



MANHATTAN WEST: NORTH TOWER

ISSUED FOR BUILDING PERMIT
APRIL 1ST, 2015

REPORT NUMBER: 12187123



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering

SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave, Suite 1, Mill Valley, California 94041

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geotechnical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
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250 State Street #F1, North Haven, CT 06473

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Facade Maintenance Consultant
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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

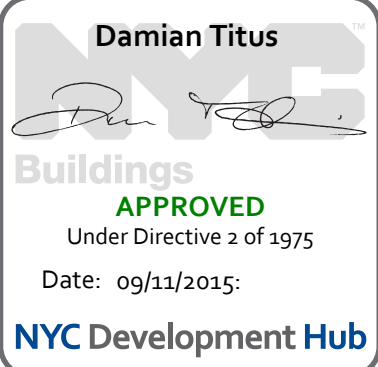


Warning: It is a violation of the New York State Architecture Law, §20.5(3) for any person, unless they are acting under the direction of a Licensed Architect, to alter this form in any way.

| | | |
|---|--------------|-----------------------------------|
| 9 | 1 APR 2015 | ISSUED FOR BUILDING PERMIT |
| 8 | 30 JAN 2015 | ISSUED FOR BUILDING PERMIT |
| 7 | 12 SEPT 2014 | ISSUED FOR FOUNDATION PERMIT |
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2013 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

COVER SHEET



| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: G-001.00 |
| Date: 1 APR 2015 | Sheet No.: G-001 |
| Scale: NTS | Page No.: 1 OF 30 |
| File No.: G-001 | |

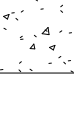
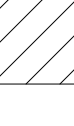


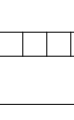
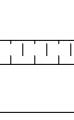




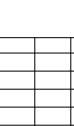
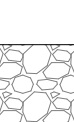
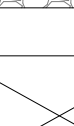
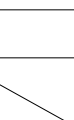


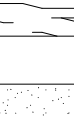
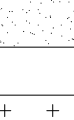
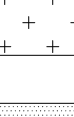

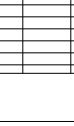



ANNOTATIONS

| | | | | | | |
|-----------|-------------------------------------|--------|---|-----------------|----------------------------|------------------------|
| A | Area | Number | FLMT | Flaming | PSF | Pounds per Square Foot |
| AS | Arch | Angle | FLMT | Flashed Mounted | PSI | Pounds per Square Inch |
| AT | At | At | FLR | Floor | PT | Part |
| ATC | Air Conditioning | FLR | Floor | Floor Sailer | PTH | Partition |
| AV | Audio Visual | FLS | Fluorescent | PVC | Polyvinyl Chloride | |
| ACST | Acoustical | FM | Foot per Minute | PVS | Pinning | |
| AD | Area Drain | FPOC | Fireproofing | PWR | Power | |
| ADOL | Additional | FR | Fire Retardant / Rating / Resistance | QTY | Quantity | |
| ADJ | Adjust | FRM | Form | | | |
| ADR | Access Door | FRWV | Fire Resistant Treated Wood | R | Riser | |
| AF | Across Floor | FS | Full Size | RA | Return Air | |
| AFR | Across Finished Floor | FSE | Food Service Equipment | RAD | Radius | |
| AGGR | Aggregate | FSD | Fire Stopping | RB | Reinforced Base | |
| AL | Aluminum | FSS | Fire Stopping | RC | Reinforced Concrete | |
| ANOD | Anodized | FT | Feet (Foot) | RD | Roof Drain | |
| AP | Access Panel | FTG | Footing | RECP | Receptacle | |
| APPROX | Approximately | FWP | Fabric Wrapped Panel | RECT | Rectangle | |
| APT | Apartment | G | Gas | REF | Reference | |
| ARC | Architectural Concrete | G | Gas | REFR | Refrigerator | |
| ARCH | Architectural | GA | Gauge | REG | Register | |
| ASP | Asphalt | GAU | Gallon | RENF | Reinforced (-ing, -ment) | |
| AUT | Automatic | GAUV | Gallons | REQD | Required | |
| AUG | Auxiliary | GFRC | Glass Fiber Reinforced Concrete | REV | Revised / Revision | |
| AUX | Auxiliary | GFRG | Glass Fiber Reinforced Gypsum | RF | Reinforced Flooring | |
| Average | Average | GI | Galvanized Iron | RFT | Roofing Accessories | |
| B | Bottom of | GL | Glass | RH | Right Hand | |
| BD | Board | GL BK | Glass Block | RM | Room | |
| BEV | Beveled | GN | Ground | RMS | Reinforcing Mesh | |
| BG | Bumper Guard | GPH | Gallons per Hour | RND | Rounded | |
| BLOG | Blog | GPM | Gallons per Minute | RO | Roof Opening | |
| BLK | Block | GRD | Grade | ROW | Right of Way | |
| BM | Beam | GRS | Grits | RPM | Revolutions per Minute | |
| BMK | Benchmark | GWB | Gypsum Wallboard | RR | Railroad | |
| BMU | Building Maintenance Unit | | | RS | Roofing System | |
| BOC | Bottom of Curb | HB | Hose Bib | | | |
| BR | Bedroom | HD | Head | SA | Supply Air | |
| BRK | Brick | HDW | Hardware | SAN | Sanitary | |
| BRZ | Brass | HMX | Hanging | S8 | Slash Block | |
| BS | Brass | HEX | Hollow Metal | SCHED | Schedule | |
| BST | Basement | HNDL | Handle | SE | Section | |
| BTU | British Thermal Units | HO | Hold Open | SER | Section | |
| Cap | Capacity | HORZ | Horizontal | SHT | Shower | |
| CC | Catch Basin | HPT | High Point | SHT | Sheet | |
| OCV | Closed Circuit Television | HC | Hour(s) (Fire Resistance Rating) | SHHG | Sheathing | |
| CTM | Cable Feet Per Minute | HE | Heght | SM | Similar | |
| CG | Corner Guard | HVAC | Heating Ventilation Air Conditioning | SLG | Slab | |
| C | Cast iron | HVY | Highway | SMR | Sheet Metal | |
| CJ | Curtain Joint | I | Inch | SPC | Synthetic Polymer Concrete | |
| CL | Center Line | IND | Included(s) / Inclusive | SQ | Square | |
| CLQ | Ceiling | INFO | Information | SQFT | Square Foot / Feet | |
| CLNT | Cable Length | INS | Insulation / Insulate / Ceiling | SS | Stainless Steel | |
| CLD | Closet | INT | Interior | ST | Stone | |
| CLR OPGNG | Clear Opening | JC | Joint Coat | STC | Sound Transmission Class | |
| CMC | Concrete Masonry Units | JF | Joint Filler | STD | Standard | |
| OL | Cleanout | JF | Joint Filler | STL | Steel | |
| OL | Column | JT | Joint Gasket | STOR | Storage | |
| CONC | Concrete | JT | Joint | STRUCT | Structure / Structural | |
| CONF | Conference | KD | Knockdown | SURF MTD | Surface Mounted | |
| CONSTR | Construction | KIT | Kitchen | SUPP | Support(s) / Suspension | |
| CONTR | Continuous / Continue | KNOB | Knob | SWBD | Switchboard | |
| CONV | Converter | KPL | Kiloplate | SYMM | Symmetrical | |
| CONV | Convert | | | | | |
| COB | Cabinet | LAB | Laboratory | T | Top | |
| CSK | Countersink / Countersunk | LAM | Laminated(s) | T&G | Top and Groove | |
| CSHK | Casework | LAV | Lavatory | TI | Tie | |
| CTR | Center | LBS | Pounds | TA | Tail Accessory | |
| CU | Copper | LD | Linear Diffuser | TC | Traffic Control | |
| OW | Cold Water | LF | Left Hand | TD | Trench Drain | |
| | | LN | Linear | TEL | Telephone | |
| | | LONG | Longitudinal | TER | Terazzo | |
| DB | Deck | LPT | Light | THK | Thickness | |
| DBL | Double | LR | Living Room | TCC | Top of Curb | |
| DO | Deck Drain | LFT | Lighting | TOPO | Topography Map | |
| DEG | Degrees | LV | Living | TRANS | Transition | |
| DEPT | Department | MACH | Machine | TV | Television | |
| DET | Detail(s) | MAINT | Maintenance / Maintenance | TYP | Typical | |
| DF | Drinking Fountain | MAX | Maximum | | | |
| HH | Double Hung | MB | Material | | | |
| DA | Diameter | MAX | Maximum | UC | Undercut | |
| DAG | Diagonal | MB | Material | UNFN | Unfinished | |
| DIFF | Diffuser(s) | MED | Medium | UNF | Unless Noted Otherwise | |
| DM | Dimension(s) | MED | Medium | UPS | Uninterrupted Power Supply | |
| DSP | Dispersed | MEZ | Mazutine | | | |
| DV | Divide / Division | MFR | Manufacturer | VAC | Vacuum | |
| DD | Dead Load | MH | Manhole | VERT | Vertical | |
| DMPF | Dampening | MIN | Minimum | VEST | Vestibule | |
| DMPR | Drum | MISC | Miscellaneous | VFLY | Vertically of End | |
| DN | Down | ML | Male Lath | VNR | Veneer | |
| DP | Drainage Panel | ML WK | Millwork | VOL | Volume | |
| DRP | Drain Room | MLD | Molding | | | |
| DRP | Drainage | MO | Masonry Opening | W | Width | |
| DW | Drywall | MP | Male Panel | WO | Without | |
| DWTR | Drywall | MTL | Mounted | WB | Wood Base | |
| EA | Each | MTL | Metal | WCY | Wall Covering | |
| EA | Each | ML | Metal | WO | Wood | |
| EC | Exposed Installation | MUL | Mold | WOF | Wood Door Frame | |
| EPS | Exterior Insulation Finish System | N | North | WH | Wall Hydrant | |
| EJ | Expansion Joint | NA | Not Applicable | WH | Whrought Iron | |
| EL | Elevation (Grade) | NC | North Criteria | WP | Work Point | |
| ELE | Electronic | NIC | Not in Contact | WPS | Waterspouting System | |
| ELEC | Electrical | NO | Number | WR | Weather Resistant | |
| ELEC-CL | Electrical Cable | NOM | Normal | WST | Wastewater | |
| ELEV | Elevator | NRC | Noise Reduction Coefficient | WS | Weatherstripping | |
| ELEV | Elevation (Bldg) | NTS | Not to Scale | WT | Weight | |
| EM | Entrance Mat | NWP | Newspaper Pedestal | WTS | Window Treatment | |
| EMER | Emergency | | | WV | Window Veneer | |
| EMR | Elevator Machine Room | OA | Outside Air | WWF | Welded Wire Fabric | |
| ENCL | Enclosure (Enclose) | OC | On Center | | | |
| ENTR | Entrance | OD | Outside Diameter / Dimension | | | |
| EOS | Edge of Slab | OF | Outside Face | | | |
| EQ | Equip | OFD | Overflow Drain | | | |
| EQU | Equipment | OFF | Office | | | |
| ESCAL | Elevator | OP | Opening Ceiling Door | | | |
| EW | Each Way | OPH | Opposite Hand | | | |
| EW | Electrical Water Cooler | OPR | Opening | | | |
| EXH | Exhaust | OPP | Opposite | | | |
| EXST | Existing | OPR | Operating / Operable | | | |
| EXP | Expansion | OPR | Overflow | | | |
| EXP | Expansion | OSHA | Occupational Safety and Health Administration | | | |
| EXT | Exterior | | | | | |
| F | Fire | PA | Public Address | | | |
| F | Fire Alarm | PAP | Parallel | | | |
| F | Fire Alarm Annunciator Panel | PART | Partial | | | |
| FAB | Fabric | PAV | Parers | | | |
| FAI | Fire-Alarm Initiate | PB | Partial Board | | | |
| FO | Floor Drain | PCC | Precast Concrete | | | |
| FDMPR | Fire Damper | PERF | Perforated | | | |
| FOTN | Foundation | PESP | Perpendicular | | | |
| F | Fire Extinguisher | PL | Plastic Laminata | | | |
| FE | Fire Extinguisher Cabinet | PLY | Plaster | | | |
| FEMA | Federal Emergency Management Agency | PLBS | Pumbing | | | |
| FH | Fire Hydrant | PLWA | Plwyod | | | |
| FHC | Fire Hose Cabinet | PNEU | Pneumatic | | | |
| FHR | Fire Hose Rack | POL | Polished | | | |
| FN | Finish(es) | PR | Pair | | | |
| FN FL | Finished Floor | PRFAB | Prefabricated | | | |
| FN GR | Finished Grade | PROJ | Property | | | |
| FLEX | Flex | PROPY | Propherty | | | |

G-000 - SYMBOLS LEGEND

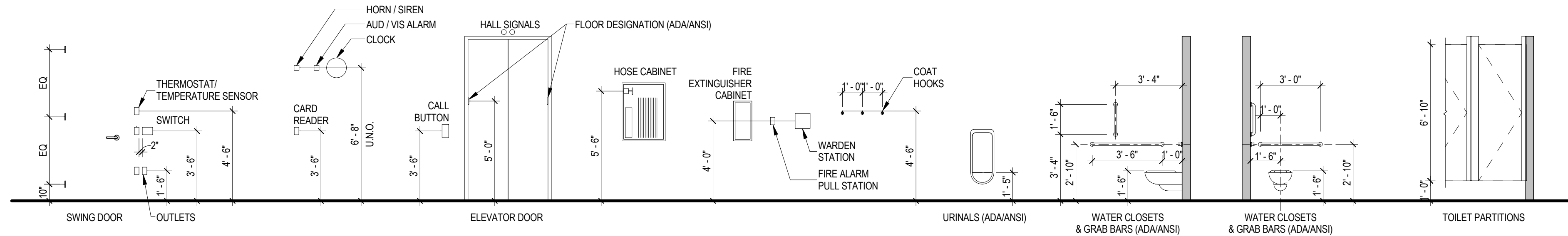
| | | | |
|--|--|--|---------------------------|
| | BUILDING ELEVATION REFERENCE | | WALL TYPE REFERENCE |
| | INTERIOR ELEVATION REFERENCE | | DOOR REFERENCE |
| | SECTION REFERENCE | | ROOM TARGET REFERENCE |
| | DETAIL REFERENCE | | ELEVATOR REFERENCE |
| | DETAIL CALLOUT REFERENCE | | WINDOW REFERENCE |
| | COLUMN CENTERLINE REFERENCE | | CURTAIN PANEL REFERENCE |
| | REVISION | | MATERIAL REFERENCE |
| | FINISH FLOOR LEVEL REFERENCE | | LIGHT FIXTURE REFERENCE |
| | FLOOR SLAB LEVEL REFERENCE | | CASEWORK REFERENCE |
| | SPOT ELEVATION (TOP OF FINISHED FLOOR) | | PARKING REFERENCE |
| | SPOT ELEVATION (TOP OF SLAB) | | 1 HR FIRE RATING |
| | SPOT COORDINATE | | 2 HR FIRE RATING |
| | WORK POINT | | 3 HR FIRE RATING |
| | KEYNOTE REFERENCE | | 4 HR FIRE RATING |
| | NORTH ARROW | | SMOKE RATING |
| | CHANGE IN SLAB | | LINE ABOVE |
| | ALIGN SYMBOL | | LINE BELOW / HIDDEN |
| | MATCHLINE REFERENCE | | DIRECTION OF GRAIN SYMBOL |
| | PROPERTY LINE | | ACCESS PANEL |
| | NOT IN SCOPE / NOT IN CONTRACT | | SUPPLY DIFFUSER |
| | DRAWING TITLE | | RETURN DIFFUSER |


G-000 - MATERIALS LEGEND

| | |
|---|---|
|  | EARTH / SOIL |
|  | GYPSUM BOARD |
|  | CONCRETE |
|  | BRICK |
|  | CONCRETE MASONRY UNIT |
|  | STONE |
|  | CERAMIC / QUARRY TILE |
|  | ACOUSTIC CEILING TILE |
|  | STEEL |
|  | ALUMINUM |
|  | PARTICLE BOARD / PLYWOOD / MEDIUM DENSITY FIBERBOARD |
|  | RIGID INSULATION / FIRE SAFING |
|  | SEMI-RIGID INSULATION |
|  | GRAVEL / TERRAZZO |
|  | CONTINUOUS BLOCKING / FURRING / SHM |
|  | NON-CONTINUOUS BLOCKING / FURRING / SHM |
|  | BATT INSULATION |
|  | FINISHED WOOD |
|  | SAND / MORTAR / GROUT / PLASTER / SPRAY-ON FIREPROOFING |
|  | ACOUSTICAL INSULATION |
|  | EXPANSION JOINT |
|  | METAL GRATING |
|  | WATERPROOFING MEMBRANE |
|  | AIR / VAPOR BARRIER |

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| | |
| Key Plan: | |
| | |
| Seal & Signature: | |
|  | |

G-000 - MOUNTING HEIGHTS



Damian Titus

Buildings
APPROVED
Under Directive 2 of 1975
Date: 09/12/2015:
NYC Development Hub

ABBREVIATIONS, LEGENDS & SYMBOLS

| | |
|------------------------|--|
| Project No.: 207120 | B-SCAN Sheet No.: G-006.00 |
| Date: 20 JUN 2014 | Sheet No.: G-006 |
| Scale: NTS | |
| File No.: G-006 | Page No.: 4 OF 37 |



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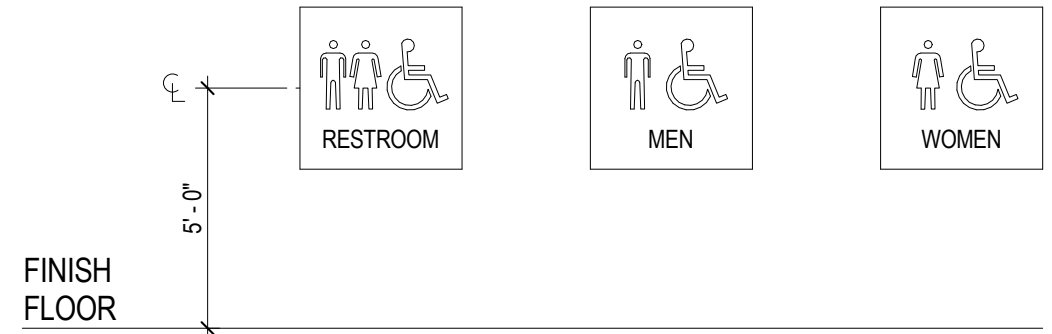
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650 Woodlawn Road West, Guelph Ontario, Canada N1K 1R6

SIGNAGE

HANDICAPPED ACCESS NOTES:

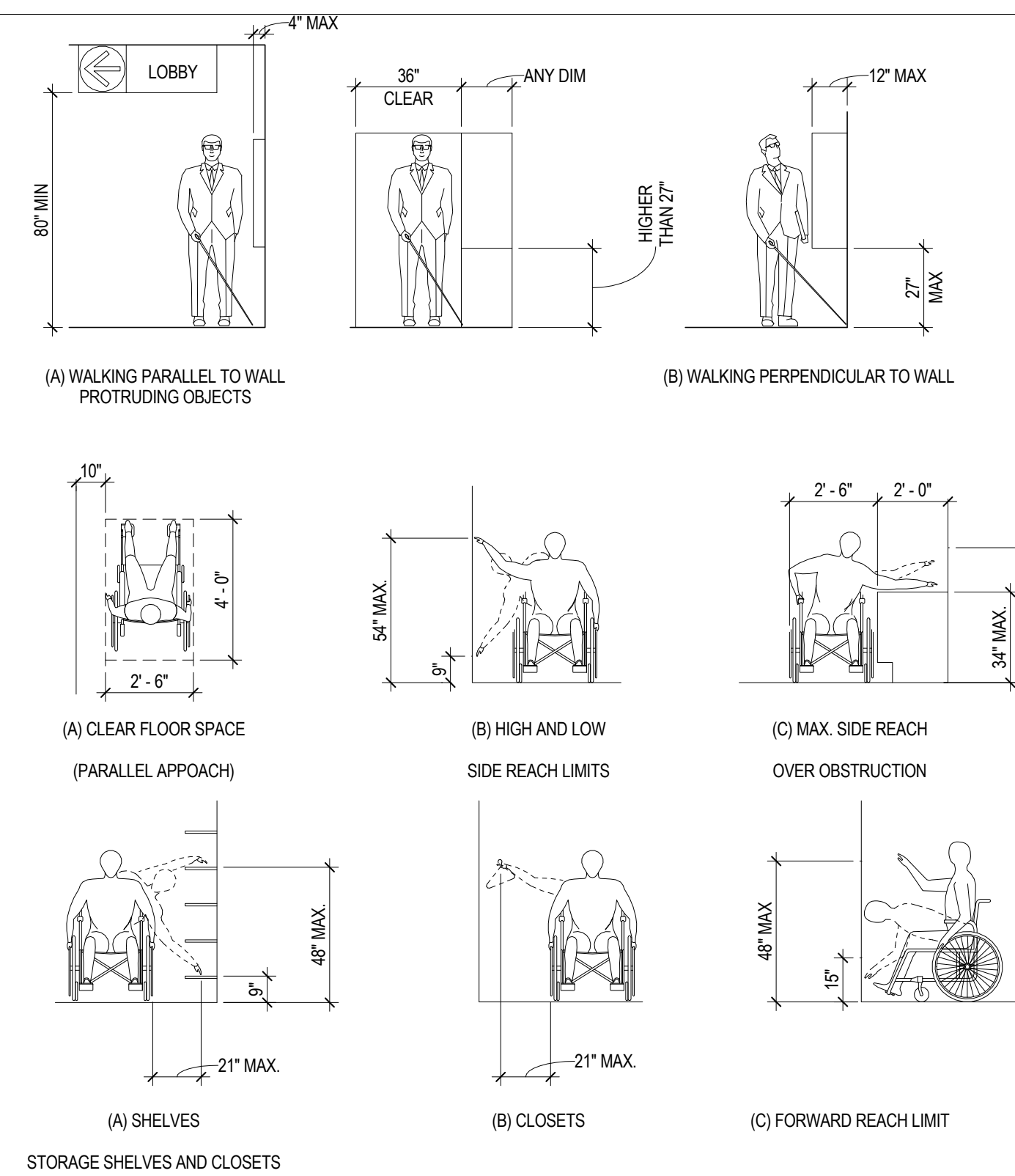
- DOORS SHALL BE CAPABLE OF OPENING AT LEAST 90 DEGREES AND SHALL BE SO MOUNTED THAT CLEAR WIDTH OF DOORWAY IS NOT AT LEAST 32 INCHES.
- LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE.
- MAXIMUM EFFORT TO OPERATE FIRE DOORS SHALL BE 15 LBS. AT OTHER INTERIOR DOORS MAXIMUM EFFORT TO OPERATE SHALL BE 5 LBS.
- FLOOR, RAMP, AND TREAD SURFACES SHALL BE SLIP RESISTANT.
- EMERGENCY WARNING SYSTEM SHALL ACTIVATE A MEANS OF WARNING THE HEARING IMPAIRED. FLASHING VISUAL WARNING SHALL HAVE A FREQUENCY OF NOT MORE THAN 60 FLASHES PER MINUTE.
- THRESHOLDS SHALL NOT BE MORE THAN 1/2" HIGHER THAN ADJACENT FLOOR OR LANDING. LEVEL CHANGE BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH SLOPE NO GREATER THAN 1:2.
- CENTER OF ALARM PULL BOXES SHALL BE 4'-0" A.F.F.

NOTE:
AT TOILET ROOMS WITH FINISHED DIMENSIONS LESS THAN 5'-5" X 7'-4", Y=48"
Y=54" MINIMUM SHALL BE PROVIDED IF THE DOOR HAS A CLOSER.

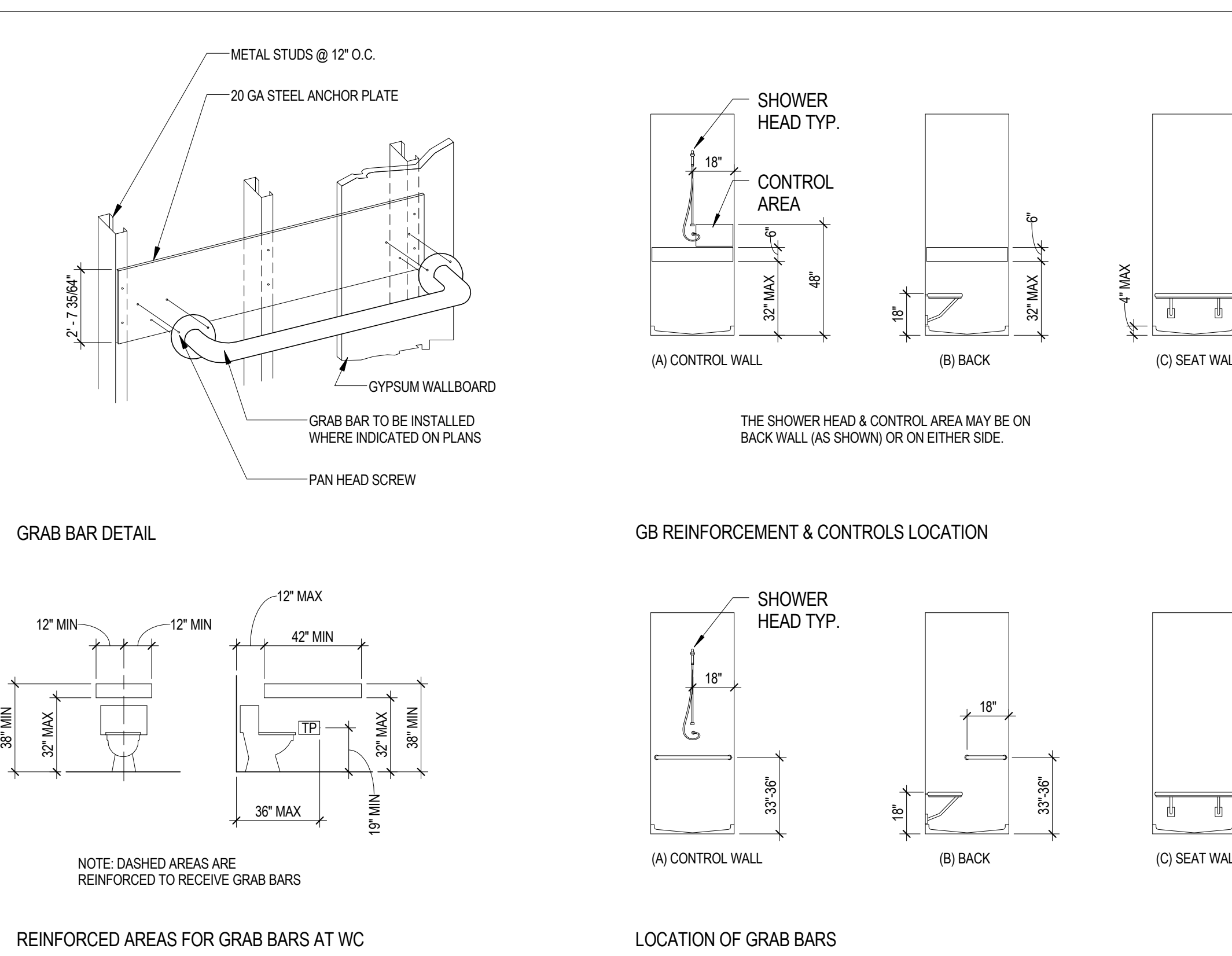


- NOTES:
- ADD TO LATCH SIDE OF DOOR
 - 6" PICTOGRAM WITH VERBAL DESCRIPTION
 - CENTER 60" FROM FLOOR
 - LETTERS AND NUMERALS ARE RAISED 1/32" SANS-SERIF UPPERCASE CHARACTERS
 - BLACK COPY ON A BRUSHED ALUM. BACKGROUND

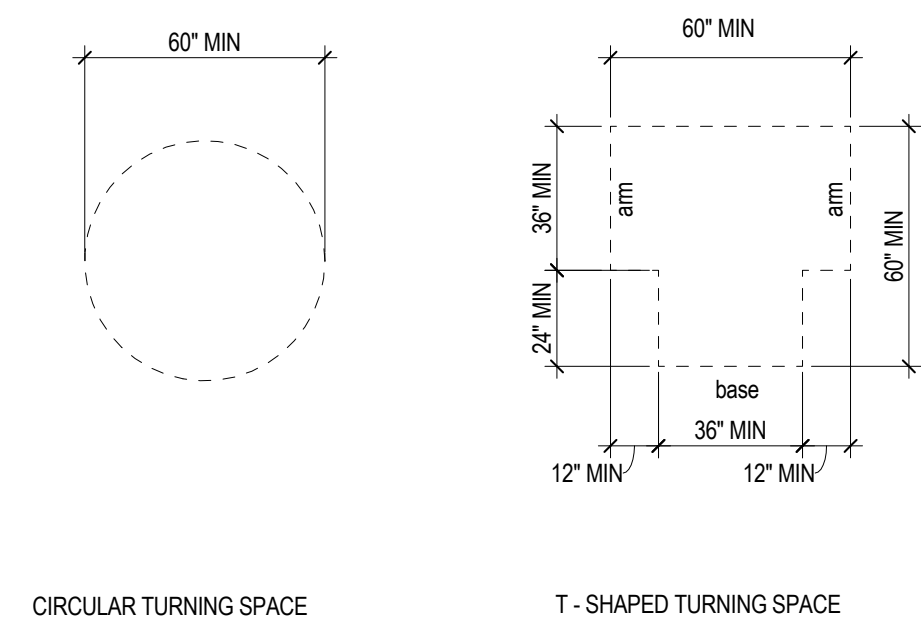
MANEUVERING & PROTRUDING OBJECTS



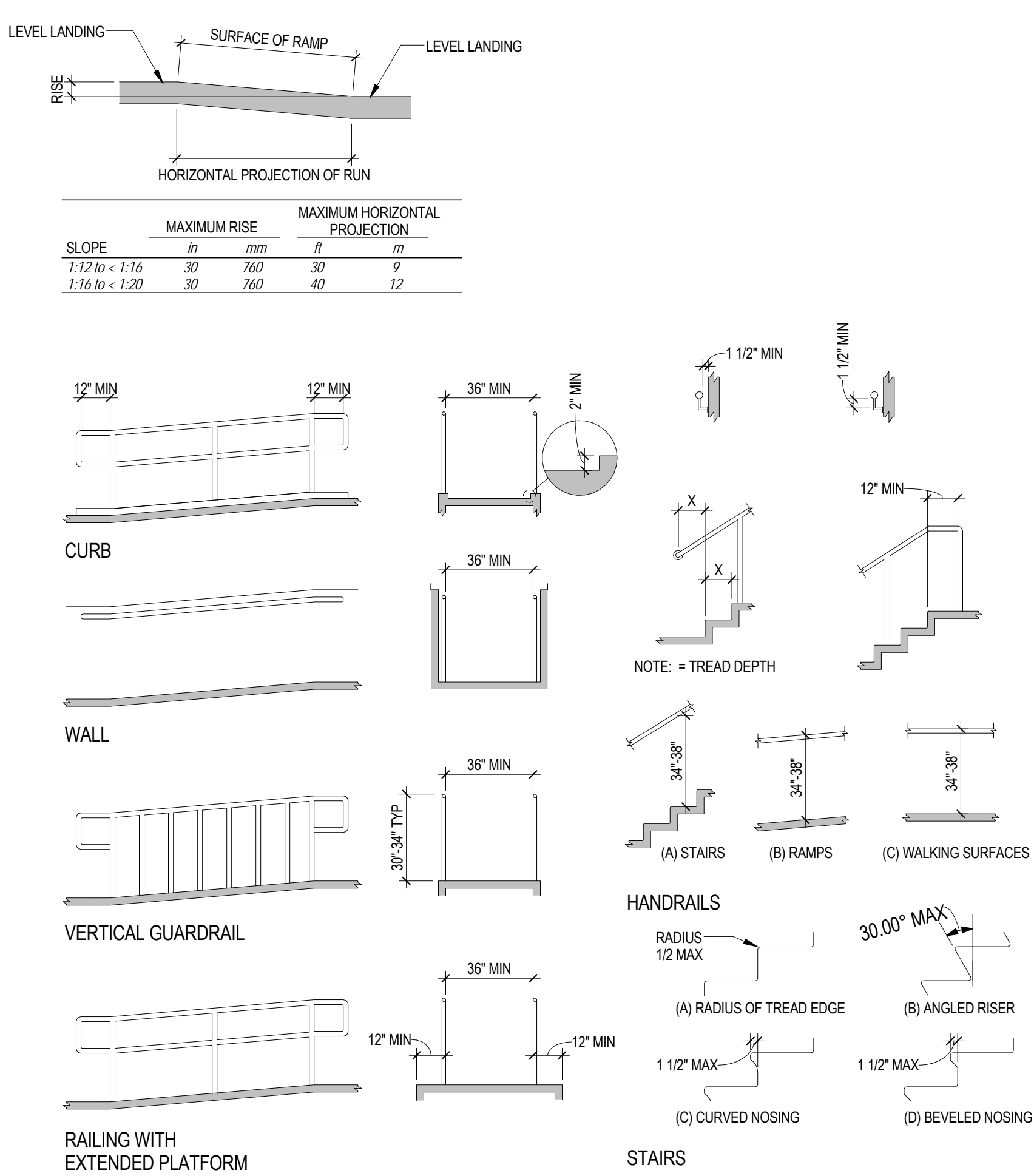
GRAB BARS



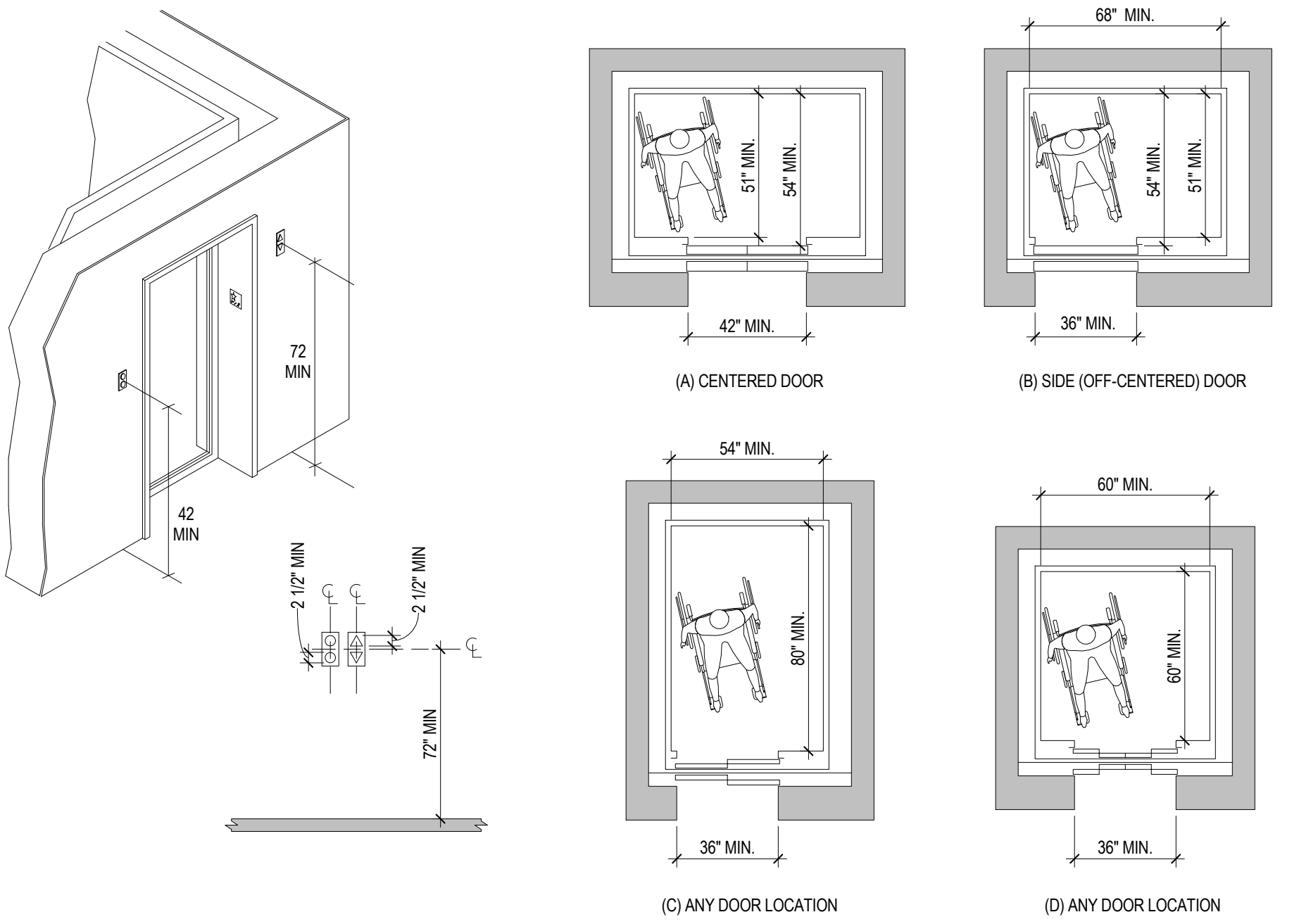
TURNING SPACE REQUIREMENTS



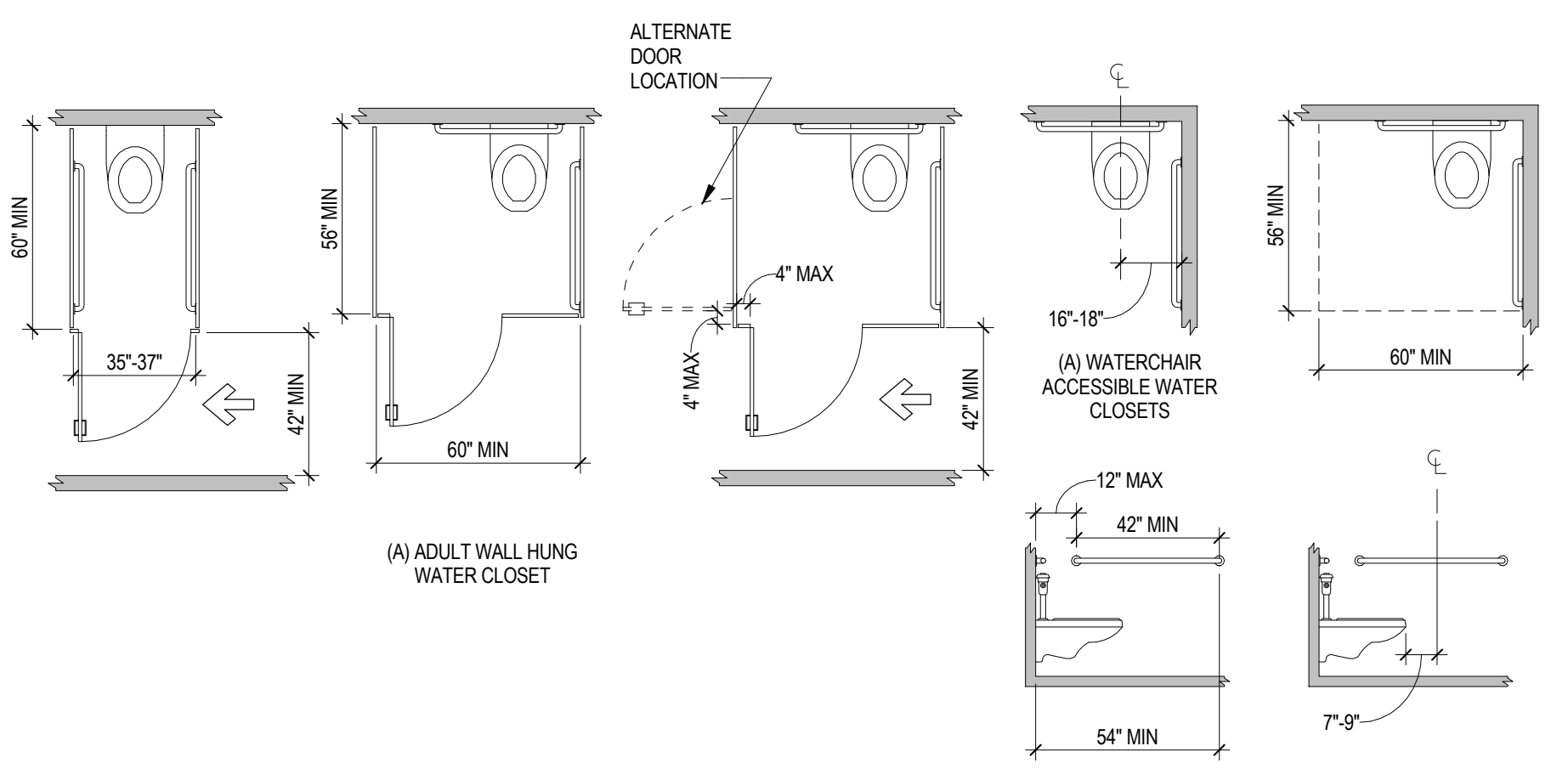
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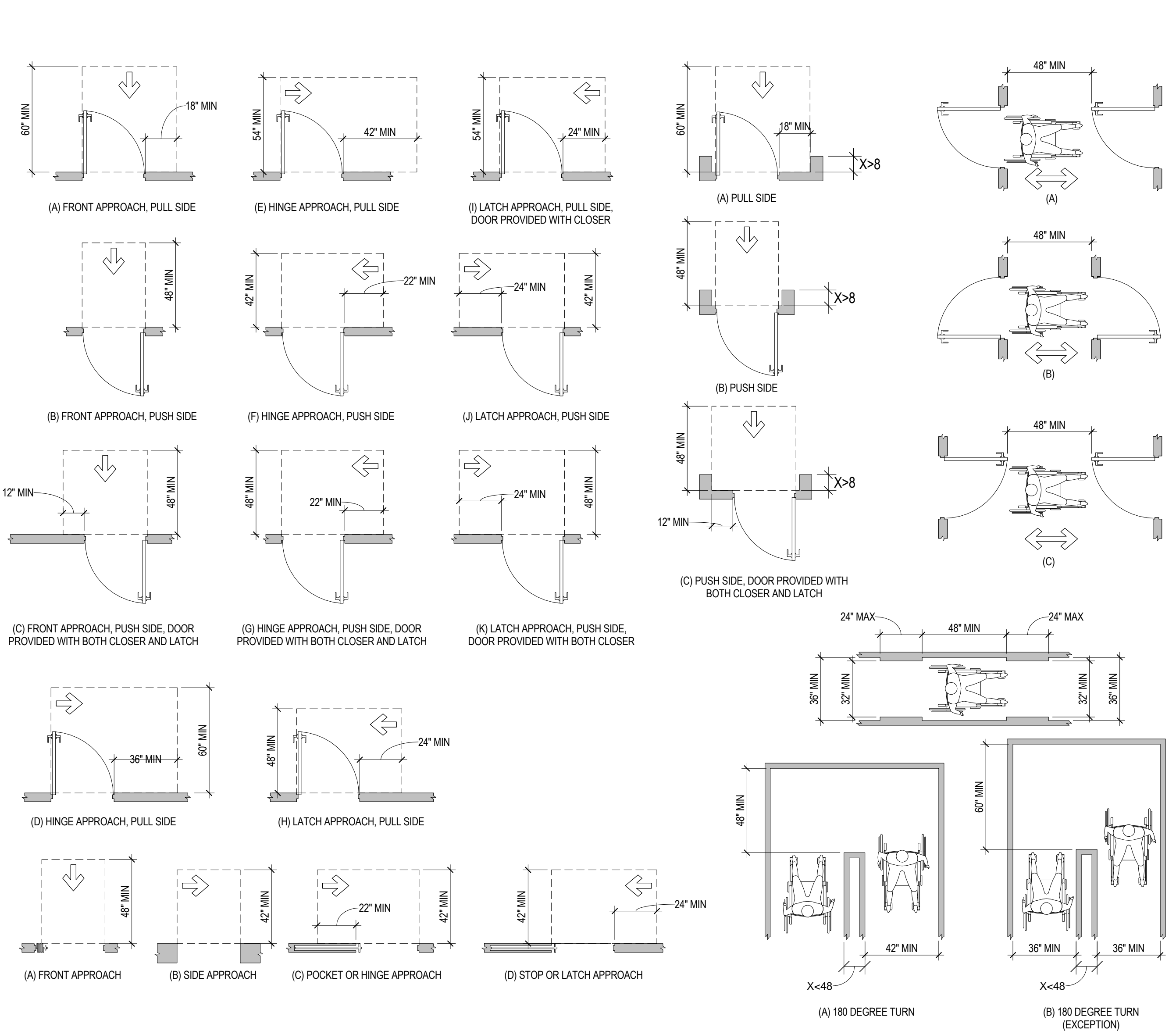
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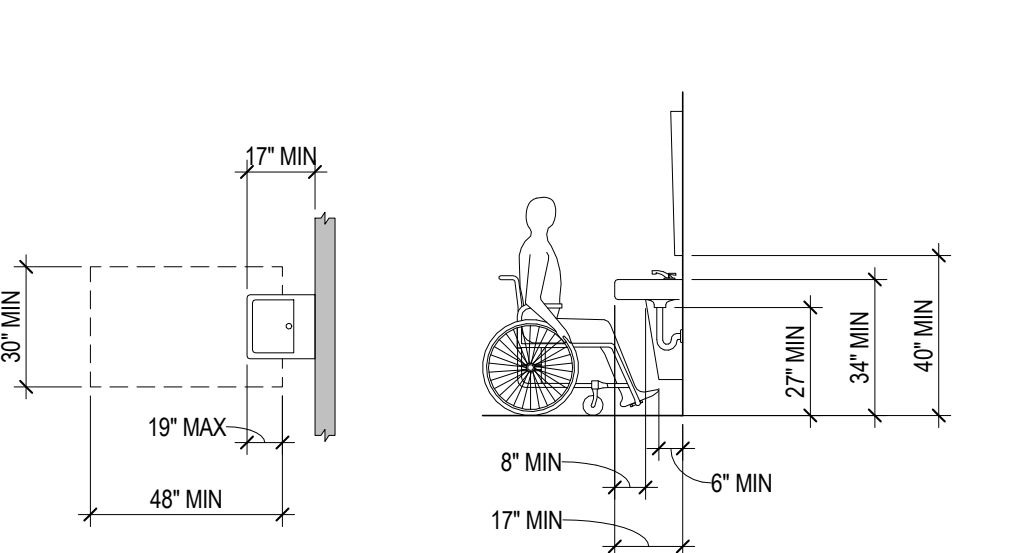
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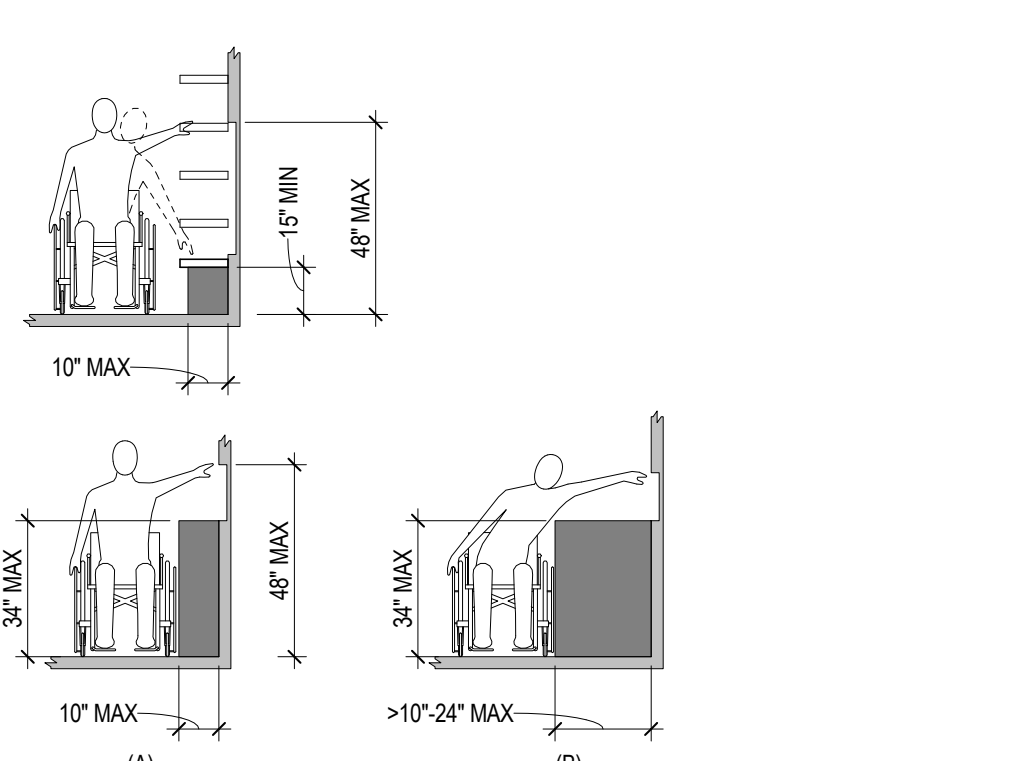
DOORS & MANEUVERING CLEARANCES



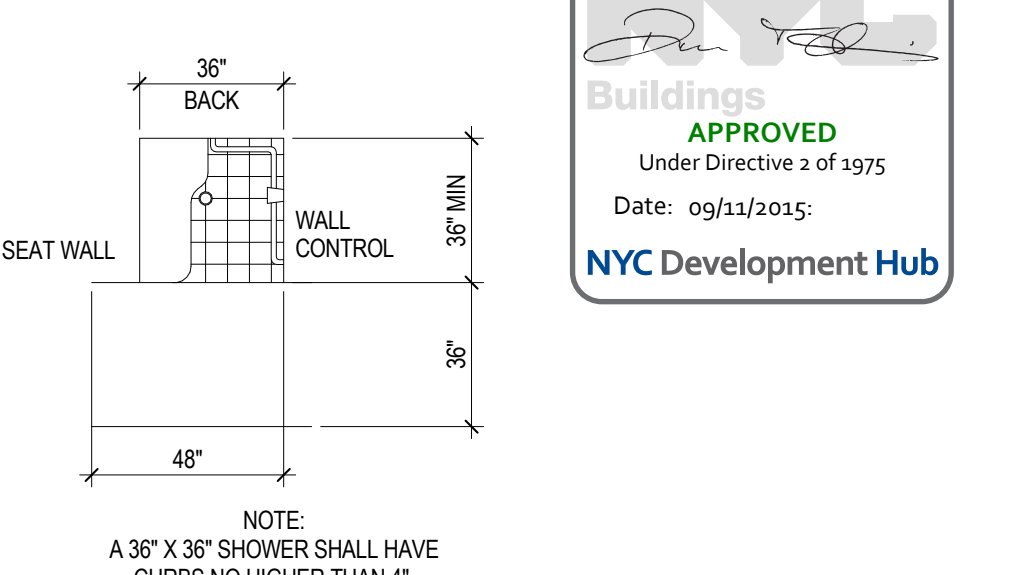
LAVATORIES & SINKS



STORAGE

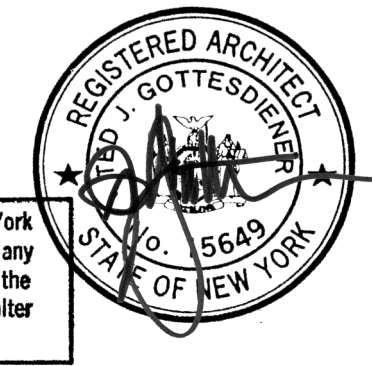


SHOWER CLEARANCES



Key Plan:

Seal & Signature:



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Project No.: 207150
Date: 20 JUN 2014
Scale: 1/4" = 1'-0"
File No.: G-007

B-SCAN Sheet No.:
G-007.00
Sheet No.:
Page No.: 5 OF 87

SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
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3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. NO BUILDINGS WITHIN 90' OF THE SITE ARE LANDMARKED.



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NORTH TOWER
375 Ninth Avenue, New York, NY 10001
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Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

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SOM

Skidmore, Owings & Merrill LLP
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MEP Engineering

Jaros Baum & Bolles
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Sustainable Design

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Acoustical Consultant

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Vibration Consultant

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65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

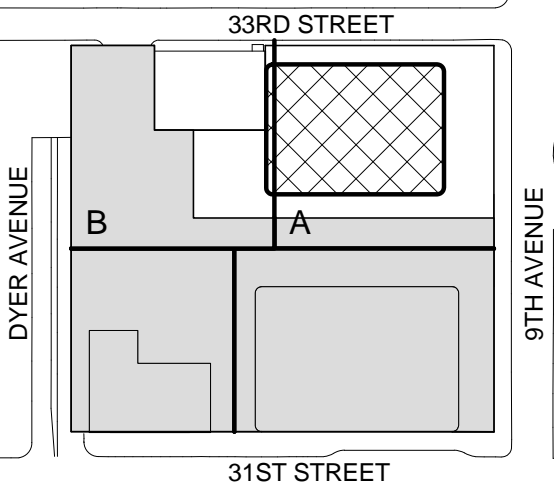
Facade Maintenance Consultant

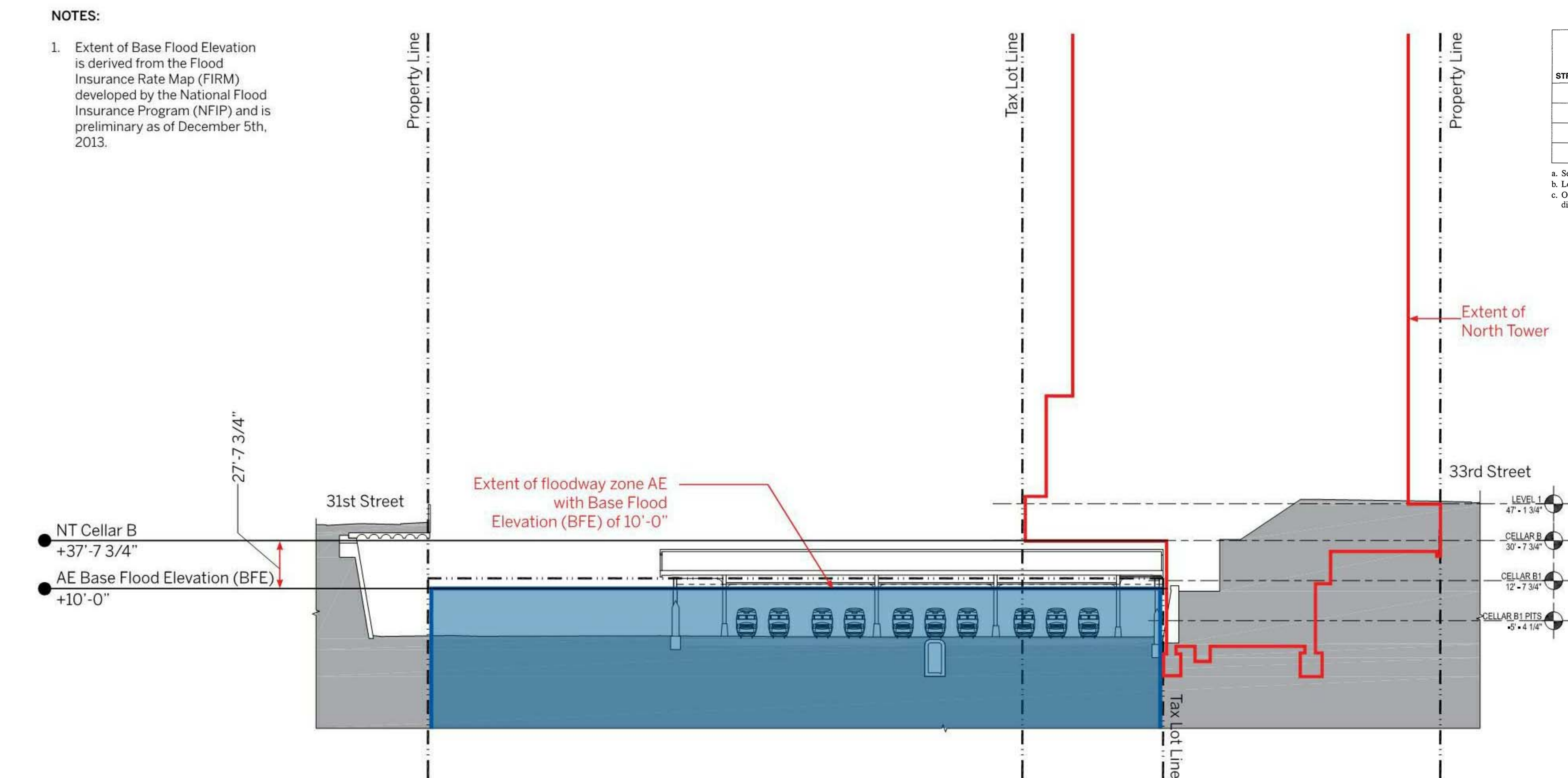
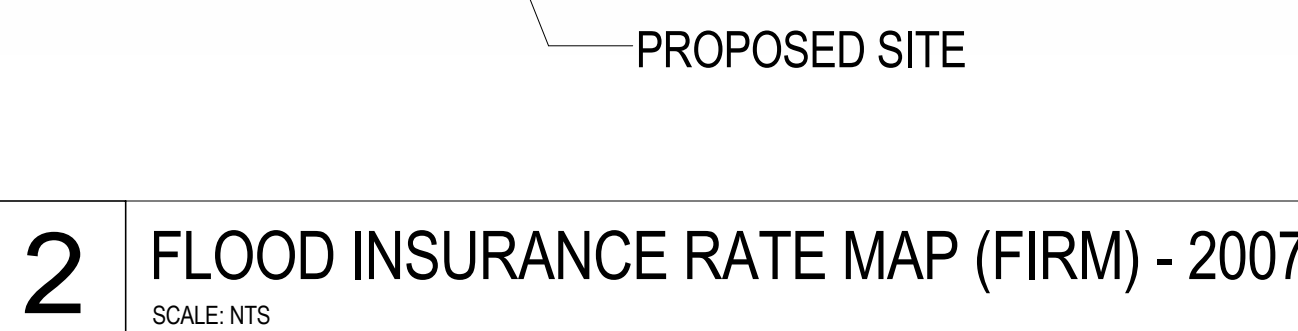
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8


Key Plan:





| THE NEW YORK CITY BUILDING CODE - VERSION 2008 | | | |
|---|---|-----------------------------------|--|
| APPENDIX G: FLOOD-RESISTANT CONSTRUCTION | | | |
| TABLE 7-1 | | | |
| MINIMUM ELEVATION OF UTILITIES AND ATTENDANT EQUIPMENT RELATIVE TO DESIGN FLOOD ELEVATION (DFE) | | | |
| STRUCTURAL OCCUPANCY CATEGORY ^a | LOCATE UTILITIES AND ATTENDANT EQUIPMENT ABOVE ^b | | |
| | A-Zones | V-Zones | |
| | | Orientation Parallel ^c | Orientation Perpendicular ^d |
| I | DFE = BFE | DFE = BFE | DFE = BFE |
| II | DFE = BFE | DFE = BFE | DFE = BFE |
| III | DFE = BFE + 1 ft | DFE = BFE + 2 ft | DFE = BFE + 3 ft |
| IV | DFE = BFE + 2 ft | DFE = BFE + 2 ft | DFE = BFE + 3 ft |

| | | | |
|--|--|---|--|
| <h1>SHEET NOTES</h1> | | <p>Entek Engineering LLC 166 Ames Street, Hackensack, NJ 07601</p> | |
| | | <p>Wind Tunnel Consultant</p> | |
| <p>1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83).</p> | | <p>Rowan Williams Davies & Irwin Inc. 650 Woodlawn Road West, Guelph Ontario, Canada N1K 1T8</p> | |
| <p>2. PER NFIP NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF 2013 THE SITE IS WITHIN ZONE AE - AREA OF HIGH FLOOD RISK SUBJECT TO FLOODING BY 1% ANNUAL CHANCE FLOOD EVENT.</p> | | | |
| <p>3. OCCUPIED SPACES BELOW THE DFE SHALL BE DRY FLOODPROOFED IN ACCORDANCE WITH APPENDIX G OF THE 2009 NEW YORK CITY BUILDING CODE AND ASCE 24.</p> | | | |

| |
|---|
|  |
| MANHATTAN WEST NORTH TOWER 375 Ninth Avenue, New York, NY 10013 |
| Client |
| Brookfield |
| Brookfield Place 250 Vesey Street, 15th Floor, New York, NY 10013 |
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| Civil Engineering |
| Philip Habib & Associates 102 Madison Avenue #11, New York, NY 10017 |
| MEP Engineering |
| Jaros Baum & Bolles 80 Pine Street, New York, NY 10005 |
| Vertical Transportation |
| Edgett Williams Consulting Group, Inc. 102 East Blithedale Ave, Suite 1, Mill Valley, California |
| Sustainable Design |
| Viridian Energy & Environmental 50 Washington Street, Norwalk, CT 06854 |
| Geotechnical Engineering |
| Mueser Rutledge Consulting Engineers 14 Penn Plaza, 225 W. 34th Street, New York, NY 10122 |
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| Acoustical Consultant |
| Cerami & Associates 404 Fifth Avenue #B, New York, NY 10018 |
| Vibration Consultant |
| Wilson, Uhrig & Associates, Inc. 65 Broadway, Suite 401, New York, NY 10006 |
| Code Consultant |
| Code Consultants Professional Engineering |

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5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 05700.
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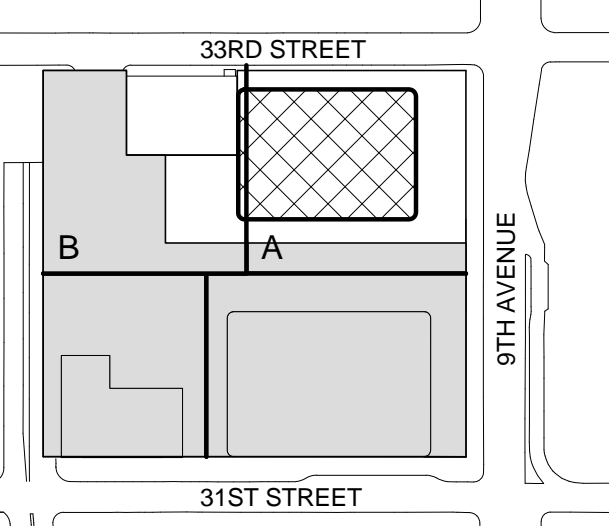
Facade Maintenance Consultant

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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

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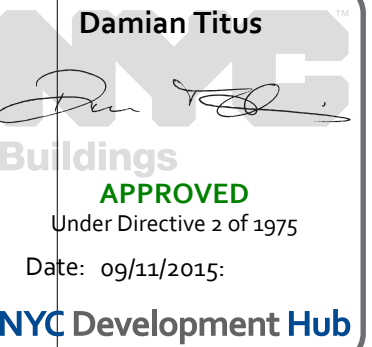
Key Plan:



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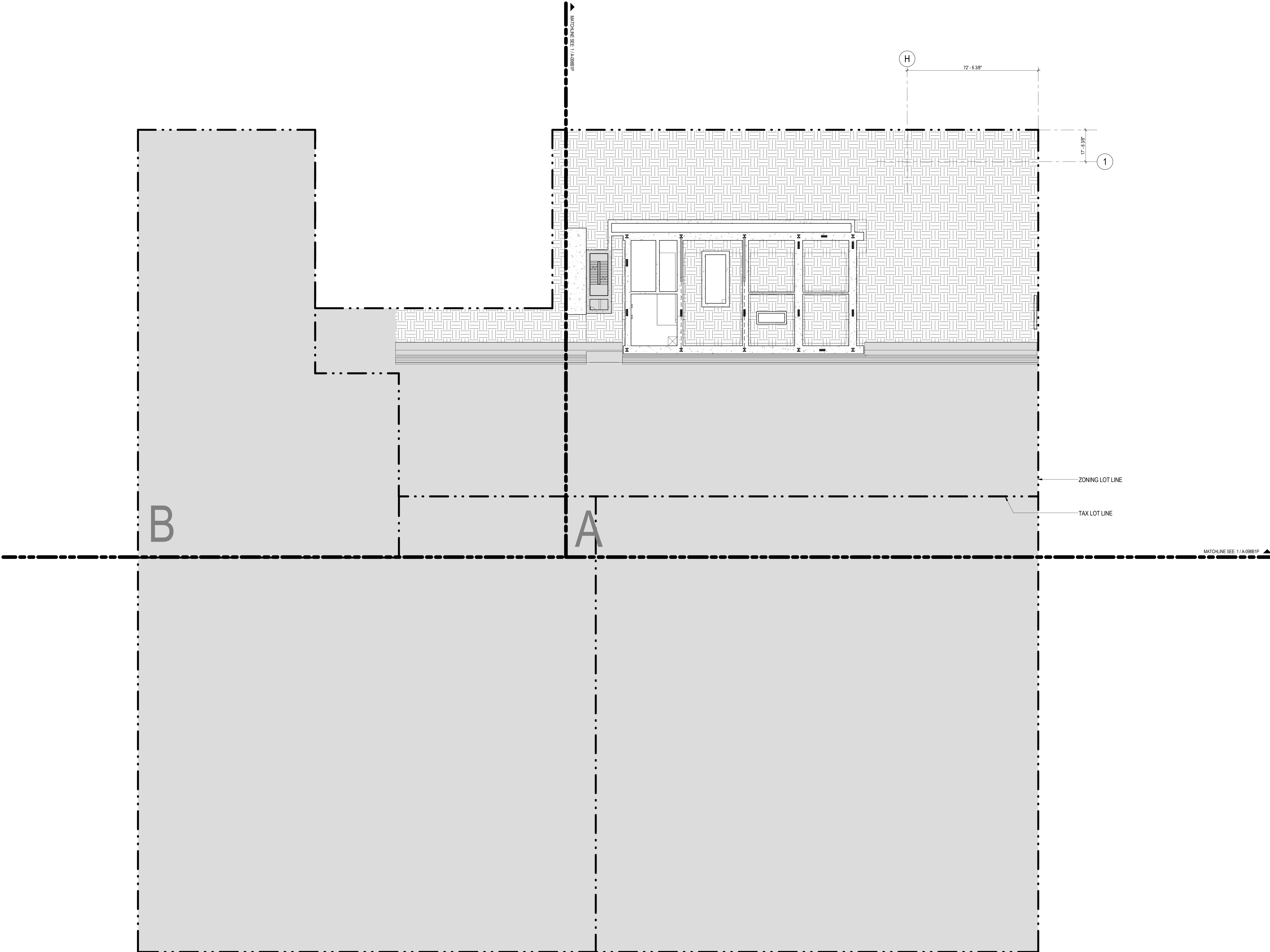


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KEY PLAN -
CELLAR B1 PITS

| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-004.00 |
| Date: 27 AUG 2015 | Sheet No.: A-004 |
| Scale: 1" = 20'-0" | Page No.: 7 OF 30 |
| File No.: A-004 | |



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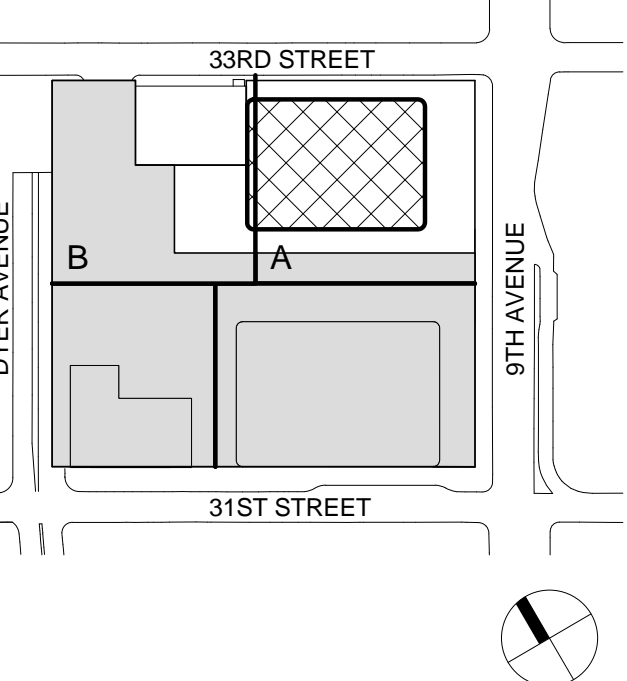
Facade Maintenance Consultant

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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B6

Key Plan:



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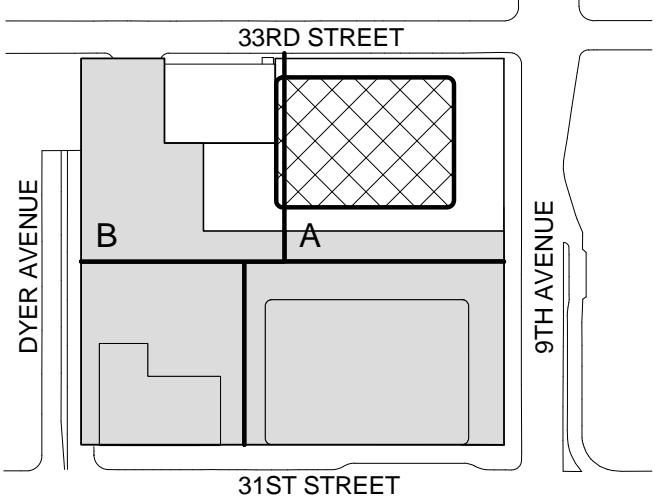
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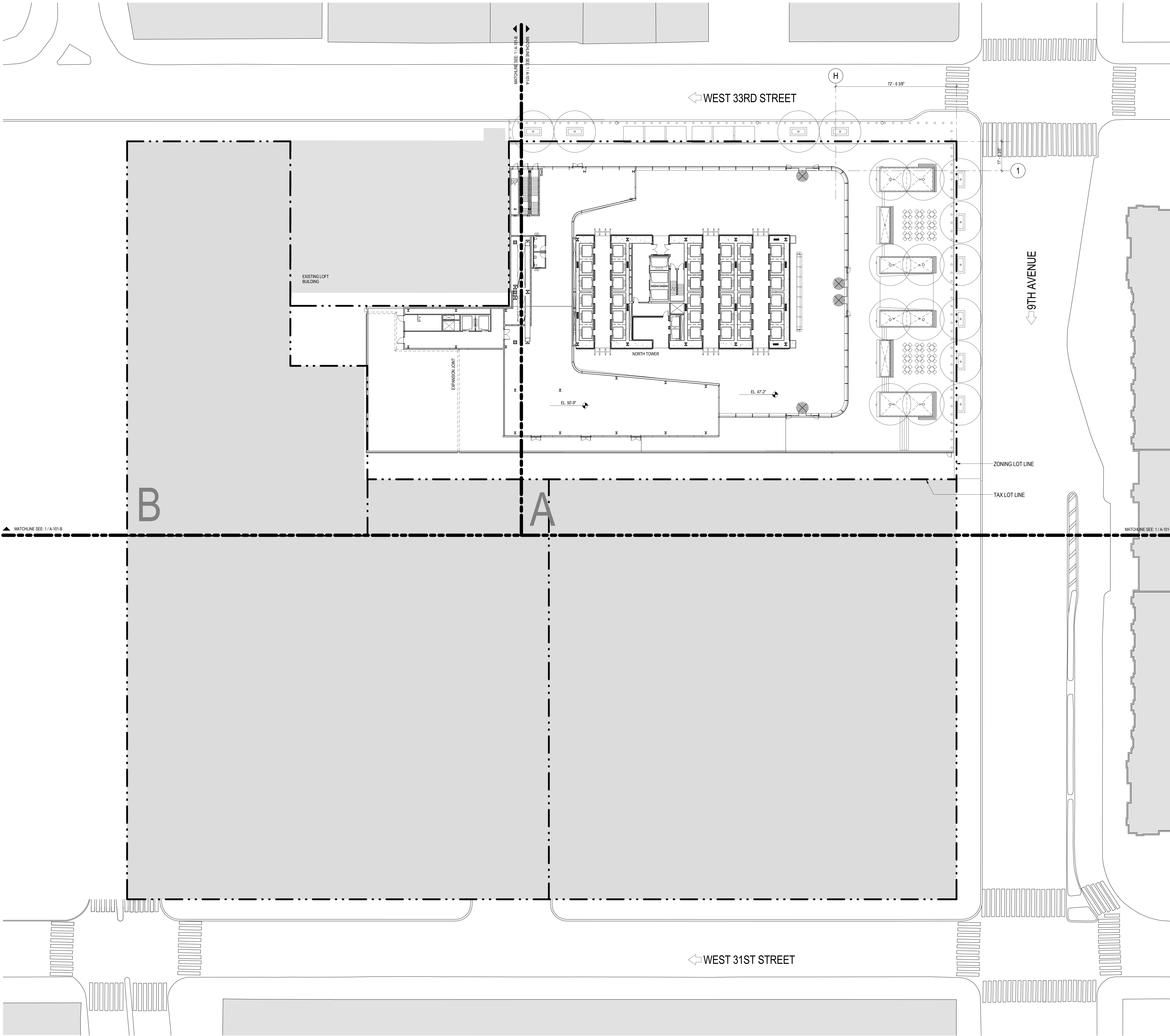
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680 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:





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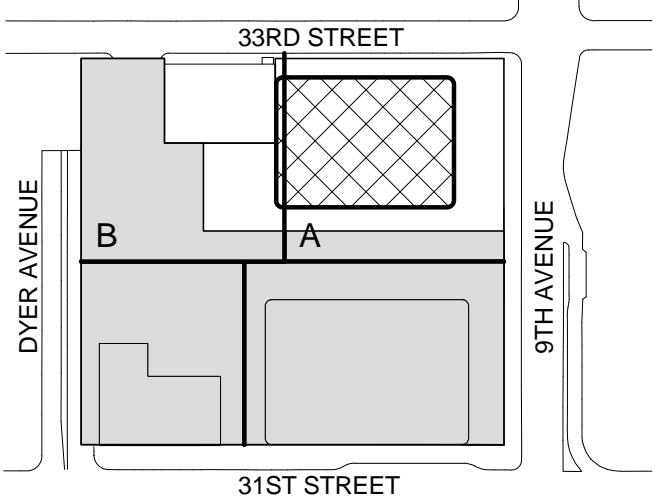
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Key Plan:



Seal & Signature:



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| | | |
|---|-------------|-----------------------------------|
| 8 | 21 AUG 2015 | ISSUED FOR BUILDING PERMIT |
| 7 | 1 APR 2015 | ISSUED FOR BUILDING PERMIT |
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

KEY PLAN -
GROUND FLOOR

| | |
|------------------------|-------------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-007.00 |
| Date: 27 AUG 2015 | Sheet No.: A-007 |
| Scale: 1" = 20'-0" | Page No.: 10 OF 30 |
| File No.: A-007 | |

Damian Titus

Buildings

APPROVED
Under Directive 2 of 1975

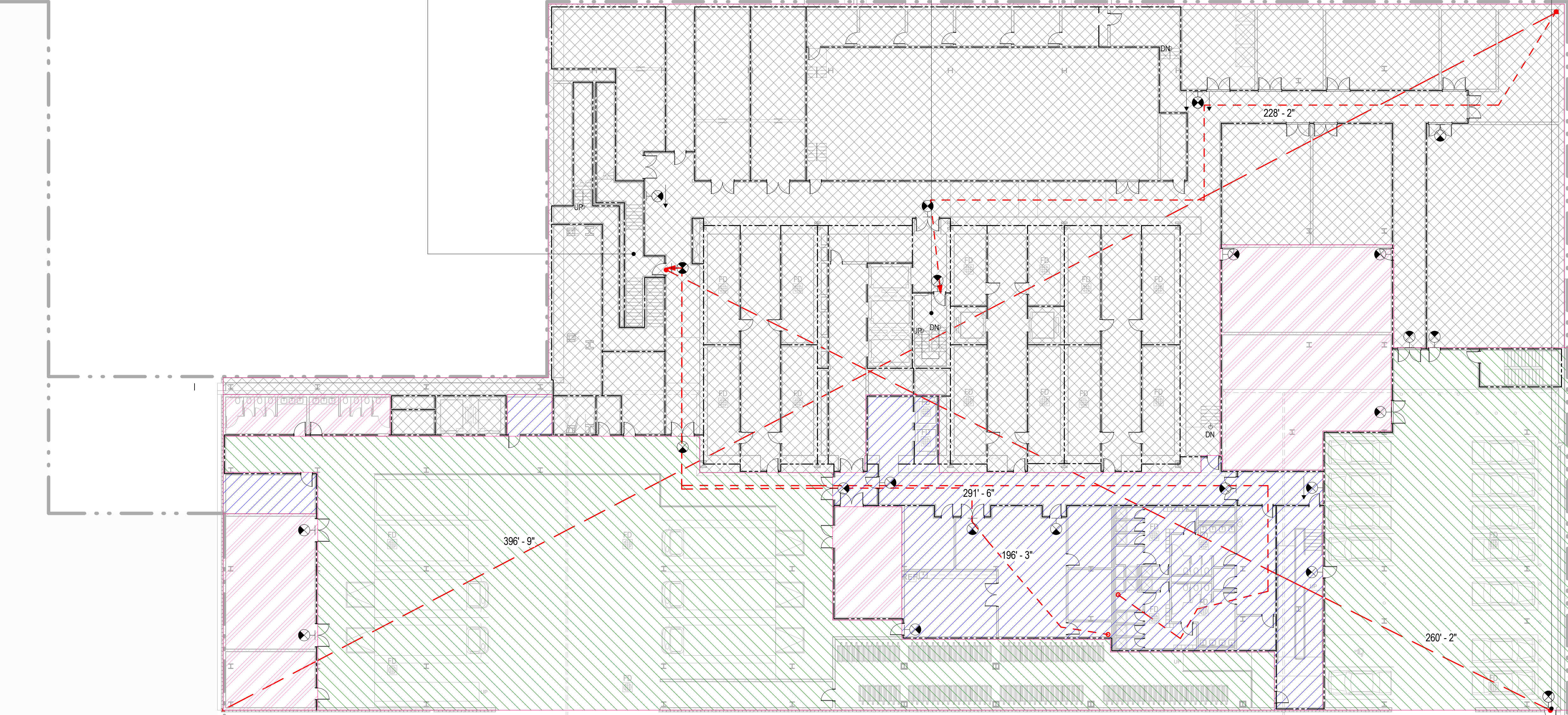
Date: 09/21/2015

NYC Development Hub

| | |
|----------------------------|-----------------------|
| EXIT STAIR F | TOTAL CAPACITY: 167 |
| STAIR WIDTH: 50" | OCCUPANCY FACTOR: 0.3 |
| STAIR CAPACITY: 167 PEOPLE | |
| DOOR WIDTH: 34" | OCCUPANCY FACTOR: 0.2 |
| DOOR CAPACITY: 170 PEOPLE | |

| | |
|----------------------------|-----------------------|
| EXIT STAIR D | TOTAL CAPACITY: 147 |
| STAIR WIDTH: 44" | OCCUPANCY FACTOR: 0.3 |
| STAIR CAPACITY: 147 PEOPLE | |
| DOOR WIDTH: 34" | OCCUPANCY FACTOR: 0.2 |
| DOOR CAPACITY: 170 PEOPLE | |

| | |
|---------------------------|-----------------------|
| EXIT DOOR S | |
| DOOR WIDTH: 34" | OCCUPANCY FACTOR: 0.2 |
| DOOR CAPACITY: 170 PEOPLE | |



| EGRESS CAPACITY - CELLAR B | | | | | | | |
|----------------------------|-------------------|-------------------|------------------|------------------|------------------|-----------------|----------|
| STAIR / DOOR | CLEAR STAIR WIDTH | STAIR OCC. FACTOR | STAIR OCC. TOTAL | CLEAR DOOR WIDTH | DOOR OCC. FACTOR | DOOR OCC. TOTAL | CAPACITY |
| D | 44 | 0.3 | 147 | 34 | 0.2 | 170 | 147 |
| F | 50 | 0.3 | 167 | 34 | 0.2 | 170 | 167 |
| S | 0 | 0.3 | 0 | 34 | 0.2 | 170 | 170 |
| Grand total | | | | | | | 464 |

| OCCUPANT LOAD - CELLAR B | | | |
|--------------------------|----------------------|-------------------------|---------------------|
| USE OF SPACE | AREA | FLOOR AREA PER OCCUPANT | TOTAL OCCUPANT LOAD |
| BUSINESS | 6256 R ² | 100 R ² | 63 |
| MECHANICAL | 28688 R ² | 300 R ² | 96 |
| PARKING | 17591 R ² | | 29 |
| STORAGE | 4821 R ² | 300 R ² | 16 |
| Grand total | | | 203 |

| PLUMBING FIXTURE CALCULATION - CELLAR B | | | | | |
|---|-----------------------|--------|----------------------------|--------|--------|
| FIXTURE TYPE | REQUIRED ¹ | | MALE PROVIDED ² | | FEMALE |
| | MALE | FEMALE | MALE | FEMALE | |
| WATER CLOSETS | 2 | 2 | 7 | 7 | |
| URINALS | 0 | - | 0 | - | |
| LAVATORIES | 2 | 2 | 7 | 7 | |
| DRINKING FOUNTAINS | 1 | | 2 | | |
| BATH TUBS / SHOWERS | 0 | | 0 | | |
| SERVICE SINKS | 1 | | 1 | | |

1. PLUMBING FIXTURE REQUIREMENTS FOR BUSINESS OCCUPANCY ARE BASED ON POPULATION DENSITY OF 100 GROSS SQ. FT. PER PERSON BASED ON CHAPTER 5 OF THE 2008 NEW YORK CITY BUILDING CODE & INTRO 88M OF THE NEW YORK CITY PLUMBING CODE AND A 50/50 SPLIT BETWEEN MALE AND FEMALE OCCUPANTS
2. FULFILLMENT OF REQUIRED DRINKING FOUNTAINS FOR TENANT OFFICE AND RETAIL SPACE TO BE PROVIDED BY TENANT WHERE REQUIRED AS PER SECTION PC 400 OF THE 2008 NEW YORK CITY PLUMBING CODE. WHERE DRINKING FOUNTAINS ARE REQUIRED, UP TO 50% OF REQUIRED DRINKING FOUNTAINS MAY BE SUBSTITUTED BY DEDICATED PLUMBING FIXTURES WITH FAUCET DESIGNED FOR FILLING A CONTAINER AT LEAST 10 INCHES IN HEIGHT.
3. ADDITIONAL PROVISION FOR REQUIRED PLUMBING FIXTURES AT CELLAR B1, CELLAR B AND GROUND FLOOR ARE ACCOMMODATED AT THE CELLAR B LEVEL AS PER SECTION 400 OF THE NEW YORK CITY PLUMBING CODE.
4. FULFILLMENT OF REQUIRED TOILET FACILITIES WITHIN TENANT RETAIL SPACE FOR CUSTOMERS, PATRONS AND VISITORS TO BE PROVIDED BY TENANT WHERE REQUIRED AS PER SECTION PC 403.6 OF THE 2008 NEW YORK CITY PLUMBING CODE.
5. FULFILLMENT OF REQUIRED SERVICE SINKS FOR TENANT OFFICE SPACES IS TO BE PROVIDED WITHIN JANITORS CLOSETS. FULFILLMENT OF REQUIRED SERVICE SINKS AT ALL OTHER LOCATIONS IS TO BE PROVIDED THROUGH HOSE BIBS WITHIN TOILET ROOMS.

BUILDING CODE

BUILDING CODE OF THE CITY OF NEW YORK - 2008 EDITION, UNLESS OTHERWISE NOTED.

OCCUPANCY CLASSIFICATION

DESIGNATIONS FOR THE BUILDING (SECTION BC 301-312):

| | |
|-----|-------------------------------|
| A-2 | ASSEMBLY |
| B | BUSINESS (PRIMARY) |
| M | MERCANTILE |
| S-1 | MODERATE-HAZARD STORAGE |
| S-2 | LOW-HAZARD STORAGE |
| F-2 | LOW-HAZARD FACTORY INDUSTRIAL |

CONSTRUCTION CLASSIFICATION

CONSTRUCTION TYPE FOR THE BUILDING (TABLE 503): 1A

FIRE RESISTANCE REQUIREMENTS FOR BUILDING ELEMENTS (TABLE 601 & 602):

| BUILDING ELEMENT | FIRE RATING |
|--|-------------|
| STRUCTURAL FRAME | 3 HRS |
| BEARING WALLS (EXTERIOR) | 3 HRS |
| BEARING WALLS (INTERIOR) | 3 HRS |
| NONBEARING WALLS & PARTITIONS (EXTERIOR) | 1 HR |
| SEPARATION BETWEEN 5'-0" AND 10'-0" | 1 HR |
| SEPARATION BETWEEN 10'-0" AND 30'-0" | 0 HRS |
| SEPARATION GREATER OR EQUAL TO 30'-0" | 0 HRS |
| NONBEARING WALLS & PARTITIONS (INTERIOR) | 2 HRS |
| FLOOR CONSTRUCTION | 1.5 HR |
| ROOF CONSTRUCTION | 1.5 HR |

BUILDING LIMITATIONS

AREA, HEIGHT & # OF STORIES (TABLE 503):
CLASS 1A CONSTRUCTION: NO LIMIT FOR HEIGHT, AREA, OR # OF STORIES

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

FIRE SEPARATION

BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

OCCUPANCY SEPARATION NEED NOT BE PROVIDED FOR STORAGE AREAS SERVING GROUP B OR M IF ANY OF THE FOLLOWING CONDITIONS APPLY (TABLE 508.3):

- THE STORAGE AREA IS LESS THAN 10% OF THE FLOOR AREA AND LESS THAN 1,000 R²
- THE STORAGE AREA IS PROVIDED WITH AN AUTOMATIC FIRE EXTINGUISHING SYSTEM AND IS LESS THAN 1,000 R²
- THE STORAGE AREA IS LESS THAN 1,000 R²

SPACES OCCUPIED BY DIFFERENT TENANTS SHALL BE SEPARATED BY FIRE BARRIERS HAVING AT LEAST 1-HOUR FIRE RESISTANCE RATINGS (SECTION 509.9).

MEANS OF EGRESS

EXIT ACCESS TRAVEL DISTANCE (TABLE 1015.1):

| OCCUPANCY | W/ SPRINKLER SYSTEM (R ²) | |
|-----------|---------------------------------------|-----------|
| | PRIMARY | SECONDARY |
| A-2 | 150 | 250 |
| B | 300 | 250 |
| M | 200 | 250 |
| S-1 | 200 | 250 |
| S-2 | 250 | 250 |
| F-2 | 250 | 250 |

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

EXIT OR EXIT ACCESS REMOTENESS (SECTION 1004.2.1):
MIN. EXIT REMOTENESS: 1/2 THE MAX. TRAVEL DISTANCE
MIN. EXIT REMOTENESS (SPRINKLERED): 1/3 THE MAX. TRAVEL DISTANCE

DEAD END: 10'-0"
MAX. DEAD END LENGTH (GROUP B, F): 50'-0"

COMMON PATH OF EGRESS TRAVEL (1013.3):
MAX. COMMON PATH OF EGRESS (GROUP B, F, S): 100'-0"

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

DOOR WIDTH (SECTION 1008.1.1.1):
MIN. DOOR CLEAR WIDTH (SINGLE LEAF): 32"
MIN. DOOR CLEAR WIDTH (DOUBLE LEAF): 32" FOR A SINGLE LEAF
MAX. DOOR CLEAR WIDTH (PER LEAF): 48"

STAIRWAY WIDTH (SECTION 1009.1):
MIN. STAIRWAY WIDTH: 44"

CORRIDOR WIDTH (SECTION 1010.2):
MIN. CORRIDOR WIDTH: 44"

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

EXIT ENCLOSURE FIRE RATING REQUIREMENTS (SECTION 1019.1):
MIN. FIRE RATING REQUIREMENT: 2 HRS

EXIT DOOR FIRE RATING REQUIREMENTS (TABLE 715.3):
MIN. FIRE RATING REQUIREMENT: 1.5 HRS

STAIR REQUIREMENTS (SECTION 1009.2 & 1009.3):
MIN. HEADROOM: 8'-0"
MIN. RISER HEIGHT: 4"
MAX. RISER HEIGHT: 7"
MIN. TREAD DEPTH: 11"

PLUMBING FACILITIES

(2008 NEW YORK CITY PLUMBING CODE)

MINIMUM NUMBER OF FIXTURES (SECTION 403.1):
PLUMBING FIXTURES SHALL BE PROVIDED FOR THE TYPE OF OCCUPANCY AND IN THE MINIMUM NUMBER SHOWN IN TABLE 403.1. TYPES OF OCCUPANCIES NOT SHOWN IN TABLE 403.1 SHALL BE CONSIDERED INDIVIDUALLY BY THE COMMISSIONER. THE NUMBER OF OCCUPANTS AND OCCUPANCY CLASSIFICATION SHALL BE DETERMINED BY THE NEW YORK CITY BUILDING CODE.

| MIN. NO. OF PLUMBING FIXTURES (TABLE 403.1) | | | | | |
|---|-----------------|-------|-------------|-------------------|------------|
| OCC. | WC | LAV. | TUB/ SHOWER | DRINKING FOUNTAIN | OTHER |
| A-2 | 1/75 | 1/75 | 1/100 | 1 SVC SINK | |
| B | 200 | 200 | 1/100 | 1 SVC SINK | |
| M | SEE CHART BELOW | 1/100 | 1/100 | 1 SVC SINK | |
| S-1 | 1/100 | 1/100 | 1/100 | SEE 411 | 1 SVC SINK |
| S-2 | 1/100 | 1/100 | 1/100 | SEE 411 | 1 SVC SINK |
| F-2 | 1/100 | 1/100 | SEE 411 | 1/100-400 | 1 SVC SINK |

BUSINESS PLUMBING FIXTURE REQUIREMENT (TABLE 403.1):
WATER CLOSETS & URINALS
OF PERSONS / # OF FIXTURES

| # OF PERSONS | # OF FIXTURES | # OF PERSONS | # OF FIXTURES |
|--------------|---------------|--------------|---------------|
| 1-20 | 1 | 1-25 | 1 |
| 21-45 | 2 | 26-50 | 2 |
| 46-70 | 3 | 51-75 | 3 |
| 71-100 | 4 | 76-100 | 4 |
| 101-140 | 5 | 116-160 | 5 |
| 141-190 | 6 | | |

1 FIXTURE PER ADDITIONAL 50 PERSONS
1 FIXTURE PER ADDITIONAL 60 PERSONS

NUMBER OF OCCUPANTS OF EACH SEX (SECTION 403.3):
THE OCCUPANT LOAD SHALL BE COMPOSED OF 50% OF EACH SEX

REQUIRED DRINKING FOUNTAINS (SECTION 419.2):
UP TO 50% OF THE REQUIRED DRINKING FOUNTAINS MAY BE SUBSTITUTED BY DEDICATED PLUMBING FIXTURES WITH FAUCETS DESIGNED FOR FILLING A CONTAINER AT LEAST 10" IN HEIGHT.

SUBSTITUTION FOR WATER CLOSETS (SECTION 419.2):
URINALS SHALL NOT BE SUBSTITUTED FOR MORE THAN 50% OF THE REQUIRED WATER CLOSETS.

Warning: It is a violation of the New York State Architecture Law (§16-600) for any person, unless they are acting under the direction of a Licensed Architect, to alter this form in any way.

Damian Titus
REGISTERED ARCHITECT
No. 5649
STATE OF NEW YORK

LEGEND
MECHANICAL / STORAGE
PARKING
LOCKER ROOMS



Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

SOM

Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation

Edgett Williams Consulting Group, Inc.
102 East Bluffside Ave., Suite 1, Mill Valley, California 94941

Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geotechnical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Venter & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant

Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

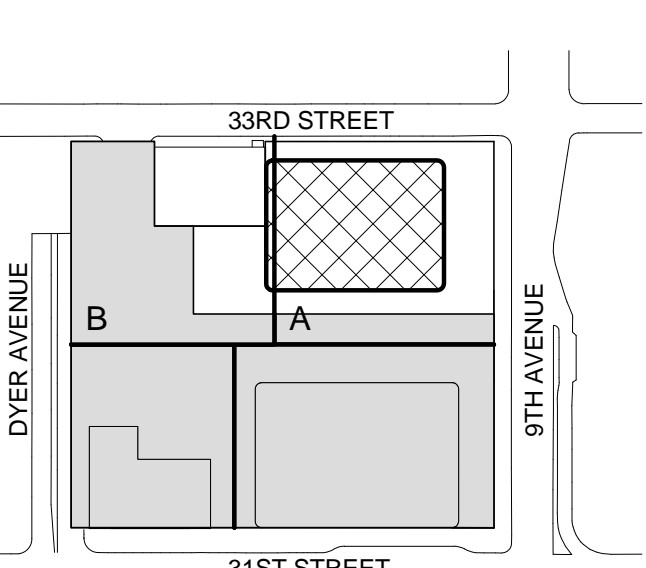
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6

Key Plan:



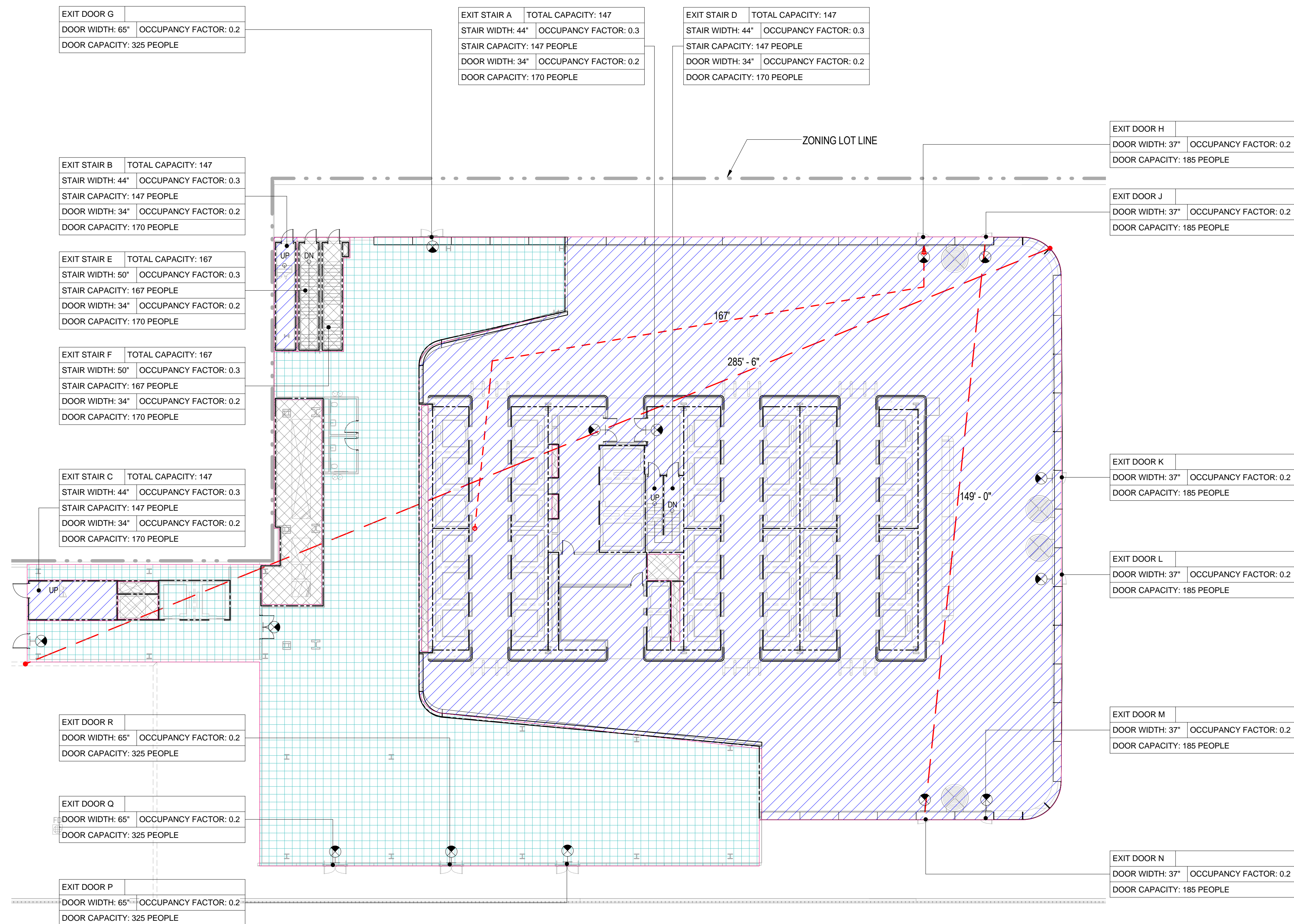
Seal & Signature:

REGISTERED ARCHITECT
No. 5649
STATE OF NEW YORK

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"

B-SCAN Sheet No.: A-013.00
Sheet No.: A-013
Page No.: 12 OF 30

Code Analysis - CELLAR B



| | |
|-------|--|
| A-014 | |
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| File No.: A-014 | Page No.: 13 OF 30 |
|--------------------|-----------------------|

Warning: It is a violation of the New York State Architecture Law, §59.5(b) for a person, unless they are acting under the direction of a Licensed Architect, to affix this item in any way.

1

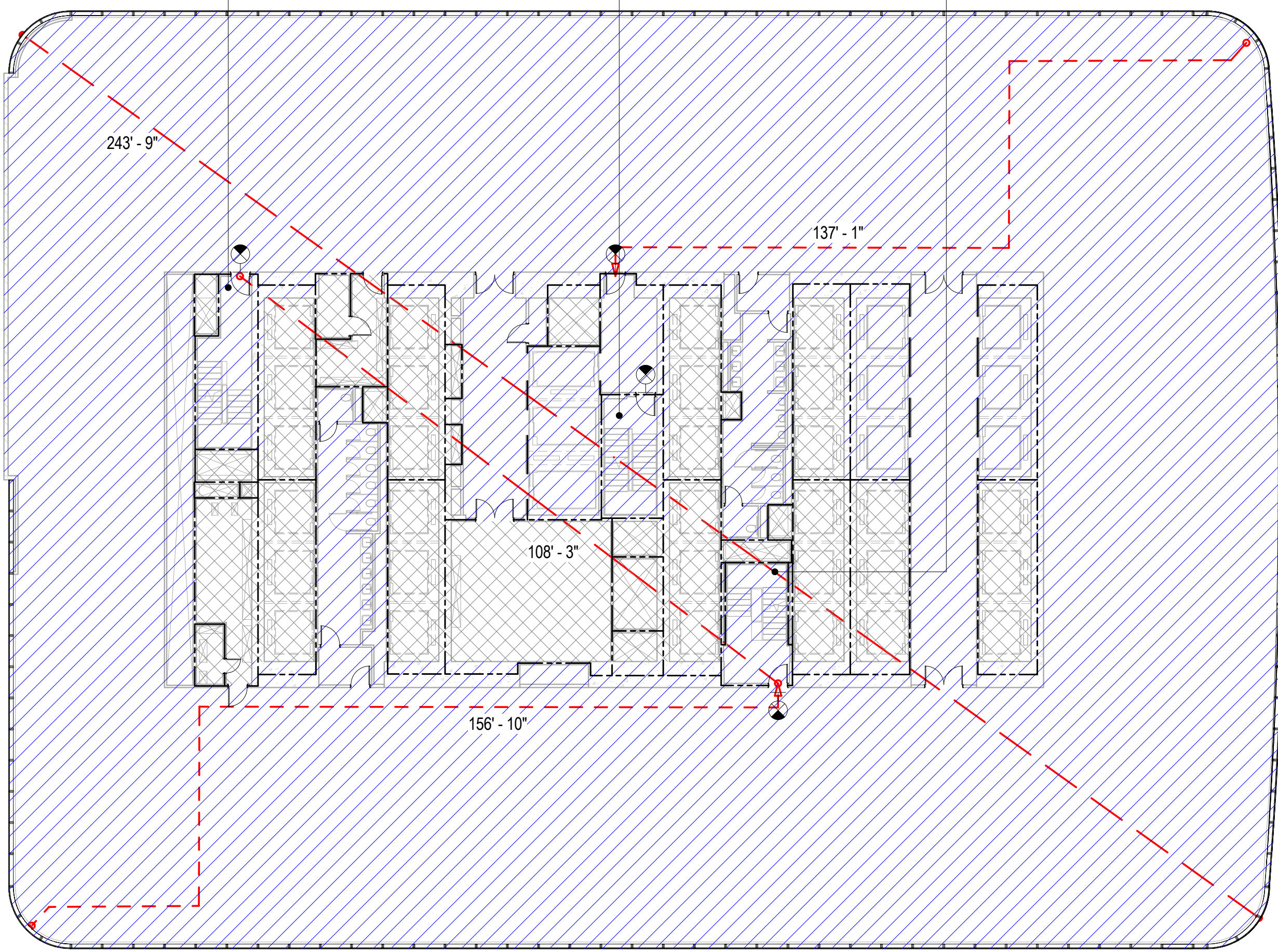
LEVEL 6-16

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

| | |
|----------------------------|-----------------------|
| EXIT STAIR B | TOTAL CAPACITY: 147 |
| STAIR WIDTH: 44" | OCCUPANCY FACTOR: 0.3 |
| STAIR CAPACITY: 147 PEOPLE | |
| DOOR WIDTH: 34" | OCCUPANCY FACTOR: 0.2 |
| DOOR CAPACITY: 170 PEOPLE | |

| | |
|----------------------------|-----------------------|
| EXIT STAIR A | TOTAL CAPACITY: 147 |
| STAIR WIDTH: 44" | OCCUPANCY FACTOR: 0.3 |
| STAIR CAPACITY: 147 PEOPLE | |
| DOOR WIDTH: 34" | OCCUPANCY FACTOR: 0.2 |
| DOOR CAPACITY: 170 PEOPLE | |

| | |
|----------------------------|-----------------------|
| EXIT STAIR C | TOTAL CAPACITY: 147 |
| STAIR WIDTH: 44" | OCCUPANCY FACTOR: 0.3 |
| STAIR CAPACITY: 147 PEOPLE | |
| DOOR WIDTH: 34" | OCCUPANCY FACTOR: 0.2 |
| DOOR CAPACITY: 170 PEOPLE | |



| EGRESS CAPACITY - LEVEL 6-16 | | | | | | | |
|------------------------------|-------------|-------------------|-------------|------------------|------------------|------------|----------|
| STAIR | CLEAR WIDTH | STAIR OCC. FACTOR | STAIR TOTAL | CLEAR DOOR WIDTH | DOOR OCC. FACTOR | DOOR TOTAL | CAPACITY |
| A | 44 | 0.3 | 147 | 34 | 0.2 | 170 | 147 |
| B | 44 | 0.3 | 147 | 34 | 0.2 | 170 | 147 |
| C | 44 | 0.3 | 147 | 34 | 0.2 | 170 | 147 |
| Grand total | | | | | | | 441 |

| OCCUPANT LOAD - LEVEL 6-16 | | | |
|----------------------------|----------|-------------------------|---------------------|
| USE OF SPACE | AREA | FLOOR AREA PER OCCUPANT | TOTAL OCCUPANT LOAD |
| BUSINESS | 26406 SF | 100 SF | 264 |
| MECHANICAL / STORAGE | 4209 SF | 300 SF | 14 |
| Grand total | 30615 SF | | 278 |

| PLUMBING FIXTURE CALCULATION - LEVEL 6-16 | | | | | |
|---|----------|--------|--|-------------------------|--------|
| FIXTURE TYPE | REQUIRED | | | PROVIDED ^{1,2} | |
| | MALE | FEMALE | | MALE | FEMALE |
| WATER CLOSETS | 3 | 5 | | 4 | 7 |
| URINALS | 2 | - | | 3 | - |
| LAVATORIES | 5 | 5 | | 6 | 6 |
| DRINKING FOUNTAINS | 3 | | | 0 | |
| BATH TUBS / SHOWERS | | 0 | | 0 | |
| SERVICE SINKS | | 1 | | 1 | |

1. PLUMBING FIXTURE REQUIREMENTS FOR BUSINESS OCCUPANCY ARE BASED ON POPULATION DENSITY OF 100 GROSS SQ. FT. PER PERSON BASED ON CHAPTER 3 OF THE 2008 NEW YORK CITY BUILDING CODE & INTRO 605A OF THE NEW YORK CITY PLUMBING CODE) AND A 50/50 SPLIT BETWEEN MALE AND FEMALE OCCUPANTS.

2. FULFILLMENT OF REQUIRED DRINKING FOUNTAINS FOR TENANT OFFICE AND RETAIL SPACE TO BE PROVIDED BY TENANT WHERE REQUIRED AS PER SECTION PC-403 OF THE 2008 NEW YORK CITY PLUMBING CODE. WHERE DRINKING FOUNTAINS ARE REQUIRED, UP TO 50% OF REQUIRED DRINKING FOUNTAINS MAY BE SUBSTITUTED BY DEDICATED PLUMBING FIXTURES WITH FAUCET DESIGNED FOR FILLING A CONTAINER AT LEAST 10 INCHES IN HEIGHT.

3. PROVISION FOR REQUIRED PLUMBING FIXTURES AT CELLAR B & AND GROUND FLOOR ARE ACCOMMODATED AT THE CELLAR B LEVEL AS PER SECTION 403 OF THE NEW YORK CITY PLUMBING CODE.

4. FULFILLMENT OF REQUIRED TOILET FACILITIES WITHIN TENANT RETAIL SPACE FOR CUSTOMERS, PATRONS AND VISITORS TO BE PROVIDED BY TENANT WHERE REQUIRED AS PER SECTION PC-403.6 OF THE 2008 NEW YORK CITY PLUMBING CODE.

BUILDING CODE

BUILDING CODE OF THE CITY OF NEW YORK - 2008 EDITION, UNLESS OTHERWISE NOTED.

OCCUPANCY CLASSIFICATION

DESIGNATIONS FOR THE BUILDING (SECTION BC 301-312):

A-2 ASSEMBLY
B BUSINESS (PRIMARY)
M MERCANTILE
S-1 MODERATE-HAZARD STORAGE
S-2 LOW-HAZARD FACTORY INDUSTRIAL

CONSTRUCTION CLASSIFICATION

CONSTRUCTION TYPE FOR THE BUILDING (TABLE 503): 1A

FIRE RESISTANCE REQUIREMENTS FOR BUILDING ELEMENTS (TABLE 601 & 602):

| BUILDING ELEMENT | FIRE RATING |
|--|-------------|
| STRUCTURAL FRAME | 3 HRS |
| BEARING WALLS (EXTERIOR) | 3 HRS |
| BEARING WALLS (INTERIOR) | 3 HRS |
| NONBEARING WALLS & PARTITIONS (EXTERIOR) | 1 HR |
| SEPARATION BETWEEN 5'-0" AND 10'-0" | 1 HR |
| SEPARATION BETWEEN 10'-0" AND 30'-0" | 0 HRS |
| SEPARATION GREATER OR EQUAL TO 30'-0" | 2 HRS |
| NONBEARING WALLS & PARTITIONS (INTERIOR) | 1.5 HR |
| FLOOR CONSTRUCTION | 2 HRS |
| ROOF CONSTRUCTION | 1.5 HR |

BUILDING LIMITATIONS

AREA, HEIGHT & # OF STORIES (TABLE 503):

CLASS 1A CONSTRUCTION: NO LIMIT FOR HEIGHT, AREA, OR # OF STORIES

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

FIRE SEPARATION

BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

OCCUPANCY SEPARATION NEED NOT BE PROVIDED FOR STORAGE AREAS SERVING GROUP B OR IF ANY OF THE FOLLOWING CONDITIONS APPLY (TABLE 508.3):

- THE STORAGE AREA IS LESS THAN 10% OF THE FLOOR AREA AND LESS THAN 3,000 SF

- THE STORAGE AREA IS PROVIDED WITH AN AUTOMATIC FIRE-EXTINGUISHING SYSTEM AND IS LESS THAN 3,000 SF

- THE STORAGE AREA IS LESS THAN 1,000 SF

SPACES OCCUPIED BY DIFFERENT TENANTS SHALL BE SEPARATED BY FIRE BARRIERS HAVING AT LEAST 1-HOUR FIRE RESISTANCE RATINGS (SECTION 509.9).

MEANS OF EGRESS

EXIT ACCESS TRAVEL DISTANCE (TABLE 1015.1)

W/ SPRINKLER SYSTEM (F)

OCCUPANCY

PRIMARY SECONDARY

A-2 150 250

B 150 250

M 200 250

S-1 200 250

S-2 250 250

S-3 250 250

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

EXIT OR EXIT ACCESS REMOTENESS (SECTION 1014.2.1):

MIN. EXIT REMOTENESS: 1/2 THE MAX. DIAGONAL DISTANCE

MIN. EXIT REMOTENESS (SPRINKLERED): 1/3 THE MAX. DIAGONAL DISTANCE

DEAD ENDS (1016.3):

MAX. DEAD END LENGTH (GROUP B, F): 50'-0"

COMMON PATH OF EGRESS TRAVEL (1013.3):

MAX. COMMON PATH OF EGRESS (GROUP B, F, S): 100'-0"

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

DOOR WIDTH (SECTION 1008.1.1.1):

MIN. DOOR CLEAR WIDTH (SINGLE LEAF): 32"

MIN. DOOR CLEAR WIDTH (DOUBLE LEAF): 32" FOR A SINGLE LEAF

MAX. DOOR CLEAR WIDTH (PER LEAF): 48"

STAIRWAY WIDTH (SECTION 1009.1):

MIN. STAIRWAY WIDTH: 44"

CORRIDOR WIDTH (SECTION 1015.2):

MIN. CORRIDOR WIDTH: 44"

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

EXIT ENCLOSEDURE FIRE RATING REQUIREMENTS (SECTION 1019.1):

MIN. FIRE RATING REQUIREMENT: 2 HRS

EXIT DOOR FIRE RATING REQUIREMENTS (TABLE 715.3):

MIN. FIRE RATING REQUIREMENT: 1.5 HRS

STAIR REQUIREMENTS (SECTION 1009.2 & 1009.3):

MIN. HEADROOM: 8'-0"

MIN. RISER HEIGHT: 4"

MAX. RISER HEIGHT: 7"

MIN. TREAD DEPTH: 11"

PLUMBING FACILITIES

(2008 NEW YORK CITY PLUMBING CODE)

MINIMUM NUMBER OF FIXTURES (SECTION 403.1):

PLUMBING FIXTURES SHALL BE PROVIDED FOR THE TYPE OF OCCUPANCY AND IN THE MINIMUM NUMBER SHOWN IN TABLE 403.1. TYPES OF OCCUPANCIES NOT SHOWN IN TABLE 403.1 SHALL BE CONSIDERED INDIVIDUALLY BY THE COMMISSIONER.

THE NUMBER OF OCCUPANTS AND OCCUPANCY CLASSIFICATION SHALL BE DETERMINED BY THE NEW YORK CITY BUILDING CODE

MIN. NO. OF PLUMBING FIXTURES (TABLE 403.1)

OCC. WC LAV. TUB/ SHOWER FOUNTAIN OTHER

A-2 100 100 1000 1 SVC SINK

B 200 200 1000 1 SVC SINK

M SEE CHART BELOW 1000 1 SVC SINK

S-1 1000 1000 1000 SEE 411 1 SVC SINK

S-2 1000 1000 1000 SEE 411 1 SVC SINK

F-2 1000 1000 SEE 411 1 PER-400 1 SVC SINK

BUSINESS PLUMBING FIXTURE REQUIREMENT (TABLE 403.1)

WATER CLOSETS & URINALS LAVATORIES

OF PERSONS # OF FIXTURES # OF PERSONS # OF FIXTURES

1-20 1 1-25 1

21-45 2 26-50 2

46-70 3 51-75 3

71-100 4 76-115 4

101-140 5 116-160 5

141-190 5 191-240 5

1 FIXTURE PER ADDITIONAL 60 PERSONS 1 FIXTURE PER ADDITIONAL 60 PERSONS

NUMBER OF OCCUPANTS OF EACH SEX (SECTION 403.3):

THE OCCUPANT LOAD SHALL BE COMPOSED OF 50% OF EACH SEX

REQUIRED DRINKING FOUNTAINS (SECTION 419.2):

UP TO 50% OF THE REQUIRED DRINKING FOUNTAINS MAY BE SUBSTITUTED BY DEDICATED PLUMBING FIXTURES WITH FAUCETS DESIGNED FOR FILLING A CONTAINER AT LEAST 10" IN HEIGHT.

URINALS SHALL NOT BE SUBSTITUTED FOR MORE THAN 50% OF THE REQUIRED WATER CLOSETS.

SUBSTITUTION FOR WATER CLOSETS (SECTION 419.2):

URINALS SHALL NOT BE SUBSTITUTED FOR MORE THAN 50% OF THE REQUIRED WATER CLOSETS.

Warning: It is a violation of the New York State Architecture Law, §16-01(b) for any person, unless they are acting under the direction of a Licensed Architect, to alter this item in any way.

Project No.: 207150

Date: 30 JAN 2015

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

File No.: A-016

Project No.: 207150

Date: 30 JAN 2015

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

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Project No.: 207150

Date: 30 JAN 2015

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Project No.: 207150

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Date: 30 JAN 2015

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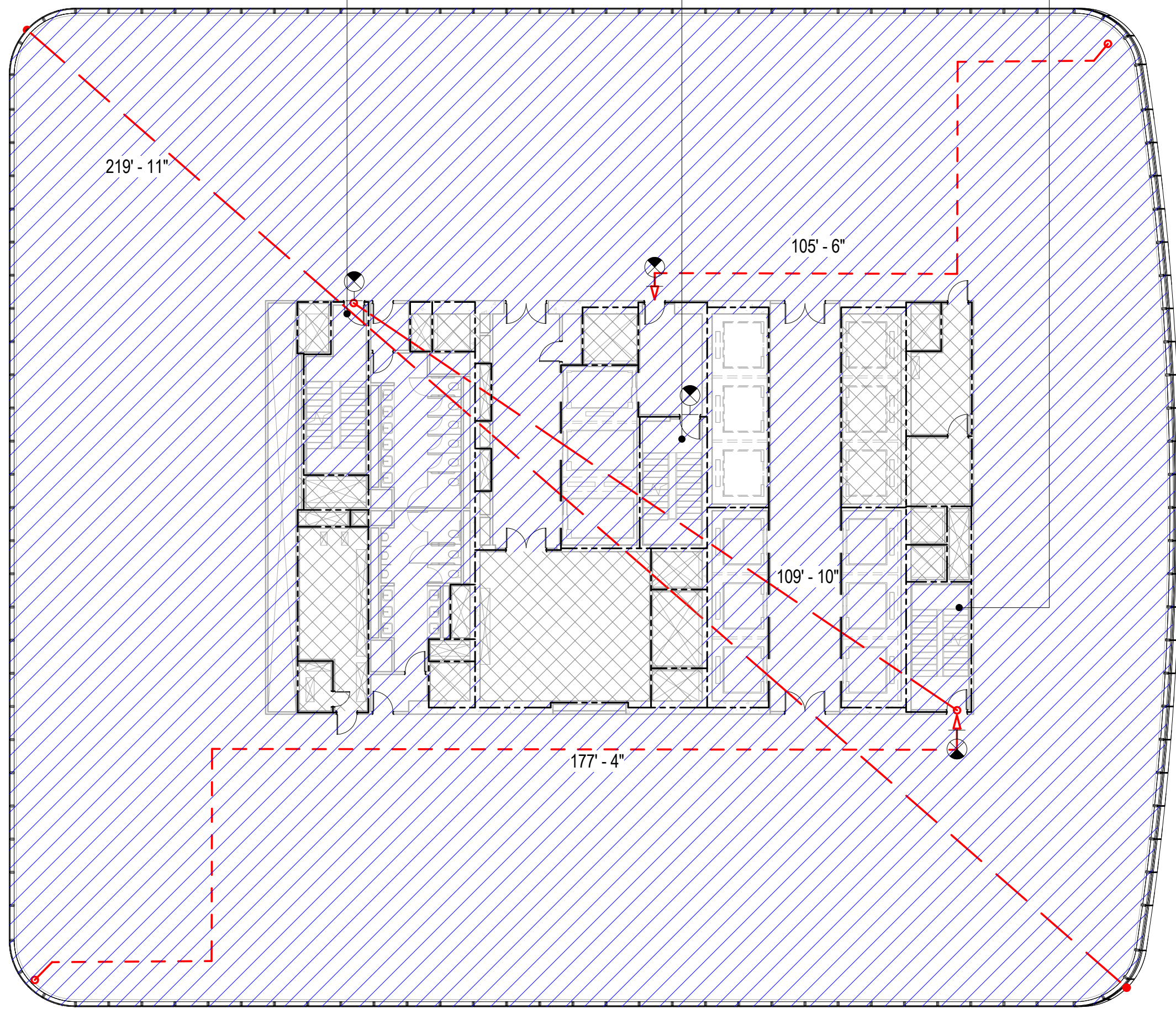
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LEVEL 57-58

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

| | | | | | |
|----------------------------|-----------------------|----------------------------|-----------------------|----------------------------|-----------------------|
| EXIT STAIR B | TOTAL CAPACITY: 147 | EXIT STAIR A | TOTAL CAPACITY: 147 | EXIT STAIR C | TOTAL CAPACITY: 147 |
| STAIR WIDTH: 44" | OCCUPANCY FACTOR: 0.3 | STAIR WIDTH: 44" | OCCUPANCY FACTOR: 0.3 | STAIR WIDTH: 44" | OCCUPANCY FACTOR: 0.3 |
| STAIR CAPACITY: 147 PEOPLE | | STAIR CAPACITY: 147 PEOPLE | | STAIR CAPACITY: 147 PEOPLE | |
| DOOR WIDTH: 34" | OCCUPANCY FACTOR: 0.2 | DOOR WIDTH: 34" | OCCUPANCY FACTOR: 0.2 | DOOR WIDTH: 34" | OCCUPANCY FACTOR: 0.2 |
| DOOR CAPACITY: 170 PEOPLE | | DOOR CAPACITY: 170 PEOPLE | | DOOR CAPACITY: 170 PEOPLE | |



| EGRESS CAPACITY - LEVEL 57-58 | | | | | |
|-------------------------------|-------------------|-------------------|------------------|------------------|------------------|
| STAIR | CLEAR STAIR WIDTH | STAIR OCC. FACTOR | STAIR OCC. TOTAL | CLEAR DOOR WIDTH | DOOR OCC. FACTOR |
| A | 44 | 0.3 | 147 | 34 | 0.2 |
| B | 44 | 0.3 | 147 | 34 | 0.2 |
| C | 44 | 0.3 | 147 | 34 | 0.2 |
| Grand total | | | | | |

| OCCUPANT LOAD - LEVEL 57-58 | | | |
|-----------------------------|----------|-------------------------|---------------------|
| USE OF SPACE | AREA | FLOOR AREA PER OCCUPANT | TOTAL OCCUPANT LOAD |
| BUSINESS | 23768 SF | 100 SF | 238 |
| MECHANICAL / STORAGE | 2060 SF | 300 SF | 7 |
| Grand total | 25828 SF | | 245 |

| PLUMBING FIXTURE CALCULATION - LEVEL 57-58 | | | | | |
|--|----------|--------|--|-------------------------|--------|
| FIXTURE TYPE | REQUIRED | | | PROVIDED ^{1,2} | |
| | MALE | FEMALE | | MALE | FEMALE |
| WATER CLOSETS | 3 | 5 | | 3 | 6 |
| URINALS | 2 | - | | 3 | - |
| LAVATORIES | 5 | 5 | | 6 | 6 |
| DRINKING FOUNTAINS | 3 | | | 0 | |
| BATH TUBS / SHOWERS | | 0 | | 0 | |
| SERVICE SINKS | | 1 | | 1 | |

1. PLUMBING FIXTURE REQUIREMENTS FOR BUSINESS OCCUPANCY ARE BASED ON POPULATION DENSITY OF 100 GROSS SQ. FT. PER PERSON BASED ON CHAPTER 3 OF THE 2008 NEW YORK CITY BUILDING CODE & INTRO 605A OF THE NEW YORK CITY PLUMBING CODE) AND A 50/50 SPLIT BETWEEN MALE AND FEMALE OCCUPANTS.

2. FULFILLMENT OF REQUIRED DRINKING FOUNTAINS FOR TENANT OFFICE AND RETAIL SPACE TO BE PROVIDED BY TENANT WHERE REQUIRED AS PER SECTION PC-403 OF THE 2008 NEW YORK CITY PLUMBING CODE. WHERE DRINKING FOUNTAINS ARE REQUIRED, UP TO 50% OF REQUIRED DRINKING FOUNTAINS MAY BE SUBSTITUTED BY DEDICATED PLUMBING FIXTURES WITH FAUCET DESIGNED FOR FILLING A CONTAINER AT LEAST 10 INCHES IN HEIGHT.

3. PROVISION FOR REQUIRED PLUMBING FIXTURES AT CELLAR B1, CELLAR B AND GROUND FLOOR ARE ACCOMMODATED AT THE CELLAR B LEVEL AS PER SECTION 403 OF THE NEW YORK CITY PLUMBING CODE.

4. FULFILLMENT OF REQUIRED TOILET FACILITIES WITHIN TENANT RETAIL SPACE FOR CUSTOMERS, PATRONS AND VISITORS TO BE PROVIDED BY TENANT WHERE REQUIRED AS PER SECTION PC-403.6 OF THE 2008 NEW YORK CITY PLUMBING CODE.

BUILDING CODE

BUILDING CODE OF THE CITY OF NEW YORK - 2008 EDITION, UNLESS OTHERWISE NOTED.

OCCUPANCY CLASSIFICATION

DESIGNATIONS FOR THE BUILDING (SECTION BC 301-312):

A-2 ASSEMBLY
B BUSINESS (PRIMARY)
M MERCANTILE
S-1 MODERATE-HAZARD STORAGE
F-2 LOW-HAZARD FACTORY INDUSTRIAL

CONSTRUCTION CLASSIFICATION

CONSTRUCTION TYPE FOR THE BUILDING (TABLE 503): 1A

FIRE RESISTANCE REQUIREMENTS FOR BUILDING ELEMENTS (TABLE 601 & 602):

| BUILDING ELEMENT | FIRE RATING |
|---|-------------|
| STRUCTURAL FRAME | 3 HRS |
| BEARING WALLS (EXTERIOR) | 3 HRS |
| BEARING WALLS (INTERIOR) | 3 HRS |
| NONBEARING WALLS & PARTITIONS (EXTERIOR): | 1 HR |
| SEPARATION BETWEEN 5'-0" AND 10'-0" | 1 HR |
| SEPARATION BETWEEN 10'-0" AND 30'-0" | 1 HR |
| SEPARATION GREATER OR EQUAL TO 30'-0" | 0 HRS |
| NONBEARING WALLS & PARTITIONS (INTERIOR) | 2 HRS |
| FLOOR CONSTRUCTION | 2 HRS |
| ROOF CONSTRUCTION | 1.5 HR |

BUILDING LIMITATIONS

AREA, HEIGHT & # OF STORIES (TABLE 503):

CLASS 1A CONSTRUCTION: NO LIMIT FOR HEIGHT, AREA, OR # OF STORIES

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

FIRE SEPARATION

BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

OCCUPANCY SEPARATION NEED NOT BE PROVIDED FOR STORAGE AREAS SERVING GROUP B OR IF ANY OF THE FOLLOWING CONDITIONS APPLY (TABLE 508.3):

- THE STORAGE AREA IS LESS THAN 10% OF THE FLOOR AREA AND LESS THAN 3,000 SF

- THE STORAGE AREA IS PROVIDED WITH AN AUTOMATIC FIRE-EXTINGUISHING SYSTEM AND IS LESS THAN 3,000 SF

- THE STORAGE AREA IS LESS THAN 1,000 SF

SPACES OCCUPIED BY DIFFERENT TENANTS SHALL BE SEPARATED BY FIRE BARRIERS HAVING AT LEAST 1-HOUR FIRE RESISTANCE RATINGS (SECTION 509.9).

MEANS OF EGRESS

EXIT ACCESS TRAVEL DISTANCE (TABLE 1015.1)

OCCUPANCY

| | |
|-----|-----|
| B | 300 |
| M | 200 |
| S-1 | 200 |
| S-2 | 250 |
| F-2 | 250 |

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

EXIT OR EXIT ACCESS REMOTENESS (SECTION 1014.2.1):

MIN. EXIT REMOTENESS: 1/2 THE MAX. DIAGONAL DISTANCE

MIN. EXIT REMOTENESS (SPRINKLERED): 1/3 THE MAX. DIAGONAL DISTANCE

DEAD ENDS (1016.3):

MAX. DEAD END LENGTH (GROUP B, F): 50'-0"

COMMON PATH OF EGRESS TRAVEL (1013.3):

MAX. COMMON PATH OF EGRESS (GROUP B, F, S): 100'-0"

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

DOOR WIDTH (SECTION 1008.1.1.1):

MIN. DOOR CLEAR WIDTH (SINGLE LEAF): 32"

MIN. DOOR CLEAR WIDTH (DOUBLE LEAF): 32" FOR A SINGLE LEAF

MAX. DOOR CLEAR WIDTH (PER LEAF): 48"

STAIRWAY WIDTH (SECTION 1009.1):

MIN. STAIRWAY WIDTH: 44"

CORRIDOR WIDTH (SECTION 1015.2):

MIN. CORRIDOR WIDTH: 44"

*BUILDING IS FULLY SPRINKLERED IN ACCORDANCE WITH SECTION 903.3.1.1

EXIT DOOR FIRE RATING REQUIREMENTS (SECTION 1019.1):

MIN. FIRE RATING REQUIREMENT: 2 HRS

EXIT DOOR FIRE RATING REQUIREMENTS (TABLE 715.3):

MIN. FIRE RATING REQUIREMENT: 1.5 HRS

STAIR REQUIREMENTS (SECTION 1009.2 & 1009.3):

MIN. HEADROOM: 8'-0"

MIN. RISER HEIGHT: 4"

MAX. RISER HEIGHT: 7"

MIN. TREAD DEPTH: 11"

PLUMBING FACILITIES

(2008 NEW YORK CITY PLUMBING CODE)

MINIMUM NUMBER OF FIXTURES (SECTION 403.1):

PLUMBING FIXTURES SHALL BE PROVIDED FOR THE TYPE OF OCCUPANCY AND IN THE MINIMUM NUMBER SHOWN IN TABLE 403.1. TYPES OF OCCUPANCIES NOT SHOWN IN TABLE 403.1 SHALL BE CONSIDERED INDIVIDUALLY BY THE COMMISSIONER.

THE NUMBER OF OCCUPANTS AND OCCUPANCY CLASSIFICATION SHALL BE DETERMINED BY THE NEW YORK CITY BUILDING CODE.

MIN. NO. OF PLUMBING FIXTURES (TABLE 403.1):

| OCC. | WC | AV. | TUB | DRINKING | OTHER |
|------|-----------------|--------|---------|------------|------------|
| A-2 | 175 | 175 | - | 1/1000 | 1 SVC SINK |
| B | 200 | 200 | - | 1/1000 | 1 SVC SINK |
| M | SEE CHART BELOW | 1/1000 | 1/1000 | 1 SVC SINK | |
| S-1 | 1/1000 | 1/1000 | 1/1000 | SEE 411 | 1 SVC SINK |
| S-2 | 1/1000 | 1/1000 | 1/1000 | SEE 411 | 1 SVC SINK |
| F-2 | 1/1000 | 1/1000 | SEE 411 | 1/1000-400 | 1 SVC SINK |

BUSINESS PLUMBING FIXTURE REQUIREMENT (TABLE 403.1):

WATER CLOSETS & URINALS: LAVATORIES:

OF PERSONS # OF FIXTURES # OF PERSONS # OF FIXTURES (PER SEX) (PER SEX)

| | | | |
|---------|---|---------|---|
| 1-20 | 1 | 1-25 | 1 |
| 21-45 | 2 | 26-50 | 2 |
| 46-70 | 3 | 51-75 | 3 |
| 71-100 | 4 | 76-100 | 4 |
| 101-140 | 5 | 106-140 | 5 |
| 141-190 | | | |

1 FIXTURE PER ADDITIONAL 60 PERSONS

1 FIXTURE PER ADDITIONAL 60 PERSONS

NUMBER OF OCCUPANTS OF EACH SEX (SECTION 403.3):

THE OCCUPANT LOAD SHALL BE COMPOSED OF 50% OF EACH SEX

REQUIRED DRINKING FOUNTAINS (SECTION 419.2):

UP TO 50% OF THE REQUIRED DRINKING FOUNTAINS MAY BE SUBSTITUTED BY DEDICATED PLUMBING FIXTURES WITH FAUCETS DESIGNED FOR FILLING A CONTAINER AT LEAST 10" IN HEIGHT.

SUBSTITUTION FOR WATER CLOSETS (SECTION 419.2):

URINALS SHALL NOT BE SUBSTITUTED FOR MORE THAN 50% OF THE REQUIRED WATER CLOSETS.

Warning: It is a violation of the New York State Architecture Law, §16-01(b) for any person, unless they are acting under the direction of a Licensed Architect, to alter this item in any way.

Project No.: 207150

Date: 29 FEB 2015

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

File No.: A-027



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Code Consultant

Code Consultants Professional Engineers PC

215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant

Entek Engineering LLC

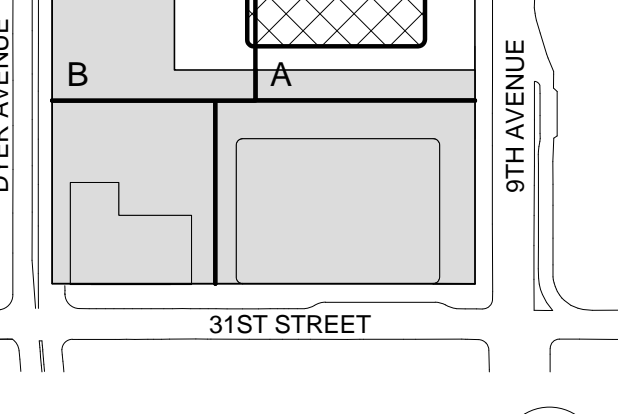
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.

650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:

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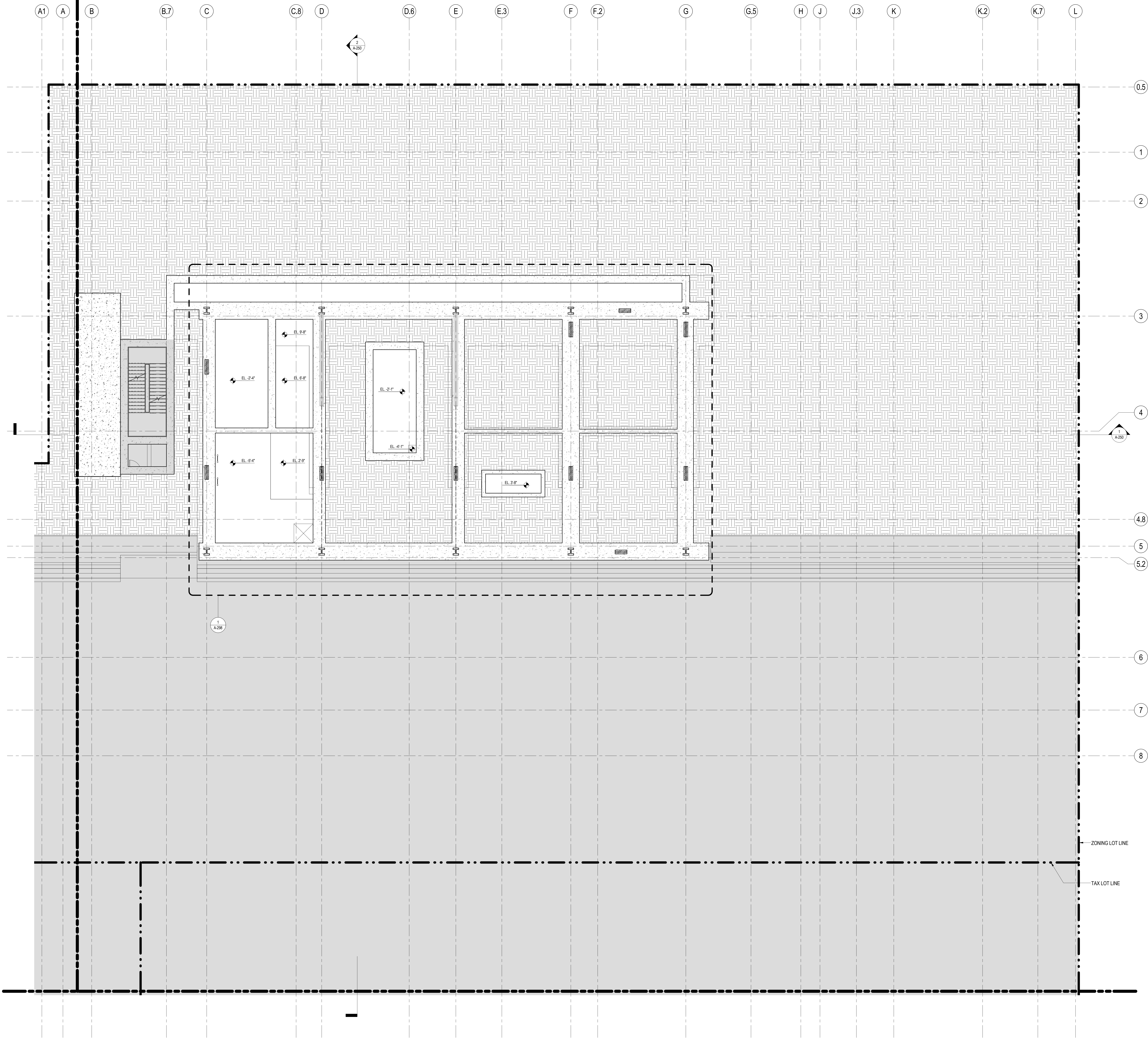
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8/20/2015 3:05:18 PM



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B-700).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE D9, UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPPFASG/CITEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/PAINT INDICATED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPPF DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION/ROCK, RISER AND EQUIPMENT DESIGNATIONS.
12. FOR PROJECT WORK POINT REFER TO A-000 SERIES DRAWINGS.
13. EXISTING DIMENSIONS AND CONDITIONS FOR THE ADJACENT LOFT BUILDING MUST BE CHECKED AND VERIFIED BEFORE COMMENCEMENT OF WORK. ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THESE DOCUMENTS ARE TO BE REPORTED TO THE ARCHITECT OF RECORD.
14. THE PROJECT MUST SATISFY ALL APPLICABLE SEISMIC DESIGN PROVISIONS INDICATED IN SECTION BC 1910 OF THE 2008 NEW YORK CITY BUILDING CODE. REFER TO THE STRUCTURAL CALCULATION BOOK (ISSUED ON JUNE 20, 2014) FOR SEISMIC LOAD DESIGN PARAMETERS.



**MANHATTAN WEST:
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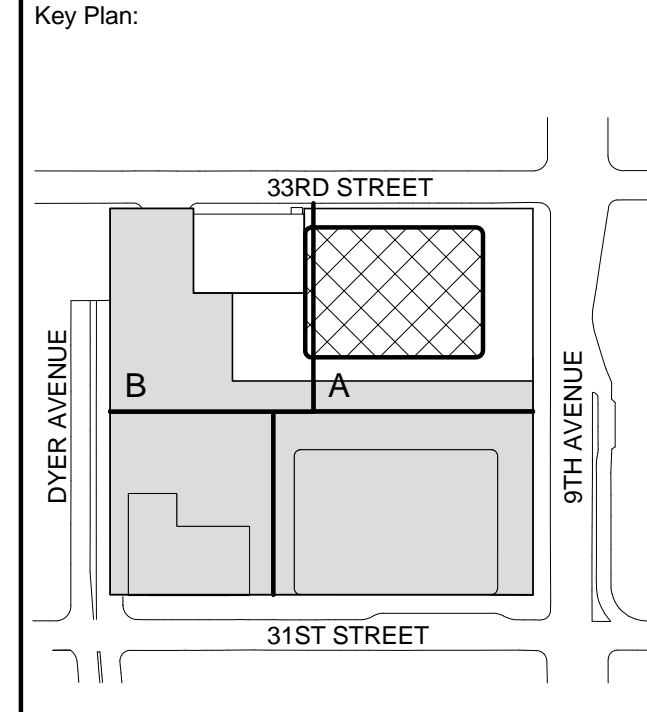
Code Consultants Professional Engineers PC
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Facade Maintenance Consultant

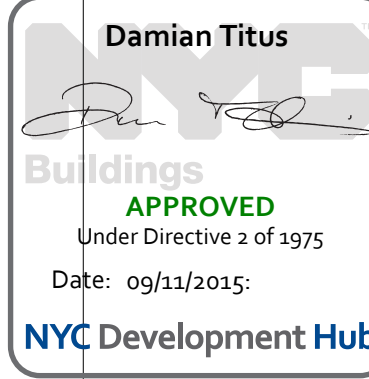
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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

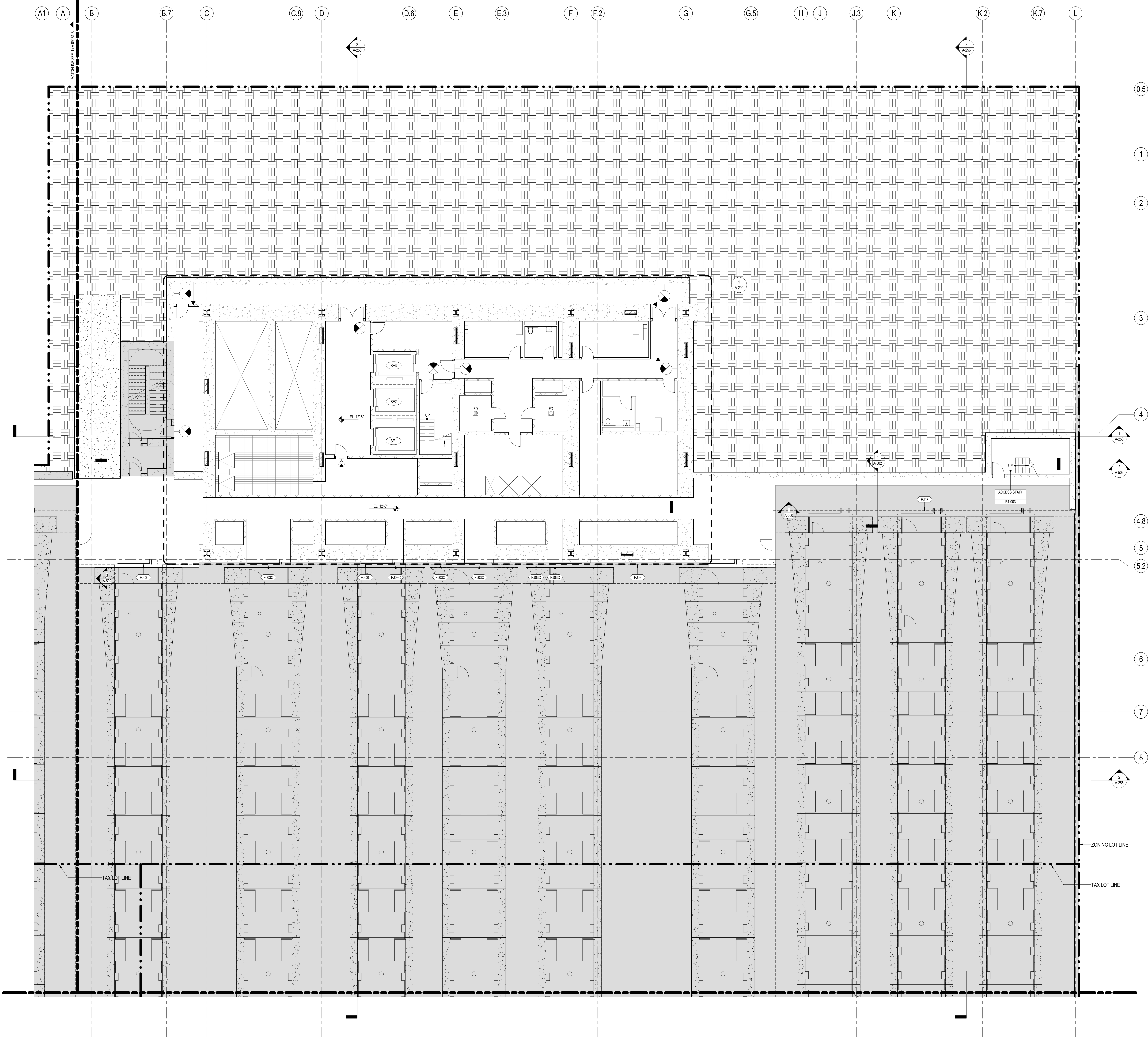
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| | | |
|--------------------|-------------------|--------------------------------|
| 5 | 21 AUG 2015 | ISSUED FOR BUILDING PERMIT |
| 4 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 3 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 1 | 19 NOV 2013 | ISSUED FOR 3D PROGRESS PRICING |
| No. | Date | Description |
| Sheet Name: | | |
| CELLAR B1 PIT PLAN | | |
| Project No.: | B-SCAN Sheet No.: | |
| 207150 | A-094.00 | |
| Date: | 21 AUG 2015 | Sheet No.: |
| Scale: | 1/8" = 1'-0" | A-098B1P |
| File No.: | A-098B1P | Page No.: |
| | | 17 OF 30 |





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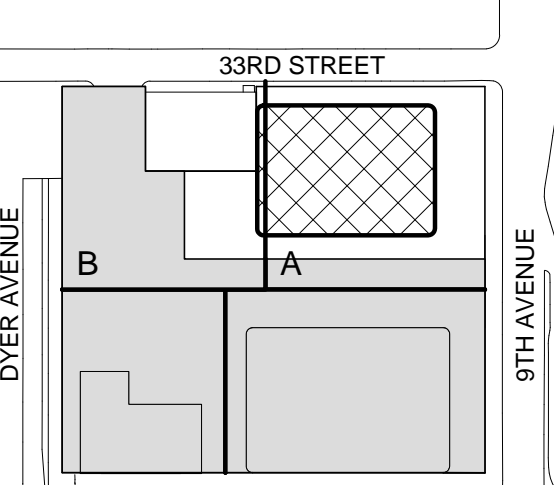
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Rowan Williams Davies & Irwin Inc.
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Key Plan:



Seal & Signature:



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| 8 | 21 AUG 2015 | ISSUED FOR BUILDING PERMIT |
| 7 | 1 APR 2015 | ISSUED FOR BUILDING PERMIT |
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2013 | ISSUED FOR RECONCILIATION |

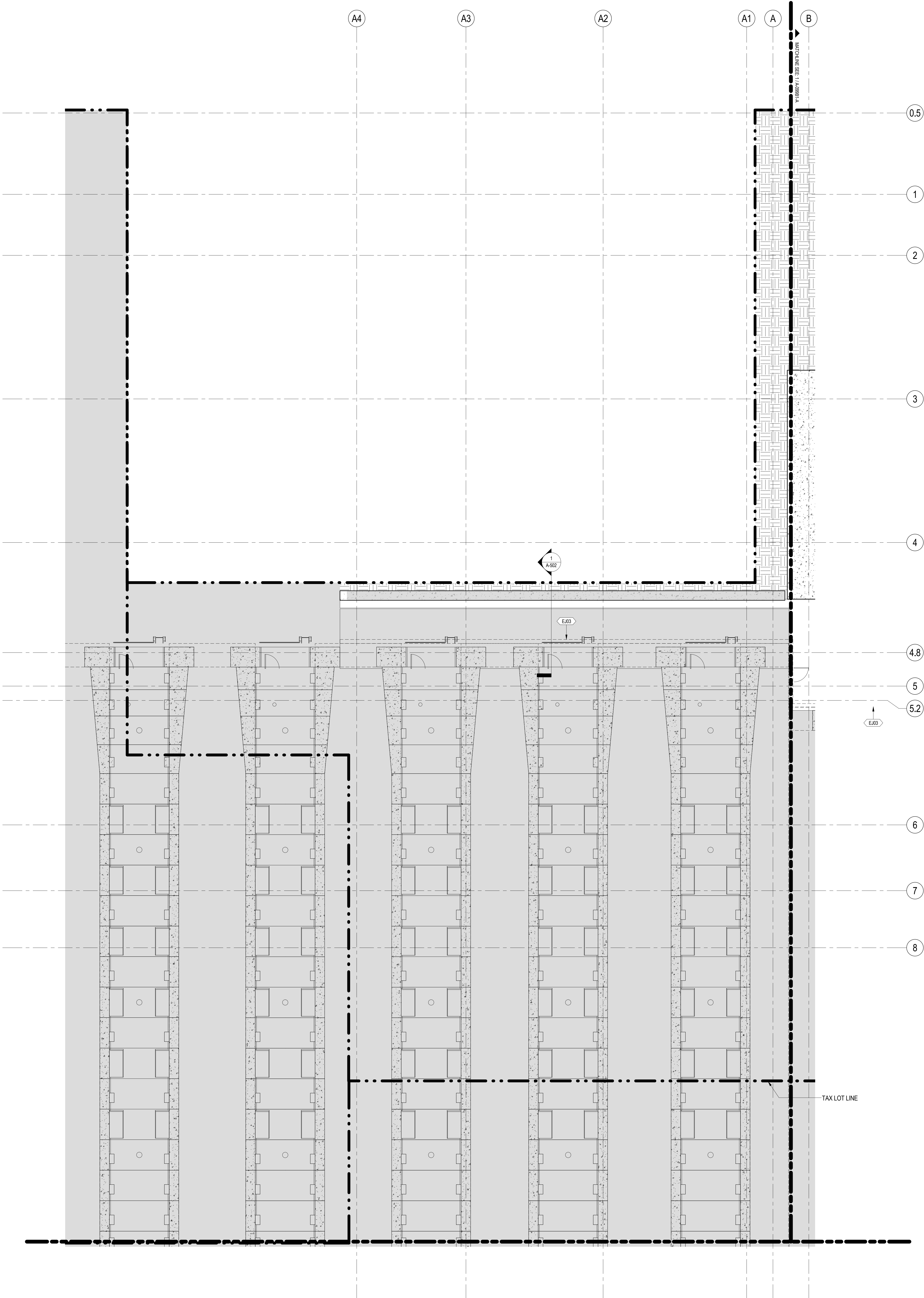
No. _____ Date _____ Description _____

Sheet Name: **CELLAR B1 FLOOR PLAN - PART A**

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-095B1-A

B-SCAN Sheet No.: **A-095.00**
Sheet No.: **A-095B1-A**
Page No.: 18 OF 30

Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 08/21/2015
NYC Development Hub

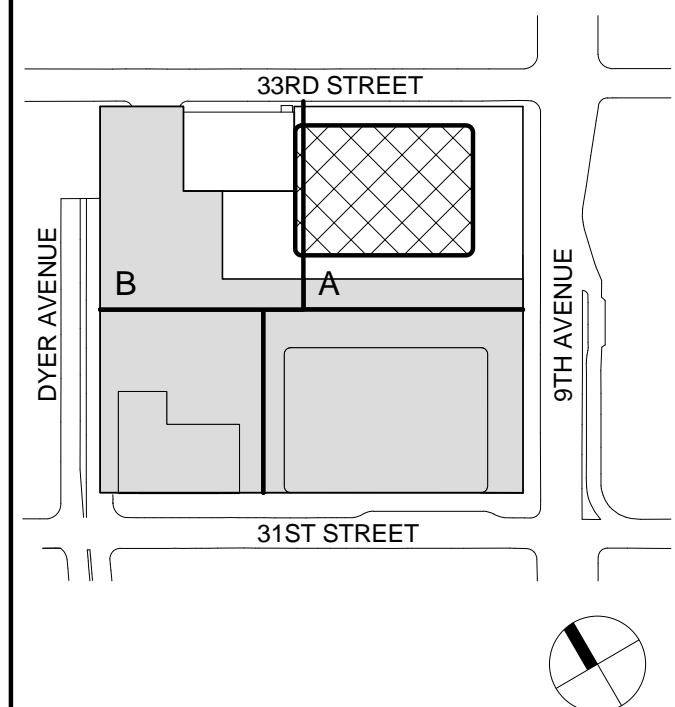


SHEET NOTES

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3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 057010.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, LND.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPPFA56CITEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/PAINT/MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LND.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPPFA56CITEL FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION/HOOK, RISER AND EQUIPMENT DESIGNATIONS.
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| |
|---|
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| Acoustical Consultant Cerami & Associates 404 Fifth Avenue #8, New York, NY 10018 |
| Vibration Consultant Wilson, Uhrig & Associates, Inc. 65 Broadway, Suite 401, New York, NY 10006 |
| Code Consultant Code Consultants Professional Engineers PC 215 West 40th Street, 15th Floor, New York, NY 10018 |
| Facade Maintenance Consultant Entek Engineering LLC 166 Ames Street, Hackensack, NJ 07601 |
| Wind Tunnel Consultant Rowan Williams Davies & Irwin Inc. 650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8 |

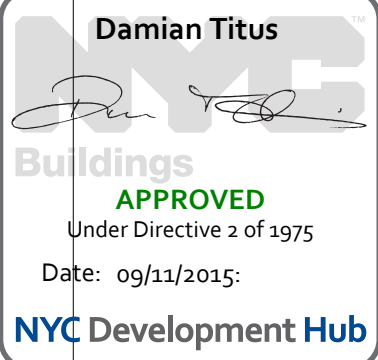
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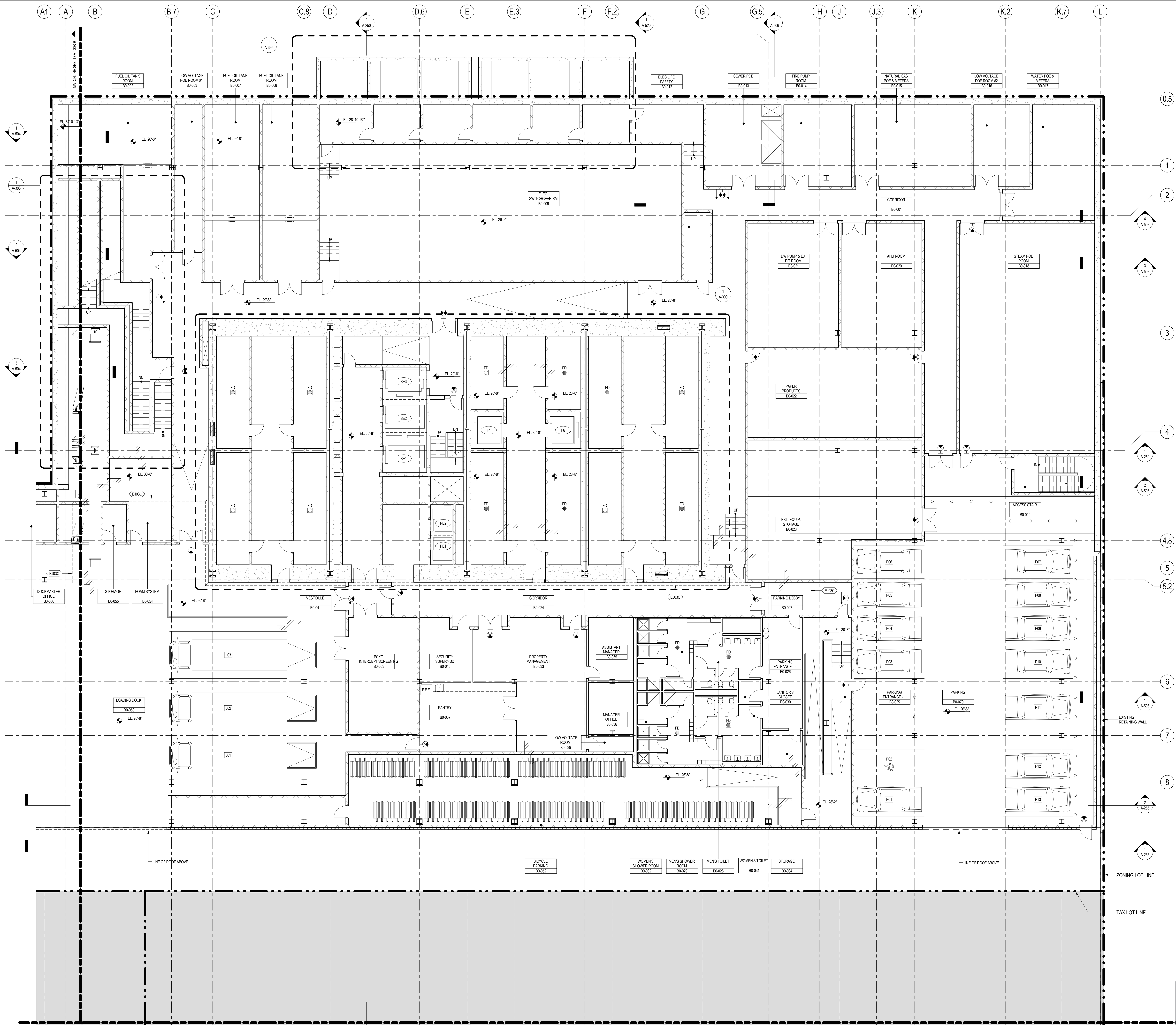
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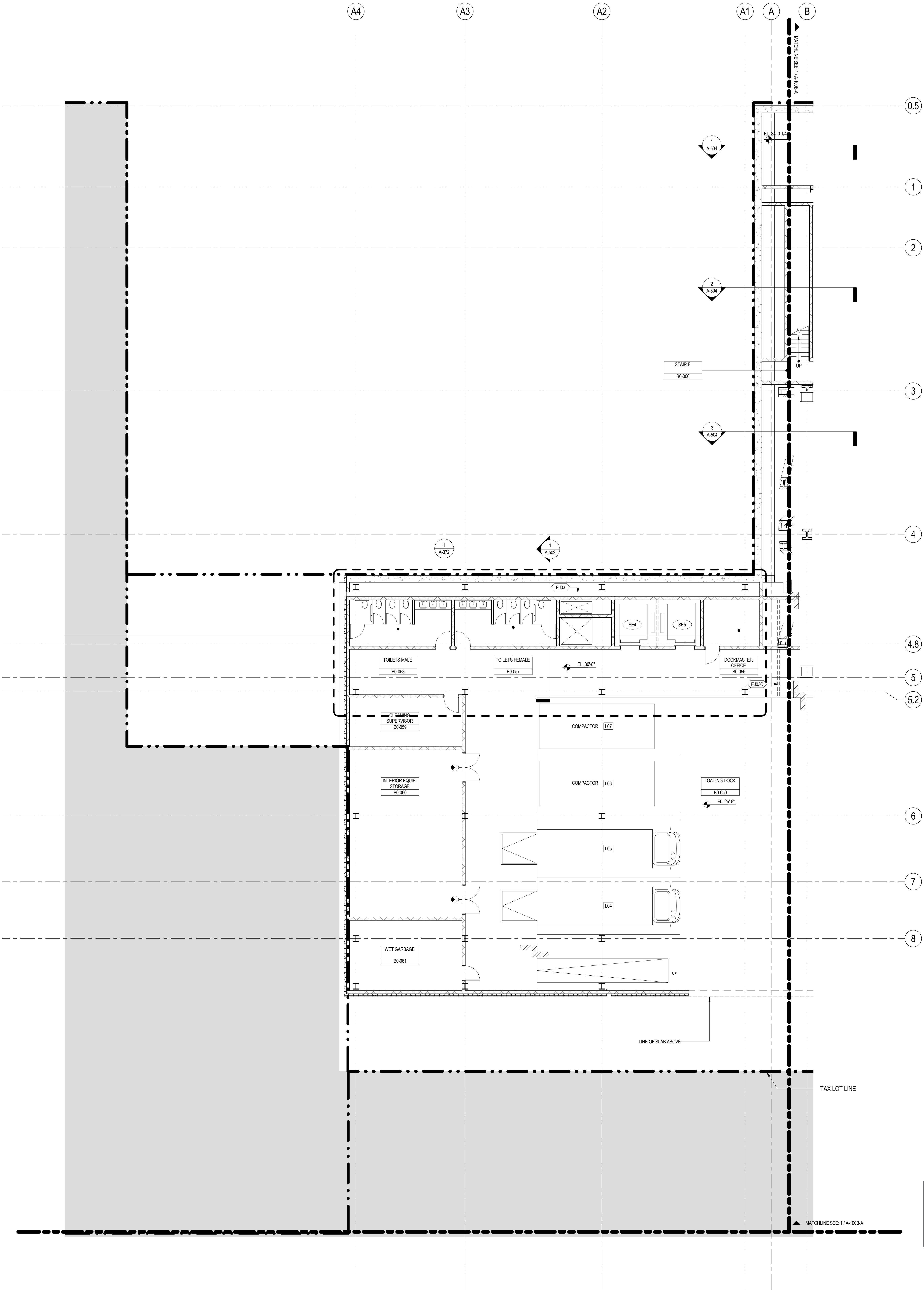


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| 7 | 1 APR 2015 | ISSUED FOR BUILDING PERMIT |
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 30% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONCILIATION |
| No. | Date | Description |
| Sheet Name: | | |
| CELLAR B1 FLOOR PLAN - PART B | | |
| Project No.: 207150 | B-SCAN Sheet No.: A-096.00 | |
| Date: 27 AUG 2015 | Sheet No.: A-099B1-B | |
| Scale: 1/8" = 1'-0" | Page No.: 19 OF 30 | |
| File No.: A-099B1-B | | |



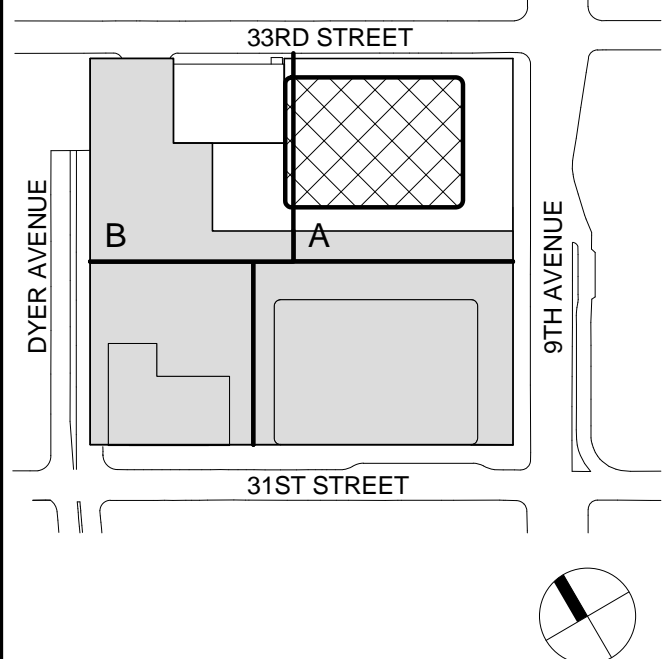


SHEET NOTES

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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 05710.
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10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPPFA/ASCE/TEL SERVICE DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION HOOK, RISER AND EQUIPMENT DESIGNATIONS.
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- Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave., Suite 1, Mill Valley, California 94041
- Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854
- Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122
- Field Operations
475 10th Avenue, New York, NY 10018
- Security Consultant
Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473
- Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005
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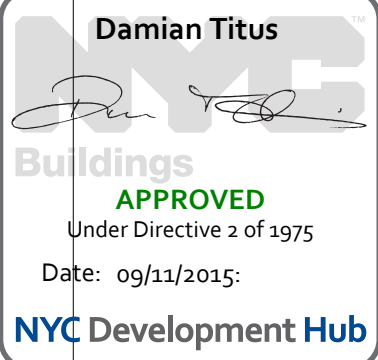
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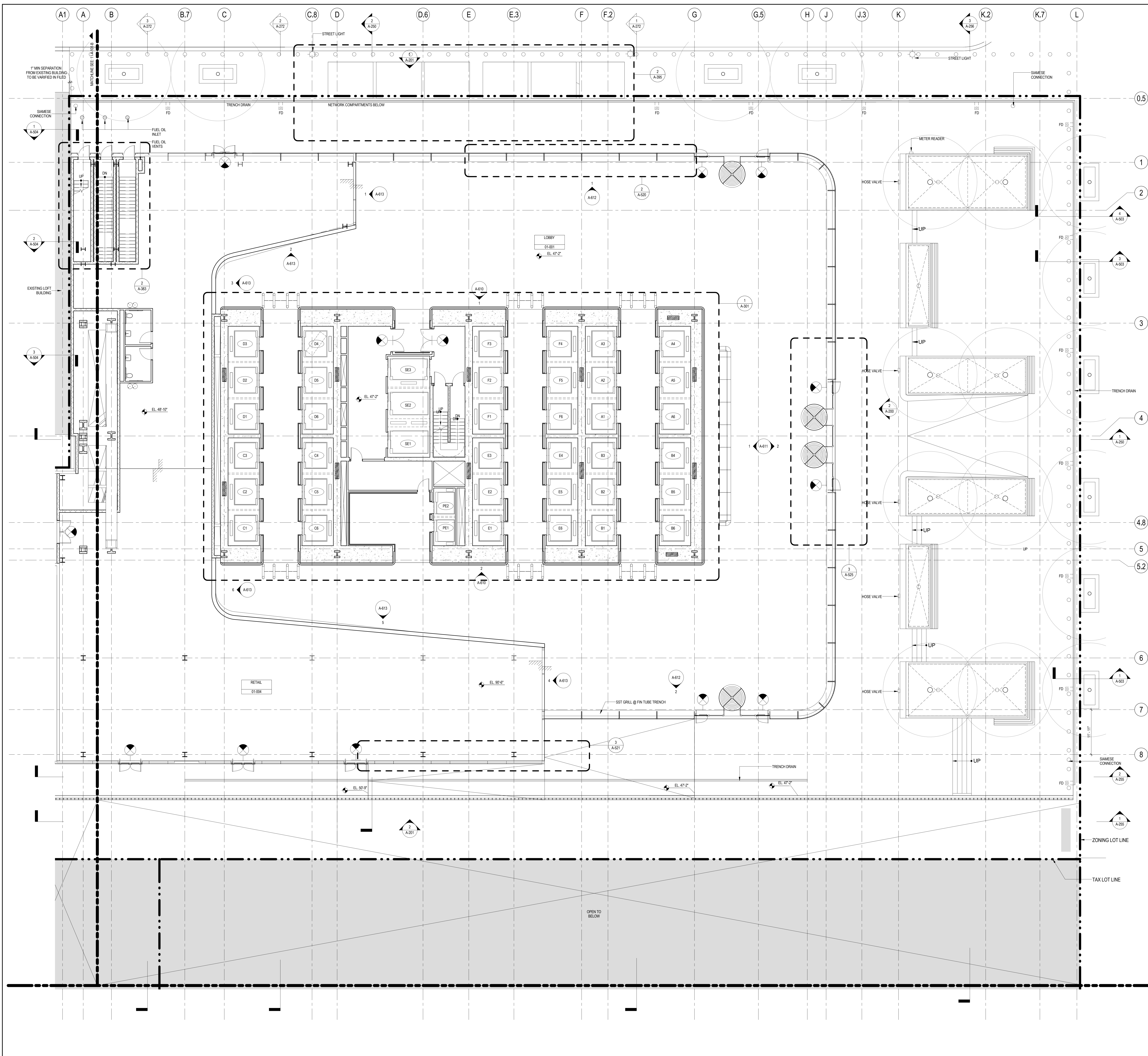
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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

Project Name:
CELLAR B FLOOR PLAN - PART B

| | |
|------------------------|--------------------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-098.00 |
| Date: 21 AUG 2015 | Sheet No.: A-1008-B |
| Scale: 1/8" = 1'-0" | Page No.: 21 OF 30 |
| File No.: A-1008-B | |



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5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 05700.

