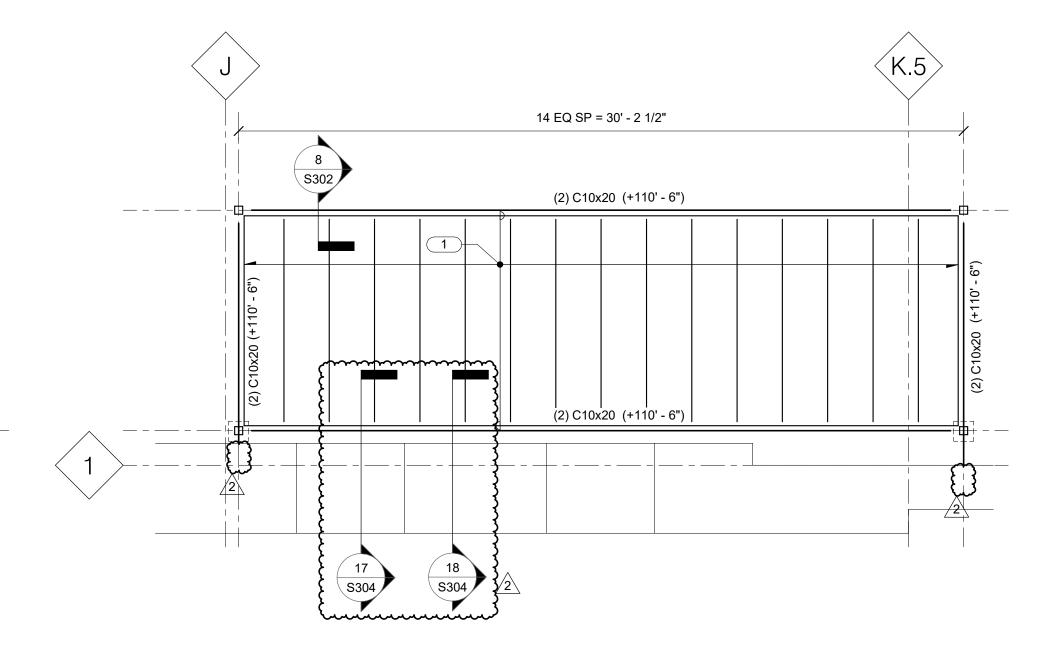
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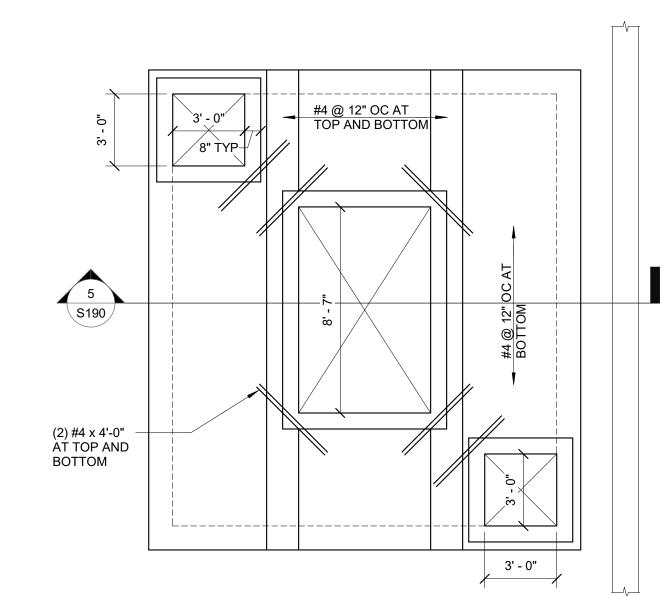




