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Addendum #1 – Final Core & Shell Package

Project Name:	Hudl HQ – New Office / Mixed Use Building Lincoln, NE
Project No.:	15024
Issued:	January 14, 2016
Bid Date:	2:00 PM CST, Tuesday, February 2, 2016
Bid Opening:	Sampson Construction
Location:	3730 South 14th Street Lincoln, NE 68502

This Addendum is issued to Chief / Sampson Construction for distribution to all sub-Contractors and suppliers before receipt of proposals. This Addendum is to authorize the use of the following information in preparing proposals for the above named project. The bidder **must** enter the number of this Addendum on the **Proposal Sheet.**

GENERAL QUESTIONS AND CLARIFICATIONS

ADD 1-1. Sprayed Fire-Resistive Materials

Question: *What about SFRM on structural frame? Does that mean primary frame, beams and columns or does that mean all beams which would include secondary beams?*

Response: The primary structural frame is to have a 2-hour rating. Per the IBC definition, this refers to: "all columns; structural members having direct connections to the columns, including girders, beams, trusses and spandrels; members of the floor construction and roof construction having direct connections to the columns; and bracing members that are essential to the vertical stability of the primary structural frame under gravity loading shall be considered part of the primary structural frame whether or not the bracing member carries gravity loads."

The floor assemblies are 2-hour rated, thus all secondary structural members at floor assemblies will require a 2-hour rating (UL Design No. D907). Roofs are to be 1-hour rated, thus a 1-hour rating is required at the secondary beams at the 7th floor roof, the underside of the 7th floor roof deck, and the underside of the skywalk roof deck (UL Design No. P701).

ADD 1-2. Expansion Joints.

Question: *There is no specification for exterior expansion joints*.

Response: Both interior and exterior expansion joints are called out in section 079500 Interior Expansion Joints.

ADD 1-3. Mechanical Plate and Frame Heat Exchanger Model Number Clarification

Question: *Are the plate and frame heat exchangers required to be AHRI certified?*

Response: Plate and frame heat exchangers are not required to be AHRI certified. The B&G model numbers have been revised to remove the "A" designation.

MODIFICATIONS TO THE DRAWINGS

ADD 1-4. Refer to the Cover Sheet, Master List of Keynotes. Change the number reference of 089119.A1 to 233700.B1 and thus throughout the project.

ADD 1-5. Refer to Sheet C400. On the south side of the building, extend colored concrete paving and jointing to the stoop area at the main entrance. On the east side of the building, extend textured concrete paving to the stoop areas of the 4 retail entries. On the north side of the building, extend textured concrete paving to the stoop area of the north main entry. Refer to **Attachment C400.1, Attachment C400.2, Attachment C400.3,** and **Attachment C400.4**.

ADD 1-6. Refer to Sheet L500. Revise plant callouts to coordinate with the Plant Schedule. Refer to **Attachment L500.1** , **Attachment L500.2** and **Attachment L500.3** .

ADD 1-7. Refer to Sheet IR500. Irrigation at courtyard to be separate system from irrigation on green roof. Provide controller and booster pump as specified. Revise the irrigation Schedule accordingly. Refer to **Attachment IR500.1** and **Attachment IR500.2** .

ADD 1-8. Refer to Sheet IR700. Replace the entire sheet. Refer to **Attachment IR700.1**.

ADD 1-9. Refer to Sheet A101, First Floor Plan. At overhead coiling door 111.2, in Trash 111, add a bollard (keynote 055000.B1) on the interior side of the door at each jamb. Refer to **Attachment A01**.

ADD 1-10. Refer to Sheet A107, Seventh Floor Plan A1; Change detail callout G4/A400 SIM. to G1/A404 at south façade above frame AL-37.

ADD 1-11. The mechanical doghouse shown above the grease ducts near grid C/6.4 is not part of this bid package and is to be constructed under a future bid package. Delete the doghouse wall and roof assemblies, and any associated keynotes from the following details: A1/A108, G1/A200, G5/A201, G1/A202, A1/A203, D1/A203, D11/A203, F1/A402, F5/A205, F6/A206, and A12/A302. Refer to **Attachment A02** and **Attachment A04** for modifications to the roof at this area.

ADD 1-12. Refer to Sheet A108, Roof Plan A1; Change detail callout G4/A400 SIM. to G1/A404 at south façade above frame AL-37. Modify the mechanical doghouse near grid C/6.4 as shown. Delete detail callouts and add detail callout K1/A404. Refer to **Attachment A02.**

ADD 1-13. Refer to Sheet A300, Wall Sections, detail A10; Change detail callout G4/A400 SIM. to G1/A404 SIM at roof edge.

ADD 1-14. Refer to Sheet A403, Exterior Plan and Section Details, detail N6. Modify steel jamb protection plate to have a 90 degree bend in it to cover the corner of the brick as shown on **Attachment A03.**

ADD 1-15. Refer to Sheet A404, Exterior Plan and Section Details; Add new detail G1/A404, Roof Edge Detail. Add sheet specific note 9 and sheet specific note 10 to Sheet A404. Refer to **Attachment A05.**

ADD 1-16. Refer to Sheet A404, Exterior Plan and Section Details; Add new detail K1/A404, Roof Curb Detail. Add sheet specific note 11 to Sheet A404. Refer to **Attachment A04.**

ADD 1-17. Refer to Sheet A404, Exterior Plan and Section Details; Detail G9. Note that this detail is not used in this bid package. This detail shows the design intent for the future mechanical doghouse roof edge near grid C/6.4. Delete this detail callout from the following details: A1/A108, A1/A203, and A12/A302.

ADD 1-18. Refer to Sheet A501, Aluminum Storefront Frame Types; Modify frame AL-37. Add two horizontal mullions and slab edge cover at roof slab as shown on **Attachment A06.** Change detail callout G4/A400 SIM at top of frame to G1/A404.

ADD 1-19. Refer to Sheet A502, Aluminum Storefront Frame Types; Modify frame AL-42. Add two horizontal mullions and slab edge cover at roof slab as shown on **Attachment A07.** Change detail callout G4/A400 SIM. at top of frame to G1/A404 SIM.

ADD 1-20. Refer to Sheet ID100, Interior Notes and Specifications. Under Heading 95113 Acoustical Ceiling Tile, modify the grid to read “Silhouette XL-1/8” Reveal” to match Specification section 095113, paragraph 2.4.B.

ADD 1-21. Refer to Sheet ID101. Addition of Lobby 103 floor finish plan as well as relocation of previously included floor finish plans from sheet ID201. Refer to **Attachment ID01**

ADD 1-22. Refer to Sheet ID200. Addition of wall tile transition notes. Note on customization of lobby pendant fixture added. Additional design information on signage provided. Refer to **Attachment ID02**

ADD 1-23. Refer to Sheet ID300. Addition of mirror support hardware at typical restroom mirror detail. Refer to **Attachment ID03**

ADD 1-24. Revision to M601. Stairwell and Elevator Shaft Pressurization Fans and Pump schedules revised so that Electrical Contractor provides VFDs for installation by Electrical. Heat Exchanger schedule revise to remove “A” from Heat Exchanger model number. Refer to **Attachment M1.**

ADD 1-25. Revision to P110. Revised below grade grease waste stub size from 4” to 6”. Revised below grade sanitary sewer stub invert height. Refer to **Attachment P1.**

ADD 1-26. Revision to P111. Relocated wall hydrant from CL E/5.8 to CL F/4. Revised gas pipe stub location. Refer to **Attachment P2.**

ADD 1-27. Revision to E111. Relocated receptacles in lobby and South vestibule. Removed card reader at CL A/5. Refer to **Attachment E1.**

ADD 1-28. Revision to E112. Removed non-emergency lighting from tenant area in Level 3. Added rough-ins for receptacles on core walls. Refer to **Attachment E2.**

ADD 1-29. Revision to E113. Added rough-ins for receptacles on core walls. Added rough-in for sign connection at CL A8. Added branding accent lighting at CL D8. Added holiday lighting receptacles below roof level. Refer to **Attachment E3**.

ADD 1-30. Revision to E114. Added VFDs for SPF-1 AND EPF-1. Revised circuiting for EPF-1 to emergency panel. Refer to **Attachment E4.**

ADD 1-31. Revision to E114. Added VFDs for SPF-2 AND EPF-2. Revised circuiting for EPF-2 to emergency panel. Refer to **Attachment E5.**

ADD 1-32. Revision to E131. Added type "Q" light fixtures along CL A1-A3. Removed non-emergency lighting in tenant spaces. Revised exit signs in public areas. Refer to **Attachment E6.**

ADD 1-33. Revision to E132. Added fin accent lighting. Refer to **Attachment E7.**

ADD 1-34. Sheet E202 added to clarify accent lighting location and orientation. Refer to **Attachment E8.**

ADD 1-35. Revision to E402. Added rough-ins for receptacles on core walls. Refer to **Attachment E9.**

ADD 1-36. Revision to E403. Added rough-ins for receptacles on core walls. Refer to **Attachment E10.**

ADD 1-37. Revision to E404. Added rough-ins for receptacles on core walls. Refer to **Attachment E11.**

ADD 1-38. Revision to E405. Added rough-ins for receptacles on core walls. Refer to **Attachment E12.**

ADD 1-39. Revision to E406. Added rough-ins for receptacles on core walls. Refer to **Attachment E13.**

ADD 1-40. Revision to E407. Added rough-ins for receptacles on core walls. Refer to **Attachment E14.**

ADD 1-41. Revision to E504. Updated LCP-1 schedule for the removal of lighting on level 1. Refer to **Attachment E15.**

ADD 1-42. Revision to E504. Updated LCP-2 and LCP-3 schedules for the removal of lighting on level 3, the addition of façade accent lighting, and the addition of roof level holiday lighting receptacles. Refer to **Attachment E16.**

ADD 1-43. Revision to E601. Added fixtures A-S and A-L. Changed color temperature for fixture E. Added fixture X3 for public area exit signs. Revised fixture X2. Refer to **Attachment E17.**

ADD 1-44. Revision to E602. Updated panel "EMH1", "EMH3", and "EMH6" schedules for circuiting revisions. Refer to **Attachment E18.**

ADD 1-45. Revision to E603. Updated panel "H1A", "H3", and "L1A" schedules for circuiting revisions. Refer to **Attachment E19.**

ADD 1-46. Revision to E604. Updated panel "H6" schedule for circuiting revisions. Refer to **Attachment E20.**

ADD 1-47. Revision to E611. Added 3/4" underground PVC conduit between fire pump CT cabinet located in fire pump room and meter socket located in electrical room. Removed unused circuit breakers from panelboard "EMDP". Added VFDs for stairwell pressurization fans #1 and #2. Refer to **Attachment E21.**

MODIFICATIONS TO THE SPECIFICATIONS

ADD 1-48. Refer to Section 002113, Paragraph 4.C. Modify the sentence that says "Proposed Substitutions shall be sent to the Construction Manager" to say "Architect". All proposed substitutions should be submitted to the Architect. Refer to Section 012500 and the required substitution form contained therein.

ADD 1-49. Refer to Section 002113, Paragraph 6.A. Note, the bid date has been changed to February 2, 2016. Time and location to remain the same.

ADD 1-50. Refer to Section 002113, Paragraph 14. Refer to **Attachment A08** for Project Milestone Schedule.

ADD 1-51. Refer to Section 002400 Scopes of Work. Replace this section in its entirety with the **Attachment A09**

ADD 1-52. Refer to Section 012300, Paragraph 3.1. Add sub-paragraph H as follows:

H. Add Alternate No. S1. 4th Floor Stadium Seating Framing

Contractor shall provide all labor, equipment, tools, materials, supervision, and other items and services necessary to install new concrete filled metal pan tread stair between floors 4 and 5, including, but not limited to, spray fireproofing to the additional floor framing members and fire sprinkler branch lines below the stair structure. Finish elements, electrical components, railing system are not to be included. Refer to **Attachment S01** and **Attachment S02**.

ADD 1-53. Refer to Section 042000, Paragraph 2.9.D.4. Modify product to X-Seal Anchor by Hohmann & Barnard, Inc. or equivalent product by approved manufactures.

ADD 1-54. Refer to Section 072726. Add the following sub-paragraphs for vapor-retarding, fluid-applied air barriers:

2.5 AIR BARRIERS, VAPOR RETARDING

A. High-Build, Vapor-Retarding Air Barrier: Modified bituminous or synthetic polymer membrane with an installed dry film thickness, according to manufacturer's written instructions, of 35 mils (0.9 mm) or thicker over smooth, void-free substrates.

1. Modified Bituminous Type:

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Carlisle Coatings & Waterproofing Inc.
2) Henry Company, Sealants Division.
3) Hohmann & Barnard, Inc.
4) Tremco Incorporated.
5) W. R. Meadows, Inc.

2. Synthetic Polymer Type:

   a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

      1) Carlisle Coatings & Waterproofing Inc.
      2) Grace Construction Products; W.R. Grace & Co. -- Conn.
      3) Henry Company.
      4) Rubber Polymer Corporation, Inc.
      5) W. R. Meadows, Inc.

3. Physical and Performance Properties:

   a. Air Permeance: Maximum 0.004 cfm/sq. ft. of surface area at 1.57-lbf/sq. ft. (0.02 L/s x sq. m of surface area at 75-Pa) pressure difference; ASTM E 2178.
   b. Vapor Permeance: Maximum 0.1 perm (5.8 ng/Pa x s x sq. m); ASTM E 96/E 96M, Desiccant Method.
   c. Ultimate Elongation: Minimum 500 percent; ASTM D 412, Die C.
   d. Adhesion to Substrate: Minimum 16 lbf/sq. in. (110 kPa) when tested according to ASTM D 4541.
   e. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.
   f. UV Resistance: Can be exposed to sunlight for 30 days according to manufacturer's written instructions.

ADD 1-55. Refer to Section 072726. Add the following sub-paragraph to 3.4.B:

2. Vapor-Retarding, High-Build Air Barrier: Total dry film thickness as recommended in writing by manufacturer to comply with performance requirements, applied in one or more equal coats

ADD 1-56. Refer to Section 083323. Add paragraph 1.7 as follows:

1.7 WARRANTY

A. Warranty: Manufacturer agrees to repair or replace components of overhead coiling doors that do not comply with requirements, or that fail in materials or workmanship, or failure of operating components within the specified warranty period.

   1. Warranty Period: Minimum two (2) years from date of Substantial Completion.

ADD 1-57. Refer to Section 083323, paragraph 2.3.K. Delete sub-paragraph 2.

ADD 1-58. Refer to Section 084113, Paragraph 2.2.B. Delete window type 2 from this section. This window is specified in Section 084413

ADD 1-59. Refer to Section 084113, Paragraph 2.3.A.5. Delete sub-paragraphs a. and b. and replace with the following:

a. High-performance Organic finish.

ADD 1-60. Refer to Section 084113, Paragraph 2.9.A. Delete sup-paragraph 2. All aluminum framing is “Charcoal”.

ADD 1-61. Add Section 084413 Glazed Aluminum Curtain Walls in its entirety. Refer to **Attachment A10.**

ADD 1-62. For the fire extinguishers indicated by keynote 104416.A4, provide the following:

Multipurpose Dry-Chemical Type in Steel Container: UL-rated 2-A:10-B:C, 5-lb (2.3-kg) nominal capacity, with monoammonium phosphate-based dry chemical in enameled-steel container.

Install with manufacturer's standard steel mounting bracket, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or baked-enamel finish.

Extinguisher to have lettering complying with authorities having jurisdiction for letter style, size, spacing, and location.

Locate as indicated on Drawings.

ADD 1-63. Refer to Section 142100, Paragraph 2.3.B.1. Modify the capacity of Elevator EL01 to 4,000 lb. minimum.

ADD 1-64. Revision to 260913. Corrected related section numbers in section 1.02 RELATED SECTIONS. Refer to **Attachment E22.**

ADD 1-65. Add Section 260519 – Low-Voltage Electrical Power Conductors and Cables in its entirety. Refer to **Attachment E23.**

ADD 1-66. Added Section 260926 – Lighting Control System in its entirety. Refer to **Attachment E24.**

ARCHITECTURAL PRIOR APPROVALS / SUBSTITUTIONS

ADD 1-67. The manufacturers listed herein will be considered approved for bidding. However, the proposed substitution must meet the intent of the specifications and will be subject to shop submittal approval during construction. Burden of Proof is on Proposer. Bidders shall bear all responsibility for coordinating and performing related changes in the Work necessitated by such substitution and include such costs in the Bid:

Specification Section			Manufacturer/Proposed Product
a	033000	Cast-In-Place Concrete	Poly-America Husky Yellow Guard 15 mil
b	033000	Cast-In-Place Concrete	Insulation Solutions, Viper Vaporcheck II 15 mil
c	042000	Unit Masonry – Ties & Anchors	Wire-Bond
d	042000	Unit Masonry – Flexible Flashing	Wire-Bond, Aqua Flash 500
e	042000	Unit Masonry – Weep / Cavity Vents	Mortar Net
f	047200	Cast Stone Masonry	MarcStone, LLC
g	072100	Thermal Insulation – Polyisocyanurate	Hunter Panels, Xci Foil

h	072726	Fluid-Applied Membrane Air Barriers	StoGuard Systems, Emerald Coat – note: this product is only approved for areas with keynote 072726.B1.
i	074113 074213 074213.53	Metal Roof Panels Metal Wall Panels Metal Soffit Panels	Atas, Rumba Shake, Rigid Wall, Versa-Lok and Design Wall soffit panel
j	075423	Thermoplastic Polyolefin Roofing	Versico, Versiweld TPO
k	088813	Fire-Resistant Glazing	Vetrotech SGG Keralite L
l	233700	Air Outlets and Inlets	Nailor/Diffusers, Registers, and Grilles

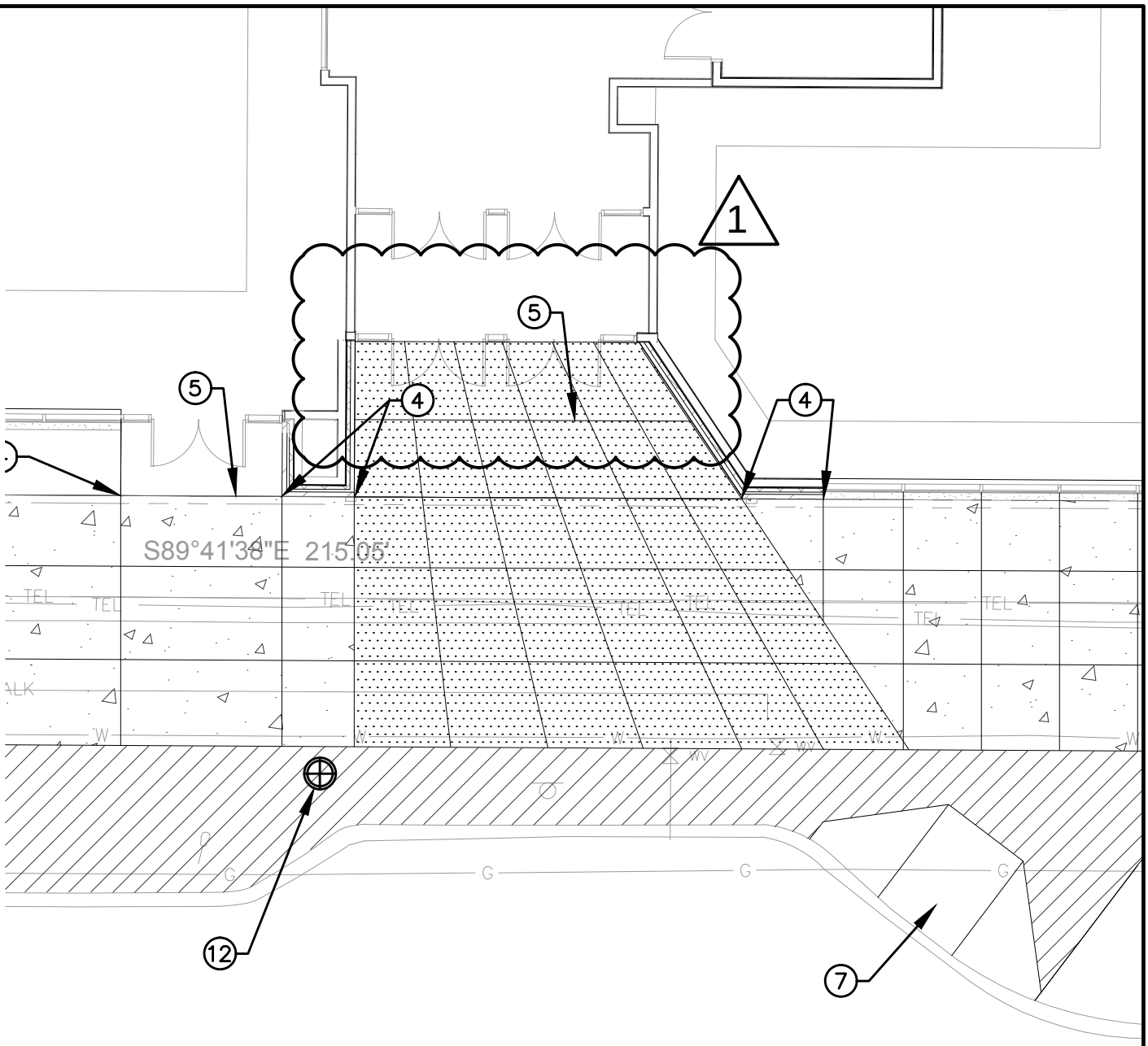
ATTACHMENTS

ADD 1-68. The following attachments are included as part of this addendum.

- Attachment A01: Revisions to A1/A101
- Attachment A02: Revisions to A1/A108
- Attachment A03: Revisions to N6/A403
- Attachment A04: New Detail K1/A404
- Attachment A05: New Detail G1/A404
- Attachment A06: Revisions to A1/A501
- Attachment A07: Revisions to A1/A502
- Attachment A08: Milestone Schedule
- Attachment A09: Scopes of Work
- Attachment A10: Section 084413 Glazed Aluminum Curtain Walls
- Attachment C400.1 Revision to Streetscape and Courtyard Paving Plan.
- Attachment C400.2 Revision to Streetscape and Courtyard Paving Plan.
- Attachment C400.3 Revision to Streetscape and Courtyard Paving Plan.
- Attachment C400.4 Revision to Streetscape and Courtyard Paving Plan
- Attachment L500.1 Revision to Landscape Plan.
- Attachment L500.2 Revision to Landscape Plan.
- Attachment L500.3 Revision to Landscape Plan.
- Attachment IR500.1 Revision to the Irrigation Plan.
- Attachment IR500.2 Revised Irrigation Schedule.
- Attachment IR700.1 Replace Entire sheet.
- Attachment ID#1: Replace Entire Sheet ID101
- Attachment ID#2: Replace Entire Sheet ID200
- Attachment ID#3: Revisions to 13/ID300
- Attachment S01: Partial Fourth Floor Framing Plan
- Attachment S02: Partial Fifth Floor Framing Plan
- Attachment M1: Revisions to Mechanical Schedules
- Attachment P1: Replace Entire Sheet P110
- Attachment P2: Replace Entire Sheet P111
- Attachment E1: Replace Entire Sheet E111
- Attachment E2: Replace Entire Sheet E112
- Attachment E3: Replace Entire Sheet E113
- Attachment E4: Revisions to E114
- Attachment E5: Revisions to E114
- Attachment E6: Replace Entire Sheet E131

- Attachment E7: Revisions to E132
- Attachment E8: Add Sheet E202
- Attachment E9: Revisions to E402
- Attachment E10: Revisions to E403
- Attachment E11: Revisions to E404
- Attachment E12: Revisions to E405
- Attachment E13: Revisions to E406
- Attachment E14: Revisions to E407
- Attachment E15: Revisions to E504
- Attachment E16: Revisions to E504
- Attachment E17: Revisions to E601
- Attachment E18: Replace Entire Sheet E602
- Attachment E19: Replace Entire Sheet E603
- Attachment E20: Replace Entire Sheet E604
- Attachment E21: Replace Entire Sheet E611
- Attachment E22: Revisions to 260913
- Attachment E23: Add Section 260519 – Low-Voltage Electrical Power Conductors and Cables
- Attachment E24: Add Section 260926 – Lighting Control System

End of Core & Shell Addendum #1



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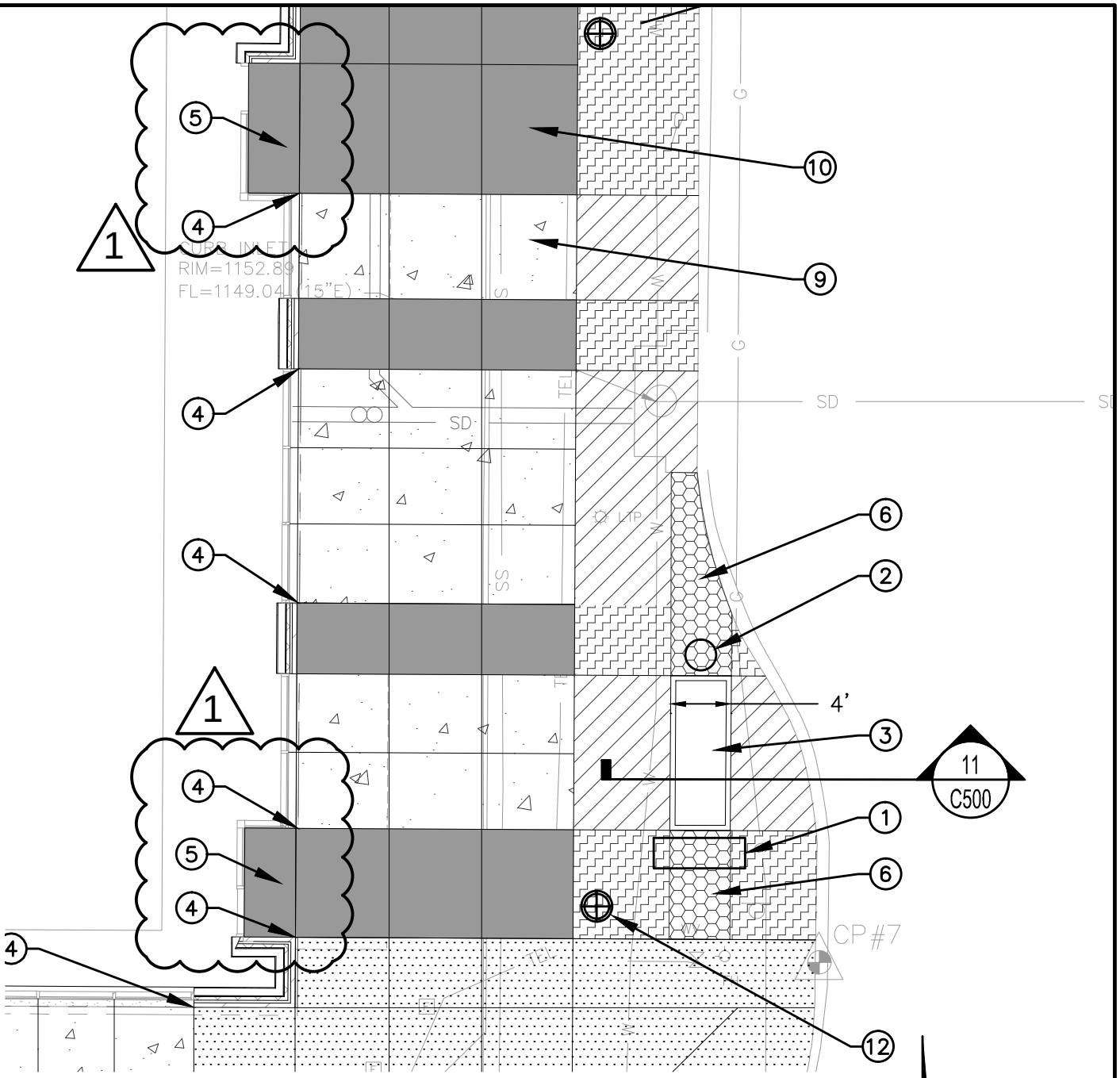

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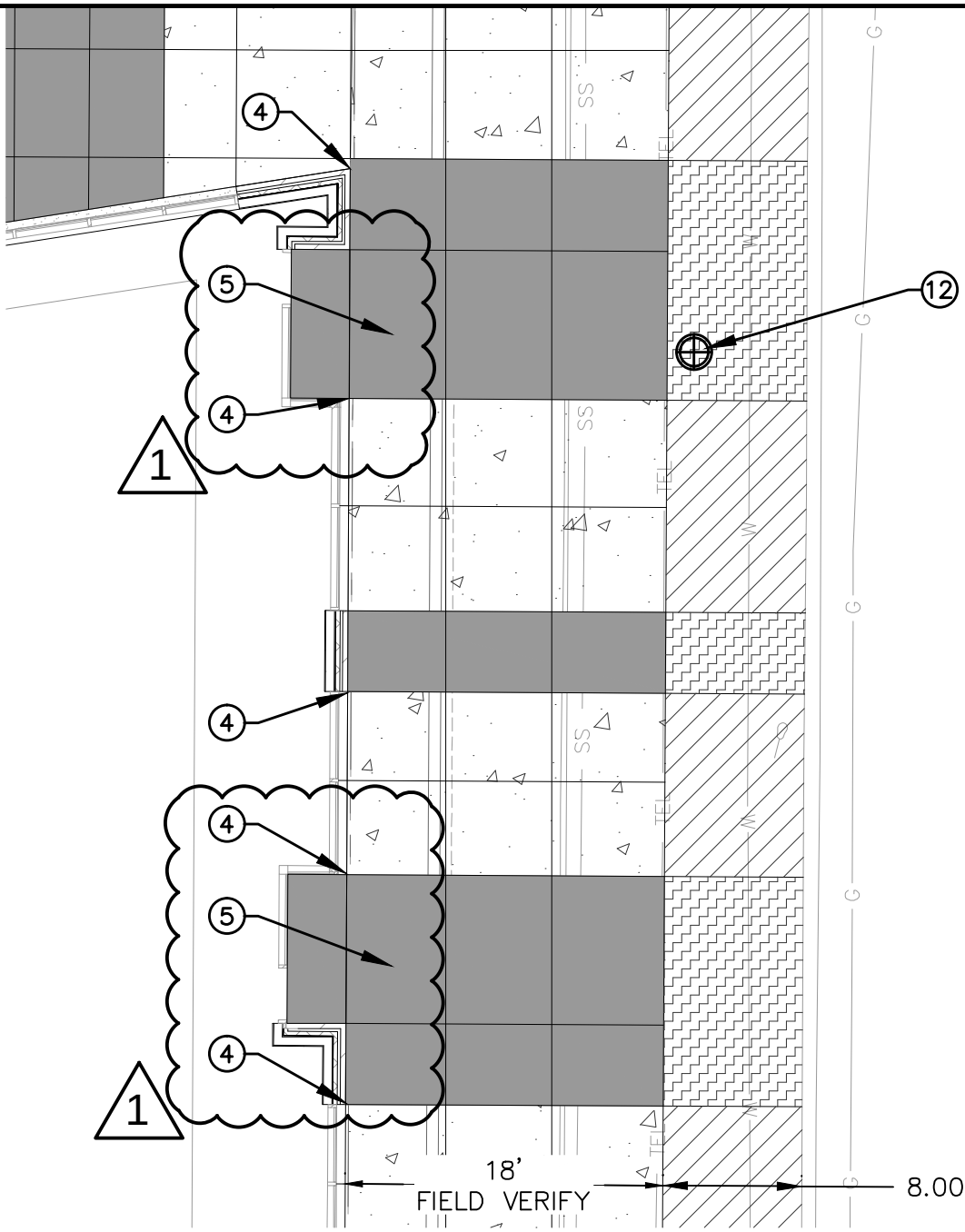

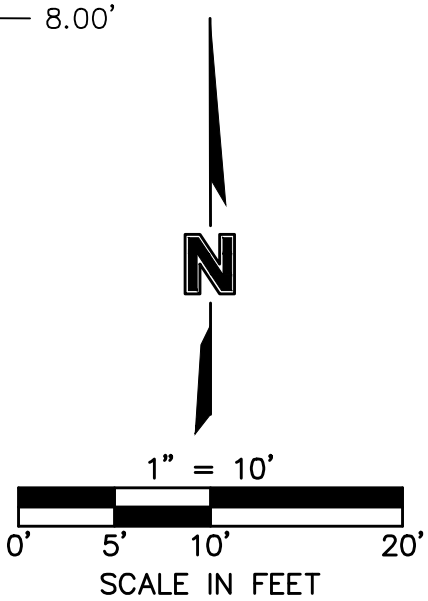

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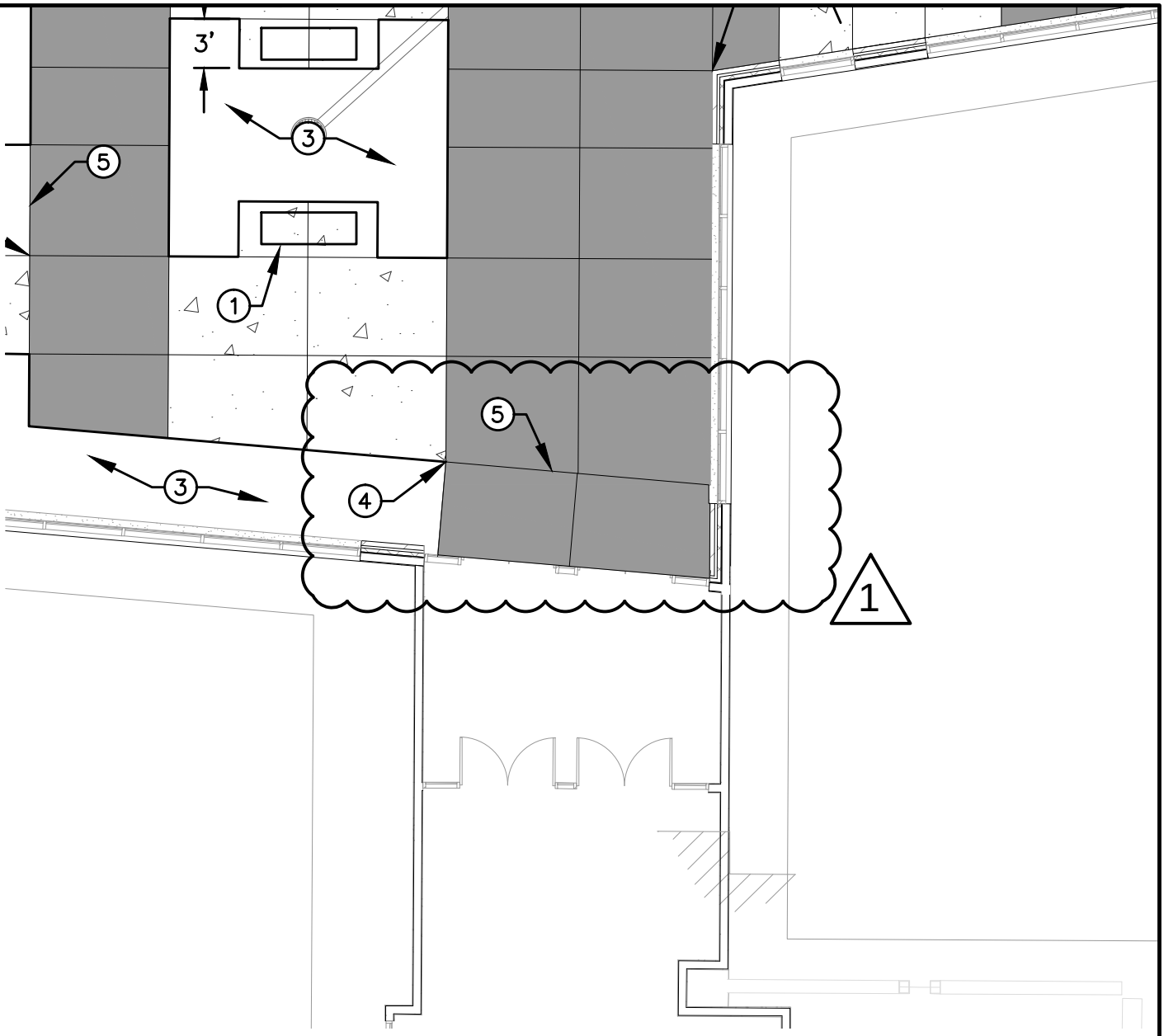

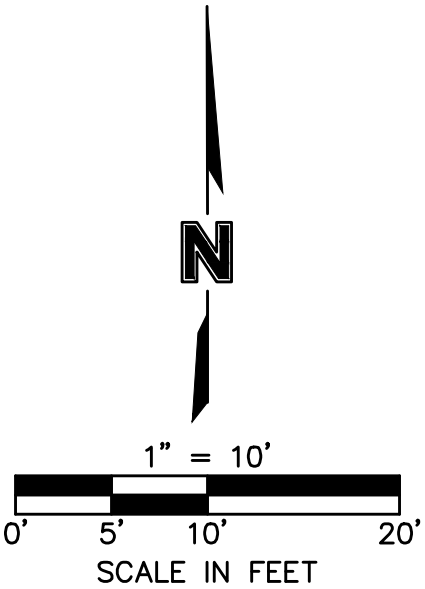

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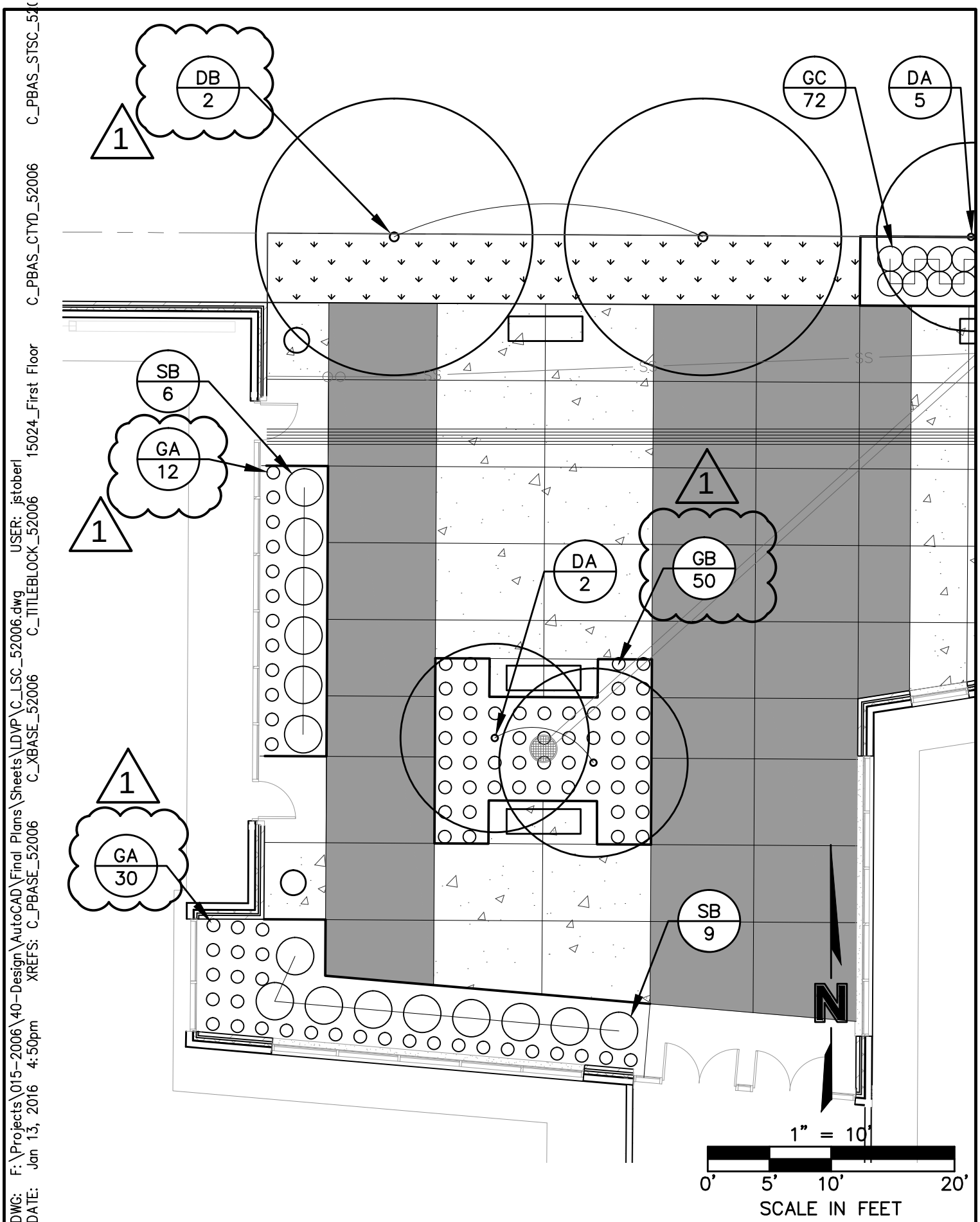

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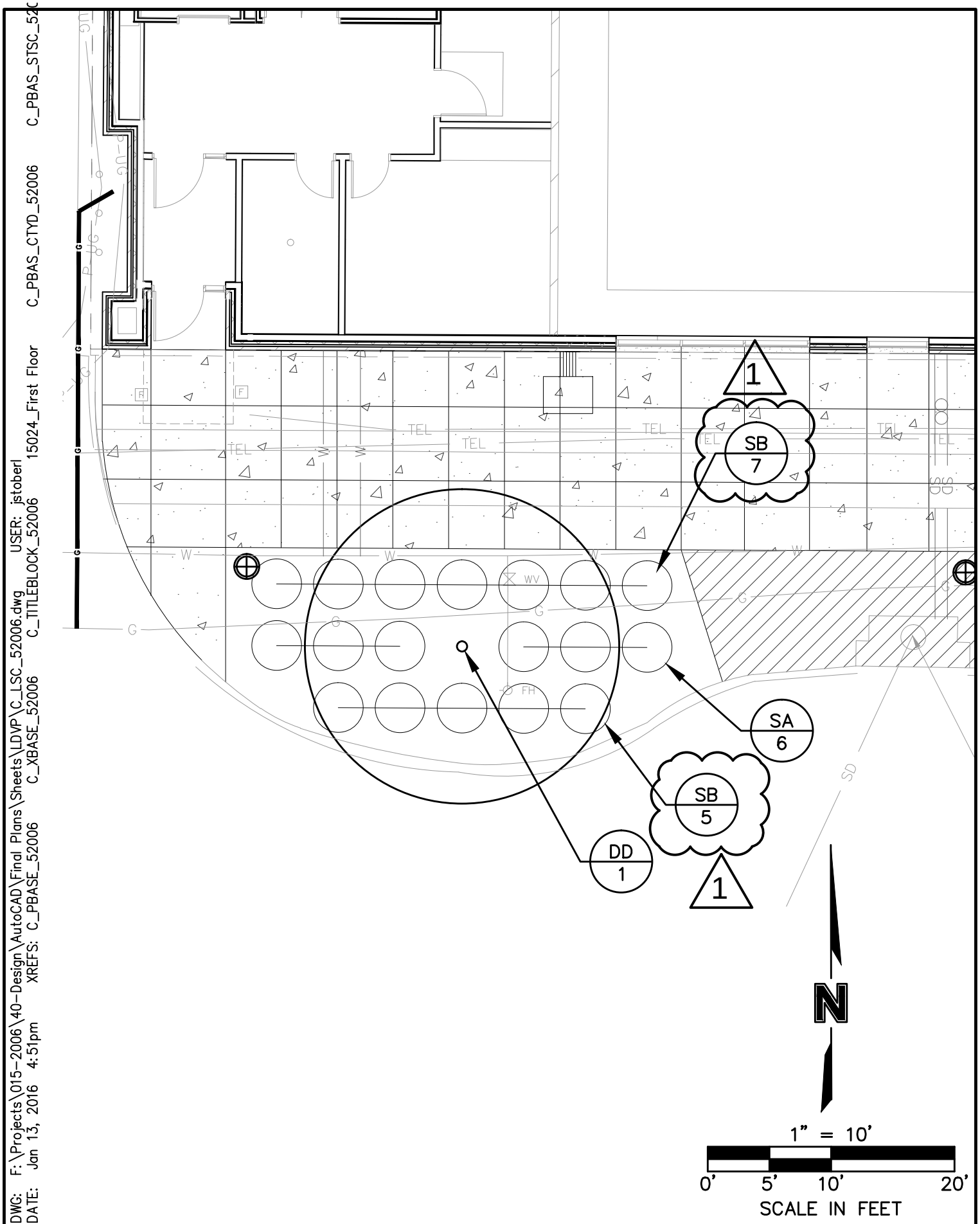

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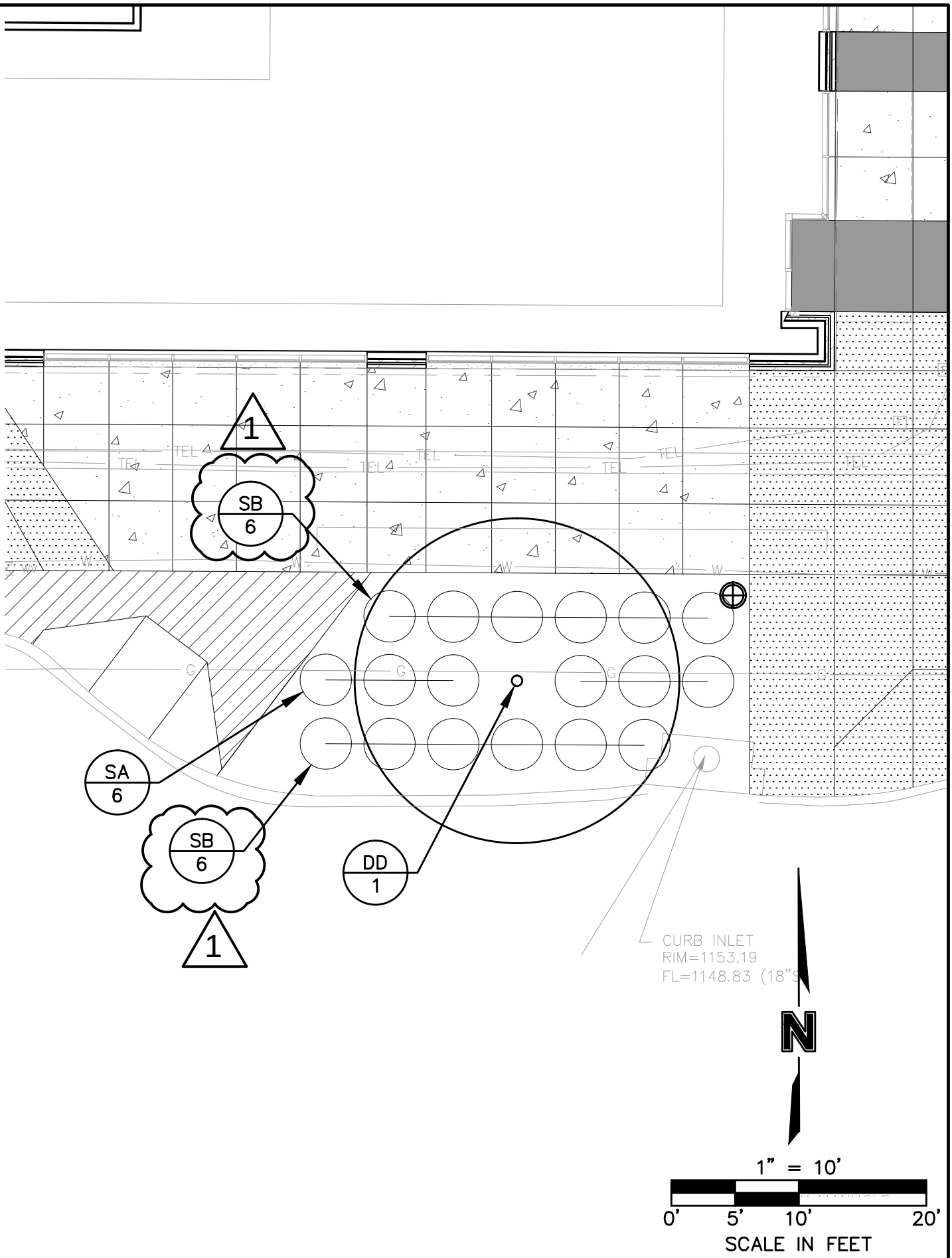
PROJECT NO: 015-2006	HUDL HQ New Office / Mixed Use Building Final Core & Shell Package	OLSSON ASSOCIATES	601 P Street, Suite 200 P.O. Box 84608 Lincoln, NE 68508 TEL 402.474.6311 FAX 402.474.5160	EXHIBIT
DRAWN BY: JES				ADD 1 L500.2
DATE: 01/14/2016				



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PROJECT NO: 015-2006	HUDL HQ New Office / Mixed Use Building Final Core & Shell Package	OLSSON ASSOCIATES	601 P Street, Suite 200 P.O. Box 84608 Lincoln, NE 68508 TEL 402.474.6311 FAX 402.474.5160	EXHIBIT
DRAWN BY: JES				ADD 1 L500.3
DATE: 01/14/2016				

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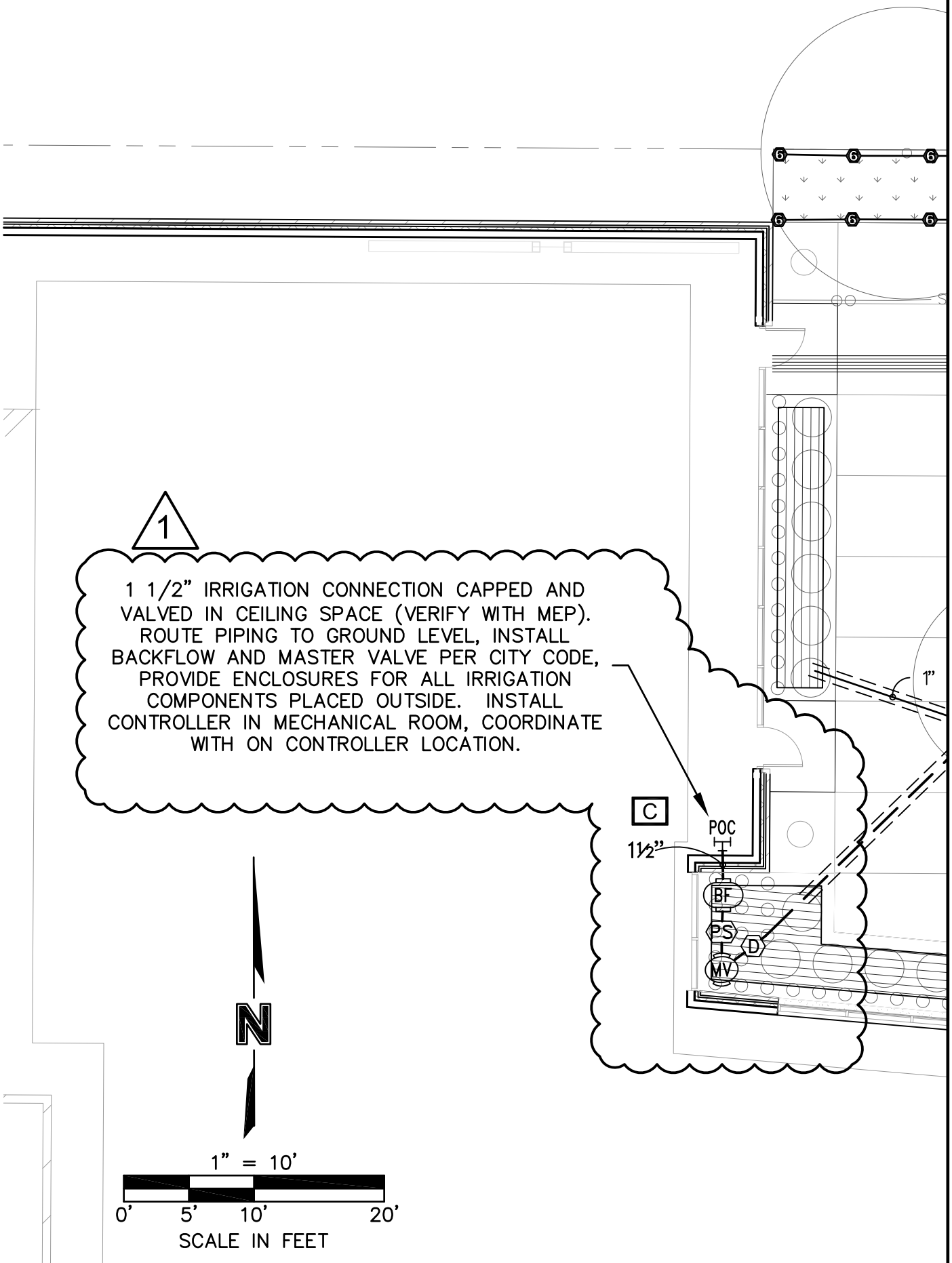

PROJECT NO: 015-2006	HUDL HQ New Office / Mixed Use Building Final Core & Shell Package	OLSSON ASSOCIATES	EXHIBIT
DRAWN BY: JES		601 P Street, Suite 200 P.O. Box 84608 Lincoln, NE 68508 TEL 402.474.6311 FAX 402.474.5160	ADD 1 IR500.1
DATE: 01/14/2016			

IRRIGATION_SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	DETAIL
4 6 18 4V 6V 18V	RAIN BIRD 1804-SAM-PRS ADJ TURF SPRAY 4.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE. PRESSURE REGULATING.	18	30	
1402 1408 1401 1404	RAIN BIRD RWS-B-C ROOT WATERING SYSTEM WITH 4.0" DIAMETER X 36.0" LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE, AND CHECK VALVE. RAIN BIRD BUBBLER OPTION AS INDICATED: 1401 0.25 GPM, 1402 0.5 GPM, 1404 1.0 GPM, 1408 2.0 GPM.	10	30	

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	DETAIL
	RAIN BIRD XCZF-100-PRF MEDIUM FLOW DRIP CONTROL KIT. 1" DV VALVE WITH 1" PRESSURE REGULATING FILTER AT 40PSI, AND MDCF FITTING. 3GPM-15GPM.	2	
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFS-09-18 (18) XFS SUB-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE W/COPPER SHIELD TECHNOLOGY. 0.9GPH EMITTERS AT 18.0" O.C. DRIPLINE LATERALS SPACED AT 18.0" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV RESISTANT.	1,292 S.F.	