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7. ALL PARTITIONS SHALL BE TYPE DR, LND.

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9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LND.

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MANHATTAN WEST: NORTH TOWER
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Client

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Civil Engineering

Philip Habib & Associates
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MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005
Vertical Transportation

Edgett Williams Consulting Group, Inc.
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Sustainable Design

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Geotechnical Engineering

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Landscape Consultant

Field Operations
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Security Consultant

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250 State Street #F1, North Haven, CT 06473
Blast Consultant

Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005
Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016
Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006
Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018
Facade Maintenance Consultant

Entek Engineering LLC
186 Ames Street, Hackensack, NJ 07601
Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

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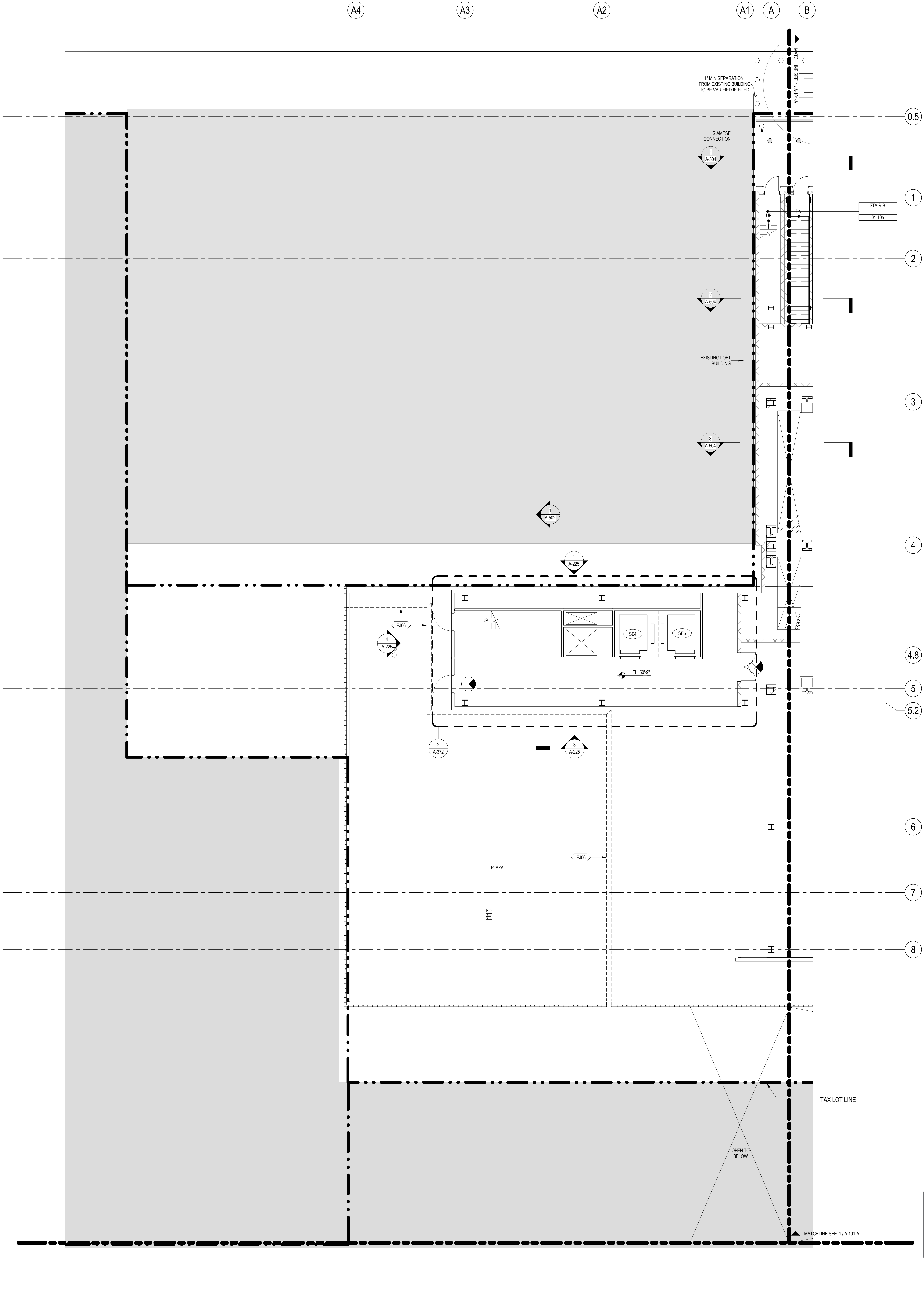
Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-101-A

B-SCAN Sheet No.:
A-100.00
Sheet No.:
A-101-A
Page No.: 22 OF 30

GROUND FLOOR PLAN - PART A

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-101-A

B-SCAN Sheet No.:
A-100.00
Sheet No.:
A-101-A
Page No.: 22 OF 30



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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 057010.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DB, LND.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPPFA/SC/TEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/VALVE MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LND.
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102 East Bluffside Ave., Suite 1, Mill Valley, California 94941
- Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854
- Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122
- Field Operations
475 10th Avenue, New York, NY 10018
- Security Consultant
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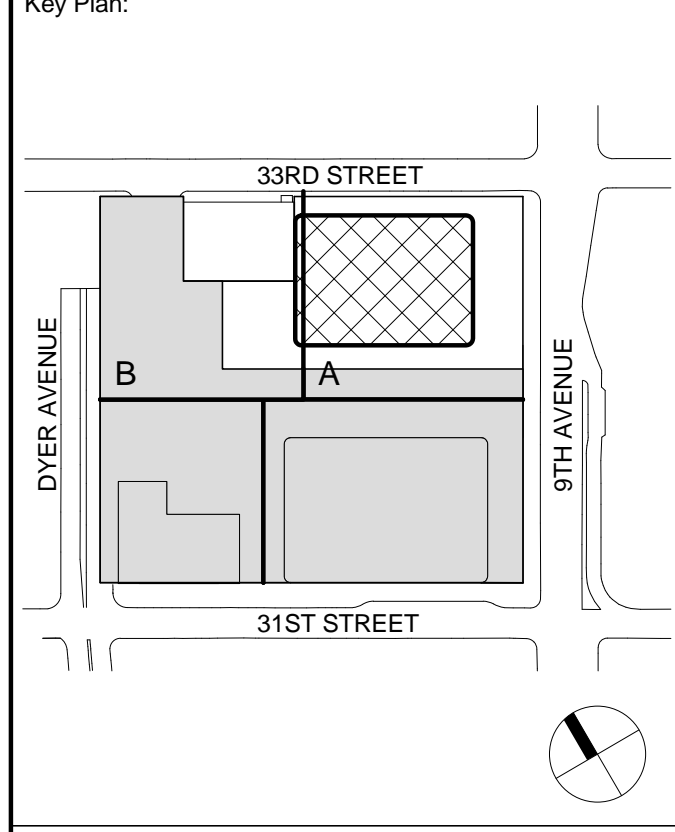
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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

GROUND FLOOR
PLAN - PART B

| | |
|------------------------|-------------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-101.00 |
| Date: 27 AUG 2015 | Sheet No.: A-101-B |
| Scale: 1/8" = 1'-0" | Page No.: 23 OF 30 |
| File No.: A-101-B | |

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Key Plan:

Seal & Signature:

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Project No.: 207150
Date: 27 AUG 2015
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B-SCAN Sheet No.: A-102.00
Sheet No.: A-102
Page No.: 24 OF 30

LEVEL 2 FLOOR
PLAN - RETAIL

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
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B-SCAN Sheet No.: A-102.00
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LEVEL 2 FLOOR
PLAN - RETAIL

Project No.: 207150
Date: 27 AUG 2015
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B-SCAN Sheet No.: A-102.00
Sheet No.: A-102
Page No.: 24 OF 30

LEVEL 2 FLOOR
PLAN - RETAIL

Project No.: 207150
Date: 27 AUG 2015
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B-SCAN Sheet No.: A-102.00
Sheet No.: A-102
Page No.: 24 OF 30

LEVEL 2 FLOOR
PLAN - RETAIL

Project No.: 207150
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File No.: A-102

B-SCAN Sheet No.: A-102.00
Sheet No.: A-102
Page No.: 24 OF 30

LEVEL 2 FLOOR
PLAN - RETAIL

Project No.: 207150
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Scale: 1/8" = 1'-0"
File No.: A-102

B-SCAN Sheet No.: A-102.00
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Page No.: 24 OF 30

LEVEL 2 FLOOR
PLAN - RETAIL

Project No.: 207150
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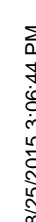
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Sheet No.: A-102
Page No.: 24 OF 30

Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

Project No.: 207150
Date: 27 AUG 2015
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File No.: A-102

B-SCAN Sheet No.: A-102.00
Sheet No.: A-102
Page No.: 24 OF 30

LEVEL 2 FLOOR
PLAN - RETAIL



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Mueser Rutledge Consulting Engineers
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Field Operations
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Security Consultant
Ducibella, Venter & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
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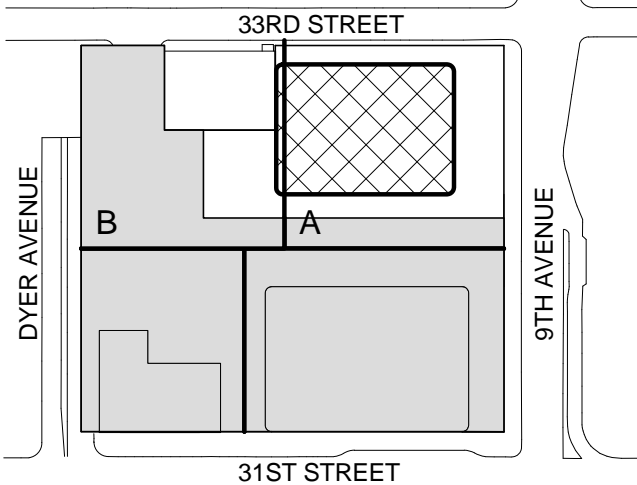
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Wilson, Uhrig & Associates, Inc.
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Code Consultants Professional Engineers PC
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Wind Tunnel Consultant
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Key Plan:



Seal & Signature:



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| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. _____

Date _____

Description _____

Sheet Name: _____

LEVEL 4 FLOOR
PLAN -
MECHANICAL

Project No.: 207150

Date: 27 AUG 2015

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

File No.: A-104

B-SCAN Sheet No.: A-104.00

Sheet No.: A-104

Page No.: 26 OF 30

Damian Titus

Build

APPROVED

Under Directive 2 of 1975

Date: 09/21/2015

NYC Development Hub

SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-005.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 05710.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, LND.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FASS/CTEL. SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LND.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPP/FASS/CTEL. SERVICE DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
12. FOR PROJECT WORK POINT REFER TO A-000 SERIES DRAWINGS.
13. EXISTING DIMENSIONS AND CONDITIONS FOR THE ADJACENT LOFT BUILDING MUST BE CHECKED AND VERIFIED BEFORE COMMENCEMENT OF WORK. ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THESE DOCUMENTS ARE TO BE REPORTED TO THE ARCHITECT OF RECORD.
14. THE PROJECT MUST SATISFY ALL APPLICABLE SEISMIC DESIGN PROVISIONS INDICATED IN SECTION BC 1910 OF THE 2008 NEW YORK CITY BUILDING CODE. REFER TO THE STRUCTURAL CALCULATION BOOK ISSUED ON JUNE 20, 2014 FOR SEISMIC LOAD DESIGN PARAMETERS.



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Cerami & Associates
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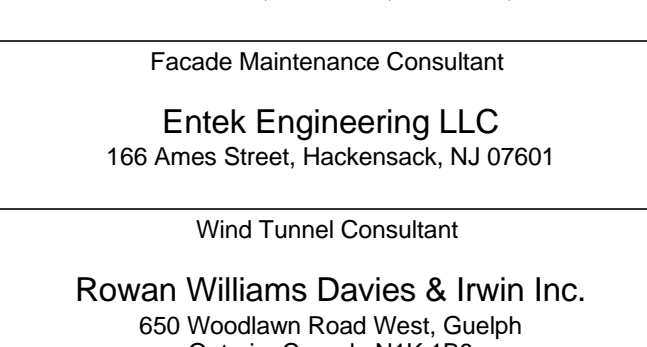
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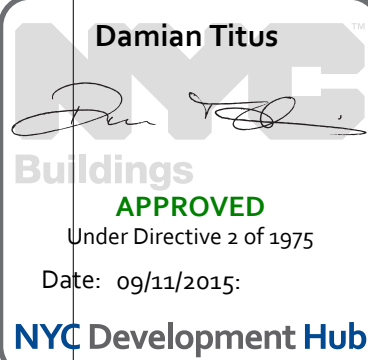
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**LEVEL 5 FLOOR
PLAN -
MECHANICAL**

Project No.: 207120
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-105
B-SCAN Sheet No.: A-105.00
Sheet No.: A-105
Page No.: 27 OF 30

SHEET NOTES

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2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE, SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 051010.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAS/SC/TEL SERVICE DRAWINGS FOR LOCATIONS OF ALL CEILING MOUNTED DEVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPP DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
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Seal & Signature:

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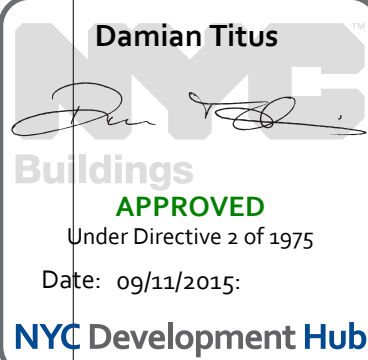
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No. Date Description
Sheet Name:

LEVEL 6-16
FLOOR PLAN -
TYPICAL
LOW-RISE

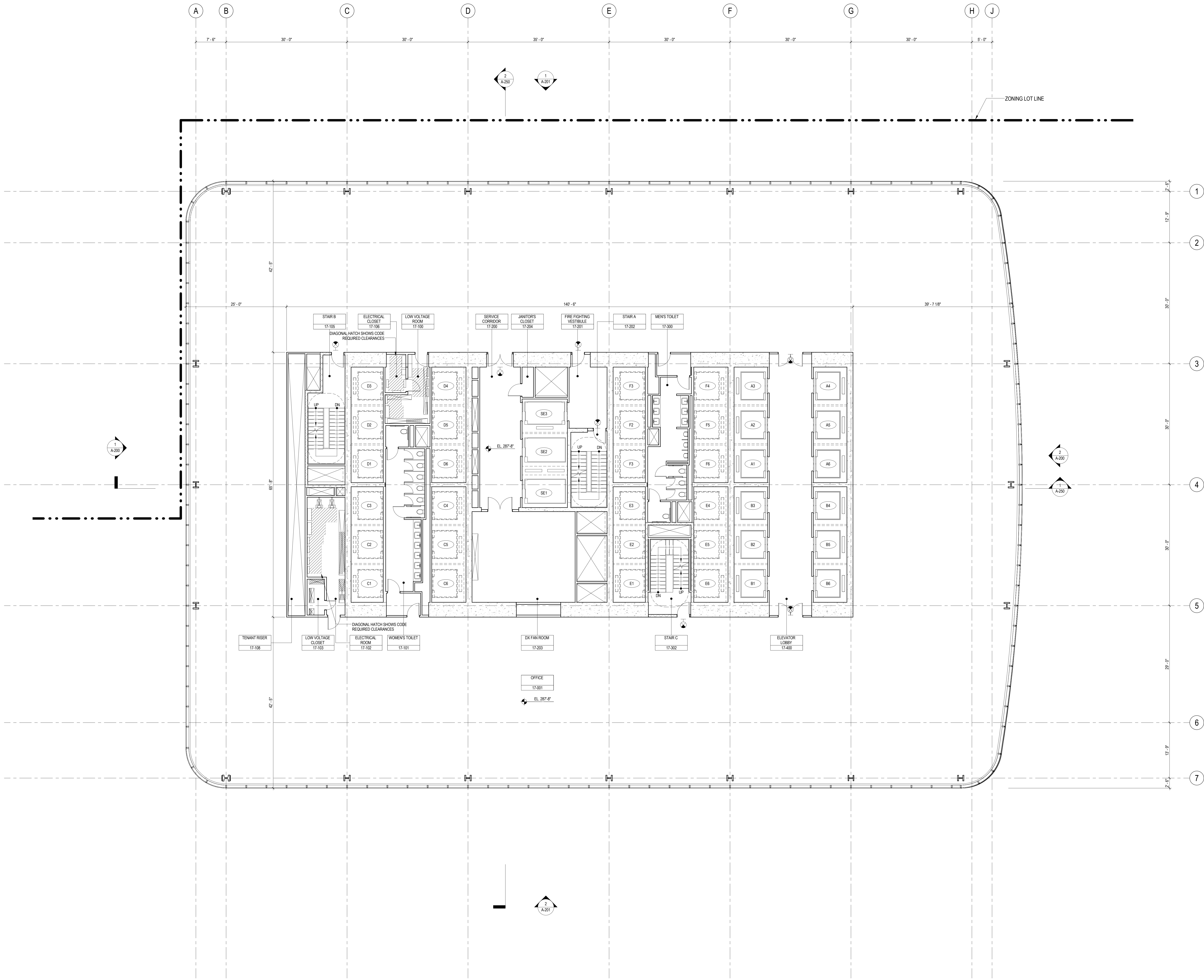
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Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-106

B-SCAN Sheet No.: A-106.00
Sheet No.: A-106
Page No.: 28 OF 30



Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-106

B-SCAN Sheet No.: A-106.00
Sheet No.: A-106
Page No.: 28 OF 30



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. C-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. C-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B270).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, LND.
8. FOR REFLECTED CEILING PLANS SEE A-800 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAS/GC/TEL SERVICE DRAWINGS FOR LOCATIONS OF ALL CEILING MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LND.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPP/FAS/GC/TEL SERVICE DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
12. FOR PROJECT WORK POINT REFER TO A-000 SERIES DRAWINGS.
13. EXISTING DIMENSIONS AND CONDITIONS FOR THE ADJACENT LOFT BUILDING MUST BE CHECKED AND VERIFIED BEFORE COMMENCEMENT OF WORK. ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THESE DOCUMENTS ARE TO BE REPORTED TO THE ARCHITECT OF RECORD.
14. THE PROJECT MUST SATISFY ALL APPLICABLE SEISMIC DESIGN PROVISIONS INDICATED IN SECTION BC 1910 OF THE 2008 NEW YORK CITY BUILDING CODE. REFER TO THE STRUCTURAL CALCULATION BOOK (ISSUED ON JUNE 20, 2014) FOR SEISMIC LOAD DESIGN PARAMETERS.



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Cerami & Associates
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Vibration Consultant
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Code Consultants Professional Engineers PC
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Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:

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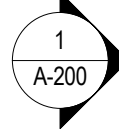
Key Plan:

Key Plan:

Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

Project No.: 207150
Date: 21 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-117

B-SCAN Sheet No.:
A-117.00
Sheet No.:
A-117
Page No.: 29 OF 30



1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND NOTES TO THE CONTRACTOR, THE WORK NOTES REFER TO SHEET NO. 0-05.
3. FOR ARCHITECTURAL ABREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOVING HEIGHTS REFER TO SHEET NO. 0-06.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SEE TECHNICAL SPECIFICATIONS.
6. ALL PARTITIONS TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE 09, UNO.
8. FOR SELECTED CEILING PANELS SEE A-600 SERIES DRAWINGS. IF NOT PROVIDED, SEE MEYER & ASSOCIATES SERVICE DRAWINGS FOR LOCATIONS AND TYPES.
9. FOR STRUCTURAL COLUMN, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
10. FOR STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DETAILS.
11. FOR MEPP DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROISER AND EQUIPMENT DESIGNATIONS.
12. FOR PROJECT WORK POINT REFER TO A-600 SERIES DRAWINGS.
13. EXISTING DRAINAGE AND CONDITIONS FOR THE EXISTING FLOORING SHALL BE CHECKED AND VERIFIED BEFORE COMMENCEMENT OF WORK. ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THESE DOCUMENTS ARE TO BE REPORTED TO THE ARCHITECT OF RECORD.
14. THE PROJECT MUST SATISFY ALL APPLICABLE SEISMIC DESIGN REQUIREMENTS IN SECTION 0510 OF THE 2008 NEW YORK CITY BUILDING CODE. REFER TO THE 2008 NEW YORK CITY BUILDING CODE, CHAPTER 20, SECTION 20.05 FOR SEISMIC LOAD DESIGN PARAMETERS.



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mi & Associate

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Bridg & Associates

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Professional

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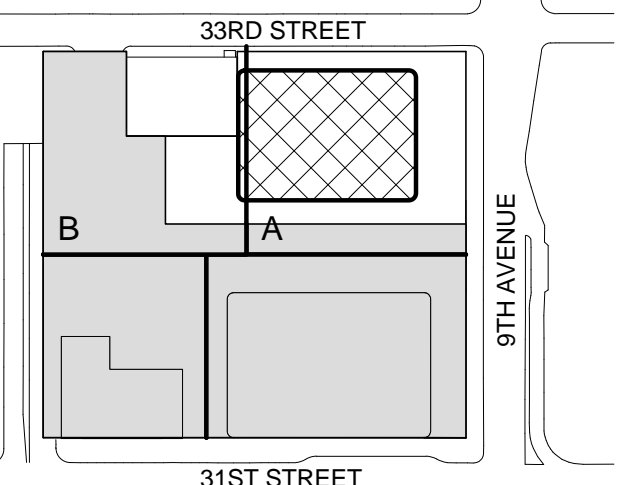
Engineering U

Wind Tunnel Consultant

ams Davies & I

650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

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 Date & Signature:



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| 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |

| Date | Description |
|-------------|-------------|
| Sheet Name: | |

LEVEL 18 FLOOR
PLAN - LOW-RISE
OVERRUN

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|------------------------|--------------------------------------|
| Project No.: 207120 | B-SCAN Sheet No.: A-118.00 |
| Date: 21 AUG 2015 | Sheet No.: A-118 |
| Scale: 1/8" = 1'-0" | Page No.: 30 OF 30 |
| Drawn By: 440 | |

SHEET NOTES

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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 051010.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAS/ETC/EL SERVICE DRAWINGS FOR LOCATIONS OF ALL CEILING MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
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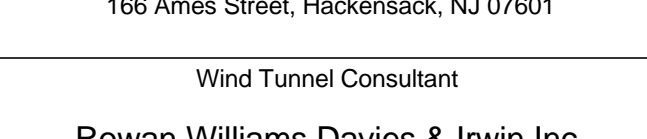
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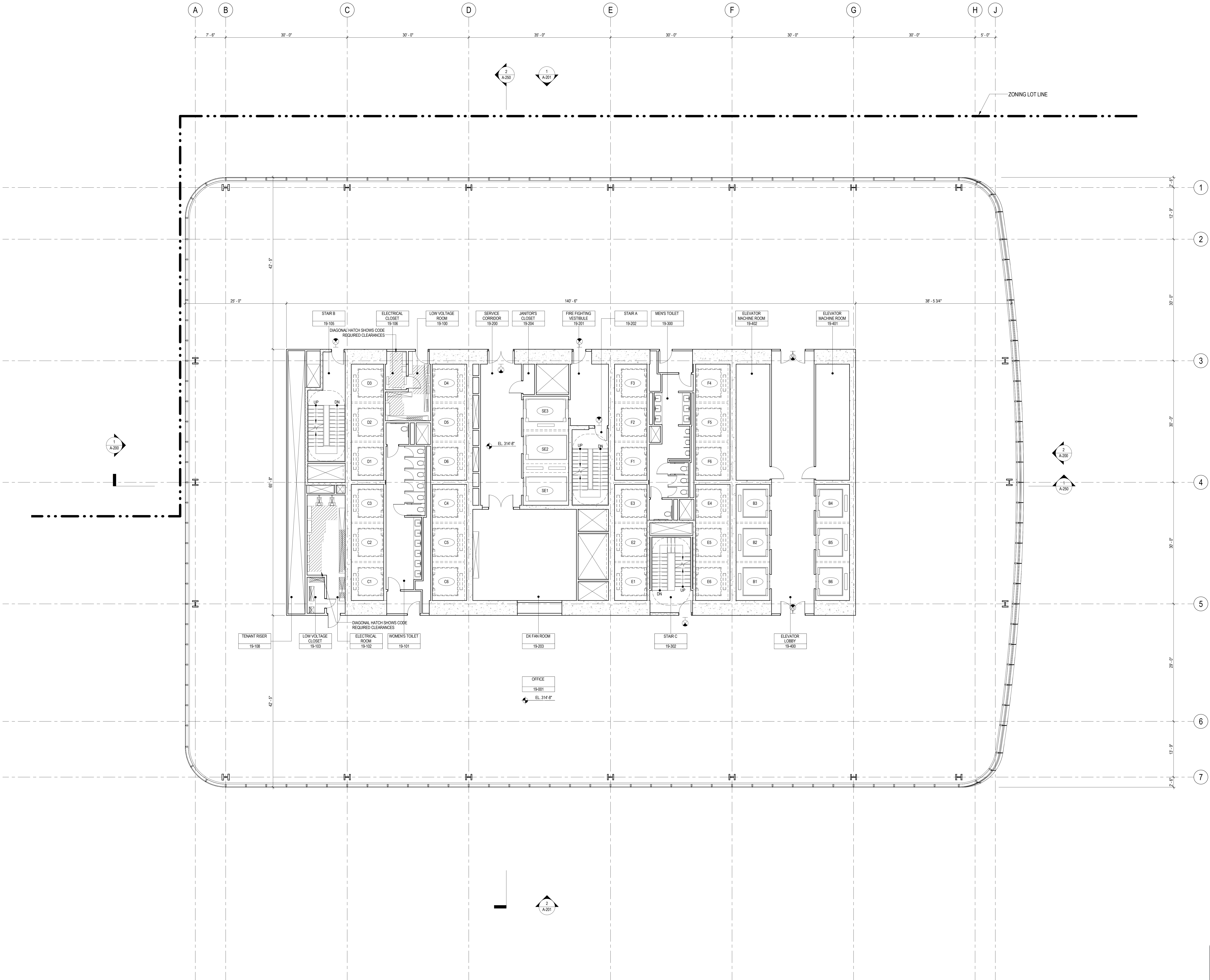
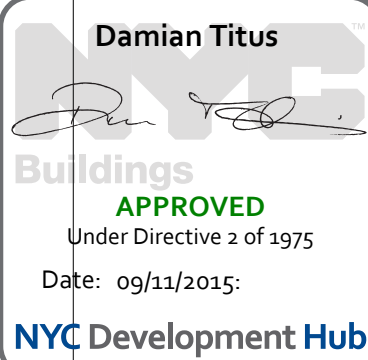
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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

LEVEL 19-20
FLOOR PLAN -
LOW-RISE EMR

Project No.: 207120
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-119

B-SCAN Sheet No.:
A-119.00
Sheet No.:
A-119
Page No.: 31 OF 30



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE, SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B0700).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE D9, UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/PA/SC/TEL SERVICE DRAWINGS FOR LOCATIONS OF ALL CEILING WALL MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPP DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
12. FOR PROJECT WORK POINT REFER TO A-000 SERIES DRAWINGS.
13. EXISTING DIMENSIONS AND CONDITIONS FOR THE ADJACENT LOT BUILDING MUST BE CHECKED AND VERIFIED BEFORE COMMENCEMENT OF WORK. ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THESE DOCUMENTS ARE TO BE REPORTED TO THE ARCHITECT OF RECORD.
14. THE PROJECT MUST SATISFY ALL APPLICABLE SEISMIC DESIGN PROVISIONS INDICATED IN SECTION BC 1910 OF THE 2009 NEW YORK CITY BUILDING CODE. REFER TO THE STRUCTURAL CALCULATION BOOK (ISSUED ON JUNE 20, 2014) FOR SEISMIC LOAD DESIGN PARAMETERS.



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Entek Engineering LLC
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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:

33RD STREET
DYER AVENUE
31ST STREET
9TH AVENUE

Seal & Signature

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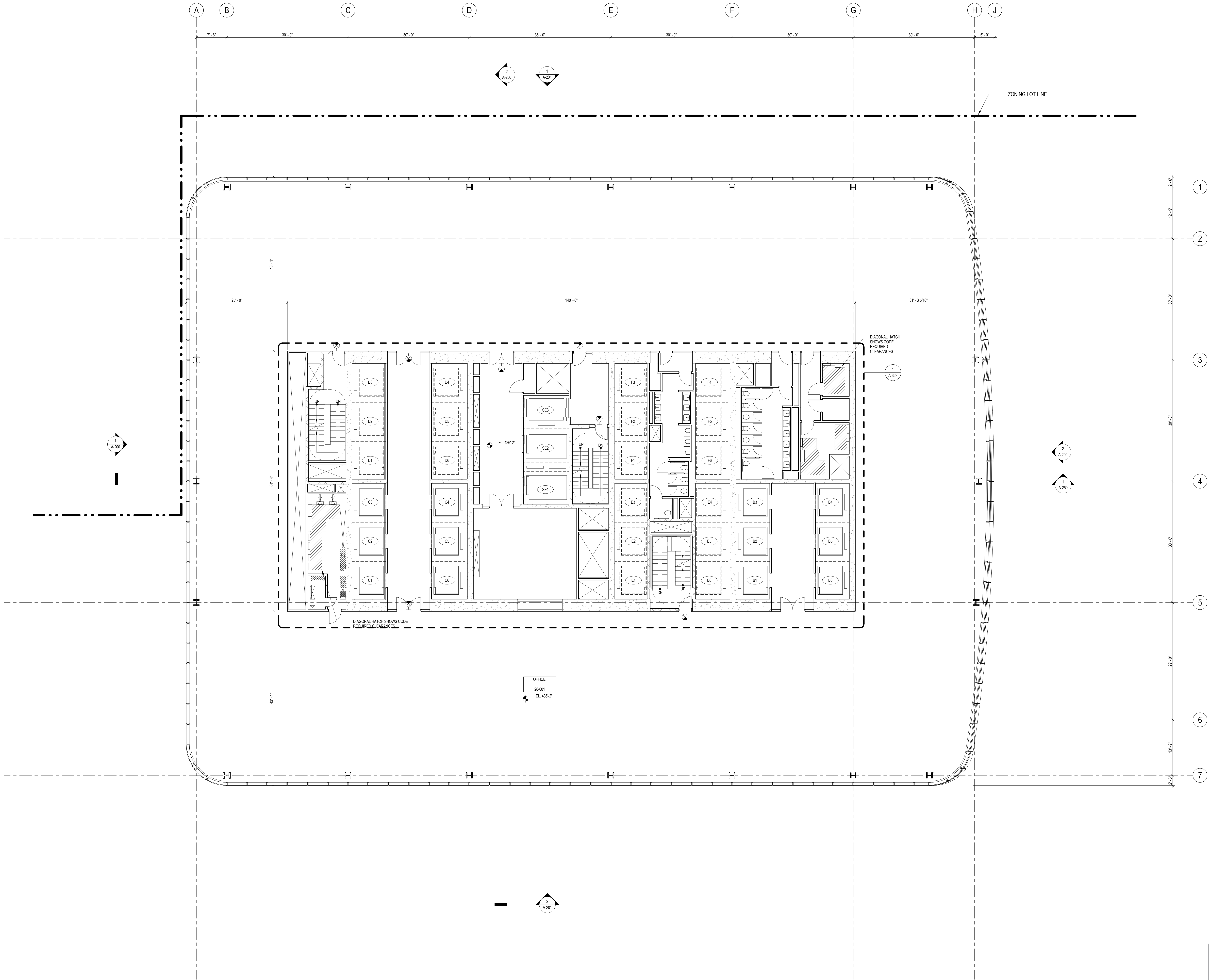
No. Date Description
Sheet Name:

LEVEL 21-27
FLOOR PLAN -
TYPICAL
LOW-RISE

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-121


B-SCAN Sheet No.: A-121.00
Sheet No.: A-121
Page No.: 32 OF 30

Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub



SHEET NOTES

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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE, SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 05101.
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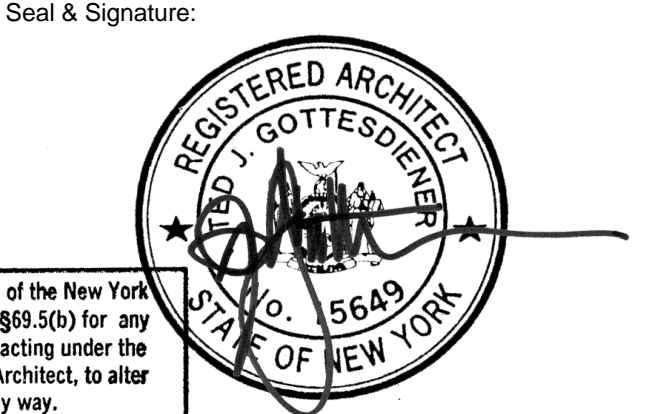
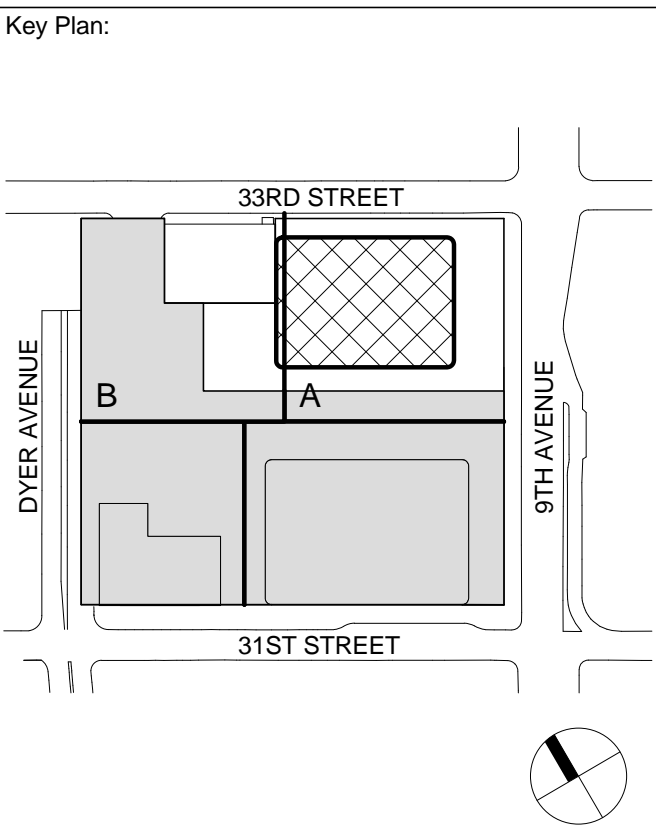
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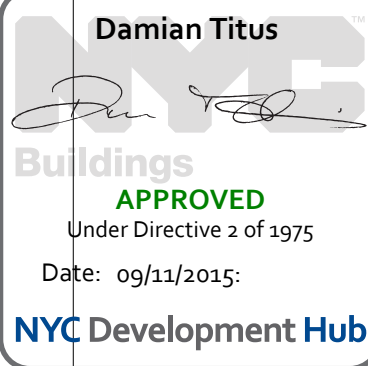
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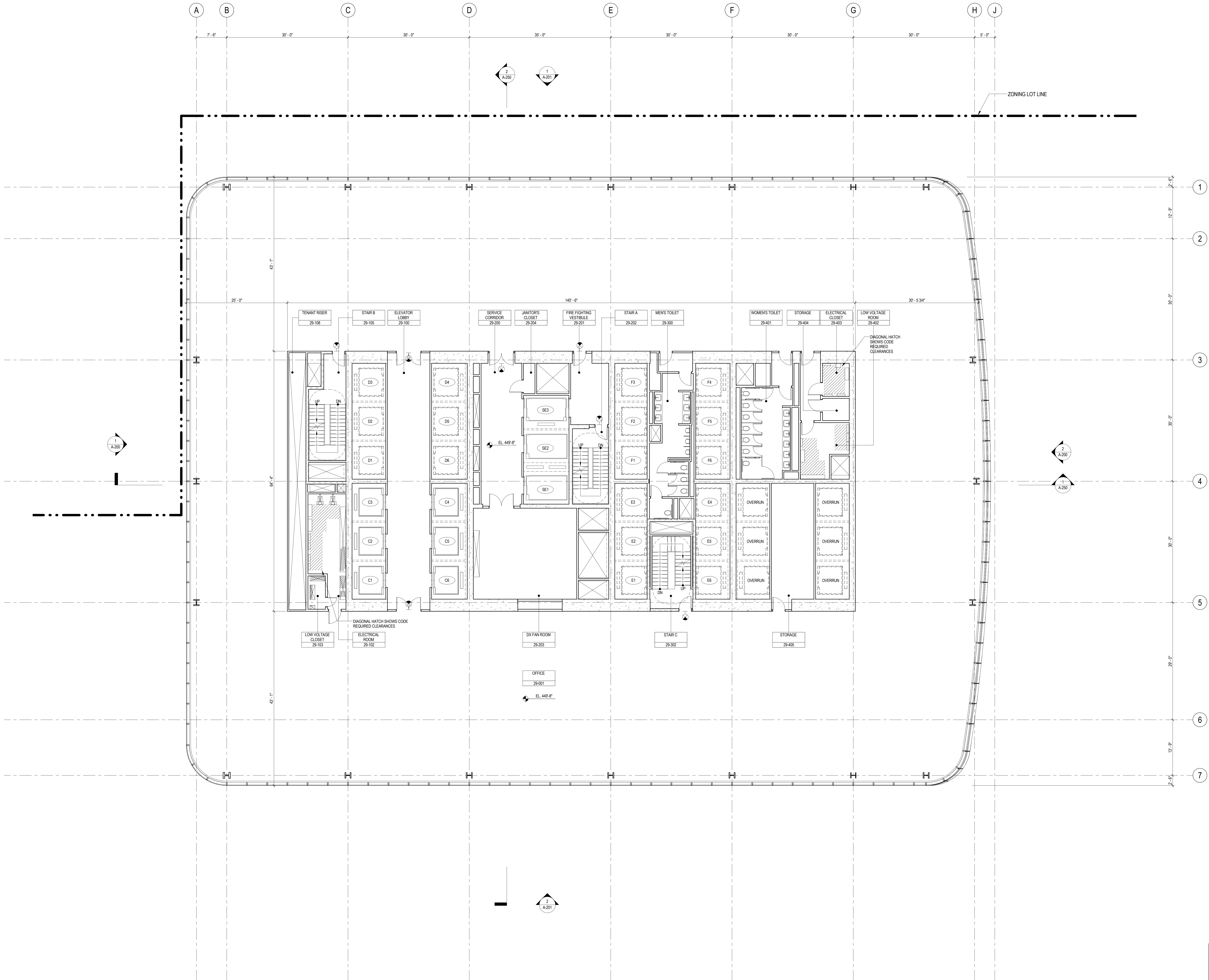


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**LEVEL 28 FLOOR
PLAN - LOW-RISE
& MID-RISE**

| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-128.00 |
| Date: 27 AUG 2015 | Sheet No.: A-128 |
| Scale: 1/8" = 1'-0" | Page No.: 33 OF 30 |
| File No.: A-128 | |



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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 051010.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/PAIS/CTEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING MOUNTED DEVICES.
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Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

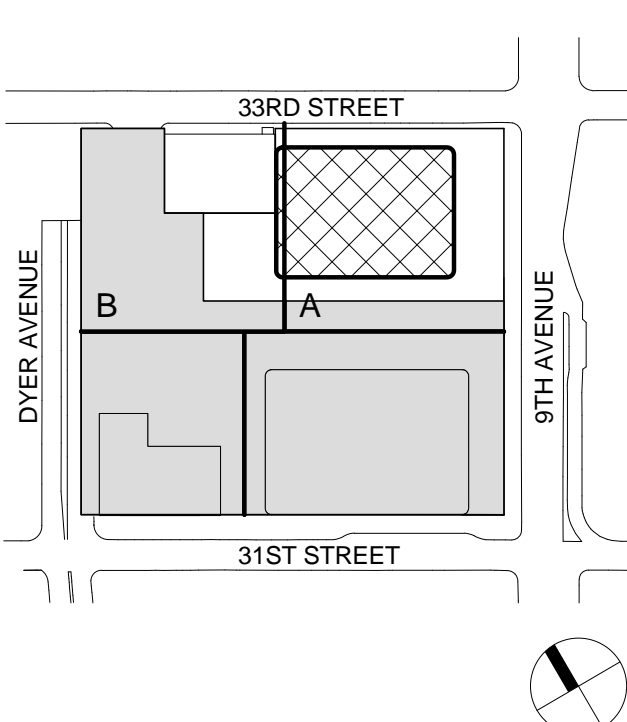
Vibration Consultant
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Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

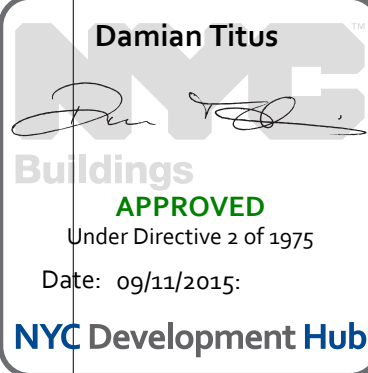
Key Plan:



Seal & Signature:



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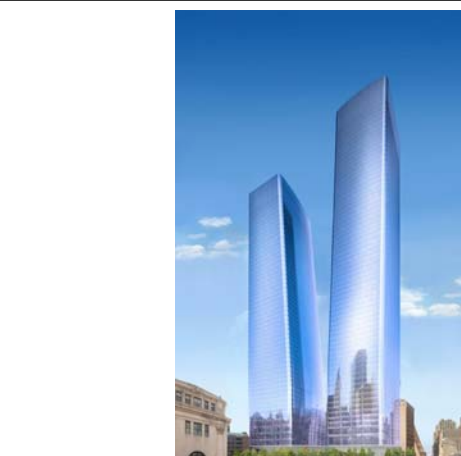
**LEVEL 29 FLOOR
PLAN - MID-RISE
OVERRUN**

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-129

B-SCAN Sheet No.:
A-129.00
Sheet No.:
A-129
Page No.: 34 OF 30

SHEET NOTES

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3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B701).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE D9, UNO.
8. FOR REFLECTED CEILING PLANS SEE A-800 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/PA65/CITL SERVICE DRAWINGS FOR LOCATIONS OF ALL CEILING WALL MOUNTED DEVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
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14. THE PROJECT MUST SATISFY ALL APPLICABLE SEISMIC DESIGN PROVISIONS INDICATED IN SECTION BC 1910 OF THE 2000 NEW YORK CITY BUILDING CODE. REFER TO THE STRUCTURAL CALCULATION BOOK ISSUED ON JUNE 20, 2014 FOR SEISMIC LOAD DESIGN PARAMETERS.



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Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
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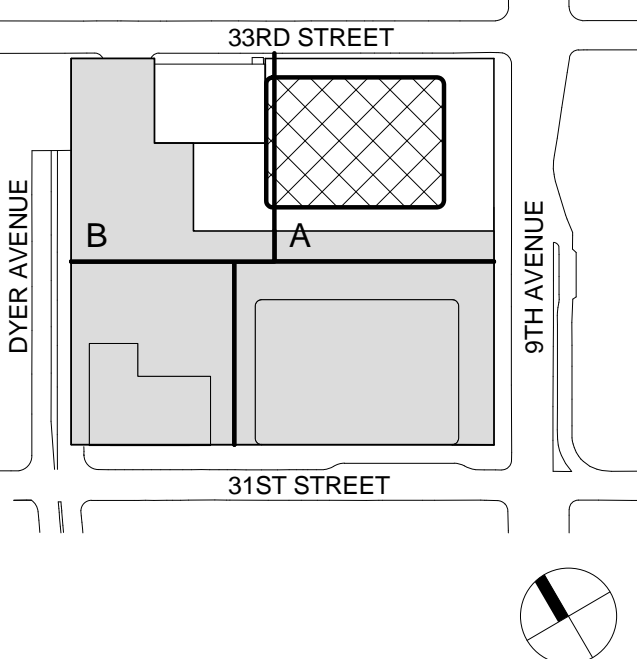
Vibration Consultant
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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:



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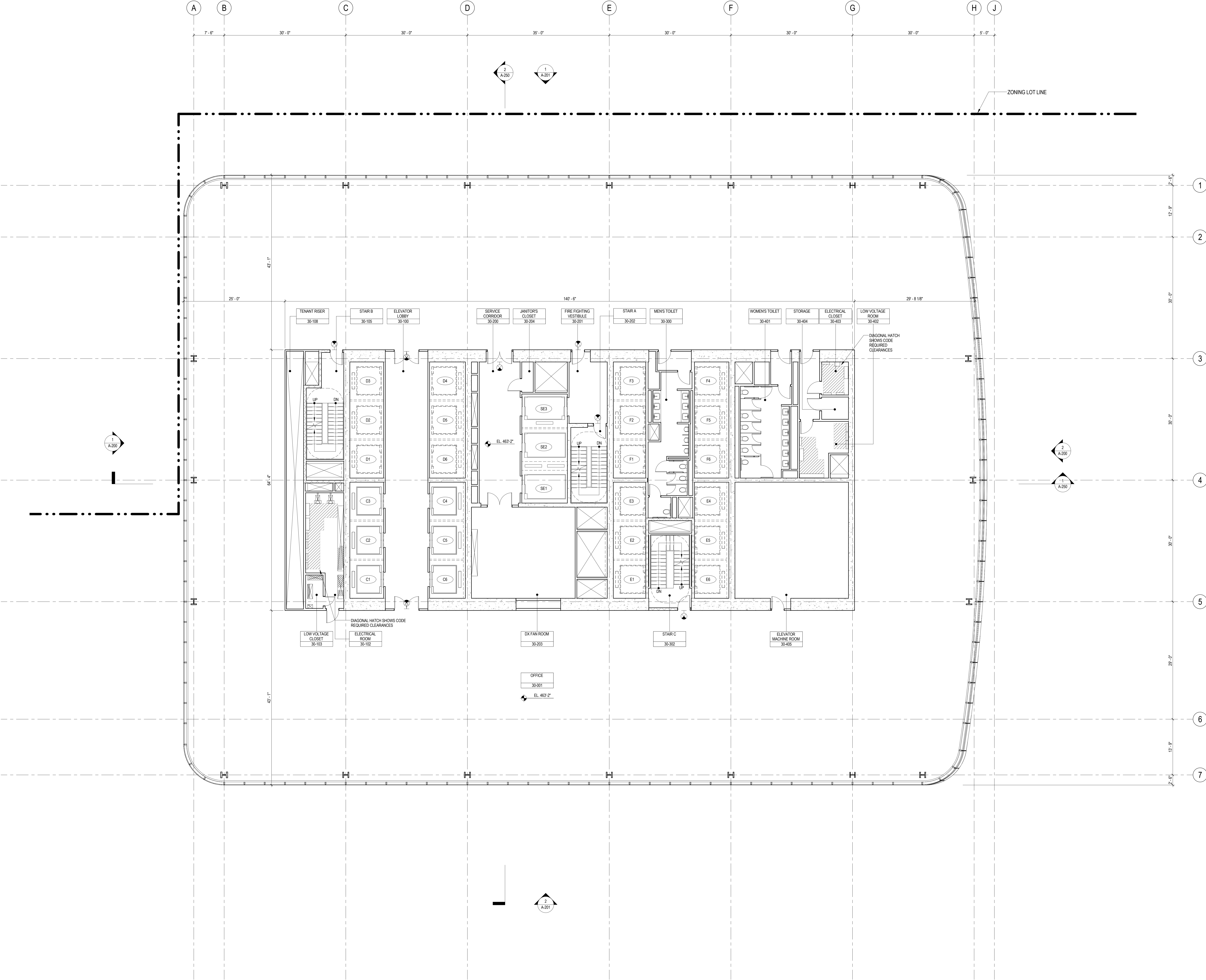


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Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

LEVEL 30 FLOOR
PLAN - MID-RISE
EMR

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-130
B-SCAN Sheet No.: A-130.00
Sheet No.: A-130
Page No.: 35 OF 30



SHEET NOTES

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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B700).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE D9, LINO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/PA/ASCE/TEL SERVICE DRAWINGS FOR LOCATIONS OF ALL CEILING WALL MOUNTED SERVICES.
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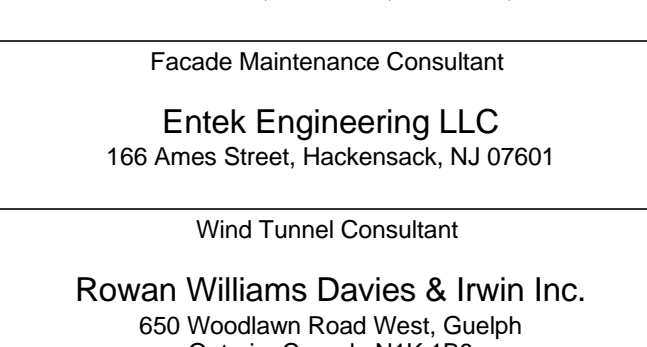
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Key Plan:



Seal & Signature:



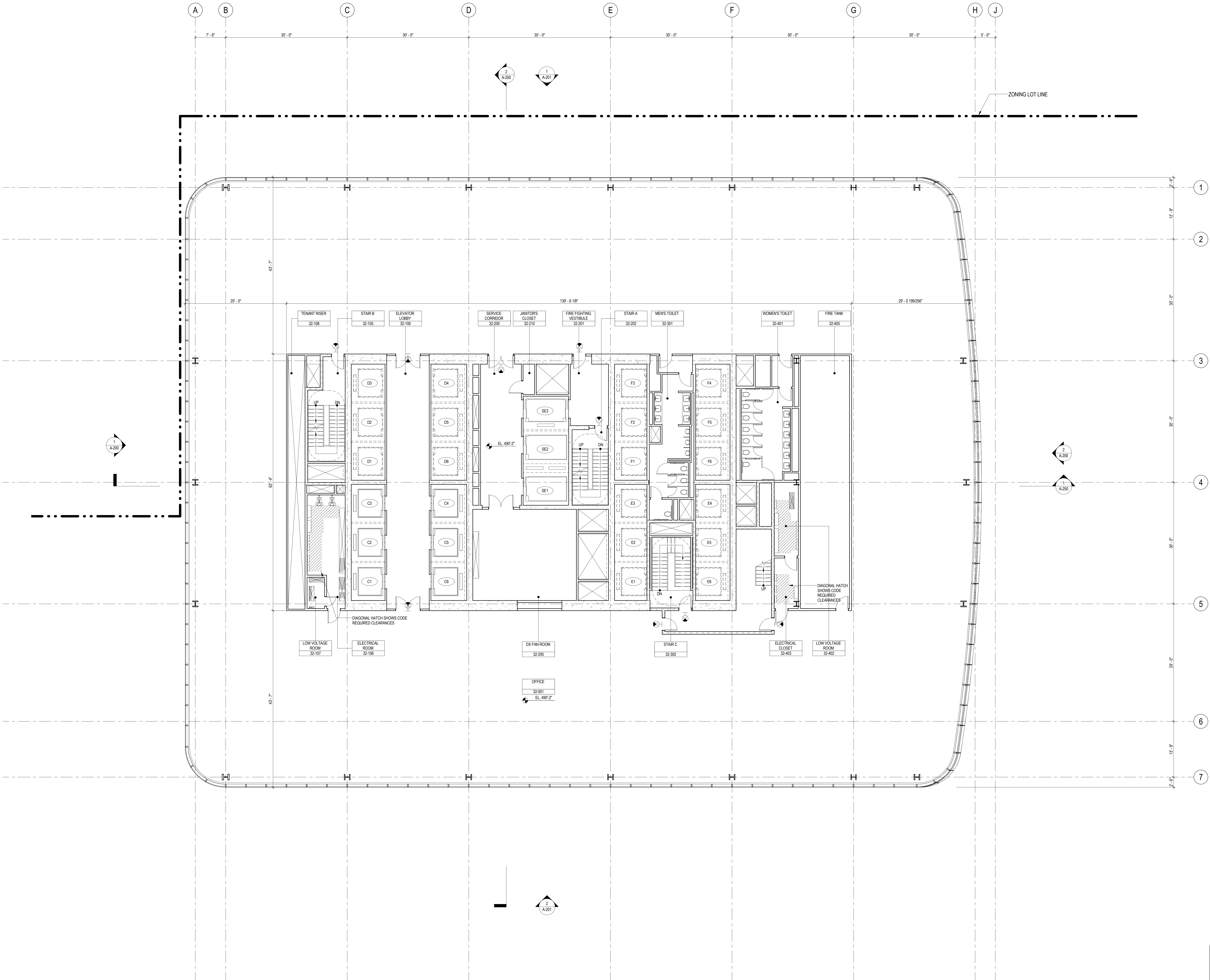
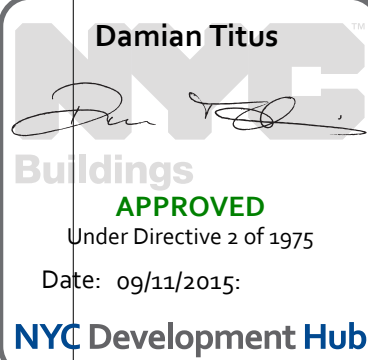
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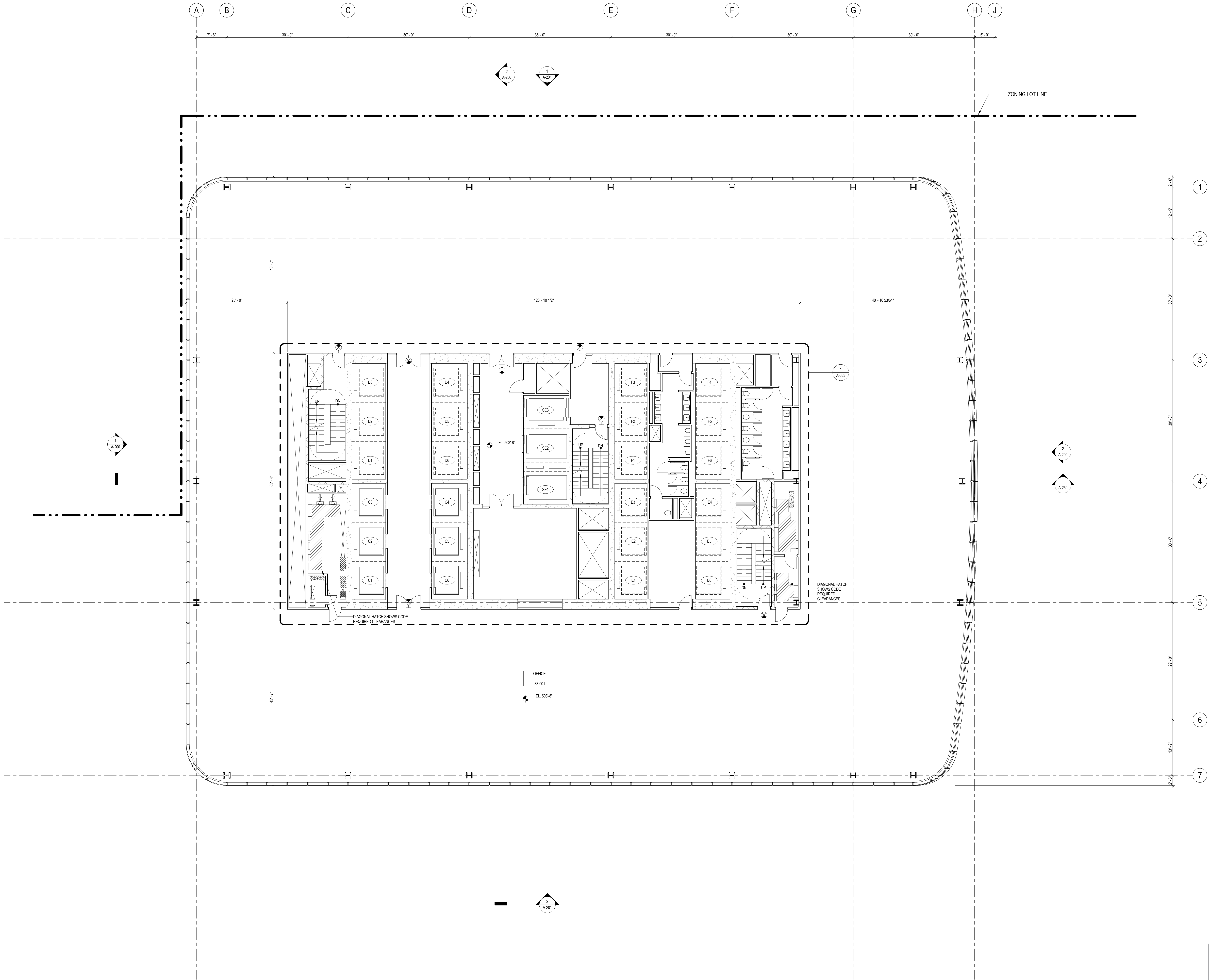
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| 8 | 1 APR 2015 | ISSUED FOR BUILDING PERMIT |
| 7 | 25 FEB 2015 | ISSUED FOR BUILDING PERMIT |
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

LEVEL 32 FLOOR
PLAN - MID-RISE
WATER TANK

| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-132.00 |
| Date: 27 AUG 2015 | Sheet No.: A-132 |
| Scale: 1/8" = 1'-0" | Page No.: 37 OF 30 |
| File No.: A-132 | |





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11. REFER TO MEPP/FACETS/TEL SERVICE DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
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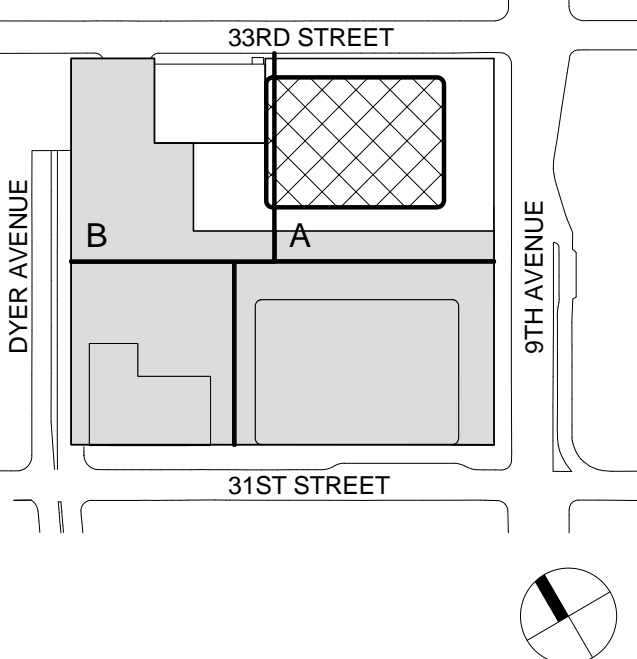
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Code Consultants Professional Engineers PC
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650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:



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Damian Titus
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Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

**LEVEL 33-38
FLOOR PLAN -
TYPICAL
MID-RISE**

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-133
B-SCAN Sheet No.: A-133.00
Sheet No.: A-133
Page No.: 38 OF 30

SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B010).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/PAGE/CETEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
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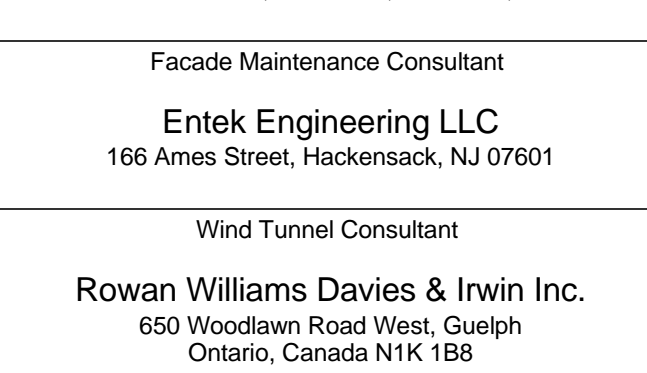
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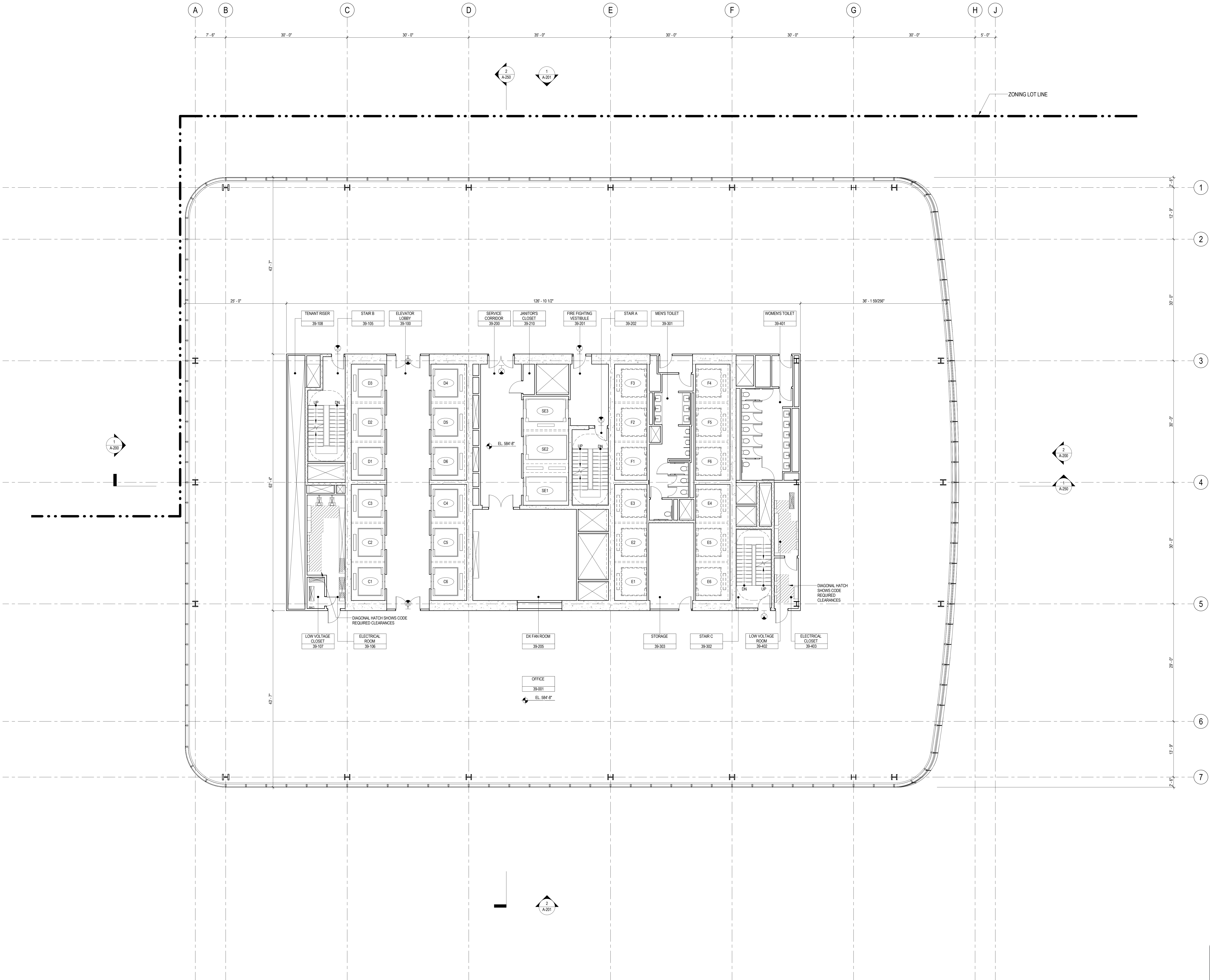
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Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

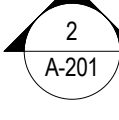
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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

LEVEL 39 FLOOR
PLAN - MID-RISE

| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-139.00 |
| Date: 27 AUG 2015 | Sheet No.: A-139 |
| Scale: 1/8" = 1'-0" | Page No.: 39 OF 30 |
| File No.: A-139 | |





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8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPPH/PAE/CETL SERVICE DRAWINGS FOR LOCATIONS OR ALL CSE INDIVIDUAL MOUNTED SERVICES.
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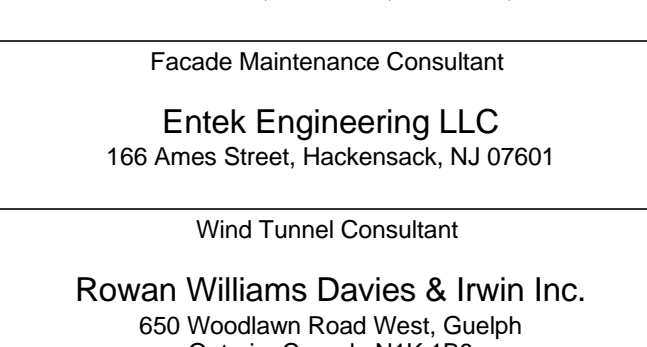
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650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:

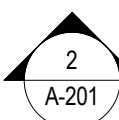


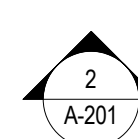
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LEVEL 42 FLOOR
PLAN - MID-RISE
EMR

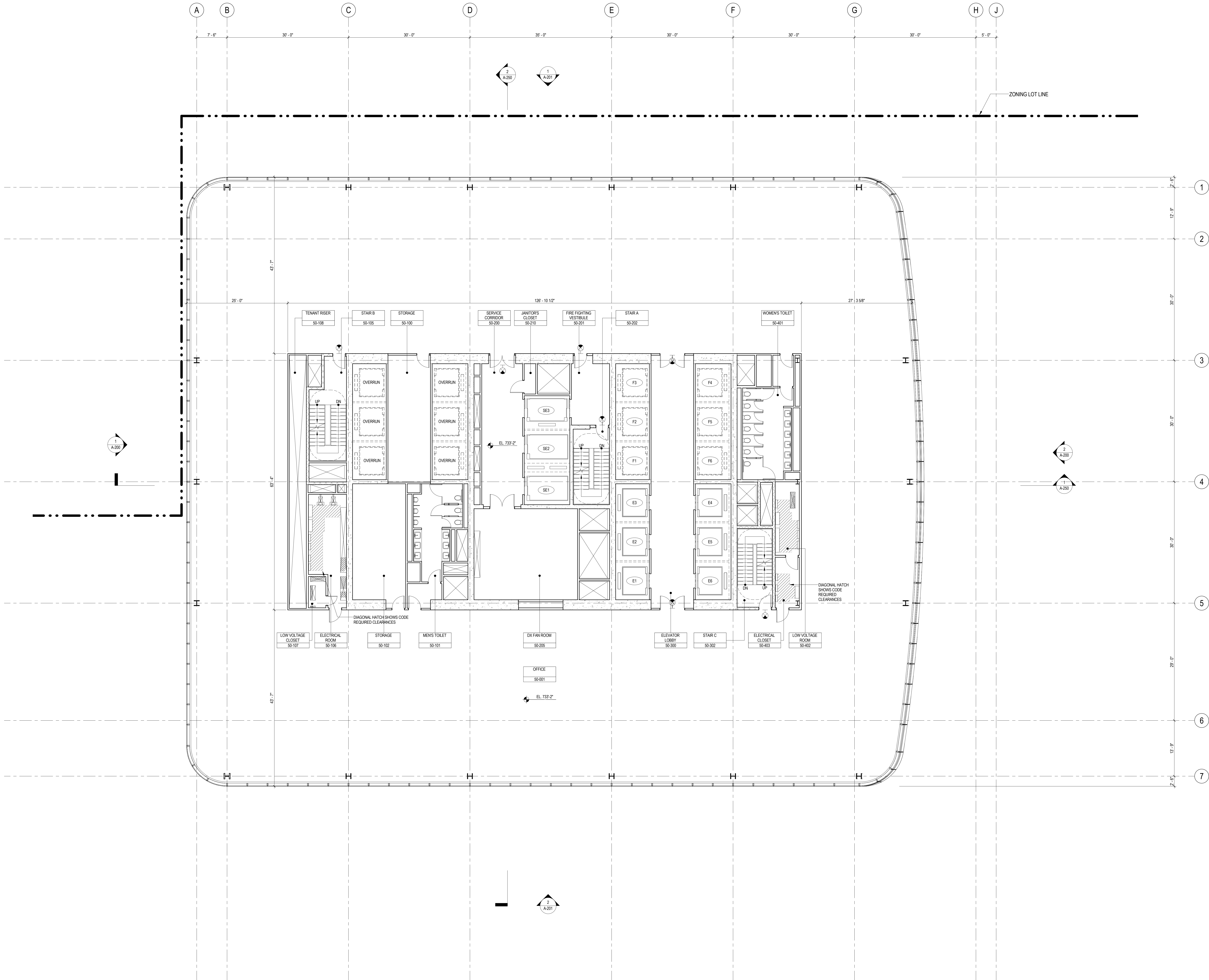
Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-142
B-SCAN Sheet No.: A-142.00
Sheet No.: A-142
Page No.: 41 OF 30





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מס' תיק: 7-08-97



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVB8).
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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE, SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 05110.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, UNO.
8. FOR REFLECTED CEILING PLANS SEE A-800 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAS/CEILING SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING MOUNTED SERVICES.
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650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

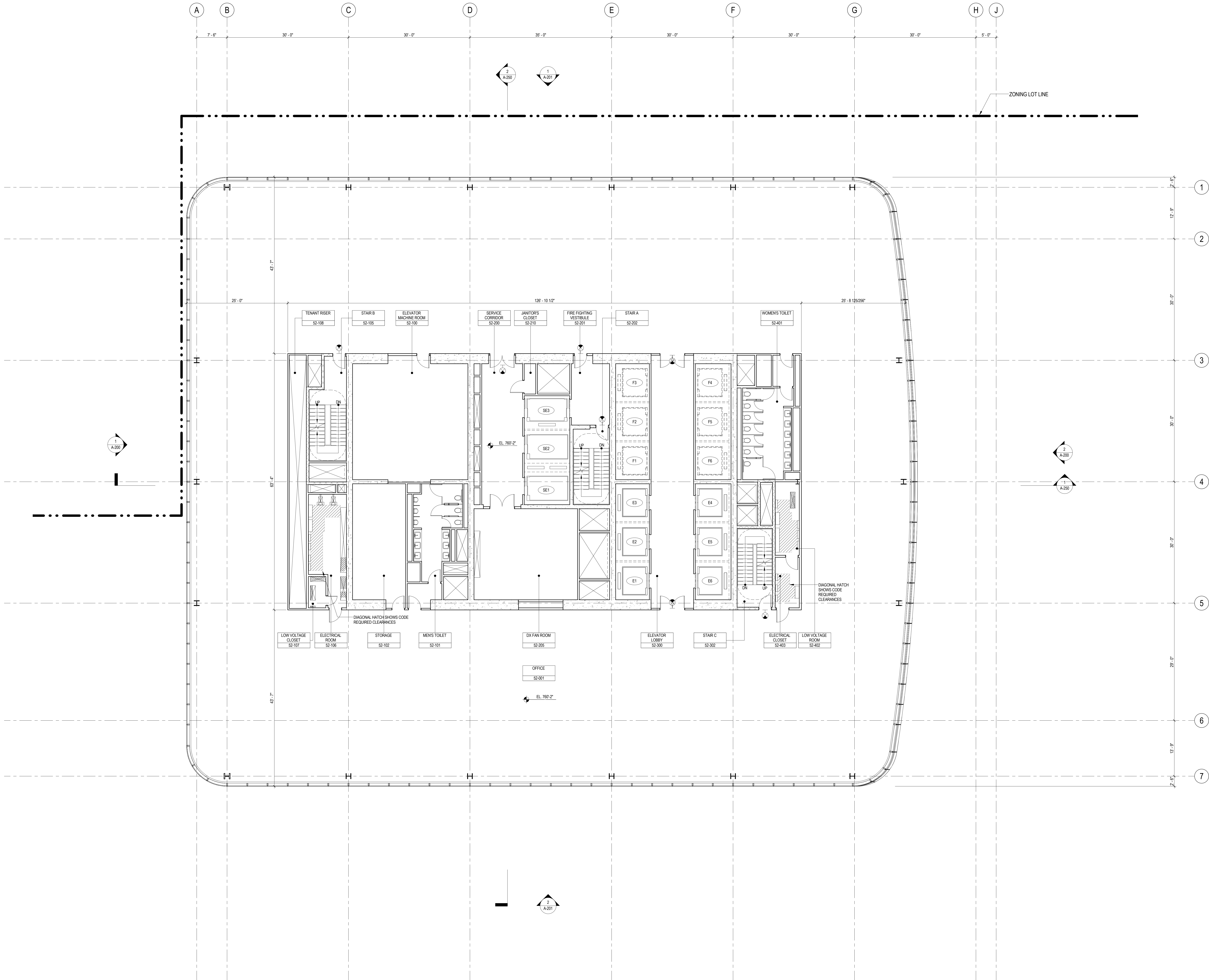
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REGISTERED ARCHITECT
No. 5649
STATE OF NEW YORK
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
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No. _____ Date _____ Description _____
Sheet Name: **LEVEL 50-51
FLOOR PLAN -
HIGH-RISE
OVERRUN**

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-150
B-SCAN Sheet No.: **A-150.00**
Sheet No.: **A-150**
Page No.: 44 OF 30



SHEET NOTES

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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (05100).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/PAS/CETEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILINGWALL MOUNTED SERVICES.
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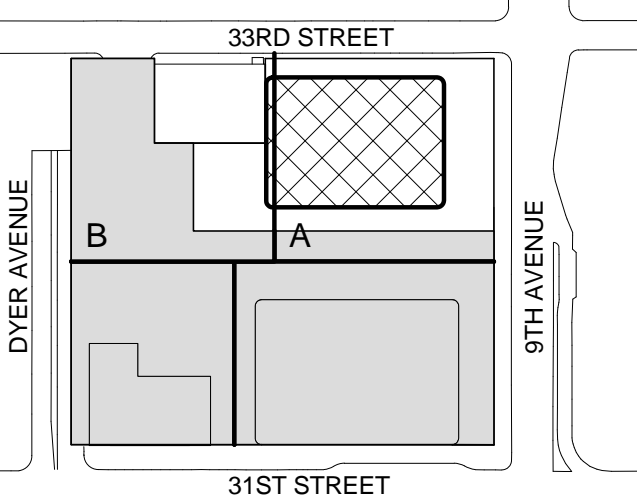
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Key Plan:



Seal & Signature:



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Bulldog
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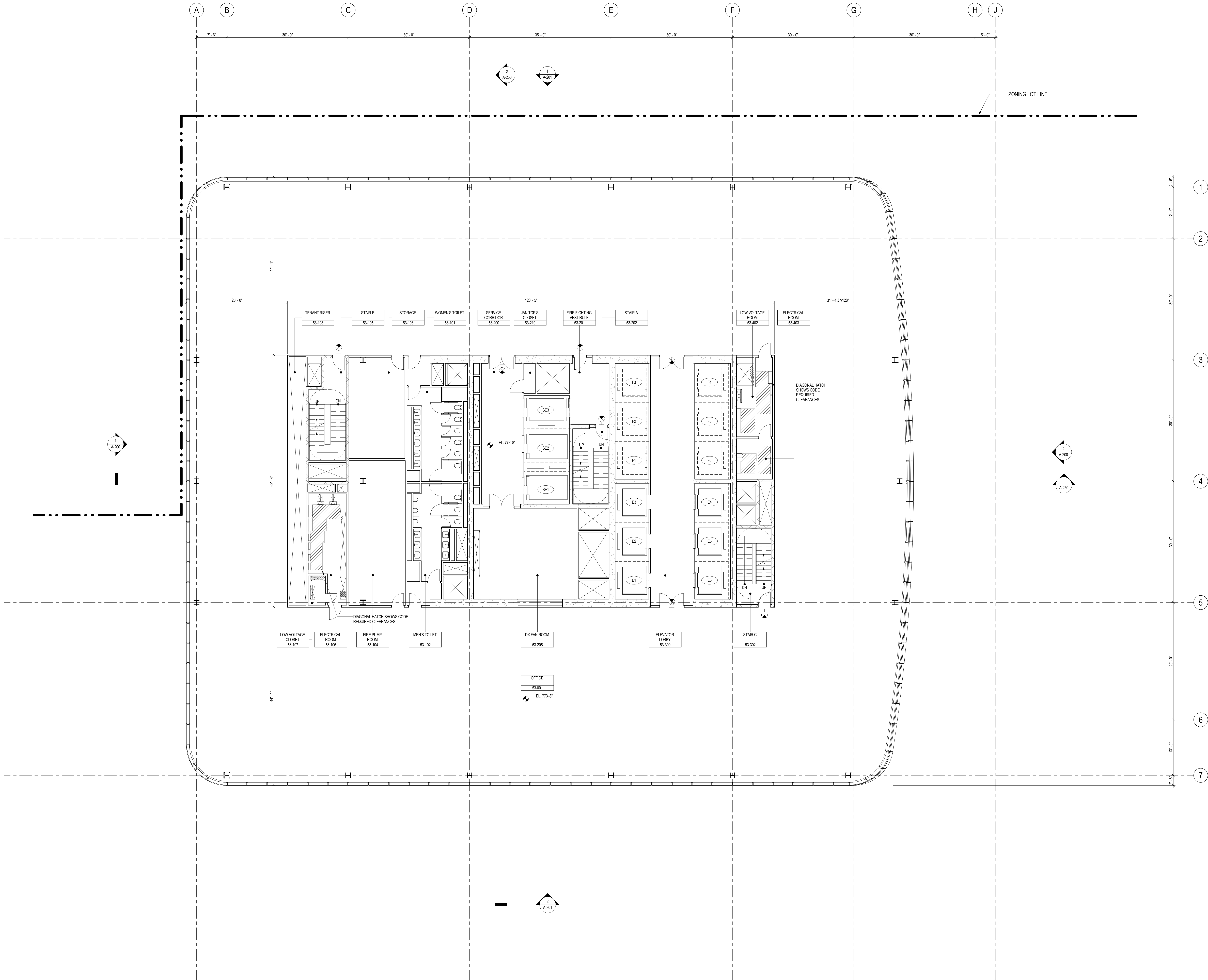
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| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

**LEVEL 52 FLOOR
PLAN - HIGH-RISE
EMR**

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|------------------------|-------------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-152.00 |
| Date: 27 AUG 2015 | Sheet No.: A-152 |
| Scale: 1/8" = 1'-0" | Page No.: 45 OF 30 |
| File No.: A-152 | |

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SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
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6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE D8, UNO.
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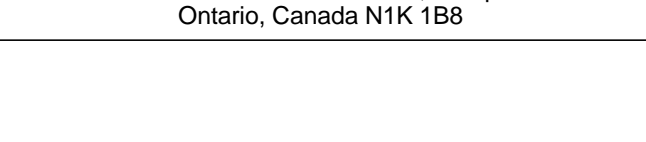
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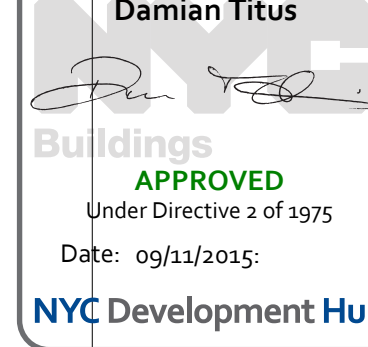
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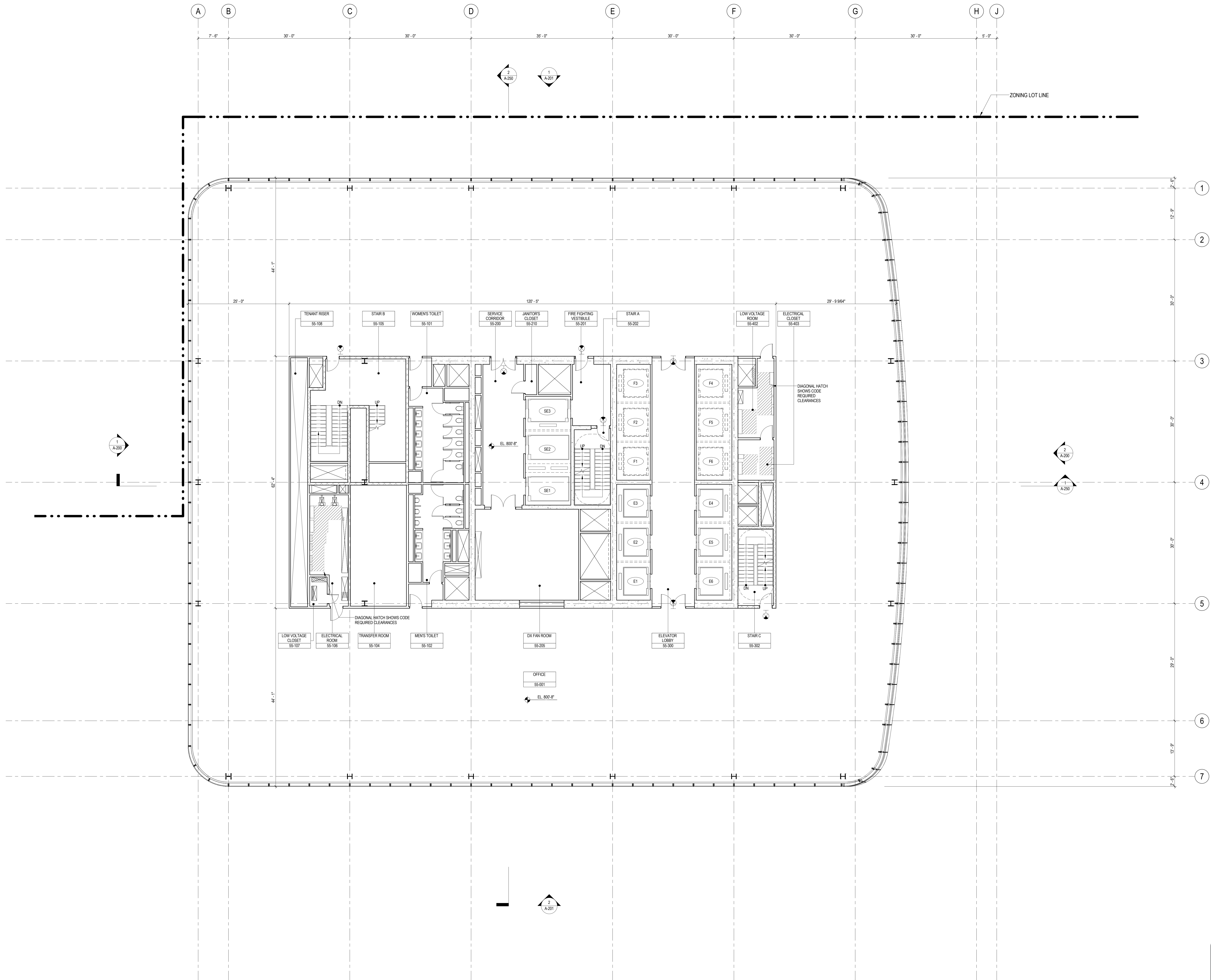
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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

**LEVEL 53 FLOOR
PLAN - HIGH-RISE
PUMP ROOM**

| | |
|------------------------|-------------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-153.00 |
| Date: 27 AUG 2015 | Sheet No.: A-153 |
| Scale: 1/8" = 1'-0" | Page No.: 46 OF 30 |
| File No.: A-153 | |

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SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. 0-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. 0-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 051010.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, LINO.
8. FOR REFLECTED CEILING PLANS SEE A-800 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAS/CE/TEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/WALL MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LINO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
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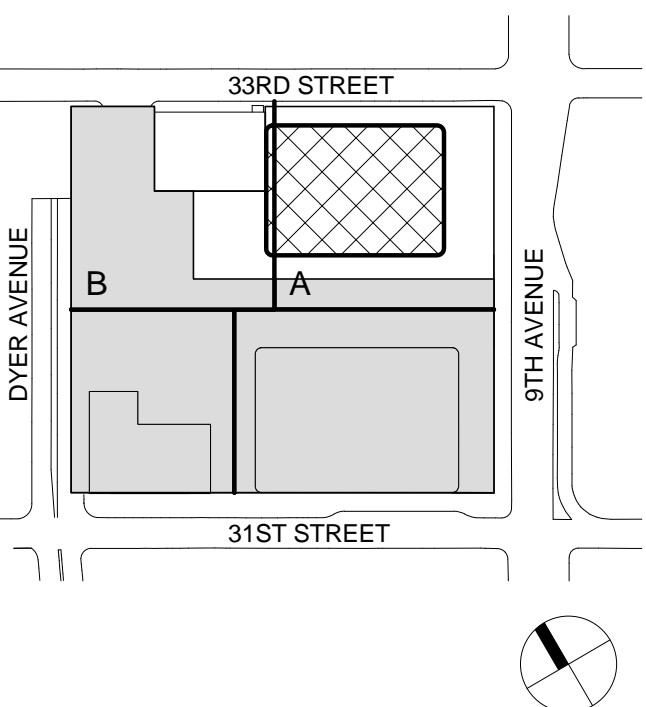
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Damian Titus
Build
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

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No. Date Description
Sheet Name:

**LEVEL 55 FLOOR
PLAN - HIGH-RISE**

| | |
|------------------------|-------------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-155.00 |
| Date: 27 AUG 2015 | Sheet No.: A-155 |
| Scale: 1/8" = 1'-0" | Page No.: 48 OF 30 |
| File No.: A-155 | |

SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B570).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FACETS/CITL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING WALL MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPP/FACETS/CITL FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
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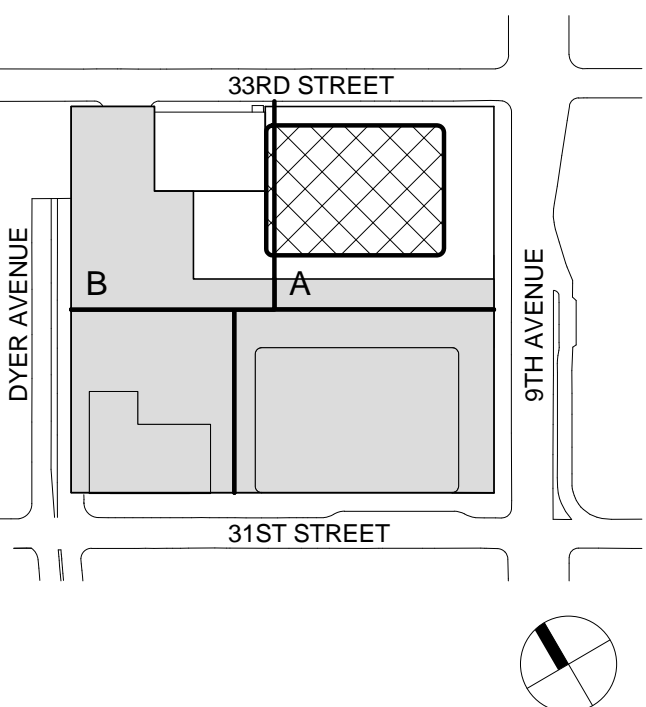
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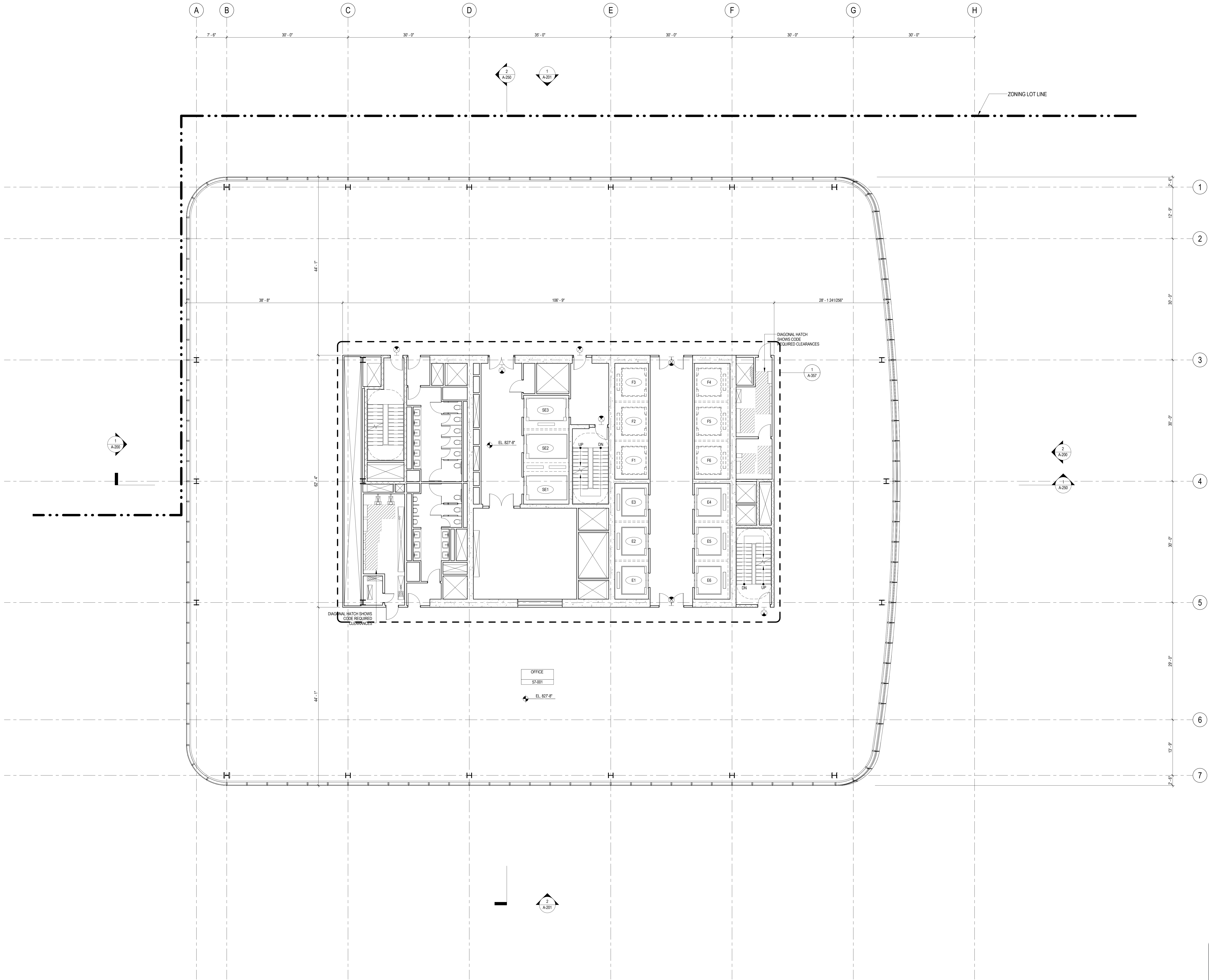
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Key Plan:





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7. ALL PARTITIONS SHALL BE TYPE D9, LINO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPPF/ASG/CITL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/MOUNTED SERVICES.
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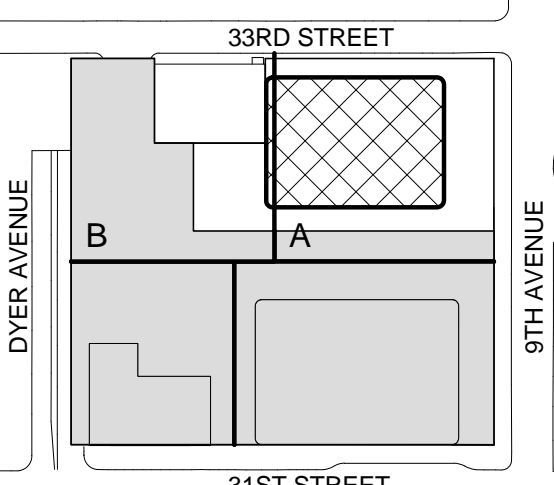
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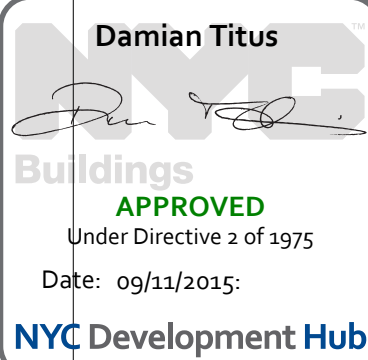
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No. Date Description

Sheet Name:

**LEVEL 57-58
FLOOR PLAN -
TYPICAL
HIGH-RISE**

Project No.:

207150

Date:

27 AUG 2015

Scale:

1/8" = 1'-0"

File No.:

A-157

B-SCAN Sheet No.:

A-157.00

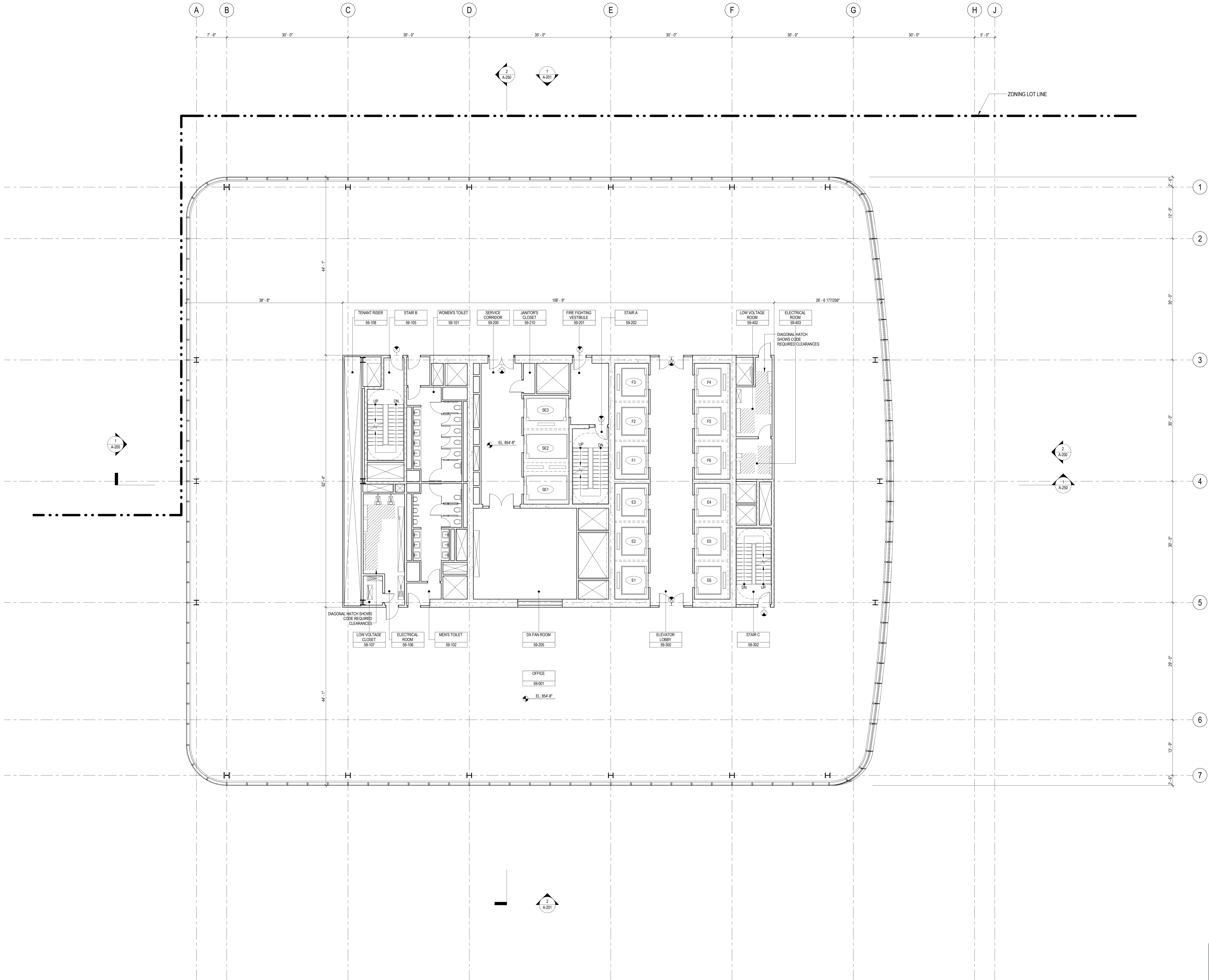
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A-157

Page No.:

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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B701).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, LND.
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9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LND.
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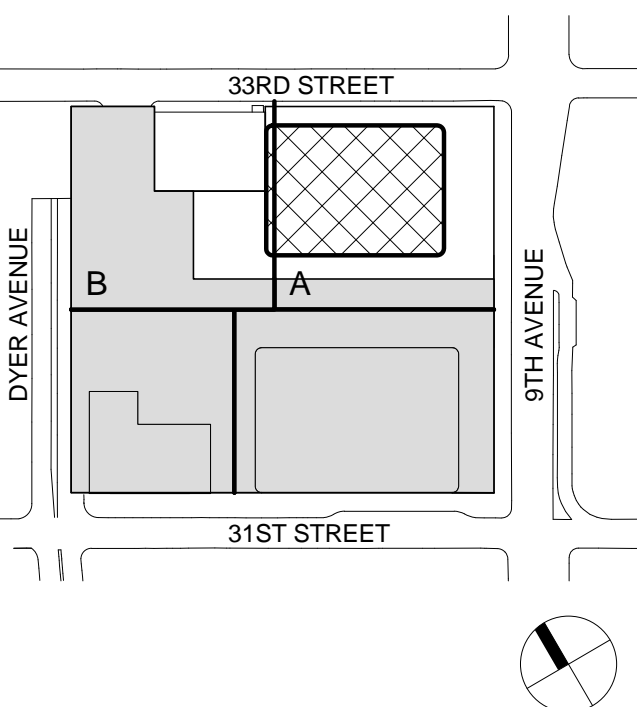
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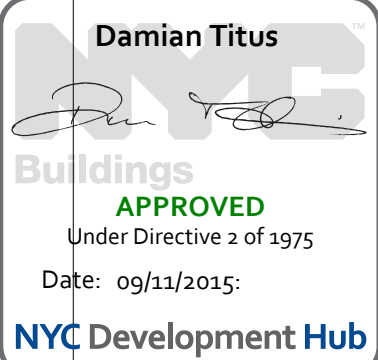
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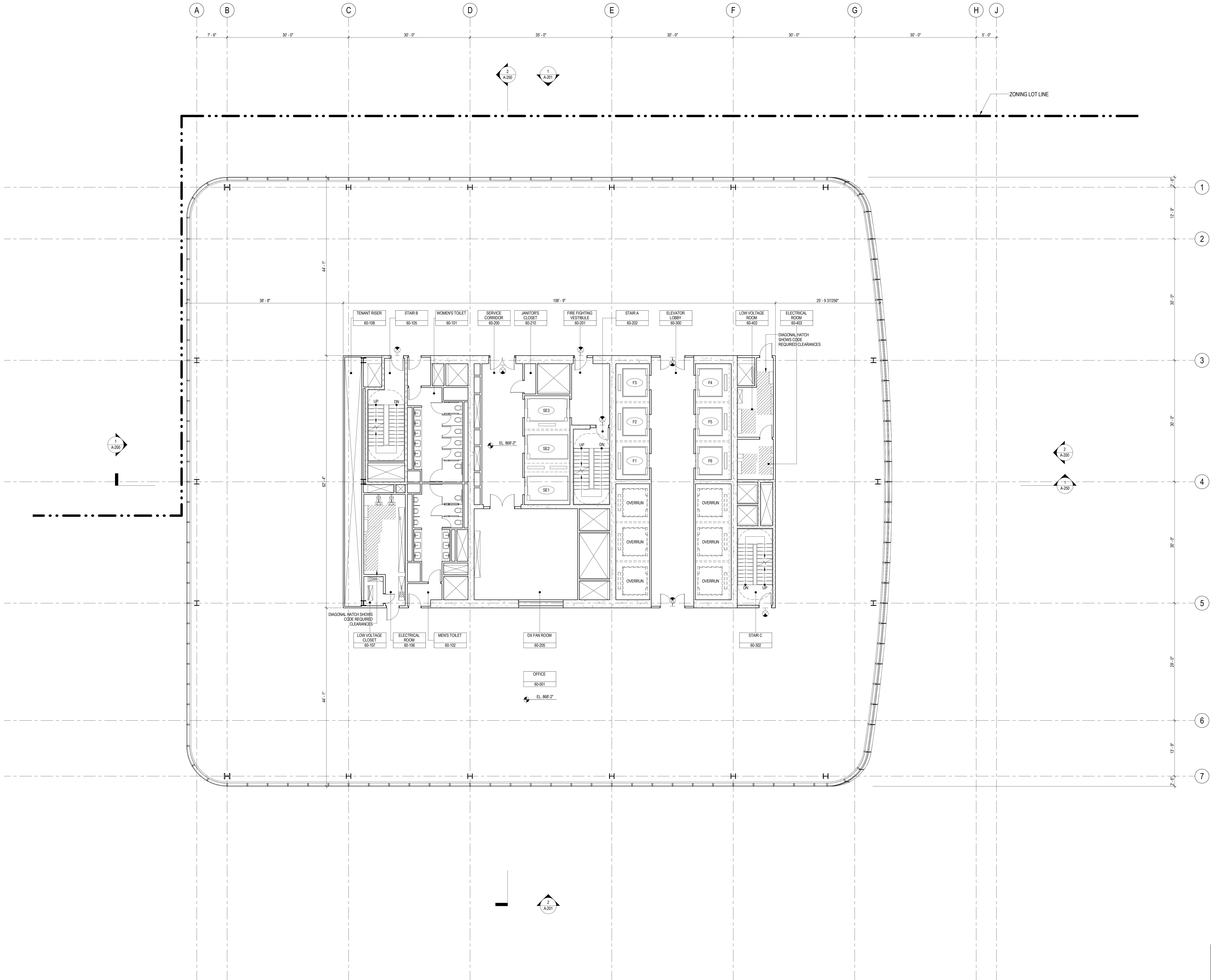
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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONCILIATION |

No. Date Description

Sheet Name:

**LEVEL 59 FLOOR
PLAN - HIGH-RISE**

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| Project No.: 207150 | B-SCAN Sheet No.: A-159.00 |
| Date: 27 AUG 2015 | Sheet No.: A-159 |
| Scale: 1/8" = 1'-0" | Page No.: 51 OF 30 |
| File No.: A-159 | |



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
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9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LND.
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Vertical Transportation
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Sustainable Design
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50 Washington Street, Newark, CT 06854

Geotechnical Engineering
Mueser Rutledge Consulting Engineers
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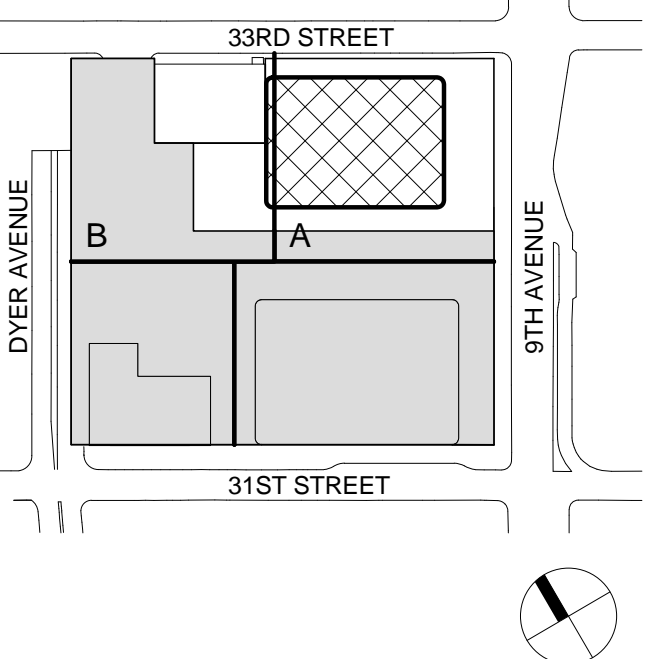
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Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

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Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

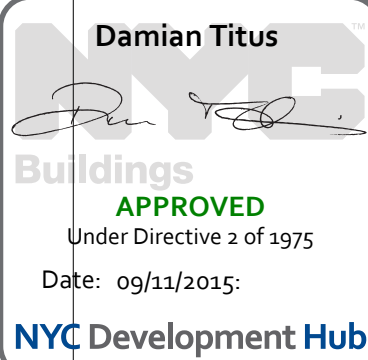
Key Plan:



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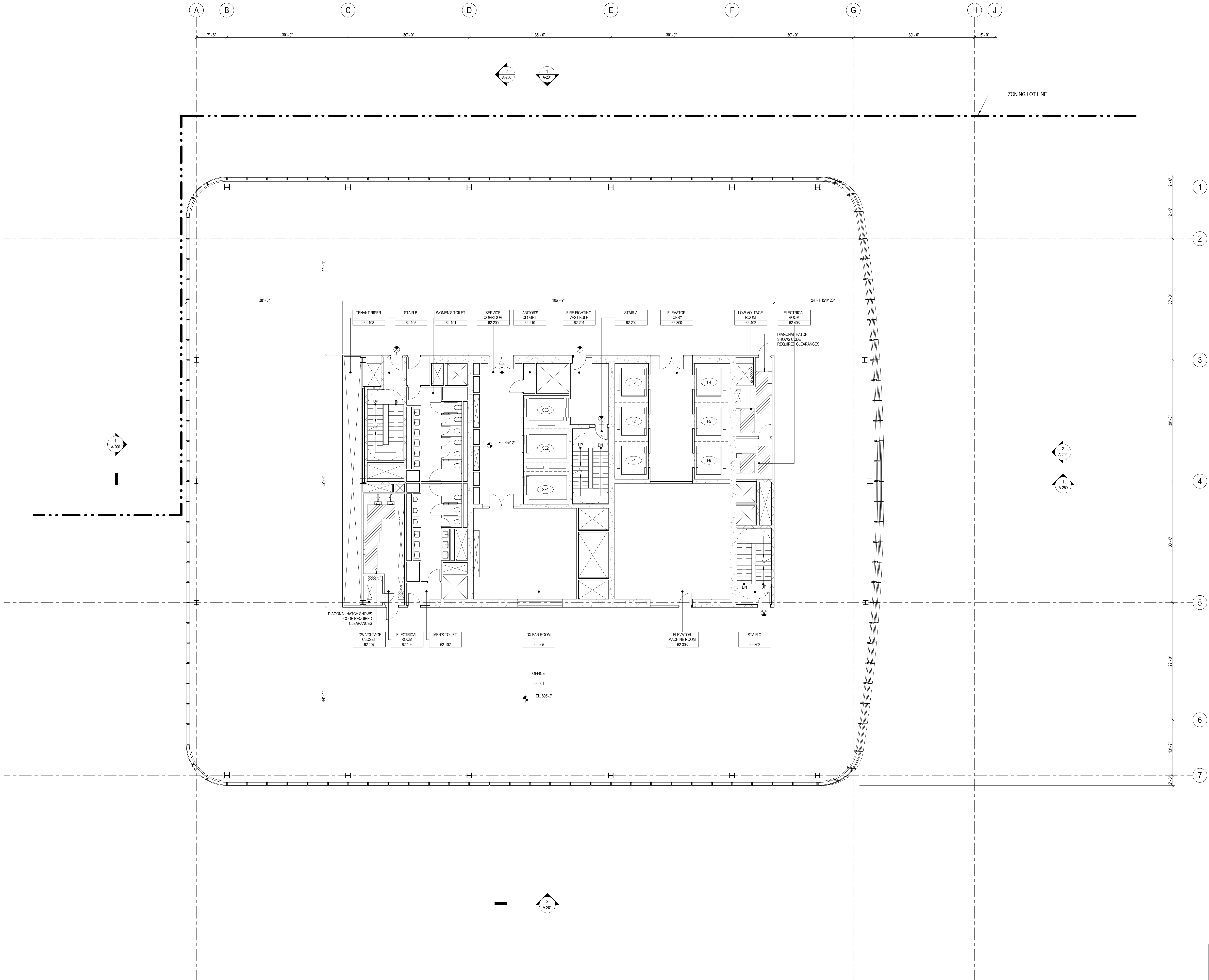
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| 3 | 15 NOV 2013 | ISSUED FOR 30% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description

Sheet Name:

**LEVEL 60-61
FLOOR PLAN -
HIGH-RISE
OVERRUN**

| | |
|------------------------|--------------------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-160.00 |
| Date: 27 AUG 2015 | Sheet No.: A-160 |
| Scale: 1/8" = 1'-0" | Page No.: 52 OF 30 |
| File No.: A-160 | |



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B-700).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE D9, LINO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAS/COTEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/SHOWN MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LINO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPP/FAS/COTEL SERVICE DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
12. FOR PROJECT WORK POINT REFER TO A-000 SERIES DRAWINGS.
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14. THE PROJECT MUST SATISFY ALL APPLICABLE SEISMIC DESIGN PROVISIONS INDICATED IN SECTION BC 1910 OF THE 2008 NEW YORK CITY BUILDING CODE. REFER TO THE STRUCTURAL CALCULATION BOOK ISSUED ON JUNE 20, 2014 FOR SEISMIC LOAD DESIGN PARAMETERS.



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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6

Key Plan:
33RD STREET
DYER AVENUE
31ST STREET
9TH AVENUE

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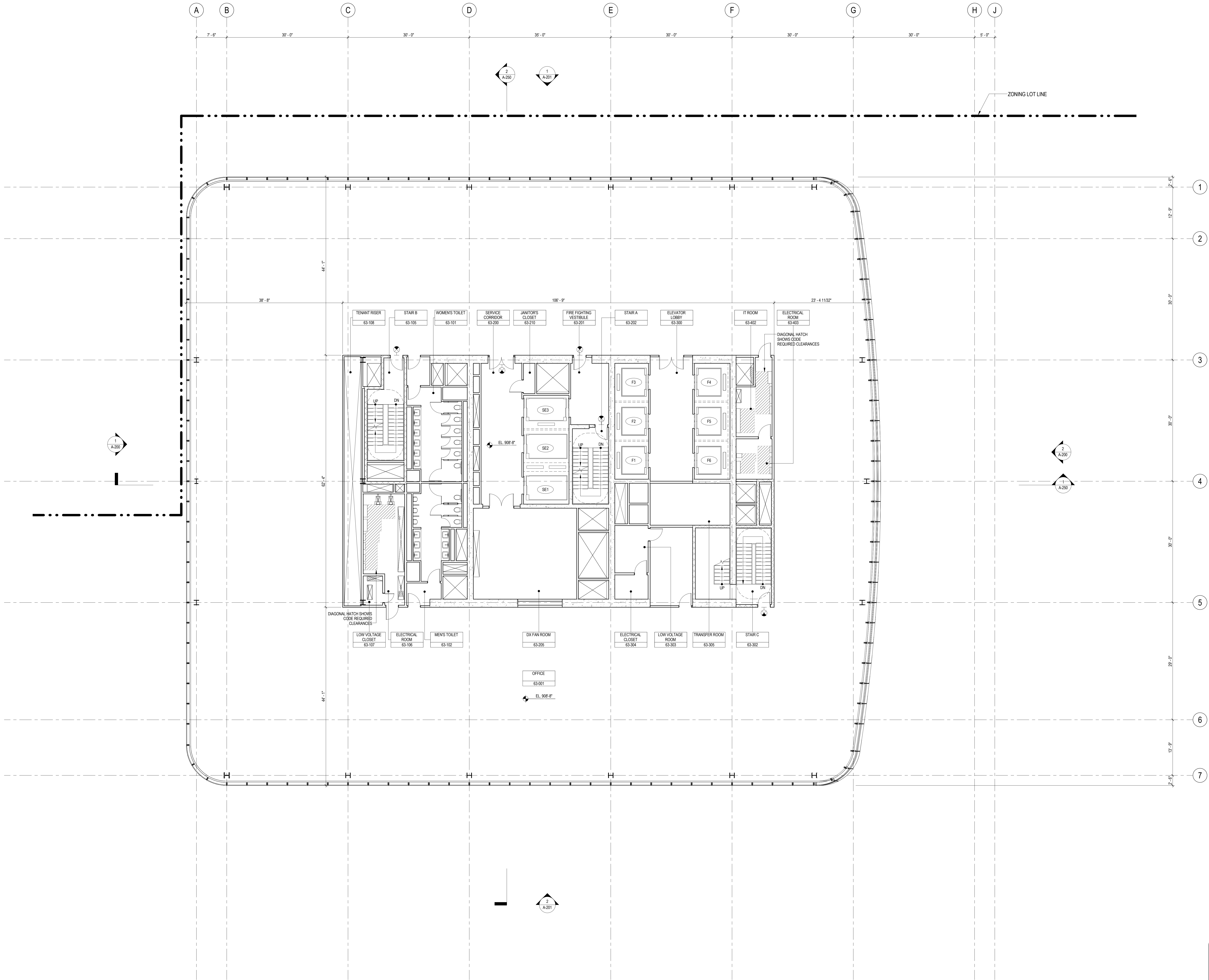
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Seal & Signature:

Damian Titus
Bulldog
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-162
B-SCAN Sheet No.: A-162.00
Sheet No.: A-162
Page No.: 53 OF 30



SHEET NOTES

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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 051010.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FACETS/EL. SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/WALL MOUNTED SERVICES.
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404 Fifth Avenue #8, New York, NY 10018

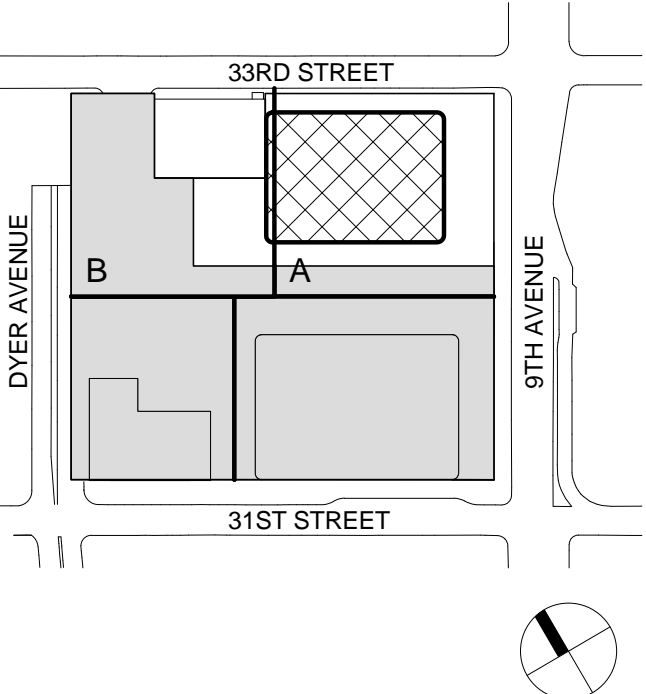
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

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Code Consultants Professional Engineers PC
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Rowan Williams Davies & Irwin Inc.
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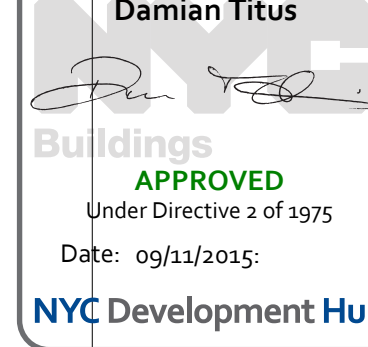
Key Plan:



Seal & Signature:



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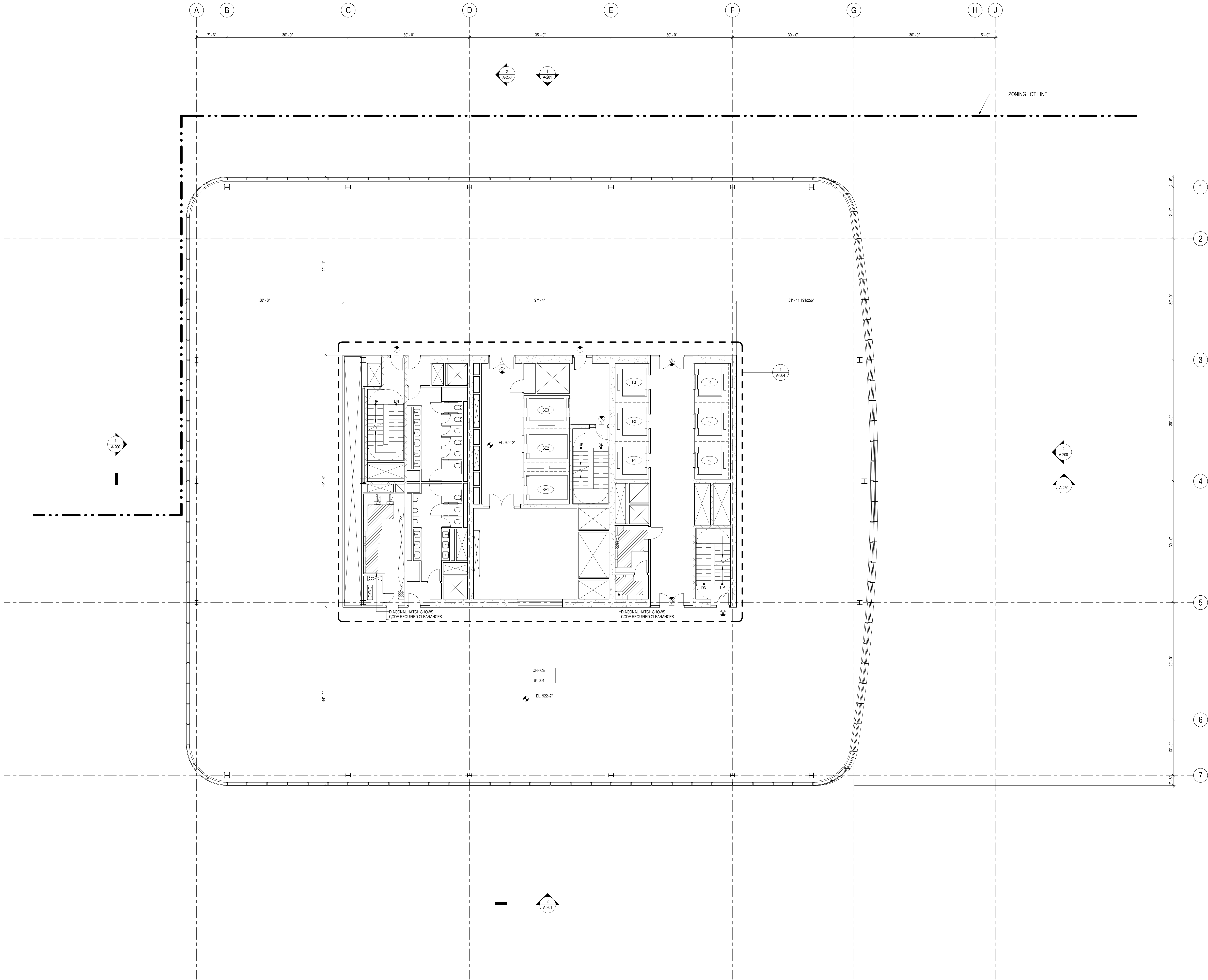


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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

**LEVEL 63 FLOOR
PLAN - HIGH-RISE**

| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-163.00 |
| Date: 27 AUG 2015 | Sheet No.: A-163 |
| Scale: 1/8" = 1'-0" | Page No.: 54 OF 30 |
| File No.: A-163 | |



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION B0700.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE D9, UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPPFASSCOTEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILINGWALL MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
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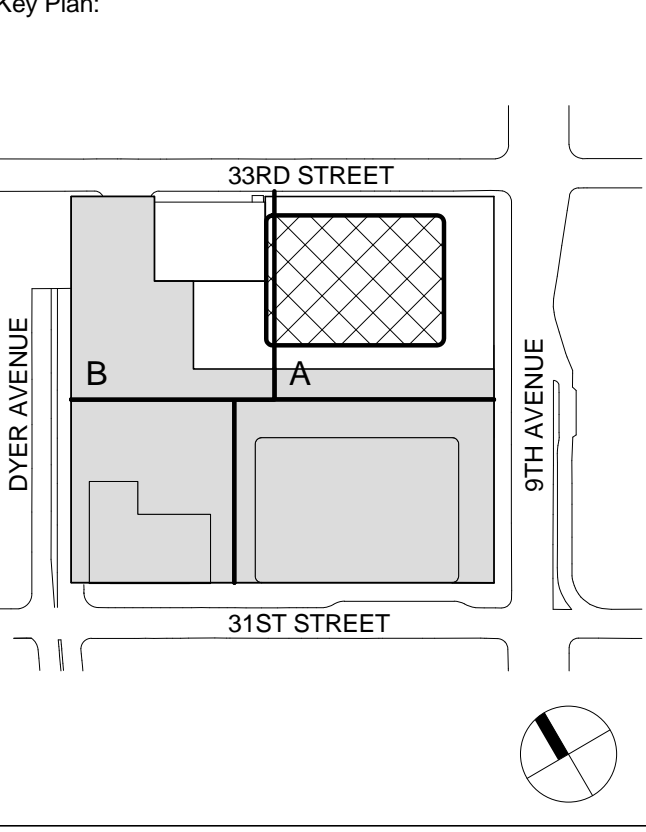
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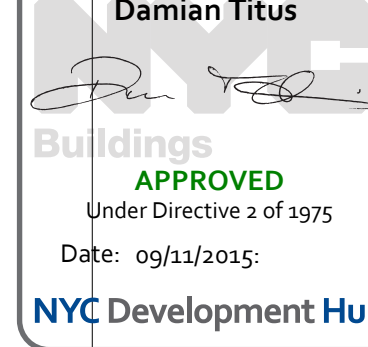
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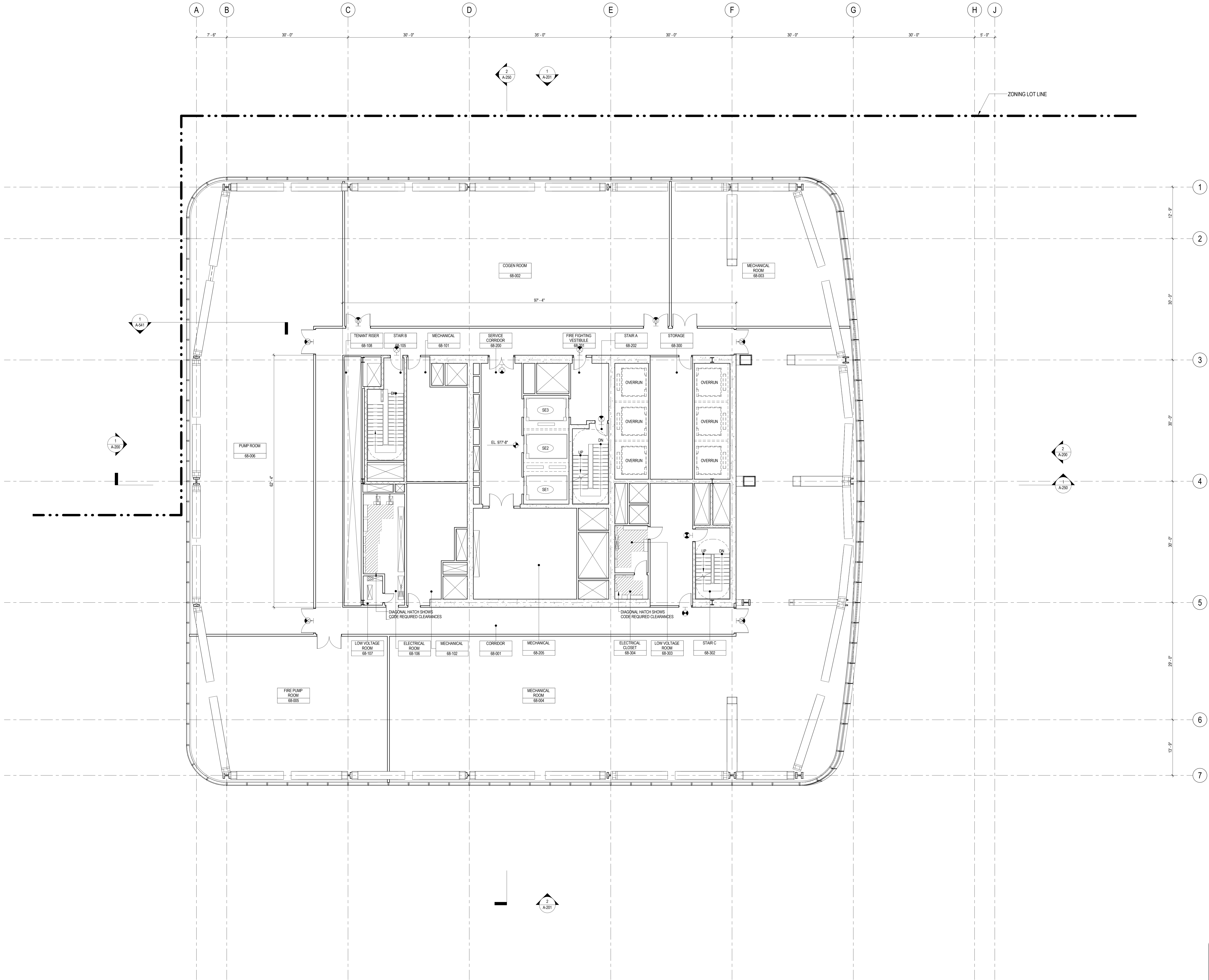


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| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

**LEVEL 64-67
FLOOR PLAN -
TYPICAL
HIGH-RISE**

| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-164.00 |
| Date: 27 AUG 2015 | Sheet No.: A-164 |
| Scale: 1/8" = 1'-0" | Page No.: 58 OF 30 |
| File No.: A-164 | |



SHEET NOTES

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4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 051010.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, LNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAS/CE/TEL SERVICE DRAWINGS FOR LOCATIONS OF ALL CEILING/WALL MOUNTED SERVICES.
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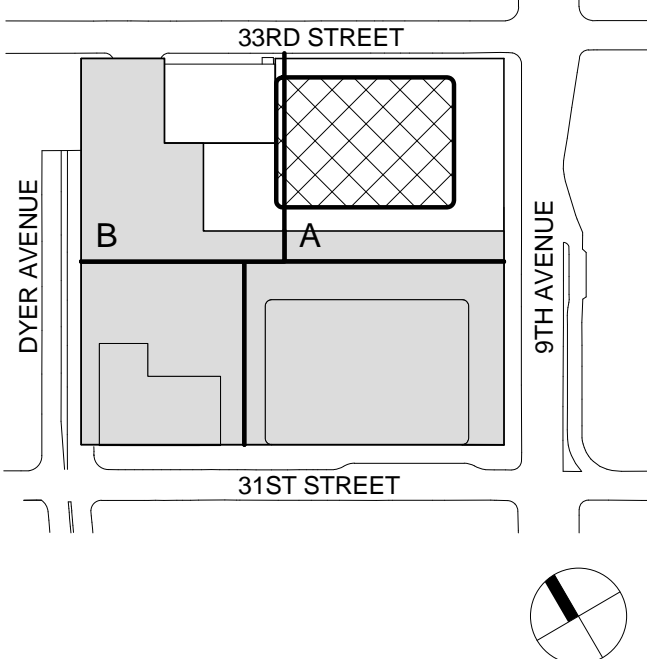
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Key Plan:



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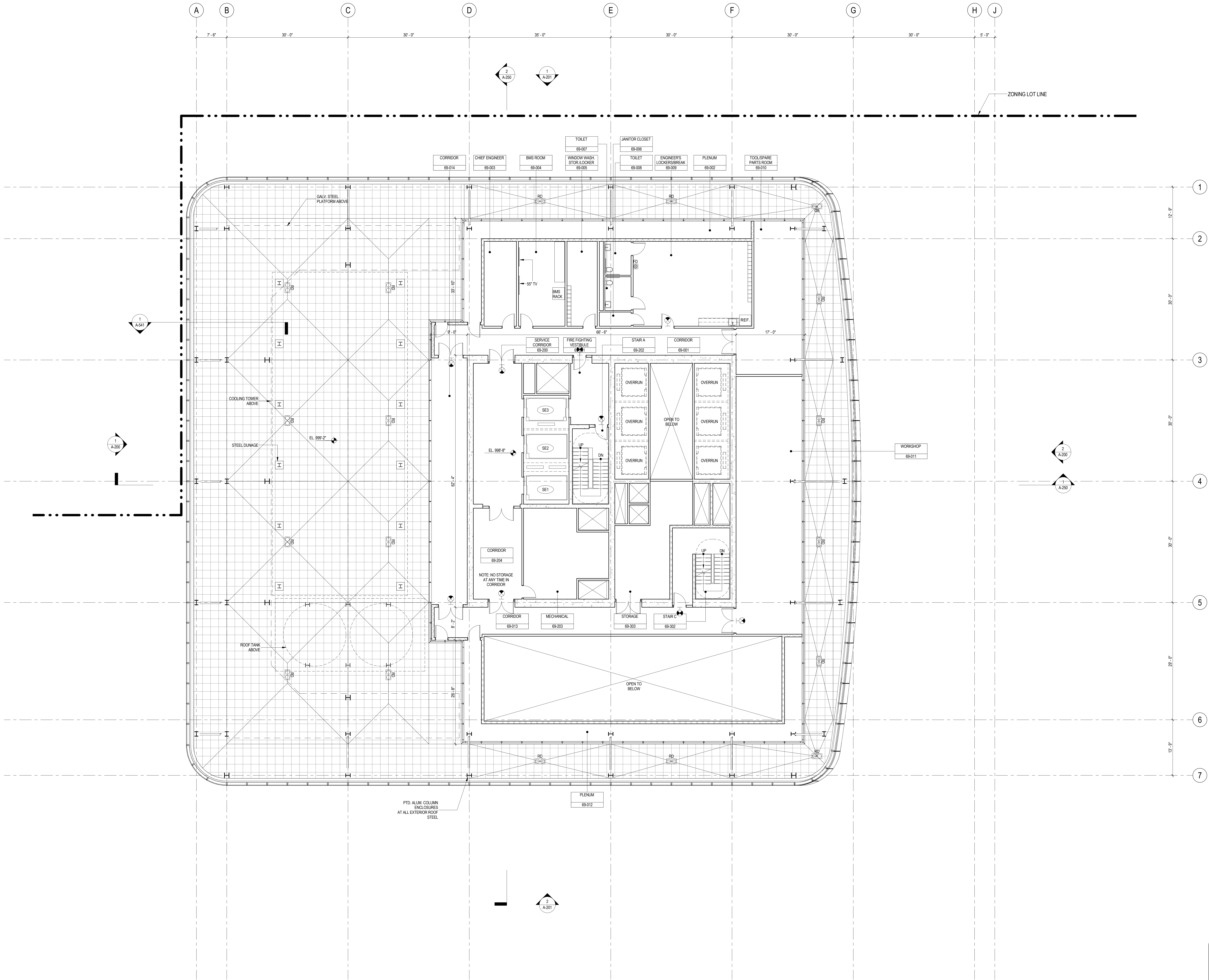


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Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

**LEVEL 68 FLOOR
PLAN -
MECHANICAL**

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/8" = 1'-0"
File No.: A-168
B-SCAN Sheet No.: A-168.00
Sheet No.: A-168
Page No.: 56 OF 30



SHEET NOTES

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13. EXISTING DIMENSIONS AND CONDITIONS FOR THE ADJACENT LOFT BUILDING MUST BE CHECKED AND VERIFIED BEFORE COMMENCEMENT OF WORK. ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THESE DOCUMENTS ARE TO BE REPORTED TO THE ARCHITECT OF RECORD.
14. THE PROJECT MUST SATISFY ALL APPLICABLE SEISMIC DESIGN PROVISIONS INDICATED IN SECTION BC 1910 OF THE 2008 NEW YORK CITY BUILDING CODE. REFER TO THE STRUCTURAL CALCULATION BOOK ISSUED ON JUNE 20, 2014 FOR SEISMIC LOAD DESIGN PARAMETERS.

MANHATTAN WEST: NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021
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SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005
Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016
MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005
Vertical Transportation

Edgett Williams Consulting Group, Inc.
102 East Bluffside Ave., Suite 1, Mill Valley, California 94941
Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854
Geotechnical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122
Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018
Security Consultant

Ducibella, Venter & Santoro
250 State Street #F1, North Haven, CT 06473
Blast Consultant

Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005
Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016
Vibration Consultant

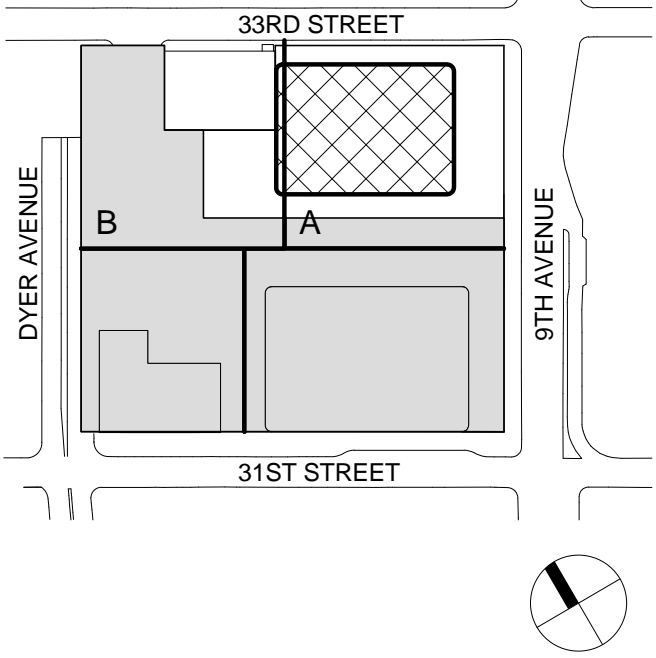
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006
Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601
Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:

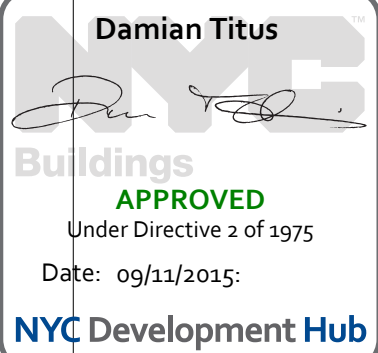


Warning: It is a violation of the New York State Architecture Law (ECL 1605) for any person, unless they are acting under the direction of a Licensed Architect, to alter this form in any way.

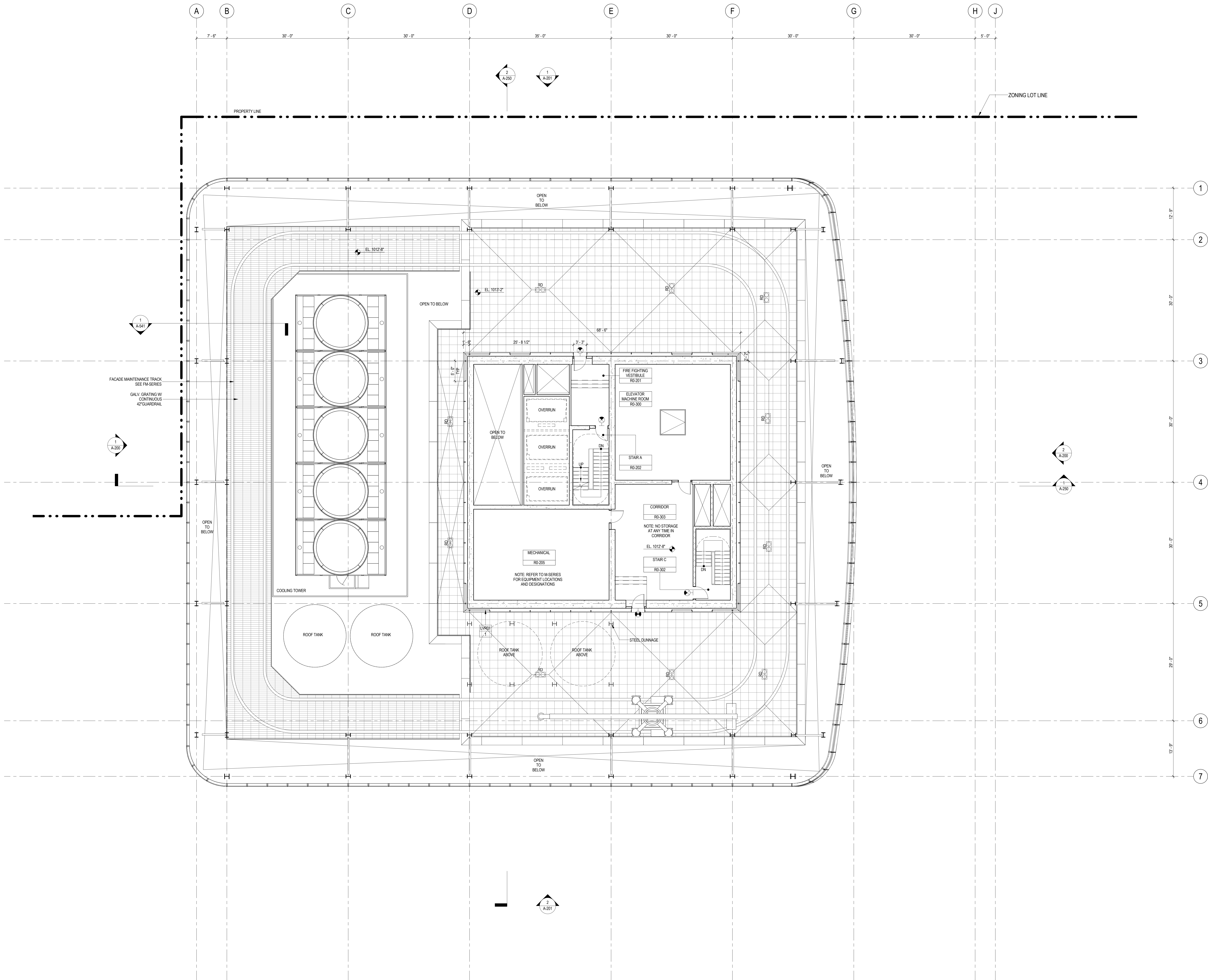
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| 10 | 21 AUG 2015 | ISSUED FOR BUILDING PERMIT |
| 9 | 1 APR 2015 | ISSUED FOR BUILDING PERMIT |
| 8 | 26 FEB 2015 | ISSUED FOR BUILDING PERMIT |
| 7 | 30 JAN 2015 | ISSUED FOR BUILDING PERMIT |
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 30% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONCILIATION |

Sheet Name:

LEVEL 69 FLOOR PLAN - MECHANICAL



| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-169.00 |
| Date: 27 AUG 2015 | Sheet No.: A-169 |
| Scale: 1/8" = 1'-0" | Page No.: 57 OF 30 |
| File No.: A-169 | |



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B070).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, LND.
8. FOR REFLECTED CEILING PLANS SEE A-800 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAS/CITEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/FINAL MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LND.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPP/FAS/CITEL FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
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Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

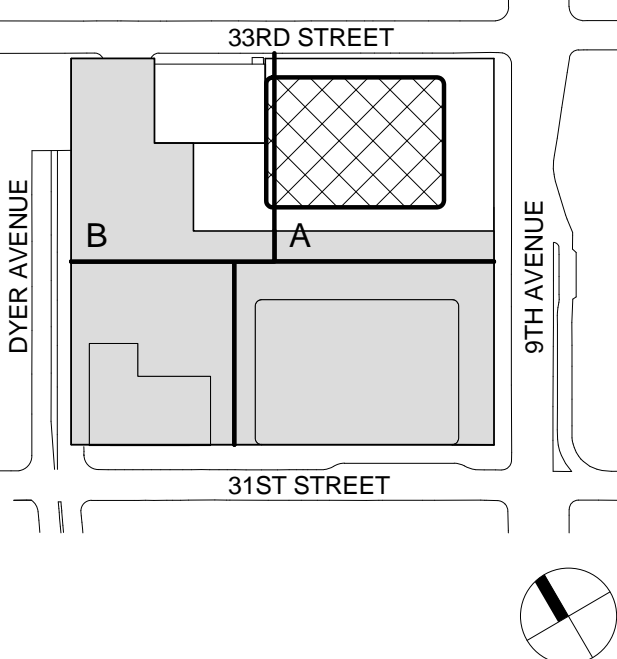
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:

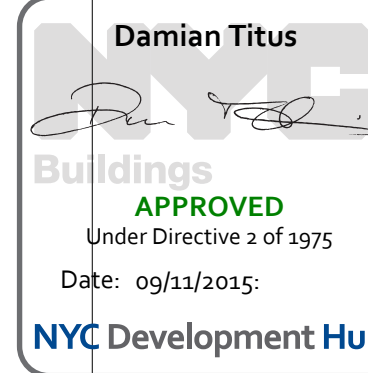


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| No. | Date | Description |
|-----|-------------|-----------------------------------|
| 9 | 21 AUG 2016 | ISSUED FOR BUILDING PERMIT |
| 8 | 1 APR 2016 | ISSUED FOR BUILDING PERMIT |
| 7 | 20 FEB 2016 | ISSUED FOR BUILDING PERMIT |
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

Sheet Name:

**ROOF PLAN -
MECHANICAL
PENTHOUSE**



| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-170.00 |
| Date: 27 AUG 2015 | Sheet No.: A-170 |
| Scale: 1/8" = 1'-0" | Page No.: 58 OF 30 |
| File No.: A-170 | |

SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
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5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION B0700.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE D9, LINO.
8. FOR REFLECTED CEILING PLANS SEE A-800 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPPFA50CITEL. SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/WALL MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LINO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
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Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

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Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

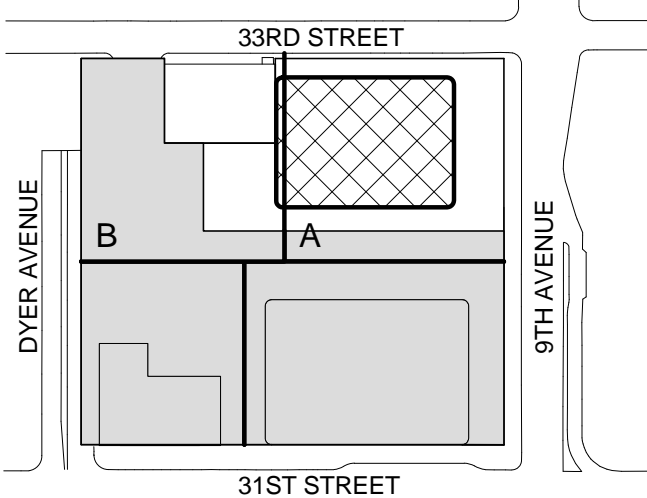
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

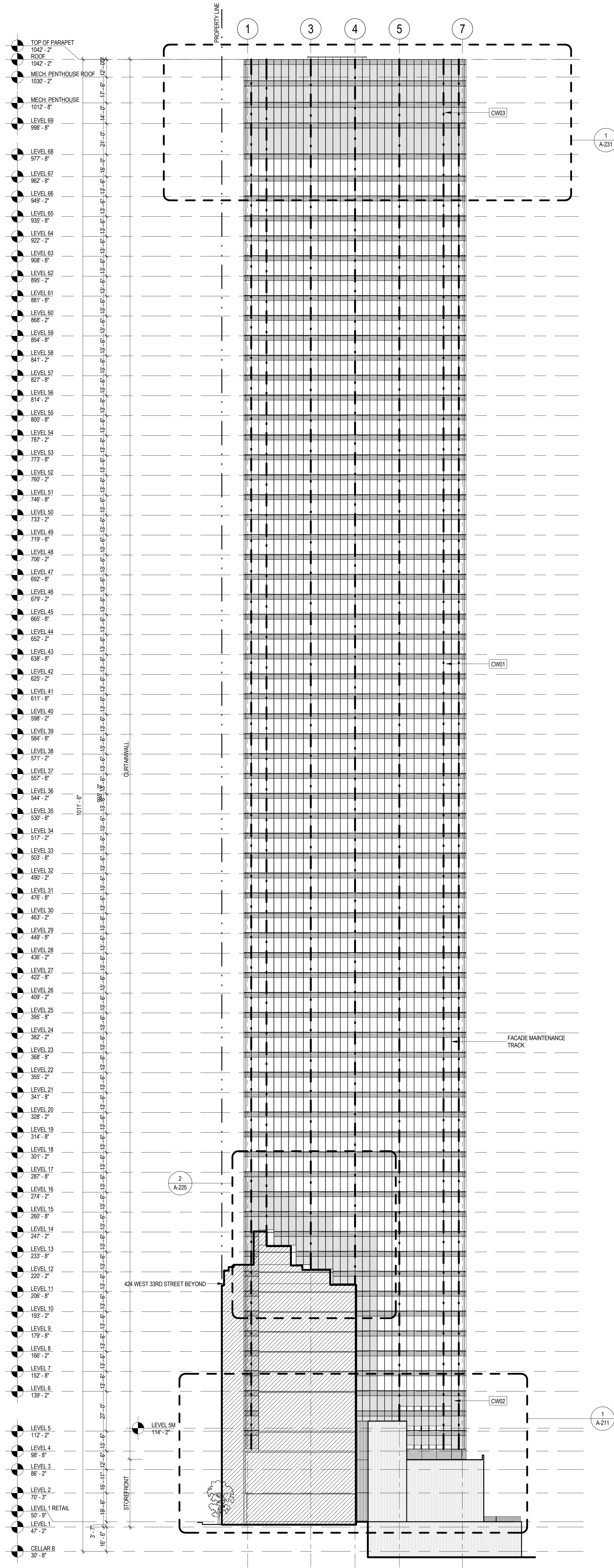
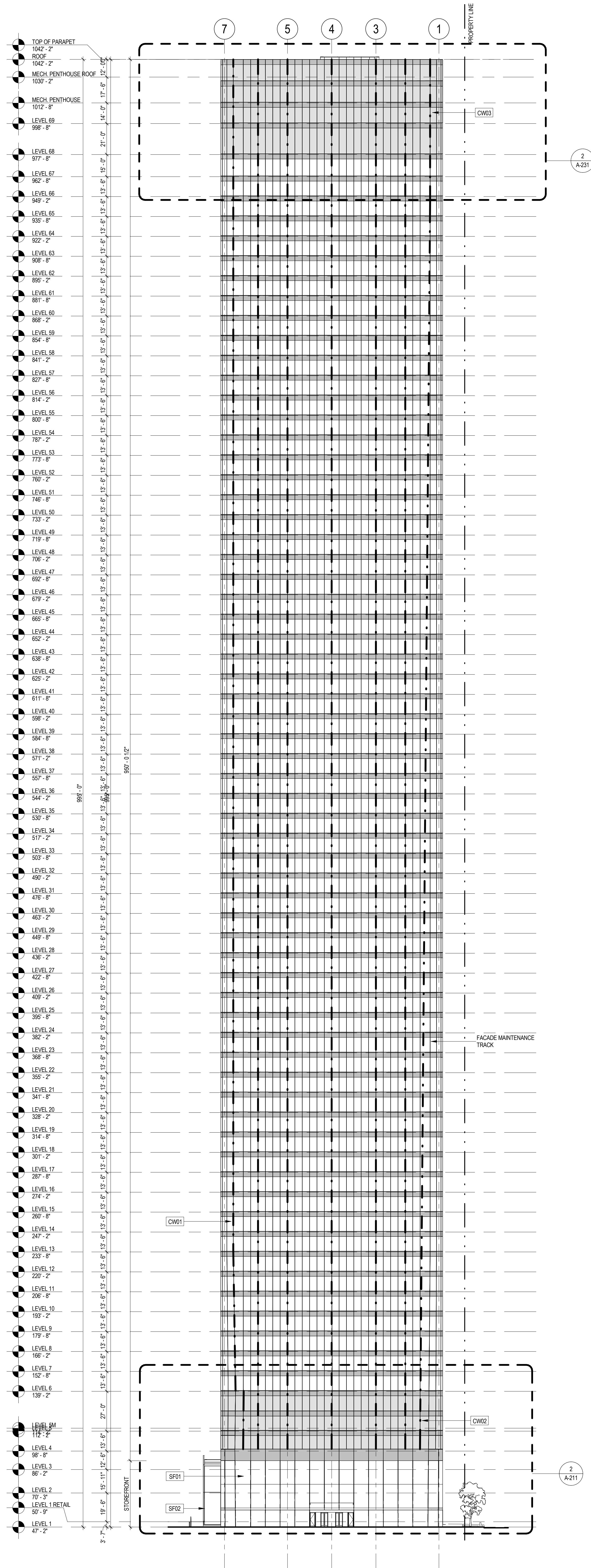
Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:





SHEET NOTES

1. SEE 500 SERIES FOR ENCLOSURE DETAILS.
2. ALL DOCUMENTATION OF 424 WEST 33RD STREET IS PRELIMINARY. VERIFY EXISTING CONDITIONS.
3. VERIFY EXISTING CONDITIONS OF ADJACENT LOFT BUILDING. LOCATION OF FOUNDATION WALL AND EXTENT OF CURTAIN WALL SEPARATIONS TO BE VERIFIED IN FIELD.
4. SEE FM SERIES FOR FACADE MAINTENANCE DETAILS.
5. EXISTING DIMENSIONS AND CONDITIONS FOR THE ADJACENT LOFT BUILDING MUST BE CHECKED AND VERIFIED BEFORE COMMENCEMENT OF WORK. ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THESE DOCUMENTS ARE TO BE REPORTED TO THE ARCHITECT OF RECORD.
6. THE PROJECT MUST SATISFY ALL APPLICABLE SEISMIC DESIGN PROVISIONS INDICATED IN SECTION 60.110 OF THE 2008 NEW YORK CITY BUILDING CODE. REFER TO THE STRUCTURAL CALCULATION BOOK ISSUED ON JUNE 20, 2014 FOR SEISMIC LOAD DESIGN PARAMETERS.