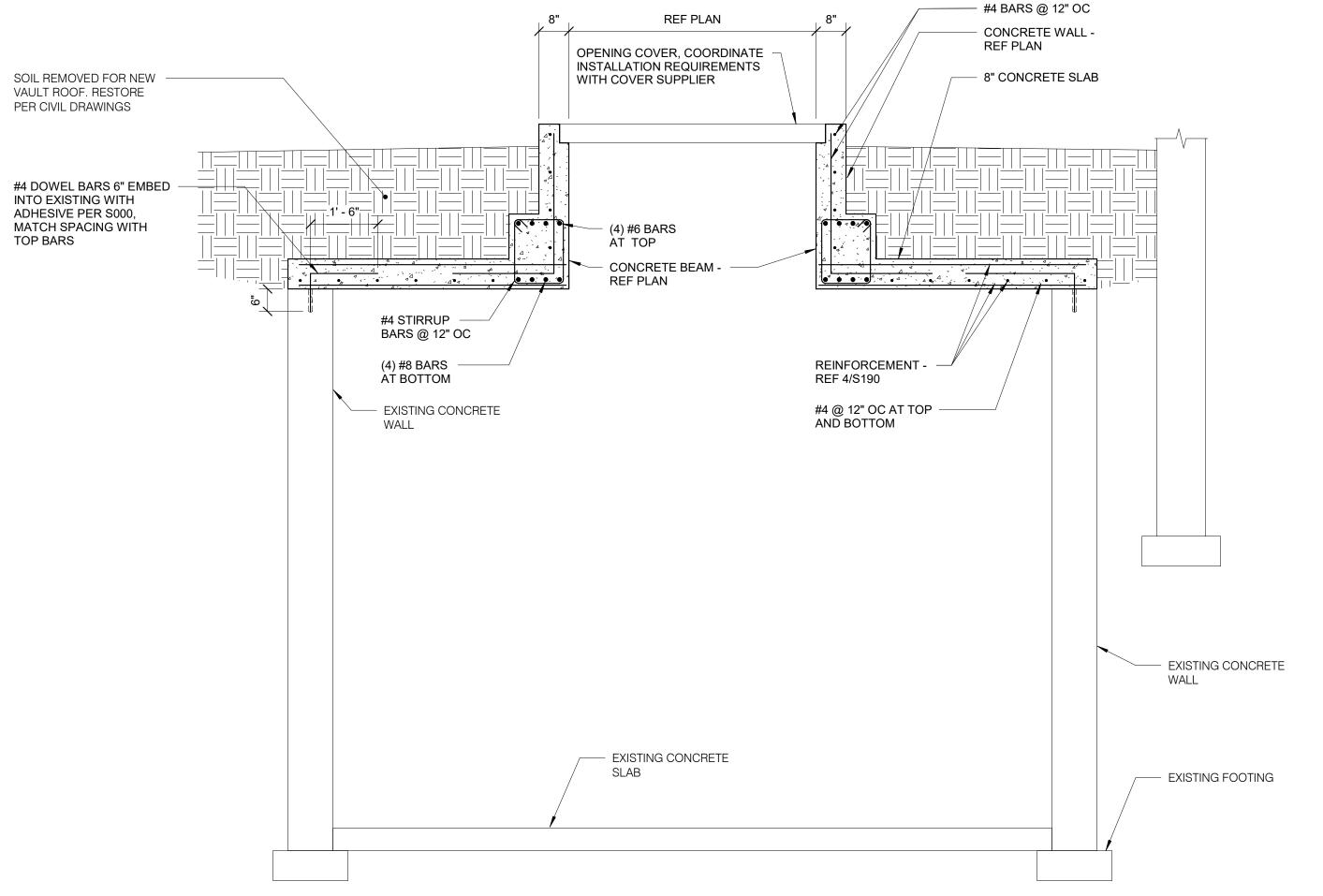












SECTION THROUGH ELECTRICAL VAULT ROOF

1/2" = 1'-0"

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608.223.9600 FAX: 608.836.0415
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www.msrdesign.com

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Madison Municipal
Building Renovation
BPW Project #7939
Martin Luther King, Jr. Blvd
Madison, WI 53703