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	DETAIL
	RAIN BIRD PGA GLOBE 1", 1-1/2", 2" ELECTRIC REMOTE CONTROL VALVE, GLOBE.	3	
	RAIN BIRD 5-RC 1" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, THERMOPLASTIC RUBBER COVER, AND 1-PIECE BODY.	1	
MV	RAIN BIRD PGA GLOBE 1-1/2" 1", 1-1/2", 2" ELECTRIC MASTER VALVE, GLOBE.	1	
D	DRAIN VALVE	1	
BF	FEBCO 825Y 1-1/2" REDUCED PRESSURE BACKFLOW PREVENTER	1	
C	RAIN BIRD ESP4-SMTEI 4 STATION INDOOR SMART MODULAR CONTROL SYSTEM FOR RESIDENTIAL AND LIGHT COMMERCIAL USE. WALL MOUNT, TIPPING BUCKET RAIN SENSOR THAT MEASURES RAINFALL.	1	
PS	RAIN BIRD LIGHT COMMERCIAL PUMP STATION 3/4HP, 1HP, 1-1/2HP, 2HP, AND 3HP. RESIDENTIAL, LIGHT COMMERCIAL, PARKS AND REC USE. COMPLETE PUMP STATION, WITH QUICK DISCONNECTION, POWDER COATED STEEL ENCLOSURE, START RELAY AND COOLING LOUVRES.	1	
POC	POINT OF CONNECTION 1-1/2" 1 1/2" IRRIGATION CONNECTION FOR GREENROOF CAPPED AND VALVED IN CEILING SPACE.	1	
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 PVC CLASS 200 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1 1/4" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 1" IN SIZE.	778.1 L.F.	
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 PVC CLASS 200 IRRIGATION PIPE.	201.7 L.F.	
	PIPE SLEEVE: PVC SCHEDULE 40 PIPE SLEEVE TO BE 1.5 TIMES PIPE DIAMETER. EXTEND SLEEVING TO 18" BEYOND EDGE OF PAVING, TYP.	429.6 L.F.	

1

DWG: F:\Projects\015-2006\40-Design\AutoCAD\Final Plans\Sheets\LDVP\C_IRR_52006.dwg USER: jstoberl
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PROJECT NO: 015-2006	HUDL HQ New Office / Mixed Use Building Final Core & Shell Package	OLSSON ASSOCIATES	EXHIBIT
DRAWN BY: JES		601 P Street, Suite 200 P.O. Box 84608 Lincoln, NE 68508 TEL 402.474.6311 FAX 402.474.5160	ADD 1 IR500.2
DATE: 01/14/2016			

CRITICAL ANALYSIS

Generated: 15:45	2016-01-13
P.O.C. NUMBER: 01	
Water Source Information:	1" IRRIGATION CONNECTION FOR GREENROOF CAPPED AND VALVED IN CEILING SPACE.
FLOW AVAILABLE	
Point of Connection Size:	1"
Flow Available:	20.24 gpm
PRESSURE AVAILABLE	
Static Pressure at POC:	50.00 psi
Booster Pump pressure provided:	50.00 psi
Pressure Available:	100.00 psi
DESIGN ANALYSIS	
Maximum Station Flow:	16.72 gpm
Flow Available at POC:	20.24 gpm
Residual Flow Available:	3.52 gpm
Critical Station:	4
Design Pressure:	30.00 psi
Elevation Loss:	0.43 psi
Friction Loss:	0.42 psi
Fittings Loss:	0.04 psi
Loss through Valve:	5.94 psi
Pressure Req. at Critical Station:	36.84 psi
Loss for Fittings:	0.09 psi
Loss for Main Line:	0.87 psi
Loss for POC to Valve Elevation:	0.43 psi
Loss for Backflow:	11.51 psi
Loss for Master Valve:	5.94 psi
Critical Station Pressure at POC:	55.68 psi
Pressure Available:	100.00 psi
Residual Pressure Available:	44.32 psi

IRRIGATION_SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	DETAIL
EST LCS RCS CST SST	RAIN BIRD 1804-SAM-PRS 15 STRIP SERIES TURF SPRAY 4.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, 1/2" NPT FEMALE THREADED INLET, WITH SEAL-A-MATIC CHECK VALVE. PRESSURE REGULATING.	10	30	
Q T H Tq F	RAIN BIRD 1804-SAM-PRS 12 SERIES MPR TURF SPRAY 4.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, 1/2" NPT FEMALE THREADED INLET, WITH SEAL-A-MATIC CHECK VALVE. PRESSURE REGULATING.	2	30	
4V 6V 18V	RAIN BIRD 1804-SAM-PRS ADJ TURF SPRAY 4.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, 1/2" NPT FEMALE THREADED INLET, WITH SEAL-A-MATIC CHECK VALVE. PRESSURE REGULATING.	5	30	
08HE-VAN 12HE-VAN 10HE-VAN 15HE-VAN	RAIN BIRD 1804-SAM-PRS ADJ TURF SPRAY 4.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL, 1/2" NPT FEMALE THREADED INLET, WITH SEAL-A-MATIC CHECK VALVE. PRESSURE REGULATING.	45	30	

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	DETAIL
	RAIN BIRD PGA GLOBE 1", 1-1/2", 2" ELECTRIC REMOTE CONTROL VALVE, GLOBE.	6	
MV	RAIN BIRD PGA GLOBE 1" 1", 1-1/2", 2" ELECTRIC MASTER VALVE, GLOBE.	1	
D	DRAIN VALVE	1	
BF	FEBCO 825Y 1" REDUCED PRESSURE BACKFLOW PREVENTER	1	
C	RAIN BIRD ESP4-SMTE1 WITH (1) ESP-SM3 7 STATION INDOOR SMART MODULAR CONTROL SYSTEM FOR RESIDENTIAL AND LIGHT COMMERCIAL USE. WALL MOUNT, TIPPING BUCKET RAIN SENSOR THAT MEASURES RAINFALL.	1	
PS	RAIN BIRD LIGHT COMMERCIAL PUMP STATION 3/4HP, 1HP, 1-1/2HP, 2HP, AND 3HP. RESIDENTIAL, LIGHT COMMERCIAL, PARKS AND REC USE. COMPLETE PUMP STATION, WITH QUICK DISCONNECTION, POWDER COATED STEEL ENCLOSURE, START RELAY AND COOLING LOUVRES.	1	
POC 1"	POINT OF CONNECTION 1" 1" IRRIGATION CONNECTION FOR GREENROOF CAPPED AND VALVED IN CEILING SPACE.	1	
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 PVC CLASS 200 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1 1/4" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 1" IN SIZE.	589.8 L.F.	
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 PVC CLASS 200 IRRIGATION PIPE.	318.0 L.F.	

Valve Callout
- Valve Number
- Valve Flow
- Valve Size

VALVE SCHEDULE

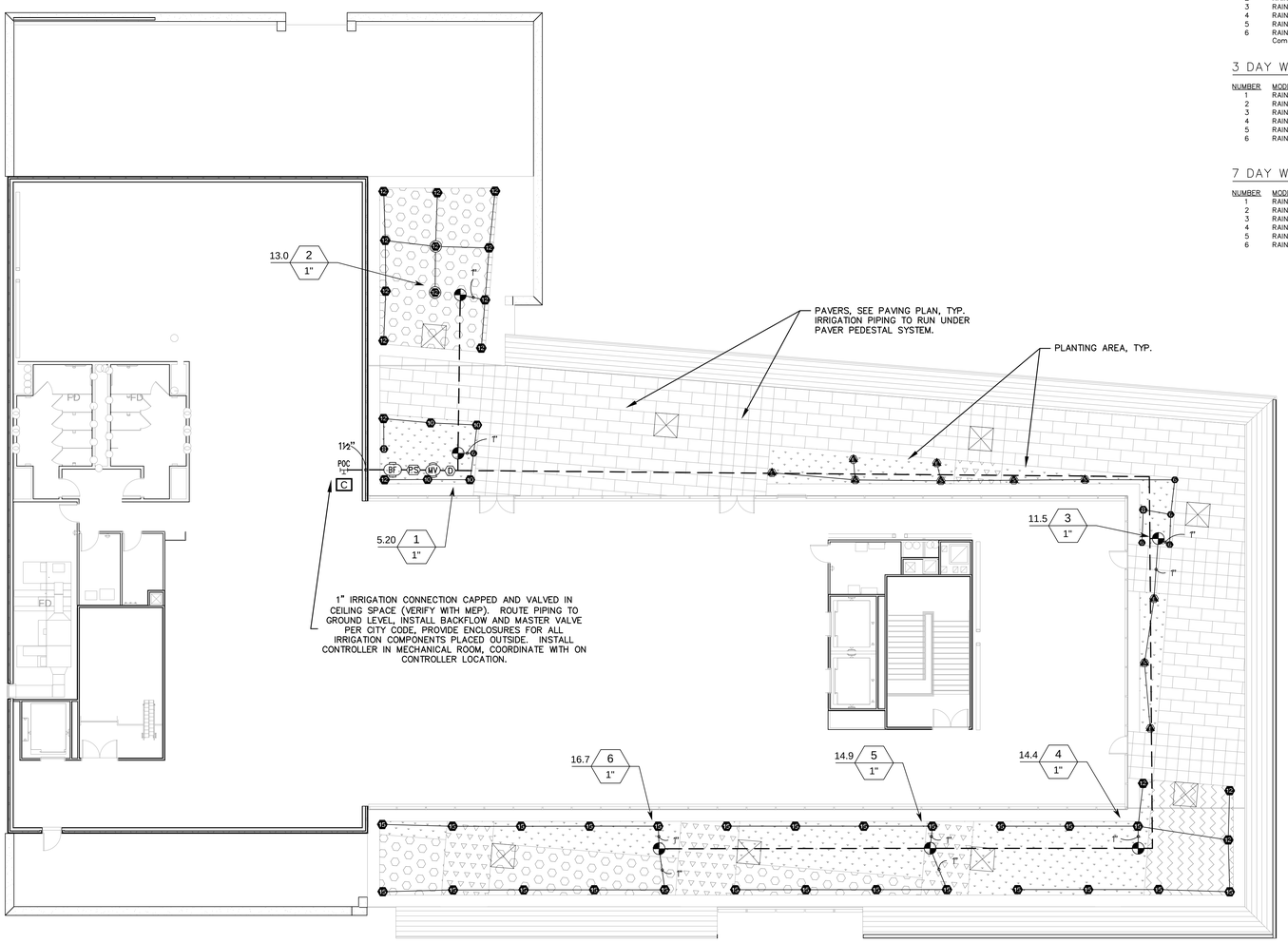
NUMBER	MODEL	SIZE	TYPE	WIRE	PSI	PSI @ POC	GPM	HEAD ELEV	VALVE ELEV	PRECIP
1	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	25.1	35.98	53.77	5.20	1.00 ft	1.00 ft	2.66 in/h
2	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	52.3	36.80	55.15	13.02	1.00 ft	1.00 ft	2.30 in/h
3	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	152.8	36.71	55.62	11.54	1.00 ft	1.00 ft	2.17 in/h
4	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	206.9	36.83	55.68	14.43	1.00 ft	1.00 ft	1.85 in/h
5	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	242.6	36.55	55.54	14.87	1.00 ft	1.00 ft	1.87 in/h
6	RAIN BIRD PGA GLOBE	1"	TURF SPRAY	289.1	36.19	55.25	16.72	0.00 ft	0.00 ft	2.09 in/h
	Common Wire			318.0						

3 DAY WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	SUN	MON	TUE	WED	THU	FRI	SAT	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	RAIN BIRD PGA GLOBE	TURF SPRAY	2.66 in/h		10 min		10 min		10 min		1.20	28	145.7	48.6
2	RAIN BIRD PGA GLOBE	TURF SPRAY	2.30 in/h		11 min		11 min		11 min		1.20	32	416.7	138.9
3	RAIN BIRD PGA GLOBE	TURF SPRAY	2.17 in/h		12 min		12 min		12 min		1.20	34	392.4	130.8
4	RAIN BIRD PGA GLOBE	TURF SPRAY	1.85 in/h		13 min		13 min		13 min		1.20	39	562.9	187.6
5	RAIN BIRD PGA GLOBE	TURF SPRAY	1.87 in/h		13 min		13 min		13 min		1.20	39	580.1	193.4
6	RAIN BIRD PGA GLOBE	TURF SPRAY	2.09 in/h		12 min		12 min		12 min		1.20	35	585.1	195.0
		TOTALS:			71		71		71			207	2,683	894.3

7 DAY WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	SUN	MON	TUE	WED	THU	FRI	SAT	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	RAIN BIRD PGA GLOBE	TURF SPRAY	2.66 in/h	4 min	4 min	4 min	4 min	4 min	4 min	4 min	1.20	28	145.7	20.8
2	RAIN BIRD PGA GLOBE	TURF SPRAY	2.30 in/h	5 min	5 min	5 min	5 min	5 min	5 min	5 min	1.20	32	416.7	59.5
3	RAIN BIRD PGA GLOBE	TURF SPRAY	2.17 in/h	5 min	5 min	5 min	5 min	5 min	5 min	5 min	1.20	34	392.4	56.1
4	RAIN BIRD PGA GLOBE	TURF SPRAY	1.85 in/h	6 min	6 min	6 min	6 min	6 min	6 min	6 min	1.20	39	562.9	80.4
5	RAIN BIRD PGA GLOBE	TURF SPRAY	1.87 in/h	6 min	6 min	6 min	6 min	6 min	6 min	6 min	1.20	39	580.1	82.9
6	RAIN BIRD PGA GLOBE	TURF SPRAY	2.09 in/h	5 min	5 min	5 min	5 min	5 min	5 min	5 min	1.20	35	585.1	83.6
		TOTALS:		31	31	31	31	31	31	31		207	2,683	383.3



REVISIONS:

DESIGN ENGINEER: SINCLAIR HILLE ARCHITECTS
PROJECT ENGINEER: NKB
DRAWN BY: JLE
ISSUED: 01/06/16

PROFESSIONAL LANDSCAPE ARCHITECT JOSEPH E. STOBERL LA-348 STATE OF NEBRASKA

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ELECTRICAL ENGINEER
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Hudl HQ

New Office / Mixed Use Building

Final Core & Shell Package

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7th Floor Greenroof Irrigation Plan

SHA PROJECT NO. 15024

IR700

OLSSON ASSOCIATES
601 P Street, Suite 200
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Project # 015-2006
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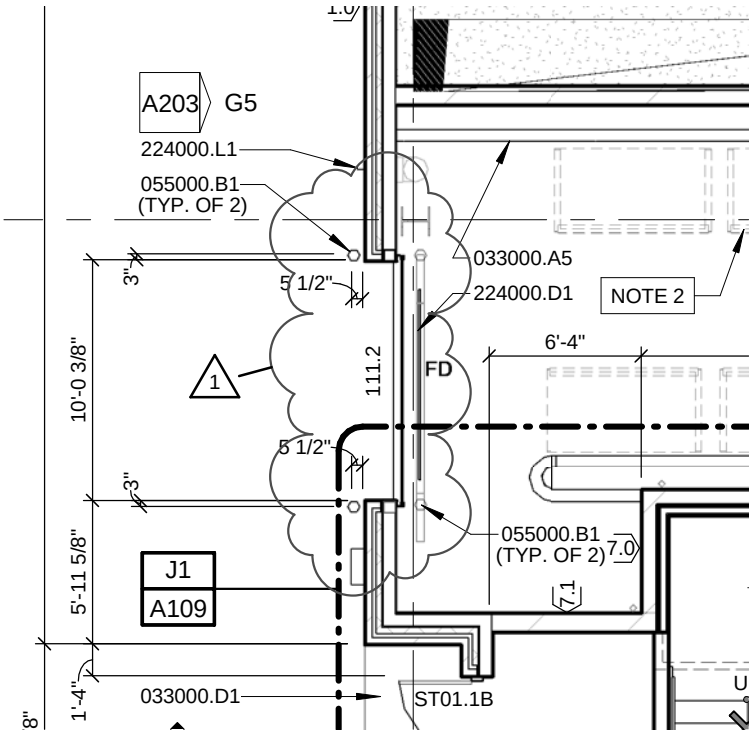

First Floor Plan

Revision to Detail: **A1/ A101**

Hudl HQ - New Office / Mixed Use Building

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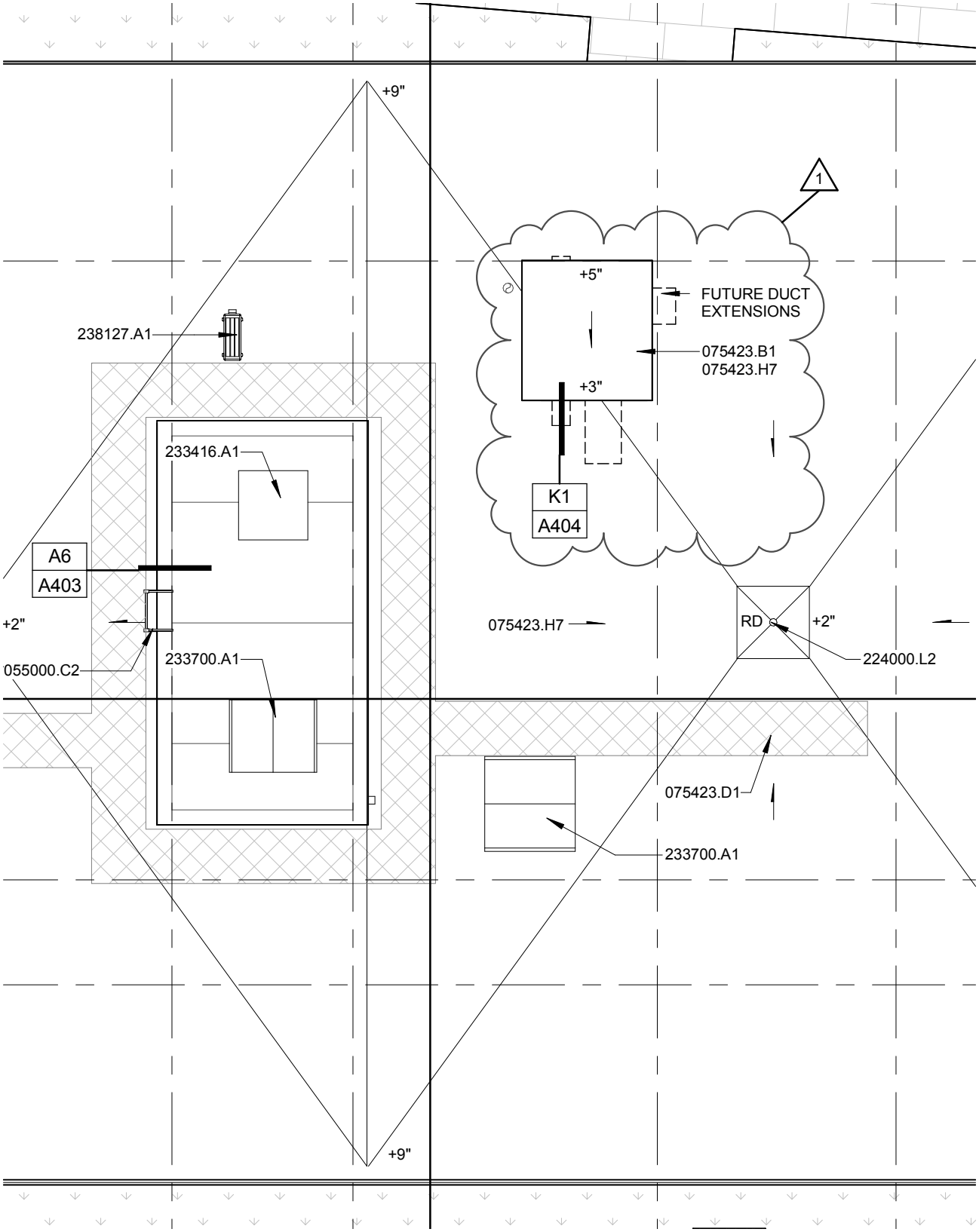
Attachment: A01

Scale: 1 1/2" = 1'-0"	Project Number: 15024-05	Date: January 15, 2016	Attachment to: **Addendum 01**



Roof Plan

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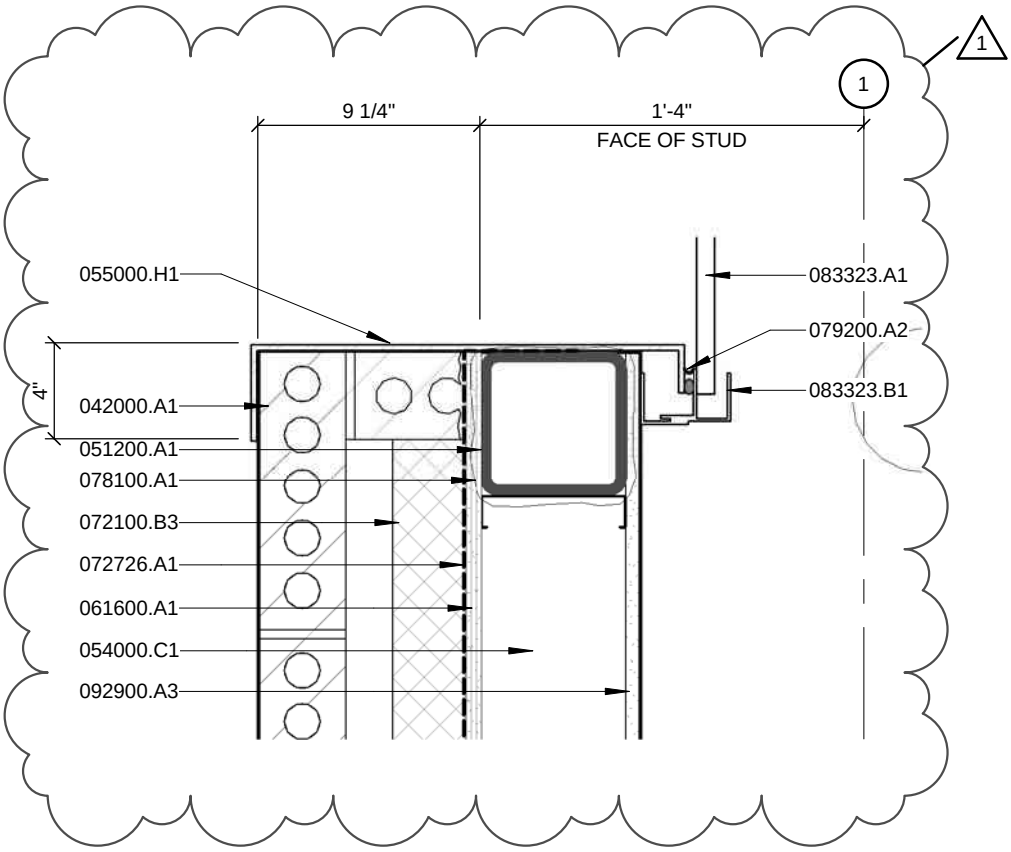
Revision to Detail: **A1/A108**

Hudl HQ - New Office / Mixed Use Building

Attachment: A02

Scale: 1/8" = 1'-0"	Project Number: 15024-05	Date: January 15, 2016	Attachment to: **Addendum 01**



N6	JAMB DETAIL
SCALE: 1 1/2" = 1'-0"	OVERHEAD DOOR JAMB AT EXTERIOR BRICK VENEER WALL

1

Jamb Detail

Revision to Detail: **N6/ A403**

Hudl HQ - New Office / Mixed Use Building

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Attachment: A03

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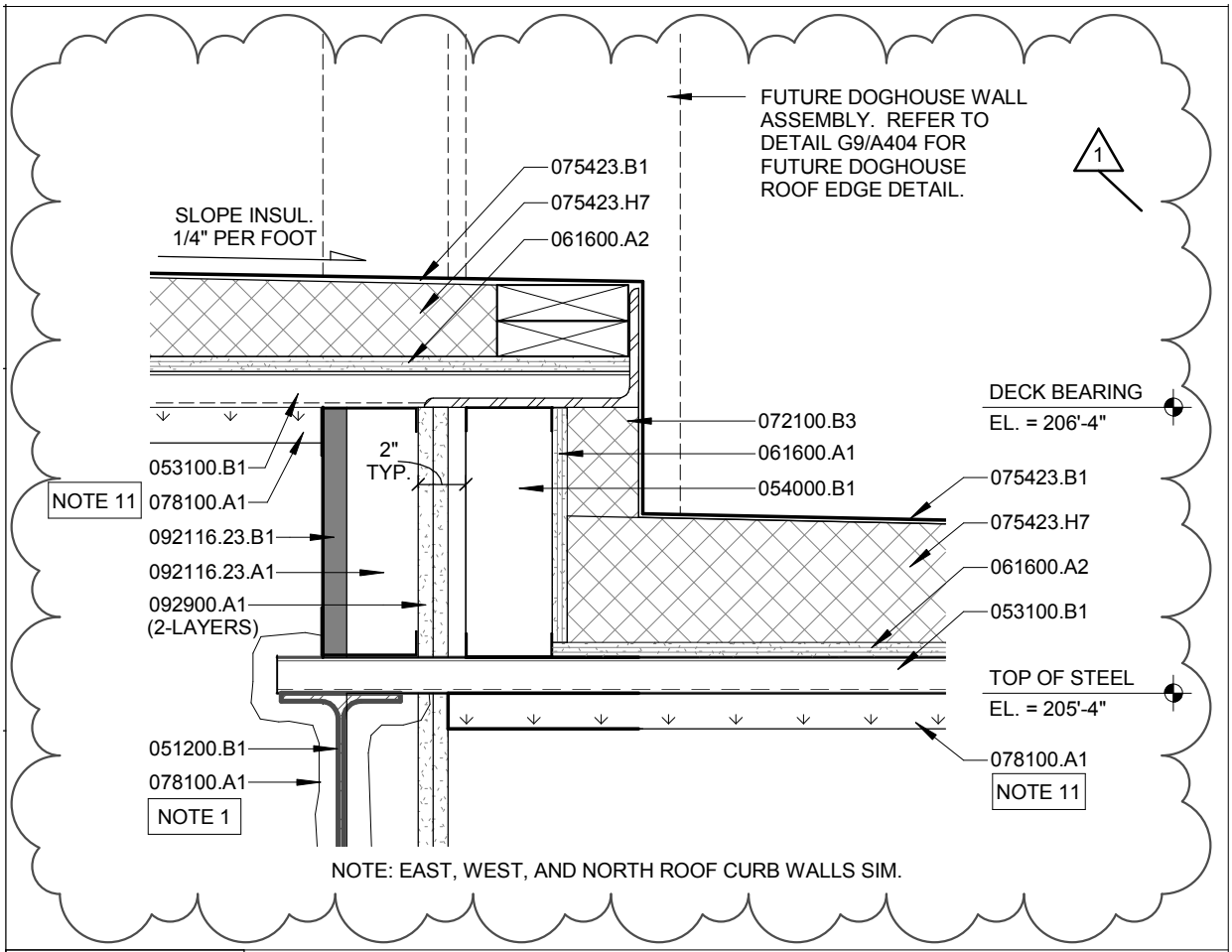

K1	ROOF CURB DETAIL
SCALE: 1 1/2" = 1'-0"	ROOF CURB SOUTH WALL AT SEVENTH FLOOR ROOF GREASE DUCT CHASE

NOTE 11 ALL STEEL DECKING TO BE PROTECTED WITH SPRAYED FIRE RESISTIVE MATERIAL ON 7TH FLOOR ROOF

Roof Curb Detail

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Revision to Detail: **K1/A404**

Hudl HQ - New Office / Mixed Use Building

Attachment: A04

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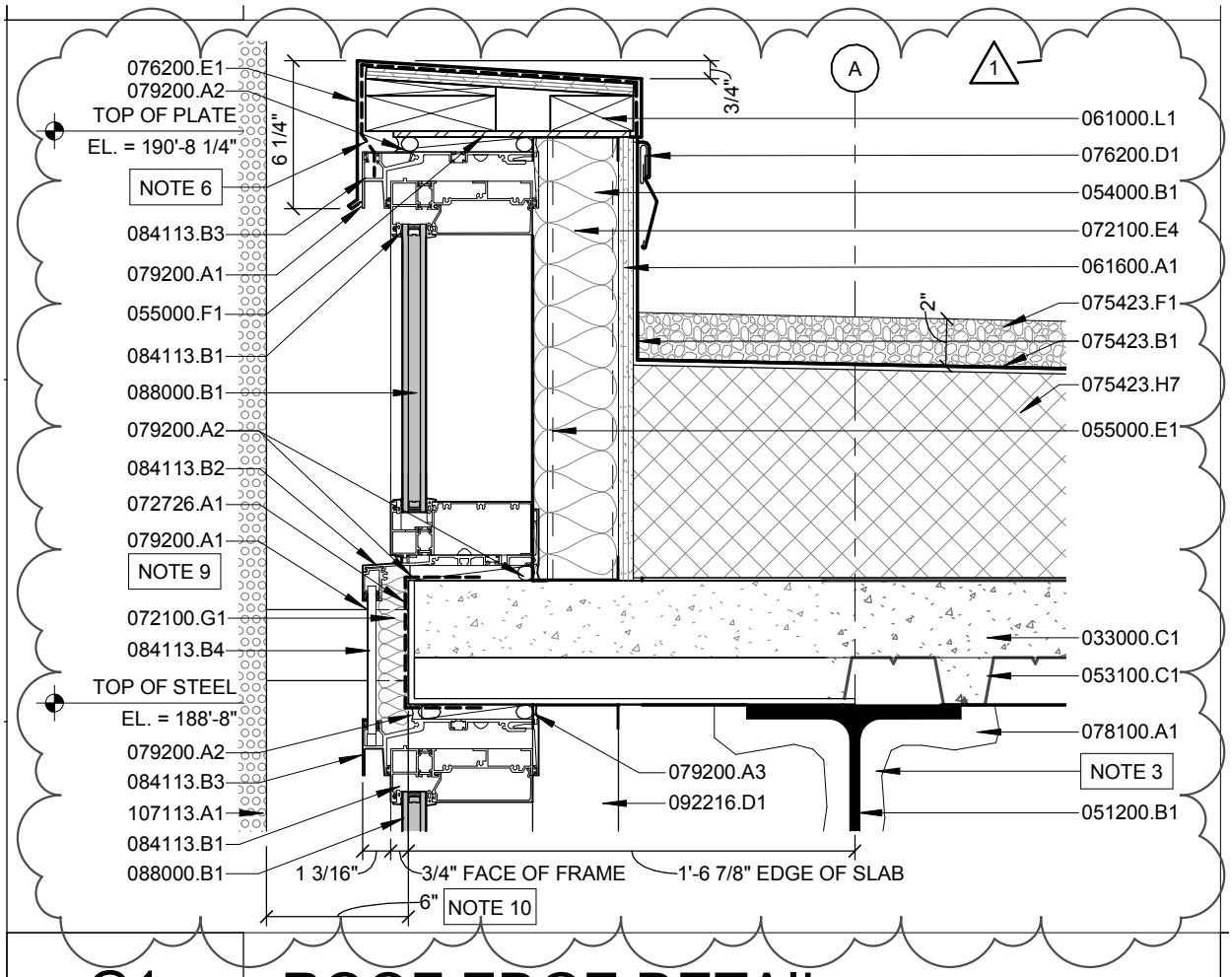

G1	ROOF EDGE DETAIL
SCALE: 1 1/2" = 1'-0"	ROOF EDGE AT TOP OF WINDOW WALL ASSEMBLY AL-37 AND AL-42 - SEVENTH FLOOR

NOTE 9 INSTALL SEALANT AT ALL SLAB EDGE COVER PENETRATIONS WHERE EXTERIOR SUN CONTROL ASSEMBLY SUPPORT STRUCTURES OCCUR. SEALANT TO BE INSTALLED FULL-DEPTH OF SLAB EDGE COVER TO COMPLETELY SURROUND SUN CONTROL ASSEMBLY SUPPORT STRUCTURE TO PROVIDE A WEATHER TIGHT SEAL.

NOTE 10 EDGE OF SLAB TO EDGE OF SUN CONTROL ASSEMBLY PANEL (TYP. AT ASSEMBLY TYPE 'A' AND TYPE 'B')

Roof Edge Detail

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Revision to Detail: **G1/A404**

Hudl HQ - New Office / Mixed Use Building

Attachment: A05

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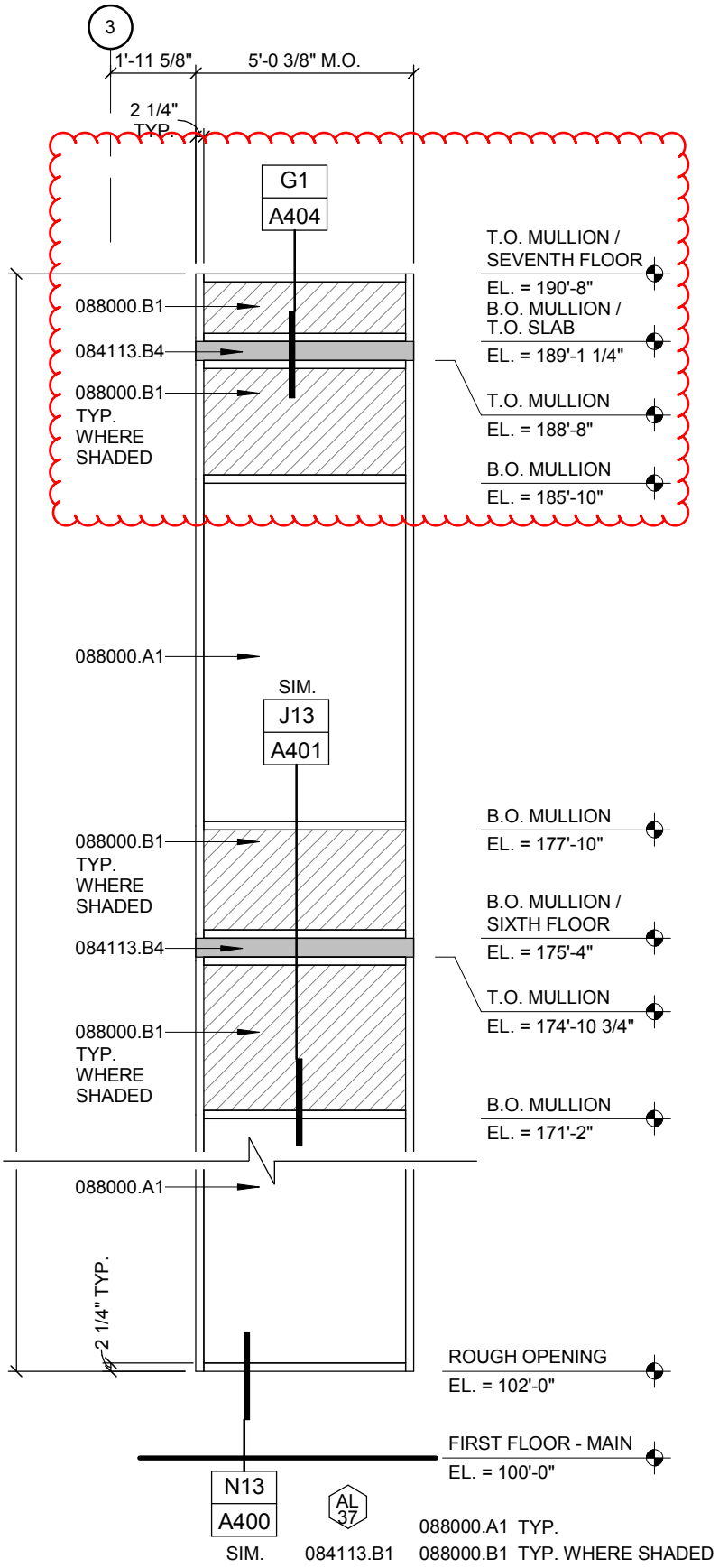


Aluminum Storefront Frame Types

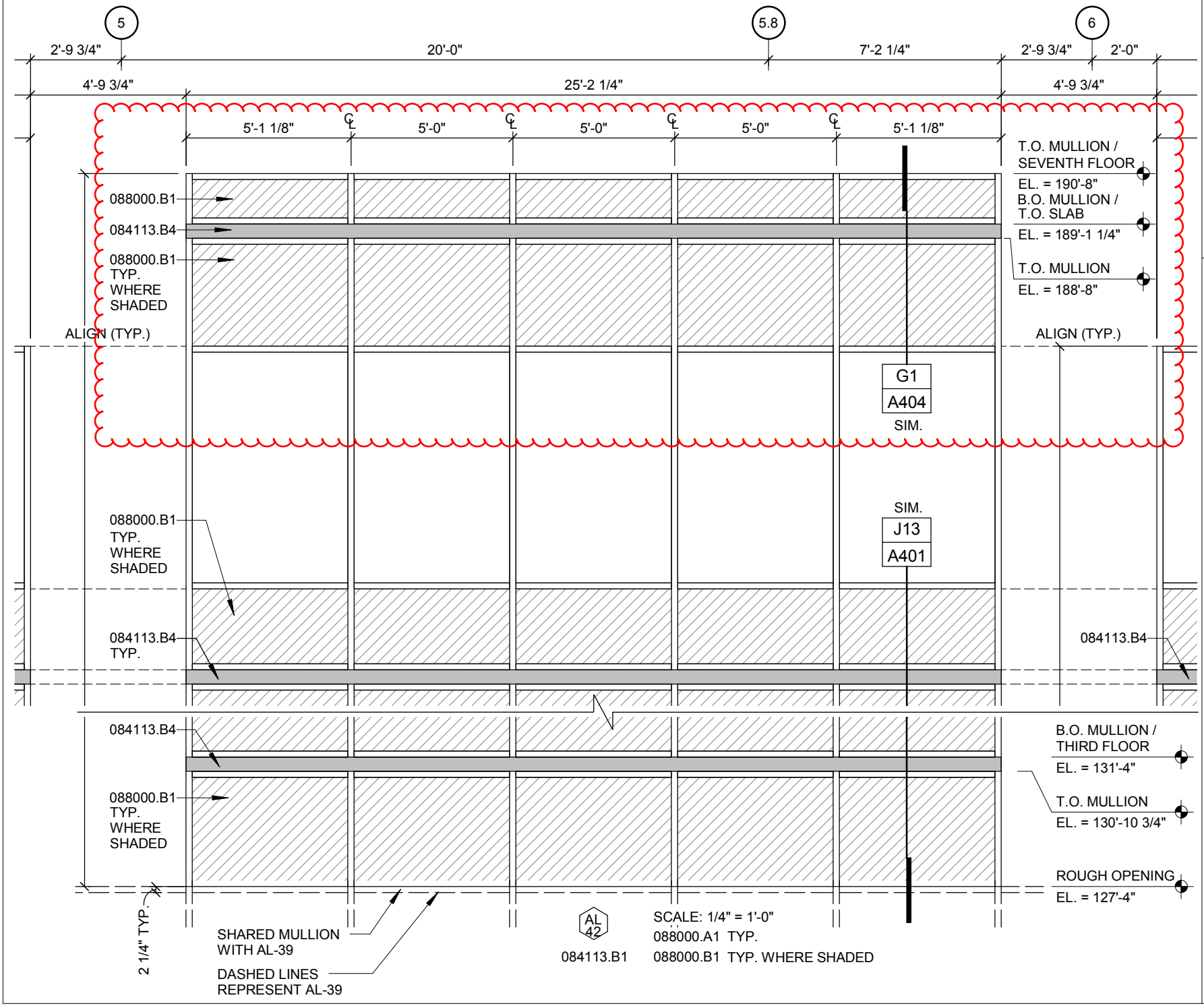
SINCLAIR hille architects

Revision to Detail: **A1/A501**

Hudl HQ - New Office / Mixed Use Building

Attachment: A06

Scale: 1/4" = 1'-0"	Project Number: 15024-05	Date: January 15, 2016	Attachment to: **Addendum 01**



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Attachment: A07

Attachment to: **Addendum 01**

Aluminum Storefront Frame Types

Hudl HQ - New Office / Mixed Use Building

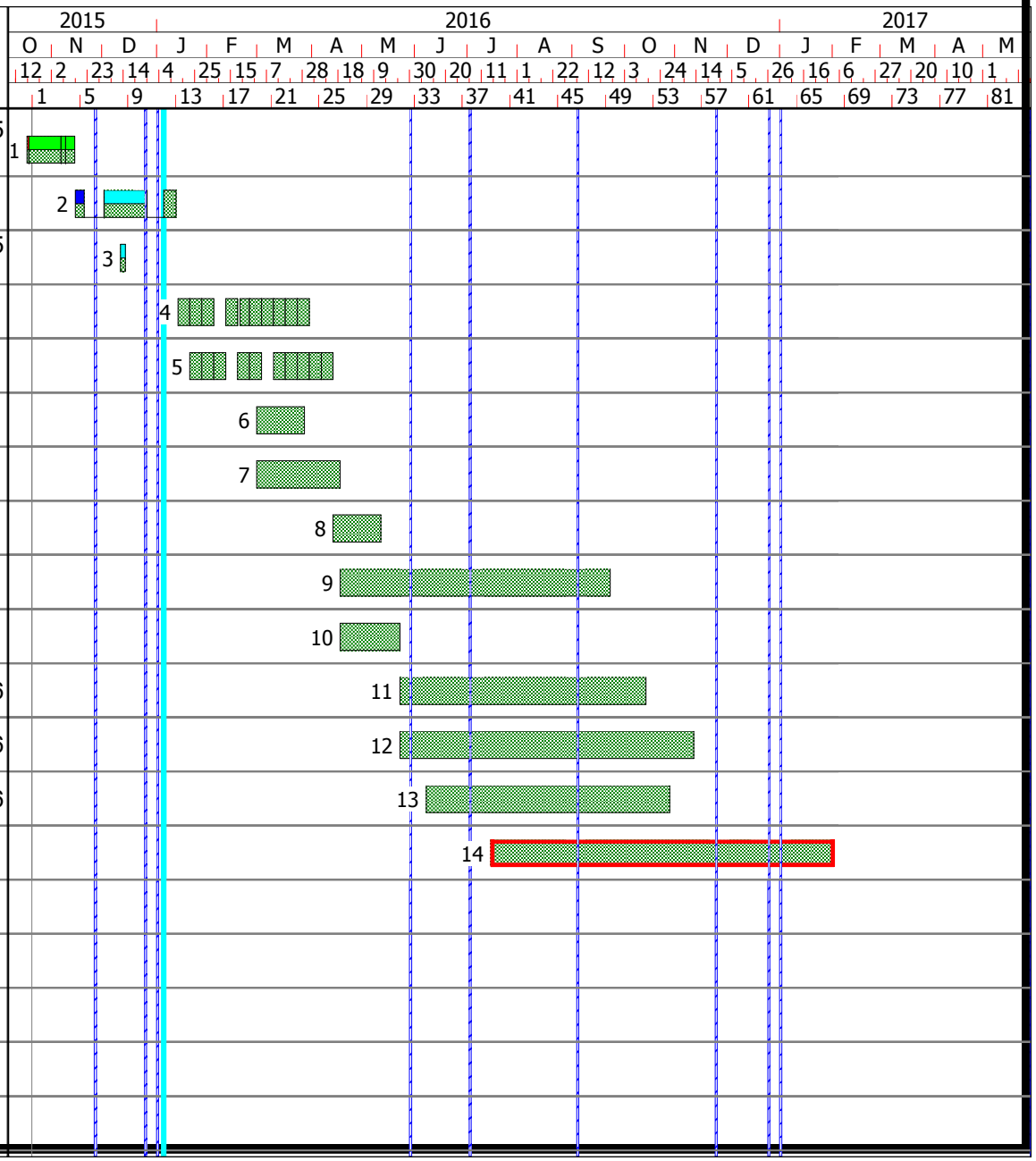
Date: January 15, 2016

Project Number: 15024-05

Revision to Detail: **A1/A502**

Scale: 1/4" = 1'-0"

Line	Name	Duration	Start	Finish
1	Production Piles	20d	10/16/2015 A	11/13/2015 A
2	Footings & Foundations	26d	11/16/2015 A	1/13/2016
3	Sheet Piling	2d	12/11/2015 A	12/14/2015 A
4	Steel Erection	49d	1/14/2016 *	3/30/2016
5	Steel Decking & Detailing	50d	1/21/2016	4/13/2016
6	Site Utilities	20d	3/1/2016 *	3/28/2016
7	Slab Pours	35d	3/1/2016 *	4/18/2016
8	Misc Steel Install	20d	4/14/2016	5/11/2016
9	Frame Exterior Walls	110d	4/19/2016	9/22/2016
10	Roofing Install	25d	4/19/2016	5/23/2016
11	Frame Interior Walls	100d	5/24/2016	10/13/2016
12	Exterior Finishes	120d	5/24/2016	11/10/2016
13	MEP Rough In	100d	6/8/2016	10/27/2016
14	Interior Finsihes	140d	7/15/2016 *	2/1/2017



CHIEF CONSTRUCTION
Sampson Construction

Hudl HQ Construction Schedule

Prog no: A	Revision no: A
Date: 1/13/2016	
	Author: Sampson Construction

Attachment A08

DOCUMENT 002400 – SCOPES OF WORK

1.1 List of Scopes of Work

A. #5 – Concrete SOG, SOMD, and Paving

B. #6 – Masonry

C. #7 – Special Metal Fabrications

D. #8 – Rough Carpentry

E. #9 - Finish Carpentry

F. #10 – Membrane and Green Roofing

G. #12 – Metal Pans and Sheet Metal

H. #13 – Sun Shades

I. #14 – Caulking and Sealants

J. #15 – Fireproofing

K. #16 – Direct Applied Exterior Finish System

L. #17 – Expansion Joints

M. #18 – Membrane Air Barrier

N. #19 – Frames, Doors and Hardware Materials

O. #20 – Glass and Glazing

P. #21 – Overhead Coiling Door

Q. #22 – Framing and Drywall

R. #23 – Tiling

S. #24 – Acoustical Ceilings

T. #25 – Floorcoverings

U. #26 – Painting

V. #27 – Specialties Materials

W. #28 – Fall Protection

X. #29 – Plastic-Laminate-Clad Countertops

Y. #30 – Solid Surface Fabrications

Z. #31 – Elevators

AA. #32 – Fire Suppression

BB. #33 – Plumbing and Utilities

CC. #33A – HVAC

DD. #34 – Electrical and Low Voltage

EE. #35 – Site Clearing

FF. #36 – Landscaping and Irrigation

GG. #37 – Site Accessories

HH. #38 - Pavers

(Detailed scopes of work will be issued by addendum to further define each scope of work.