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Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

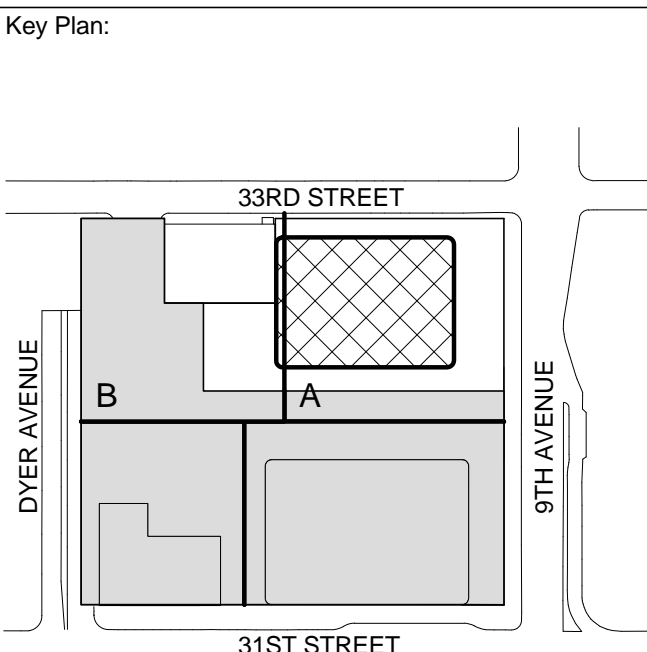
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

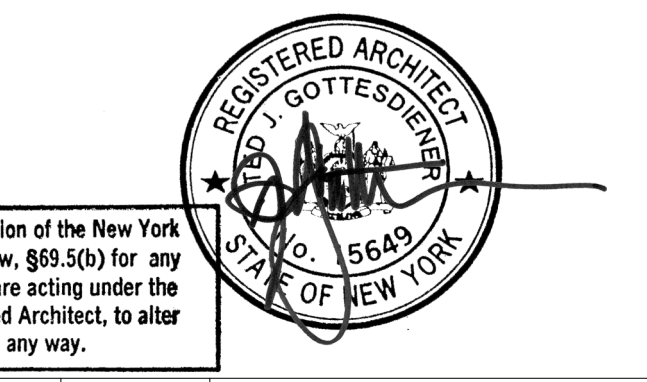
Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
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680 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8



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Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

- LEGEND
- SHADOW BOX 1
 - SHADOW BOX 2

BUILDING ELEVATIONS

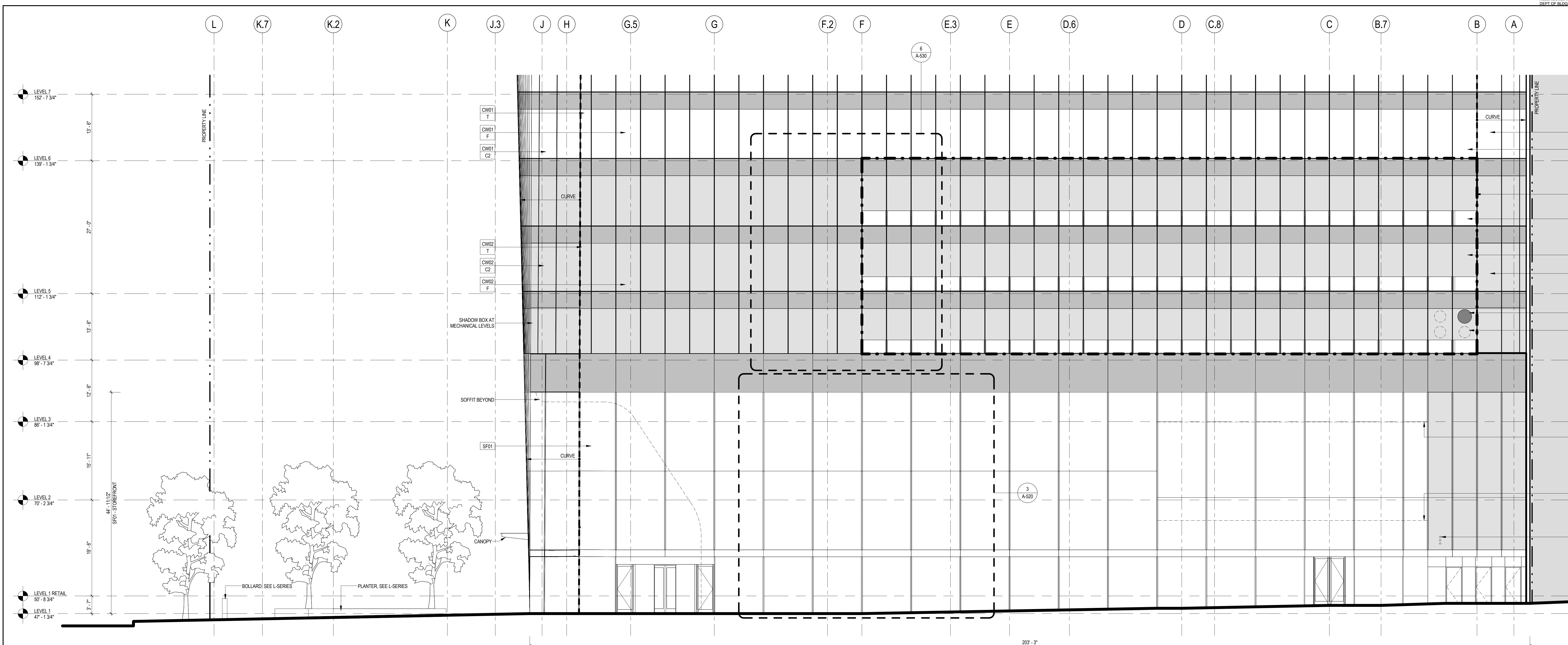
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B-SCAN Sheet No.:
A-200.00
Sheet No.:
A-200
Page No.: 61 OF 30

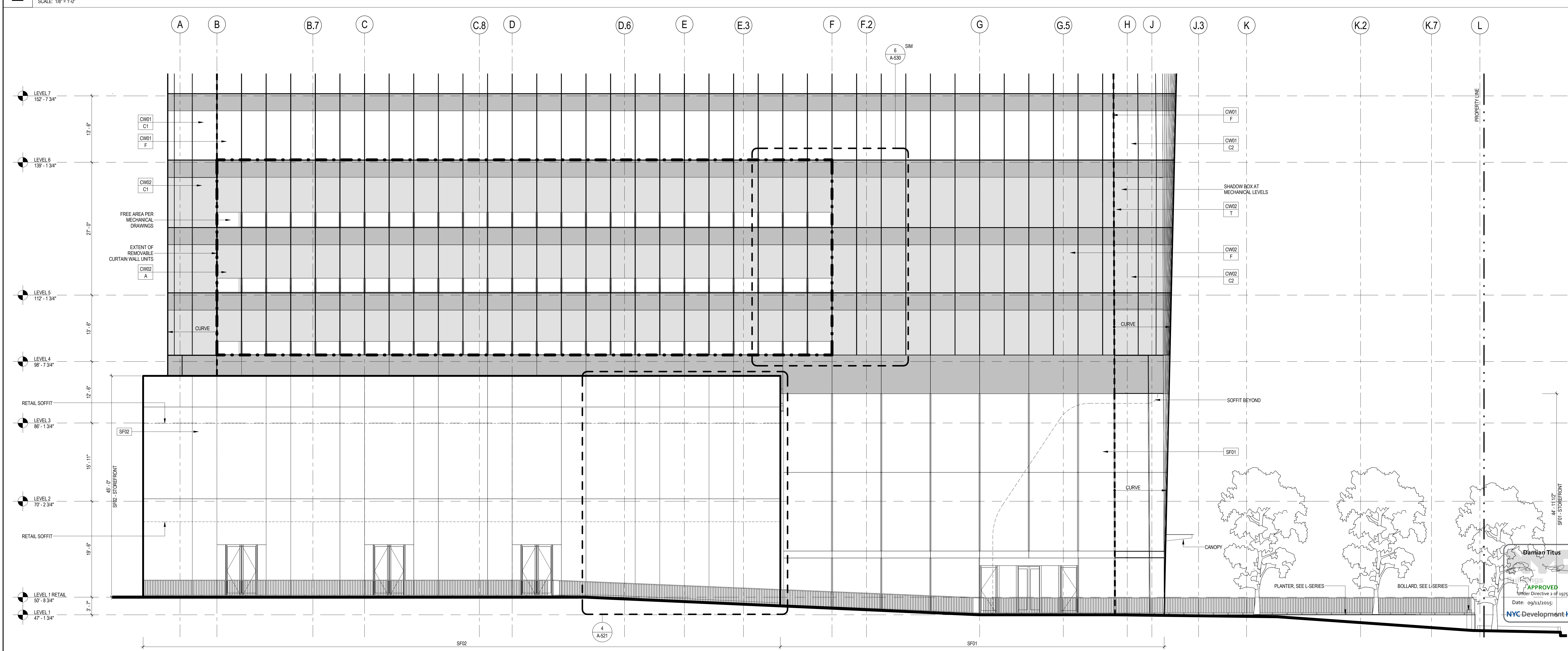


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| File No.: A-201 | Page No.: 62 OF 30 |


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2 ENLARGED ELEVATION AT GROUND FLOOR LOOKING SOUTH



1 ENLARGED ELEVATION AT GROUND FLOOR LOOKING NORTH



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Jaros Baum & Bolles
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Vertical Transportation
Edgett Williams Consulting Group, Inc.
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Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #B, New York, NY 10016

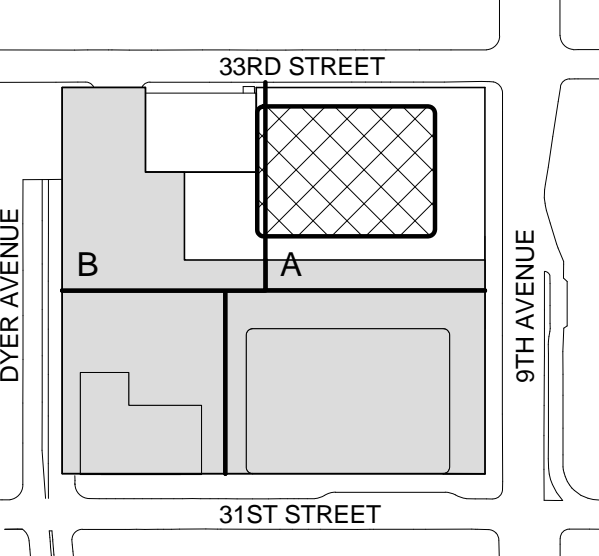
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018


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Wind Tunnel Consultant
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680 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



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4 12 SEPT 2014 ISSUED FOR FOUNDATION PERMIT
3 20 DEC 2013 ISSUED FOR FOUNDATION PERMIT
2 15 NOV 2013 ISSUED FOR DD PROGRESS PRICING
1 12 JUL 2013 ISSUED FOR 50% DESIGN DEVELOPMENT

No. Date Description
Sheet Name:

**ENLARGED
ELEVATIONS AT
GROUND FLOOR**

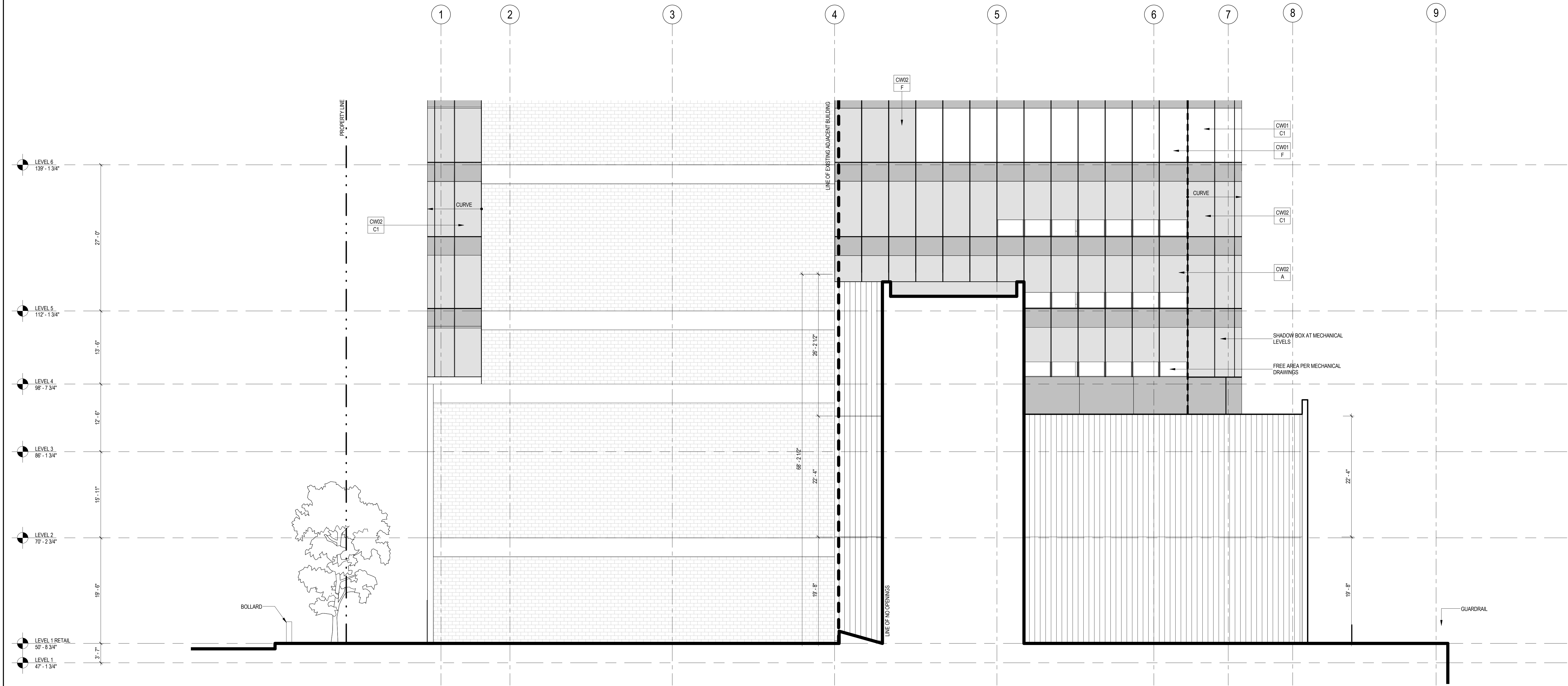
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B-SCAN Sheet No.:
A-210.00
Sheet No.:
Page No.: 67 OF 30

9/15/2014 5:20:54 PM

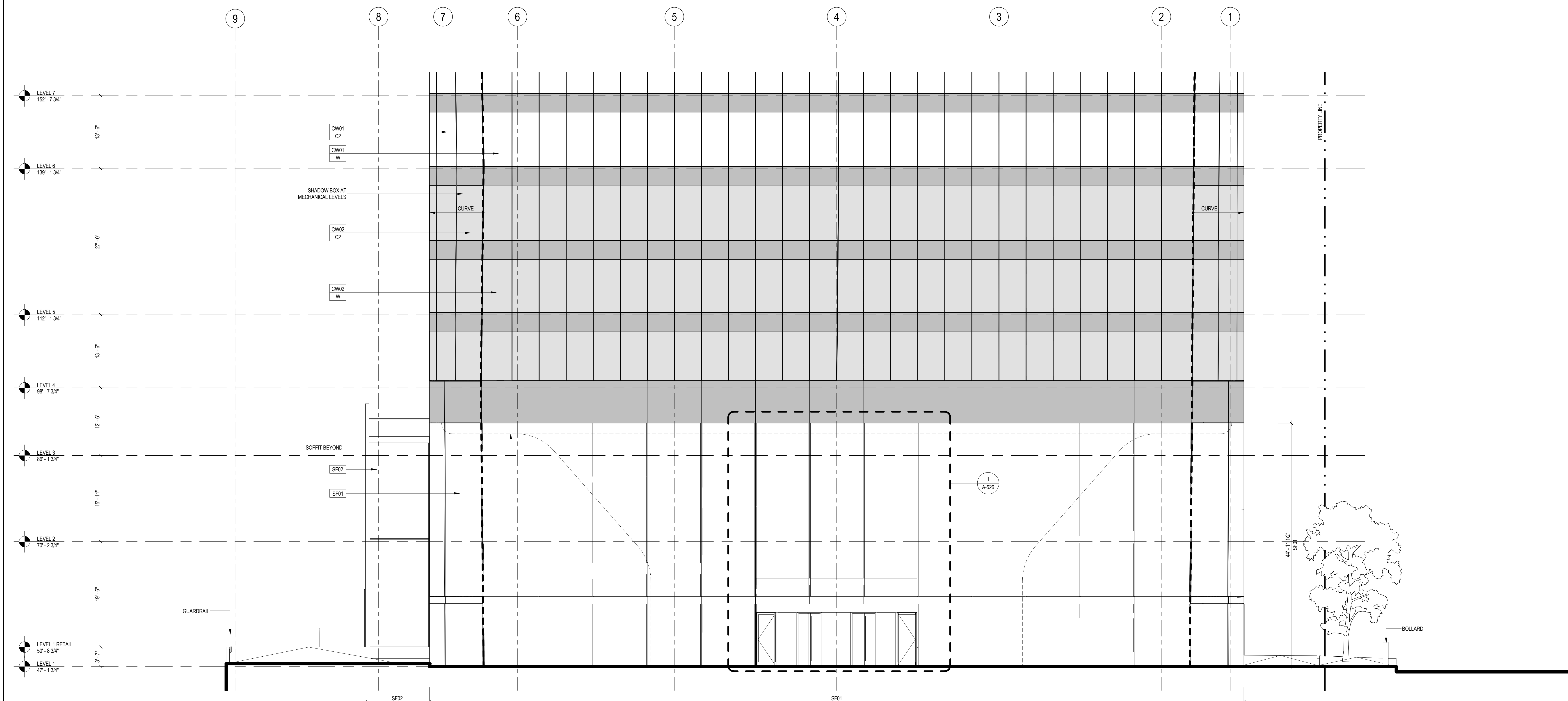
1 ENLARGED ELEVATION AT GROUND FLOOR LOOKING EAST

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



2 ENLARGED ELEVATION AT GROUND FLOOR LOOKING WEST

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



SHEET NOTES

- SEE 500 SERIES FOR ENCLOSURE DETAILS
- ALL DOCUMENTATION OF 424 WEST 33RD STREET IS PRELIMINARY. VERIFY EXISTING CONDITIONS.
- VERIFY EXISTING CONDITIONS OF ADJACENT LOFT BUILDING, LOCATION OF FOUNDATION WALL AND EXTENT OF CURTAIN WALL SEPARATIONS TO BE VERIFIED IN FIELD.
- SEE FIA SERIES FOR FACADE MAINTENANCE DETAILS.



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Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

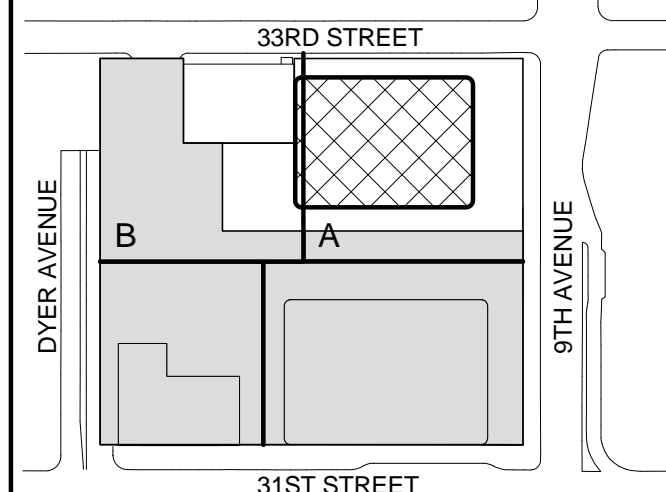
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

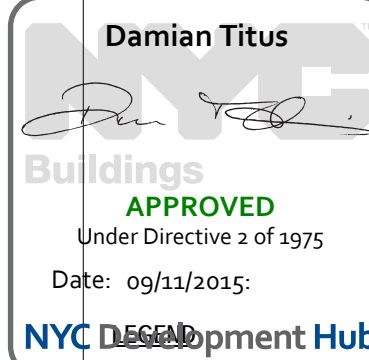
Key Plan:



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SHADOW BOX 1
SHADOW BOX 2

**ENLARGED
ELEVATIONS AT
GROUND FLOOR**

Project No.:
207150

Date:
12 SEPT 2014

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

File No.:
A-211


B-SCAN Sheet No.:
A-211.00

Sheet No.:
A-211

Page No.:
68 OF 30



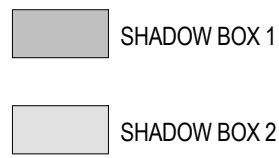
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| Date: 12 SEPT 2014 | |
| Scale: 1/8" = 1'-0" | |
| File No.: A-225 | Sheet No.: A-225 |
| | Page No.: 69 OF 30 |

Damian Titus

Buildings
APPROVED
Under Directive 2 of 1975
Date: 09/11/2015:
NYC Development Hub

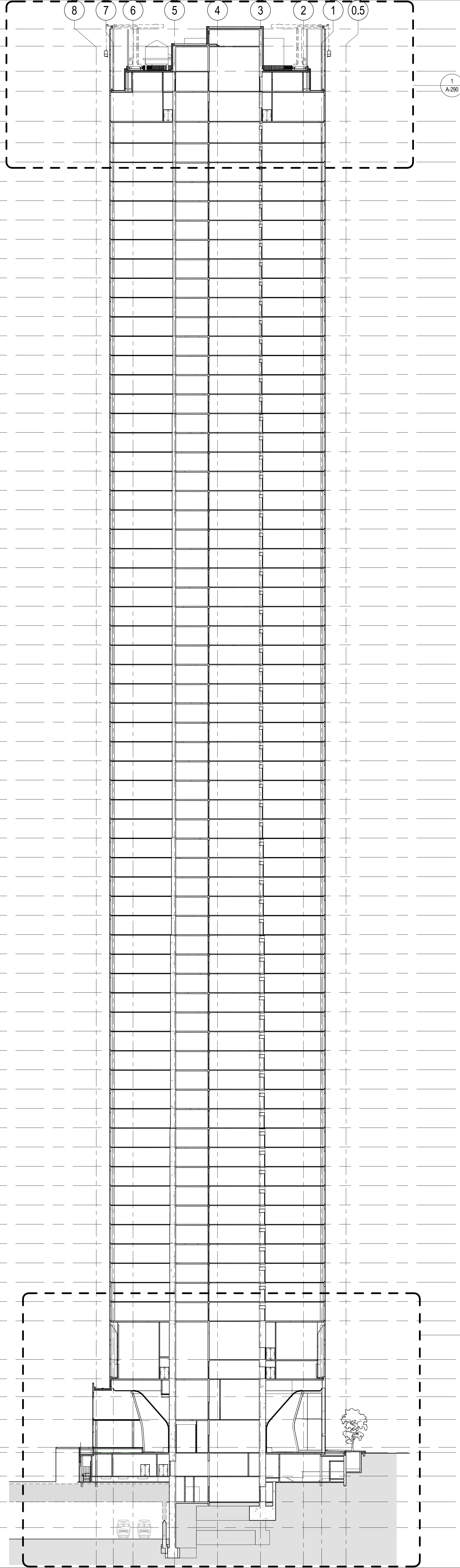
SHADOW BOX 1
SHADOW BOX 2



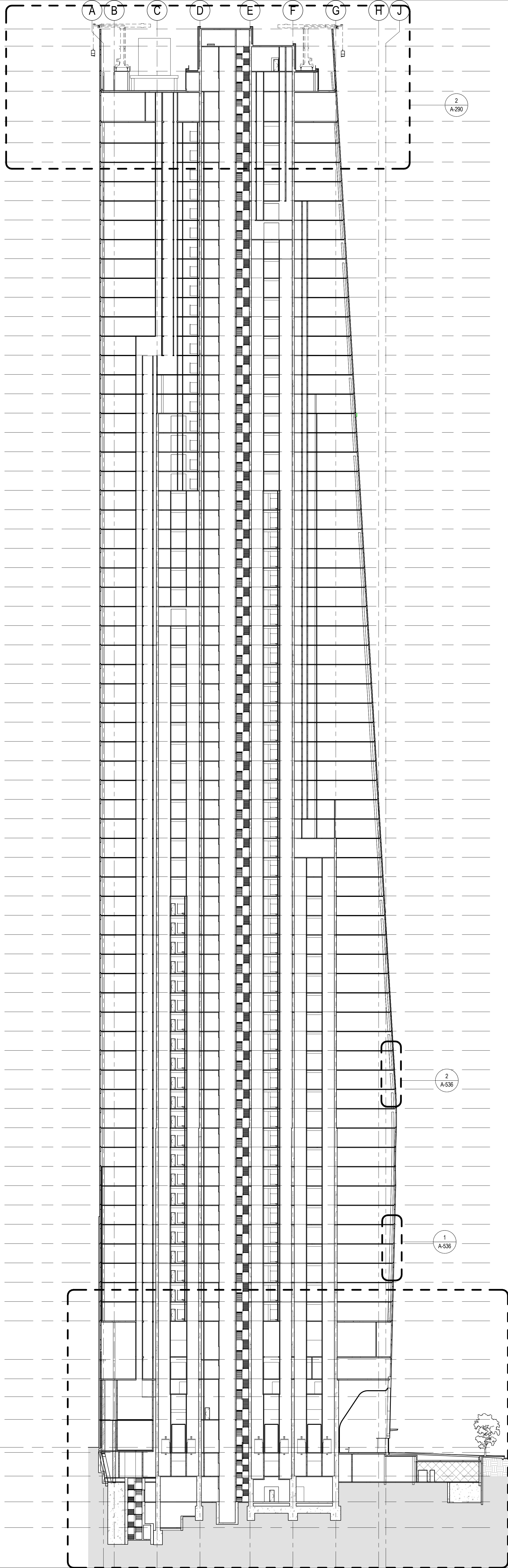
- Sheet No.: A-231



ROOF 1042'-2"
MECH. PENTHOUSE ROOF 1039'-2"
MECH. PENTHOUSE 1017'-6"
LEVEL 69 998'-8"
LEVEL 68 997'-8"
LEVEL 67 992'-8"
LEVEL 66 949'-2"
LEVEL 65 935'-8"
LEVEL 64 922'-2"
LEVEL 63 908'-8"
LEVEL 62 885'-2"
LEVEL 61 881'-8"
LEVEL 60 886'-2"
LEVEL 59 854'-8"
LEVEL 58 841'-2"
LEVEL 57 827'-8"
LEVEL 56 814'-2"
LEVEL 55 800'-8"
LEVEL 54 787'-2"
LEVEL 53 773'-8"
LEVEL 52 769'-2"
LEVEL 51 746'-8"
LEVEL 50 733'-2"
LEVEL 49 719'-8"
LEVEL 48 705'-2"
LEVEL 47 692'-8"
LEVEL 46 679'-2"
LEVEL 45 665'-8"
LEVEL 44 652'-2"
LEVEL 43 638'-8"
LEVEL 42 625'-2"
LEVEL 41 611'-8"
LEVEL 40 598'-2"
LEVEL 39 584'-8"
LEVEL 38 571'-2"
LEVEL 37 557'-8"
LEVEL 36 544'-2"
LEVEL 35 530'-8"
LEVEL 34 517'-2"
LEVEL 33 503'-8"
LEVEL 32 490'-2"
LEVEL 31 476'-8"
LEVEL 30 463'-2"
LEVEL 29 449'-8"
LEVEL 28 436'-2"
LEVEL 27 422'-8"
LEVEL 26 409'-2"
LEVEL 25 395'-8"
LEVEL 24 382'-2"
LEVEL 23 368'-8"
LEVEL 22 355'-2"
LEVEL 21 341'-8"
LEVEL 20 328'-2"
LEVEL 19 314'-8"
LEVEL 18 301'-2"
LEVEL 17 287'-8"
LEVEL 16 274'-2"
LEVEL 15 260'-8"
LEVEL 14 247'-2"
LEVEL 13 233'-8"
LEVEL 12 220'-2"
LEVEL 11 206'-8"
LEVEL 10 193'-2"
LEVEL 9 179'-8"
LEVEL 8 166'-2"
LEVEL 7 152'-8"
LEVEL 6 139'-2"
LEVEL 5 122'-2"
LEVEL 4 98'-8"
LEVEL 3 85'-2"
LEVEL 2 70'-2"
LEVEL 1 RETAIL 50'-0"
LEVEL 1 47'-2"
CELLAR B 30'-8"
CELLAR B1 12'-8"
CELLAR B1 PITS 5'-4"



ROOF 1042'-2"
MECH. PENTHOUSE ROOF 1039'-2"
MECH. PENTHOUSE 1017'-6"
LEVEL 68 998'-8"
LEVEL 67 992'-8"
LEVEL 66 949'-2"
LEVEL 65 935'-8"
LEVEL 64 922'-2"
LEVEL 63 908'-8"
LEVEL 62 885'-2"
LEVEL 61 881'-8"
LEVEL 60 886'-2"
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LEVEL 56 814'-2"
LEVEL 55 800'-8"
LEVEL 54 787'-2"
LEVEL 53 773'-8"
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LEVEL 51 746'-8"
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LEVEL 2 70'-2"
LEVEL 1 RETAIL 50'-0"
LEVEL 1 47'-2"
CELLAR B 30'-8"
CELLAR B1 12'-8"
CELLAR B1 PITS 5'-4"



SHEET NOTES

1. SEE 500 SERIES FOR ENCLOSURE DETAILS.
2. ALL DOCUMENTATION OF 424 WEST 33RD STREET IS PRELIMINARY. VERIFY EXISTING CONDITIONS.
3. VERIFY EXISTING CONDITIONS OF ADJACENT LOFT BUILDING. LOCATION OF FOUNDATION WALL AND EXTENT OF CURTAIN WALL SEPARATIONS TO BE VERIFIED IN FIELD.
4. SEE FM SERIES FOR FACADE MAINTENANCE DETAILS.
5. EXISTING DIMENSIONS AND CONDITIONS FOR THE ADJACENT LOFT BUILDING MUST BE CHECKED AND VERIFIED BEFORE COMMENCEMENT OF WORK. ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THESE DOCUMENTS ARE TO BE REPORTED TO THE ARCHITECT OR RECORD.
6. THE PROJECT MUST SATISFY ALL APPLICABLE SEISMIC DESIGN PROVISIONS INDICATED IN SECTION 80.1915 OF THE 2010 NEW YORK CITY BUILDING CODE. REFER TO THE STRUCTURAL CALCULATION BOOK ISSUED ON LINE 20, 2014 FOR SEISMIC LOAD DESIGN PARAMETERS.

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Weidinger Associates, Inc.
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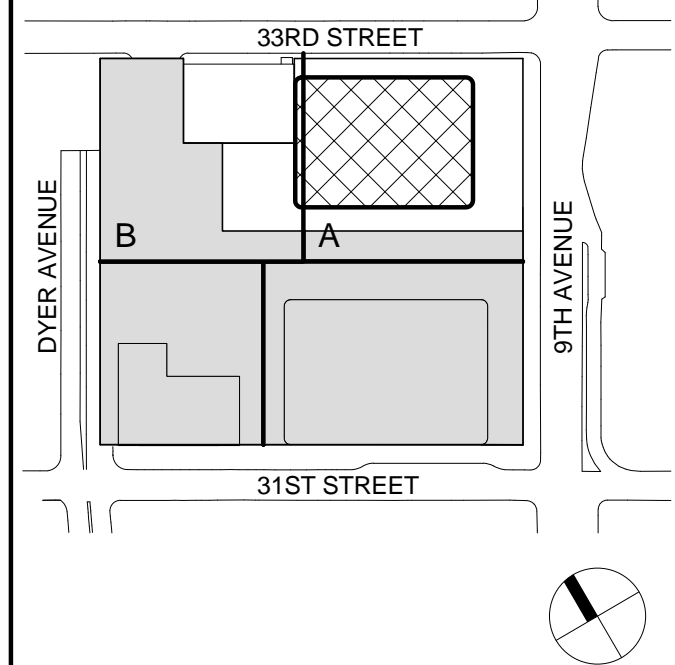
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
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Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

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650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6

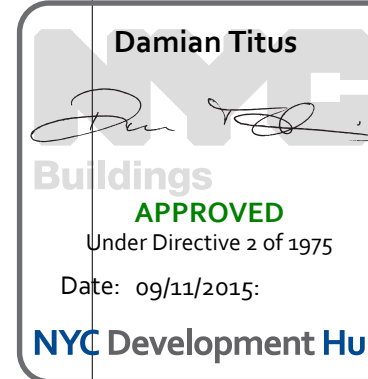
Key Plan:



Seal & Signature:



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BUILDING SECTIONS

Project No.: 207150
Date: 30 JAN 2015
Scale: 1/32" = 1'-0"
File No.: A-250

B-SCAN Sheet No.:
A-250.00
Sheet No.:
Page No.: 63 OF 30



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Ducibella, Vantor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

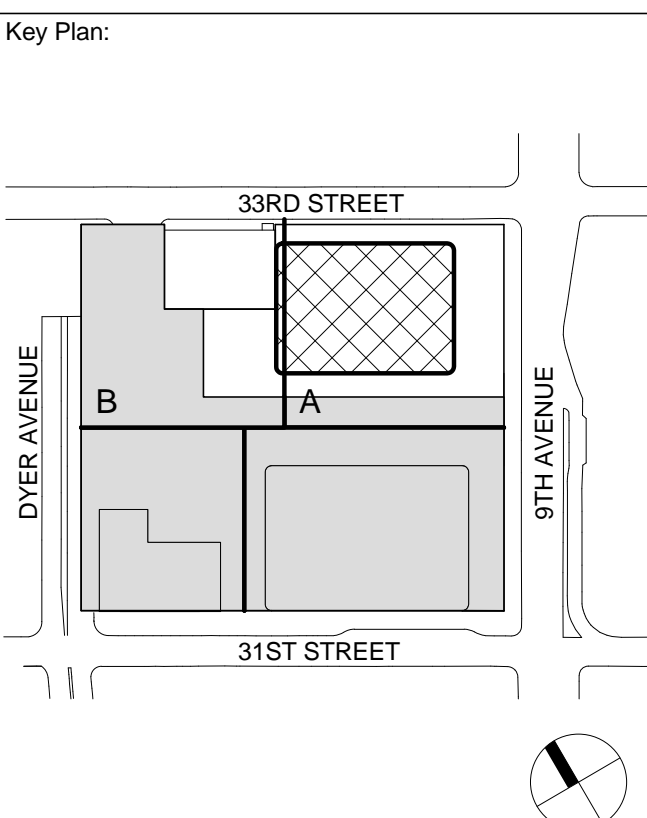
Acoustical Consultant
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65 Broadway, Suite 401, New York, NY 10006

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650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8



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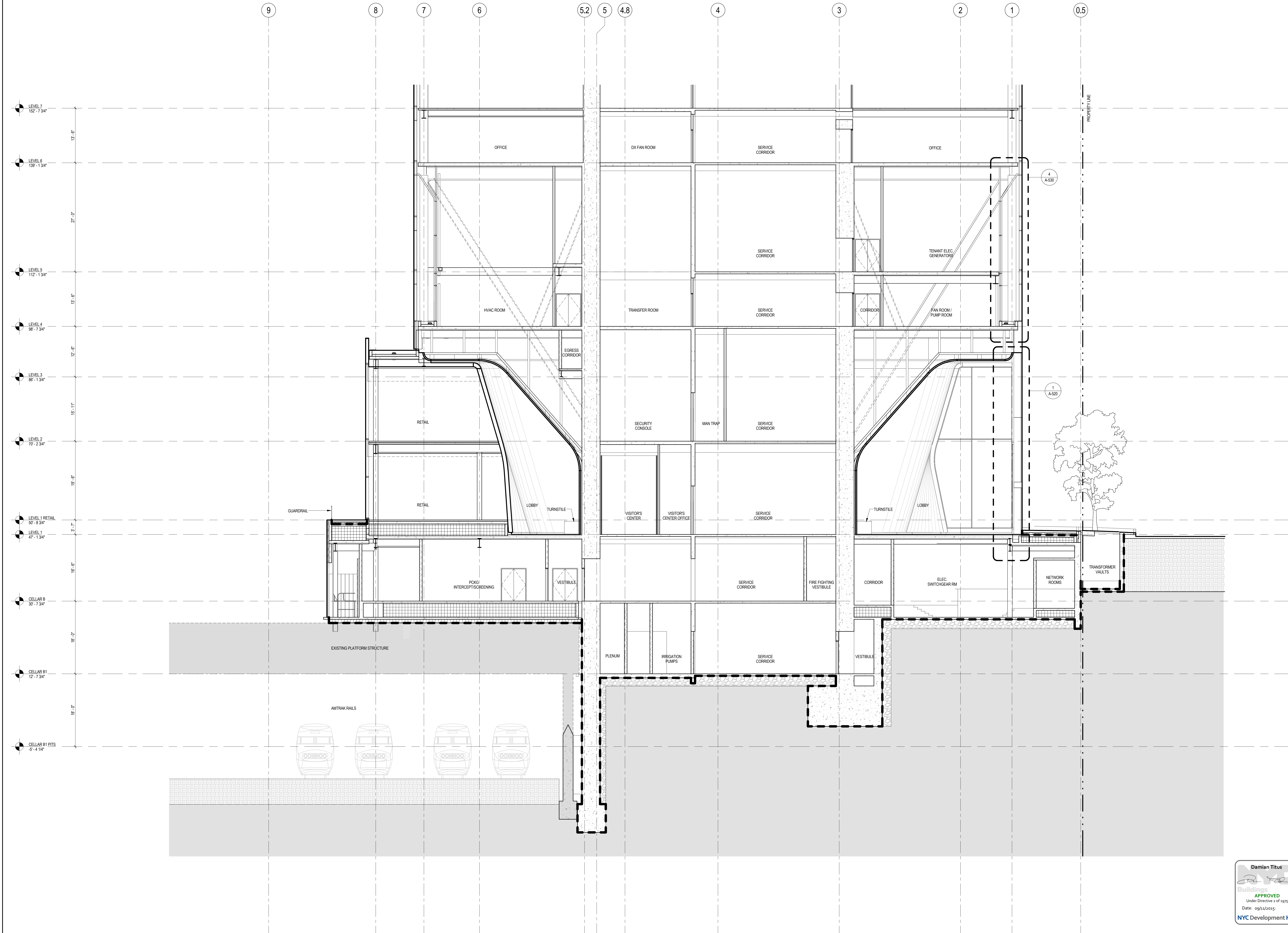
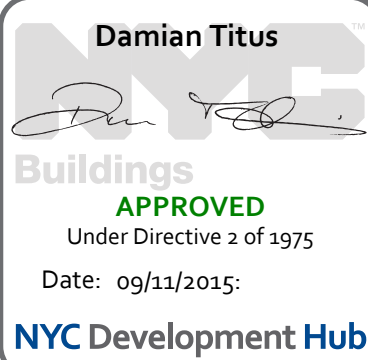
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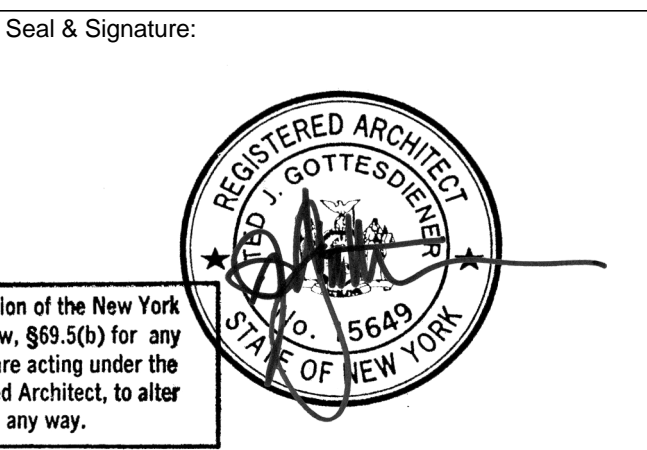
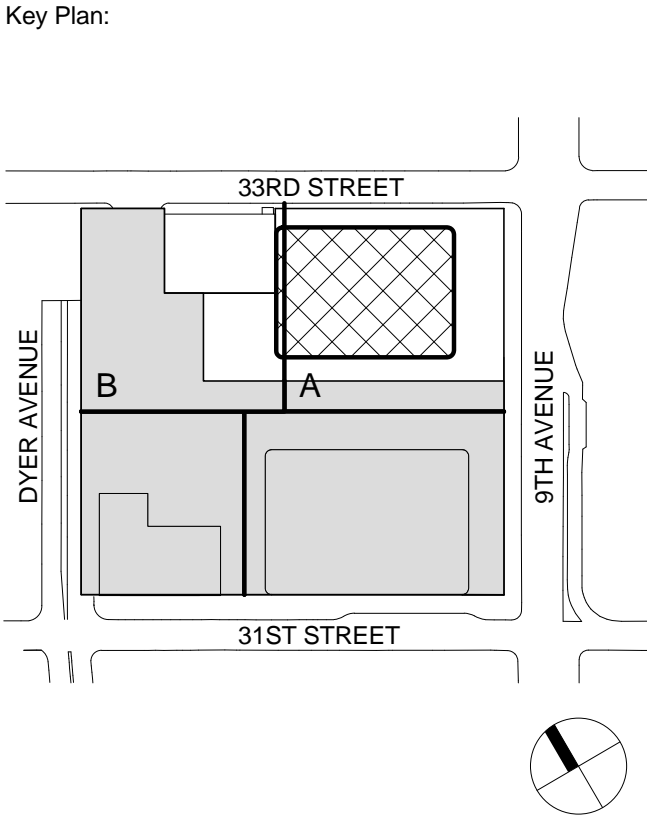
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| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 30% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. _____ Date _____ Description _____
Sheet Name: _____

ENLARGED
SECTION AT
LOBBY

| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-270.00 |
| Date: 12 SEPT 2014 | Sheet No.: A-270 |
| Scale: 1/8" = 1'-0" | Page No.: 64 OF 30 |
| File No.: A-270 | |

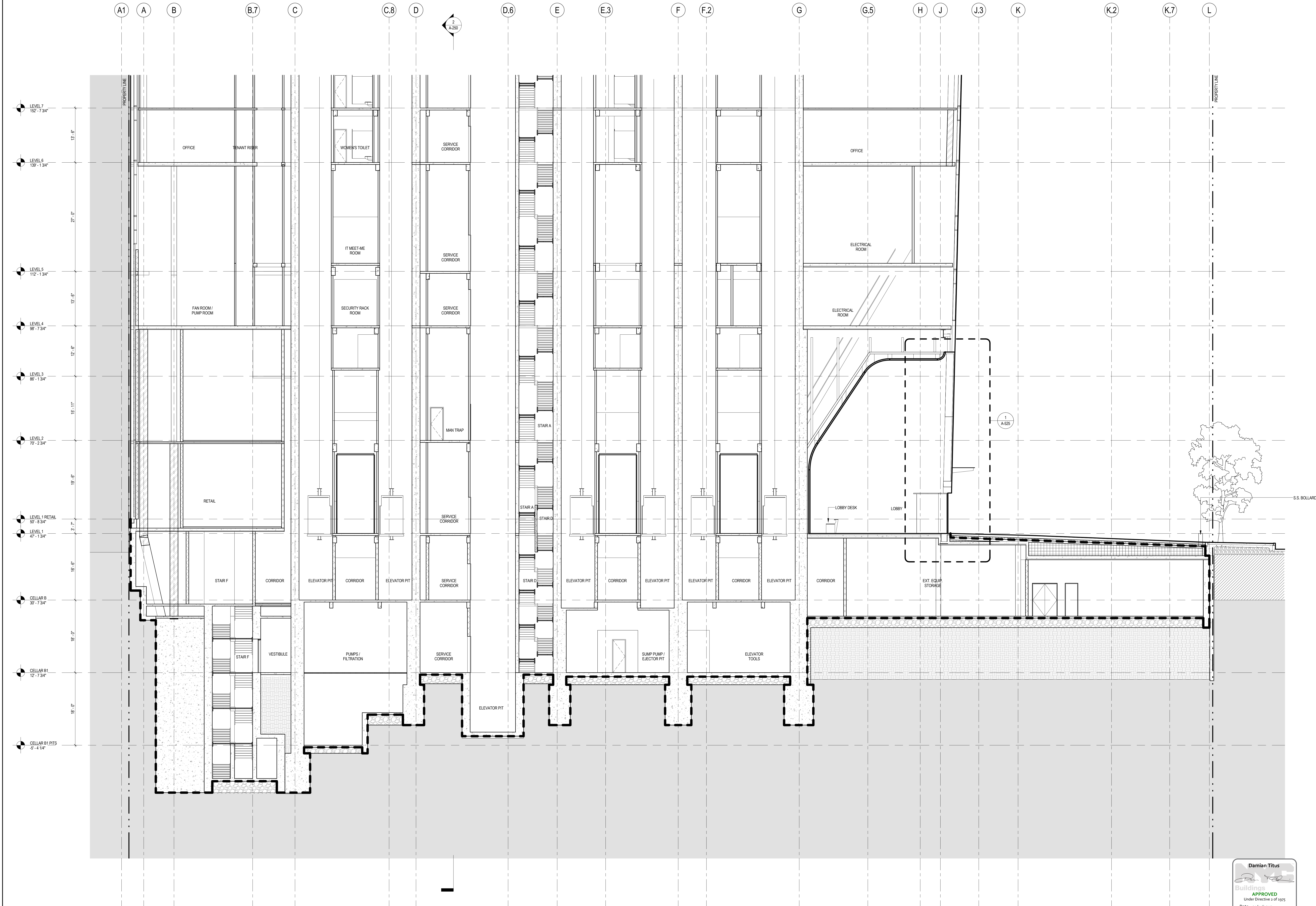




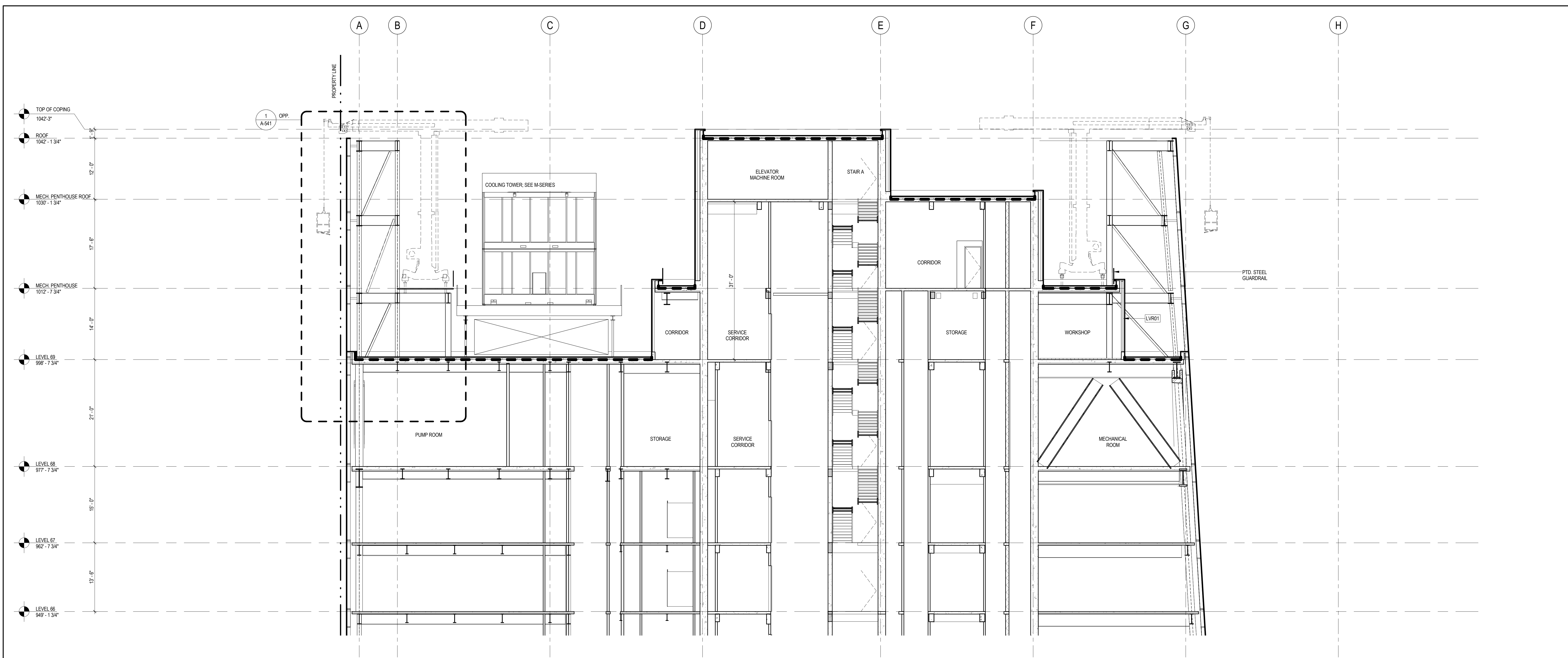
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| 3 | 15 NOV 2013 | ISSUED FOR 30% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

ENLARGED
SECTION AT
LOBBY

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|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-271.00 |
| Date: 12 SEPT 2014 | Sheet No.: A-271 |
| Scale: 1/8" = 1'-0" | Page No.: 68 OF 30 |
| File No.: A-271 | |

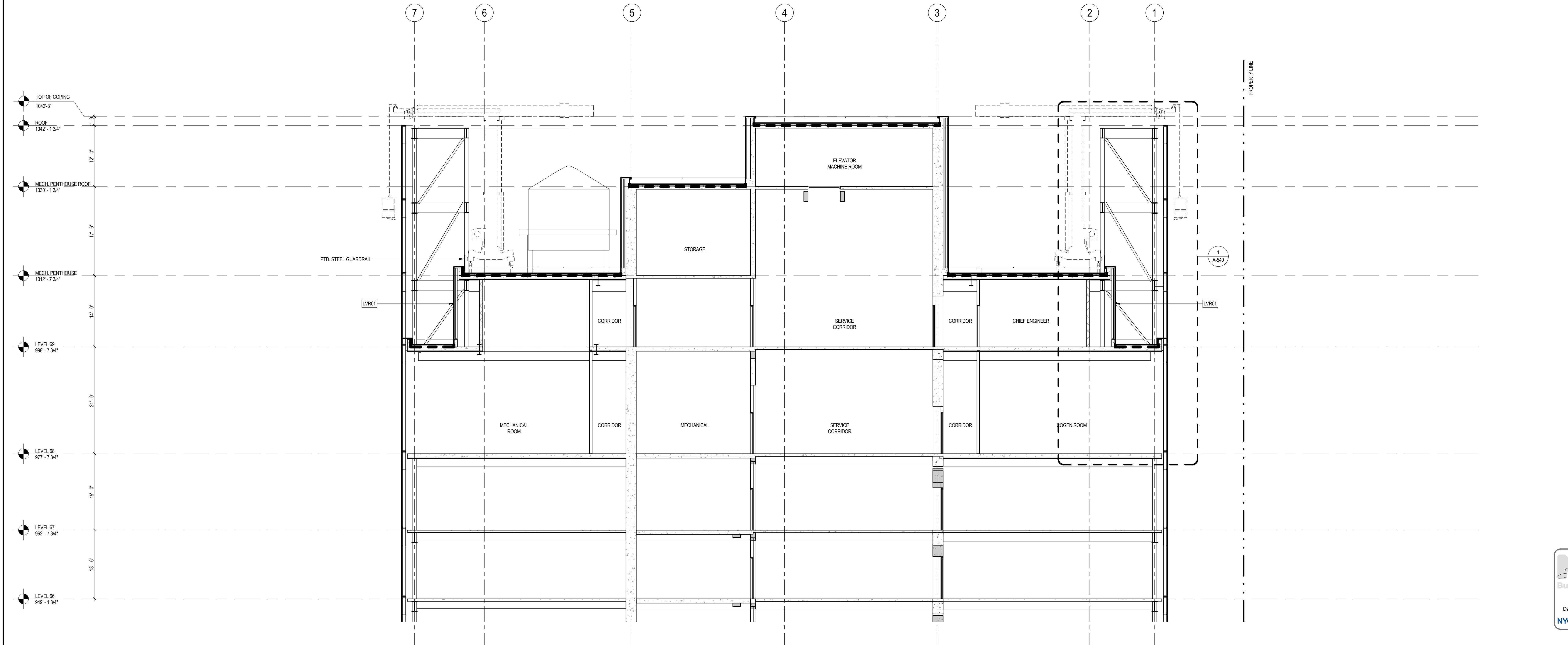


1 ENLARGED SECTION AT GROUND FLOOR LOOKING NORTH
SCALE: 1/8" = 1'-0"



2 ENLARGED SECTION AT ROOF LOOKING NORTH

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



1 ENLARGED SECTION AT ROOF LOOKING EAST

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

SHEET NOTES

1. SEE 600 SERIES FOR ENCLOSURE DETAILS
2. ALL DOCUMENTATION OF 424 WEST 33RD STREET IS PRELIMINARY. VERIFY EXISTING CONDITIONS.
3. VERIFY EXISTING CONDITIONS OF ADJACENT LOFT BUILDING. LOCATION OF FOUNDATION WALL AND EXTENT OF CURTAIN WALL SEPARATIONS TO BE VERIFIED IN FIELD.
4. SEE FASERIES FOR FACADE MAINTENANCE DETAILS.



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Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

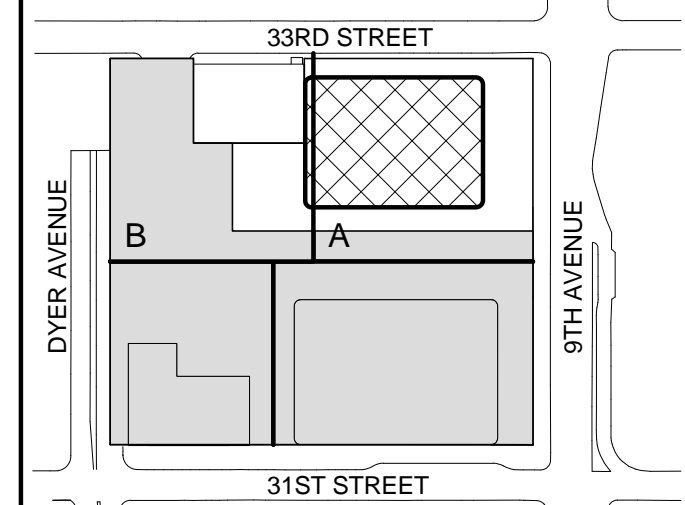
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6

Key Plan:



Seal & Signature:

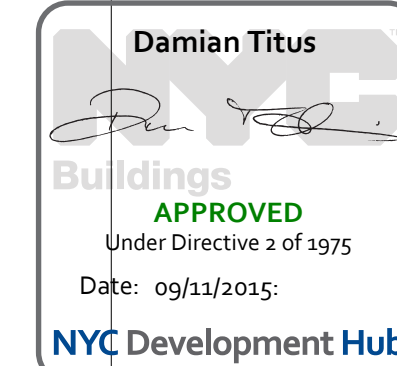


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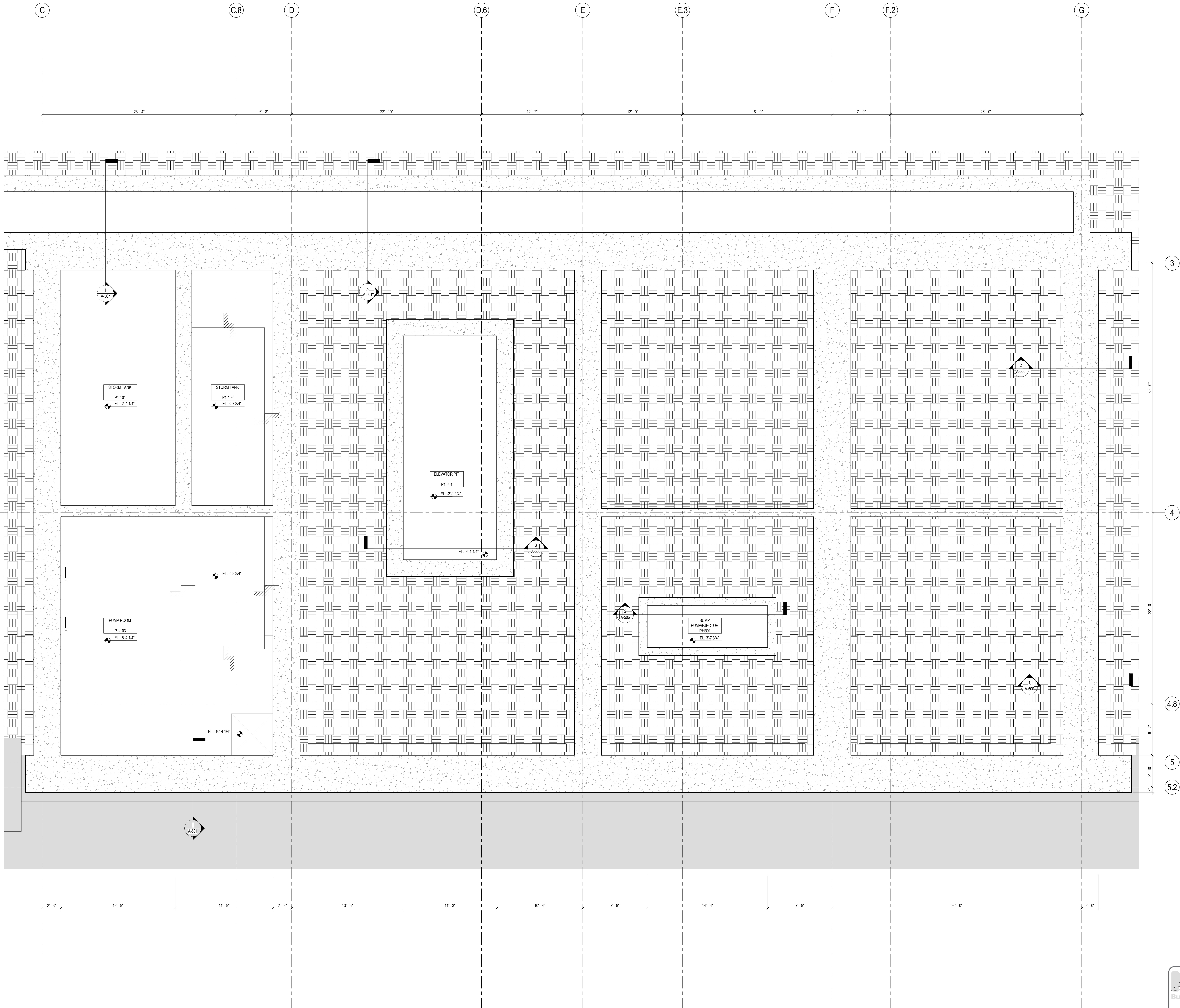
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| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

**ENLARGED
SECTIONS AT
ROOF**

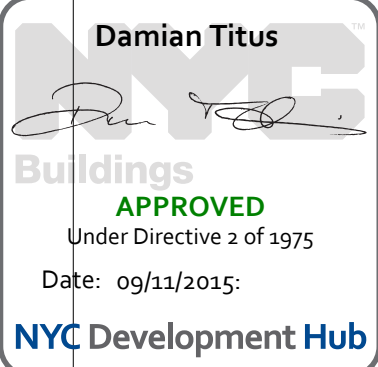



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| Project No.: 207150 | B-SCAN Sheet No.: A-290.00 |
| Date: 12 SEPT 2014 | Sheet No.: A-290 |
| Scale: 1/8" = 1'-0" | Page No.: 79 OF 30 |
| File No.: A-290 | |



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. 0-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. 0-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 051010.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE 06 UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAS/CTEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/WALL MOUNTED DEVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPP/FAS/CTEL SERVICE DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
12. FOR PROJECT WORK POINT REFER TO A-000 SERIES DRAWINGS.





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Code Consultant

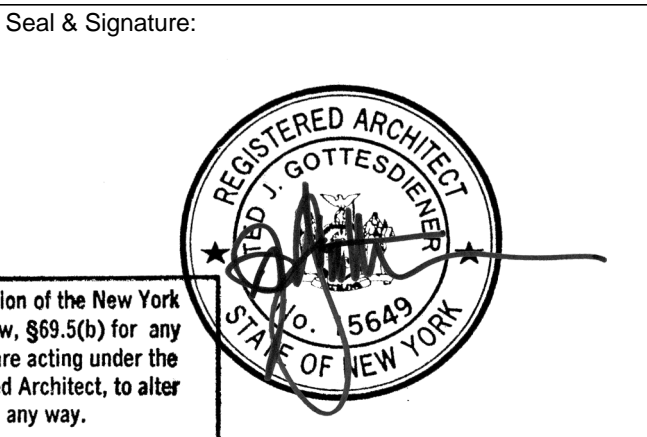
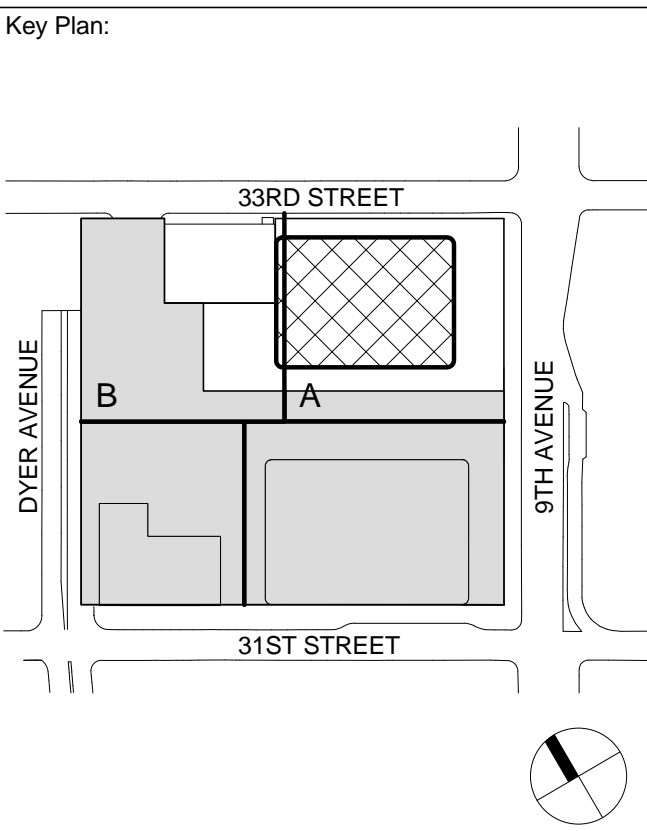
Code Consultants Professional Engineers PC
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| | | |
|---|-------------|---------------------------------|
| 4 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 3 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 1 | 19 NOV 2013 | ISSUED FOR BID PROGRESS PRICING |

No. _____ Date _____ Description _____
Sheet Name: _____

**CELLAR B1
ENLARGED PIT
PLAN**

| | |
|------------------------|-------------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-298.00 |
| Date: 20 JUN 2014 | Sheet No.: A-298 |
| Scale: 1/4" = 1'-0" | Page No.: 66 OF 87 |
| File No.: A-298 | |

SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-05.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-05.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 051010.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/PA/SC/TEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/WALL MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPP/PA/SC/TEL SERVICE DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
12. FOR PROJECT WORK POINT REFER TO A-000 SERIES DRAWINGS.



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Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
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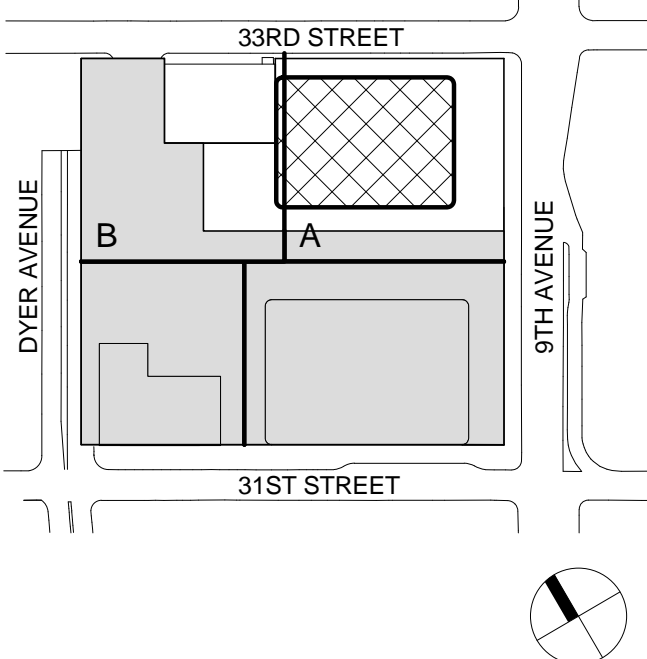
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

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Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

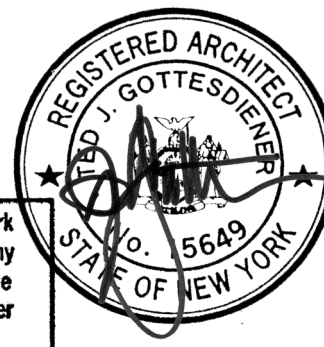
Facade Maintenance Consultant
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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
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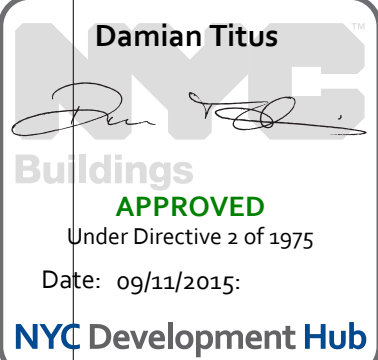
Key Plan:



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**CELLAR B
ENLARGED CORE
PLAN**

Project No.: 207150
Date: 20 JUN 2014
Scale: 1/4" = 1'-0"
File No.: A-300
B-SCAN Sheet No.:
A-300.00
Sheet No.:
A-300
Page No.: 68 OF 87

SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. C-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B-700).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE D9, LND.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAS/CEOTEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/PAINT MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, LND.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPP/FAS/CEOTEL SERVICE DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
12. FOR PROJECT WORK POINT REFER TO A-000 SERIES DRAWINGS.



MANHATTAN WEST:
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375 Ninth Avenue, New York, NY 10001
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Acoustical Consultant

Cerami & Associates
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Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

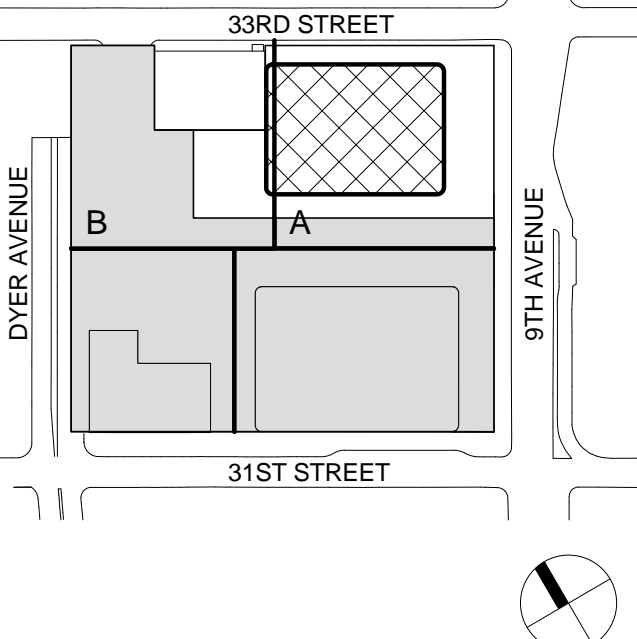
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

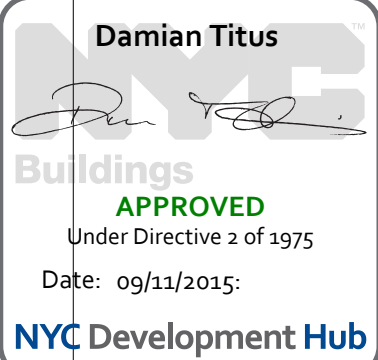
Key Plan:



Seal & Signature:



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GROUND FLOOR
ENLARGED CORE
PLAN

Project No.:

207150

Date:

20 JUN 2014

Scale:

1/4" = 1'-0"

File No.:

A-301

B-SCAN Sheet No.:

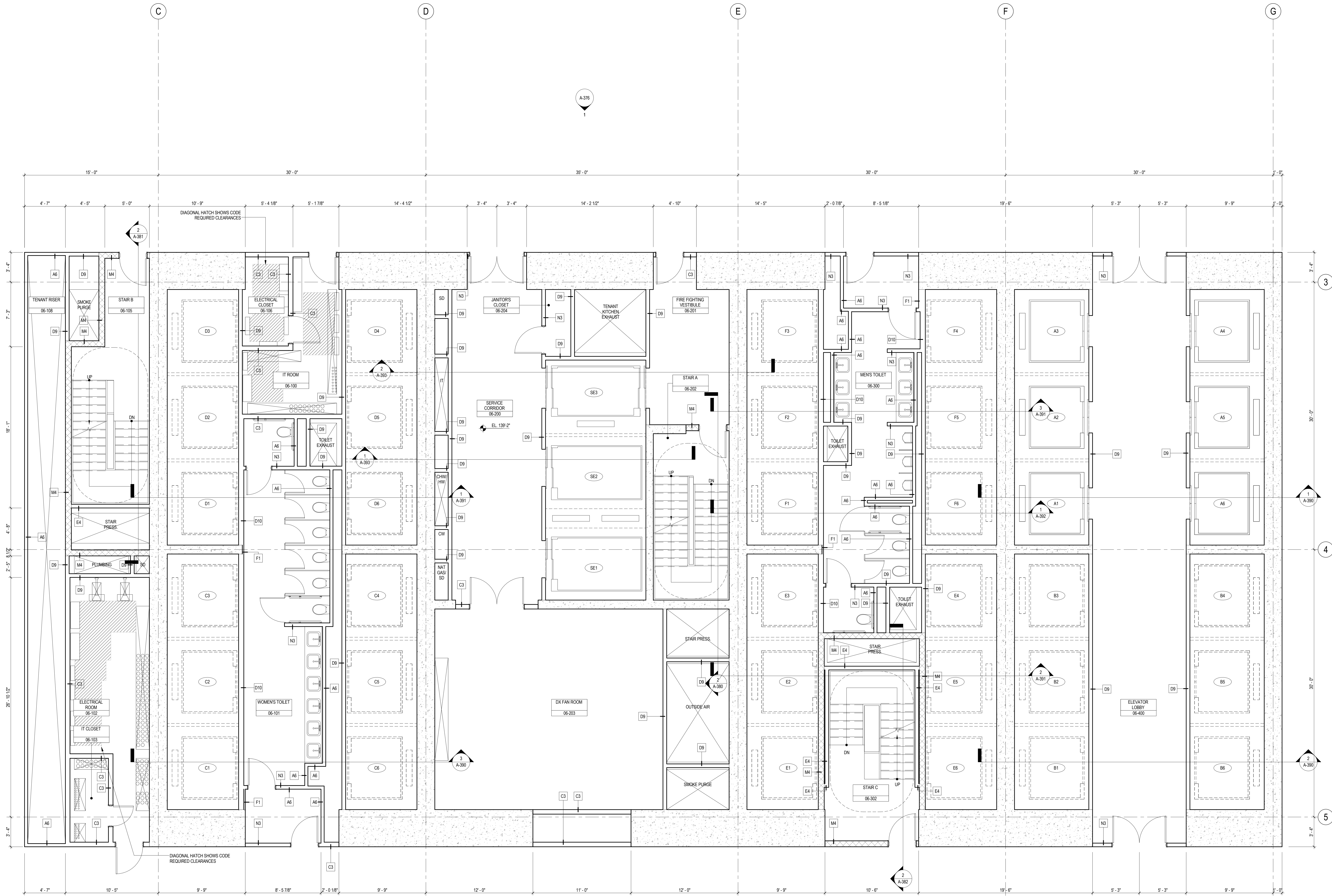
A-301.00

Sheet No.:

A-301

Page No.:

69 OF 87



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B570).
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65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

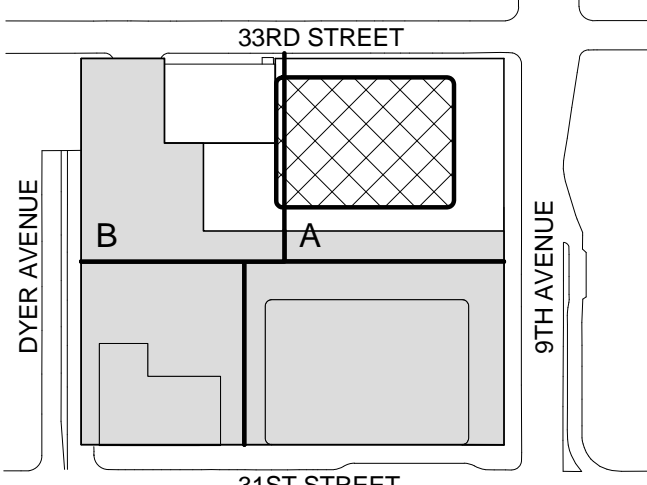
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:



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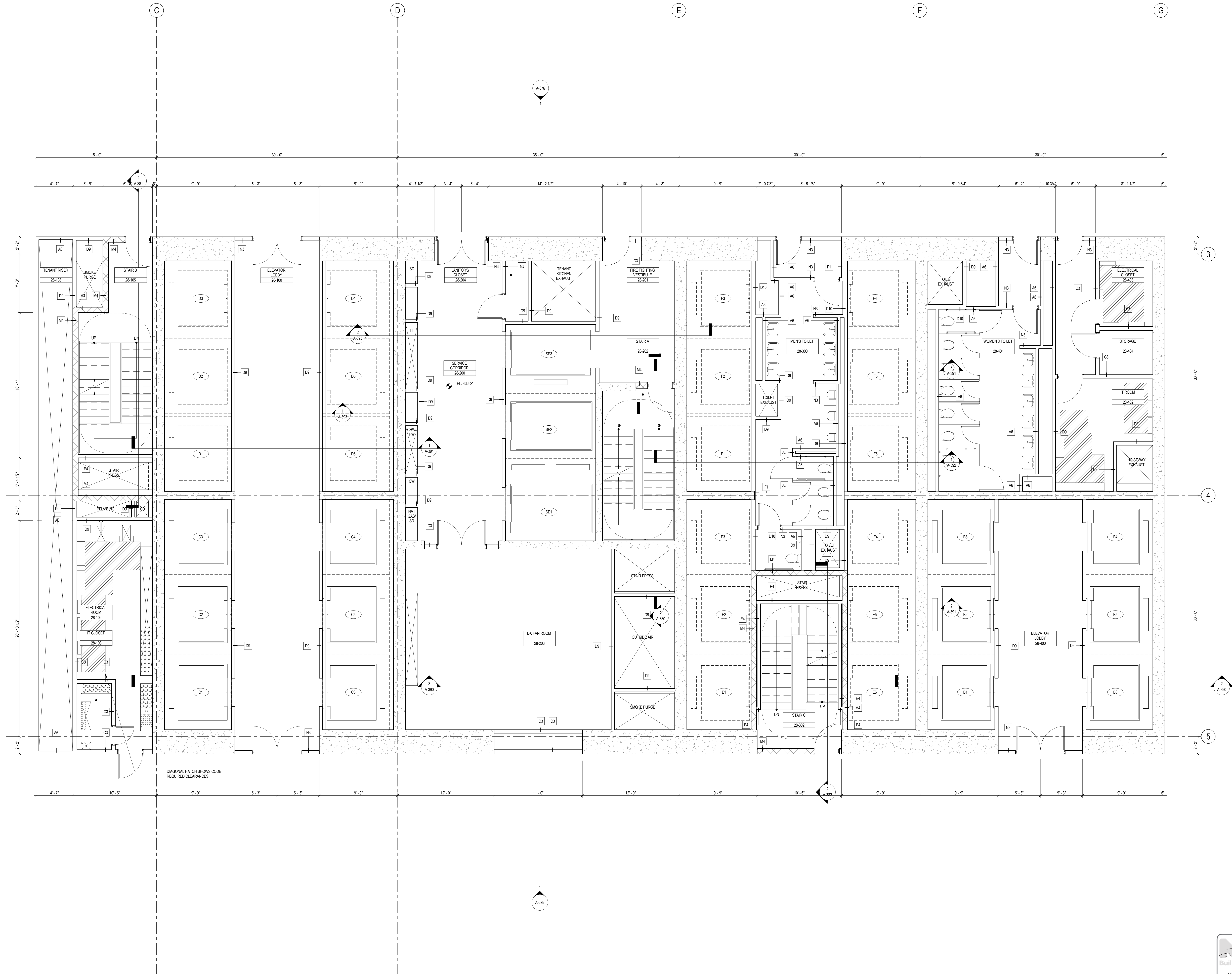


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Damian Titus
Build
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub


**LEVEL 6-16
ENLARGED CORE
PLAN - TYPICAL
LOW-RISE**

Project No.: 207150
Date: 20 FEB 2015
Scale: 1/4" = 1'-0"
File No.: A-306
B-SCAN Sheet No.: A-306.00
Sheet No.: A-306
Page No.: 70 OF 30



SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-05.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. C-05.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION B5700.
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE D9, UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPP/FAC/CEILING SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/NO. MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
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MEP Engineering

Jaros Baum & Bolles
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50 Washington Street, Newark, CT 06854
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475 10th Avenue, New York, NY 10018
Security Consultant

Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473
Blast Consultant

Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005
Acoustical Consultant

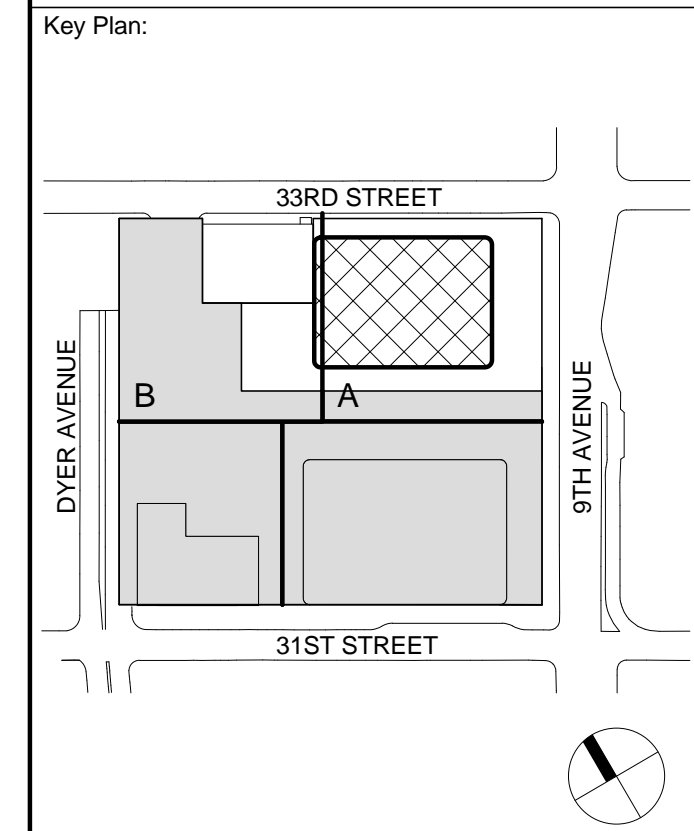
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016
Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006
Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601
Wind Tunnel Consultant

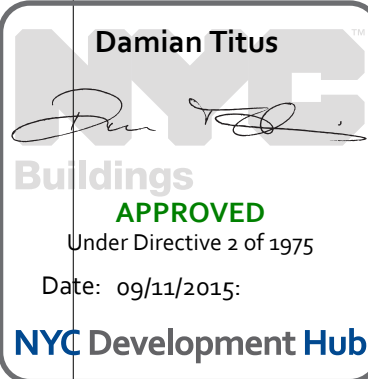
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

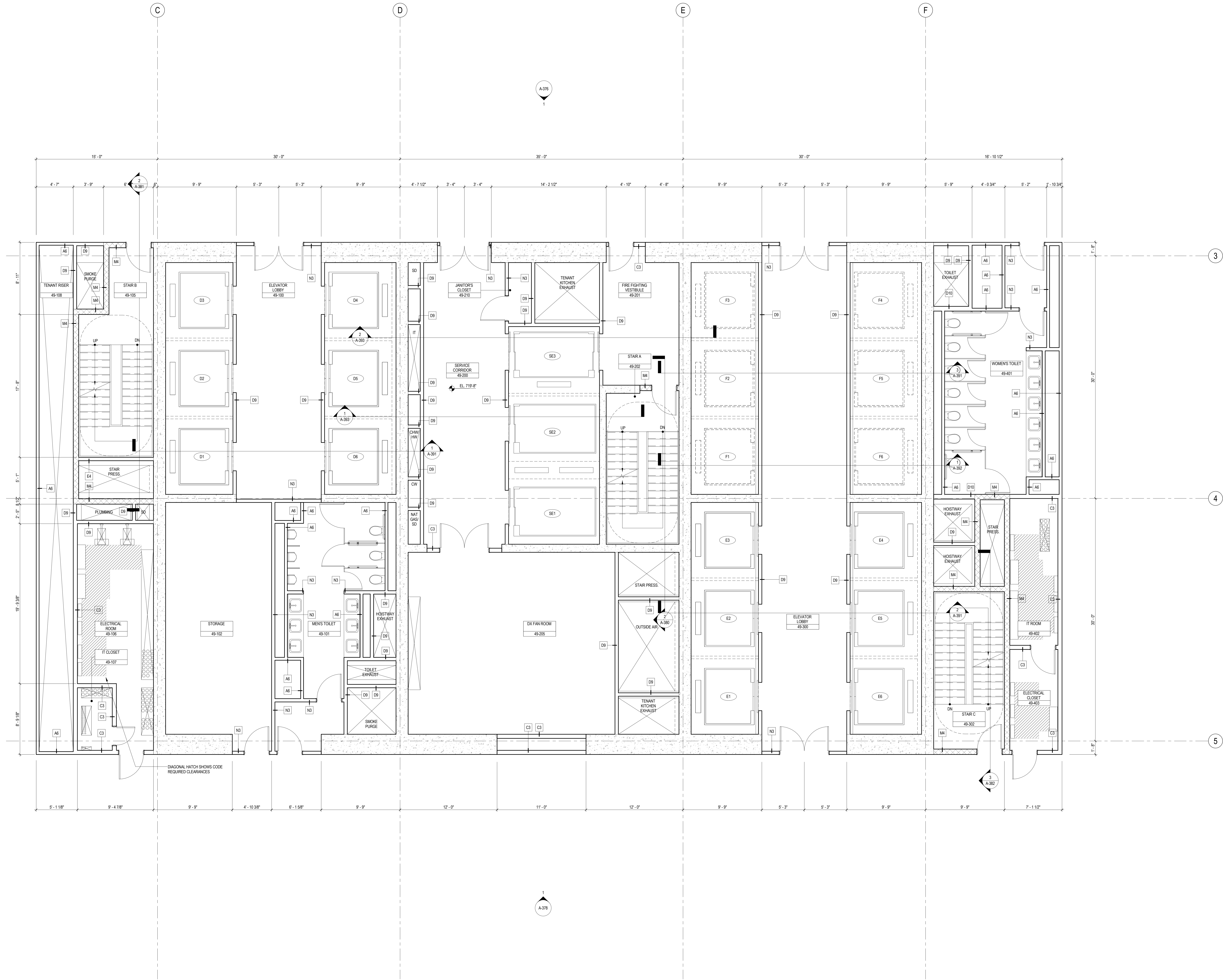


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| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 1 | 19 NOV 2013 | ISSUED FOR DD PROGRESS PRICING |
| No. | Date | Description |
| Sheet Name: | | |
| LEVEL 28 ENLARGED CORE PLAN - LOW-RISE & MID-RISE | | |
| Project No.: | 207150 | B-SCAN Sheet No.: |
| Date: | 25 FEB 2015 | A-328.00 |
| Scale: | 1/4" = 1'-0" | A-328 |
| File No.: | A-328 | Page No.: |
| | | 71 OF 30 |





SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
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Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering
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MEP Engineering
Jaros Baum & Bolles
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Security Consultant
Ducibella, Venter & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

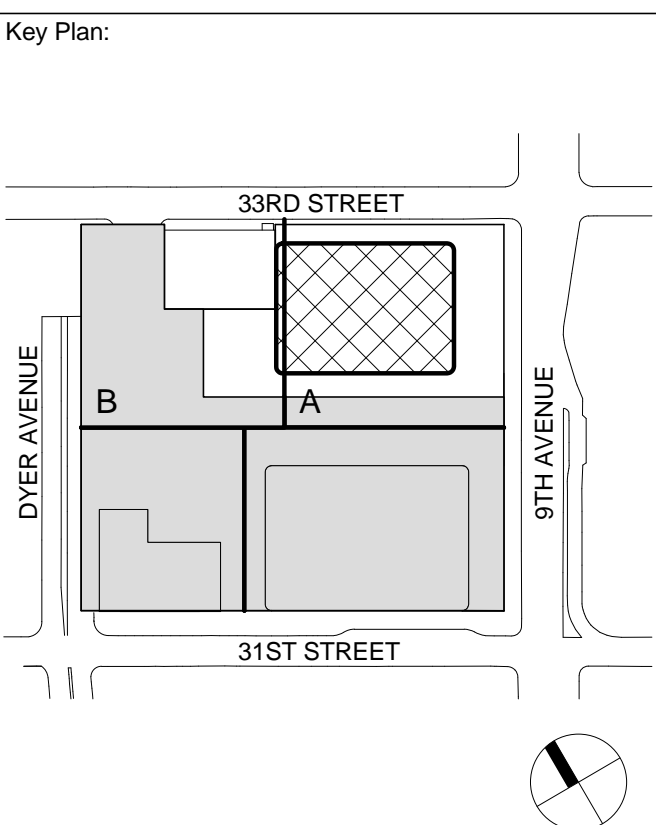
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

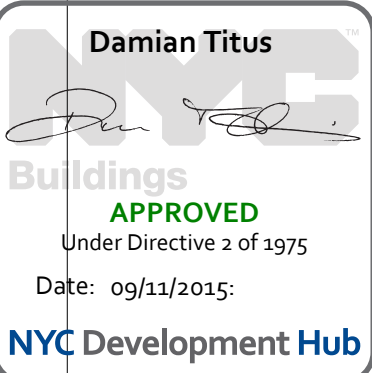
Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8



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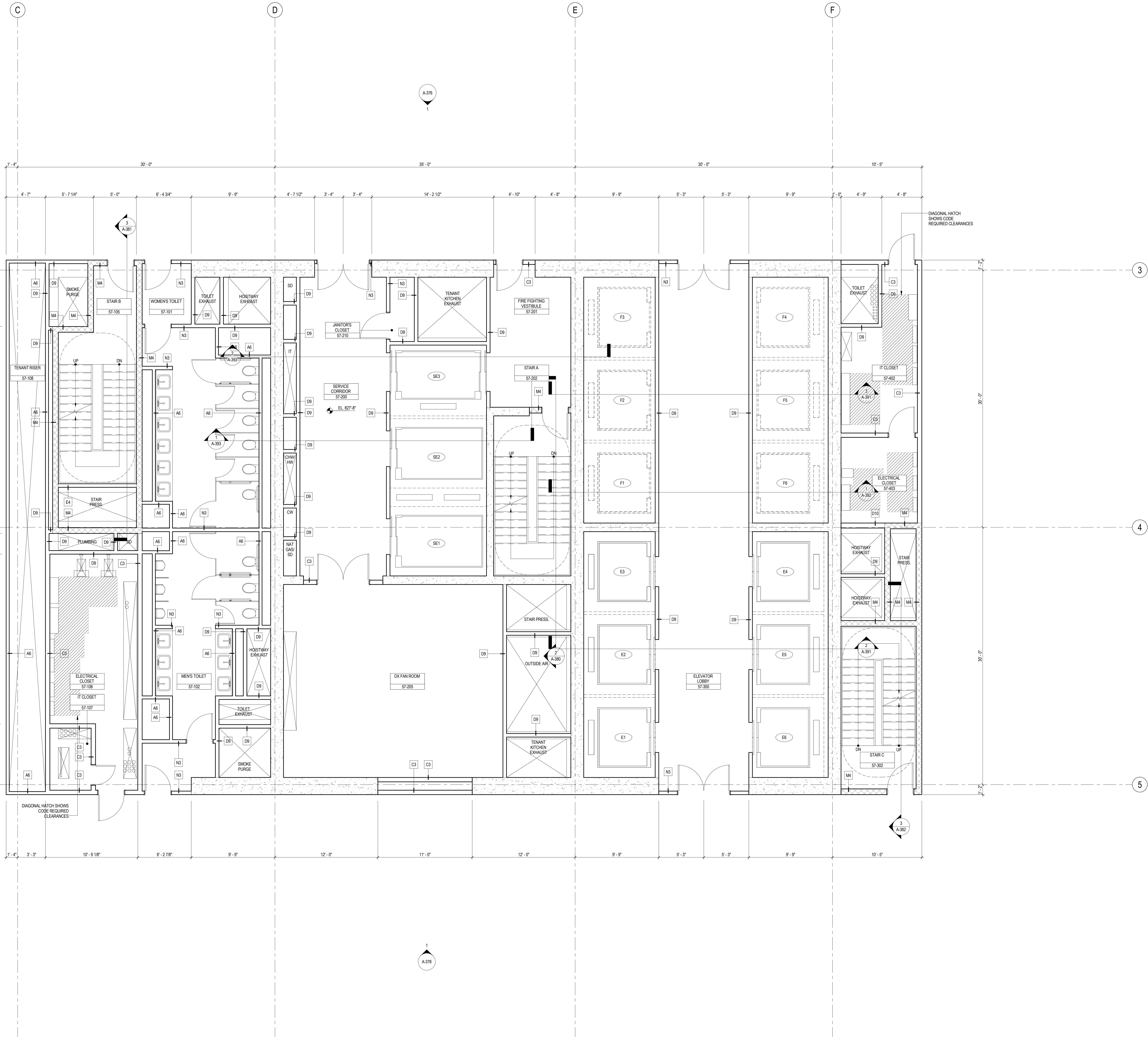


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| 3 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 1 | 19 NOV 2013 | ISSUED FOR DD PROGRESS PRICING |

No. Date Description
Sheet Name:

LEVEL 49
ENLARGED CORE
PLAN - MID-RISE
& HIGH-RISE

| | |
|---------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: A-349.00 |
| Date: 25 FEB 2015 | Sheet No.: A-349 |
| Scale: 1/4" = 1'-0" | Page No.: 73 OF 30 |
| File No.: A-349 | |



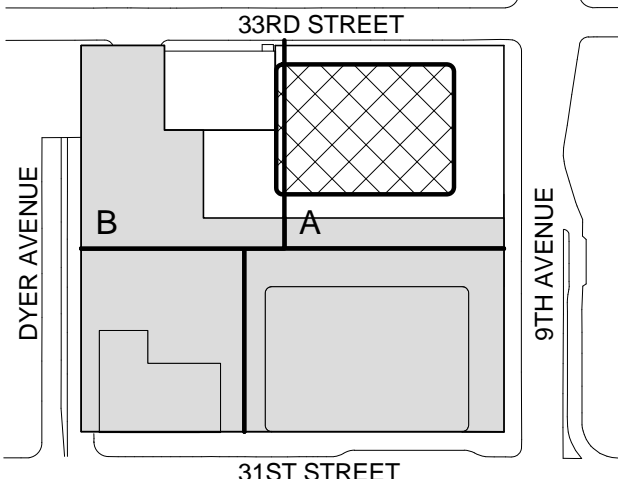
SHEET NOTES

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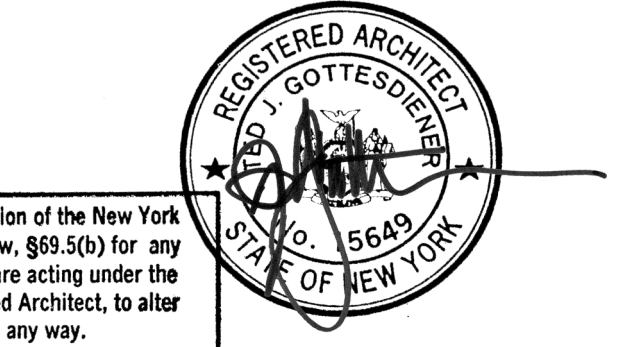


**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client
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Rowan Williams Davies & Irwin Inc.
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Ontario, Canada N1K 1B6

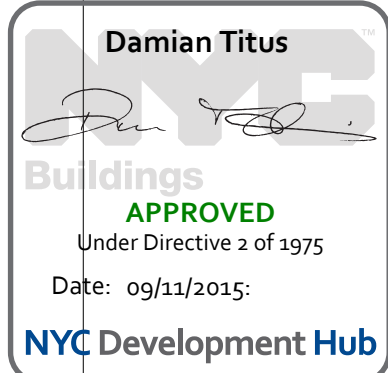
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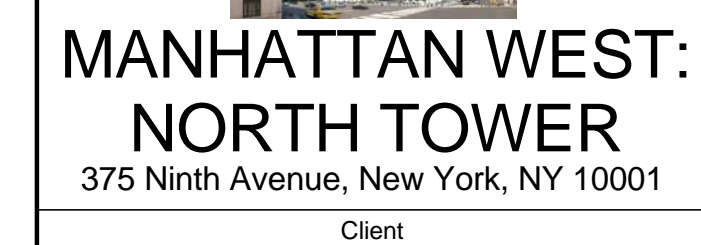
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| 2 | 15 NOV 2013 | ISSUED FOR DD PROGRESS PRICING |
| 1 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| No. Date Description | | |
| Sheet Name: | | |
| LEVEL 57-58 ENLARGED CORE PLAN - TYPICAL HIGH-RISE | | |
| Project No.: 207150 | B-SCAN Sheet No.: A-357.00 | |
| Date: 28 FEB 2015 | Sheet No.: A-357 | |
| Scale: 1/4" = 1'-0" | Page No.: 74 OF 30 | |
| File No.: A-357 | | |



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250 Vesey Street, 15th Floor, New York, NY 10281

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 102 East Blithedale Ave. Suite 1, Mill Valley, California 94941

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Mueser Rutledge Consulting Engineers
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Ducibella, Vantor & Santore

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Weidlinger Associates, Inc.

Acoustical Consultant
Cerami & Associates

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Code Consultant
Code Consultants Professional Engineers PC

215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant

Entek Engineering LLC

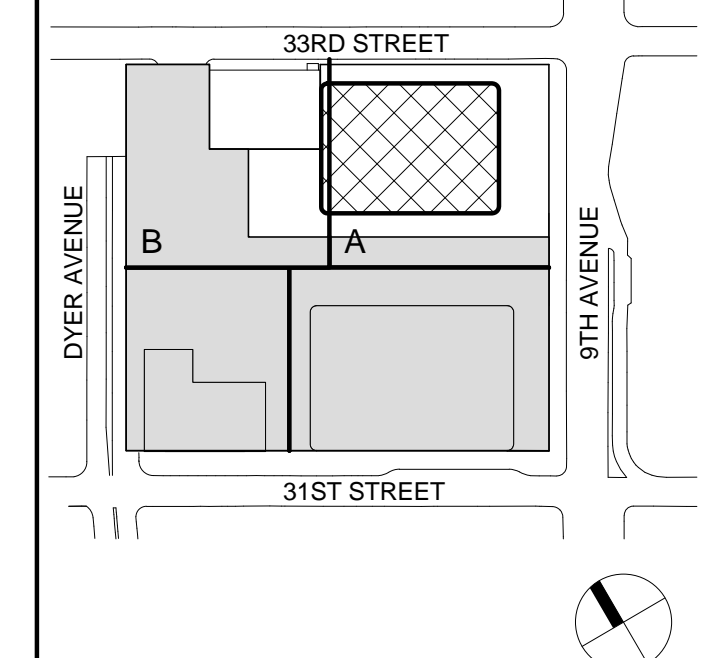
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

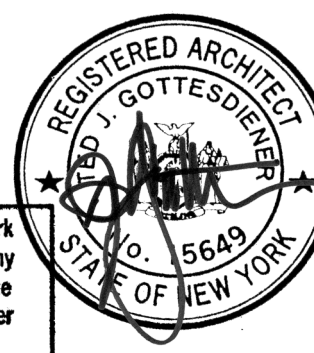
Rowan Williams Davies & Irwin Inc.

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Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



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| 1 | 15 NOV 2013 | ISSUED FOR DD PROGRESS PRICING |

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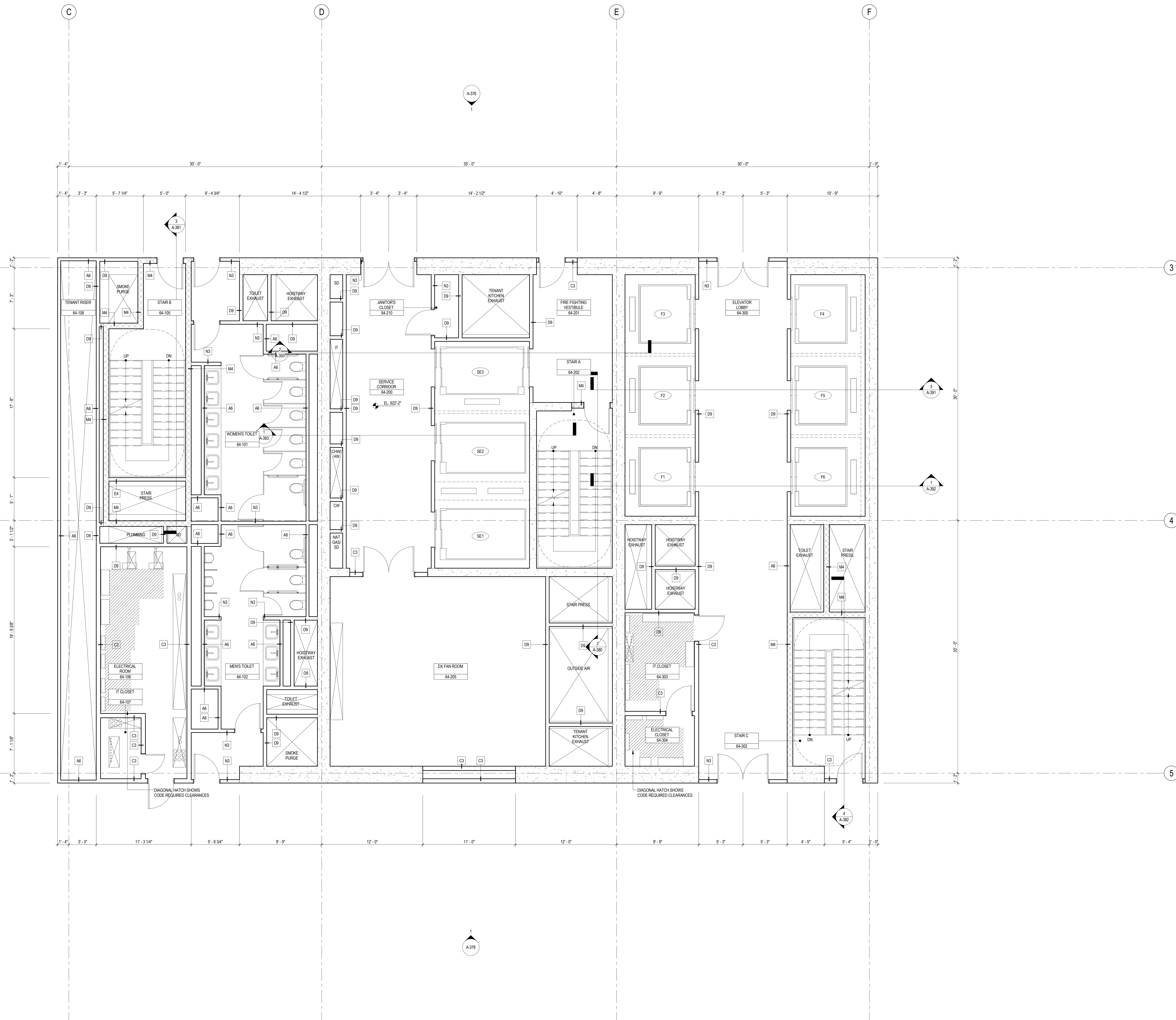
LEVEL 64-67
ENLARGED CORE
PLAN - TYPICAL
HIGH-RISE


| | |
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| Project No.: | B-SCAN Sheet No.: |
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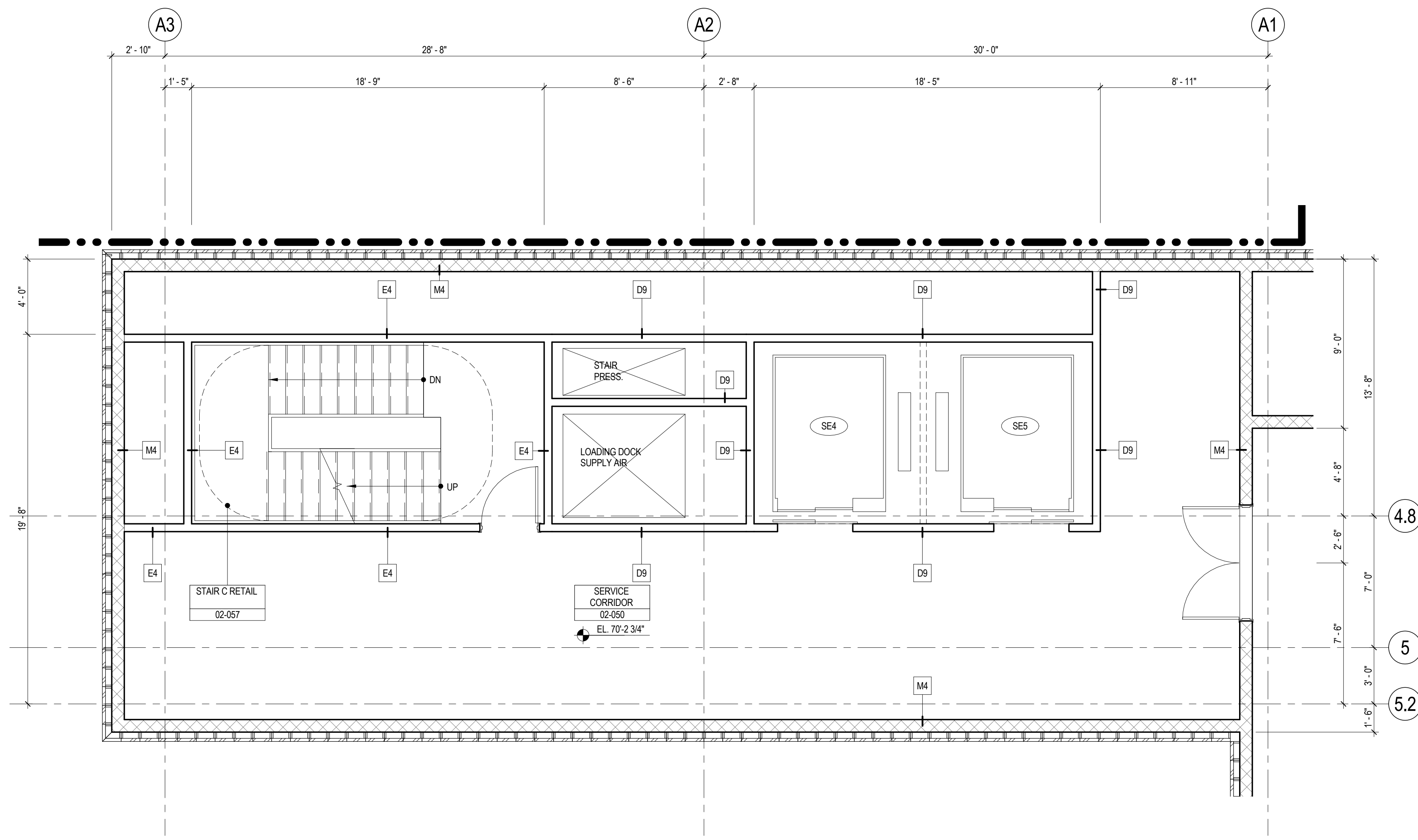
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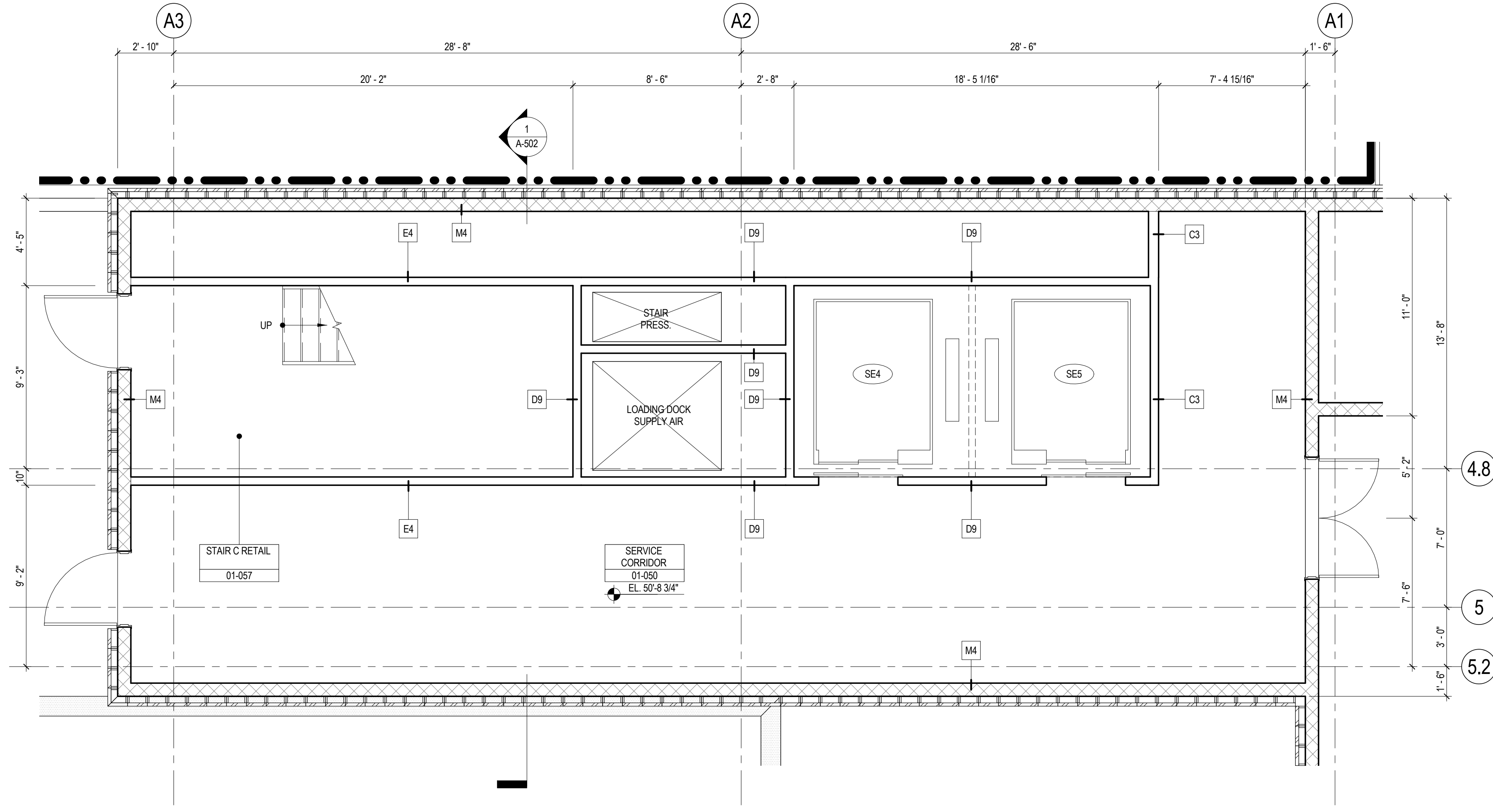
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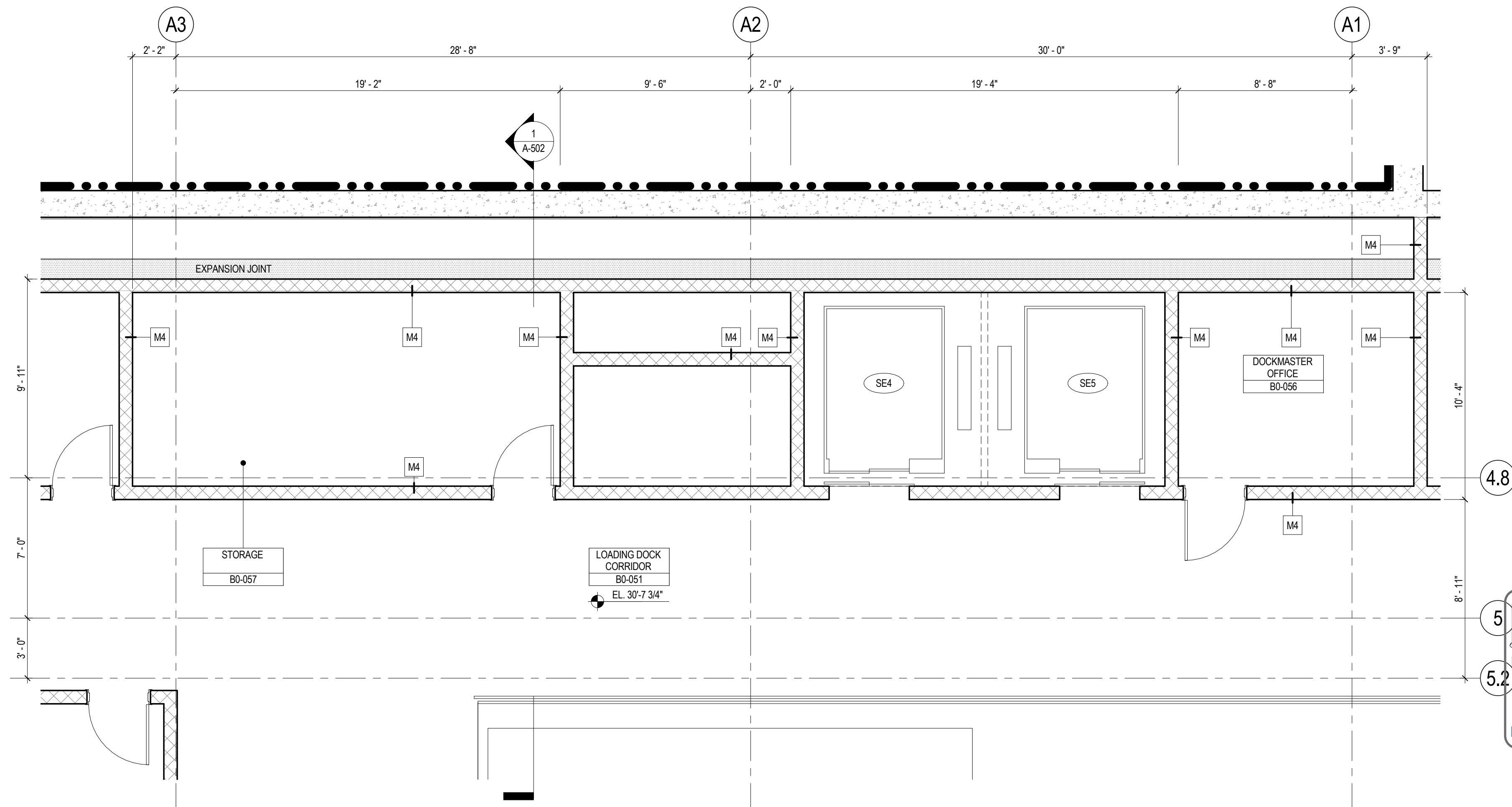
Damian Titus

Buildings
APPROVED
Under Directive 2 of 1975
Date: 09/11/2015:
NYC Development Hub



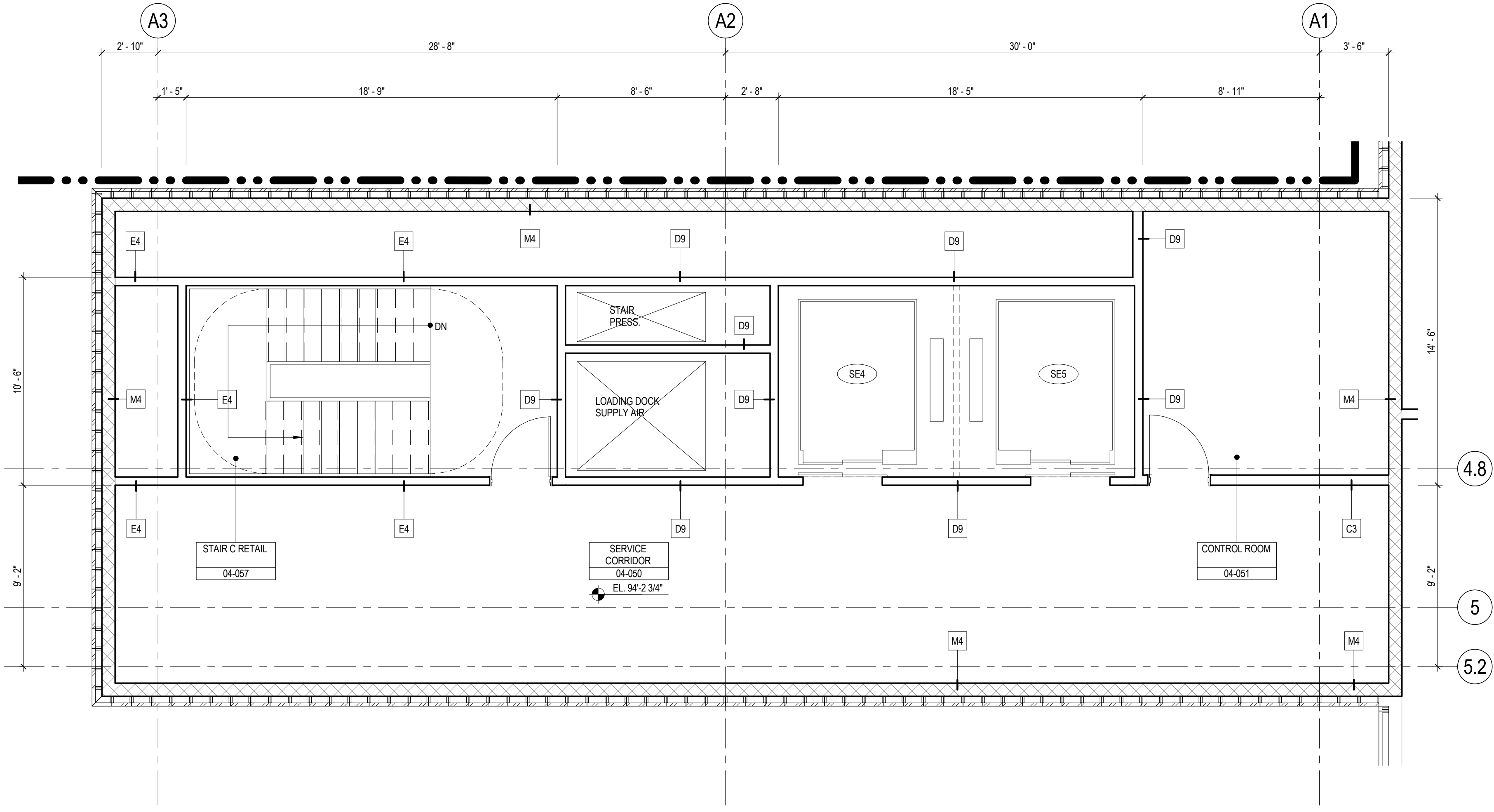
3 LEVEL 2 ENLARGED RETAIL CORE PLAN
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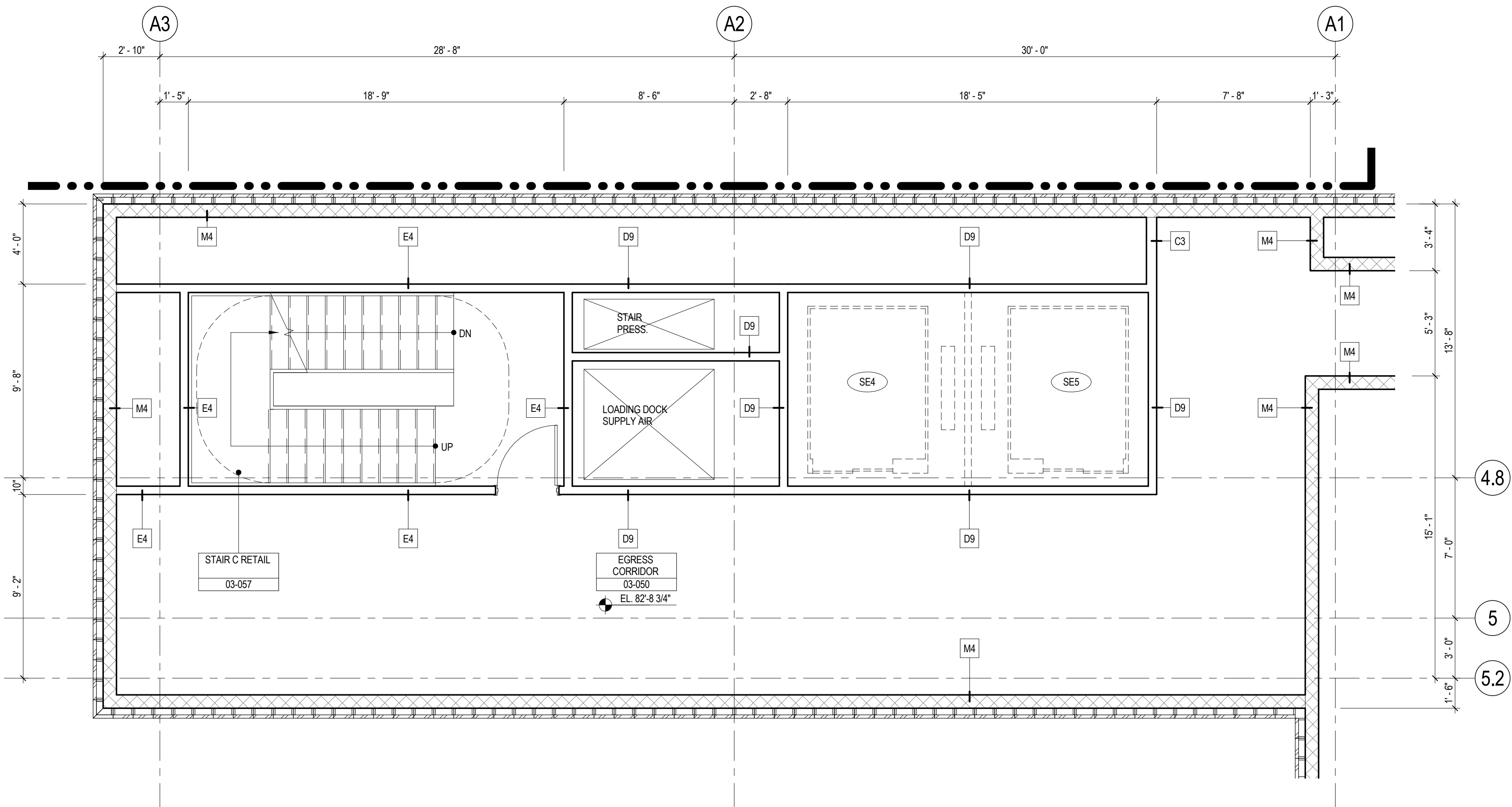
2 LEVEL 1 ENLARGED RETAIL CORE PLAN
SCALE: 1/4" = 1'-0"



1 CELLAR B ENLARGED RETAIL CORE PLAN
SCALE: 1/4" = 1'-0"



5 LEVEL 4 ENLARGED RETAIL CORE PLAN
SCALE: 1/4" = 1'-0"



4 LEVEL 3 ENLARGED RETAIL CORE PLAN
SCALE: 1/4" = 1'-0"

SHEET NOTES

1. ALL BUILDING ELEVATIONS (IN FEET) REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
2. FOR GENERAL NOTES, BUILDING DEPARTMENT NOTES, AND CLARIFICATION OF THE WORK NOTES REFER TO SHEET NO. G-005.
3. FOR ARCHITECTURAL ABBREVIATIONS, LEGEND OF SYMBOLS & MATERIALS, AND MOUNTING HEIGHTS REFER TO SHEET NO. G-006.
4. FOR ROOM FINISH SCHEDULE SEE A-700 SERIES DRAWINGS.
5. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION (B5700).
6. FOR PARTITION TYPES SEE A-700 SERIES DRAWINGS.
7. ALL PARTITIONS SHALL BE TYPE DR, UNO.
8. FOR REFLECTED CEILING PLANS SEE A-600 SERIES DRAWINGS. IF RCP IS NOT PROVIDED SEE MEPPF/ASCE/ITEL SERVICE DRAWINGS FOR LOCATIONS OR ALL CEILING/WALL MOUNTED SERVICES.
9. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
10. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
11. REFER TO MEPPF DRAWINGS FOR ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION ROOM, RISER AND EQUIPMENT DESIGNATIONS.
12. FOR PROJECT WORK POINT REFER TO A-000 SERIES DRAWINGS.

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Key Plan:

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3 20 JUN 2014 ISSUED FOR FOUNDATION PERMIT
2 20 DEC 2013 ISSUED FOR FOUNDATION PERMIT
1 19 NOV 2013 ISSUED FOR BID PROGRESS PRICING

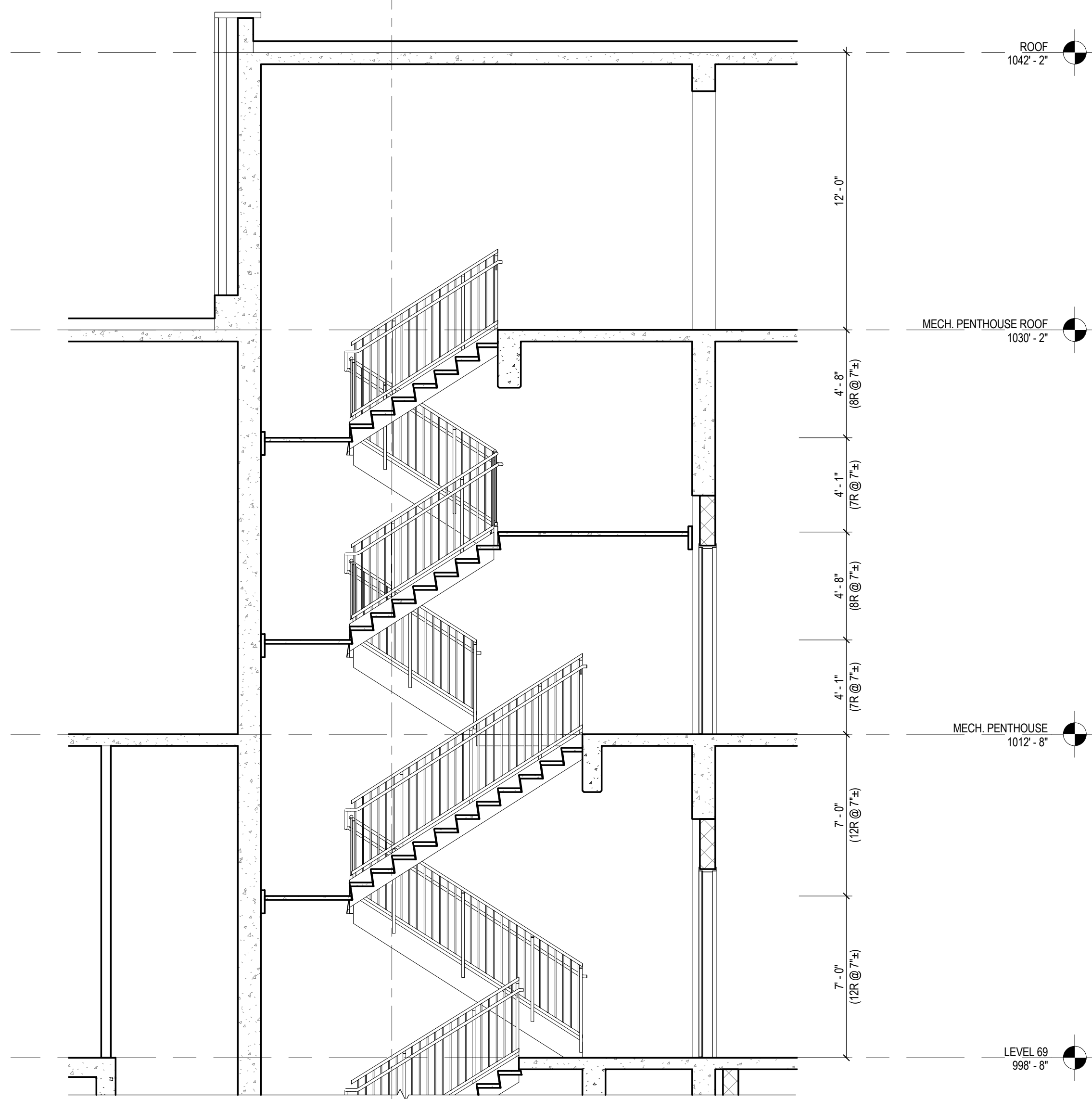
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**ENLARGED
RETAIL CORE
PLANS**

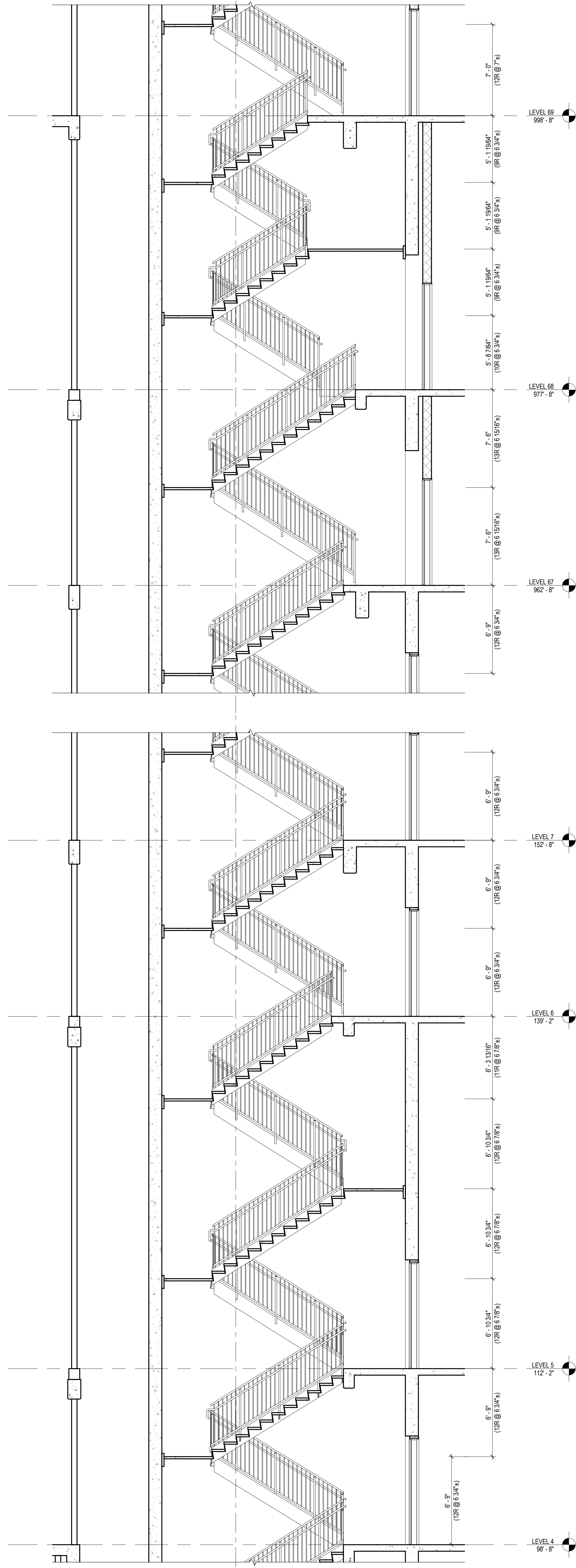
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Date: 20 JUN 2014
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File No.: A-372

B-SCAN Sheet No.:
A-372.00
Sheet No.:
A-372
Page No.: 76 OF 87

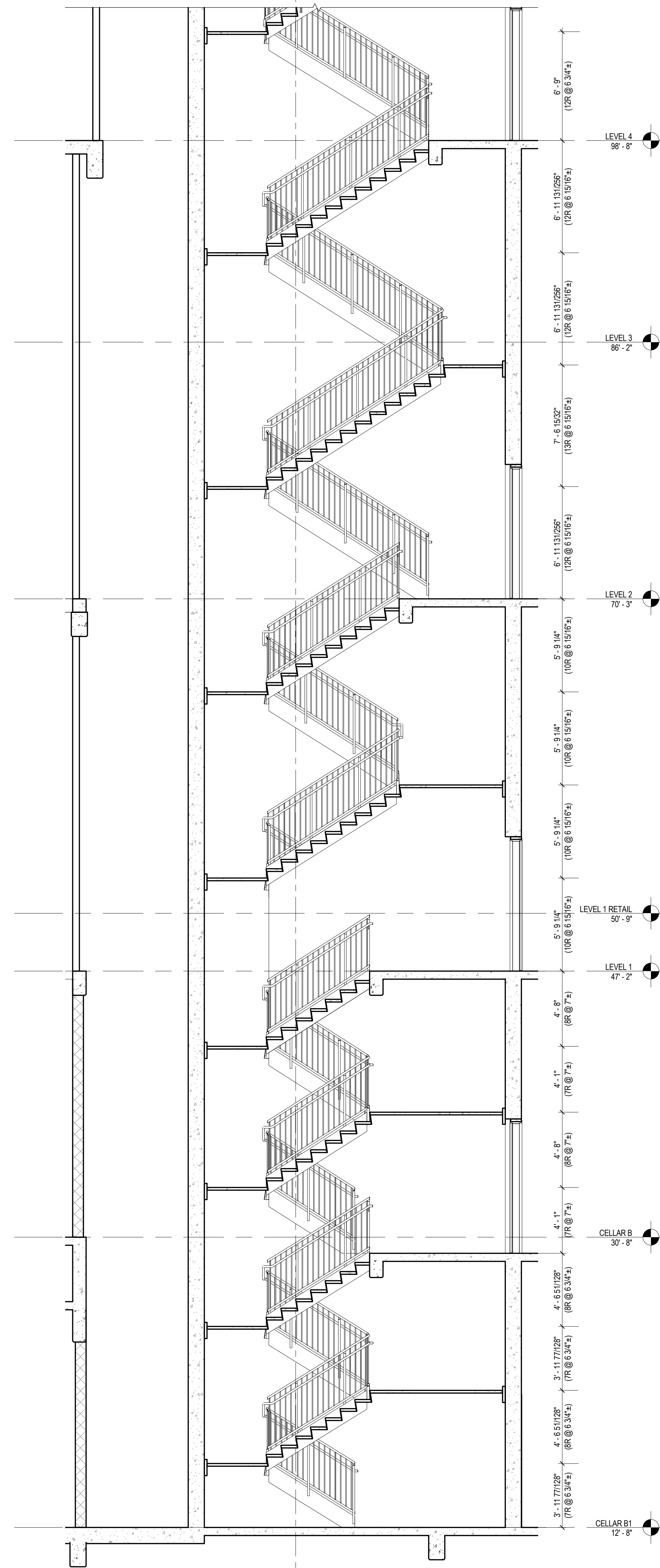
3 STAIR A SECTION
SCALE: 1/4" = 1'-0"



2 STAIR A SECTION
SCALE: 1/4" = 1'-0"



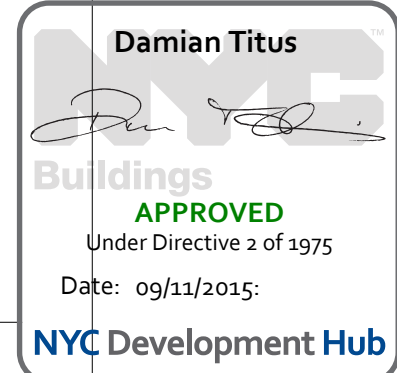
1 STAIR A & D SECTION
SCALE: 1/4" = 1'-0"




NOTE: STAIR SECTIONS BELOW ARE TYPICAL
AND REPRESENTATIVE OF ALL STAIRS.

SHEET NOTES

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4. FOR DOOR SCHEDULE SEE A-700 SERIES DRAWINGS. FOR DOOR HARDWARE SPECIFICATION SEE TECHNICAL SPECIFICATION SECTION 087010.
5. FOR STRUCTURAL COLUMNS, EDGE OF SLAB, AND CORE WORK POINTS SEE STRUCTURAL SERIES DRAWINGS, UNO.
6. REFER TO STRUCTURAL SERIES DRAWINGS FOR ALL STRUCTURAL WALL DESIGNATIONS AND DIMENSIONS.
7. FOR PROJECT WORK POINT REFER TO A-000 SERIES DRAWINGS.
8. STAIRWAY DOORS SHALL OPERATE IN COMPLIANCE WITH SECTION 403.12 OF THE 2008 NYC BUILDING CODE.
9. EXIT ENCLOSURES SHALL BE SMOKEPROOF IN ACCORDANCE WITH SECTION 403.13 OF THE 2008 NYC BUILDING CODE.
10. EXIT STAIR ENCLOSURES SHALL BE IMPACT RESISTANT IN ACCORDANCE WITH SECTION 403.15 OF THE 2008 NYC BUILDING CODE.
11. ALL EGRESS PATHS SHALL BE PROVIDED WITH PHOTO LUMINESCENT EXIT PATH MARKINGS IN COMPLIANCE WITH SECTIONS 403.16 & 1026 OF THE 2008 NYC BUILDING CODE.
12. ALL STAIRS TO HAVE FIRE RESISTANCE RATED CONSTRUCTION IN ACCORDANCE WITH SECTION 602.1 & 602.2 OF THE 2008 NYC BUILDING CODE.