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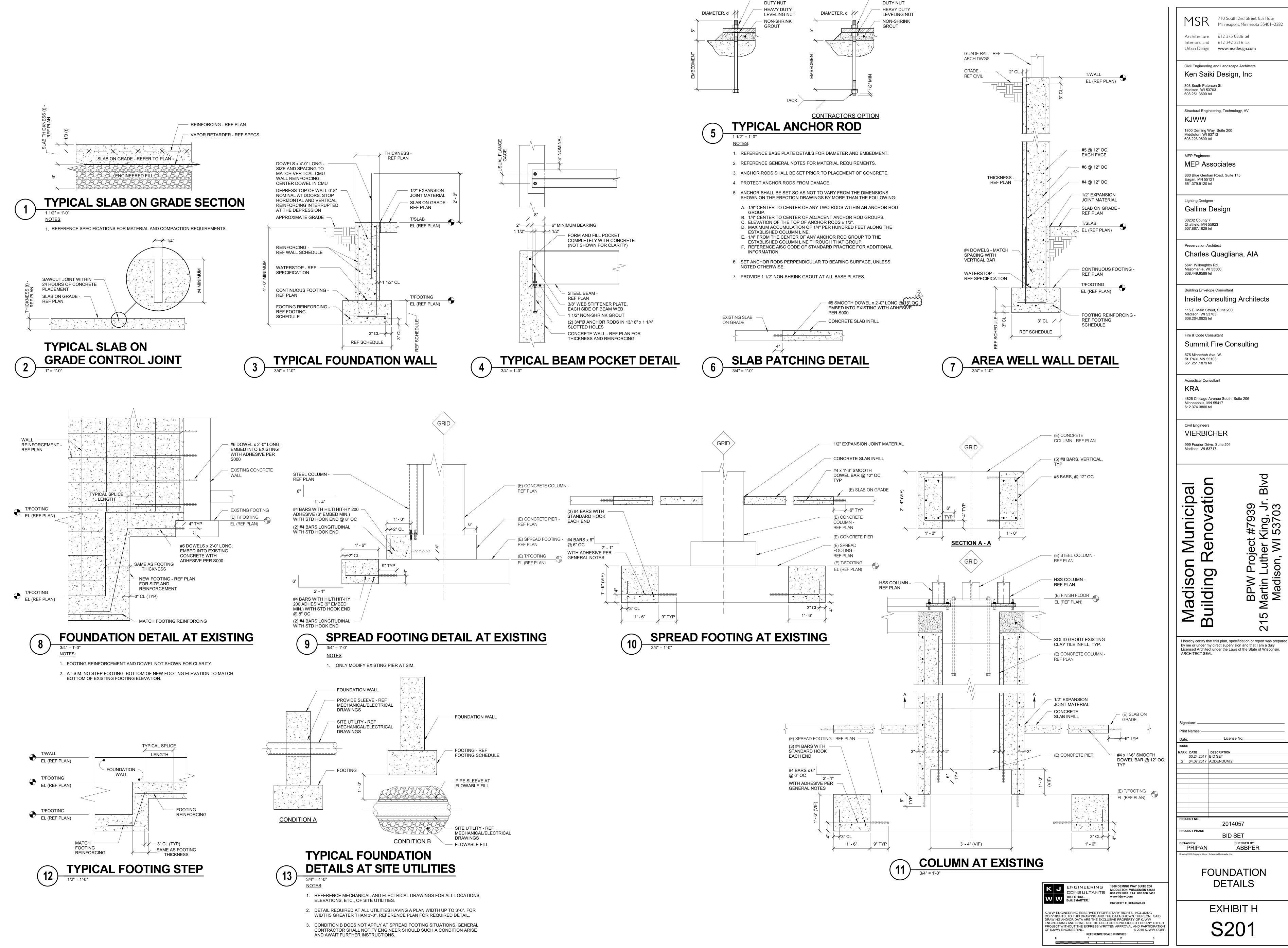
ENLARGED PLANS

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ABBPER

S190

PRIPAN



HEAVY

HEAVY

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Minneapolis, Minnesota 55401–2282