1.2 Previous Bid Packages Scopes of Work

A. #1 – Earthwork

B. #1A – Sheet Piling

C. #2 – Auger Cast Piles

D. #3 – Concrete Footings and Foundations

E. #4 – Structural Steel Erection

END OF DOCUMENT 002400

SECTION 002400 - SCOPES OF WORK – #5 – CONCRETE SOG, SOMD, AND PAVING

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 033000 – Cast in Place Concrete**
- **Section 096781 – Concrete Floor Sealer**
- **Section 321313 – Concrete Paving**

Contract specifically includes, but is not limited to providing the following:

1. **All reinforcing and accessories for slab on grades, slab on deck, or concrete paving are to be provided and installed by this scope of work. It is advised that this subcontractor coordinate delivery of reinforcing in sequence with steel erection so it can be stocked on each floor level.**
2. **Provide and install vapor barrier and tape, including at areas where slab on grade is to be installed during future tenant work.**
3. **Grade will be provided by others within plus or minus 0.10' of subgrade. All other grading is to be provided by this scope of work.**
4. **Provide and install all granular fill, including at areas where slab on grade is to be installed during future tenant work.**
5. **Concrete stair pans and landings to be included.**
6. **Provide all pumping and conveying.**
7. **Coordinate all recesses in concrete with all trades (expansion joints, tile, etc.).**
8. **Column diamond block outs and pour backs.**
9. **Install of all bollards, provided by others.**
10. **Furnish and install all interior mechanical and electrical housekeeping pads.**
11. **Provide all concrete footings, edge restraints, bases, and curbs for site accessories and pavers per Civil drawings.**
12. **Provide and place any conduits and/or sleeves as required.**
13. **Provide and install all detectable warning panels as required.**
14. **Provide and install all concrete floor sealer. Provide floor prep as required.**
15. **Provide and install all slab edge or thermal break within the slab.**
16. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
17. **Coordination with other trades as required for this scope.**
18. **Dewatering as necessary to complete this scope of work.**
19. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
20. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
21. **All closeout procedures, documentation, and warranties as required.**
22. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**

23. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
24. **Conformance with all city and local jurisdictional requirements.**
25. **Conformance with all inspections as well as subsequent repairs if needed.**
26. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
27. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
28. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
29. **Coordinate all tests and inspections.**
30. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
31. **Overtime, if required, to meet commitment to project schedule.**
32. **Cleaning street of dirt and debris caused by this scope of work.**
33. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK – #6 – MASONRY

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 042000 – Unit Masonry**
- **Section 042200 – Concrete Unit Masonry**
- **Section 047200 – Cast Stone Masonry**
- **Section 072100 – Thermal Insulation**

Contract specifically includes, but is not limited to providing the following:

1. **Provide and install all cast stone masonry as required.**
2. **Coordinate brick tie installation with spray foam installation.**
3. **Install loose lintels and embeds, provided by others, as required.**
4. **Provide wall bracing as required.**
5. **Patch and grout beam pockets after structural steel erection as required.**
6. **Protect all finishes during masonry installation, wash down, and cleanup operations.**
7. **Furnish all loose anchors for this scope.**
8. **Provide and install all masonry reinforcing.**
9. **Provide and install all flashing and accessories.**
10. **Provide and install all foam board insulation when directly behind masonry.**
11. **Install and grout (as required) all hollow metal door frames in masonry walls. Coordinate delivery of frames with door frame supplier.**
12. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
13. **Coordination with other trades as required for this scope.**
14. **Dewatering as necessary to complete this scope of work.**
15. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
16. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
17. **All closeout procedures, documentation, and warranties as required.**
18. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
19. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
20. **Conformance with all city and local jurisdictional requirements.**
21. **Conformance with all inspections as well as subsequent repairs if needed.**
22. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
23. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**

24. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
25. **Coordinate all tests and inspections.**
26. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
27. **Overtime, if required, to meet commitment to project schedule.**
28. **Cleaning street of dirt and debris caused by this scope of work.**
29. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #7 – SPECIAL METAL FABRICATIONS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 055055 – Special Metal Fabrications**
- **Section 101423 – Panel Signage (As relates to special metal fabrication requirements only)**

Contract specifically includes, but is not limited to providing the following:

1. **Provide and install all miscellaneous metal items.**
2. **Provide and install MT-1 blackened steel panels.**
3. **Provide and install all custom cut applied blacked steel letters.**
4. **Provide and install aluminum guardrails, see sheet C700.**
5. **Coordination with other trades as required for this scope of work.**
6. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
7. **Dewatering as necessary to complete this scope of work.**
8. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
9. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
10. **All closeout procedures, documentation, and warranties as required.**
11. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
12. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
13. **Conformance with all city and local jurisdictional requirements.**
14. **Conformance with all inspections as well as subsequent repairs if needed.**
15. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
16. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
17. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
18. **Coordinate all tests and inspections.**
19. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
20. **Overtime, if required, to meet commitment to project schedule.**
21. **Cleaning street of dirt and debris caused by this scope of work.**
22. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #8 – ROUGH CARPENTRY

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 061000 – Rough Carpentry**

Contract specifically includes, but is not limited to providing the following:

1. **Provide and install all wood blocking, backing, and sheathing per drawings and specifications.**
2. **Sheathing on metal studs will be provided and installed by others.**
3. **Provide all blocking and backing as required for installation of other items required in the contract, including restroom accessories and specialties.**
4. **Provide and install mirror boxes shown on ID drawings. Coordinate with mirror installer.**
5. **Provide all fasteners for this scope of work.**
6. **Provide and install all miscellaneous wood blocking at rooftop equipment bases and curbs.**
7. **Provide and install plywood backing at electrical panels and communications devices as required. Plywood backing is to be fire rated as required.**
8. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
9. **Coordination with other trades as required for this scope.**
10. **Dewatering as necessary to complete this scope of work.**
11. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
12. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
13. **All closeout procedures, documentation, and warranties as required.**
14. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
15. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
16. **Conformance with all city and local jurisdictional requirements.**
17. **Conformance with all inspections as well as subsequent repairs if needed.**
18. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
19. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
20. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**

21. **Coordinate all tests and inspections.**
22. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
23. **Overtime, if required, to meet commitment to project schedule.**
24. **Cleaning street of dirt and debris caused by this scope of work.**
25. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
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3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #9 – FINISH CARPENTRY

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 062013 – Wood Soffit**
- **Section 062013 – Exterior Finish Carpentry**
- **Section 062023 – Interior Finish Carpentry**
- **Section 079500 – Interior Expansion Joint Cover Assemblies (Labor Only)**
- **Section 081113 – Hollow Metal Doors & Frames (Labor Only)(Frames installed by Others)**
- **Section 081416 – Flush Wood Doors (Labor Only)**
- **Section 087100 – Door Hardware (Labor Only)**
- **Section 097720 – Fiberglass Reinforced Wall Panels**
- **Section 101443 – Photoluminescent Egress Path Markings (Labor Only)**
- **Section 102113.15 – Stainless Steel Toilet Compartments (Labor Only)**
- **Section 102113.17 – Phenolic-Core Toilet Compartments (Labor Only)**
- **Section 102800 – Toilet Accessories (Labor Only)**
- **Section 101423 – Panel Signage (Labor Only)**
- **Section 104416 – Fire Extinguishers (Labor Only)**
- **Section 105500 – Postal Specialties(Labor Only)**
- **Section 123623.13 – Plastic-Laminate-Clad Countertops (Labor Only)**

Contract specifically includes, but is not limited to providing the following:

1. **Receive, inventory, and unload all material provided by others.**
2. **Solid surfacing is to be installed by others.**
3. **Aluminum door hardware to be installed by others.**
4. **Install all brackets and supports required for a proper installation of all laminate and solid surface countertops. Supports/brackets are provided by others.**
5. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
6. **Coordination with other trades as required for this scope.**
7. **Dewatering as necessary to complete this scope of work.**
8. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
9. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
10. **All closeout procedures, documentation, and warranties as required.**
11. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
12. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
13. **Conformance with all city and local jurisdictional requirements.**
14. **Conformance with all inspections as well as subsequent repairs if needed.**

15. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
16. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
17. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
18. **Coordinate all tests and inspections.**
19. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
20. **Overtime, if required, to meet commitment to project schedule.**
21. **Cleaning street of dirt and debris caused by this scope of work.**
22. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #10 – MEMBRANE AND GREEN ROOFING

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 072200 – Thermal Insulation**
- **Section 075423 – TPO Roofing**
- **Sections 075533 – Green Roof**
- **Section 077200 – Roof Accessories**
- **Section 077600 – Concrete Roof Pavers**
- **Section 076200 – Sheet Metal Flashing and Trim**

Contract specifically includes, but is not limited to providing the following:

1. **Provide and install flexible walkway pads or rolls.**
2. **Provide and install roofing ballast.**
3. **Provide and install all gypsum roof board.**
4. **Provide and install all planting mixes, growing substrates, TECO edging, washed pebbles, and irrigation as required for a complete and proper installation.**
5. **Provide and install all wood blocking where roof membrane and/or sheet metal flashing affixes to the blocking.**
6. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
7. **Coordination with other trades as required for this scope.**
8. **Dewatering as necessary to complete this scope of work.**
9. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
10. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
11. **All closeout procedures, documentation, and warranties as required.**
12. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
13. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
14. **Conformance with all city and local jurisdictional requirements.**
15. **Conformance with all inspections as well as subsequent repairs if needed.**
16. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
17. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
18. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**

19. **Coordinate all tests and inspections.**
20. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
21. **Overtime, if required, to meet commitment to project schedule.**
22. **Cleaning street of dirt and debris caused by this scope of work.**
23. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #12 – METAL PANELS AND SHEET METAL

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 074113 – Metal Roof Panels**
- **Section 074213 – Metal Wall Panels**
- **Section 074213.53 – Metal Soffit Panels**

Contract specifically includes, but is not limited to providing the following:

1. **Coordinate installation with spray insulation installer.**
2. **Provide and install all wood blocking where metal panels and/or flashing affixes to the blocking.**
3. **Provide and install all foam board insulation when directly behind metal panels.**
4. **Provide and install all expansion joints where metal panels meet with dissimilar material.**
5. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
6. **Coordination with other trades as required for this scope.**
7. **Dewatering as necessary to complete this scope of work.**
8. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
9. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
10. **All closeout procedures, documentation, and warranties as required.**
11. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
12. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
13. **Conformance with all city and local jurisdictional requirements.**
14. **Conformance with all inspections as well as subsequent repairs if needed.**
15. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
16. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
17. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
18. **Coordinate all tests and inspections.**
19. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
20. **Overtime, if required, to meet commitment to project schedule.**
21. **Cleaning street of dirt and debris caused by this scope of work.**

22. Provide all unloading, material handling and hoisting of own materials.

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #13 – SUN SHADES

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 107113 – Exterior Sun Control Fabrications**

Contract specifically includes, but is not limited to providing the following:

1. **Provide and install all pre-finished aluminum vertical exterior sun control assemblies, Types A, B, and C.**
2. **Current design is conceptual in nature and is to be used for bidding purposes only. Costs associated with providing final design and engineering of sun shades and supports shall be included in this scope of work.**
3. **Custom image (provided by others) is to be incorporated into sun shade punching. Coordinate image and requirements with the Construction Manager prior to fabrication.**
4. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
5. **Coordination with other trades as required for this scope.**
6. **Dewatering as necessary to complete this scope of work.**
7. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
8. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
9. **All closeout procedures, documentation, and warranties as required.**
10. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
11. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
12. **Conformance with all city and local jurisdictional requirements.**
13. **Conformance with all inspections as well as subsequent repairs if needed.**
14. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
15. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
16. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
17. **Coordinate all tests and inspections.**
18. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
19. **Overtime, if required, to meet commitment to project schedule.**
20. **Cleaning street of dirt and debris caused by this scope of work.**

21. Provide all unloading, material handling and hoisting of own materials.

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #14 – CAULKING & SEALANTS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 079200 – Joint Sealants**
- **Section 321373 – Concrete Paving Joint Sealants**

Contract specifically includes, but is not limited to providing the following:

1. **Includes all building interior and exterior sealants. As well as all paving and sidewalk sealants.**
2. **Sealants related to aluminum and glass done by others.**
3. **All color samples and color selections must be approved prior to commencing work.**
4. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
5. **Coordination with other trades as required for this scope.**
6. **Dewatering as necessary to complete this scope of work.**
7. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
8. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
9. **All closeout procedures, documentation, and warranties as required.**
10. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
11. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
12. **Conformance with all city and local jurisdictional requirements.**
13. **Conformance with all inspections as well as subsequent repairs if needed.**
14. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
15. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
16. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
17. **Coordinate all tests and inspections.**
18. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
19. **Overtime, if required, to meet commitment to project schedule.**
20. **Cleaning street of dirt and debris caused by this scope of work.**
21. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work. .

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #15 – FIREPROOFING

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 078100 - Applied Fireproofing**
- **Section 078123 - Intumescent Fireproofing**
- **Section 078443 - Joint Firestopping**

Contract specifically includes, but is not limited to providing the following:

1. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
2. **Coordination with other trades as required for this scope.**
3. **Dewatering as necessary to complete this scope of work.**
4. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
5. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
6. **All closeout procedures, documentation, and warranties as required.**
7. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
8. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
9. **Conformance with all city and local jurisdictional requirements.**
10. **Conformance with all inspections as well as subsequent repairs if needed.**
11. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
12. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
13. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
14. **Coordinate all tests and inspections.**
15. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
16. **Overtime, if required, to meet commitment to project schedule.**
17. **Cleaning street of dirt and debris caused by this scope of work.**
18. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____

3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #16 – DIRECT APPLIED EXTERIOR FINISH SYSTEM

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Sections 072423 – Direct Applied Exterior Finish System**

Contract specifically includes, but is not limited to providing the following:

1. **This subcontractor is responsible for protecting all other materials from splatters associated with the install of the DEFS. This subcontractor is responsible for cleaning all splatters. Completely remove and dispose of all protections.**
2. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
3. **Coordination with other trades as required for this scope.**
4. **Dewatering as necessary to complete this scope of work.**
5. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
6. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
7. **All closeout procedures, documentation, and warranties as required.**
8. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
9. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
10. **Conformance with all city and local jurisdictional requirements.**
11. **Conformance with all inspections as well as subsequent repairs if needed.**
12. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
13. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
14. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
15. **Coordinate all tests and inspections.**
16. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
17. **Overtime, if required, to meet commitment to project schedule.**
18. **Cleaning street of dirt and debris caused by this scope of work.**
19. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #17 – EXPANSION JOINTS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 079500 – Interior Expansion Joint Cover Assemblies (Material Only)**

Contract specifically includes, but is not limited to providing the following:

1. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
2. **Coordination with other trades as required for this scope.**
3. **Dewatering as necessary to complete this scope of work.**
4. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
5. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
6. **All closeout procedures, documentation, and warranties as required.**
7. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
8. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
9. **Conformance with all city and local jurisdictional requirements.**
10. **Conformance with all inspections as well as subsequent repairs if needed.**
11. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
12. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
13. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
14. **Coordinate all tests and inspections.**
15. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
16. **Overtime, if required, to meet commitment to project schedule.**
17. **Cleaning street of dirt and debris caused by this scope of work.**
18. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____

5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #18 – MEMBRANE AIR BARRIER

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Sections 072726 – Membrane Air Barrier**

Contract specifically includes, but is not limited to providing the following:

1. **Coordinate with mason, metal panel installer, and roof installer prior to installation.**
2. **This subcontractor is responsible for protecting all other materials from overspray associated with the install of the membrane air barrier. This subcontractor is responsible for cleaning all overspray. Completely remove and dispose of all protections.**
3. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
4. **Coordination with other trades as required for this scope.**
5. **Dewatering as necessary to complete this scope of work.**
6. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
7. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
8. **All closeout procedures, documentation, and warranties as required.**
9. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
10. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
11. **Conformance with all city and local jurisdictional requirements.**
12. **Conformance with all inspections as well as subsequent repairs if needed.**
13. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
14. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
15. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
16. **Coordinate all tests and inspections.**
17. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
18. **Overtime, if required, to meet commitment to project schedule.**
19. **Cleaning street of dirt and debris caused by this scope of work.**
20. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #19 – FRAMES, DOORS, AND HARDWARE MATERIALS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 081113 – Hollow Metal Doors and Frames**
- **Section 081416 – Flush Wood Doors**
- **Section 083113 – Access Doors**
- **Section 087100 – Door Hardware**

Contract specifically includes, but is not limited to providing the following:

1. **Provide all access doors shown on plans.**
2. **Power door operators will be provided by others.**
3. **Include hardware for all aluminum entrances and storefront. Coordinate delivery of aluminum hardware with aluminum contractor. Separate from other hardware.**
4. **Provide all keying and coordinate keying with Owner.**
5. **Provide onsite inventory of all finish hardware when delivered to jobsite. Coordinate delivery of frames with drywaller and mason. Deliveries for frames in masonry walls may be separate from delivery of frames in metal stud walls.**
6. **Coordinate delivery of doors with finish carpenter.**
7. **Coordinate hardware with power door operators, provided by others.**
8. **Coordinate hardware with security electronics contractor for card access doors.**
9. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
10. **Coordination with other trades as required for this scope.**
11. **Dewatering as necessary to complete this scope of work.**
12. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
13. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
14. **All closeout procedures, documentation, and warranties as required.**
15. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
16. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
17. **Conformance with all city and local jurisdictional requirements.**
18. **Conformance with all inspections as well as subsequent repairs if needed.**
19. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
20. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
21. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at**

the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.

22. **Coordinate all tests and inspections.**
23. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
24. **Overtime, if required, to meet commitment to project schedule.**
25. **Cleaning street of dirt and debris caused by this scope of work.**
26. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #20 – GLASS AND GLAZING

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 079200 – Joint Sealants (as relates to the storefront requirements only)**
- **Section 087100 – Door Hardware (see notes below)**
- **Section 084113 – Aluminum Framed Entrances and Storefronts**
- **Section 088000 – Glazing**
- **Section 088113 – Decorative Glass Glazing**
- **Section 088300 – Mirror Glazing**
- **Section 088813 – Fire Resistant Glazing**

Contract specifically includes, but is not limited to providing the following:

1. **Coordinate electrical routing, rough-ins, and voltage requirements with electrician and security electronics contractor.**
2. **Provide all glazing for doors.**
3. **Install of all hardware for all aluminum entrances and storefront. Coordinate delivery of aluminum hardware with door hardware contractor.**
4. **Field measure and verify openings prior to fabrication.**
5. **Provide and install all foam board insulation when directly behind glass, glazing, or Aluminum Storefront.**
6. **Remove portion of existing curtainwall at skywalk. Provide shoring as required.**
7. **Provide and coordinate all water-spray tests prior to installation of interior finishes has begun. Perform a minimum of three tests as directed by the Architect. Perform the tests, prior to 50 percent completion. Aluminum-framed entrances and storefronts will be considered defective if they do not pass tests and inspections.**
8. **Provide and install all door auto operators.**
9. **Install all door hardware (material provided by others) as pertains to all aluminum framed entrances and storefronts.**
10. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
11. **Coordination with other trades as required for this scope.**
12. **Dewatering as necessary to complete this scope of work.**
13. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
14. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
15. **All closeout procedures, documentation, and warranties as required.**
16. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
17. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
18. **Conformance with all city and local jurisdictional requirements.**

19. **Conformance with all inspections as well as subsequent repairs if needed.**
20. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
21. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
22. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
23. **Coordinate all tests and inspections.**
24. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
25. **Overtime, if required, to meet commitment to project schedule.**
26. **Cleaning street of dirt and debris caused by this scope of work.**
27. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #21 – OVERHEAD COILING DOOR

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 083323 – Overhead Coiling Door**

Contract specifically includes, but is not limited to providing the following:

1. **Furnish and install any additional steel, jambs, etc. beyond what is shown in drawings, but is required for complete system.**
2. **Coordinate all electrical work with electrical contractor.**
3. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
4. **Coordination with other trades as required for this scope.**
5. **Dewatering as necessary to complete this scope of work.**
6. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
7. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
8. **All closeout procedures, documentation, and warranties as required.**
9. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
10. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
11. **Conformance with all city and local jurisdictional requirements.**
12. **Conformance with all inspections as well as subsequent repairs if needed.**
13. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
14. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
15. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
16. **Coordinate all tests and inspections.**
17. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
18. **Overtime, if required, to meet commitment to project schedule.**
19. **Cleaning street of dirt and debris caused by this scope of work.**
20. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #22 – FRAMING AND DRYWALL

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 054000 – Cold-Formed Metal Framing**
- **Section 061600 – Sheathing**
- **Section 072100 – Thermal Insulation (Except when directly applied behind masonry, metal panels, aluminum storefront, or glazing)**
- **Section 078413 – Penetration Firestopping**
- **Section 078443 – Joint Firestopping**
- **Section 083113 – Access Doors (Install Only)**
- **Section 092116.23 – Gypsum Board Shaft Wall Assemblies**
- **Section 092216 – Non-Structural Metal Framing**
- **Section 092900 – Gypsum Board**

Contract specifically includes, but is not limited to providing the following:

1. **Unload, inventory, store, install and grout (as required) all hollow metal door frames (excluding hollow metal door frames in CMU walls). Coordinate delivery of frames with door frame supplier.**
2. **Provide and install all sheathing that affixes to this scope's framing. Includes, but is not limited to, fire retardant treated plywood, plywood, glass mat reinforce gypsum board, gypsum board, and tile backer board.**
3. **Provide and install all wood blocking that affixes to this scope's framing and/or sheathing.**
4. **Install all access doors as needed regardless of construction type of wall. Coordinate locations with MEP contractors.**
5. **Provide all caulking at the top and bottom of all metal stud walls as required.**
6. **Provide firestopping and fire caulk at the top of all rated walls, smoke partition walls as specified and shown on the drawings. Firestopping of mechanical and electrical penetrations provided by respective trades.**
7. **Include 40 hours of drywall patching for touchup caused by others.**
8. **Clean and vacuum bottom tracks of all debris prior to rocking.**
9. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
10. **Coordination with other trades as required for this scope.**
11. **Dewatering as necessary to complete this scope of work.**
12. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
13. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
14. **All closeout procedures, documentation, and warranties as required.**
15. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**

16. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
17. **Conformance with all city and local jurisdictional requirements.**
18. **Conformance with all inspections as well as subsequent repairs if needed.**
19. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
20. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
21. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
22. **Coordinate all tests and inspections.**
23. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
24. **Overtime, if required, to meet commitment to project schedule.**
25. **Cleaning street of dirt and debris caused by this scope of work.**
26. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #23 - TILING

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 093013 - Tile**

Contract specifically includes, but is not limited to providing the following:

1. **Provide transition strips and caulking to dissimilar materials as necessary.**
2. **Provide floor and wall prep as required for installation of materials.**
3. **Installer responsible for construction cleaning of tile grout after installation, particularly at the epoxy grout.**
4. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
5. **Coordination with other trades as required for this scope.**
6. **Dewatering as necessary to complete this scope of work.**
7. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
8. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
9. **All closeout procedures, documentation, and warranties as required.**
10. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
11. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
12. **Conformance with all city and local jurisdictional requirements.**
13. **Conformance with all inspections as well as subsequent repairs if needed.**
14. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
15. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
16. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
17. **Coordinate all tests and inspections.**
18. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
19. **Overtime, if required, to meet commitment to project schedule.**
20. **Cleaning street of dirt and debris caused by this scope of work.**
21. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
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4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #24 – ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 095113 – Acoustical Panel Ceilings**

Contract specifically includes, but is not limited to providing the following:

1. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
2. **Coordination with other trades as required for this scope.**
3. **Dewatering as necessary to complete this scope of work.**
4. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
5. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
6. **All closeout procedures, documentation, and warranties as required.**
7. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
8. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
9. **Conformance with all city and local jurisdictional requirements.**
10. **Conformance with all inspections as well as subsequent repairs if needed.**
11. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
12. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
13. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
14. **Coordinate all tests and inspections.**
15. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
16. **Overtime, if required, to meet commitment to project schedule.**
17. **Cleaning street of dirt and debris caused by this scope of work.**
18. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____

5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #25 - FLOORCOVERINGS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 096513 – Resilient Base and Accessories**
- **Section 096813 – Tile Carpeting**

Contract specifically includes, but is not limited to providing the following:

1. **Provide transition strips and caulking to dissimilar materials as necessary.**
2. **Provide floor prep as required for installation of materials.**
3. **Provide and coordinate all moisture testing. Testing method to be discussed with CM prior to testing.**
4. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
5. **Coordination with other trades as required for this scope.**
6. **Dewatering as necessary to complete this scope of work.**
7. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
8. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
9. **All closeout procedures, documentation, and warranties as required.**
10. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
11. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
12. **Conformance with all city and local jurisdictional requirements.**
13. **Conformance with all inspections as well as subsequent repairs if needed.**
14. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
15. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
16. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
17. **Coordinate all tests and inspections.**
18. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
19. **Overtime, if required, to meet commitment to project schedule.**
20. **Cleaning street of dirt and debris caused by this scope of work.**
21. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
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5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #26 – PAINTING

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 099123 – Painting**
- **Section 099300 – Transparent Finishing**

Contract specifically includes, but is not limited to providing the following:

1. **Painting of all bollards.**
2. **Provide overspray and paint protections from other finishes. Completely remove and dispose of all protections. This subcontractor is responsible for cleaning all overspray.**
3. **Include 40 hours for patching and painting for repairs due to others.**
4. **Fill gaps, cracks, dings, holes, and all defects in surfaces to be painted.**
5. **Prep and seal reclaimed timber, WD-1.**
6. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
7. **Coordination with other trades as required for this scope.**
8. **Dewatering as necessary to complete this scope of work.**
9. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
10. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
11. **All closeout procedures, documentation, and warranties as required.**
12. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
13. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
14. **Conformance with all city and local jurisdictional requirements.**
15. **Conformance with all inspections as well as subsequent repairs if needed.**
16. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
17. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
18. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
19. **Coordinate all tests and inspections.**
20. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
21. **Overtime, if required, to meet commitment to project schedule.**
22. **Cleaning street of dirt and debris caused by this scope of work.**

23. Provide all unloading, material handling and hoisting of own materials.

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #27 – SPECIALTIES MATERIALS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 101423 – Panel Signage**
- **Section 101443 – Photoluminescent Egress Path Markings**
- **Section 102113.15 – Stainless Steel Toilet Compartments**
- **Section 102113.17 – Phenolic-Core Toilet Compartments**
- **Section 102800 – Toilet Accessories**
- **Section 104116 – Fire Extinguishers**
- **Section 105500 – Postal Specialties**

Contract specifically includes, but is not limited to providing the following:

1. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
2. **Coordination with other trades as required for this scope of work.**
3. **Dewatering as necessary to complete this scope of work.**
4. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
5. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
6. **All closeout procedures, documentation, and warranties as required.**
7. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
8. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
9. **Conformance with all city and local jurisdictional requirements.**
10. **Conformance with all inspections as well as subsequent repairs if needed.**
11. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
12. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
13. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
14. **Coordinate all tests and inspections.**
15. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
16. **Overtime, if required, to meet commitment to project schedule.**
17. **Cleaning street of dirt and debris caused by this scope of work.**
18. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #28 – FALL PROTECTION

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 112429 – Fall Protection**

Contract specifically includes, but is not limited to providing the following:

1. **Provide and install all fall protection tie-offs and rigging sleeves.**
2. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
3. **Coordination with other trades as required for this scope.**
4. **Dewatering as necessary to complete this scope of work.**
5. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
6. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
7. **All closeout procedures, documentation, and warranties as required.**
8. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
9. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
10. **Conformance with all city and local jurisdictional requirements.**
11. **Conformance with all inspections as well as subsequent repairs if needed.**
12. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
13. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
14. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
15. **Coordinate all tests and inspections.**
16. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
17. **Overtime, if required, to meet commitment to project schedule.**
18. **Cleaning street of dirt and debris caused by this scope of work.**
19. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____

4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #29 – PLASTIC-LAMINATE-CLAD COUNTERTOPS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 123623.13 – Plastic-Laminate-Clad Countertops (Material Only)**

Contract specifically includes, but is not limited to providing the following:

1. **Provide cutouts for other trades as required.**
2. **Provide support brackets as required.**
3. **Job site visits for field measurements and coordination as required.**
4. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
5. **Coordination with other trades as required for this scope.**
6. **Dewatering as necessary to complete this scope of work.**
7. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
8. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
9. **All closeout procedures, documentation, and warranties as required.**
10. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
11. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
12. **Conformance with all city and local jurisdictional requirements.**
13. **Conformance with all inspections as well as subsequent repairs if needed.**
14. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
15. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
16. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
17. **Coordinate all tests and inspections.**
18. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
19. **Overtime, if required, to meet commitment to project schedule.**
20. **Cleaning street of dirt and debris caused by this scope of work.**
21. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
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3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #30– SOLID SURFACE FABRICATIONS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 123661 – Solid Surfacing Fabrications**

Contract specifically includes, but is not limited to providing the following:

1. **All sealant, adhesive, and miscellaneous materials for a complete installation.**
2. **Provide cutouts for other trades as required.**
3. **Job site visits for field measurements and coordination as required.**
4. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
5. **Coordination with other trades as required for this scope.**
6. **Dewatering as necessary to complete this scope of work.**
7. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
8. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
9. **All closeout procedures, documentation, and warranties as required.**
10. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
11. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
12. **Conformance with all city and local jurisdictional requirements.**
13. **Conformance with all inspections as well as subsequent repairs if needed.**
14. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
15. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
16. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
17. **Coordinate all tests and inspections.**
18. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
19. **Overtime, if required, to meet commitment to project schedule.**
20. **Cleaning street of dirt and debris caused by this scope of work.**
21. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #31 - ELEVATORS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 142100 – Machine Room-Less Elevator**

Contract specifically includes, but is not limited to providing the following:

1. **Include all costs associated with temporarily using Elevator "EL01" for four months during construction. Costs/services to include are:**
   - **All costs associated with maintenance of the elevator while being used for construction.**
   - **All costs associated with performing a "Construction Use Test". This includes all fees from the State as well as labor fees for elevator company personnel.**
   - **All costs associated with monthly "Construction Use" fees from the State.**

   Costs/services to be provided by others and excluded from this scope of work are:
   - **Protection of elevator finishes**
   - **Operator**
   - **Intercom stations**
2. **Coordination with other trades as required for this scope.**
3. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
4. **Dewatering as necessary to complete this scope of work.**
5. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
6. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
7. **All closeout procedures, documentation, and warranties as required.**
8. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
9. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
10. **Conformance with all city and local jurisdictional requirements.**
11. **Conformance with all inspections as well as subsequent repairs if needed.**
12. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
13. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
14. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
15. **Coordinate all tests and inspections.**

16. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
17. **Overtime, if required, to meet commitment to project schedule.**
18. **Cleaning street of dirt and debris caused by this scope of work.**
19. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #32 – FIRE SUPPRESSION

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 078413 – Penetration Firestopping**
- **Division 21 in its entirety**

Contract specifically includes, but is not limited to providing the following:

1. **Coordinate with fire alarm contractor to provide complete functioning system.**
2. **Firestop all fire sprinkler penetrations through fire and smoke walls and floors.**
3. **Fire Sprinkler contractor will be responsible to furnish and install any access doors not shown on the project drawings that are required for access and maintenance of the fire sprinkler system.**
4. **Point of Connection (POC) to be face of flange 12" above finish floor in each building. Supply piping under floor slab and outside building is by others.**
5. **All testing as required.**
6. **All necessary miscellaneous iron supports as required.**
7. **Layout and core/cut of all penetrations pertaining to this scope of work. Coordinate all locations with Construction Manager prior to coring/cutting.**
8. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
9. **Coordination with other trades as required for this scope.**
10. **Dewatering as necessary to complete this scope of work.**
11. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
12. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
13. **All closeout procedures, documentation, and warranties as required.**
14. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
15. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
16. **Conformance with all city and local jurisdictional requirements.**
17. **Conformance with all inspections as well as subsequent repairs if needed.**
18. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
19. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
20. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**

21. **Coordinate all tests and inspections.**
22. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
23. **Overtime, if required, to meet commitment to project schedule.**
24. **Cleaning street of dirt and debris caused by this scope of work.**
25. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #33 – PLUMBING AND UTILITIES

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 078413 – Penetration Firestopping**
- **Division 22 in its entirety**
- **Section 334100 – Storm Utility Drainage Piping**

Contract specifically includes, but is not limited to providing the following:

1. **Firestop all plumbing penetrations through fire and smoke walls and floors.**
2. **Plumbing contractor will be responsible to furnish and install any access doors not shown on the project drawings that are required for access and maintenance of the plumbing system.**
3. **Plumbing contractor will be responsible for furnishing and installing any housekeeping pads required for proper installation not shown on contract documents. Contractor will be responsible for any increase in housekeeping pad size if substantially different than size shown.**
4. **Plumbing contractor to extend the underground fire sprinkler to the first flange above grade.**
5. **Plumbing contractor to flush underground plumbing lines and provide test reports.**
6. **Coordinate plumbing requirements for irrigation with irrigation subcontractor and Sheets IR500, IR501, and IR700.**
7. **Include utility tap fees and permits as required.**
8. **All excavation, trenching, backfill, and compaction as required. All spoils are to be hauled off of site as required.**
9. **Layout and core/cut all penetrations pertaining to this scope of work. Coordinate all locations with Construction Manager prior to coring/cutting.**
10. **Plumbing/Utility contractor is responsible for removal and replacement of any concrete removed as a result of this scope of work.**
11. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
12. **Coordination with other trades as required for this scope.**
13. **Dewatering as necessary to complete this scope of work.**
14. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
15. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
16. **All closeout procedures, documentation, and warranties as required.**
17. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
18. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
19. **Conformance with all city and local jurisdictional requirements.**

20. **Conformance with all inspections as well as subsequent repairs if needed.**
21. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
22. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
23. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
24. **Coordinate all tests and inspections.**
25. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
26. **Overtime, if required, to meet commitment to project schedule.**
27. **Cleaning street of dirt and debris caused by this scope of work.**
28. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #33A – HVAC

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 078413 – Penetration Firestopping**
- **Section 089119 – Pre-Finished Louvers**
- **Division 23 in its entirety**

Contract specifically includes, but is not limited to providing the following:

1. **Provide four months of extended warranty, filters, filter changes, and return air protection for all HVAC units to be used for temporary construction heat.**
2. **All ducts and HVAC outlets must be covered on a daily basis to prevent dirt and construction dust from accumulating in the system. HVAC contractor will be responsible for duct cleaning if preventative measures are not followed.**
3. **Firestop all HVAC penetrations through fire and smoke walls and floors.**
4. **HVAC contractor will be responsible to furnish and install any access doors not shown on the project drawings that are required for access and maintenance of the HVAC system.**
5. **HVAC contractor will be responsible for furnishing and installing any housekeeping pads required for proper installation not shown on contract documents. Contractor will be responsible for any increase in housekeeping pad size if substantially different than size shown.**
6. **Layout and core/cut all penetrations pertaining to this scope of work. Coordinate all locations with Construction Manager prior to coring/cutting.**
7. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
8. **Coordination with other trades as required for this scope.**
9. **Dewatering as necessary to complete this scope of work.**
10. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
11. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
12. **All closeout procedures, documentation, and warranties as required.**
13. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
14. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
15. **Conformance with all city and local jurisdictional requirements.**
16. **Conformance with all inspections as well as subsequent repairs if needed.**
17. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
18. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**

19. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
20. **Coordinate all tests and inspections.**
21. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
22. **Overtime, if required, to meet commitment to project schedule.**
23. **Cleaning street of dirt and debris caused by this scope of work.**
24. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
2. Bid Alternate No. _____ = _____
3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #34 – ELECTRICAL & LOW VOLTAGE

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 078413 – Penetration Firestopping**
- **Section 087100 – Door Hardware (as relates to the card reader requirements only)**
- **Division 26 in its entirety**
- **Division 27 in its entirety**
- **Division 28 in its entirety**

Contract specifically includes, but is not limited to providing the following:

1. **Boring of electrical conduits from building to proposed transformer. Coordinate all requirements with LES. Include all associated concrete removal and replacement as needed. Bauer Underground and K2 Construction have reviewed the boring requirements onsite and can provide quotes to complete this work. Contacts for each company are as follows:**

   Bauer Underground
   Robert Everett
   402-379-2070
   rob@bauerunderground.com

   K2 Construction
   Jeff Webert
   402-467-2335
   jwebert@k2construction.biz

2. **All excavation, trenching, backfill, and compaction. All spoils are to be disposed of offsite.**
3. **All supports and bracing of any nature required for this scope.**
4. **All temporary power and lighting.**
5. **Firestop all electrical penetrations through fire and smoke walls and floors.**
6. **Electrical contractor will be responsible to furnish and install any access doors not shown on the project drawings that are required for access and maintenance of the electrical system.**
7. **Layout and core/cut of all penetrations pertaining to this scope of work. Coordinate all locations with Construction Manager prior to coring/cutting.**
8. **Electrical contractor will be responsible for furnishing and installing any housekeeping pads required for proper installation not shown on contract documents. Contractor will be responsible for any increase in housekeeping pad size if substantially different than size shown.**
9. **Provide and install transformer pad. Coordinate all requirements with LES.**
10. **Provide and install all conduit for telephone and cable television service as required.**
11. **Provide and install vaults and conduit for fiber service as required.**

12. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
13. **Coordination with other trades as required for this scope.**
14. **Dewatering as necessary to complete this scope of work.**
15. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
16. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
17. **All closeout procedures, documentation, and warranties as required.**
18. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
19. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
20. **Conformance with all city and local jurisdictional requirements.**
21. **Conformance with all inspections as well as subsequent repairs if needed.**
22. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
23. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
24. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
25. **Coordinate all tests and inspections.**
26. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
27. **Overtime, if required, to meet commitment to project schedule.**
28. **Cleaning street of dirt and debris caused by this scope of work.**
29. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.
1. Bid Alternate No. _____ = _____
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3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #35 – SITE CLEARING

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 311000 – Site Clearing**

Contract specifically includes, but is not limited to providing the following:

1. **Removal and disposal of existing concrete sidewalk as shown.**
2. **Grade and rock existing North parking lot at completion of project.**
3. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
4. **Coordination with other trades as required for this scope of work.**
5. **Dewatering as necessary to complete this scope of work.**
6. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
7. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
8. **All closeout procedures, documentation, and warranties as required.**
9. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
10. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
11. **Conformance with all city and local jurisdictional requirements.**
12. **Conformance with all inspections as well as subsequent repairs if needed.**
13. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
14. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
15. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
16. **Coordinate all tests and inspections.**
17. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
18. **Overtime, if required, to meet commitment to project schedule.**
19. **Cleaning street of dirt and debris caused by this scope of work.**
20. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
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3. Bid Alternate No. _____ = _____
4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #36 – LANDSCAPING & IRRIGATION

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 312100 – Topsoil**
- **Section 328400 – Planting Irrigation**
- **Section 329223 – Sod**
- **Section 329300 – Plants**

Contract specifically includes, but is not limited to providing the following:

1. **Provide and install all tree grates and perimeter frames as required.**
2. **Provide and install all silva cell material from geotextile fabric down, see Details 11 and 12/C500.**
3. **Provide and install all irrigation pipe sleeving as required.**
4. **Provide all excavation to appropriate final grade.**
5. **Ensure all planting materials delivered to the site are healthy and well-watered. All planting materials found to be distressed shall not be planted.**
6. **Provide all necessary maintenance, including fertilizing, trimming, and watering until substantial completion of the project has taken place. Any dead plant material needs to be replaced.**
7. **Import and spread all black dirt/topsoil as required.**
8. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
9. **Coordination with other trades as required for this scope of work.**
10. **Dewatering as necessary to complete this scope of work.**
11. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
12. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
13. **All closeout procedures, documentation, and warranties as required.**
14. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
15. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
16. **Conformance with all city and local jurisdictional requirements.**
17. **Conformance with all inspections as well as subsequent repairs if needed.**
18. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
19. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
20. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at**

the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.

21. **Coordinate all tests and inspections.**
22. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
23. **Overtime, if required, to meet commitment to project schedule.**
24. **Cleaning street of dirt and debris caused by this scope of work.**
25. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
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C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #37 – SITE ACCESSORIES

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Division 32 (as it relates to the site accessories requirements only)**

Contract specifically includes, but is not limited to providing the following:

1. **Provide and install all site benches, trash receptacles, and associated mounting hardware.**
2. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
3. **Coordination with other trades as required for this scope.**
4. **Dewatering as necessary to complete this scope of work.**
5. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
6. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
7. **All closeout procedures, documentation, and warranties as required.**
8. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
9. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
10. **Conformance with all city and local jurisdictional requirements.**
11. **Conformance with all inspections as well as subsequent repairs if needed.**
12. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
13. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
14. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
15. **Coordinate all tests and inspections.**
16. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
17. **Overtime, if required, to meet commitment to project schedule.**
18. **Cleaning street of dirt and debris caused by this scope of work.**
19. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
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3. Bid Alternate No. _____ = _____

4. Bid Alternate No. _____ = _____
5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 002400 - SCOPES OF WORK #38 - PAVERS

PART 1 - GENERAL

1.1 DOCUMENTS

A. All Bidding Documents for the Footing and Foundation Package including Drawings, Specifications, Addenda, Bulletins and general provisions of the Contract, including Procurement and Contract Requirements (Division 0) and General Requirements (Division 1) of the Specifications, apply to this Scope of Work.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Provide all labor, material, equipment, supervision and other items necessary to complete the following Specification Sections:

- **Section 321400 – Unit Paving**

Contract specifically includes, but is not limited to providing the following:

1. **Provide and install all pavers per the Civil drawings.**
2. **Includes all leveling, bedding, and base courses for a complete and proper installation.**
3. **Build mockups as required prior to beginning work. Notify Construction Manager in writing seven days in advance of dates and times when mockups will be constructed.**
4. **Coordination with other trades as required for this scope.**
5. **Dewatering as necessary to complete this scope of work.**
6. **All permits, bonds, licenses, sales tax, and applicable fees as required. Construction Manager will obtain the general building permit.**
7. **All submittals and shop drawings shall be submitted to the Construction Manager within 30 days unless noted otherwise or required by contractually agreed upon schedule.**
8. **All closeout procedures, documentation, and warranties as required.**
9. **Compliance with applicable OSHA and Construction Manager Safety Standards and Regulations, the more stringent will apply to all issues. Coordinate with and promptly act on any safety concerns noted by the Construction Manager.**
10. **Superintendents and/or Project Managers will be required to attend progress and coordination meetings with the Construction Manager and other Subcontractors.**
11. **Conformance with all city and local jurisdictional requirements.**
12. **Conformance with all inspections as well as subsequent repairs if needed.**
13. **Connection cost and utility consumption cost for on-site office or storage shall be by this Subcontractor.**
14. **Daily clean-up and any additional clean-up as directed by the Construction Manager, for all material, waste, and debris generated by this scope of work to a dumpster provided by others.**
15. **Subcontractors will be responsible for taking and maintaining inventory of all received materials for their scope of work throughout the project. Missing items not identified at the time shipment is received will be the responsibility of the Subcontractor to replace at no additional charge to the Owner.**
16. **Coordinate all tests and inspections.**
17. **Provide all surveying, staking, and layout needed to accomplish this scope of work. Construction Manager will establish two (2) benchmarks and gridlines.**
18. **Overtime, if required, to meet commitment to project schedule.**
19. **Cleaning street of dirt and debris caused by this scope of work.**
20. **Provide all unloading, material handling and hoisting of own materials.**

B. Bid Alternates: Insert Bid Alternate No. and price below.

1. Bid Alternate No. _____ = _____
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5. Bid Alternate No. _____ = _____

C. Contract Documents were prepared for the Project by Sinclair Hille Architects and their Consultants.
Project Location: P Street and Canopy Street, Lincoln, NE 68508
Owner: TDP Phase 3, LLC, 440 North 8th Street, Lincoln, NE 68508

1.3 WORK SEQUENCE/SCHEDULE

A. See Milestone Schedule for preliminary dates affecting this scope of work.

B. Time is of the essence on this project. Contractor/Construction Manager's project schedules will be updated periodically for the benefit and efficiency of all. All updated schedules will be considered agreed upon unless otherwise noted in writing within three (3) days of the receipt of the updated schedule.

1.4 CONTRACTOR USE OF PREMISES

A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

B. Smoking: The Owner does not allow smoking or the use of any tobacco products within its facilities or on the grounds. This applies to Construction Manager, Subcontractors and Suppliers.

END OF SCOPE OF WORK

SECTION 084413 - GLAZED ALUMINUM CURTAIN WALLS

PART 1 - GENERAL

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.

1.2 SUMMARY

A. Section includes glazed aluminum curtain walls installed as storefront.

B. Related Requirements:

1. Section 084113 "Aluminum-Framed Entrances and Storefronts" for storefront framing assemblies and entrance doors.
2. Section 107713 “Sun Control Fabrications” for shading devices attached to building structure.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For glazed aluminum curtain walls. Include plans, elevations, sections, full-size details, and attachments to other work.

1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
2. Include full-size isometric details of each vertical-to-horizontal intersection of glazed aluminum curtain walls, showing the following:

a. Joinery, including concealed welds.
b. Anchorage.
c. Expansion provisions.
d. Glazing.
e. Flashing and drainage.

C. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.

D. Delegated-Design Submittal: For glazed aluminum curtain walls indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Sample Warranties: For special warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For glazed aluminum curtain walls to include in maintenance manuals.

B. Warranty Data: Fully executed warranty documents to include in the operation and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

1.7 WARRANTY

A. Special Assembly Warranty: Manufacturer agrees to repair or replace components of glazed aluminum curtain wall that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Noise or vibration created by wind and thermal and structural movements.
c. Deterioration of metals and other materials beyond normal weathering.
d. Water penetration through fixed glazing and framing areas.

2. Warranty Period: Two years from date of Substantial Completion.

B. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design glazed aluminum curtain walls.

B. General Performance: Comply with performance requirements specified, as determined by testing of glazed aluminum curtain walls representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. Glazed aluminum curtain walls shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
2. Failure also includes the following:
   a. Thermal stresses transferring to building structure.
   b. Glass breakage.
   c. Noise or vibration created by wind and thermal and structural movements.
   d. Loosening or weakening of fasteners, attachments, and other components.

C. Structural Loads:

1. Wind Loads: As indicated on Drawings.
2. Other Design Loads: As indicated on Drawings.

D. Deflection of Framing Members: At design wind pressure, as follows:

1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane not exceeding 1/175 of the glass edge length for each individual glazing lite or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19.1 mm), whichever is less.
2. Deflection Parallel to Glazing Plane: Limited to amount not exceeding that which reduces glazing bite to less than 75 percent of design dimension and that which reduces edge clearance between framing members and glazing or other fixed components to less than 1/8 inch (3.2 mm).
3. Cantilever Deflection: Where framing members overhang an anchor point, as follows:
   a. Perpendicular to Plane of Wall: No greater than 1/240 of clear span plus 1/4-inch (6. 35-mm) for spans greater than 11 feet 8-1/4 inches (3.6 m) or 1/175 times span, for spans less than 11 feet 8-1/4 inches (3.6 m).

E. Structural: Test according to ASTM E 330 as follows:

1. When tested at positive and negative wind-load design pressures, assemblies do not evidence deflection exceeding specified limits.
2. When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding 0.2 percent of span.
3. Test Durations: As required by design wind velocity, but not less than 10 seconds.

F. Air Infiltration: Test according to ASTM E 283 for infiltration as follows:

1. Fixed Framing and Glass Area:
   a. Maximum air leakage of 0.06 cfm/sq. ft. (0.30 L/s per sq. m) at a static-air-pressure differential of 6.24 lbf/sq. ft. (300 Pa).

G. Water Penetration under Static Pressure: Test according to ASTM E 331 as follows:

1. No evidence of water penetration through fixed glazing and framing areas when tested according to a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 12 lbf/sq. ft. (575 Pa).

H. Seismic Performance: Glazed aluminum curtain walls shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. Seismic Drift Causing Glass Fallout: Complying with criteria for passing based on building occupancy type when tested according to AAMA 501.6 at design displacement and 1.5 times the design displacement.
2. Vertical Interstory Movement: Complying with criteria for passing based on building occupancy type when tested according to AAMA 501.7 at design displacement and 1.5 times the design displacement.

I. Energy Performance: Certify and label energy performance according to NFRC as follows:

1. Thermal Transmittance (U-factor): Fixed glazing and framing areas shall have U-factor of not more than 0.50 Btu/sq. ft. x h x deg F as determined according to NFRC 100.
2. Condensation Resistance: Fixed glazing and framing areas shall have an NFRC-certified condensation resistance rating of no less than 60 as determined according to NFRC 500.

J. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes:

1. Temperature Change: 120 deg F ambient; 180 deg F, material surfaces.

2.2 PRODUCTS

A. Basis-of-Design Products:

1. Type 2: YKK AP America Inc., series YKK YWW 60T, thermally broken window wall.
   a. Provide Slab Edge Cover assembly where indicated.

B. Prior approved products:

1. Kawneer – MetroView 601T
2. Efco 5500 Inside-Glazed Curtainwall

C. Source Limitations: Obtain all components of curtain wall system, including framing and accessories, from single manufacturer.

2.3 FRAMING

A. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Construction:
   a. Thermally broken at exterior locations,
   b. Nonthermal at interior locations.
2. Design Intent:
   a. Face dimensions of framing members from the Basis-of-Design products can vary up to ¼-inch larger for single profiles and up to ½-inch larger for the wide horizontal to accommodate manufacturer’s standard products.
   b. Where a nominal 8-inch horizontal framing member is indicated, if a single section profile is not provided, this shall be assembled from no more than 2 frame extrusions resulting in a single joint in the face.
3. Glazing System: Retained mechanically with gaskets on four sides.
4. Glazing Plane: Front.
5. Finish: High-performance organic finish.

B. Pressure Caps: Manufacturer's standard aluminum components that mechanically retain glazing.

1. Include snap-on aluminum trim that conceals fasteners.

C. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

D. Materials:

1. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
   a. Sheet and Plate: ASTM B 209 (ASTM B 209M).
   b. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
   c. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.
   d. Structural Profiles: ASTM B 308/B 308M.
2. Steel Reinforcement: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM, and prepare surfaces according to applicable SSPC standard.
   a. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
   b. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
   c. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.

2.4 ENTRANCES

A. Entrances: Comply with Section 084113 "Aluminum-Framed Entrances and Storefronts."

2.5 SUN CONTROL

A. Sunshades: See Section 107713 “Sun Control Fabrications” for shading devices.

1. Shading devices are attached to building structure, not to curtain wall framing.

2.6 GLAZING

A. Glazing: Comply with Section 088000 "Glazing."

B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.

C. Glazing Sealants: As recommended by manufacturer.

2.7 ACCESSORIES

A. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
2. Reinforce members as required to receive fastener threads.
3. Use exposed fasteners with countersunk Phillips screw heads, fabricated from 300 series stainless steel.

B. Anchors: Three-way adjustable anchors with minimum adjustment of 1 inch (25.4 mm) that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer.

C. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.

D. Bituminous Paint: Cold-applied asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos, formulated for 30-mil thickness per coat.

E. Slab Edge Assembly:

1. Basis-of-Design Product: YKK Slab Edge Cover assembly where indicated.

2.8 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Physical and thermal isolation of glazing from framing members.
4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
5. Provisions for field replacement of glazing from interior for vision glass and exterior for spandrel glazing.
6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

D. Fabricate components to resist water penetration as follows:

1. Internal guttering system or other means to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior.

E. Curtain-Wall Framing: Fabricate components for assembly using manufacturer's standard assembly method.

F. Factory-Assembled Frame Units:

1. Rigidly secure nonmovement joints.
2. Prepare surfaces that are in contact structural sealant according to sealant manufacturer's written instructions to ensure compatibility and adhesion.
3. Preparation includes, but is not limited to, cleaning and priming surfaces.
4. Seal joints watertight unless otherwise indicated.
5. Install glazing to comply with requirements in Section 088000 "Glazing."

G. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.9 ALUMINUM FINISHES

A. High-Performance Organic Finish: Two-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

1. Basis-of-Design Color and Gloss: Kawneer color, “Charcoal”.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
6. Where welding is required, weld components in concealed locations to minimize distortion or discoloration of finish. Protect glazing surfaces from welding.
7. Seal joints watertight unless otherwise indicated.

B. Metal Protection:

1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with primer, applying sealant or tape, or installing nonconductive spacers as recommended by manufacturer for this purpose.
2. Where aluminum is in contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within glazed aluminum curtain wall to exterior.

D. Install components plumb and true in alignment with established lines and grades.

E. Install glazing as specified in Section 088000 "Glazing."

3.3 ERECTION TOLERANCES

A. Erection Tolerances: Install glazed aluminum curtain walls to comply with the following maximum tolerances:

1. Plumb: 1/8 inch in 10 feet (3.2 mm in 3 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
2. Level: 1/8 inch in 20 feet (3.2 mm in 6 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
3. Alignment:
   a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch (12.7 mm) wide, limit offset from true alignment to 1/16 inch (1.6 mm).
   b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch (12.7 to 25.4 mm) wide, limit offset from true alignment to 1/8 inch (3.2 mm).
   c. Where surfaces are separated by reveal or protruding element of 1 inch (25.4 mm) wide or more, limit offset from true alignment to 1/4 inch (6 mm).
4. Location: Limit variation from plane to 1/8 inch in 12 feet; 1/2 inch over total length.

3.4 FIELD QUALITY CONTROL

A. Testing Agency: The Construction Manager on behalf of the Owner will engage a qualified testing agency to perform tests and inspections.

1. The Contractor shall coordinate with the Owner's Testing Agency to schedule the testing at the appropriate time of construction.

B. Field Quality-Control Testing: Perform the following test on representative areas of aluminum-framed entrances and storefronts.

1. Water-Spray Test: Before installation of interior finishes has begun, areas designated by Architect shall be tested according to AAMA 501.2 and shall not evidence water penetration.
   a. Perform a minimum of three tests in areas as directed by Architect.
   b. Perform tests in each test area as directed by Architect. Perform the tests, prior to 50 percent completion.
2. Aluminum-framed curtainwall will be considered defective if they do not pass tests and inspections.