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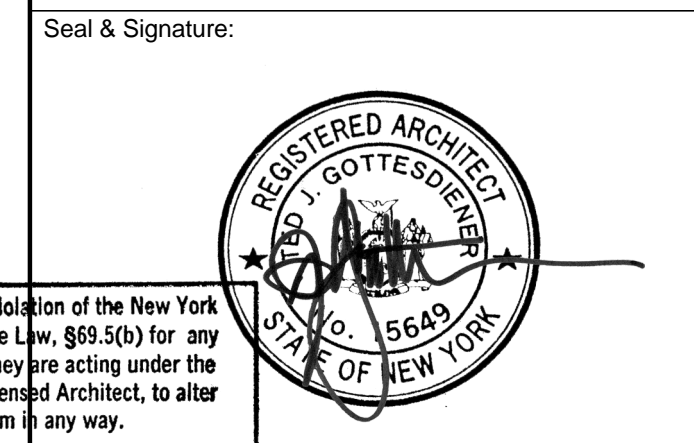
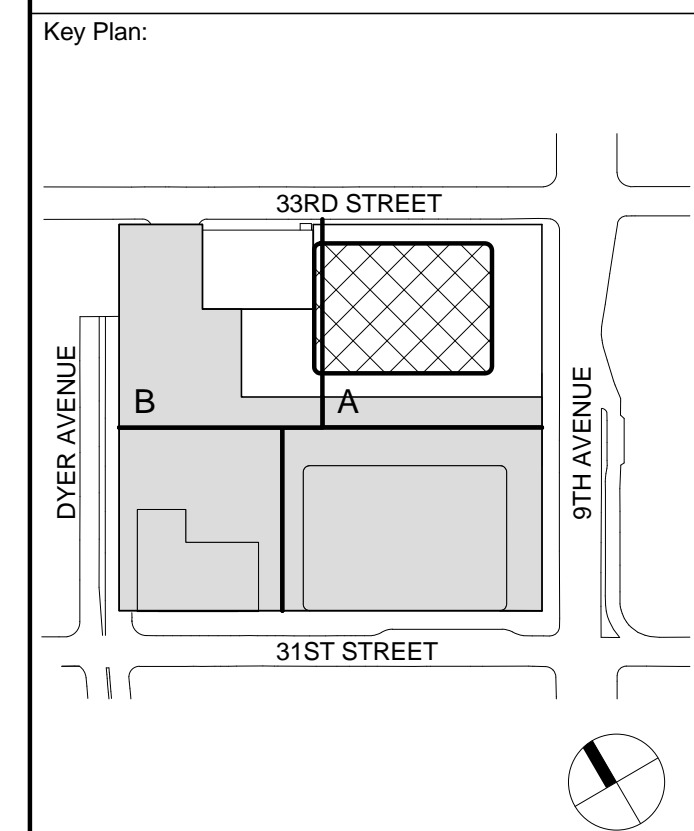
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| 2 | 15 NOV 2013 | ISSUED FOR DD PROGRESS PRICING |
| 1 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |

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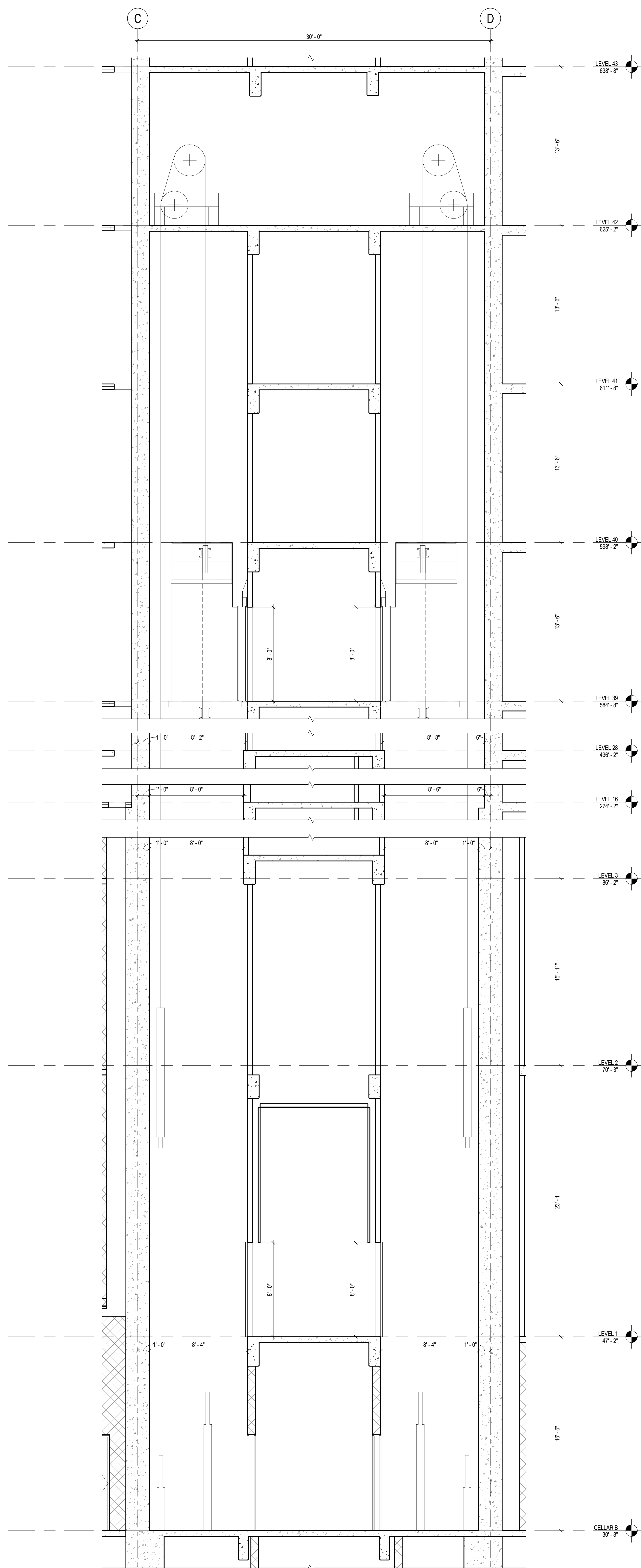
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| Date: 1 APR 2015 | Sheet No.: A-380 |
| Scale: 1/4" = 1'-0" | Page No.: 96 OF 30 |
| File No.: A-380 | |

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ENLARGED HOISTWAY SECTION - BANK C

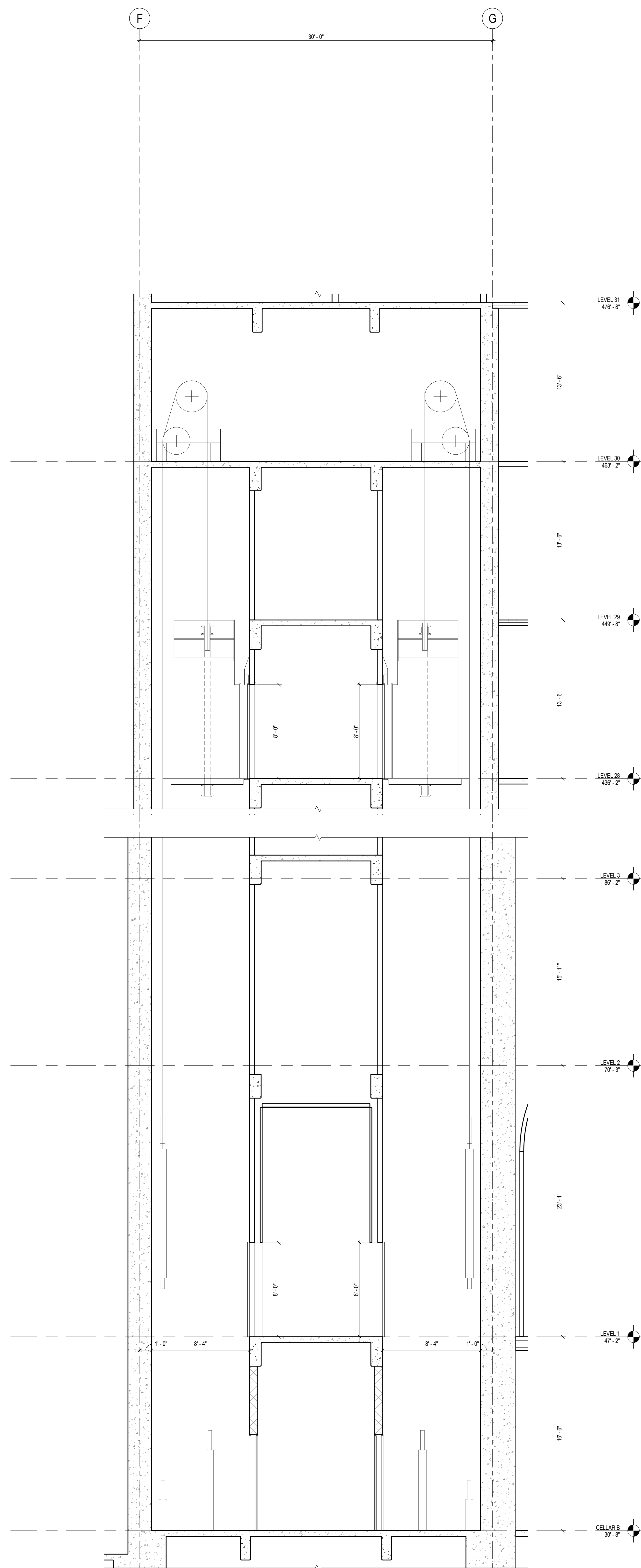
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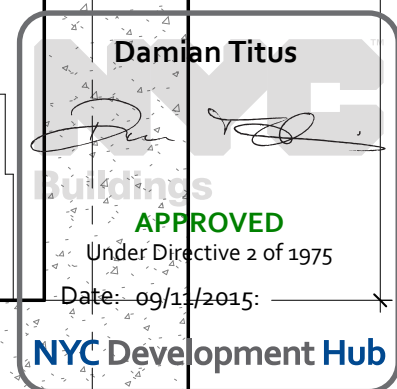
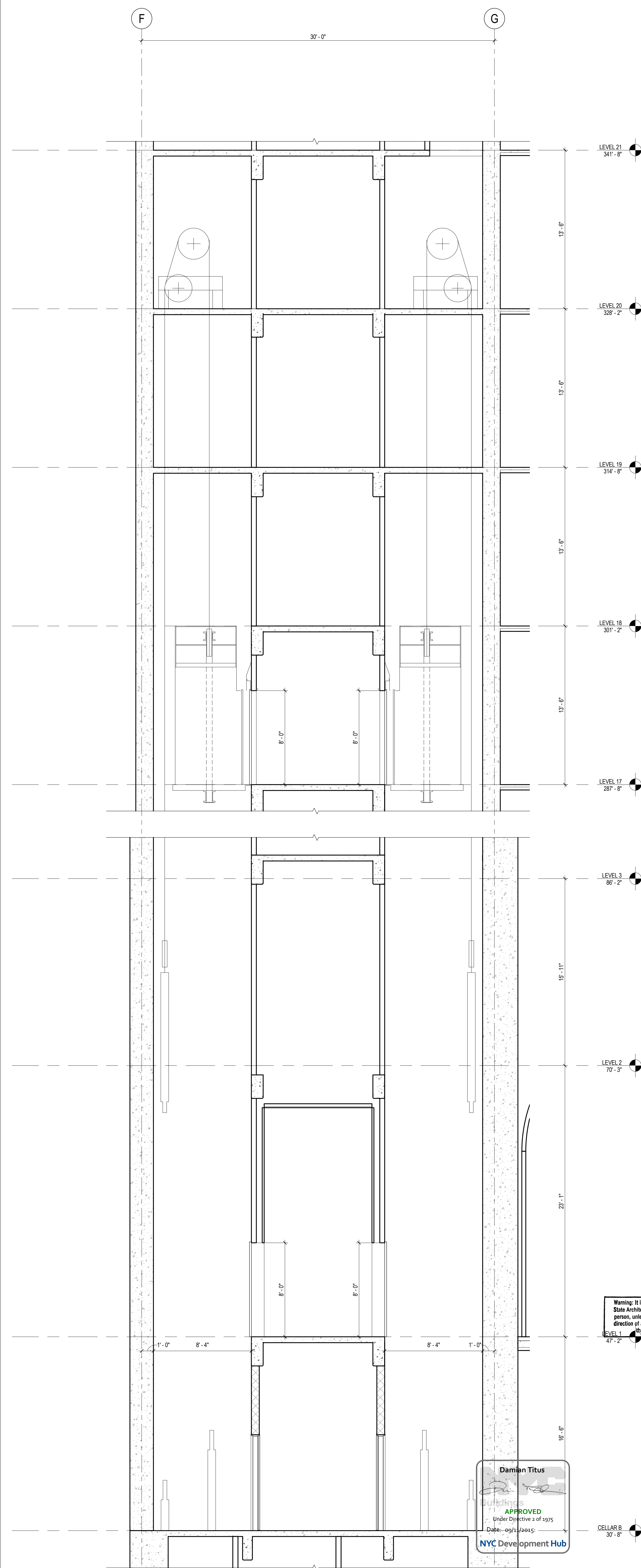
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1

ENLARGED HOISTWAY SECTION - BANK A

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



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Sheet Name:

ENLARGED HOISTWAY SECTIONS

| Project No.: | B-SCAN Sheet No.: |
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| 207150 | A-390.00 |

| Date: | Scale: | Sheet No.: |
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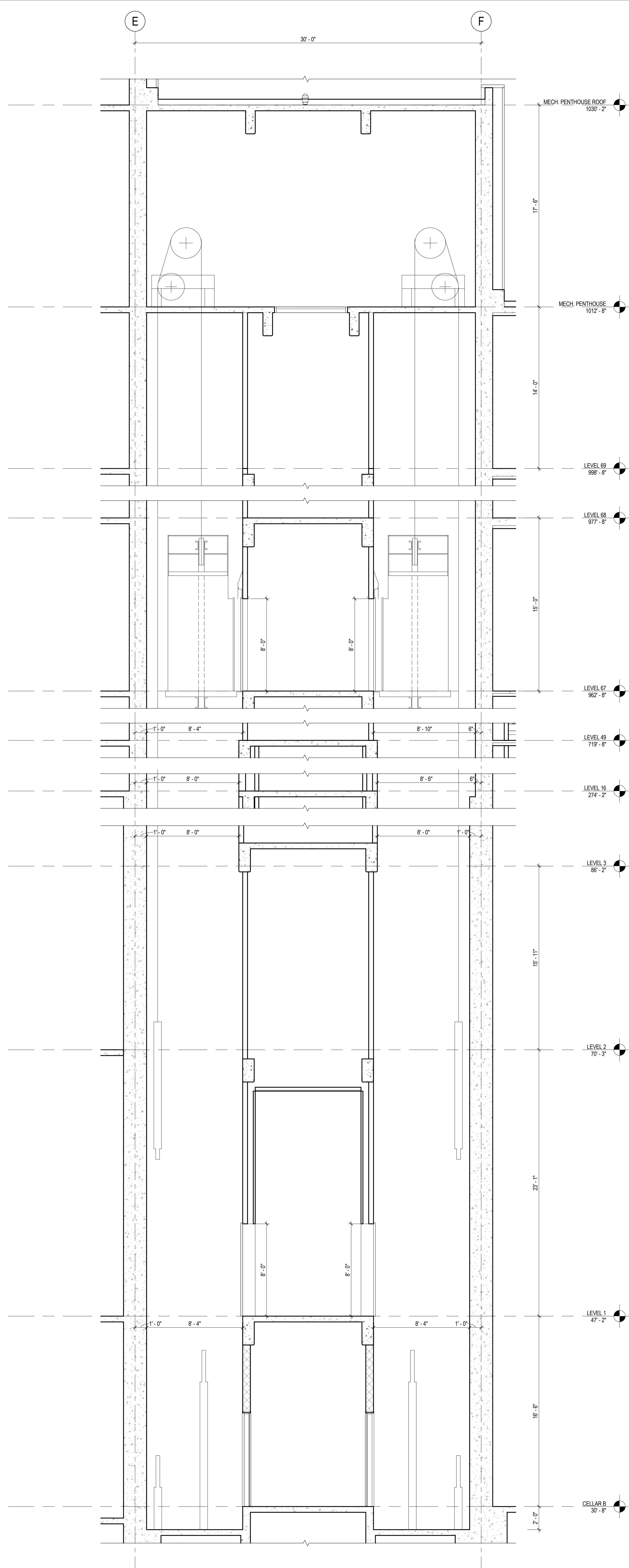
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| A-390 | 100 OF 30 |

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3

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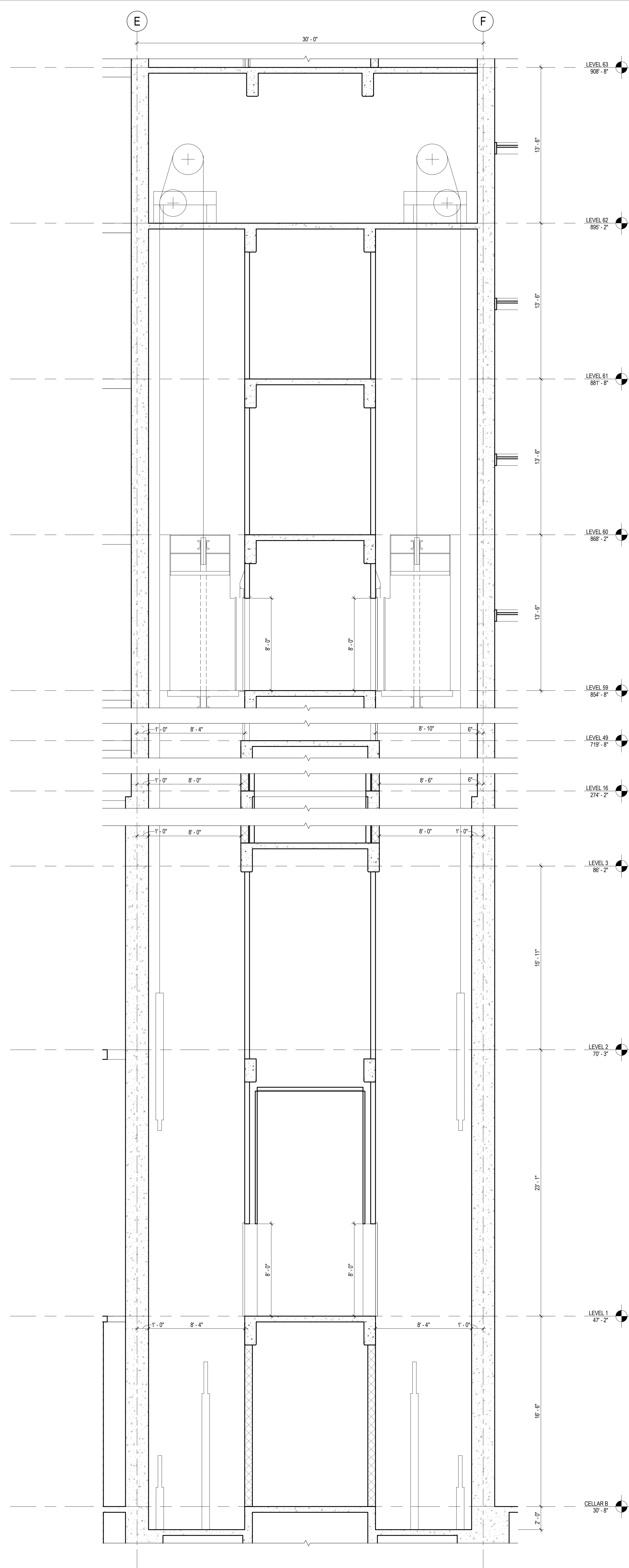
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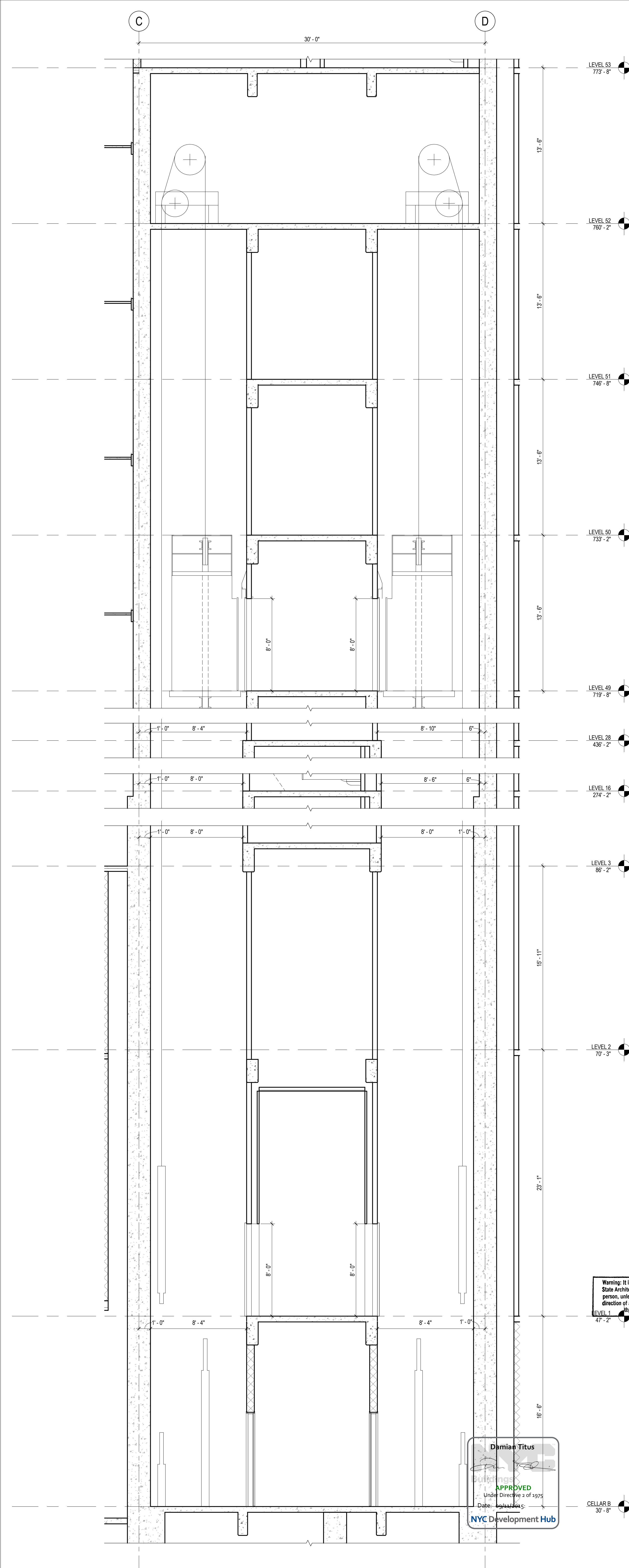
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1

ENLARGED HOISTWAY SECTION - BANK D

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





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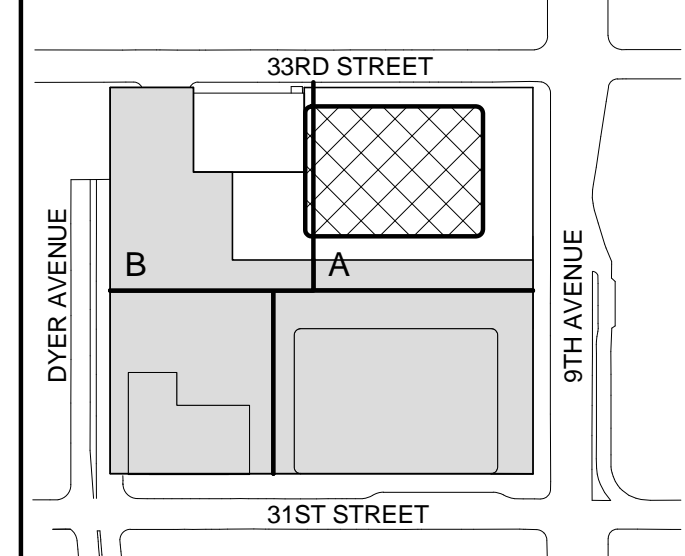
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Under Directive 2 of 1975
Date: 3/20/2015
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| 1 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |

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**ENLARGED
HOISTWAY
SECTIONS**

Project No.: 207150
Date: 1 APR 2015
Scale: 1/4" = 1'-0"
File No.: A-391

B-SCAN Sheet No.: **A-391.00**
Sheet No.: A-391
Page No.: 101 OF 30

SHEET NOTES

- REFER TO THE APPROVED CON Edison DRAWINGS FOR ALL TRANSFORMER VAULT AND NETWORK REQUIREMENTS
- REFER TO ALL APPLICABLE CON Edison REFERENCE STANDARDS



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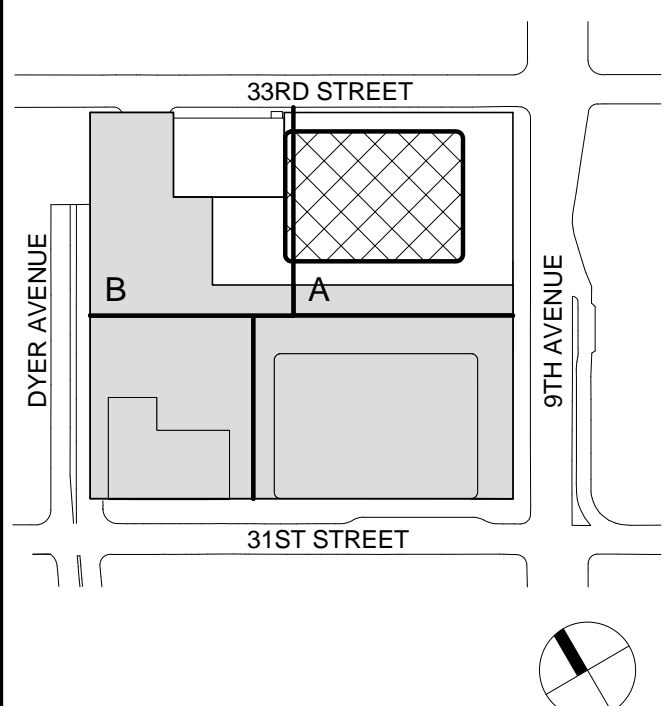
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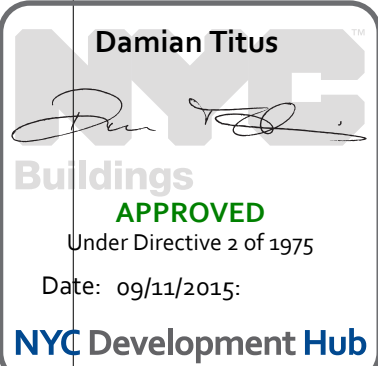
Key Plan:



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**ENLARGED
TRANSFORMER
VAULT PLANS**

Project No.:
207150

Date:
30 JAN 2015

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

File No.:
A-395

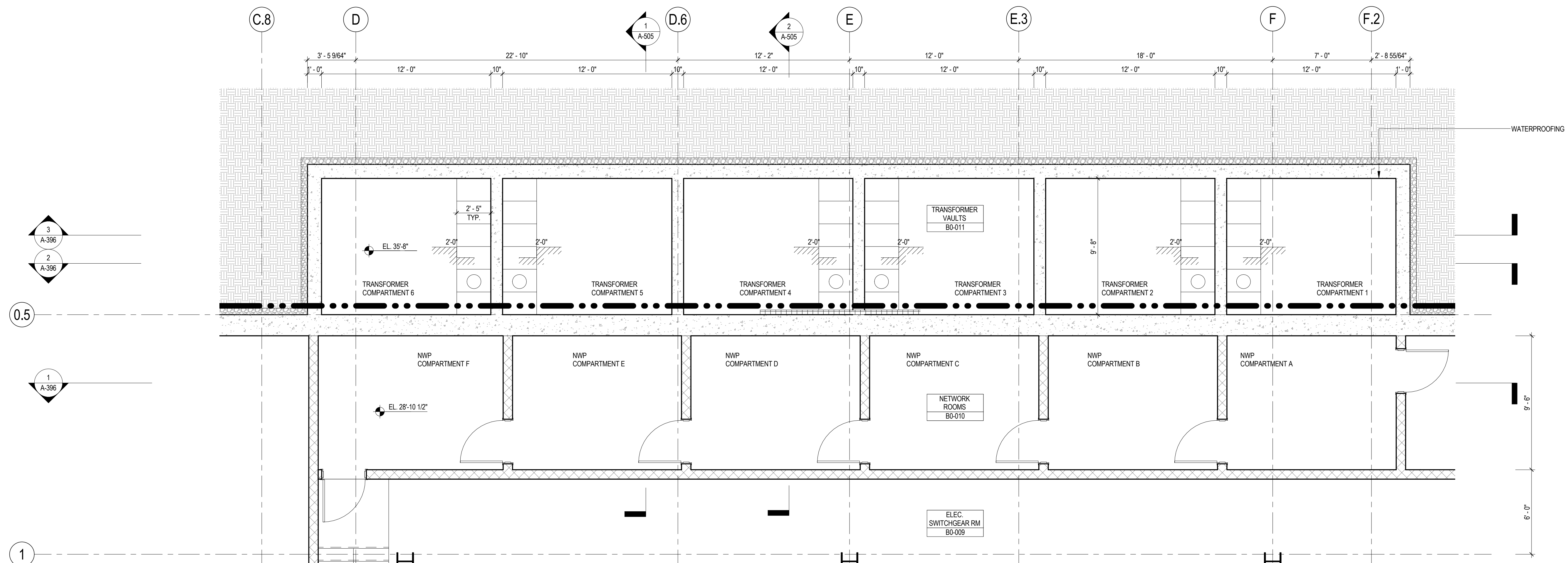
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Sheet No.:
A-395

Page No.:
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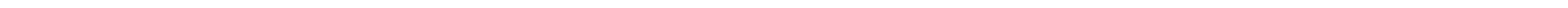
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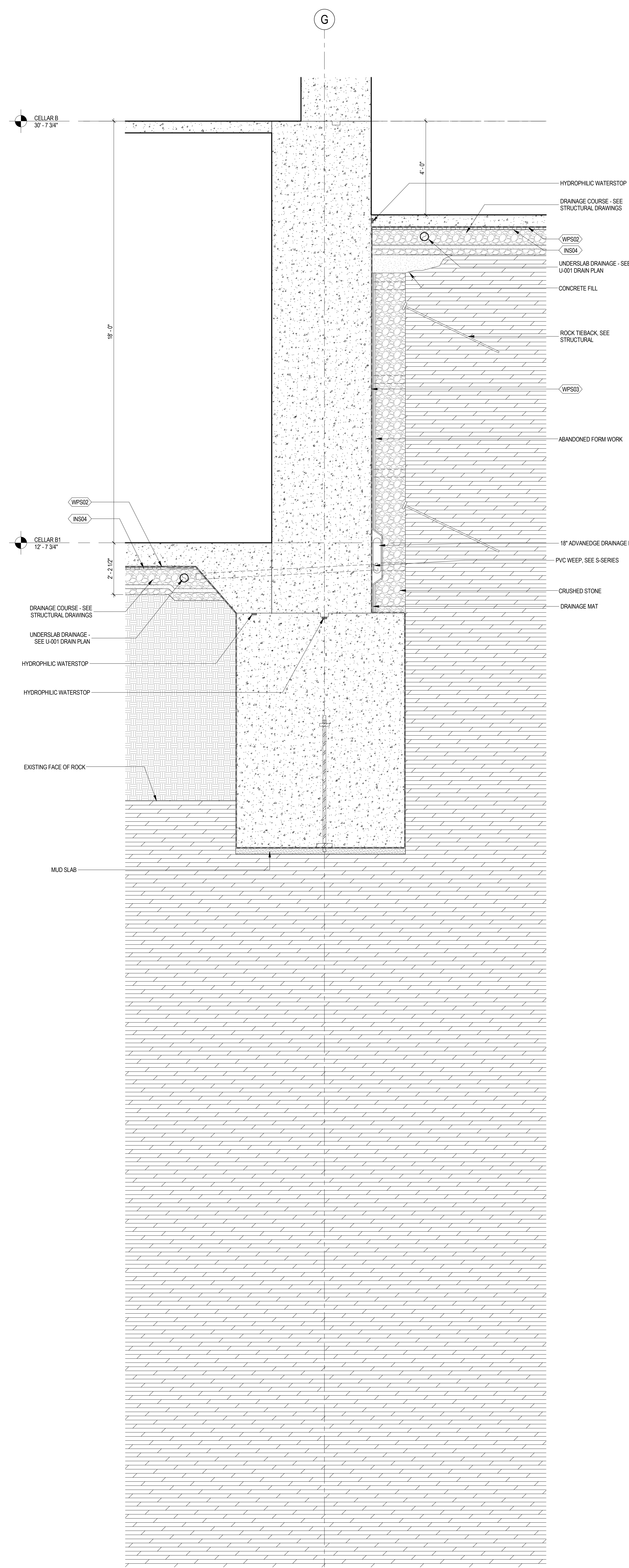


1 ENLARGED PLAN AT CELLAR B TRANSFORMER VAULT

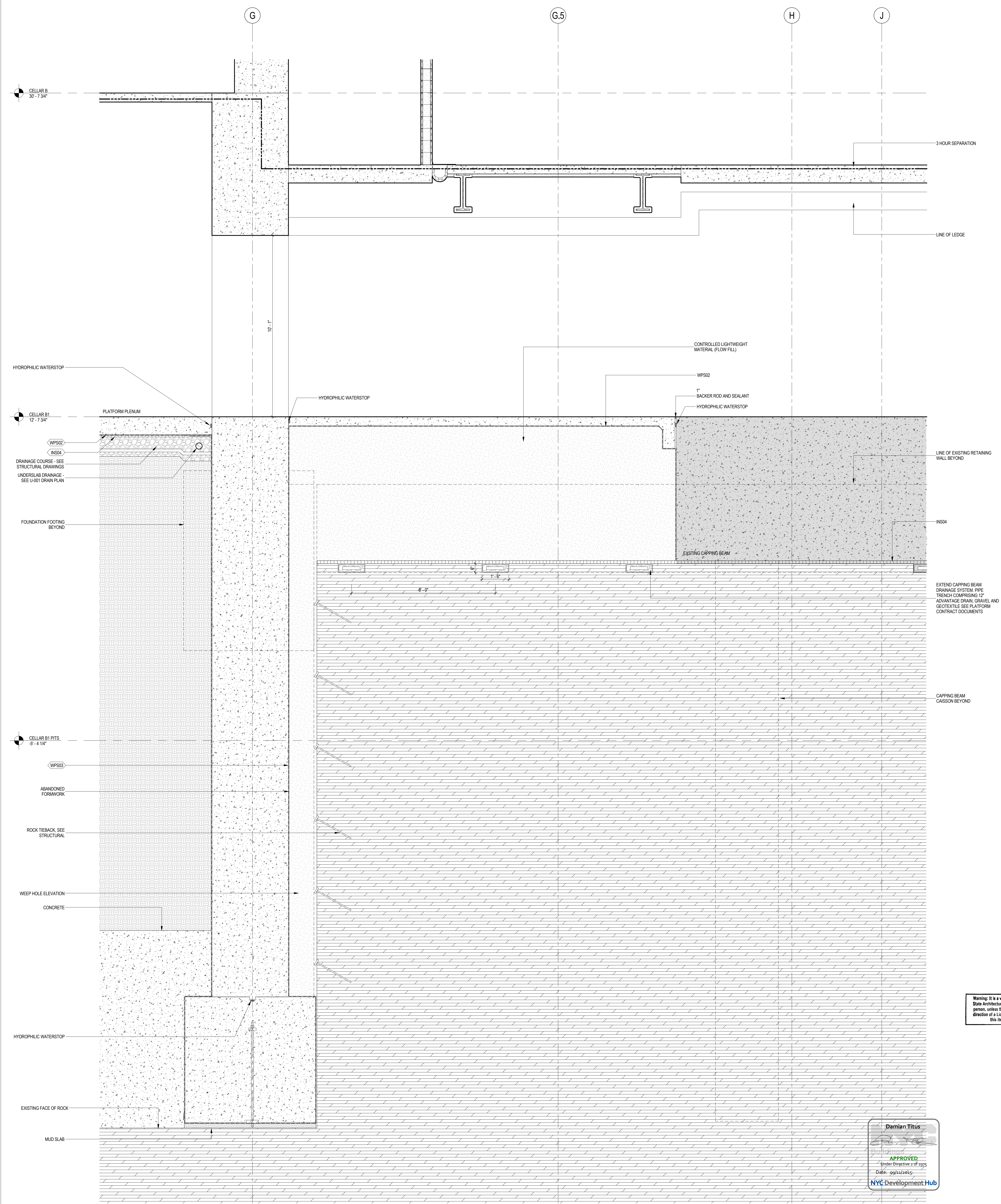
SCALE: 1/4" = 1'-0"



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



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



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Sheet Name: _____

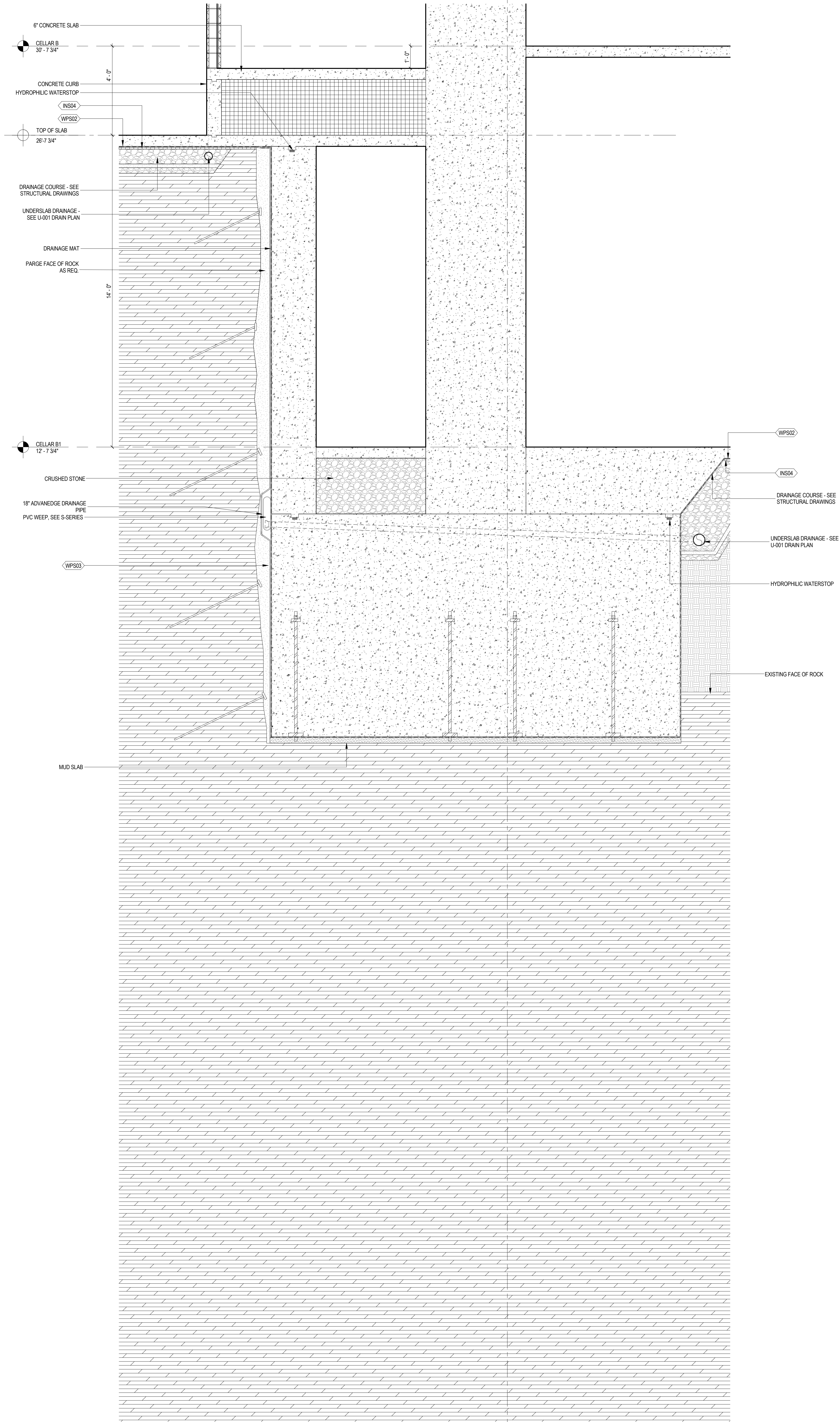
**FOUNDATION
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Project No.: 207150
Date: 20 JUN 2014
Scale: 1/2" = 1'-0"
File No.: A-500

B-SCAN Sheet No.:
A-500.00
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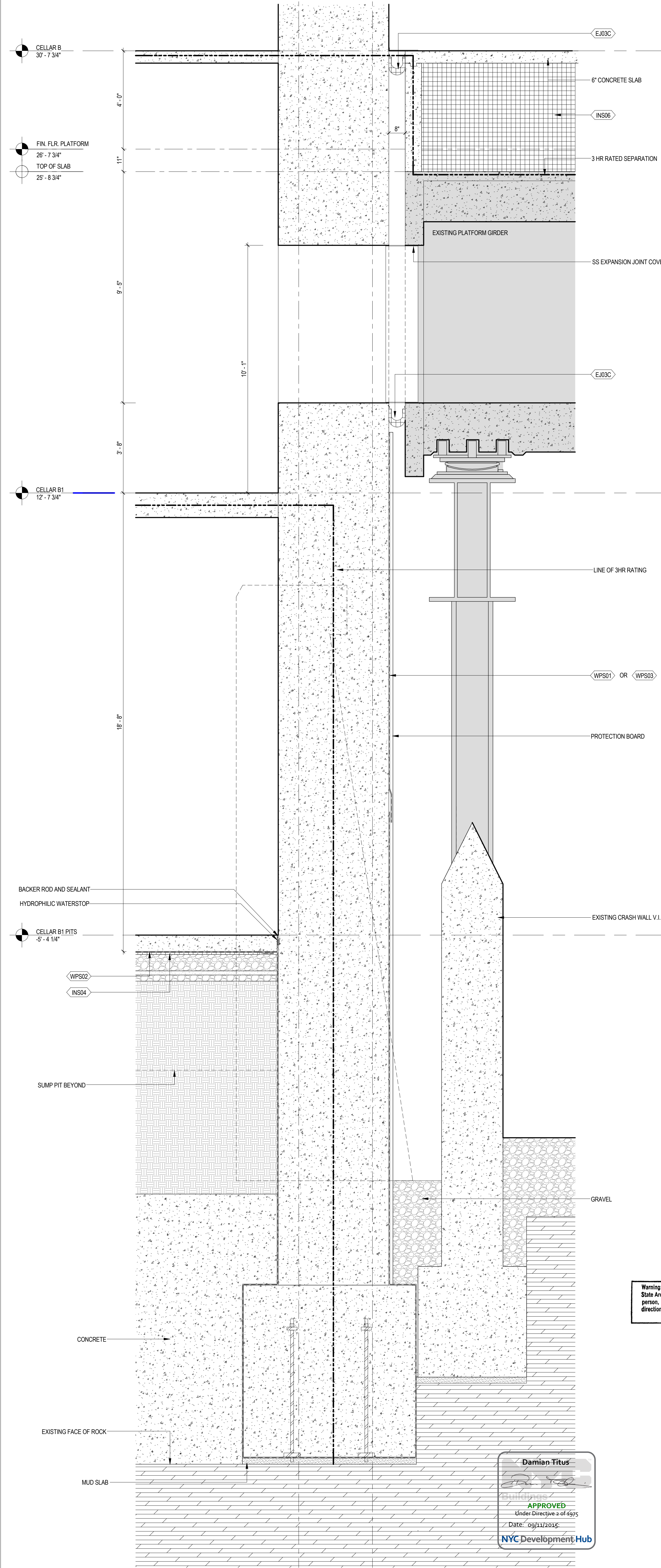
3 FOUNDATION SECTION AT CORE

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



1 FOUNDATION SECTION AT CORE

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



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Ducibella, Vantor & Santore
250 State Street #F1, North Haven, CT 06473

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Cerami & Associates
404 Fifth Avenue #B, New York, NY 10016

Vibration Consultant
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65 Broadway, Suite 401, New York, NY 10006

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Code Consultants Professional Engineers PC
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Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:

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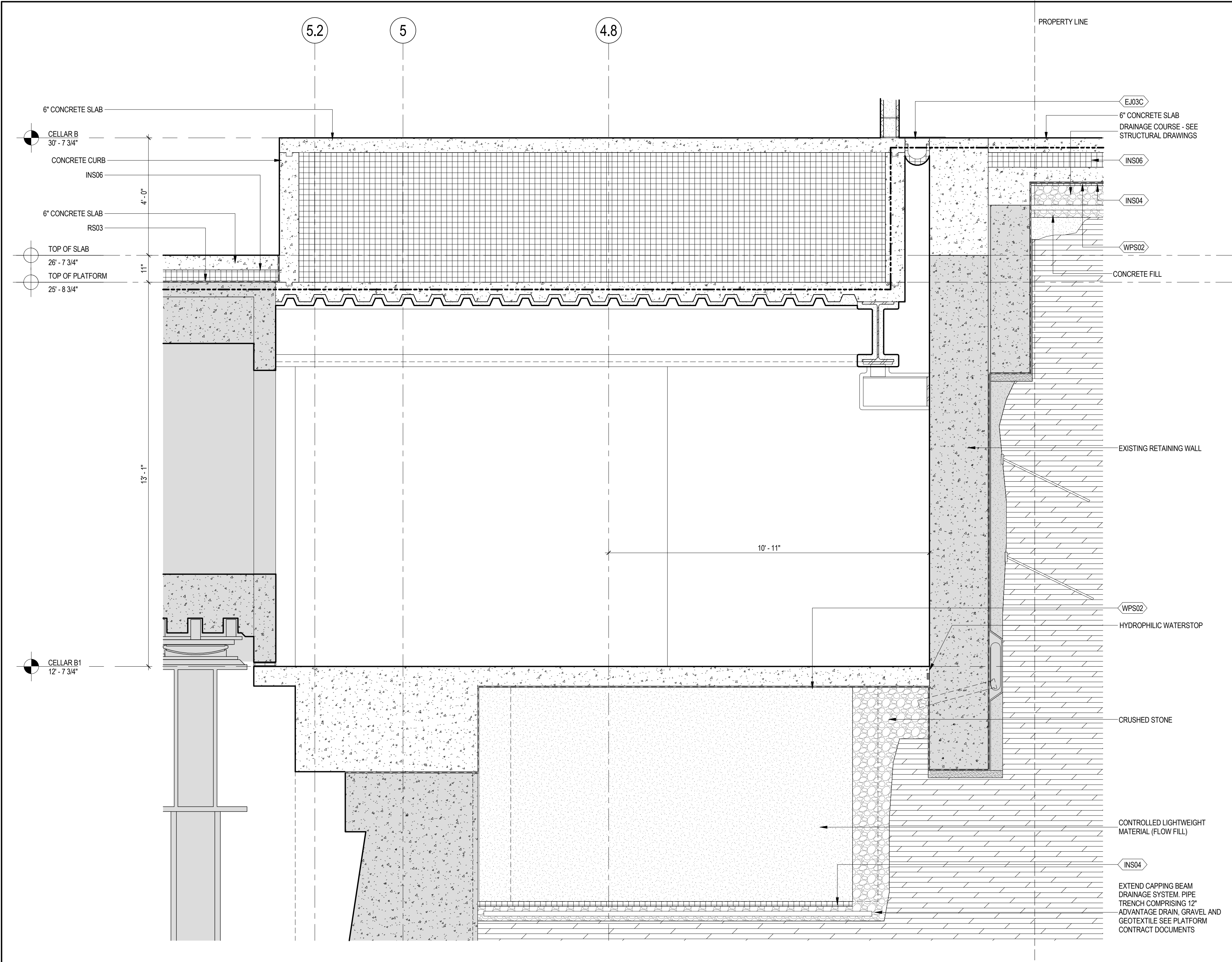
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4 20 JUN 2014 ISSUED FOR FOUNDATION PERMIT
3 20 DEC 2013 ISSUED FOR FOUNDATION PERMIT
2 15 NOV 2013 ISSUED FOR DD PROGRESS PRICING
1 12 JUL 2013 ISSUED FOR 50% DESIGN DEVELOPMENT

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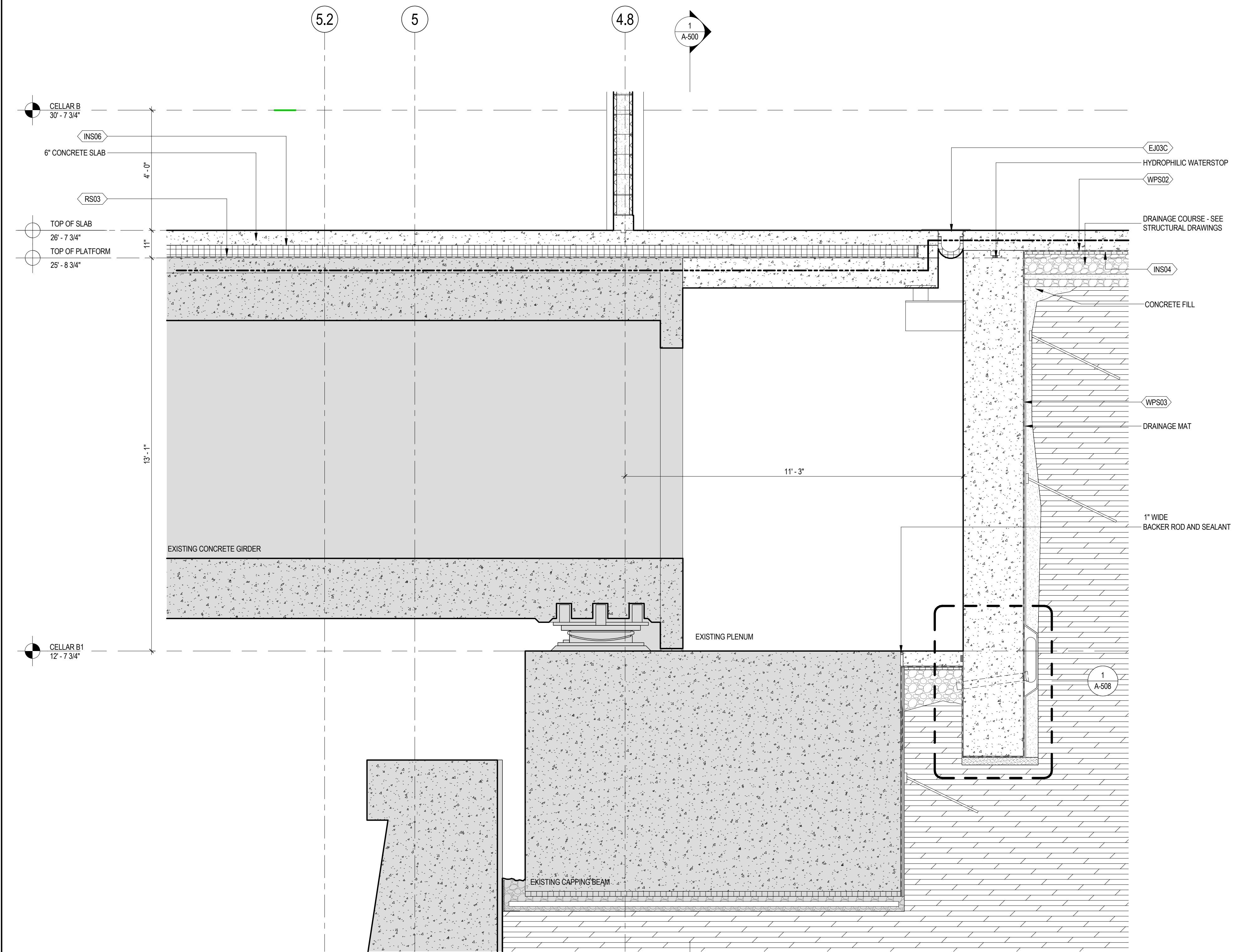
FOUNDATION
WALL SECTIONS

Project No.: 207150
Date: 20 JUN 2014
Scale: 1/2" = 1'-0"
File No.: A-501

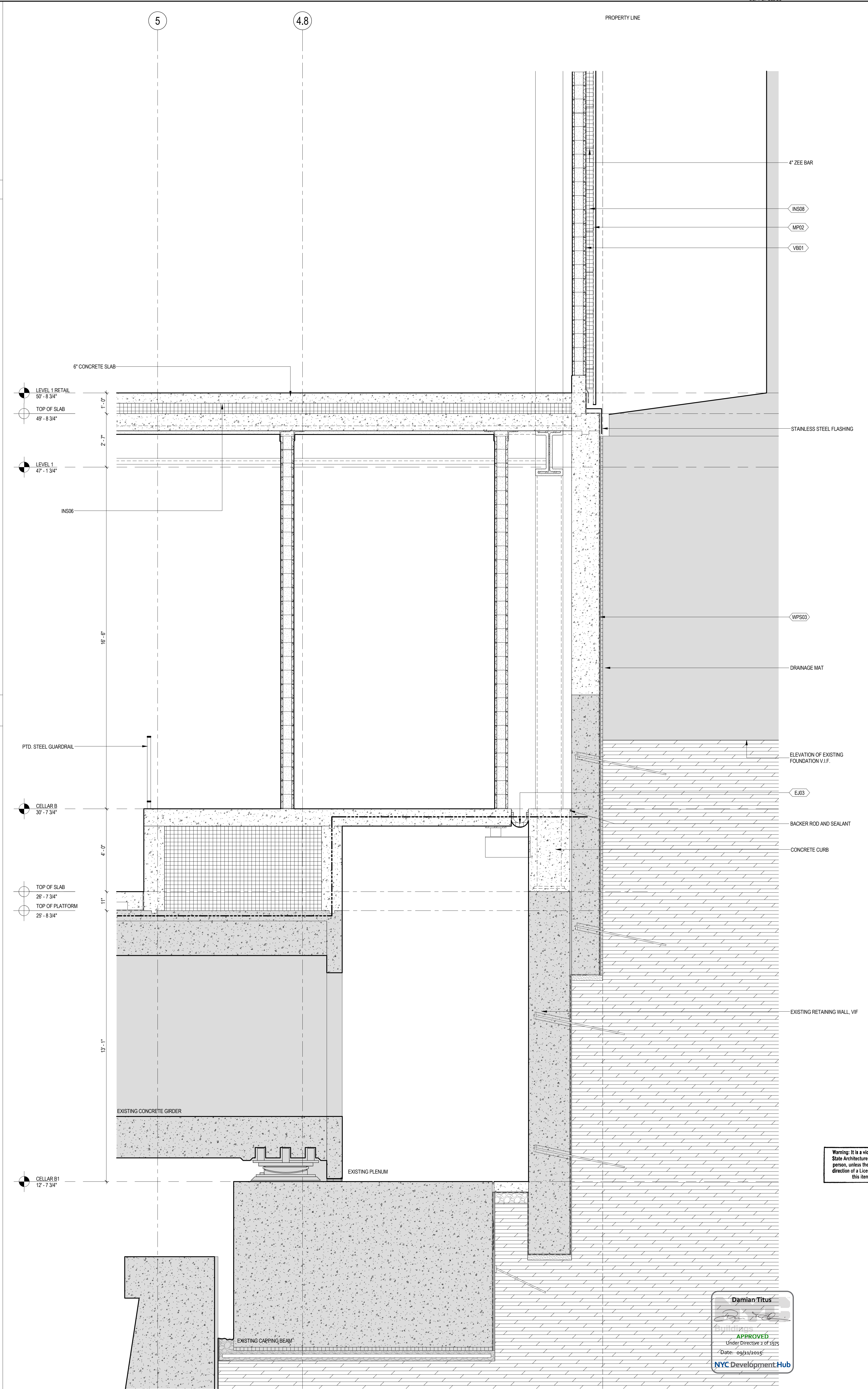
B-SCAN Sheet No.:
A-501.00
Sheet No.:
A-501
Page No.: 80 OF 87




3 FOUNDATION SECTION AT PLENUM 3
SCALE: 1/2" = 1'-0"



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



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



**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
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Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

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MEP Engineering

Jaros Baum & Bolles
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102 East Blithedale Ave., Suite 1, Mill Valley, California 94041

Sustainable Design

Viridian Energy & Environmental
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Mueser Rutledge Consulting Engineers
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65 Broadway, Suite 401, New York, NY 10006

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215 West 40th Street, 15th Floor, New York, NY 10018

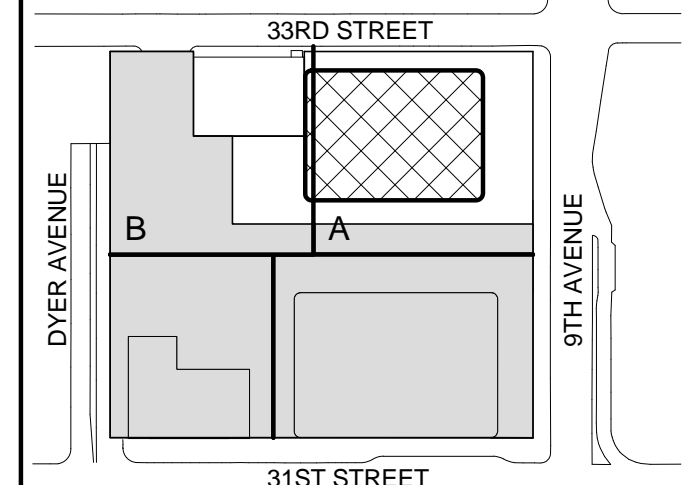
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601


Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
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Sheet Name: _____

FOUNDATION WALL SECTIONS

| Project No.: | B-SCAN Sheet No.: |
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| 207150 | A-502.00 |
| Date: | Sheet No.: |
| 20 JUN 2014 | A-502 |
| Scale: | Page No.: |
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| File No.: | |
| A-502 | |

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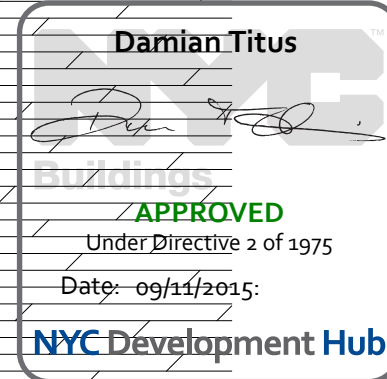
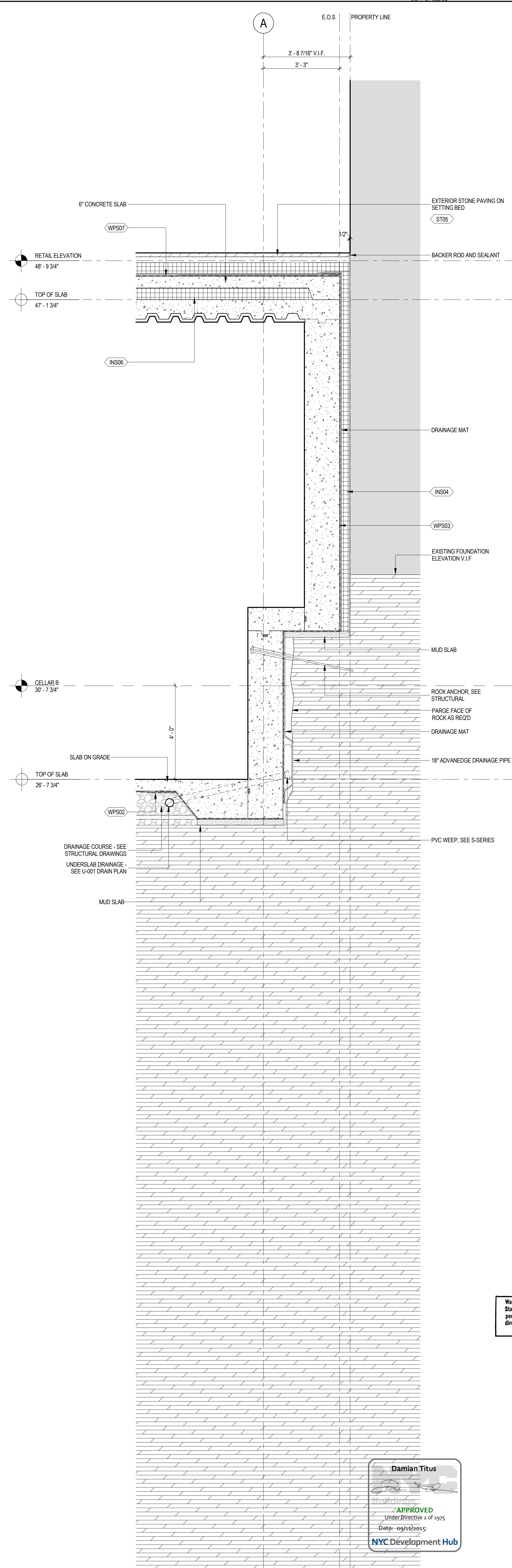
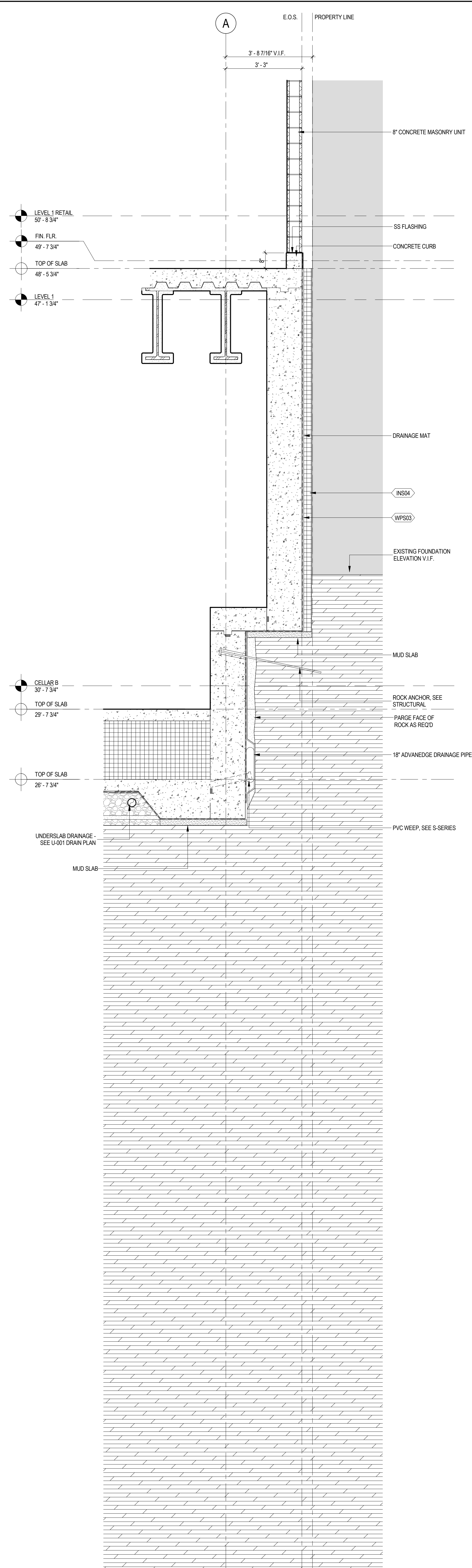
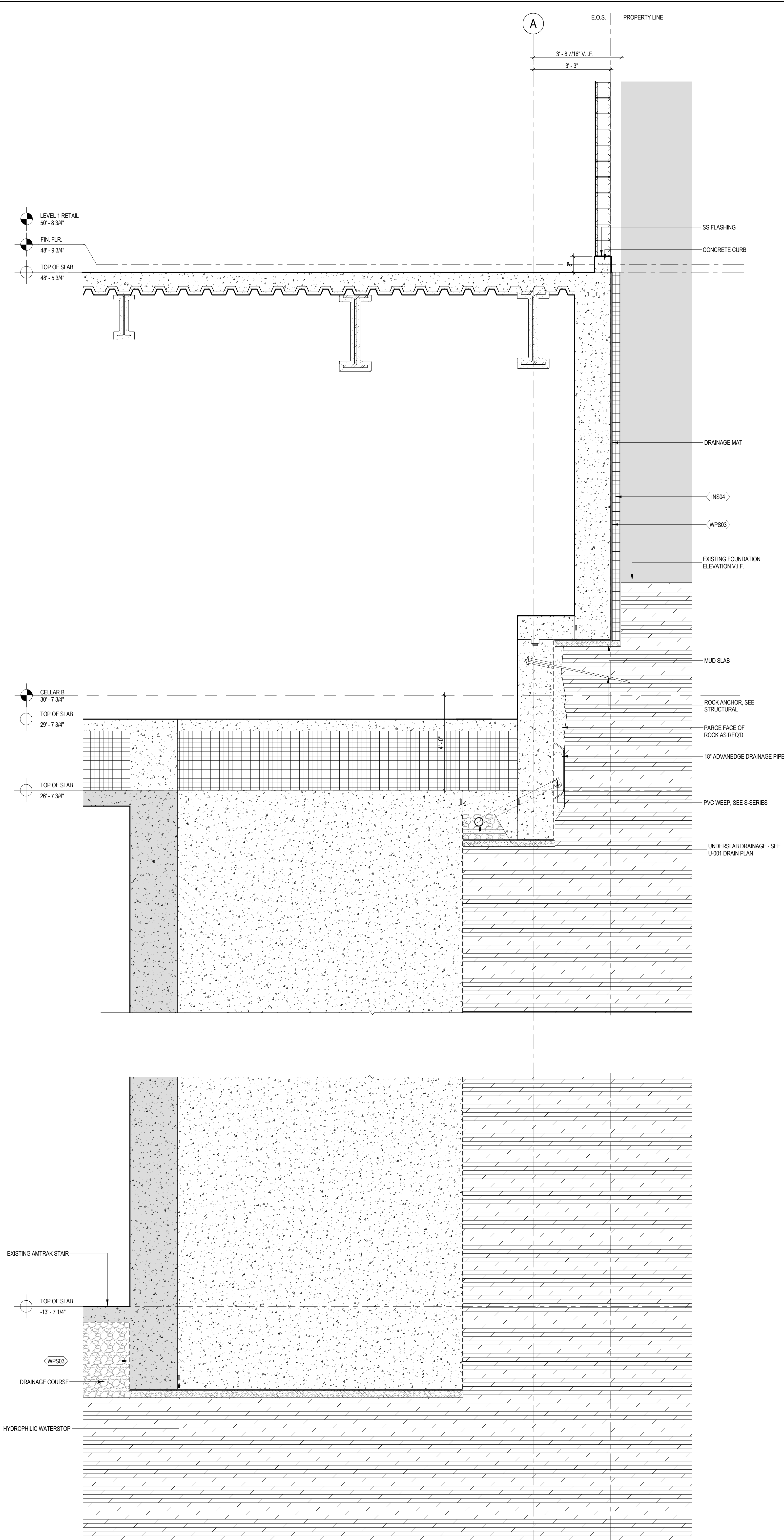
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2 FOUNDATION SECTION AT LOFT

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

1 FOUNDATION SECTION AT LOFT

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



**MANHATTAN WEST:
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375 Ninth Avenue, New York, NY 10001
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Rowan Williams Davies & Irwin Inc.
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| 2 | 15 NOV 2013 | ISSUED FOR DD PROGRESS PRICING |
| 1 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |

No. Date Description

Sheet Name:

**FOUNDATION
WALL SECTIONS**

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| Date: 20 JUN 2014 | Sheet No.: A-504 |
| Scale: 1/2" = 1'-0" | Page No.: 83 OF 87 |
| File No.: A-504 | |

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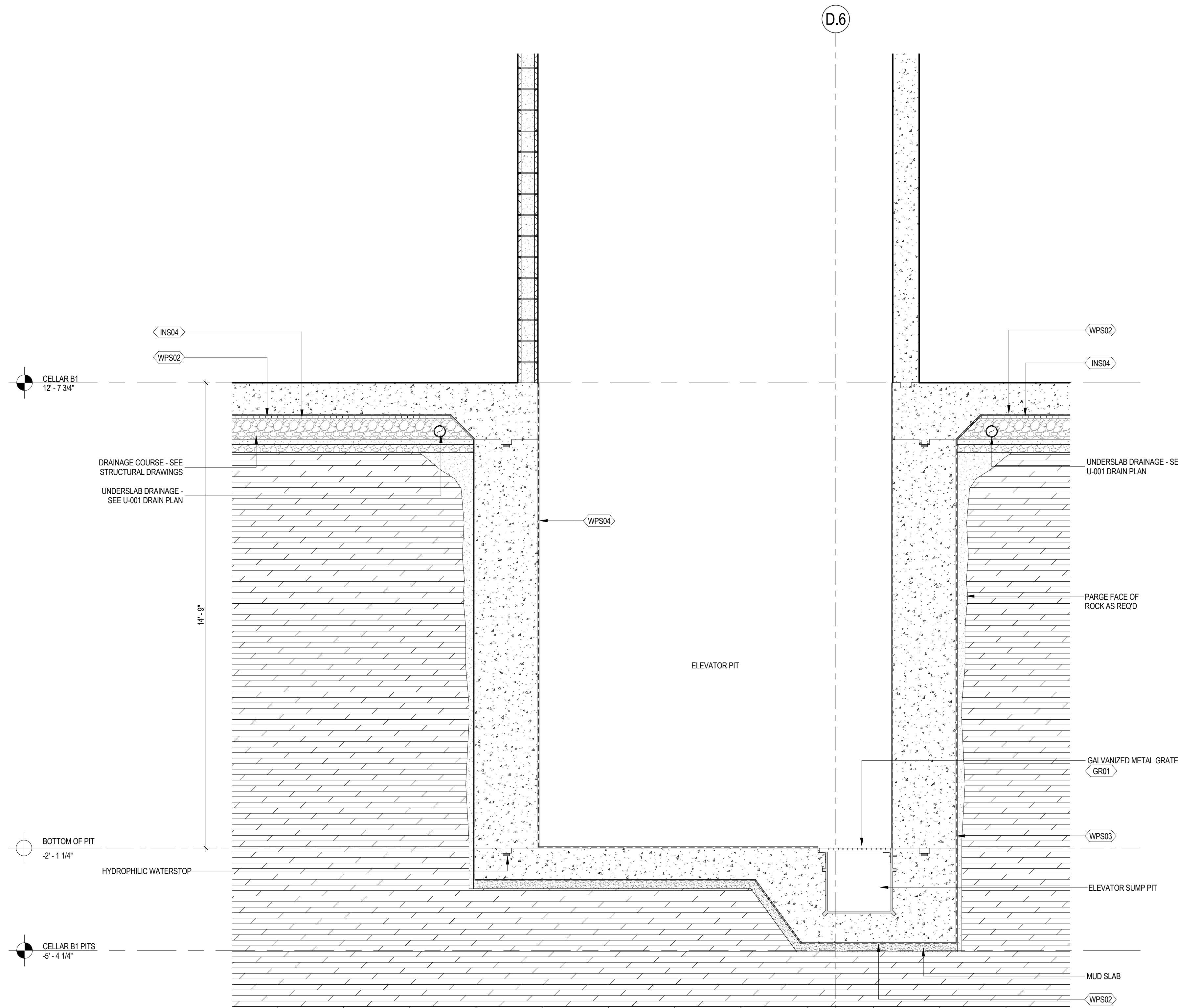
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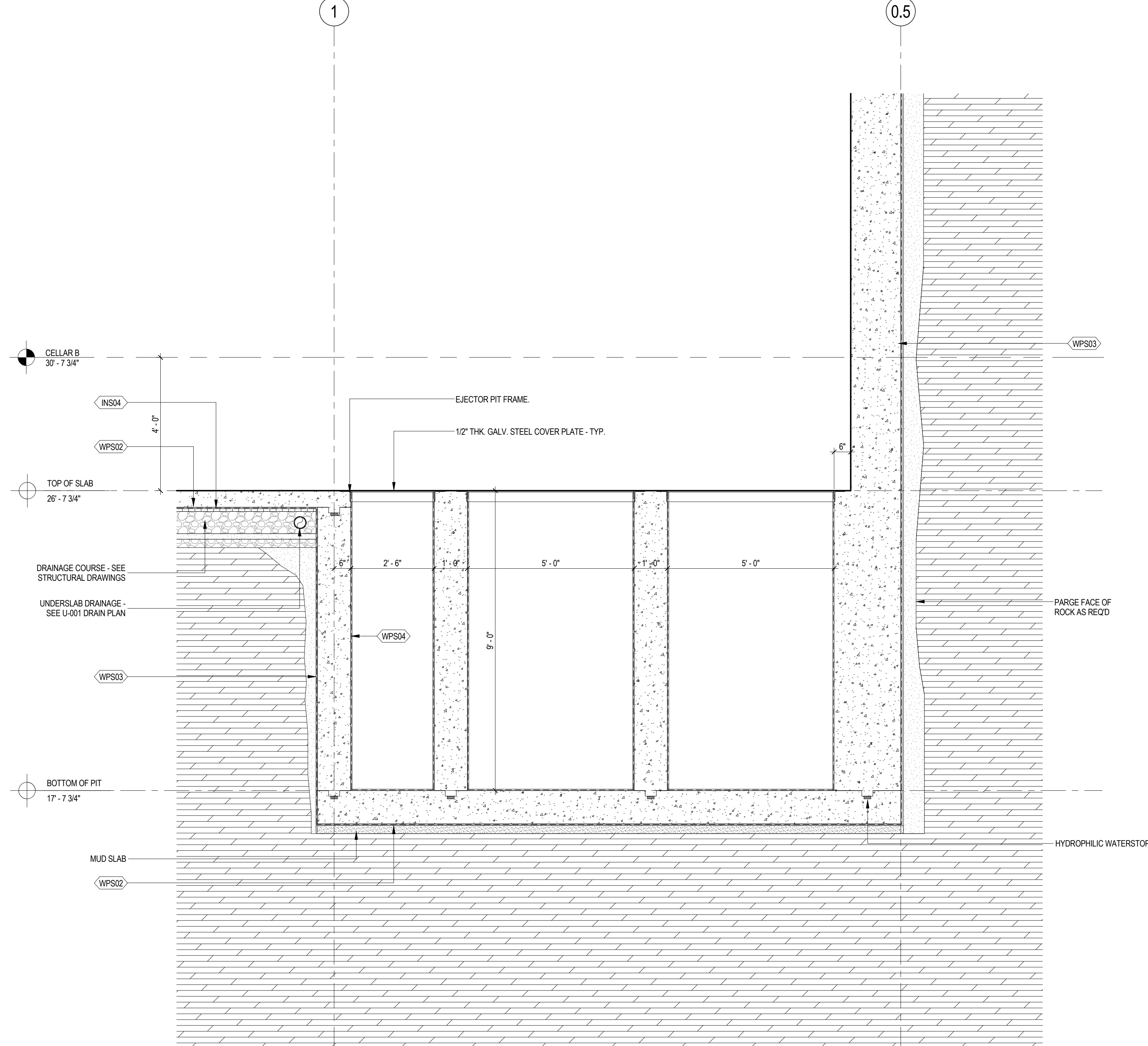
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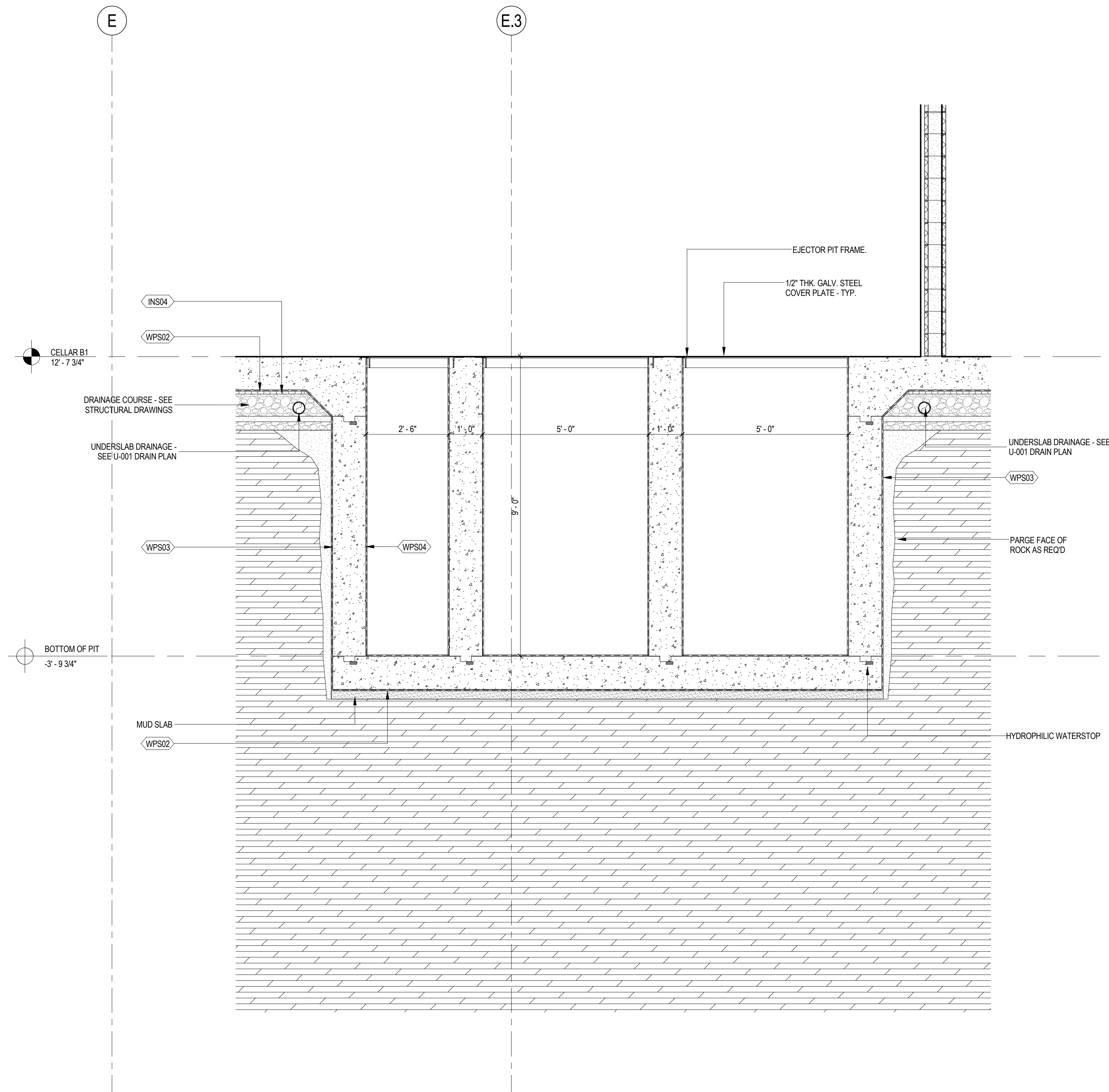
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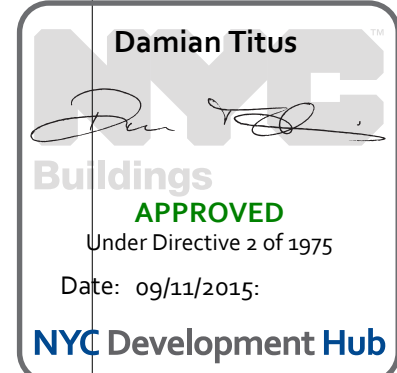


2 FOUNDATION SECTION AT CELLAR B3 SUMP

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



SHEET NOTES



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NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
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166 Ames Street, Hackensack, NJ 07601

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Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:

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| 3 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
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| 1 | 19 NOV 2013 | ISSUED FOR BID PROGRESS PRICING |

No. Date Description

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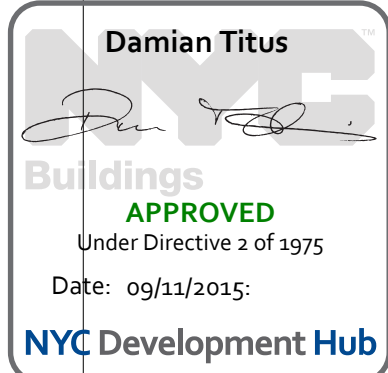
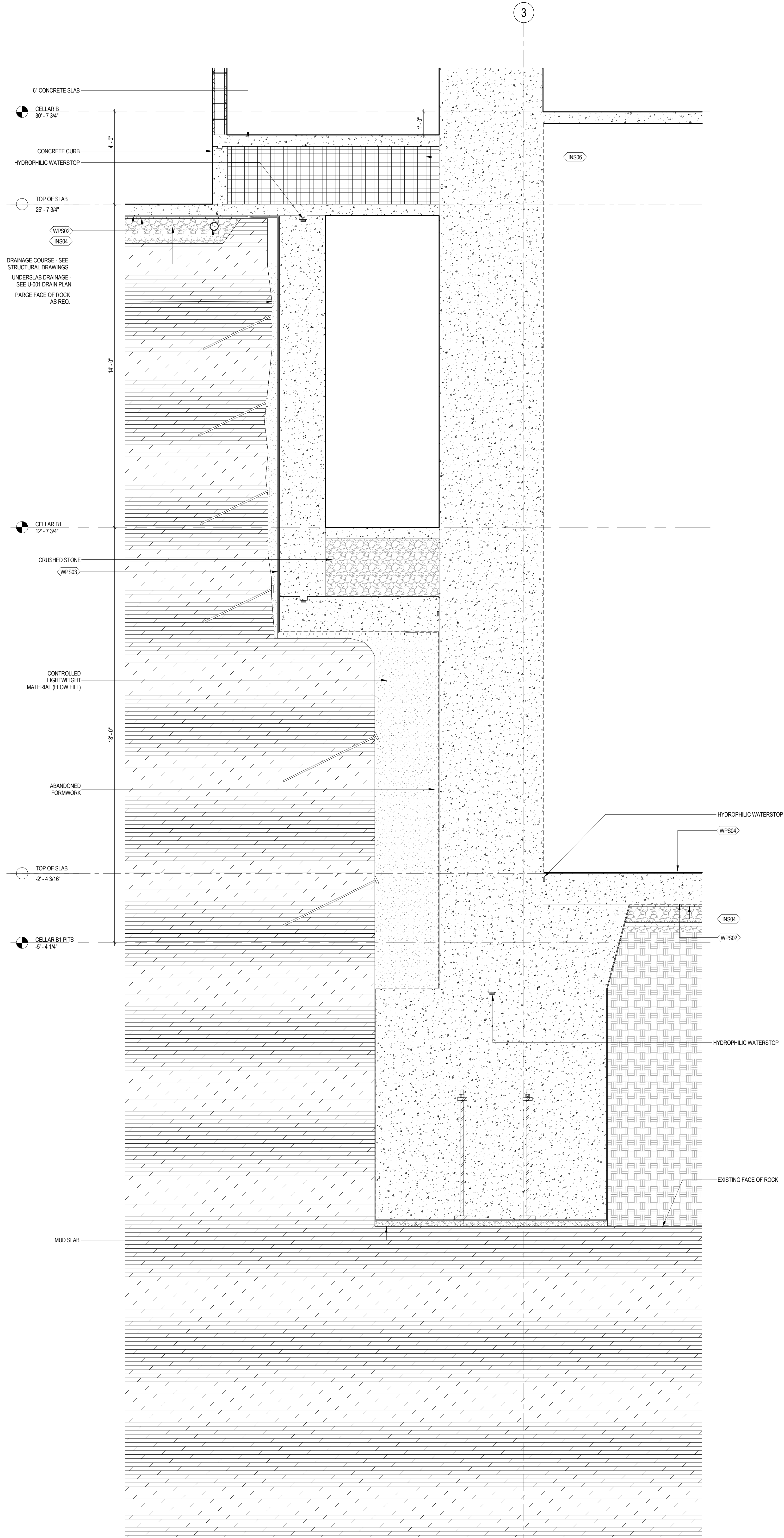
**FOUNDATION
WALL SECTIONS**

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| Date: 20 JUN 2014 | Sheet No.: A-506 |
| Scale: 1/2" = 1'-0" | Page No.: 85 OF 87 |
| File No.: A-506 | |

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1 FOUNDATION SECTION AT CORE

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



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250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave, Suite 1, Mill Valley, California 94041

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geotechnical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122

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Security Consultant
Ducibella, Vantor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

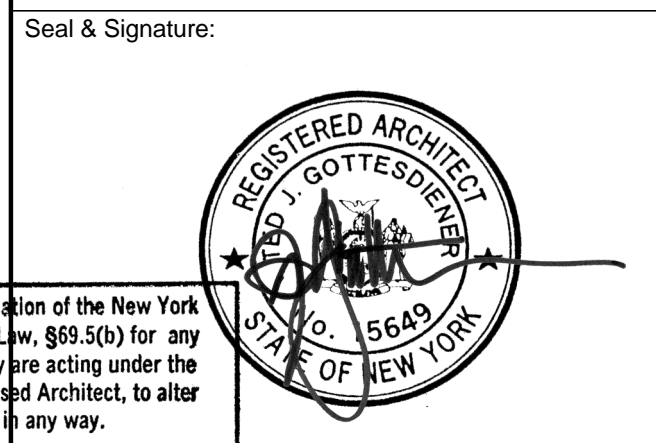
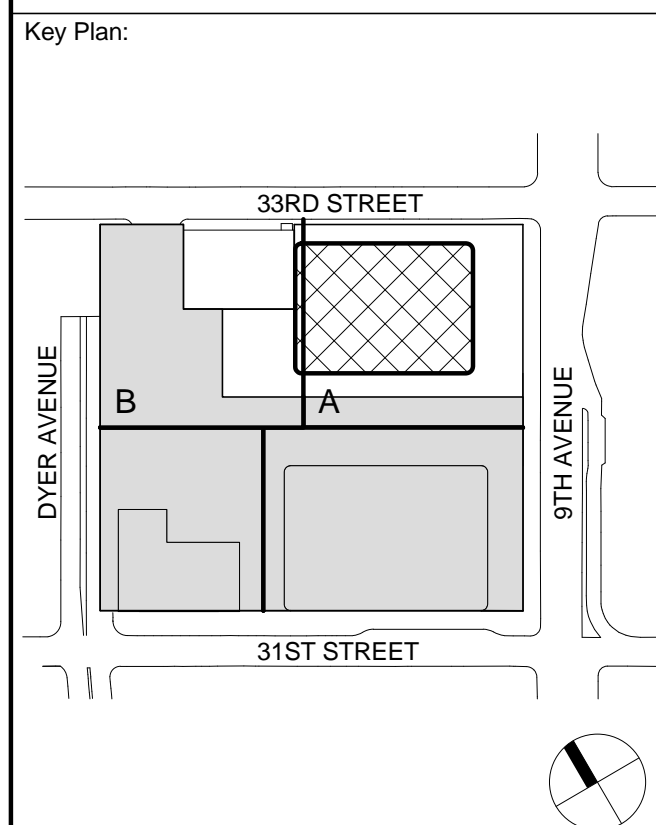
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
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650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8



2 20 JUN 2014 ISSUED FOR FOUNDATION BID
1 20 JUN 2014 ISSUED FOR FOUNDATION PERMIT
No. Date Description
Sheet Name:

FOUNDATION
WALL SECTIONS

Project No.: 207150
Date: 20 JUN 2014
Scale: 1/2" = 1'-0"
File No.: A-507
B-SCAN Sheet No.: A-507.00
Sheet No.: A-507
Page No.: 86 OF 87



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave, Suite 1, Mill Valley, California 94041

Sustainable Design
Viridian Energy & Environmental
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Mueser Rutledge Consulting Engineers
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Field Operations
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Security Consultant
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250 State Street #F1, North Haven, CT 06473

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Weidinger Associates, Inc.
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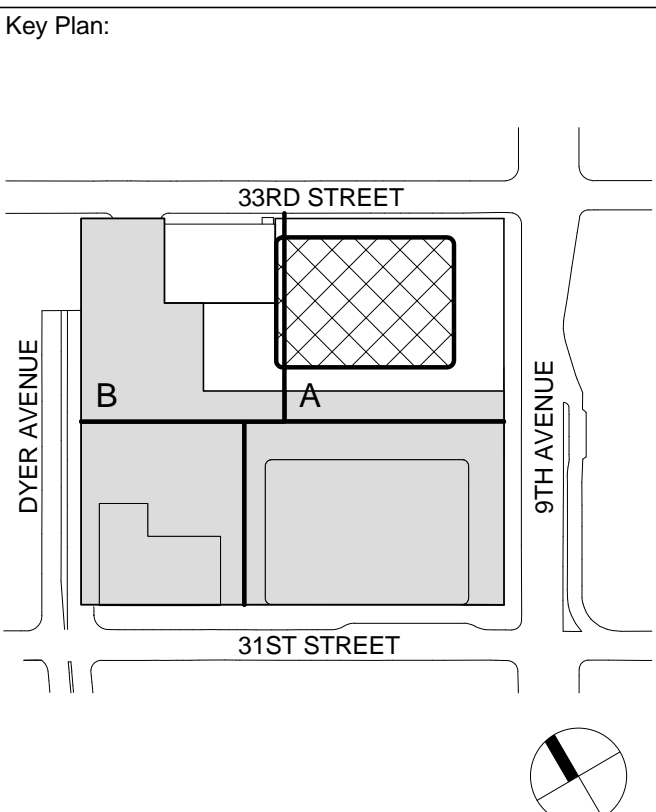
Acoustical Consultant
Cerami & Associates
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Vibration Consultant
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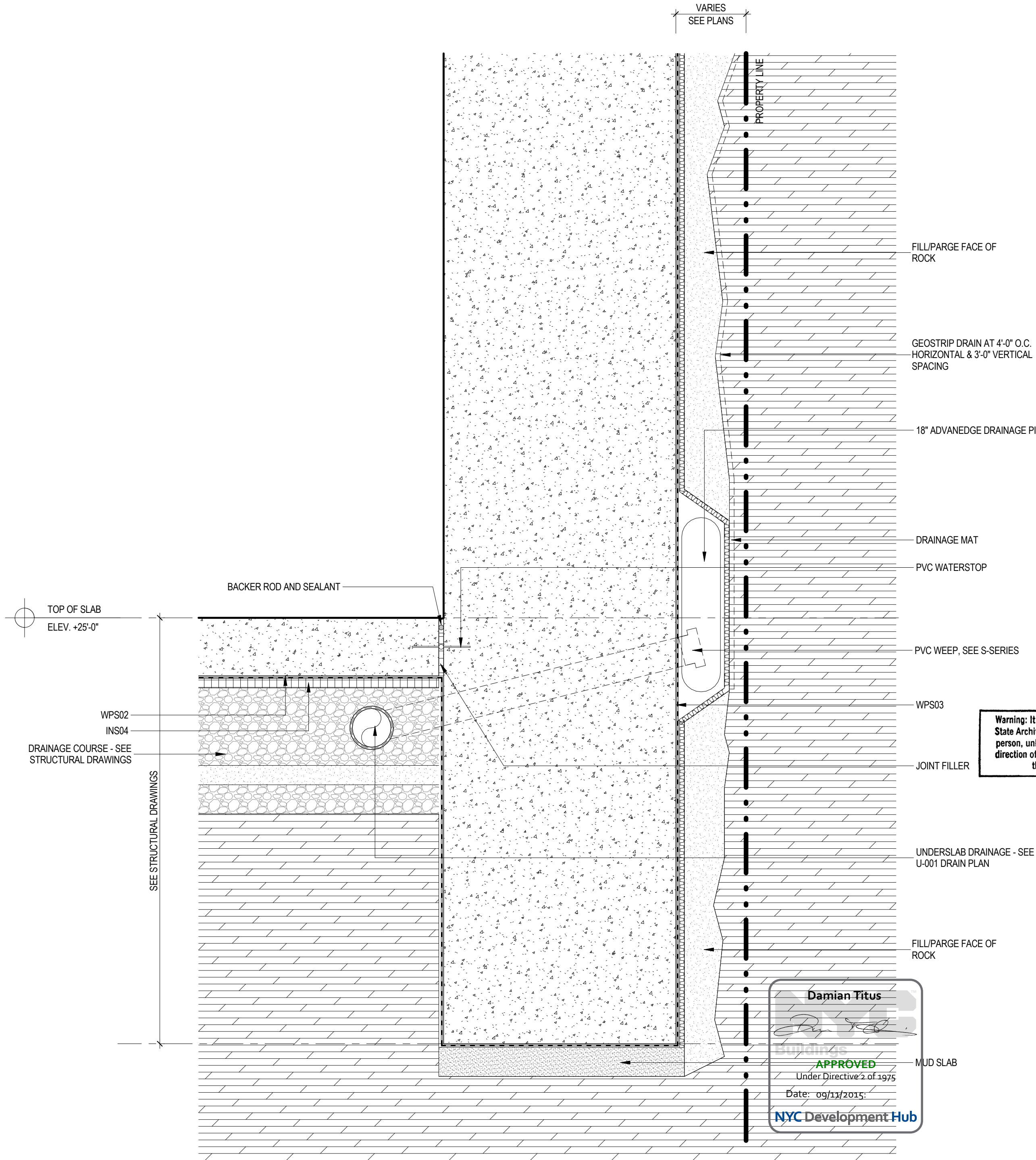
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FOUNDATION
DETAILS

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| Scale: 1 1/2" = 1'-0" | Page No.: 87 OF 87 |
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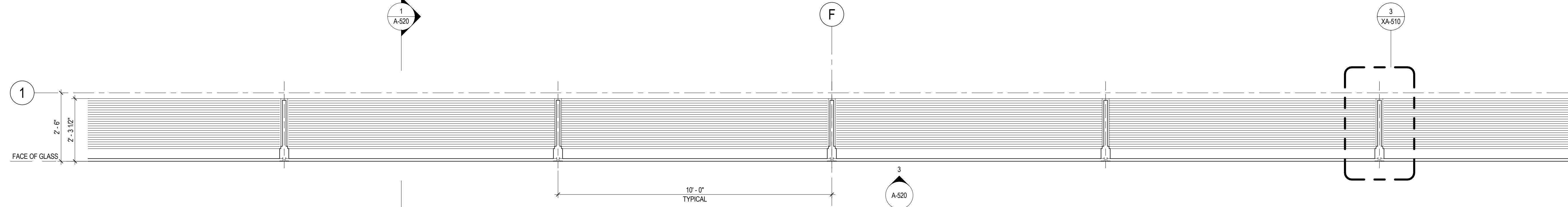


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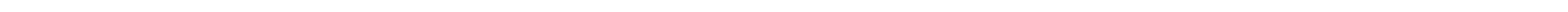
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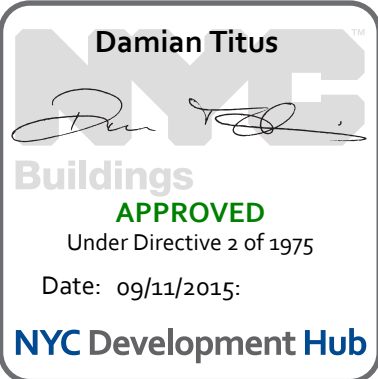
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SCALE: 1/2" = 1'-0"



1 ENLARGED SECTION AT STOREFRONT (SF01)

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



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Architecture/Structural Engineering

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Skidmore, Owings & Merrill LLP
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Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

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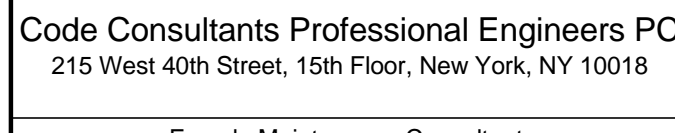
Vibration Consultant
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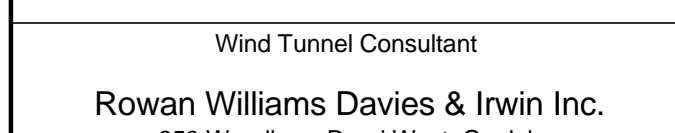
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650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:



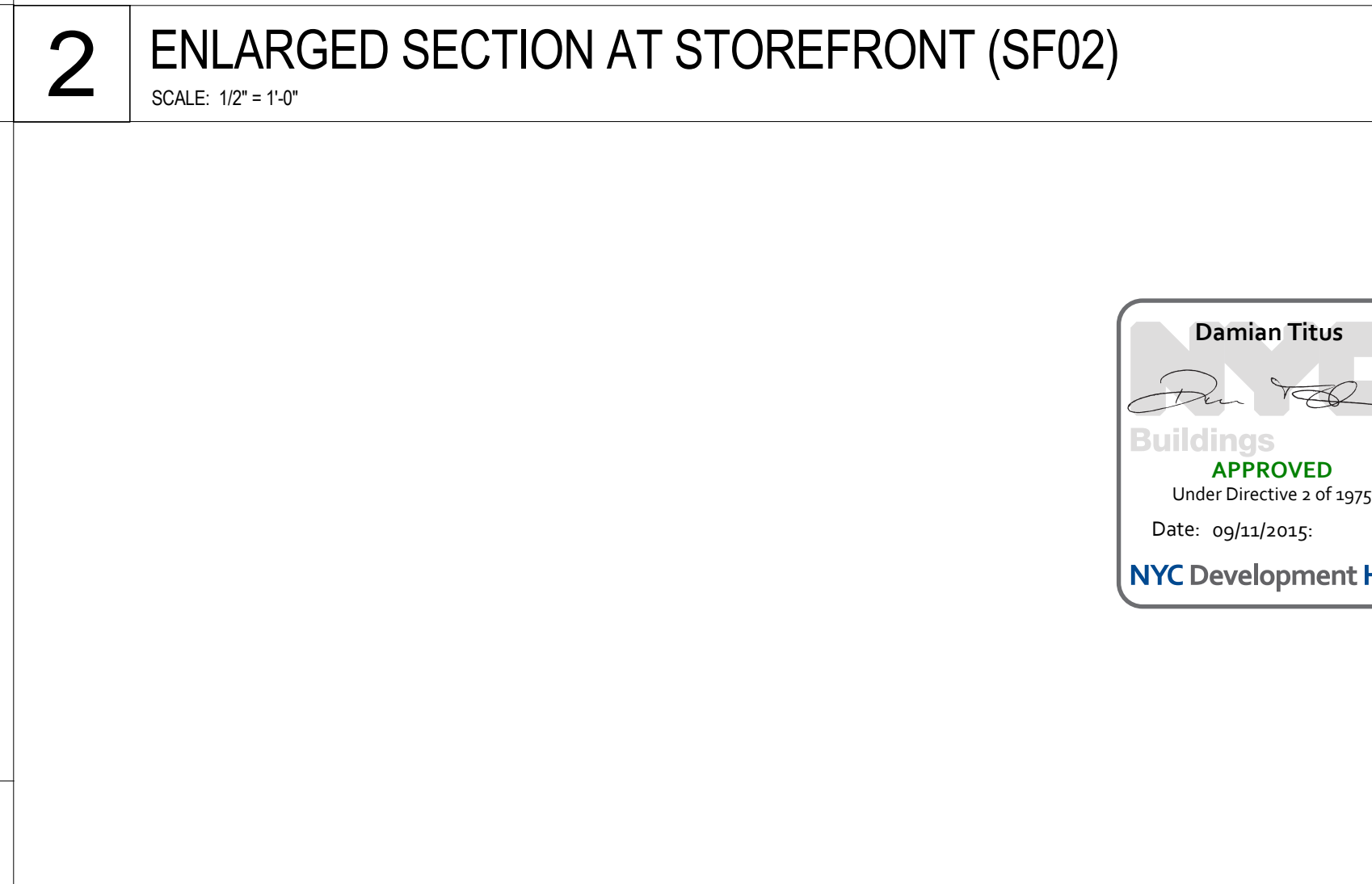
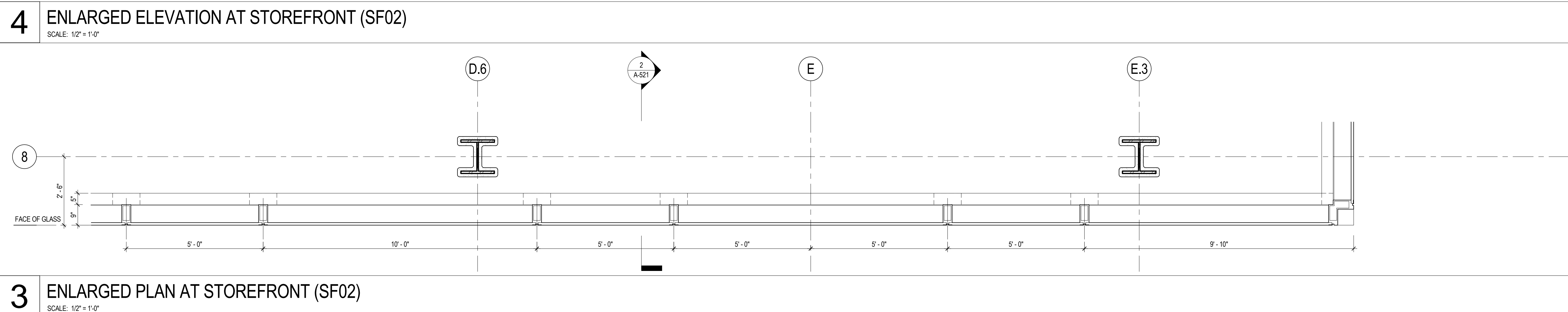
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TYPICAL STOREFRONT

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| Project No.: 207150 | B-SCAN Sheet No.: A-520.00 |
| Date: 12 SEPT 2014 | Sheet No.: A-520 |
| Scale: 1/2" = 1'-0" | Page No.: 30 |
| File No.: A-520 | |





MANHATTAN WEST: NORTH TOWER

375 Ninth Avenue, New York, NY 10001

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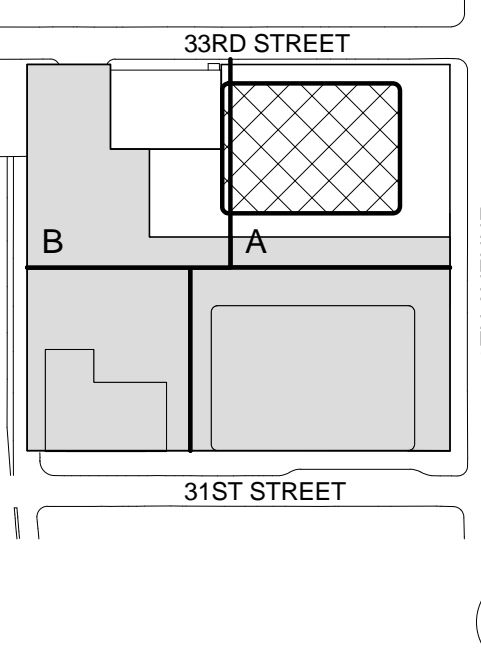
Facade Maintenance Consultant

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Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



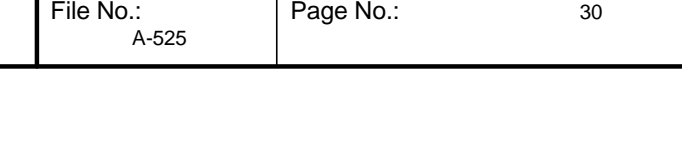
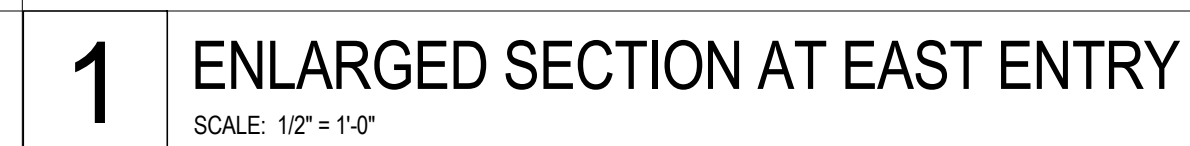
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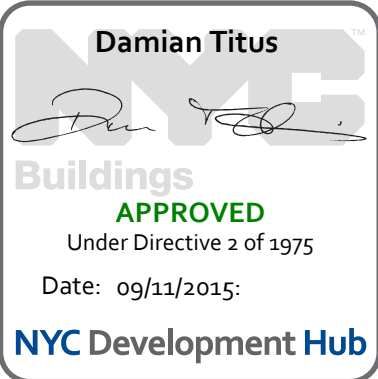
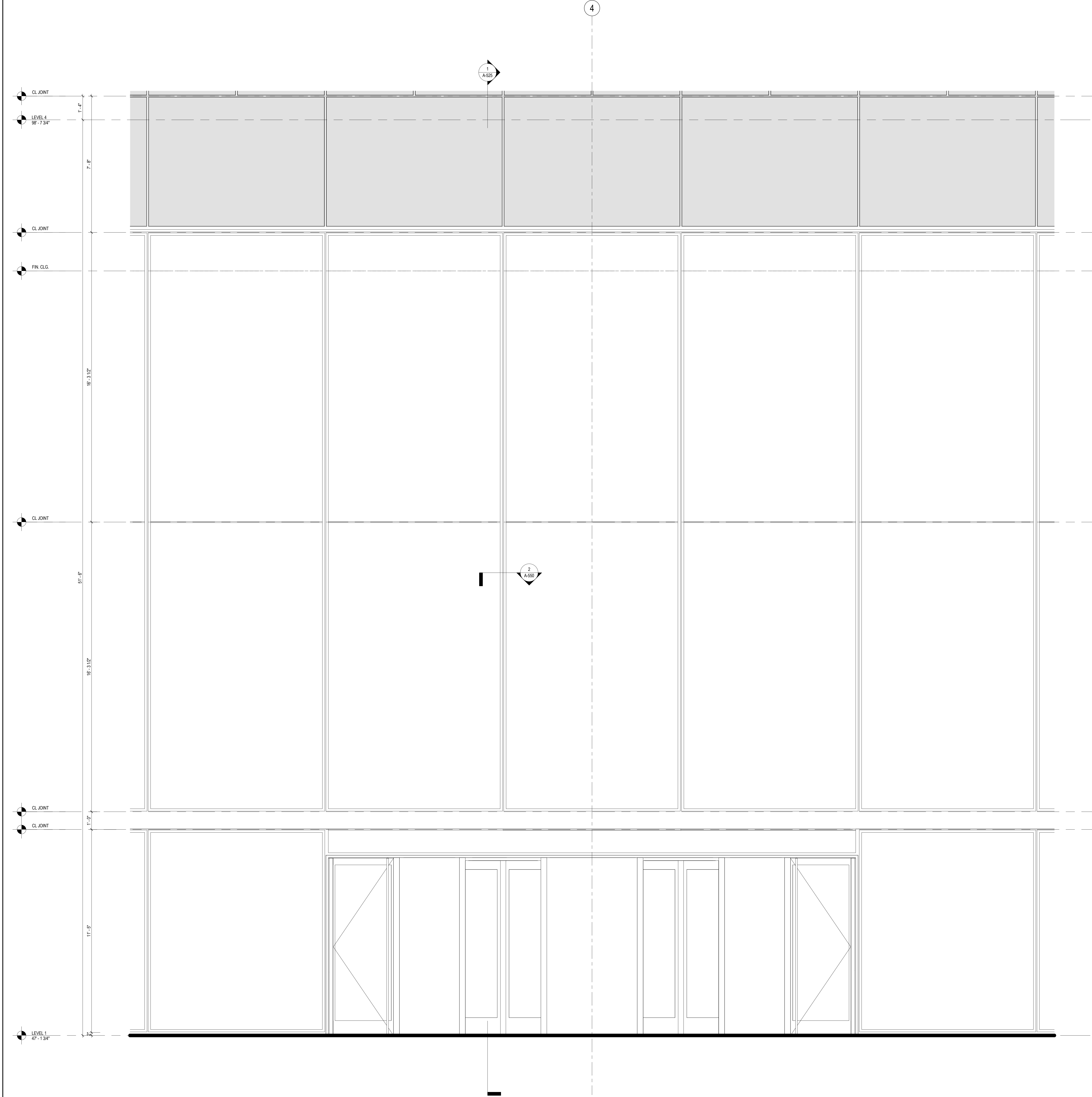
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| File No.: A-521 | Page No.: 30 |



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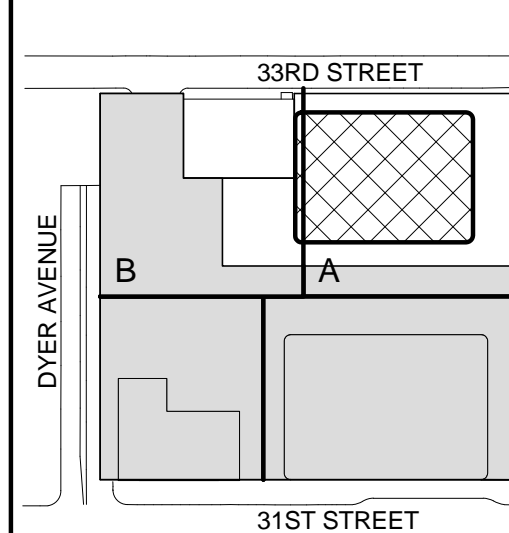
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Key Plan:




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STOREFRONT
ENTRANCES

Project No.: 207150
Date: 12 SEPT 2014
Scale: 1/2" = 1'-0"
File No.: A-526

B-SCAN Sheet No.: A-526.00
Sheet No.: A-526
Page No.: 30



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NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
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Brookfield
Brookfield Place
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Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

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Philip Habib & Associates
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Edgett Williams Consulting Group, Inc.
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Viridian Energy & Environmental
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Ducibella, Vantor & Santoro
250 State Street #F1, North Haven, CT 06473

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Weidinger Associates, Inc.
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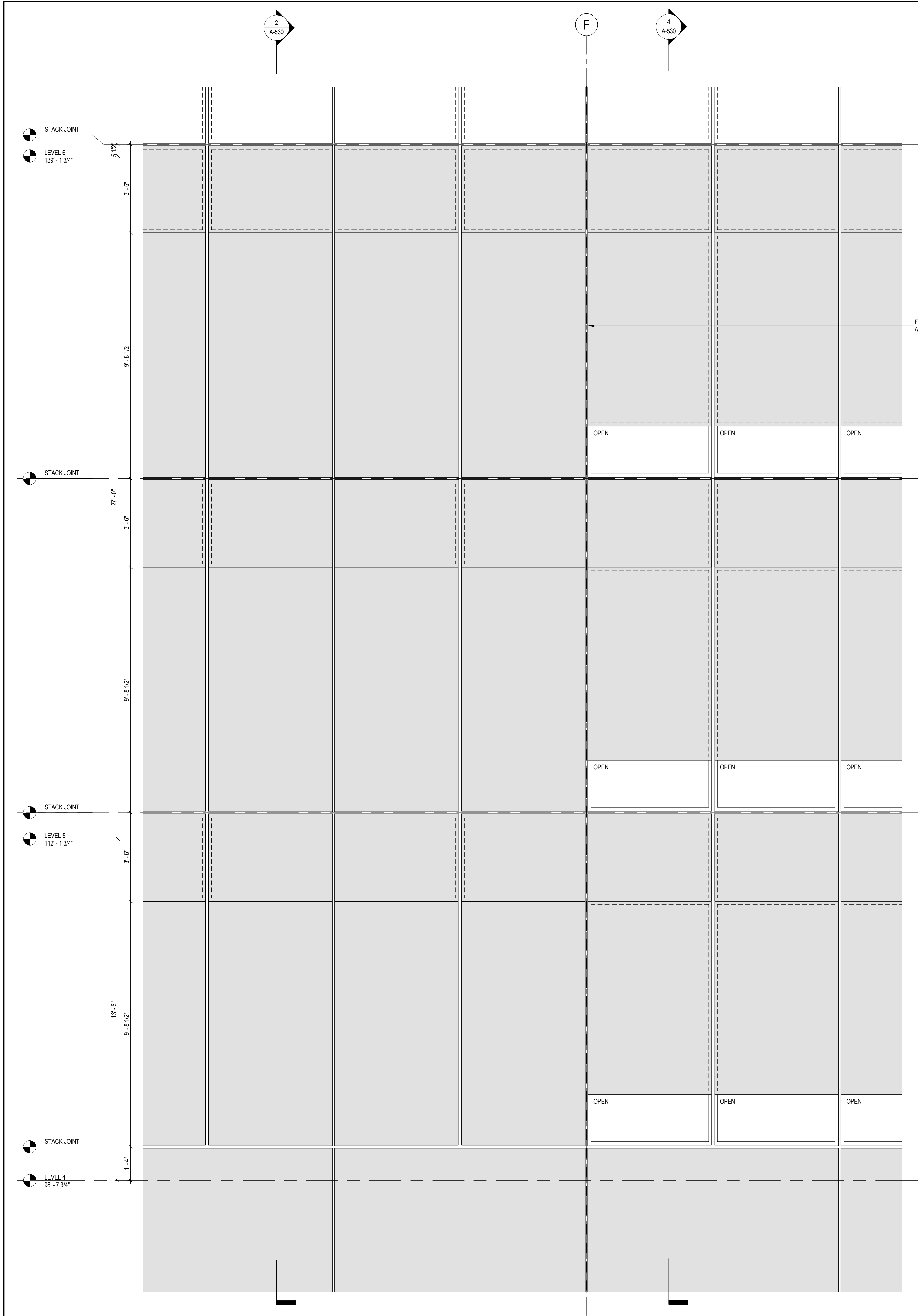
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Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

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65 Broadway, Suite 401, New York, NY 10006

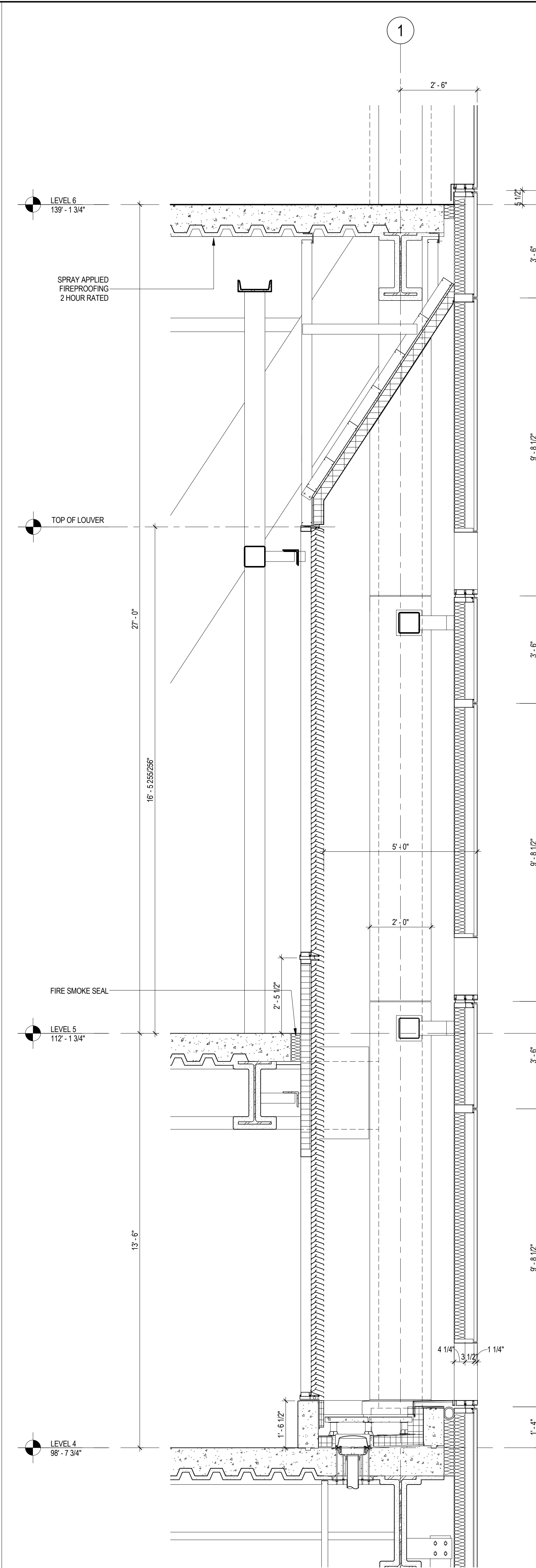
Code Consultant
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215 West 40th Street, 15th Floor, New York, NY 10018

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Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

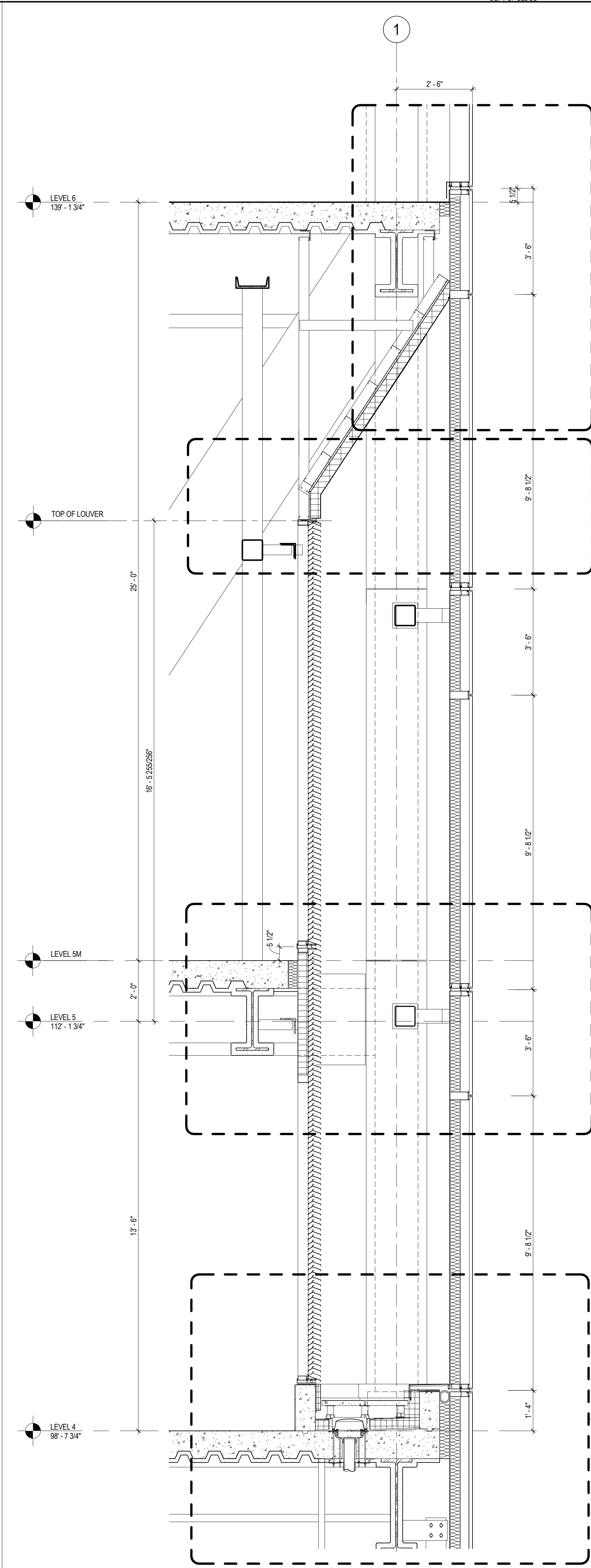
Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6



6 ENLARGED ELEVATION AT MECHANICAL LEVEL
SCALE: 1/2" = 1'-0"



4 ENLARGED SECTION AT MECHANICAL AREAWAY
SCALE: 1/2" = 1'-0"



2 ENLARGED SECTION AT MECHANICAL
SCALE: 1/2" = 1'-0"

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166 Ames Street, Hackensack, NJ 07601

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No. Date Description

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AT LEVEL 2
MECHANICAL AREAWAY

Project No.: 207150

Date: 12 SEPT 2014

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

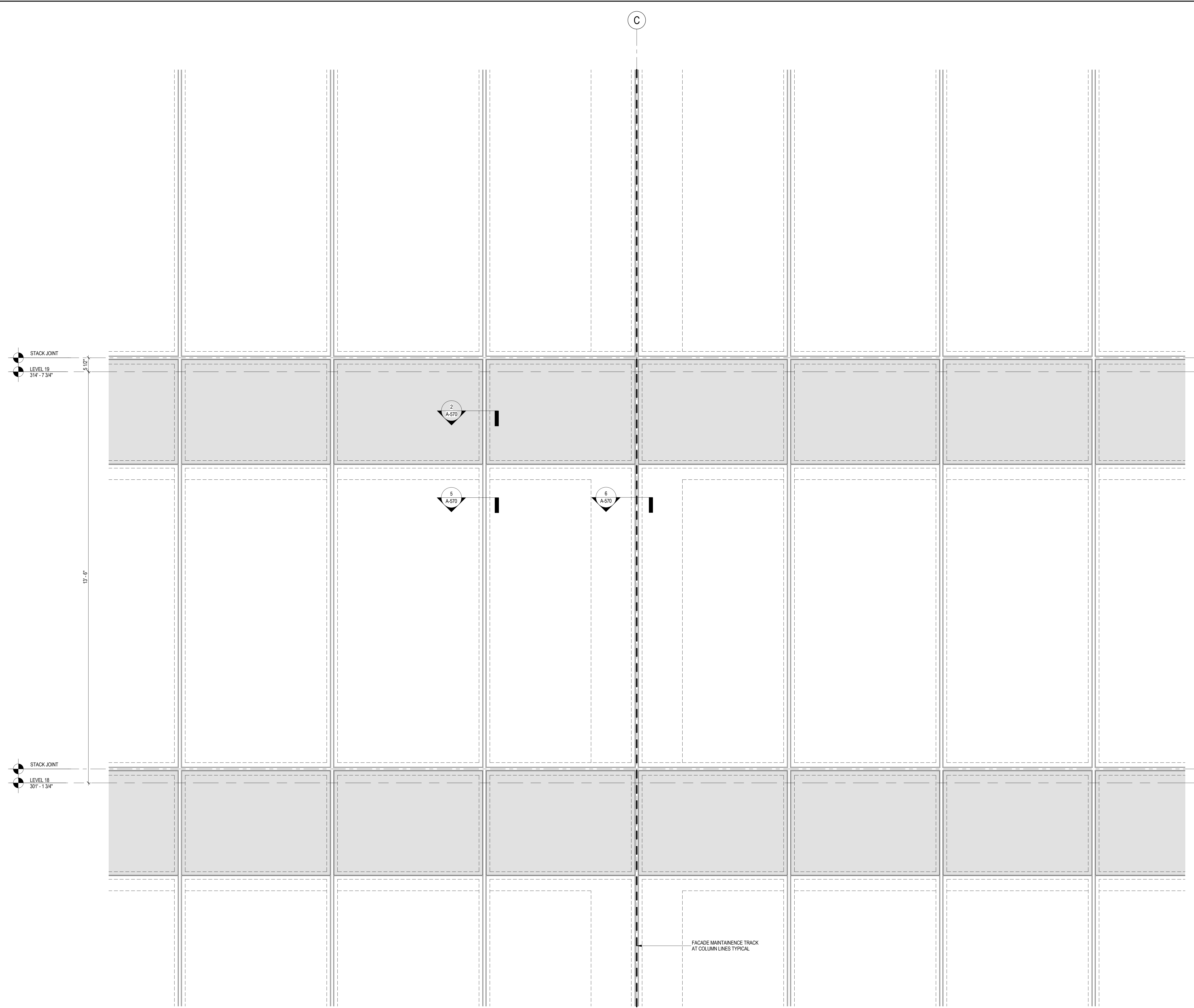
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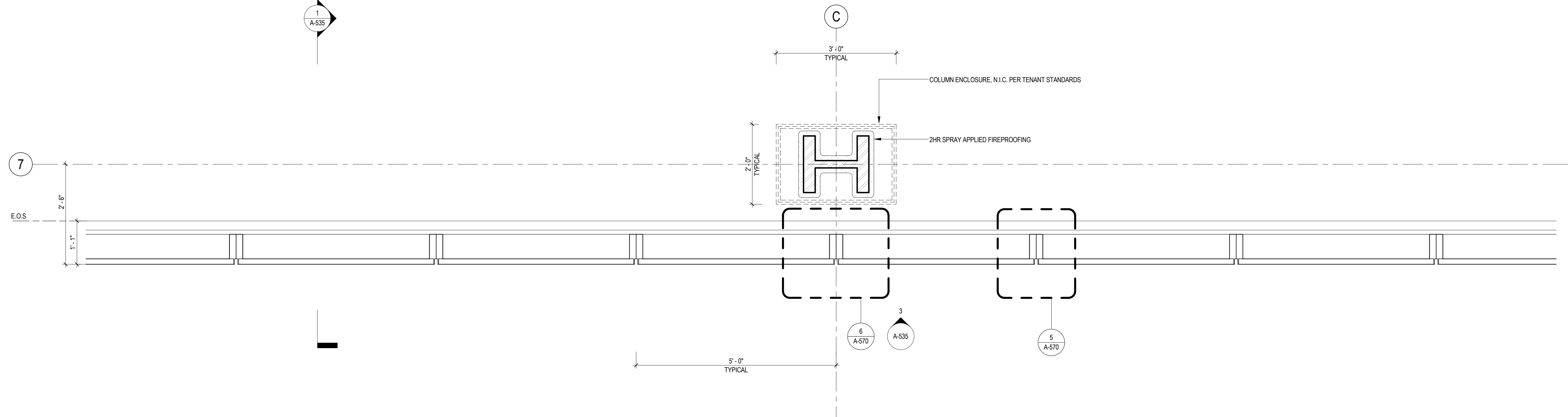
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Page No.: 30

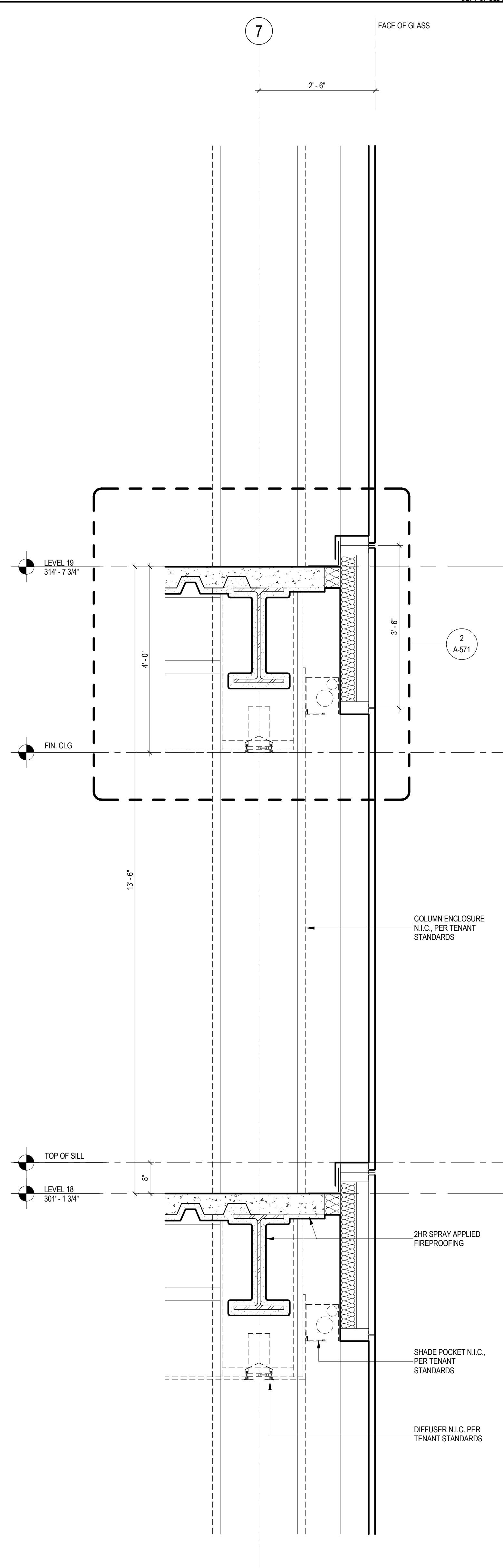
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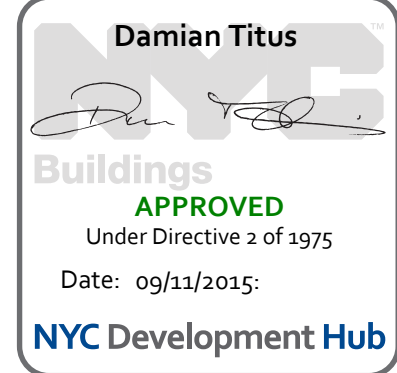
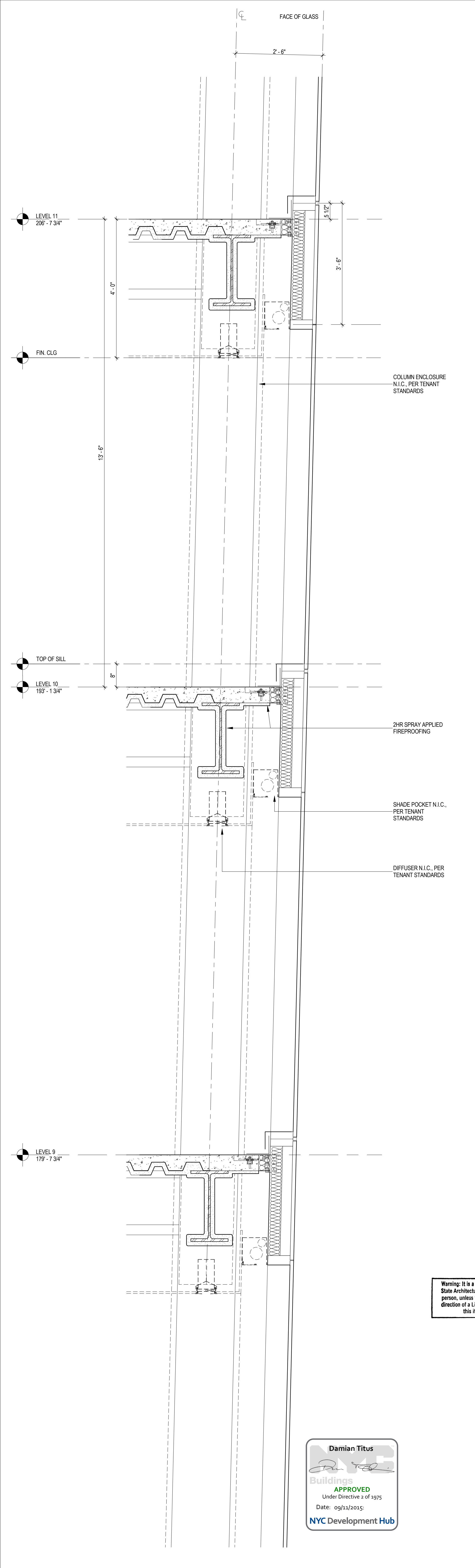
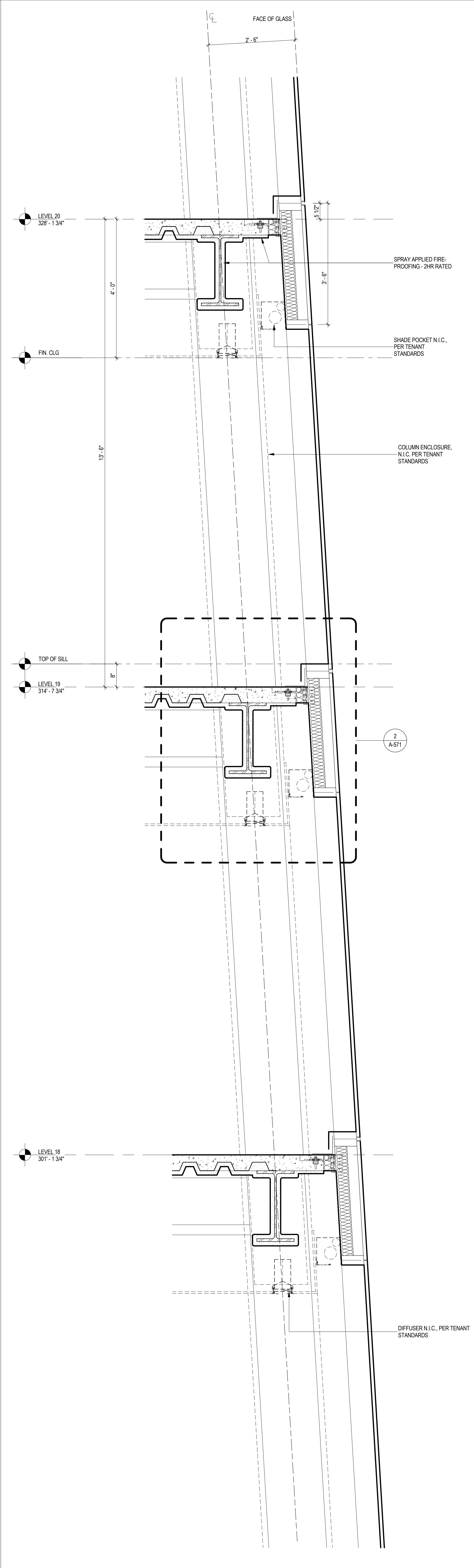
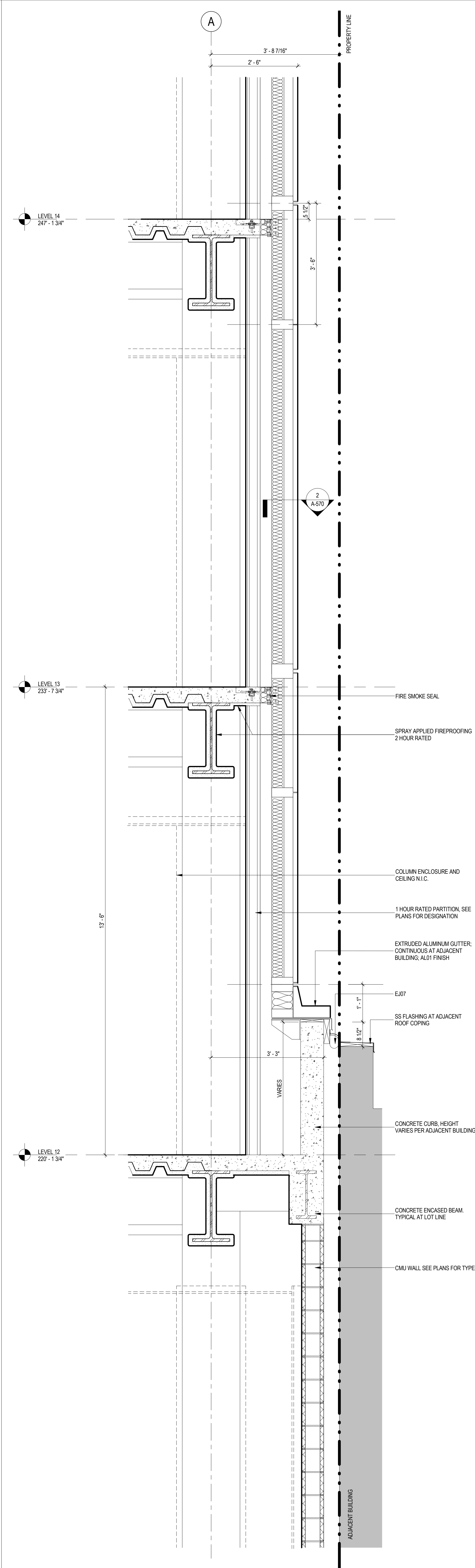



2 TYPICAL PLAN AT CURTAIN WALL
SCALE: 3/4" = 1'-0"



1 TYPICAL SECTION AT CURTAIN WALL
SCALE: 3/4" = 1'-0"

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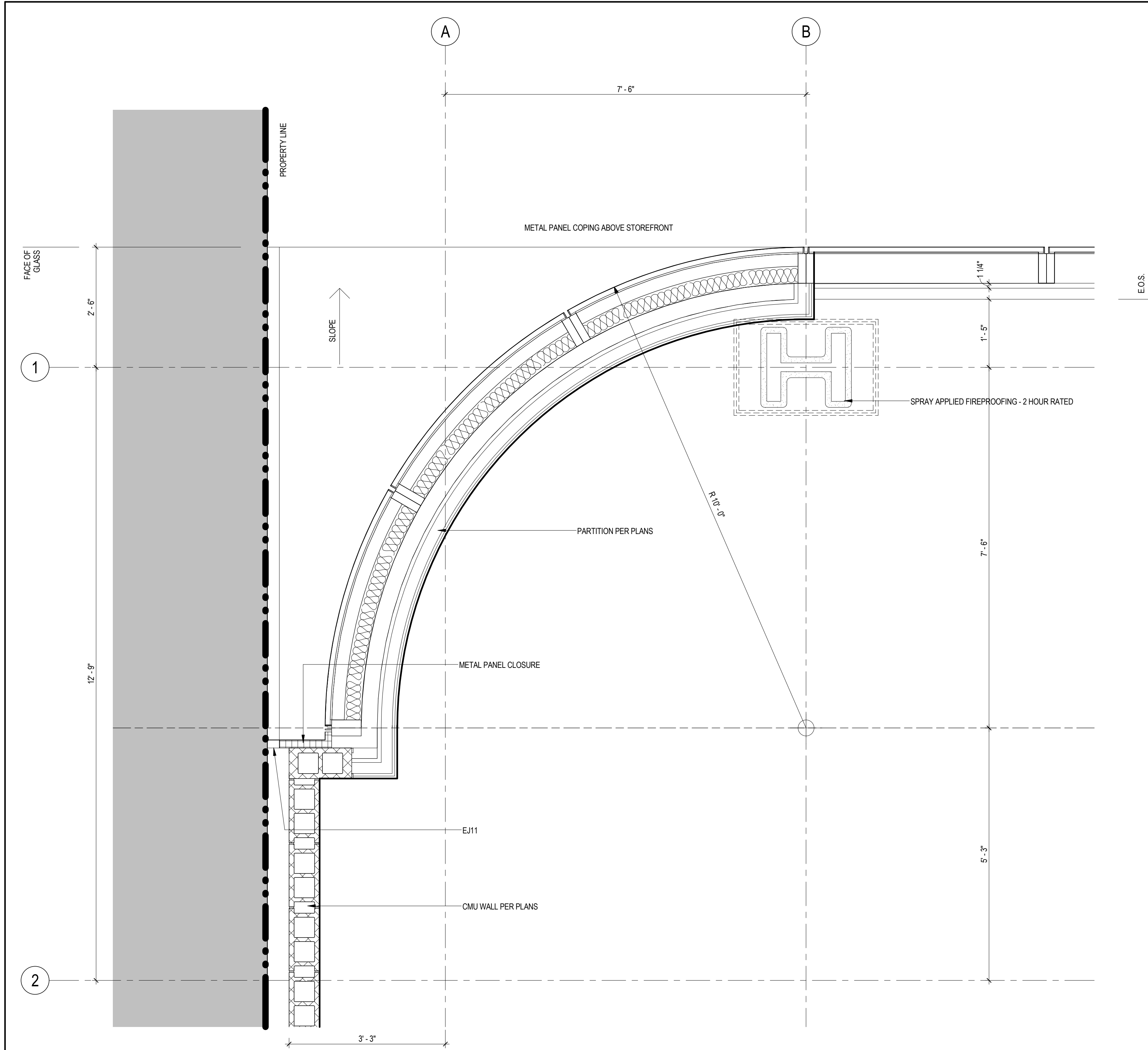
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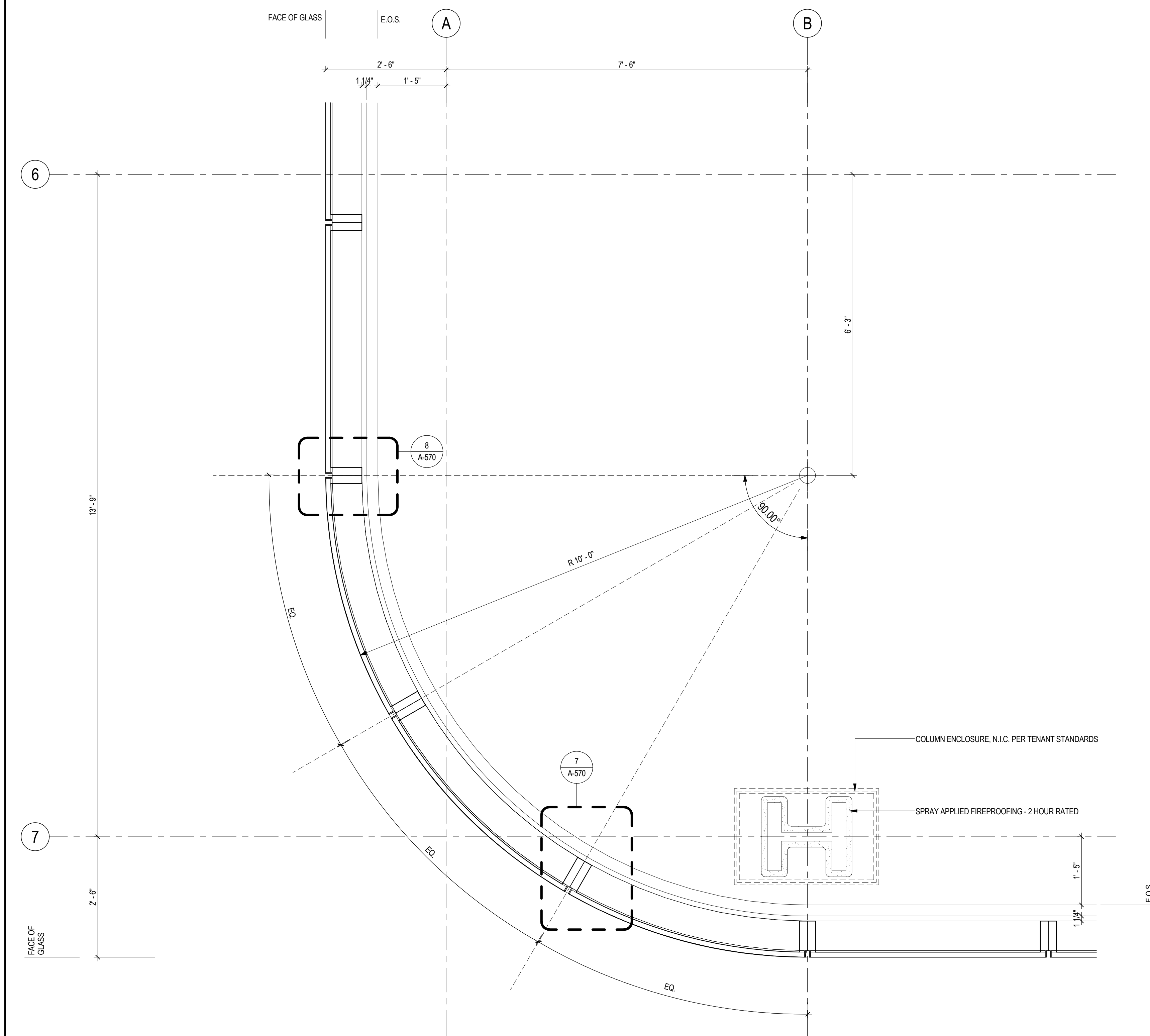
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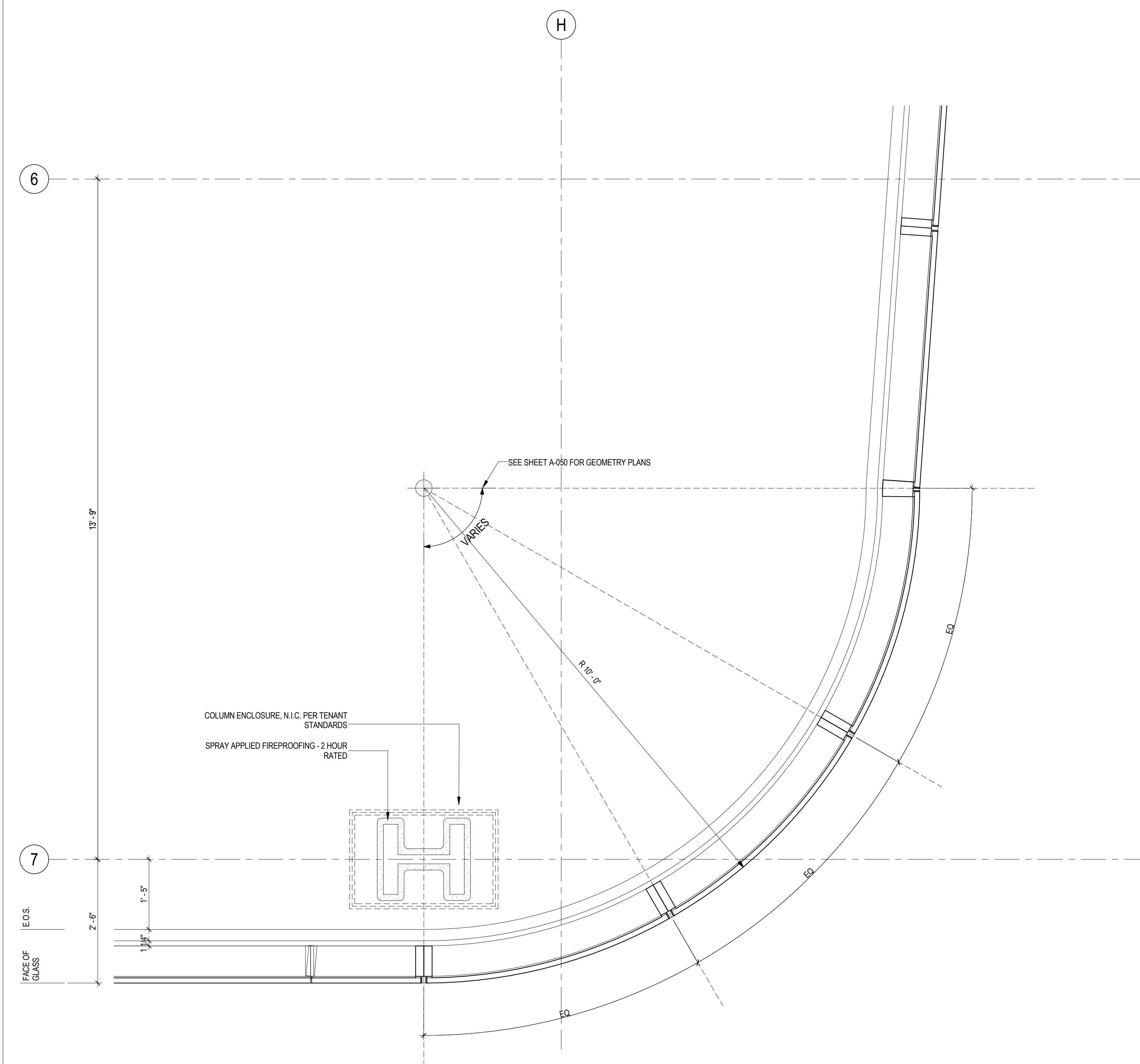
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Date: 12 SEPT 2014 **A-536.00**
Scale: 3/4" = 1'-0" Sheet No.: A-536
File No.: A-536 Page No.: 30



3 ENLARGED PLAN AT NORTHWEST CORNER
SCALE: 3/4" = 1'-0"



2 ENLARGED PLAN AT SOUTHWEST CORNER
SCALE: 3/4" = 1'-0"



1 ENLARGED PLAN AT SOUTHEAST CORNER
SCALE: 3/4" = 1'-0"

SHEET NOTES

MANHATTAN WEST:
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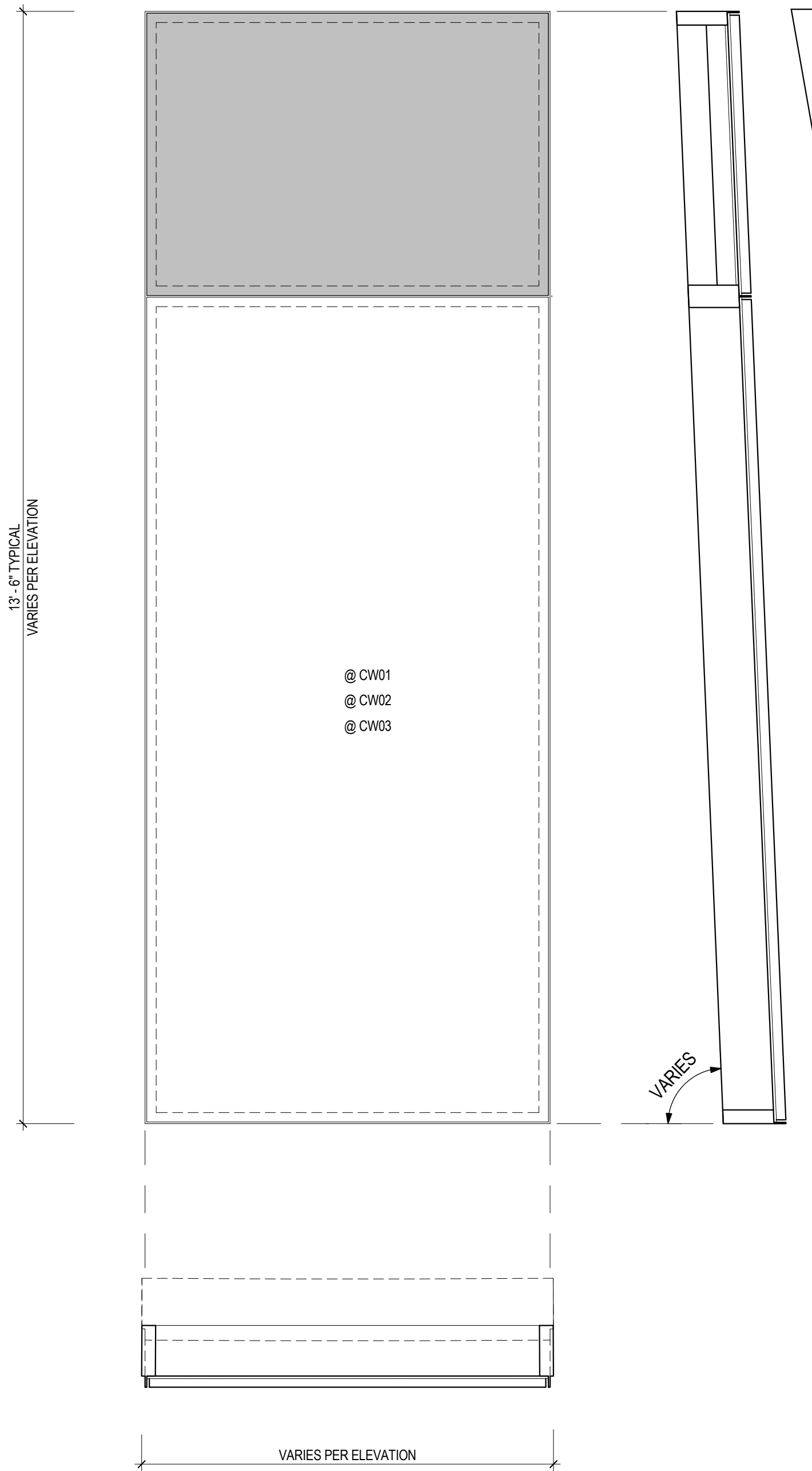
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| 2 | 15 NOV 2013 | ISSUED FOR DD PROGRESS PRICING |
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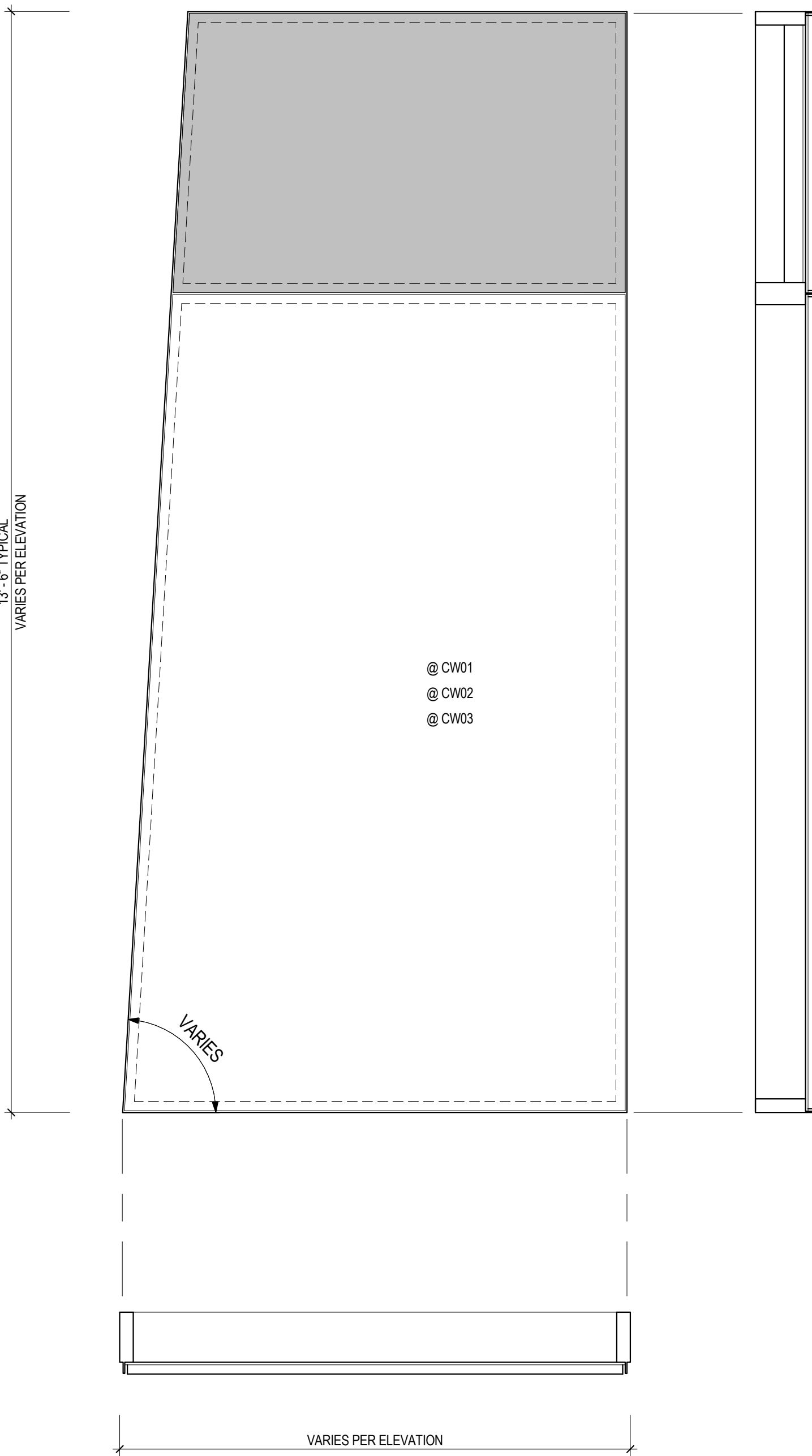
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| Date: 12 SEPT 2014 | Sheet No.: A-537 |
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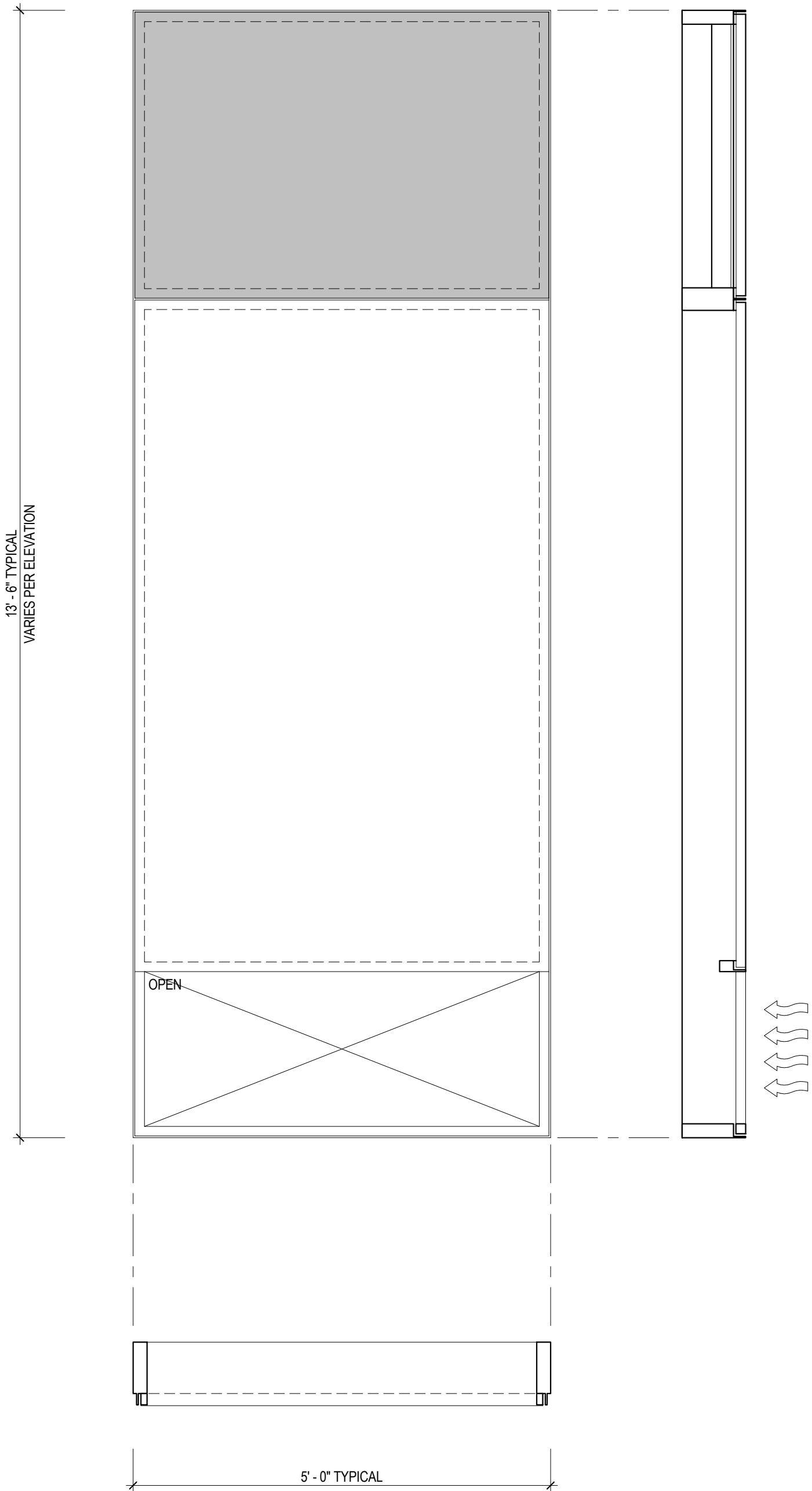
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* REFER TO A550 AND A551 FOR PLAN PROFILES

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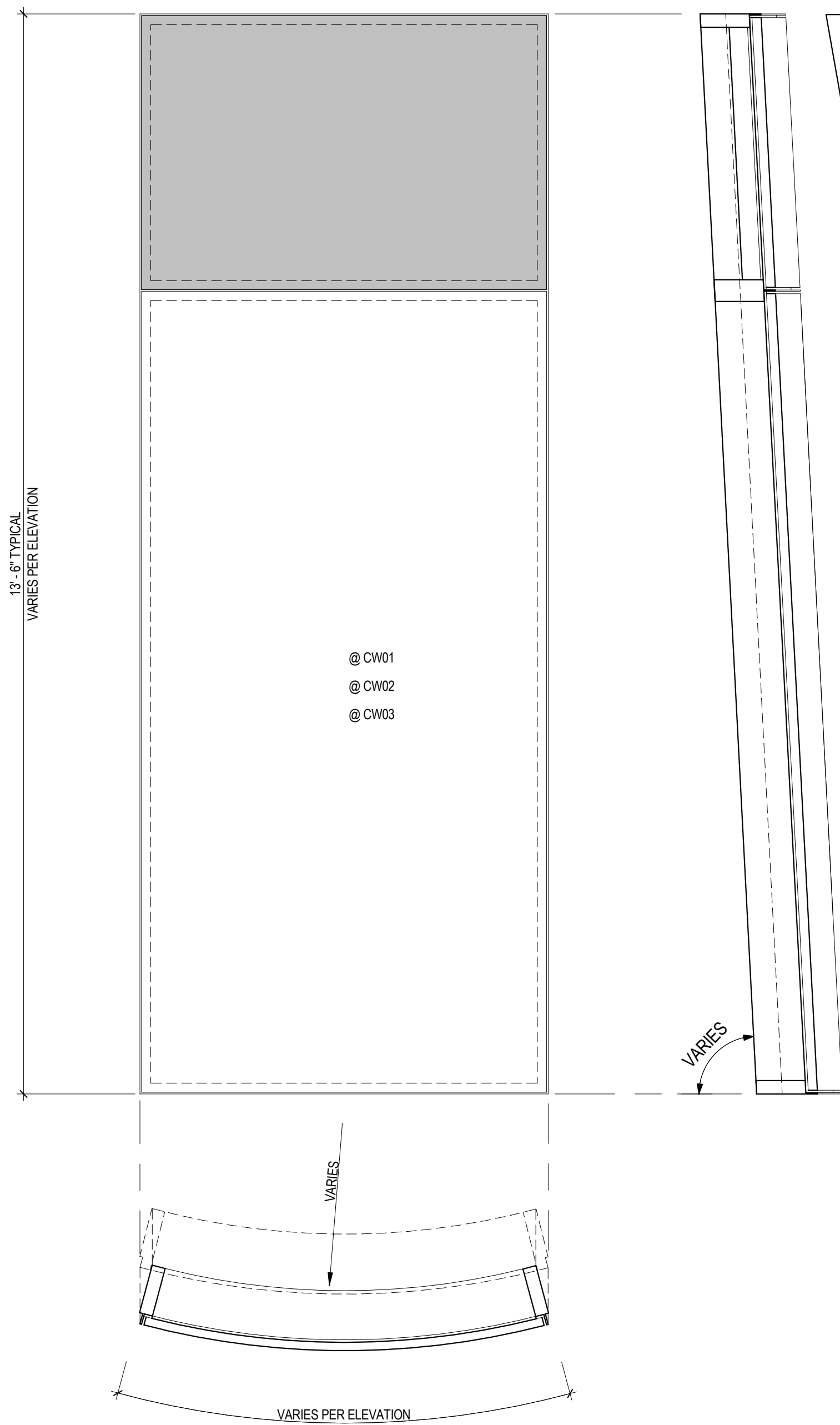


* REFER TO BUILDING ELEVATIONS FOR DIMENSIONS
* REFER TO A550 AND A551 FOR PLAN PROFILES

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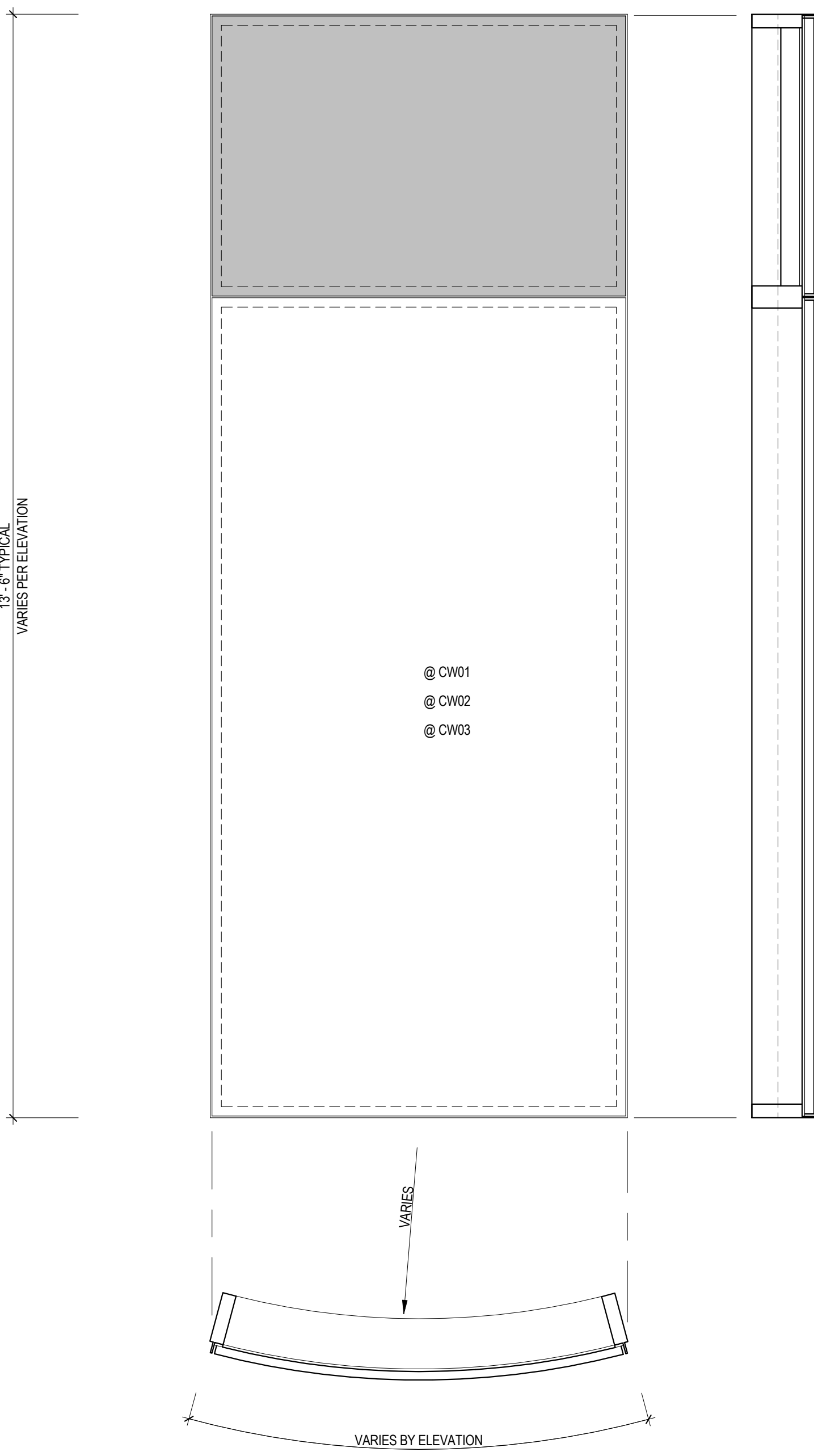


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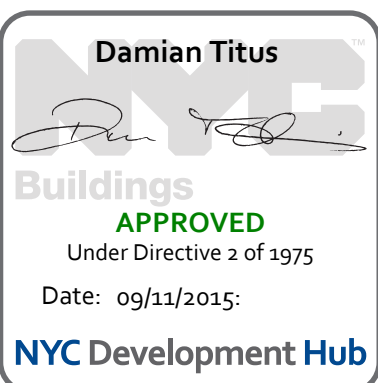
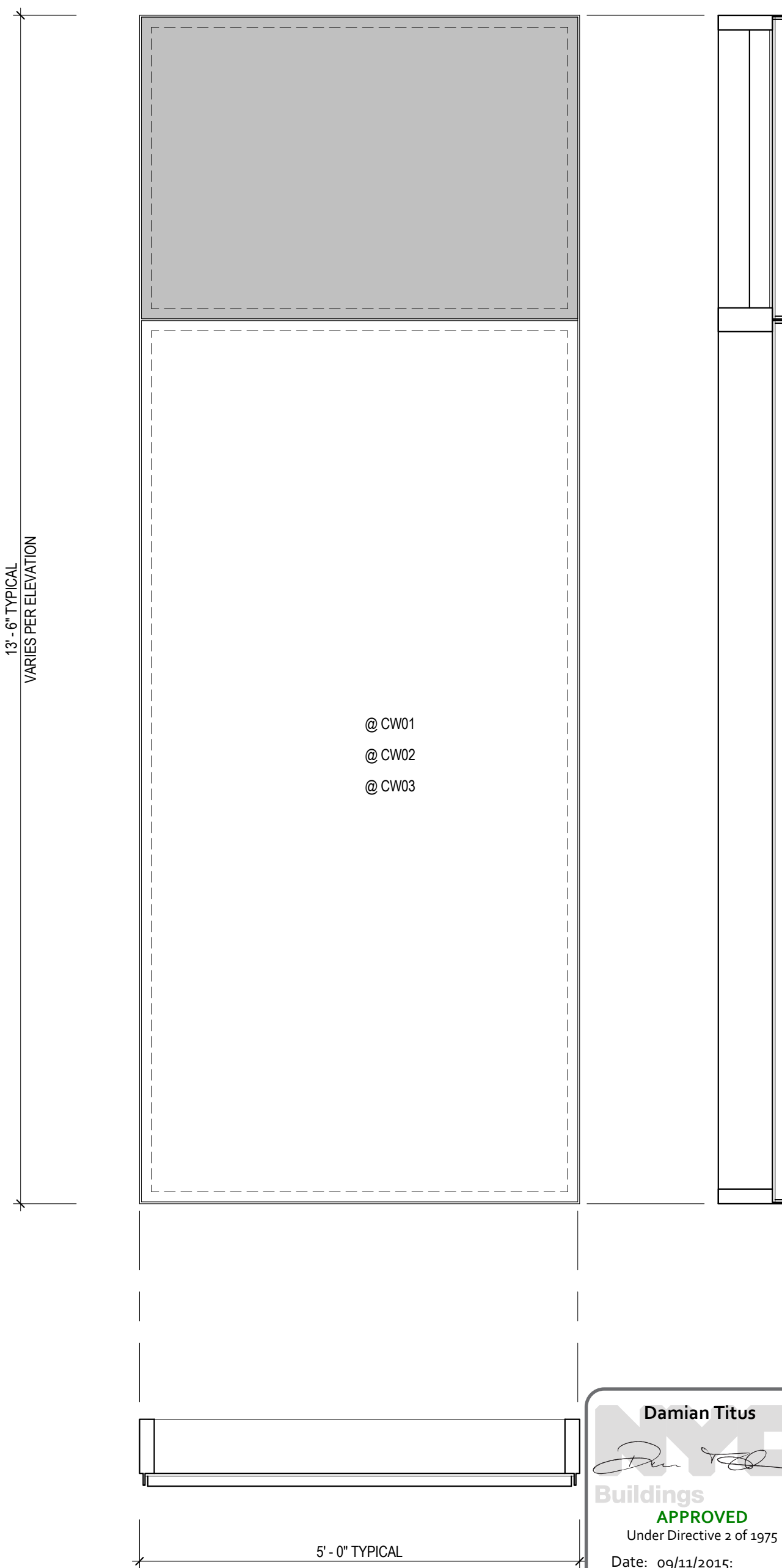
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5 GEOMETRY C2 PANEL (THERMALLY CURVED WARPED)
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* REFER TO A550 AND A551 FOR PLAN PROFILES

3 GEOMETRY C1 PANEL (THERMALLY WARPED)
SCALE: 3/4" = 1'-0"



1 GEOMETRY F PANEL (FLAT)
SCALE: 3/4" = 1'-0"



**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
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Skidmore, Owings & Merrill LLP
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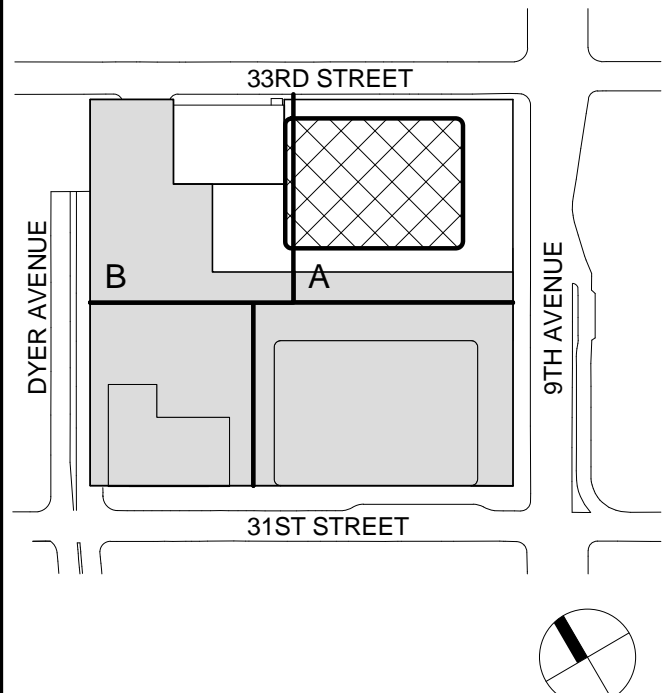
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Project No.:
207150
Date:
12 SEPT 2014
Scale:
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File No.:
A-538

B-SCAN Sheet No.:
A-538.00
Sheet No.:
A-538
Page No.:
30



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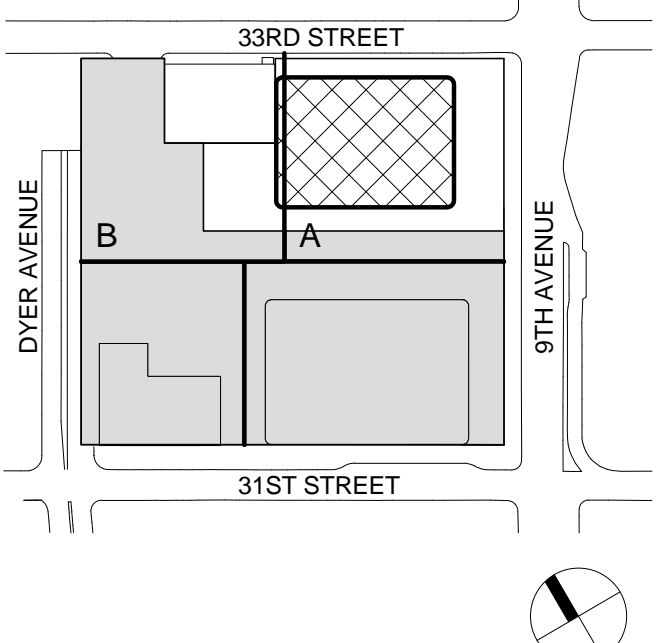
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Ontario, Canada N1K 1B8

Key Plan:



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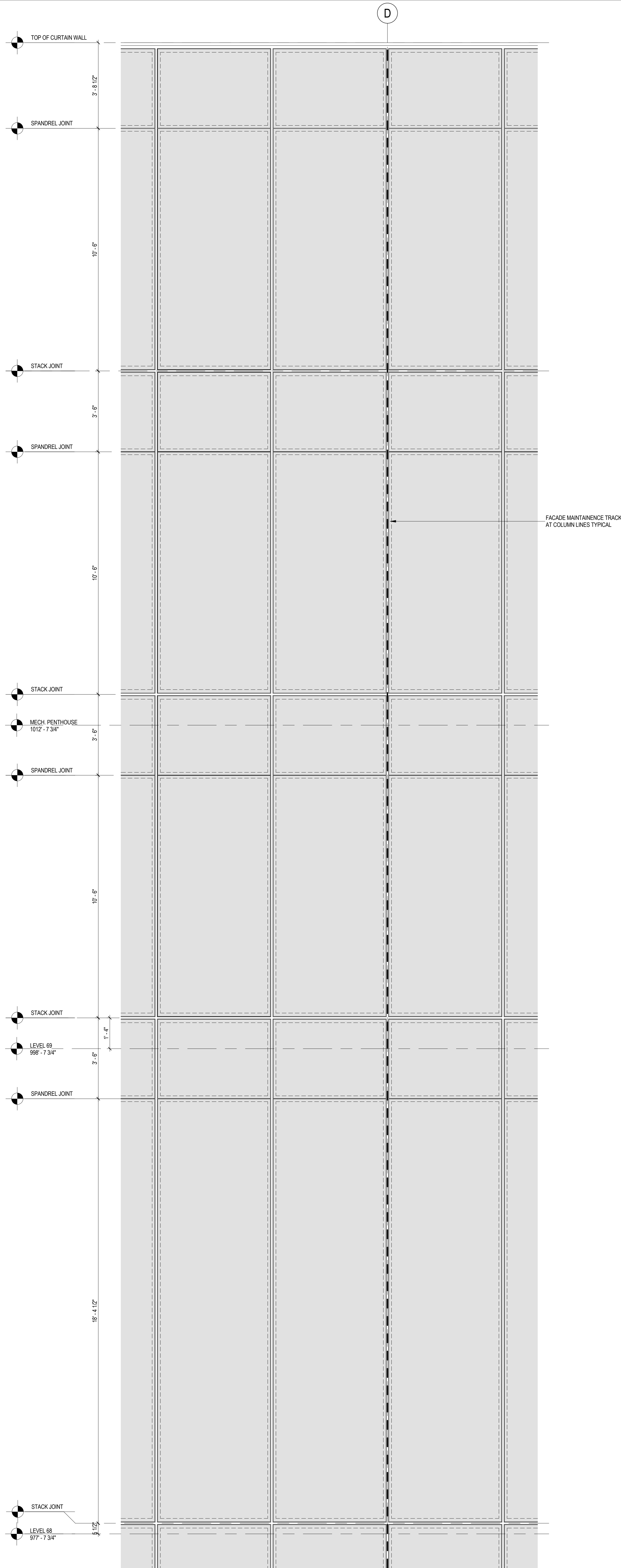
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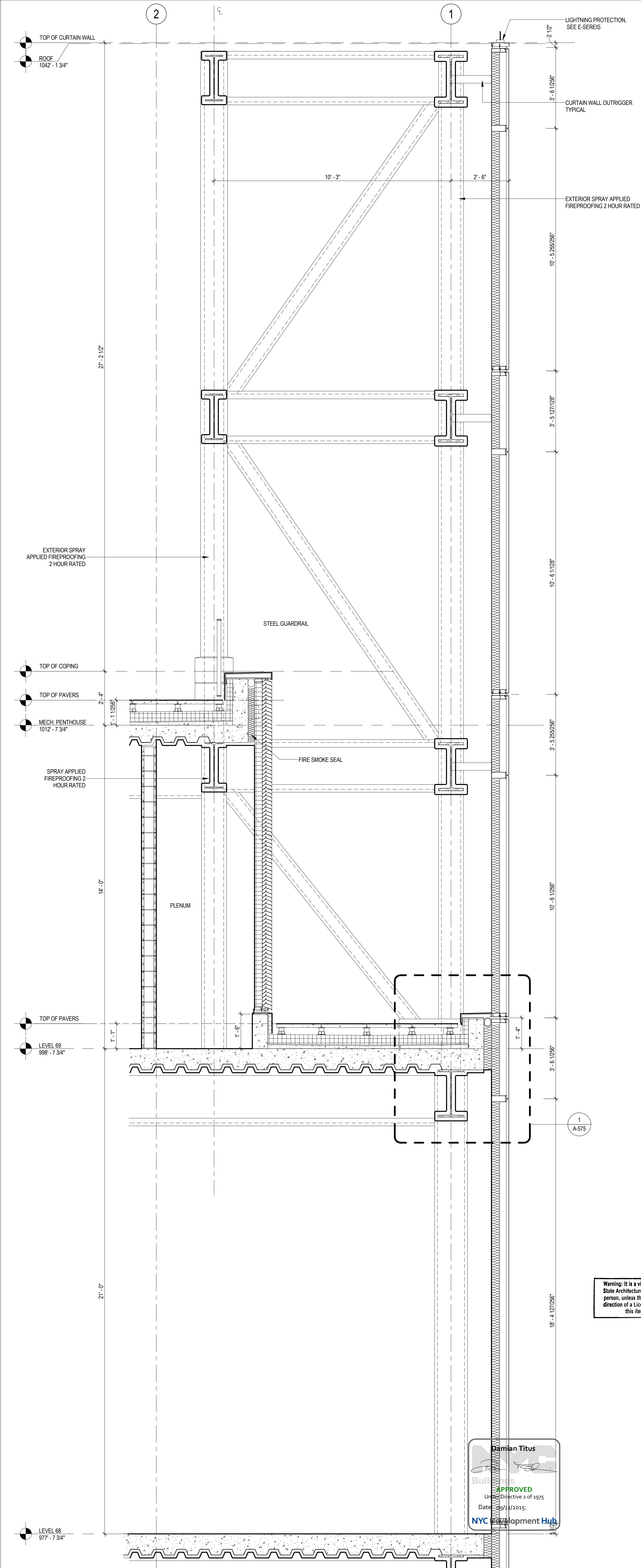
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CURTAIN WALL AT ROOF