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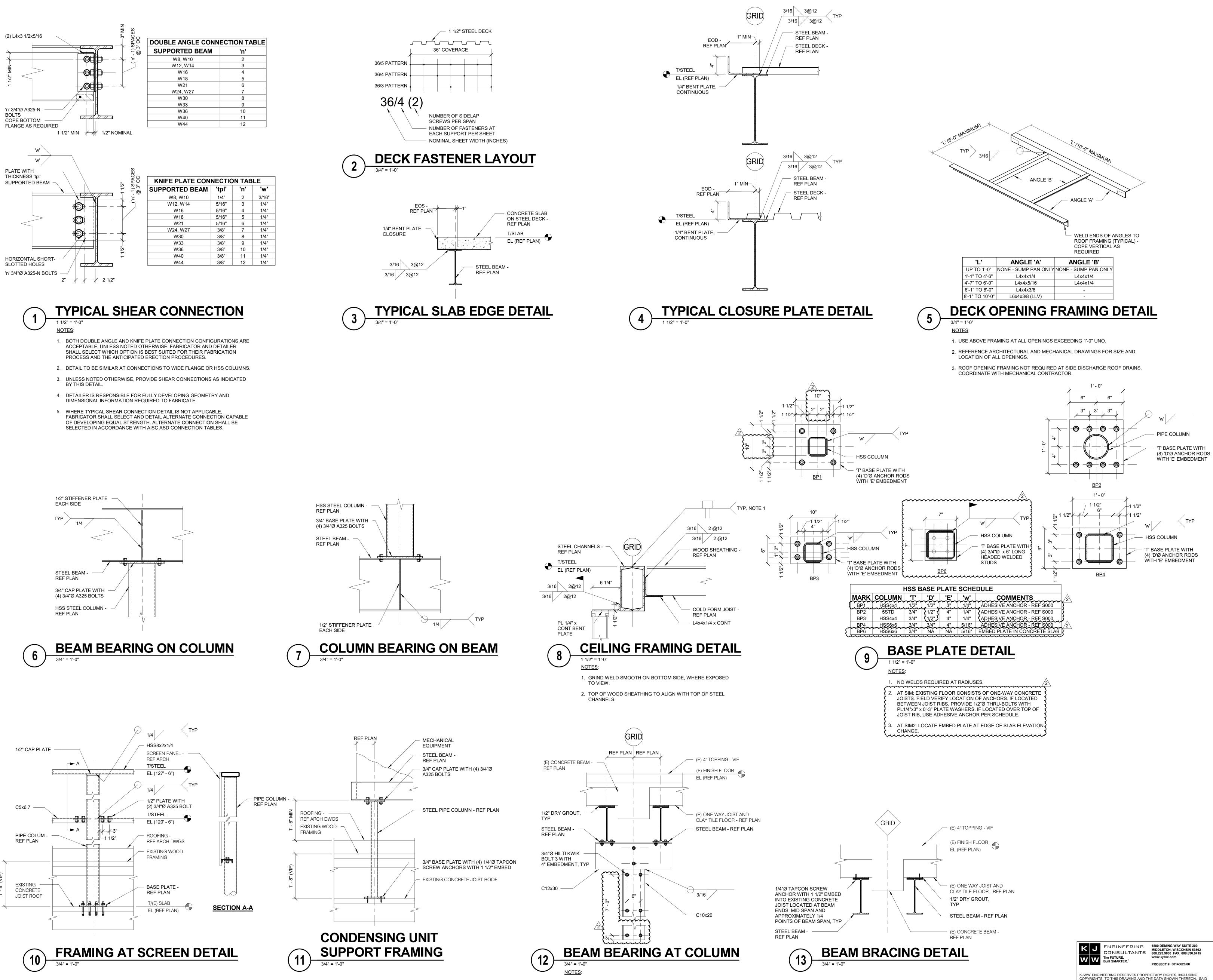
BID SET

DETAILS

EXHIBIT H

S201

ABBPER



1. AT SIM: BOTTOM OF BEAM ELEVATIONS DIFFER. PROVIDE HSS2 1/2x2 1/2x3/16

SHIM AT BEAM BEARING OF HIGHER BEAM.

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710 South 2nd Street, 8th Floor Minneapolis, Minnesota 55401–2282

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575 Minnehah Ave. W. St. Paul, MN 55103

Acoustical Consultant

KRA

Civil Engineers

Municipal Renovation

0

Madisc Building

ARCHITECT SEAL

Print Names:-

PROJECT NO.