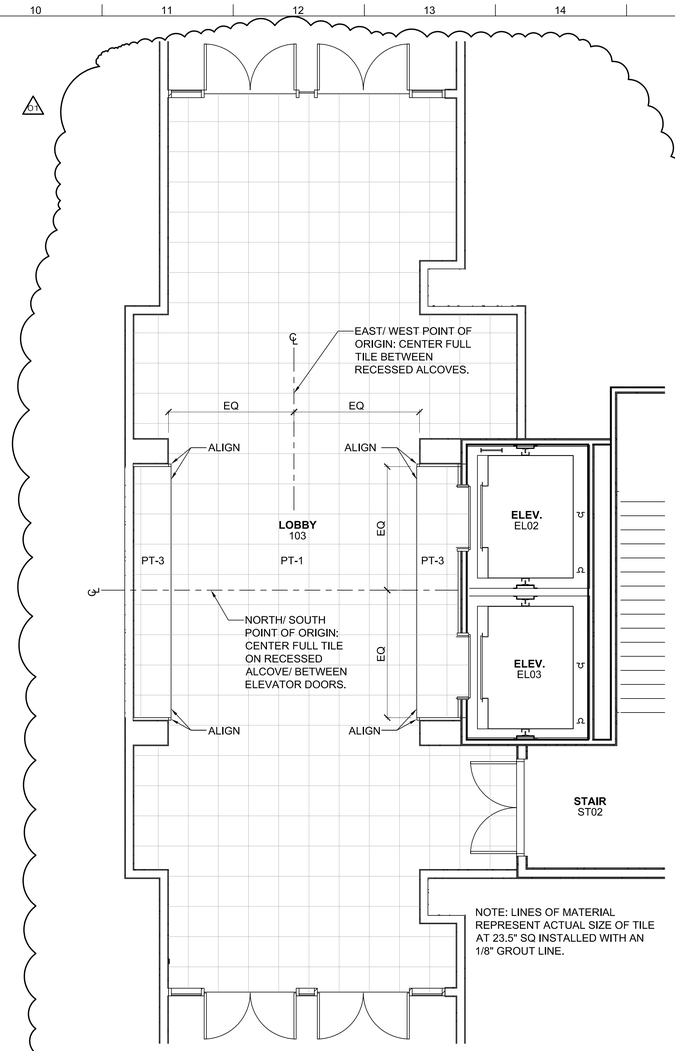
END OF SECTION 084413

ROOM FINISH SCHEDULE

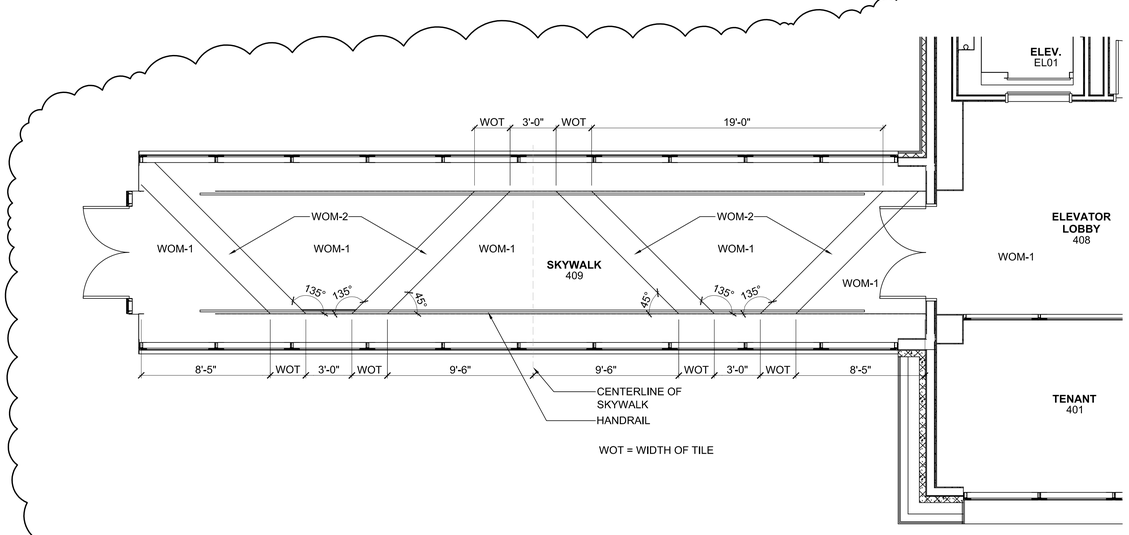
NUMBER	NAME	FLOOR	BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	CEILING	NOTES
101	FUTURE TENANT 01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
102	VESTIBULE	WOM-1	PT-1b	PNT-1	PNT-1	PNT-1	PNT-1	PNT-1	2, 4
103	LOBBY	PT-1	PT-1b	PNT-1	PNT-1/ PT-2/ MT-1	PNT-1	PNT-1/ GL-1/ PT-2/ MT-1	WD-1/ PNT-1	1, 2, 4
104	VESTIBULE	WOM-1	PT-1b	PNT-1	PNT-1	PNT-1	PNT-1	PNT-1	2, 4
105	FUTURE TENANT 02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
106	VESTIBULE	WOM-1	PT-1b	PNT-1	PNT-1	PNT-1	PNT-1	PNT-1	2, 4
107	ELEVATOR LOBBY	PT-1	PT-1b	PT-2	PNT-1	PNT-1	PNT-1	PNT-1	4
108	BACKFLOW	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
109	FIRE COMMAND	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
110	CORRIDOR	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
111	TRASH	CFS-1	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	EXPOSED	
112	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
113	FIRE PUMP	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
114	MECHANICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
115	GENERATOR	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
116	TELEPHONE	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
ST01	STAIR	ST-1	RB-2	PNT-1	PNT-1	PNT-1	PNT-1	ACT-2	3
ST02	STAIR	ST-1	RB-2	PNT-1	PNT-1	PNT-1	PNT-1	ACT-2	3
EL01	ELEV.	PT-1	ELC-1	ELC-1	ELC-1	ELC-1	ELC-1	ELC-1	3
EL02	ELEV.	PT-1	ELC-1	ELC-1	ELC-1	ELC-1	ELC-1	ELC-1	3
EL03	ELEV.	PT-1	ELC-1	ELC-1	ELC-1	ELC-1	ELC-1	ELC-1	3
201	TENANT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
202	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
203	JANITOR	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
204	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
205	MECHANICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
206	WOMEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
207	MEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
301	TENANT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
302	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
303	JANITOR	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
304	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
305	MECHANICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
306	WOMEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
307	MEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
401	TENANT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
402	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
403	JANITOR	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
404	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
405	MECHANICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
406	WOMEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
407	MEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
408	ELEVATOR LOBBY	WOM-1	RB-1	PT-2	CVWG-1	PNT-1	PNT-1	PNT-1	4
409	SKYWALK	WOM-1/ WOM-2	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-1	2, 4
501	TENANT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
502	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
503	JANITOR	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
504	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
505	MECHANICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
506	WOMEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
507	MEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
601	TENANT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
602	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
603	JANITOR	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
604	ELECTRICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
605	MECHANICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
606	WOMEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
607	MEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
701	DINING/ARCADE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
702	ELEV. EQUIP.	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
703	JANITOR	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
704	ELEV. EQUIP.	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
705	MECHANICAL	CFS-1	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	EXPOSED	
706	WOMEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4
707	MEN	PT-1	PT-1c	PNT-2	PT-2/ PNT-2	PNT-2	PT-2/ PNT-2	ACT-1	1, 2, 4

NOTES:

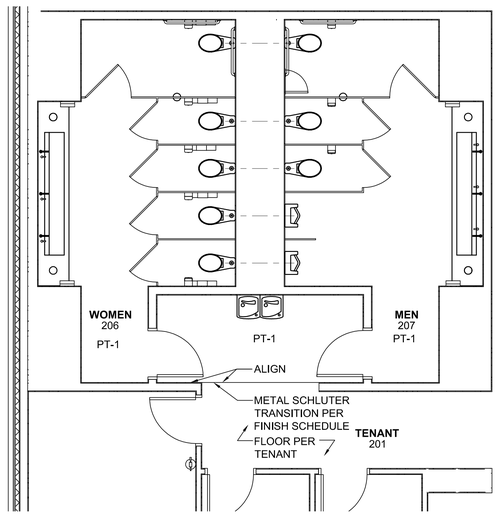
1 SEE INTERIOR ELEVATIONS FOR MORE INFORMATION ON FINISH LOCATIONS
2 SEE MATERIALS SCHEDULE AND FLOOR FINISH PLANS FOR PATTERNS AND INSTALLATION METHODS
3 SEE MATERIALS SCHEDULE FOR MORE INFORMATION ON FULL SYSTEMS SPECIFICATION
4 DENOTES A LEVEL 5 WALL FINISH (WALLS TO BE LEVEL 4 UNLESS NOTED OTHERWISE)



1 LOBBY FLOOR FINISH PLAN
SCALE: 1/4" = 1'-0"



2 SKYWALK FLOOR FINISH PLAN
SCALE: 1/4" = 1'-0"



3 RESTROOM FLOOR FINISH PLAN
SCALE: 1/4" = 1'-0"

DESIGN ARCHITECT: DS
PROJECT ARCHITECT:
DRAWN BY: A SWARTWOUT
ISSUED: 01/15/2016
REVISIONS:
ADDENDUM #1

PROJECT CONSULTANTS

MECHANICAL ENGINEER
ELECTRICAL ENGINEER
Schmadel Engineers, Inc.
3035 South 72nd Street
Omaha, NE 68124
800.541.0963

CIVIL ENGINEER
Olsson Associates
601 P Street, Suite 200
Lincoln, NE 68508
402.474.6311

STRUCTURAL ENGINEER
Lininger & Associates
1201 'O' Street, Suite 310
Lincoln, NE 68508
402.477.7649

Hudl HQ

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Final Core & Shell Package

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INTERIOR SCHEDULES & FLOOR FINISH PLANS

SHA PROJECT NO. 15024

ID 101

Attachment ID01

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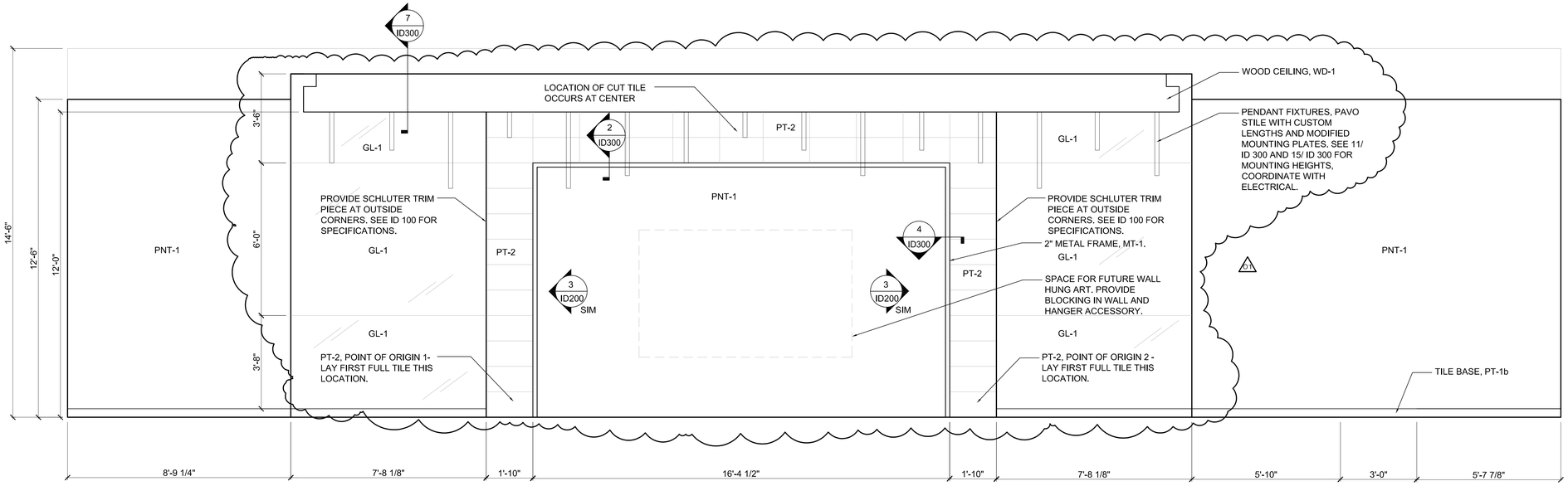
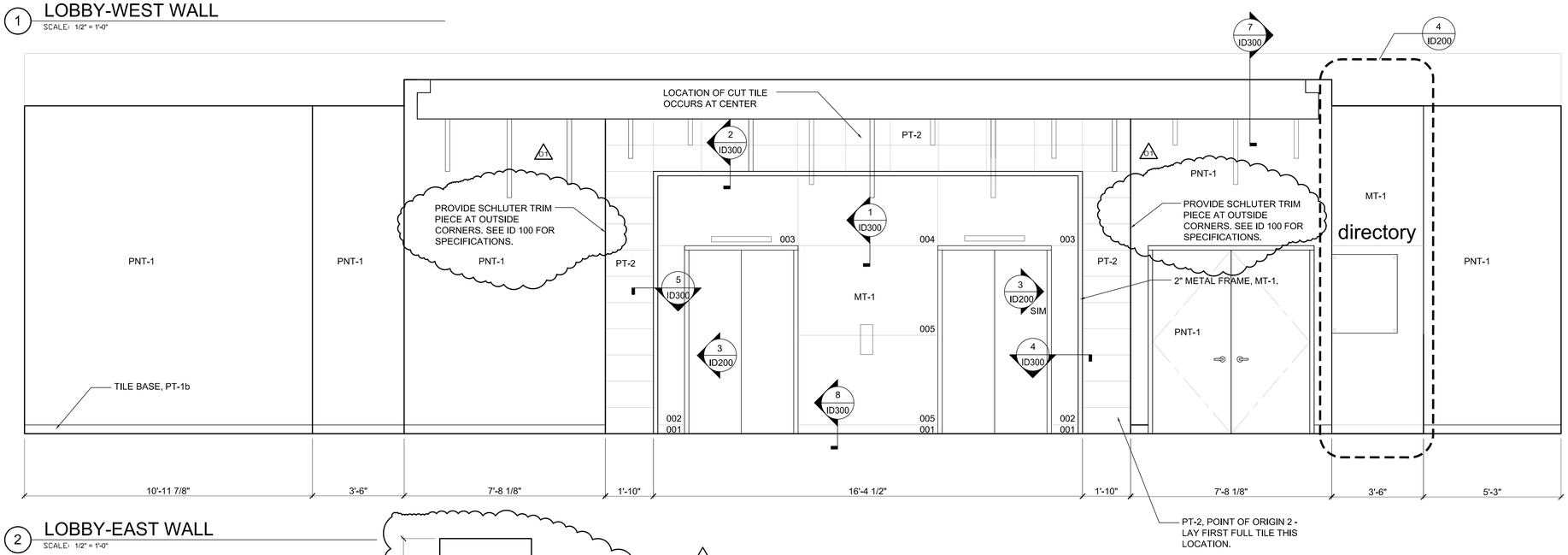


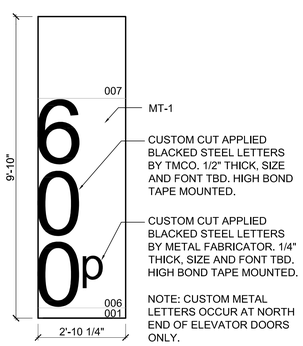
1 LOBBY-WEST WALL

SCALE: 1/2" = 1'-0"



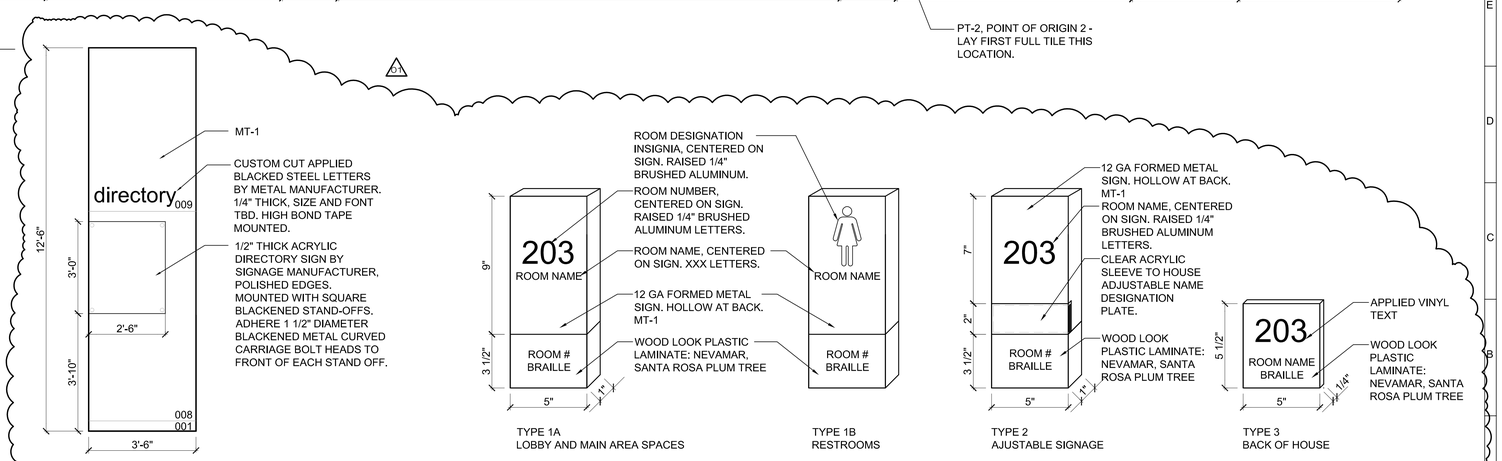
2 LOBBY-EAST WALL

SCALE: 1/2" = 1'-0"



3 CUSTOM METAL SIGNAGE PANEL

SCALE: 1/2" = 1'-0"



4 DIRECTORY SIGNAGE

SCALE: 1/2" = 1'-0"

5 TYPICAL ROOM SIGNAGE

SCALE: 3" = 1'-0"

METAL PANEL NOTES AND SIZES:

NOTES:
1. FIELD VERIFY ALL DIMS PRIOR TO FABRICATION.
2. ALIGN SEAMS IN CEILING PANELS WITH SEAMS OF WALL PANELS DIRECTLY ADJACENT TO THEM, TYP.
3. SEE SHEET ID 100 FOR METAL PANEL SPECIFICATION.
4. ALIGN PANELS WITH ELEVATOR DOOR FRAMES WHERE THEY OCCUR.

001:	4" HEIGHT X L IN FIELD,	12 GA *BASE
002:	6'-10" H X 1'-0 1/4" W,	16 GA
003:	2'-8" H X 5'-4 4/16" W,	16 GA
004:	2'-8" H X 5- 3 15/16" W,	16 GA
005:	3'-5" H X 5-3 15/16" W,	16 GA
006:	6'-10" H X 2'-10 1/4" W,	12 GA
007:	2'-8" H X 2'-10 1/4" W,	12 GA
008:	6'-10" H X 3'-6" W,	16 GA
009:	5'-4" H X 3'-6" W,	16 GA

DESIGN ARCHITECT: DS
PROJECT ARCHITECT:
REVISIONS:
DRAWN BY: A SWARTWOUT
ISSUED: 01/15/2016

ADDENDUM #1

PROJECT CONSULTANTS

STRUCTURAL ENGINEER
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1201 O' Street, Suite 310
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402.477.7640

CIVIL ENGINEER
Olsson Associates
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402.474.6311

MECHANICAL ENGINEER
ELECTRICAL ENGINEER
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Omaha, NE 68124
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Hudl HQ

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Final Core & Shell Package

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E: INFO@STUDIOBRINK.COM

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INTERIOR ELEVATIONS

SHA PROJECT NO. 15024

ID 200

Attachment ID02

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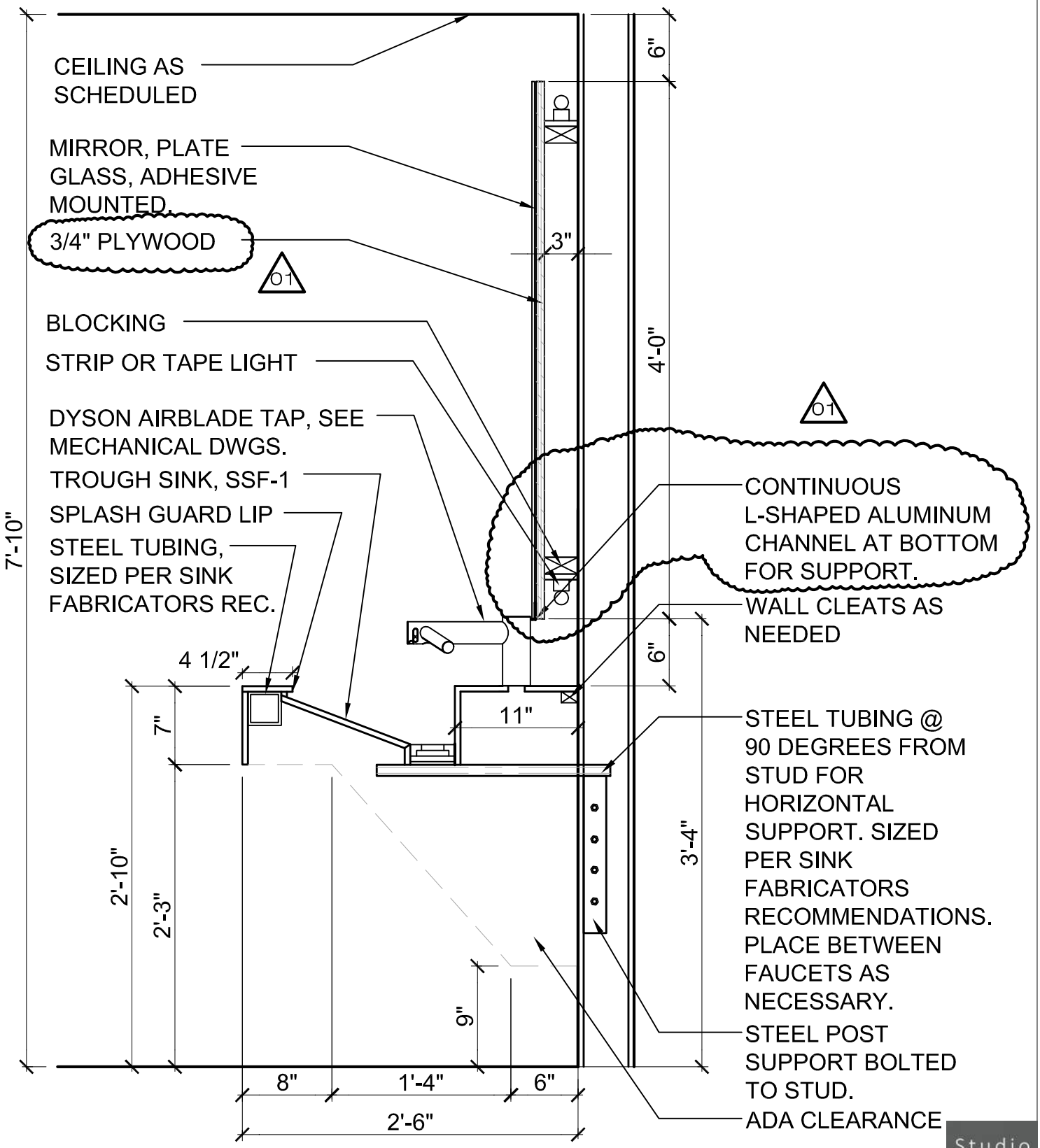


Studio BRiNK design engine

RESTROOM SINK & MIRROR DETAIL

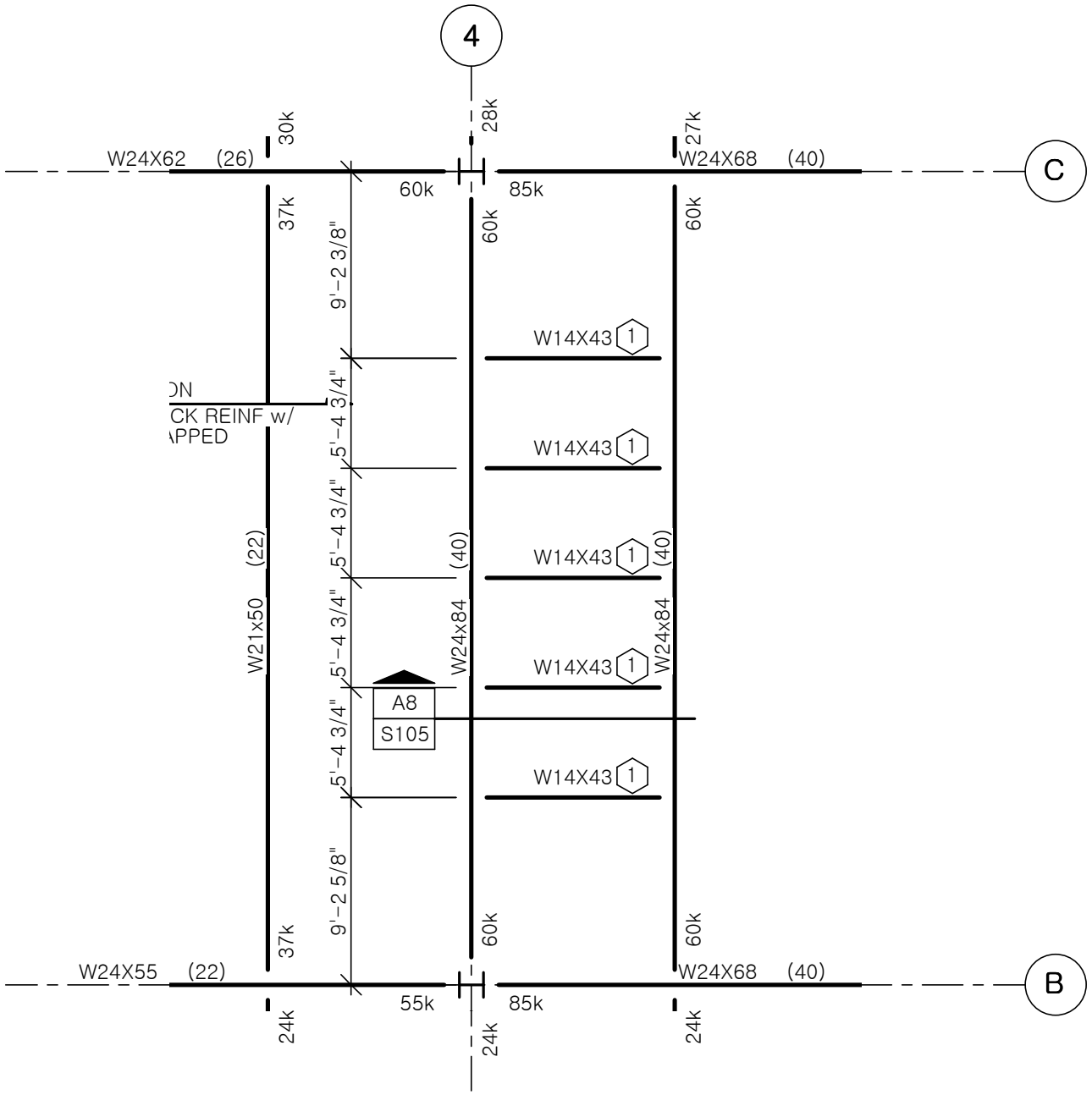
SINCLAIR hille architects

Revision to Detail: **13/ ID 300**

Hudl HQ - New Office / Mixed Use Building

Attachment: ID03

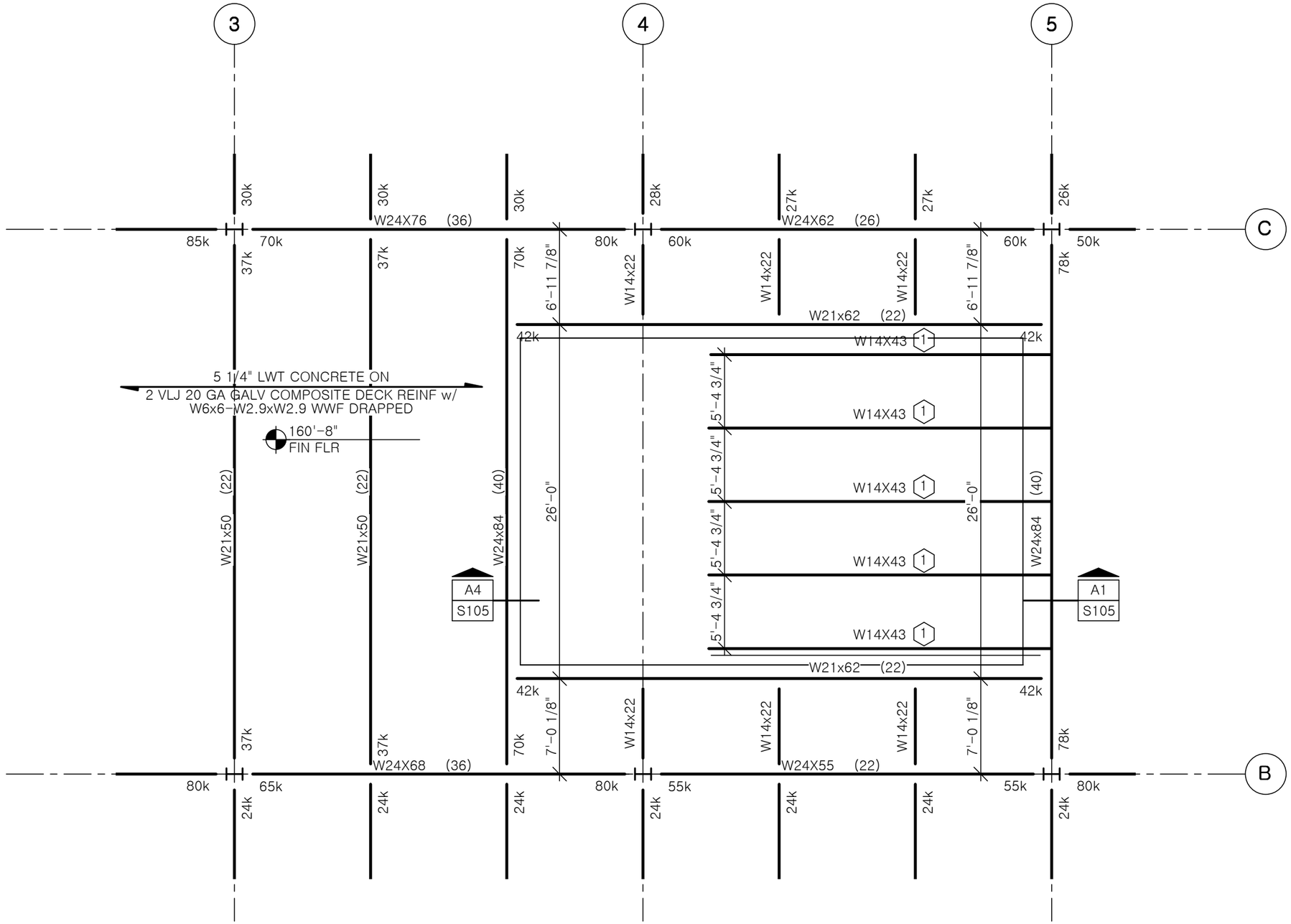
Scale: 1" = 1'-0"	Project Number: 15024-05	Date: January 15, 2016	Attachment to: **Addendum 01**



1 -INDICATES BID ALTERANTE S1 FOR THE TENANT FINISH BLEACHERS. ALL WORK ASSOCIATED WITH EACH MEMBER INCLUDING BUT NOT LIMITED TO THE BLEACHER PANS AND CONCRETE WORK IS BID ALTERNATE S1

PARTIAL FOURTH FLOOR FRAMING PLAN

HUDL HQ			
R. O. YOUKER, INC. CONSULTING ENGINEERS 1201 O STREET SUITE 310 LINCOLN, NEBRASKA 68508 402-477-7640	Sinclair Hille Architects 700 Q Street, Lincoln, NE 68508		S01
	Engr Project No. 15043	Date: 01/15/16S	
	Scale: 1/8" = 1'-0"	Drawn By: JP	Ref Sht:



1 -INDICATES BID ALTERANTE S1 FOR THE TENANT FINISH BLEACHERS. ALL WORK ASSOCIATED WITH EACH MEMBER INCLUDING BUT NOT LIMITED TO THE BLEACHER PANS AND CONCRETE WORK IS BID ALTERNATE S1

REVISED PARTIAL FIFTH FLOOR FRAMING PLAN

S02

Ref Sht:

HUDL HQ

SINCLAIR HILLE ARCHITECTS
700 Q Street, Lincoln, NE 68508

Engr Project No. 15024

Date: 01/15/16

SCALE: 1/8" = 1'-0"

Drawn By: JP

R. O. YOUKER, INC.
CONSULTING ENGINEERS
1201 O STREET SUITE 310 LINCOLN, NEBRASKA 68508 402-477-7640

ELEVATOR SHAFT PRESSURIZATION FANS

MARK	LOCATION	SERVICE	CFM	EXT. S.P. (IN W.G.)	SONES	MOTOR DATA				RPM	MFR.	REMARKS
						HP	VOLTS	PH	CYC.			
EPF-1	ROOF	ELEVATOR	3100	1.0	20.0	2.0	277	1	60	1725	GREENHECK	MODEL RSFP-100-20
EPF-2	ROOF	ELEVATOR	6100	1.0	24.0	5.0	460	3	60	1725	GREENHECK	MODEL RSFP-150-50

NOTES:
1. GREENHECK IS THE BASIS OF DESIGN. COOK, PENN, AND CAPTIVEAIRE ARE EQUAL. NO EXCEPTIONS.
2. PROVIDE MINIMUM 12" HEIGHT ROOF CURB.
3. PROVIDE WITH MOTORIZED DAMPER.
4. ELECTRICAL CONTRACTOR TO PROVIDE VFDS FOR INSTALLATION BY ELECTRICAL. REFER TO ELECTRICAL SHEET FOR CONNECTION.

STAIRWELL PRESSURIZATION FANS

MARK	LOCATION	SERVICE	CFM	EXT. S.P. (IN W.G.)	SONES	MOTOR DATA				RPM	MFR.	REMARKS
						HP	VOLTS	PH	CYC.			
SPF-1	ROOF	STAIRWELL	7200	1.0	29.0	5.0	460	3	60	1725	GREENHECK	MODEL RSFP-150-50
SPF-2	ROOF	STAIRWELL	7200	1.0	29.0	5.0	460	3	60	1725	GREENHECK	MODEL RSFP-150-50

NOTES:
1. GREENHECK IS THE BASIS OF DESIGN. COOK, PENN, AND CAPTIVEAIRE ARE EQUAL. NO EXCEPTIONS.
2. PROVIDE MINIMUM 12" HEIGHT ROOF CURB.
3. PROVIDE WITH MOTORIZED DAMPER.
4. ELECTRICAL CONTRACTOR TO PROVIDE VFDS FOR INSTALLATION BY ELECTRICAL. REFER TO ELECTRICAL SHEET FOR CONNECTION.

PLATE TYPE HEAT EXCHANGER

MARK	SERVES	LOCATION	COIL TEMP.			PRESSURE DROP PSI	CENTRAL PLANT TEMP.			PRESSURE DROP PSI	MANUFACTURER-REMARKS
			ENT.	LVG.	GPM		ENT.	LVG.	GPM		
HE-1	CWS/R	MECH 115	58.0	44.0	1075	7.3	42.0	56.0	1075	7.3	B&G - P110 PN:BY5437
HE-2	HWS/R	MECH 115	145.0	180.0	470	3.8	185.0	150.0	470	3.8	B&G - P64 PN:BY5418

PUMPS

MARK	LOCATION	SERVICE	GPM	HEAD (FT.)	MOTOR DATA				RPM	TYPE	MFR.	REMARKS
					HP	VOLTS	PH	CYC.				
P-4A	MECH 115	CHILLED WATER	1075	75.0	30.0	480	3	60	1180	DBL. SUCT.	B&G	VSC 6 X 8 X 13 1/2A
P-4B	MECH 115	CHILLED WATER	1075	75.0	30.0	480	3	60	1180	DBL. SUCT.	B&G	VSC 6 X 8 X 13 1/2A
P-5A	MECH 115	HOT WATER	470	85.0	25.0	480	3	60	1780	DBL. SUCT.	B&G	VSC 4 X 6 X 10 1/2A
P-5B	MECH 115	HOT WATER	470	85.0	25.0	480	3	60	1780	DBL. SUCT.	B&G	VSC 4 X 6 X 10 1/2A

NOTES:
1. ELECTRICAL CONTRACTOR TO PROVIDE VFDS FOR INSTALLATION BY ELECTRICAL. REFER TO ELECTRICAL SHEET FOR CONNECTION.

SINCLAIR hille architects

Attachment: M1

Attachment to: **Addendum 01**

Hudl HQ - New Office / Mixed Use Building

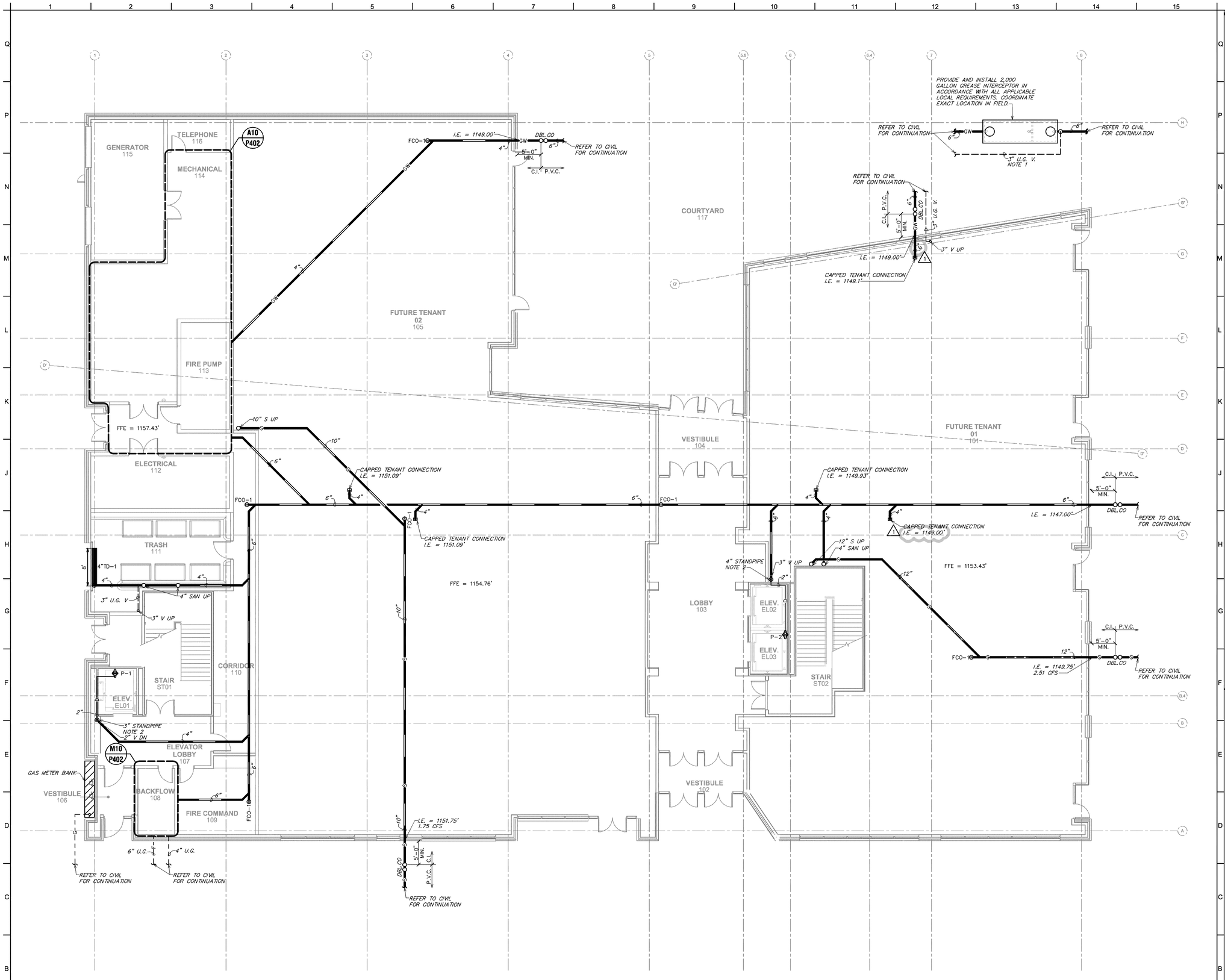
Date: January 14, 2016

Project Number: 15024-06ASI

Addendum 1

Revision to Sheet: **M601**

Scale: N.T.S.



GENERAL NOTES:

A. THE EXISTING CONDITIONS ARE BASED ON "AS-BUILT" DRAWINGS AND/OR LIMITED FIELD VERIFICATIONS. THE CONTRACTOR SHALL ADJUST TO ACTUAL FIELD CONDITIONS AT NO ADDITIONAL EXPENSE TO THE PROJECT. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ANY EXTRAS DUE TO THE CONTRACTOR'S FAILURE TO VISIT THE PROJECT SITE AND/OR PREDETERMINATION OF EXISTING CONDITIONS PRIOR TO SUBMITTING THE BID. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION.

B. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE INCIDENTAL DEMOLITION WORK PRIOR TO BIDDING AND COMMENCEMENT OF WORK. THE CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF ALL EXISTING EQUIPMENT AS REQUIRED FOR THE INSTALLATION/CONSTRUCTION OF NEW WORK.

C. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE GOVERNMENTAL AND LOCAL CODE REQUIREMENTS.

D. PROVIDE ACCESS PANELS AS REQUIRED TO ALLOW ACCESS TO VALVES, EQUIPMENT, ETC. LOCATED ABOVE INACCESSIBLE CEILINGS AND WALL CAVITIES.

E. ALL SANITARY LINES AND PLUMBING FIXTURES ON THE PROJECT SHALL HAVE AN APPROVED MEANS OF SEWAGE BACKFLOW PREVENTION. FIXTURE SPECIFIC BACKFLOW PREVENTION INCLUDING AIR GAPS AND VACUUM BREAKERS ARE AN ACCEPTABLE MEANS OF BACKFLOW PREVENTION.

F. COORDINATE ALL SLAB PENETRATIONS WITH GENERAL CONTRACTOR PRIOR TO CONSTRUCTION. MAINTAIN A MINIMUM OF 2" CLEARANCE FROM THE EDGE OF THE SLAB OPENING TO ANY STRUCTURAL MEMBERS AND PIPES.

G. PIPE SIZES INDICATED ON THE PLANS ARE MINIMUM. THE CONTRACTOR SHALL PROVIDE PIPE SIZES EQUAL TO OR GREATER THAN THE SPECIFIED SIZES. THE CONTRACTOR MAY INCREASE PIPE SIZES AS REQUIRED AT NO ADDITIONAL EXPENSE TO THE PROJECT.

H. REFER TO THE PLUMBING FIXTURE SCHEDULE FOR INDIVIDUAL PLUMBING FIXTURE CONNECTION SIZE REQUIREMENTS.

I. PROVIDE TEMPORARY COVERS, CAPS, OR PLUGS ON SANITARY SEWER SYSTEM THROUGHOUT THE DURATION OF CONSTRUCTION. RAG WADS, DUCT TAPE, OR OTHER SIMILAR METHODS OF TEMPORARY COVERS SHALL NOT BE UTILIZED. UPON COMPLETION OF CONSTRUCTION, COMPLETELY REMOVE ANY AND ALL OBSTRUCTIONS INSIDE THE ENTIRE SYSTEM BY SNAKING, RODING, OR JETTING THE SYSTEM IMMEDIATELY PRIOR TO PROJECT TURNOVER TO THE OWNER.

J. ALL BELOW GRADE SANITARY LINES SHALL BE A MINIMUM OF 2" OR IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.

K. SANITARY TEE FITTINGS SHALL NOT BE INSTALLED IN DRAIN, WASTE, AND VENT (DWV) SYSTEMS.

L. INSTALL ABOVE GRADE SANITARY PIPING 2" OR SMALLER AT A SLOPE OF 1/4" PER FOOT AND SANITARY PIPING LARGER THAN 2" AT A SLOPE OF 1/8" PER FOOT. INSTALL BELOW GRADE SANITARY PIPING AT A SLOPE OF 1/4" PER FOOT.

M. ALL PUBLIC USE LAVATORY FAUCETS SHALL HAVE AN AUTOMATIC SAFETY WATER MIXING DEVICE IN ACCORDANCE WITH ANSI/ASSE 1017 OR 1070 AS APPLICABLE.

N. ALL HANDICAPPED ACCESSIBLE WATER CLOSETS SHALL HAVE THE FLUSHING HANDLE ON THE WIDE SIDE OF THE HANDICAPPED ACCESSIBLE STALL AS REQUIRED BY ADA REQUIREMENTS.

O. ALL STORM PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE AND AS CLOSE TO THE BOTTOM OF ROOF DECKING AS POSSIBLE. THE STORM PIPING SHALL BE SLOPED AT 1/8" PER FOOT UNLESS NOTED OTHERWISE.

P. THE ENTIRE BUILDING SHALL BE PROVIDED WITH A COMPLETE FIRE SPRINKLER SYSTEM IN ALL RESPECTS. COORDINATE THE FIRE SPRINKLER PIPING AND SPRINKLER HEAD LOCATIONS WITH ALL TRADES PRIOR TO FABRICATION OR INSTALLATION. IF CONFLICTS OCCUR BETWEEN THE FIRE SPRINKLER PIPING/HEADS AND LIGHTS, DIFFUSERS, DUCTWORK, ETC., THE FIRE SPRINKLER PIPING/HEADS SHALL BE RELOCATED OR REROUTED AT NO ADDITIONAL EXPENSE TO THE PROJECT. AN ADEQUATE SUPPLY OF EXTRA PIPING AND FITTINGS SHALL BE MAINTAINED ON SITE TO ALLOW FOR FIELD MODIFICATIONS. PERFORM HYDRAULIC CALCULATIONS AS REQUIRED BY NFPA, LOCAL, STATE CODES, AND THE OWNER'S INSURANCE AGENCY. APPROVED SHOP DRAWINGS DO NOT PRECLUDE REROUTING IF SO REQUIRED BY THE ARCHITECT/ENGINEER.

Q. THE EQUIPMENT LOCATIONS INDICATED ON THIS DRAWING ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY THE FINAL INTENDED LOCATION OF ALL FLOOR MOUNTED WITH THE OWNER PRIOR TO ROUGH-IN.

PLUMBING NOTES:

1. VENT PIPING BELOW GRADE SHALL BE SLOPED BACK TOWARD SANITARY SYSTEM AT 1/4" PER FOOT.
2. PROVIDE STANDPIPE WITH FUNNEL FOR ELEVATOR PUMP DISCHARGE. PROVIDE AN ACCESSIBLE CHECK VALVE IN SANITARY LINE DOWNSTREAM FROM FUNNEL. ROUTE DISCHARGE FROM ELEVATOR SUMP PUMP TO FUNNEL INLET WITH A CODE APPROVED AIR GAP. COORDINATE ACCESS TO AIR GAP CONNECTION WITH ARCHITECT.

REVISIONS: 1 ADDENDUM 1

DESIGN ENGINEER: GRS
PROJECT ENGINEER: CTB
DRAWN BY: ARM
ISSUE DATE: 01/05/16

PROFESSIONAL MECHANICAL ENGINEER GREGORY ROY SCHNACKEL E-6724 NEBRASKA
COA # CA0479 Date: 01/13/16

PROJECT CONSULTANTS

MECHANICAL ENGINEER / ELECTRICAL ENGINEER: Schnackel Engineers, Inc. 10250 Regency Circle Omaha, NE 68114 800.581.0963

CIVIL ENGINEER: Olsson Associates 601 P Street, Suite 200 Lincoln, NE 68508 402.474.6311

STRUCTURAL ENGINEER: R.O. Youker, Inc. 12011 "O" Street, Suite 310 Omaha, NE 68137 402.477.7640

Hudl HQ

New Office / Mixed Use Building

Final Core & Shell Package

SINCLAIR hille architects
700 Q St. Lincoln, NE 68508 T: 402.476.7331 F: 402.476.8341

PLUMBING PLAN - BELOW GRADE

SHA PROJECT NO. 15024

P110

Attachment: P1

A1 PLUMBING PLAN - BELOW GRADE

SCALE: 1/8" = 1'-0"

Schnackel engineers
New York :: Omaha :: Los Angeles
800-581-0963 www.schnackel.com

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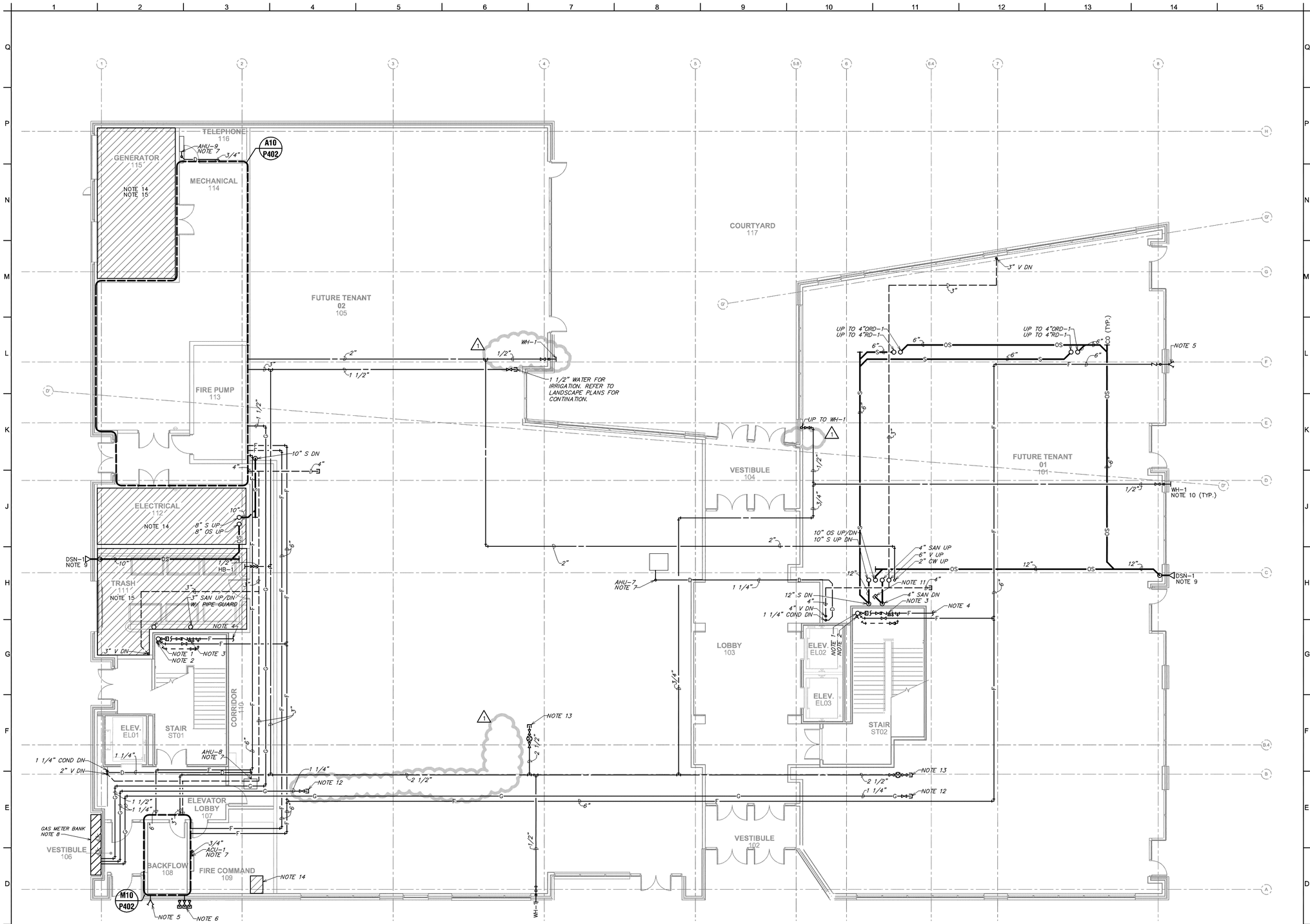

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J. SANITARY TEE FITTINGS SHALL NOT BE INSTALLED IN DRAIN, WASTE, AND VENT (DWV) SYSTEMS.

K. INSTALL ABOVE GRADE SANITARY PIPING 2" OR SMALLER AT A SLOPE OF 1/4" PER FOOT AND SANITARY PIPING LARGER THAN 2" AT A SLOPE OF 1/8" PER FOOT. INSTALL BELOW GRADE SANITARY PIPING AT A SLOPE OF 1/4" PER FOOT.

L. ALL STORM PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE AND AS CLOSE TO THE BOTTOM OF ROOF DECKING AS POSSIBLE. THE STORM PIPING SHALL BE SLOPED AT 1/8" PER FOOT UNLESS NOTED OTHERWISE.

M. THE ENTIRE BUILDING SHALL BE PROVIDED WITH A COMPLETE FIRE SPRINKLER SYSTEM IN ALL RESPECTS. COORDINATE THE FIRE SPRINKLER PIPING AND SPRINKLER HEAD LOCATIONS WITH ALL TRADES PRIOR TO FABRICATION OR INSTALLATION. IF CONFLICTS OCCUR BETWEEN THE FIRE SPRINKLER PIPING/HEADS AND LIGHTS, DIFFUSERS, DUCTWORK, ETC., THE FIRE SPRINKLER PIPING/HEADS SHALL BE RELOCATED OR REROUTED AT NO ADDITIONAL EXPENSE TO THE PROJECT. AN ADEQUATE SUPPLY OF EXTRA PIPING AND FITTINGS SHALL BE MAINTAINED ON SITE TO ALLOW FOR FIELD MODIFICATIONS. PERFORM HYDRAULIC CALCULATIONS AS REQUIRED BY NFPA, LOCAL, STATE CODES, AND THE OWNER'S INSURANCE AGENCY. APPROVED SHOP DRAWINGS DO NOT PRECLUDE REROUTING IF SO REQUIRED BY THE ARCHITECT/ENGINEER.

N. THE EQUIPMENT LOCATIONS INDICATED ON THIS DRAWING ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY THE FINAL INTENDED LOCATION OF ALL FLOOR MOUNTED WITH THE OWNER PRIOR TO ROUGH-IN.