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| Date: 12 SEPT 2014 | Sheet No.: A-540 |
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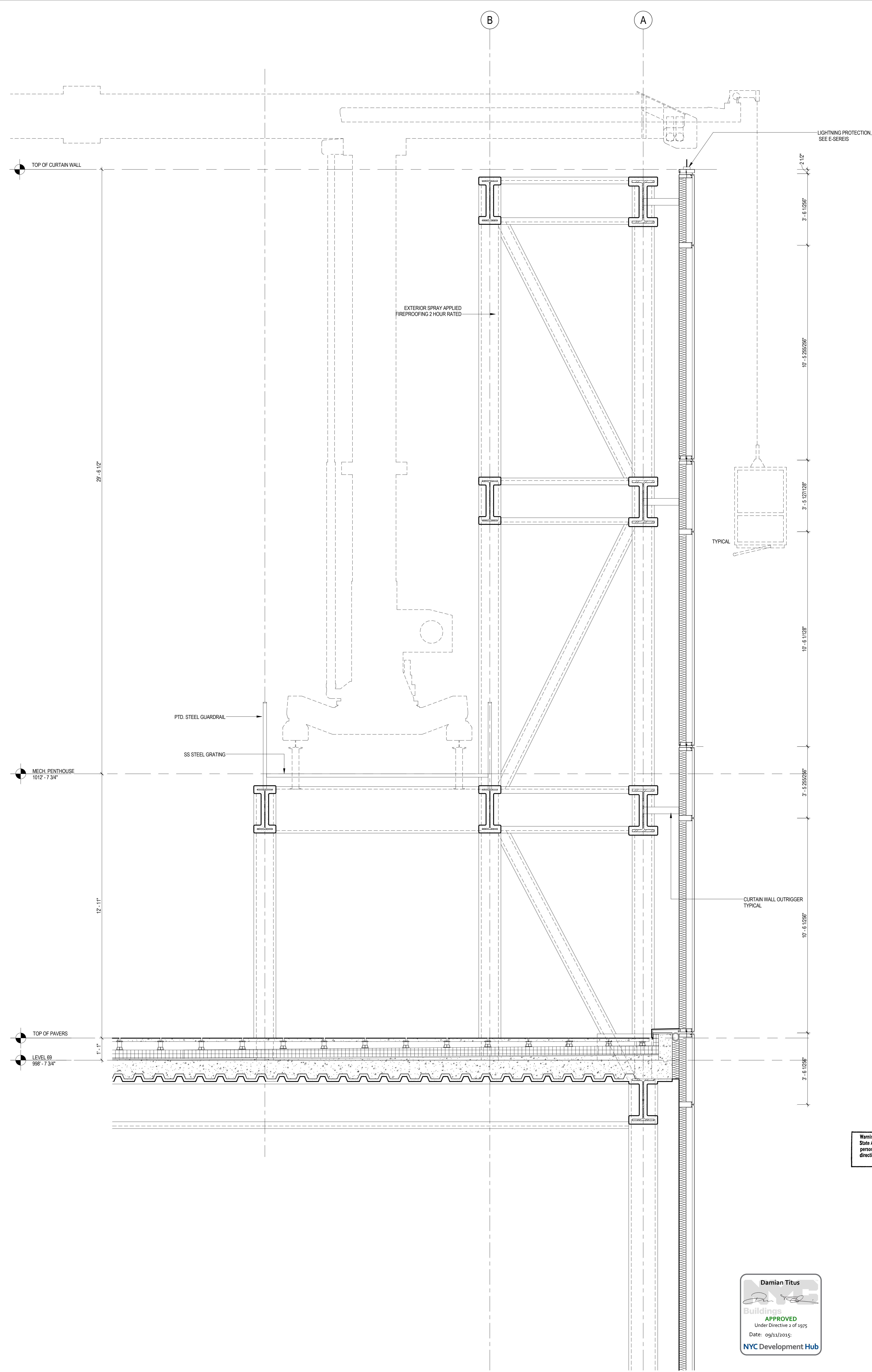


2 ENLARGED ELEVATION AT ROOF



1 ENLARGED SECTION AT ROOF LOOKING EAST
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9/11/2014 5:36:09 PM




1 ENLARGED SECTION AT ROOF LOOKING SOUTH
SCALE: 1/2" = 1'-0"

Sheet No. 2187143 30 Number



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NORTH TOWER**
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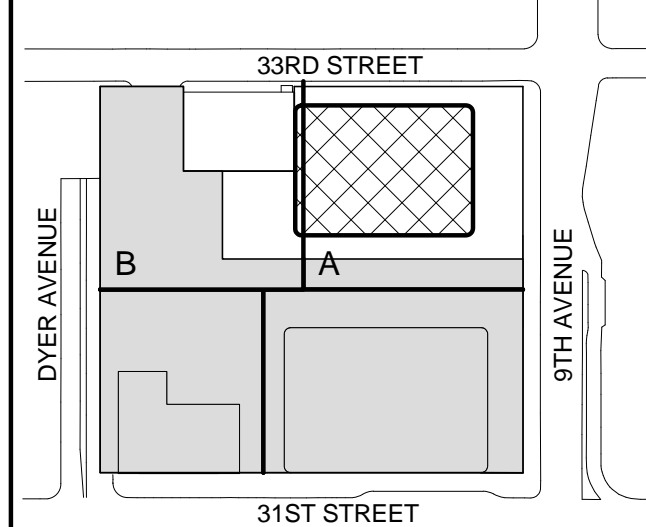
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Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 09/22/2015
NYC Development Hub

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Sheet Name:

**CURTAIN WALL
AT ROOF**

| | |
|------------------------|--------------------------------------|
| Project No.: 207120 | B-SCAN Sheet No.: A-541.00 |
| Date: 12 SEPT 2014 | Sheet No.: A-541 |
| Scale: 1/2" = 1'-0" | Page No.: 30 |
| File No.: A-541 | |

2 PLAN DETAIL AT STOREFRONT

SCALE: 3" = 1'-0"

1 PLAN DETAIL AT STOREFRONT

SCALE: 3" = 1'-0"

SHEET NOTES



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Civil Engineering
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102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave, Suite 1, Mill Valley, California 94041

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geotechnical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Vantor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

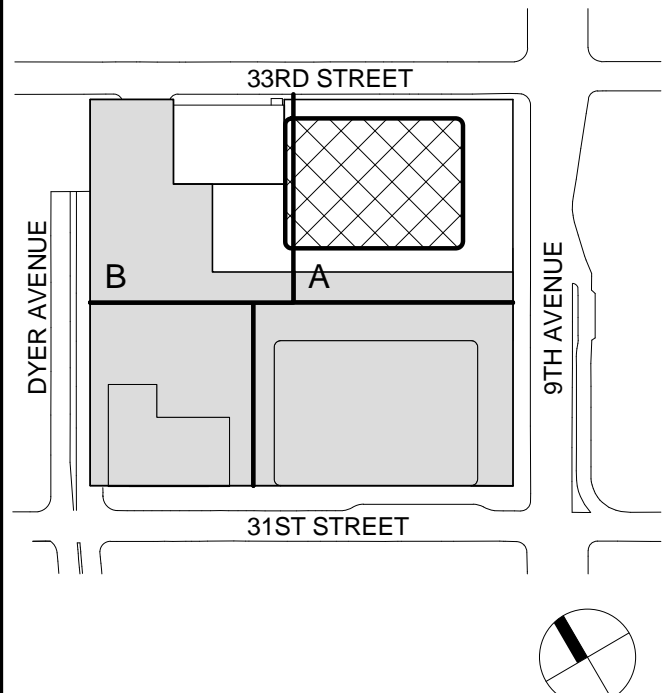
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:



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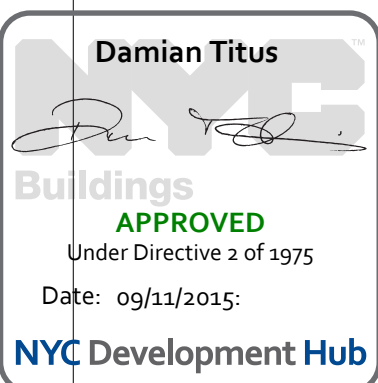


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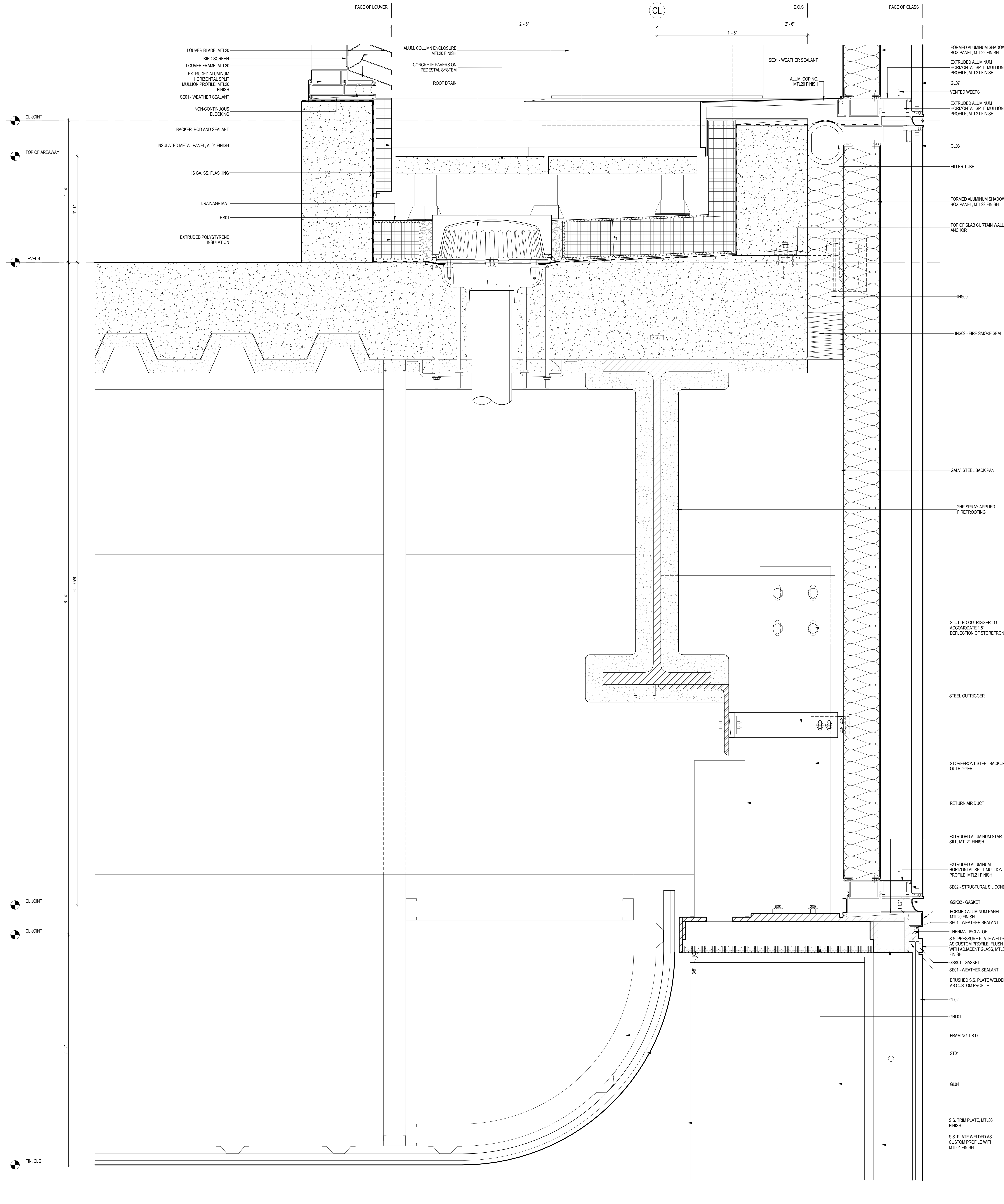
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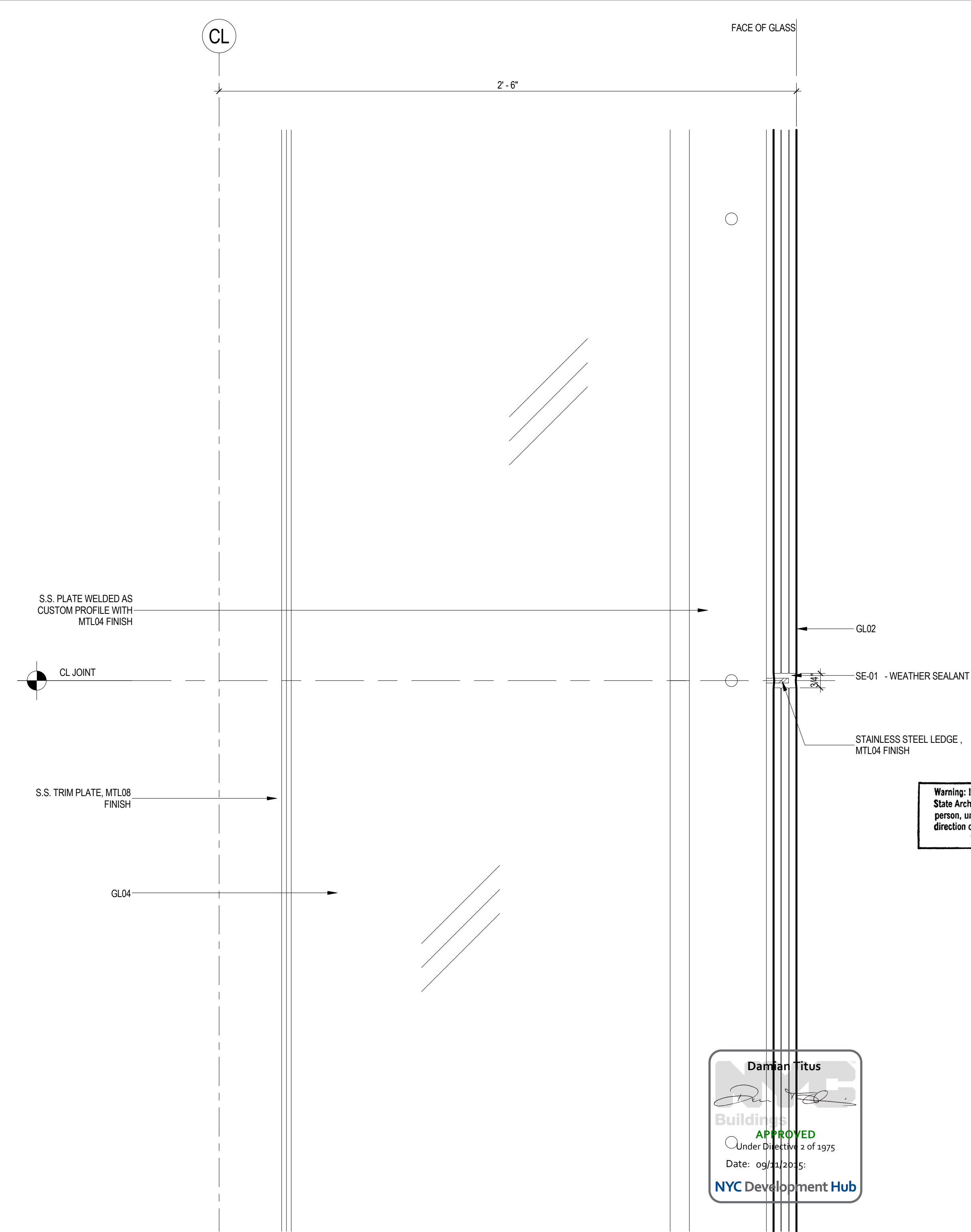
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STOREFRONT SECTION DETAIL
SCALE: 3" = 1'-0"



1

STOREFRONT SECTION DETAIL
SCALE: 3" = 1'-0"



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

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SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

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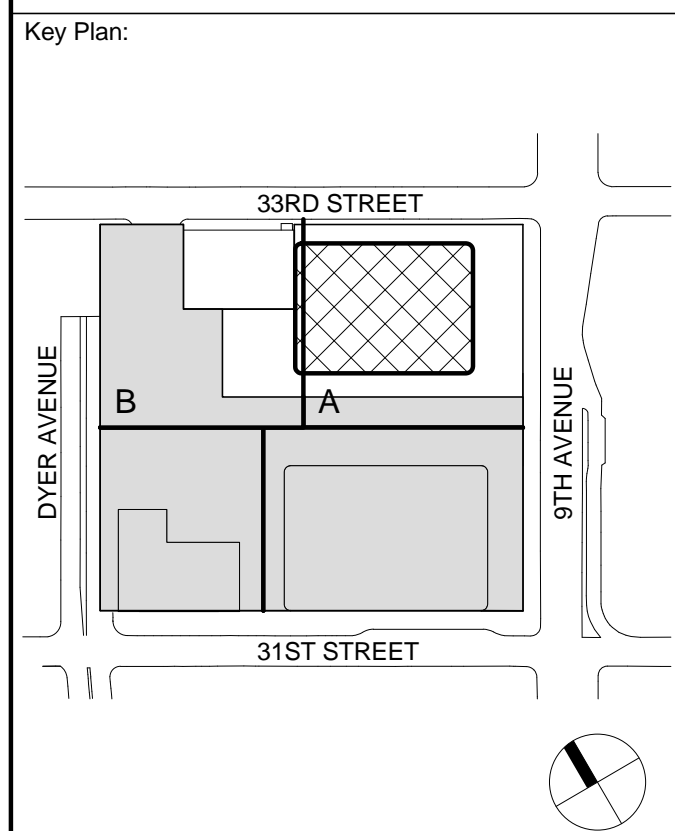
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Cerami & Associates
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650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6

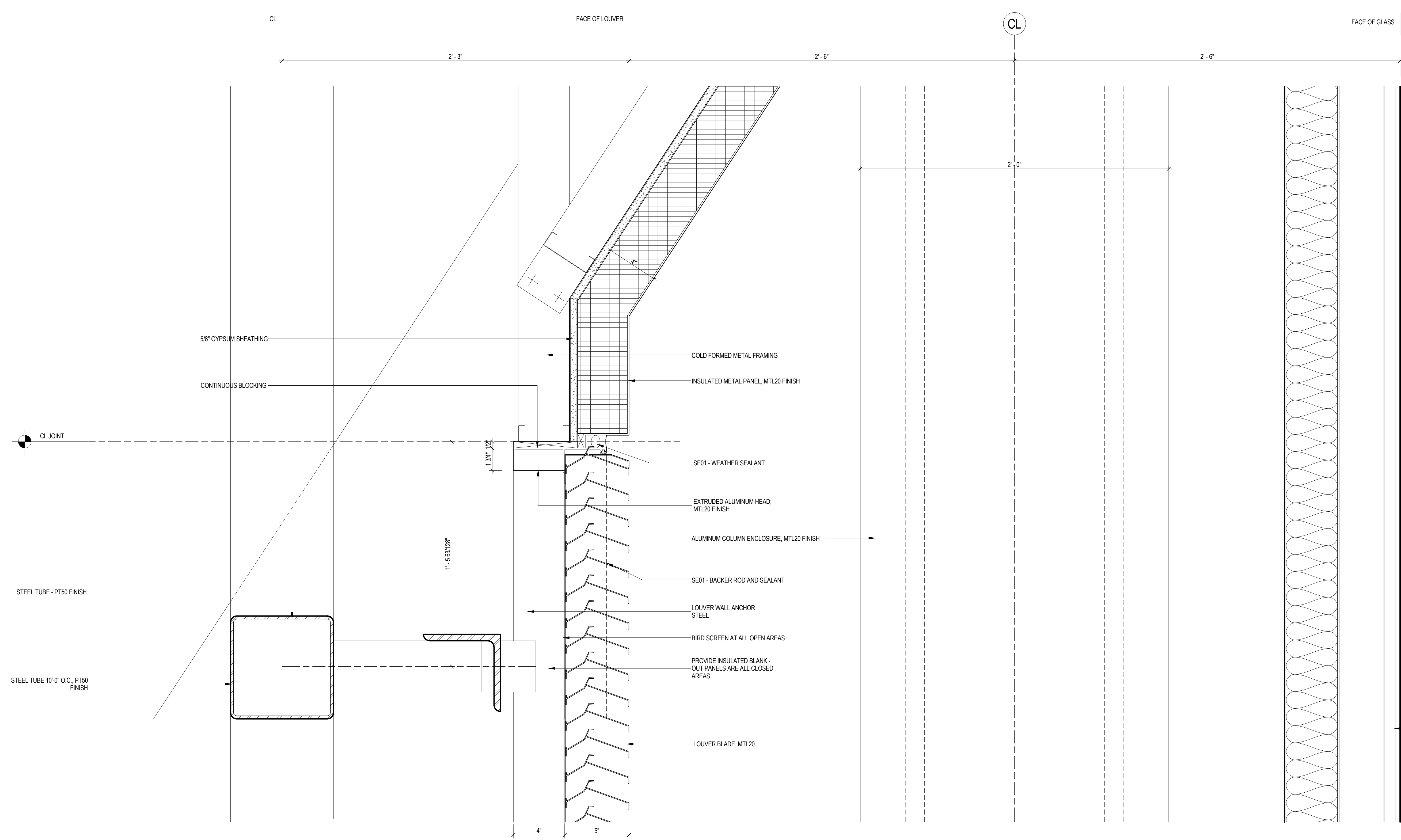


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Date: 09/11/2014
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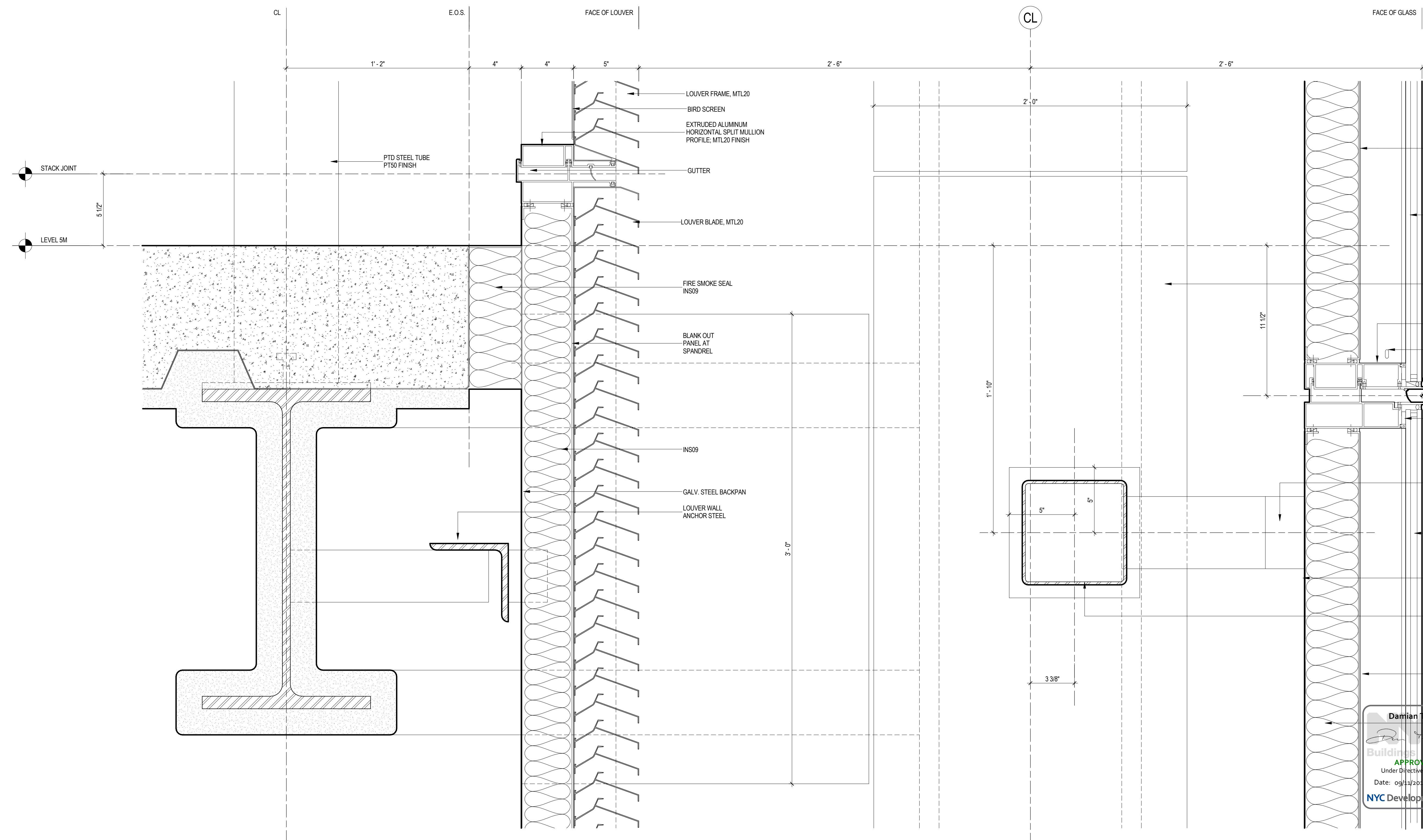
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STOREFRONT DETAILS
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B-SCAN Sheet No.: A-552.00
Sheet No.: A-552
Page No.: 30


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2 CURTAIN WALL DETAILS
SCALE: 3" = 1'-0"



1 CURTAIN WALL SECTION DETAIL
SCALE: 3" = 1'-0"



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40 Wall Street, New York, NY 10005

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Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

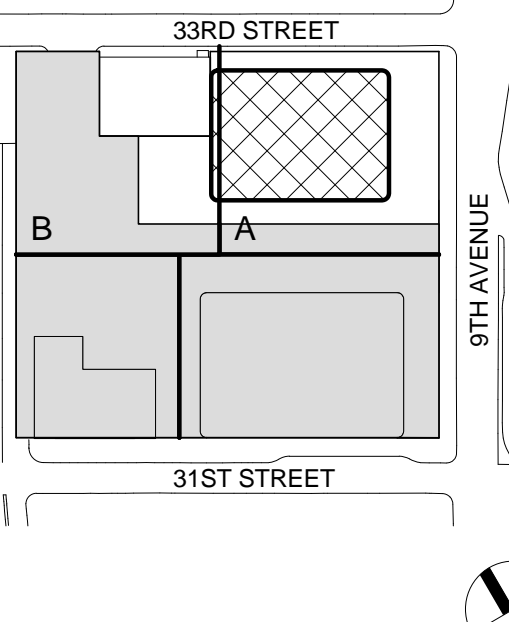
Vibration Consultant
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Entek Engineering LLC
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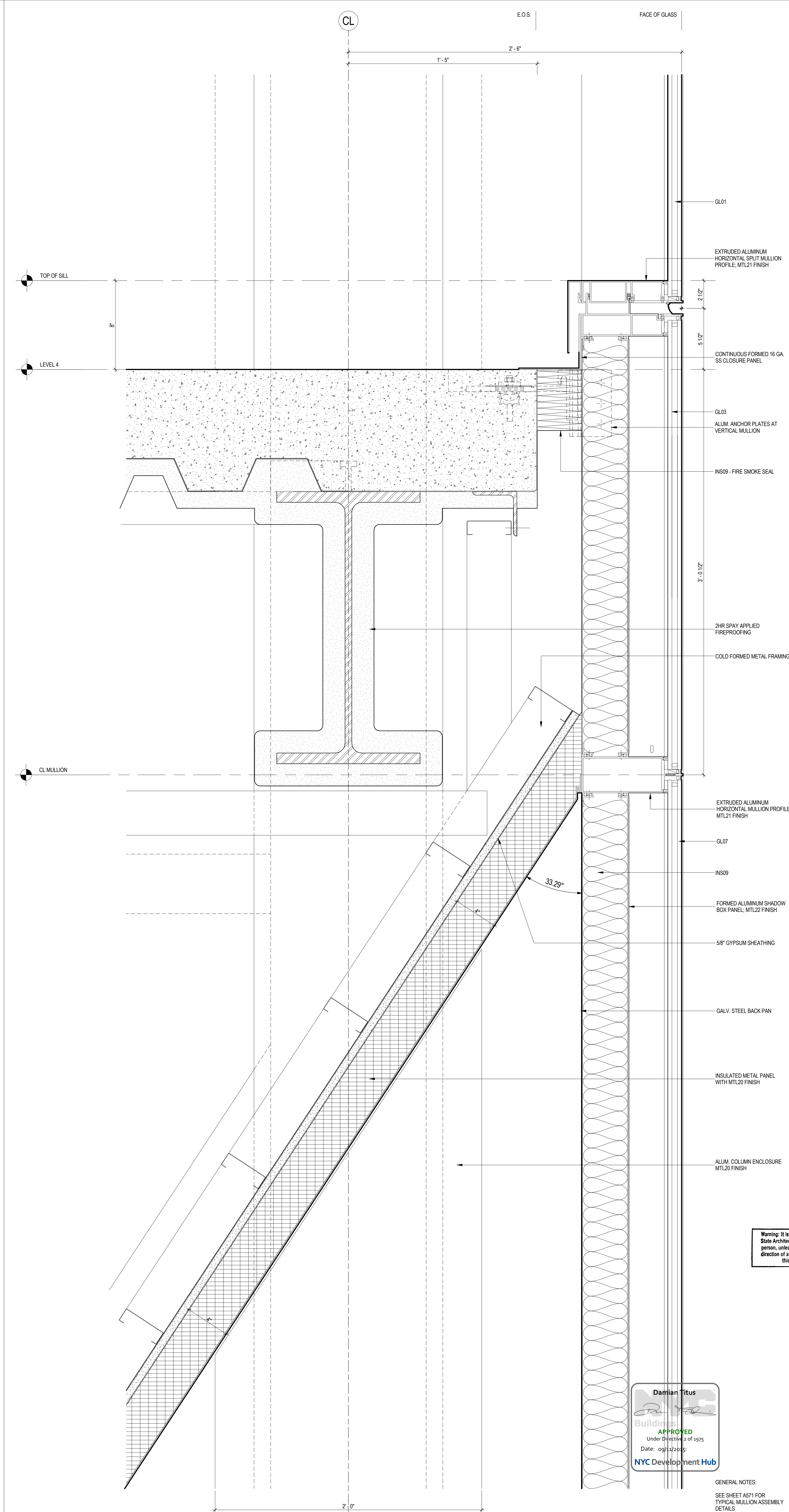
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| File No.: | Page No.: |
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| A-560 | 30 |

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1 CURTAIN WALL SECTION DETAIL
SCALE: 3" = 1'-0"



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250 Vesey Street, 15th Floor, New York, NY 10021

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Skidmore, Owings & Merrill LLP
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Philip Habb & Associates
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Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

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Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Vantor & Santore
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Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

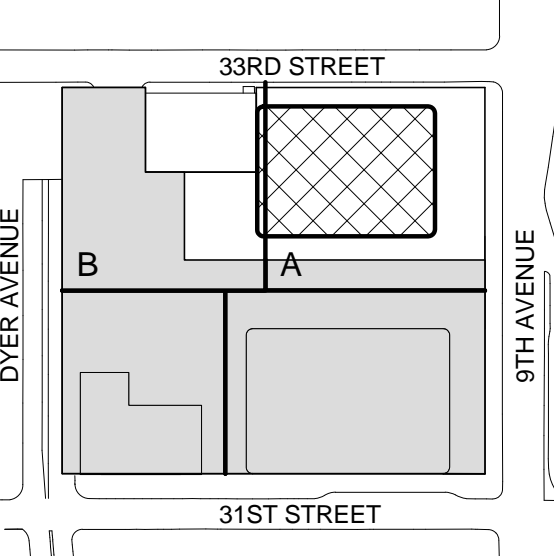
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

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Code Consultants Professional Engineers PC
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Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

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Key Plan:



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| 1 | 18 NOV 2013 | ISSUED FOR 03 PROGRESS PRICING |

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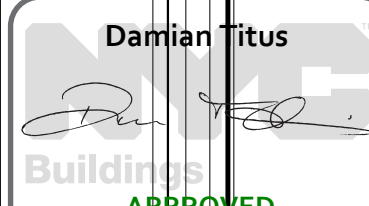
CURTAIN WALL DETAILS

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Page No.: 30

GENERAL NOTES:

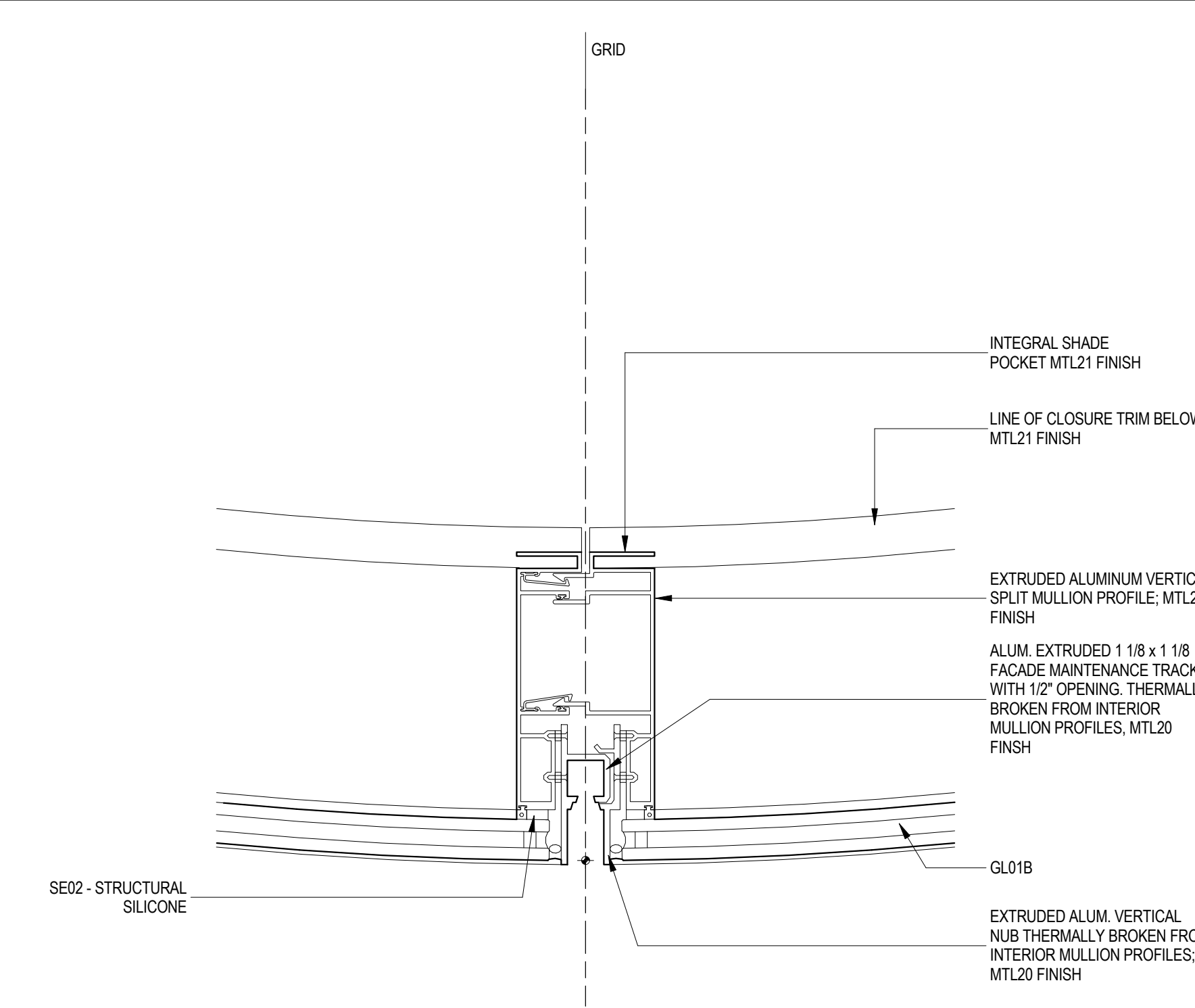
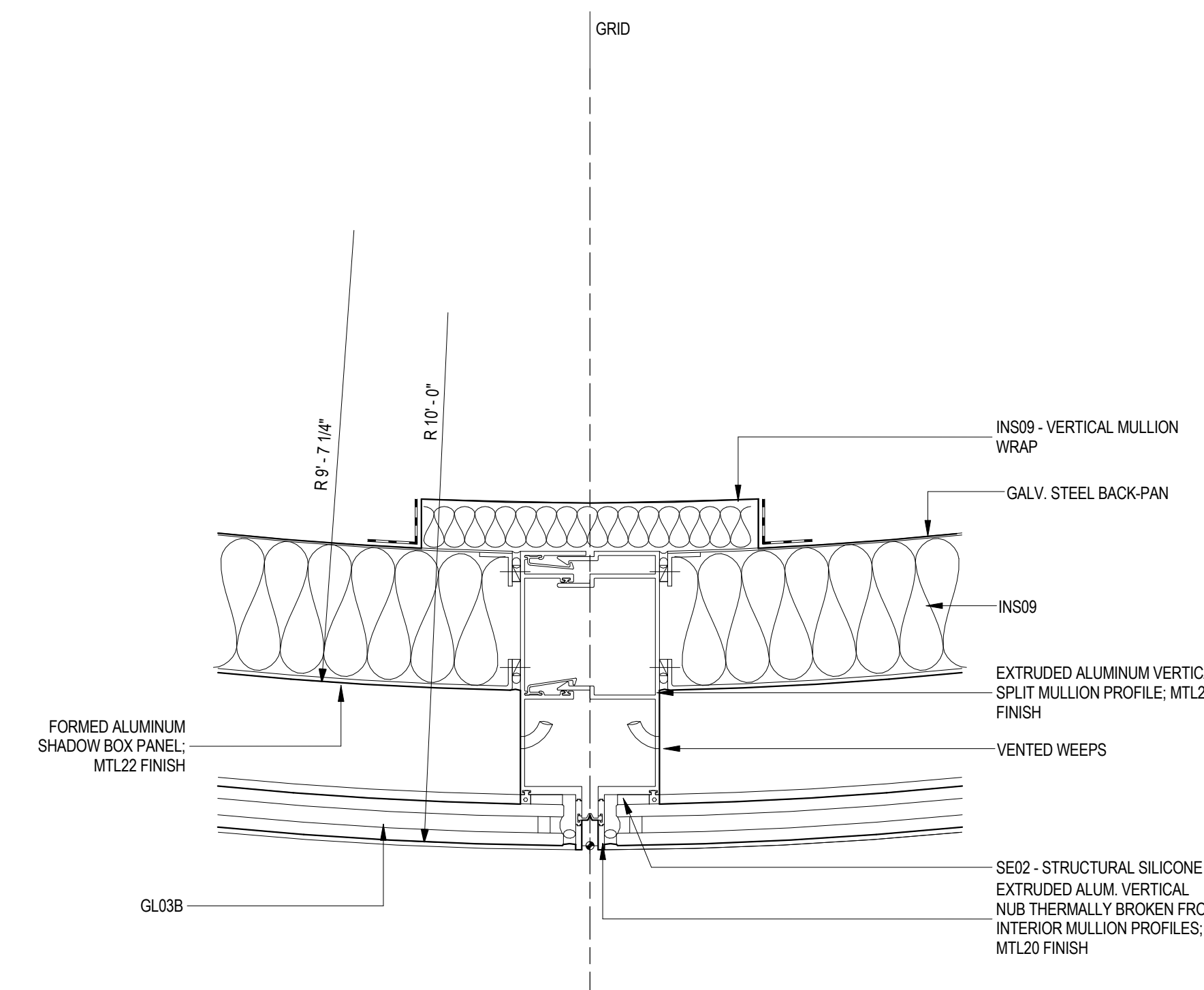
SEE SHEET A571 FOR TYPICAL MULLION ASSEMBLY DETAILS



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NYC Development Hub

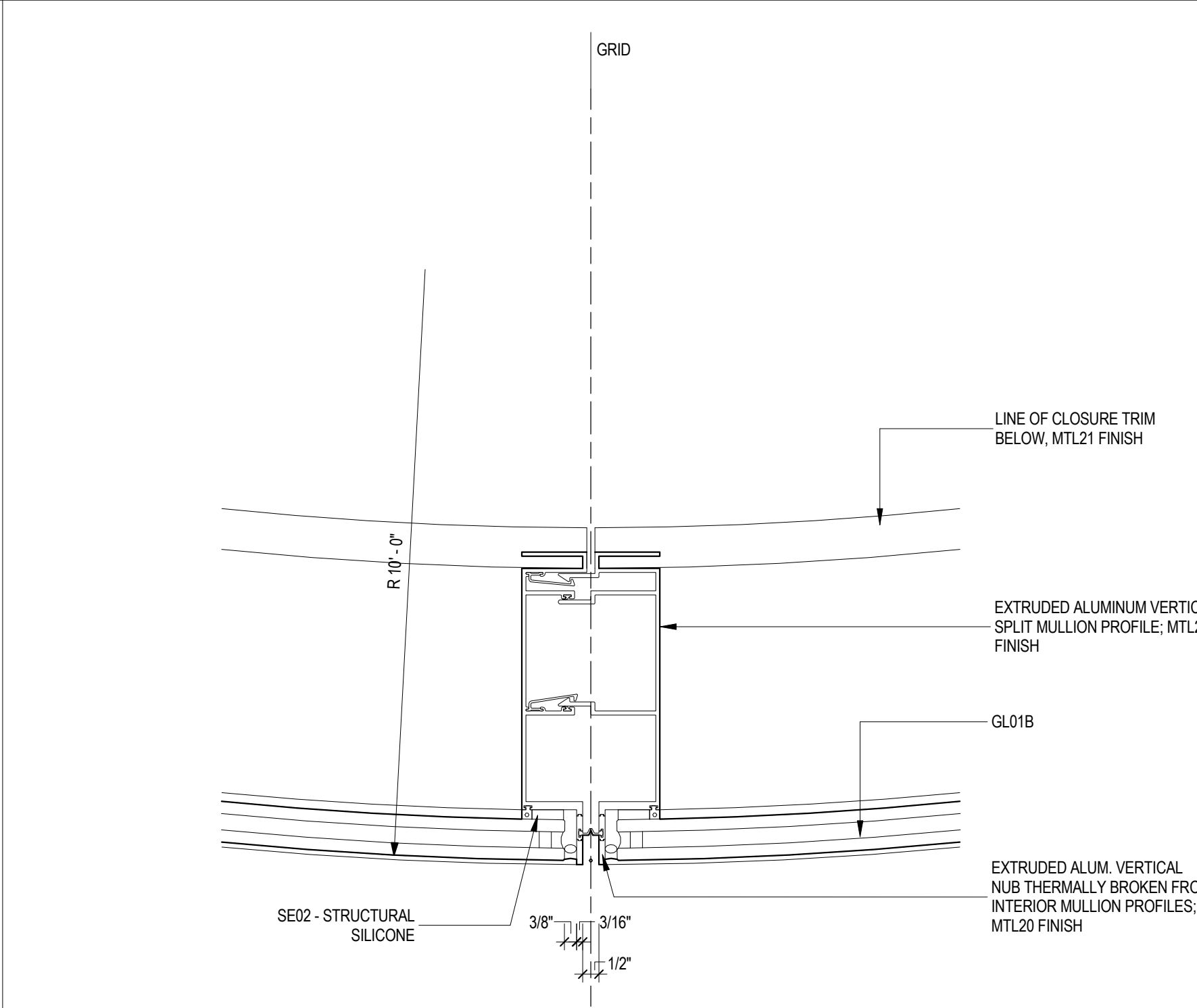
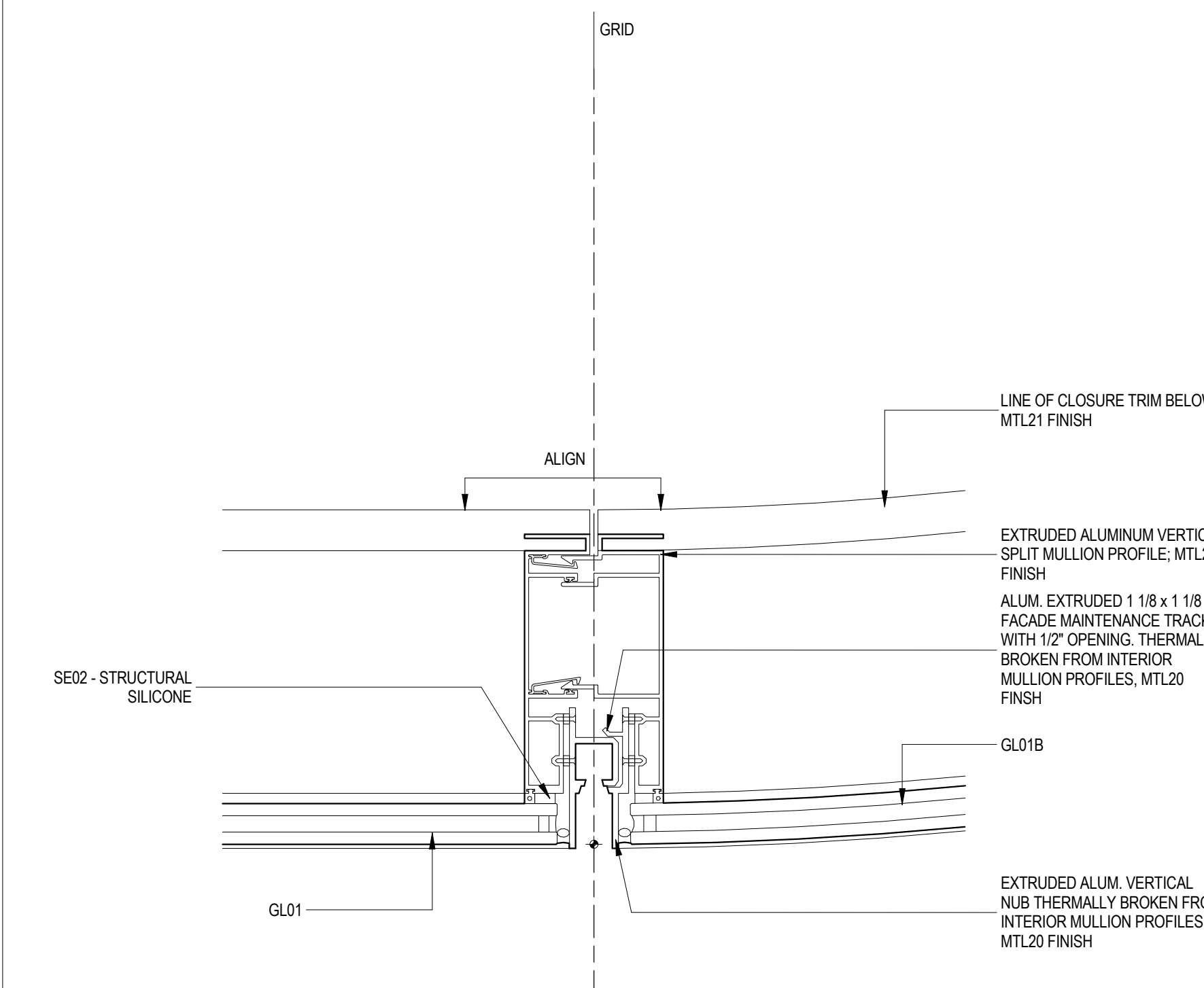
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4 PLAN DETAIL AT CURVED SPANDREL
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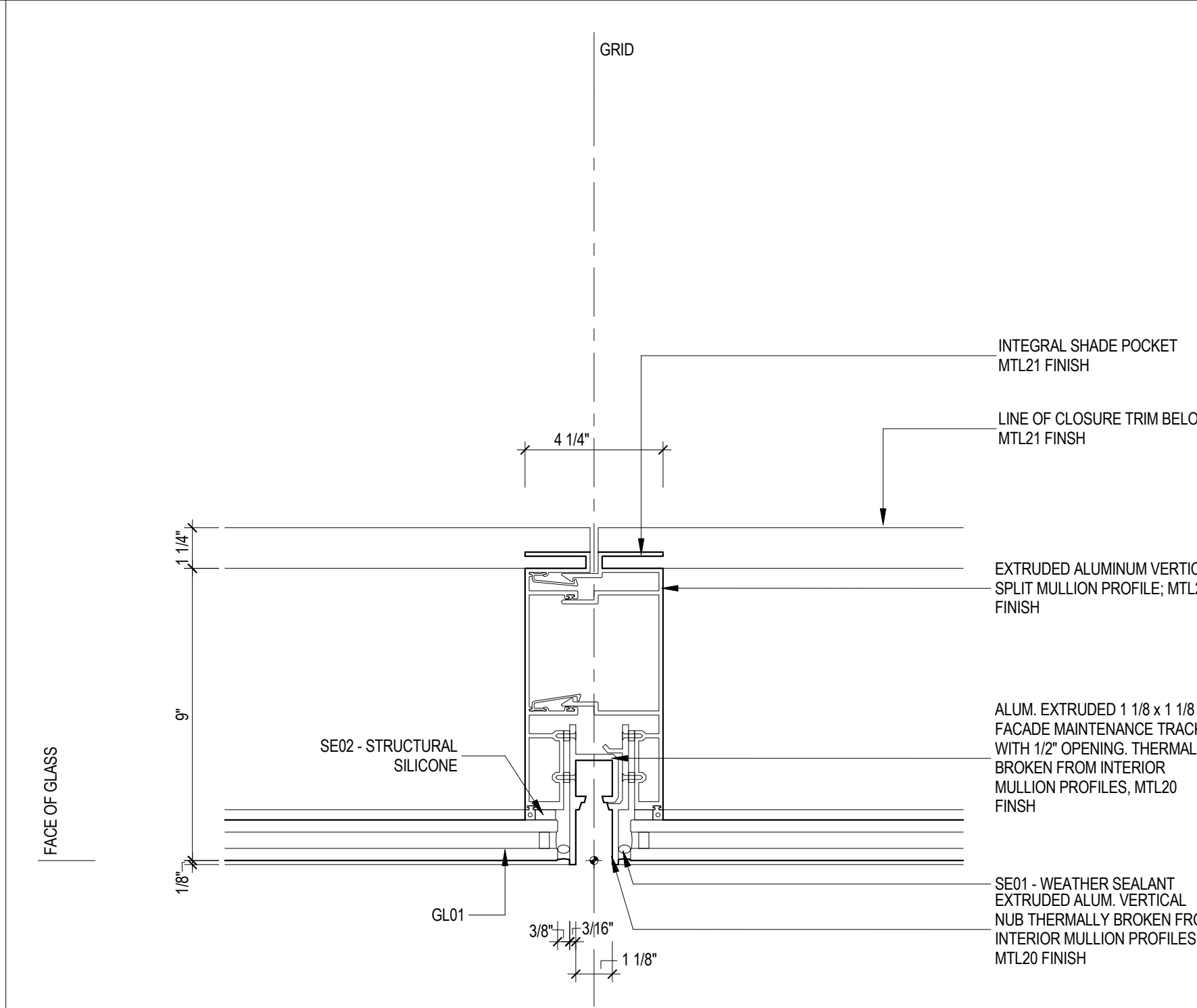
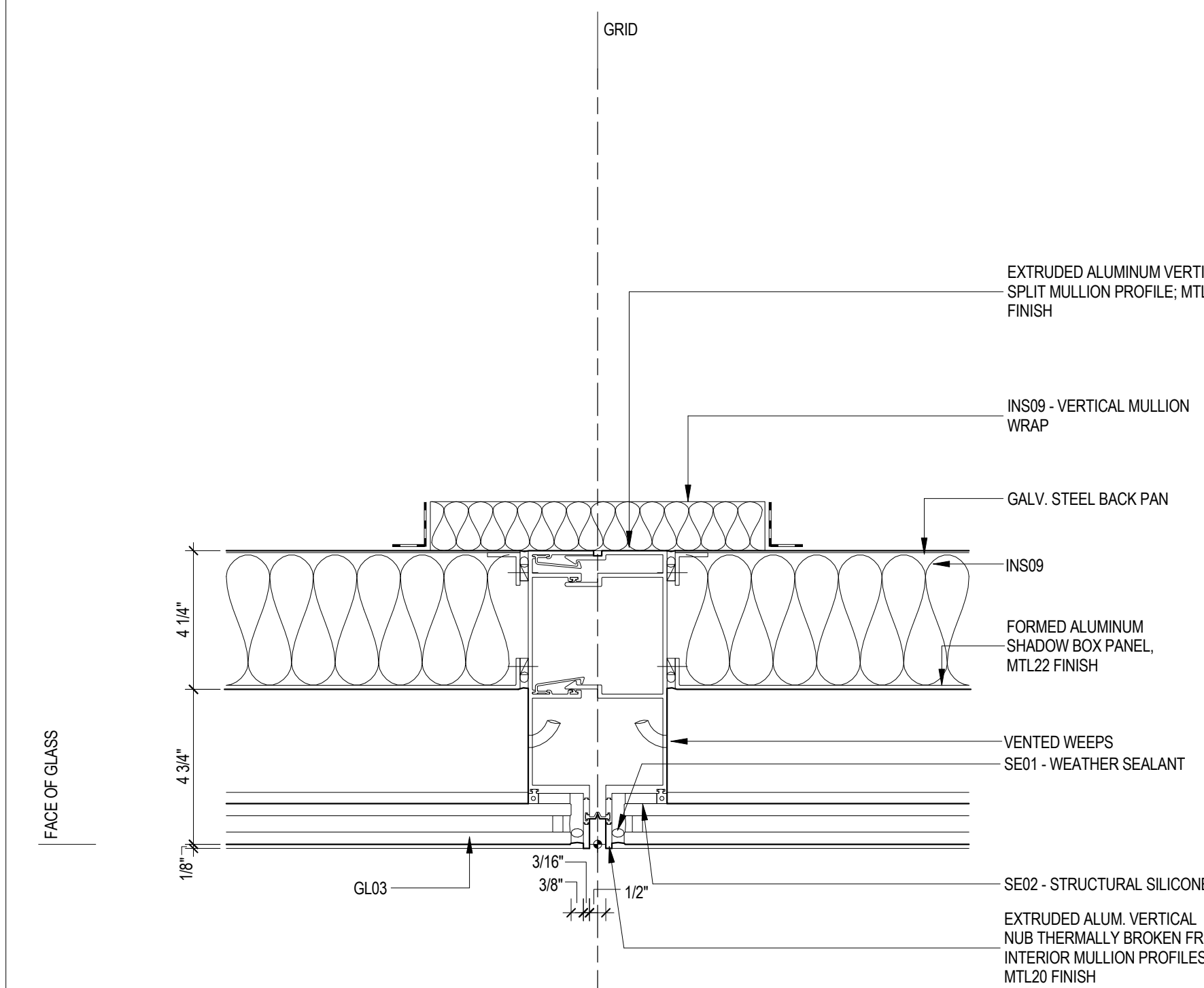
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3 PLAN DETAIL
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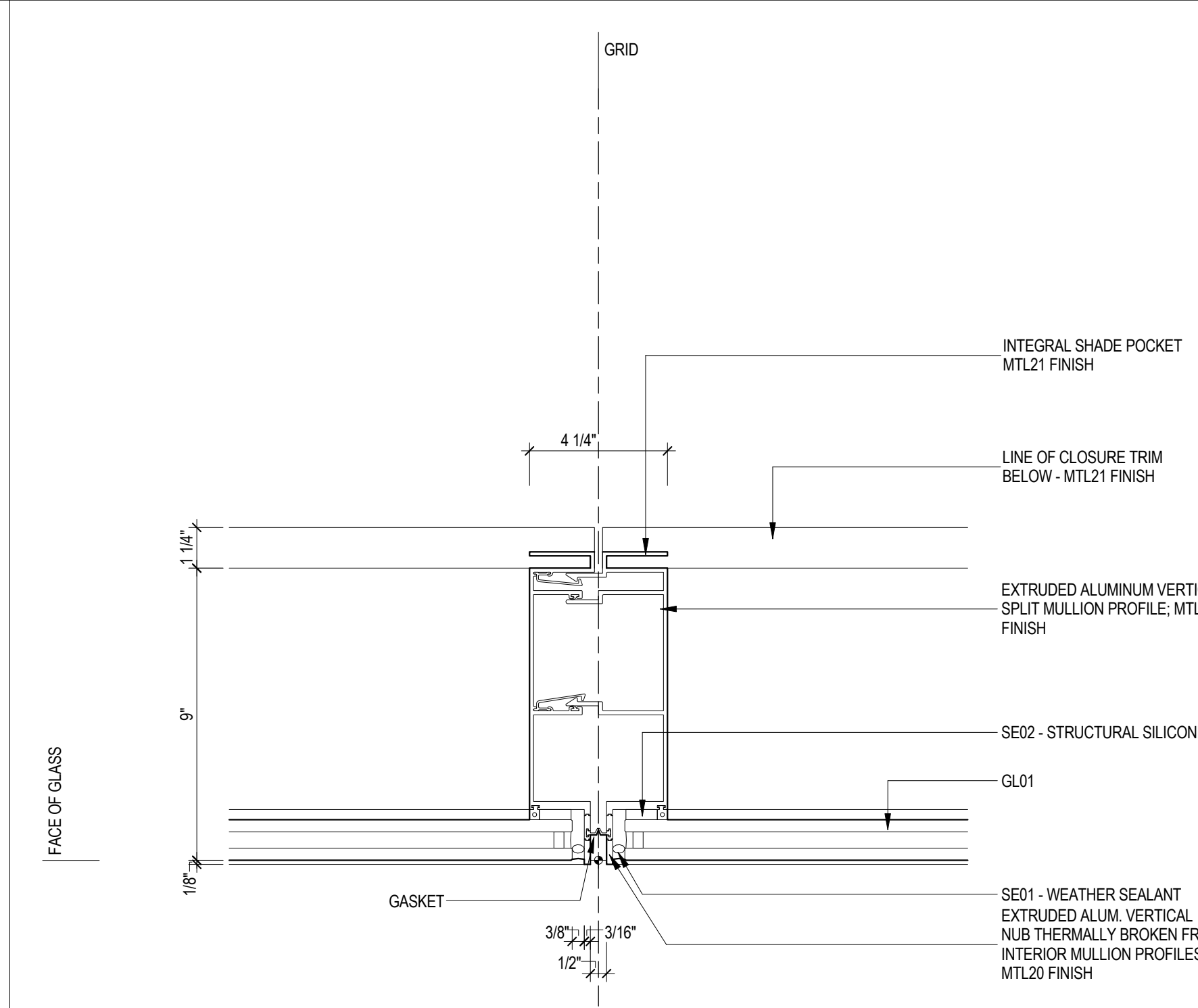
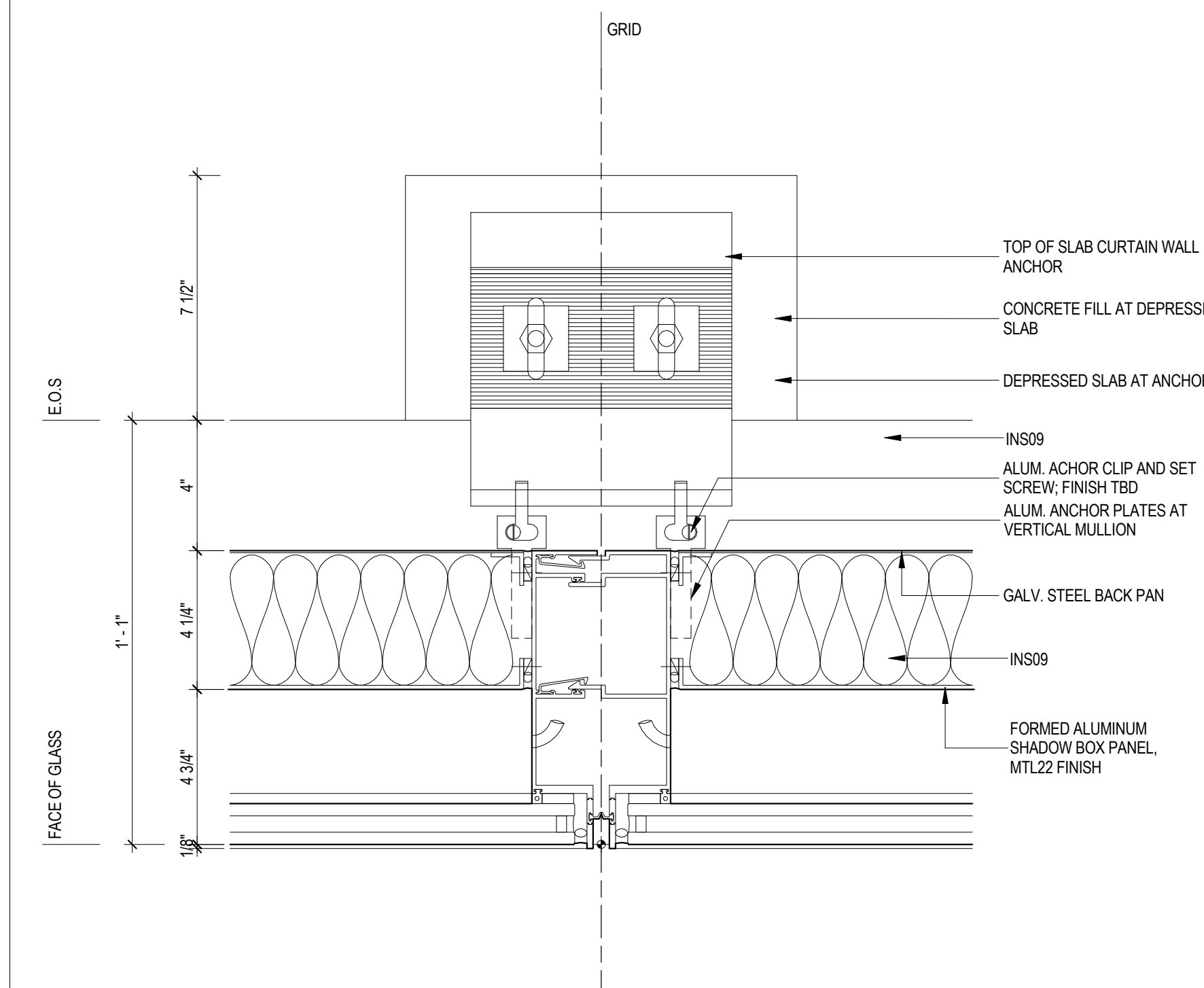
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2 PLAN DETAIL AT SHADOW BOX
SCALE: 3" = 1'-0"



6 PLAN DETAIL AT FACADE MAINTENANCE TRACK
SCALE: 3" = 1'-0"

1 PLAN DETAIL AT ANCHOR
SCALE: 3" = 1'-0"



5 PLAN DETAIL AT TYPICAL MULLION
SCALE: 3" = 1'-0"

SHEET NOTES

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No. Date Description
Sheet Name:

Project No.: 207150
Date: 12 SEPT 2014
Scale: 3" = 1'-0"
File No.: A-570

B-SCAN Sheet No.:
Sheet No.:
Page No.: 30

A-570.00
A-570

Damian Titus
Build
APPROVED
Under Directive 2 of 1975
Date: 09/24/2015
NYC Development Hub

CURTAIN WALL DETAILS

Manhattan West: North Tower
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habb & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave., Suite 1, Mill Valley, California 94041

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geotechnical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Vantor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6

Key Plan:

33RD STREET
31ST STREET
DIVER AVENUE
9TH AVENUE

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No. Date Description
Sheet Name:

Project No.: 207150
Date: 12 SEPT 2014
Scale: 3" = 1'-0"
File No.: A-570

B-SCAN Sheet No.:
Sheet No.:
Page No.: 30

A-570.00
A-570

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CURTAIN WALL DETAILS

Manhattan West: North Tower
375 Ninth Avenue, New York, NY 10001
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Brookfield
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Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

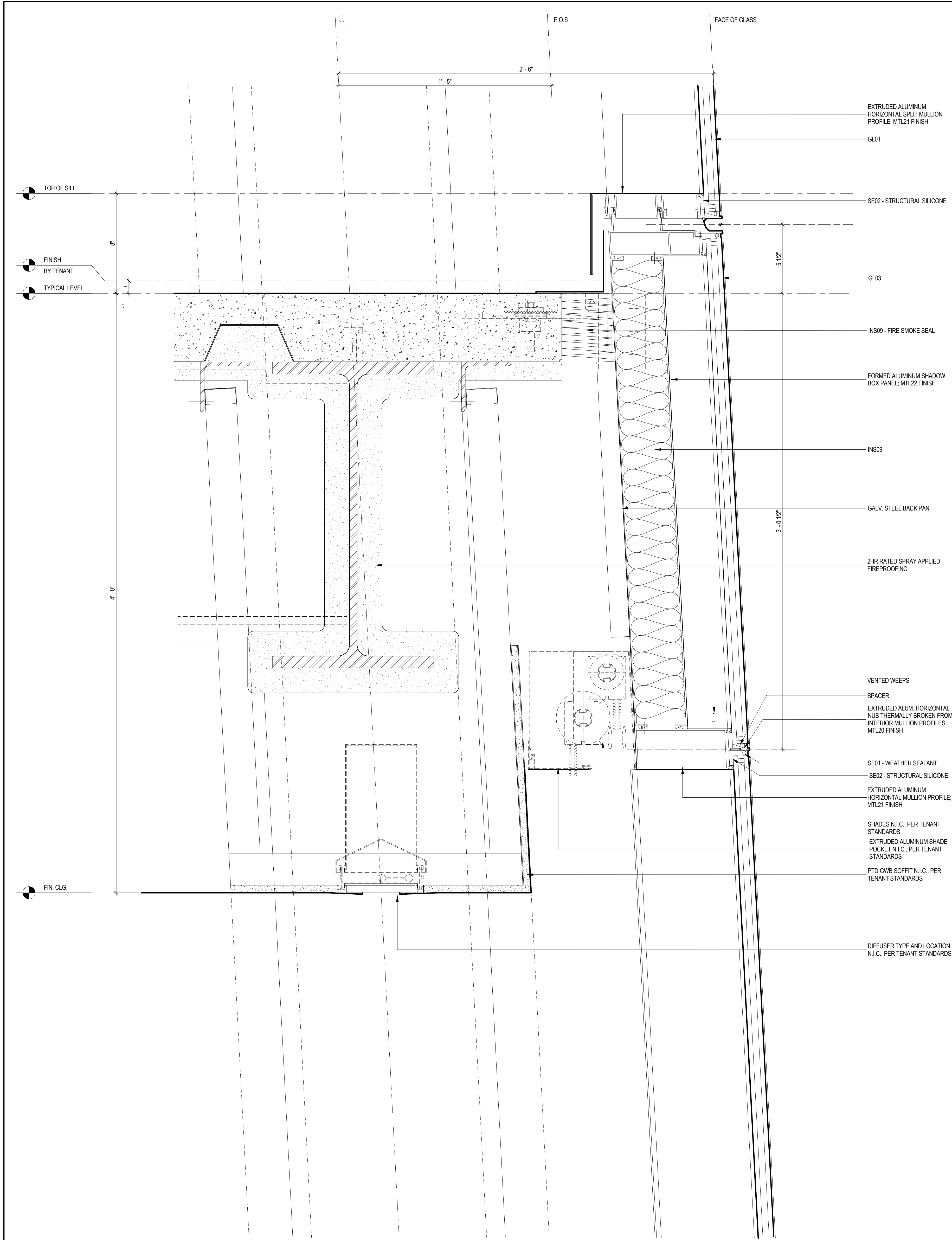
Civil Engineering
Philip Habb & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
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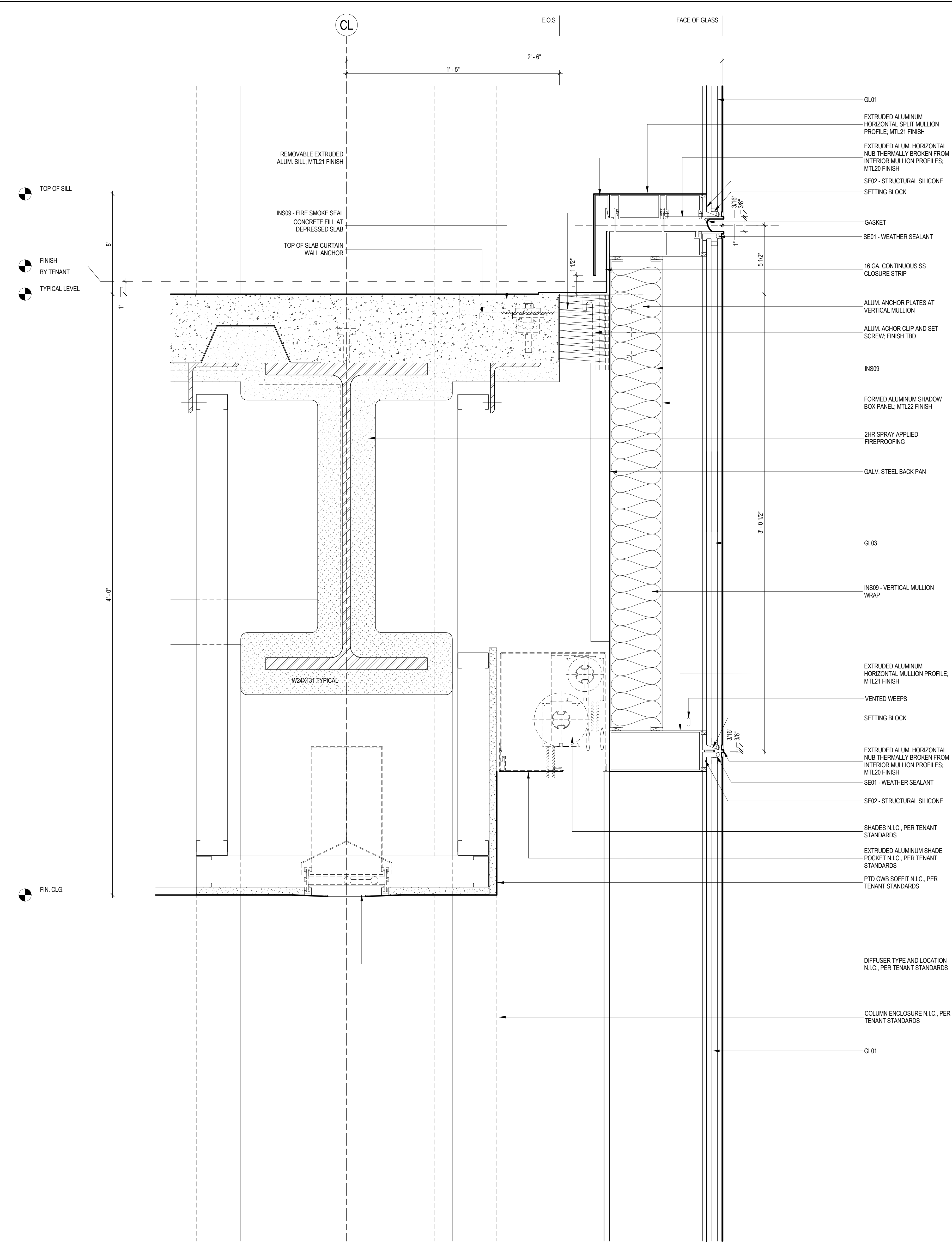
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Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122




2 CURTAIN WALL SECTION DETAIL
SCALE: 3" = 1'-0"



1 CURTAIN WALL SECTION DETAIL
SCALE: 3" = 1'-0"

SHEET NOTES



**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
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Brookfield
Brookfield Place
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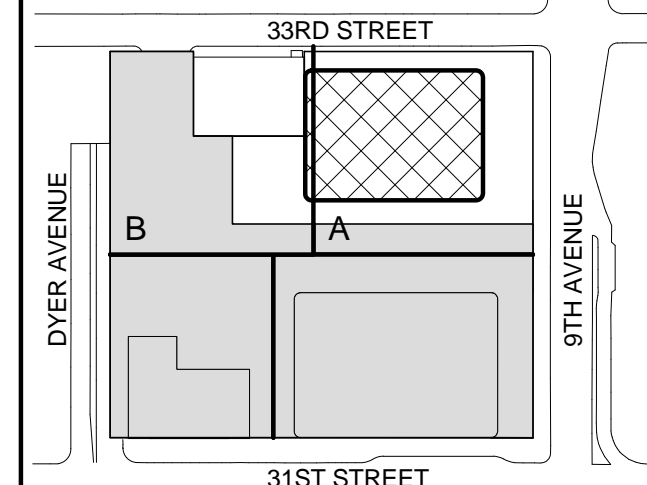
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Building
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Date: 09/21/2015
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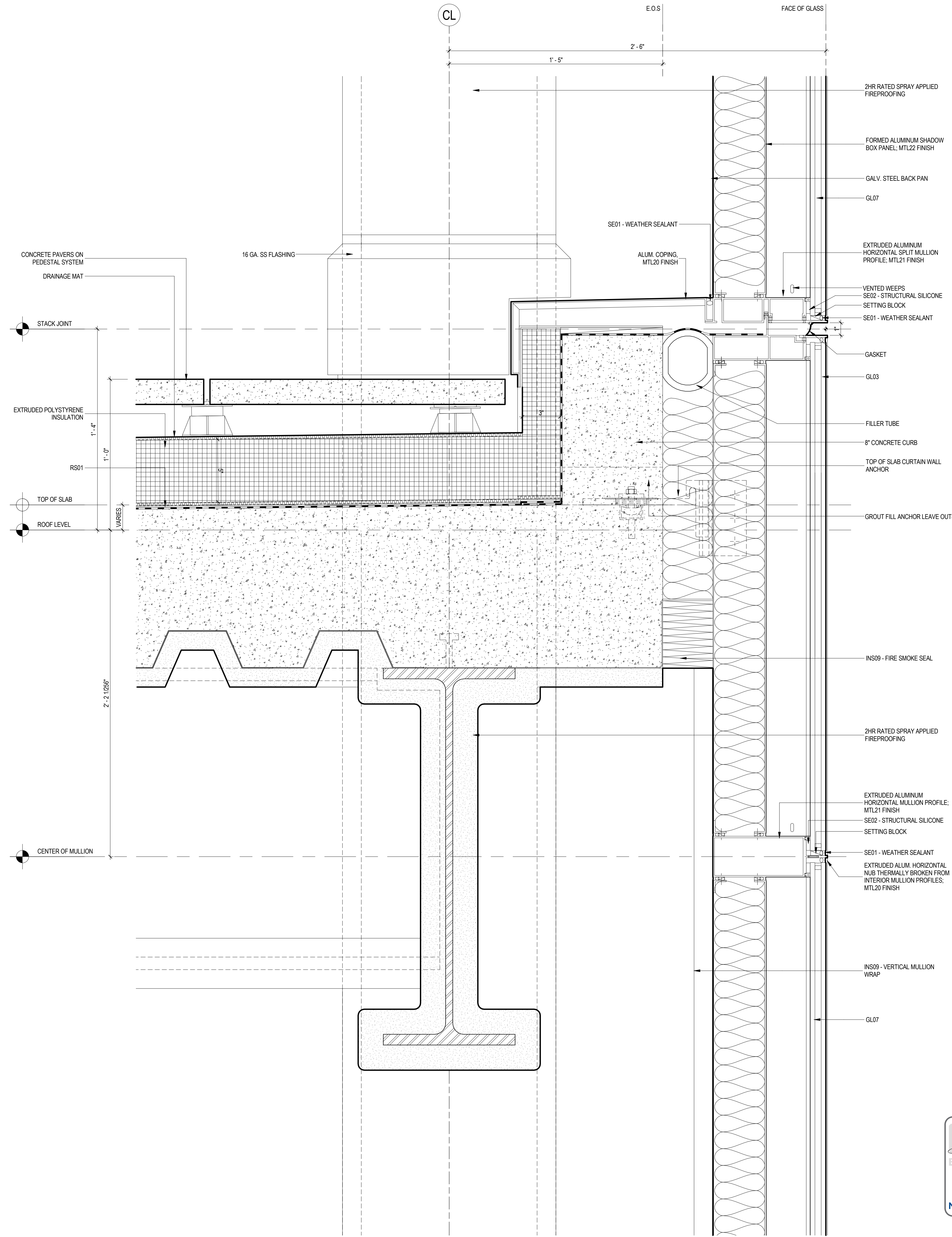
CURTAIN WALL DETAILS

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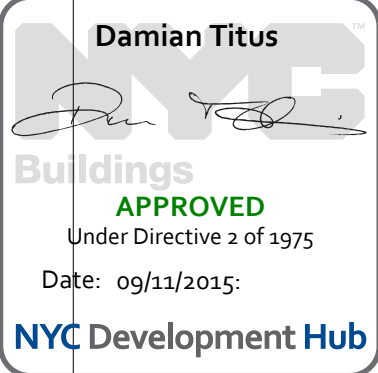
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1 CURTAIN WALL SECTION DETAIL

SCALE: 3" = 1'-0"



SHEET NOTES



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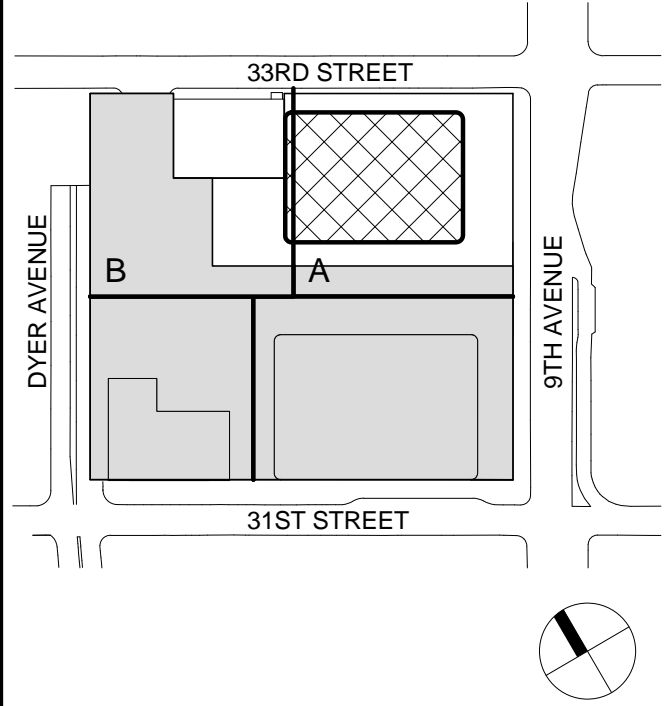
Facade Maintenance Consultant

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Key Plan:



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Sheet Name:

CURTAIN WALL
DETAILS

Project No.:

207150

Date:

12 SEPT 2014

Scale:

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File No.:

A-575

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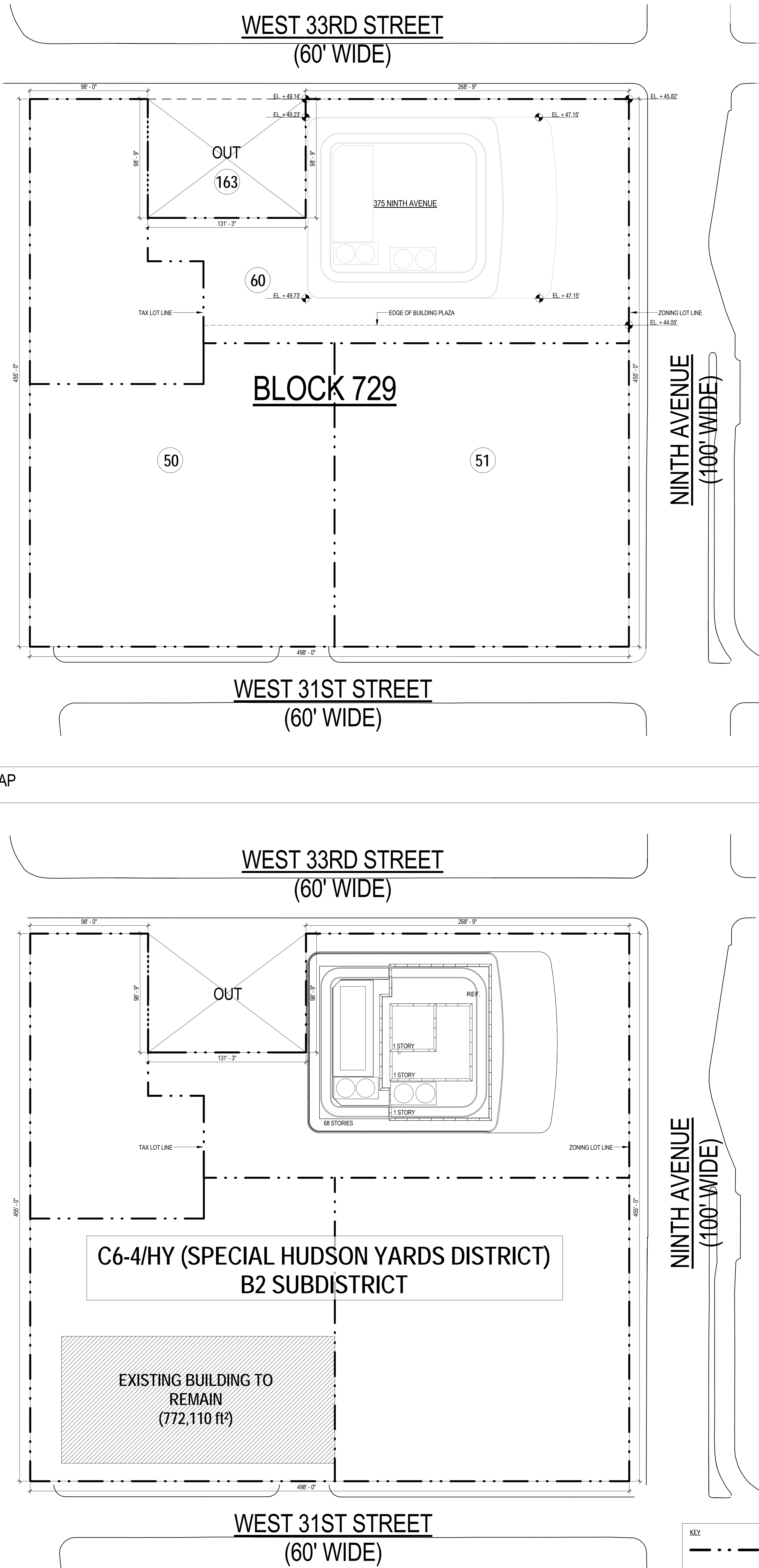
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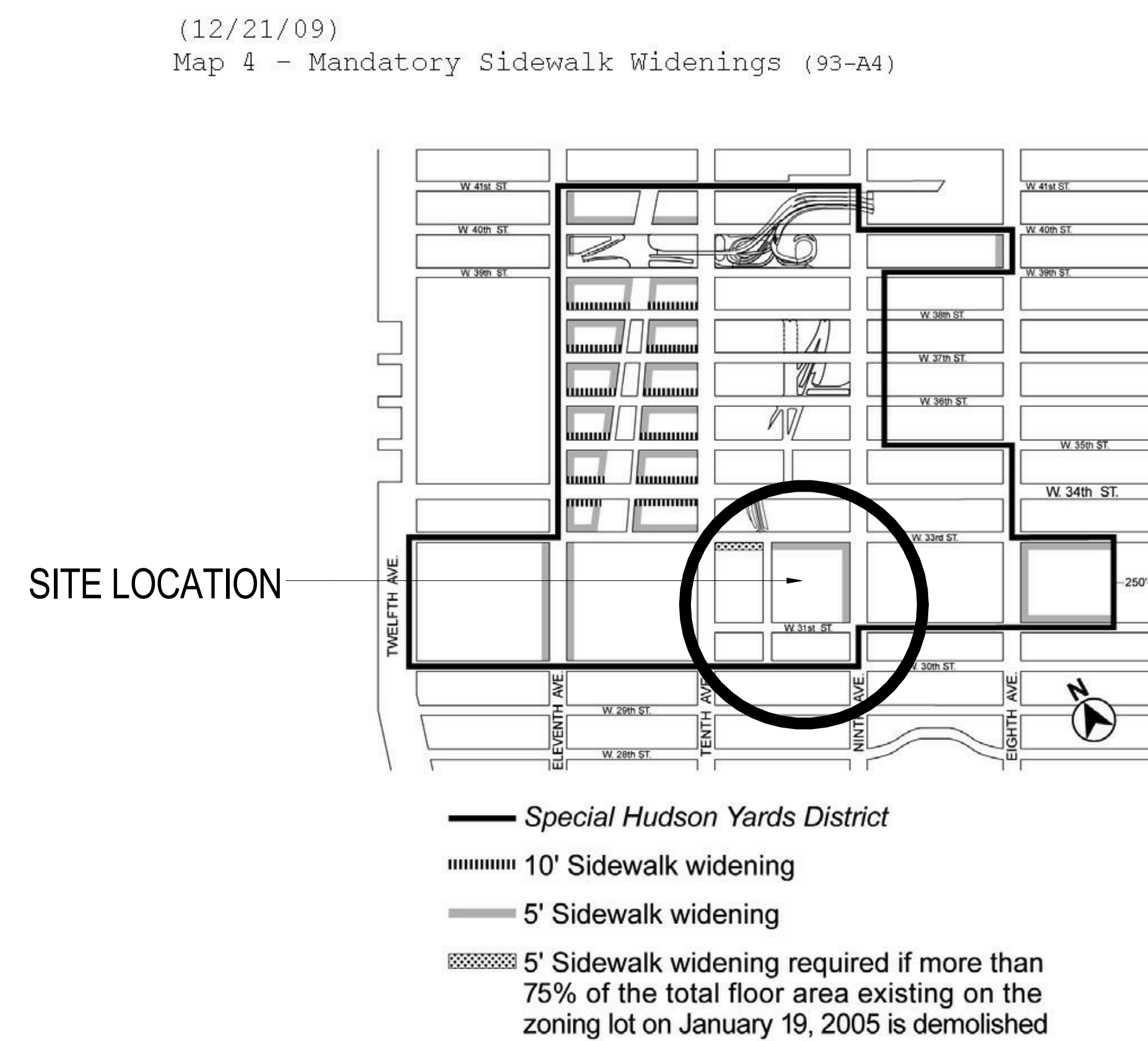
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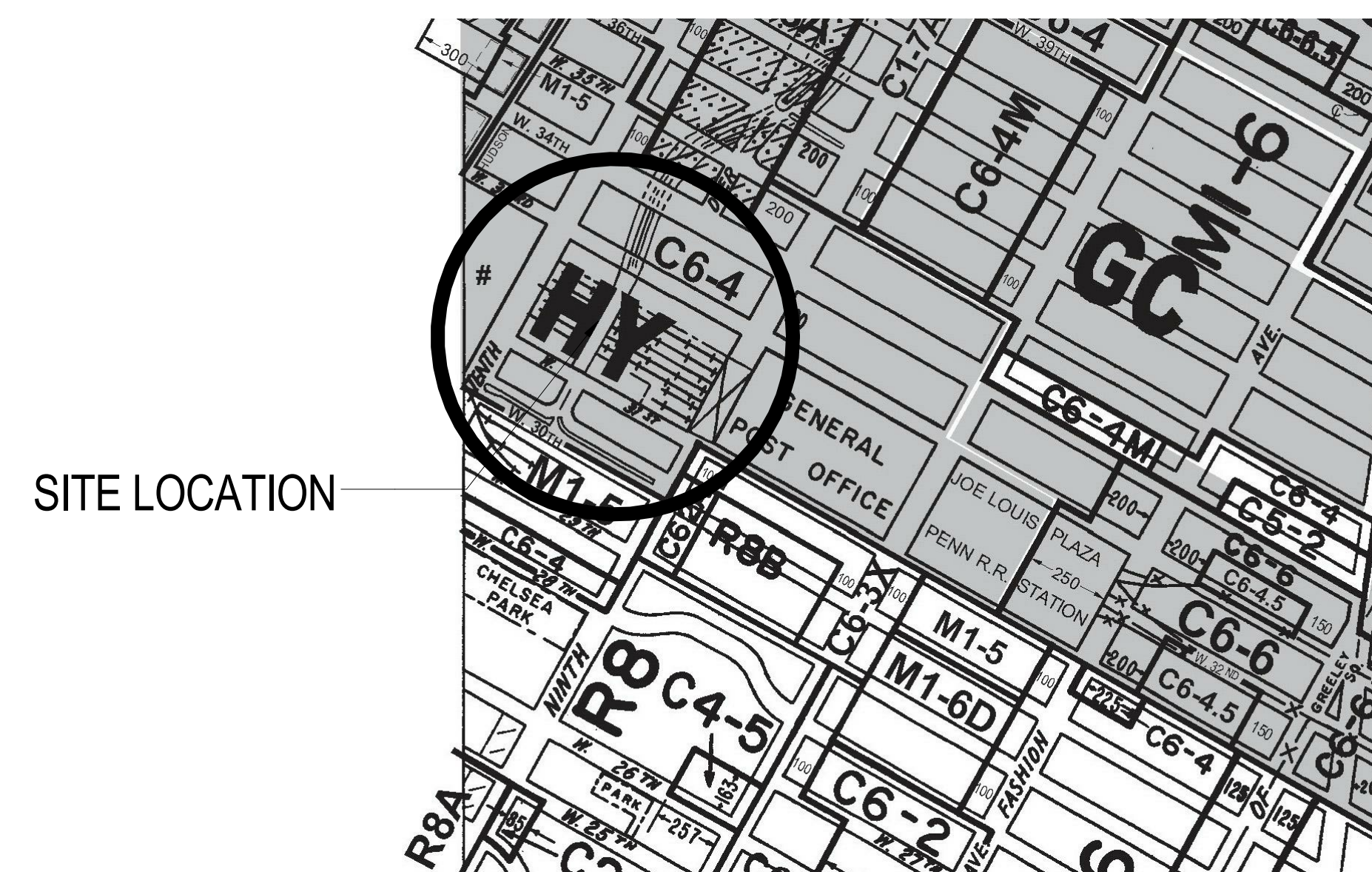
5 ZONING MAP - MANDATORY SIDEWALK WIDENING

SCALE: NTS



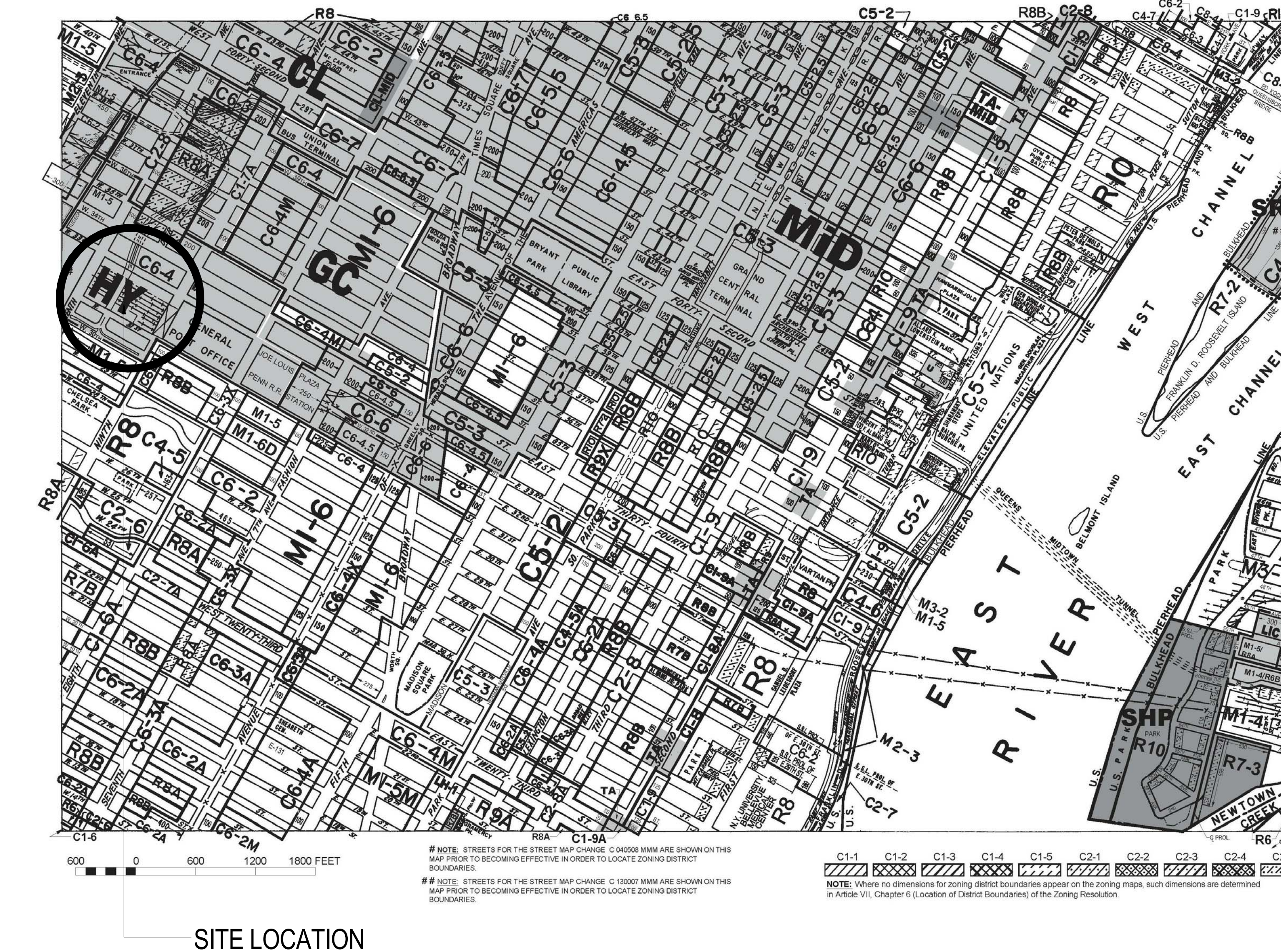
4 ZONING MAP - ENLARGED

SCALE: NTS



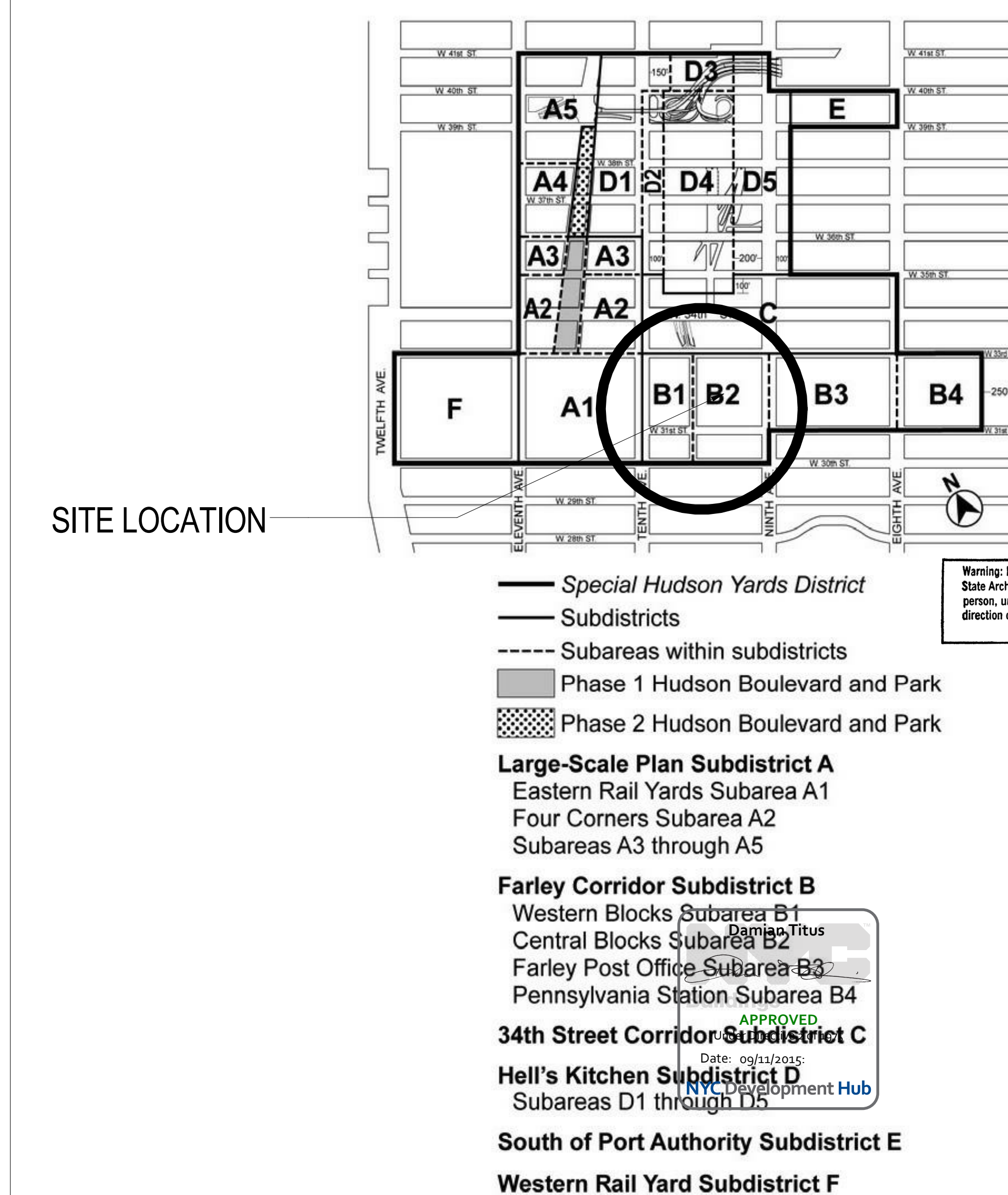
3 ZONING MAP - SPECIAL HUDSON YARDS DISTRICT

SCALE: AS INDICATED



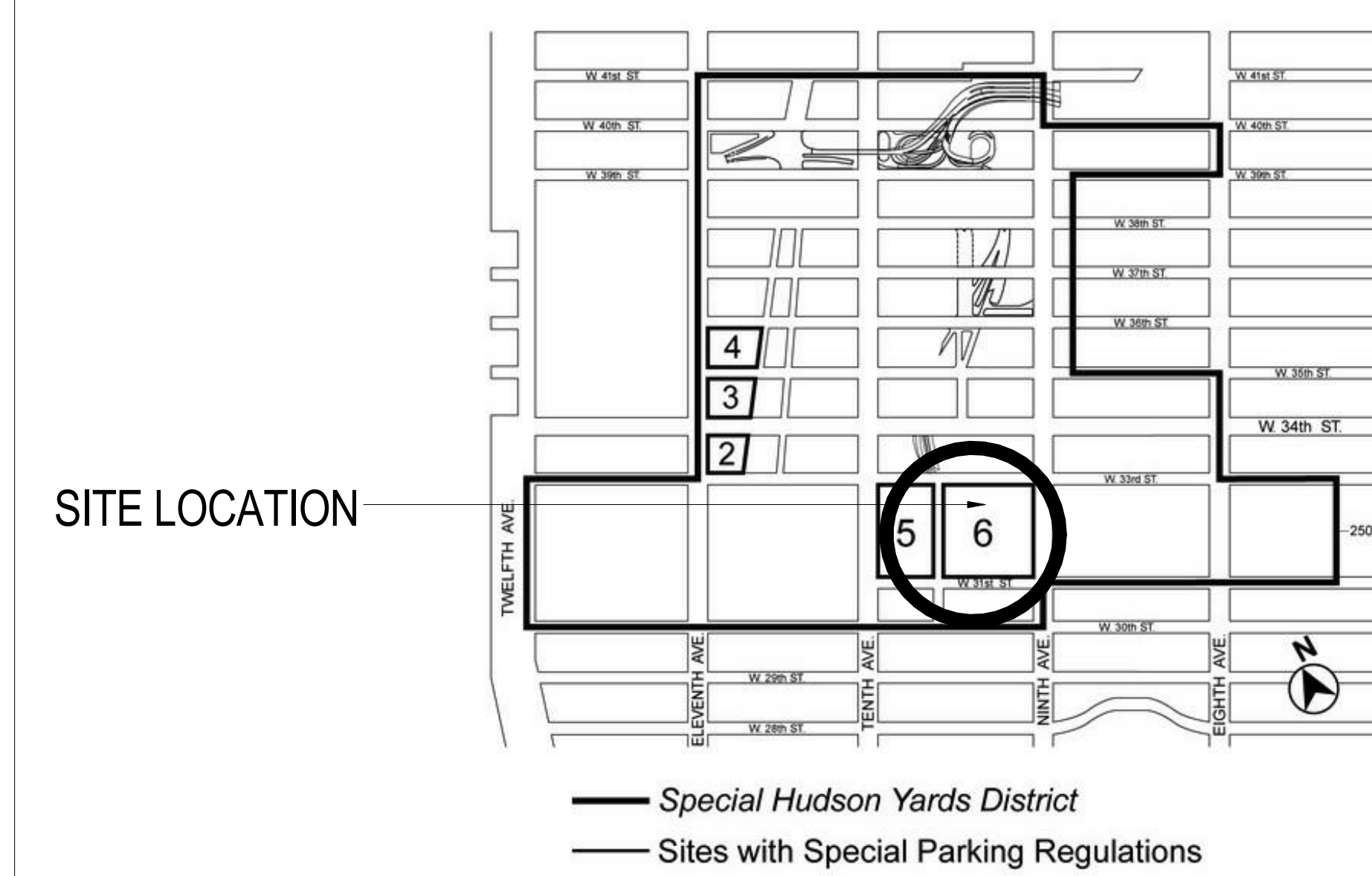
1 ZONING MAP - SUBDISTRICT MAP

SCALE: NTS

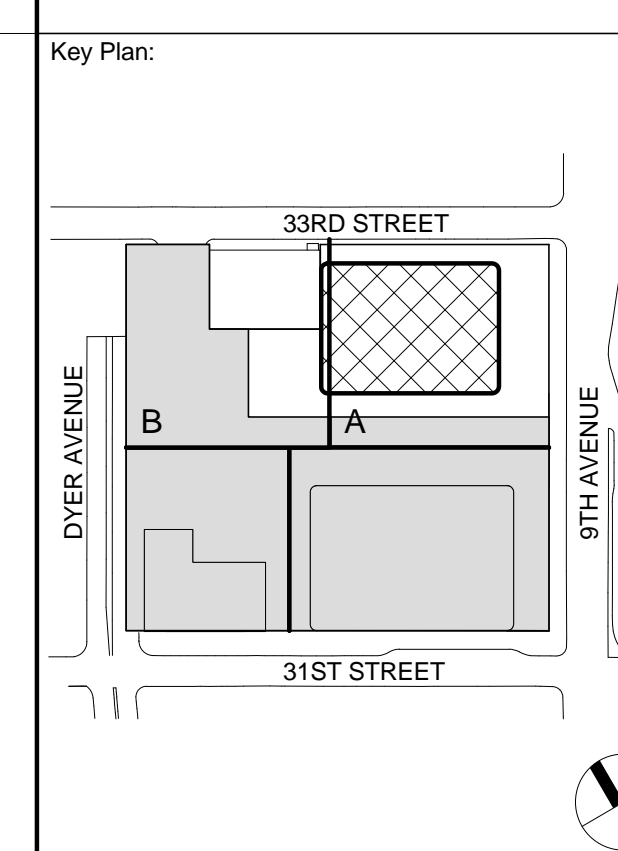
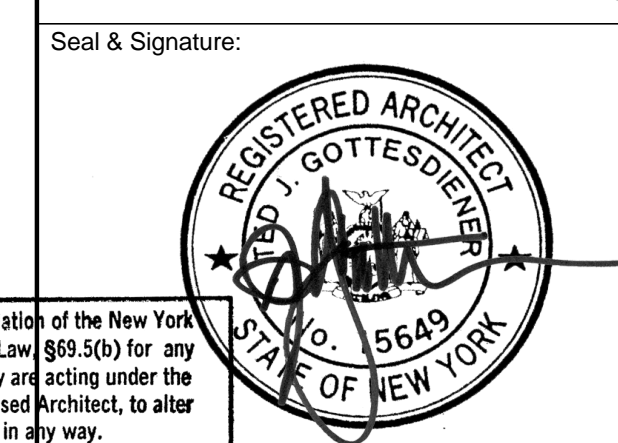


2 ZONING MAP - SPECIAL PARKING REGULATIONS

SCALE: NTS



ZONING MAP & TAX LOT MAP



- Key Plan:
- Seal & Signature:
- Blair Consultant
- Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005
- Acoustical Consultant
- Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018
- Vibration Consultant
- Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006
- Code Consultant
- Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018
- Facade Maintenance Consultant
- Entek Engineering LLC
186 Ames Street, Hackensack, NJ 07601
- Wind Tunnel Consultant
- Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

MANHATTAN WEST: NORTH TOWER

375 Ninth Avenue, New York, NY 10001

Client

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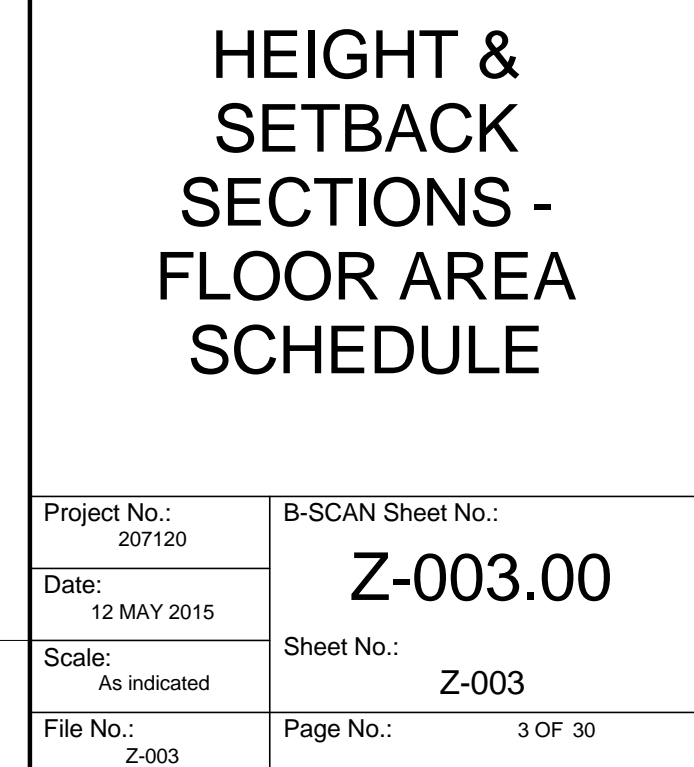
Wind Tunnel Consultant

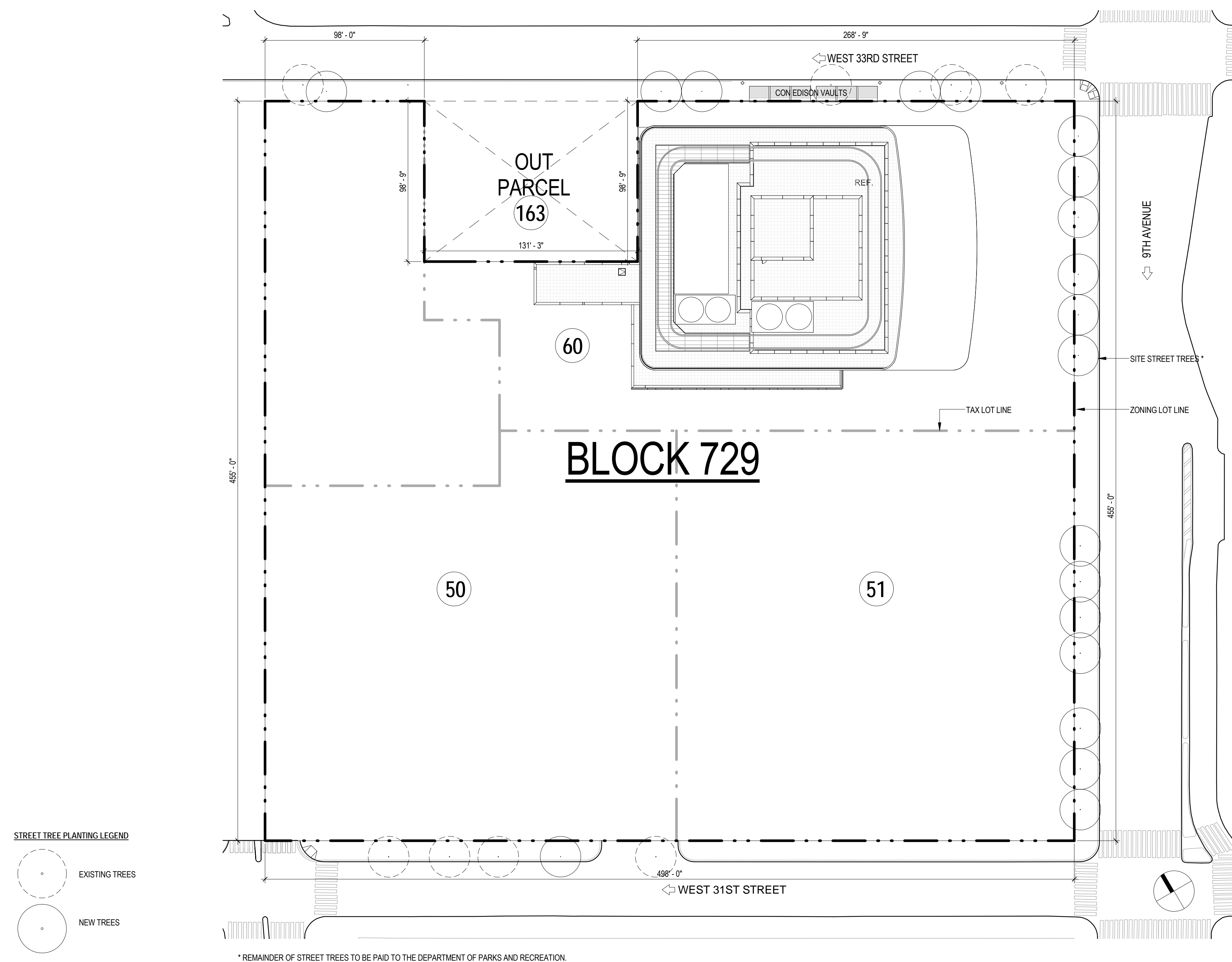
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



2 ZONING RESOLUTION - HEIGHT & SETBACK REGULATIONS

FAR: 1,660,527 SF/ 213,629 SF = 7.77

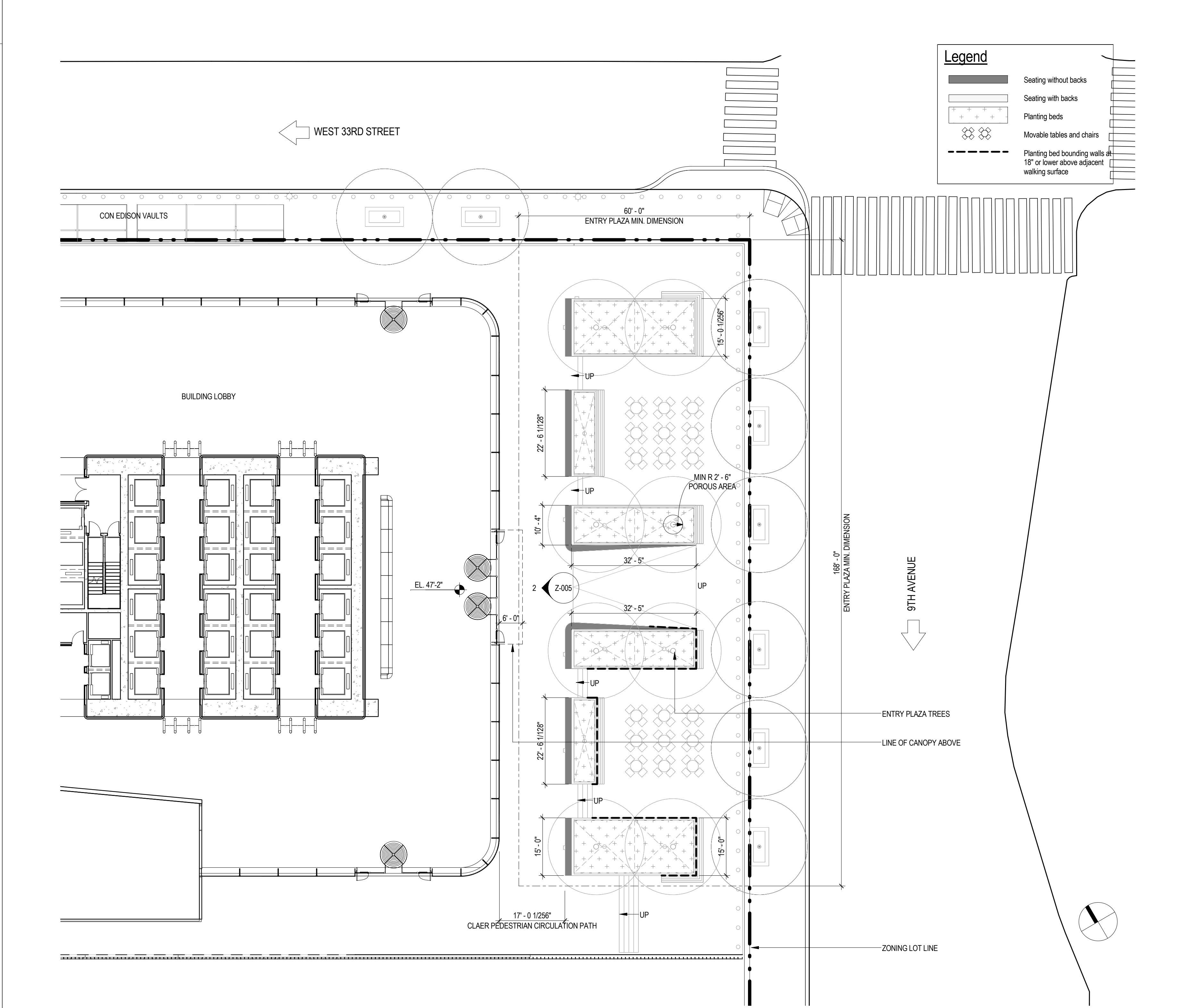




| STREET TREES PLANTING | | |
|-----------------------|---|----------------------------|
| SCALE: 1" = 40'-0" | | |
| SECTION | ITEM | COMPLIANCE |
| 93-62 | SITEWIDE STREET TREE PLANTING | |
| 26-41 | Requirement | |
| 33-03 | 1 tree per 25' of zoning lot street frontage 31st Street = 498.0' 9th Avenue = 455.0' 33rd Street = $(498.0 - 131.25) = 366.75'$ Total Frontage = $1,319.75' / 25$ trees per Ft = 53 trees required | |
| | Existing Trees to be removed: 8 | |
| | New Trees Provided: | |
| | 5 Trees planted (on site) on 33rd Street | |
| | 13 Trees planted (on site) on 9th Avenue | |
| | 1 Trees planted (on site) adjacent to 435 W. 31st Street | |
| | 19 Trees planted on site | |
| | 34 Trees (off-site) to be funded with payments to Dept. of Parks and Recreation. | |
| | TOTAL NUMBER OF PROPOSED TREES: | 53 |
| | | COMPLIES (See Z-004.00) |

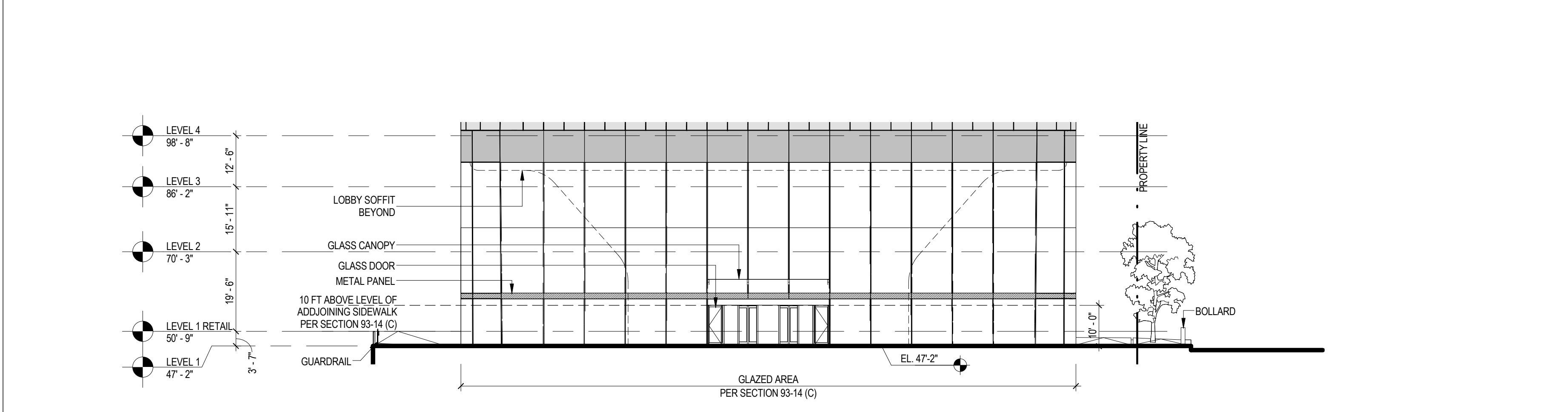
| <div><p>MANHATTAN WEST: NORTH TOWER 375 Ninth Avenue, New York, NY 10001</p><p>Client</p><p>Brookfield</p><p>Brookfield Place 250 Vesey Street, 15th Floor, New York, NY 10281</p><p>Architecture/Structural Engineering</p><p>SOM Skidmore, Owings & Merrill LLP 14 Wall Street, New York, NY 10005</p><p>Civil Engineering</p><p>Philip Habib & Associates 102 Madison Avenue #11, New York, NY 10016</p><p>MEP Engineering</p><p>Jaros Baum & Bolles 80 Pine Street, New York, NY 10005</p><p>Vertical Transportation</p><p>Edgett Williams Consulting Group, Inc. 102 East Bithedale Ave., Suite 1, Mill Valley, California 94941</p><p>Sustainable Design</p><p>Viridian Energy & Environmental 50 Washington Street, Norwalk, CT 06854</p><p>Geotechnical Engineering</p><p>Muesser Rutledge Consulting Engineers 14 Penn Plaza, 225 W. 34th Street, New York, NY 10122</p><p>Landscape Consultant</p><p>Field Operations 475 10th Avenue, New York, NY 10018</p><p>Security Consultant</p><p>Ducibella, Vantor & Santoro 250 State Street #F1, North Haven, CT 06473</p><p>Blair Consultant</p><p>Weidinger Associates, Inc. 40 Wall Street, New York, NY 10005</p><p>Acoustical Consultant</p><p>Cerami & Associates 404 Fifth Avenue #8, New York, NY 10018</p><p>Vibration Consultant</p><p>Wilson, Uhrig & Associates, Inc. 65 Broadway, Suite 401, New York, NY 10006</p><p>Code Consultant</p><p>Code Consultants Professional Engineers PC 215 West 40th Street, 15th Floor, New York, NY 10016</p><p>Facade Maintenance Consultant</p><p>Entek Engineering LLC 166 Ames Street, Hackensack, NJ 07601</p><p>Wind Tunnel Consultant</p><p>Rowan Williams Davies & Irwin Inc. 650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8</p></div> | | | | | | | | | | | | | | | | | | | | |
|--|------------------|------------------------------|-------------|------------------|-------------|-----------------|--------------|----------------------------|---|-------------|----------------------------|---|-------------|------------------------------|---|-------------|------------------------------|---|-------------|------------------------------|
| <p>Key Plan:</p> | | | | | | | | | | | | | | | | | | | | |
| <p>Seal & Signature:</p> <div></div> | | | | | | | | | | | | | | | | | | | | |
| <table border="1"><thead><tr><th>No.</th><th>Date</th><th>Description</th></tr></thead><tbody><tr><td>5</td><td>21 AUG 2015</td><td>ISSUED FOR BUILDING PERMIT</td></tr><tr><td>4</td><td>12 MAY 2015</td><td>ISSUED FOR BUILDING PERMIT</td></tr><tr><td>3</td><td>10 DEC 2014</td><td>ISSUED FOR FOUNDATION PERMIT</td></tr><tr><td>2</td><td>20 JUN 2014</td><td>ISSUED FOR FOUNDATION PERMIT</td></tr><tr><td>1</td><td>20 DEC 2013</td><td>ISSUED FOR FOUNDATION PERMIT</td></tr></tbody></table> | | | No. | Date | Description | 5 | 21 AUG 2015 | ISSUED FOR BUILDING PERMIT | 4 | 12 MAY 2015 | ISSUED FOR BUILDING PERMIT | 3 | 10 DEC 2014 | ISSUED FOR FOUNDATION PERMIT | 2 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT | 1 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| No. | Date | Description | | | | | | | | | | | | | | | | | | |
| 5 | 21 AUG 2015 | ISSUED FOR BUILDING PERMIT | | | | | | | | | | | | | | | | | | |
| 4 | 12 MAY 2015 | ISSUED FOR BUILDING PERMIT | | | | | | | | | | | | | | | | | | |
| 3 | 10 DEC 2014 | ISSUED FOR FOUNDATION PERMIT | | | | | | | | | | | | | | | | | | |
| 2 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT | | | | | | | | | | | | | | | | | | |
| 1 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT | | | | | | | | | | | | | | | | | | |
| <p>Sheet Name:</p> | | | | | | | | | | | | | | | | | | | | |
| <p>STREET TREES PLANTING</p> | | | | | | | | | | | | | | | | | | | | |
| <table border="1"><thead><tr><th>Project No.</th><th>B-SCAN Sheet No.</th></tr></thead><tbody><tr><td>207120</td><td>Z-004.00</td></tr></tbody></table> | | | Project No. | B-SCAN Sheet No. | 207120 | Z-004.00 | | | | | | | | | | | | | | |
| Project No. | B-SCAN Sheet No. | | | | | | | | | | | | | | | | | | | |
| 207120 | Z-004.00 | | | | | | | | | | | | | | | | | | | |
| <table border="1"><thead><tr><th>Date:</th><th>Scale:</th><th>Sheet No.:</th></tr></thead><tbody><tr><td>21 August 2015</td><td>As indicated</td><td>Z-004</td></tr></tbody></table> | | | Date: | Scale: | Sheet No.: | 21 August 2015 | As indicated | Z-004 | | | | | | | | | | | | |
| Date: | Scale: | Sheet No.: | | | | | | | | | | | | | | | | | | |
| 21 August 2015 | As indicated | Z-004 | | | | | | | | | | | | | | | | | | |
| <table border="1"><thead><tr><th>File No.</th><th>Page No.</th><th>4 of 30</th></tr></thead><tbody><tr><td>Z-004</td><td></td><td></td></tr></tbody></table> | | | File No. | Page No. | 4 of 30 | Z-004 | | | | | | | | | | | | | | |
| File No. | Page No. | 4 of 30 | | | | | | | | | | | | | | | | | | |
| Z-004 | | | | | | | | | | | | | | | | | | | | |

| SECTION | ITEM | COMPLIANCE |
|-----------------|--|------------------------------|
| 93-73 | PUBLIC ACCESS AREAS ON NINTH AVENUE RAIL YARD | |
| 93-61 | SIDEWALK WIDENING 5'-0" on 33rd Street and 9th Avenue | COMPLIES |
| 93-732 | CERTIFICATION FOR PUBLIC ACCESS AREAS ON THE NINTH AVENUE RAIL YARD Certification required as per section above. | |
| 93-73(a)(2)(iv) | GROUND FLOOR TRANSPARENCY In accordance with Section 93-14, shall apply to at least 70% of the length of all building walls facing entry plaza. | COMPLIES (See 2/Z-005.00) |
| 4 | ZONING RESOLUTION - PUBLIC ACCESS AREA REQUIREMENTS SCALE: NTS | |



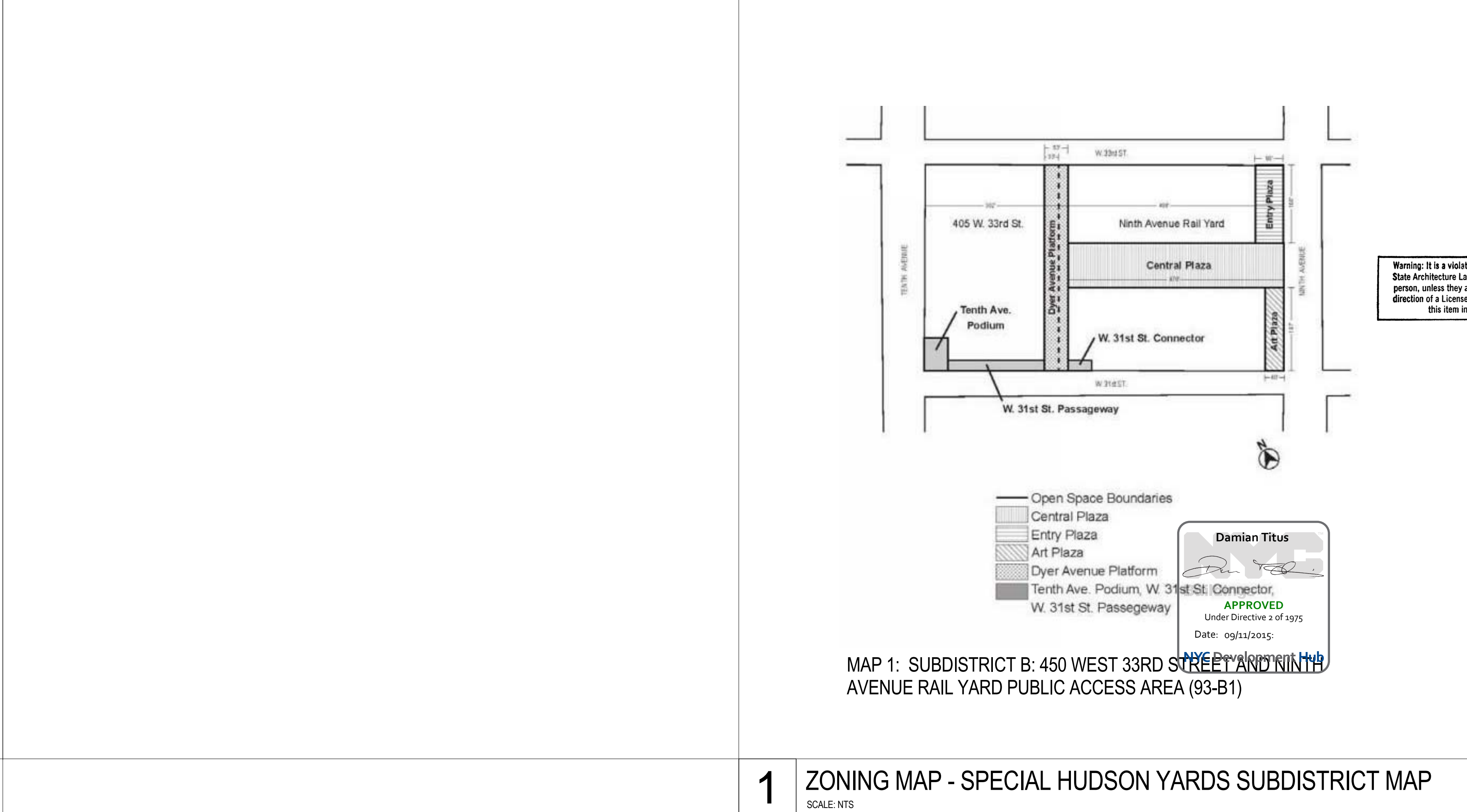
3 PUBLIC ACCESS AREAS - ENTRY PLAZA

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



2 ENLARGED BUILDING ELEVATION FACING ENTRY PLAZA

SCALE: 1" = 20'-0"



1 ZONING MAP - SPECIAL HUDSON YARDS SUBDISTRICT MAP

SCALE: NTS

**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B6

Key Plan:

Seal & Signature:

Warning: It is a violation of the New York State Architecture Law (§§ 1600) for any person, unless they are acting under the direction of a Licensed Architect, to alter this item in any way.

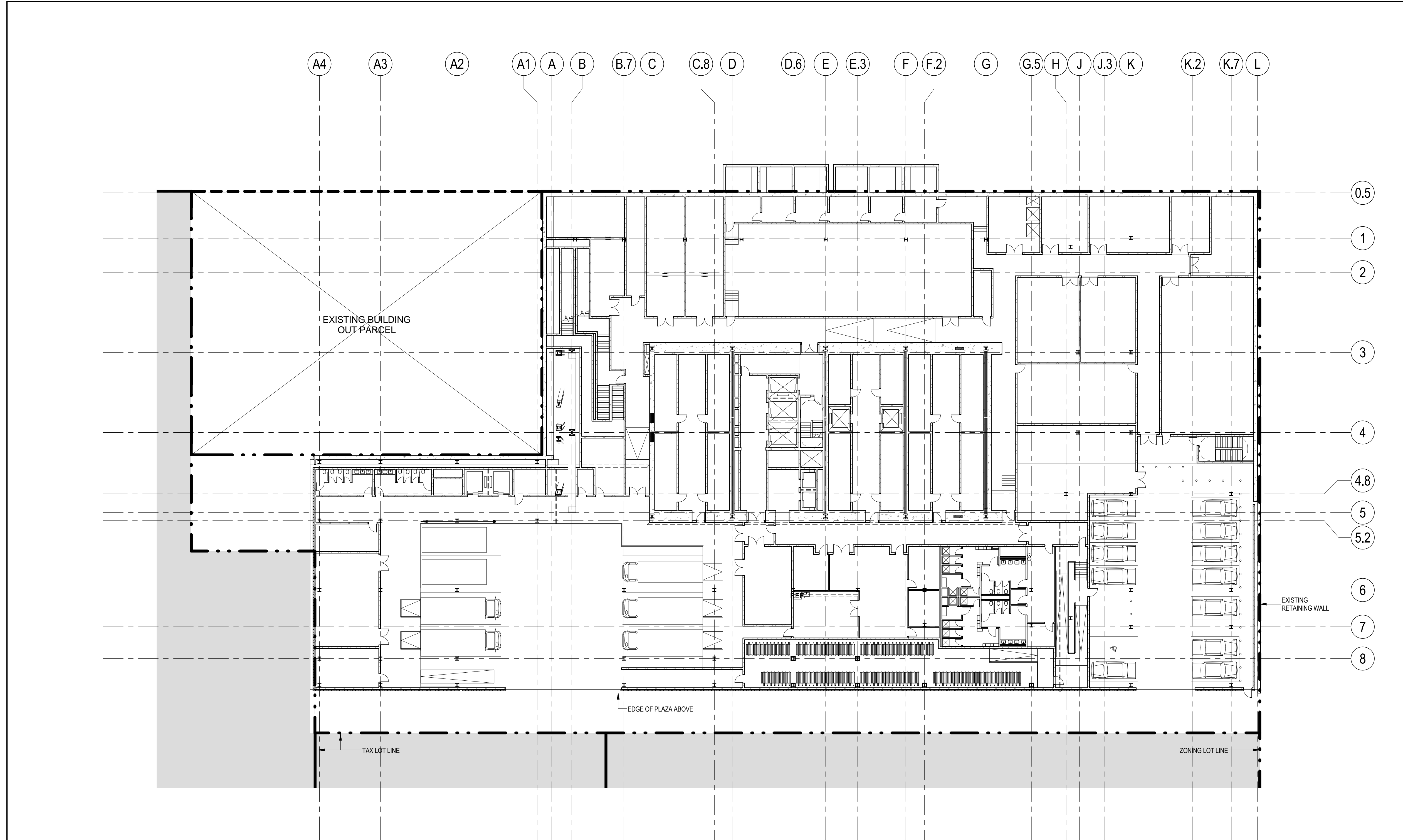
REGISTERED ARCHITECT
DAMIAN TITUS
No. 5649
STATE OF NEW YORK

Project No.: 207150
Date: 27 AUG 2015
Scale: As indicated
File No.: Z-005

Project No.: 207150
Date: 27 AUG 2015
Scale: As indicated
File No.: Z-005

Sheet No.: Z-005
Page No.: 5 OF 30

PUBLIC ACCESS AREAS - ENTRY PLAZA



ACCESSORY OFF-STREET LOADING BERTHS (ZR 36-62)

Berths required for office use

| | |
|---|------------|
| First 100,000 ft²: | 0 berths |
| Next 200,000 ft²: | 1 berth |
| Each additional 300,000 ft²: | 1 berth |
| Total: | 5.5 berths |
| (1,649,247 ft² - 300,000 ft²) / 300,000 ft² | |

Berths required for retail use

| | |
|--|----------|
| First 25,000 ft²: | 0 berths |
| Next 15,000 ft²: | 1 berth |
| Next 60,000 ft²: | 1 berth |
| Each additional 150,000 ft²: | 1 berth |
| Total: | 0 berths |
| (20,123 ft² - 100,000 ft²) / 150,000 ft² | |

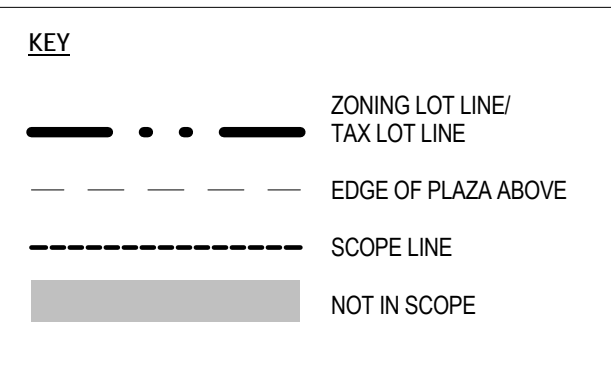
Provided: 6 accessory off-street loading berths (COMPLIES)

OFF STREET PARKING REGULATIONS (ZR 93-81)

Provided: 13 parking spaces*
*Chairperson certification required

EXISTING SW RESIDENTIAL TOWER LOADING BERTHS

Berths required: None

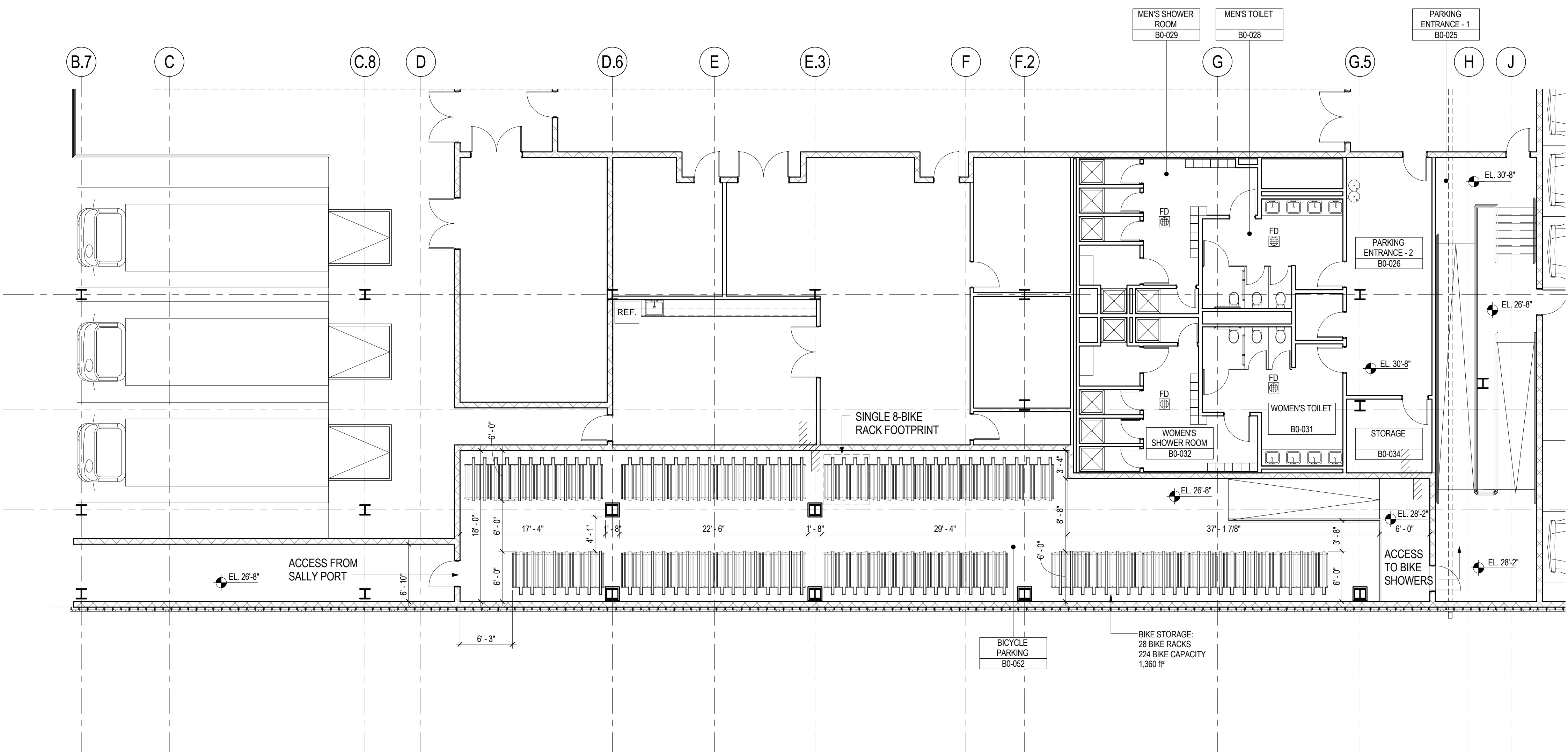


4 CELLAR B PLAN - LOADING DOCK

SCALE: 1" = 20'-0"

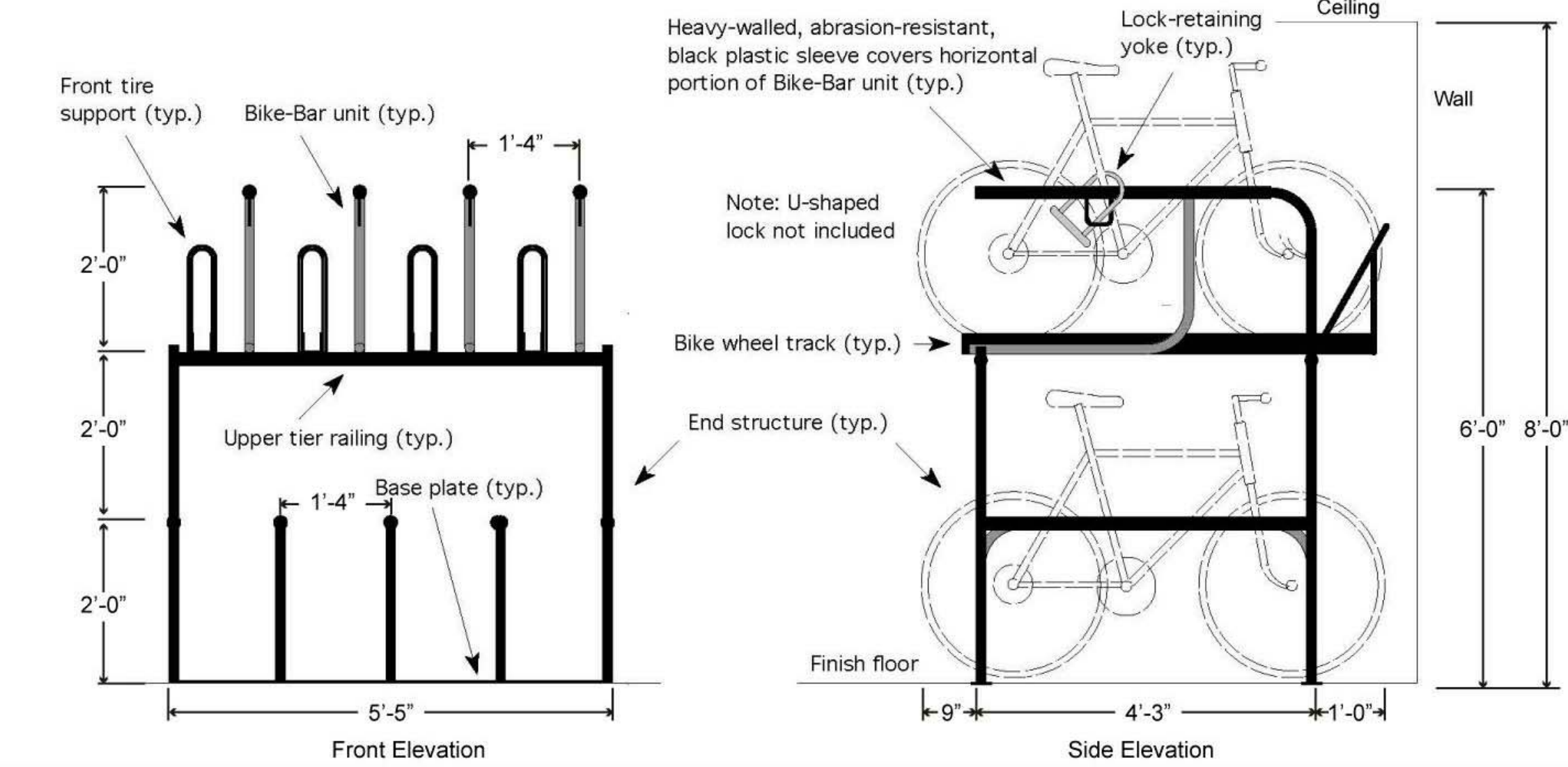
3 ZONING RESOLUTION - BICYCLE PARKING RERQUIREMENTS

SCALE: NTS



2 ENLARGED BICYCLE STORAGE PLAN

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



| Specifications | |
|----------------|---|
| Model#: | BDDF-8.16 Bike-Double-Decker-Framework™: Two-Tier, Moderate Security Bike Rack |
| Capacity: | (8) bikes on 16" centers (4 on the top and 4 on the bottom) |
| Materials: | <ul style="list-style-type: none">1" nom., Sched. 40 ASTM A500 welded, seamless-steel pipe for Bike-Bar units and end structures1.5" nom., Sched. 40 ASTM A500 welded, seamless-steel pipe for upper-tier railings1" nom., heavy-walled, abrasion-resistant, black plastic sleeve covers entire horizontal portion of Bike-Bar units3" x 3" x 1/8 gauge H.R. steel channel for bike wheel tracks1/4" x 3" H.R. steel flat-bar for base plates1/2" dia. H.R. steel round-bar for lock-retaining yokes and front tire supports |
| Finishes: | <ul style="list-style-type: none">Hot-dipped galvanizingBlack, abrasion-resistant thermoplastic powder coating 8 to 10 mils thickStandard-colored, abrasion-resistant thermoplastic powder coating 8 to 10 mils thick (extra)Hot-dipped galvanized substrate plus thermoplastic powder coating 8 to 10 mils thick (extra)Satin-finished #304 stainless-steel construction (extra) |
| Fabrication: | All metallurgical joints are MIG welds |

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1 BICYCLE PARKING SPECIFICATIONS

SCALE: NTS



Client

Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

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ZONING LEGENDS

- GROSS BUILDING AREA
- ZONING AREA DEDUCTIONS
- ZONING FLOOR AREA
- RETAIL
- MR MECHANICAL ROOM
- M MECHANICAL
- E ELECTRICAL/TEL./IT
- P PLUMBING
- EM ELEVATOR MACHINE ROOM



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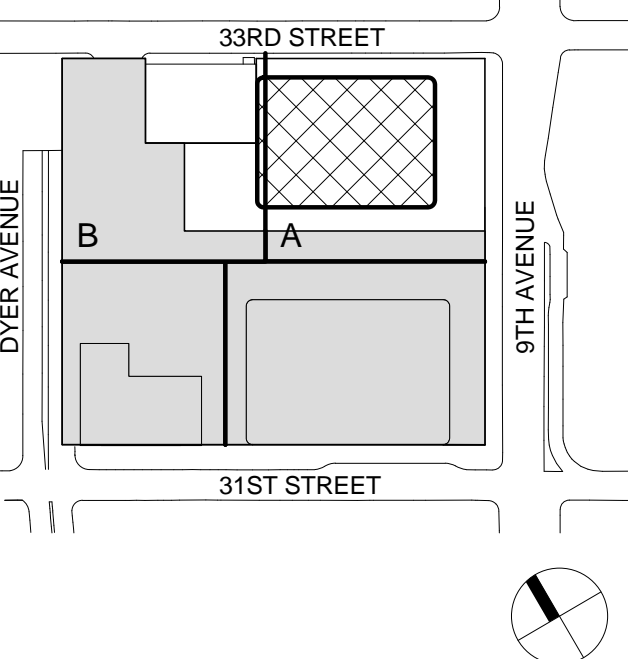
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Key Plan:



ZONING LEGENDS

- GROSS BUILDING AREA
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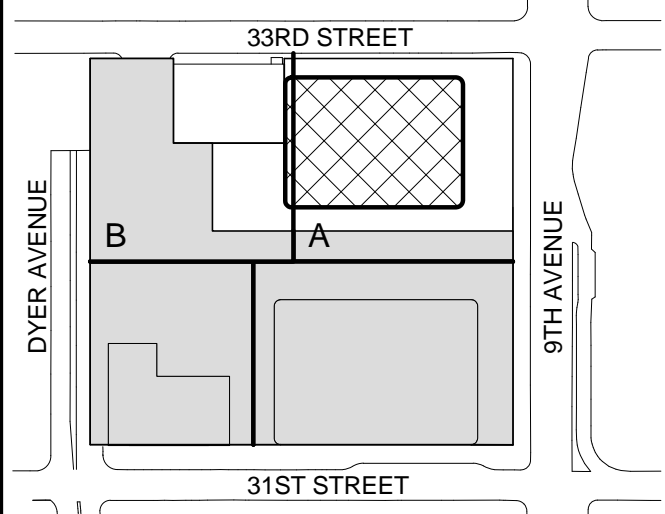
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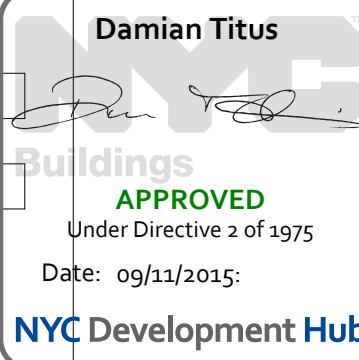


Seal & Signature:



Warning: It is a violation of the New York State Architecture Law (§16-00) for any person, unless they are acting under the direction of a Licensed Architect, to alter this form in any way.

| ZONING SCHEDULE - LEVEL B1 | |
|----------------------------|----------|
| ZONING DEDUCTIONS | 7782 ft² |
| GROSS FLOOR AREA | 7782 ft² |



ZONING FLOOR
AREA
DEDUCTIONS -
CELLAR B1

| | |
|----------------------|----------------------------|
| Project No.: 207120 | B-SCAN Sheet No.: Z-102.00 |
| Date: 27 AUG 2015 | Sheet No.: Z-102 |
| Scale: 1/16" = 1'-0" | Page No.: 9 OF 30 |
| File No.: 2-102 | |

ZONING LEGENDS

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- P PLUMBING
- EM ELEVATOR MACHINE ROOM



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave., Suite 1, Mill Valley, California 94041

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40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
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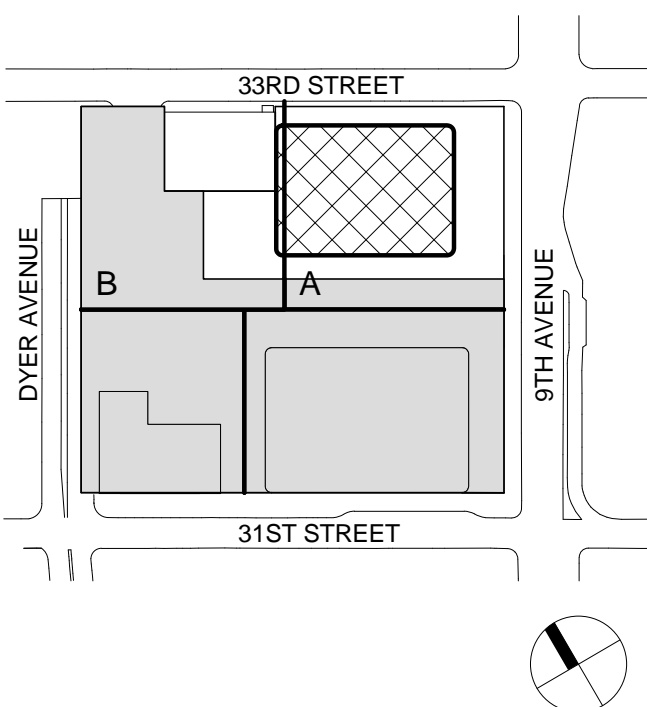
Vibration Consultant
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65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6

Key Plan:



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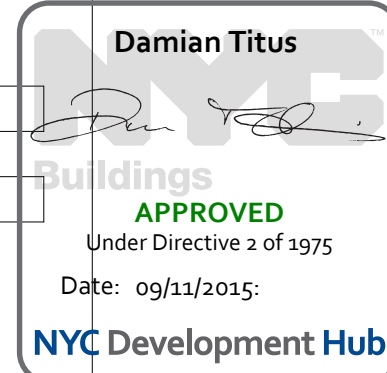
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| 1 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |

No. Date Description
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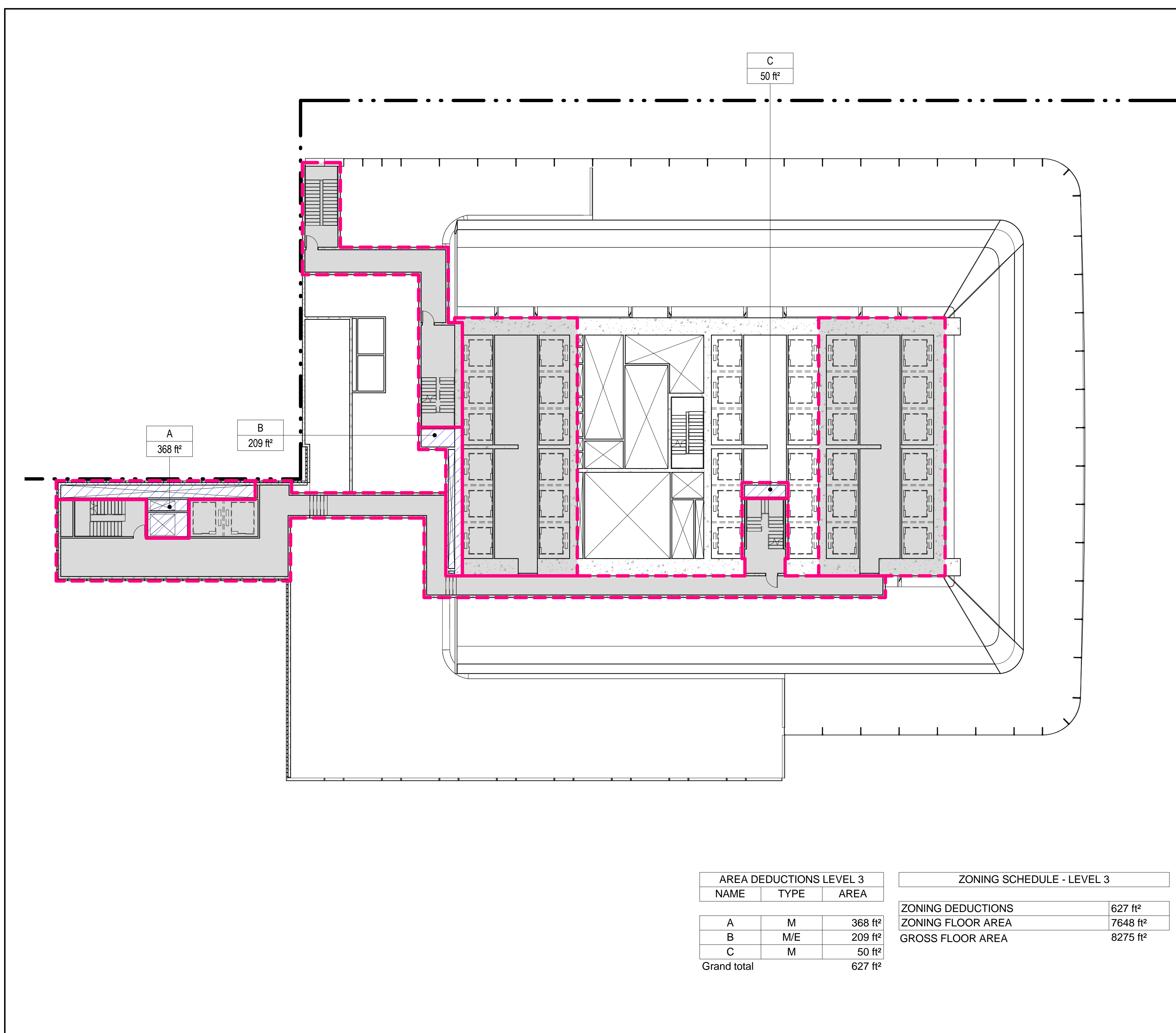
ZONING FLOOR
AREA
DEDUCTIONS -
CELLAR B

| | |
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| Project No.: 207150 | B-SCAN Sheet No.: Z-103.00 |
| Date: 21 AUG 2015 | Sheet No.: Z-103 |
| Scale: 1/16" = 1'-0" | Page No.: 10 OF 30 |
| File No.: 2-103 | |

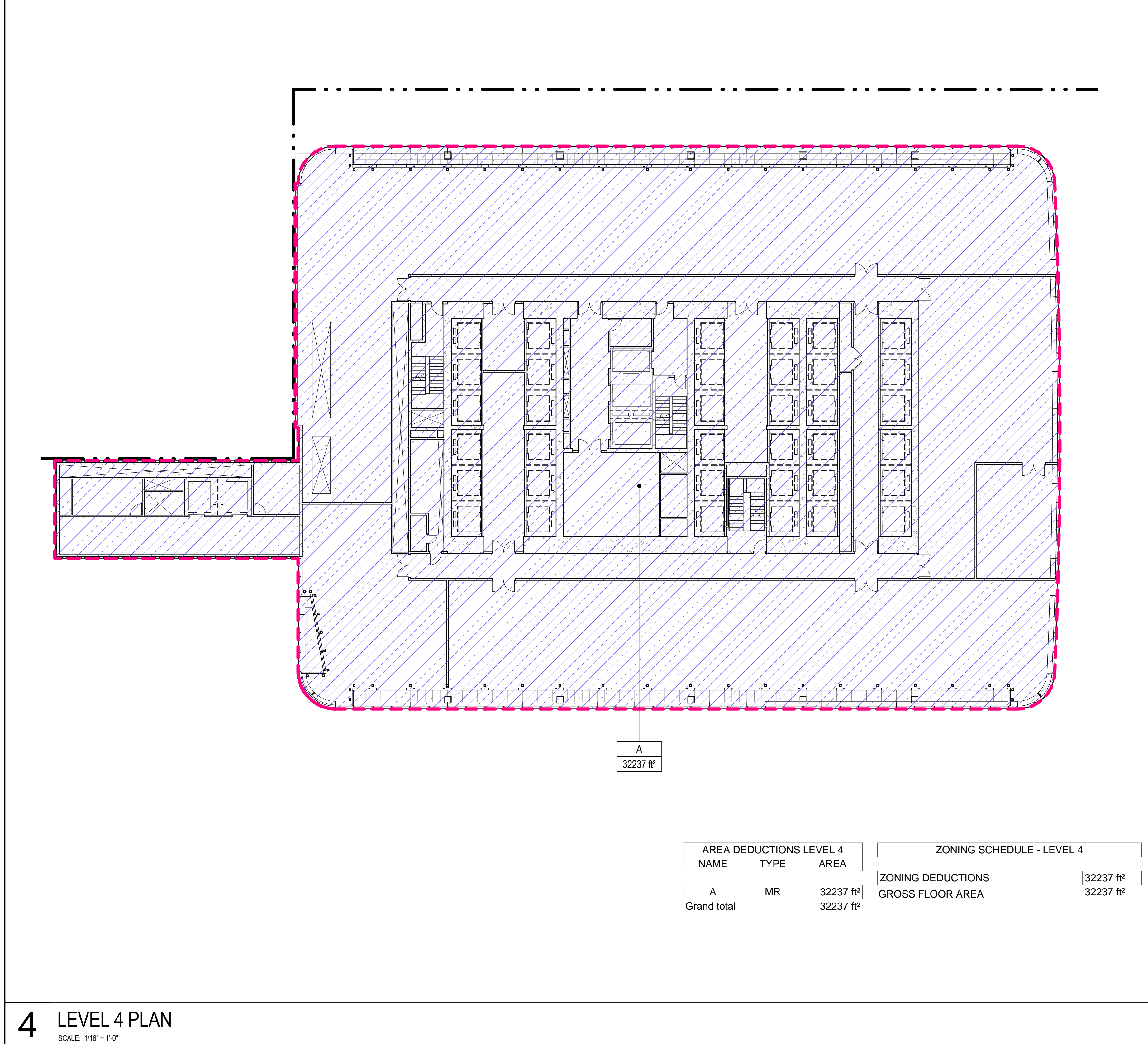
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| ZONING DEDUCTIONS | 57777 R² |
| GROSS FLOOR AREA | 57777 R² |