PROJECT PHASE

PRIPAN

 RK
 DATE
 DESCRIPTION

 03.24.2017
 BID SET

2 04.07.2017 ADDENDUM 2

Reno

0

939 g, Jr. 703

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FRAMING DETAILS

EXHIBIT H

S302

ABBPER

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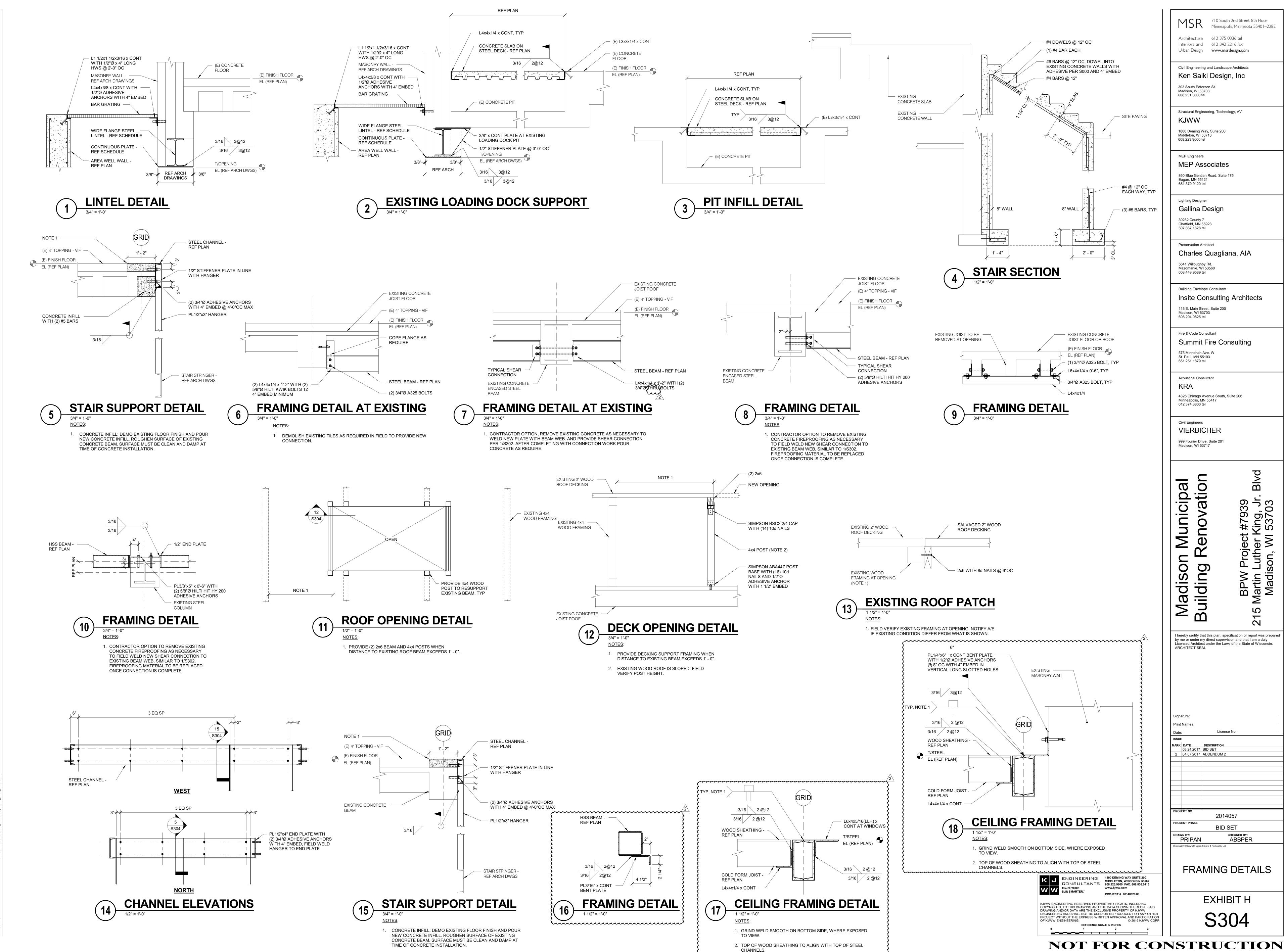
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GROUND LEVEL FIRE ALARM PLAN
1/8" = 1'-0"

GENERAL NOTES

A. SEE SHEET E000 FOR SYMBOLS AND ABBREVIATIONS.

B. ALL RACEWAY SHALL BE CONCEALED UNLESS NOTED OTHERWISE. SEE SHEET E001. C. SEE MOTOR AND EQUIPMENT SCHEDULE FOR DUCT SMOKE DETECTOR ASSOCIATED WITH AIR HANDLER FAN SHUT DOWN.

D. SEE POWER PLAN FOR FIRE/SMOKE DAMPER POWER CONNECTION.

1 SMOKE DETECTOR FOR ELEVATOR RECALL.

PROVIDE DUCT SMOKE DETECTOR FOR SMOKE DAMPER FIRE ALARM INTERFACE. COORDINATE DETECTOR LOCATION WITH MECHANICAL CONTRACTOR.

PROVIDE (2) VOICE OUTLET FOR FIRE DEPARTMENT CONNECTION. PROVIDE FIRE ALARM FLOW AND TAMPER SWITCHES. FOR QUANTITY AND LOCATIONS COORDINATE WITH FIRE PROTECTION CONTRACTOR.

KEYED NOTES

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2 04.07.2017 ADDENDUM 2

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BID ISSUE

GROUND LEVEL FIRE ALARM PLAN

> **EXHIBIT L** E300