PLUMBING NOTES:

1. 6" COMBINATION CLASS-I STANDPIPE SYSTEM UP/DOWN WITH 2 1/2" HOSE VALVE, 1 1/2" REDUCER, CAP, AND CHAIN IN ACCORDANCE WITH NFPA 14 REQUIREMENTS. PROVIDE PRESSURE REDUCING HOSE VALVES WHERE REQUIRED.
2. 3" COMBINATION STANDPIE & SPRINKLER DRAIN RISER UP/DOWN. DISCHARGE TO EXTERIOR.
3. FIRE SPRINKLER ZONE CONTROL ASSEMBLY WITH MONITORED ISOLATION VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE, INSPECTOR'S TEST AND DRAIN CONNECTION. WHERE STATIC PRESSURES EXCEED 175 PSI, PROVIDE PRESSURE REDUCING VALVE AND ADDITIONAL REQUIRED ISOLATION VALVES TO FACILITATE TESTING OF SAID PRESSURE REDUCING VALVE.
4. MAIN TO FIRE SPRINKLER SYSTEM ZONE.
5. FIRE DEPARTMENT CONNECTION WITH DUAL INLETS AND AUTOMATIC BALL DRIP. MAKE, MODEL, AND TYPE OF FDC AS REQUIRED MODEL WITH THE AUTHORITY HAVING JURISDICTION.
6. 3-WAY FIRE PUMP TEST HEADER WITH BALL DRIP.
7. PIPE GRAVITY PRIMARY AND AUXILIARY CONDENSATE FROM EQUIPMENT TO CODE COMPLIANT DISPOSAL POINT. THE CONDENSATE SHALL BE CONNECTED TO THE EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DISCHARGE SHALL BE THROUGH A CODE APPROVED AIR GAP. THE PIPE ROUTING INDICATED ON THE PLANS IS FOR REFERENCE ONLY. INSTALL THE PIPING AS HIGH AS POSSIBLE AND COORDINATE ROUTING WITH STRUCTURAL, MECHANICAL, ELECTRICAL, ETC. CONDENSATE SHALL NOT BE RUN OVER ELECTRICAL EQUIPMENT.
8. NEW 3 METER NATURAL GAS METER BANK SERVING A TOTAL ESTIMATED LOAD OF 6100 MBH. PROVIDE ONE METER EACH AT THE FOLLOW ESTIMATED LOADS: 1600 MBH, 2000 MBH, AND 2500 MBH. THE SYSTEM DESIGN IS BASED ON 2.0 PSI DELIVERY PRESSURE WITH A PRESSURE DROP OF 1.0 INCHES OF WATER COLUMN. THE CONTRACTOR SHALL COORDINATE THE METER PLACEMENT, AVAILABLE PRESSURE, AND NEW SERVICE REQUIREMENTS WITH THE LOCAL UTILITY PRIOR TO CONSTRUCTION. IF THE DELIVERY PRESSURE INDICATED IS NOT AVAILABLE FROM THE UTILITY COMPANY, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY.
9. MOUNT THE DOWNSPOUT NOZZLE AT A MINIMUM OF 1'-8" ABOVE FINISHED GRADE.
10. MOUNT THE WALL HYDRANT AT A MINIMUM OF 2'-0" ABOVE FINISHED GRADE.
11. PROVIDE 4" CAPPED SANITARY CONNECTION FOR FUTURE TENANT USE. HORIZONTAL INVERT ELEVATION SHALL BE 10'-0" AFF.
12. PROVIDE CAPPED AND VALVED GAS STUB FOR FUTURE TENANT USE.
13. PROVIDE CAPPED AND VALVED COLD WATER STUB FOR FUTURE TENANT USE. INSTALL WATER SUBMETER IN ACCORDANCE WITH THE OWNER AND UTILITY COMPANY'S REQUIREMENTS. PROVIDE REMOTE READER AS REQUIRED. VERIFY EXACT PLACEMENT OF REMOTE WATER METER READER WITH OWNER PRIOR TO INSTALLATION.
14. THIS SPACE IS RESERVED FOR ELECTRICAL EQUIPMENT. NO PIPING SHALL PASS BELOW, ABOVE, OR AROUND ELECTRICAL EQUIPMENT. PROVIDE CODE REQUIRED MINIMUM CLEARANCE ABOVE ELECTRICAL EQUIPMENT ACCESS SPACE.
15. PROVIDE DRY PIPE FIRE SPRINKLER SYSTEM COVERAGE FOR TRASH AND GENERATOR ROOMS.

A1 PLUMBING PLAN - LEVEL 1

SCALE: 1/8" = 1'-0"

REVISIONS: 1 ADDENDUM 1

DESIGN ENGINEER: GRS
PROJECT ENGINEER: CTB
DRAWN BY: ARM
DATE: 01/05/16

PROFESSIONAL MECHANICAL ENGINEER GREGORY ROY SCHNACKEL E-6724
COA # CA0479 Date: 01/13/16

PROJECT CONSULTANTS

MECHANICAL ENGINEER
ELECTRICAL ENGINEER
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10250 Regency Circle, Suite 300
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800.581.0963

STRUCTURAL ENGINEER
R.O. Youker, Inc.
12011 O Street, Suite 310
Omaha, NE 68137
402.477.7640

CIVIL ENGINEER
Olsson Associates
601 P Street, Suite 200
Lincoln, NE 68508
402.474.6311

Hudl HQ

New Office / Mixed Use Building

Final Core & Shell Package

SINCLAIR hille architects
700 G St.
Lincoln, NE 68508
T: 402 476 7331 F: 402 476 8341

PLUMBING PLAN - LEVEL 1

SHA PROJECT NO. 15024

P111
Attachment: P2

Schnackel engineers
New York ◦ Omaha ◦ Los Angeles
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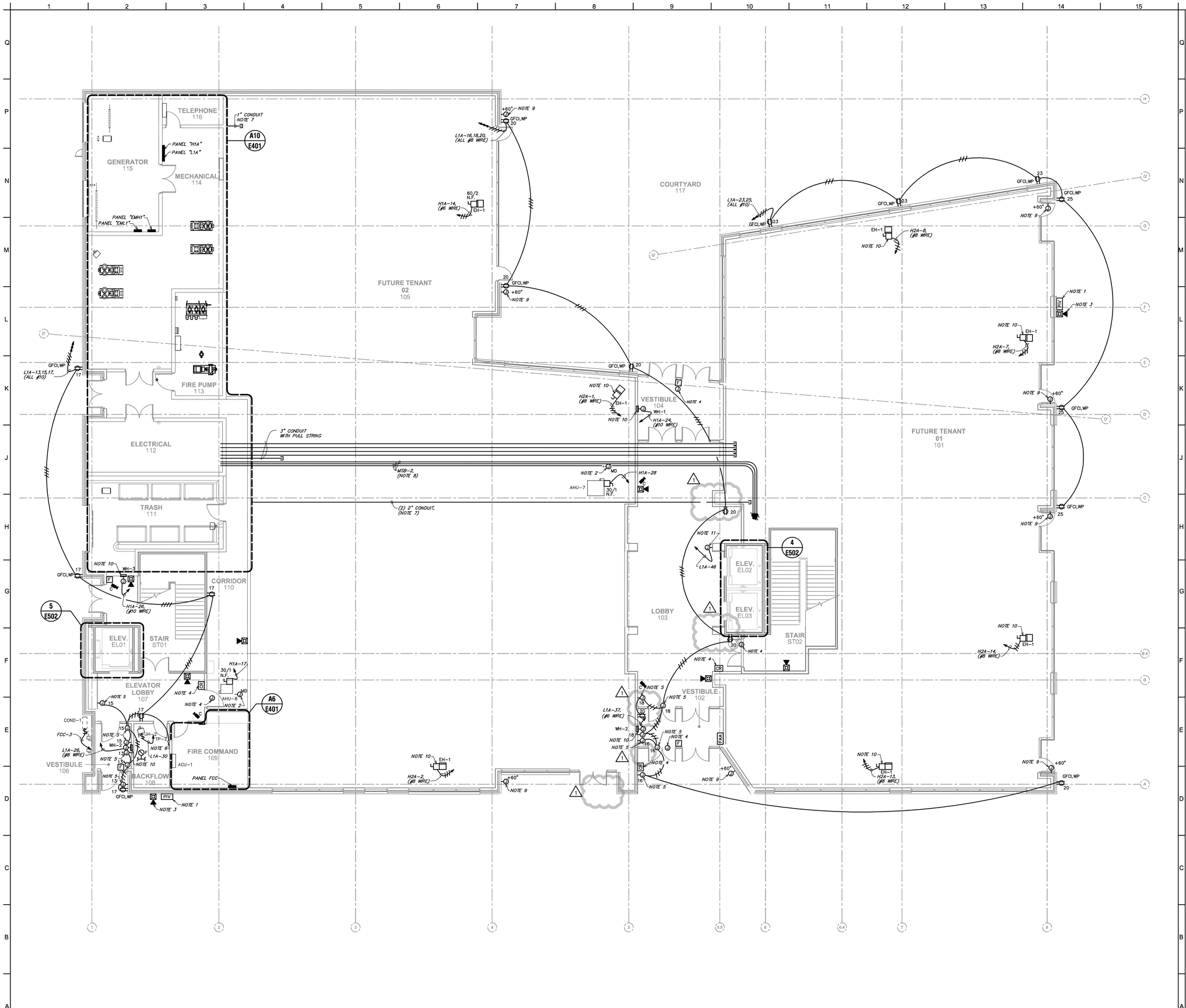

GENERAL ELECTRICAL NOTES:

A. COORDINATE THE CONNECTIONS OF ALL EQUIPMENT PROVIDED BY OTHERS WITH THE CONTRACTOR PROVIDING THE EQUIPMENT PRIOR TO ROUGH-IN. THIS INCLUDES, BUT IS NOT LIMITED TO, MECHANICAL EQUIPMENT, KITCHEN EQUIPMENT, AUDIO/VISUAL EQUIPMENT, FIRE SUPPRESSION SYSTEM EQUIPMENT, FIRE ALARM EQUIPMENT, ETC. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE DISCONNECTING MEANS FOR, AND TO MAKE THE FINAL CONNECTION TO, ANY HARDWIRED EQUIPMENT. THE ELECTRICAL CONTRACTOR IS ALSO RESPONSIBLE TO PROVIDE AN APPROPRIATE CORD AND PLUG FOR ANY CORD-AND-PLUG CONNECTED EQUIPMENT THAT IS NOT EQUIPPED WITH AN INTEGRAL CORD AND PLUG.

B. ALL EQUIPMENT, DEVICES, AND LUMINAIRES SHALL BE SUITABLE FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED. EQUIPMENT MOUNTED OUTDOORS SHALL BE NEMA 3R. DEVICES MOUNTED IN DAMP OR WET LOCATIONS SHALL BE WEATHERPROOF. RECEPTACLES RATED 15- OR 20-AMPS AND 120 VOLTS WHICH ARE LOCATED IN DAMP OR WET LOCATIONS SHALL BE GFCI PROTECTED AND EQUIPPED WITH A SUITABLE WEATHERPROOF COVERPLATE (WHILE-IN-USE IN WET LOCATIONS).

C. ALL LUGS, TERMINALS, ETC. IN ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE LISTED FOR A MINIMUM OF 75 DEGREE C CONDUCTORS. TERMINATIONS LISTED FOR ONLY 60 DEGREE C CONDUCTORS ARE NOT PERMITTED.

KEYED NOTES:

1. PROVIDE FINAL CONNECTION FROM FIRE ALARM CONTROL PANEL TO ELECTRONICALLY SUPERVISED POST INDICATOR VALVE. COORDINATE EXACT LOCATION AND ALL REQUIREMENTS WITH FIRE SPRINKLER CONTRACTOR PRIOR TO ROUGH-IN.
2. PROVIDE RELAY AND FINAL CONNECTION TO MOTORIZED DAMPER. CONNECT MOTORIZED DAMPER TO NEAREST CONTINUOUS 120 VOLT CONVENIENCE RECEPTACLE CIRCUIT VIA RELAY AND INTERLOCK RELAY WITH SUPPLY FAN IN HVAC EQUIPMENT ASSOCIATED WITH MOTORIZED DAMPER SUCH THAT MOTORIZED DAMPER OPENS WHEN SUPPLY FAN STARTS. PROVIDE LOW VOLTAGE TRANSFORMER FOR MOTORIZED DAMPER POWER IF REQUIRED. COORDINATE ALL REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
3. PROVIDE EXTERIOR WEATHERPROOF NOTIFICATION APPLIANCE MOUNTED DIRECTLY ABOVE THE FIRE DEPARTMENT CONNECTION POINT. COORDINATE THE LOCATION OF THE FIRE DEPARTMENT CONNECTION POINT WITH THE FIRE SPRINKLER CONTRACTOR PRIOR TO ROUGH-IN.
4. PROVIDE ROUGH-IN AND POWER TO DOOR ACCESS. SEE DETAIL 10/E501. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT MANUFACTURERS PRIOR TO ROUGH-IN.
5. PROVIDE FINAL CONNECTION TO AUTOMATIC DOOR OPERATOR AND INTERLOCK WITH ALL ASSOCIATED PUSHBUTTONS AND MOTION SENSING APPURTENANCES. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN.
6. PROVIDE FINAL CONNECTION TO ELECTRONIC TRAP PRIMER. COORDINATE ALL REQUIREMENTS WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
7. PROVIDE EMPTY CONDUIT OF SIZE NOTED ON PLANS, WITH PULL STRING, FROM TELECOMMUNICATIONS BACKBOARD STUBBED INTO TENANT SPACE. ROUTE CONDUIT TIGHT TO STRUCTURE AS HIGH AS POSSIBLE.
8. PROVIDE FEEDERS AS SIZED ON ONE-LINE DIAGRAM, FROM SWITCHBOARD MSB CONNECTED TO VERTICAL BUSWAY ABOVE. ROUTE CONDUIT TIGHT TO STRUCTURE AS HIGH AS POSSIBLE.
9. PROVIDE JUNCTION BOX FOR FUTURE TENANT SIGNAGE. STUB CONDUIT THROUGH WALL.
10. PROVIDE FINAL ELECTRICAL CONNECTION TO INTEGRAL HEATER DISCONNECT SWITCH.
11. PROVIDE FINAL CONNECTION TO SIGNAGE. COORDINATE LOCATION AND ALL REQUIREMENTS WITH SIGN CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE AN APPROPRIATE LOCAL DISCONNECTING MEANS MOUNTED IN AN ACCESSIBLE, INCONSPICUOUS LOCATION THAT IS WITHIN SIGHT OF THE SIGN. EACH SIGN CIRCUIT SHALL HAVE A SEPARATE NEUTRAL AND SEPARATE EQUIPMENT GROUNDING CONDUCTOR.

REVISIONS:
1 ADDENDUM 1

DESIGN ENGINEER: CRS
PROJECT ENGINEER: CTS
DRAWN BY: SRN
DATE: 01/05/16

GREGORY ROY SCHNACKEL E-6724 ELECTRICAL ENGINEER

COA # CA0479 Date: 01/13/16

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POWER AND SYSTEMS PLAN - LEVEL 1

SHA PROJECT NO. 15024

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E111

Attachment: E1

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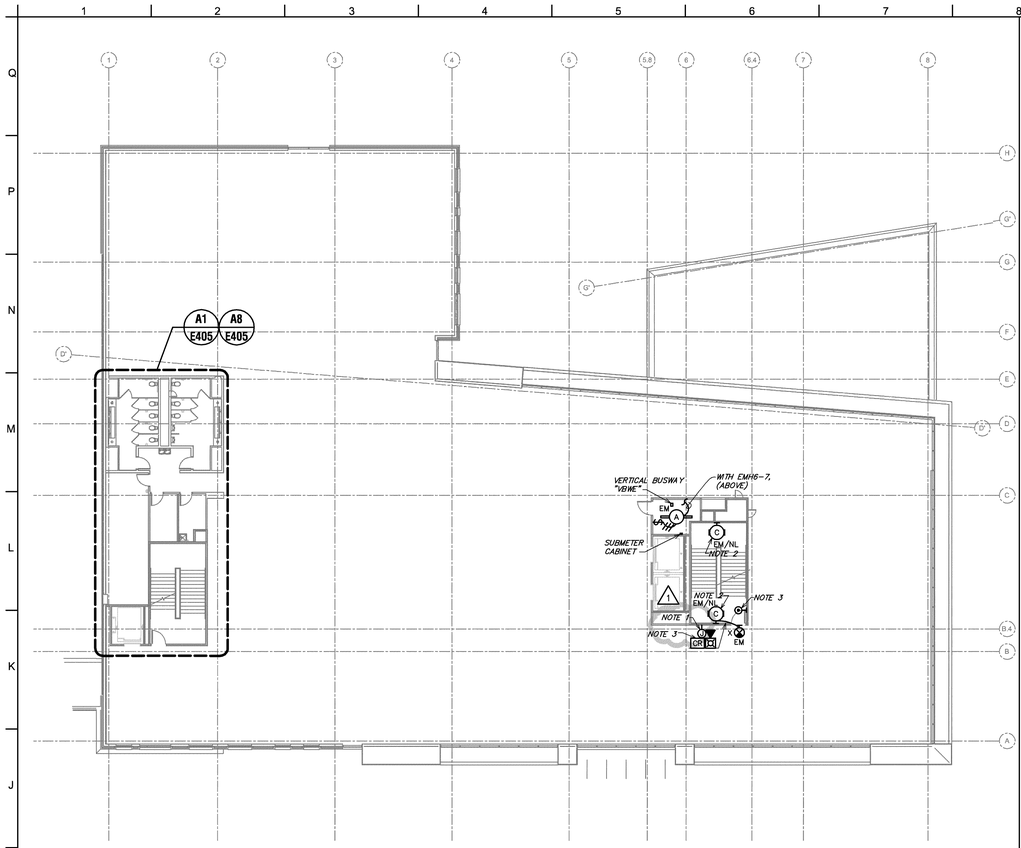
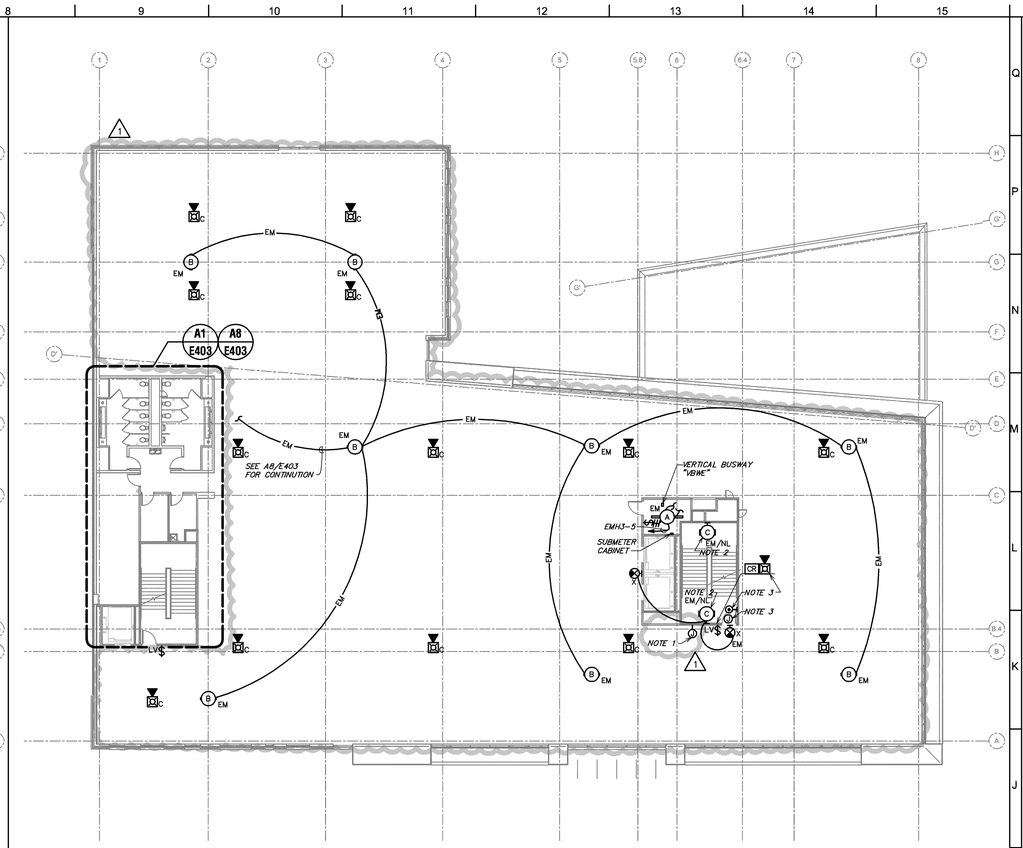
A1 POWER AND SYSTEMS PLAN - LEVEL 1

SCALE: 1/8" = 1'-0"



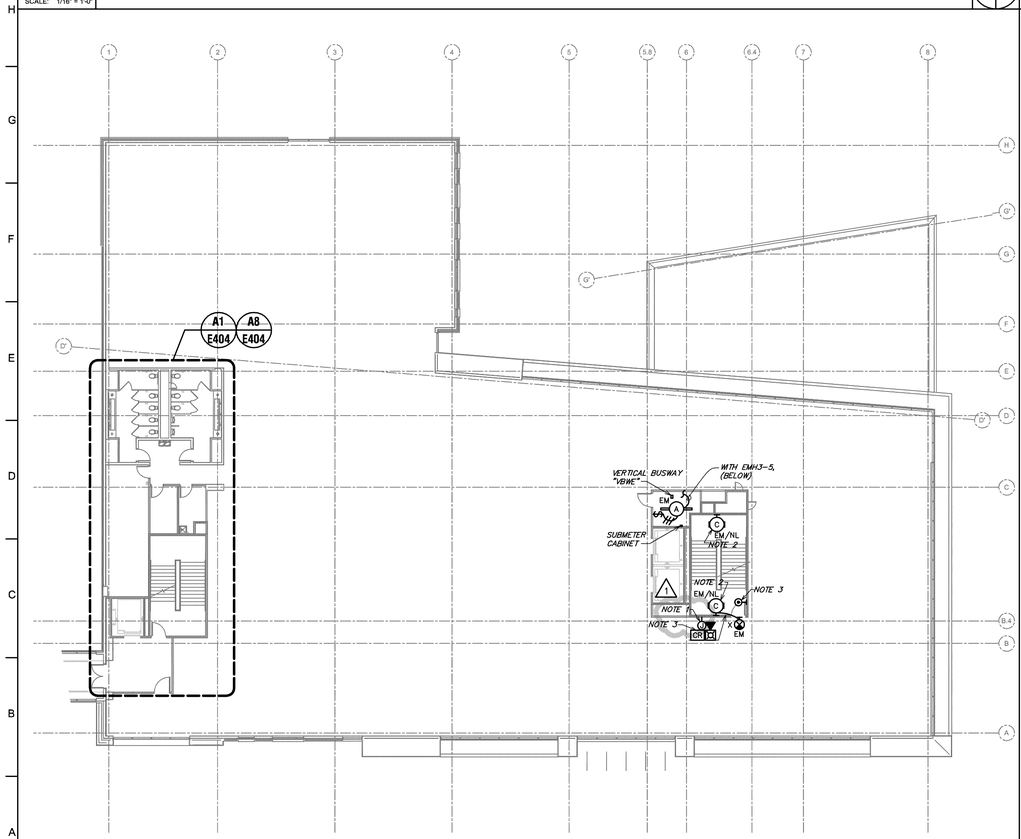
H1 OVER ALL ELECTRICAL PLAN - LEVEL 5

SCALE: 1/16" = 1'-0"



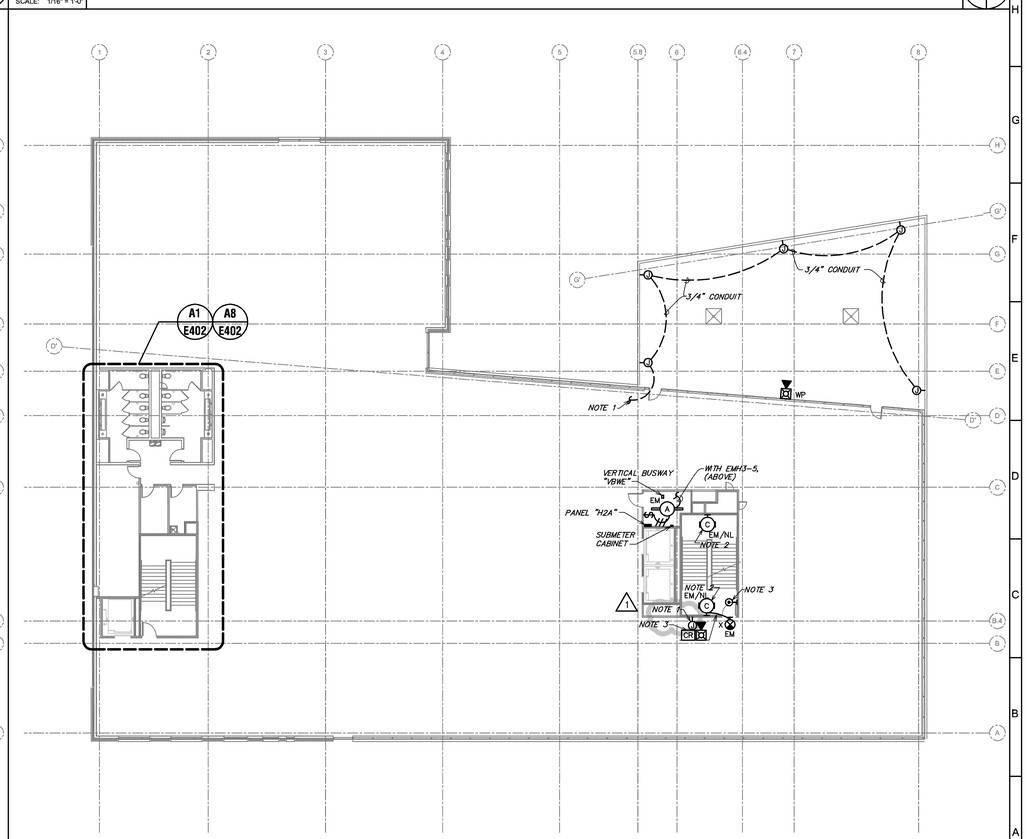
H8 OVER ALL ELECTRICAL PLAN - LEVEL 3

SCALE: 1/16" = 1'-0"



A1 OVER ALL ELECTRICAL PLAN - LEVEL 4

SCALE: 1/16" = 1'-0"



A8 OVER ALL ELECTRICAL PLAN - LEVEL 2

SCALE: 1/16" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. COORDINATE THE CONNECTIONS OF ALL EQUIPMENT PROVIDED BY OTHERS WITH THE CONTRACTOR PROVIDING THE EQUIPMENT PRIOR TO ROUGH-IN. THIS INCLUDES, BUT IS NOT LIMITED TO, MECHANICAL EQUIPMENT, KITCHEN EQUIPMENT, AUDIO/VISUAL EQUIPMENT, FIRE SUPPRESSION SYSTEM EQUIPMENT, FIRE ALARM EQUIPMENT, ETC. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE DISCONNECTING MEANS FOR, AND TO MAKE THE FINAL CONNECTION TO, ANY HARDWIRED EQUIPMENT. THE ELECTRICAL CONTRACTOR IS ALSO RESPONSIBLE TO PROVIDE AN APPROPRIATE CORD AND PLUG FOR ANY CORD-AND-PLUG CONNECTED EQUIPMENT THAT IS NOT EQUIPPED WITH AN INTEGRAL CORD AND PLUG.

B. ALL EQUIPMENT, DEVICES, AND LUMINAIRES SHALL BE SUITABLE FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED. EQUIPMENT MOUNTED OUTDOORS SHALL BE NEMA 3R. DEVICES MOUNTED IN DAMP OR WET LOCATIONS SHALL BE WEATHERPROOF. RECEPTACLES RATED 15- OR 20-AMPS AND 120 VOLTS WHICH ARE LOCATED IN DAMP OR WET LOCATIONS SHALL BE GFCI PROTECTED AND EQUIPPED WITH A SUITABLE WEATHERPROOF COVERPLATE (WHILE-IN-USE IN WET LOCATIONS).

C. ALL LUGS, TERMINALS, ETC. IN ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE LISTED FOR A MINIMUM OF 75 DEGREE C CONDUCTORS. TERMINATIONS LISTED FOR ONLY 60 DEGREE C CONDUCTORS ARE NOT PERMITTED.

KEYED NOTES:

1. PROVIDE EMPTY 3/4" CONDUIT WITH PULL STRING STUBBED INTO TENANT SPACE FOR FUTURE CONNECTION BY TENANT.
2. REFER TO A10/E201 FOR STAIRWELL LIGHTING CIRCUITING.
3. PROVIDE ROUGH-IN AND POWER TO DOOR ACCESS. SEE DETAIL 11/E301. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT MANUFACTURERS PRIOR TO ROUGH-IN.

REVISIONS: 1 ADDENDUM 1

DESIGN ENGINEER: CRS
PROJECT ENGINEER: CTG
DRAWN BY: SBN
DATE: 01/05/16

PROFESSIONAL ELECTRICAL ENGINEER GREGORY ROY SCHNACKEL E-6724 NEBRASKA

COA # CA0479 Date: 01/13/16

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Hudl HQ

New Office / Mixed Use Building

Final Core & Shell Package

OVERALL ELECTRICAL PLANS

SHA PROJECT NO. 15024

E112

Attachment: E2

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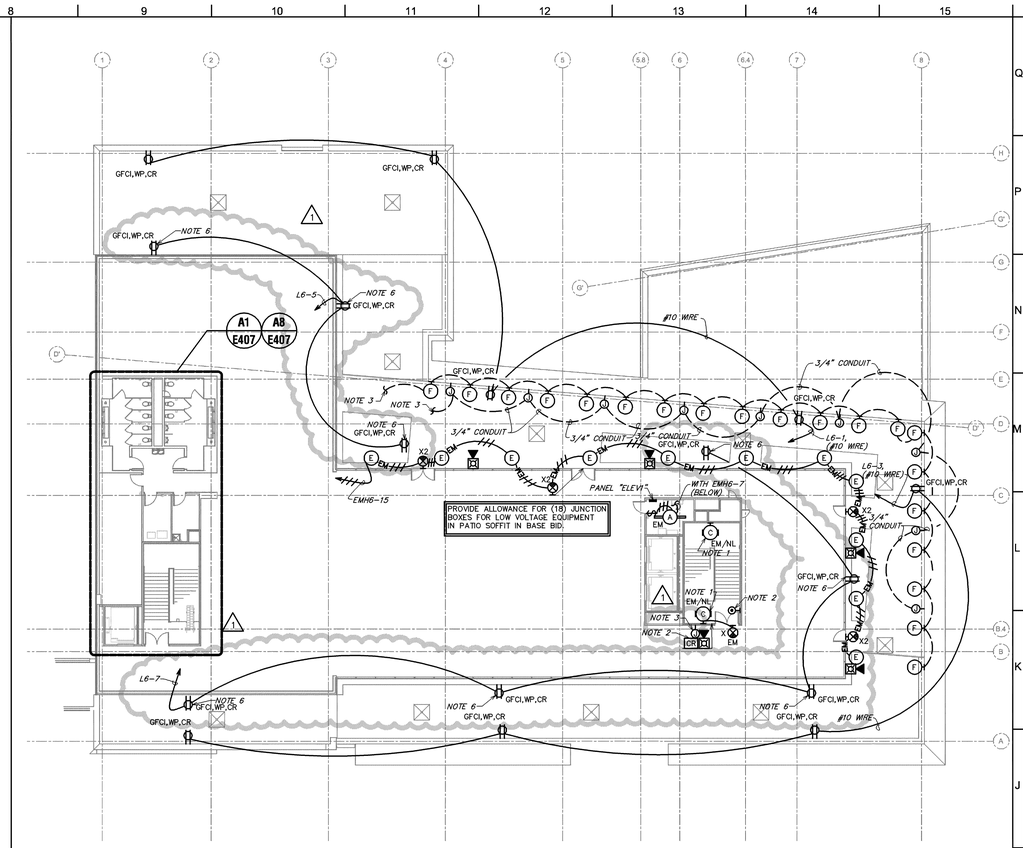
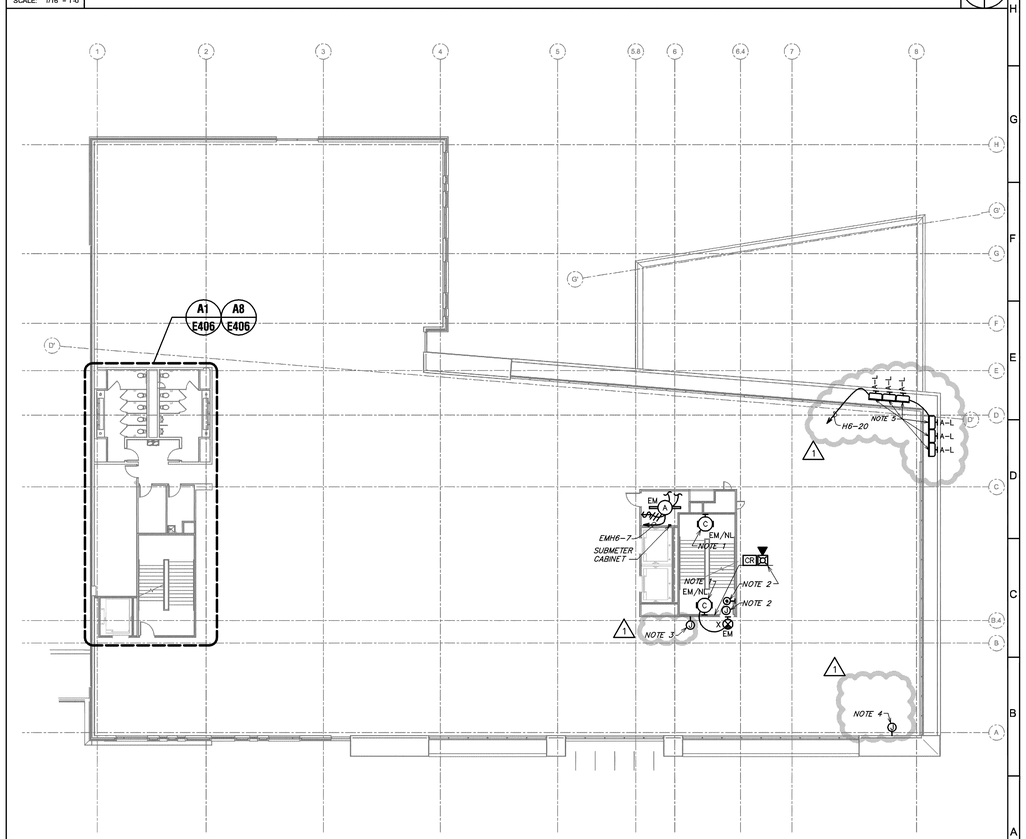


H8 OVER ALL ELECTRICAL PLAN - LEVEL 7

SCALE: 1/16" = 1'-0"



A8 OVER ALL ELECTRICAL PLAN - LEVEL 6

SCALE: 1/16" = 1'-0"

GENERAL ELECTRICAL NOTES:

A. COORDINATE THE CONNECTIONS OF ALL EQUIPMENT PROVIDED BY OTHERS WITH THE CONTRACTOR PROVIDING THE EQUIPMENT PRIOR TO ROUGH-IN. THIS INCLUDES, BUT IS NOT LIMITED TO, MECHANICAL EQUIPMENT, KITCHEN EQUIPMENT, AUDIO/VISUAL EQUIPMENT, FIRE SUPPRESSION SYSTEM EQUIPMENT, FIRE ALARM EQUIPMENT, ETC. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE DISCONNECTING MEANS FOR, AND TO MAKE THE FINAL CONNECTION TO, ANY HARDWIRED EQUIPMENT. THE ELECTRICAL CONTRACTOR IS ALSO RESPONSIBLE TO PROVIDE AN APPROPRIATE CORD AND PLUG FOR ANY CORD-AND-PLUG CONNECTED EQUIPMENT THAT IS NOT EQUIPPED WITH AN INTEGRAL CORD AND PLUG.

B. ALL EQUIPMENT, DEVICES, AND LUMINAIRES SHALL BE SUITABLE FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED. EQUIPMENT MOUNTED OUTDOORS SHALL BE NEMA 3R. DEVICES MOUNTED IN DAMP OR WET LOCATIONS SHALL BE WEATHERPROOF. RECEPTACLES RATED 15- OR 20-AMPS AND 120 VOLTS WHICH ARE LOCATED IN DAMP OR WET LOCATIONS SHALL BE GFCI PROTECTED AND EQUIPPED WITH A SUITABLE WEATHERPROOF COVERPLATE (WHILE-IN-USE IN WET LOCATIONS).

C. ALL LUGS, TERMINALS, ETC. IN ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE LISTED FOR A MINIMUM OF 75 DEGREE C CONDUCTORS. TERMINATIONS LISTED FOR ONLY 60 DEGREE C CONDUCTORS ARE NOT PERMITTED.

KEYED NOTES:

1. REFER TO A10/E201 FOR STAIRWELL LIGHTING CIRCUITING.
2. PROVIDE ROUGH-IN AND POWER TO DOOR ACCESS. SEE DETAIL 11/E301. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT MANUFACTURERS PRIOR TO ROUGH-IN.
3. PROVIDE EMPTY 3/4" CONDUIT WITH PULL STRING STUBBED INTO TENANT SPACE FOR FUTURE CONNECTION BY TENANT.
4. PROVIDE JUNCTION BOX FUTURE TENANT CONNECTION TO SIGNAGE. COORDINATE LOCATION AND ALL REQUIREMENTS WITH SIGN CONTRACTOR PRIOR TO ROUGH-IN.
5. REFER TO E202 FOR DIMENSIONED ELEVATION.
6. PROVIDE RECEPTACLE ON WALL/SOFFIT 12" BELOW ROOF.

REVISIONS: 1 ADDENDUM 1

DESIGN ENGINEER: CRS
PROJECT ENGINEER: CTD
DRAWN BY: SBN
DATE: 01/05/16

GREGORY ROY SCHNACKEL E-6724 ELECTRICAL ENGINEER

COA # CA0479 Date: 01/13/16

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Hudl HQ

New Office / Mixed Use Building

Final Core & Shell Package

OVERALL ELECTRICAL PLANS

SHA PROJECT NO. 15024

E113

Attachment: E3

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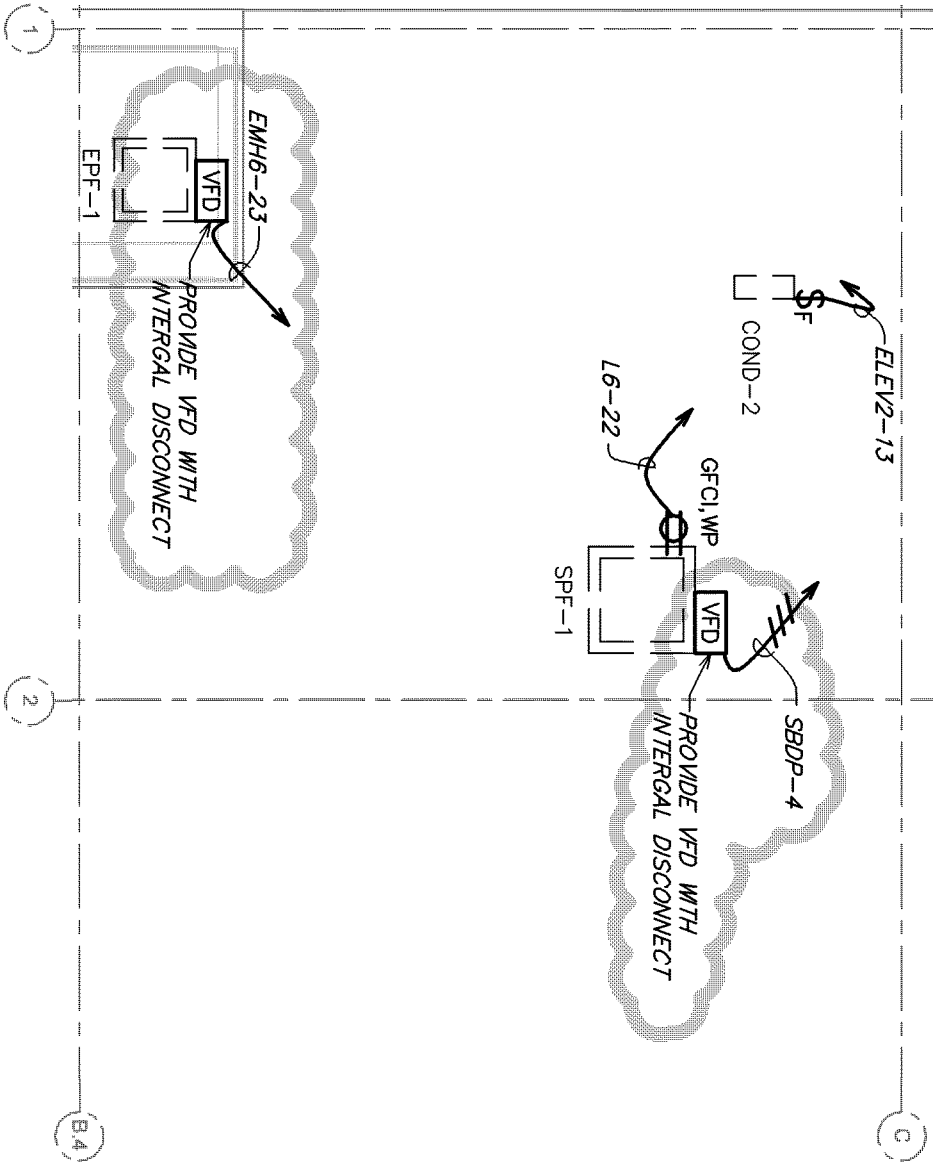

Addendum 1

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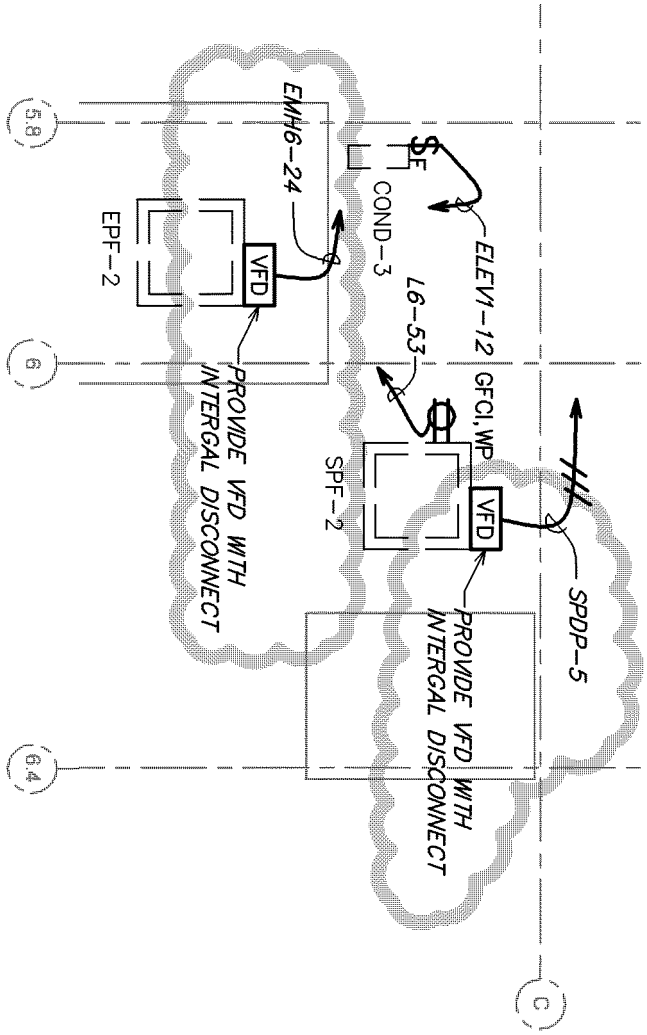
Revision to Sheet: **E114**

Hudl HQ - New Office / Mixed Use Building

Attachment: E4

Scale: 1/8" = 1'-0"	Project Number: 15024-05	Date: January 14, 2016	Attachment to: **Addendum 01**



Addendum 1

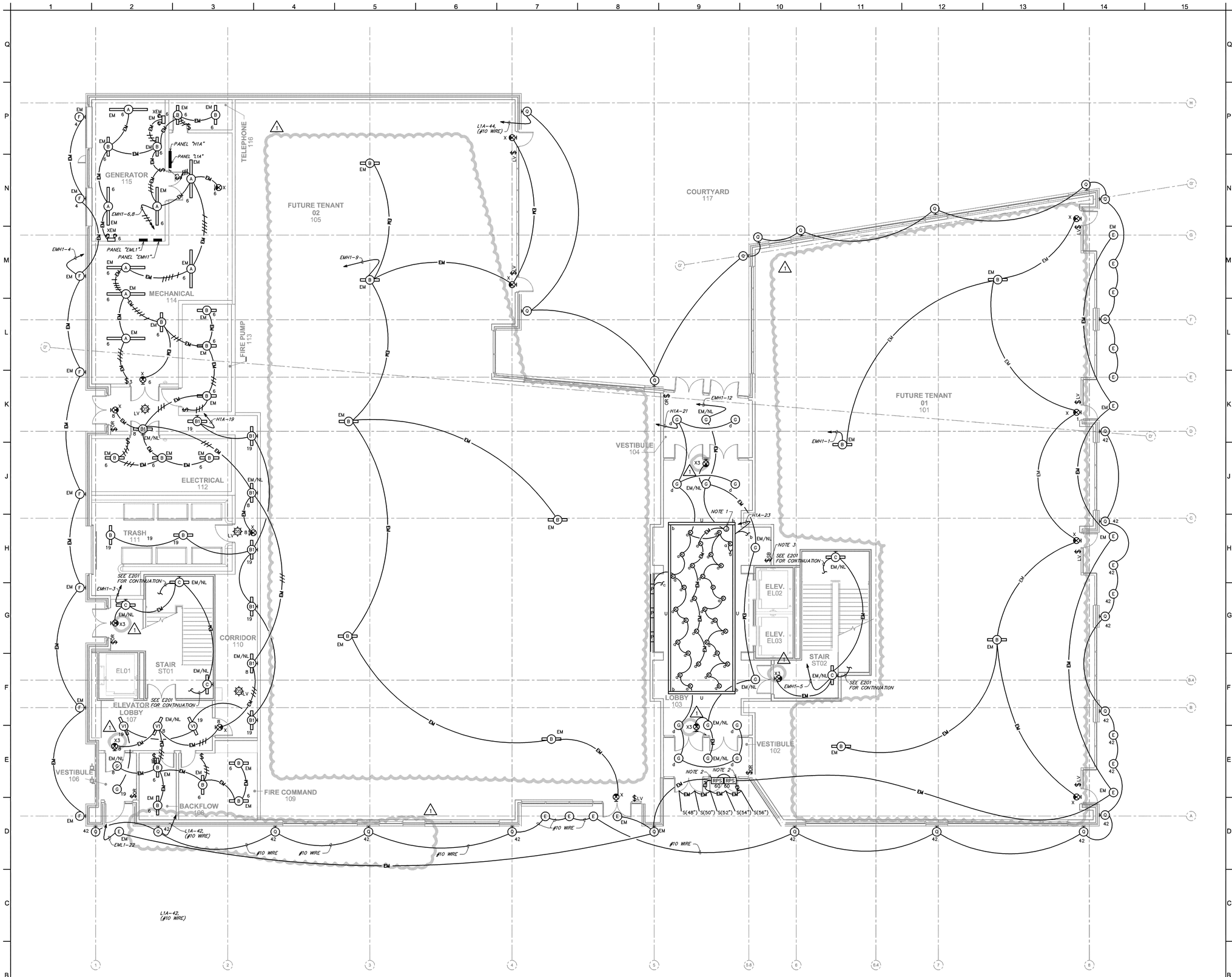
Revision to Sheet: **E114**

Hudl HQ - New Office / Mixed Use Building

SINCLAIR hille architects

Attachment: E5

Scale: 1/8" = 1'-0"	Project Number: 15024-05	Date: January 14, 2016	Attachment to: **Addendum 01**



GENERAL ELECTRICAL NOTES:

A. COORDINATE THE CONNECTIONS OF ALL EQUIPMENT PROVIDED BY OTHERS WITH THE CONTRACTOR PROVIDING THE EQUIPMENT PRIOR TO ROUGH-IN. THIS INCLUDES, BUT IS NOT LIMITED TO, MECHANICAL EQUIPMENT, KITCHEN EQUIPMENT, AUDIO/VISUAL EQUIPMENT, FIRE SUPPRESSION SYSTEM EQUIPMENT, FIRE ALARM EQUIPMENT, ETC. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE DISCONNECTING MEANS FOR, AND TO MAKE THE FINAL CONNECTION TO, ANY HARDWIRED EQUIPMENT. THE ELECTRICAL CONTRACTOR IS ALSO RESPONSIBLE TO PROVIDE AN APPROPRIATE CORD AND PLUG FOR ANY CORD-AND-PLUG CONNECTED EQUIPMENT THAT IS NOT EQUIPPED WITH AN INTERNAL CORD AND PLUG.

B. ALL EQUIPMENT, DEVICES, AND LUMINAIRES SHALL BE SUITABLE FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED. EQUIPMENT MOUNTED OUTDOORS SHALL BE NEMA 3R. DEVICES MOUNTED IN DAMP OR WET LOCATIONS SHALL BE WEATHERPROOF. RECEPTACLES RATED 15- OR 20-AMPS AND 120 VOLTS WHICH ARE LOCATED IN DAMP OR WET LOCATIONS SHALL BE GFCI PROTECTED AND EQUIPPED WITH A SUITABLE WEATHERPROOF COVERPLATE (WHILE-IN-USE IN WET LOCATIONS).

C. ALL LUGS, TERMINALS, ETC. IN ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE LISTED FOR A MINIMUM OF 75 DEGREE C CONDUCTORS. TERMINATIONS LISTED FOR ONLY 60 DEGREE C CONDUCTORS ARE NOT PERMITTED.

KEYED NOTES:

1. PROVIDE BODINE GTD-20A GENERATOR TRANSFER DEVICE. REFER TO 3/E504.
2. INSTALL THIS LUMINAIRE'S REMOTE LOW VOLTAGE LIGHTING TRANSFORMER IN AN INCONSPICUOUS, ACCESSIBLE LOCATION AND PROVIDE FINAL CONNECTION TO LUMINAIRE. COORDINATE MOUNTING LOCATION OF REMOTE LOW VOLTAGE LIGHTING TRANSFORMER WITH OWNER PRIOR TO ROUGH-IN. THE LENGTH OF CONDUCTORS BETWEEN REMOTE LOW VOLTAGE LIGHTING TRANSFORMER AND ASSOCIATED LUMINAIRE SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS FOR MAXIMUM CONDUCTOR LENGTH.
3. PROVIDE SWITCHBANK WITH LOCKABLE COVER. REFER TO 4/E504 FOR SWITCHBANK ELEVATION.

REVISIONS:	1 ADDENDUM 1
DESIGN ENGINEER: CRS	
PROJECT ENGINEER: CTS	
DRAWN BY: SBN	
REVIEWED: 01/05/16	

PROFESSIONAL ENGINEER — ELECTRICAL — GREGORY ROY SCHNACKEL — E-6724

COA # COA0479 Date: 01/13/16

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Hudl HQ

New Office / Mixed Use Building

Final Core & Shell Package

LIGHTING PLAN - LEVEL 1

SHA PROJECT NO. 15024

A1 LIGHTING PLAN - LEVEL 1

SCALE: 1/8" = 1'-0"

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E131

Attachment: E6

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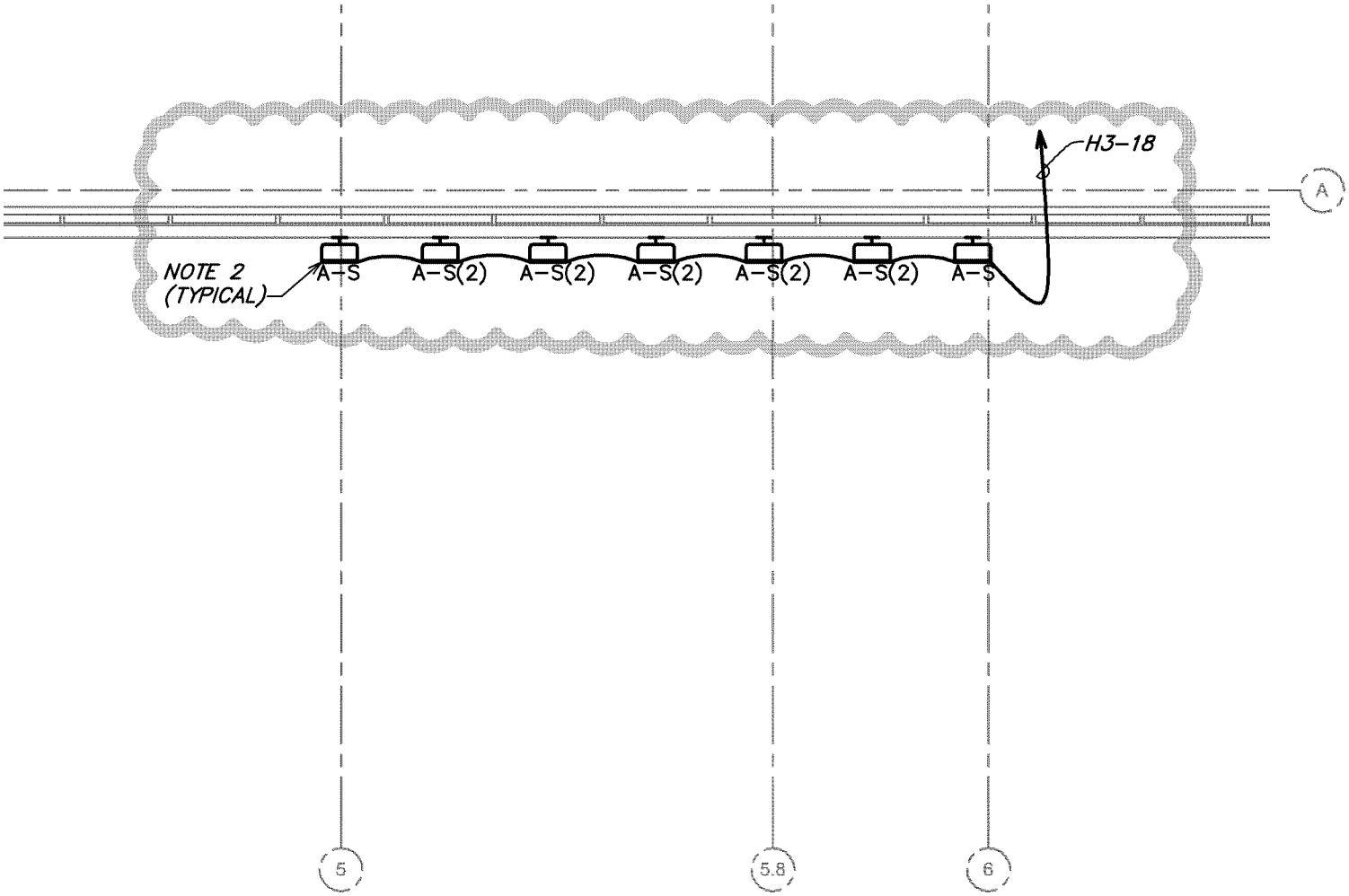

KEYED NOTES:

1. PROVIDE EMPTY 3/4" CONDUIT WITH PULL STRING STUBBED INTO TENANT SPACE FOR FUTURE CONNECTION BY TENANT.
2. REFER TO E202 FOR DIMENSIONED ELEVATION.