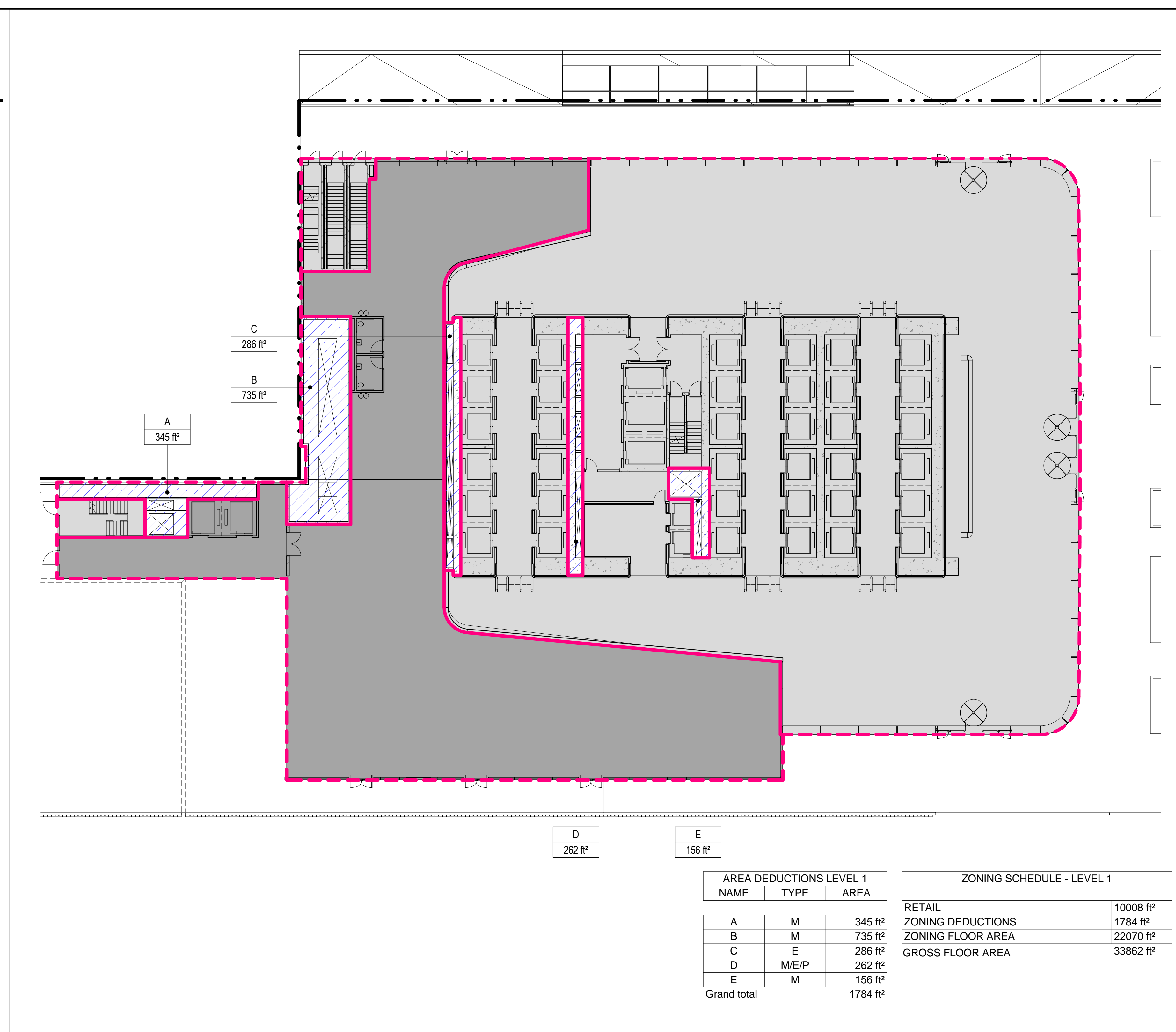
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Date: 09/21/2015



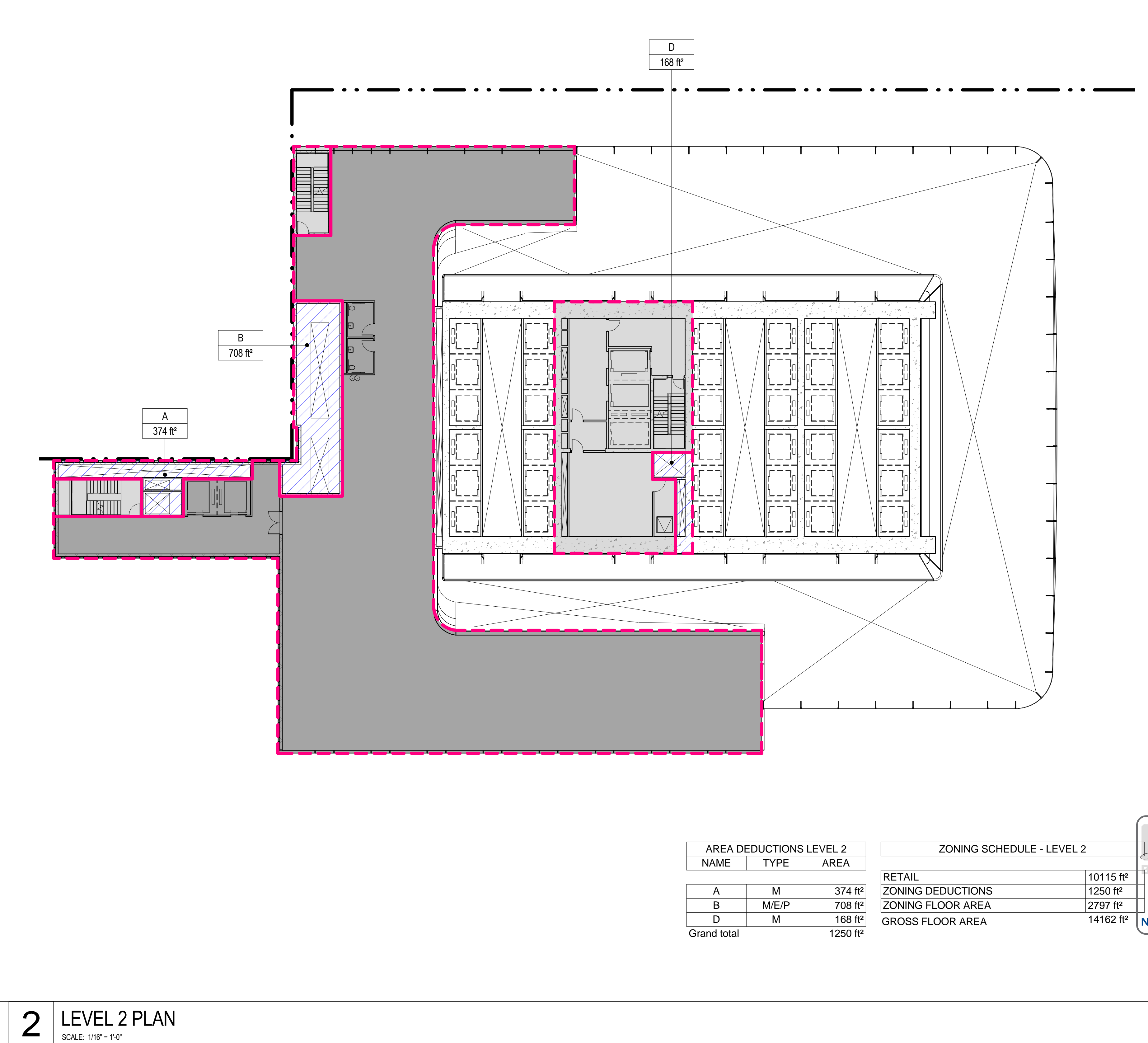
3 LEVEL 3 PLAN
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4 LEVEL 4 PLAN
SCALE: 1/16" = 1'-0"



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



2 LEVEL 2 PLAN
SCALE: 1/16" = 1'-0"

ZONING LEGENDS

- GROSS BUILDING AREA
- ZONING AREA DEDUCTIONS
- ZONING FLOOR AREA
- RETAIL
- MR MECHANICAL ROOM
- M MECHANICAL
- E ELECTRICAL/TEL/IT
- P PLUMBING
- EM ELEVATOR MACHINE ROOM

MANHATTAN WEST: NORTH TOWER
375 Ninth Avenue, New York, NY 10001
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Brookfield
Brookfield Place
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ZONING FLOOR AREA DEDUCTIONS - GROUND FLOOR & LEVEL 2-4

Project No.: 207150
Date: 21 AUG 2015
Scale: 1/16" = 1'-0"
File No.: Z-104

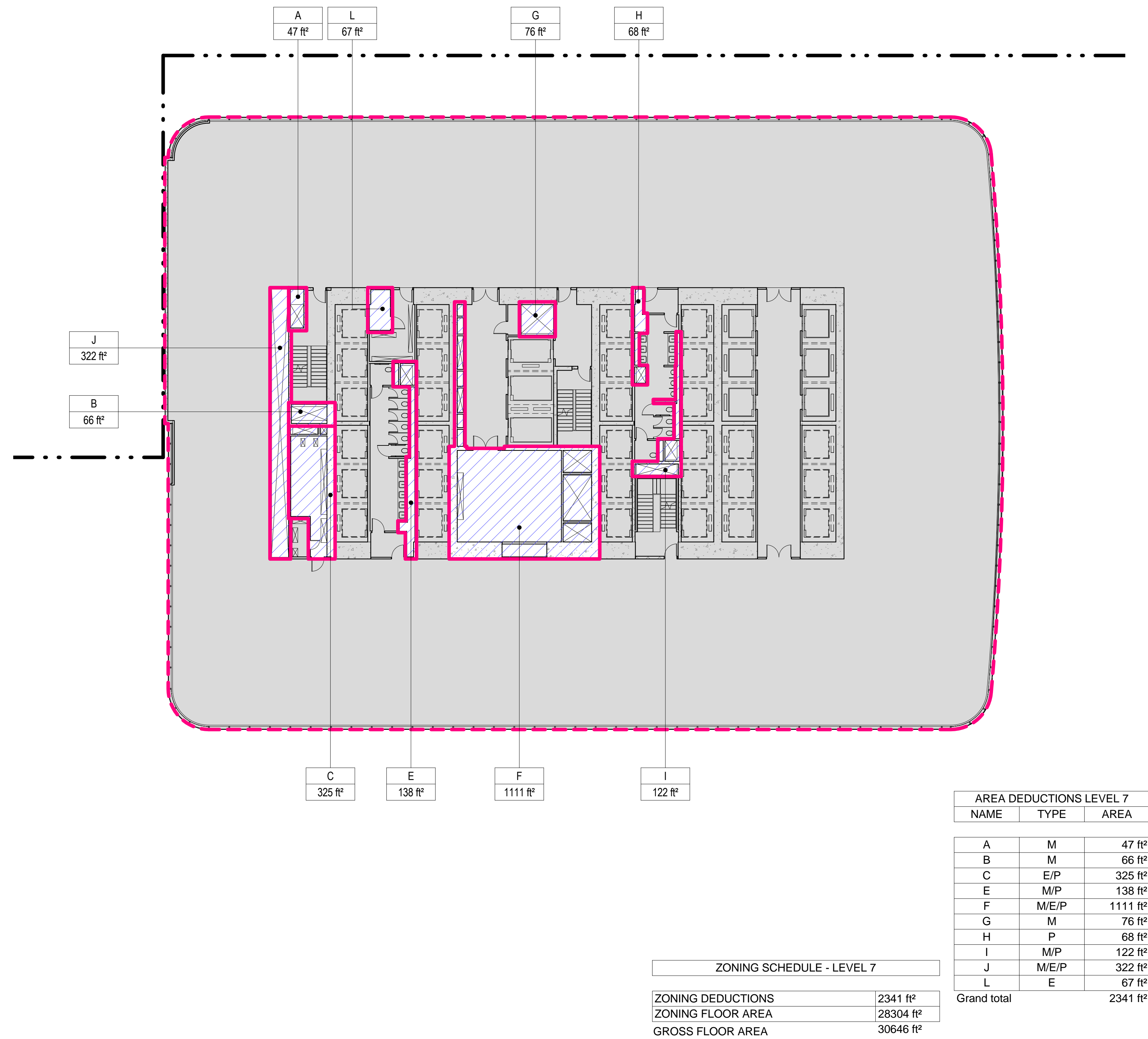
B-SCAN Sheet No.: Z-104.00
Sheet No.: Z-104
Page No.: 11 OF 30

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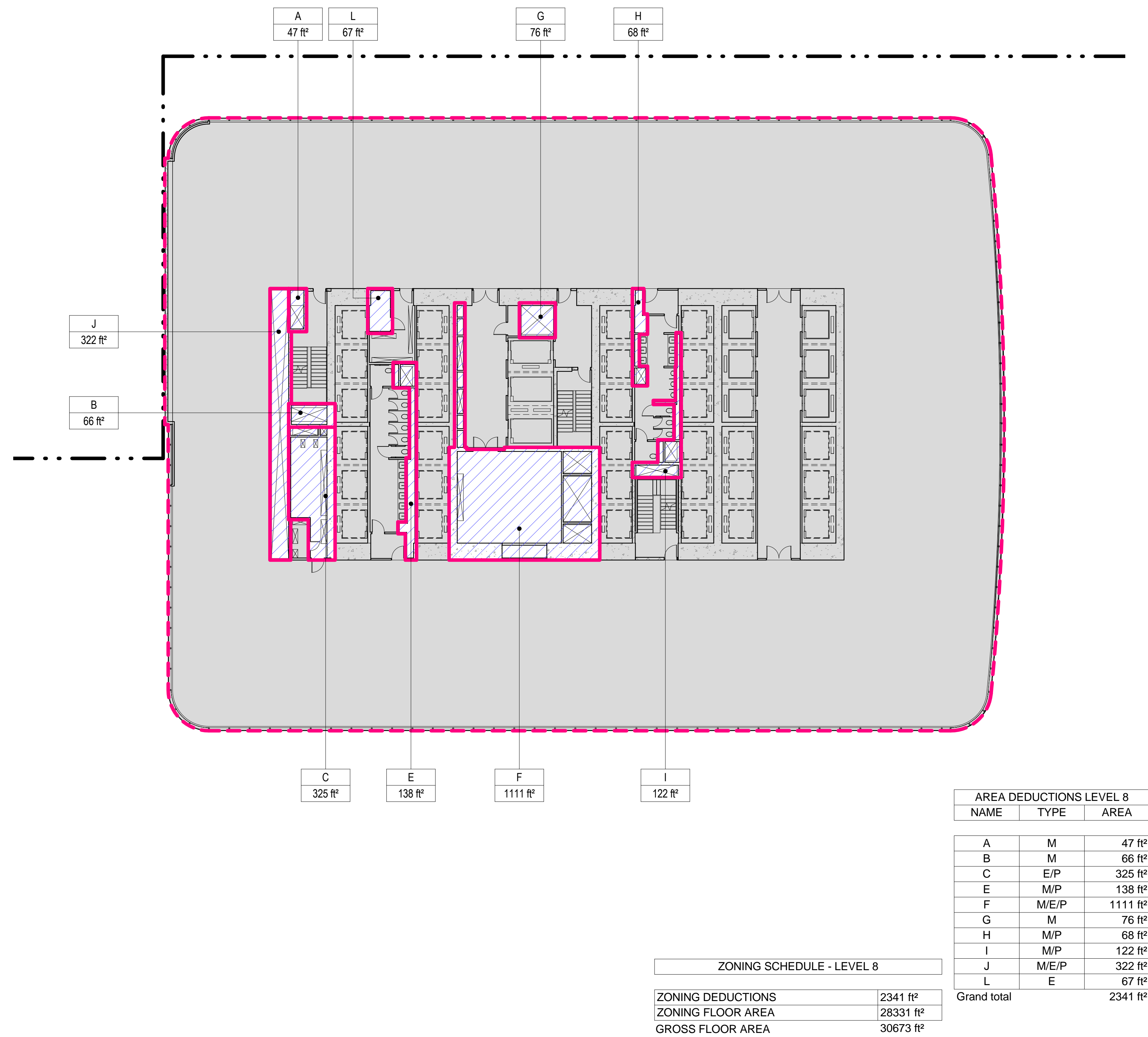
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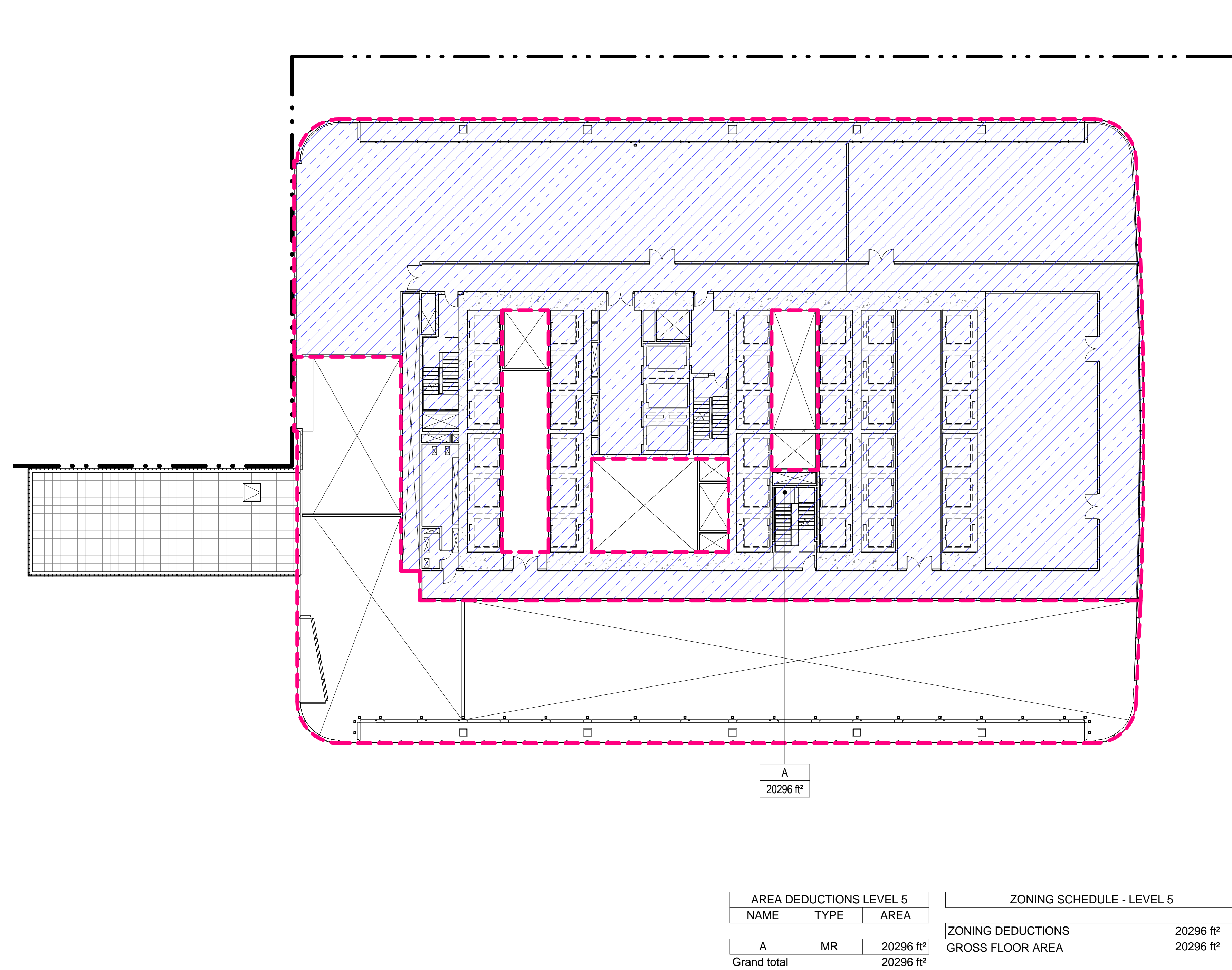
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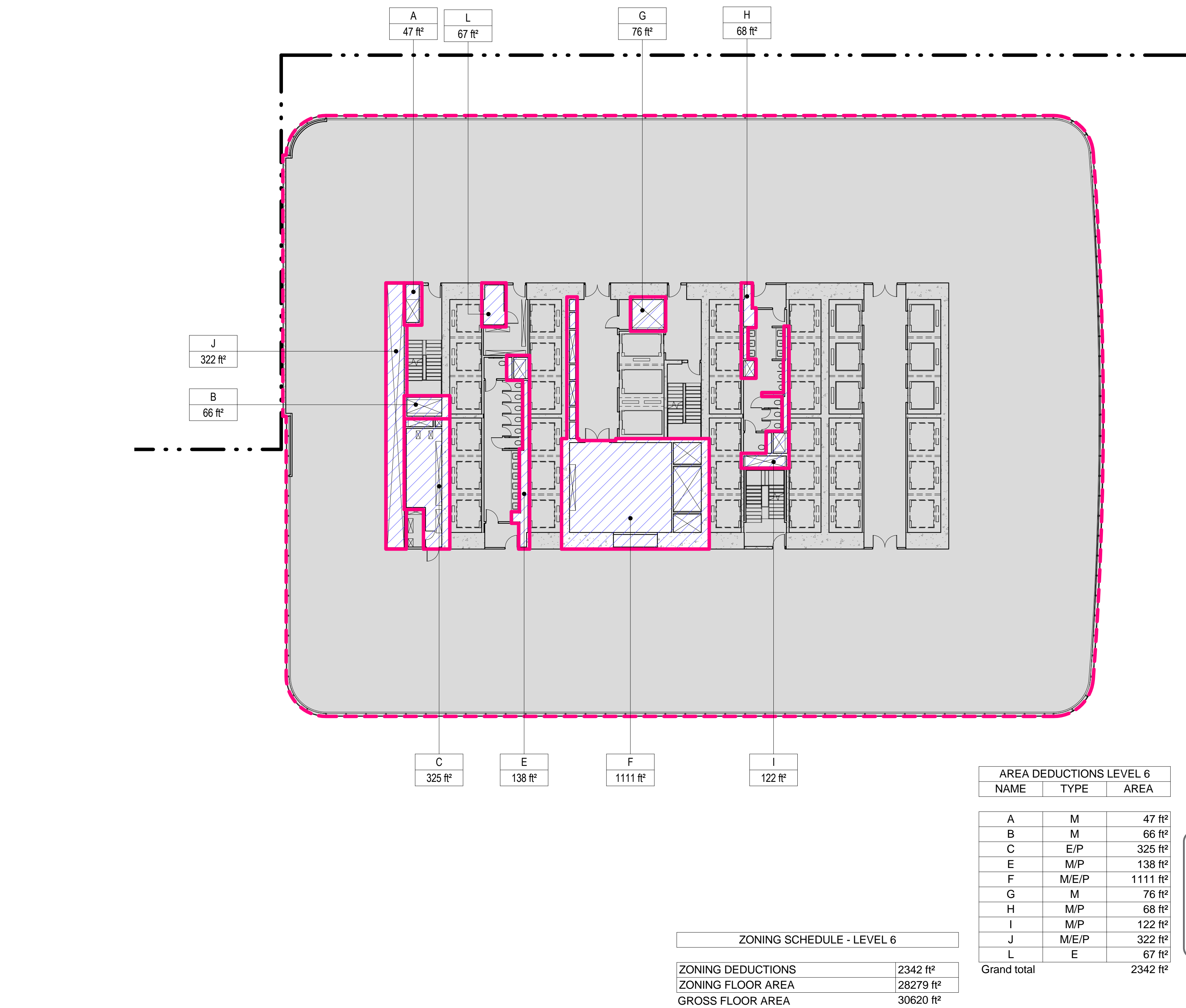
1 LEVEL 5 PLAN

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



2 LEVEL 6 PLAN

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



ZONING LEGENDS

- GROSS BUILDING AREA
- ZONING AREA DEDUCTIONS
- ZONING FLOOR AREA
- RETAIL
- MR MECHANICAL ROOM
- M MECHANICAL
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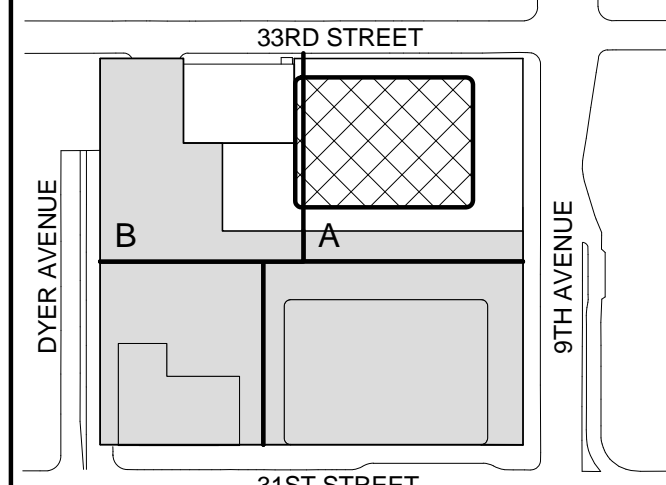
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Sheet Name:

**ZONING FLOOR
AREA
DEDUCTIONS -
LEVEL 5-8**

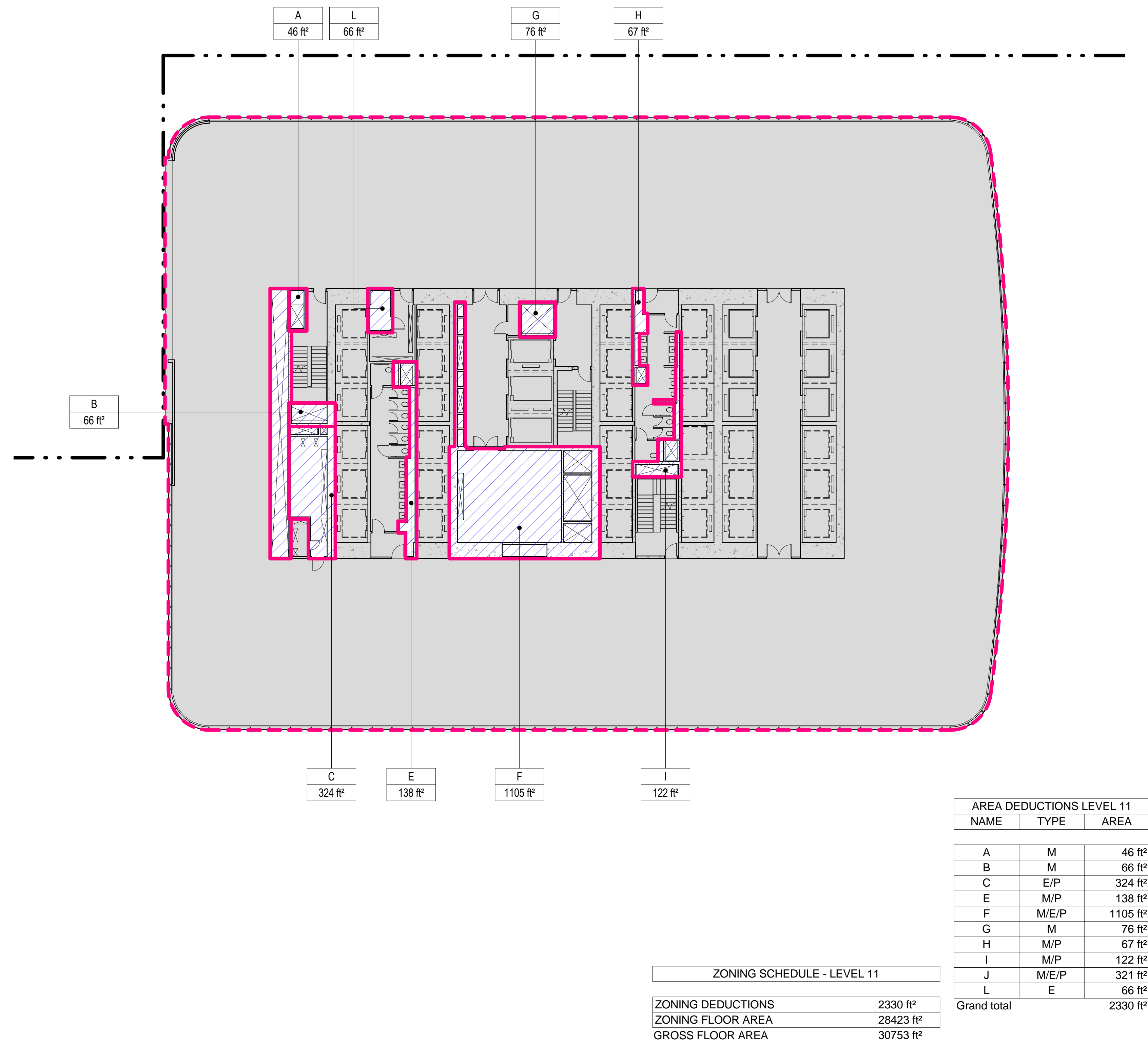
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Date: 27 AUG 2015
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File No.: Z-105

B-SCAN Sheet No.: **Z-105.00**
Sheet No.: **Z-105**
Page No.: 12 OF 30

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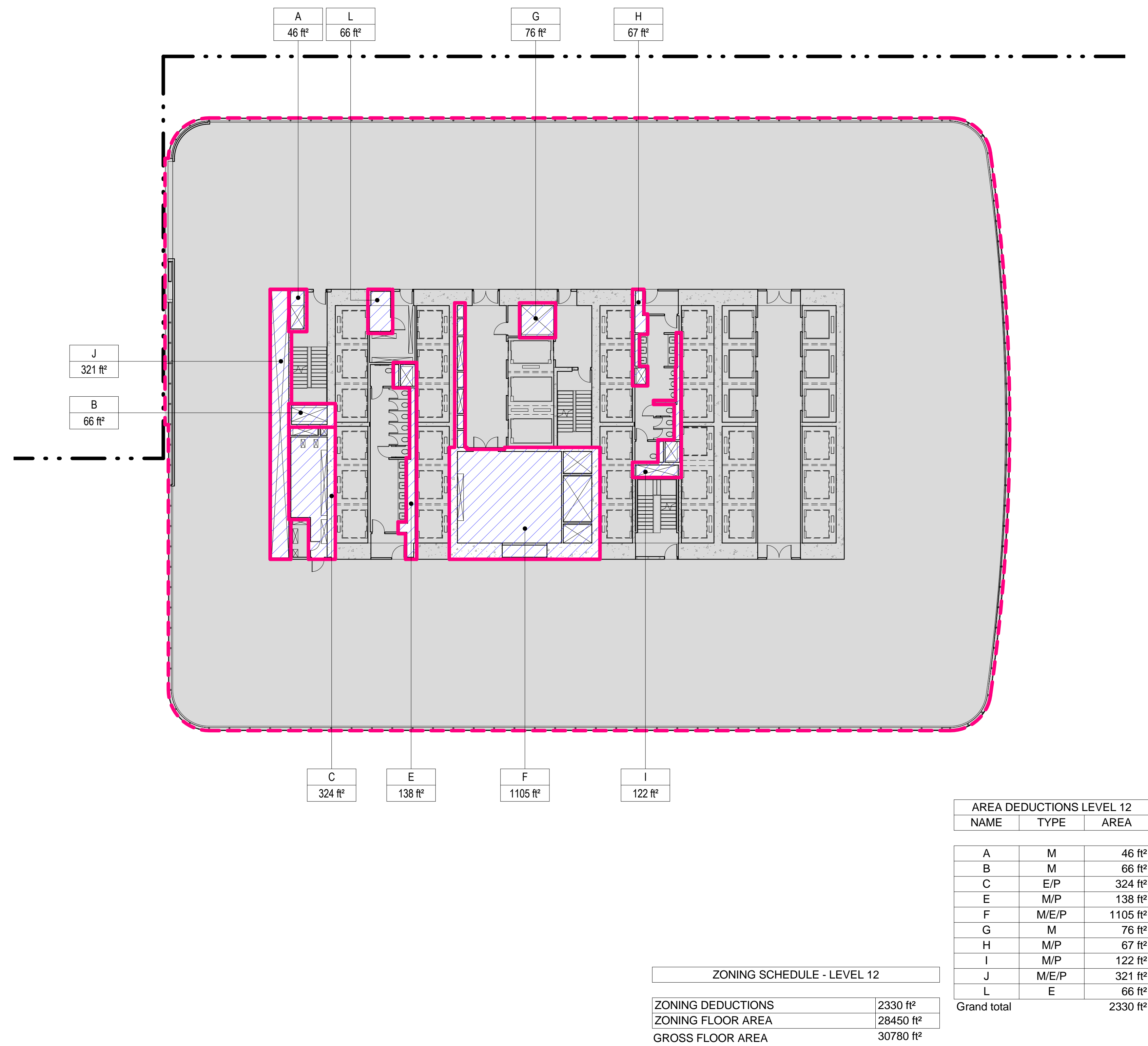
3 LEVEL 11 PLAN

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



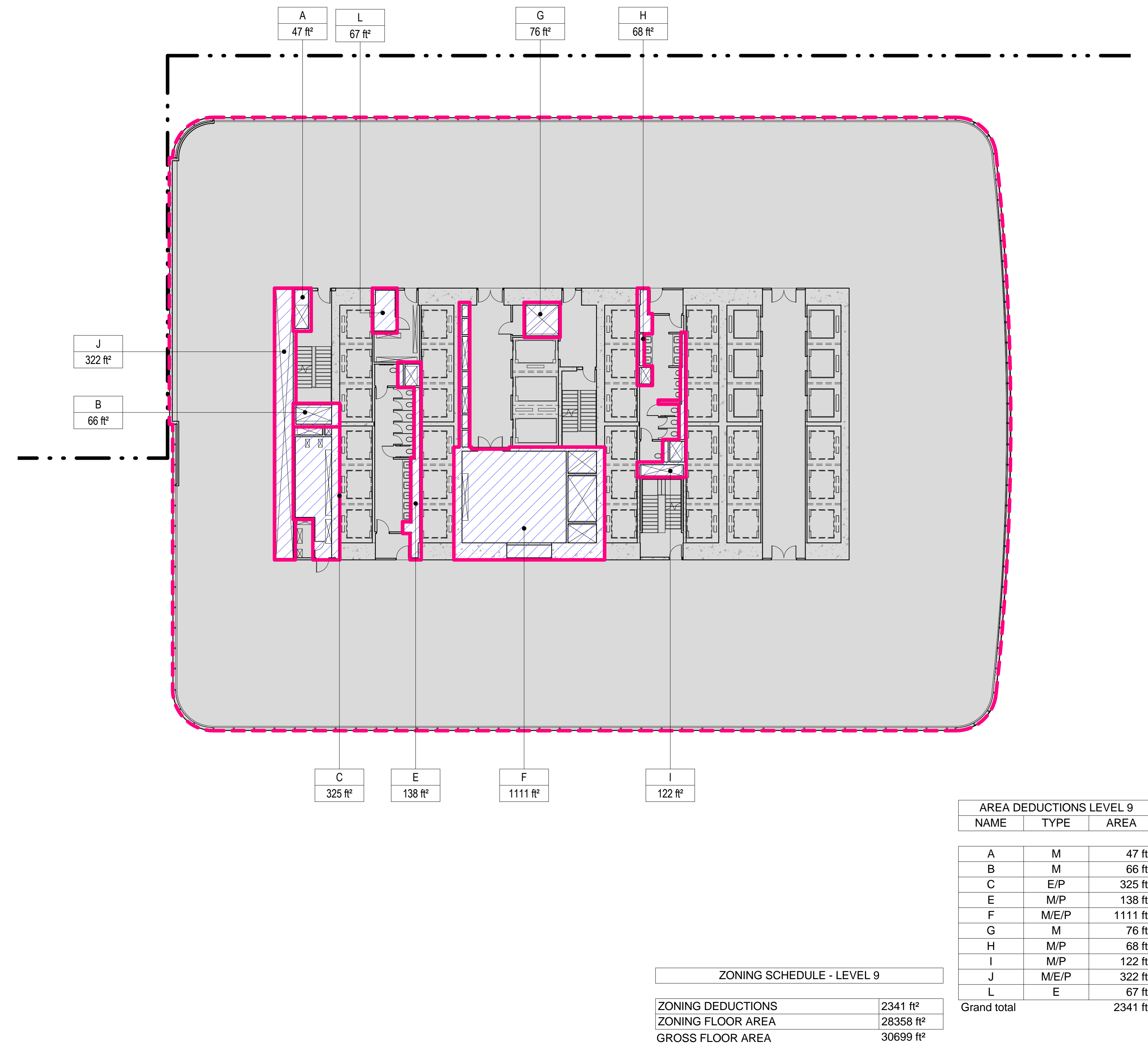
4 LEVEL 12 PLAN

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



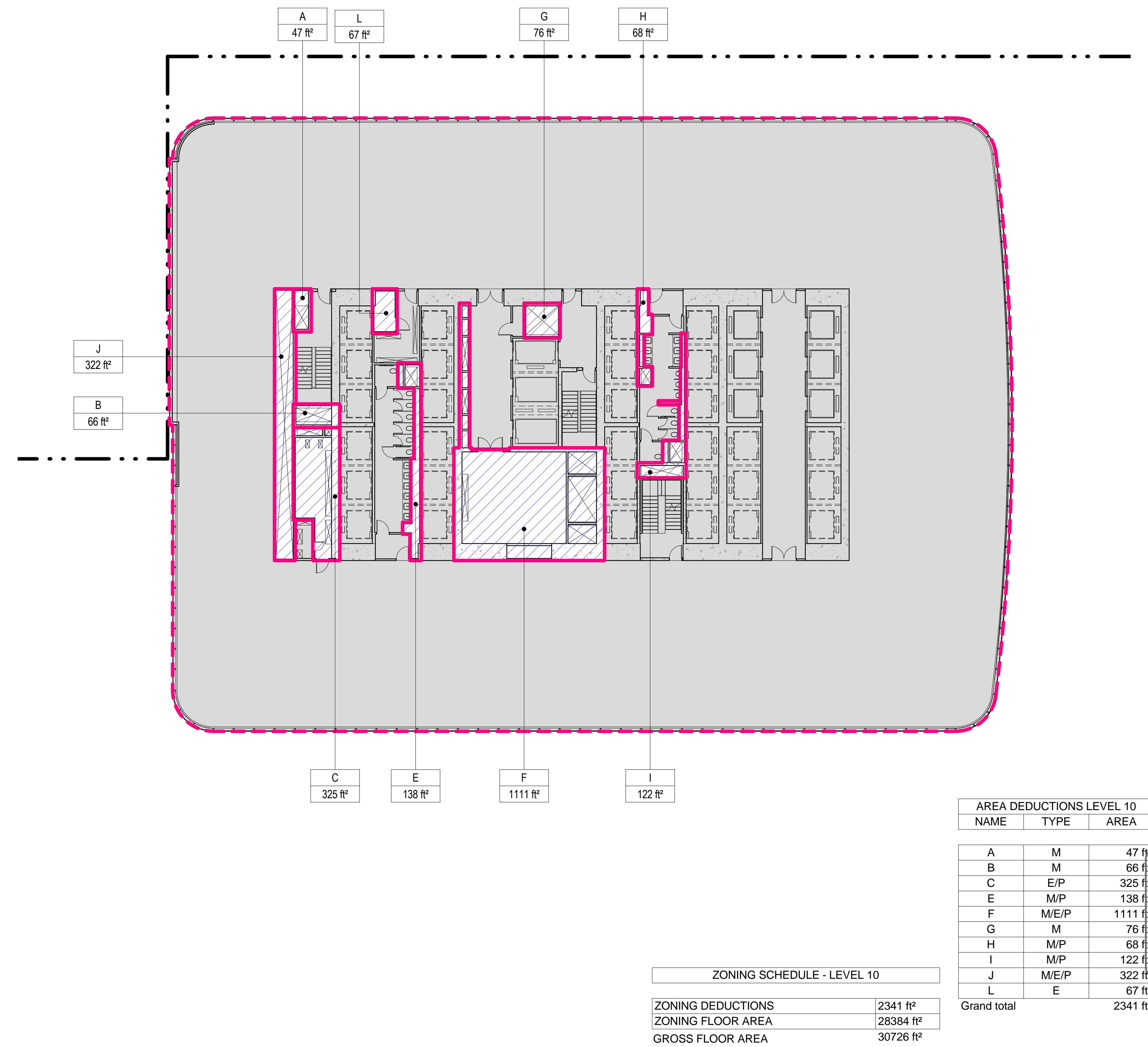
1 LEVEL 9 PLAN

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



2 LEVEL 10 PLAN

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



- ZONING LEGENDS**
- GROSS BUILDING AREA
 - ZONING AREA DEDUCTIONS
 - ZONING FLOOR AREA
 - RETAIL
 - MR MECHANICAL ROOM
 - M MECHANICAL
 - E ELECTRICAL/TEL/IT
 - P PLUMBING
 - EM ELEVATOR MACHINE ROOM

Damian Titus
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Under Directive 2 of 1975
Date: 09/21/2015
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NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
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B-SCAN Sheet No.:
Z-106.00
Sheet No.:
Z-106
Page No.: 13 OF 30

- ZONING LEGENDS**
- GROSS BUILDING AREA
 - ZONING AREA DEDUCTIONS
 - ZONING FLOOR AREA
 - RETAIL
 - MR MECHANICAL ROOM
 - M MECHANICAL
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**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
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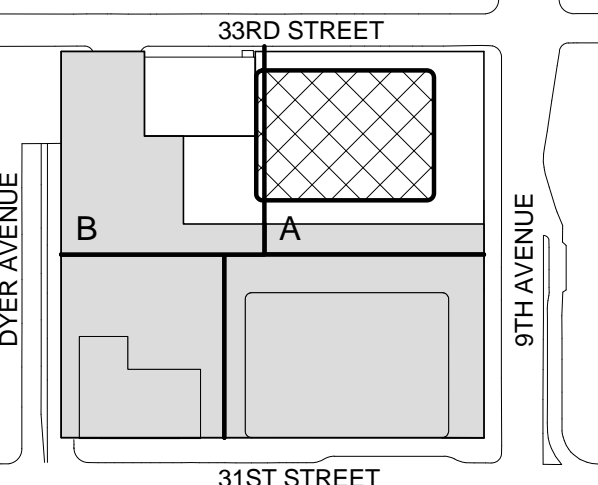
Facade Maintenance Consultant

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No. _____ Date _____ Description _____

Sheet Name: _____

ZONING FLOOR AREA DEDUCTIONS - LEVEL 13-16

| Project No.: | B-SCAN Sheet No.: |
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| 207150 | Z-107.00 |

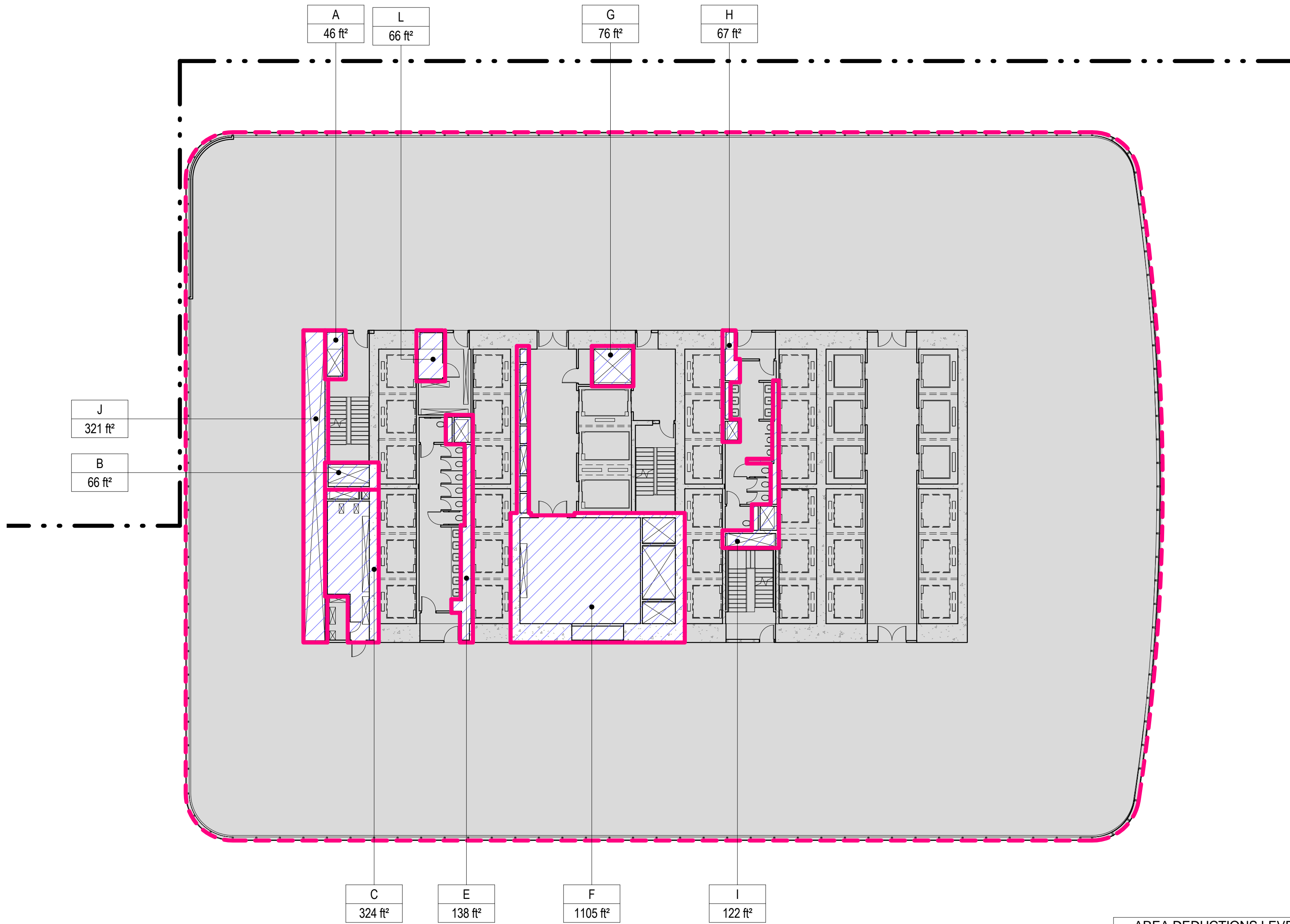
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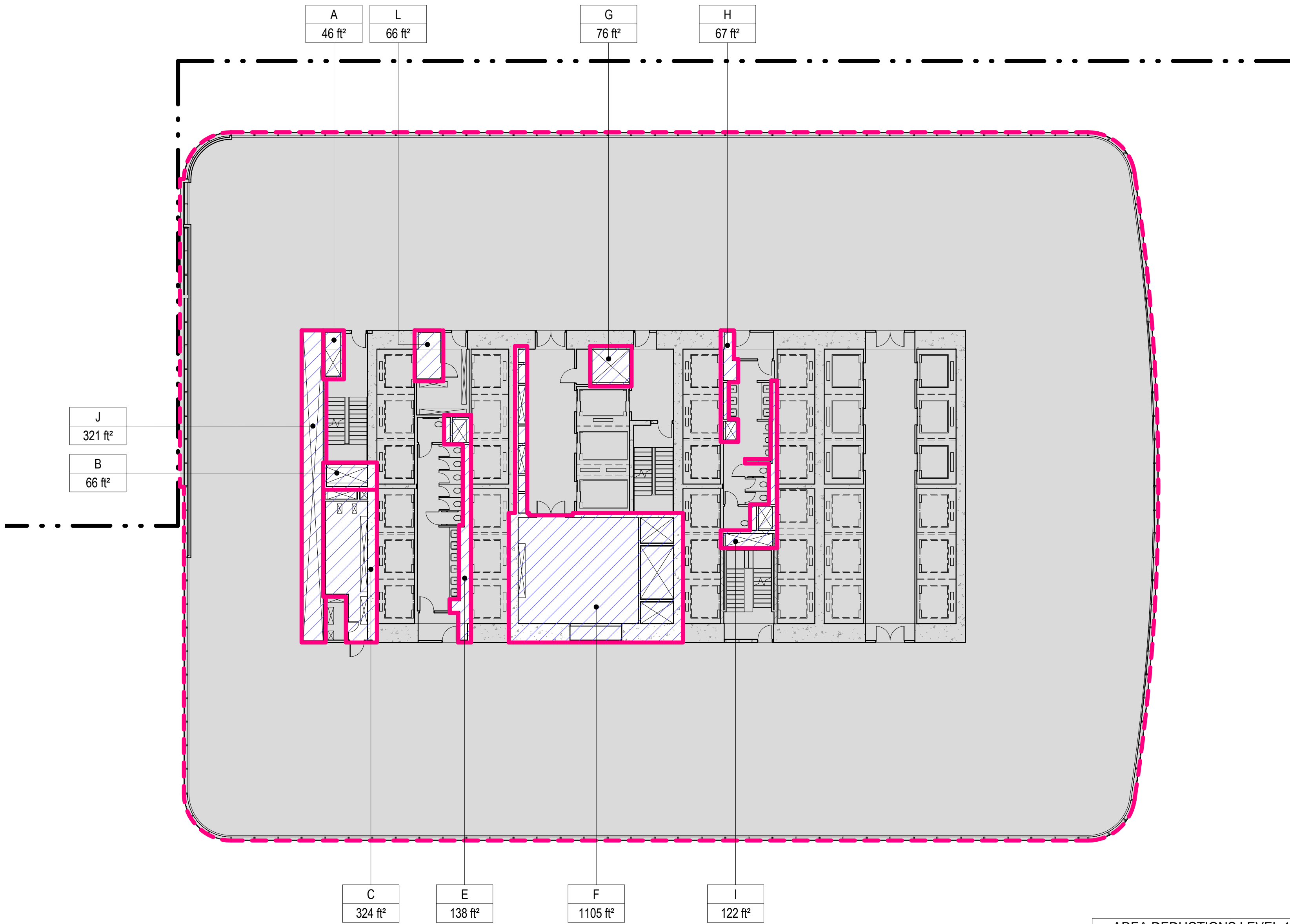
Page No: 14 OF 30

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| AREA DEDUCTIONS LEVEL 15 | | |
|--------------------------|-------|----------|
| NAME | TYPE | AREA |
| A | M | 46 ft² |
| B | M | 66 ft² |
| C | E/P | 324 ft² |
| E | M/P | 138 ft² |
| F | M/E/P | 1105 ft² |
| G | M | 76 ft² |
| H | M/P | 67 ft² |
| I | M/P | 122 ft² |
| J | M/E/P | 321 ft² |
| L | E | 66 ft² |
| Grand total | | 2330 ft² |

| ZONING SCHEDULE - LEVEL 15 | |
|----------------------------|-----------|
| ZONING DEDUCTIONS | 2330 ft² |
| ZONING FLOOR AREA | 28501 ft² |
| GROSS FLOOR AREA | 30831 ft² |

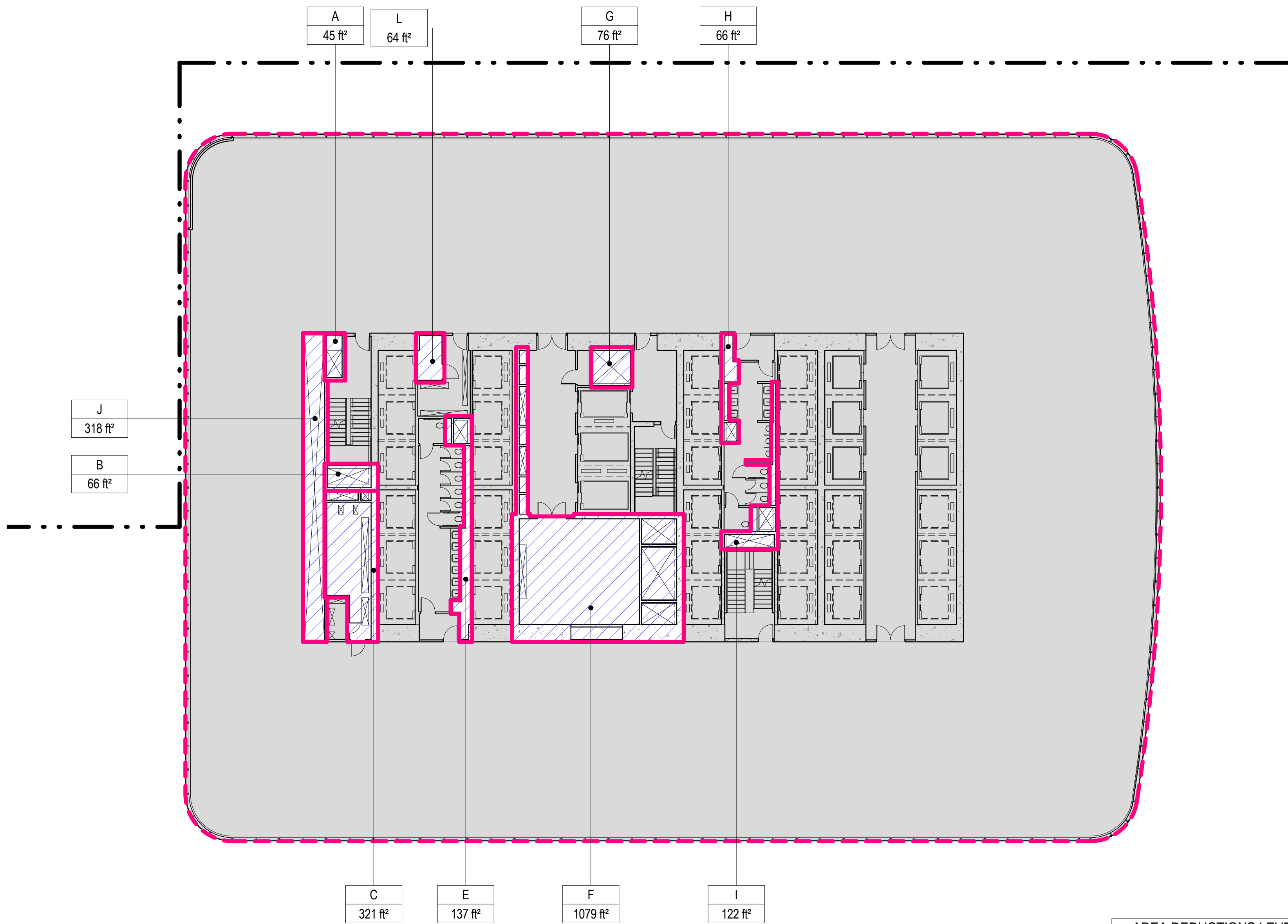


| AREA DEDUCTIONS LEVEL 13 | | |
|--------------------------|-------|----------|
| NAME | TYPE | AREA |
| A | M | 46 ft² |
| B | M | 66 ft² |
| C | E/P | 324 ft² |
| E | M/P | 138 ft² |
| F | M/E/P | 1105 ft² |
| G | M | 76 ft² |
| H | M/P | 67 ft² |
| I | M/P | 122 ft² |
| J | M/E/P | 321 ft² |
| L | E | 66 ft² |
| Grand total | | 2330 ft² |

| ZONING SCHEDULE - LEVEL 13 | |
|----------------------------|-----------|
| ZONING DEDUCTIONS | 2330 ft² |
| ZONING FLOOR AREA | 28477 ft² |
| GROSS FLOOR AREA | 30807 ft² |

3 LEVEL 15 PLAN

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



| AREA DEDUCTIONS LEVEL 16 | | |
|--------------------------|-------|----------|
| NAME | TYPE | AREA |
| A | M | 45 ft² |
| B | M | 66 ft² |
| C | E/P | 321 ft² |
| E | M/P | 137 ft² |
| F | M/E/P | 1079 ft² |
| G | M | 76 ft² |
| H | M/P | 66 ft² |
| I | M/P | 122 ft² |
| J | M/E/P | 318 ft² |
| L | E | 64 ft² |
| Grand total | | 2293 ft² |

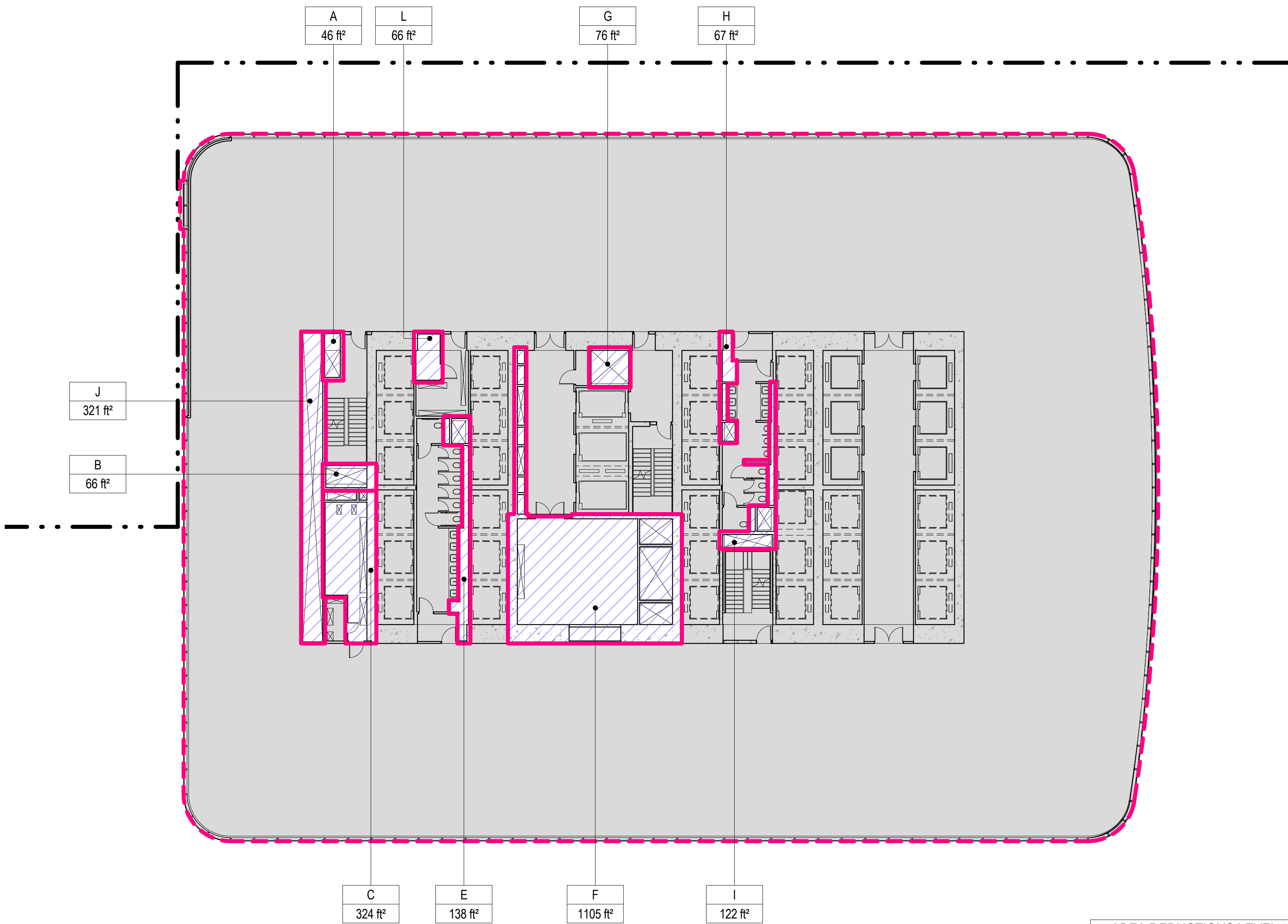
| ZONING SCHEDULE - LEVEL 16 | |
|----------------------------|-----------|
| ZONING DEDUCTIONS | 2293 ft² |
| ZONING FLOOR AREA | 28539 ft² |
| GROSS FLOOR AREA | 30832 ft² |

4 LEVEL 16

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

1 LEVEL 13 PLAN

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



| AREA DEDUCTIONS LEVEL 14 | | |
|--------------------------|-------|----------|
| NAME | TYPE | AREA |
| A | M | 46 ft² |
| B | M | 66 ft² |
| C | E/P | 324 ft² |
| E | M/P | 138 ft² |
| F | M/E/P | 1105 ft² |
| G | M | 76 ft² |
| H | M/P | 67 ft² |
| I | M/P | 122 ft² |
| J | M/E/P | 321 ft² |
| L | E | 66 ft² |
| Grand total | | 2330 ft² |

| ZONING SCHEDULE - LEVEL 14 | |
|----------------------------|-----------|
| ZONING DEDUCTIONS | 2330 ft² |
| ZONING FLOOR AREA | 28482 ft² |
| GROSS FLOOR AREA | 30812 ft² |

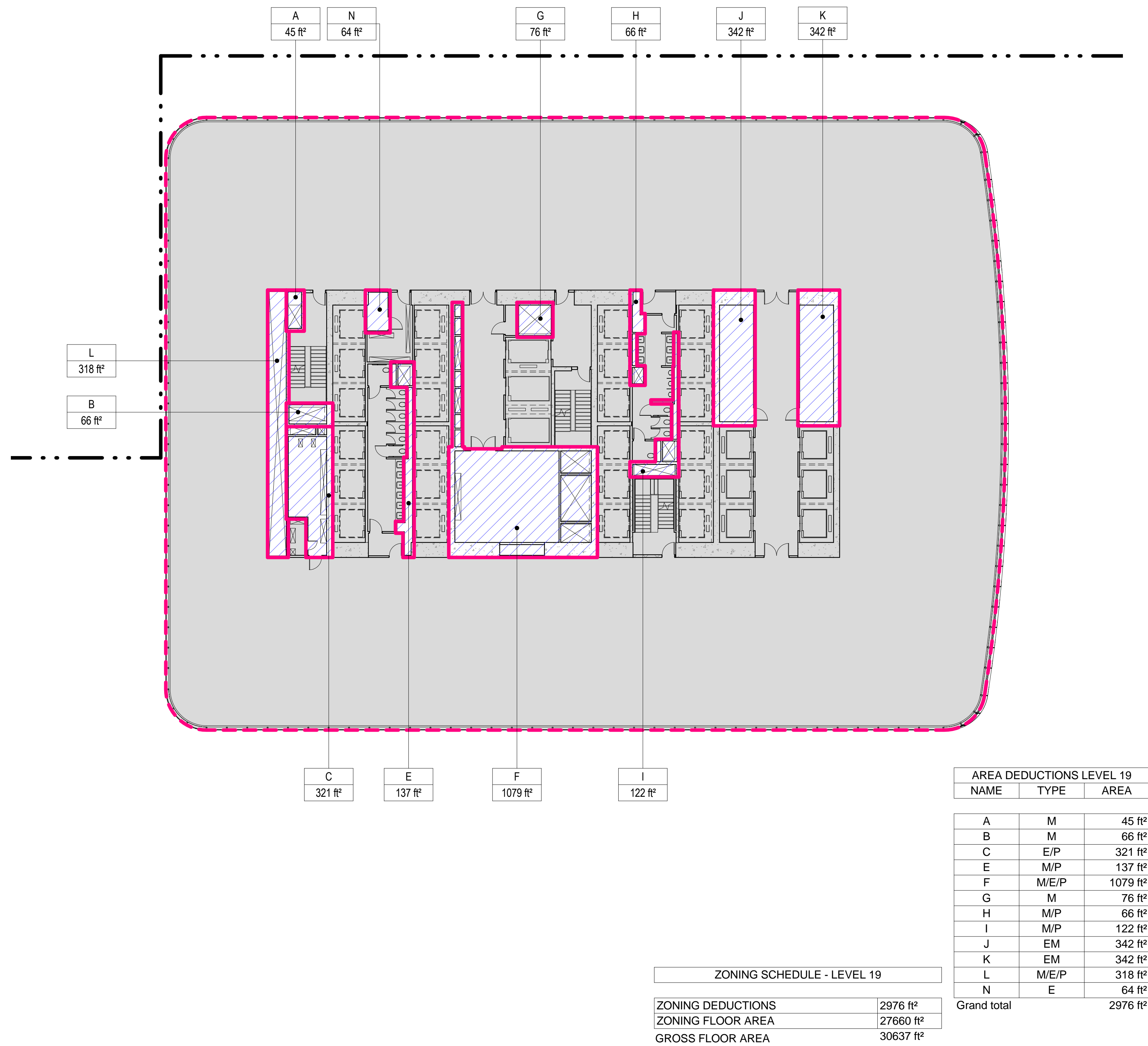
2 LEVEL 14 PLAN

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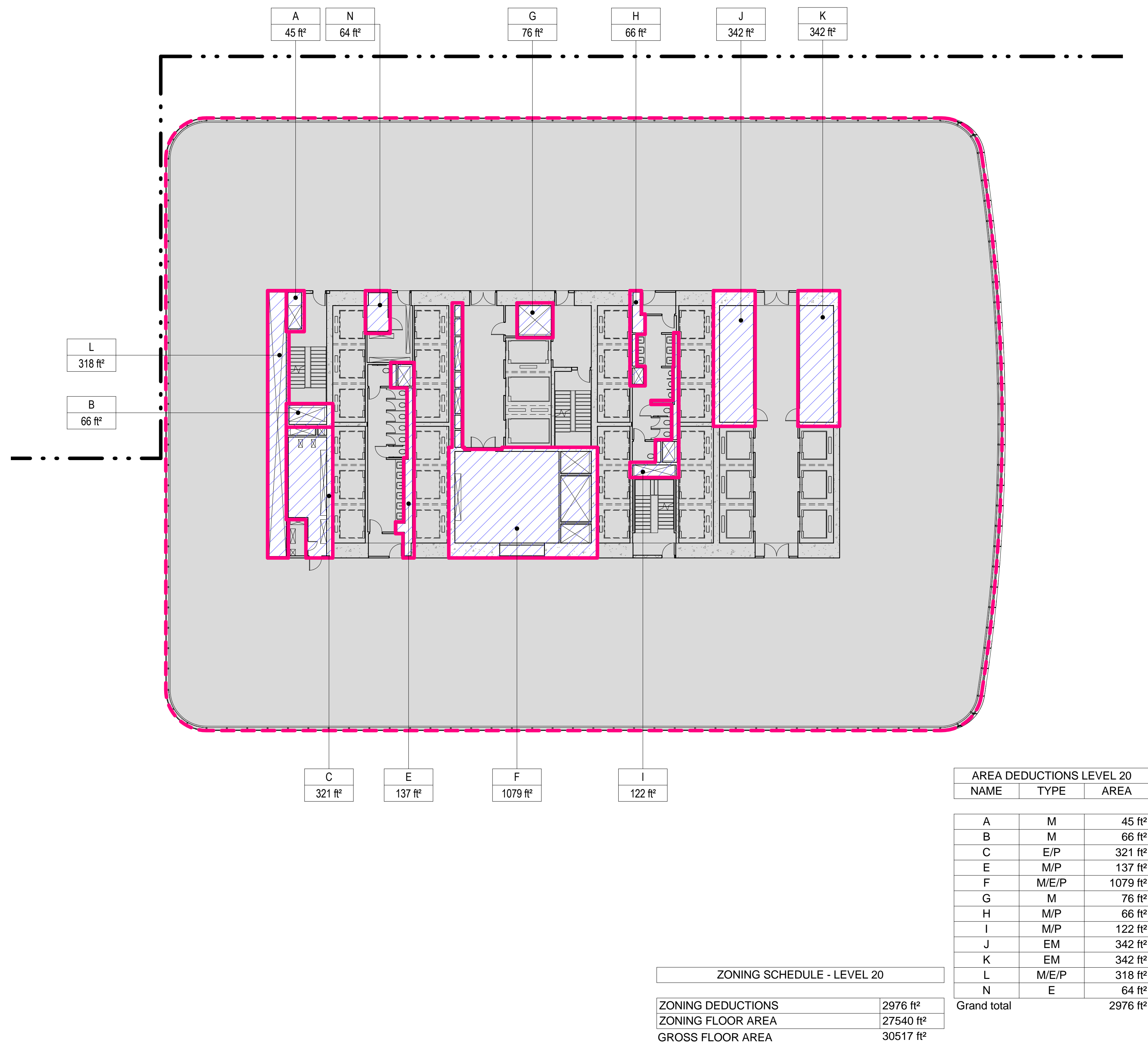
3 LEVEL 19 PLAN

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



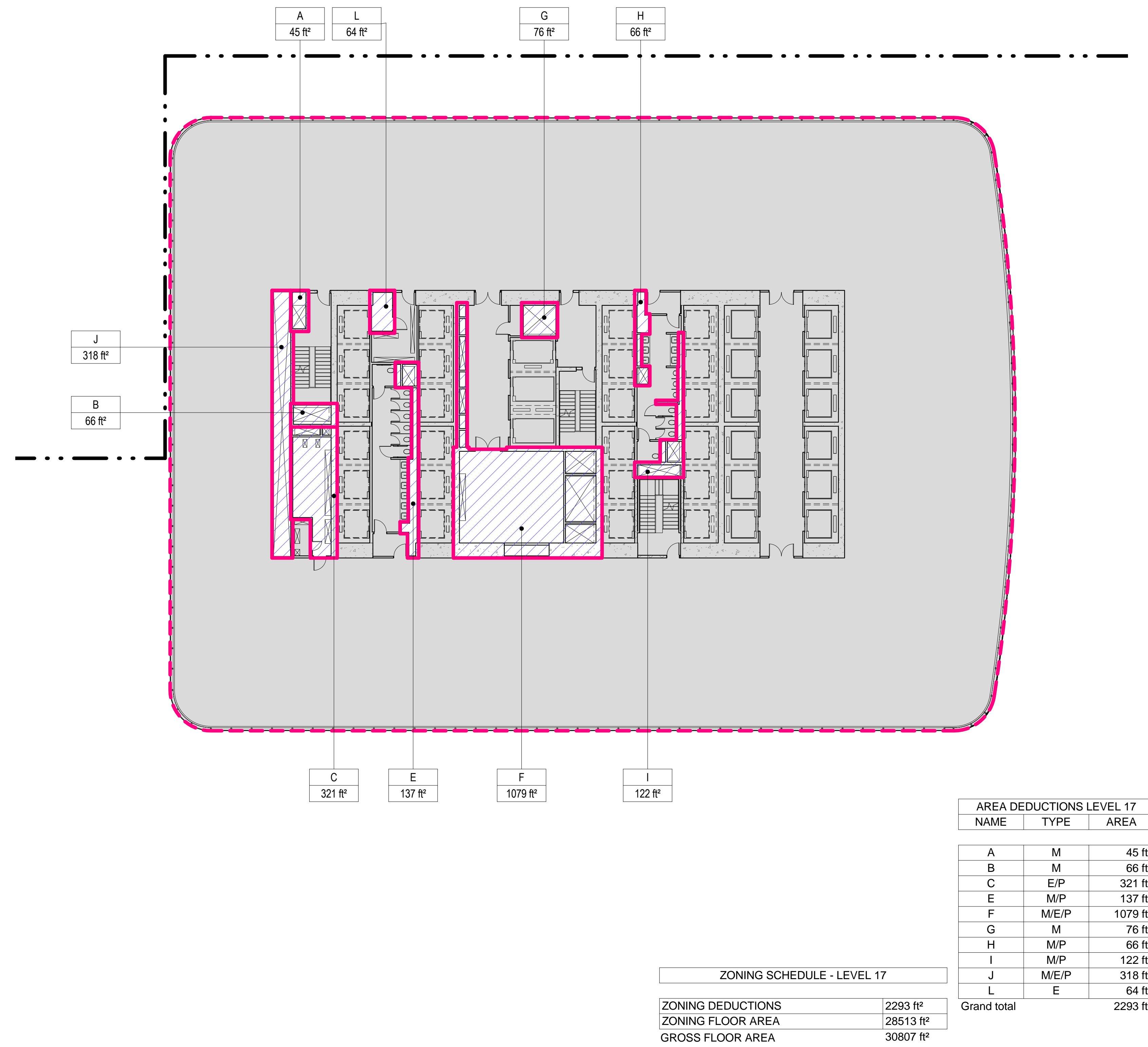
4 LEVEL 20 PLAN

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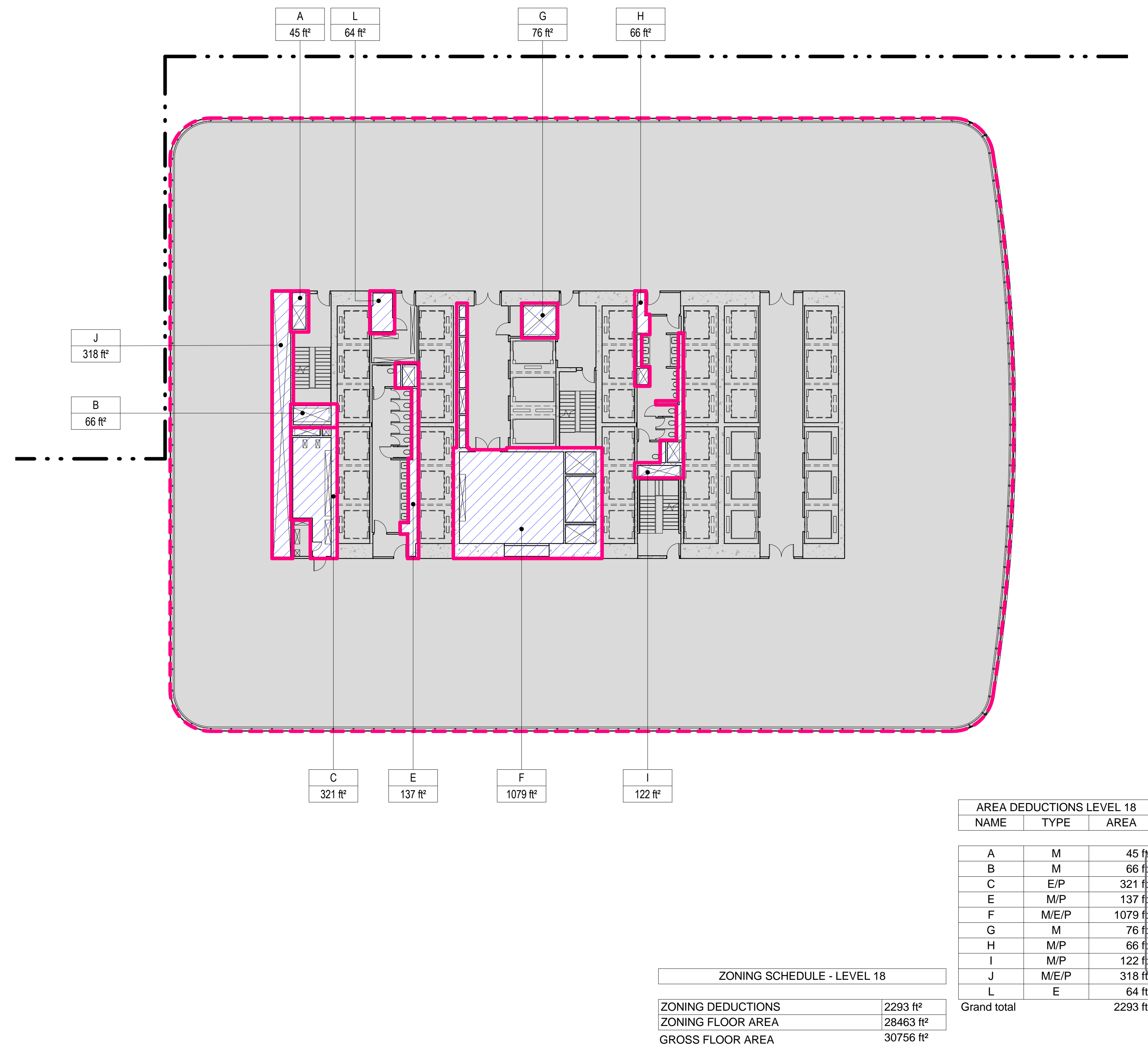
1 LEVEL 17 PLAN

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



2 LEVEL 18 PLAN

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



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Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

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Key Plan:

Seal & Signature:

REGISTERED ARCHITECT
DAMIAN TITUS
No. 15649
STATE OF NEW YORK

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/16" = 1'-0"
File No.: Z-108

B-SCAN Sheet No.: Z-108.00
Sheet No.: Z-108
Page No.: 15 OF 30



**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
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Vertical Transportation
Edgett Williams Consulting Group, Inc.
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Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

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Mueser Rutledge Consulting Engineers
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Acoustical Consultant
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Vibration Consultant
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Code Consultants Professional Engineers PC
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Sheet No.: Z-108
Page No.: 15 OF 30

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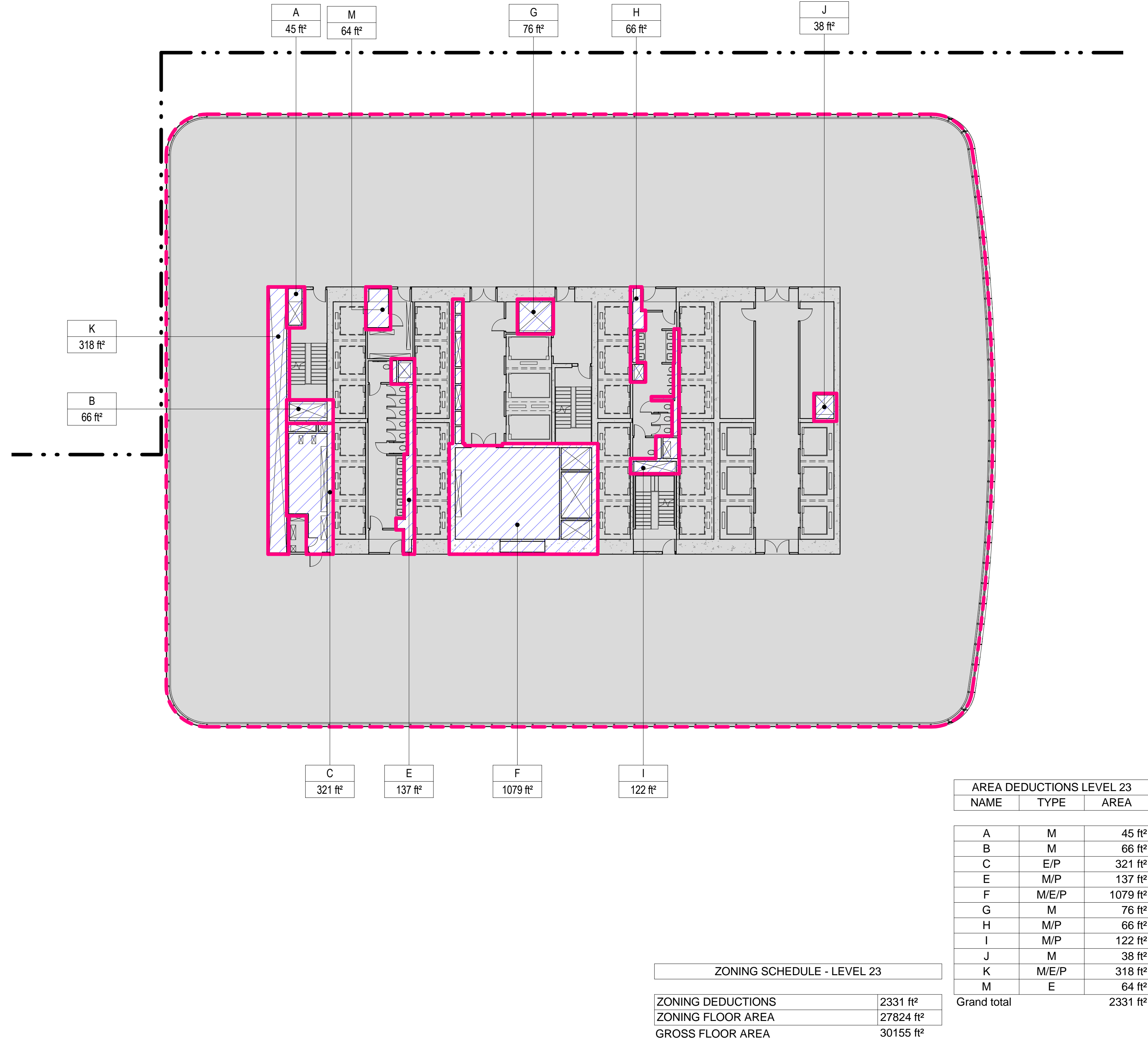
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REGISTERED ARCHITECT
DAMIAN TITUS
No. 15649
STATE OF NEW YORK

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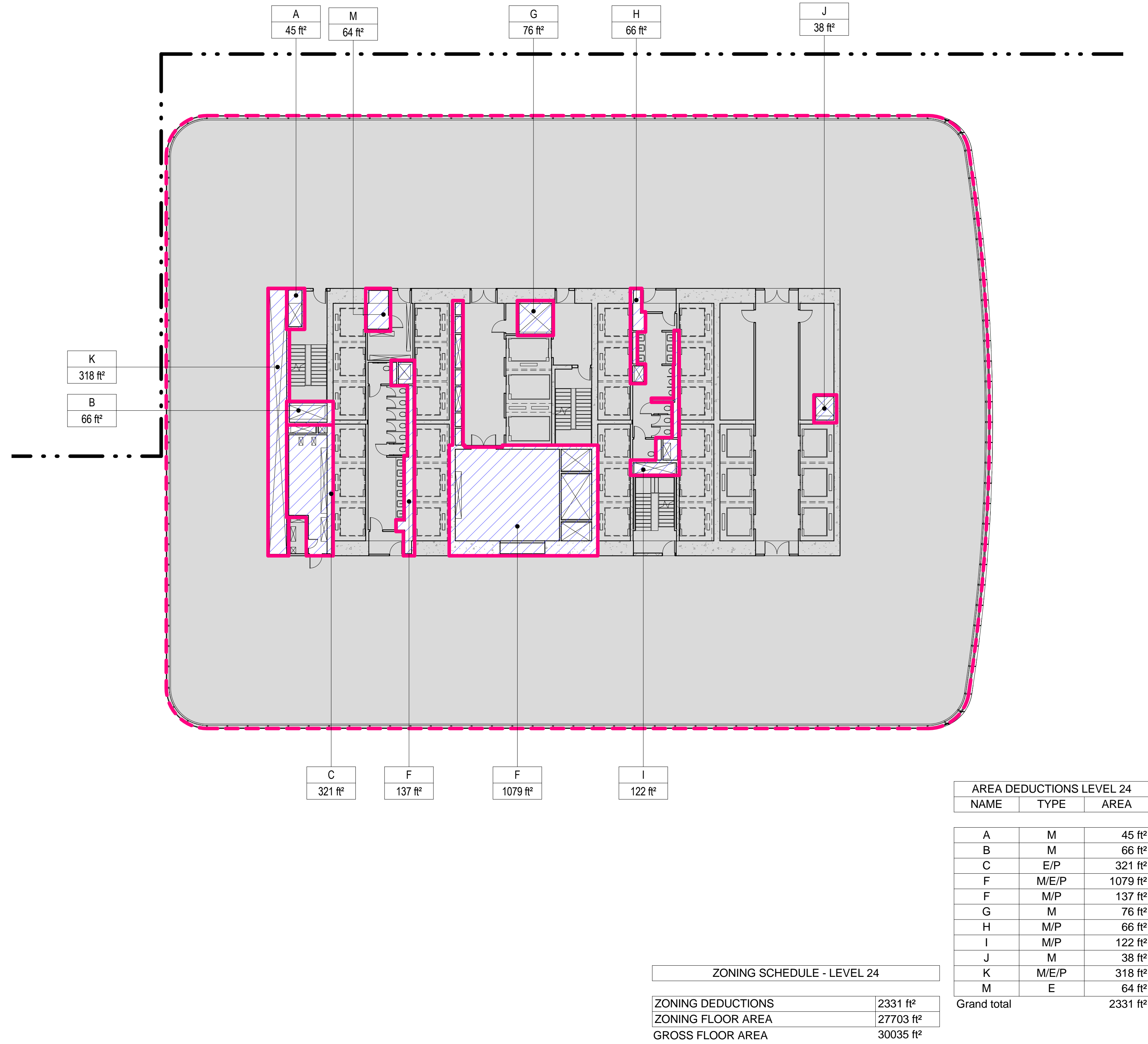
3 LEVEL 23 PLAN

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



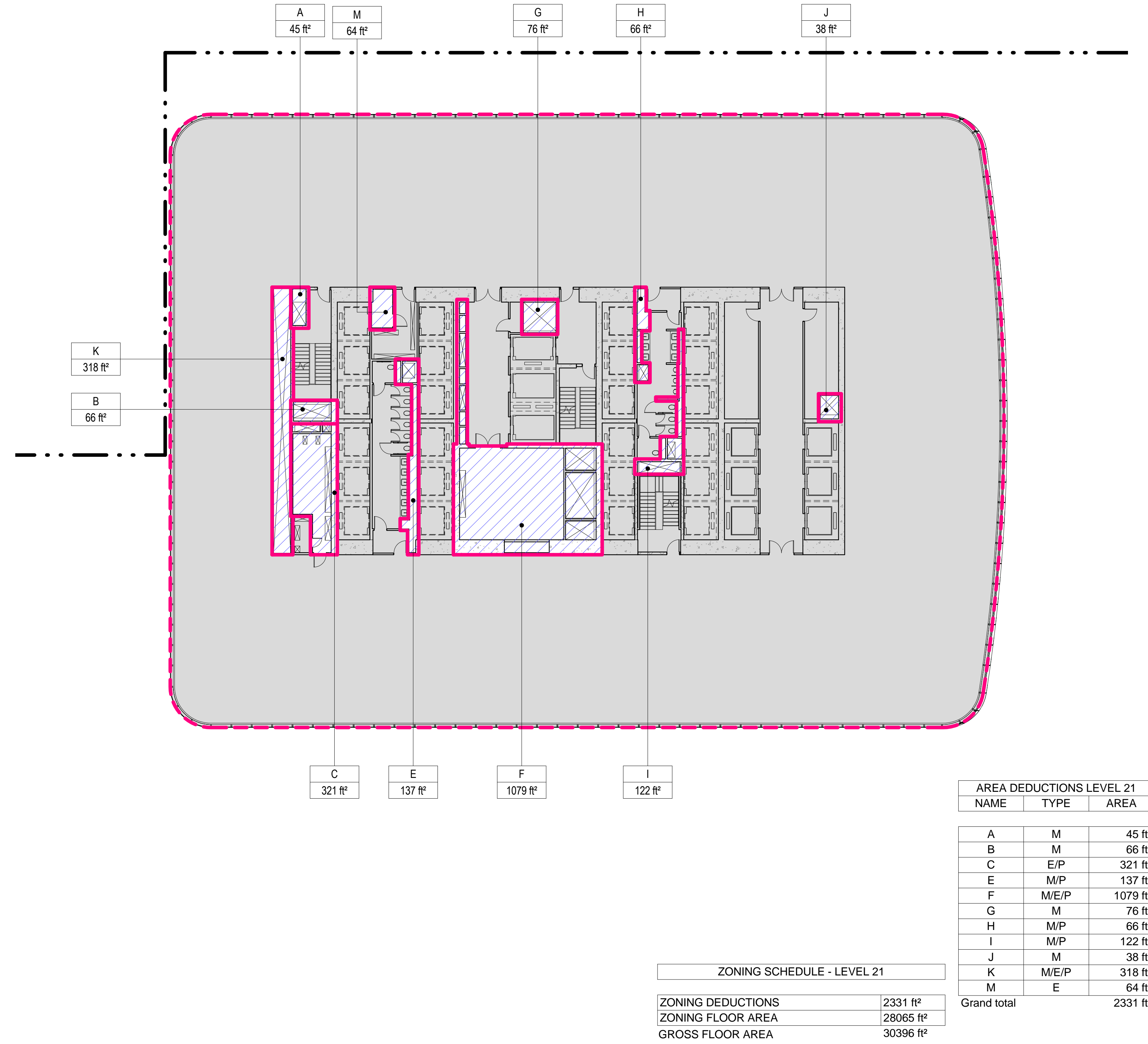
4 LEVEL 24 PLAN

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



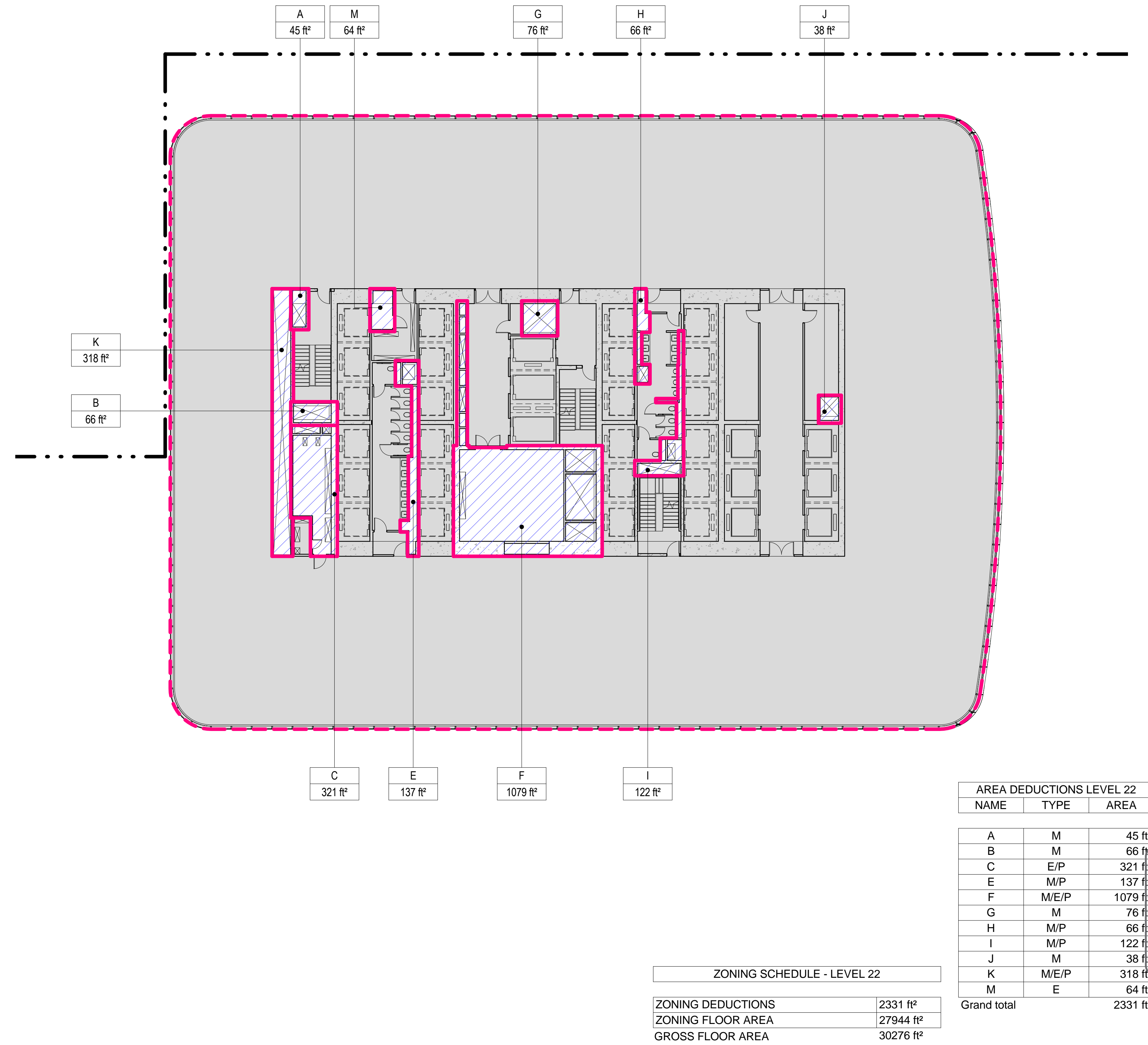
1 LEVEL 21 PLAN

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



2 LEVEL 22 PLAN

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



- ZONING LEGENDS**
- GROSS BUILDING AREA
 - ZONING AREA DEDUCTIONS
 - ZONING FLOOR AREA
 - RETAIL
 - MR MECHANICAL ROOM
 - M MECHANICAL
 - E ELECTRICAL/TEL/IT
 - P PLUMBING
 - EM ELEVATOR MACHINE ROOM

| NAME | TYPE | AREA |
|-------------|-------|----------|
| A | M | 45 ft² |
| B | M | 66 ft² |
| C | E/P | 321 ft² |
| E | M/P | 137 ft² |
| F | M/E/P | 1079 ft² |
| G | M | 76 ft² |
| H | M/P | 66 ft² |
| I | M/P | 122 ft² |
| J | M | 38 ft² |
| K | M/E/P | 318 ft² |
| M | E | 64 ft² |
| Grand total | | 2331 ft² |

Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

**MANHATTAN WEST:
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375 Ninth Avenue, New York, NY 10001
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| 2 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 1 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |

No. _____ Date _____ Description _____
Sheet Name: _____

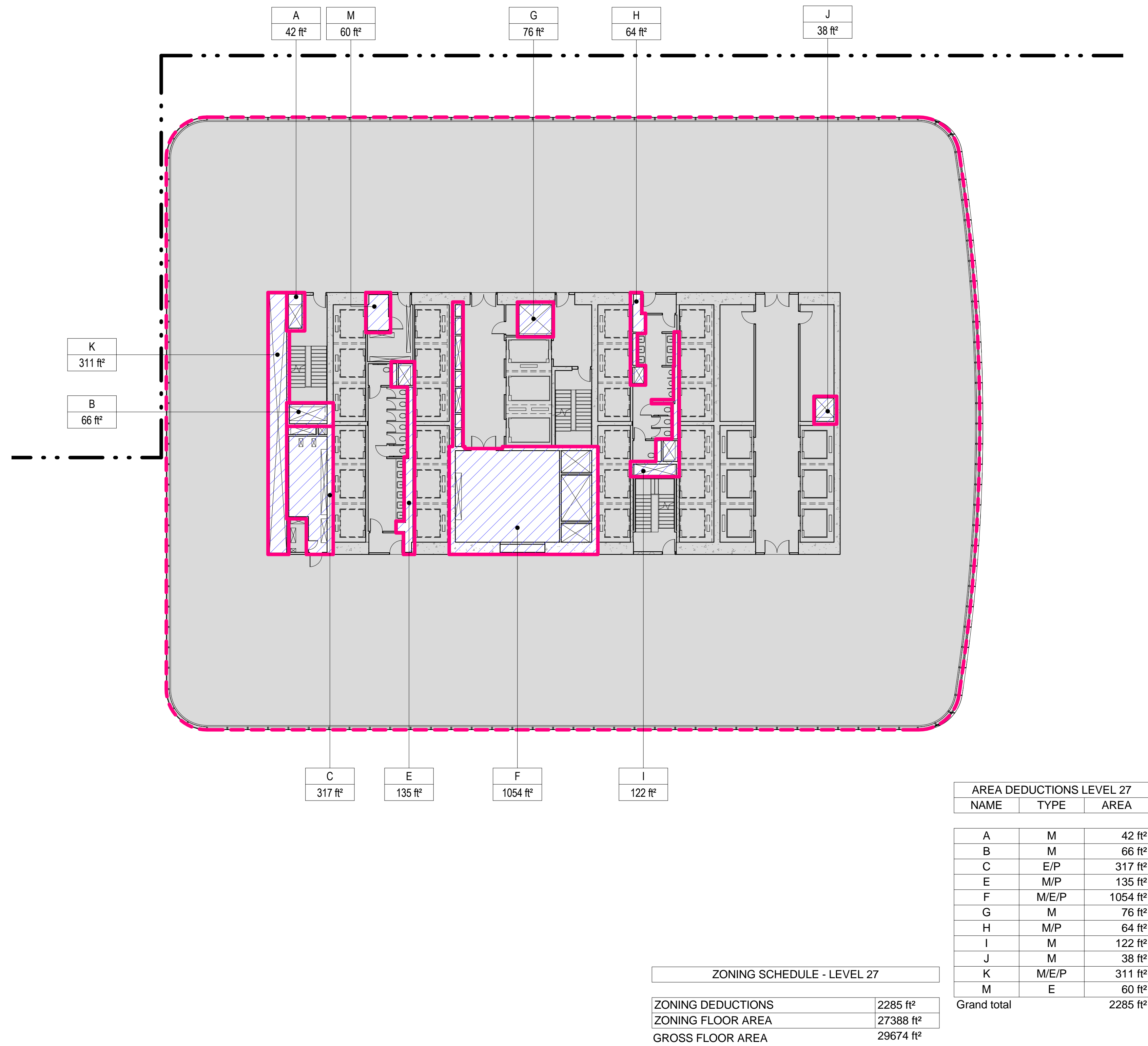
ZONING FLOOR AREA DEDUCTIONS - LEVEL 21-24

| | |
|----------------------|----------------------------|
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| Date: 27 AUG 2015 | Sheet No.: Z-109 |
| Scale: 1/16" = 1'-0" | File No.: 2-109 |
| | Page No.: 16 OF 30 |

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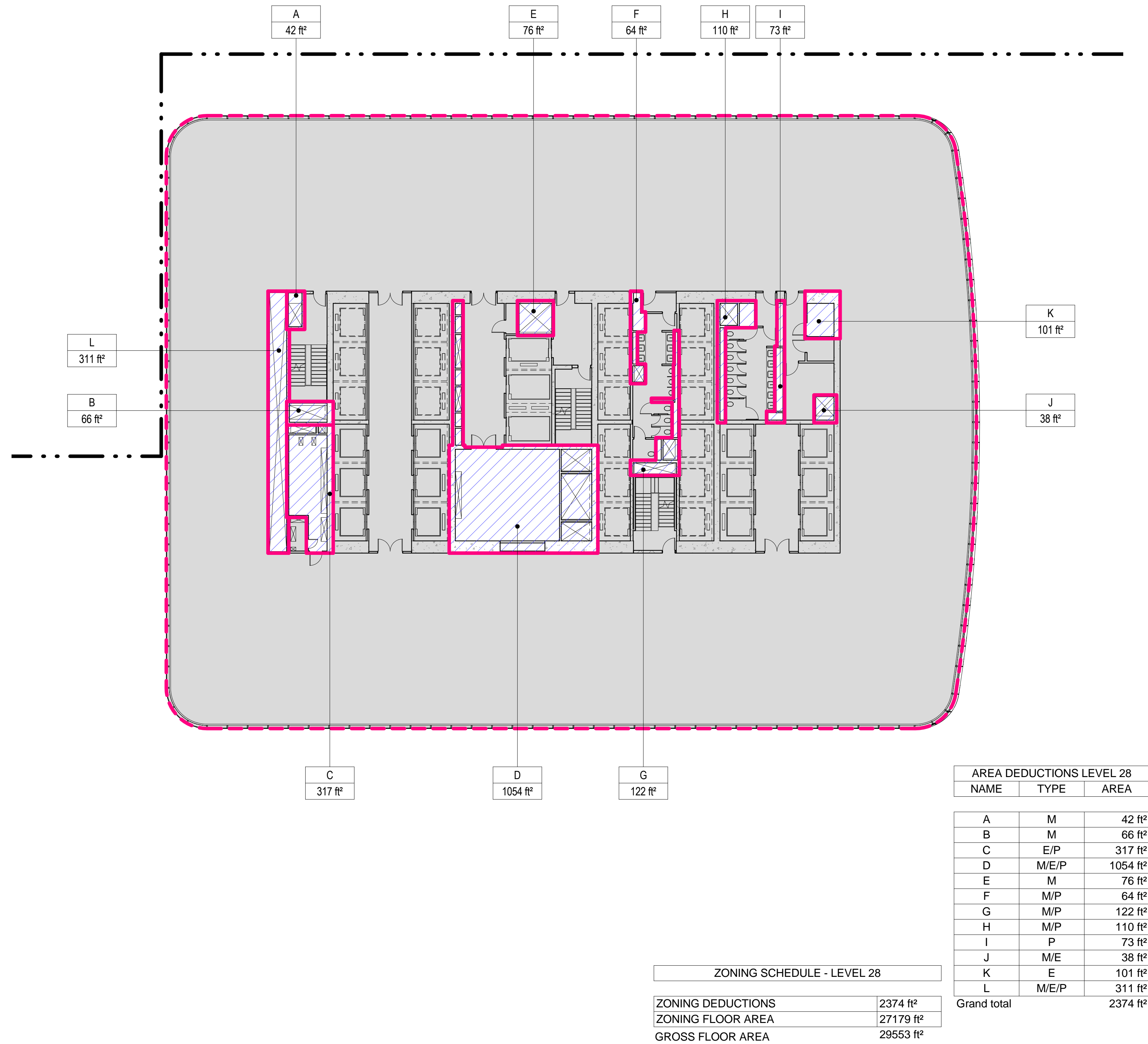
3 LEVEL 27 PLAN

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



4 LEVEL 28 PLAN

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



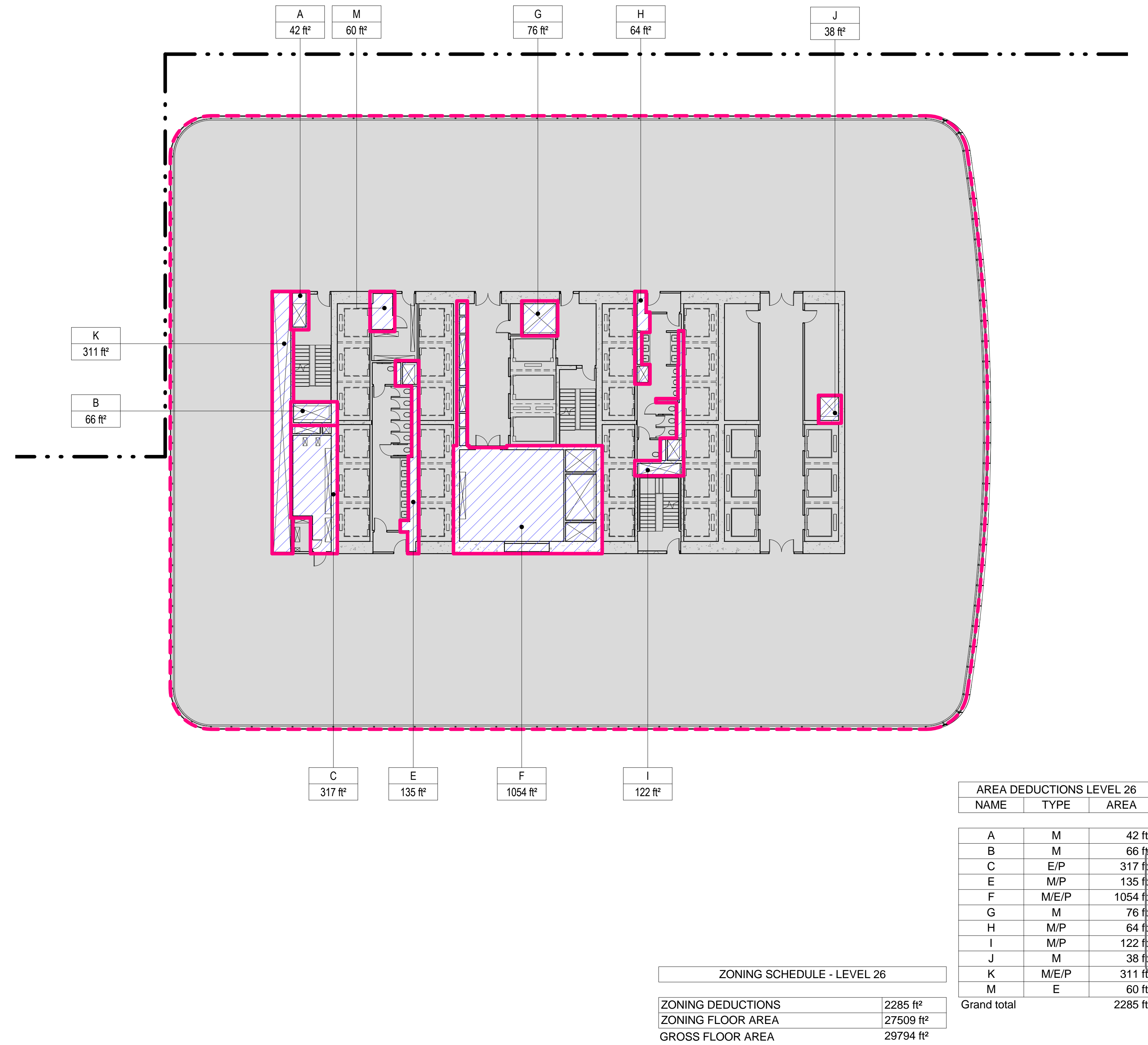
1 LEVEL 25 PLAN

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



2 LEVEL 26 PLAN

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



ZONING LEGENDS

- GROSS BUILDING AREA
- ZONING AREA DEDUCTIONS
- ZONING FLOOR AREA
- RETAIL
- MR MECHANICAL ROOM
- M MECHANICAL
- E ELECTRICAL/TEL/IT
- P PLUMBING
- EM ELEVATOR MACHINE ROOM

| NAME | TYPE | AREA |
|-------------|-------|----------|
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| B | M | 66 ft² |
| C | E/P | 321 ft² |
| E | M/P | 137 ft² |
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| H | M/P | 66 ft² |
| I | M/P | 122 ft² |
| J | M | 38 ft² |
| K | M/E/P | 318 ft² |
| M | E | 64 ft² |
| Grand total | | 2331 ft² |

APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

**MANHATTAN WEST:
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375 Ninth Avenue, New York, NY 10001
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Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

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| 1 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/16" = 1'-0"
File No.: 2-110

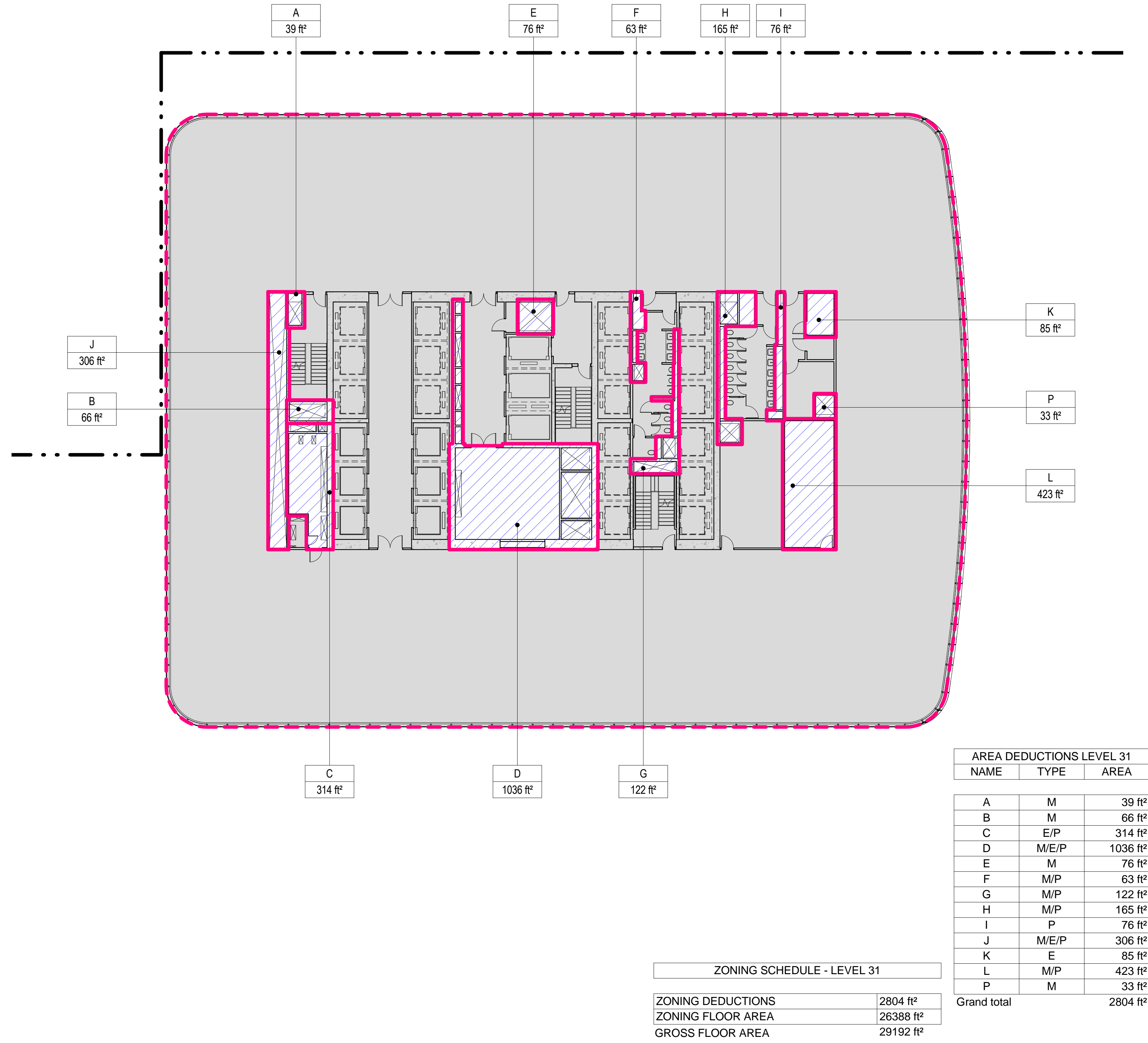
B-SCAN Sheet No.:
Z-110.00
Sheet No.:
Z-110
Page No.: 17 OF 30

ZONING FLOOR AREA DEDUCTIONS - LEVEL 25-28

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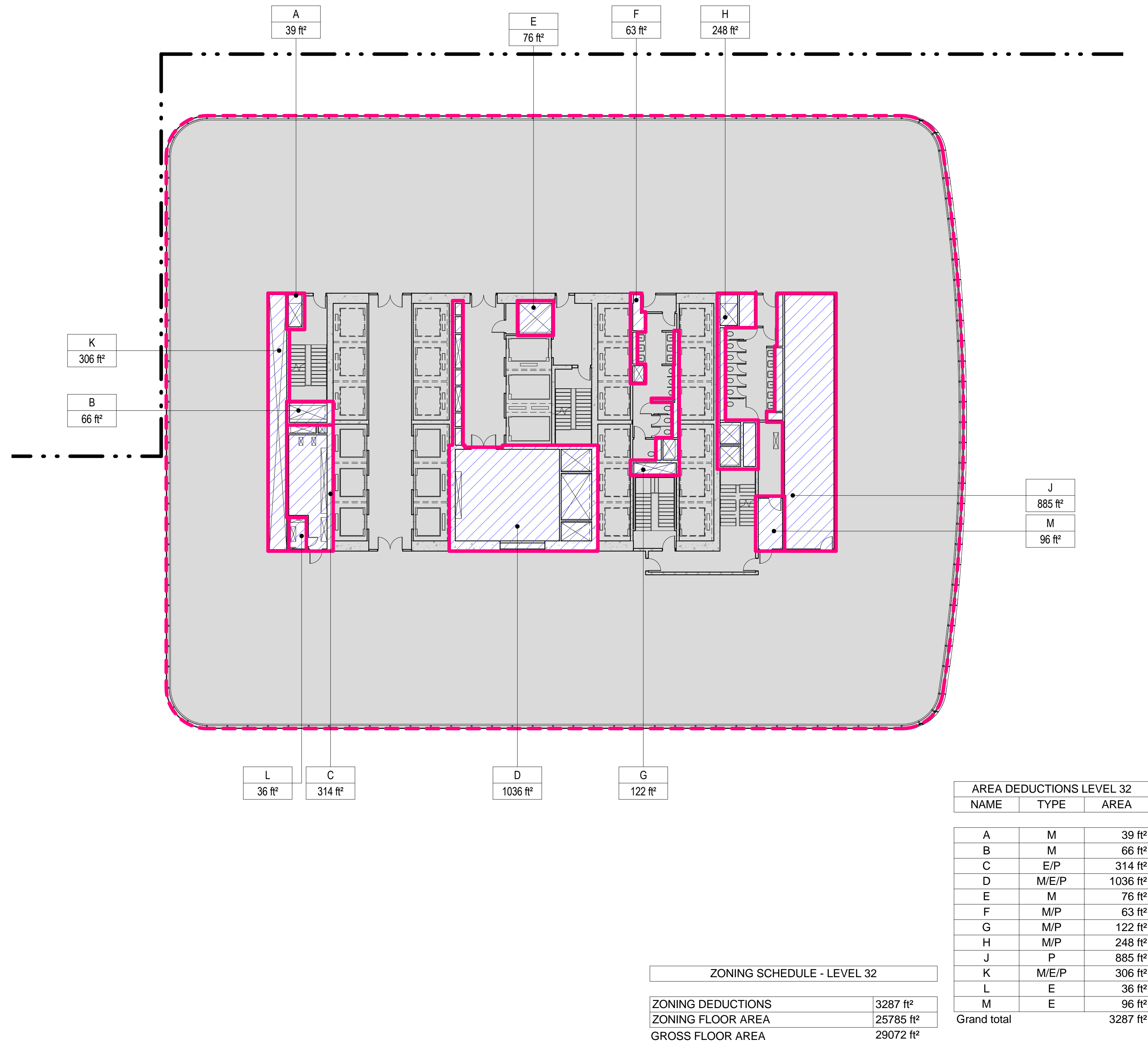
3 LEVEL 31 PLAN

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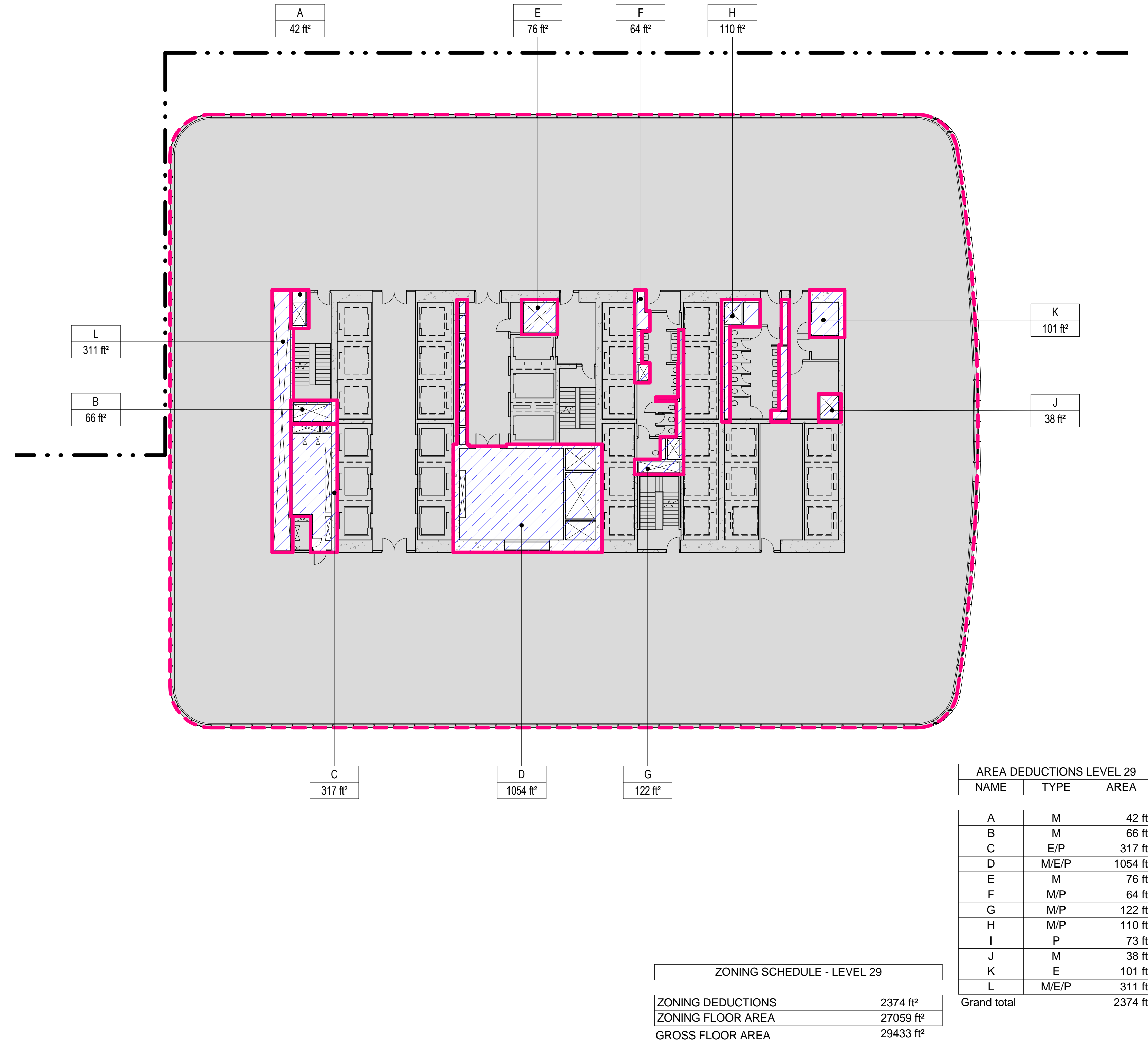
4 LEVEL 32 PLAN

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



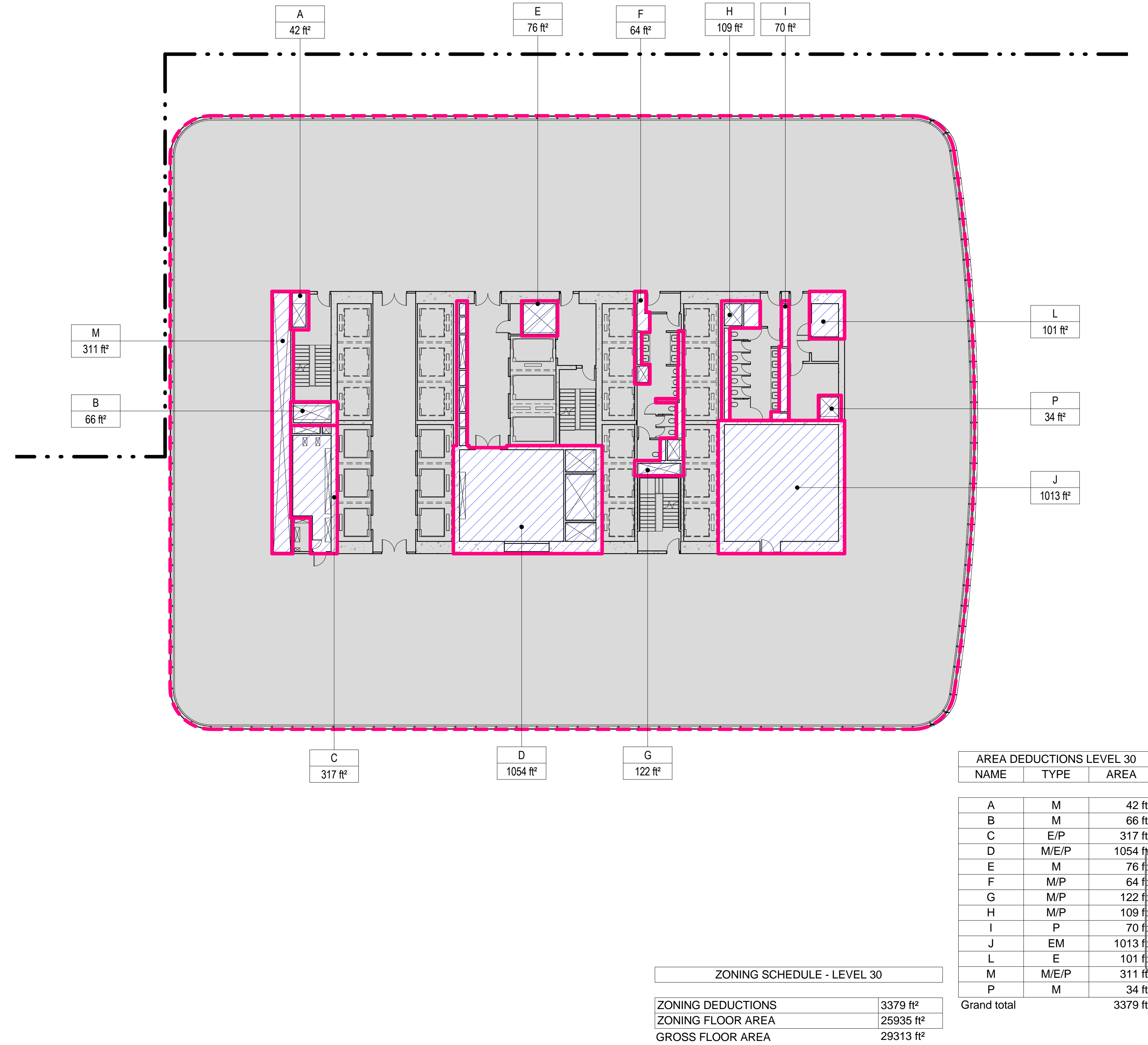
1 LEVEL 29 PLAN

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



2 LEVEL 30 PLAN

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



- ZONING LEGENDS**
- GROSS BUILDING AREA
 - ZONING AREA DEDUCTIONS
 - ZONING FLOOR AREA
 - RETAIL
 - MR MECHANICAL ROOM
 - M MECHANICAL
 - E ELECTRICAL/TEL/IT
 - P PLUMBING
 - EM ELEVATOR MACHINE ROOM

Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub



**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

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Sustainable Design
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50 Washington Street, Newark, CT 06854

Geotechnical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122

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Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Vantor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

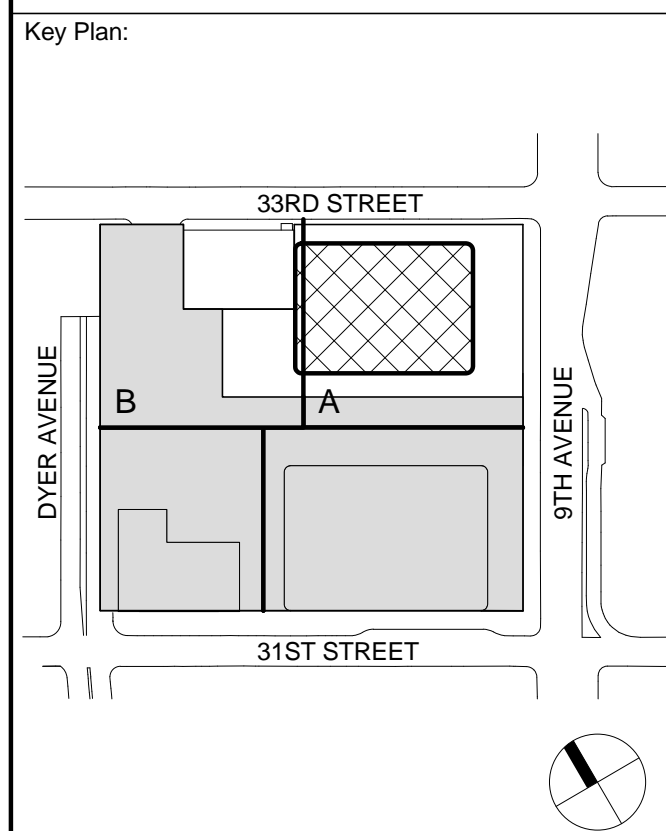
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
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650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8



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**ZONING FLOOR
AREA
DEDUCTIONS -
LEVEL 29-32**

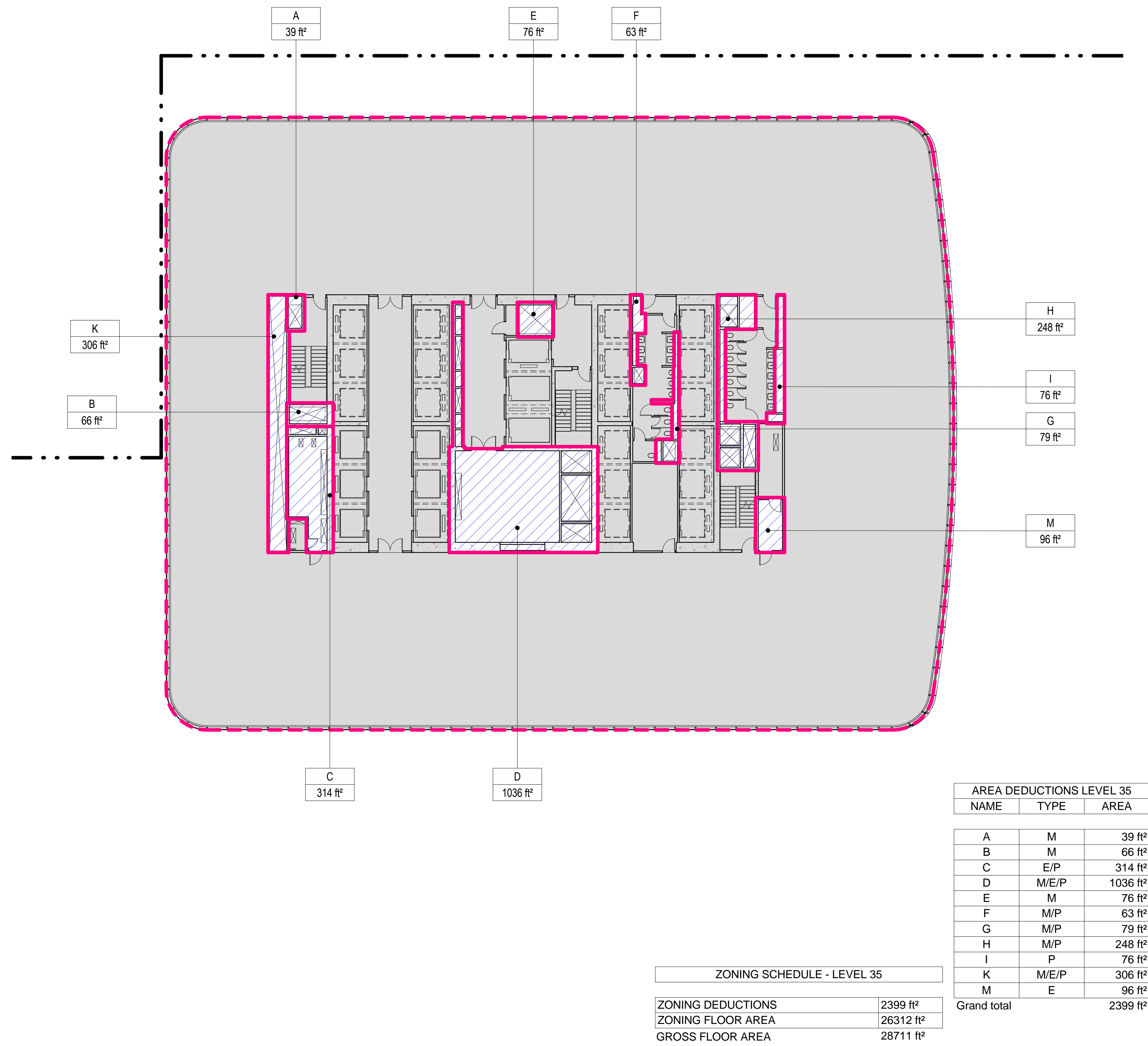
Project No.: 207150
Date: 27 AUG 2015
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File No.: Z-111

B-SCAN Sheet No.:
Z-111.00
Sheet No.: Z-111
Page No.: 18 OF 30

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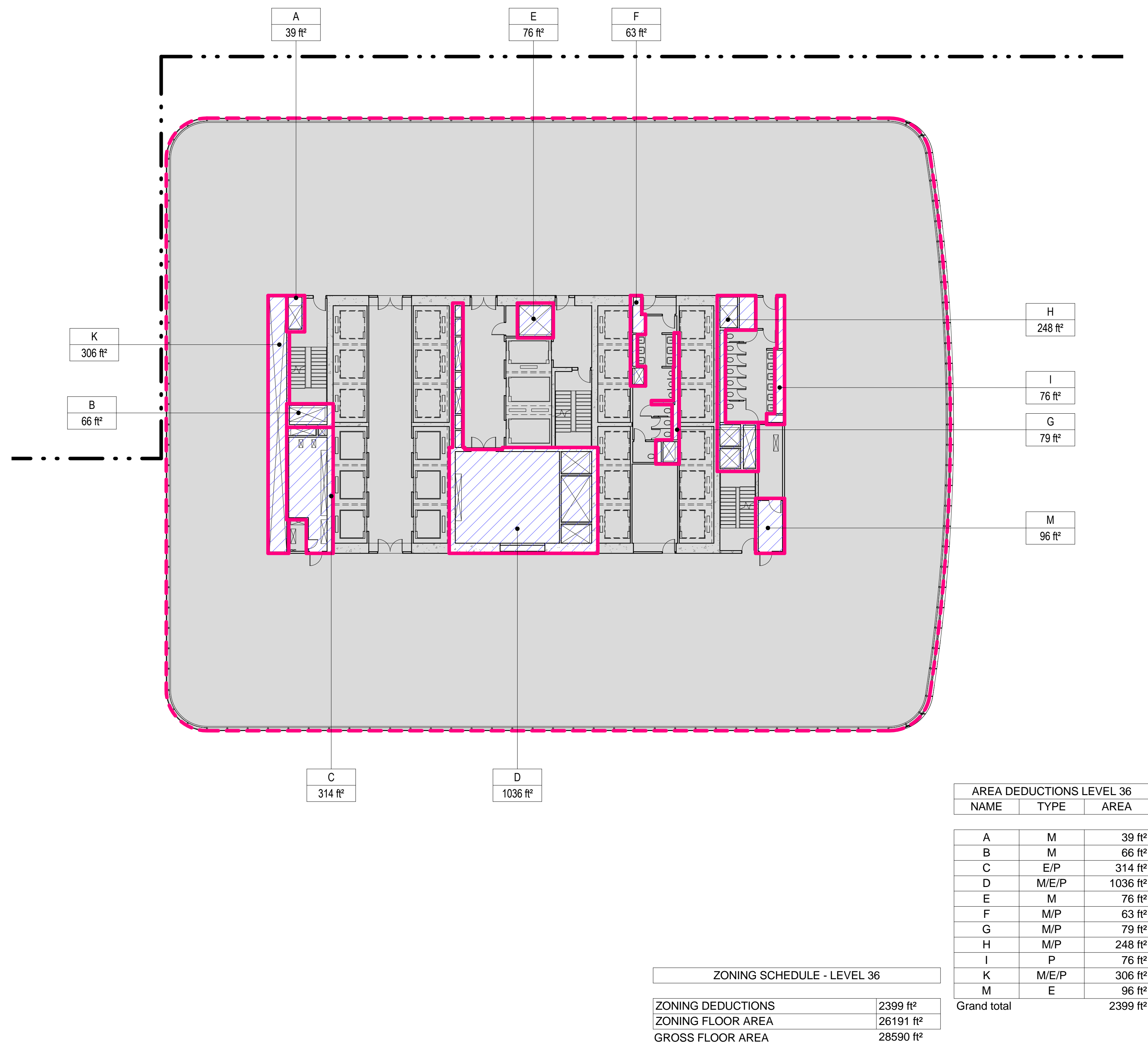
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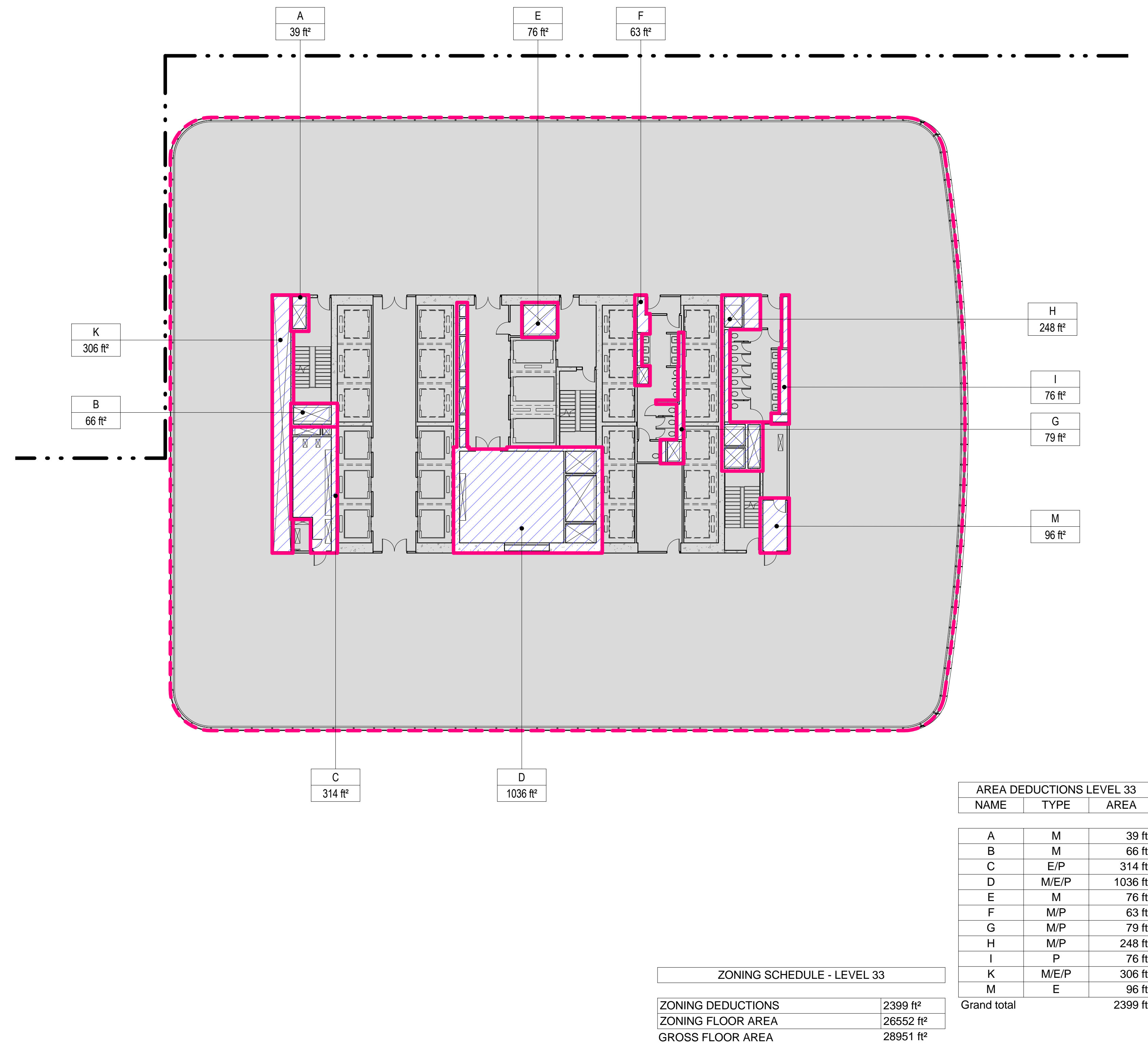
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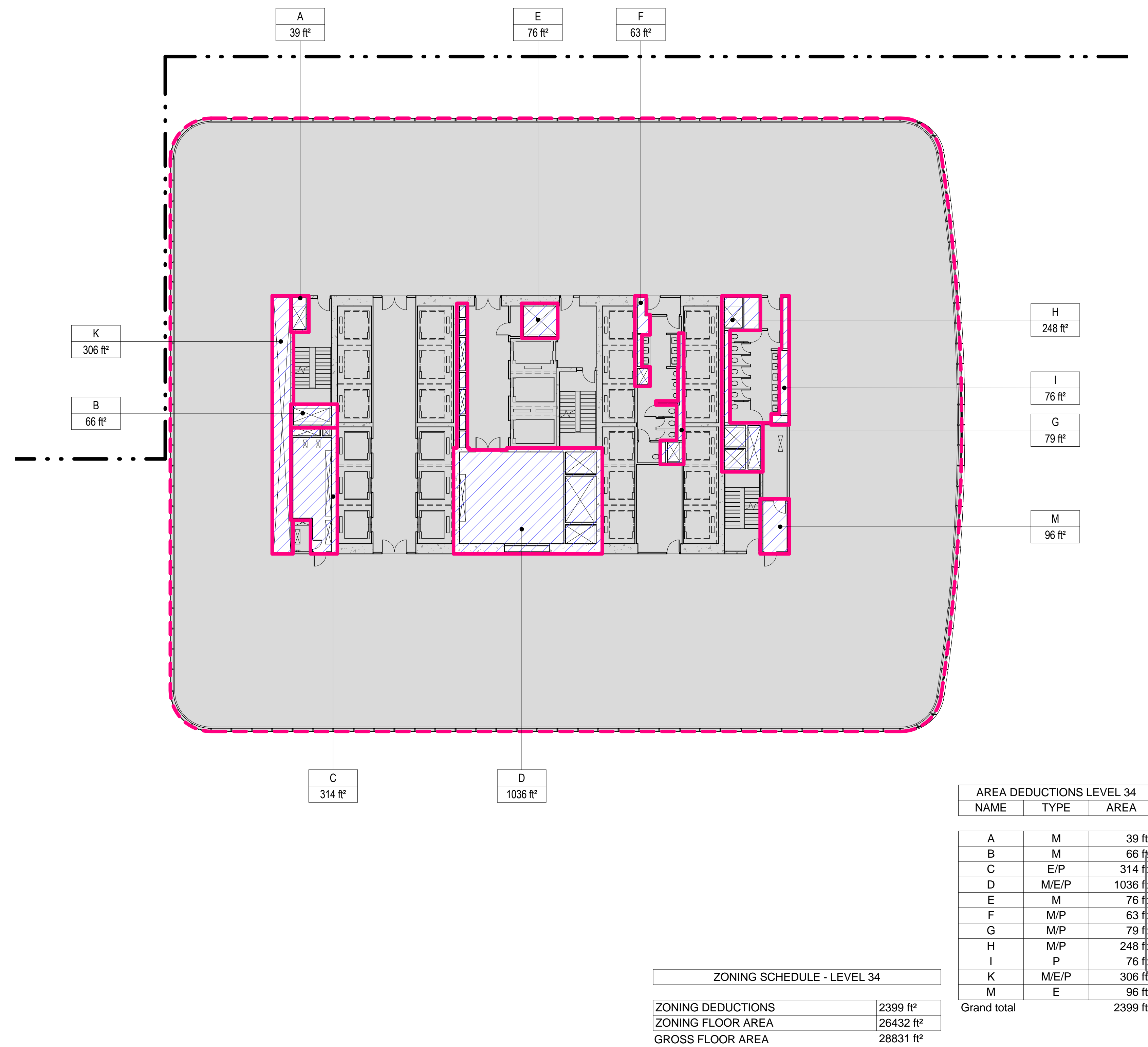
1 LEVEL 33 PLAN

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



2 LEVEL 34 PLAN

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



- ZONING LEGENDS**
- GROSS BUILDING AREA
 - ZONING AREA DEDUCTIONS
 - ZONING FLOOR AREA
 - RETAIL
 - MR MECHANICAL ROOM
 - M MECHANICAL
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Damian Titus
APPROVED
Under Directive 2 of 1975
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ZONING FLOOR AREA DEDUCTIONS - LEVEL 33-36

| | |
|----------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: Z-112.00 |
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| File No.: 2-112 | |

- ZONING LEGENDS
- GROSS BUILDING AREA
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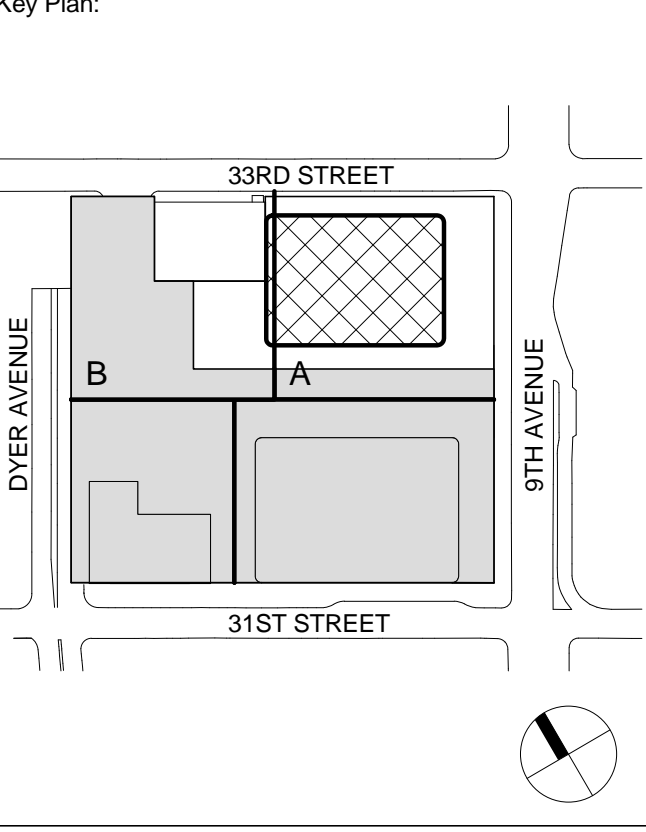
Code Consultants Professional Engineers PC
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Wind Tunnel Consultant

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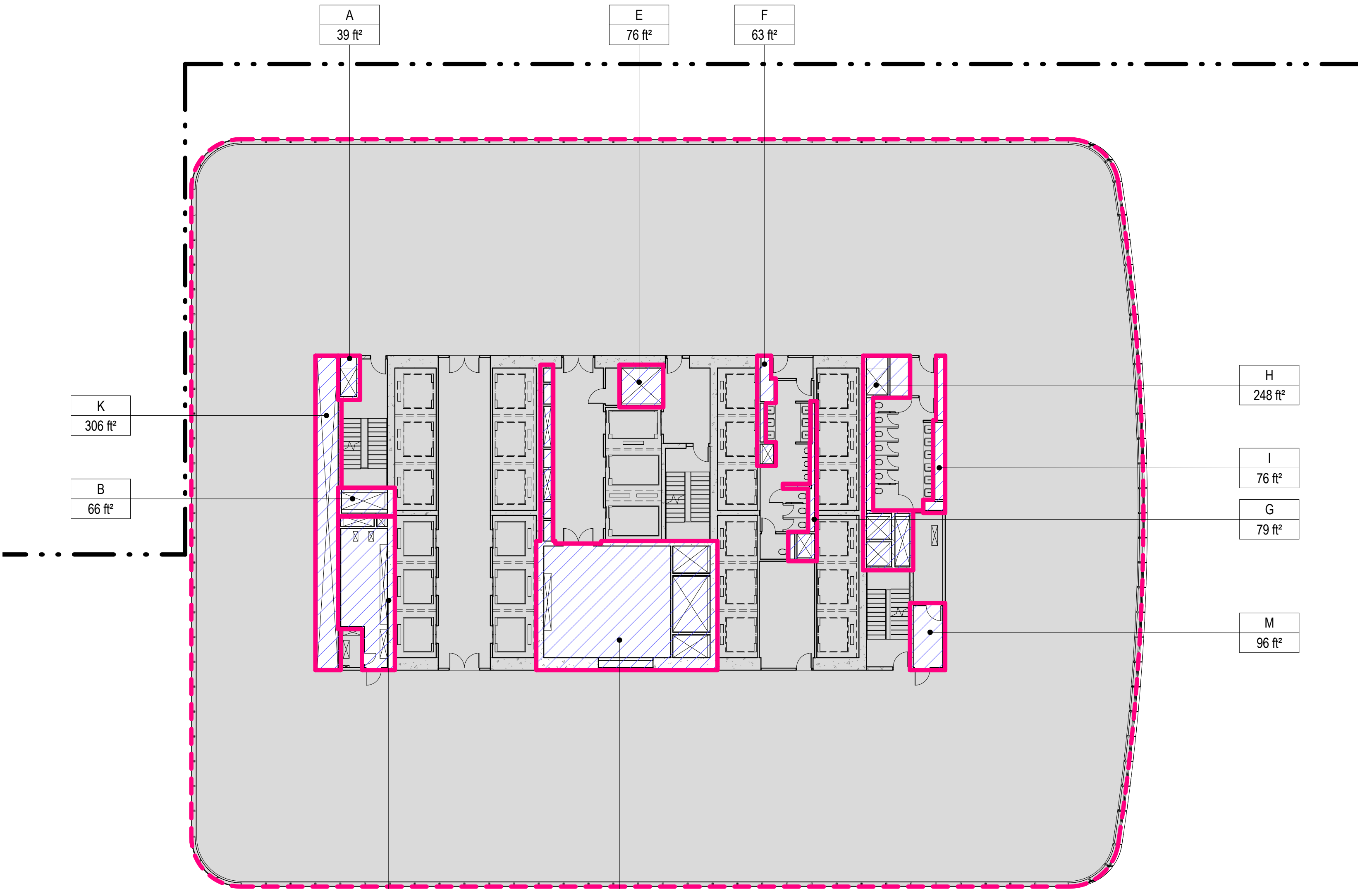
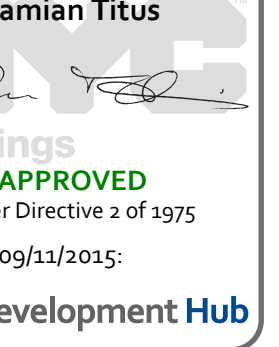
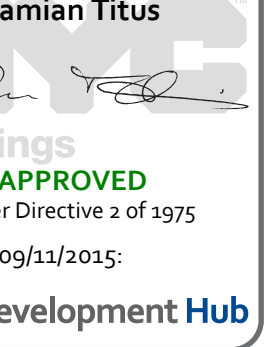


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| 1 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |

ZONING FLOOR AREA DEDUCTIONS - LEVEL 37-40

| | |
|----------------------|----------------------------|
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| Scale: 1/16" = 1'-0" | Page No.: 20 OF 30 |
| File No.: 2-113 | |

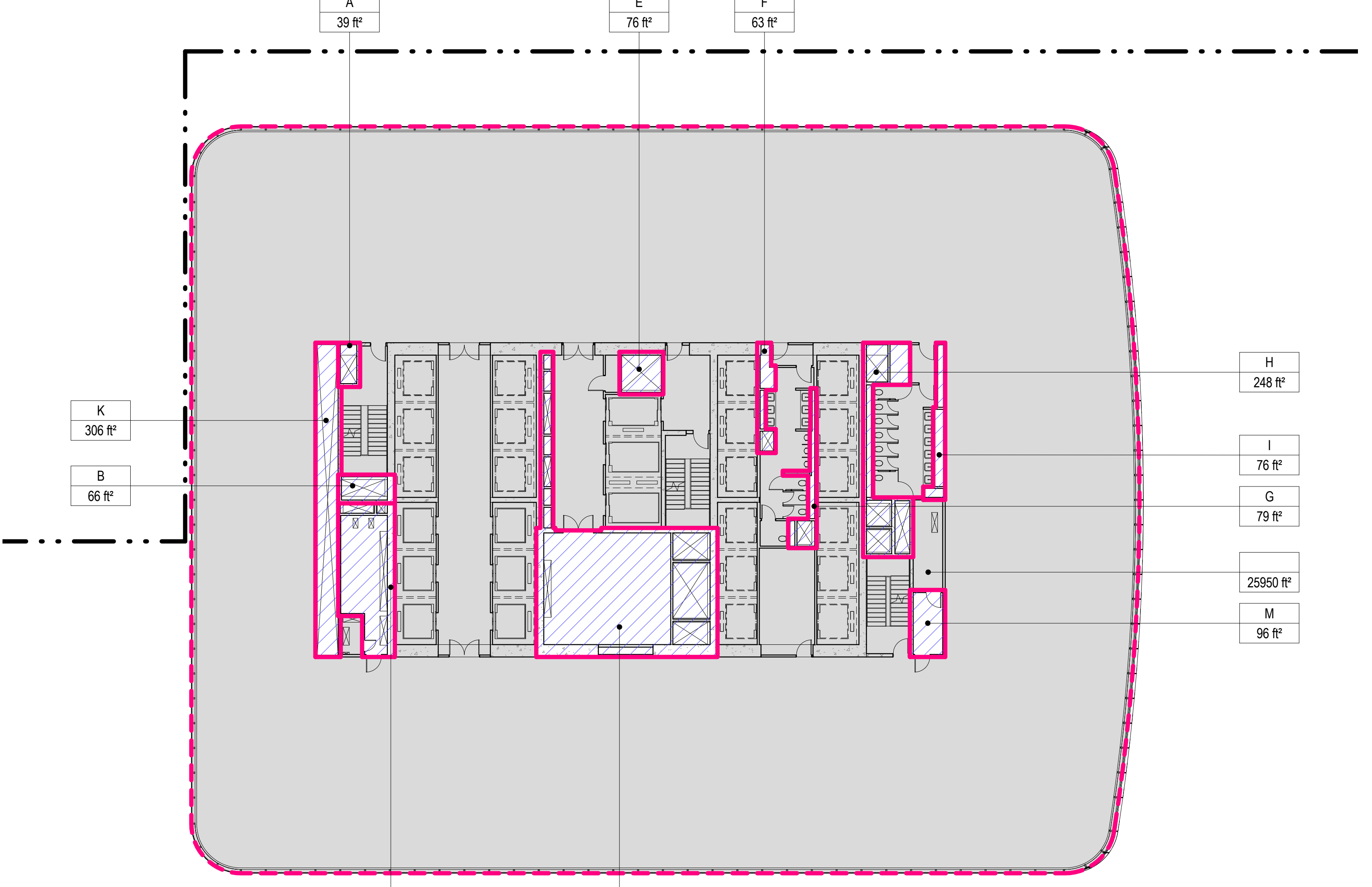


| AREA DEDUCTIONS LEVEL 37 | | |
|--------------------------|-------|----------|
| NAME | TYPE | AREA |
| A | M | 39 ft² |
| B | M | 66 ft² |
| C | E/P | 314 ft² |
| D | M/E/P | 1036 ft² |
| E | M | 76 ft² |
| F | M/P | 63 ft² |
| G | M/P | 79 ft² |
| H | M/P | 248 ft² |
| I | P | 76 ft² |
| K | M/E/P | 306 ft² |
| M | E | 96 ft² |
| Grand total | | 2399 ft² |

| ZONING SCHEDULE - LEVEL 37 | |
|----------------------------|-----------|
| ZONING DEDUCTIONS | 2399 ft² |
| ZONING FLOOR AREA | 26071 ft² |
| GROSS FLOOR AREA | 28470 ft² |

1 LEVEL 37 PLAN

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

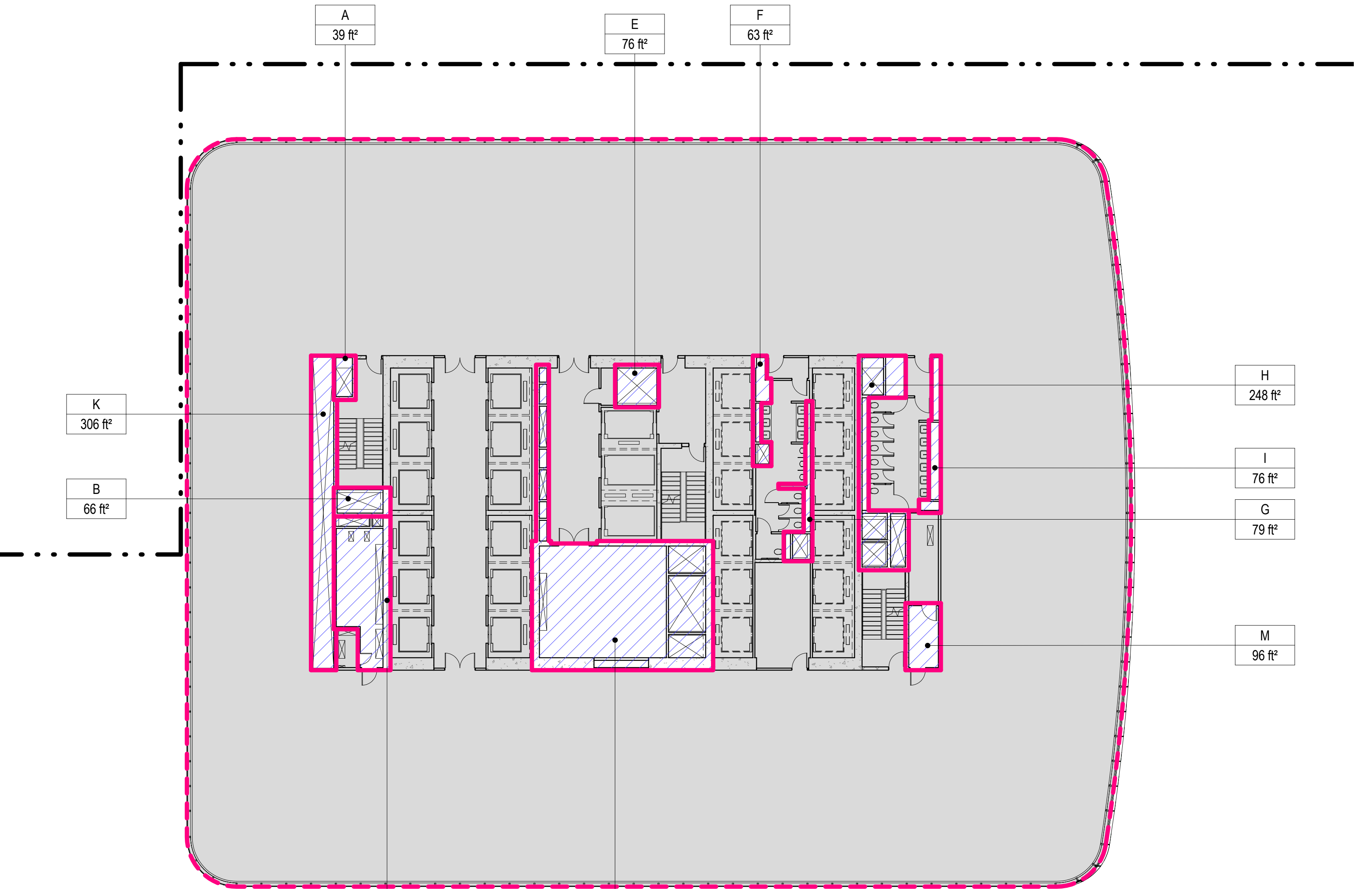


| AREA DEDUCTIONS LEVEL 38 | | |
|--------------------------|-------|----------|
| NAME | TYPE | AREA |
| A | M | 39 ft² |
| B | M | 66 ft² |
| C | E/P | 314 ft² |
| D | M/E/P | 1036 ft² |
| E | M | 76 ft² |
| F | M/P | 63 ft² |
| G | M/P | 79 ft² |
| H | M/P | 248 ft² |
| I | P | 76 ft² |
| K | M/E/P | 306 ft² |
| M | E | 96 ft² |
| Grand total | | 2399 ft² |

| ZONING SCHEDULE - LEVEL 38 | |
|----------------------------|-----------|
| ZONING DEDUCTIONS | 2399 ft² |
| ZONING FLOOR AREA | 25950 ft² |
| GROSS FLOOR AREA | 28349 ft² |

2 LEVEL 38 PLAN

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

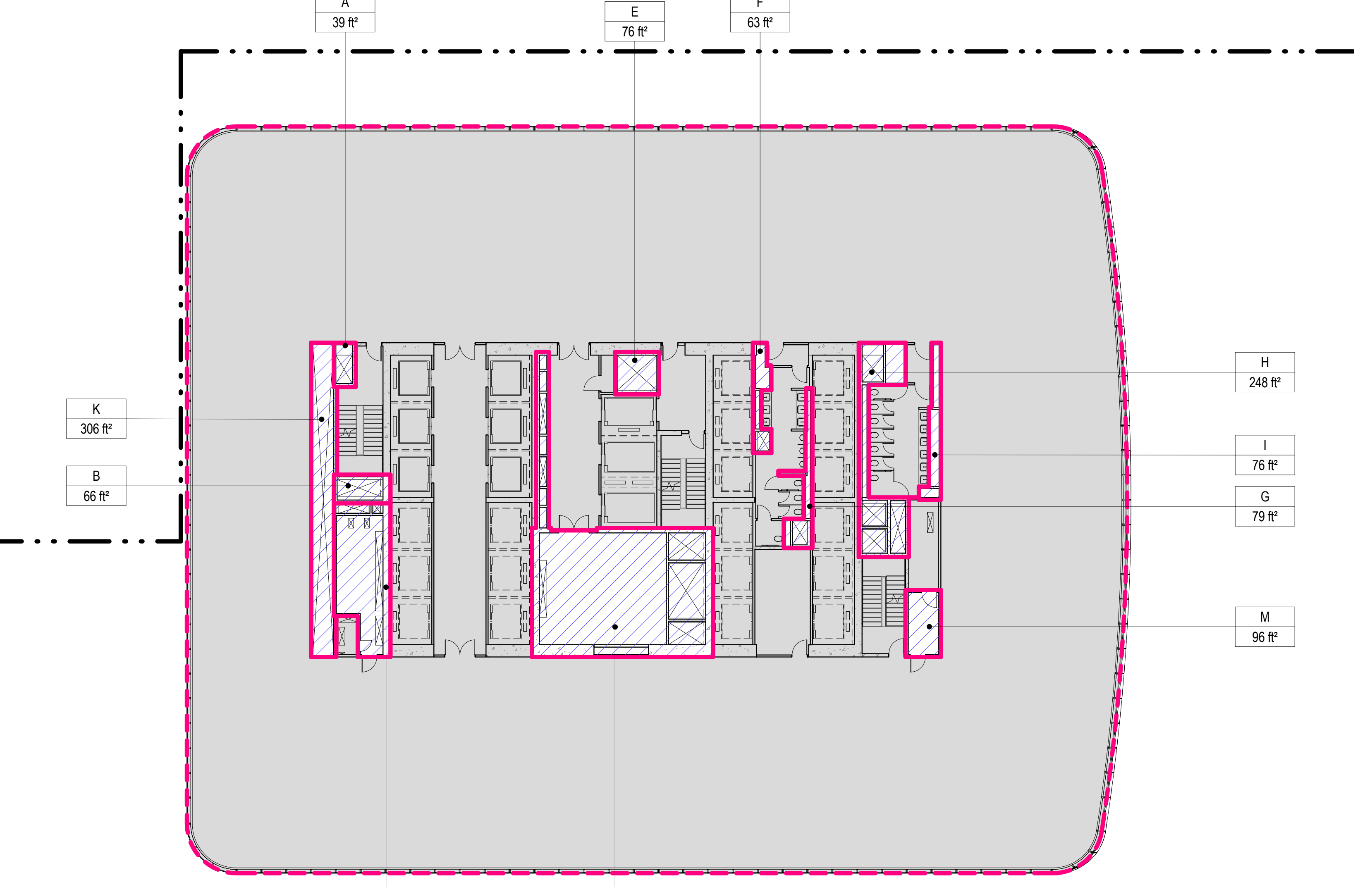


| AREA DEDUCTIONS LEVEL 39 | | |
|--------------------------|-------|----------|
| NAME | TYPE | AREA |
| A | M | 39 ft² |
| B | M | 66 ft² |
| C | E/P | 314 ft² |
| D | M/E/P | 1036 ft² |
| E | M | 76 ft² |
| F | M/P | 63 ft² |
| G | M/P | 79 ft² |
| H | M/P | 248 ft² |
| I | P | 76 ft² |
| K | M/E/P | 306 ft² |
| M | E | 96 ft² |
| Grand total | | 2399 ft² |

| ZONING SCHEDULE - LEVEL 39 | |
|----------------------------|-----------|
| ZONING DEDUCTIONS | 2399 ft² |
| ZONING FLOOR AREA | 25830 ft² |
| GROSS FLOOR AREA | 28229 ft² |

3 LEVEL 39 PLAN

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



| AREA DEDUCTIONS LEVEL 40 | | |
|--------------------------|-------|----------|
| NAME | TYPE | AREA |
| A | M | 39 ft² |
| B | M | 66 ft² |
| C | E/P | 314 ft² |
| D | M/E/P | 1036 ft² |
| E | M | 76 ft² |
| F | M/P | 63 ft² |
| G | M/P | 79 ft² |
| H | M/P | 248 ft² |
| I | P | 76 ft² |
| K | M/E/P | 306 ft² |
| M | E | 96 ft² |
| Grand total | | 2399 ft² |

| ZONING SCHEDULE - LEVEL 40 | |
|----------------------------|-----------|
| ZONING DEDUCTIONS | 2399 ft² |
| ZONING FLOOR AREA | 25710 ft² |
| GROSS FLOOR AREA | 28109 ft² |

4 LEVEL 40 PLAN

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

- ZONING LEGENDS
- GROSS BUILDING AREA
 - ZONING AREA DEDUCTIONS
 - ZONING FLOOR AREA
 - RETAIL
 - MR MECHANICAL ROOM
 - M MECHANICAL
 - E ELECTRICAL/TEL/IT
 - P PLUMBING
 - EM ELEVATOR MACHINE ROOM



Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
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102 Madison Avenue #11, New York, NY 10016

MEP Engineering
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Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Vantor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
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40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant
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65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



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2 20 JUN 2014 ISSUED FOR FOUNDATION PERMIT

1 20 DEC 2013 ISSUED FOR FOUNDATION PERMIT

No. Date Description

Sheet Name:

Project No.: 207150

Date: 27 AUG 2015

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

File No.: Z-114

Project No.: 207150

Date: 27 AUG 2015

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

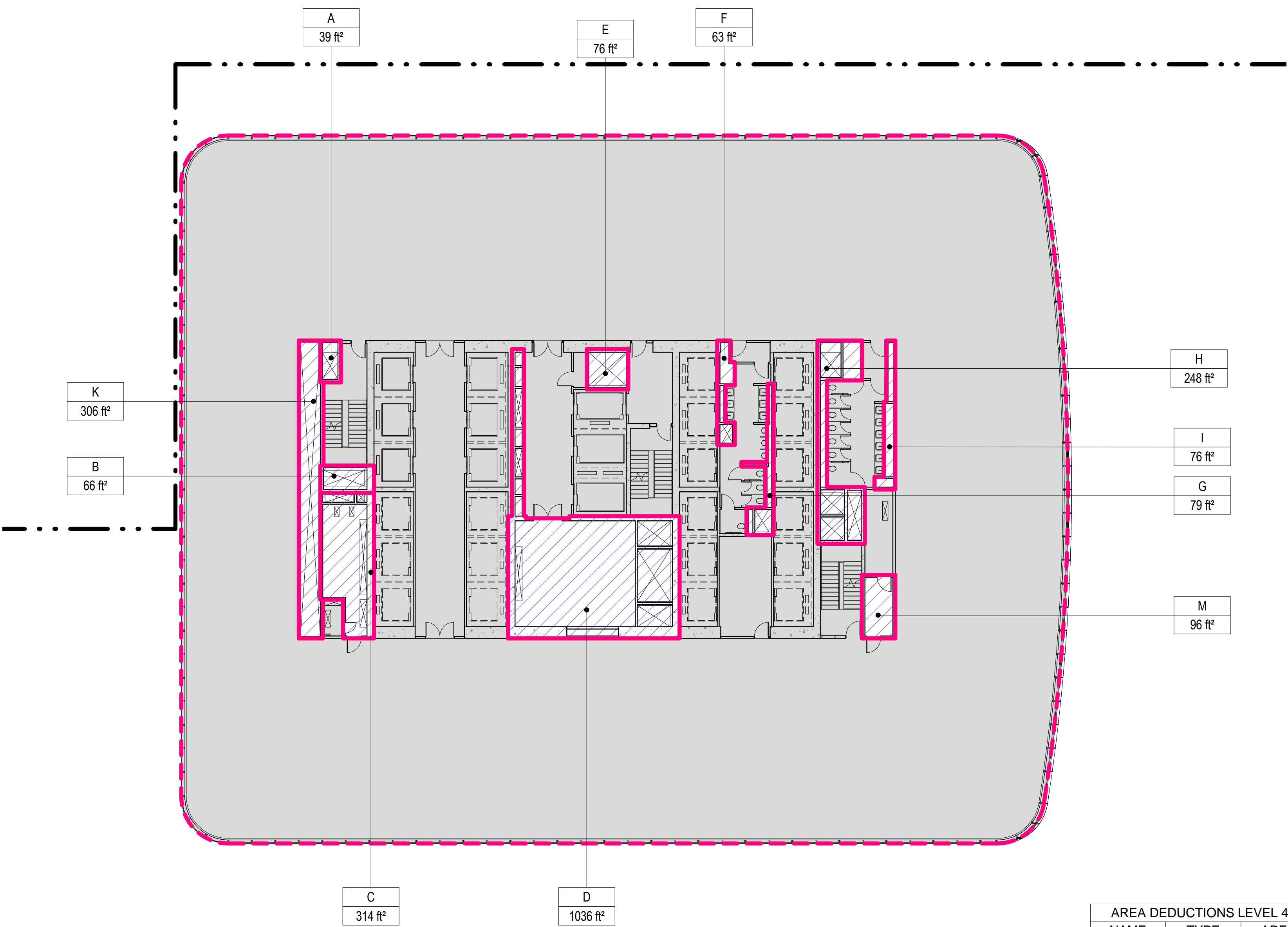
File No.: Z-114

ZONING FLOOR AREA DEDUCTIONS - LEVEL 41-44

Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

| NAME | TYPE | AREA |
|-------------|-------|----------|
| A | M | 39 ft² |
| B | M | 66 ft² |
| C | E/P | 314 ft² |
| D | M/E/P | 1036 ft² |
| E | M | 76 ft² |
| F | M/P | 63 ft² |
| G | M/P | 79 ft² |
| H | M/P | 248 ft² |
| I | P | 76 ft² |
| K | M/E/P | 306 ft² |
| M | E | 96 ft² |
| Grand total | | 2399 ft² |

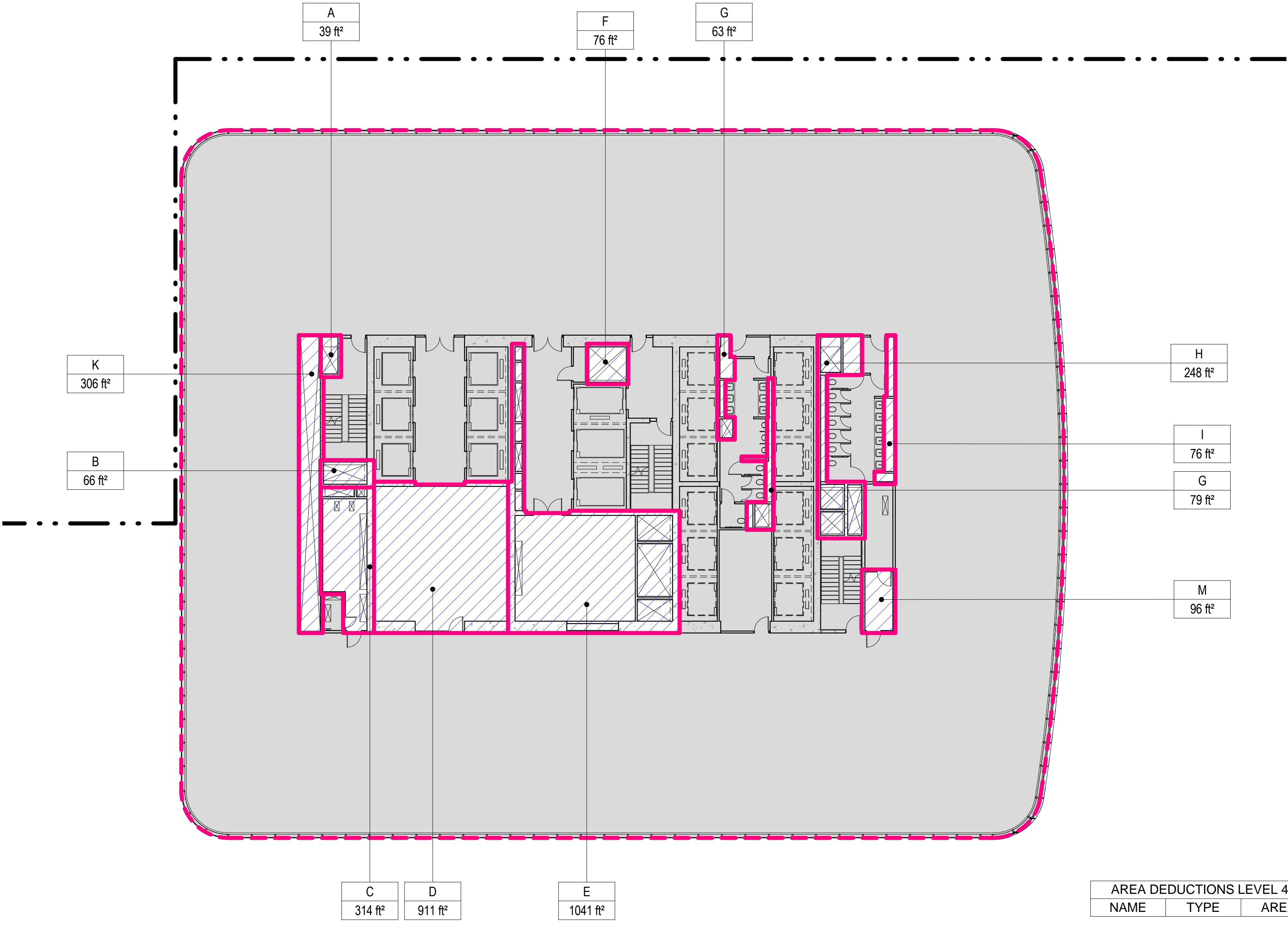
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|----------------------------|-----------|--|
| ZONING DEDUCTIONS | 2399 ft² | |
| ZONING FLOOR AREA | 25589 ft² | |
| GROSS FLOOR AREA | 27988 ft² | |



1 LEVEL 41 PLAN
SCALE: 1/16" = 1'-0"

| NAME | TYPE | AREA |
|-------------|-------|----------|
| A | M | 39 ft² |
| B | M | 66 ft² |
| C | E/P | 314 ft² |
| D | EM | 911 ft² |
| E | M/E/P | 1041 ft² |
| F | M | 76 ft² |
| G | M/P | 79 ft² |
| H | M/P | 63 ft² |
| I | M/P | 248 ft² |
| K | M/E/P | 306 ft² |
| M | E | 96 ft² |
| Grand total | | 3315 ft² |

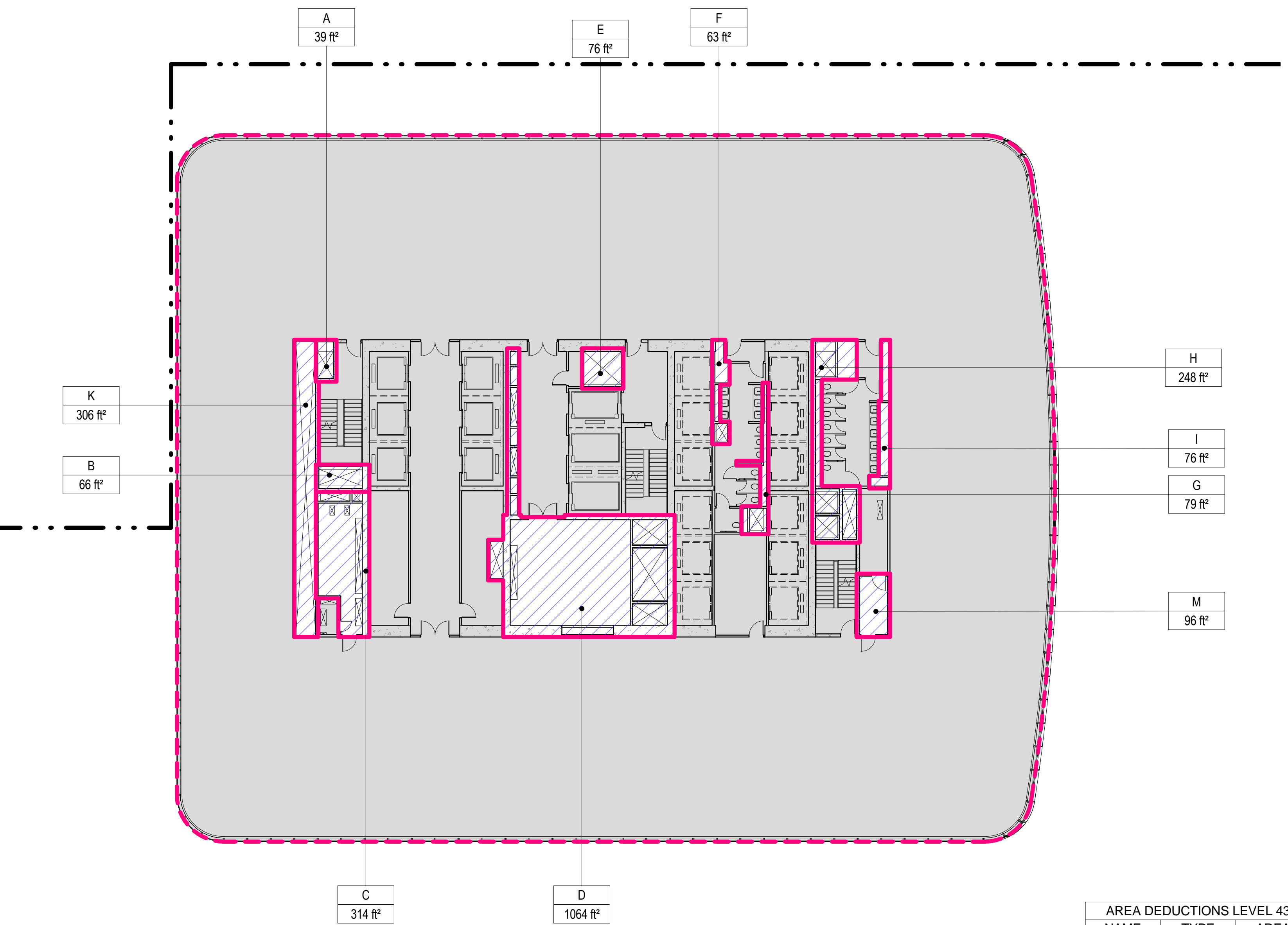
| ZONING SCHEDULE - LEVEL 42 | | |
|----------------------------|-----------|--|
| ZONING DEDUCTIONS | 3315 ft² | |
| ZONING FLOOR AREA | 24553 ft² | |
| GROSS FLOOR AREA | 27868 ft² | |



2 LEVEL 42 PLAN
SCALE: 1/16" = 1'-0"

| NAME | TYPE | AREA |
|-------------|-------|----------|
| A | M | 39 ft² |
| B | M | 66 ft² |
| C | E/P | 314 ft² |
| D | M/E/P | 1064 ft² |
| E | M | 76 ft² |
| F | M/P | 63 ft² |
| G | M/P | 79 ft² |
| H | M/P | 248 ft² |
| I | P | 76 ft² |
| K | M/E/P | 306 ft² |
| M | E | 96 ft² |
| Grand total | | 2427 ft² |

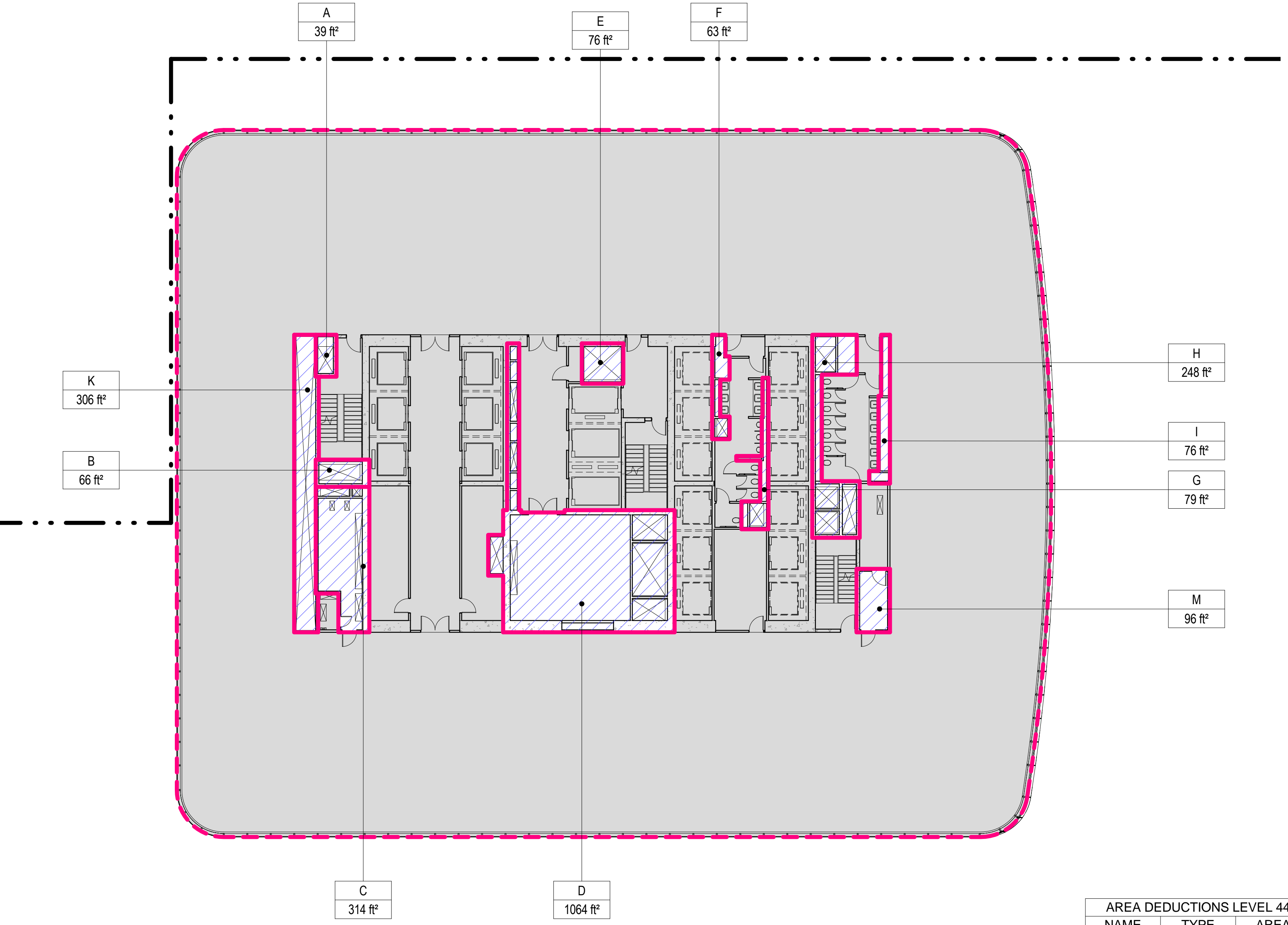
| ZONING SCHEDULE - LEVEL 43 | | |
|----------------------------|-----------|--|
| ZONING DEDUCTIONS | 2427 ft² | |
| ZONING FLOOR AREA | 25321 ft² | |
| GROSS FLOOR AREA | 27747 ft² | |



3 LEVEL 43 PLAN
SCALE: 1/16" = 1'-0"

| NAME | TYPE | AREA |
|-------------|-------|----------|
| A | M | 39 ft² |
| B | M | 66 ft² |
| C | E/P | 314 ft² |
| D | M/E/P | 1064 ft² |
| E | M | 76 ft² |
| F | M/P | 63 ft² |
| G | M/P | 79 ft² |
| H | M/P | 248 ft² |
| I | P | 76 ft² |
| K | M/E/P | 306 ft² |
| M | E | 96 ft² |
| Grand total | | 2427 ft² |

| ZONING SCHEDULE - LEVEL 44 | | |
|----------------------------|-----------|--|
| ZONING DEDUCTIONS | 2427 ft² | |
| ZONING FLOOR AREA | 25201 ft² | |
| GROSS FLOOR AREA | 27627 ft² | |



4 LEVEL 44 PLAN
SCALE: 1/16" = 1'-0"

- ZONING LEGENDS
- GROSS BUILDING AREA
 - ZONING AREA DEDUCTIONS
 - ZONING FLOOR AREA
 - RETAIL
 - MR MECHANICAL ROOM
 - M MECHANICAL
 - E ELECTRICAL/TEL/IT
 - P PLUMBING
 - EM ELEVATOR MACHINE ROOM

MANHATTAN WEST:
NORTH TOWER

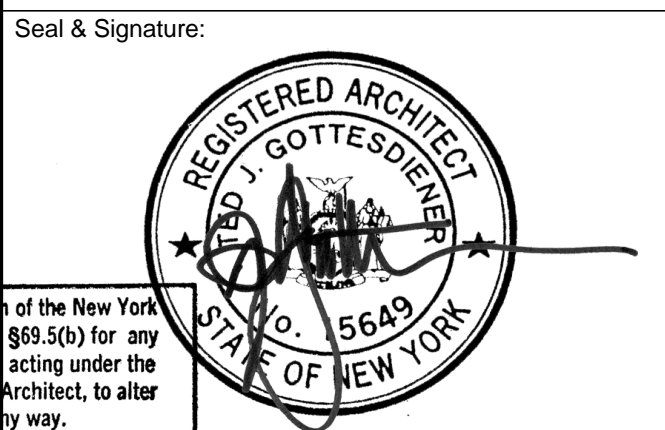
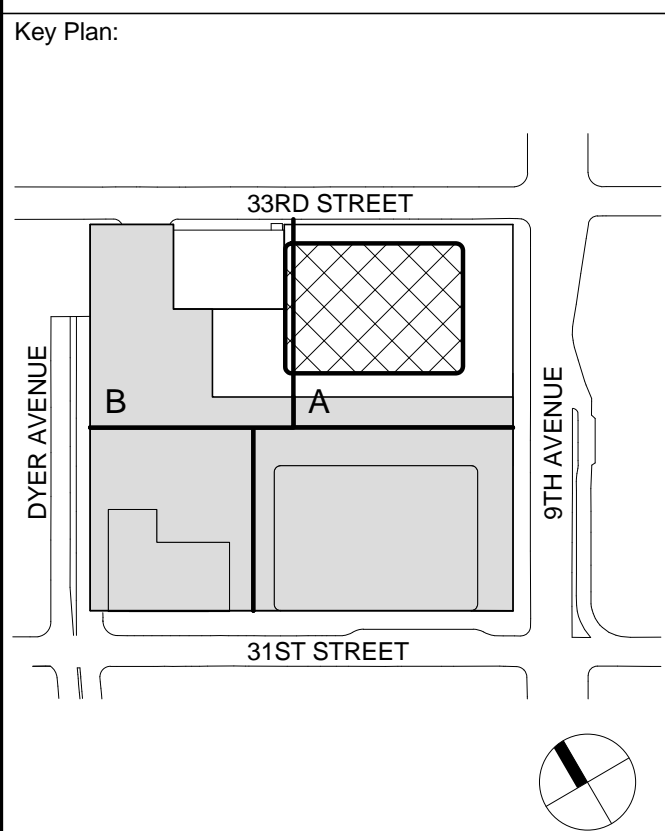
375 Ninth Avenue, New York, NY 10001

Client

Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

- Architecture/Structural Engineering
- SOM**
- Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005
- Civil Engineering
- Philip Habb & Associates
102 Madison Avenue #11, New York, NY 10016
- MEP Engineering
- Jaros Baum & Bolles
80 Pine Street, New York, NY 10005
- Vertical Transportation
- Edgett Williams Consulting Group, Inc.
102 East Bluffside Ave, Suite 1, Mill Valley, California 94941
- Sustainable Design
- Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854
- Geotechnical Engineering
- Mueser Rutledge Consulting Engineers
14 Penn Plaza, 22nd W, 34th Street, New York, NY 10122
- Landscape Consultant
- Field Operations
475 10th Avenue, New York, NY 10018
- Security Consultant
- Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473
- Blast Consultant
- Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005
- Acoustical Consultant
- Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018
- Vibration Consultant
- Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006
- Code Consultant
- Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018
- Facade Maintenance Consultant
- Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601
- Wind Tunnel Consultant
- Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8



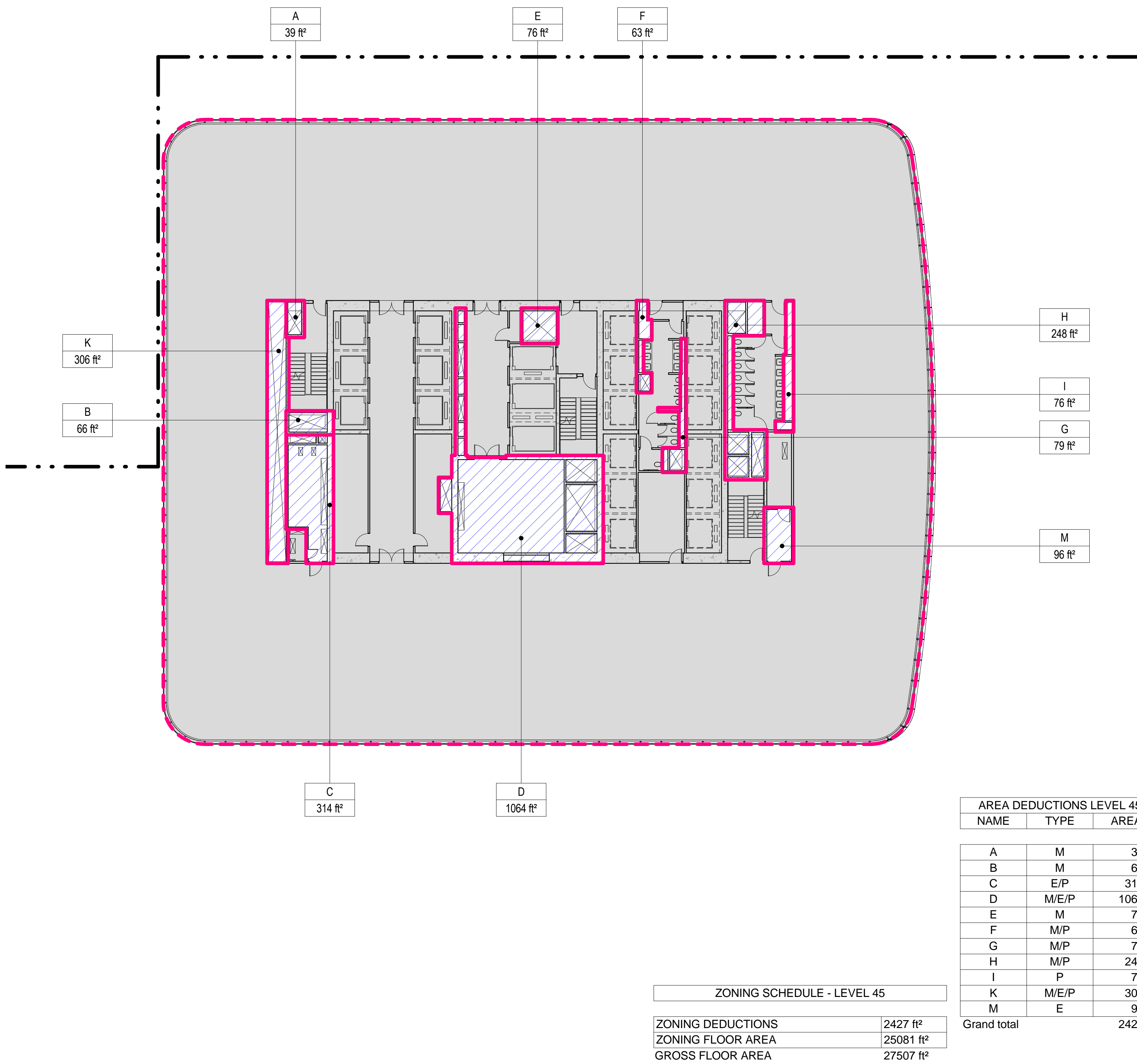
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| 3 | 19 DEC 2014 | ISSUED FOR FOUNDATION PERMIT |
| 2 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 1 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |

Sheet Name:

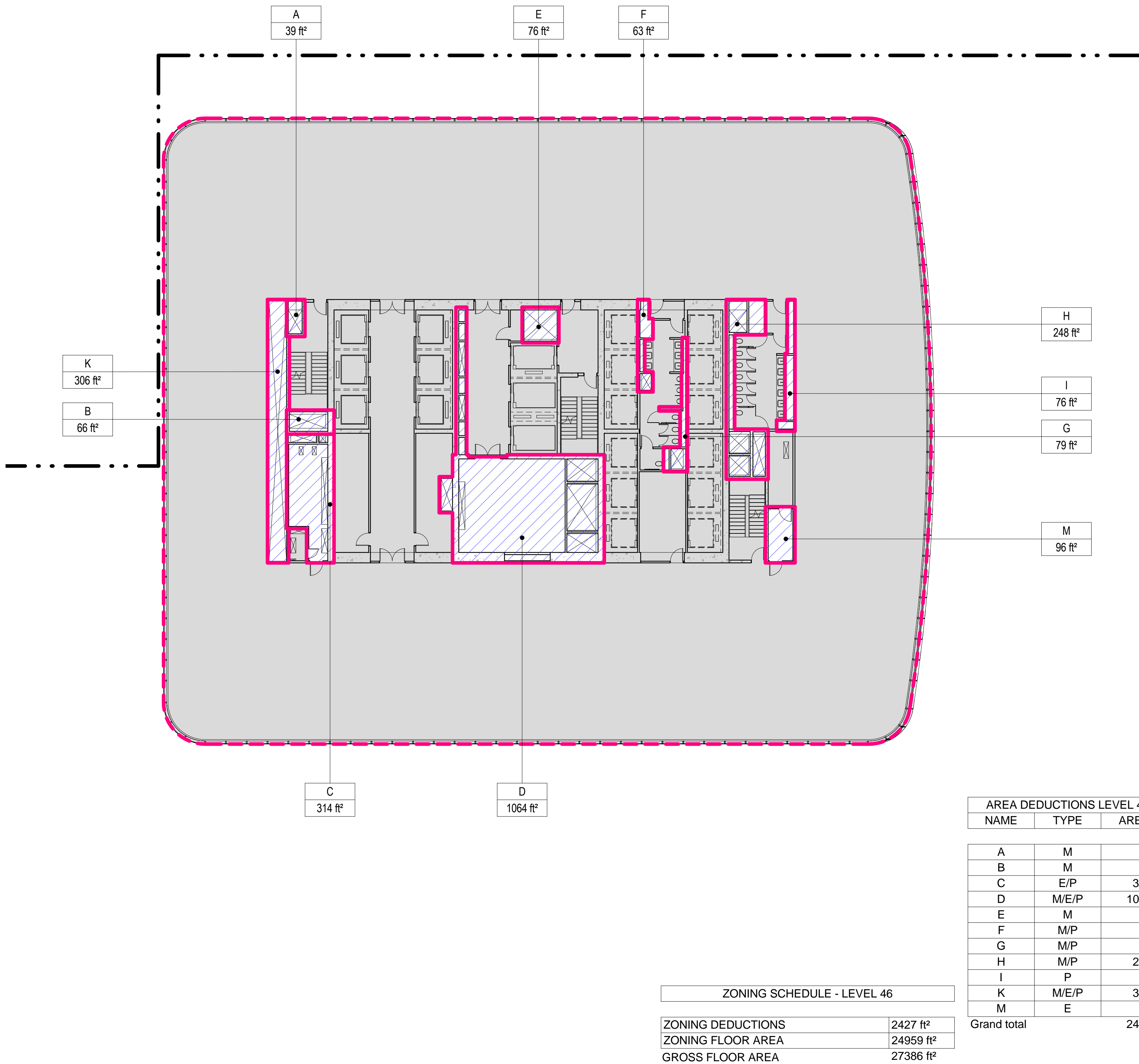
ZONING FLOOR AREA DEDUCTIONS - LEVEL 45-48

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| Project No.: 207150 | B-SCAN Sheet No.: Z-115.00 |
| Date: 27 AUG 2015 | Sheet No.: Z-115 |
| Scale: 1/16" = 1'-0" | Page No.: 22 OF 30 |
| File No.: Z-115 | |



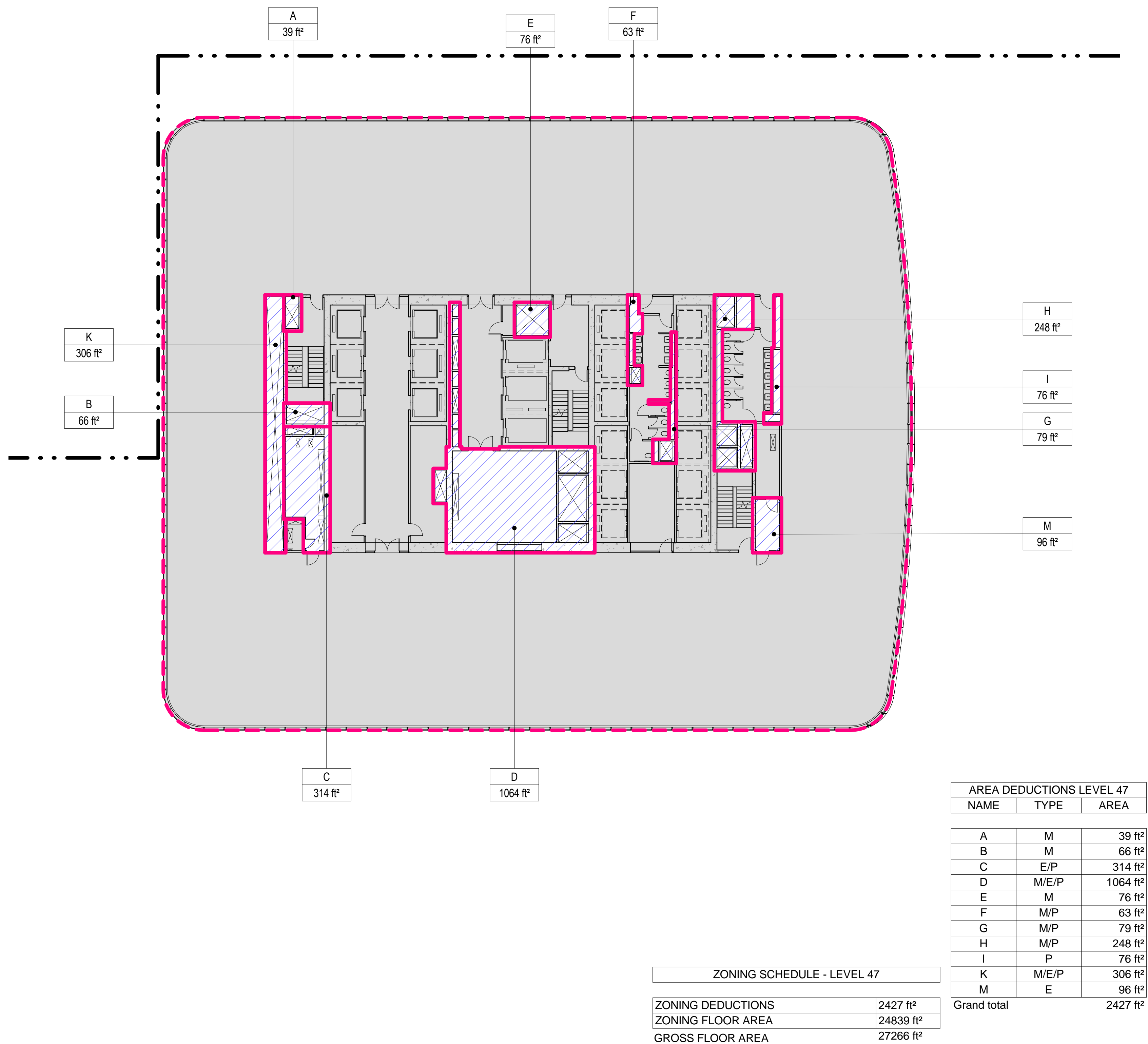
2 LEVEL 46 PLAN

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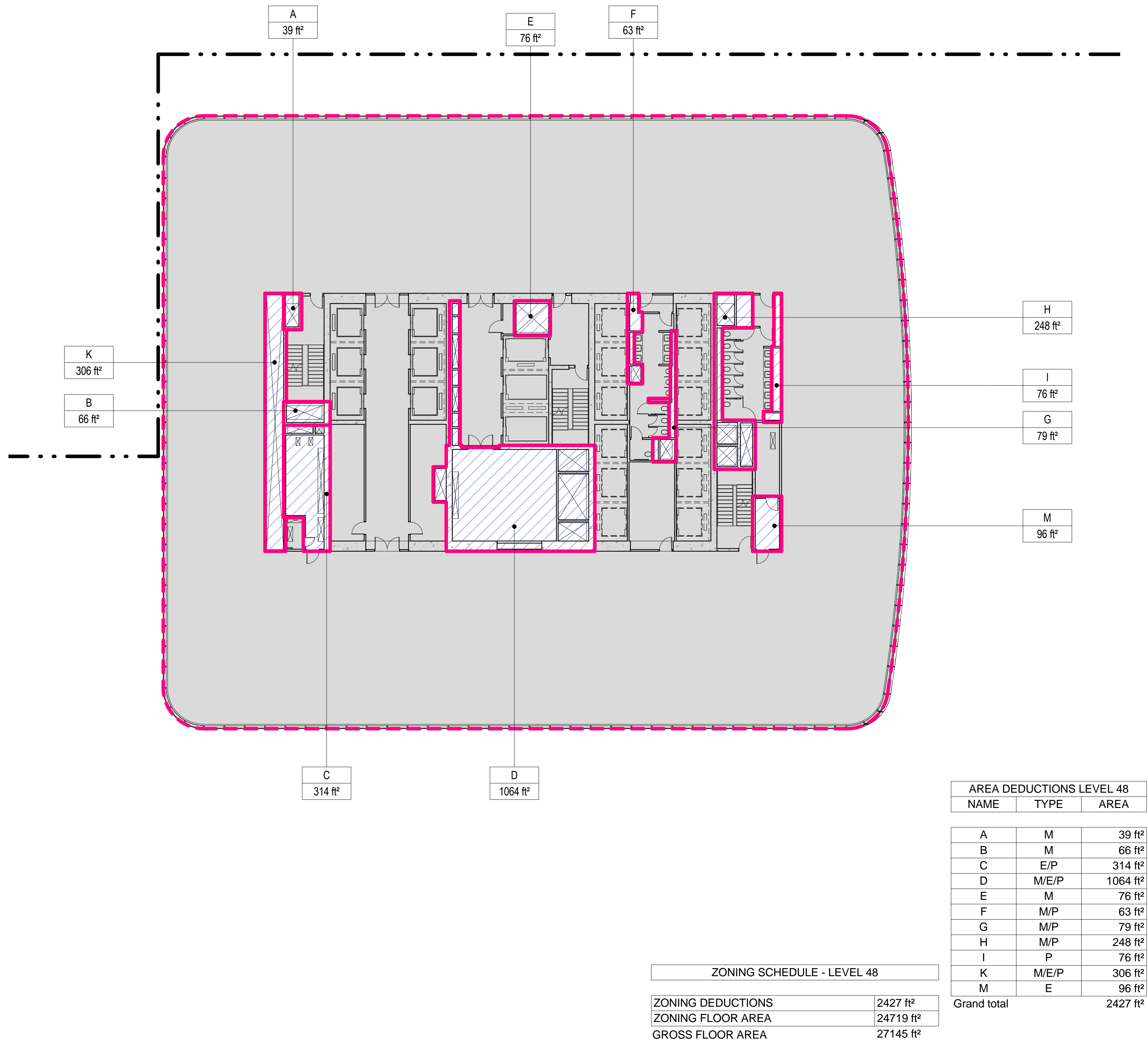
2 LEVEL 46 PLAN

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



4 LEVEL 48 PLAN

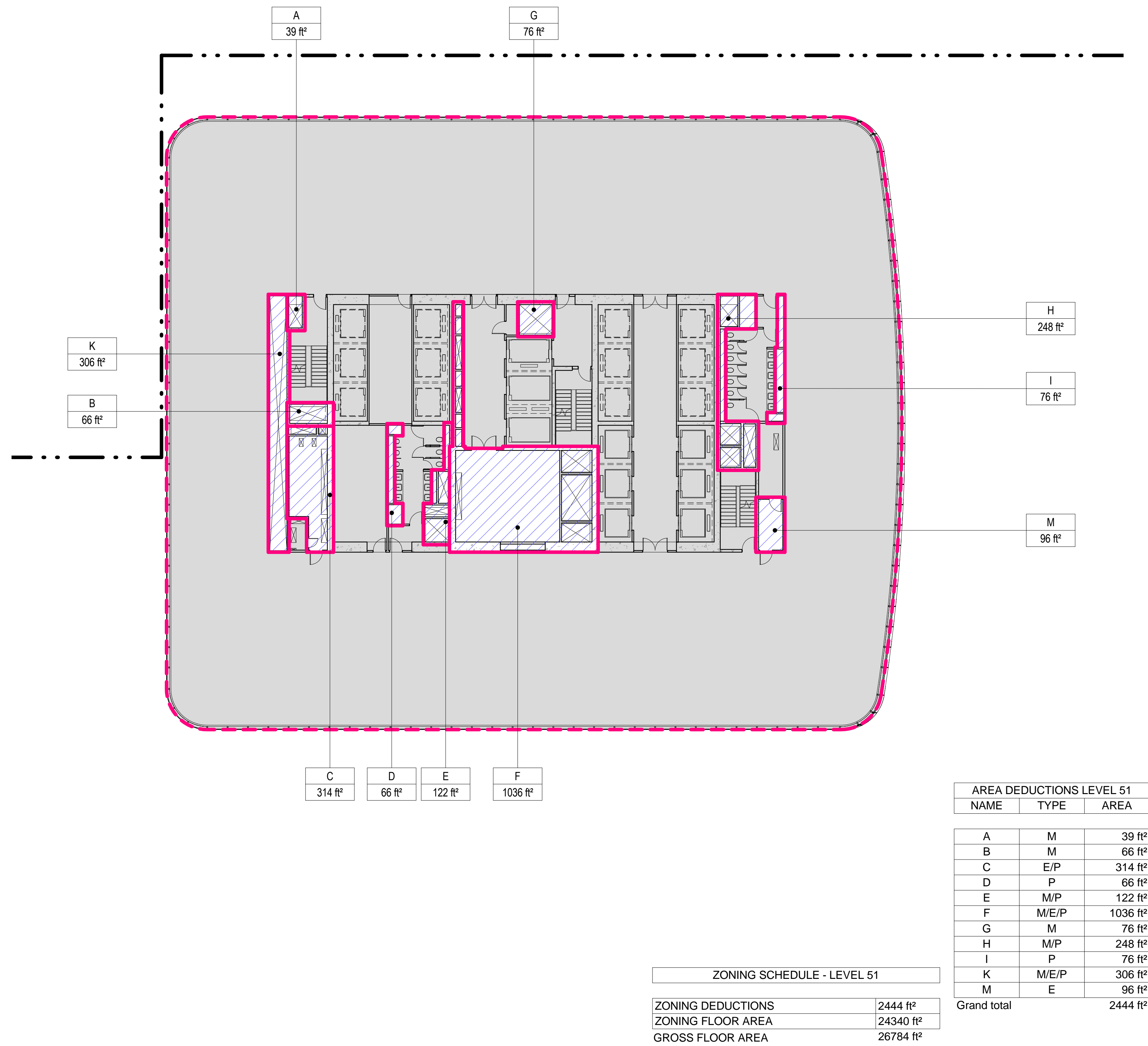
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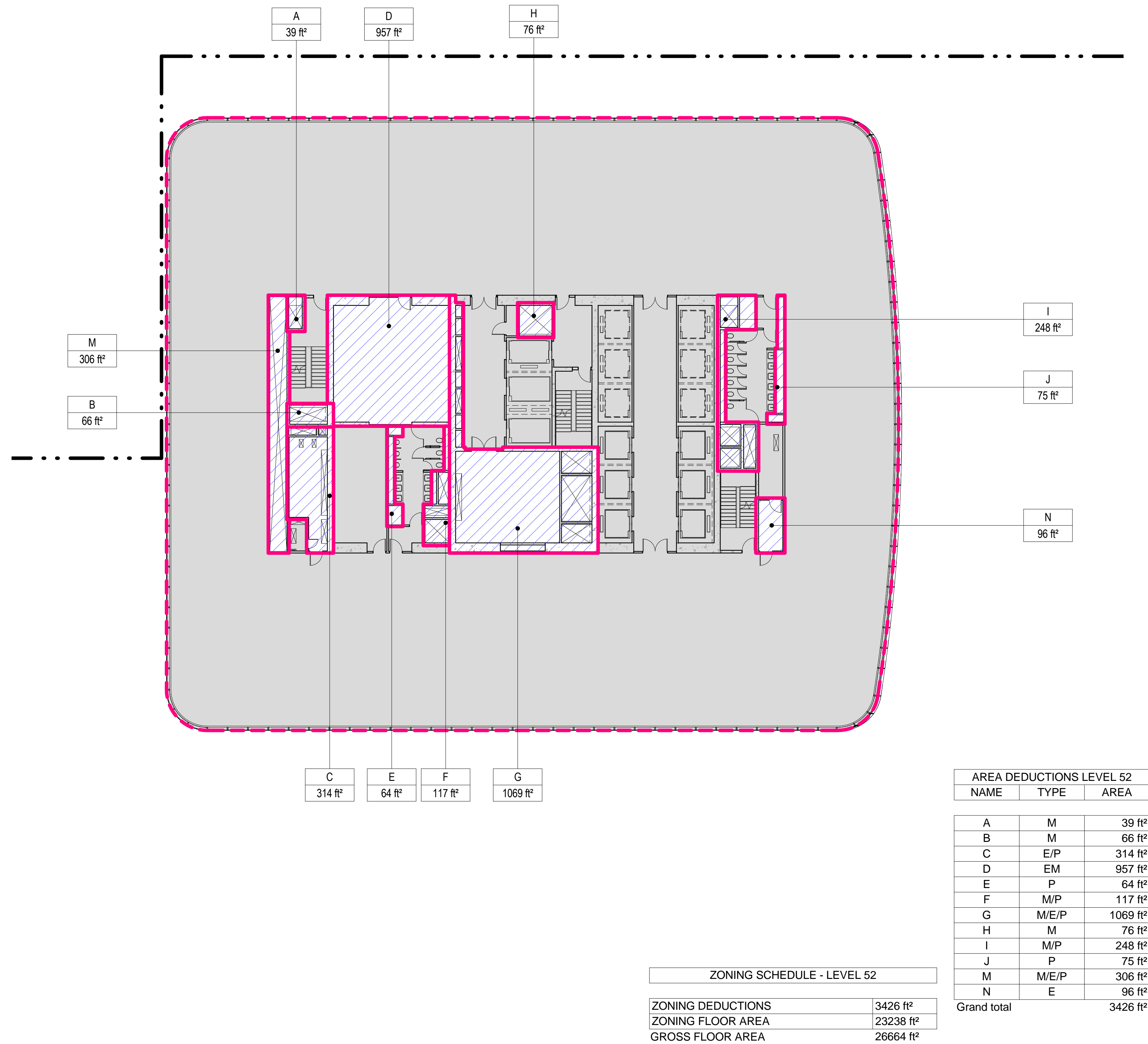
3 LEVEL 51 PLAN

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



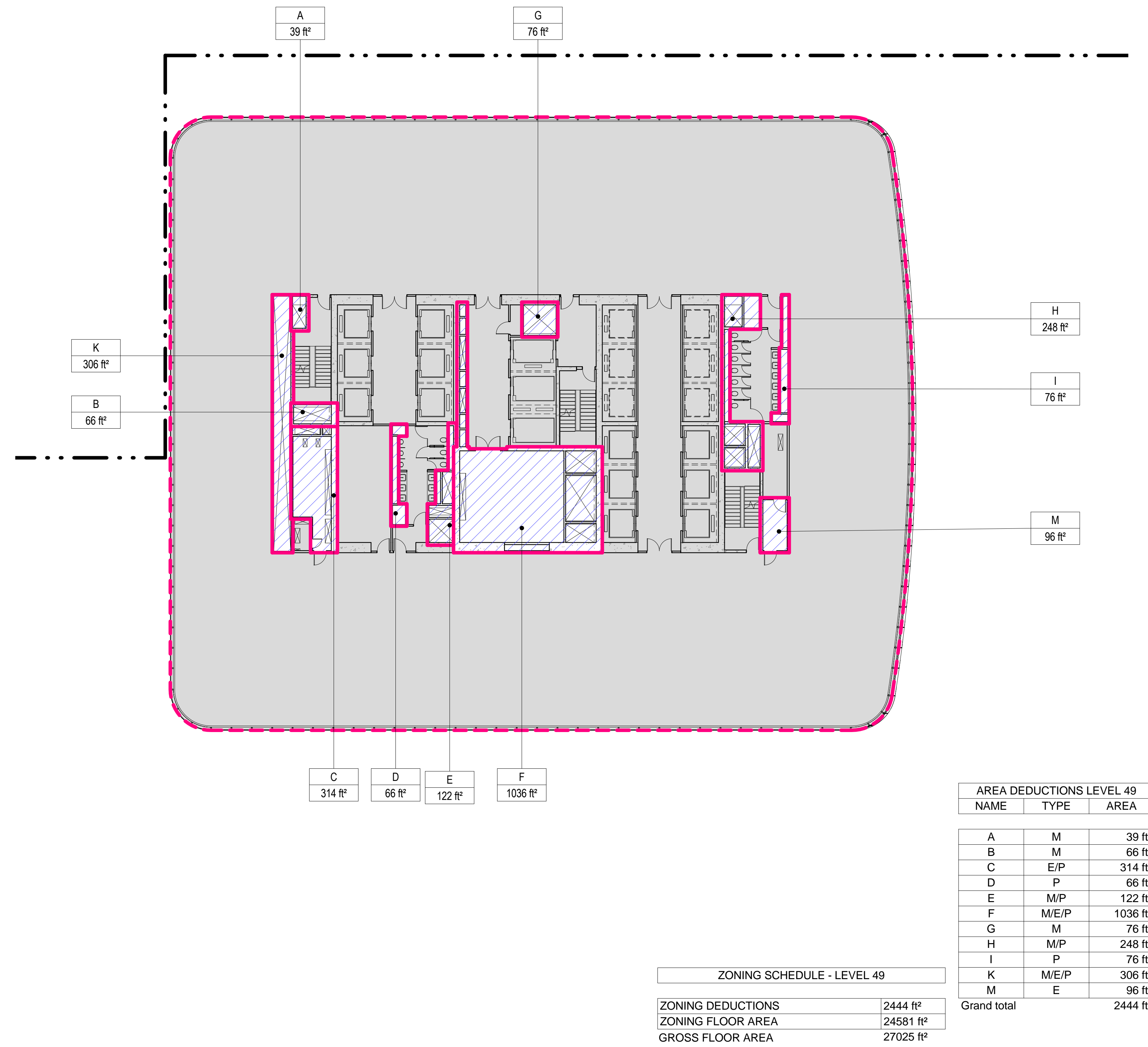
4 LEVEL 52 PLAN

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



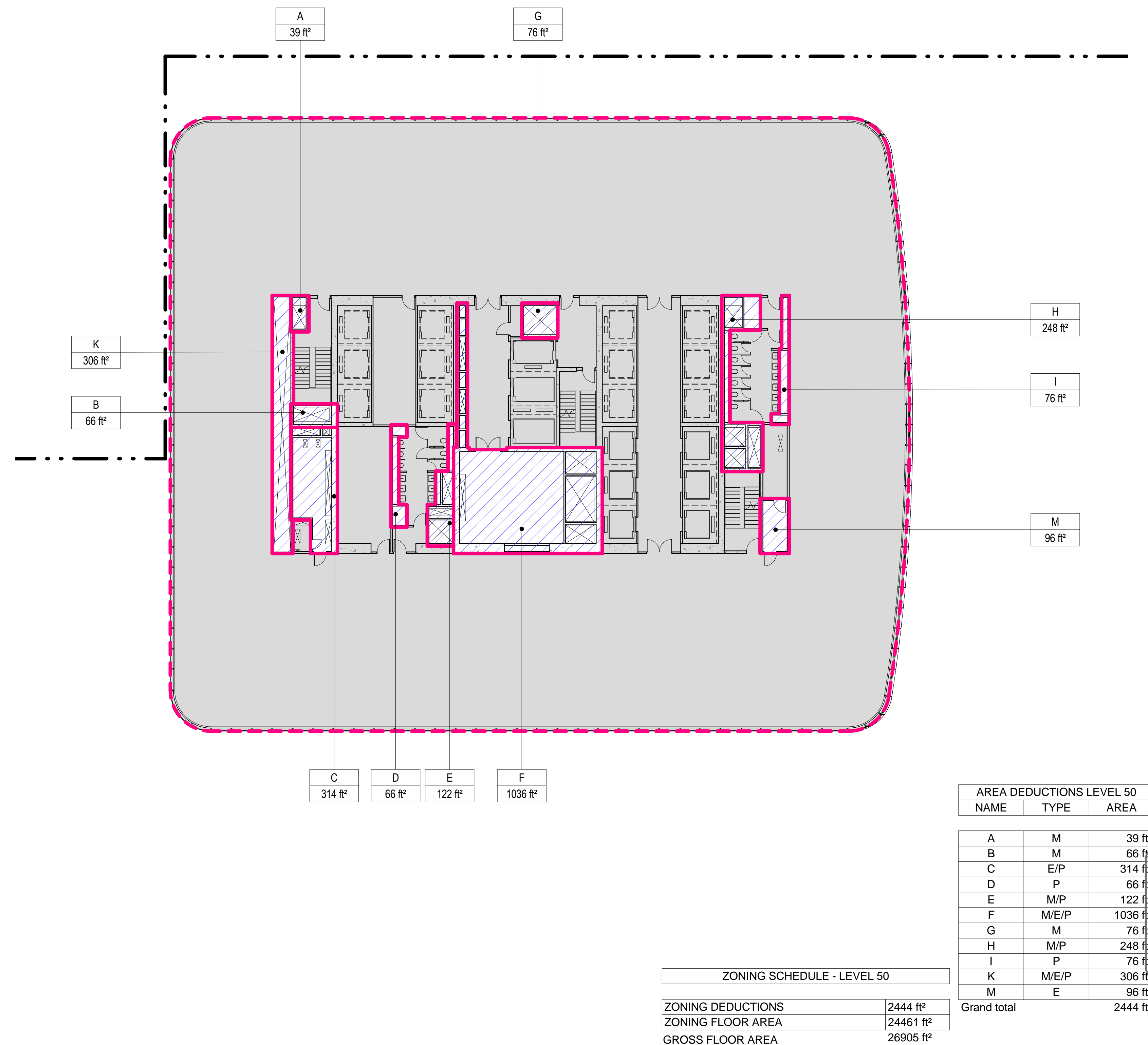
1 LEVEL 49 PLAN

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



2 LEVEL 50 PLAN

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



- ZONING LEGENDS**
- GROSS BUILDING AREA
 - ZONING AREA DEDUCTIONS
 - ZONING FLOOR AREA
 - RETAIL
 - MR MECHANICAL ROOM
 - M MECHANICAL
 - E ELECTRICAL/TEL/IT
 - P PLUMBING
 - EM ELEVATOR MACHINE ROOM

Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Bluffside Ave., Suite 1, Mill Valley, California 94941

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geotechnical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Vantor & Santore
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

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Code Consultant
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Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

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Sheet Name:

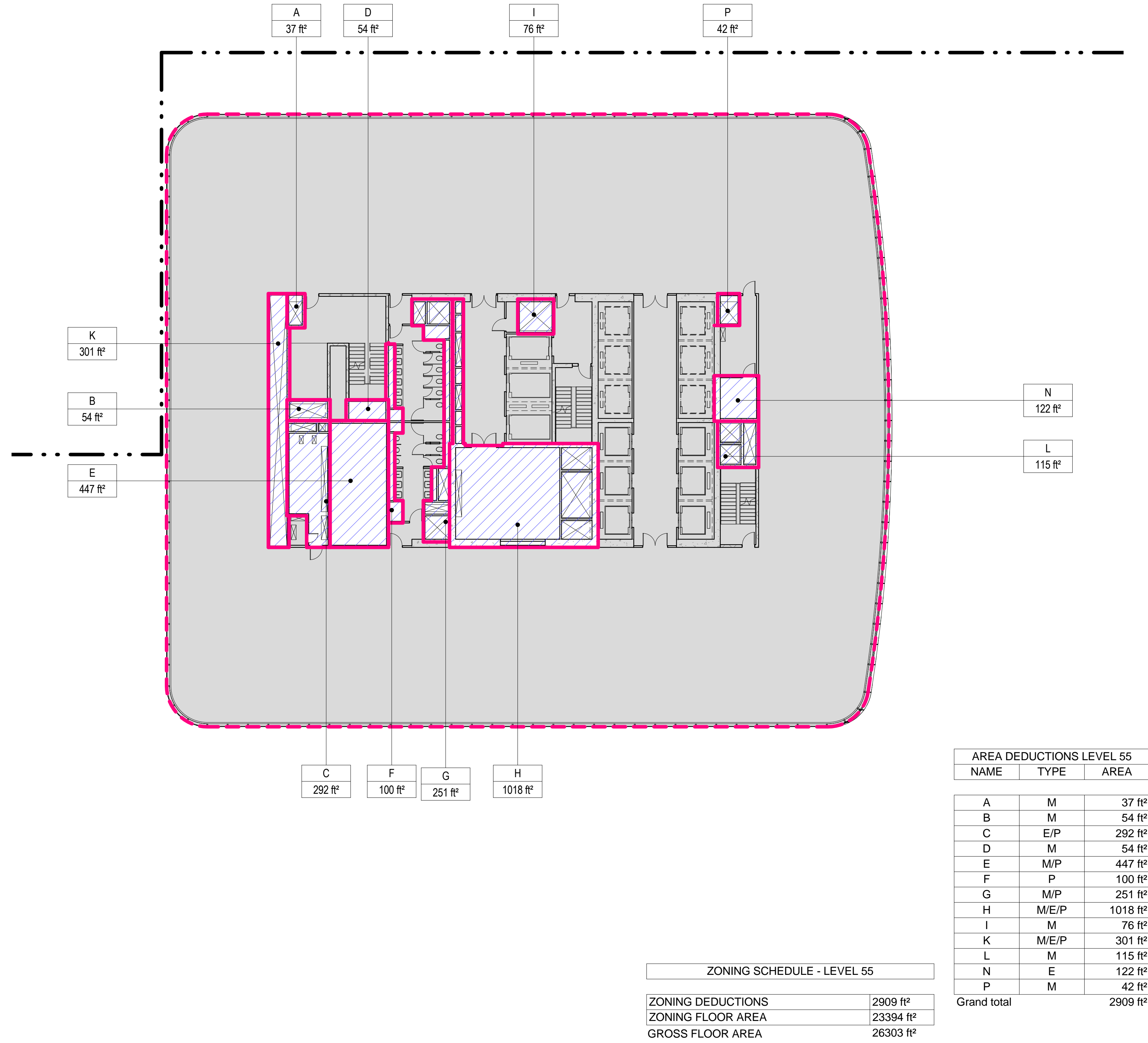
ZONING FLOOR AREA DEDUCTIONS - LEVEL 49-52

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/16" = 1'-0"
File No.: Z-116

B-SCAN Sheet No.:
Z-116.00
Sheet No.:
Page No.: 23 OF 30

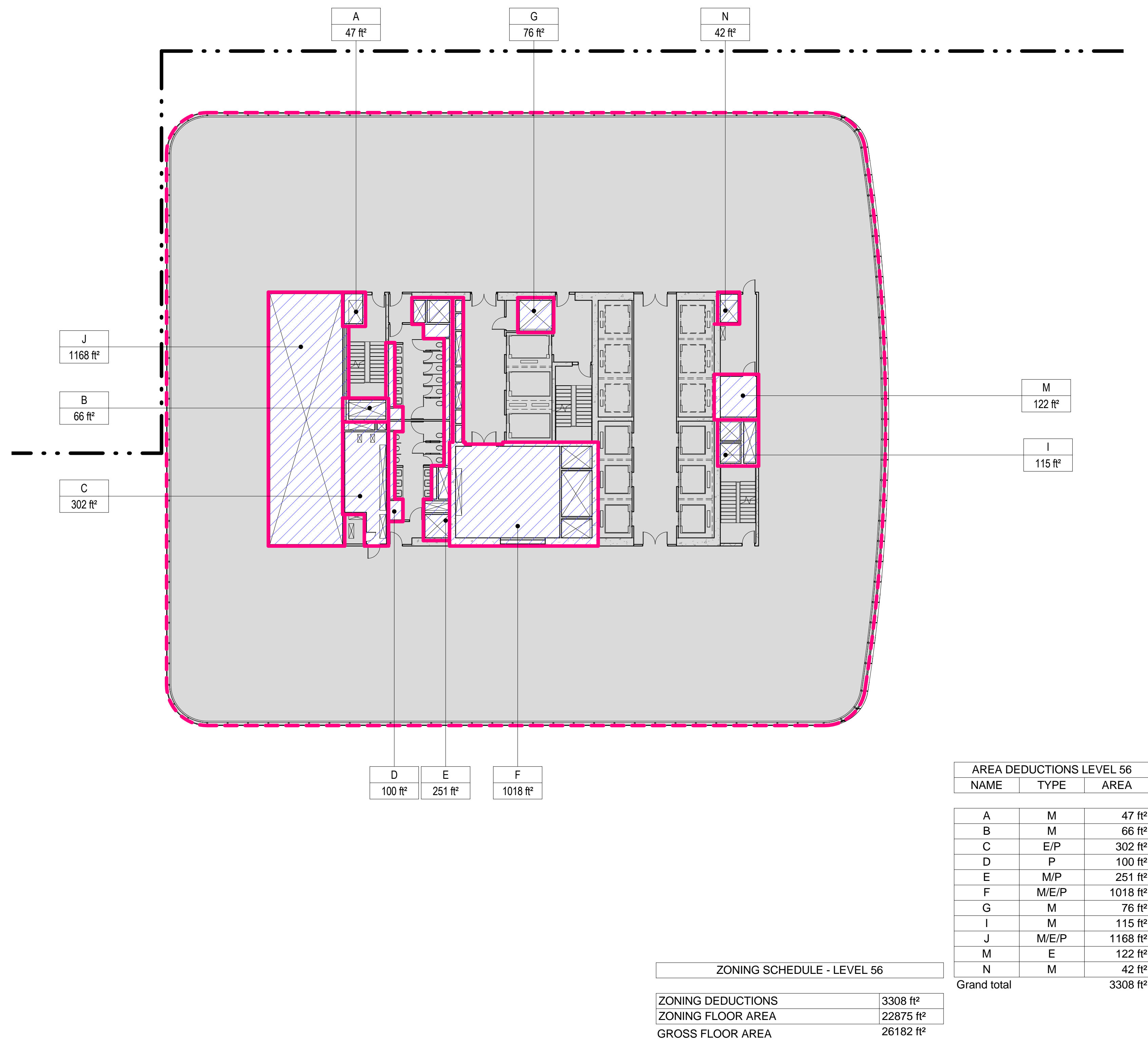
3 LEVEL 55 PLAN

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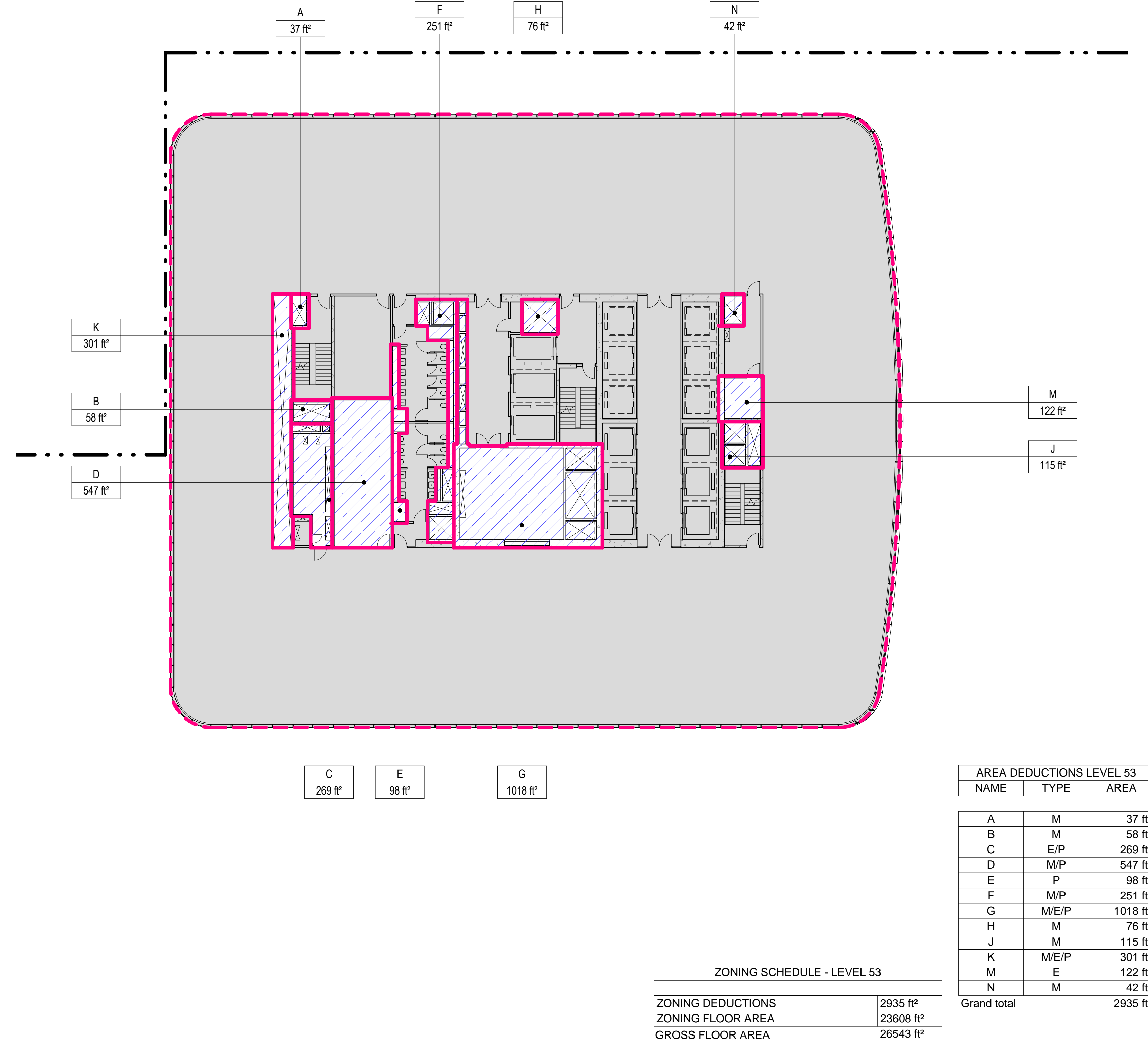
4 LEVEL 56 PLAN

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



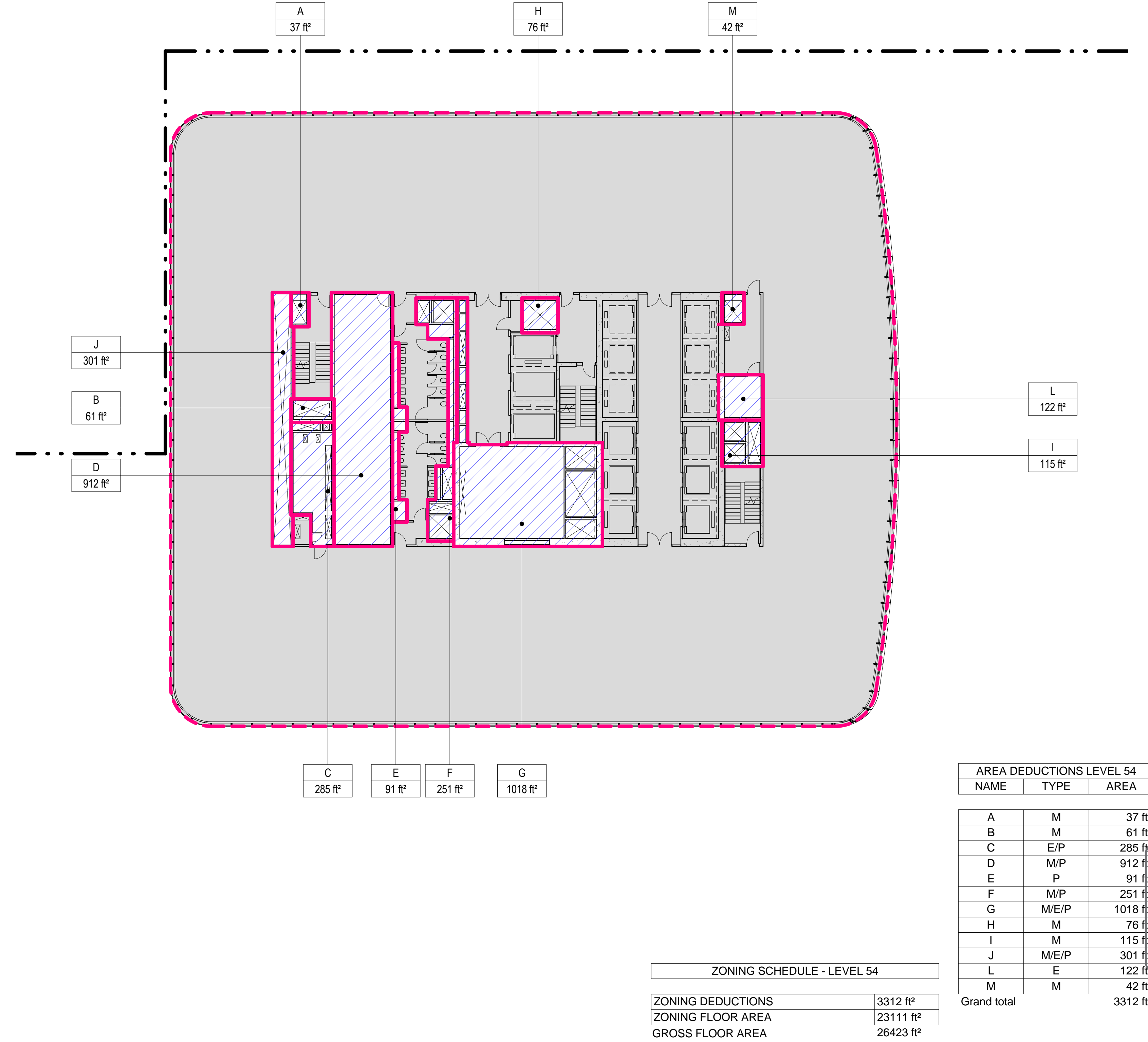
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SCALE: 1/16" = 1'-0"



2 LEVEL 54 PLAN

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

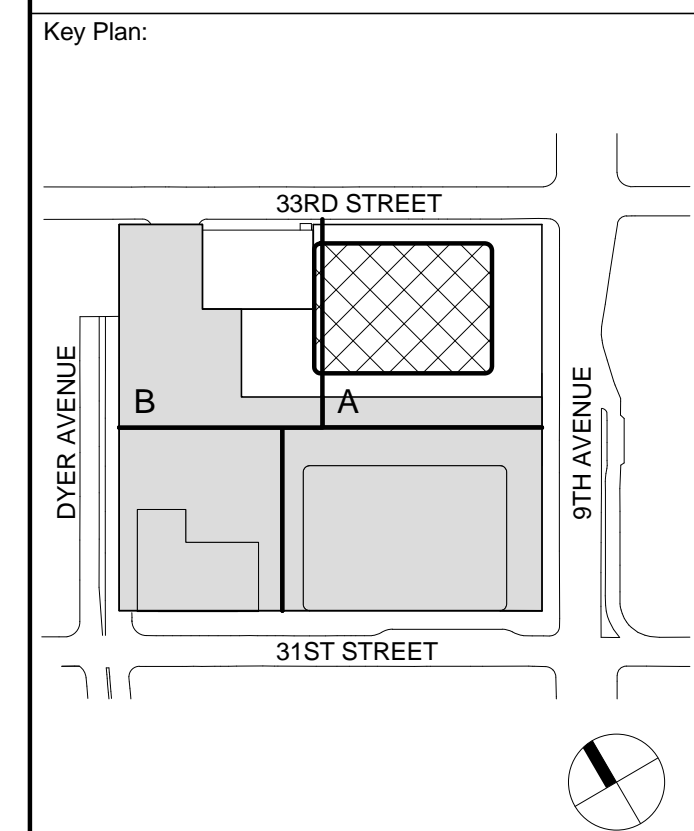


- ZONING LEGENDS**
- GROSS BUILDING AREA
 - ZONING AREA DEDUCTIONS
 - ZONING FLOOR AREA
 - RETAIL
 - MR MECHANICAL ROOM
 - M MECHANICAL
 - E ELECTRICAL/TEL/IT
 - P PLUMBING
 - EM ELEVATOR MACHINE ROOM

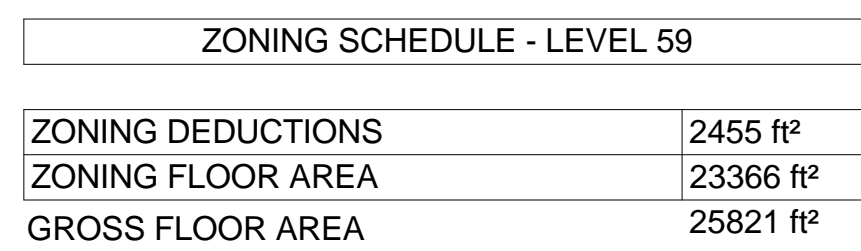
- MANHATTAN WEST: NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client
- Brookfield**
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021
- Architecture/Structural Engineering
SOM
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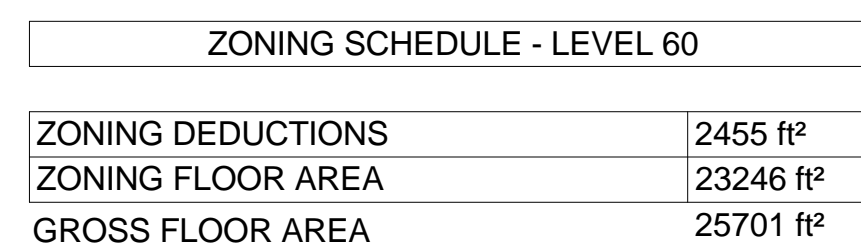
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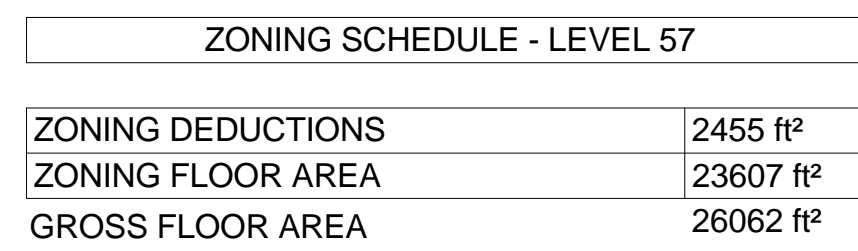
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| Project No.: 207150 | B-SCAN Sheet No.: Z-117.00 |
| Date: 27 AUG 2015 | Sheet No.: Z-117 |
| Scale: 1/16" = 1'-0" | Page No.: 24 OF 30 |
| File No.: 2-117 | |



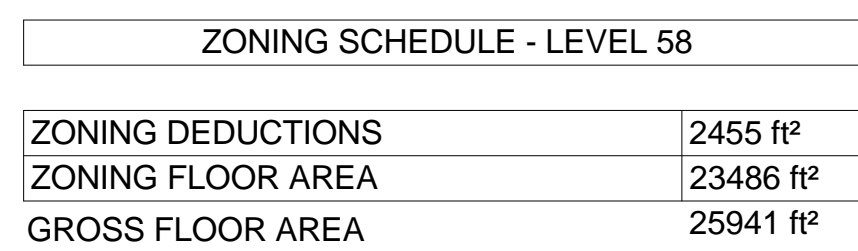
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SCALE: 1/16" = 1'-0"



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

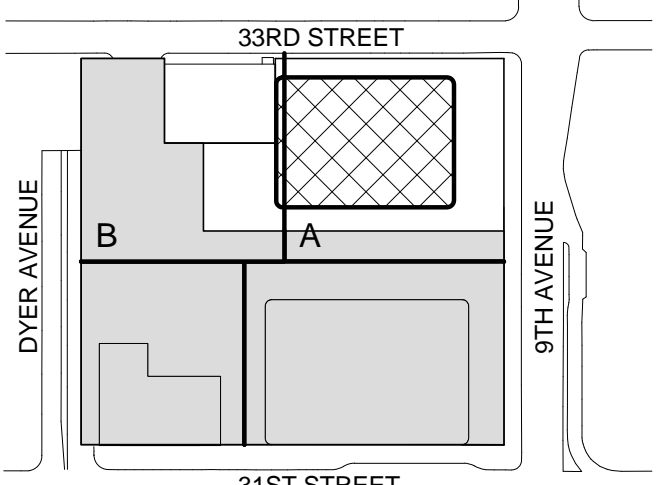


SCALE: 1/16" = 1'-0"

- CLM 00000009 00011009
- 
- MANHATTAN WEST:
NORTH TOWER
- 375 Ninth Avenue, New York, NY 10001
- Client
- Brookfield**

- Architecture/Structural Engineering
- SOM**
- Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005
- Civil Engineering
- Philip Habbit & Associates
102 Madison Avenue #11, New York, NY 10016
- MEP Engineering
- Jaous Baum & Bolles
80 Pine Street, New York, NY 10005
- Vertical Transportation
- Edgett Williams Consulting Group, Inc.
102 East Broadway Ave. Suite 1, New York, California 94944
- Sustainable Design
- Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854
- Geotechnical Engineering
- Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122
- Landscape Consultant
- Field Operations
475 10th Avenue, New York, NY 10018
- Security Consultant
- Ducibella, Vontor & Santoro
250 State Street #11, North Haven, CT 06473
- Blast Consultant
- Weidlinger Associates, Inc.
40 Wall Street, New York, NY 10005
- Acoustical Consultant
- Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018
- Vibrational Consultant
- Wilson, Uhlrt & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006
- Code Consultant
- Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018
- Facade Engineering Consultant
- Entek Construction LLC
186 Ames Street, Hackensack, NJ 07601
- Wind Tunnel Consultant
- Rowan Williams Davies & Irwin Inc.
650 Williamson Road West, South Ockbrook, Cannock, MFT 158

Key Plan:



Seal & Signature:



Warning: It is a violation of the New York State Architecture Law, §69.5(b) for any person, unless they are acting under the direction of a Licensed Architect, to alter this item in any way.

| | | |
|-----|-------------|------------------------------|
| 6 | 21 AUG 2015 | ISSUED FOR BUILDING PERMIT |
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| 3 | 19 DEC 2014 | ISSUED FOR FOUNDATION PERMIT |
| 2 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 1 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| No. | Date | Description |

Sheet Name:

ZONING FLOOR
AREA
DEDUCTIONS -
LEVEL 57-60

| | |
|-------------------------|--|
| Project No.: 207120 | B-SCAN Sheet No.: <h1 style="text-align: center;">Z-118.00</h1> |
| Date: 21 AUG 2015 | |
| Scale: 1/16" = 1'-0" | |
| File No.: Z-118 | Sheet No.: <h2 style="text-align: center;">Z-118</h2> |
| | Page No.: <div style="text-align: right;">25 OF 30</div> |

2015. 4:27:43 PM

- ZONING LEGENDS
- GROSS BUILDING AREA
 - ZONING AREA DEDUCTIONS
 - ZONING FLOOR AREA
 - RETAIL
 - MR MECHANICAL ROOM
 - M MECHANICAL
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 - P PLUMBING
 - EM ELEVATOR MACHINE ROOM



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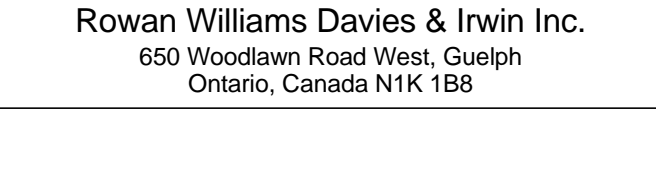
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Key Plan:



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1 20 DEC 2013 ISSUED FOR FOUNDATION PERMIT

No. Date Description
Sheet Name:

ZONING FLOOR AREA DEDUCTIONS - LEVEL 61-64

Project No.: 207150
Date: 27 AUG 2015
Scale: 1/16" = 1'-0"
File No.: 2-119

B-SCAN Sheet No.:
Z-119.00
Sheet No.:
Z-119
Page No.: 26 OF 30

Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

Grand total 3399 ft²

ZONING DEDUCTIONS 3399 ft²
ZONING FLOOR AREA 22060 ft²
GROSS FLOOR AREA 25460 ft²

ZONING SCHEDULE - LEVEL 62

NAME TYPE AREA

A M 47 ft²
B M 65 ft²
C E/P 302 ft²
D P 100 ft²
E M/P 251 ft²
F M/E/P 980 ft²
G M 76 ft²
H EM 991 ft²
J M 113 ft²
K M/E/P 316 ft²
M E 115 ft²
N M 42 ft²

Grand total 3399 ft²

ZONING DEDUCTIONS 2455 ft²
ZONING FLOOR AREA 23125 ft²
GROSS FLOOR AREA 25580 ft²

ZONING SCHEDULE - LEVEL 61

NAME TYPE AREA

A M 47 ft²
B M 65 ft²
C E/P 302 ft²
D P 100 ft²
E M/P 251 ft²
G M 1018 ft²
I M 115 ft²
J M/E/P 316 ft²
K M 76 ft²
M E 122 ft²
N M 42 ft²

Grand total 2455 ft²

ZONING DEDUCTIONS 2872 ft²
ZONING FLOOR AREA 22468 ft²
GROSS FLOOR AREA 25339 ft²

ZONING SCHEDULE - LEVEL 63

NAME TYPE AREA

A M 47 ft²
B M 66 ft²
C E/P 302 ft²
D P 100 ft²
E M/P 251 ft²
F M/E/P 1018 ft²
I M 464 ft²
J M/E 115 ft²
K M/E/P 316 ft²
L M 76 ft²
N M 42 ft²
P E 74 ft²

Grand total 2872 ft²

ZONING DEDUCTIONS 2474 ft²
ZONING FLOOR AREA 22745 ft²
GROSS FLOOR AREA 25219 ft²

ZONING SCHEDULE - LEVEL 64

NAME TYPE AREA

A M 47 ft²
B M 65 ft²
C E/P 302 ft²
D P 100 ft²
E M/P 251 ft²
F M/E/P 1018 ft²
I M 104 ft²
J M 119 ft²
K M/E/P 316 ft²
L M 76 ft²
N E 74 ft²

Grand total 2474 ft²

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ZONING FLOOR AREA 22745 ft²
GROSS FLOOR AREA 25219 ft²

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K M/E/P 316 ft²
M E 115 ft²
N M 42 ft²

Grand total 3399 ft²

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ZONING FLOOR AREA 22060 ft²
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Grand total 3399 ft²

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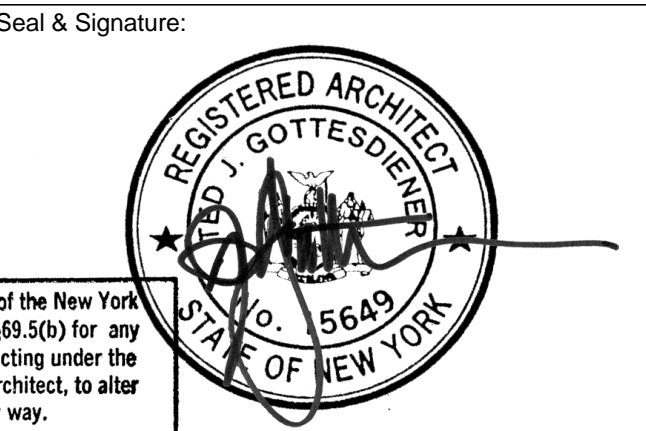
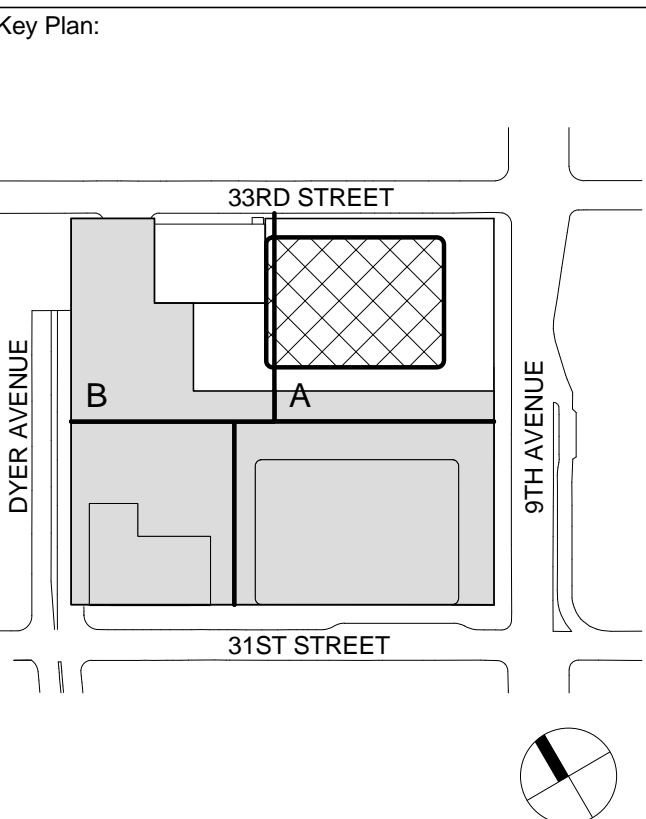
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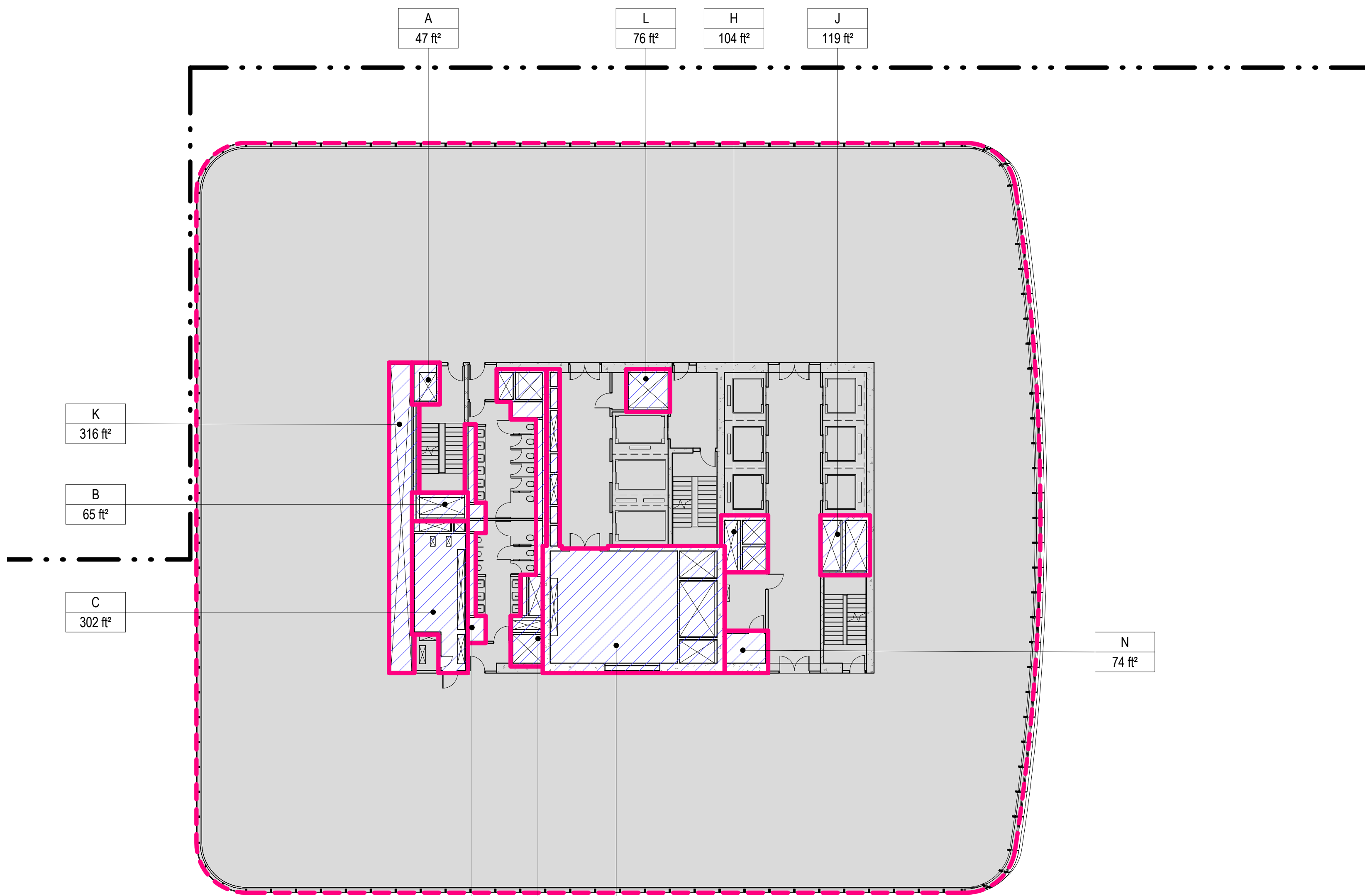
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ZONING FLOOR AREA DEDUCTIONS - LEVEL 65-68

| | |
|----------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: Z-120.00 |
| Date: 27 AUG 2015 | Sheet No.: Z-120 |
| Scale: 1/16" = 1'-0" | Page No.: 27 OF 30 |
| File No.: 2-120 | |

| NAME | TYPE | AREA |
|-------------|-------|----------|
| A | M | 47 ft² |
| B | M | 65 ft² |
| C | E/P | 302 ft² |
| D | P | 100 ft² |
| E | M/P | 251 ft² |
| F | M/E/P | 1018 ft² |
| H | M | 104 ft² |
| J | M | 119 ft² |
| K | M/E/P | 316 ft² |
| L | M | 76 ft² |
| N | E | 74 ft² |
| Grand total | | 2474 ft² |

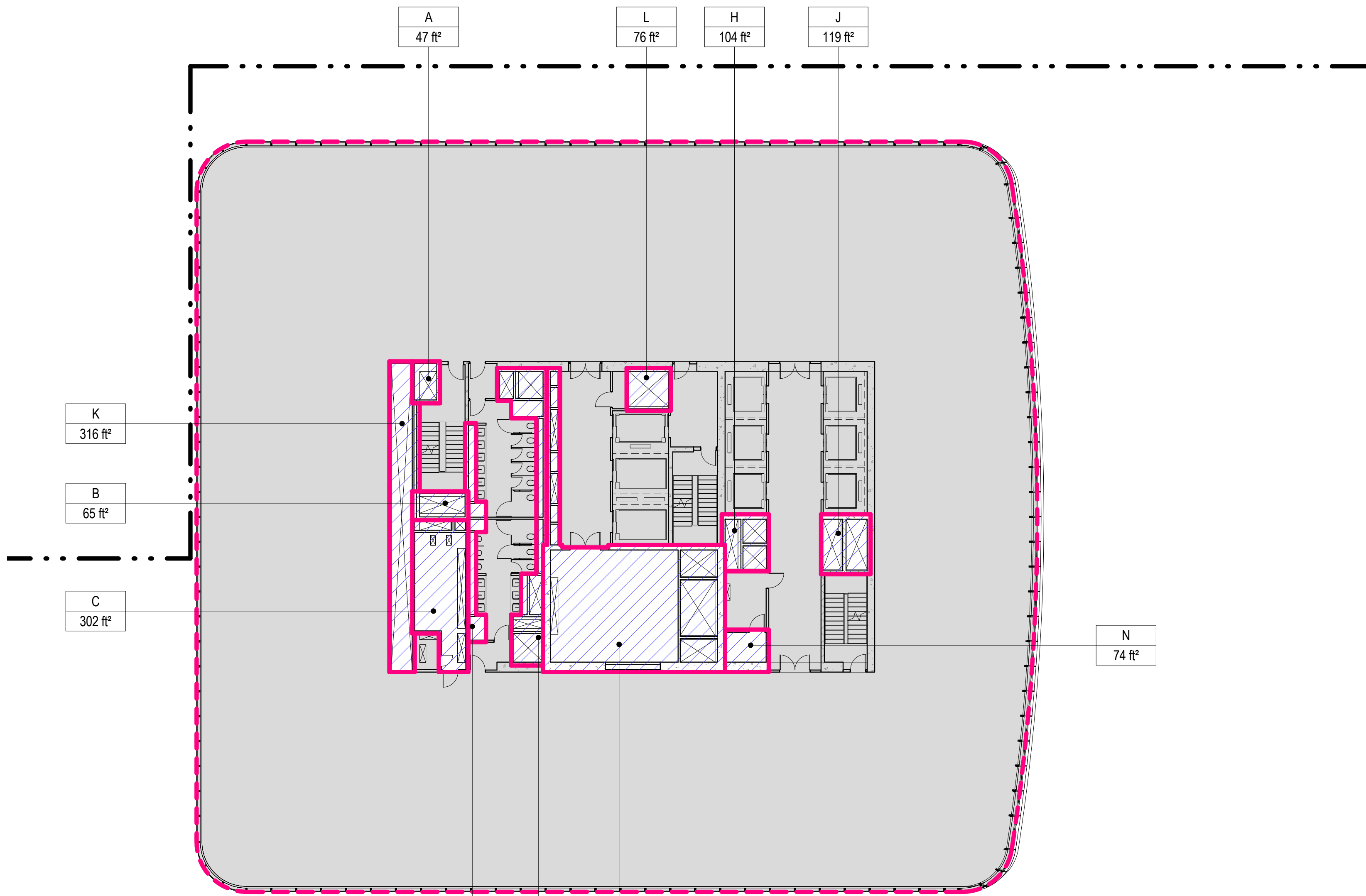
| ZONING SCHEDULE - LEVEL 65 | | |
|----------------------------|-----------|--|
| ZONING DEDUCTIONS | 2474 ft² | |
| ZONING FLOOR AREA | 22625 ft² | |
| GROSS FLOOR AREA | 25099 ft² | |



1 LEVEL 65 PLAN
SCALE: 1/16" = 1'-0"

| NAME | TYPE | AREA |
|-------------|-------|----------|
| A | M | 47 ft² |
| B | M | 65 ft² |
| C | E/P | 302 ft² |
| D | P | 100 ft² |
| E | M/P | 251 ft² |
| F | M/E/P | 1018 ft² |
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| N | E | 74 ft² |
| Grand total | | 2474 ft² |

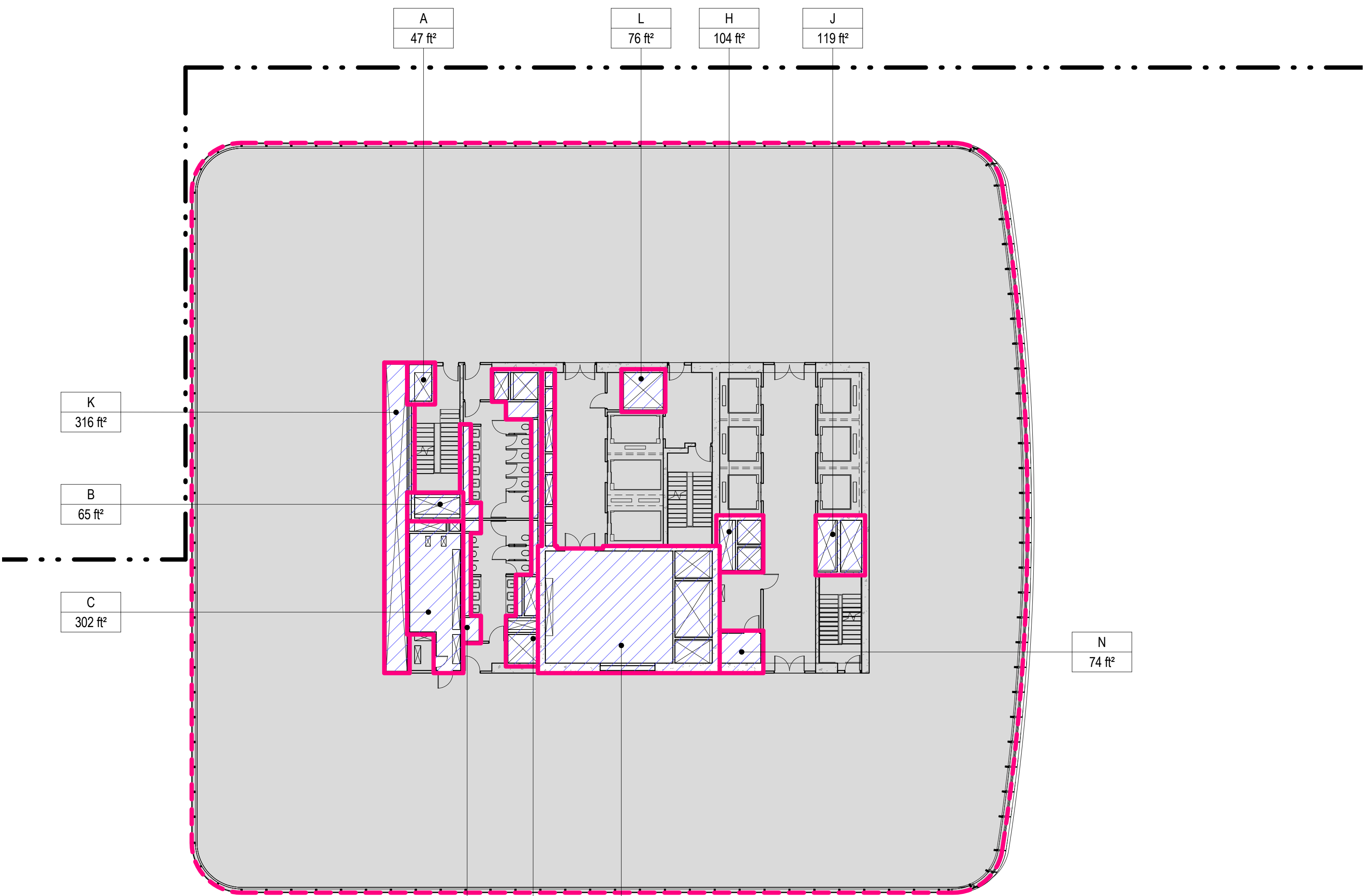
| ZONING SCHEDULE - LEVEL 66 | | |
|----------------------------|-----------|--|
| ZONING DEDUCTIONS | 2474 ft² | |
| ZONING FLOOR AREA | 22504 ft² | |
| GROSS FLOOR AREA | 24978 ft² | |



2 LEVEL 66 PLAN
SCALE: 1/16" = 1'-0"

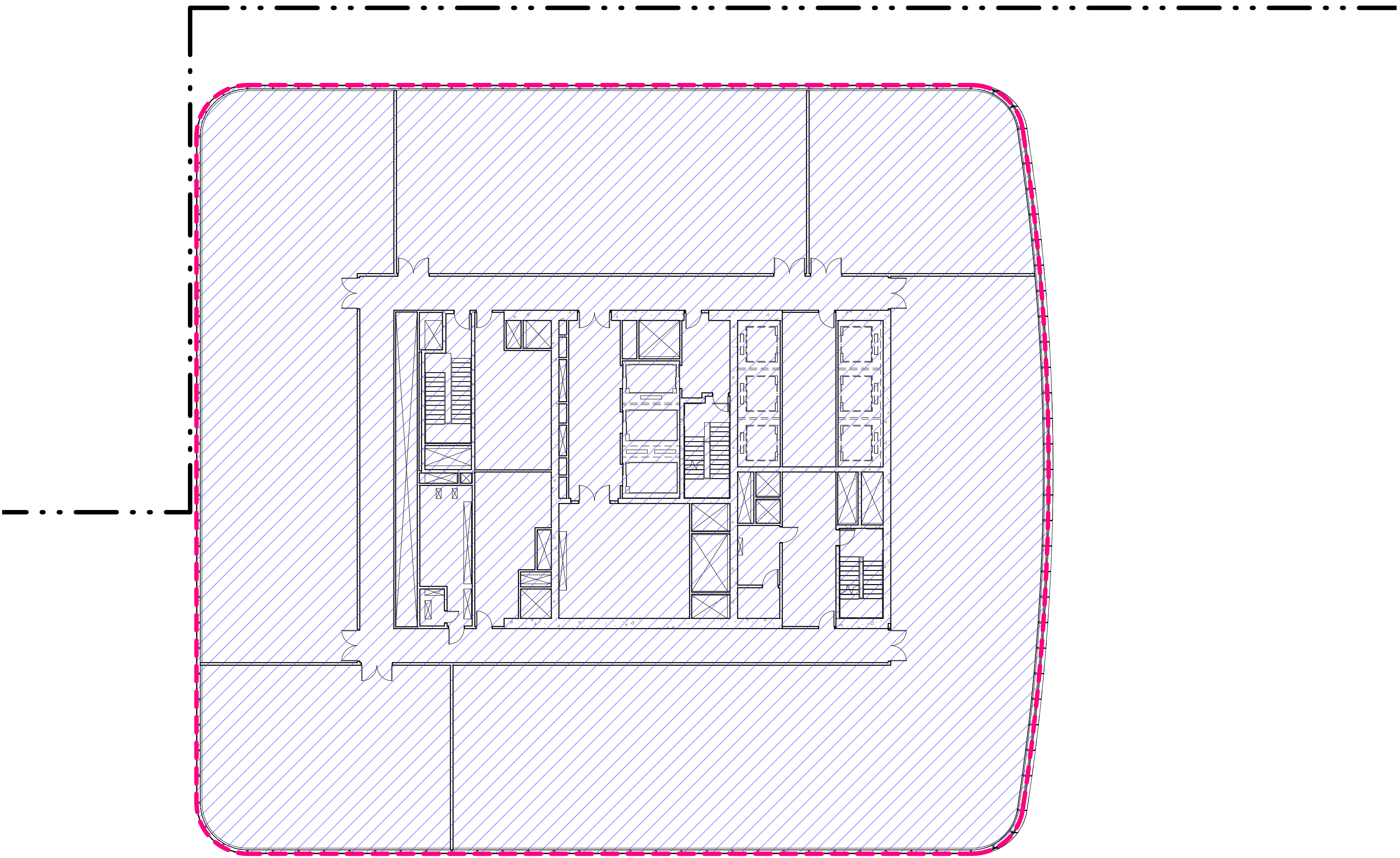
| NAME | TYPE | AREA |
|-------------|-------|----------|
| A | M | 47 ft² |
| B | M | 65 ft² |
| C | E/P | 302 ft² |
| D | P | 100 ft² |
| E | M/P | 251 ft² |
| F | M/E/P | 1018 ft² |
| H | M | 104 ft² |
| J | M | 119 ft² |
| K | M/E/P | 316 ft² |
| L | M | 76 ft² |
| N | E | 74 ft² |
| Grand total | | 2474 ft² |

| ZONING SCHEDULE - LEVEL 67 | | |
|----------------------------|-----------|--|
| ZONING DEDUCTIONS | 2474 ft² | |
| ZONING FLOOR AREA | 22384 ft² | |
| GROSS FLOOR AREA | 24858 ft² | |

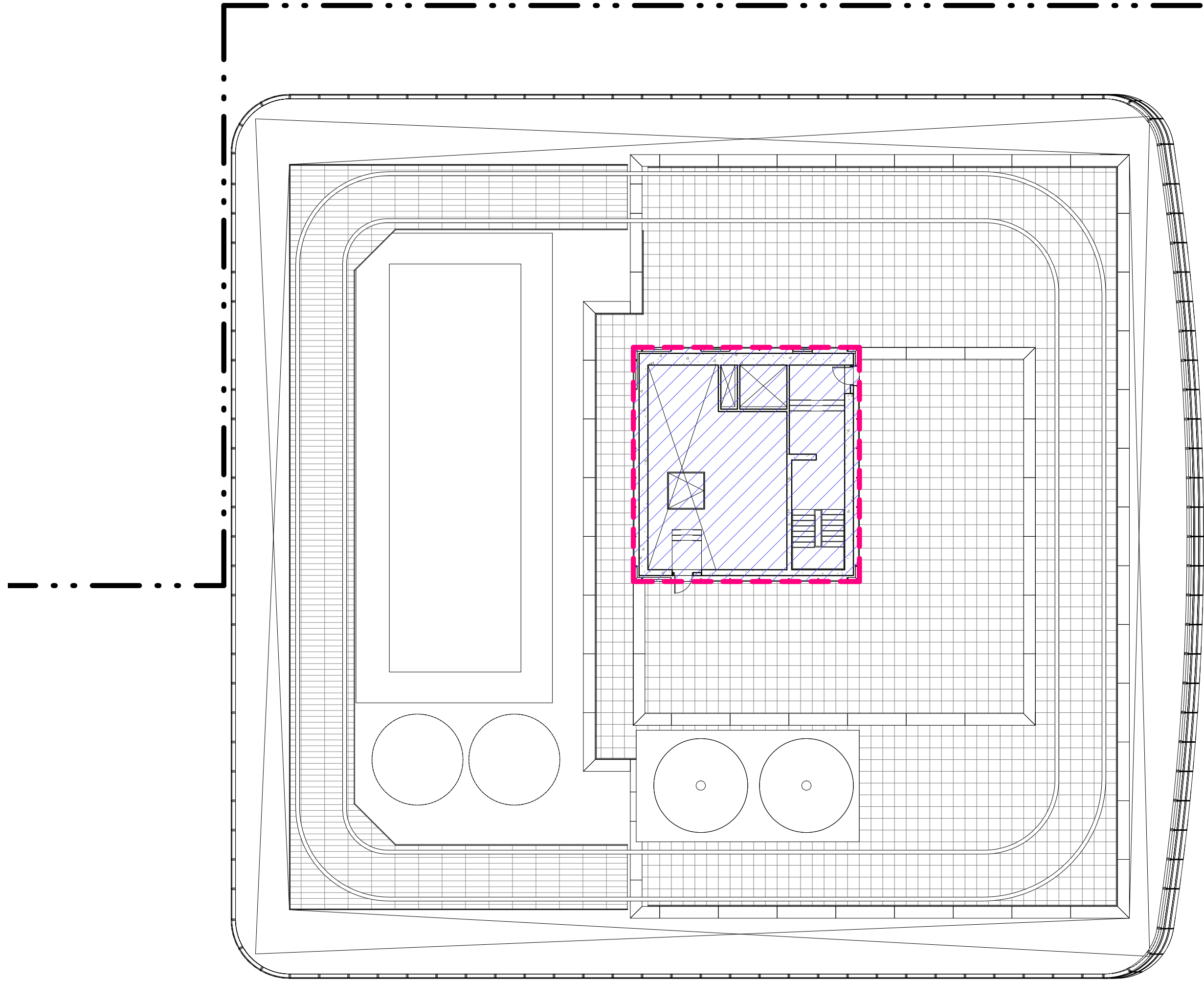


3 LEVEL 67 PLAN
SCALE: 1/16" = 1'-0"

| ZONING SCHEDULE - LEVEL 68 | | |
|----------------------------|-----------|--|
| ZONING DEDUCTIONS | 24724 ft² | |
| GROSS FLOOR AREA | 24724 ft² | |



4 LEVEL 68 PLAN
SCALE: 1/16" = 1'-0"

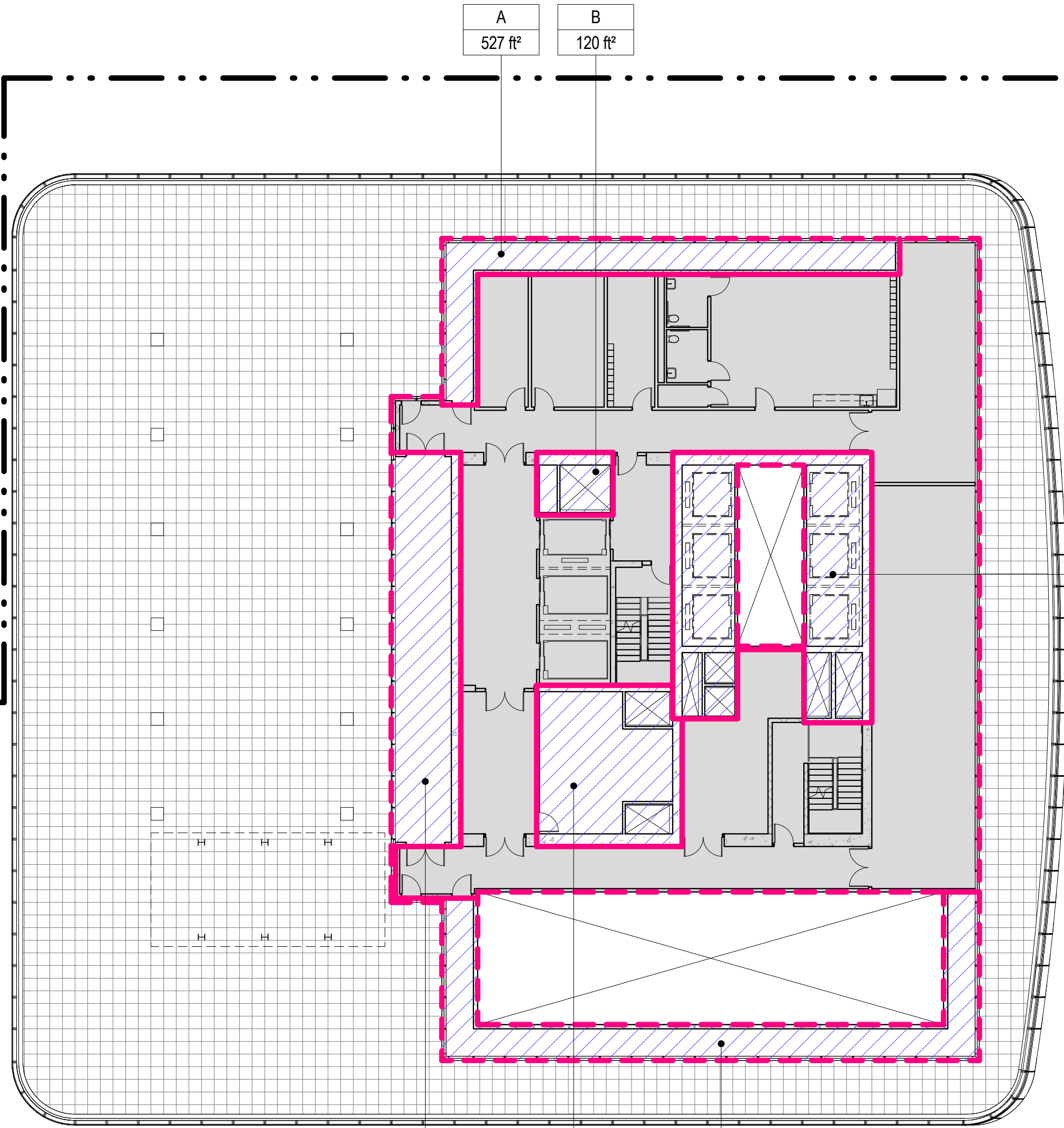


ZONING SCHEDULE - MECHANICAL PENTHOUSE ROOF

| | |
|-------------------|---------|
| ZONING DEDUCTIONS | 1534 R² |
| GROSS FLOOR AREA | 1534 R² |

3 MECH. PENTHOUSE ROOF PLAN

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



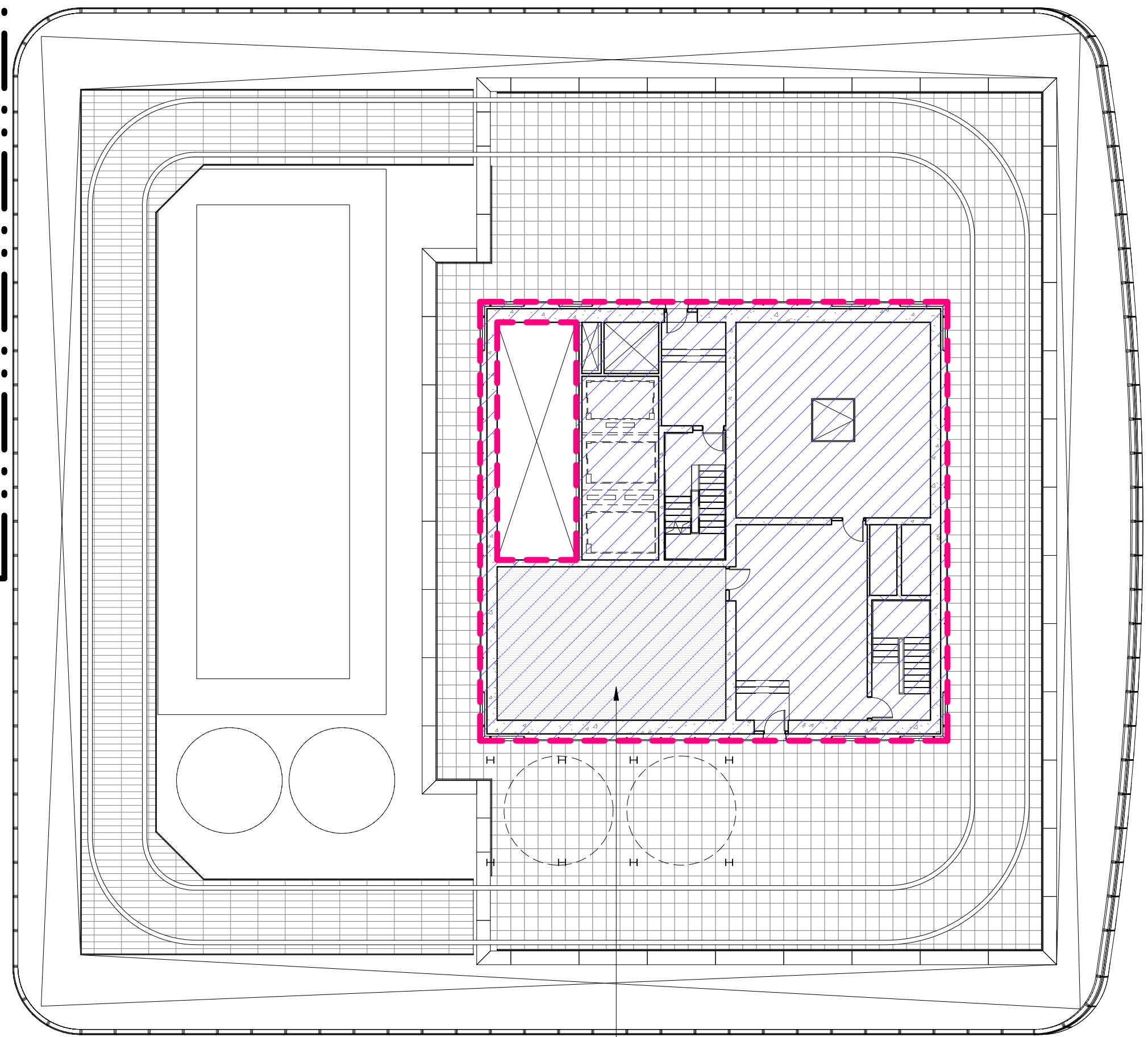
| | |
|---|--------|
| A | 527 R² |
| B | 120 R² |
| C | 918 R² |
| D | 579 R² |
| E | 725 R² |
| F | 686 R² |

| AREA DEDUCTIONS LEVEL 69 | | |
|--------------------------|-------|---------|
| NAME | TYPE | AREA |
| A | M | 527 R² |
| B | E/P | 120 R² |
| C | M/E/P | 918 R² |
| D | M/E/P | 579 R² |
| E | M | 725 R² |
| F | M | 686 R² |
| Grand total | | 3554 R² |

| ZONING SCHEDULE - LEVEL 69 | |
|----------------------------|---------|
| ZONING DEDUCTIONS | 3554 R² |
| ZONING FLOOR AREA | 6289 R² |
| GROSS BUILDING AREA | 9843 R² |

1 LEVEL 69 PLAN

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



— OPEN STEEL FLOOR GRATING

| ZONING SCHEDULE - MECHANICAL PENTHOUSE | |
|--|---------|
| ZONING DEDUCTIONS | 4003 R² |
| GROSS FLOOR AREA | 4003 R² |



2 MECH. PENTHOUSE PLAN

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

ZONING LEGENDS

- GROSS BUILDING AREA
- ZONING AREA DEDUCTIONS
- ZONING FLOOR AREA
- RETAIL
- MR MECHANICAL ROOM
- M MECHANICAL
- E ELECTRICAL/TEL./IT
- P PLUMBING
- EM ELEVATOR MACHINE ROOM



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
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Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave., Suite 1, Mill Valley, California 94041

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

Geotechnical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street, New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Vantor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

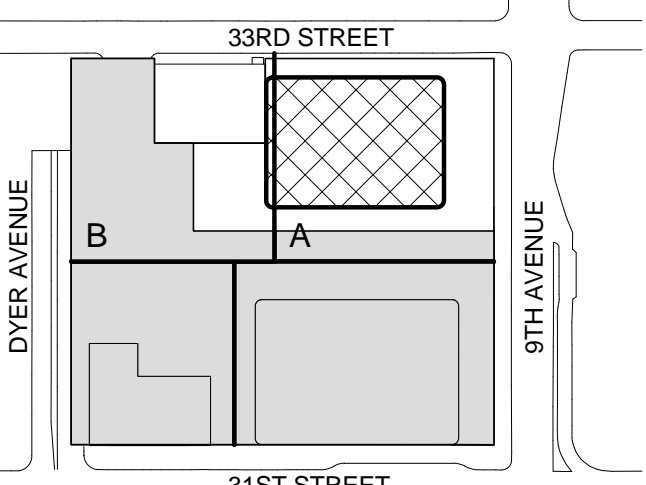
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6

Key Plan:



Seal & Signature:



Warning: It is a violation of the New York State Architecture Law (§§1600 for any person, unless they are acting under the direction of a Licensed Architect, to alter this form in any way.

| | | |
|---|-------------|------------------------------|
| 5 | 21 AUG 2015 | ISSUED FOR BUILDING PERMIT |
| 4 | 26 FEB 2015 | ISSUED FOR BUILDING PERMIT |
| 3 | 19 DEC 2014 | ISSUED FOR FOUNDATION PERMIT |
| 2 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 1 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |

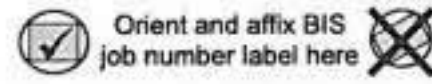
No. Date Description
Sheet Name:

ZONING FLOOR AREA DEDUCTIONS - LEVEL 69 & PENTHOUSE ROOF PLANS

| | |
|----------------------|----------------------------|
| Project No.: 207150 | B-SCAN Sheet No.: Z-121.00 |
| Date: 27 AUG 2015 | Sheet No.: Z-121 |
| Scale: 1/16" = 1'-0" | Page No.: 28 OF 30 |
| File No.: Z-121 | |



TR8: Technical Report
Statement of Responsibility for
Energy Code Progress Inspections
This form must be typewritten



| | | | | |
|---|---|--|---|-------------------------------------|
| 1 Location Information Required for all applications. | | | | |
| House No(s) 375 | | Street Name 9 Avenue (aka 401 9 Avenue) | | |
| Work on Floor(s) SC1,CEL,1-69,ROF | | | | |
| 2 Applicant Information Required for all applications. | | | | |
| Choose all that apply: <input checked="" type="checkbox"/> Design Applicant 3A, 4 <input type="checkbox"/> Progress Inspections Applicant 3B-D, 5-6 | | | | |
| Last Name Gottesdiener | | First Name Ted | Middle Initial J | |
| Business Name Skidmore Owings & Merrill, LLP | | Business Telephone (212) 298-9300 | | |
| Business Address 14 Wall Street | | Business Fax | | |
| City NY | State NY | Zip 10005 | Mobile Telephone | |
| License Type choose one: <input type="checkbox"/> P.E. <input checked="" type="checkbox"/> R.A. | License Number 079322 | | | |
| 3 Energy Code Progress Inspection Required for applications where Energy Code Compliance Progress Inspection is marked Yes on TR1 | | | | |
| 3A Identification of Requirement | Table Reference in 1 RCNY §5000-01(h) (1) and (2) | 3B Identification of Responsibilities | 3C Certificate of Complete Inspections / Tests | 3D Withdraw Responsibilities |
| Y N Progress Inspections | | Initial & Date | Initial & Date | Initial & Date |
| <input checked="" type="checkbox"/> Protection of foundation insulation | (IA1), (IA1) | | | |
| <input checked="" type="checkbox"/> Insulation placement and R values | (IA2), (IA2) | | | |
| <input checked="" type="checkbox"/> Fenestration thermal values and ratings | (IA3), (IA3) | | | |
| <input checked="" type="checkbox"/> Fenestration ratings for air leakage | (IA4), (IA4) | | | |
| <input checked="" type="checkbox"/> Fenestration areas | (IA5), (IA5) | | | |
| <input checked="" type="checkbox"/> Air sealing and insulation — visual | (IA6), (IA6) | | | |
| <input checked="" type="checkbox"/> Air sealing and insulation — testing | (IA7) | | | |
| <input checked="" type="checkbox"/> Projection factors | (IA7) | | | |
| <input checked="" type="checkbox"/> Loading deck weather seals | (IA8) | | | |
| <input checked="" type="checkbox"/> Vestibules | (IB9) | | | |
| <input checked="" type="checkbox"/> Fireplaces | (IB1), (IB1) | | | |
| <input checked="" type="checkbox"/> Dampers integral to building envelope | (IB2), (IB2) | | | |
| <input checked="" type="checkbox"/> HVAC and service water heating equipment | (IB3), (IB3) | | | |
| <input checked="" type="checkbox"/> HVAC and service water heating system controls | (IB4), (IB4) | | | |
| <input checked="" type="checkbox"/> Duct plenum and piping insulation and sealing | (IB5), (IB5) | | | |
| <input checked="" type="checkbox"/> Duct leakage testing | (IB6), (IB6) | | | |
| <input checked="" type="checkbox"/> Electrical metering | (IC1), (IC1) | | | |
| <input checked="" type="checkbox"/> Lighting in dwelling units | (IC2), (IC2) | | | |
| <input checked="" type="checkbox"/> Interior lighting power | (IC3) | | | |
| <input checked="" type="checkbox"/> Exterior lighting power | (IC4) | | | |
| <input checked="" type="checkbox"/> Lighting controls | (IC5) | | | |
| <input checked="" type="checkbox"/> Exit signs | (IC6) | | | |
| <input checked="" type="checkbox"/> Tandem wiring | (IC7) | | | |
| <input checked="" type="checkbox"/> Electrical motors | (IC8) | | | |
| <input checked="" type="checkbox"/> Maintenance information | (ID1), (ID1) | | | |
| <input checked="" type="checkbox"/> Permanent certificate | (ID2) | | | |

01/11

TR8

PAGE 2

| | |
|---|----------------------|
| 4 Design Applicant's Statements and Signatures P.E./R.A. responsible for plans must sign and seal. | |
| I have identified herein all of the progress inspections and tests required for compliance. | |
| Name (please print) Ted J. Gottesdiener | Date |
| Signature | SIGN AND SEAL |
| P.E./R.A. Seal (apply seal, then sign and date over seal) | |

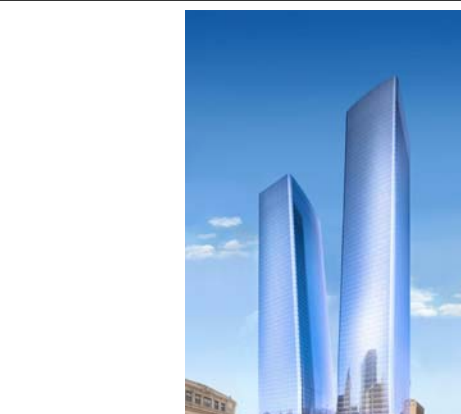
| | |
|---|------|
| 5 Inspection Applicant's Identification of Responsibilities | |
| Check all that apply below: | |
| <input type="checkbox"/> For the progress inspections indicated above in section 3, I certify that I am the principal/director of the progress inspection agency accepting responsibility for conducting the inspections. I further certify that I have read the applicable sections of the New York City Construction Codes and 1 RCNY 5000-01 in connection with progress inspections as well as 1 RCNY 101-07, which specifies the qualifications required for each progress inspector and that this agency meets those qualifications for each and every progress inspection for which I/we take responsibility. I agree that both I and the agency will comply with all provisions of the New York City Construction Codes and the Rules. I am aware of the additional sanctions imposed on false filings by §28-211.1.2 of the Administrative Code. | |
| <input type="checkbox"/> Change of Applicant: I am a newly designated individual responsible for the items specified herein and I hereby state that: | |
| <input type="checkbox"/> None of the inspections/tests indicated herein have been performed to date by the previously designated individual. | |
| <input type="checkbox"/> Some of the inspections/tests indicated herein have been performed by the previously designated individual, as indicated in the attached report. | |
| I am aware of the additional sanctions imposed on false filings by §28-211.1.2 of the Administrative Code. | |
| Name (please print) | Date |
| Signature | |
| P.E./R.A. Seal (apply seal, then sign and date over seal) | |

| | |
|---|------|
| 6 Inspection Applicant's Certification of Completion | |
| <input type="checkbox"/> I have completed the items specified herein and certify the following (check one only): | |
| <input type="checkbox"/> All work performed substantially conforms to approved construction documents and has been performed in accordance with applicable provisions of the New York City Energy Conservation Code and other designated rules and regulations. | |
| <input type="checkbox"/> All work performed substantially conforms to approved construction documents and has been performed in accordance with applicable provisions of the New York City Energy Conservation Code and other designated rules and regulations, except as indicated in the attached report. | |
| I am aware of the additional sanctions imposed on false filings by §28-211.1.2 of the Administrative Code. | |
| <input type="checkbox"/> Withdrawal of Applicant: I am withdrawing responsibility for the items of progress inspections and/or tests indicated herein and herewith submit the results or status of the work performed to date. | |
| Name (please print) | Date |
| Signature | |
| P.E./R.A. Seal (apply seal, then sign and date over seal) | |

01/11

SHEET NOTES

1. THE SCOPE OF WORK INDICATED IS BASED ON A PERFORMANCE BASED ENERGY ANALYSIS TO CONFIRM COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYECC). THE ENERGY COST BUDGET METHOD OF ASHRAE 90.1-2007 IS USED TO SHOW COMPLIANCE ENERGY CODE COMPLIANCE PER NYECC 501.1.
2. REFER TO SHEET EN-200 FOR BUILDING ASSEMBLY DESCRIPTIONS, DETAILS, AND PERFORMANCE CRITERIA.
3. REFER TO PERFORMANCE BASED ENERGY ANALYSIS TITLED "ENERGY MODELING OF THE MANHATTAN WEST NORTH TOWER" FOR OUTPUT REPORTS OF THE ASSEMBLIES ON SHEET EN-200.



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habb & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
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Sustainable Design
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50 Washington Street, Newark, CT 06854

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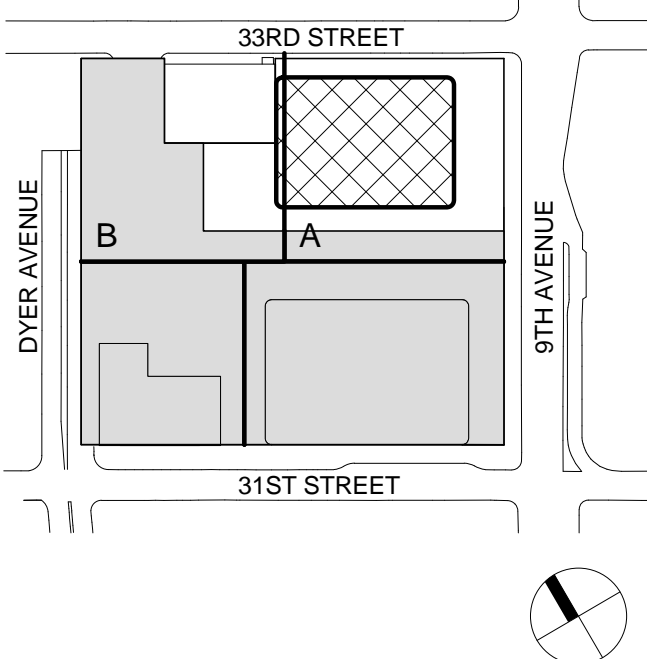
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65 Broadway, Suite 401, New York, NY 10006

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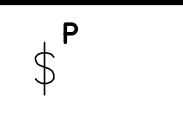

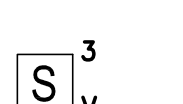
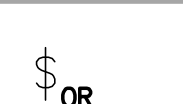

Facade Maintenance Consultant
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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6

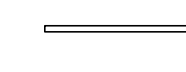
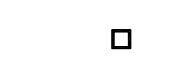
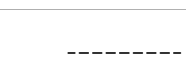



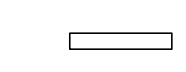



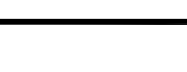

Key Plan:



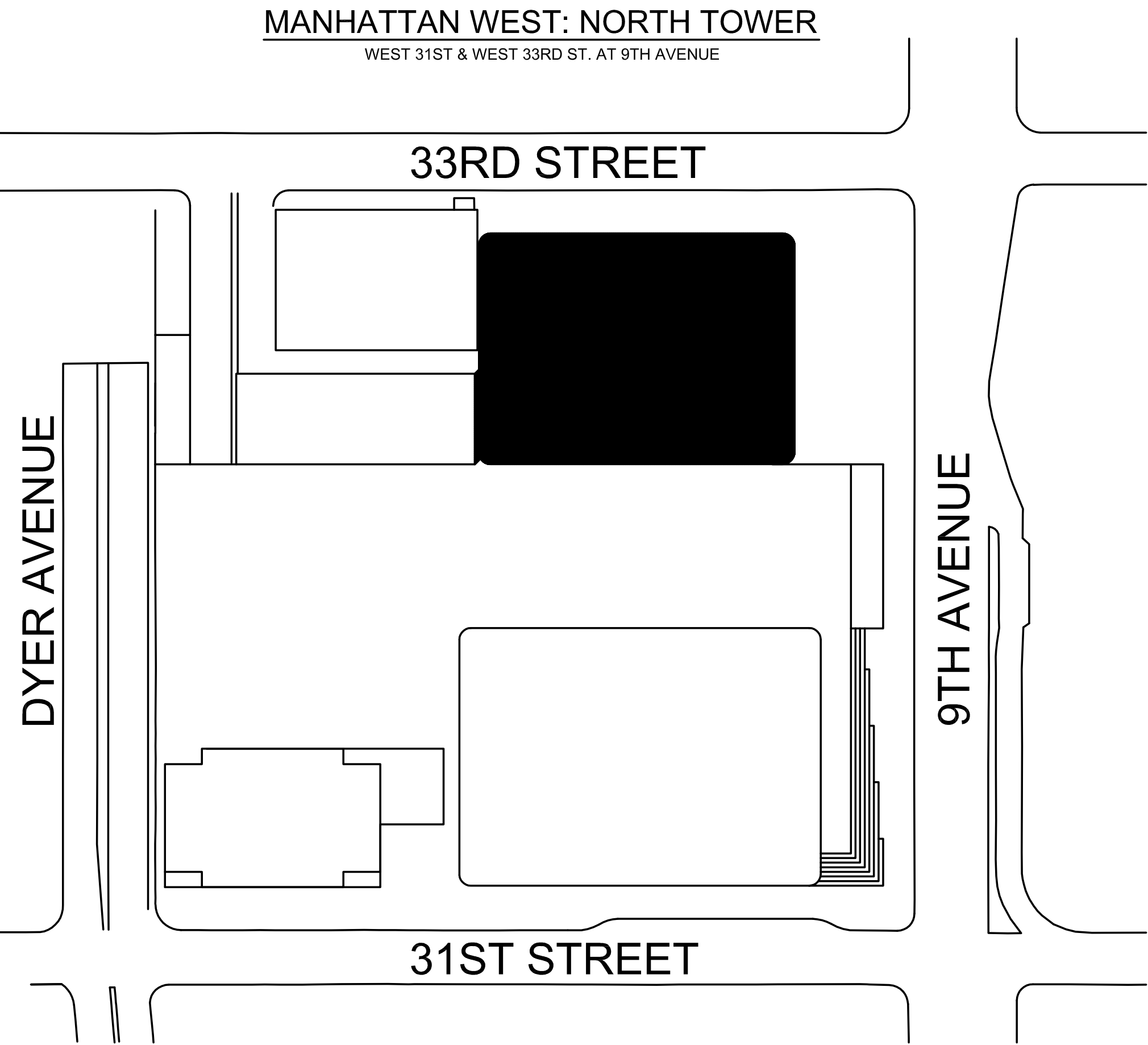
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|-------------------|--|----------------------|--|--|
| DRAWING NUMBER | DRAWING TITLE | ISSUED DRAWING DATES | | |
| | | 01.30.2015 | | |
| EN-001.00 | NYC EC COMPLIANCE COVER SHEET | • | | |
| EN-002.00 | NYC EC COMPLIANCE MANDATORY MEASURES SHEET NO. 1 | • | | |
| EN-003.00 | NYC EC COMPLIANCE MANDATORY MEASURES SHEET NO. 2 | • | | |
| EN-004.00 | NYC EC COMPLIANCE ENERGY MODELING SHEET NO. 1 | • | | |
| EN-100.00 | NYC EC COMPLIANCE LIGHTING CELLAR B1 FLOOR PLAN - PART A | • | | |
| EN-101.00 | NYC EC COMPLIANCE LIGHTING CELLAR B FLOOR PLAN - PART A | • | | |
| EN-102.00 | NYC EC COMPLIANCE LIGHTING CELLAR B FLOOR PLAN - PART B | • | | |
| EN-103.00 | NYC EC COMPLIANCE LIGHTING LEVEL 1 FLOOR PLAN | • | | |
| EN-104.00 | NYC EC COMPLIANCE LIGHTING LEVEL 3 FLOOR PLAN | • | | |
| EN-105.00 | NYC EC COMPLIANCE LIGHTING LEVEL 4 FLOOR PLAN | • | | |
| EN-106.00 | NYC EC COMPLIANCE LIGHTING LEVEL 5 FLOOR PLAN | • | | |
| EN-107.00 | NYC EC COMPLIANCE LIGHTING LEVEL 6-16 FLOOR PLAN | • | | |
| EN-108.00 | NYC EC COMPLIANCE LIGHTING LEVEL 17 FLOOR PLAN | • | | |
| EN-109.00 | NYC EC COMPLIANCE LIGHTING LEVEL 18 FLOOR PLAN | • | | |
| EN-110.00 | NYC EC COMPLIANCE LIGHTING LEVEL 19-20 FLOOR PLAN | • | | |
| EN-111.00 | NYC EC COMPLIANCE LIGHTING LEVEL 21-27 FLOOR PLAN | • | | |
| EN-112.00 | NYC EC COMPLIANCE LIGHTING LEVEL 28 FLOOR PLAN | • | | |
| EN-113.00 | NYC EC COMPLIANCE LIGHTING LEVEL 29 FLOOR PLAN | • | | |
| EN-114.00 | NYC EC COMPLIANCE LIGHTING LEVEL 30 FLOOR PLAN | • | | |
| EN-115.00 | NYC EC COMPLIANCE LIGHTING LEVEL 31 FLOOR PLAN | • | | |
| EN-116.00 | NYC EC COMPLIANCE LIGHTING LEVEL 32 FLOOR PLAN | • | | |
| EN-117.00 | NYC EC COMPLIANCE LIGHTING LEVEL 33-38 FLOOR PLAN | • | | |
| EN-118.00 | NYC EC COMPLIANCE LIGHTING LEVEL 39 FLOOR PLAN | • | | |
| EN-119.00 | NYC EC COMPLIANCE LIGHTING LEVEL 40-41 FLOOR PLAN | • | | |
| EN-120.00 | NYC EC COMPLIANCE LIGHTING LEVEL 42 FLOOR PLAN | • | | |
| EN-121.00 | NYC EC COMPLIANCE LIGHTING LEVEL 43-48 FLOOR PLAN | • | | |
| EN-122.00 | NYC EC COMPLIANCE LIGHTING LEVEL 49 FLOOR PLAN | • | | |
| EN-123.00 | NYC EC COMPLIANCE LIGHTING LEVEL 50-51 FLOOR PLAN | • | | |
| EN-124.00 | NYC EC COMPLIANCE LIGHTING LEVEL 52 FLOOR PLAN | • | | |
| EN-125.00 | NYC EC COMPLIANCE LIGHTING LEVEL 53 FLOOR PLAN | • | | |
| EN-126.00 | NYC EC COMPLIANCE LIGHTING LEVEL 54 FLOOR PLAN | • | | |
| EN-127.00 | NYC EC COMPLIANCE LIGHTING LEVEL 55 FLOOR PLAN | • | | |
| EN-128.00 | NYC EC COMPLIANCE LIGHTING LEVEL 56 FLOOR PLAN | • | | |
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| EN-130.00 | NYC EC COMPLIANCE LIGHTING LEVEL 59 FLOOR PLAN | • | | |
| EN-131.00 | NYC EC COMPLIANCE LIGHTING LEVEL 60-61 FLOOR PLAN | • | | |
| EN-132.00 | NYC EC COMPLIANCE LIGHTING LEVEL 62 FLOOR PLAN | • | | |
| EN-133.00 | NYC EC COMPLIANCE LIGHTING LEVEL 63 FLOOR PLAN | • | | |
| EN-134.00 | NYC EC COMPLIANCE LIGHTING LEVEL 64-67 FLOOR PLAN | • | | |
| EN-135.00 | NYC EC COMPLIANCE LIGHTING LEVEL 68 FLOOR PLAN | • | | |
| EN-136.00 | NYC EC COMPLIANCE LIGHTING LEVEL 69 FLOOR PLAN | • | | |
| EN-137.00 | NYC EC COMPLIANCE LIGHTING ROOF PLAN MECH PENTHOUSE | • | | |
| EN-138.00 | NYC EC COMPLIANCE LIGHTING ROOF PLAN MECH PENTHOUSE ROOF | • | | |
| EN-139.00 | NYC EC COMPLIANCE LIGHTING SYSTEM CONTROLS SHEET NO. 1 | • | | |

| LIGHTING DEVICE SYMBOLS | |
|--|--------------------------------------|
| SYMBOL | LIGHTING DEVICES |
|  | PILOT LIGHT SWITCH |
|  | CEILING MOUNTED SENSOR |
|  | VACANCY SENSOR SWITCH |
|  | LIGHTING RELAY PANEL OVERRIDE SWITCH |
|  | EMERGENCY NIGHT LIGHT |

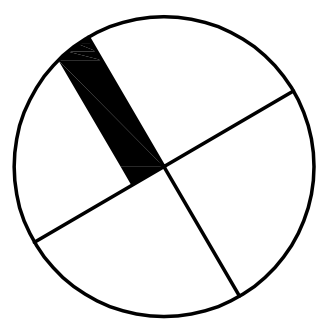
| ENERGY ANALYSIS 2011 NEW YORK CITY ENERGY CONSERVATION CODE CHAPTER 5 CLIMATE ZONE 4A | | | | |
|---|--|--|--|--|
| 2011 NEW YORK CITY ENERGY CONSERVATION CODE PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE – COMMERCIAL BUILDINGS | | | | |
| | Inspection/Test | Periodic (minimum) | Reference Standard (See ECC Chapter 6) or Other Criteria | ECC or Other Citation |
| IIA | Envelope Inspections | | | |
| IIA1 | Protection of exposed foundation insulation: Insulation shall be visually inspected to verify proper protection where applied to the exterior of basement or cellar walls, crawl-space walls and/or the perimeter of slab-on-grade floors. | As required during foundation work and prior to backfill | Approved construction documents | 303.2.1; ASHRAE 90.1 – 5.8.1.7; |
| IIA2 | Insulation placement and R-values: Installed insulation for each component of the conditioned space envelope and at junctions between components shall be visually inspected to ensure that the R-values are marked, that such R-values conform to the R-values identified in the construction documents and that the insulation is properly installed. Certifications for unmarked insulation shall be similarly visually inspected. | As required to verify continuous enclosure while walls, ceilings and floors are open | Approved construction documents | 303.1, 303.1.1, 303.1.2, 502.1, 502.2; ASHRAE 90.1 –5.5, 5.6 or 11; 5.8.1 |
| IIA3 | Fenestration thermal values and product ratings: U-factors and SHGC values of installed fenestration shall be visually inspected for conformance with the U-factors and SHGC values identified in the construction drawings by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables 303.2.3(1), (2) and (3). Where ASHRAE 90.1 is used, visible light transmittance values shall also be verified. | As required during installation | Approved construction documents; NFRC 100, NFRC 200 | 303.1, 303.1.3, 502.3; ASHRAE 90.1 – 5.5; 5.6 or 11; 5.8.2 |
| IIA4 | Fenestration and door assembly product ratings for air leakage: Windows and sliding or swinging door assemblies, except site-built windows and/or doors, shall be visually inspected to verify that installed assemblies are listed and labeled by the manufacturer to the referenced standard. For curtain wall, storefront glazing, commercial entrance doors and revolving doors, the testing reports shall be reviewed to verify that the installed assembly complies with the standard cited in the approved plans. | As required during installation; prior to final construction inspection | NFRC 400, AAMA/WDMA/CSA 101/5.2/A440 ASTM E283; ANSI/DASMA 105 | 502.4; ASHRAE 90.1 –5.4.3.2 |
| IIA5 | Fenestration areas: Dimensions of windows, doors and skylights shall be verified by visual inspection. | Prior to final construction inspection | Approved construction documents | 502.3; ASHRAE 90.1 – 5.5.4, 5.6 or 11 |
| IIA6 | Sealing: Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that a continuous air barrier around the envelope forms an air-tight enclosure. The progress inspector shall visually inspect to verify that materials and/or assemblies have been tested and meet the requirements of the respective standards, or that the building is tested and meets the requirements of the standard, in accordance with the standard(s) cited in the approved plans. | As required during construction | Approved construction documents; ASTM E2178, ASTM E2357, ASTM E1677, ASTM E779, ASTM E283. | 502.4.3, 502.4.7; ASHRAE 90.1 – 5.4.3.1 |
| IIA7 | Projection factors: Where the energy analysis utilized a projection factor > 0, the projection dimensions of overhangs, eaves or permanently attached shading devices shall be verified for conformance with approved plans by visual inspection. | Prior to final construction inspection | Approved construction documents, including energy analysis | 502.3; ASHRAE 90.1 – 5.5.4, 5.6 or 11 |
| IIA8 | Loading dock weathershals: Weathershals at loading docks shall be visually verified. | Prior to final construction inspection | Approved construction documents | 502.4.5; ASHRAE 90.1 – 5.4.3.3 |
| IIA9 | Building entrance vestibules: Required entrance vestibules shall be visually inspected for proper operation. | Prior to final construction inspection | Approved construction documents | 502.4.6; ASHRAE 90.1 – 5.4.3.4 |
| IIIB | Mechanical and Service Water Heating Inspections | | | |
| IIIB2 | Outdoor air intakes and exhaust openings: Dampers for stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be visually inspected to verify that such dampers, except where permitted to be gravity dampers, comply with approved construction drawings. Manufacturer's literature shall be reviewed to verify that the product has been tested and found to meet the standard. | As required during installation | Approved construction documents; AMCA 500D | 502.4.4; ASHRAE 90.1 – 6.4.3.4 |
| IIIB3 | HVAC, service water heating and pool equipment sizing and performance: Equipment sizing, efficiencies and other performance factors of all major equipment units, as determined by the applicant of record, and no less than 15% of minor equipment units, shall be verified by visual inspection and, where necessary, review of manufacturer's data. Pool heaters and covers shall be verified by visual inspection. | Prior to final plumbing and construction inspection | Approved construction documents | 503.2, 504.2, 504.7; ASHRAE 90.1 – 6.3, 6.4.1, 6.4.2, 6.8; 7.4, 7.8 |
| IIIB4 | HVAC system controls and economizers and service hot water system controls: No less than 20% of each type of required controls and economizers shall be verified by visual inspection and tested for functionality and proper operation. Such controls shall include, but are not limited to: Thermostatic; Set point overlap restriction; Off-hour; Shutoff damper; Snow-melt system; Demand control systems; Outdoor heating systems; Zones; Economizers; Air systems; Variable air volume fan; Hydronic systems; Heat rejection equipment fan speed; Complex mechanical systems serving multiple zones; Ventilation; Energy recovery systems; Hot gas bypass limitation; Temperature; Service water heating; Hot water system; Pool heater and time switches; Exhaust hoods; Radiant heating systems. Controls with seasonally dependent functionality: Controls whose complete operation cannot be demonstrated due to prevailing weather conditions typical of the season during which progress inspections will be performed shall be permitted to be signed off for the purpose of a Temporary Certificate of Occupancy with only a visual inspection, provided, however, that the progress inspector shall perform a supplemental inspection where the controls are visually inspected and tested for functionality and proper operation during the next immediate season thereafter. The owner shall provide full access to the progress inspector within two weeks of the progress inspector's request for such access to perform the progress inspection. For such supplemental inspections, the Department shall be notified by the approved progress inspection agency of any unresolved deficiencies in the installed work within 180 days of such supplemental inspection. | After installation and prior to final electrical and construction inspection, except that for controls with seasonally dependent functionality, such testing shall be performed before sign-off for issuance of a Final Certificate of Occupancy | Approved construction documents, including control system narratives; ASHRAE Guideline 1; The HVAC Commissioning Process where applicable | 503.2.4, 503.2.5.1, 503.2.11, 503.3, 503.4, 504.3, 504.6, 504.7; ASHRAE 90.1 – 6.3, 6.4, 6.5, 6.7, 7.4, 7.4.4, 7.4.5 |
| IIIB5 | Duct, plenum and piping insulation and sealing: Installed duct and piping insulation shall be visually inspected to verify proper insulation placement and values. Joints, longitudinal and transverse seams and connections in ductwork shall be visually inspected for proper sealing. | After installation and prior to closing shafts, ceilings and walls | Approved construction documents; SMACNA Duct Construction Standards, Metal and Flexible | 503.2.7, 503.2.8, 504.5; ASHRAE 90.1 – 6.3, 6.4-4.2, 6.8.2, 6.8.3; 7.4.3 |
| IIIB6 | Air leakage testing for high-pressure duct systems: For duct systems designed to operate at static pressures in excess of 3 inches w.g. (746 Pa), representative sections, as determined by the progress inspector, totaling at least 25% of the duct area, per ECC 503.2.7.1.3, shall be tested to verify that actual air leakage is below allowable amounts. | After installation and sealing and prior to closing shafts, ceilings and walls | Approved construction documents; SMACNA HVAC Air Duct Leakage Test Manual | 503.2.7.1.3; ASHRAE 90.1 – 6.4.4.2 |
| IIIC | Electrical Power and Lighting Systems | | | |
| IIIC1 | Electrical metering: The presence and operation of individual meters or other means of monitoring individual apartments shall be verified by visual inspection for all apartments. | Prior to final electrical and construction inspection | Approved construction documents | 505.7 |
| IIIC3 | Interior lighting power: Installed lighting shall be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and transformers. | Prior to final electrical and construction inspection | Approved construction documents | 505.5; ASHRAE 90.1 –9.1, 9.2, 9.5, 9.6; 1RCNY §101-07(c)(3)(v)(C)4 |
| IIIC4 | Exterior lighting: Installed lighting shall be verified for compliance with source efficacy and/or the lighting power allowance by visual inspection of fixtures, lamps, ballasts and relevant transformers. | Prior to final electrical and construction inspection | Approved construction documents | 505.6; ASHRAE 90.1 – 9.4.4, 9.4.5; 1RCNY §101-07(c)(3)(v)(C)4 |
| IIIC5 | Lighting controls: Each type of required lighting controls, including: occupant sensors; manual interior lighting controls; light-reduction controls; automatic lighting shut-off; daylight zone controls; sleeping unit controls; exterior lighting controls, shall be verified by visual inspection and tested for functionality and proper operation. | Prior to final electrical and construction inspection | Approved construction documents, including control system narratives | 505.2, 505.2.2; ASHRAE 90.1 – 9.4.1, 9.4.1.2 (as modified by section ECC A103) |
| IIIC6 | Exit signs: Installed exit signs shall be visually inspected to verify that the label indicates that they do not exceed maximum permitted wattage. | Prior to final electrical and construction inspection | Approved construction documents | 505.4; ASHRAE 90.1 – 9.4.3 |
| IIIC7 | Tandem wiring: Tandem wiring shall be tested for functionality. | Prior to final electrical and construction inspection | Approved construction documents | 505.3; ASHRAE 90.1 – 9.4.2 |
| IIIC8 | Electric motors (including but not limited to fan motors): Where required by the construction documents for energy code compliance, motor listing or labels shall be visually inspected to verify that they comply with the respective energy requirements in the construction documents. | Prior to final electrical and construction inspection | Approved construction documents | 503.2.10; ASHRAE 90.1 – 10.4 |
| IIID | Other | | | |
| IIID1 | Maintenance information: Maintenance manuals for mechanical, service hot water and electrical equipment and systems requiring preventive maintenance shall be reviewed for applicability to installed equipment and systems before such manuals are provided to the owner. Labels required for such equipment or systems shall be inspected for accuracy and completeness. | Prior to sign-off or issuance of Final Certificate of Occupancy | Approved construction documents, including electrical drawings where applicable; ASHRAE Guideline 4; Preparation of Operating and Maintenance Documentation for Building Systems | 303.3, 503.2.9.3; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 8.7.2 |
| Note: | Energy Analysis of Constructed Conditions. In accordance with Section 28-104.3 of the Administrative Code and section ECC 103.4, if constructed work differs from the last-approved full energy analysis, an as-built energy analysis shall be submitted to the Department, listing the actual values used in the building for all applicable energy code-regulated items and demonstrating that the building complies with the Energy Code. Such energy analysis shall be signed and sealed by a registered design professional. The progress inspector shall certify that to the best of his or her knowledge and belief the building as built complies with such signed and sealed energy analysis and construction drawings for energy code compliance; where no trade-offs have been used among disciplines, more than one registered design professional may sign and seal the elements of the energy analysis. The energy analysis shall be approved or accepted by the Department prior to sign-off. | | | |
| (i) | | | | |

| LIGHTING FIXTURE SCHEDULE | | | | | | |
|---------------------------|---|---|------------------------|-----------|-----------------------|--------------------|
| FIXTURE IDENTIFICATION | SYMBOL | FIXTURE DESCRIPTION | LOCATION | UNITS | CONTROL GEAR | TOTAL SYSTEM WATTS |
| | | | | | | |
| F1 |  | LINEAR LED RECESSED DOWNLIGHT | RESTROOMS | PER FT. | ELECTRONIC DRIVER | 7 W/FT. |
| LT01 |  | RECESSED LED FIXED DOWNLIGHT, NOMINAL 4-1/2" SQUARE APERTURE AND 10" HOUSING DEPTH, SEMI-SPECULAR, NON-REDUCED DEPTH, ALUMINUM REFLECTOR WITH WHITE PAINTED OVERLAP SELF-FLANGE, MICROPRISM GLASS LENS, DIMMABLE. | GROUND FLOOR LOBBY | EA. | DIMMING BALLAST | 34 W |
| F2 |  | LINEAR CORE VAPOR PROOF | SHOWERS | PER FT. | REMOTE DIMMING DRIVER | 3.26 W/FT. |
| LT03 |  | RECESSED LED WALL WASHER, NOMINAL 4-1/2" SQUARE APERTURE AND 11" HOUSING DEPTH, SEMI-SPECULAR, NON-REDUCED DEPTH, ALUMINUM REFLECTOR WITH WHITE PAINTED OVERLAP SELF-FLANGE, FROSTED MICROPRISM GLASS LENS, DIMMABLE. | GROUND FLOOR LOBBY | EA. | DIMMING BALLAST | 34 W |
| FA |  | 5' COMPACT FLUORESCENT SEMI-RECESSED DOWNLIGHT | RESTROOMS | EA. | DIMMING BALLAST | 32 W |
| FB |  | 6' SQUARE COMPACT FLUORESCENT RECESSED DOWNLIGHT | ELEVATOR LOBBY | EA. | DIMMING BALLAST | 26 W |
| FG |  | PENDANT-MOUNTED TWO LAMP FLUORESCENT GASKETED FIXTURE. | LOADING DOCK | EA. | ELECTRONIC BALLAST | 120 W |
| FJ |  | LED WALL MOUNTED | PLENUM | EA. | REMOTE DIMMING DRIVER | 26 W |
| FK |  | 4' STRIP INDUSTRIAL FLUORESCENT PENDENT | GENERAL | EA. | ELECTRONIC BALLAST | 32 W |
| FS |  | 4' LINEAR FLUORESCENT LENSED SURFACE | STAIRWELLS | EA. | DIMMING DRIVER | 32 W |
| FV |  | 4' LINEAR INDUSTRIAL SURFACE | ELEVATOR/JUMP PUMP PIT | EA. | DIMMING DRIVER | 64 W |
| EX |  | RECESSED WALL- OR CEILING-MOUNTED LED EXIT SIGN | GENERAL | PER FACE. | INTEGRAL BATTERY PACK | 5 W/ FACE (MAX) |

| ARCH DRAWING INDEX | | |
|--------------------|----------------------|----------------------|
| DRAWING NUMBER | DRAWING TITLE | ISSUED DRAWING DATES |
| | | 09.12.2014 |
| EN-200.00 | ENCLOSURE ASSEMBLIES | • |



PLOT PLAN
NOT TO SCALE



SHEET NOTES


ENERGY ANALYSIS NOTES:

1. THE SCOPE OF WORK INDICATED IS BASED ON A PERFORMANCE BASED ENERGY ANALYSIS TO CONFIRM COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC).