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Attachment: E7

Attachment to: **Addendum 01**

Hudl HQ - New Office / Mixed Use Building

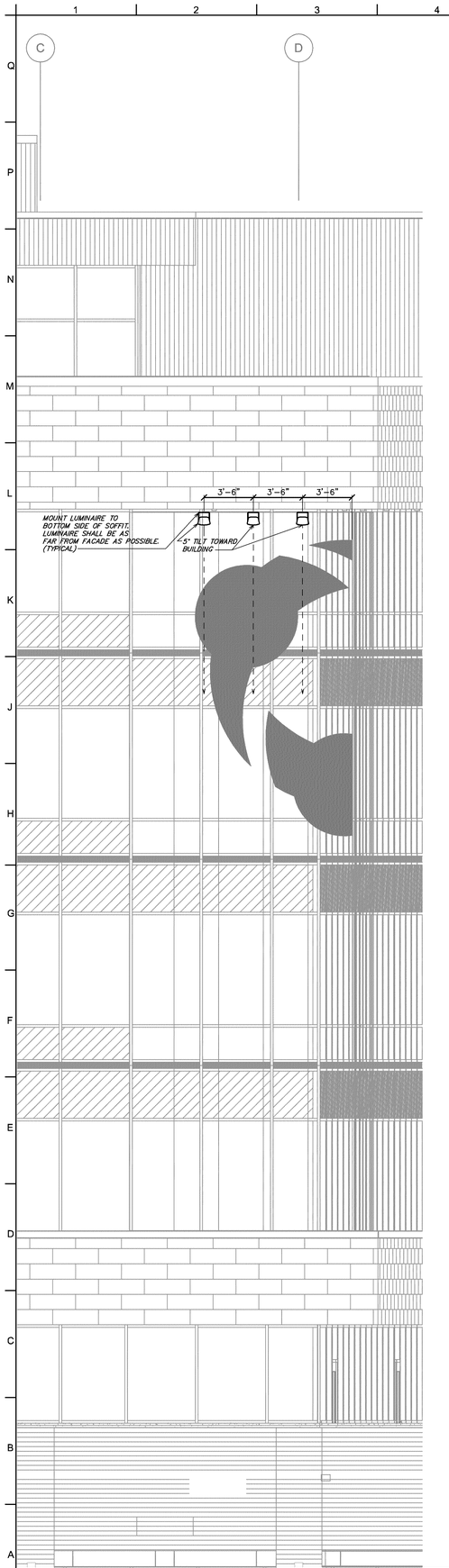
Date: January 14, 2016

Project Number: 15024-05

Addendum 1

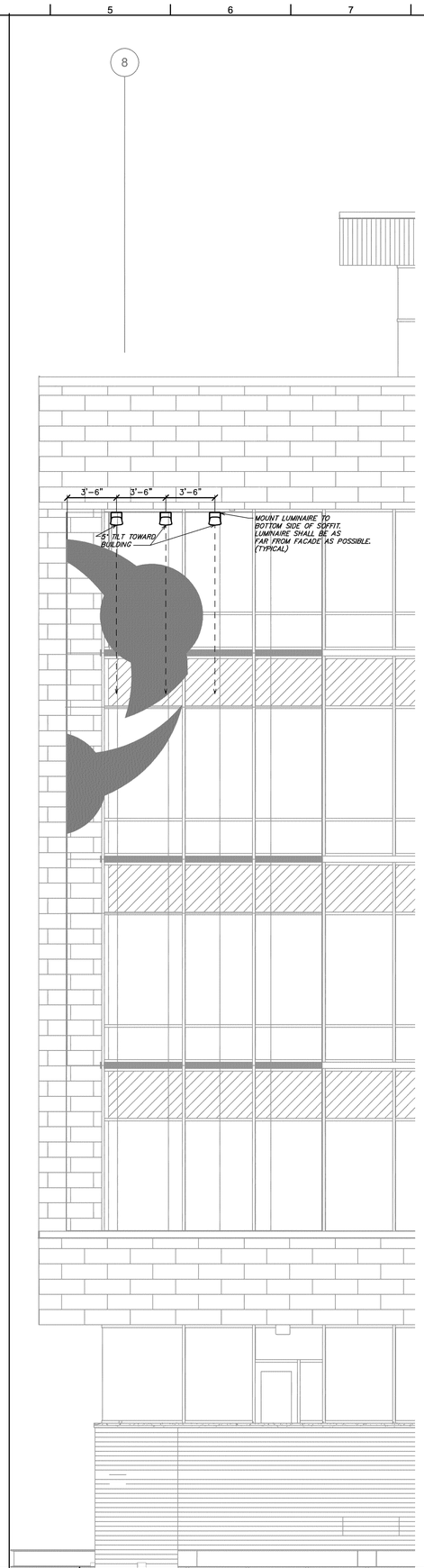
Revision to Sheet: **E132**

Scale: 1/8" = 1'-0"



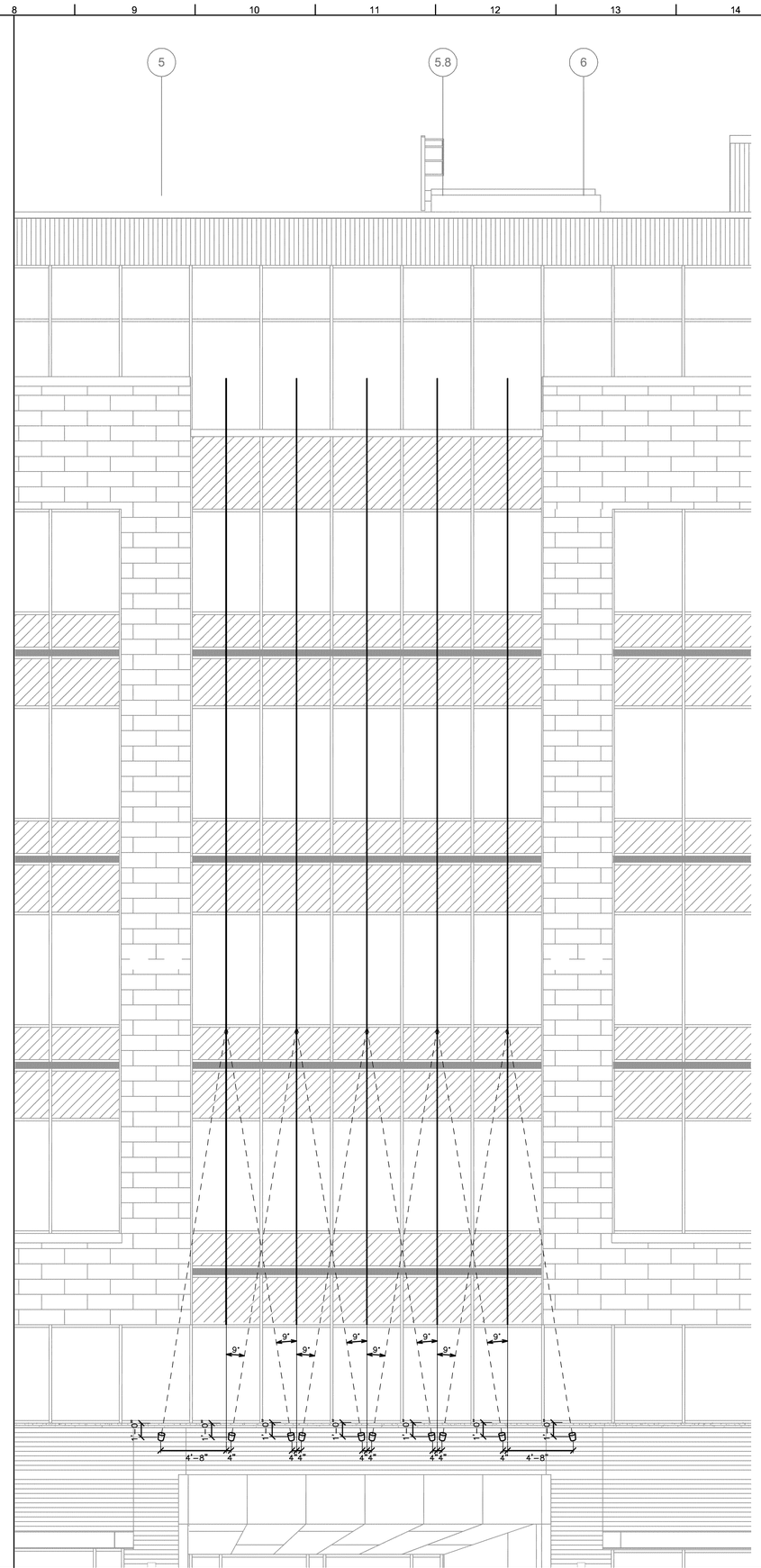
A1 ACCENT LIGHTING ELEVATION - EAST

SCALE: N.T.S.



A4 ACCENT LIGHTING ELEVATION - NORTH

SCALE: N.T.S.



A8 ACCENT LIGHTING ELEVATION - SOUTH

SCALE: N.T.S.

GENERAL ELECTRICAL NOTES:

A. DESIGN INTENT IS TO HIGHLIGHT THE ARCHITECTURAL FINS AND BRANDING ELEMENT. ACCENT LIGHTING LUMINAIRES WILL NEED TO BE AIMED IN FIELD BASED ON FINAL ARCHITECTURAL FEATURE INSTALLATION AND INPUT FROM OWNER'S REPRESENTATIVE. LUMINAIRE AIMING POINTS AND ANGLES ARE INCLUDED AS A STARTING POINT ONLY. INCLUDE LUMINAIRE AIMING TO OWNER'S SPECIFICATIONS IN BASE BID FOR ALL "A-S" AND "A-L" FIXTURES.

REVISIONS: 1 ADDENDUM 1

DESIGN ENGINEER: CRS
PROJECT ENGINEER: CTG
DRAWN BY: SRN
ISSUED: 01/05/16

GREGORY ROY SCHNACKEL E-6724 ELECTRICAL ENGINEER NEBRASKA

COA # CA0479 Date: 01/13/16

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ACCENT LIGHTING ELEVATION

SHA PROJECT NO. 15024 1

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E202

Attachment: E8

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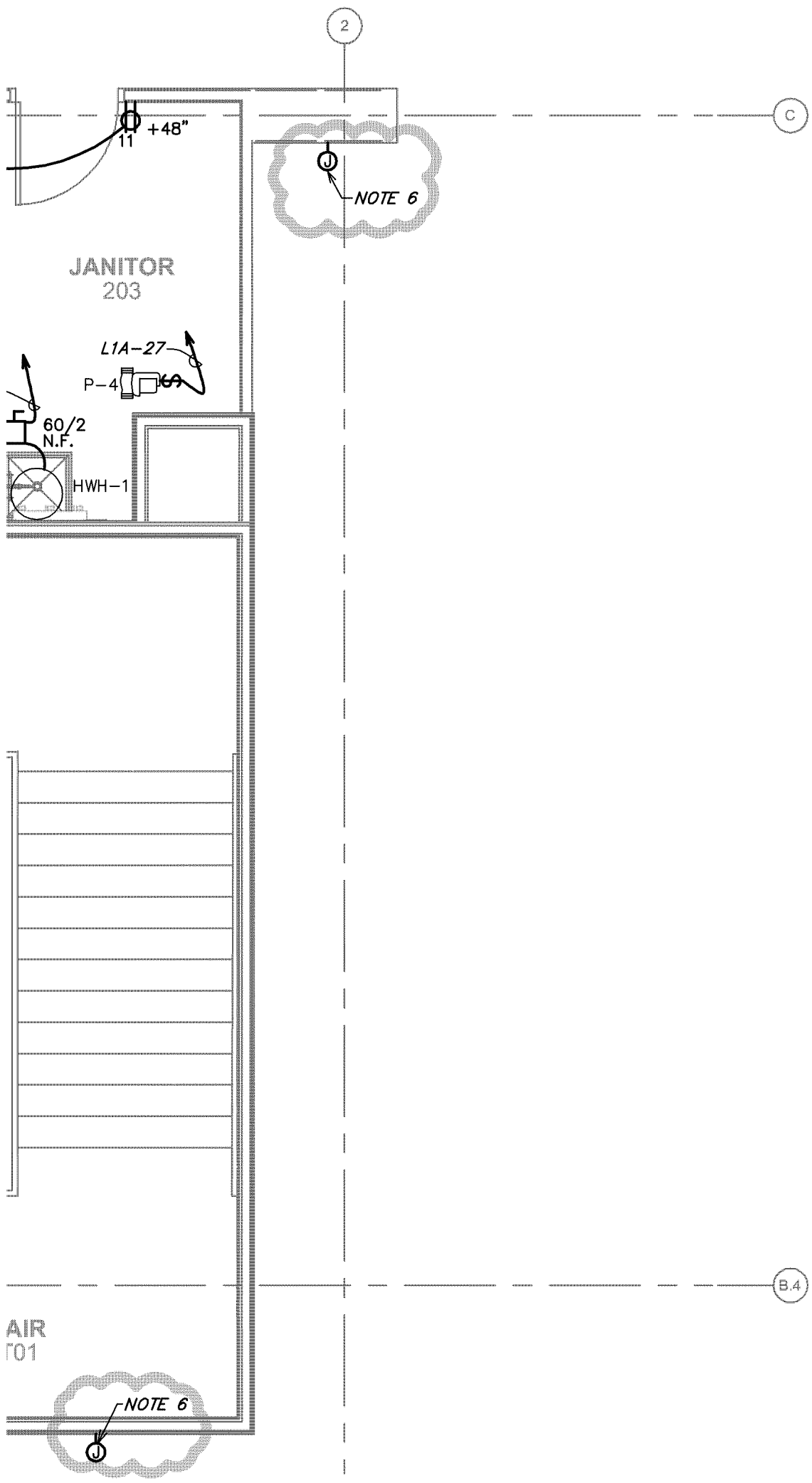

Addendum 1

Revision to Sheet: **E402**

Hudl HQ - New Office / Mixed Use Building

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Attachment: E9

Scale: 1/4" = 1'-0"	Project Number: 15024-06ASI	Date: January 14, 2016	Attachment to: **Addendum 01**

Addendum 1

Revision to Sheet: **E403**

Hudl HQ - New Office / Mixed Use Building

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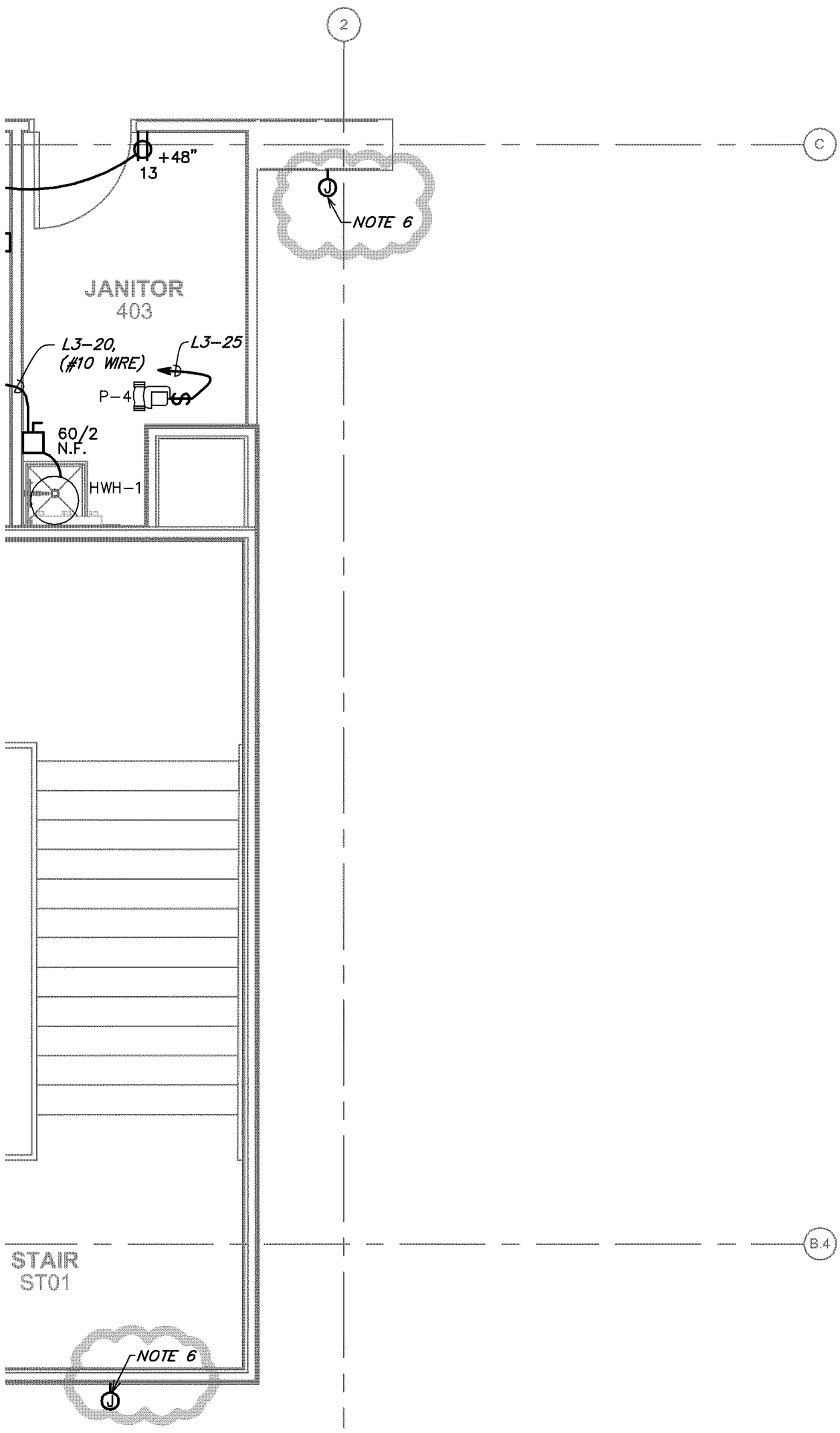
Attachment: E10

Scale: 1/4" = 1'-0"	Project Number: 15024-06ASI	Date: January 14, 2016	Attachment to: **Addendum 01**



Addendum 1

Revision to Sheet: **E404**

Hudl HQ - New Office / Mixed Use Building

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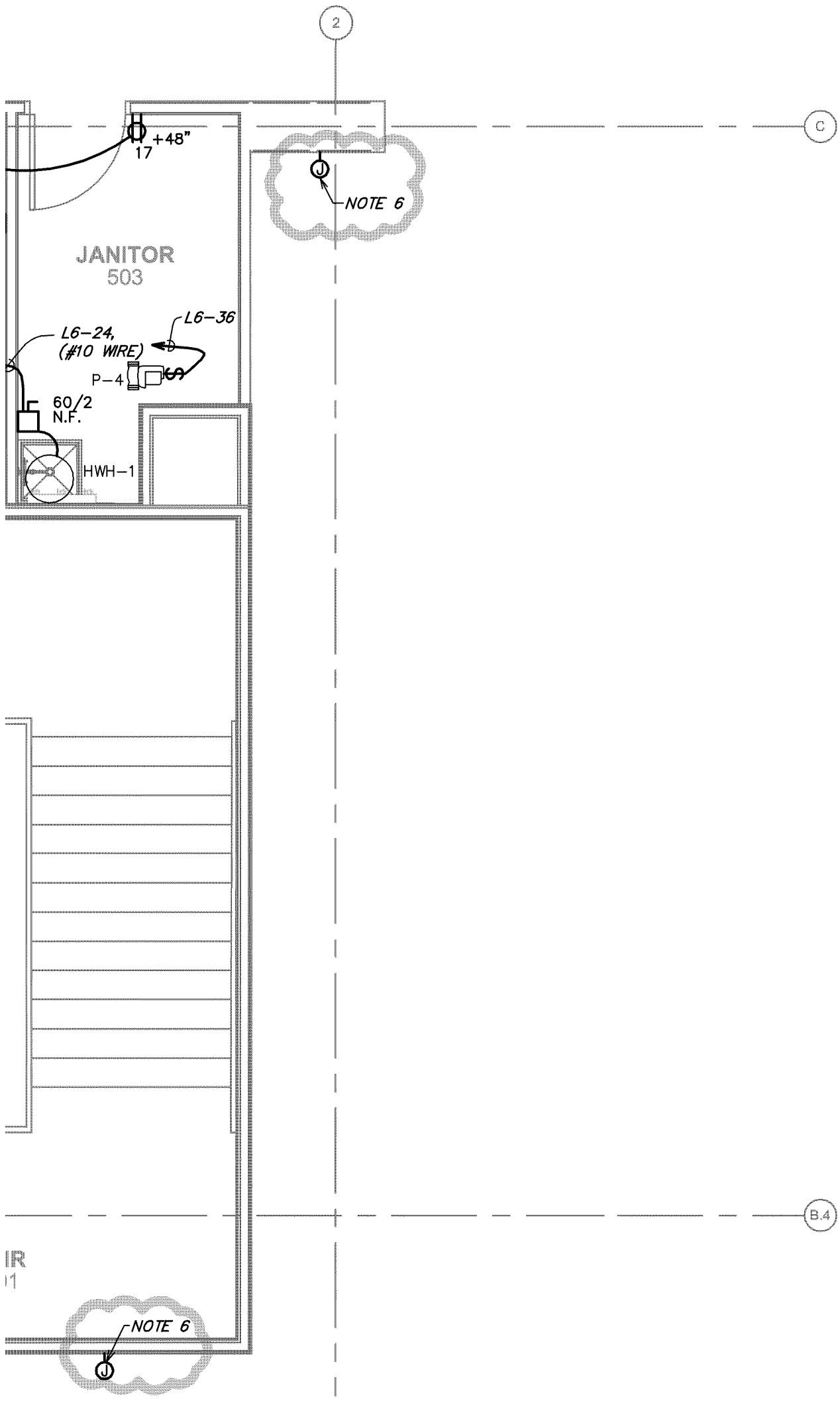
Attachment: E11

Scale: 1/4" = 1'-0"	Project Number: 15024-06ASI	Date: January 14, 2016	Attachment to: **Addendum 01**



Addendum 1

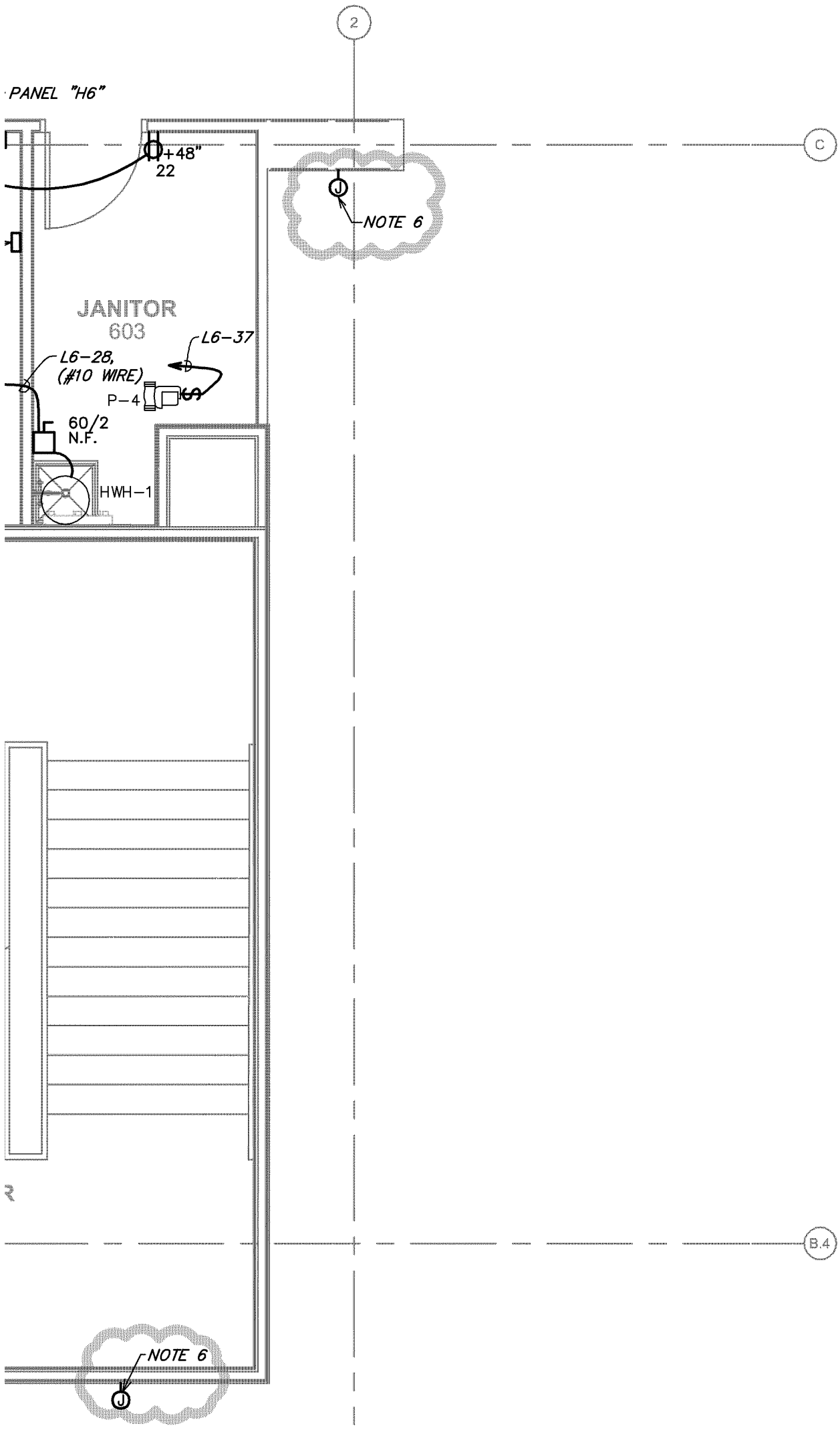
Revision to Sheet: **E405**

Hudl HQ - New Office / Mixed Use Building

SINCLAIR hille architects

Attachment: E12

Scale: 1/4" = 1'-0"	Project Number: 15024-06ASI	Date: January 14, 2016	Attachment to: **Addendum 01**



Addendum 1

Revision to Sheet: **E406**

Hudl HQ - New Office / Mixed Use Building

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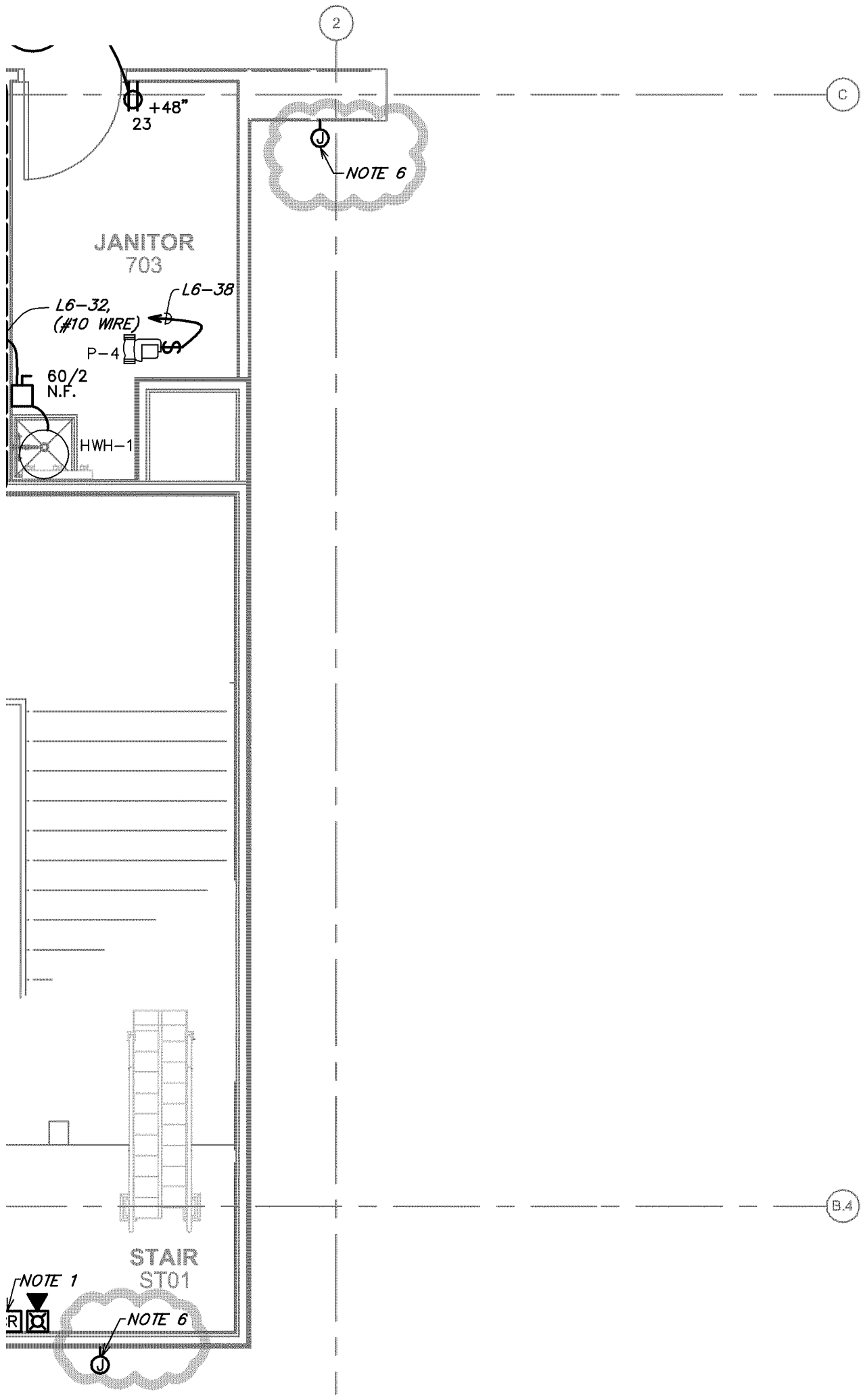
Attachment: E13

Scale: 1/4" = 1'-0"	Project Number: 15024-06ASI	Date: January 14, 2016	Attachment to: **Addendum 01**



Addendum 1

Revision to Sheet: **E407**

Hudl HQ - New Office / Mixed Use Building

SINCLAIR hille architects

Attachment: E14

Scale: 1/4" = 1'-0"	Project Number: 15024-06ASI	Date: January 14, 2016	Attachment to: **Addendum 01**

BLUEBOX
ENCLOSURE: GR2432 ENC SM NE1
INTERIOR: GR2432 INT 32NCL DTCMOD DV

RELAY PANEL LCP-1 SCHEDULE

RELAY PANEL NAME: LCP-1
ENCLOSURE TYPE: NEMA 1

POWER SUPPLY CIRCUIT: L1A-40
POWER SUPPLY VOLTAGE: 120V, 1 PHASE

RELAY NUMBER	CONTROL ZONE	ZONE DESCRIPTION	CIRCUIT CONTROLLED	LOAD DESCRIPTION	CIRCUIT VOLTAGE	RELAY CONFIGURATION	RELAY POSITION
R1-1	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-2	6	TEMP LIGHTING	EMH1-1	TENANT 101 TEMPORARY LTG.	277V, 1 PHASE	SPDT	N.C.
R1-3	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-4	6	TEMP LIGHTING	EMH1-9	TENANT 105 TEMPORARY LTG.	277V, 1 PHASE	SPDT	N.C.
R1-5	8	LOBBY LIGHTING	H1A-21	LVL1 TESTIBULE, LOBBY NORMAL LTG.	277V, 1 PHASE	SPDT	N.C.
R1-6	5	NIGHTLIGHT	EMH1-12	LVL1 TESTIBULE, LOBBY EM LTG.	277V, 1 PHASE	SPDT	N.C.
R1-7	5	NIGHTLIGHT	EMH1-4	STAIR 02 EM LTG.	277V, 1 PHASE	SPDT	N.C.
R1-8	5	NIGHTLIGHT	EMH1-3	STAIR 01 EM LTG.	277V, 1 PHASE	SPDT	N.C.
R1-9	7	BACK OF HOUSE LIGHTING	H1A-19	CORRIDOR, TRASH NORMAL LTG.	277V, 1 PHASE	SPDT	N.C.
R1-10	7	BACK OF HOUSE LIGHTING	EMH1-8	CORRIDOR, TRASH EM LTG.	277V, 1 PHASE	SPDT	N.C.
R1-11	7	BACK OF HOUSE LIGHTING	H1A-21	BACK OF HOUSE NORMAL LTG.	277V, 1 PHASE	SPDT	N.C.
R1-12	7	BACK OF HOUSE LIGHTING	EMH1-6	BACK OF HOUSE EM LTG.	277V, 1 PHASE	SPDT	N.C.
R1-13	1	ALLEY LTG.	EMH1-4	ALLEY EM LTG.	277V, 1 PHASE	SPDT	N.C.
R1-14	4	FACADE LIGHTING	L1A-42	EXTERIOR FASCADE LTG.	120V, 1 PHASE	SPDT	N.C.
R1-15	4	FACADE LIGHTING	EML1-22	EXTERIOR FASCADE EM LTG.	120V, 1 PHASE	SPDT	N.C.
R1-16	9	RESTROOM LIGHTING	H1A-20	LVL2 NORMAL LTG.	277V, 1 PHASE	SPDT	N.C.
R1-17	9	RESTROOM LIGHTING	EMH1-10(PARTIAL)	LVL2 EM LTG.	277V, 1 PHASE	SPDT	N.C.
R1-18	2	COURTYARD LIGHTING	L1A-29,31	COURTYARD POLE LTG.	120V, 1 PHASE	SPDT	N.C.
R1-19	3	COURTYARD RECEPT	EML1-19	COURTYARD POLE RECEPT.	120V, 1 PHASE	SPDT	N.C.
R1-20	8	LOBBY LIGHTING	L1A-46	LOBBY SIGN	120V, 1 PHASE	SPDT	N.C.
R1-21	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-22	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-23	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-24	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-25	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-26	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-27	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-28	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-29	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-30	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-31	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R1-32	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.

GENERAL NOTES:
1. SEE PANEL SCHEDULES FOR CIRCUIT LOADING TO DETERMINE AMP RATING OF CONTACTS REQUIRED.
2. CONTROL PANEL SHALL BE EQUIPPED WITH PHOTOSENSOR INPUT CARD.
3. PROVIDE OVERRIDE SWITCH AND PROGRAM FROM MAXIMUM OF 2 HOURS.

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Attachment: E15
Attachment to: Addendum 01
Hudl HQ - New Office / Mixed Use Building
Date: January 14, 2016
Project Number: 15024-06ASI
Addendum 1
Revision to Sheet: E504
Scale: N.T.S.

RELAY PANEL LCP-2 SCHEDULE

RELAY PANEL NAME: LCP-2
ENCLOSURE TYPE: NEMA 1

POWER SUPPLY CIRCUIT: L3-35
POWER SUPPLY VOLTAGE: 120V, 1 PHASE

RELAY NUMBER	CONTROL ZONE	ZONE DESCRIPTION	CIRCUIT CONTROLLED	LOAD DESCRIPTION	CIRCUIT VOLTAGE	RELAY CONFIGURATION	RELAY POSITION
R2-1	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R2-2	6	TEMP LIGHTING	EMH3-1 (PARTIAL)	LVL3 TEMPORARY LTG.	277V, 1 PHASE	SPDT	N.C.
R2-3	9	RESTROOM LIGHTING	H3-9	LVL4 NORMAL LTG.	277V, 1 PHASE	SPDT	N.C.
R2-4	9	RESTROOM LIGHTING	EMH3-3	LVL4 EM LTG.	277V, 1 PHASE	SPDT	N.C.
R2-5	9	RESTROOM LIGHTING	L3-37	BATHROOM MIRROR LTG.	120V, 1 PHASE	SPDT	N.C.
R2-6	10	PATIO LIGHTING	EMH3-2	PATIO LTG. (PARTIAL)	277V, 1 PHASE	SPDT	N.C.
R2-7	4	FACADE LIGHTING	H3-18	FIN LIGHTING	277V, 1 PHASE	SPDT	N.C.
R2-8	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.

GENERAL NOTES:

1. SEE PANEL SCHEDULES FOR CIRCUIT LOADING TO DETERMINE AMP RATING OF CONTACTS REQUIRED.
2. CONTROL PANEL SHALL BE EQUIPPED WITH PHOTOSENSOR INPUT CARD.
3. PROVIDE OVERRIDE SWITCH AND PROGRAM FROM MAXIMUM OF 2 HOURS.

BLUEBOX
ENCLOSURE: GR1416 ENC SM NE1
INTERIOR: GR1416 INT 16NCL DTCMOD DV

RELAY PANEL LCP-3 SCHEDULE

RELAY PANEL NAME: LCP-3
ENCLOSURE TYPE: NEMA 1

POWER SUPPLY CIRCUIT: L6-51
POWER SUPPLY VOLTAGE: 120V, 1 PHASE

RELAY NUMBER	CONTROL ZONE	ZONE DESCRIPTION	CIRCUIT CONTROLLED	LOAD DESCRIPTION	CIRCUIT VOLTAGE	RELAY CONFIGURATION	RELAY POSITION
R3-1	9	RESTROOM LIGHTING	H6-7	LVL5 NORMAL LTG.	277V, 1 PHASE	SPDT	N.C.
R3-2	9	RESTROOM LIGHTING	EMH6-1	LVL5 EM LTG.	277V, 1 PHASE	SPDT	N.C.
R3-3	9	RESTROOM LIGHTING	H6-9	LVL6 NORMAL LTG.	277V, 1 PHASE	SPDT	N.C.
R3-4	9	RESTROOM LIGHTING	EMH6-3	LVL6 EM LTG.	277V, 1 PHASE	SPDT	N.C.
R3-5	9	RESTROOM LIGHTING	H6-11	LVL7 NORMAL LTG.	277V, 1 PHASE	SPDT	N.C.
R3-6	9	RESTROOM LIGHTING	EMH6-5	LVL7 EM LTG.	277V, 1 PHASE	SPDT	N.C.
R3-7	11	HOLIDAY LIGHTING	L6-1	LVL7 NORTH HOLIDAY LTG.	120V, 1 PHASE	SPDT	N.C.
R3-8	11	HOLIDAY LIGHTING	L6-3	LVL7 EAST, SOUTH HOLIDAY LTG.	120V, 1 PHASE	SPDT	N.C.
R3-9	10	PATIO LIGHTING	EMH6-15	PATIO LIGHTING	277V, 1 PHASE	SPDT	N.C.
R3-10	4	FACADE LIGHTING	H6-20	BRANDING LTG	277V, 1 PHASE	SPDT	N.C.
R3-11	11	HOLIDAY LIGHTING	L6-5	ROOF HOLIDAY LTG.	120V, 1 PHASE	SPDT	N.C.
R3-12	11	HOLIDAY LIGHTING	L6-7	ROOF HOLIDAY LTG.	120V, 1 PHASE	SPDT	N.C.
R3-13	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R3-14	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R3-15	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.
R3-16	–	SPARE	---		120V, 1 PHASE	SPDT	N.C.

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Attachment: E16

Attachment to: **Addendum 01**

Hudl HQ - New Office / Mixed Use Building

Date: January 14, 2016

Project Number: 15024-06ASI

Addendum 1

Revision to Sheet: **E504**

Scale: N.T.S.

LUMINAIRE SCHEDULE

MARK	MANUFACTURER	CATALOG NUMBER	LAMP SPECIFICATION (SEE KEYED NOTE A)			VOLTS	VA LOAD	MOUNTING										REMARKS
								CEILING			WALL		GRADE					
			LAMP QUAN	LAMP DESCRIPTION	LAMP TYPE			RECESSED	SURFACE	SUSPENDED	RECESSED	SURFACE	FLUSH	STANCHION	POLE	COVE	UNDERCABINET	
A	LITHONIA	TZ-2-32-MVOLT-GEB10IS	4	F32T8/835	FL	277	111			X								
A-S	LUMENPULSE	LBS-277-30K-VN-LSLH-BK-DIM	–	INCLUDED	LED	277	16					X						NOTE H
A-L	LUMENPULSE	LBL-277-30K-VN-LSLH-BK-DIM	–	INCLUDED	LED	277	50					X						NOTE H
B	LITHONIA	Z-2-32-MVOLT-GEB10IS	2	F32T8/835	FL	277	57			X								
B1	LITHONIA	Z-2-32-MVOLT-GEB10IS	2	F32T8/835	FL	277	57					X						
C	LITHONIA	WT8-2-32-MVOLT-GEB10IS	2	F32T8/835	FL	277	57					X						MOUNT AT 9'-0" A.F.F. UNO
D	LITHONIA	VSL-2-32-SCE-MVOLT-GEB10IS	2	F32T8/835	FL	277	57		X			X						
E	LITHONIA	REAL6C D6-MW-ESL-1500L-30K-*	–	INCLUDED	LED	120/277	21	X										277V AT PATIOS, 120V GROUND LEVEL
F	BEGA	2277P	1	CFTR42W/GX24Q/835	CFL	277	48				X							
G	COOPER	H457TATE010-EL406-9-40	–	INCLUDED	LED	277	13	X										
H	COOPER	PD6H142-62H-W	1	CFTR32W/GX24Q/835	CFL	277	48	X										
K	STILE	SIP11831-1L13WDMT	–	INCLUDED	LED	120	14		X									NOTE D
L	SELUX	QD1-WP-1-H100-BZ-208 POLE: S4P-16-BZ-REC	1	100W ED-17 PULSE START METAL HALIDE	MH	208	117								X			NOTES E, F, G
P	ALW	LP9-HY-L1-1-CZEN800-HTRIAC	–	INCLUDED	LED	277	8/LF	X										
Q	WAC LIGHTING	WS-W55-21-BZ	–	INCLUDED	LED	120	31					X						MOUNT AT 8'-8" A.F.F. TO BOTTOM OF FIXTURE UNO
S	ACOLYTE	CH-AR1-FRB-65-24-4.4-35	–	INCLUDED	LED	12	4.4/LF	X										NOTE B
T	DALUME	DLN31L-15-3K	–	INCLUDED	LED	120	17									X		NOTE B
U	LITHONIA	ZL1N-[LENGTH]-L-MVOLT-40-80CRI-WH	–	INCLUDED	LED	277	40	X										NOTES B,C
V	LUMENWERX	VIA4PD-HLO-LED-80-35-8-UNVD1	–	INCLUDED	LED	277	46			X								
V1	LUMENWERX	VIA4PD-HLO-LED-80-35-4-UNVD1	–	INCLUDED	LED	277	23			X								
X	LITHONIA	LQM-S-W-3-R-120/277-ELN-SD	–	INCLUDED	LED	277	1		X			X						
XEM	LITHONIA	ELM2	2	5.4W HALOGEN	IND	277	2					X						
X2	EXITRONIX	GA-SVX-1-R-4X	–	INCLUDED	LED	277	3		X			X						
X3	LITHONIA	LRP-1-RC-120/277	–	INCLUDED	LED	277	3		X			X						

LUMINAIRE SCHEDULE KEYED NOTES:

NOTE A: FL=FLUORESCENT, CFL=COMPACT FLUORESCENT, IND=INCANDESCENT, MH=METAL HALIDE, HPS=HIGH PRESSURE SODIUM, LED=LIGHT EMITTING DIODE

NOTE B: PROVIDE LUMINAIRE LENGTHS AND ACCESSORIED REQUIRED FOR CONTINUOUS INSTALLATION AS SHOWN ON PLAN.

NOTE C: PROVIDE 1,500 NOMINAL LUMEN PACKAGE FOR 24" FIXTURES AND 3,000 NOMINAL LUMEN PACKAGE FOR 46" AND 48" FIXTURES.

NOTE D: COORDINATE LENGTH WITH INTERIORS DRAWING ID300.

NOTE E: LAMP TO BE RATED FOR BASE DOWN INSTALLATION. REPLACE RECEPTACLE COVER WITH A TAYMAC ML450G IN-USE COVER OR ENGINEER APPROVED EQUAL. PAINT RECEPTACLE COVER SURFACE TO MORE CLOSELY MATCH POLE FINISH.

NOTE F: CIRCUIT RECEPTACLE SEPARATE FROM THE LIGHT FIXTURE. PROVIDE A 2A, 240VAC/1P MINIATURE CIRCUIT BREAKER IN THE POLE BASE. ROUTE THE RECEPTACLE CIRCUIT VIA THE CIRCUIT BREAKER.

NOTE G: CONTACT LES STREET LIGHTING DEPARTMENT PRIOR TO ORDERING POLES TO ALLOW LES THE OPTION TO ADD TO THE POLE AND FIXTURE ORDER FOR YARD STOCK. ADDITIONAL COSTS FOR PRODUCT AND ASSOCIATED SHIPPING AND HANDLING TO BE PAID BY LES.

NOTE H: PROVIDE ALL ACCESSORIES REQUIRED FOR A COMPLETE CODE COMPLIANT INSTALLATION.

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Attachment: E17

Attachment to: Addendum 01

Hudl HQ - New Office / Mixed Use Building

Date: January 14, 2016

Project Number: 15024-06ASI

Addendum 1

Revision to Sheet: E601

Scale: N.T.S.

PANEL "EMH1" SCHEDULE (SELECTIVELY COORDINATE)

FED FROM: PANEL "EMDP"
VOLTAGE: 277/480V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 12 AMPS
BUS RATING: 60 AMPS
MAIN: MAIN LUG ONLY

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: 6625 AMPS
AIC RATING: 14 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	LVL 1 TENANT 101 LTG.	232			20/1	20/1				SPARE	2	
	3	STAIR 01,SKYWALK LTG.		959		20/1	20/1		160		ALLEY LTG.	4	
	5	STAIR 02 LTG.			741	20/1	20/1			1806	LVL1 BACK OF HOUSE LTG.	6	
1	7	SPARE				20/1	20/1	211			CORRIDOR,LOBBY EM LTG.	8	
	9	LVL 1 TENANT 105 LTG.		344		20/1	20/1		693		LVL 2 EM LTG.	10	
	11	SPD				30/3	20/1			110	LVL1 LOBBY EM LTG.	12	
	13	------				---	20/1				SPARE	14	
	15	------				---	20/1				SPARE	16	
	17	SPARE				20/1	20/1				SPARE	18	
	19	SPARE				20/1	20/1				SPARE	20	
	21	SPACE ONLY									SPACE ONLY	22	
	23	SPACE ONLY									SPACE ONLY	24	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE

N.E.C. LOAD ANALYSIS FOR PANEL "EMH1" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
LIGHTING:	125%	443	554	2156	2695	2657	3322	5256	6570
TOTAL:		443	554	2156	2695	2657	3322	5256	6570
EQUIVALENT AMPS:		2	2	8	10	10	12	7	8
PHASE BALANCE:		−75%	−75%	24%	24%	52%	52%		

PANEL "EMH3" SCHEDULE (SELECTIVELY COORDINATE)

FED FROM: PANEL "EMDP"
VOLTAGE: 277/480V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 5 AMPS
BUS RATING: 60 AMPS
MAIN: MAIN LUG ONLY

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: 7724 AMPS
AIC RATING: 14 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	LVL 3 EM LTG.	808			20/1	20/1	132			LVL 2 ROOF TERRACE LTG.	2	
	3	LVL 4 EM LTG.		786		20/1	20/1				SPARE	4	
	5	LVL 2,3,4 E. ELEC RM LTG			333	20/1	20/1				SPARE	6	
	7	SPD				30/3	20/1				SPARE	8	
	9	------				---	20/1				SPARE	10	
	11	------				---	20/1				SPARE	12	
	13	SPARE				20/1	20/1				SPARE	14	
	15	SPARE				20/1					SPACE ONLY	16	
	17	SPARE				20/1					SPACE ONLY	18	
	19	SPACE ONLY									SPACE ONLY	20	
	21	SPACE ONLY									SPACE ONLY	22	
	23	SPACE ONLY									SPACE ONLY	24	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE

N.E.C. LOAD ANALYSIS FOR PANEL "EMH3" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
LIGHTING:	125%	940	1175	786	983	333	417	2059	2574
TOTAL:		940	1175	786	983	333	417	2059	2574
EQUIVALENT AMPS:		4	5	3	4	2	2	3	4
PHASE BALANCE:		37%	37%	15%	15%	−52%	−52%		

PANEL "EMH6" SCHEDULE (SELECTIVELY COORDINATE)

FED FROM: PANEL "EMDP"
VOLTAGE: 277/480V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 33 AMPS
BUS RATING: 60 AMPS
MAIN: MAIN LUG ONLY

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: 2294 AMPS
AIC RATING: 14 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	LVL 5 EM LTG.	693			20/1	20/3	2106			SPF-2	2	
	3	LVL 6 EM LTG.		693		20/1	---		2106		-----	4	
	5	LVL 7 EM LTG.			693	20/1	---			2106	-----	6	
	7	LVL 5,6,7 E. ELEC RM LTG	333			20/1	25/3	1837			SUBFEED PANEL 'ELEV1'	8	
	9	SPD				30/3	---		1281		------	10	
	11	------				---	---			1258	------	12	
	13	------				---	25/3	1238			SUBFEED PANEL 'ELEV2'	14	
	15	PATIO LTG.		192		20/1	---		1281		------	16	
	17	SPF-1			2106	20/3	---			557	------	18	
	19	------	2106			---	20/1				SPARE	20	
1	21	------		2106		---	20/1				SPARE	22	
	23	EPF-1			696	15/1	20/1			696	EPF-2	24	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE

N.E.C. LOAD ANALYSIS FOR PANEL "EMH6" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
LIGHTING:	125%	2434	3043	885	1107	693	867	4012	5015
RECEPTACLE:	100%	0	0	2448	2448	0	0	2448	2448
OTHER CONTINUOUS:	125%	400	500	0	0	800	1000	1200	1500
MOTOR:	100%	4913	4913	4212	4212	6305	6305	15430	15430
ADD 25% OF LARGEST MOTOR:	100%	527	527	527	527	527	527	1580	1580
TOTAL:		8274	8983	8072	8293	8325	8698	24670	25973
EQUIVALENT AMPS:		30	33	30	30	31	32	30	32
PHASE BALANCE:		1%	4%	−2%	−5%	2%	1%		

PANEL "EML1" SCHEDULE (SELECTIVELY COORDINATE)

FED FROM: PANEL "EMDP"
VOLTAGE: 120/208V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 28 AMPS
BUS RATING: 100 AMPS
MAIN: 100/3 MAIN BREAKER

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: 1411 AMPS
AIC RATING: 10 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	FUEL FILL	200			20/1	15/3	793			JP-1	2	
	3	SPARE				20/1	---		793		-----	4	
	5	SPARE				20/1	---			793	-----	6	
	7	SPARE				20/1	20/1	1000			MDF	8	
	9	SPARE				20/1	20/1		1000		MDF	10	
	11	CONV. RECEPT.			180	20/1	20/1			360	TELEPHONE BOARD	12	
	13	SPARE				20/1	20/1	360			TELEPHONE BOARD	14	
	15	DEC FLOW METERS		200		20/1	30/3				SPD	16	
	17	RECEPT. TRASH RM			180	20/1	---				------	18	
	19	COURTYARD EM POLE LTG.	200			20/1	---				------	20	
	21	COURTYARD EM POLE PWR.		480		20/1	20/1		277		EXTERIOR FACADE EM LTG.	22	
	23	SPARE				20/1	30/1			1176	AIR COMPRESSOR	24	
	25	SPARE				20/1	20/1				SPARE	26	
	27	SPARE				20/1	20/1				SPARE	28	
	29	SPARE				20/1	20/1				SPARE	30	
	31	SPARE				20/1	20/1				SPARE	32	
	33	SPACE ONLY									SPACE ONLY	34	
	35	SPACE ONLY									SPACE ONLY	36	
	37	SPACE ONLY									SPACE ONLY	38	
	39	SPACE ONLY									SPACE ONLY	40	
	41	SPACE ONLY									SPACE ONLY	42	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE

N.E.C. LOAD ANALYSIS FOR PANEL "EML1" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
LIGHTING:	125%	200	250	277	347	0	0	477	597
RECEPTACLE:	100%	0	0	480	480	360	360	840	840
OTHER CONTINUOUS:	125%	360	450	200	250	1536	1920	2096	2620
OTHER NONCONTINUOUS:	100%	1200	1200	1000	1000	0	0	2200	2200
MOTOR:	100%	793	793	793	793	793	793	2379	2379
ADD 25% OF LARGEST MOTOR:	100%	199	199	199	199	199	199	595	595
TOTAL:		2752	2892	2949	3068	2888	3272	8587	9230
EQUIVALENT AMPS:		23	25	25	26	25	28	24	26
PHASE BALANCE:		−4%	−7%	4%	−1%	1%	7%		

PANEL "ELEV1" SCHEDULE (SELECTIVELY COORDINATE)

FED FROM: PANEL "EMH6"
VOLTAGE: 120/208V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 16 AMPS
BUS RATING: 60 AMPS
MAIN: 50/3 MAIN BREAKER

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: FAULT CURRENT:
AIC RATING: 0 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	ELEVATOR PIT LTG.	384			15/1	15/1	640			MACHINE ROOM LTG.	2	
	3	ELEVATOR PIT REC.		1044		15/1	15/1		180		MACHINE ROOM REC.	4	
	5	MOTORIZED DAMPER			200	15/1	15/1			200	FREIGHT ELEV SWITCH	6	
	7	MOTORIZED DAMPER	200			15/1	15/1	200			FREIGHT ELEV SWITCH	8	
	9	SPD				30/3	15/1				SPARE	10	
	11	------				---	15/1			701	COND-3	12	
	13	------				---	15/1				SPARE	14	
	15	SPARE				15/1	15/1				SPARE	16	
	17	SPARE				15/1					SPACE ONLY	18	
	19	SPACE ONLY									SPACE ONLY	20	
	21	SPACE ONLY									SPACE ONLY	22	
	23	SPACE ONLY									SPACE ONLY	24	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE

N.E.C. LOAD ANALYSIS FOR PANEL "ELEV1" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
LIGHTING:	125%	1024	1280	0	0	0	0	1024	1280
RECEPTACLE:	100%	0	0	1224	1224	0	0	1224	1224
OTHER CONTINUOUS:	125%	400	500	0	0	400	500	800	1000
MOTOR:	100%	0	0	0	0	701	701	701	701
ADD 25% OF LARGEST MOTOR:	100%	57	57	57	57	57	57	171	171
TOTAL:		1481	1837	1281	1281	1158	1258	3920	4376
EQUIVALENT AMPS:		13	16	11	11	10	11	11	13
PHASE BALANCE:		14%	26%	−2%	−13%	−12%	−14%		

PANEL "ELEV2" SCHEDULE (SELECTIVELY COORDINATE)

FED FROM: PANEL "EMH6"
VOLTAGE: 120/208V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 11 AMPS
BUS RATING: 60 AMPS
MAIN: 50/3 MAIN BREAKER

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: FAULT CURRENT:
AIC RATING: 0 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	ELEVATOR PIT LTG.	256			15/1	15/1	128			MACHINE ROOM LTG.	2	
	3	ELEVATOR PIT REC.		1044		15/1	15/1		180		MACHINE ROOM REC.	4	
	5	MOTORIZED DAMPER			200	15/1	15/1			200	FREIGHT ELEV SWITCH	6	
	7	SPD				30/3	15/1				SPARE	8	
	9	------				---	15/1				SPARE	10	
	11	------				---	15/1				SPARE	12	
	13	COND-2	701			15/1	15/1				SPARE	14	
	15	SPARE				15/1					SPACE ONLY	16	
	17	SPARE				15/1					SPACE ONLY	18	
	19	SPACE ONLY									SPACE ONLY	20	
	21	SPACE ONLY									SPACE ONLY	22	
	23	SPACE ONLY									SPACE ONLY	24	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE

N.E.C. LOAD ANALYSIS FOR PANEL "ELEV2" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
LIGHTING:	125%	384	480	0	0	0	0	384	480
RECEPTACLE:	100%	0	0	1224	1224	0	0	1224	1224
OTHER CONTINUOUS:	125%	0	0	0	0	400	500	400	500
MOTOR:	100%	701	701	0	0	0	0	701	701
ADD 25% OF LARGEST MOTOR:	100%	57	57	57	57	57	57	171	171
TOTAL:		1142	1238	1281	1281	457	557	2880	3076
EQUIVALENT AMPS:		10	11	11	11	4	5	8	9
PHASE BALANCE:		19%	21%	34%	25%	−53%	−46%		

REVISIONS: 1 ADDENDUM 1

DESIGN ENGINEER: GRS
PROJECT ENGINEER: CTB
DRAWN BY: SPN
ISSUED: 01/06/16

PROFESSIONAL ELECTRICAL ENGINEER
GREGORY ROY SCHNACKEL
E-6724
STATE OF NEBRASKA
COA #: CA0479 Date: 01/13/16

PROJECT CONSULTANTS

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ELECTRICAL ENGINEER
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Hudl HQ
New Office / Mixed Use Building
Final Core & Shell Package

SINCLAIR hille architects
700 Q St. Lincoln, NE 68508 T: 402 476 7331 F: 402 476 8341

PANEL SCHEDULES

SHA PROJECT NO. 15024

Schnackel engineers
New York · Omaha · Los Angeles
800-581-0963 www.schnackel.com

E602
Attachment: E18

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PANEL "FCC" SCHEDULE (SELECTIVELY COORDINATE)

FED FROM: PANEL "SBDP"
VOLTAGE: 120/208V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 23 AMPS
BUS RATING: 100 AMPS
MAIN: 100/3 MAIN BREAKER

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: FAULT CURRENT:
AIC RATING: 0 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	CONV. RECEPT.	540			20/1	20/1	360			COMPUTER/POS	2	
	3	COND-1		701		15/1	20/1		1000		PRINTER	4	
HLO	5	FACP			200	20/1	20/1			900	CONV. RECEPT.	6	
HLO	7	EVAC	200			20/1	20/1	1500			WH-2	8	
	9	SPD				30/3	20/1				SPARE	10	
	11	------				---	20/1				SPARE	12	
	13	------				---	20/1				SPARE	14	
	15	SPARE				20/1	20/1				SPARE	16	
	17	SPARE				20/1					SPACE ONLY	18	
	19	SPARE				20/1					SPACE ONLY	20	
	21	SPACE ONLY									SPACE ONLY	22	
	23	SPACE ONLY									SPACE ONLY	24	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE
HLO CIRCUIT BREAKER SHALL BE EQUIPPED WITH HANDLE LOCK-ON DEVICE

N.E.C. LOAD ANALYSIS FOR PANEL "FCC" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
RECEPTACLE:	100%	540	540	0	0	900	900	1440	1440
OTHER CONTINUOUS:	125%	200	250	0	0	200	250	400	500
OTHER NONCONTINUOUS:	100%	360	360	1000	1000	0	0	1360	1360
HEATING ONLY:	100%	1500	1500	0	0	0	0	1500	1500
MOTOR:	100%	0	0	701	701	0	0	701	701
ADD 25% OF LARGEST MOTOR:	100%	59	59	59	59	59	59	176	176
TOTAL:		2659	2709	1760	1760	1159	1209	5577	5677
EQUIVALENT AMPS:		23	23	15	15	10	11	16	16
PHASE BALANCE:		44%	44%	-6%	-8%	-38%	-37%		

PANEL "H1A" SCHEDULE

FED FROM: POWER PANEL "HDP"
VOLTAGE: 277/480V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 139 AMPS
BUS RATING: 225 AMPS
MAIN: MAIN LUG ONLY

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: 22411 AMPS
AIC RATING: 35 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	SUBFEED PANEL 'L1A'	14478			110/3	35/3	6319			P-3	2	
	3	------		11936		---	---		6319		-----	4	
△1	5	------			8787	---	---			6319	-----	6	
	7	SPARE				20/1	20/3	2935			AHU-1	8	
	9	SPARE				20/1	---		2935		-----	10	
	11	SPARE				20/1	---			2935	-----	12	
	13	SPARE				20/1	35/3	6872			EH-1	14	
	15	EF-1/EF-2		1392		20/1	---		6872		-----	16	
	17	AHU-8			360	15/1	---			6872	---	18	
	19	LVL 1 CORRIDOR, TRASH LT	458			20/1	20/1	768			LVL 2 NORMAL LTG.	20	
	21	LVL 1 LOBBY NORMAL LTG.		574		20/1	15/1		360		AHU-10	22	
	23	LVL1 LOBBY COVE LTG.			840	20/1	25/1			4800	WH-1	24	
	25	SPARE				20/1	25/1	4800			WH-3	26	
	27	SPARE				20/1	20/1		693		AHU-7	28	
	29	SPARE				20/1	20/1				SPARE	30	
	31	SPARE				20/1	20/1				SPARE	32	
	33	SPARE				20/1	20/1				SPARE	34	
	35	SPACE ONLY									SPACE ONLY	36	
	37	SPACE ONLY									SPACE ONLY	38	
	39	SPACE ONLY									SPACE ONLY	40	
	41	SPACE ONLY									SPACE ONLY	42	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE

N.E.C. LOAD ANALYSIS FOR PANEL "H1A" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
LIGHTING:	125%	1934	2418	769	962	1690	2113	4393	5492
RECEPTACLE:	100%	3780	3780	500	500	2700	2700	6980	6980
OTHER CONTINUOUS:	125%	0	0	1400	1750	0	0	1400	1750
OTHER NONCONTINUOUS:	100%	3000	3000	3960	3960	3600	3600	10560	10560
WATER HEATING:	100%	3000	3000	3000	3000	0	0	6000	6000
HEATING ONLY:	100%	14672	14672	7088	7088	5412	5412	27172	27172
COOLING ONLY:	0%	77	0	360	0	144	0	581	0
MOTOR:	100%	10004	10004	13543	13543	17236	17236	40783	40783
ADD 25% OF LARGEST MOTOR:	100%	1580	1580	1580	1580	1580	1580	4740	4740
TOTAL:		38047	38454	32200	32382	32362	32641	102609	103476
EQUIVALENT AMPS:		138	139	117	117	117	118	124	125
PHASE BALANCE:		12%	12%	-6%	-7%	-6%	-6%		

PANEL "L1A" SCHEDULE

FED FROM: PANEL "H1A"
VOLTAGE: 120/208V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 121 AMPS
BUS RATING: 225 AMPS
MAIN: 225/3 MAIN BREAKER

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: 5476 AMPS
AIC RATING: 10 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	CONV. RECEPT.	720			20/1	20/1	180			RECEPT.	2	
	3	OVERHEAD DOOR		500		20/1	20/1				SPARE	4	
	5	CONV. RECEPT.			720	20/1	20/1			600	LVL 2 EWC	6	GFCI
	7	AHU-1 LTG.	314			20/1	20/1	360			LVL 2 RESTROOM RECEPT.	8	GFCI
	9	AHU-1 RECEPT.		960		20/1	20/1		1500		LVL 2 TAP HAND DRYER	10	
	11	LVL 2 CONV. RECEPT.			720	20/1	20/1			1500	LVL 2 TAP HAND DRYER	12	
	13	AUTO DOOR OPENER	750			20/1	20/1	1500			LVL 2 TAP HAND DRYER	14	
	15	AUTO DOOR OPENER		750		20/1	20/1		750		AUTO DOOR OPENER	16	
	17	CONV. RECEPT.			900	20/1	20/1			750	AUTO DOOR OPENER	18	
	19	LVL 2 HWH-1	3000			40/2	20/1	1260			CONV. RECEPT.	20	
	21	-----		3000		---	15/1		72		UH-1	22	
	23	EXTERIOR RECEPT.			540	20/1	20/1			360	CONV. RECEPT.	24	
	25	EXTERIOR RECEPT.	540			20/1	20/1	1500			WH-2	26	
	27	RECIRC PUMP P-4		704		20/1	20/1		195		VESTIBULE NORMAL LTG.	28	
	29	COURTYARD POLE LTG.			300	20/1	15/1			72	UH-1	30	
	31	COURTYARD POLE PWR.	720			20/1	15/1	77			AHU-9	32	
	33	SPARE				20/1	20/1		1500		LVL 2 TAP HAND DRYER	34	
	35	SPARE				20/1	20/1			1500	LVL 2 TAP HAND DRYER	36	
	37	WH-2	1500			20/1	20/1	1500			LVL 2 TAP HAND DRYER	38	
	39	UH-3		144		20/1	20/1		200		RELAY PANEL-1	40	△1
	41	AHU-16			144	20/1	20/1			550	EXTERIOR FACADE LTG.1	42	
	43	SPARE				20/1	20/1	394			EXTERIOR FACADE LTG.2	44	
	45	SPARE				20/1	20/1		1200		SIGNAGE	46	
	47	SPARE				20/1	20/1				SPARE	48	
	49	SPARE				20/1	20/1				SPARE	50	
	51	SPARE				20/1	20/1				SPARE	52	
	53	SPARE				20/1	20/1				SPARE	54	
	55	SPARE				20/1	20/1				SPARE	56	
	57	SPARE				20/1	20/1				SPARE	58	
	59	SPARE				20/1	20/1				SPARE	60	
	61	SPARE				20/1	20/1				SPARE	62	
	63	SPACE ONLY									SPACE ONLY	64	
	65	SPACE ONLY									SPACE ONLY	66	
	67	SPACE ONLY									SPACE ONLY	68	
	69	SPACE ONLY									SPACE ONLY	70	
	71	SPACE ONLY									SPACE ONLY	72	
	73	SPACE ONLY									SPACE ONLY	74	
	75	SPACE ONLY									SPACE ONLY	76	
	77	SPACE ONLY									SPACE ONLY	78	
	79	SPACE ONLY									SPACE ONLY	80	
	81	SPACE ONLY									SPACE ONLY	82	
	83	SPACE ONLY									SPACE ONLY	84	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE
GFCI CIRCUIT BREAKER SHALL BE GROUND-FAULT CIRCUIT INTERRUPTING (GFCI) TYPE

N.E.C. LOAD ANALYSIS FOR PANEL "L1A" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
LIGHTING:	125%	708	885	195	244	850	1063	1753	2192
RECEPTACLE:	100%	3780	3780	500	500	2700	2700	6980	6980
OTHER CONTINUOUS:	125%	0	0	1400	1750	0	0	1400	1750
OTHER NONCONTINUOUS:	100%	3000	3000	3960	3960	3600	3600	10560	10560
WATER HEATING:	100%	3000	3000	3000	3000	0	0	6000	6000
HEATING ONLY:	100%	3000	3000	216	216	612	612	3828	3828
COOLING ONLY:	0%	77	0	0	0	144	0	221	0
MOTOR:	100%	750	750	2204	2204	750	750	3704	3704
ADD 25% OF LARGEST MOTOR:	100%	63	63	63	63	63	63	188	188
TOTAL:		14378	14478	11538	11937	8719	8787	34634	35201
EQUIVALENT AMPS:		120	121	97	100	73	74	97	98
PHASE BALANCE:		25%	24%	-1%	2%	-25%	-26%		

PANEL "H3" SCHEDULE

FED FROM: SWITCHBOARD "VBWE"
VOLTAGE: 277/480V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 104 AMPS
BUS RATING: 225 AMPS
MAIN: MAIN LUG ONLY

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: 3049 AMPS
AIC RATING: 14 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	SUBFEED PANEL 'L3'	13463			110/3	24/3	2935			AHU-2	2	
	3	------		13654		---	---		2935		-----	4	
	5	------			12893	---	---			2935	-----	6	
△1	7	LVL 3 NORMAL LTG.	768			20/1	24/3	2935			AHU-3	8	
	9	LVL 4 NORMAL LTG.		952		20/1	---		2935		-----	10	
	11	SPARE				20/1	---			2935	-----	12	
	13	SPARE				20/1	25/2	4000			CMH-1	14	
	15	SPARE				20/1	---		4000		-----	16	△1
	17	CMH-1			4000	25/2	20/1			150	FIN LIGHTING	18	
	19	-----	4000			---	20/1				SPARE	20	
	21	AHU-12		360		15/1	15/1		360		AHU-11	22	
	23	SKYWALK LTG.			76	20/1	20/1				SPARE	24	
	25	SPARE				20/1	20/1				SPARE	26	
	27	SPARE				20/1	20/1				SPARE	28	
	29	SPARE				20/1	20/1				SPARE	30	
	31	SPARE				20/1	20/1				SPARE	32	
	33	SPACE ONLY									SPACE ONLY	34	
	35	SPACE ONLY									SPACE ONLY	36	
	37	SPACE ONLY									SPACE ONLY	38	
	39	SPACE ONLY									SPACE ONLY	40	
	41	SPACE ONLY									SPACE ONLY	42	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE

N.E.C. LOAD ANALYSIS FOR PANEL "H3" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
LIGHTING:	125%	1128	1410	1580	1975	76	95	2784	3480
RECEPTACLE:	100%	1800	1800	360	360	360	360	2520	2520
OTHER CONTINUOUS:	125%	360	450	360	450	200	250	920	1150
OTHER NONCONTINUOUS:	100%	6600	6600	6000	6000	8520	8520	21120	21120
WATER HEATING:	100%	3000	3000	6000	6000	3000	3000	12000	12000
HEATING ONLY:	100%	8000	8000	4000	4000	4000	4000	16000	16000
MOTOR:	100%	6974	6974	6590	6590	6574	6574	20138	20138
ADD 25% OF LARGEST MOTOR:	100%	464	464	464	464	464	464	1392	1392
TOTAL:		28326	28698	25354	25839	23194	23263	76874	77800
EQUIVALENT AMPS:		103	104	92	94	84	84	93	94
PHASE BALANCE:		11%	11%	-2%	-1%	-10%	-11%		

PANEL "L3" SCHEDULE

FED FROM: PANEL "H3"
VOLTAGE: 120/208V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 114 AMPS
BUS RATING: 225 AMPS
MAIN: 225/3 MAIN BREAKER

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: FAULT CURRENT:
AIC RATING: 0 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	B	C	BREAKER	BREAKER	LOAD (VA) A	B	C	LOAD DESCRIPTION	CKT.	NOTES
	1	LVL 3 TAP HAND DRYER	1500			20/1	20/1	600			LVL 3 EWC	2	GFCI
	3	LVL 3 TAP HAND DRYER		1500		20/1	20/1		360		LVL 3 BATHROOM RECEPT.	4	GFCI
	5	LVL 3 TAP HAND DRYER			1500	20/1	20/1			600	LVL 4 EWC	6	GFCI
	7	SPARE				20/1	20/1	360			LVL 4 BATHROOM RECEPT.	8	GFCI
	9	AHU-3 LTG.		314		20/1	20/1		314		AHU-2 LTG.	10	
	11	AHU-3 RECEPT.			960	20/1	20/1			960	AHU-2 RECEPT.	12	
	13	LVL 4 CONV. RECEPT.	720			20/1	20/1	720			LVL 3 CONV. RECEPT.	14	
	15	LVL 3 TAP HAND DRYER		1500		20/1	40/2		3000		LVL 3 HWH-1	16	
	17	LVL 3 TAP HAND DRYER			1500	20/1	---			3000	-----	18	
	19	LVL 3 TAP HAND DRYER	1500			20/1	40/2	3000			LVL 4 HWH-1	20	
	21	SPARE				20/1	---		3000		-----	22	
	23	LVL 3 RECIRC PUMP			704	20/1	20/1			360	SKYWALK RECEPT.	24	
	25	LVL 4 RECIRC PUMP	704			20/1	20/1	1500			LVL 4 TAP HAND DRYER	26	
	27	SPARE				20/1	20/1		1500		LVL 4 TAP HAND DRYER	28	
	29	SPARE				20/1	20/1			1500	LVL 4 TAP HAND DRYER	30	
	31	LVL 3 TELEPHONE BOARD	360			20/1	20/1	1500			LVL 4 TAP HAND DRYER	32	
	33	LVL 4 TELEPHONE BOARD		360		20/1	20/1		1500		LVL 4 TAP HAND DRYER	34	
	35	RELAY PANEL-2			200	20/1	20/1			1500	LVL 4 TAP HAND DRYER	36	
	37	BATHROOM MIRROR LTG.	360			20/1	15/1	400			AHU-17	38	
	39	SPARE				20/1	20/1				SPARE	40	
	41	SPARE				20/1	20/1				SPARE	42	
	43	SPARE				20/1	20/1				SPARE	44	
	45	SPARE				20/1	20/1				SPARE	46	
	47	SPARE				20/1	20/1				SPARE	48	
	49	SPARE				20/1	20/1				SPARE	50	
	51	SPARE				20/1	20/1				SPARE	52	
	53	SPARE				20/1	20/1				SPARE	54	
	55	SPARE				20/1	20/1				SPARE	56	
	57	SPARE				20/1	20/1				SPARE	58	
	59	SPACE ONLY					20/1				SPARE	60	
	61	SPACE ONLY									SPACE ONLY	62	
	63	SPACE ONLY									SPACE ONLY	64	
	65	SPACE ONLY									SPACE ONLY	66	
	67	SPACE ONLY									SPACE ONLY	68	
	69	SPACE ONLY									SPACE ONLY	70	
	71	SPACE ONLY									SPACE ONLY	72	
	73	SPACE ONLY									SPACE ONLY	74	
	75	SPACE ONLY									SPACE ONLY	76	
	77	SPACE ONLY									SPACE ONLY	78	
	79	SPACE ONLY									SPACE ONLY	80	
	81	SPACE ONLY									SPACE ONLY	82	
	83	SPACE ONLY									SPACE ONLY	84	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE
GFCI CIRCUIT BREAKER SHALL BE GROUND-FAULT CIRCUIT INTERRUPTING (GFCI) TYPE

N.E.C. LOAD ANALYSIS FOR PANEL "L3" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A DEMAND	PHASE B (VA) CONNECT.	PHASE B DEMAND	PHASE C (VA) CONNECT.	PHASE C DEMAND	TOTAL (VA) CONNECT.	TOTAL DEMAND
LIGHTING:	125%	360	450	628	785	0	0	988	1235
RECEPTACLE:	100%	1800	1800	360	360	360	360	2520	2520
OTHER CONTINUOUS:	125%	360	450	360	450	200	250	920	1150
OTHER NONCONTINUOUS:	100%	6600	6600	6000	6000	8520	8520	21120	21120
WATER HEATING:	100%	3000	3000	6000	6000	3000	3000	12000	12000
MOTOR:	100%	1104	1104	0	0	704	704	1808	1808
ADD 25% OF LARGEST MOTOR:	100%	59	59	59	59	59	59	176	176
TOTAL:		13283	13463	13407	13654	12843	12893	39532	40009
EQUIVALENT AMPS:		111	113	112	114	108	108	110	112
PHASE BALANCE:		1%	1%	2%	3%	-3%	-4%		

REVISIONS: △1 ADDENDUM 1

DESIGN ENGINEER: GRS
PROJECT ENGINEER: CTB
DRAWN BY: SPN
ISSUED: 01/06/16

PROFESSIONAL ELECTRICAL ENGINEER GREGORY ROY SCHNACKEL E-6724 STATE OF NEBRASKA
COA #: CA0479 Date: 01/13/16

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Final Core & Shell Package

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PANEL SCHEDULES

SHA PROJECT NO. 15024

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E603
Attachment: E19

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PANEL "H6" SCHEDULE

FED FROM: SWITCHBOARD "VBME"
VOLTAGE: 277/480V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 111 AMPS
BUS RATING: 225 AMPS
MAIN: MAIN LUG ONLY

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: 3159 AMPS
AIC RATING: 14 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	LOAD (VA) B	LOAD (VA) C	BREAKER	BREAKER	LOAD (VA) A	LOAD (VA) B	LOAD (VA) C	LOAD DESCRIPTION	CKT.	NOTES
	1	SUBFEED PANEL "L6"	19532			175/3	24/3	2935			AHU-4	2	
	3	------		20139		---	---		2935		-----	4	
	5	------			18765	---	---			2935	-----	6	
	7	LVL 5 NORMAL LTG.	768			20/1	24/3	2935			AHU-5	8	
	9	LVL 6 NORMAL LTG.		768		20/1	---		2935		-----	10	
	11	LVL 7 NORMAL LTG.			768	20/1	---			2935	-----	12	
	13	AHU-13	360			15/1	24/3	2935			AHU-6	14	
	15	AHU-14		360		15/1	---		2935		-----	16	
	17	AHU-15			360	15/1	---			2935	-----	18	
	19	SPARE				20/1	20/1	300			HUDL BRANDING LTG	20	
	21	SPARE				20/1	20/1				SPARE	22	
	23	SPARE				20/1	20/1				SPARE	24	
	25	SPARE				20/1	20/1				SPARE	26	
	27	SPARE				20/1	20/1				SPARE	28	
	29	SPARE				20/1					SPACE ONLY	30	
	31	SPARE				20/1					SPACE ONLY	32	
	33	SPACE ONLY									SPACE ONLY	34	
	35	SPACE ONLY									SPACE ONLY	36	
	37	SPACE ONLY									SPACE ONLY	38	
	39	SPACE ONLY									SPACE ONLY	40	
	41	SPACE ONLY									SPACE ONLY	42	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE

N.E.C. LOAD ANALYSIS FOR PANEL "H6" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A (VA) DEMAND	PHASE B (VA) CONNECT.	PHASE B (VA) DEMAND	PHASE C (VA) CONNECT.	PHASE C (VA) DEMAND	TOTAL (VA) CONNECT.	TOTAL (VA) DEMAND
LIGHTING:	125%	1396	1745	768	960	1082	1353	3246	4058
RECEPTACLE:	100%	720	720	1260	1260	2160	2160	4140	4140
OTHER CONTINUOUS:	125%	0	0	560	700	360	450	920	1150
OTHER NONCONTINUOUS:	100%	10560	10560	12120	12120	9000	9000	31680	31680
WATER HEATING:	100%	6000	6000	6000	6000	6000	6000	18000	18000
MOTOR:	100%	10573	10573	9165	9165	9869	9869	29607	29607
ADD 25% OF LARGEST MOTOR:	100%	464	464	464	464	464	464	1392	1392
TOTAL:		29713	30062	30337	30669	28935	29296	88985	90027
EQUIVALENT AMPS:		108	109	110	111	105	106	108	109
PHASE BALANCE:		1%	1%	3%	3%	-3%	-3%		

PANEL "L6" SCHEDULE

FED FROM: PANEL "H6"
VOLTAGE: 120/208V, 3 PHASE, 4 WIRE
BUS MATERIAL: ALUMINUM OR COPPER
BUS LOAD: 168 AMPS
BUS RATING: 400 AMPS
MAIN: 400/3 MAIN BREAKER

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: 3721 AMPS
AIC RATING: 10 kAIC
OPTIONS*: BONDED EQUIPMENT GROUND BAR

NOTES	CKT.	LOAD DESCRIPTION	LOAD (VA) A	LOAD (VA) B	LOAD (VA) C	BREAKER	BREAKER	LOAD (VA) A	LOAD (VA) B	LOAD (VA) C	LOAD DESCRIPTION	CKT.	NOTES
	1	LVL 7 HOLIDAY LTG. RECEP	720			20/1	20/1	1500			LVL 5 TAP HAND DRYER	2	
	3	LVL 7 HOLIDAY LTG. RECEP		720		20/1	20/1		1500		LVL 5 TAP HAND DRYER	4	
	5	ROOF HOLIDAY LTG RECEPT			900	20/1	20/1			1500	LVL 5 TAP HAND DRYER	6	
	7	ROOF HOLIDAY LTG RECEPT	540			20/1	20/1	600			LVL 5 EWC	8	GFCI
GFCI	9	LVL 6 EWC		600		20/1	20/1		360		LVL 5 BATHROOM RECEPT.	10	GFCI
GFCI	11	LVL 6 BATHROOM RECEPT.			360	20/1	20/1			1500	LVL 5 TAP HAND DRYER	12	
	13	AHU-4 LTG.	314			20/1	20/1	1500			LVL 5 TAP HAND DRYER	14	
	15	AHU-4 RECEPT.		960		20/1	20/1		1500		LVL 5 TAP HAND DRYER	16	
	17	LVL 5 CONV. RECEPT.			720	20/1	20/1			314	AHU-5 LTG.	18	
	19	AHU-6 LTG.	314			20/1	20/1	960			AHU-5 RECEPT.	20	
	21	AHU-6 RECEPT.		960		20/1	20/1		180		EXTERIOR RECEPT.	22	
	23	LVL 7 CONV. RECEPT.			540	20/1	40/2			3000	LVL 5 HWH-1	24	
	25	LVL 6 TAP HAND DRYER	1500			20/1	---	3000			-----	26	
	27	LVL 6 TAP HAND DRYER		1500		20/1	40/2		3000		LVL 6 HWH-1	28	
	29	LVL 6 TAP HAND DRYER			1500	20/1	---			3000	-----	30	
	31	LVL 6 TAP HAND DRYER	1500			20/1	40/2	3000			LVL 7 HWH-1	32	
	33	LVL 6 TAP HAND DRYER		1500		20/1	---		3000		-----	34	
	35	LVL 6 TAP HAND DRYER			1500	20/1	20/1			704	LEVEL 5 RECIRC PUMP	36	
	37	LVL 6 RECIRC PUMP	704			20/1	20/1	704			LEVEL 7 RECIRC PUMP	38	
	39	LVL 7 TAP HAND DRYER		1500		20/1	20/1		600		LVL 7 EWC	40	GFCI
	41	LVL 7 TAP HAND DRYER			1500	20/1	20/1			360	LVL 7 BATHROOM RECEPT.	42	GFCI
	43	LVL 7 TAP HAND DRYER	1500			20/1	20/1				SPARE	44	
	45	LVL 7 TAP HAND DRYER		1500		20/1	20/1				SPARE	46	
	47	LVL 7 TAP HAND DRYER			1500	20/1	20/1				SPARE	48	
	49	LVL 7 TAP HAND DRYER	1500			20/1	20/1				SPARE	50	
	51	RELAY PANEL-3		200		20/1	20/1		360		LVL 5 TELEPHONE BOARD	52	
	53	EXTERIOR RECEPT.			180	20/1	20/1			360	LVL 6 TELEPHONE BOARD	54	
	55	SPARE				20/1	20/1				SPARE	56	
	57	SPARE				20/1	20/1				SPARE	58	
	59	SPARE				20/1	20/1				SPARE	60	
	61	SPARE				20/1	20/1				SPARE	62	
	63	SPARE				20/1	20/1				SPARE	64	
	65	SPARE				20/1	20/1				SPARE	66	
	67	SPARE				20/1					SPACE ONLY	68	
	69	SPACE ONLY									SPACE ONLY	70	
	71	SPACE ONLY									SPACE ONLY	72	
	73	SPACE ONLY									SPACE ONLY	74	
	75	SPACE ONLY									SPACE ONLY	76	
	77	SPACE ONLY									SPACE ONLY	78	
	79	SPACE ONLY									SPACE ONLY	80	
	81	SPACE ONLY									SPACE ONLY	82	
	83	SPACE ONLY									SPACE ONLY	84	

NOTES:
* SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED HERE
GFCI CIRCUIT BREAKER SHALL BE GROUND-FAULT CIRCUIT INTERRUPTING (GFCI) TYPE

N.E.C. LOAD ANALYSIS FOR PANEL "L6" (INCLUDING SUBFEEDS)

LOAD DESCRIPTION	DEMAND FACTOR	PHASE A (VA) CONNECT.	PHASE A (VA) DEMAND	PHASE B (VA) CONNECT.	PHASE B (VA) DEMAND	PHASE C (VA) CONNECT.	PHASE C (VA) DEMAND	TOTAL (VA) CONNECT.	TOTAL (VA) DEMAND
LIGHTING:	125%	628	785	0	0	314	393	942	1178
RECEPTACLE:	100%	1260	1260	1260	1260	3060	3060	5580	5580
OTHER CONTINUOUS:	125%	0	0	560	700	360	450	920	1150
OTHER NONCONTINUOUS:	100%	10560	10560	12120	12120	9000	9000	31680	31680
WATER HEATING:	100%	6000	6000	6000	6000	6000	6000	18000	18000
MOTOR:	100%	1408	1408	0	0	704	704	2112	2112
ADD 25% OF LARGEST MOTOR:	100%	59	59	59	59	59	59	176	176
TOTAL:		19915	20072	19999	20139	19497	19666	59410	59876
EQUIVALENT AMPS:		166	168	167	168	163	164	165	167
PHASE BALANCE:		1%	1%	1%	1%	-2%	-2%		

REVISIONS: 1 ADDENDUM 1

DESIGN ENGINEER: GRS
PROJECT ENGINEER: CTB
DRAWN BY: SBN
DATE ISSUED: 01/05/16

GREGORY ROY SCHNACKEL E-6724
COA # CA0479 Date: 01/13/16

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PANEL SCHEDULES

SHA PROJECT NO. 15024

E604
Attachment: E20

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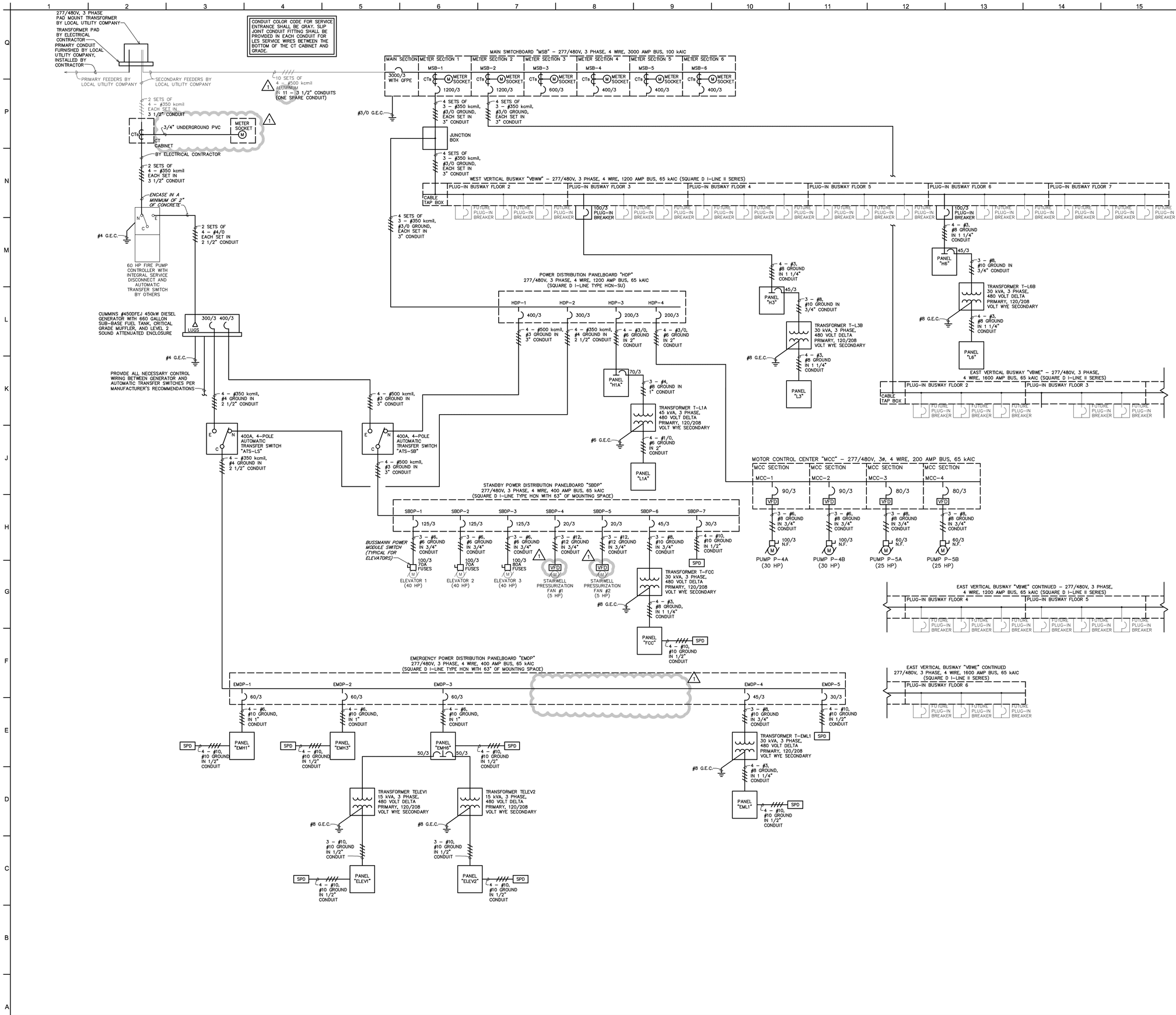

A1	ONE LINE DIAGRAM
NOT TO SCALE	

REVISIONS: 1 ADDENDUM 1

DESIGN ENGINEER: GRS
PROJECT ENGINEER: GRS
DRAWN BY: SRN
DATE: 01/05/16

GREGORY ROY SCHNACKEL E-6724 ELECTRICAL ENGINEER

COA # CA0479 Date: 01/13/16

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ELECTRICAL DIAGRAMS

SHA PROJECT NO. 15024

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E611

Attachment: E21

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SECTION 260913 - POWER MANAGEMENT COMMUNICATIONS SYSTEM

PART 1 GENERAL

1.01 SCOPE

A. The Contractor shall furnish and install the equipment specified herein. The equipment shall be as shown on the Drawings and outlined below.

B. This section includes the supply and installation of a complete Power Management Communications System (PMCS) as detailed on the Drawings and as described in this specification. The PMCS is defined to include, but not to be limited to, remote devices for monitoring, control and protection, device communication interface hardware, intercommunication wiring, master control unit including UPS, software, printer, ancillary equipment, startup and training services, and ongoing technical support.

1.02 RELATED SECTIONS

A. Section 230923 - Direct-Digital Control System for HVAC.

B. Section 260519 - Low-Voltage Electrical Power Conductors and Cables.

C. Section 260926 - Lighting Control System.

D. Section 262413 - Switchboards.

E. Section 262416 - Panelboards.

1.03 REFERENCES

A. The PMCS shall comply with the applicable portions of ANSI/IEEE 802.3 and NEMA standards. In addition, the master control unit shall comply with FCC Emission Standards specified in Part 15, Subpart J for Class A application.

1.04 SUBMITTALS – FOR REVIEW/APPROVAL

A. The following information shall be submitted to the Engineer:

1. System description including an overview of the system provided with detailed description of system architecture. A customized system diagram showing location of computers, repeaters, gateways and assemblies/devices to be connected to the system, as well as types of wiring required (twisted pair, coax, fiber), and a general layout of wiring referencing the specific building/facility layout shall also be part of this description.
2. Bill of material including a complete listing of all hardware, software, training, software configuration, and startup services being supplied under this Contract.
3. Hardware and software description shall be provided in detail for all communications hardware, software, including sensor devices and gathering data to be transmitted over the network, and master display unit. This description will include a list of all the communicating devices to be connected to the network.
4. Typical software screen displays shall be provided in printout form and/or disk.

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Single conductor building wire.

B. Nonmetallic-sheathed cable.

C. Underground feeder and branch-circuit cable.

D. Service entrance cable.

E. Armored cable.

F. Metal-clad cable.

G. Wire and cable for 600 volts and less.

H. Wiring connectors.

I. Electrical tape.

J. Heat shrink tubing.

K. Oxide inhibiting compound.

L. Wire pulling lubricant.

M. Color coding of conductors.
   1. 480Y/277 V, 3 phase, 4 wire.
   2. 208Y/120 V, 3 phase, 4 wire.

1.02 RELATED REQUIREMENTS

A. Section 260526 - GROUNDING AND BONDING: Additional requirements for grounding conductors and grounding connectors.

B. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire; 2001 (Reapproved 2007).

B. ASTM B8 - Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft; 2011.

C. ASTM B787/B787M - Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation; 2004 (Reapproved 2009).

D. ASTM B800 - Standard Specification for 8000 Series Aluminum Alloy Wire for Electrical Purposes - Annealed and Intermediate Tempers; 2005.

E. ASTM B801 - Standard Specification for Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy Wire for Subsequent Covering of Insulation; 2007.

F. ASTM D3005 - Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape; 2010.

G. ASTM D4388 - Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes; 2008.

H. FS A-A-59544 - Cable and Wire, Electrical (Power, Fixed Installation); Federal Specification; Revision A, 2008.

I. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.

J. NECA 104 - Recommended Practice for Installing Aluminum Building Wire and Cable; National Electrical Contractors Association; 2006 (NECA/AA 104).

K. NECA 120 - Standard for Installing Armored Cable (AC) and Metal-Clad Cable (MC); National Electrical Contractors Association; 2006.

L. NECA 121 - Standard for Installing Nonmetallic-Sheathed Cable (Type NM-B) and Underground Feeder and Branch-Circuit Cable (Type UF); National Electrical Contractors Association; 2007.

M. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy; National Electrical Manufacturers Association; 2009 (ANSI/NEMA WC 70/ICEA S-95-658).

N. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

O. UL 4 - Armored Cable; Current Edition, Including All Revisions.

P. UL 44 - Thermoset-Insulated Wires and Cables; Current Edition, Including All Revisions.

Q. UL 83 - Thermoplastic-Insulated Wires and Cables; Current Edition, Including All Revisions.

R. UL 486A-486B - Wire Connectors; Current Edition, Including All Revisions.

S. UL 486C - Splicing Wire Connectors; Current Edition, Including All Revisions.

T. UL 486D - Sealed Wire Connector Systems; Current Edition, Including All Revisions.

U. UL 493 - Thermoplastic-Insulated Underground Feeder and Branch-Circuit Cables; Current Edition, Including All Revisions.

V. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape; Current Edition, Including All Revisions.

W. UL 719 - Nonmetallic-Sheathed Cables; Current Edition, Including All Revisions.

X. UL 854 - Service-Entrance Cables; Current Edition, Including All Revisions.

Y. UL 1569 - Metal-Clad Cables; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
3. Notify Engineer of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

A. Test Reports: Indicate procedures and values obtained.

B. Field Quality Control Test Reports.

C. Project Record Documents: Record actual installed circuiting arrangements. Record actual routing.

D. Submittals are reviewed only for general compliance with the Contract Documents. Dimensions, quantities and details are not checked during submittal review. Review of the submittals does not relieve the Contractor of the responsibility for providing all materials, equipment and accessories necessary for a complete and operational system meeting the requirements of the project and the intent of the Contract Documents. The responsibility for coordination of substituted materials and equipment lies solely with the substituting Contractor.

1.06 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years experience.

C. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

D. Code or utility company requirements shall supersede any conflicting requirements of this section.

E. Equipment performance and accessories shall be as indicated on the Drawings or specified herein. Inclusion in both locations is not a prerequisite to inclusion in the

Contract. Equipment and accessories specified in either location shall be included in the Contract. Provide all necessary accessories and connections as required for a complete, functional system, including all required components reasonably inferred to as necessary although such components may or may not be specifically indicated on the Drawings or within the specifications.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

1.08 FIELD CONDITIONS

A. Do not install or otherwise handle thermoplastic-insulated conductors at temperatures lower than 14 degrees F (-10 degrees C), unless otherwise permitted by manufacturer's instructions. When installation below this temperature is unavoidable, notify Engineer and obtain direction before proceeding with work.

PART 2 PRODUCTS

2.01 CONDUCTOR AND CABLE APPLICATIONS

A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.

B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.

C. Concealed Dry Interior Locations: Use only building wire in raceway.

D. Exposed Dry Interior Locations: Use only building wire in raceway.

E. Above Accessible Ceilings: Use only building wire in raceway.

F. Wet or Damp Interior Locations: Use only building wire with Type THW-2 or THWN-2 insulation in raceway.

G. Exterior Locations: Use only building wire with Type THW-2 or THWN-2 insulation in raceway.

H. Underground Installations: Use only building wire with Type THW-2 or THWN-2 insulation in raceway.

I. Exterior Low Voltage (24V or less) Installations: Use only cable approved for direct burial duty.

J. Use solid conductor for feeders and branch circuits 12 AWG and smaller.

K. Use stranded conductors for control circuits.

L. Non-metallic sheathed cable may be substituted for wire and conduit systems at the Electrical Contractor's option, only where approved by local and national codes and amendments.

M. Armored cable (Type AC) may be substituted for wire and conduit systems at the Electrical Contractor's option, only where concealed and approved by local and national codes and amendments. The use of AC cable inexposed locations is not permitted.

N. Metal clad (Type MC) cable may be substituted for wire and conduit systems at the Electrical Contractor's option, only where concealed and approved by local and national codes and amendments. The use of MC cable in exposed locations is not permitted.

2.02 CONDUCTOR AND CABLE MANUFACTURERS

A. Cerro Wire LLC: www.cerrowire.com.

B. Encore Wire Corporation: www.encorewire.com.

C. Industrial Wire & Cable, Inc: www.iewc.com.

D. Southwire Company: www.southwire.com.

E. Substitutions: The products of other manufacturers may be submitted, at the Contractor's option, during shop drawing review. The products of other manufacturers shall meet or exceed all requirements of these specifications and all requirements of the project as listed or shown on the Drawings. The Contractor accepts all responsibility for costs and coordination issues arising out of the substitution of materials or equipment, and the coordination of such substitutions with all other contractors and subcontractors.

2.03 ALL CONDUCTORS AND CABLES

A. Provide products that comply with requirements of NFPA 70.

B. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose indicated.

C. Provide new conductors and cables manufactured not more than one year prior to installation.

D. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.

E. Comply with NEMA WC 70.

F. Comply with FS A-A-59544 where applicable.

G. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.

H. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.

I. Conductors and Cables Installed in Cable Tray: Listed and labeled as suitable for cable tray use.

J. Conductors and Cables Installed Where Exposed to Direct Rays of Sun: Listed and labeled as sunlight resistant.

K. Conductors and Cables Installed Exposed in Spaces Used for Environmental Air (only where specifically permitted): Plenum rated, listed and labeled as suitable for use in return air plenums.

L. Conductor Material:
1. Provide copper conductors except where aluminum conductors are specifically indicated or permitted for substitution. Conductor sizes indicated are based on copper unless specifically indicated as aluminum. Conductors designated with the abbreviation "AL" indicate aluminum.
   a. Substitution of aluminum conductors for copper is permitted, when approved by Engineer and Authority Having Jurisdiction, only for the following:
      1) Services: Copper conductors size 1/0 AWG and larger.
      2) Feeders: Copper conductors size 1/0 AWG and larger.
   b. Where aluminum conductors are substituted for copper, comply with the following:
      1) Size aluminum conductors to provide, when compared to copper sizes indicated, equivalent or greater ampacity and equivalent or less voltage drop.
      2) Increase size of raceways, boxes, wiring gutters, enclosures, etc. as required to accommodate aluminum conductors.
      3) Provide aluminum equipment grounding conductor sized according to NFPA 70.
      4) Equip electrical distribution equipment with compression lugs for terminating aluminum conductors.
2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B 787M unless otherwise indicated.
3. Aluminum Conductors (only where specifically indicated or permitted for substitution): AA-8000 series aluminum alloy conductors recognized by ASTM B800 and compact stranded in accordance with ASTM B801 unless otherwise indicated.

M. Minimum Conductor Size:
1. Branch Circuits: 12 AWG.
   a. Exceptions:
      1) 20 A, 120 V circuits longer than 75 feet (23 m): 10 AWG, for voltage drop.
      2) 20 A, 120 V circuits longer than 150 feet (46 m): 8 AWG, for voltage drop.
      3) 20 A, 277 V circuits longer than 150 feet (46 m): 10 AWG, for voltage drop.
2. Control Circuits: 14 AWG or manufacturer's recommendations, whichever is larger.

N. Conductor Color Coding:
   1. Color code conductors as indicated unless otherwise required by the Authority Having Jurisdiction. Maintain consistent color coding throughout project.
   2. Color Coding Method: Integrally colored insulation.
      a. Conductors size 4 AWG and larger may have black insulation color coded using vinyl color coding electrical tape.
   3. Color Code:
      a. 480Y/277 V, 3 Phase, 4 Wire System:
         1) Phase A: Brown.
         2) Phase B: Orange.
         3) Phase C: Yellow.
         4) Neutral/Grounded: Gray.
      b. 208Y/120 V, 3 Phase, 4 Wire System:
         1) Phase A: Black.
         2) Phase B: Red.
         3) Phase C: Blue.
         4) Neutral/Grounded: White.
      c. Equipment Ground, All Systems: Green.
      d. Travelers for 3-Way and 4-Way Switching: Pink.
      e. For modifications or additions to existing wiring systems, comply with existing color code when existing code complies with NFPA 70 and is approved by the authority having jurisdiction.
      f. For control circuits, comply with manufacturer's recommended color code.

2.04 SINGLE CONDUCTOR BUILDING WIRE

A. Description: Single conductor insulated wire.

B. Conductor Stranding:
   1. Feeders and Branch Circuits:
      a. Size 12 AWG and Smaller: Solid.
      b. Size 10 AWG and Larger: Stranded.
   2. Control Circuits: Stranded.

C. Insulation Voltage Rating: 600 V.

D. Insulation:
   1. Copper Building Wire: Type THHN/THWN-2 or XHHW-2, except as indicated below.
      a. Fixture Wiring Within Luminaires: Type TFFN/TFN for luminaires with labeled maximum temperature of 90 degrees C; Approved suitable type for luminaires with labeled maximum temperature greater than 90 degrees C.
   2. Aluminum Building Wire (only where specifically indicated or permitted for substitution): Type XHHW-2.

2.05 NONMETALLIC-SHEATHED CABLE

A. Description: NFPA 70, Type NM multiple-conductor cable listed and labeled as complying with UL 719, Type NM-B.

B. Conductor Stranding:
   1. Size 12 AWG and Smaller: Solid.
   2. Size 10 AWG and Larger: Stranded.

C. Insulation Voltage Rating: 600 V.

2.06 UNDERGROUND FEEDER AND BRANCH-CIRCUIT CABLE

A. Description: NFPA 70, Type UF multiple-conductor cable listed and labeled as complying with UL 493, Type UF-B.

B. Provide equipment grounding conductor.

C. Conductor Stranding:
   1. Size 12 AWG and Smaller: Solid.
   2. Size 10 AWG and Larger: Stranded.

D. Insulation Voltage Rating: 600 V.

E. Cable Jacket: Listed and labeled as sunlight resistant.

F. Underground Warning Tape: 4 inch (100 mm) wide plastic tape, colored yellow with suitable warning legend describing buried electrical lines.

2.07 SERVICE ENTRANCE CABLE

A. Service Entrance Cable for Above-Ground Use: NFPA 70, Type SE multiple-conductor cable listed and labeled as complying with UL 854.

B. Service Entrance Cable for Underground Use: NFPA 70, Type USE single-conductor cable listed and labeled as complying with UL 854, Type USE-2, and with UL 44, Type RHH/RHW-2.

C. Conductor Stranding: Stranded.

D. Insulation Voltage Rating: 600 V.

2.08 ARMORED CABLE

A. Description: NFPA 70, Type AC cable listed and labeled as complying with UL 4, and listed for use in classified firestop systems to be used.

B. Conductor Stranding:
   1. Size 12 AWG and Smaller: Solid.
   2. Size 10 AWG and Larger: Stranded.

C. Insulation Voltage Rating: 600 V.

D. Insulation: Type THHN.

E. Grounding: Combination of interlocking armor and integral bonding wire.

F. Armor: Aluminum or steel, interlocked tape.

G. Separate Grounding Wire: Required on all AC cable used. No exceptions.

H. Sheath: Must be listed and identified for grounding (does not exempt the requirement for separate grounding wire).

2.09 METAL-CLAD CABLE

A. Description: NFPA 70, Type MC cable listed and labeled as complying with UL 1569, and listed for use in classified firestop systems to be used.

B. Conductor Stranding:
1. Size 12 AWG and Smaller: Solid.
2. Size 10 AWG and Larger: Stranded.

C. Insulation Voltage Rating: 600 V.

D. Insulation: Type THHN, THHN/THWN, THHN/THWN-2, XHHW, or XHHW-2.

E. Provide oversized neutral conductors where indicated or required.

F. Provide dedicated neutral conductor for each phase conductor where indicated or required.

G. Grounding: Full-size integral equipment grounding conductor.

H. Armor: Aluminum or steel, interlocked tape.

I. Provide PVC jacket applied over cable armor where indicated or required for environment of installed location.

J. Separate Grounding Wire: Required on all MC cable used. No exceptions.

K. Sheath: Must be listed and identified for grounding (does not exempt the requirement for separate grounding wire).

2.10 WIRING CONNECTORS

A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.

B. Wiring Connectors for Splices and Taps:
1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors, mechanical connectors, or compression connectors.
2. Copper Conductors Size 6 AWG and Larger: Use mechanical connectors or compression connectors.
3. Connectors for Aluminum Conductors: Use compression connectors or mechanical connectors.

C. Wiring Connectors for Terminations:
1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.

2. Provide compression adapters for connecting conductors to equipment furnished with mechanical lugs when only compression connectors are specified.
3. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
4. Provide motor pigtail connectors for connecting motor leads in order to facilitate disconnection.
5. Copper Conductors Size 8 AWG and Larger: Use mechanical connectors or compression connectors where connectors are required.
6. Aluminum Conductors: Use compression connectors or mechanical connectors for all connections.
7. Stranded Conductors Size 10 AWG and Smaller: Use crimped terminals for connections to terminal screws.
8. Conductors for Control Circuits: Use crimped terminals for all connections.

D. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.

E. Do not use push-in wire connectors as a substitute for twist-on insulated spring connectors.

F. Twist-on Insulated Spring Connectors: Rated 600 V, 221 degrees F (105 degrees C) for standard applications and 302 degrees F (150 degrees C) for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.
1. Manufacturers:
   a. 3M: www.3m.com.
   b. Ideal Industries, Inc: www.idealindustries.com.
   c. NSI Industries LLC: www.nsiindustries.com.

G. Mechanical Connectors: Provide bolted type or set-screw type.
1. Manufacturers:
   a. Burndy: www.burndy.com.
   b. Ilsco: www.ilsco.com.
   c. Thomas & Betts Corporation: www.tnb.com.

H. Compression Connectors: Provide circumferential type, hex type, or indentor type crimp configuration.
1. Manufacturers:
   a. Burndy: www.burndy.com.
   b. Ilsco: www.ilsco.com.
   c. Thomas & Betts Corporation: www.tnb.com.

I. Crimped Terminals: Nylon-insulated, with insulation grip and terminal configuration suitable for connection to be made.
1. Manufacturers:
   a. Burndy: www.burndy.com.
   b. Ilsco: www.ilsco.com.
   c. Thomas & Betts Corporation: www.tnb.com.

2.11 WIRING ACCESSORIES

A. Electrical Tape:
1. Manufacturers:
a. 3M: www.3m.com.
b. Plymouth Rubber Europa: www.plymouthrubber.com.
2. Vinyl Color Coding Electrical Tape: Integrally colored to match color code indicated; listed as complying with UL 510; minimum thickness of 7 mil (0.18 mm); resistant to abrasion, corrosion, and sunlight; suitable for continuous temperature environment up to 221 degrees F (105 degrees C).
3. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil (0.18 mm); resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F (-18 degrees C) and suitable for continuous temperature environment up to 221 degrees F (105 degrees C).
4. Rubber Splicing Electrical Tape: Ethylene Propylene Rubber (EPR) tape, complying with ASTM D4388; minimum thickness of 30 mil (0.76 mm); suitable for continuous temperature environment up to 194 degrees F (90 degrees C) and short-term 266 degrees F (130 degrees C) overload service.
5. Electrical Filler Tape: Rubber-based insulating moldable putty; minimum thickness of 125 mil (3.2 mm); suitable for continuous temperature environment up to 176 degrees F (80 degrees C).
6. Varnished Cambric Electrical Tape: Cotton cambric fabric tape, with or without adhesive, oil-primed and coated with high-grade insulating varnish; minimum thickness of 7 mil (0.18 mm); suitable for continuous temperature environment up to 221 degrees F (105 degrees C).
7. Moisture Sealing Electrical Tape: Insulating mastic compound laminated to flexible, all-weather vinyl backing; minimum thickness of 90 mil (2.3 mm).

B. Heat Shrink Tubing: Heavy-wall, split-resistant, with factory-applied adhesive; rated 600 V; suitable for direct burial applications; listed as complying with UL 486D.
1. Manufacturers:
a. 3M: www.3m.com.
b. Burndy: www.burndy.com.
c. Thomas & Betts Corporation: www.tnb.com.

C. Oxide Inhibiting Compound: Listed; suitable for use with the conductors or cables to be installed.
1. Manufacturers:
a. Burndy: www.burndy.com.
b. Ideal Industries, Inc: www.idealindustries.com.
c. Ilsco: www.ilsco.com.

D. Wire Pulling Lubricant: Listed; suitable for use with the conductors or cables to be installed and suitable for use at the installation temperature.
1. Manufacturers:
a. 3M: www.3m.com.
b. American Polywater Corporation: www.polywater.com.
c. Ideal Industries, Inc: www.idealindustries.com.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that interior of building has been protected from weather.

B. Verify that work likely to damage wire and cable has been completed.

C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.

D. Verify that raceway installation is complete and supported.

E. Verify that field measurements are as shown on the drawings.

F. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.03 INSTALLATION

A. Circuiting Requirements:
1. Unless dimensioned, circuit routing indicated is diagrammatic.
2. When circuit destination is indicated and routing is not shown, determine exact routing required.
3. Arrange circuiting to minimize splices.
4. Include circuit lengths required to install connected devices within 10 ft (3.0 m) of location shown.
5. Maintain separation of Class 1, Class 2, and Class 3 remote-control, signaling, and power-limited circuits in accordance with NFPA 70.
6. Maintain separation of wiring for emergency systems, if present, in accordance with NFPA 70.
7. Circuiting Adjustments: Unless otherwise indicated, when branch circuits are shown as separate, combining them together in a single raceway is permitted, under the following conditions:
   a. Provide no more than six current-carrying conductors in a single raceway. Dedicated neutral conductors are considered current-carrying conductors.
   b. Increase size of conductors as required to account for ampacity derating.
   c. Size raceways, boxes, etc. to accommodate conductors.
8. Common Neutrals: Unless otherwise indicated, sharing of neutral/grounded conductors among up to three single phase, single pole branch circuits of different phases installed in the same raceway is permitted where not otherwise prohibited, except for the following:
   a. Branch circuits fed from ground fault circuit interrupter (GFCI) circuit breakers.
   b. Branch circuits fed from arc fault circuit interrupter (AFCI) circuit breakers.
   c. Branch circuits fed from feed-through protection of GCFI receptacles.

d. Branch circuits with dimming controls.
e. Branch circuits with isolated grounding conductor.
f. When indicated by the wire counts shown on the drawings.
g. Branch circuits serving patient bed locations in general care and critical care areas of health care facilities.

9. Provide oversized neutral/grounded conductors where indicated and as specified below.
   a. Provide 200 percent rated neutral for feeders fed from K-rated transformers.
   b. Provide 200 percent rated neutral for feeders serving panelboards with 200 percent rated neutral bus.

B. Install products in accordance with manufacturer's instructions.

C. Install conductors and cable in a neat and workmanlike manner in accordance with NECA 1.

D. Install aluminum conductors in accordance with NECA 104.

E. Install nonmetallic-sheathed cable (Type NM-B) in accordance with NECA 121.

F. Install underground feeder and branch-circuit cable (Type UF-B) in accordance with NECA 121.

G. Install armored cable (Type AC) in accordance with NECA 120.

H. Install metal-clad cable (Type MC) in accordance with NECA 120.

I. Installation in Raceway:
   1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
   2. Pull all conductors and cables together into raceway at same time.
   3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
   4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.

J. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.

K. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the Authority Having Jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
   1. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conductors and cables to lay on ceiling tiles.
   2. Installation in Vertical Raceways: Provide supports where vertical rise exceeds permissible limits.

L. Terminate cables using suitable fittings.
   1. Armored Cable (Type AC):

a. Use listed fittings and anti-short, insulating bushings.
b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.
c. Do not use direct-bearing set-screw type fittings for cables with aluminum armor.

2. Metal-Clad Cable (Type MC):
   a. Use listed fittings.
   b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.

M. Install conductors with a minimum of 12 inches (300 mm) of slack at each outlet.

N. Where conductors are installed in enclosures for future termination by others, provide a minimum of 5 feet (1.5 m) of slack.

O. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.

P. Make wiring connections using specified wiring connectors.
1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
3. Do not remove conductor strands to facilitate insertion into connector.
4. Clean contact surfaces on conductors and connectors to remove corrosion, oxides, and other contaminates. Do not use wire brush on plated connector surfaces.
5. Connections for Aluminum Conductors: Fill connectors with oxide inhibiting compound where not pre-filled by manufacturer.
6. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
7. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.

Q. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
1. Dry Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
   a. For taped connections, first apply adequate amount of rubber splicing electrical tape or electrical filler tape, followed by outer covering of vinyl insulating electrical tape.
   b. For taped connections likely to require re-entering, including motor leads, first apply varnished cambric electrical tape, followed by adequate amount of rubber splicing electrical tape, followed by outer covering of vinyl insulating electrical tape.
2. Damp Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.

a. For connections with insulating covers, apply outer covering of moisture sealing electrical tape.
b. For taped connections, follow same procedure as for dry locations but apply outer covering of moisture sealing electrical tape.

3. Wet Locations: Use heat shrink tubing.

R. Insulate ends of spare conductors using vinyl insulating electrical tape.

S. Field-Applied Color Coding: Where vinyl color coding electrical tape is used in lieu of integrally colored insulation as permitted in Part 2 under "Conductor Color Coding", apply half overlapping turns of tape at each termination and at each location conductors are accessible for 2" of color coding.

T. Color Code Legend: Provide identification label identifying color code for ungrounded conductors at each piece of feeder or branch-circuit distribution equipment when premises has feeders or branch circuits served by more than one nominal voltage system.

U. Provide wire and cable markers identifying circuit number or other designation indicated at the following locations:
1. At each source and load connection.
2. Within boxes when more than one circuit is present.
3. Within equipment enclosures when conductors and cables enter or leave the enclosure.
4. In cable tray, at maximum intervals of 20 feet (6.1 m).

V. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified.

W. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

END OF SECTION 260519

SECTION 260926 - LIGHTING CONTROL SYSTEM

PART 1 GENERAL

1.01 SCOPE

A. The Contractor shall furnish and install the Lighting Control System as specified and as shown on the Contract Drawings.

B. The Lighting Control System work shall be indicated on the Drawings and by the requirements of this section. It is defined to include, but not limited to:
1. Power switching equipment.
2. Lighting management equipment.
3. System management equipment.
4. System operator's equipment.
5. Factory service.

1.02 RELATED SECTIONS

A. Section 23 0923 - Direct-Digital Control System for HVAC.

B. Section 26 0519 - Low-Voltage Electrical Power Conductors and Cables.

C. Section 26 2413- Switchboards.

D. Section 26 2416- Panelboards.

1.03 REFERENCES

A. NECA 1 - Standard Practices for Good Workmanship in Electrical Contracting; National Electrical Contractors Association; 2006.

B. NEMA ICS 2 - Industrial Control and Systems: Controllers, Contactors, and Overload Relays, Rated Not More Than 2000 Volts AC or 750 Volts DC; National Electrical Manufacturers Association; 2000 (R2005).

C. NEMA PB 1 - Panelboards; National Electrical Manufacturers Association; 2006.

D. NEMA PB 1.1 - General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 Volts or Less; National Electrical Manufacturers Association; 2002.

E. NFPA 70 - National Electrical Code; National Fire Protection Association; 2008.

F. UL 916 - Energy Management Equipment.

G. UL 67 - Panelboard Interiors.

H. UL 50 - Panelboard Boxes.

I. FCC Emissions - All control equipment shall be in compliance with FCC emissions standards in part 15 subpart J for class A application.

1.04 SUBMITTALS - FOR REVIEW/APPROVAL

A. The following information shall be submitted to the Engineer:
1. Breaker layout drawing with dimensions indicated and nameplate designation.
2. Component list.
3. Conduit entry/exit locations.
4. Assembly ratings including:
   a. Short-circuit rating.
   b. Voltage.
   c. Continuous current.
5. Cable terminal sizes.
6. Product data sheets. Submit manufacturer's data sheets on system submitted and components supplied, with complete descriptions of hardware and software components supplied.
7. Series rating information.
8. Interface to Building Automation System/Energy Management System.

B. Wiring Diagrams: Submit typical wiring diagrams for all components including, but not limited to, smart panelboard, application specific controllers, override switches, daylighting components, dimming ballasts, telephone lines, network wiring, and the central operator's station.

C. One Line Diagram: Submit a one line diagram of the system configuration submitted with notations explaining any differences from that illustrated in the riser diagram included in the specifications.

1.05 SUBMITTALS - FOR CONSTRUCTION

A. The following information shall be submitted for record purposes:
1. Final as-built drawings and information for items listed in paragraph 1.04.
2. Installation information.
3. Seismic certification and equipment anchorage details.

B. The final (as-built) drawings shall include the same drawings as the Construction Drawings and shall incorporate all changes made during the manufacturing process.

1.06 QUALIFICATIONS

A. The manufacturer of the panel shall be the manufacturer of the major components within the assembly, including circuit breakers.

B. For the equipment specified herein, the manufacturer shall be ISO 9001 or 9002 certified.

C. The manufacturer of this equipment shall have produced similar electrical equipment for a minimum period of five (5) years. When requested by the Engineer, an acceptable list of installations with similar equipment shall be provided demonstrating compliance with this requirement.

D. The manufacturer of the lighting control system shall be regularly engaged in manufacture of electrical distribution equipment, lighting control and/or energy management equipment of types and capacities required and shall be the manufacturer of the remote controllable circuit breakers contained in the system.

1.07 WARRANTY

A. The warranty shall insure that the Lighting Control System manufactured and supplied as specified will be the kind and quality described in the specification and will be free of defects in workmanship and material.
   1. Warranty shall be 1 year from date of startup not to exceed 18 months from date of shipment.
   2. Warranty shall be valid if start-up completed by factory trained representative.
   3. Warranty replacement parts shall be available on a 24 hour delivery basis if requested during normal working hours.
   4. Warranty shall provide for on site technical assistance if deemed necessary.

1.08 REGULATORY REQUIREMENTS

A. The lighting control system shall be UL labeled. Panelboards with Integral Intelligence shall be UL listed under UL 916 energy management equipment, UL 67 Panelboard Interiors and UL 50 Panelboard Box.

B. All control equipment shall be in compliance with FCC emissions' standards in part 15 Subpart J for class A application.

1.09 DELIVERY, STORAGE AND HANDLING

A. Equipment shall be handled and stored in accordance with manufacturer’s instructions. One (1) copy of these instructions shall be included with the equipment at time of shipment.

1.10 OPERATION AND MAINTENANCE MANUALS

A. Equipment operation and maintenance manuals shall be provided with each assembly shipped and shall include instruction leaflets, instruction bulletins and renewal parts lists where applicable, for the complete assembly and each major component.

1.11 COMMISSIONING

A. Commissioning of a system or systems specified in this section is part of the construction process. Documentation and testing of these systems, is required in cooperation with the Owner's Representative and the Commissioning Agent. Project Closeout is dependent on successful completion of all commissioning procedures, documentation, and issue closure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Cutler-Hammer: www.cutler-hammer.com.

B. Square D: www.squared.com.

C. Substitutions: The products of other manufacturers may be submitted, at the Contractor's option, during shop drawing review. The products of other manufacturers shall meet or

exceed all requirements of these specifications and all requirements of the project as listed or shown on the Drawings. The Contractor accepts all responsibility for costs and coordination issues arising out of the substitution of materials or equipment, and the coordination of such substitutions with all other contractors and subcontractors.

2.02 GENERAL

A. The Lighting Control System shall be networkable and consist of smart panelboards for zone power switching. The system shall be capable of utilizing smart application specific controllers to provide application specific control of daylight harvesting of fluorescent lighting, manual switch override of automated system functions, telephone override of automated system functions, remote access, and historical data logging. The system shall be capable of remote monitoring and programming through a remotely located personal computer with internal modem capability. On-site programming and monitoring shall be through a networked central operator's station or through a laptop PC. In addition, each panelboard must be able to be locally accessed by a mobile device. The panel must be able to carry out all switching functions without the use of the mobile device. The programming software, for both PC and mobile device, shall be Microsoft Windows based and be capable of programming and monitoring all system functions. Factory service and associated wiring to allow control of the facility shall be supplied.

B. The intelligent panelboards shall be mounted in electrical closets as indicated on the Drawings. The numbered breakers in the panels shall be wired to control the power to each circuit as indicated on the panel wiring schedules included in the Drawings. Override switches and other low voltage devices shall be mounted and wired to individual controllers as shown on the Drawings. All wiring shall be identified with the number of the breaker, switch or low voltage device.

C. The application specific controllers shall be mounted in an expansion cabinet or mounted integral to the panelboard as indicated on the Drawings. The application specific controllers shall be wired to their specific application as indicated on the wiring schedules and Drawings. All control wiring shall be identified with the number of the ballast, telephone line extension, low voltage switch, sensor, tenant meter, or HVAC equipment as required.

D. The Central Operator's Station shall be located and connected to the network as indicated on the Drawings. The station shall be located in an area relatively free of moisture, dust and harsh environments.

E. Electronic Dimming Ballasts, Photosensors, Override Switches, Occupancy Sensors, Tenant Meters and Wall Box Dimmers shall be provided by the Contractor and mounted in the spaces as indicated on the Drawings. Low voltage wiring shall be Class 2 or Class 2P (plenum rated) as required by the National Electric Code and local standards. Each low voltage control wire shall be labeled with the circuit number at each switch, ballast, tenant meter or sensor. Use stranded #18 AWG or larger wire as indicated on the Drawings. Remote controlled circuits shall be recorded on the directory card in each expansion cabinet.

F. All low voltage wire must be UL listed as conforming to Class 2 or Class 2P wiring requirements.

2.03 POWER SWITCHING EQUIPMENT REQUIREMENTS

A. The power switching equipment shall be intelligent panelboards. The intelligent panelboards shall contain “intelligence," low voltage controlled circuit breaker switching and thermal magnetic overcurrent protection in a standard panelboard enclosure. The intelligent panelboards must be integrated and modular, external time clocks and contactor circuits will not be acceptable.

B. “Intelligent” Panelboard General Requirements The “intelligent” panelboard shall contain an integral programmable "Plug and Play" intelligent panelboard control module that provides on/off control for low voltage switchable circuit breakers and network communications capability. Panelboards shall be individually capable of time of day scheduling, on/off zone control and panelboard to panelboard global communication with up to 120 panelboards per system globally communicating over a main shielded twisted pair network to a central operator's station. The panelboard shall be integrated, use modular construction, and be capable of accepting an intelligent programmable panelboard control module. The panelboard shall be pre-wired and assembled at the factory and consist of the following modular construction:

1. Enclosure to be standard 20-inch wide by 5 3/4 in. deep NEMA Type 1.
2. Trim to be standard 20-inch wide NEMA Type 1.
3. Circuit breakers shall be of such type that may be remotely controlled on or off with Class 2 low voltage.
4. Interior to be sized to Distribution System Characteristics, Voltage and Current requirements.
5. Internal Remote Controllable Circuit Breaker electronic bus.
6. Internal Intelligent Panelboard Control Module.
7. Internal Class 2, 120/277 VAC Power Supply with primary fuse and secondary thermal magnetic on/off protection.
8. Class 2 barrier.
9. Intelligent panelboard control module to be listed as UL 916 Energy Management Equipment.

C. “Intelligent” Panelboard Construction Requirements:

1. The panelboard shall be rated for 480Y/277 VAC or 120/208Y VAC, as shown on the Drawings. Continuous main current ratings shall be as indicated on the Drawings, not to exceed 400 amperes maximum for main breaker or main lugs. Minimum short circuit current rating shall be 14,000 at 480/277 VAC and 10,000 at 120/208 VAC. Panelboard shall be fully rated or series rated to meet the panelboard short circuit current rating shown on the Drawings.
2. Panelboard bus current rating shall be determined by heat-rise tests conducted in accordance with UL 67. Provide one (1) continuous vertical bus bar per phase. Each bus bar shall have sequentially phased branch circuit connectors suitable for bolt-on branch circuit breakers. The bussing shall be fully rated copper or aluminum. Panelboards shall be suitable for use as Service Equipment where shown on the Drawings.
3. Neutral shall be 200% rated solid copper for non-linear load applications and marked for non-linear load applications.
4. Main and sub-feed circuit breakers shall be vertically mounted. Nametags shall be provided and secured to the dead front with screws.

5. Interiors shall be capable of housing an intelligent panelboard control module and sized to allow easy access and replacement of the intelligent panelboard control module.
6. Interiors shall provide a Class 2 separation for the panelboard control module with an internal Class 2, 120/277 VAC Power Supply with primary fuse and secondary thermal magnetic On/Off protection to provide power to the panelboard control module.
7. Interiors shall come complete and factory assembled with rigid chassis assembly that assures accurate alignment of interior and intelligent panelboard control module with panel front and prevent flexing and possibility of loosening or damage to parts during and after installation.
8. Interior shall provide dead front cover for access to intelligent panelboard control module.
9. Control module shall provide operating information to include:
   a. Local programming / diagnostic port.
   b. Intelligent panelboard control module ON/OFF switch, and replaceable primary power supply fuse.
10. Main Circuit Breaker:
    a. Main circuit breakers shall have an overcenter, trip-free, toggle mechanism which will provide quick-make, quick-break contact action. Circuit breakers shall have a permanent trip unit with thermal and magnetic trip elements in each pole. Thermal elements shall be true RMS sensing and be factory calibrated to operate in a 40 deg. C ambient environment.
    b. Two and three-pole circuit breakers shall have common tripping of all poles. Circuit breaker frame sizes above 100 amperes shall have a single magnetic trip adjustment located on the front of the breaker. Breaker handle and face plate shall indicate rated ampacity.
    c. Lugs shall be UL Listed to accept solid or stranded (copper conductors only). Lugs shall be suitable for 75 deg C rated wire or 90 deg C rated wire, sized according to the 75 deg C temperature rating per NEC Table 310.16. Lug body shall be bolted in place, snap-in designs are not acceptable.
11. Branch Circuit Breakers:
    a. Branch circuit breakers shall have bolt-on type bus connectors.
    b. Circuit breakers shall have an overcenter toggle mechanism which will provide quick-make, quick-break contact action. Circuit breakers shall have thermal and magnetic trip elements in each pole. Two and three pole circuit breakers shall have common tripping of all poles.
    c. There shall be two forms of visible trip indication. The circuit breaker handle shall reside in a tripped position between ON and OFF. In addition, there shall be a trip indicator appearing in the window of the circuit breaker housing.
    d. Circuit breakers marked remotely controlled on Drawings shall be of the remote controllable latching type. Circuit breaker contacts shall respond to a remote low-voltage Class 2 signal for Open or Closed contact positioning. Circuit breaker power contacts shall remain Open when the breaker handle is in the OFF or tripped position, regardless of the remote low-voltage Class 2 signal. Remote control shall only be possible when the breaker handle is in the ON position. Operating the breaker handle in the event of a panelboard control module hardware failure may manually

control circuit breakers. Control power to the remotely controlled circuit breakers shall come from an ac source.

12. Enclosures:
    a. Type 1 Boxes shall be standard size 20 in. wide x 5 3/4 in. deep galvanized steel constructed in accordance with UL 50 requirements. Boxes shall have removable box ends without knockouts on both ends.
    b. Fronts shall meet strength and rigidity requirements per UL 50 standards with ANSI-61 Gray finish over cleaned steel. Fronts shall be 1-piece with hinged flush-type lock/latch handle assembly on door and mounting screws. Mounting shall be flush or surface as indicated on the Drawings.
    c. Gutter space shall meet or exceed UL and NEC Code requirements.

D. Intelligent Panelboard Control Requirements - The panelboard shall be distributed intelligent and operate as a standalone device that can control it's own process. The panelboard shall be capable of globally communicating with other panelboards and the central operator's station over a main shielded twisted pair data network. The only need the panelboard shall have for the main shielded twisted pair data network is to send and receive information to other panelboards and the central operator's station when necessary. A central operator's station shall not be required for the panelboard to send and receive messages from other panelboards s on the network. A panelboard resident port shall be provided for local laptop programming and diagnostic maintenance. The panelboard shall be capable of coordinating all Logic, Control, Runtime Data, Status Information and Communications functions. Up to 120 panelboards shall be possible in a single system.

E. Intelligent Panelboard Performance Requirements
1. Hardware Requirements
    a. The panelboard controller shall be powered from a Class 2 AC power source. Power source shall be factory adjustable to operate on either 120 VAC or 277 VAC. Power source must be directly connected to bus, and may not occupy any branch circuit breaker pole spaces.
    b. Time schedules, time clock, day/date and panelboard configuration parameters shall be protected from memory loss if there is a power failure. The memory loss protection will be rated for 10 years.
    c. When panelboard input power drops below normal the panelboard shall not lose it's programmed information. Upon return of normal power load position changes scheduled during the power failure period shall immediately be updated to the current scheduled position or the load returned to the scheduled load position prior to the power failure. No operator interaction shall be required to return the panelboard to normal.
    d. Serial Communications Port: RS-485 communications port shall be provided for local programming or maintenance.
    e. The main network port shall permit up to 120 panelboards to be connected by a shielded twisted pair. The main network shall be a high speed, high reliability network designed to operate in the noisy environment of commercial and industrial buildings while providing immunity to most power system interference.
    f. The ability to accumulate load duration "on" time for all actuated loads shall be provided through the data Control software.
    g. Time of day, day/date, automatic leap year and daylight savings' time adjustments shall be provided.

h. The Standalone feature shall permit the panelboard to operate without a central computer. All time-of-day functions such as load schedules, on/off times, real-time clock, day/date, month, etc. shall be included. The only need the panelboard shall have for the main twisted pair network is to send and receive global information to and from other panelboards in the system. Global commands shall not be required to pass through the central computer, all global commands shall be passed between panelboards.

i. All controllers that contain an internal time function must be able to synchronize off of the network's main controller.

j. Each panelboard shall provide the ability to globally communicate over a main network with other panelboards using a shielded twisted pair data line. The main network shall provide a highly reliable communication bus for transferring data.

k. The networks shall be self-powered from the panelboard, no external power supply shall be required.

l. The panelboard shall remove itself from the main network should it fail. Network "Lock-Ups" due to failed panelboard s shall not be acceptable.

m. The main network shall consist of one (1) twisted pair with shield meeting Class 2P, Belden 9207. Network characteristics shall be as follows: speed shall be 9600 BAUD, maximum length shall be 4,000 feet (without repeaters), maximum number of smart panelboards shall be 120.

2. Hardware Resident Control Software Requirements

a. Each panelboard shall provide the control software as an integral part of the panelboard. The hardware resident software shall provide the ability to construct user defined lighting control scenarios. It shall be possible to program the panelboard directly through its RS-485 port or over the main shielded twisted pair network via the central operator's station.

b. The panelboard management functions shall store and manage user defined internal panelboard information such as the number of loads connected, real position of the load, whether a load is enabled. User variable timers shall be assigned to loads, these timers shall function as a timed switch and an off warning timer. Each load shall be able to be programmed to be enabled, disabled, alarm on an unrequested change of load position. The number of times a load has been cycled or the duration of time the load has been in the on position shall be individually stored per load. The following management functions shall be integral to the panelboard

1) Manual Load Override Control shall be possible through the central operator's station keyboard or the laptop computer. Provide the ability for the operator to toggle individual loads on and off or issue "All On" and "All Off" commands to individual panelboards from the keyboard.

2) Each panel shall be programmable with up to 50 schedules. Each load shall have a 7-day weekly schedule. The panelboard shall monitor its programmed time schedules and determine when to turn the loads on and off at the programmed times and days.

3) Provide each load with the ability to pre-schedule up to 16 holidays.

4) The Input to Output Matrix feature shall allow any load connected to any panelboard to be controlled by any switch or any group of switches in the system.
5) The panelboard shall maintain an alarm log. This log shall record where the alarm occurred, alarm reason, date and time of the alarm and log when the alarm was cleared and acknowledged. This log shall be maintained in non-volatile memory. The alarm log shall store up to 300 alarms.
6) Off Warning shall provide a method of warning tenants before a scheduled off time or time-out of a Telephone Override by blinking the lights. The time between the blink and the scheduled off time shall be adjusted by changing the warning lead-time. Once a blink has occurred, the tenant shall be able to cancel the upcoming "Off" by toggling their local override switch or by overriding through the telephone. Once done, the lights shall stay on until the next scheduled off time or telephone time-out. The warning lead-time shall be user adjustable from 5 to 30 minutes.
7) Provide the ability to check hardware status of the panelboard and individual loads by the operator either through the central operator's station or the laptop computer. Malfunctions shall be highlighted allowing for quick and easy troubleshooting and servicing. Audible and visual alarms shall be generated when hardware malfunctions occur.

2.04 LIGHTING CONTROL EQUIPMENT REQUIREMENTS

A. The Lighting Control Equipment shall consist of individual lighting controllers for control of Switch Overrides, Voice Prompted Telephone Override, and Remote Access shall be plugged into an expansion cabinet. Expansion cabinets shall be of modular construction allowing "Plug and Play" installation of up to 3 application specific controllers. The controllers shall serve as a function expander to either an intelligent panelboard to expand their functional control capability. Communication between an intelligent panelboard and its assigned controllers shall be over a shielded twisted pair network. It shall be possible to remotely locate a controller up to 4,000 ft. from the furthest smart panelboard in the system. If a further distance is required, supply a manufacturer recommended signal repeater. The controller shall be capable of coordinating all Logic, Control, Runtime Data, Status Information and Communications functions.

B. The Universal System controllers shall share the following functions:
1. The controller shall be powered from a Class 2 AC power source.
2. There shall be LEDs for indicating the following conditions, normal controller operation, transmit and receive for the network, and power to the controller.
3. Controller configuration shall be protected if there is a power loss. The memory back-up will be rated for 10 years.
4. When the controller input power drops below normal the controller shall not lose its programmed information. Upon return of normal power load position changes scheduled during the power failure period shall immediately be updated to the current scheduled position or the load returned to the scheduled load position prior to the power failure. No operator interaction shall be required to return the controller to normal.

5. The network shall be self-powered from the controller, no external power supply shall be required.
6. The controller shall be able to remove itself from the expansion network should it fail. Network "Lock-Ups" due to failed controllers shall not be acceptable.
7. The Stand-alone feature shall permit the controller to operate without a central computer. All the functions such as configuration settings, on/off times, real-time clock, automatic leap year, daylight savings' time adjustments, day/date, month shall be included. The only need the controller shall have for the expansion network is to send and receive global information to and from the smart panelboard.
8. The controller shall maintain an alarm log. This log shall record where the alarm occurred, alarm reason, date and time of the alarm and log when the alarm was cleared and acknowledged. This log shall be maintained in non-volatile memory. The alarm log shall store up to 300 alarms.
9. Provide the ability to check hardware status of the controller and individual connected loads by the operator either through the central operator's station or the laptop computer. Malfunctions shall be highlighted allowing for quick and easy troubleshooting and servicing. Audible and visual alarms shall be generated when hardware malfunctions occur.
10. Each controller shall provide the Windows based control software as an integral part of the controller. The control software shall be hardware resident and provide the ability to construct user defined control scenarios. It shall be possible to program the controller over the main shielded twisted pair network via the central operator's station. Software shall be able to perform basic grouping, scheduling, and assigning functions, and shall be expandable to hold customized screens, or enable secure access to the system through the Internet.
11. Each panel is programmable with up to 50 schedules. Each output may have a 7-day weekly schedule. The controller shall monitor it's stored times schedule and set the programmed output values at the programmed times.
12. Provide each output with the ability to pre-schedule up to 16 holidays.
13. Each panel shall have eight (8) two (2)-wire control inputs that are either analog or digital type. Each panel shall have four (4) two (2)-wire control inputs that are digital only. Each panel shall have three (3) two (2)-wire outputs that are analog type. Each panel shall have a dc voltage source suitable for operation of devices such as sensors & ballasts.
14. Each panel shall be locally accessible through a touch sensitive mobile device such as a Pocket PC. Mobile device shall be capable of performing, through a Windows based environment, basic maintenance & programming functions. Each panel must be capable of full operation when this device is not present. The device must also be capable of operating software other then the software required for system control.
15. Each system shall be accompanies by proper training material including but not limited to software manuals, operating instructions for components, and a training video for system components.
16. Each system shall have the capability to communicate to a separate network using Modbus or BACnet protocol.
17. Each system shall have the ability to translate RS-485 to RS-232 protocols.
18. Each system shall have the ability to translate RS-485 to both RS-232 & TCP/IP (Ethernet) protocols.

C. Switch Override Control

1. The Switch Override Control equipment shall be a controller that will provide the ability to monitor up to 48 two wire contact closures from Wall Switches, Occupancy Sensors, Building Automation System Dry contacts. Inputs shall be Class 2 self power-reducing low voltage AC and be individually custom programmable to operate differently. It shall be possible to program any input to control any load or group of loads in the system. Inputs shall be capable of being individually time scheduled for different days of the week with no less than twenty holidays. Up to 120-switch override controllers shall be possible per system.
2. Hardware Requirements
   a. There shall be forty-eight two-wire individual override inputs each isolated and capable of reading dry contact closures. The inputs shall be self-powered by the controller, the controller shall provide isolated low voltage Class 2 AC power for up to 48 two wire override switches. Override inputs shall accept two wire momentary or maintained contact closures from switches and contacts.
3. Hardware Resident Control Software Requirements
   a. The controller management functions shall store and manage user defined and internal controller information such as the number of switches connected, real position of the switch, whether a switch is on or off.
   b. Inputs shall be user programmable as one of 8 configurations:
      1) Demand Accumulation (Demand Metering).
      2) Timed Momentary (Replaces Mechanical “Wind-Up” Timers).
      3) Timed Maintained.
      4) Momentary (Toggle “On”/”Off” Function).
      5) Alarm (Provides Warning Indication).
      6) Maintained (Follow “On”/”Off” Function).
      7) Network (Inputs are passed over the main operating network).
      8) Local (Inputs remain within the connected controller module).
   c. It shall be possible to assign time schedules and areas to individual switches. The time schedules shall be user programmable to control the time and the day the switch is active. Each switch shall be able to be assigned to specific areas of control.
4. Manual Switch Override Control shall be accomplished through the central operator’s station keyboard, the laptop computer, or a mobile programming device. The operator may toggle individual switches on and off.
5. The Switch Override Controller shall contain minimum of 16 two (2)-wire powered digital outputs integral to the controller. Switch Override Controller shall be expandable to include an additional 32 digital outputs.
6. The Input to Output Matrix feature shall allow any connected switch to control any load or group of loads in the system.

D. Telephone Override Control
1. The Telephone Override Control equipment shall be a lighting management controller that will provide a voice prompted method for control of lighting. It shall be possible to override an individual light fixture or group of light fixtures during scheduled or non-scheduled hours using any touch-tone telephone. Up to 2500 telephone override controllers per system shall be possible.
2. Hardware Requirements

a. There shall be LEDs for indicating the status of the phone line showing On Hook and OFF Hook.
b. The telephone line interface shall be compatible with a standard touch-tone line. Connection to the controller shall be by way of a RJ-11 Jack.

3. Hardware Resident Control Software Requirements
   a. The controller management functions shall store and manage user defined and internal controller information such as the tenant load access numbers, load assignments and override times.
   b. Tenant load access numbers shall be entered on the Load Access Screen. The load access number shall be 4 digits. Up to 1000 individual unique load access numbers shall be possible.
   c. Provide an Assign Load Screen where the loads to be overridden are assigned the load access numbers. Loads shall be assignable in one of the following ways:
   d. By direct assignment of up to 48 loads per access code.
   e. By assigning an indirect reference to any load or group of loads in the system.
   f. The maximum time allowed for load override shall be 0 - 10 hours in whole hour increments. For example, if the maximum “On” hours is set to 8, then all loads assigned to Telephone Override may be overridden from 1 to 8 hours. An assignment of 0 hours shall disable the dialup control. This number shall be used to limit the number of override hours that may be granted when a user dials in.
   g. Two modes of timed override shall be provided, fixed and variable. The fixed mode shall ignore the user voice prompt and the timed entry and use the maximum on time as the overriding time. The variable mode takes the time entered at the time of the dialup.
   h. The “Off” Disable command will disable the off capability of the controller. Two modes shall be available, Mode 1 shall not prompt for the off entry and not allow off as an entry. Mode 2 shall not prompt for the off entry but allow off as an entry.
   i. The voice prompting shall be capable of up to one minute of speech stored in non-volatile memory.

E. Daylight Harvesting Control
1. The Daylight Harvesting Control equipment shall be a lighting management controller that will provide the ability to switch off certain loads based on the intensity of sunlight and lighting based on a predetermined light level. Photo sensors shall sense total light level and provide signal input to the controller for daylight compensation. The daylighting Control controller shall interface with the electronic controlled circuit breakers. Up to 2500 Daylight Harvesting controllers per system shall be possible.
2. Hardware Requirements
   a. The manual functions shall provide override push button switches for on, off, and restore modes. Manual override push buttons shall provide the ability to halt any programmed functions and control the lighting manually. The on, off, and restore switches shall provide the ability to halt any scheduled functions and control connected load manually. When manual operation is no longer required the restore switch shall return the controller to it’s scheduled functions and make the appropriate light level changes through automatic daylight compensation control.

b. There shall be eight individual sensor inputs each optically isolated and capable of reading five styles of light sensors. The sensors shall be powered by the Daylighting Control controller, the Daylighting Control controller shall provide isolated power for up to eight sensors. Sensor errors detected shall be displayed using an LED for each sensor. Types of errors detected and displayed shall be shorted and open. The light sensor styles shall be as follows:
   1) Multipoint # CES/ -- I-12-1-5 (Indoor).
   2) Multipoint # CES/ -- 0-12-1-5 (Outdoor).
   3) Multipoint # CES/ -- A-12-1-5 (Outdoor).
   4) Multipoint # CES/ -- S-12-1-5 (Outdoor).
   5) Slider Input with two terminal 10k Ohm Rheostat.

c. Outputs - The controller shall have eight (8) analog 0 to 10 VDC outputs.

3. Hardware Resident Control Software Requirements

a. Controller Functions shall provide function calculations that accept several light sensor values or switch input signals and scale them for a desired output result. Inputs to the function calculations shall be of two types. Type -- 1 input shall be an analog value that originates either from the sensor input section, the expansion network or the main network. This type input to the function calculation shall result in an output value equal to the highest, lowest or average of all eight inputs. Type -- 2 input is a digital value that originates from either local switch inputs or network global state values from the main network or expansion network and is passed to the function calculation. This type input to the function calculation shall be capable of OR / AND functions and shall result in a output value equal to analog foot candle value, percent output level, alarm signal and digital signal. The function calculation shall have an alarm output option, this alarm shall be able to be set for a range of analog light levels either in foot candles or percentage of full output.

F. Remote Access Control

1. The Remote Access Control equipment shall be a system management controller that will provide programming and monitoring capabilities from a remote location using standard bell type phone lines.

2. Hardware Requirements

a. The modem shall operate at 56 KB baud and be an FCC certified standard bell modem.

3. Hardware Resident Control Software Requirements

a. The controller management functions shall store and manage user defined and internal controller information such as the access codes, modem parameters and number of rings to answer.

2.05 SYSTEM OPERATOR'S EQUIPMENT REQUIREMENTS

A. The System Operator's Equipment shall consist of Windows based programming and monitoring screens and a Central Operator's Station that shall function as the central point for data manipulation and programming of the Lighting Control System. The central operator's station shall be connected to the main shielded twisted pair network through a network interface. It shall be possible to have more than one central operator's station per system. The Central Operator's Station shall consist of an IBM compatible

personal computer with an optional internal network interface printer and system programming and monitoring screens.

B. The Central Operator's Station shall be located in an area relatively free of moisture, dust and harsh environments.

C. Central Operator's Station Hardware Requirements:
1. The master station shall consist of a personal computer, 17" color flat panel LCD monitor, and color printer. Personal computer shall be manufactured by DELL, COMPAQ, IBM, or approved equal having the following minimum features:
   a. Pentium IV (2 GHz or higher) computer with 512MB RAM, 40GB hard disk drive, including keyboard & mouse.
   b. Windows 2000, XP, or Vista Operating System and Anti-Virus Software.
   c. (1) 3.5" Floppy Drive & (1) 48X, 24X, 48X Read-Write CD/DVD ROM Drive.
   d. The computer shall include Parallel and serial ports including a USB port, an internal 56kbaud Modem, 10/100 Base-T network interface port and an 802.11g PCI Card.
   e. Auto-reboot capability after power failure.

D. Operator Interface Software Minimum Requirements
1. The Operator Interface shall be Microsoft Windows based and provide a graphical environment that dynamically interacts with the central operator's station programming screens. The operator interface shall be able to run more than one software program at a time, transfer information between them, and organize and manage files. The Software shall provide a consistent graphics interface for the operator.

E. Central Operator's Station Minimum Programming Screen Requirements
1. The Central Operator's Station Programming Screens shall provide a fully interactive easy-to-use software program for programming and monitoring power switching, lighting control, energy control and system management equipment. Each software program shall be a Windows application. Consistencies with Windows software such as pull-down menus, dialog boxes, icons, etc. shall be maintained. The programming screens, as a minimum, shall provide access to all the capabilities that exist in the control equipment. The programming screens shall provide an operator friendly method of programming and monitoring all system functions including, management of various data generated by the system.
2. Power Switching Equipment Programming Screens Minimum Requirements
   a. Date & Time.
   b. Time of Day On/Off Scheduling.
   c. Holiday Scheduling.
   d. Manual Override.
   e. Alarms.
   f. Occupant Warning.
   g. Hardware Diagnostics.
   h. Panel Descriptions.
   i. Load Descriptions.
   j. Panel Address.
   k. Input to Output Matrixing.
   l. Security Access Codes.

3. Lighting Control Equipment Programming Screens Minimum Requirements
   a. Switch Overrides.
   b. Daylight Harvesting.
   c. Remote System Access.
4. System Management Equipment Programming Screens Minimum Requirements
   a. Historical Data Logging.
5. Building Graphics Software Requirements
   a. The Building Graphics Software shall provide a fully interactive object oriented graphics interface for controlling the Lighting Control system. It shall be possible to create and depict objects such as light fixtures, switches, occupancy sensors, light sensors, floor plans, etc.
6. Software shall be available to allow the system to be accessed through the Internet through a secure line. Software is to reside on Owner provided server. Software shall provide security to the system.
7. Historical Data Logging Software
   a. General Equipment Overview - The Historical Data Logging equipment shall be a system management controller that will allow the monitoring and storing of user defined system and load actions. The user defined actions shall be divided into three categories, load changing actions, system actions and monitoring actions. The load changing action shall date and time stamp the logging of a load changing state. The system action shall date and time stamp the logging of system alarms and failures and list the reason for the system failure. The monitoring logger at defined intervals shall take snap shots of various system parameters, system parameters shall be, but not limited to, load cycle counts or load on times. It shall be possible to down load these logging actions to the central operator's station. The central operator's station shall poll the data logging controllers and download controller logging information.
   b. Hardware Resident Control Software Requirements
      1) Each data logging controller shall provide the software as an integral part.
      2) The data logging functions shall be divided into three functions, Load logging, System logging and Time interval monitoring.
      3) The load logging function shall monitor load changes and be capable of storing 1000 load state changes, changes shall be logged by what load changed and the reason for the change.
      4) The system logging function shall record system related actions, these actions shall be the alarms generated by the panelboards, lighting management and system management controllers. The date and time of the action, when the action occurred, when acknowledged and when cleared shall be stored. The controller shall have the capacity to store 500 alarm actions. It shall be possible for the controller to be polled by the central operator's station and down load controller logging information to the station.
      5) The time interval function shall be capable of taking snapshots of local network wide parameters. These parameters shall be load states, energy levels, and demand levels. These parameters shall be stored with a time and date stamp. A user definable rate of sampling shall be assignable to each parameter. It shall be possible to log all loads by user selection. A snapshot of the

states of all the loads connected to a controller and the duration of time the loads have been on shall be stored along with the date and time of the sampling. It shall be possible for the user to define the time that the sampling begins and ends and the time interval to sample, up to a maximum of 1000 samples may be stored. It shall be possible to log up to 500 network transmitted energy level samples from the low voltage switch override controller energy accumulators. It shall be possible to log up to 500 network transmitted demand level samples from the peak kW demand controller. It shall be possible for the central operator's station to poll the controller and down load controller historical logging information to the central operator's station.

8. Data Management Software Requirements
   a. The Data Control Software shall provide electronic spreadsheet software for managing and presenting data accumulated by the Lighting Control System in the Windows environment. The operator interface shall be easy-to-use providing help screens, customizable smart icons, function menu, worksheet navigator, tabs for named worksheets, interactive status bar, drag-and-drop moving and copying of data, database querying, spelling checker, scenario and auditing tools, macro commands, charting, drawing, and database features. Standard spreadsheet reports shall be provided for Tenant Billing, Power Usage, Fixture Life, Alarms, and Daylight Harvesting. Standard spreadsheet reports shall be able to be custom tailored by the operator.
   b. Software Requirements
      1) It shall be possible to create a visual representation of worksheet data, the worksheet data shall be dynamic when required and update the trend chart as data changes. It shall be possible to create 3D bar, line, area, pie charts and HLCO charts to track data that fluctuates over time, such as KW usage, demand trends, etc.
      2) Custom reports shall be possible, a standard tenant billing format shall be provided with the capability to be modified for custom billing requirements.
      3) Provide the ability to prevent others from changing or opening a file containing confidential data.
      4) Provide the ability to collect, organize, and interpret numeric data.
      5) Provide the ability to share information across applications by making a DDE connection between a file in one Windows application and a file in another Windows application.
9. Software Requirements
   a. Provide ability for objects and groups of objects to be moved, sized, and animated.
   b. It shall be possible to run two or more Windows applications on the same screen simultaneously.
   c. Provide process data by way of Dynamic Data Exchange (DDE) to other Windows applications for custom management reporting, etc.
   d. Support discrete, real values, integers and strings. No limit shall be placed on the number of each type. The total number of points available shall be 32,767.

e. Built-in objects shall allow easy creation of Real-Time or historical trend displays. Four pens per chart shall be provided. There shall be no limit on the number of charts per screen or per application. Multiple displays shall be simultaneously supported.

f. Provide the ability to display up to four pens at a time in historical trend charts. Provide runtime tag name selection, zooming, scrolling, centering capabilities, log to disk, screen display and printing capabilities. Export data to EXCEL, text files or any DDE program.

g. Alarms shall be easy to configure and prioritize. Provide for 1-999-alarm priorities and alarm color changes according to alarm status. Provide support of hierarchical alarm groups to eight levels, with each alarm group having up to 16 levels. There shall be no limit on the number of alarms. Alarms shall be displayed on screen and/or logged to a printer. Allow individual selection of formats for display, disk logging or printing. The alarm display shall allow viewing of all alarms or any subset either as alarm summary or history.

h. Provide the ability to select any pointing device supported by Windows, mouse, trackball, touch screen, light pen, etc.

i. Logical and mathematical expressions shall be supported. Provide the ability to use single precision floating point numbers. Internal calculations shall use double precision floating point numbers.

j. Provide extensive action scripting capability for rapid prototyping, background calculations, and simulation. Action scripts may be invoked on data change, conditions (on True, on False, while True, while False) Button (on Button Down, while one Button Up) of Windows being opened, closed or while open; when data changes value; upon operator actions such as depressing buttons or selecting other objects; or as the result of alarm conditions.

k. Provide Built-in Log On, assignable levels.

l. Provide object oriented design tools for easy drawing, arranging, aligning, layering, spacing, rotating, inverting, duplicating, cutting, copying, pasting, erasing, etc.

m. Provide animation links that may be used singly or in combinations to provide complex size, color movement, and/or position changes. Discrete, analog and string touch inputs; horizontal and vertical sliders; discrete and action push buttons; show and hide window push buttons; line, fill and text color links for discrete and analog values and alarms; object height and width links; vertical and horizontal position links; vertical and horizontal percent fill links; visibility links; discrete, analog and string value output links, rotation links and blink links.

n. Provide the ability to poll only points which appear on screen, alarm points, historically logged points or points in background logic, are polled.

o. Provide complete screen and database documentation printing.

p. Provide the ability to start and control other applications.

q. Provide the ability to design and generate custom reports.

PART 3 EXECUTION

3.01 FACTORY TESTING

A. The factory service shall provide adequate testing of the supplied equipment and software to ensure that the system performs as intended by the specification. Building engineering personnel shall be trained on all aspects of operating and maintaining the system. Care shall be taken to ensure that the system load connections are to the Electrical Drawings and that the control scenarios are operating properly.

3.02 FIELD QUALITY CONTROL

A. Provide the services of a qualified factory-trained manufacturer's representative to assist the Contractor in starting-up and programming the system for a minimum of five working days. The manufacturer's representative shall be factory-trained and shall have a thorough knowledge of the software, hardware, and system programming. The manufacturer's representative shall provide the following services:
1. Check installation of all smart panelboards, expansion cabinets and the central operator's station.
2. Test operation of all remote-controlled loads.
3. Test operation of all application-specific controllers.
4. Test operation of all network connections.
5. Test operation of central operator's station and associated printer.
6. Install central control software and test operation.
7. Repair or replace any defective component.
8. Test operation of complete lighting control system.
9. Conduct system point-by-point walk through.

B. The Contractor shall provide three (3) copies of the manufacturer's field start-up.

C. The following system programming shall be provided by the factory trained manufacturer's representative:
1. Assist the Owner in developing a practical control scenario for each application.
2. Program the Owner supplied control scenario.
3. Explain the operation of the control programs to the Owner and walk through their operation.
4. Provide programs on CD-ROM or DVD-ROM.
5. Maintain CD-ROM, or DVD-ROM copy of programmed information at factory (as of the startup date or when changes are provided by the Owner).

3.03 MANUFACTURER'S CERTIFICATION

A. A qualified factory-trained manufacturer's representative shall certify in writing that the equipment has been installed, adjusted and tested in accordance with the manufacturer's recommendations.

B. The Contractor shall provide three (3) copies of the manufacturer's representative's certification.

3.04 TRAINING

A. The Contractor shall provide a training session for up to five (5) Owner's representatives for five (5) normal workdays at a jobsite location determined by the Owner.

B. The training session shall be conducted by a manufacturer's qualified representative. Training program shall include instructions on the control system, programming, and other major components.
   1. System review of all system components and their function.
   2. System review of all management software and it's function.
   3. Operator training to develop experience with control applications.

C. Provide video recording of all instruction sessions and deliver two copies on DVD to the Owner for future reference.

3.05 DOCUMENTATION

A. Documentation shall be provided as indicated below:
   1. System One Line Diagram: Show system components and quantities including smart panelboards, expansion cabinets, switches, light sensors, data line, telephone override connection and central operator's station network connection.
   2. Panelboard Load Schedule: Show load placement and sizing.
   3. Panelboard Wiring Schedule: Show load terminations.
   4. Wiring Diagrams: Show typical interconnect wiring diagram for each system component supplied.
   5. Installation Guide: Provide instructions how to install system components.
   6. Manual: Provide system user's guide and programmers guide in loose leaf three ring binder.
   7. Training Video: The Contractor shall provide a complete training video for installation of software, basic operation of software, and common components of system.
   8. Riser Diagram: Provide single line drawing showing control connections for each system component.

3.06 INSTALLATION

A. The Contractor shall furnish, install and terminate all communication conductors and associated conduits external to any factory supplied equipment.

B. All communication conductor wiring and routing shall be per the manufacturer's recommendations and as shown on the Contract Drawings.

3.07 FIELD TESTING

A. Verify complete system operation including all hardware, software and communication devices.

B. Verify networking performance with all interfacing systems by other manufacturers.

END OF SECTION 260926

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