2. REFER TO SHEET EN-200 FOR BUILDING ASSEMBLY DESCRIPTIONS, DETAILS, AND PERFORMANCE CRITERIA.

3. REFER TO PERFORMANCE BASED ENERGY ANALYSIS TITLED "ENERGY MODELING OF THE MANHATTAN WEST NORTH TOWER" FOR OUTPUT REPORTS OF THE ASSEMBLIES ON SHEET EN-200.

4. THE LIGHTING WITHIN THE TENANT OFFICE SPACE IS NOT PART OF THE CORE AND SHELL SCOPE OF WORK. A SEPARATE FIT-OUT IS REQUIRED FROM EACH TENANT WHICH PROVES INDIVIDUAL COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC).



MANHATTAN WEST: NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client

Brookfield

250 Vesey Street, 15th Floor, New York, NY 10291

Architecture/Structural Engineering

SOM

Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation

Edgett Williams Consulting Group, Inc.
102 East 88th Avenue, Suite 1, MB Valley, California 94941

Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geo-Technical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 22nd W, 34th Street #610, New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant

Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 48th Street, 15th Floor, New York, NY 10019

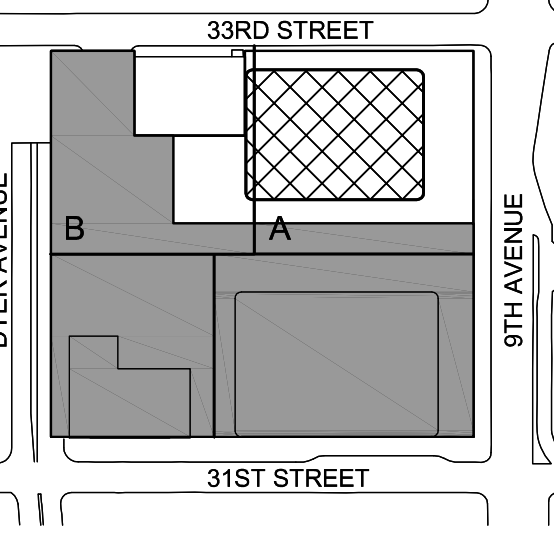
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601


Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



2 / 30 JAN 2015 ISSUED FOR BUILDING PERMIT
1 / 12 SEPT 2014 ISSUED FOR FOUNDATION PERMIT

No. _____ Date _____ Description _____

Sheet Name: _____

NYC EC COMPLIANCE COVER SHEET

Project No.: 14830 A 000 Sheet No.: EN-001.00

Date: 19 DEC 2014

Scale: N.T.S.

File No.: _____ Page No.: _____

| NEW YORK CITY ENERGY CODE COMPLIANCE SECTION 502 – BUILDING ENVELOPE MANDATORY PROVISIONS | | | |
|---|--|--|--|
| STANDARD: CLIMATE ZONE: | | NYCECC – 2011 4A | |
| ITEM DESCRIPTION | | PROPOSED DESIGN VALUE | CODE PRESCRIPTIVE VALUE AND CITATION |
| 502.4 – AIR LEAKAGE | | | |
| 502.4.1: WINDOW AND DOOR ASSEMBLIES | | THE AIR LEAKAGE DOES NOT EXCEED THE MAXIMUM OF 1.0 CFM/FT² FOR GLAZED SWINGING ENTRANCE DOORS AND 0.4 CFM/FT² FOR ALL OTHER PRODUCTS WHEN TESTED IN ACCORDANCE WITH NFRC 400. | AIR LEAKAGE FOR FENESTRATION AND DOORS SHALL BE DETERMINED IN ACCORDANCE WITH NFRC 400. AIR LEAKAGE SHALL NOT EXCEED .3 CFM/FT² FOR SWINGING DOORS 0.5 CFM/FT². |
| 502.4.2: CURTAIN WALL, STOREFRONT GLAZING AND COMMERCIAL ENTRANCE DOORS | | THE AIR LEAKAGE DOES NOT EXCEED THE MAXIMUM OF 1.0 CFM/FT² FOR GLAZED SWINGING ENTRANCE DOORS AND 0.3 CFM/FT² FOR CURTAIN WALL AND STOREFRONT WHEN TESTED IN ACCORDANCE WITH NFRC 400. | AIR LEAKAGE FOR CURTAIN WALL, STOREFRONT GLAZING AND COMMERCIAL GLAZED SWINGING ENTRANCE DOORS AND REVOLVING DOORS SHALL BE DETERMINED IN ACCORDANCE WITH ASTM E 283. AIR LEAKAGE SHALL NOT EXCEED .3 CFM/FT² FOR CURTAIN WALL AND STOREFRONT GLAZING AND NO MORE THAN 1 CFM/SF FOR COMMERCIAL GLAZED SWINGING ENTRANCE DOORS AND REVOLVING DOORS |
| 502.4.3: CONTINUOUS AIR BARRIER | | THE BUILDING ENVELOPE OPENINGS HAVE BEEN SPECIFIED TO MINIMIZE AIR LEAKAGE. | ALL JOINTS, JUNCTIONS, OPENINGS, PENETRATIONS, ETC., OF THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, OR WEATHER-STRIPPED TO MINIMIZE AIR LEAKAGE. |
| 502.4.4: OUTDOOR AIR INTAKES AND EXHAUST OPENINGS | | STAIR AND ELEVATOR SHAFT VENTS AND OTHER OUTDOOR AIR INTAKES AND EXHAUST OPENINGS INTEGRAL TO THE BUILDING ENVELOPE HAVE BEEN SPECIFIED TO HAVE NOT LESS THAN A CLASS 1 MOTORIZED, LEAKAGE RATED DAMPER WITH A MAXIMUM LEAKAGE RATE OF 4 CFM/SF AT 1.0 IN WATER GAUGE WHEN TESTED IN ACCORDANCE WITH AMCA 5000 | STAIR AND ELEVATOR SHAFT VENTS AND OTHER OUTDOOR AIR INTAKES AND EXHAUST OPENINGS INTEGRAL TO THE BUILDING ENVELOPE SHALL BE EQUIPPED WITH NOT LESS THAN A CLASS 1 MOTORIZED, LEAKAGE RATED DAMPER WITH A MAXIMUM LEAKAGE RATE OF 4 CFM/SF AT 1.0 IN WATER GAUGE WHEN TESTED IN ACCORDANCE WITH AMCA 5000 |
| 502.4.5: LOADING DOCK WEATHERSEALS | | LOADING DOCK DOORS HAVE BEEN SPECIFIED WITH WEATHER-STRIPPING. | CARGO DOORS AND LOADING DOCKS DOORS SHALL BE EQUIPPED WITH WEATHERSEALS TO RESTRICT INFILTRATION WHEN VEHICLES ARE PARKED IN THE DOORWAY. |
| 502.4.6: VESTIBULES | | VESTIBULES MEETING THESE REQUIREMENTS HAVE BEEN DESIGNED. | A DOOR THAT SEPARATES CONDITIONED SPACE FROM THE EXTERIOR SHALL BE PROTECTED WITH AN ENCLOSED VESTIBULE, WITH ALL DOORS OPENING INTO AND OUT OF THE VESTIBULE EQUIPPED WITH SELF-CLOSING DEVICES. VESTIBULE SHALL BE DESIGNED SO THAT IN PASSING THROUGH THE VESTIBULE IT IS NOT NECESSARY FOR THE INTERIOR AND EXTERIOR DOORS TO OPEN AT THE SAME TIME. |
| 502.4.7: RECESSED LIGHTING | | RECESSED LIGHTING MEETING THESE REQUIREMENTS HAVE BEEN DESIGNED. | RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE SEALED TO LIMIT AIR LEAKAGE BETWEEN CONDITIONED AND UNCONDITIONED SPACES. ALL RECESSED LUMINAIRES SHALL BE IC-RATED AND LABELED AS MEETING ASTM E 283 WHEN TESTED AT 1.57 PSI. PRESSURE DIFFERENTIAL WITH NO MORE THAN 2.0 CFM OR AIR MOVEMENT FROM THE CONDITIONED SPACE TO THE CEILING CAVITY. ALL RECESSED LUMINAIRES SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND INTERIOR WALL OR CEILING COVERING. |
| 502.5: VAPOR RETARDERS | | EXEMPT: CLIMATE ZONE 4 | CLASS 1 OR II VAPOR RETARDERS ARE REQUIRED ON THE INTERIOR SIDE OF WALLS IN ZONES 5 AND 6 FOR ALL FRAMED WALLS, FLOORS, AND CEILINGS WHERE THE FRAMED CAVITY IS NOT VENTILATED TO ALLOW MOISTURE TO ESCAPE. |

| NEW YORK CITY ENERGY CODE COMPLIANCE SECTION 504 – SERVICE WATER HEATING MANDATORY PROVISIONS | | | |
|---|--|--|--|
| STANDARD: CLIMATE ZONE: | | NYCECC – 2011 4A | |
| ITEM DESCRIPTION | PROPOSED DESIGN VALUE | CODE PRESCRIPTIVE VALUE AND CITATION | |
| 504.2: EQUIPMENT EFFICIENCY | SPECIFIED DOMESTIC HOT WATER HEATERS HAVE THE BOILERS WATER TO DOMESTIC HOT WATER AND ARE NO APPLICABLE TO A MINIMUM PERFORMANCE RATING EFFICIENCY | EQUIPMENT SHOWN IN TABLE 504.2 SHALL HAVE A MINIMUM PERFORMANCE RATING SPECIFIED RATING CONDITIONS IN ACCORDANCE WITH THE SPECIFIED TEST PROCEDURE | |
| 504.3: TEMPERATURE CONTROLS | THE FIXTURE DELIVERY TEMPERATURE IS LIMITED VIA A MIXING VALVE. | SERVICE WATER HEATING EQUIPMENT SHALL BE PROVIDED WITH CONTROLS TO ALLOW A SET POINT OF 110°F FOR EQUIPMENT SERVING DWELLING UNITS AND 90°F FOR EQUIPMENT SERVING OTHER OCCUPANCIES. THE OUTLET TEMPERATURE OF LAVATORIES IN PUBLIC FACILITY REST ROOMS SHALL BE LIMITED TO 110°F. | |
| 504.4: HEAT TRAPS | NOT INCLUDED IN THIS APPLICATION. | NOT INCLUDED IN THIS APPLICATION. | |
| 504.5: PIPE INSULATION | DOMESTIC HOT WATER PIPING MINIMUM INSULATION IS SPECIFIED AS FOLLOWS: PIPING WITH DIAMETER < 1 1/2" = 1.0" PIPING WITH DIAMETER >= 1 1/2" = 1.0" | INSULATION SHALL BE INSTALLED AS PER INDUSTRY-ACCEPTED STANDARDS. PIPING SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE 6.8.3 OF ASHRAE 90.1. | |
| 504.6: HOT WATER SYSTEM CONTROLS | SPECIFIED DOMESTIC WATER HEATER SYSTEM HAS AN AUTOMATIC CONTROL SYSTEM THAT TURNS OFF THE USAGE TEMPERATURE WHEN NOT REQUIRED. | SYSTEMS DESIGNED TO MAINTAIN USAGE TEMPERATURES IN HOT WATER PIPES SHALL BE EQUIPPED WITH AUTOMATIC CONTROLS THAT CAN SWITCH OFF THE USAGE TEMPERATURE WHEN HOT WATER IS NOT REQUIRED. | |
| 504.7: POOLS | NOT INCLUDED IN THIS APPLICATION. | NOT INCLUDED IN THIS APPLICATION. | |

| NEW YORK CITY ENERGY CODE COMPLIANCE SECTION 505 – ELECTRICAL POWER AND LIGHTING SYSTEMS MANDATORY PROVISIONS | | | |
|---|---|--|--|
| STANDARD: CLIMATE ZONE: | | NYCECC – 2011 4A | |
| ITEM DESCRIPTION | PROPOSED DESIGN VALUE | CODE PRESCRIPTIVE VALUE AND CITATION | |
| 505.2: LIGHTING CONTROLS | LIGHTING SYSTEMS HAVE BEEN SPECIFIED TO BE PROVIDED WITH CONTROLS AS REQUIRED IN SECTIONS 505.2.1, 505.2.2, 505.2.3 AND 505.2.4 | LIGHTING SYSTEMS SHALL BE PROVIDED WITH CONTROLS AS REQUIRED IN SECTIONS 505.2.1, 505.2.2, 505.2.3 AND 505.2.4 | |
| 505.3: TANDEM WIRING | NOT INCLUDED IN THIS APPLICATION. | THE FOLLOWING LUMINAIRES LOCATED WITHIN THE SAME AREA SHALL BE TANDEM WIRED: 1.FLUORESCENT LUMINAIRES EQUIPPED WITH ONE, THREE OR ODD-NUMBERED LAMP CONFIGURATIONS, ASSOCIATED WITH SYSTEMS PROVIDING HEATING OR COOLING CAPABILITY. 2.FOOT CANTER-TO-CENTER OF EACH OTHER.2.FLUORESCENT LUMINAIRES EQUIPPED WITH ONE, THREE OR ANY OTHER ODD-NUMBERED LAMP CONFIGURATION, THAT ARE PENDANT-OR SURFACE-MOUNTED WITHIN 1 FOOT (305 MM) EDGE-TO-EDGE OF EACH OTHER | |
| 505.4: EXIT SIGNS | INTERNALLY ILLUMINATED EXIT SIGNS ARE SPECIFIED NOT EXCEED 5 WATTS PER SIDE | INTERNALLY ILLUMINATED EXIT SIGNS SHALL NOT EXCEED 5 WATTS PER SIDE | |
| 505.6: EXTERIOR LIGHTING | SHALL COMPLY WITH SECTIONS 505.6.1 AND 505.6.2 | WHEN THE POWER FOR EXTERIOR LIGHTING IS SUPPLIED THROUGH THE ENERGY SERVICE TO THE BUILDING, ALL EXTERIOR LIGHTING, OTHER THAN LOW-VOLTAGE LANDSCAPE LIGHTING, SHALL COMPLY WITH SECTIONS 505.6.1 AND 505.6.2. | |
| 505.7: ELECTRICAL ENERGY CONSUMPTION | NOT INCLUDED IN THIS APPLICATION. | NOT INCLUDED IN THIS APPLICATION. | |

| NEW YORK CITY ENERGY CODE COMPLIANCE SECTION 503 – BUILDING MECHANICAL SYSTEMS MANDATORY PROVISIONS | | | |
|---|---|--|--|
| STANDARD: CLIMATE ZONE: | | NYCECC – 2011 4A | |
| ITEM DESCRIPTION | PROPOSED DESIGN VALUE | CODE PRESCRIPTIVE VALUE AND CITATION | |
| 503.2.1: LOAD CALCULATIONS | SYSTEM AND EQUIPMENT HAS BEEN SIZED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND ACCEPTED ENGINEERS STANDARDS. | SYSTEMS AND EQUIPMENT SIZED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND ACCEPTED ENGINEERS STANDARDS. | |
| 503.2.2: EQUIPMENT AND SYSTEM SIZING | HEATING AND COOLING EQUIPMENT AND SYSTEM CAPACITIES SHALL NOT EXCEED THE LOADS CALCULATED IN ACCORDANCE WITH SECTION 503.2.1. A SINGLE PIECE OF EQUIPMENT PROVIDING BOTH HEATING AND COOLING MUST SATISFY THIS PROVISION FOR ONE FUNCTION WITH THE CAPACITY FOR THE OTHER FUNCTION AS SMALL AS POSSIBLE, WITHIN AVAILABLE EQUIPMENT OPTIONS | HEATING AND COOLING EQUIPMENT AND SYSTEM CAPACITIES SHALL NOT EXCEED THE LOADS CALCULATED IN ACCORDANCE WITH SECTION 503.2.1. A SINGLE PIECE OF EQUIPMENT PROVIDING BOTH HEATING AND COOLING MUST SATISFY THIS PROVISION FOR ONE FUNCTION WITH THE CAPACITY FOR THE OTHER FUNCTION AS SMALL AS POSSIBLE, WITHIN AVAILABLE EQUIPMENT OPTIONS | |
| 503.2.3: HVAC EQUIPMENT PERFORMANCE REQUIREMENTS | EQUIPMENT HAS BEEN SELECTED TO MEET THE MINIMUM PERFORMANCE. SEE TABLE 1 AND TABLE 2. | EQUIPMENT SHALL MEET THE MINIMUM EFFICIENCIES REQUIREMENTS OF TABLES 503.2.3(1), 503.2.3(2), 503.2.3(3), 503.2.3(4), 503.2.3(5), 503.2.3(6), AND 503.2.3(7) WHEN TESTED AND RATED IN ACCORDANCE WITH THE APPLICATION TEST PROCEDURE. | |
| 503.2.4: HVAC SYSTEM CONTROLS | | | |
| 503.2.4.1: THERMOSTATIC CONTROLS | | | |
| 503.2.4.1.1: GENERAL | EACH HEATING AND COOLING ZONE IS THERMOSTATICALLY CONTROLLED. | THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE INDIVIDUALLY CONTROLLED BY THERMOSTATIC CONTROLS RESPONDING TO TEMPERATURE WITHIN THE ZONE. | |
| 503.2.4.1.1: HEAT PUMP SUPPLEMENTARY HEAT | SEE TABLE 3 | HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHEN THE HEAT PUMP CAN MEET THE HEATING LOAD. | |
| 503.2.4.2: SET POINT OVERLAP RESTRICTIONS | THE SYSTEMS PROVIDED AS SPECIFIED HAVING CONTROLS WHICH PREVENT THE HEAT SET POINT FROM EXCEEDING THE COOL SET POINT – THE DEADBAND. | MEANS SHALL BE PROVIDED TO PREVENT THE HEATING SET POINT FROM EXCEEDING THE COOLING SET POINT MINUS ANY APPLICABLE PROPORTIONAL BAND. | |
| 503.2.4.3: OFF-HOUR CONTROLS | SEE TABLE 3 | HVAC SYSTEM SHALL BE EQUIPPED WITH AN AUTOMATIC COMPLYING WITH SECTION 6.4.3.2.1 | |
| 503.2.4.3.1: SETBACK CONTROLS | SEE TABLE 3 | HVAC SYSTEM SHALL BE EQUIPPED WITH A TEMPERATURE RESET FUNCTION COMPLYING WITH SECTION 6.4.3.2.2 | |
| 503.2.4.4: SHUTOFF DAMPER CONTROLS | BOTH OUTDOOR AIR SUPPLY AND EXHAUST DUCTS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE | BOTH OUTDOOR AIR SUPPLY AND EXHAUST DUCTS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE | |
| 503.2.4.5: SNOW MELT SYSTEM CONTROLS | THE FREEZE PROTECTION SYSTEMS AS SPECIFIED COMPLY WITH THESE REQUIREMENTS, AS SPECIFIED. | FREEZE PROTECTION SYSTEMS SHALL INCLUDE AUTOMATIC CONTROLS CAPABLE OF SHUTTING OFF SYSTEM WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE 40°F. SNOW/ICE MELTING SYSTEMS SHALL INCLUDE AUTOMATIC CONTROLS CAPABLE OF SHUTTING OFF SYSTEM WHEN THE PAVEMENT TEMPERATURE IS ABOVE 50°F. | |
| 503.2.5: VENTILATION SYSTEM CONTROLS | VENTILATION SHALL BE PROVIDED IN ACCORDANCE WITH THE NEW YORK CITY CONSTRUCTION CODES. WHERE MECHANICAL VENTILATION IS PROVIDED, THE SYSTEM SHALL PROVIDE THE CAPABILITY TO REDUCE THE OUTDOOR AIR SUPPLY TO THE MINIMUM REQUIRED BY CHAPTER 4 OF THE MECHANICAL CODE OF NEW YORK CITY, IN NEW YORK CITY, THE NEW YORK CITY CONSTRUCTION CODES. | VENTILATION, EITHER NATURAL OR MECHANICAL, SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 4 OF THE MECHANICAL CODE OF NEW YORK CITY, IN NEW YORK CITY, THE NEW YORK CITY CONSTRUCTION CODES. WHERE MECHANICAL VENTILATION IS PROVIDED, THE SYSTEM SHALL PROVIDE THE CAPABILITY TO REDUCE THE OUTDOOR AIR SUPPLY TO THE MINIMUM REQUIRED BY CHAPTER 4 OF THE MECHANICAL CODE OF NEW YORK CITY, IN NEW YORK CITY, THE NEW YORK CITY CONSTRUCTION CODES. | |
| 503.2.5.1: DEMAND CONTROLLED VENTILATION | VENTILATION SYSTEMS FOR HIGH OCCUPANCY AREAS COMPLY WITH THESE REQUIREMENTS, AS SPECIFIED. | DEMAND CONTROLLED VENTILATION IS REQUIRED FOR SPACES LARGER THAN 500 SQ FT AND WITH AN AVERAGE LOAD OF 40 PEOPLE PER 1000 SQ FT OF FLOOR AREA | |
| 503.2.6: ENERGY RECOVERY VENTILATION SYSTEMS | SHALL COMPLY WITH SECTION 503.2.6 | INDIVIDUAL FAN SYSTEMS THAT HAVE BOTH A DESIGN SUPPLY AIR CAPACITY OF 5,000 CFM (2.36 M3/S) OR GREATER AND A MINIMUM OUTSIDE AIR SUPPLY OF 70 PERCENT OR GREATER OF THE DESIGN SUPPLY AIR QUANTITY SHALL HAVE AN ENERGY RECOVERY SYSTEM THAT PROVIDES A CHANGE IN THE ENTHALPY OF THE OUTDOOR AIR SUPPLY OF 50 PERCENT OR MORE OF THE DIFFERENCE BETWEEN THE OUTDOOR AIR AND RETURN AIR AT DESIGN CONDITIONS. PROVISION SHALL BE MADE TO BYPASS OR CONTROL THE ENERGY RECOVERY SYSTEM TO PERMIT COOLING WITH OUTDOOR AIR WHERE COOLING WITH OUTDOOR AIR IS REQUIRED. | |
| 503.2.7: DUCT AND PLENUM INSULATION AND SEALING | INSULATION AND SEALING HAS BEEN SPECIFIED TO BE INSTALLED AS PER 503.2.7 | ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-5 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES AND WITH A MINIMUM OF R-8 INSULATION WHEN LOCATED OUTSIDE THE BUILDING. WHEN LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY A MINIMUM OF R-8 INSULATION.ALL DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION 603.9 OF THE MECHANICAL CODE OF NEW YORK CITY, IN NEW YORK CITY, THE NEW YORK CITY CONSTRUCTION CODES. | |
| 503.2.7.1: DUCT CONSTRUCTION | DUCTWORK HAS BEEN SPECIFIED TO BE CONSTRUCTED AND ERECTED IN ACCORDANCE WITH THE MECHANICAL CODE OF NEW YORK CITY AND THE NEW YORK CITY CONSTRUCTION CODES | DUCTWORK SHALL BE CONSTRUCTED AND ERECTED IN ACCORDANCE WITH THE MECHANICAL CODE OF NEW YORK CITY, IN NEW YORK CITY, THE NEW YORK CITY CONSTRUCTION CODES. | |
| 503.2.7.1.1: LOW PRESSURE DUCT SYSTEMS | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 502.7.1.1 | ALL LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS AND CONNECTIONS OF SUPPLY AND RETURN DUCTS OPERATING AT A STATIC PRESSURE LESS THAN OR EQUAL TO 2 INCHES W.G. (500 PA) SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), MASTIC-PLUG-EMBEDDED FABRIC SYSTEMS OR TAPES INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. PRESSURE CLASSIFICATIONS SPECIFIC TO THE DUCT SYSTEM SHALL BE CLEARLY INDICATED ON THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE MECHANICAL CODE OF NEW YORK CITY, IN NEW YORK CITY, THE NEW YORK CITY CONSTRUCTION CODES. | |
| 503.2.7.1.2: MEDIUM PRESSURE DUCT SYSTEMS | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 502.7.1.2 | ALL DUCTS AND PLENUMS DESIGNED TO OPERATE AT A STATIC PRESSURE GREATER THAN 2 INCHES W.G. (500 PA) BUT LESS THAN 3 INCHES W.G. (750 PA) SHALL BE INSULATED AND SEALED IN ACCORDANCE WITH SECTION 503.2.7.1.2. PRESSURE CLASSIFICATIONS SPECIFIC TO THE DUCT SYSTEM SHALL BE CLEARLY INDICATED ON THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE MECHANICAL CODE OF NEW YORK CITY, IN NEW YORK CITY, THE NEW YORK CITY CONSTRUCTION CODES | |
| 503.2.7.1.3: HIGH PRESSURE DUCT SYSTEMS | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 502.7.1.3 | DUCTS DESIGNED TO OPERATE AT STATIC PRESSURES IN EXCESS OF 3 INCHES W.G. (748 PA) SHALL BE INSULATED AND SEALED IN ACCORDANCE WITH SECTION 503.2.7.1.3. IN ADDITION, DUCTS AND PLENUMS SHALL BEALX-TESTED IN ACCORDANCE WITH THE SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL WITH THE RATE OF AIR LEAKAGE (CL) LESS THAN OR EQUAL TO 6.0 AS DETERMINED IN ACCORDANCE WITH EQUATION 5-2 | |
| 503.2.8: PIPING INSULATION | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 503.2.8 | ALL PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE 503.2.8 | |
| 503.2.9: HVAC SYSTEM COMPLETION | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 503.2.9 | PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY, THE DESIGN PROFESSIONAL SHALL PROVIDE EVIDENCE OF SYSTEM COMPLETION IN ACCORDANCE WITH SECTIONS 503.2.9.1 THROUGH 503.2.9.3 | |
| 503.2.9.1: AIR SYSTEM BALANCING | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 503.2.9.1 | EACH SUPPLY AIR OUTLET AND ZONE TERMINAL DEVICE SHALL BE EQUIPPED WITH MEANS FOR AIR BALANCING IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 OF THE MECHANICAL CODE OF NEW YORK CITY, IN NEW YORK CITY, THE NEW YORK CITY CONSTRUCTION CODES. DISCHARGE DAMPERS ARE PROHIBITED ON CONSTANT VOLUME FANS AND VARIABLE VOLUME FANS WITH MOTORS 10 HP (7.46 KW) AND LARGER. | |
| 503.2.9.2: HYDRONIC SYSTEM BALANCING | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 503.2.9.2 | INDIVIDUAL HYDRONIC HEATING AND COOLING COILS SHALL BE EQUIPPED WITH MEANS FOR BALANCING AND PRESSURE TEST CONNECTIONS. | |
| 503.2.9.3: MANUALS | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 503.2.9.3 | THE CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT AN OPERATING AND MAINTENANCE MANUAL BE PROVIDED TO THE BUILDING OWNER BY THE MECHANICAL CONTRACTOR | |
| 503.2.10: AIR SYSTEM DESIGN AND CONTROL | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 503.2.9.10 | EACH HVAC SYSTEM HAVING A TOTAL FAN SYSTEM MOTOR NAMEPLATE HORSEPOWER (HP) EXCEEDING 5 HORSEPOWER (HP) (3.7 KW) SHALL MEET THE PROVISIONS OF SECTIONS 503.2.10.1 THROUGH 503.2.10.2 | |
| 503.2.10.1:ALLOWABLE FAN HORSEPOWER | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 503.2.10.1 | EACH HVAC SYSTEM AT FAN SYSTEM DESIGN CONDITIONS SHALL NOT EXCEED THE ALLOWABLE FAN SYSTEM MOTOR NAMEPLATE HP (OPTION 1) OR FAN SYSTEM BHP (OPTION 2) AS SHOWN IN TABLE 503.2.10.1(1). THIS INCLUDES SUPPLY FANS, RETURN/RELIEF FANS, AND FAN-POWERED TERMINAL UNITS ASSOCIATED WITH SYSTEMS PROVIDING HEATING OR COOLING CAPABILITY. | |
| 503.2.10.2: MOTOR NAMEPLATE HORSEPOWER | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 503.2.10.2 | FOR EACH FAN, THE SELECTED FAN MOTOR SHALL BE NO LARGER THAN THE FIRST AVAILABLE MOTOR SIZE GREATER THAN THE BRAKE HORSEPOWER(BHP). THE FAN BRAKE HORSEPOWER (BHP) SHALL BE INDICATED ON THE DESIGN DOCUMENTS TO ALLOW FOR COMPLIANCE VERIFICATION BY THE CODE ENFORCEMENT OFFICIAL. | |
| 503.2.11: HEATING OUTSIDE A BUILDING | HAS BEEN SPECIFIED TO COMPLY WITH SECTION 503.2.11 | SYSTEMS INSTALLED TO PROVIDE HEAT OUTSIDE A BUILDING SHALL BE RADIANT SYSTEMS. SUCH HEATING SYSTEMS SHALL BE CONTROLLED BY AN OCCUPANCY SENSING DEVICE OR A TIMER SWITCH, SO THAT THE SYSTEM IS AUTOMATICALLY DEENERGIZED WHEN NO OCCUPANTS ARE PRESENT. | |

PROFESSIONAL'S STATEMENT

TO THE BEST OF OUR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE.

BUILDING DEPARTMENT NOTE:

THIS PLAN IS APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

SHEET NOTES


ENERGY ANALYSIS NOTES:

1. THE SCOPE OF WORK INDICATED IS BASED ON A PERFORMANCE BASED ENERGY ANALYSIS TO CONFIRM COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC). THE ENERGY COST BUDGET METHOD OF ASHRAE 90.1-2007 IS USED TO SHOW ENERGY CODE COMPLIANCE PER NYCECC 501.1.

2. REFER TO SHEET EN-200 FOR BUILDING ASSEMBLY DESCRIPTIONS, DETAILS, AND PERFORMANCE CRITERIA.

3. REFER TO PERFORMANCE BASED ENERGY ANALYSIS TITLED "ENERGY MODELING OF THE MANHATTAN WEST NORTH TOWER" FOR OUTPUT REPORTS OF THE ASSEMBLIES ON SHEET EN-200.

4. THE LIGHTING WITHIN THE TENANT OFFICE SPACE IS NOT PART OF THE CORE AND SHELL SCOPE OF WORK. A SEPARATE FIT-OUT IS REQUIRED FROM EACH TENANT WHICH PROVES INDIVIDUAL COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC).



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Vertical Transportation

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Geo-Technical Engineering

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Field Operations
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Security Consultant

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Blast Consultant

Weidinger Associates, Inc.
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Cerami & Associates
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Vibration Consultant

Wilson, Uhrig & Associates, Inc.
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Code Consultants Professional Engineers PC
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Facade Maintenance Consultant


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Key Plan:



Seal & Signature:



| No. | Date | Description |
|-----|--------------|-------------------------------|
| 3 | 28 APR 2015 | ISSUED FOR ENERGY CODE REVIEW |
| 2 | 30 JAN 2015 | ISSUED FOR BUILDING PERMIT |
| 1 | 12 SEPT 2014 | ISSUED FOR FOUNDATION PERMIT |

No. _____ Date _____ Description _____
Sheet Name: _____

**NYC EC
COMPLIANCE
MANDATORY
MEASURES
SHEET NO. 1**

Project No.: 14B03A.000
Date: 19 DEC 2014
Scale: N.T.S.
File No.: _____
Sheet No.: _____

EN-002.00

| TABLE 3 - AIR-CONDITIONING CONTROLS SYSTEMS WORKSHEET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------------|--------|--------|--------|--------|--------|--------|---------------------|---------|---------|---------|--------|--------|--------|---------------|----------|---------------|----------|----------|----------|----------|---------|---------|----------|--------|--------|--------|-----------|---------|-----------|
| SYSTEM TAG | AC-B-1 & AC-B-2 | AC-B-3 | AC-B-4 | AC-B-5 | AC-B-6 | AC-B-7 | AC-B-8 | AC-6-1 thru AC-67-1 | AC-B1-1 | AC-B2-1 | AC-B3-1 | AC-1-1 | AC-2-1 | AC-4-1 | AC-20-1B & 2B | AC-30-1B | AC-40-1B & 2B | AC-52-1B | AC-62-1B | AC-70-1B | AC-71-1B | AHU-4-1 | AHU-4-2 | HV-4-1&2 | HV-4-3 | HV-5-1 | HV-5-2 | HV-6B-1&2 | HV-6B-3 | HV-6B-4&5 |
| SUPPLY CFM | 8,000 | 12,000 | 800 | 800 | 800 | 800 | 800 | 25,000 | 3,000 | 3,000 | 3,000 | 1,500 | 1,500 | 3,000 | 2,000 | 5,000 | 5,000 | 10,000 | 10,000 | 10,000 | 7,500 | 15,000 | 55,000 | 75,000 | 62,500 | 15,000 | 11,000 | 37,500 | 18,000 | 32,000 |
| SUPPLY ESP | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.5 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.5 | 0.75 | 0.75 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | 1.5 | 2.0 | 2.0 | 2.0 | 1.5 | 1.5 |
| FAN SYSTEM HP | 7-1/2 | 15 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 40 | 3 | 3 | 3 | 1-1/2 | 1-1/2 | 3 | 1-1/2 | 5 | 5 | 10 | 10 | 10 | 7-1/2 | 25 | 100 | 125 | 75 | 20 | 15 | 60 | 20 | 50 |
| OA CFM | 0 | 0 | 150 | 150 | 150 | 150 | 150 | 4,500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,000 | 11,000 | 75,000 | 62,500 | 15,000 | 11,000 | 37,500 | 18,000 | 32,000 |
| AUTOMATIC SHUTDOWN (SECTION 6.4.3.2.1) | N1 | N1 | N2 | N2 | N2 | N2 | N2 | C1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | C1 | C1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 |
| DEAD BAND (SECTION 6.4.3.2.1) | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | C1 | C1 | N2 | N2 | N2 | N2 | N2 | N2 | N2 | N2 |
| SETBACK CONTROLS (SECTION 6.4.3.2.2) | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | N5 | C1 | C1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 |
| OPTIMUM START CONTROLS (SECTION 6.4.3.2.3) | N1 | N1 | N3 | N3 | N3 | N3 | N3 | C1 | C1 | C1 | C1 | C1 | C1 | C1 | N1 | N1 | N1 | N1 | N1 | N1 | C1 | C1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 |
| ZONE ISOLATION (SECTION 6.4.3.2.4) | N1 | N1 | N2 | N2 | N2 | N2 | N2 | C1 | C1 | C1 | C1 | C1 | C1 | C1 | N1 | N1 | N1 | N1 | N1 | N1 | C1 | C1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 |
| SHUTOFF DAMPER CONTROLS (SECTION 6.4.3.3.4) | N1 | N1 | N2 | N2 | N2 | N2 | N2 | C1 | C1 | C1 | C1 | C1 | C1 | C1 | N1 | N1 | N1 | N1 | N1 | N1 | C1 | C1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 |
| HEAT PUMP AUX HEAT CONTROL (SECTION 6.4.3.4) | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 |
| HUMIDIFIER PREHEAT (SECTION 6.4.3.5) | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 |
| HUMIDIFICATION & DEHUMIDIFICATION (SECTION 6.4.3.6) | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 | N1 |

| TABLE 3 - CONTROLS LEGEND | | | | | |
|---------------------------|--|-------------------------|---|----------------------------|---|
| AUTOMATIC SHUTDOWN | | OPTIMUM START CONTROLS | | HEAT PUMP AUX HEAT CONTROL | |
| C1 | COMPLYING NONRESIDENTIAL TIME SWITCH WITH OVERRIDE | C1 | OPTIMUM START PROVIDED | C1 | CONTROLS PROVIDED |
| C2 | COMPLYING RESIDENTIAL TIME SWITCH WITH OVERRIDE | N1 | N/A - CONTINUOUS OPERATION | N1 | N/A - SYSTEM NOT A HEAT PUMP |
| N1 | N/A - UNIT CONTINUOUSLY OPERATES | N2 | N/A <15 KBTU/H OR < 3/4 HP | N2 | N/A - AUX HEAT IS NOT ELECTRIC OR NOT PROVIDED |
| N2 | N/A - UNIT IS <15 KBTU/H OR < 3/4 HP | N3 | N/A SUPPLY </= 10,000 CFM | N3 | N/A - HEAT PUMP COVERED BY NAECA |
| N3 | N/A - UNIT IS HOTEL/MOTEL GUESTROOM | | | | |
| | | | | | |
| DEAD BAND | | SHUTOFF DAMPER CONTROLS | | HUMIDIFIER PREHEAT | |
| C1 | DUAL SET POINT CONTROL | C1 | MOTORIZED SHUTOFF DAMPERS ON OA AND EXH | C1 | CONTROLS PROVIDED |
| C2 | MANUAL CHANGE OVER CONTROL | C2 | GRAVITY SHUTOFF DAMPERS ON OA AND EXH | N1 | N/A - NO HUMIDIFIER |
| N1 | N/A - SPECIAL OCCUPANCY | N1 | N/A - UNIT CONTINUOUSLY OPERATES | | |
| N2 | N/A - UNIT PROVIDES HEATING OR COOLING ONLY | N2 | N/A - UNIT IS <15 KBTU/H OR < 3/4 HP | | |
| | | N3 | N/A - OA/EA FOR UNIT </= 300 CFM | C1 | COMPLY - CONTROLS PROVIDED |
| | | | | N1 | N/A - NO HUMIDIFICATION AND/OR DEHUMIDIFICATION |
| | | | | | |
| | | | | | |
| SETBACK CONTROLS | | ZONE ISOLATION | | DUCT/PLENUM INSULATION | |
| C1 | SETBACK PROVIDED (DOWN TO 55°F) | C1 | COMPLY - ISOLATION ZONES PROVIDED | C1 | COMPLYING INSULATION PROVIDED |
| N1 | N/A - UNIT CONTINUOUSLY OPERATES | N1 | N/A - UNIT CONTINUOUSLY OPERATES | N1 | N/A - ALL DUCTS LOCATED IN CONDITIONED SPACE |
| N2 | N/A - UNIT IS <15 KBTU/H OR < 3/4 HP | N2 | N/A - UNIT IS <15 KBTU/H OR < 3/4 HP | | |
| N3 | N/A - 99.6% WINTER DB > 40°F | N3 | N/A - ALL ZONES ON SAME SCHEDULE | | |
| N4 | N/A - RADIANT HEATING | N4 | N/A - OA/EA FOR UNIT </= 5,000 CFM | | |
| N5 | N/A - NO HEATING PROVIDED BY UNIT | | | | |

MISCELLANEOUS REQUIREMENTS - MANDATORY MEASURES

- MECHANICAL EQUIPMENT NOT COVERED BY THE US NATIONAL APPLIANCE ENERGY CONSERVATION ACT (NAECA) OF 1987 SHALL BE PROVIDED A PERMANENT LABEL INSTALLED BY THE MANUFACTURER STATING THAT THE EQUIPMENT COMPLIES WITH THE REQUIREMENTS OF ASHRAE 90.1.
- PACKAGED TERMINAL AIR CONDITIONERS AND HEAT PUMPS WITH SLEEVE SIZES LESS THAN 18 INCHES HIGH AND 42 INCHES WIDE SHALL BE PROVIDED WITH A FACTORY LABEL WHICH READS: "MANUFACTURED FOR REPLACEMENT APPLICATIONS ONLY; NOT TO BE INSTALLED IN NEW CONSTRUCTION PROJECTS."
- A DEADBAND OF _____°F SHALL BE PROVIDED TO PREVENT THE HEATING SET POINT FROM EXCEEDING THE COOLING SET POINT.
- THE LEAKAGE OF THE SPECIFIED DAMPERS SHALL BE LESS THAN THE 10 CFM / SQUARE FOOT FOR MOTORIZED DAMPERS AND 20 CFM / SQUARE FOOT FOR NONMOTORIZED DAMPERS AT 1.0 INCHES OF WATER GAUGE WHEN TESTED IN ACCORDANCE WITH AMCA STANDARD 500.
- VENTILATION FANS WITH MOTORS GREATER THAN 3/4 HP SHALL HAVE CONTROLS WHICH AUTOMATICALLY SHUT OFF THE FANS WHEN NOT REQUIRED.

- FREEZE PROTECTION SYSTEMS (SUCH AS HEAT TRACING) SHALL HAVE CONTROLS TO SHUT OFF THE SYSTEM WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE 40°F. SNOW/ICE MELTING SYSTEMS SHALL HAVE CONTROLS TO SHUT OFF THE SYSTEM WHEN THE PAVEMENT TEMPERATURE IS ABOVE 50°F.
- CO, SENSORS, WHICH REDUCE THE OUTDOOR AIR INTAKE BELOW DESIGN RATES WHEN SPACES ARE PARTIALLY OCCUPIED, HAVE BEEN PROVIDED FOR SYSTEMS WITH DESIGN OUTDOOR AIR CAPACITIES GREATER THAN 3000 CFM SERVING AREAS HAVING AN AVERAGE DESIGN OCCUPANCY EXCEEDING 100 PEOPLE PER 1000 FT².
- DUCTWORK USED FOR BOTH HEATING AND COOLING SHALL HAVE BE INSULATED WITH AN R-VALUE GREATER THAN OR EQUAL TO 3.5. RETURN AIR DUCTS ARE NOT TO BE INSULATED.

- SUPPLY AND RETURN DUCTWORK AND PLENUMS LOCATED OUTDOORS AND SUPPLY DUCTWORK AND PLENUMS GREATER THAN 2 INCHES OF W.C. IN UNCONDITIONED SPACES SHALL BE A MINIMUM OF CLASS "A" SEALED. SUPPLY DUCTWORK AND PLENUMS LESS THAN 2 INCHES OF W.C. AND RETURN DUCTWORK IN UNCONDITIONED SPACES AND SUPPLY DUCTWORK AND PLENUMS GREATER THAN 2 INCHES OF W.C. AND EXHAUST DUCTWORK IN CONDITIONED SPACES SHALL BE A MINIMUM OF CLASS "B" SEALED. EXHAUST DUCTWORK AND PLENUMS LOCATED OUTDOORS AND IN UNCONDITIONED SPACE AND SUPPLY DUCTWORK AND PLENUMS LESS THAN 2 INCHES OF W.C. AND RETURN DUCTWORK IN CONDITIONED SPACE SHALL BE A MINIMUM OF CLASS "C" SEALED.
- THIS CONTRACTOR IS REQUIRED TO PROVIDE RECORD DRAWINGS AND OWNER'S OPERATIONAL MANUALS. THIS CONTRACTOR IS ALSO RESPONSIBLE TO PARTICIPATE IN THE AIR AND WATER SYSTEM BALANCING AND ANY REQUIRED CONTROL SYSTEM COMMISSIONING.

PROFESSIONAL'S STATEMENT

TO THE BEST OF OUR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE.

BUILDING DEPARTMENT NOTE:

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SHEET NOTES

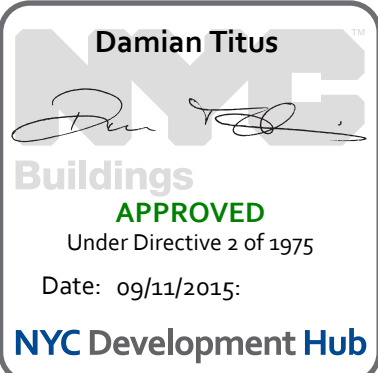
ENERGY ANALYSIS NOTES:

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MANHATTAN WEST: NORTH TOWER

375 Ninth Avenue, New York, NY 10001

Client

Brookfield

250 Vesey Street, 15th Floor, New York, NY 10291

Architecture/Structural Engineering

SOM

Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Bolles
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Vertical Transportation

Edgett Williams Consulting Group, Inc.
102 East 88th Street, Suite 1, MBI Valley, California 94341

Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

Geo-Technical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 22nd W. 34th Street #610,
New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant

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Acoustical Consultant

Cerami & Associates
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Vibration Consultant

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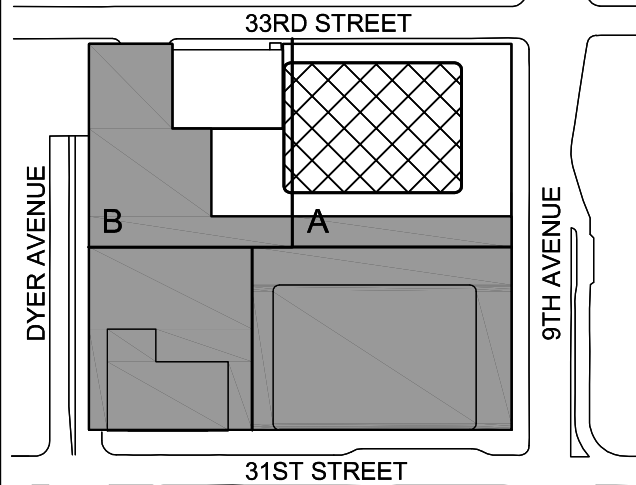
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

Key Plan:



Seal & Signature:



| | | |
|-------------|--------------|------------------------------|
| 2 | 30 JAN 2016 | ISSUED FOR BUILDING PERMIT |
| 1 | 12 SEPT 2014 | ISSUED FOR FOUNDATION PERMIT |
| No. | Date | Description |
| Sheet Name: | | |

NYC EC COMPLIANCE MANDATORY MEASURES SHEET NO. 2

| | |
|-------------------------|------------|
| Project No.: 14830A.000 | Sheet No.: |
| Date: 19 DEC 2014 | EN-003.00 |
| Scale: N.T.S. | |
| File No.: | Page No.: |



EN1: Energy Cost Budget Worksheet

Do Not Submit Separately. Must be Incorporated in the drawing set.

1

Location Information Required for all applications.

House No(s)

401

Street Name

9TH AVENUE

Borough

MANHATTAN

Block

00729

Lot

00060

BIN

1800650

CB No

104

Work on Floor(s)

001 to 069, SC1, CEL, ROF

Apt/Condo No(s)

2

Applicant Information Required for all applications.

Last Name

Tuluca

First Name

Adrian

Middle Initial

N

Business Name

Vidaris, Inc.

Business Telephone (212)

689-5389

Business Address

360 Park Avenue South

Business Fax (212)

689-6449

City

New York

State

NY

Zip

10010

Mobile Telephone (203)

921-6892

E-Mail

atuluca@vidaris.com

License Number

019062

Energy Model Inputs

NYS approved energy model software:

Envelope

Proposed Design Input

Budget (Standard Design) Input

Above-grade wall U-factor

U-0.179 (curtain wall); U-0.128 (mass wall)

U-0.064 (steel frame); U-0.104 (mass wall)

Below-grade wall U-factor

C-0.550

C-1.140

Roof construction U-factor

U-0.036 (Tower); U-0.025 (Plaza)

U-0.048

Exterior floor U-factor

N/A

N/A

Slab-on-grade construction (yes/no)

Yes

Yes

Window-to-gross wall ratio

67%

40%

Average fenestration assembly U-factor

U-0.45

U-0.50

Average fenestration assembly SHGC

0.29

0.40

Fixed shading devices (yes/no)

no

no

Automated movable shading devices (yes/no)

no

no

Lighting

Average ambient lighting power density (W/SF)

0.41 (excl'd, tenant area)

0.93 (excl'd, tenant area)

Lighting occupant sensor controls (yes/no)

yes

yes (conf, office < 250 sf)

Automatic daylighting controls (yes/no)

no

no

Exterior lighting power (tradable surfaces) (kW)

8 kW

8 kW

Exterior lighting power (non-tradable surfaces) (kW)

0

0

Heating, Ventilating & Air Conditioning

Refrigeration equipment type

Water cooled DX units with water side economizer (EER=11.5, 2.1 gpm/ton, variable flow), Five 60 ton chillers for EMR, 250 ton absorption chiller using heat recovered from cogen.

Water cooled centrifugal chillers (0.576 kW/ton at ARI conditions) and absorption chiller (COP=1 at ARI conditions)

Heating equipment type

Purchased Steam

Purchased Steam

Demand controlled ventilation (yes/no)

No

No

Economizer type (air or water)

Yes; water side economizer

Yes; air side enthalpy economizer

Domestic hot water heating source

Electric and Steam-fired

Electric and Steam-fired

EN1

| Unregulated Energy (W/SF) | Proposed Design Input | Budget (Standard Design) Input |
|---|------------------------|--------------------------------|
| Average Receptacle equipment power density (W/SF) | 1.23 | 1.23 |
| Average Unregulated lighting power density (W/SF) | 1.05 (for tenant area) | 1.05 (for tenant area) |
| Other process loads | 0 | 0 |

| Energy Cost Budget Conformance | Proposed Design Output | Budget (Standard Design) Output |
|---|---|---------------------------------|
| Annual Regulated Energy Cost (\$) | 4,738,802 with 1200 kW cogen | 5,221,618 |
| Annual Regulated Energy Use (BTU/GSF) | 77,268 (Site); 147,266 (Source) 1200 kW cogen | 80,943 (Site); 155,147 (Source) |
| Annual Regulated Energy Cost Per Sq. Ft. (\$/GSF) | 2.56 with 1200 kW cogen | 2.82 |

| Energy Model Output Breakdown | | |
|--|---|--|
| Energy Use Breakdown | Proposed Design Output (% BTU/yr) | Budget (Standard Design) Output (% BTU/yr) |
| Heating | 15.11 (Site); 10.46 (Source) with 1200 kW cogen | 21.03 (Site); 9.50 (Source) |
| Cooling | 9.32 (Site); 11.26 (Source) with 1200 kW cogen | 13.82 (Site); 9.95 (Source) |
| Heat rejection | 1.20 (Site); 1.22 (Source) with 1200 kW cogen | 7.23 (Site); 8.93 (Source) |
| Fans | 16.55 (Site); 16.43 (Source) with 1200 kW cogen | 9.13 (Site); 11.29 (Source) |
| Pumps | 5.35 (Site); 5.84 (Source) with 1200 kW cogen | 3.53 (Site); 4.37 (Source) |
| Lighting | 26.81 (Site); 27.34 (Source) with 1200 kW cogen | 25.68 (Site); 31.75 (Source) |
| Unregulated loads (e.g., plug loads, elevators, escalators, kitchen, process equipment, exterior lighting) | 25.65 (Site); 25.44 (Source) with 1200 kW cogen | 19.57 (Site); 24.20 (Source) |
| Total | 100% | 100% |

Falsification of any statement is a misdemeanor under § 26-124 of the NYC Administrative Building Code and is punishable by a fine or imprisonment, or both. It is unlawful to give to a city employee, or for a city employee to accept, any benefit, monetary or otherwise, either as a gratuity for properly performing the job or in exchange for special consideration. Violation is punishable by imprisonment or fine or both.

Name (please print)

Adrian Tuluca

Signature

REGISTERED ARCHITECT

ADRIAN TULUCA

019062-1

STATE OF NEW YORK

P.E. / R.A. Seal (apply seal, then sign and date over seal)

7/6/2015

GENERAL NOTES



MANHATTAN WEST:
NORTH TOWER
401 Ninth Avenue, New York, NY 10001
Client

Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

SOM

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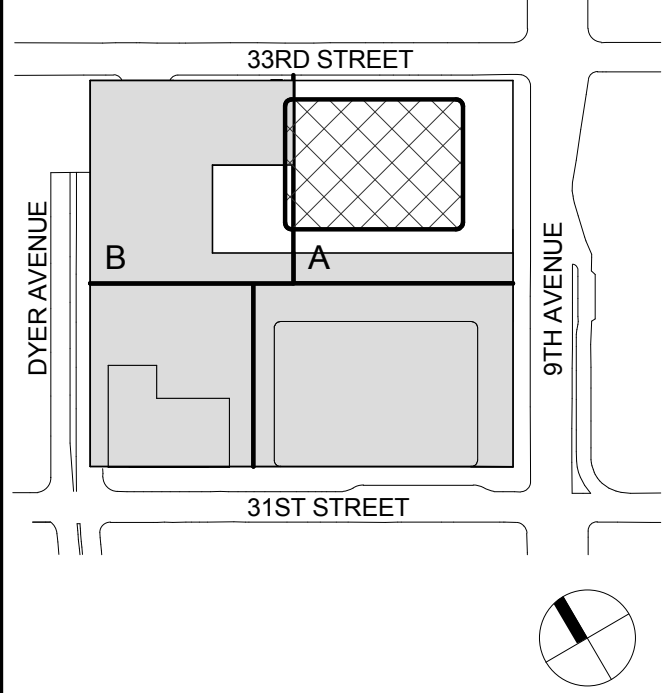
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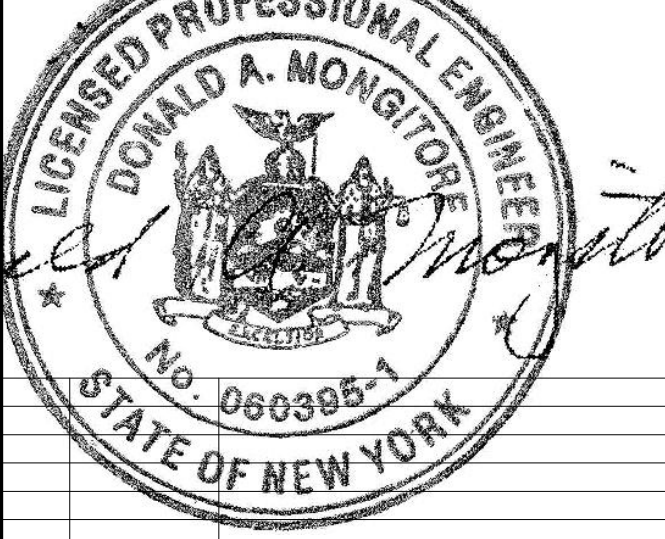
Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



No. Date Description
Sheet Name:

EN-1 ENERGY COST BUDGET WORKSHEET

Project No.:

207150

Sheet No.:

EN-010

Date:

Scale:

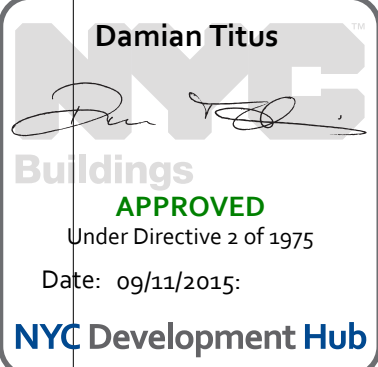
B-SCAN Sheet No.: EN-010.00

File No.:

EN-010

Page No.:

30



A1 A B B.7 C C.8 D D.6 E E.3 F F.2 G G.5 H J J.3 K K.2 K.7 L

FLOOR LPD CALCULATIONS

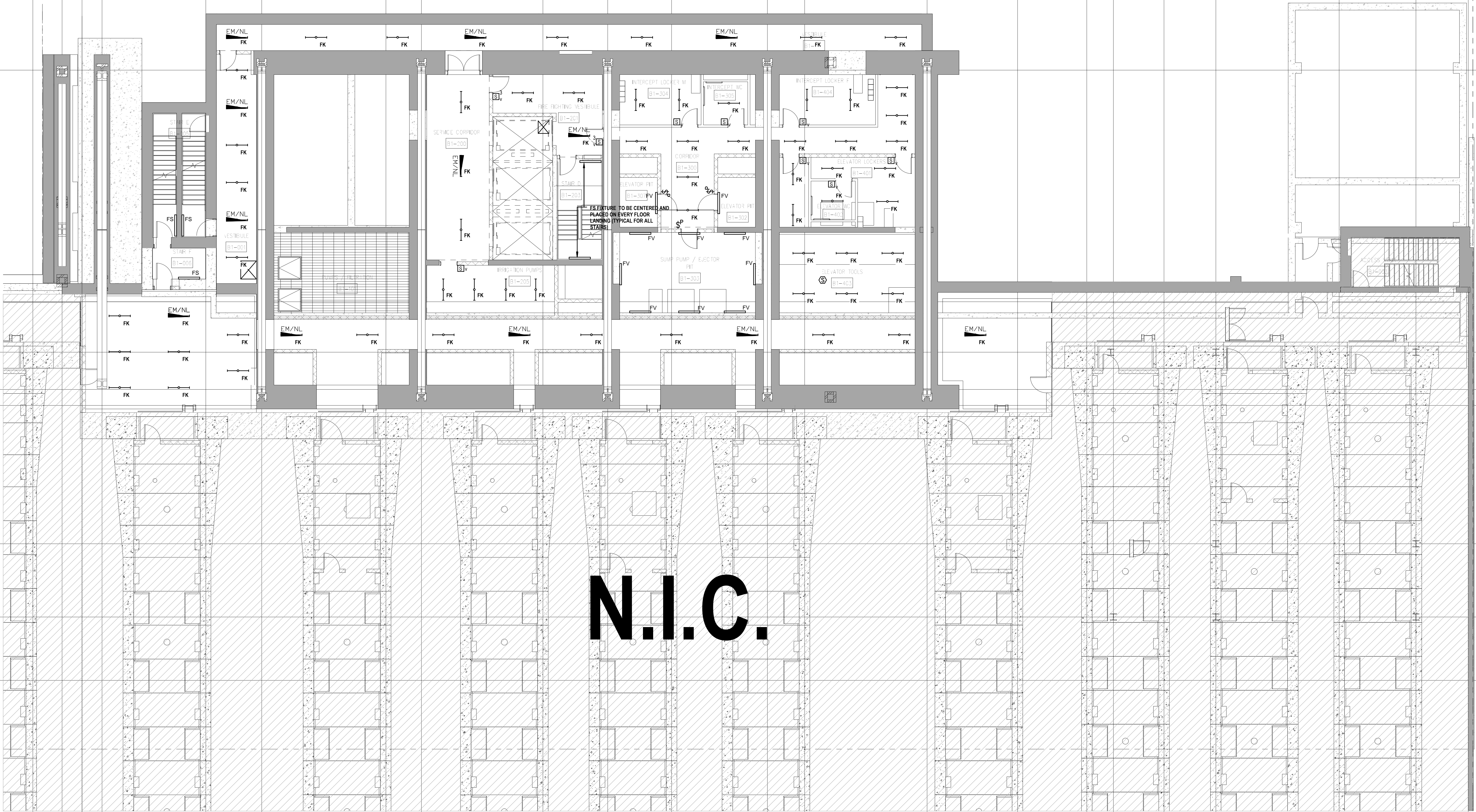
STAIRS
WATTAGE: 160
AREA: 428
PROPOSED LPD = 0.37
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 1632
AREA: 3078
PROPOSED LPD = 0.44
ALLOWABLE LPD = 1.0

ELECTRICALMECHANICAL
WATTAGE: 992
AREA: 1180
PROPOSED LPD = 0.84
ALLOWABLE LPD = 1.0

ACTIVE STORAGE
WATTAGE: 256
AREA: 561
PROPOSED LPD = 0.46
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD = $(160+1632+992+256)/(482+3678+1180+561) = 0.52$
ALLOWABLE FLOOR LPD = $(482+3678+1180+561)/(482+3678+1180+561) = 1.0$



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Client

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Architecture/Structural Engineering

SOM

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14 Wall Street, New York, NY 10005

Civil Engineering

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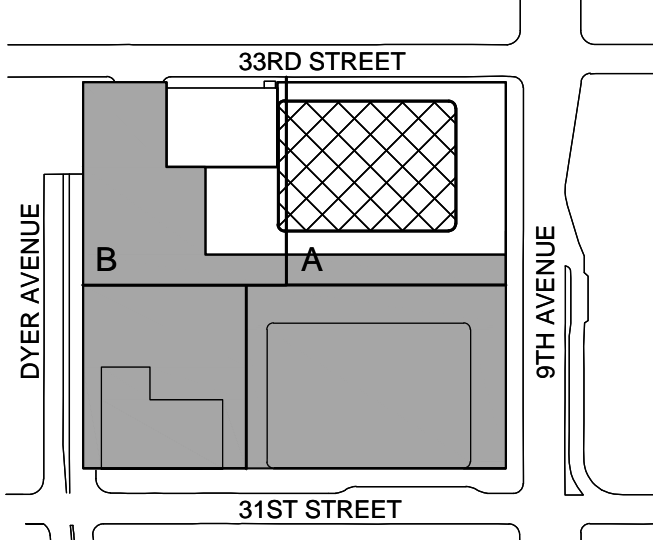
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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



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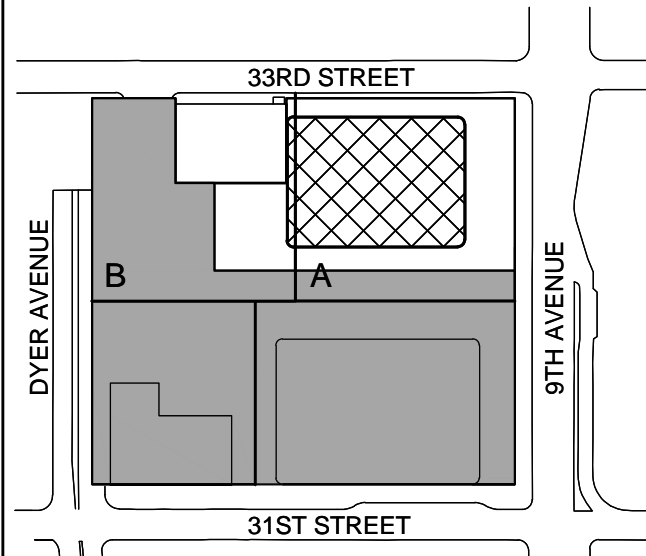
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Key Plan:



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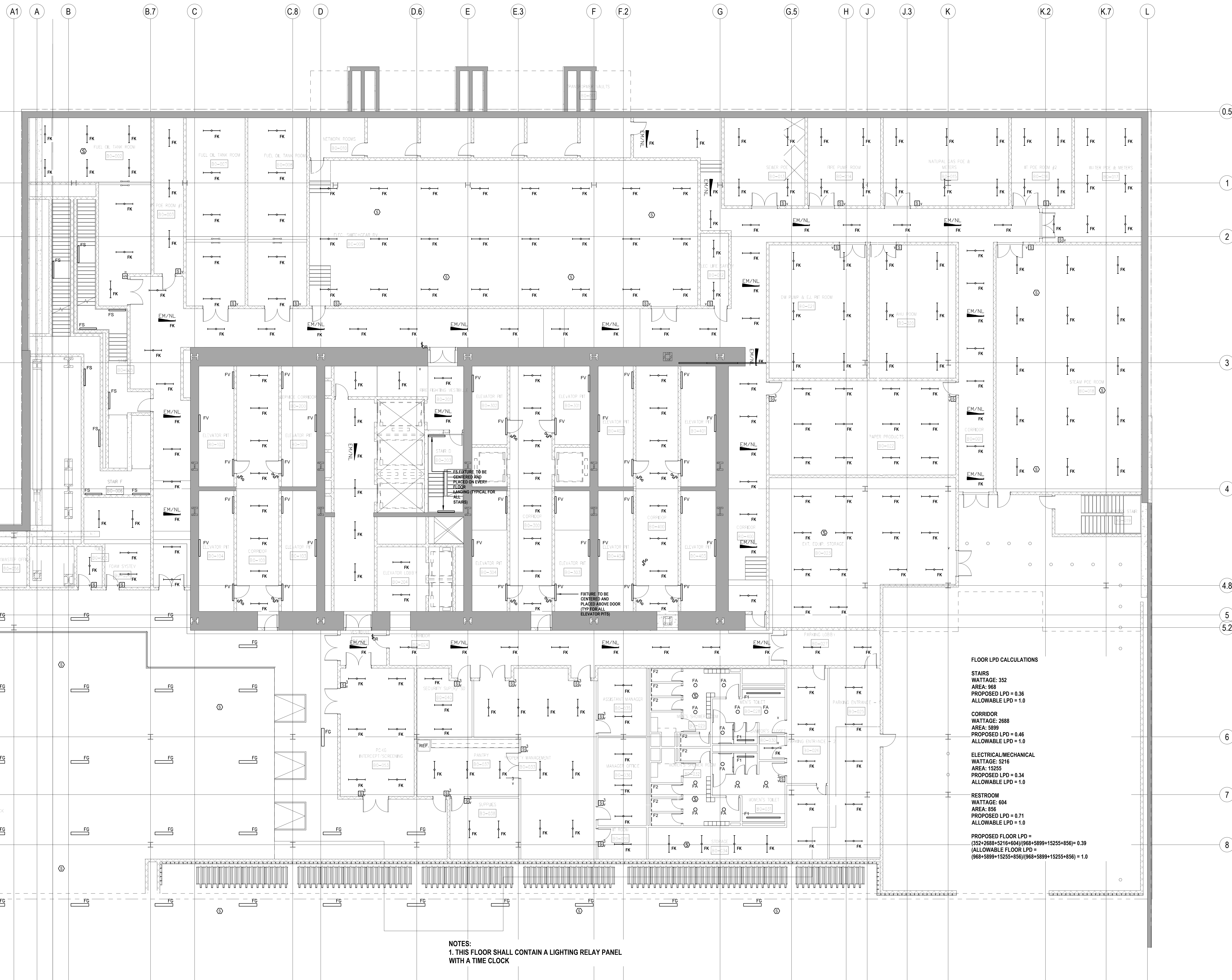


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Sheet Name:

NYC EC
COMPLIANCE
LIGHTING
CELLAR B
FLOOR PLAN -
PART A

Project No.: 14830-1.000
Date: 19 DEC 2014
Scale: N.T.S.
File No.:
Sheet No.: EN-101.00
Page No.:



FLOOR LPD CALCULATIONS

STAIRS
WATTAGE: 352
AREA: 968
PROPOSED LPD = 0.36
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 2688
AREA: 5999
PROPOSED LPD = 0.46
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 5216
AREA: 15255
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

RESTROOM
WATTAGE: 604
AREA: 856
PROPOSED LPD = 0.71
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(352+2688+5216+604)/(968+5999+15255+856)= 0.39
(ALLOWABLE FLOOR LPD =
(968+5999+15255+856)/(968+5999+15255+856) = 1.0

NOTES:
1. THIS FLOOR SHALL CONTAIN A LIGHTING RELAY PANEL
WITH A TIME CLOCK

PROFESSIONAL'S STATEMENT

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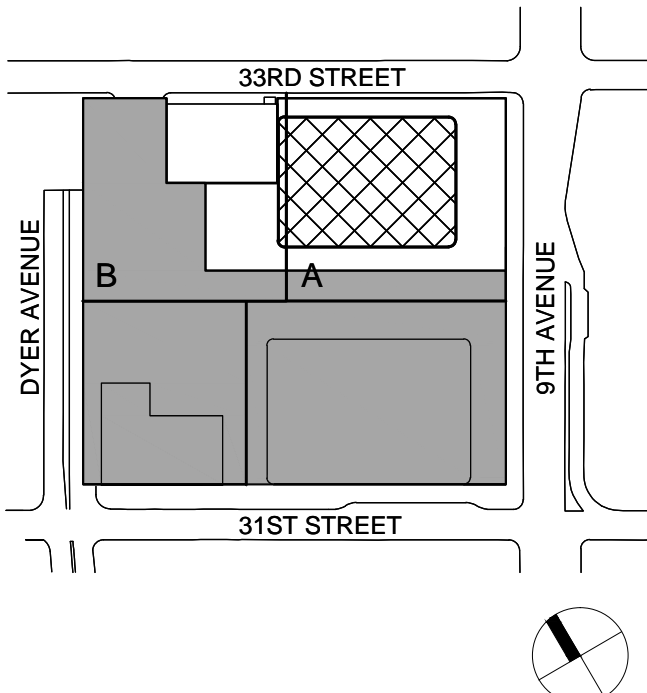
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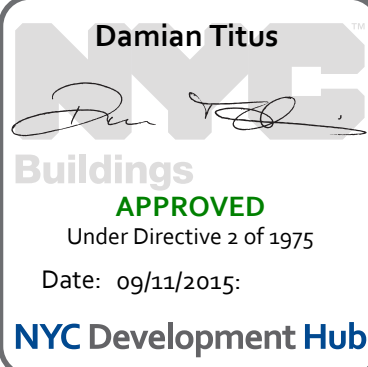
Key Plan:



Seal & Signature:



2 30 JAN 2015 ISSUED FOR BUILDING PERMIT
1 12 SEPT 2014 ISSUED FOR FOUNDATION PERMIT
No Date Description
Sheet Name:



NYC EC
COMPLIANCE
LIGHTING
CELLAR B
FLOOR PLAN -
PART B

Project No.:

Date:

Scale:

File No.:

Sheet No.:

Date:

Scale:

Page No.:

EN-102.00

FLOOR LPD CALCULATIONS

ACTIVE STORAGE
WATTAGE: 320
AREA: 1236
PROPOSED FLOOR LPD = 0.26
ALLOWABLE FLOOR LPD = 1.0

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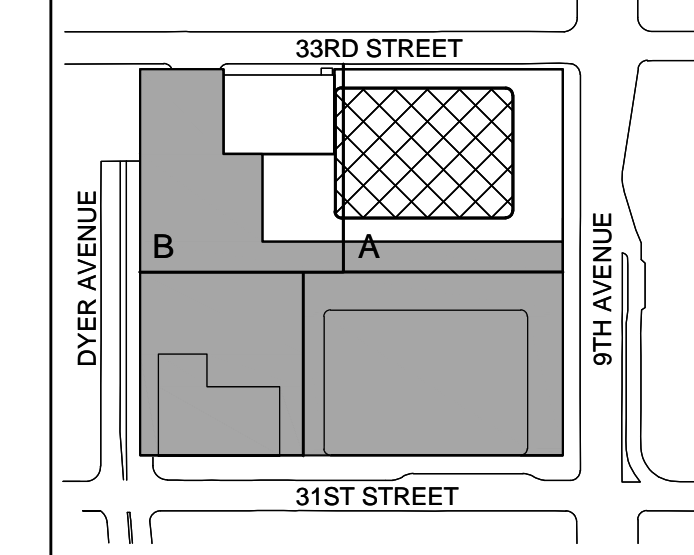
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10005

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

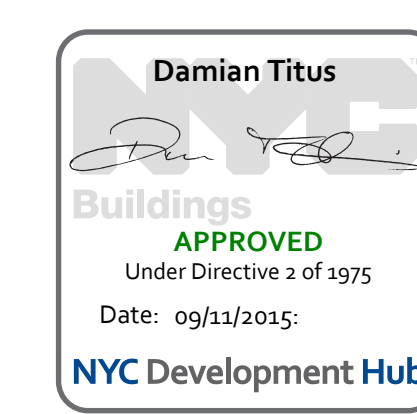


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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 3
FLOOR PLAN**

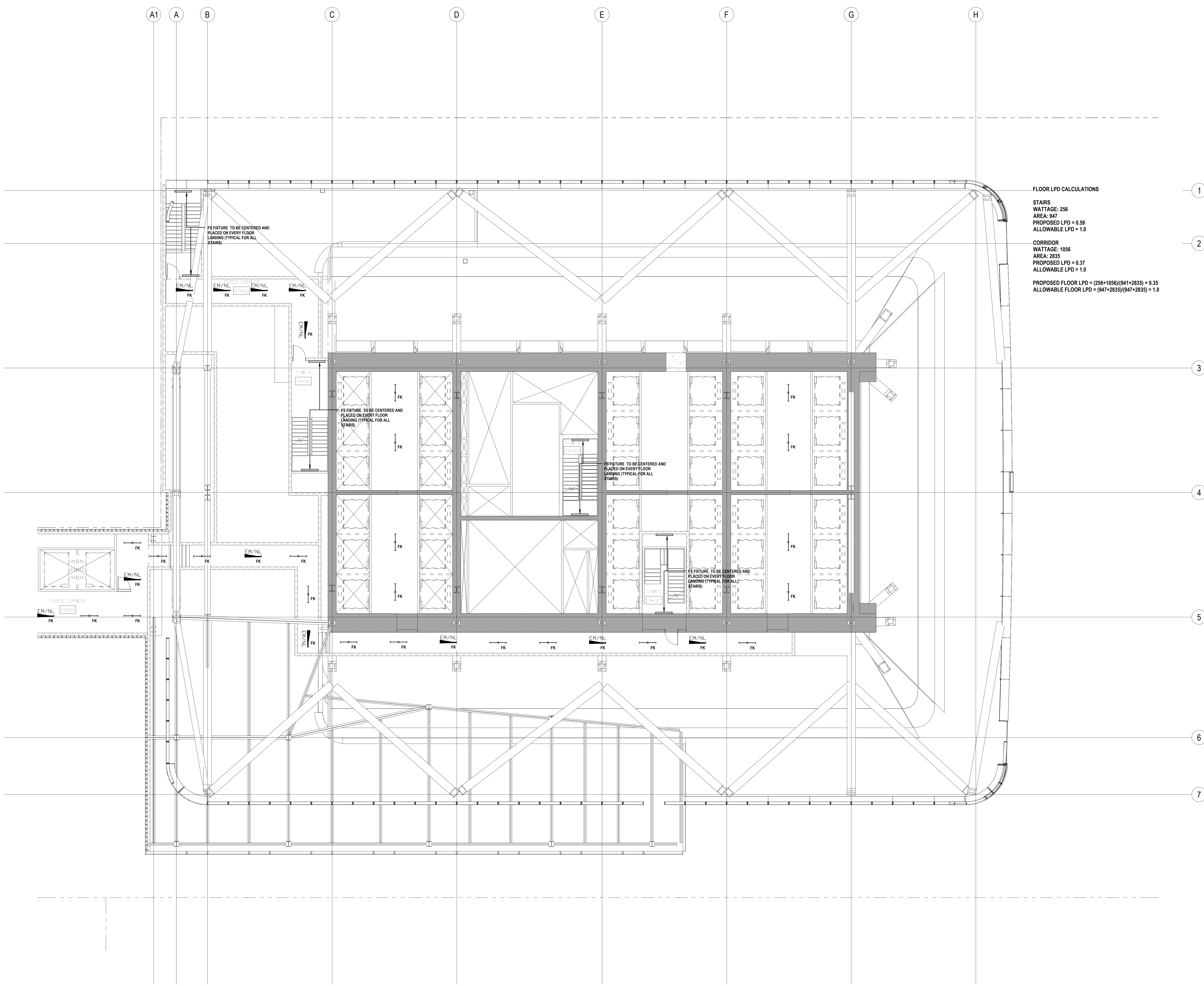
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| Project No.: 14200-A-000 | Sheet No.: EN-104.00 |
| Date: 19 DEC 2014 | B-SCAN Sheet No.: |
| Scale: N.T.S. | Page No.: |
| File No.: | |

FLOOR LPD CALCULATIONS

STAIRS
WATTAGE: 256
AREA: 947
PROPOSED LPD = 0.59
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 1056
AREA: 2835
PROPOSED LPD = 0.37
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD = $(256+1056)/(947+2835) = 0.35$
ALLOWABLE FLOOR LPD = $(947+2835)/(947+2835) = 1.0$

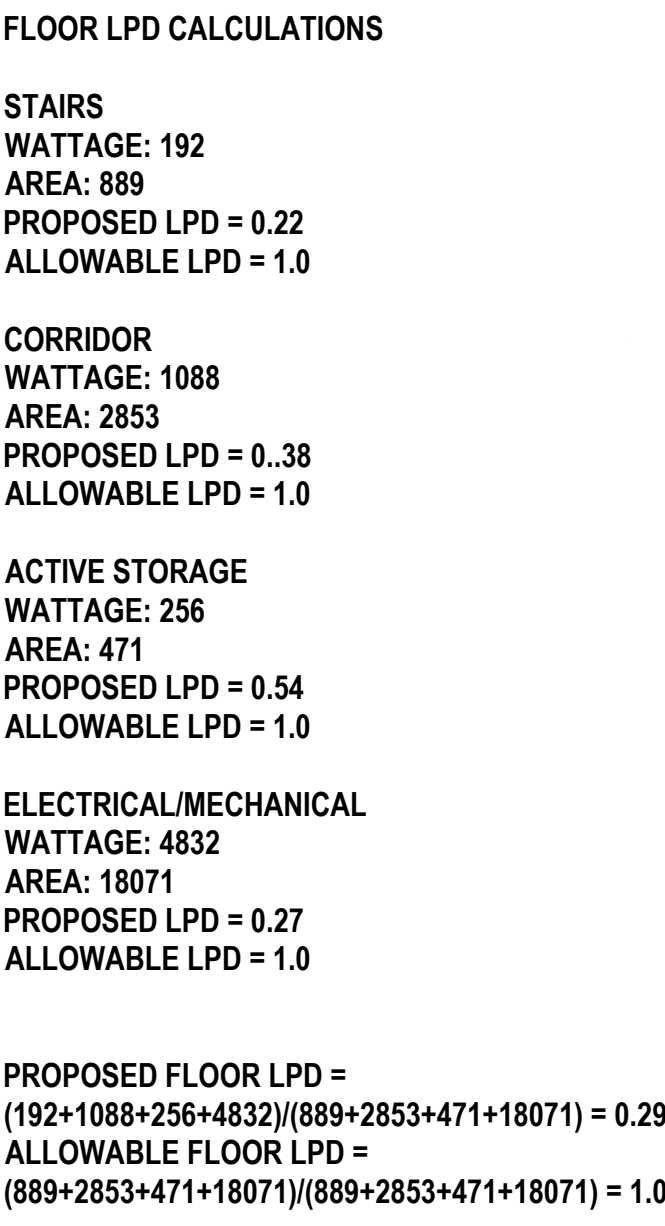


PROFESSIONAL'S STATEMENT

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4. THE LIGHTING WITHIN THE TENANT OFFICE SPACE IS NOT PART OF THE CORE AND SHELL SCOPE OF WORK. A SEPARATE FIT-OUT IS REQUIRED FROM EACH TENANT WHICH PROVES INDIVIDUAL COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC).

FLOOR LPD CALCULATIONS:

TAIRS
WATTAGE: 256
REA: 947
PD=0.59

ORRIDOR
WATTAGE: 105
REA: 2835



Client
Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10280

Architecture/Structural Engineering

SOM

Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

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Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
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Edgett Williams Consulting Group, Inc.
2 East Blithedale Ave. Suite 1, Mill Valley, California 94941

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Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

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Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610,
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Blast Consultant
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40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
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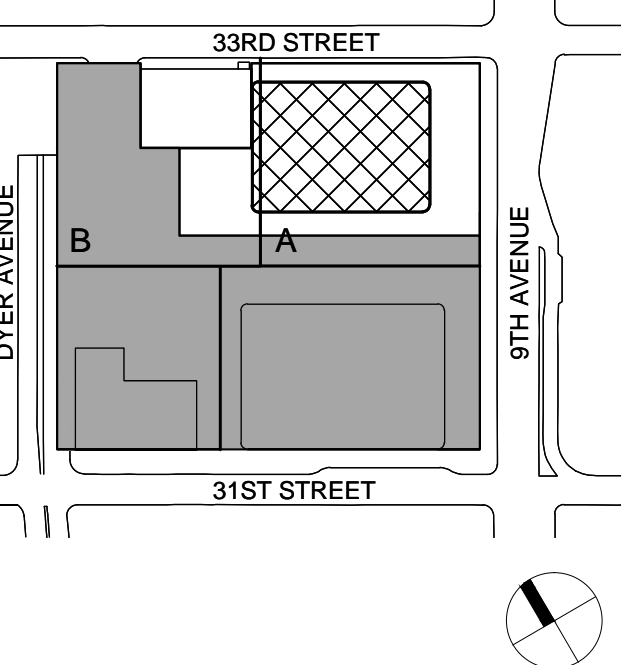
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166 Ames Street, Hackensack, NJ 07601

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650 Woodlawn Road West, Guelph
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ay Plan:



Deal & Signature

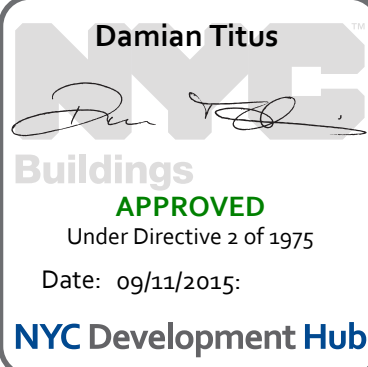


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NYC EC
COMPLIANCE
LIGHTING
LEVEL 4
FLOOR PLAN

| | |
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| Project No.: 14830.A.000 | Sheet No.: EN-105.00 |
| Date: 19 DEC 2014 | |
| Scale: N.T.S. | |
| File No.: | Page No.: |



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MANHATTAN WEST:
NORTH TOWER

375 Ninth Avenue, New York, NY 10001

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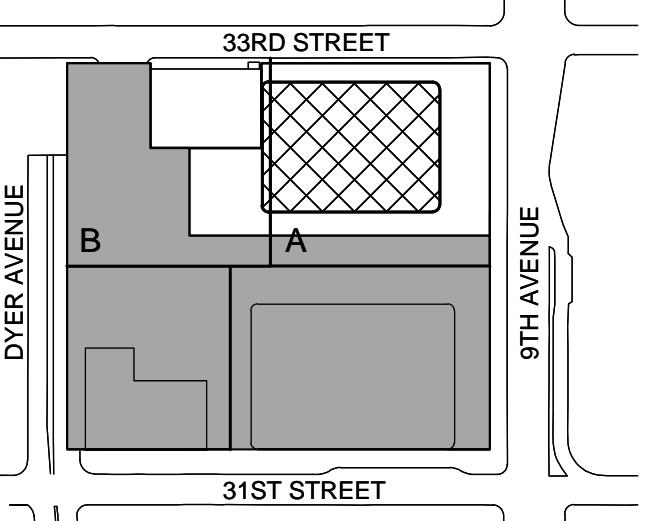
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Ontario, Canada N1K 1B8

Key Plan:

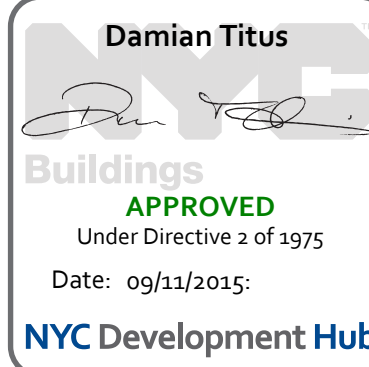


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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 5
FLOOR PLAN**

Project No.:

Date:

Scale:

File No.:

Sheet No.:

EN-106.00

Page No.:

NOTES:
1. THIS FLOOR SHALL CONTAIN A LIGHTING RELAY PANEL
WITH A TIME CLOCK

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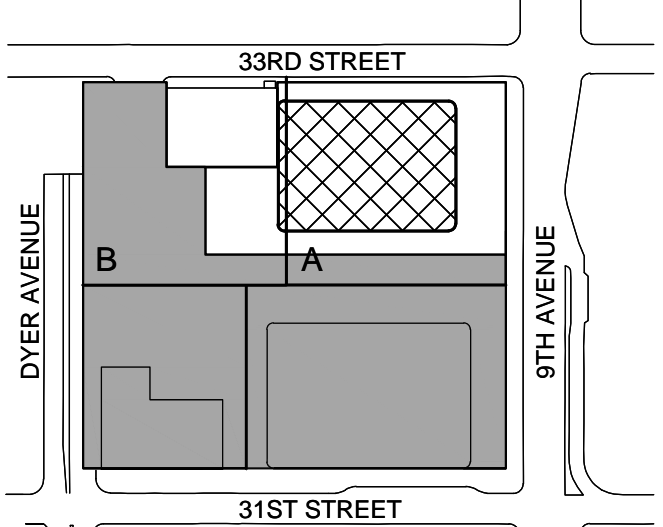
Facade Maintenance Consultant

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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

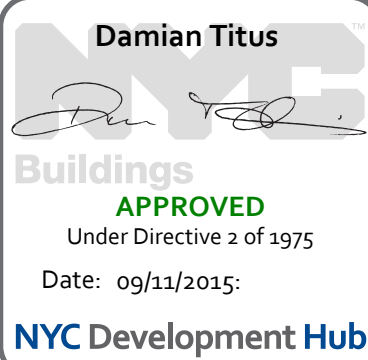


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NYC EC COMPLIANCE LIGHTING LEVEL 6-16 FLOOR PLAN

Project No.: 14830-A-000

Sheet No.:

Date: 19 DEC 2014

EN-107.00

Scale: N.T.S.

File No.:

Page No.:

PROFESSIONAL'S STATEMENT

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LIGHTING WITHIN DASHED LINES SHALL BE PART OF A SEPARATE FIT-OUT FILING

FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 520
AREA: 1172
PROPOSED LPD: 0.44
ALLOWABLE LPD: 1.0

STAIRS
WATTAGE: 192
AREA: 517
PROPOSED LPD = 0.37
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 188
AREA: 560
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 780
AREA: 490
PROPOSED LPD = 1.5
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 384
AREA: 1020
PROPOSED LPD = 0.38
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
 $(520+192+188+780+384)/((1172+517+560+490+1020)) = 0.54$
ALLOWABLE FLOOR LPD =
 $((1172+517+560+490+1020)/(1172+517+560+490+1020)) = 1.0$

SHEET NOTES

ENERGY ANALYSIS NOTES:

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MANHATTAN WEST:
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Client

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250 Vesey Street, 15th Floor, New York, NY 10281

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Skidmore, Owings & Merrill LLP
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102 East Bithedale Ave. Suite 1, Mill Valley, California 94041

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50 Washington Street, Norwalk, CT 06854

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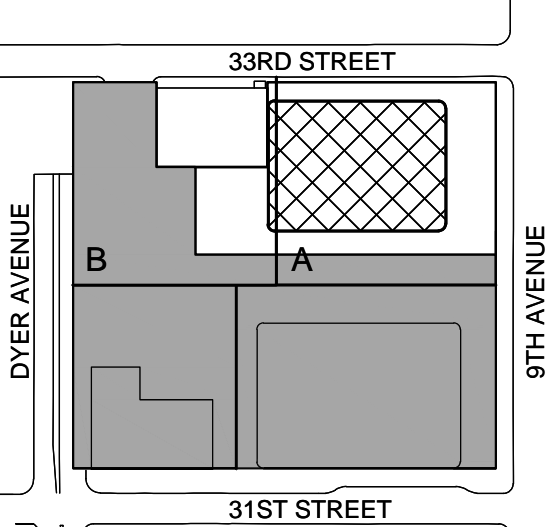
Facade Maintenance Consultant

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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



SHEET NOTES

ENERGY ANALYSIS NOTES:

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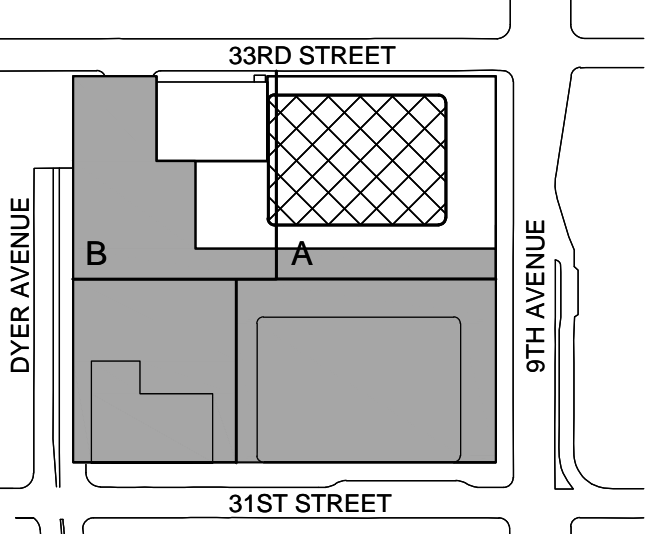
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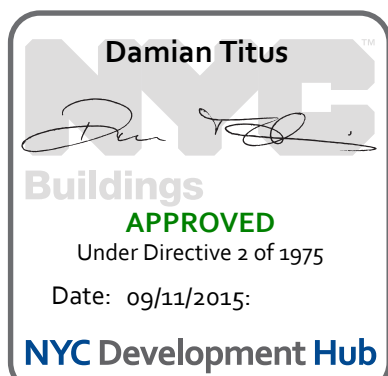


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NYC EC
COMPLIANCE
LIGHTING
LEVEL 18
FLOOR PLAN

Project No.: 14200.A.000

Date: 19 DEC 2014

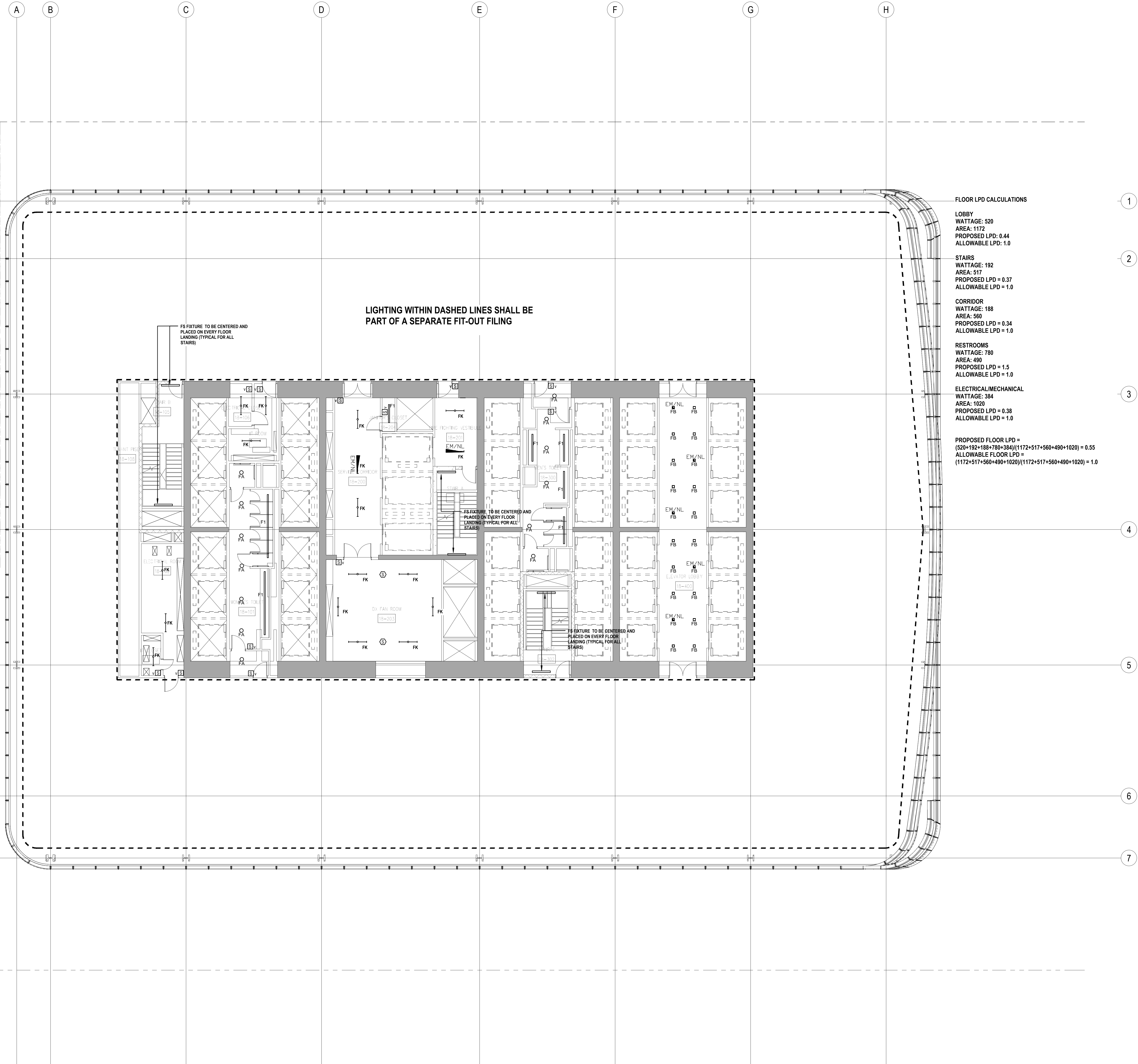
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Sheet No.:

EN-109.00

Page No.:



FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 520
AREA: 1172
PROPOSED LPD: 0.44
ALLOWABLE LPD: 1.0

STAIRS
WATTAGE: 192
AREA: 517
PROPOSED LPD = 0.37
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 188
AREA: 560
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 780
AREA: 490
PROPOSED LPD = 1.5
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 384
AREA: 1020
PROPOSED LPD = 0.38
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(520+192+188+780+384)/(1172+517+560+490+1020) = 0.55
ALLOWABLE FLOOR LPD =
(1172+517+560+490+1020)/(1172+517+560+490+1020) = 1.0

LIGHTING WITHIN DASHED LINES SHALL BE
PART OF A SEPARATE FIT-OUT FILING

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
STAIRS)

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
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FS FIXTURE TO BE CENTERED AND
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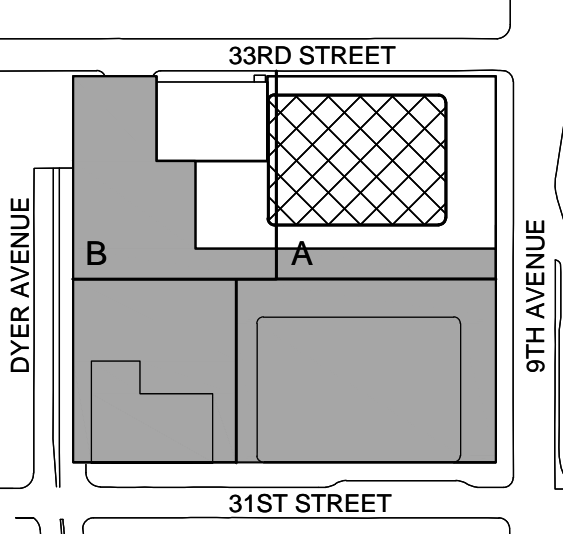
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



SHEET NOTES

ENERGY ANALYSIS NOTES:

1. THE SCOPE OF WORK INDICATED IS BASED ON A PERFORMANCE BASED ENERGY ANALYSIS TO CONFIRM COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC).

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MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client

Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering

SOM

Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation

Eddget Williams Consulting Group, Inc.
102 East Blithedale Ave. Suite 1, Mill Valley, California 94041

Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

Geo-Technical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610,
New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Vantor & Santore
250 State Street #F1, North Haven, CT 06473

Blast Consultant

Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10005

Code Consultant

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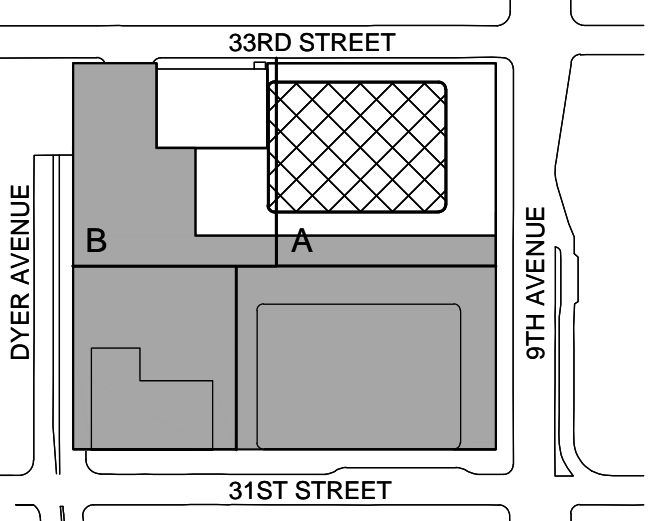
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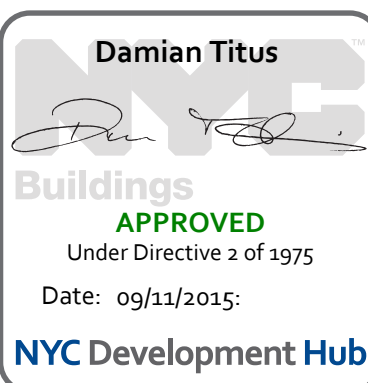
Key Plan:



Seal & Signature:



2 30 JAN 2015 ISSUED FOR BUILDING PERMIT
1 12 SEPT 2014 ISSUED FOR FOUNDATION PERMIT
No. Date Description
Sheet Name:



**NYC EC
COMPLIANCE
LIGHTING
LEVEL 21-27
FLOOR PLAN**

Project No.: 14500-A-000

Date: 19 DEC 2014

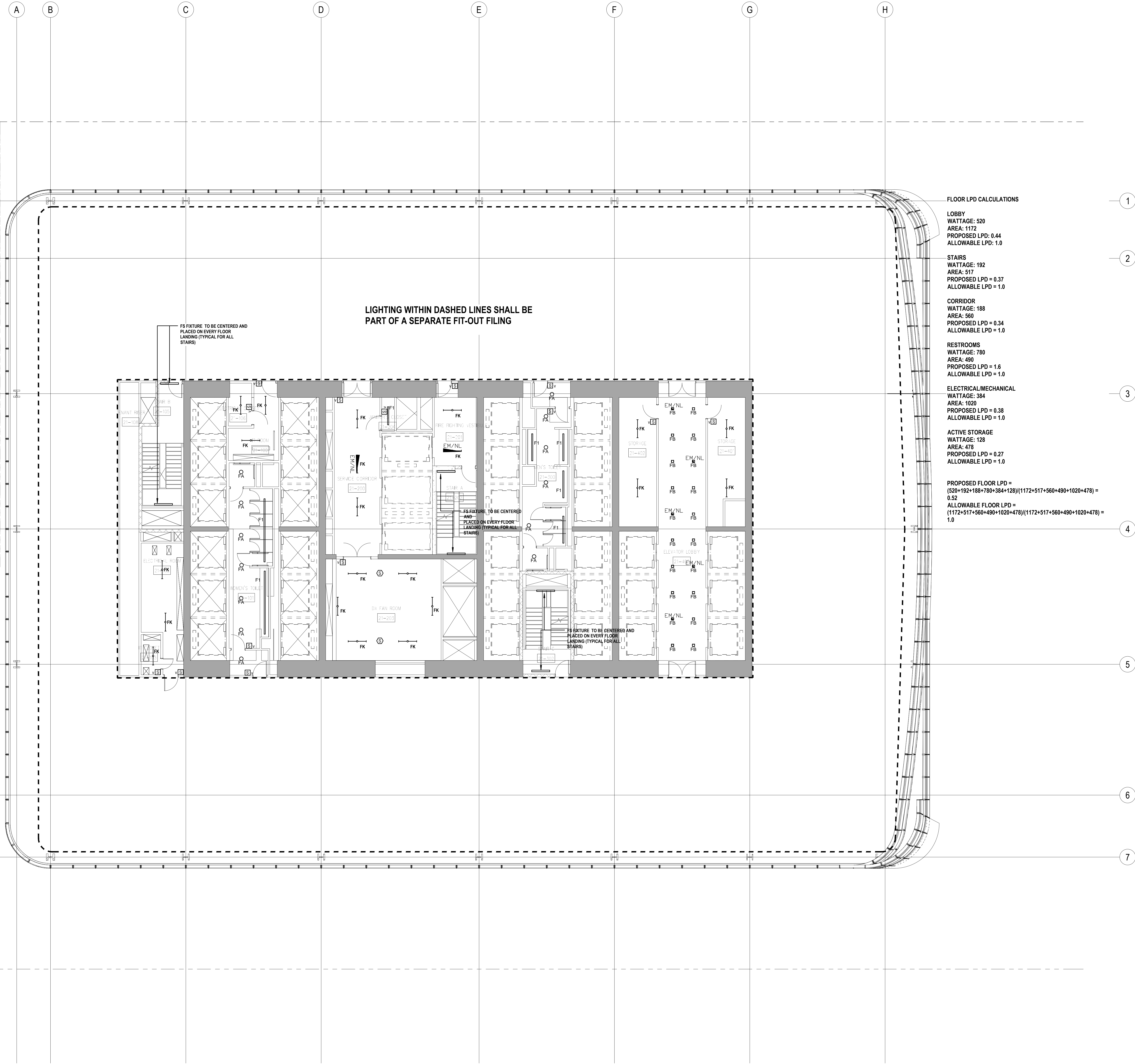
Scale: N.T.S.

File No.:

Sheet No.:

EN-111.00

Page No.:



FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 520
AREA: 1172
PROPOSED LPD: 0.44
ALLOWABLE LPD: 1.0

STAIRS
WATTAGE: 192
AREA: 517
PROPOSED LPD = 0.37
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 188
AREA: 560
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 780
AREA: 490
PROPOSED LPD = 1.6
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 384
AREA: 1020
PROPOSED LPD = 0.38
ALLOWABLE LPD = 1.0

ACTIVE STORAGE
WATTAGE: 128
AREA: 478
PROPOSED LPD = 0.27
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(520+192+188+780+384+128)/(1172+517+560+490+1020+478) =
0.52
ALLOWABLE FLOOR LPD =
(1172+517+560+490+1020+478)/(1172+517+560+490+1020+478) =
1.0

PROFESSIONAL'S STATEMENT

TO THE BEST OF OUR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE.

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NORTH TOWER

375 Ninth Avenue, New York, NY 10001

Client

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Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering

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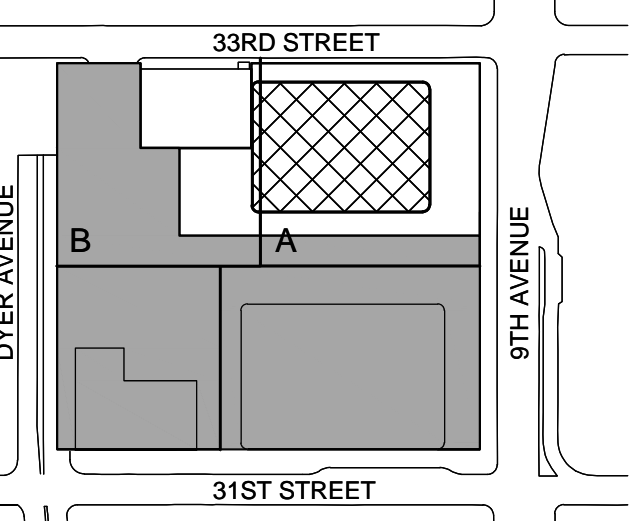
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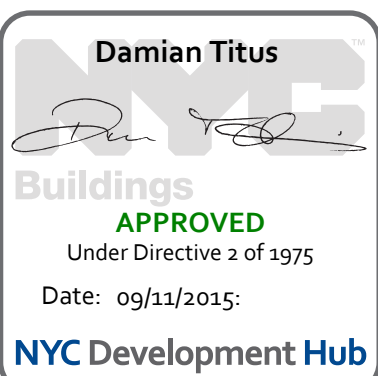
Key Plan:



Seal & Signature:



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Sheet Name:



**NYC EC
COMPLIANCE
LIGHTING
LEVEL 28
FLOOR PLAN**

Project No.:

14830-A-000

Date:

19 DEC 2014

Scale:

N.T.S.

File No.:

Sheet No.:

EN-112.00

SHEET NOTES

ENERGY ANALYSIS NOTES:

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FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 1020
AREA: 903
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

STAIRS
WATTAGE: 192
AREA: 558
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 160
AREA: 509
PROPOSED LPD = 0.31
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 804
AREA: 652
PROPOSED LPD = 1.2
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 416
AREA: 1031
PROPOSED LPD = 0.40
ALLOWABLE LPD = 1.0

ACTIVE STORAGE
WATTAGE: 32
AREA: 36
PROPOSED LPD = 0.89
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
 $(416+804+160+192+1020+32)/(1031+652+509+558+903+36) = 0.71$
ALLOWABLE FLOOR LPD =
 $(1031+652+509+558+903)/(1031+652+509+558+903) = 1.0$

LIGHTING WITHIN DASHED LINES SHALL BE
PART OF A SEPARATE FIT-OUT FILING

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
STAIRS)

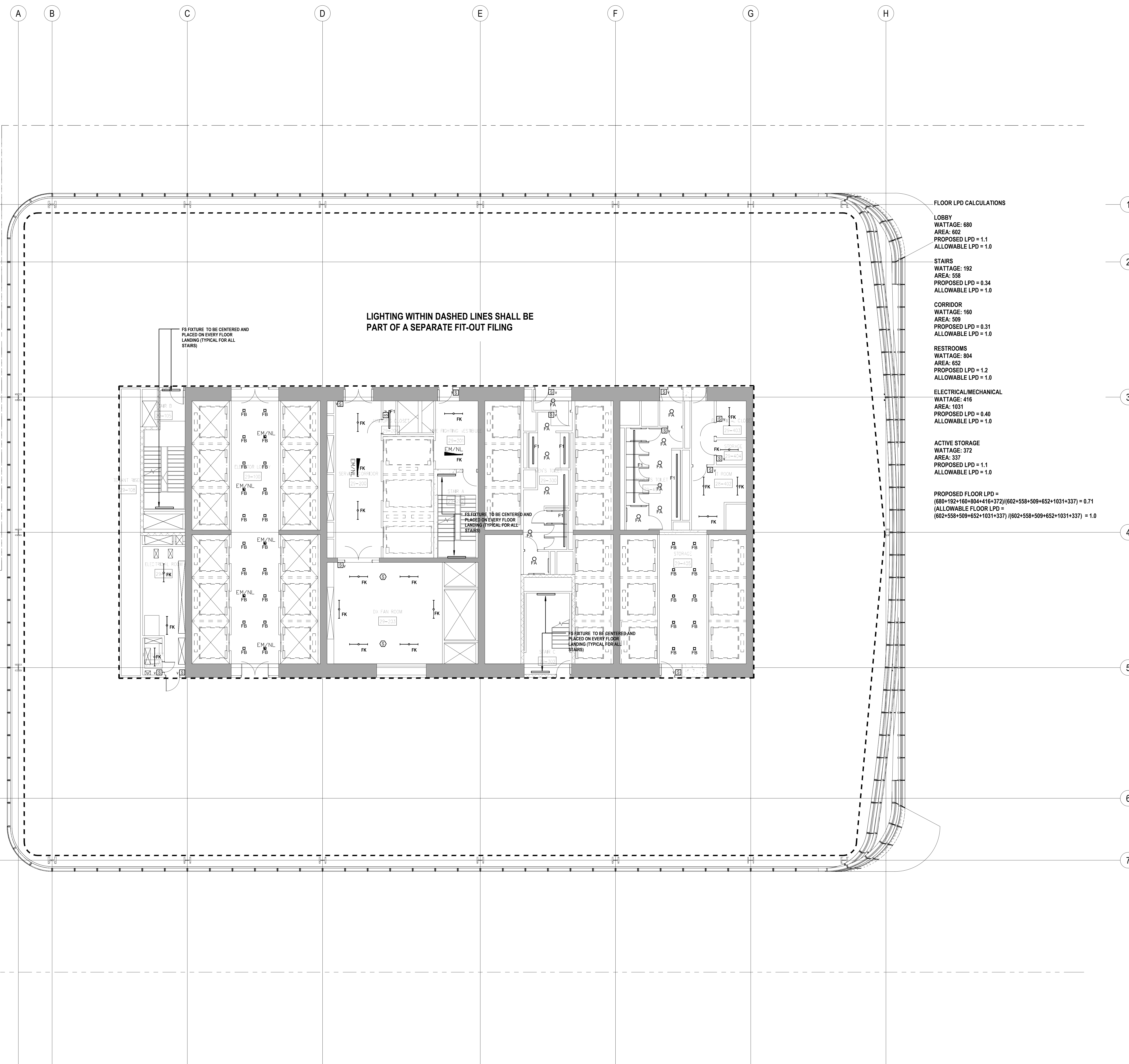
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| | <p>Sustainable Design</p> <p>Viridian Energy & Environmental 50 Washington Street, Norwalk, CT 06854</p> |
|--|--|

| | |
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| | <p>Geo-Technical Engineering</p> <p>Mueser Rutledge Consulting Engineers</p> <p>14 Penn Plaza, 225 W. 34th Street #610</p> |
|--|---|

| | |
|--|----------------------|
| | New York, NY 10122 |
| | Landscape Consultant |
| | Field Operations |

| | |
|--|-----------------------------|
| | Security Consultant |
| | Ducibella, Vantor & Santore |

| | |
|--|-----------------------------|
| | Blast Consultant |
| | Weidlinger Associates, Inc. |

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|--|------------------------------------|
| | 40 Wall Street, New York, NY 10003 |
| | Acoustical Consultant |
| | Cerami & Associates |

| | |
|--|---|
| | 404 Fifth Avenue #8, New York, NY 10018 |
| | Vibration Consultant |

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| | 65 Broadway, Suite 401, New York, NY 10006 |
| | Code Consultant |

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|--|---|
| | Code Consultants Professional Engineers P.C. 215 West 40th Street, 15th Floor, New York, NY 10018 Facade Maintenance Consultant |
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|--|--|
| | <p>Entek Engineering LLC 166 Ames Street, Hackensack, NJ 07601</p> |
| | <p>Wind Tunnel Consultant</p> |

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|--|---|
| | Rowan Williams Davies & Irwin Inc. 650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8 |
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Figure 1: A schematic diagram of a rectangular structure. It features a central vertical line and a horizontal line intersecting at the center. The structure is divided into four quadrants by these lines. The top and bottom quadrants are shaded gray, while the left and right quadrants are white. The entire structure is enclosed in a rectangular border.

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Seal & Signature:

 Donald A. Mongitoro

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Damian Titus
NYC EC
COMPLIANCE

APPROVED
Under Directive 2 of 1975
Date: 09/11/2015:

NYC Development Hub

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| Date: 19 DEC 2014 | EN-113.00 |


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Damian Titus

Buildings
APPROVED
Under Directive 2 of 1975
Date: 09/11/2015:
NYC Development Hu

NYC EC
COMPLIANCE
LIGHTING
LEVEL 29
FLOOR PLAN

| | |
|-----------------------------|------------|
| Project No.: 14830.A.000 | Sheet No.: |
| Date: 19 DEC 2014 | EN-113.00 |
| Scale: N.T.S. | |
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SHEET NOTES

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Jaros Baum & Bolles
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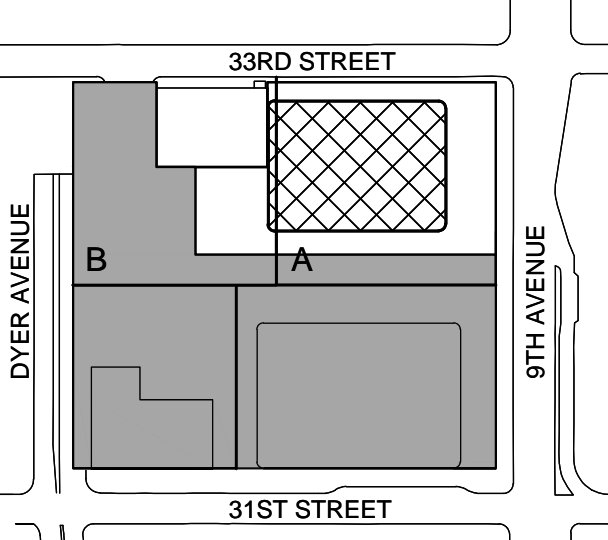
Facade Maintenance Consultant

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Wind Tunnel Consultant

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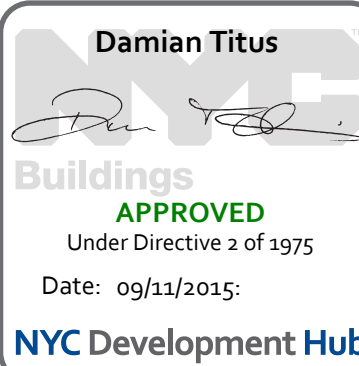
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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 30
FLOOR PLAN**

Project No.:

14200-A-000

Date:

19 DEC 2014

Scale:

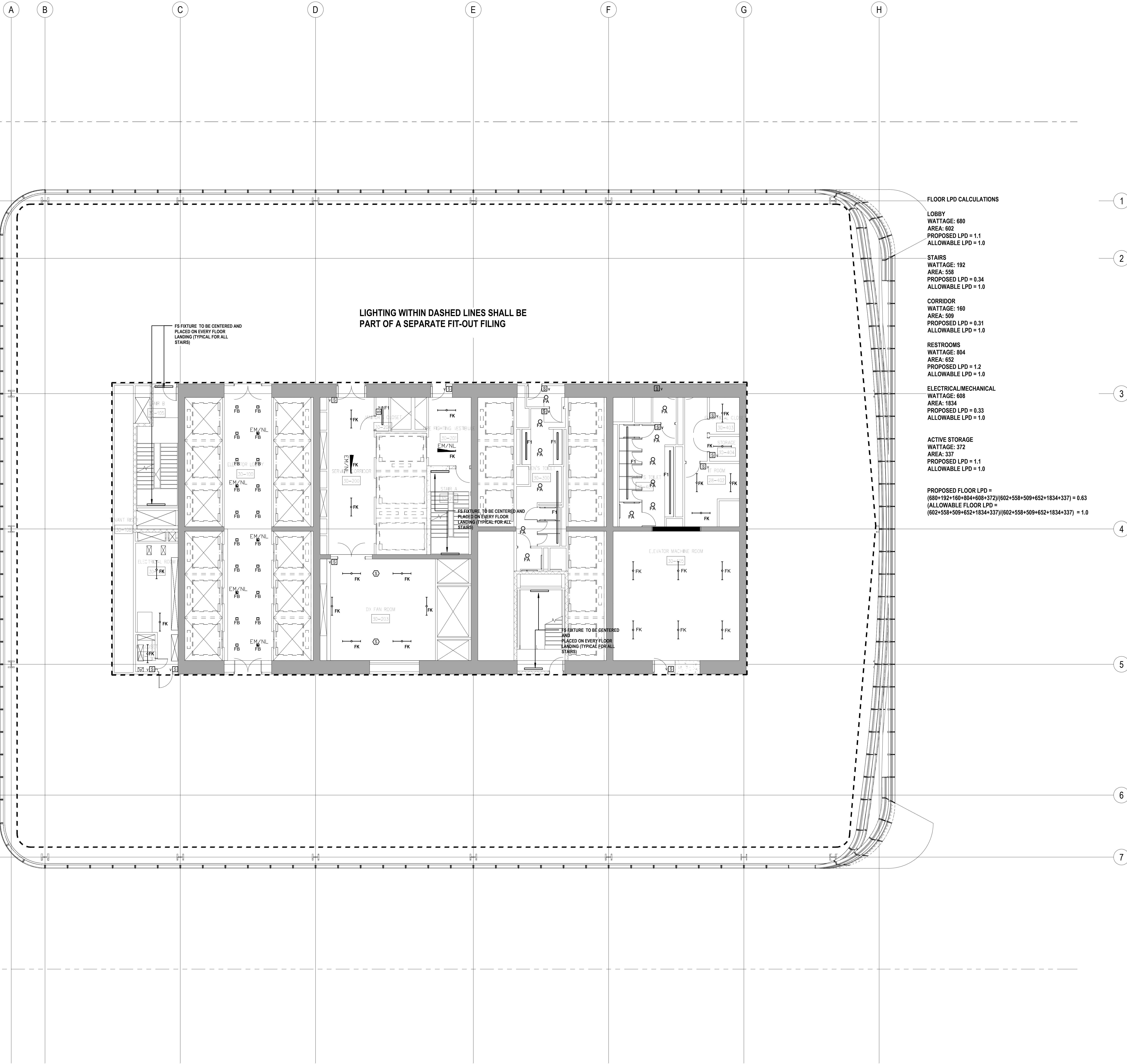
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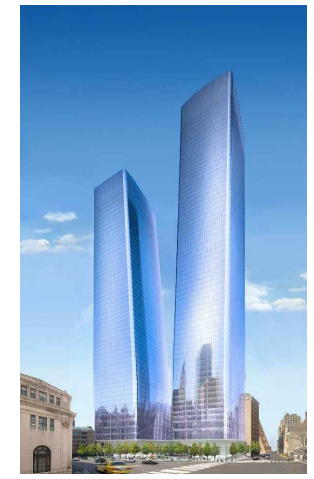
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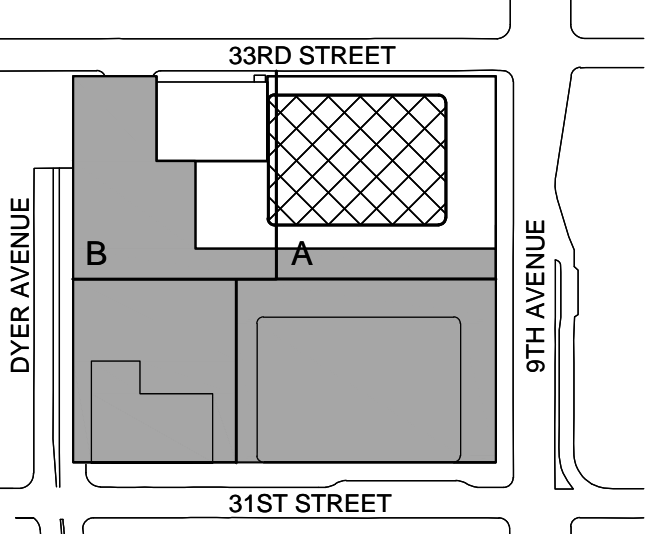
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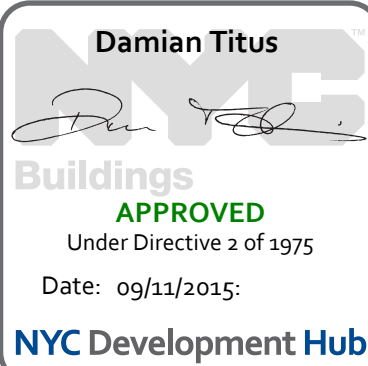
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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 31
FLOOR PLAN**

Project No.:
14500.0.000

Date:
19 DEC 2014

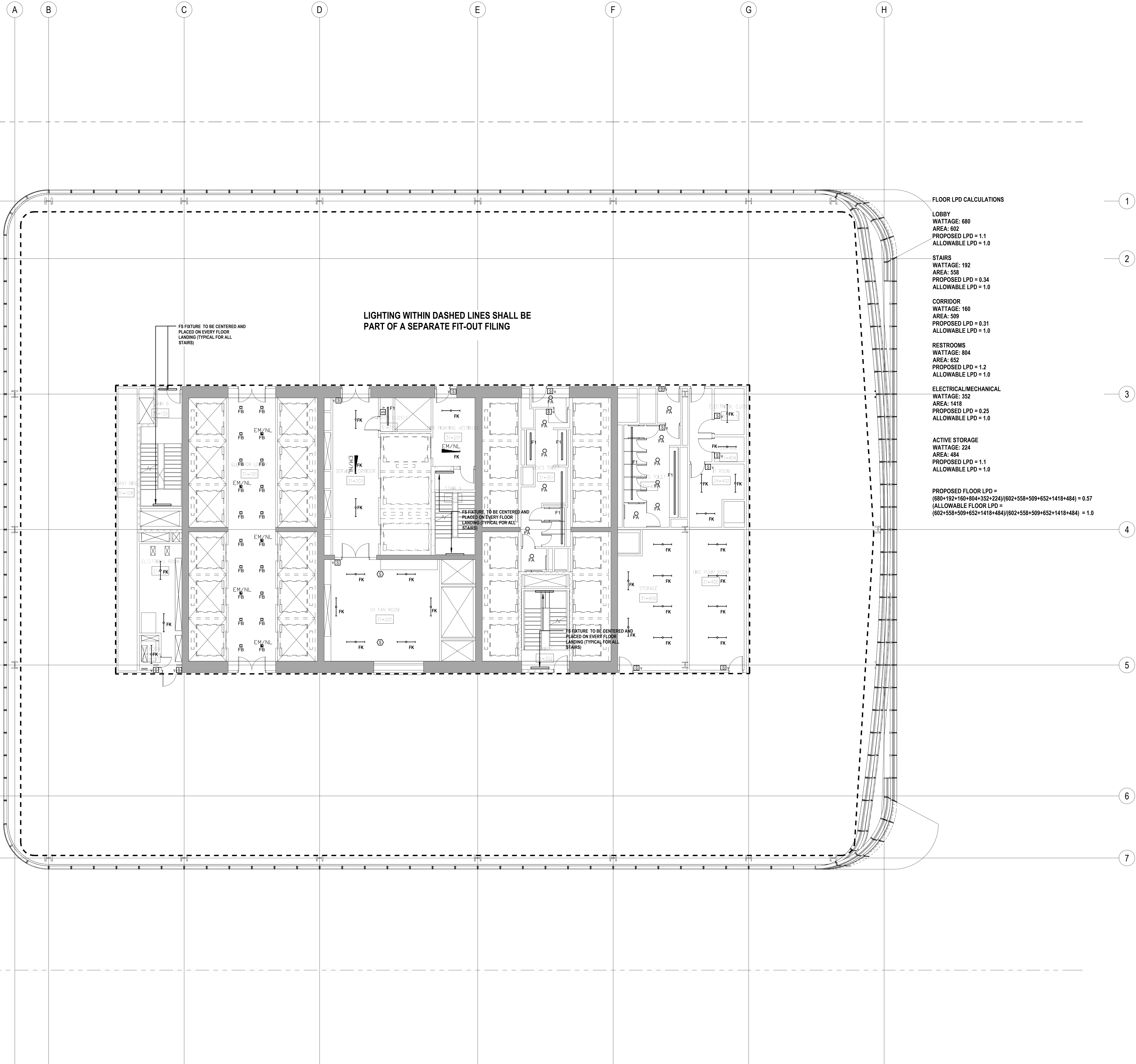
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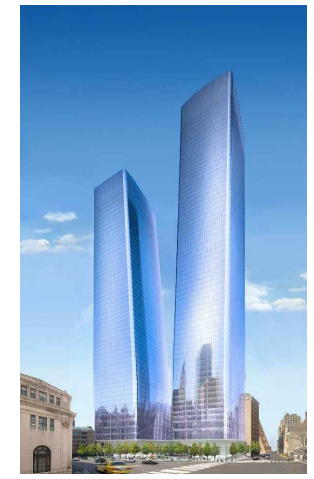
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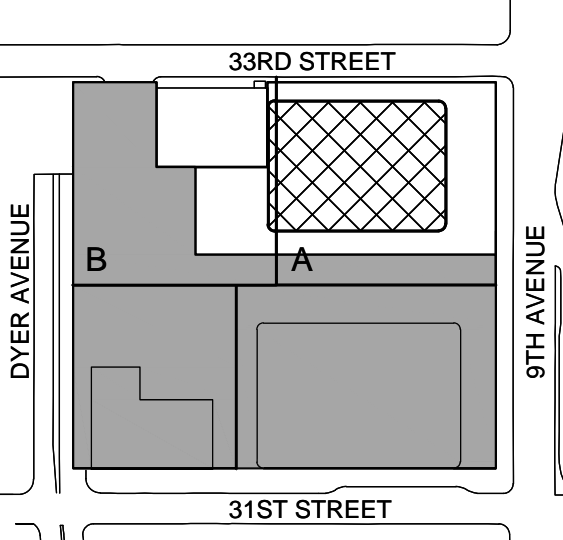
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



SHEET NOTES

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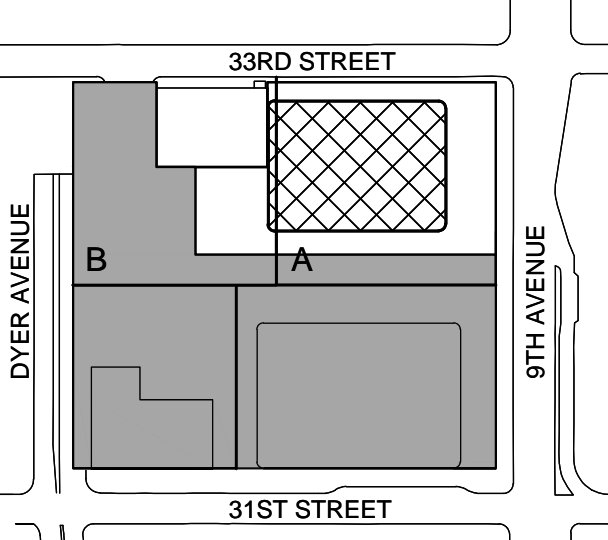
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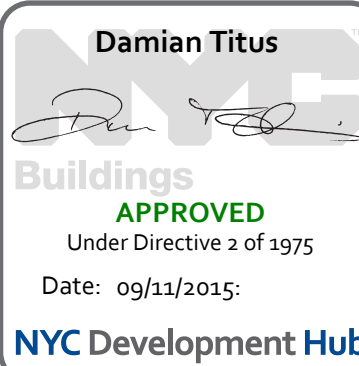
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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 33-38
FLOOR PLAN**

Project No.:
14830.A.000

Date:
19 DEC 2014

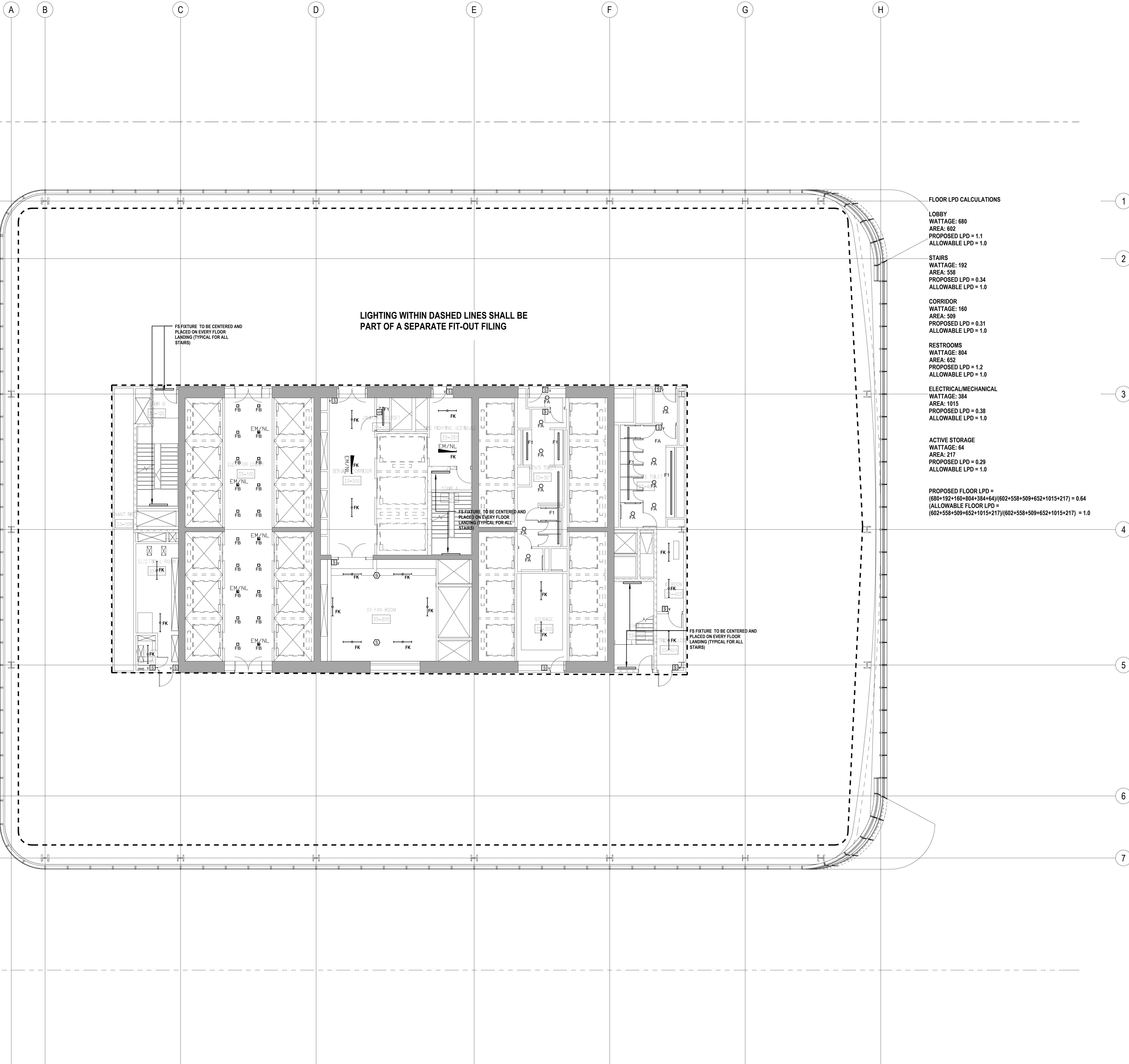
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File No.:

Sheet No.:

EN-117.00

Page No.:



FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 680
AREA: 802
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

STAIRS
WATTAGE: 192
AREA: 558
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 160
AREA: 509
PROPOSED LPD = 0.31
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 804
AREA: 652
PROPOSED LPD = 1.2
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 384
AREA: 1015
PROPOSED LPD = 0.38
ALLOWABLE LPD = 1.0

ACTIVE STORAGE
WATTAGE: 64
AREA: 217
PROPOSED LPD = 0.29
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(680+192+160+804+384+64)/(602+558+509+652+1015+217) = 0.64
(ALLOWABLE FLOOR LPD =
(602+558+509+652+1015+217)/(602+558+509+652+1015+217) = 1.0

LIGHTING WITHIN DASHED LINES SHALL BE
PART OF A SEPARATE FIT-OUT FILING

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
STAIRS)

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
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LANDING (TYPICAL FOR ALL
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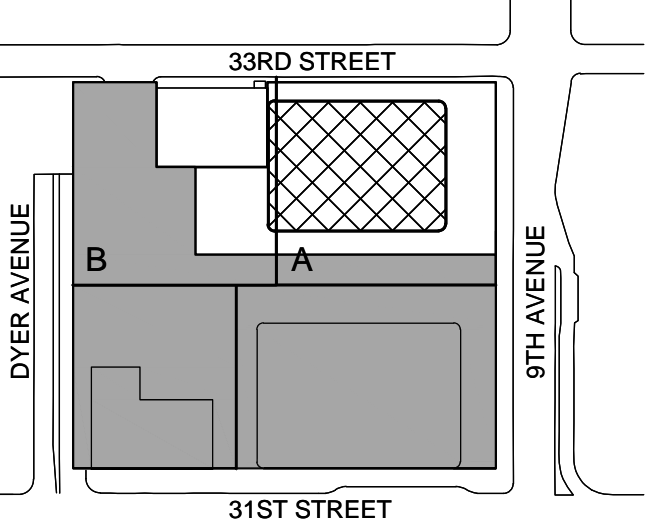
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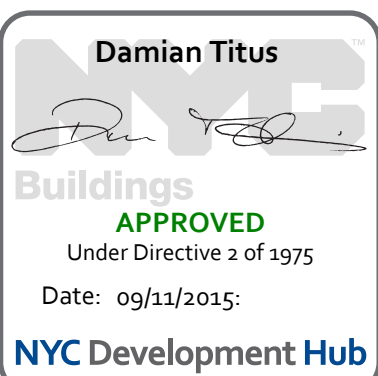
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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 39
FLOOR PLAN**

Project No.: 14030.A.000

Date: 19 DEC 2014

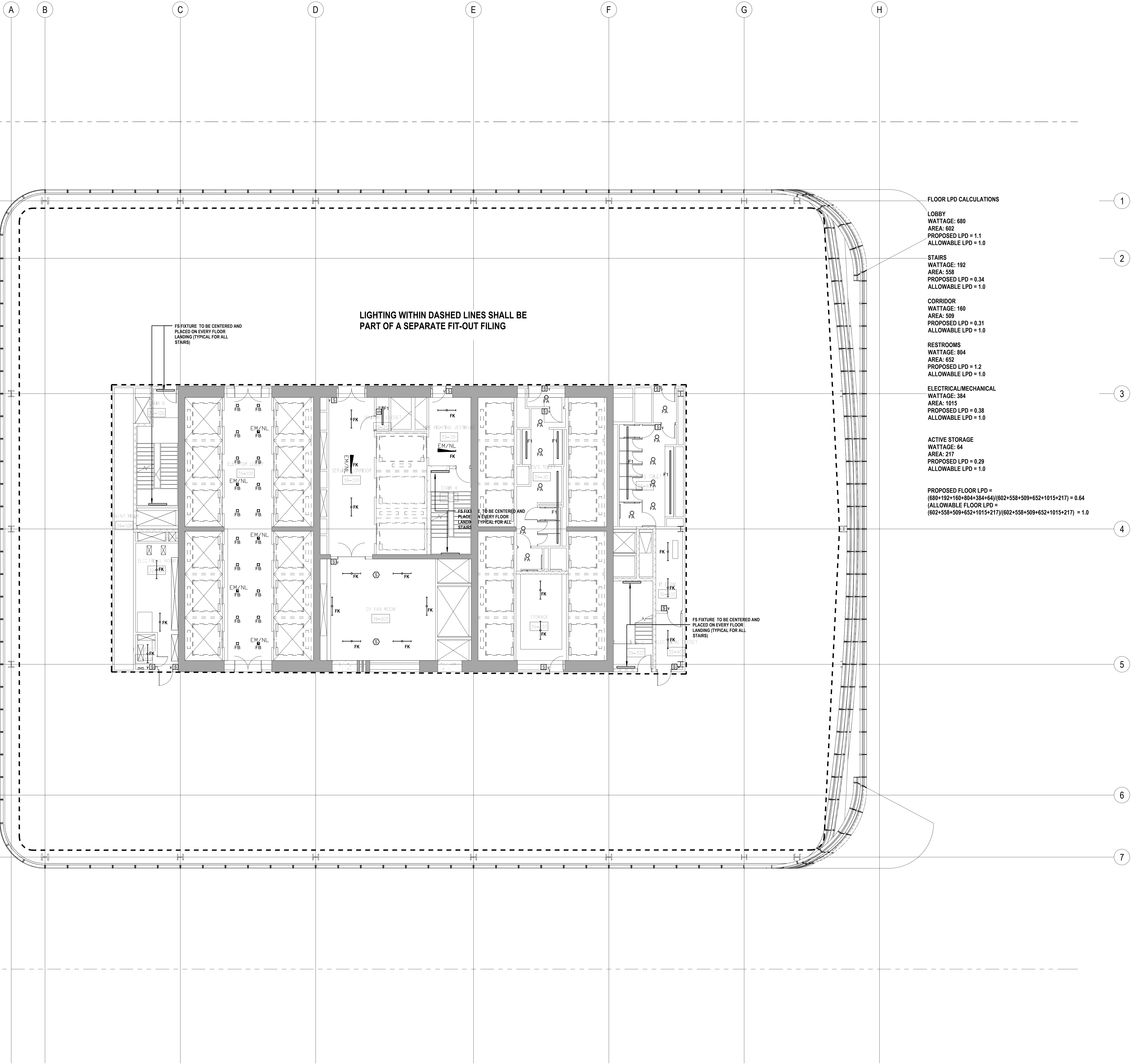
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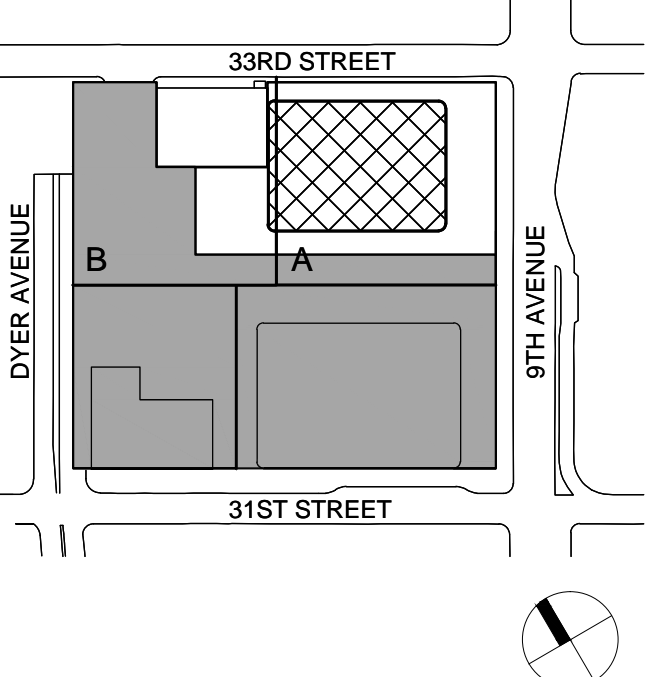
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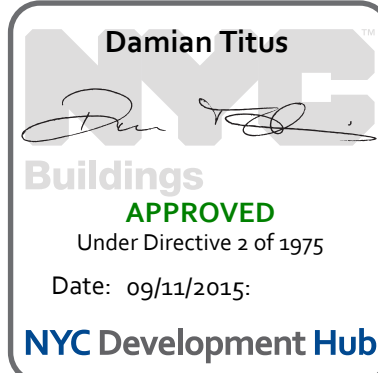
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NYC EC
COMPLIANCE
LIGHTING
LEVEL 40-41
FLOOR PLAN

Project No.: 14830.A.000

Date: 19 DEC 2014

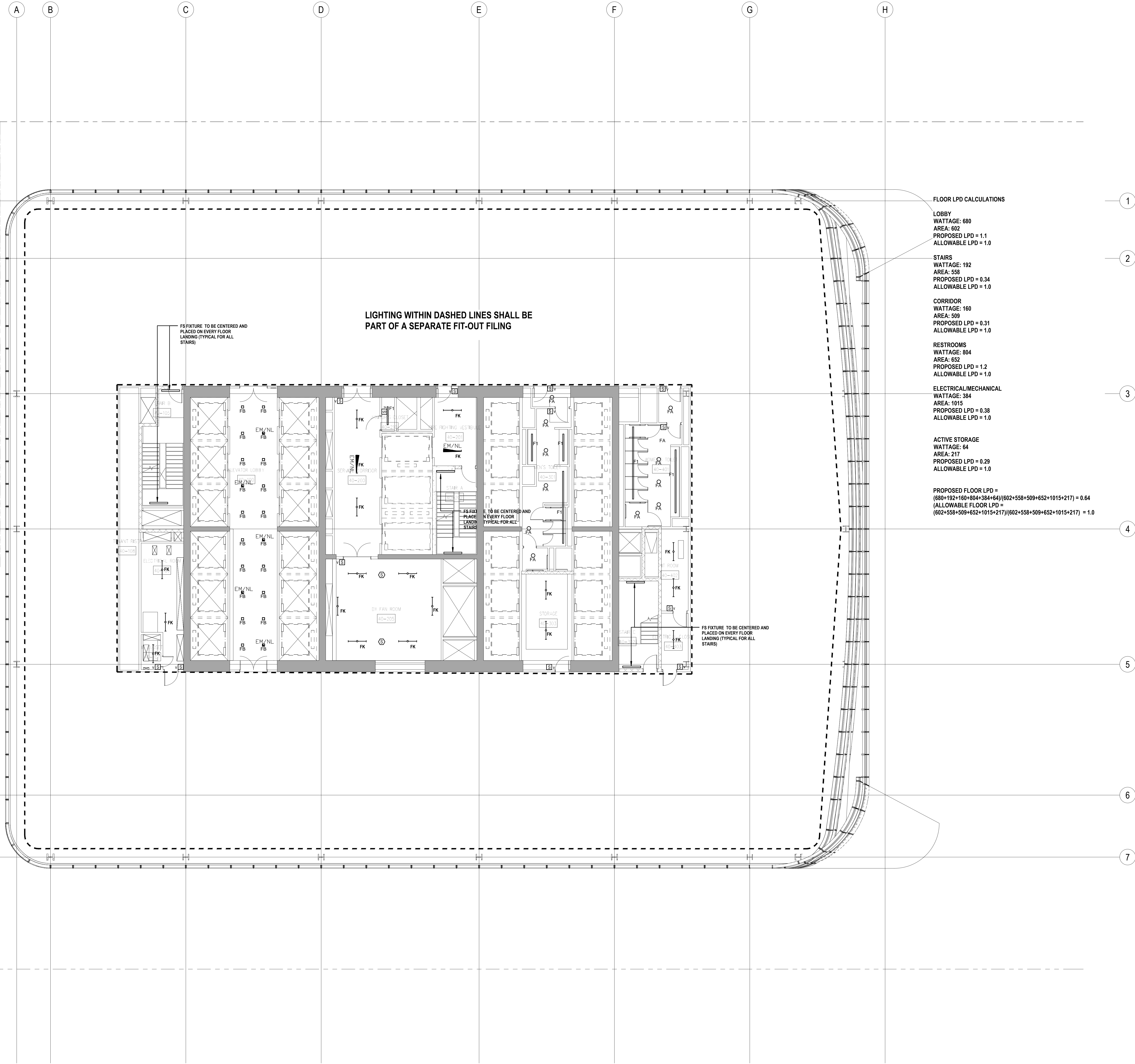
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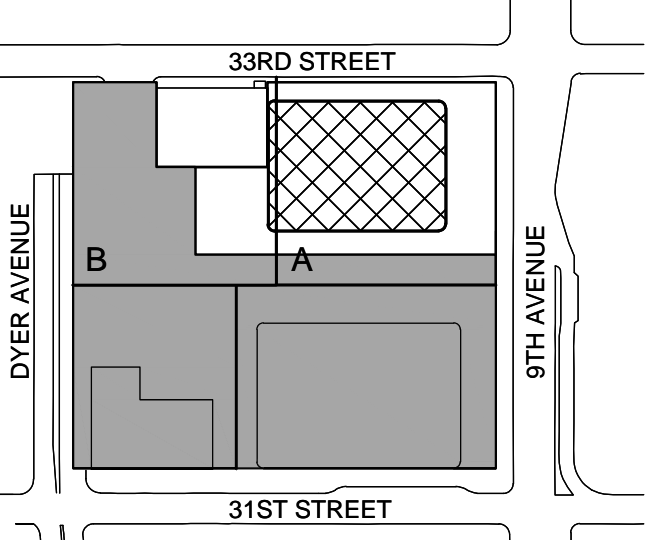
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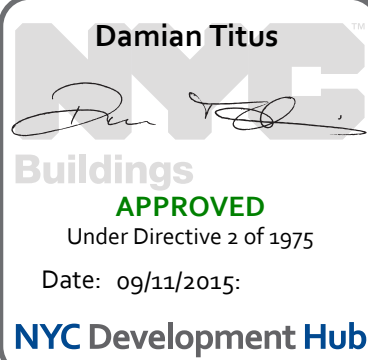


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NYC EC
COMPLIANCE
LIGHTING
LEVEL 42
FLOOR PLAN

Project No.:

Date:

Scale:

File No.:

Sheet No.:

Date:

Scale:

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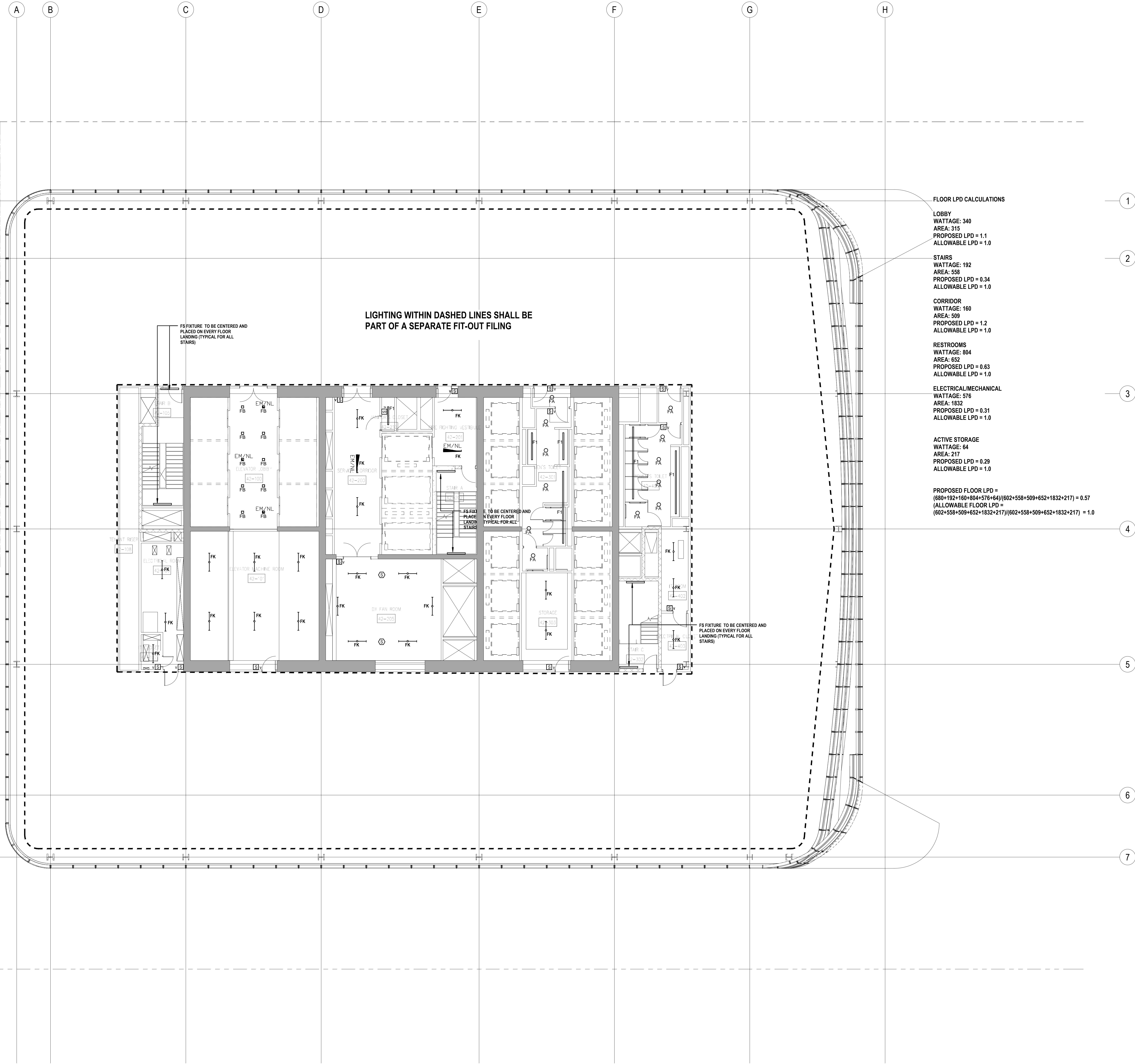
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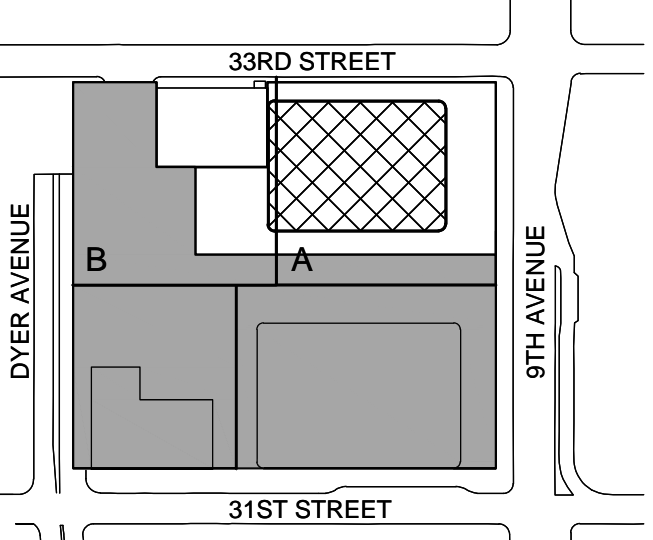
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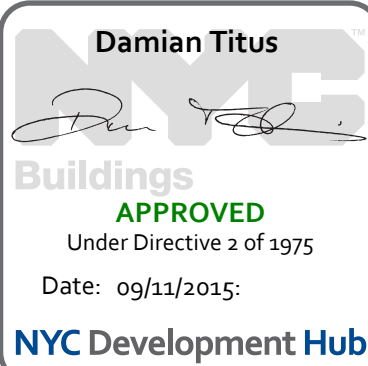
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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 43-48
FLOOR PLAN**

Project No.: 14200.A.000

Date: 19 DEC 2014

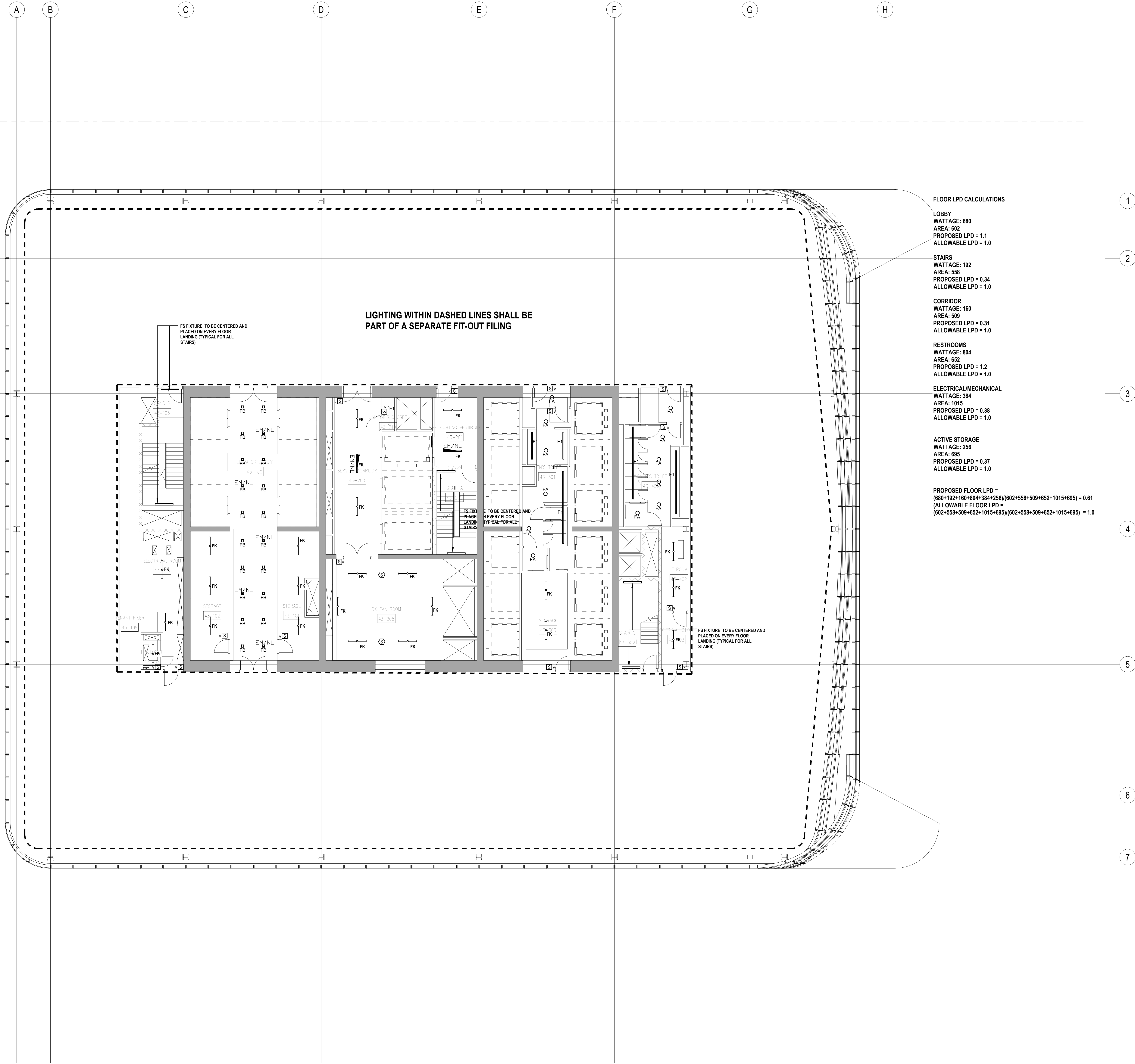
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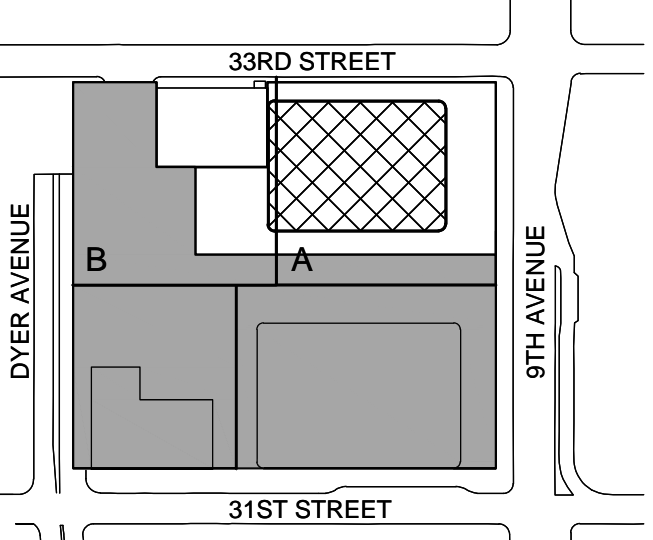
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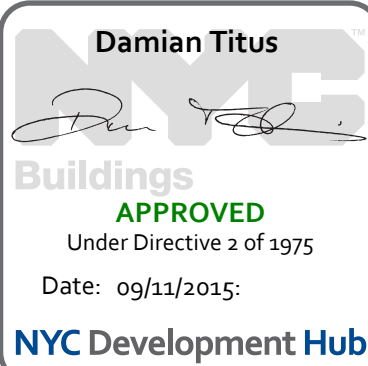
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**NYC EC
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LIGHTING
LEVEL 49
FLOOR PLAN**

Project No.: 14830-A-000

Date: 19 DEC 2014

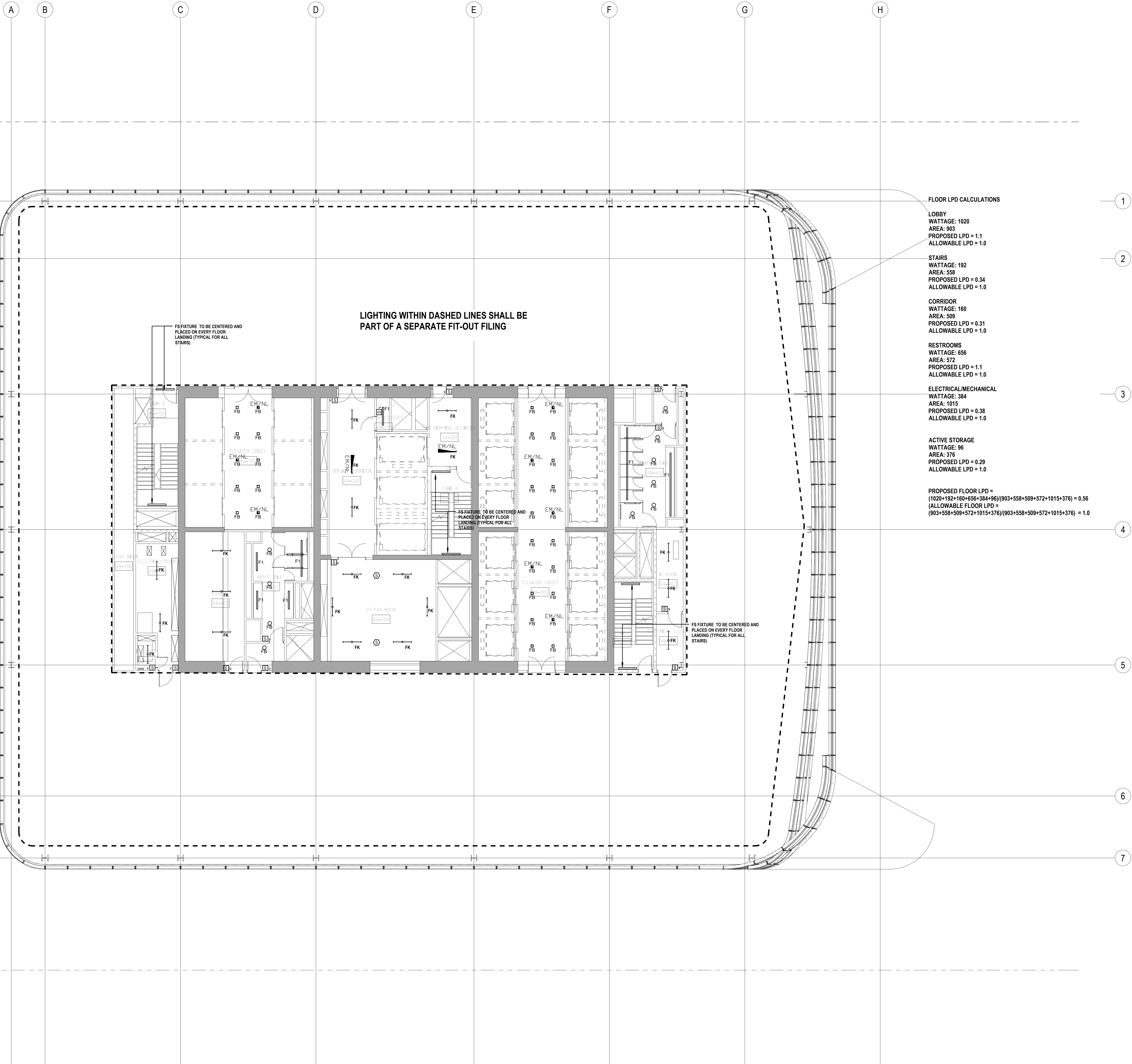
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File No.:

Sheet No.:

EN-122.00

Page No.:



FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 1020
AREA: 903
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

STAIRS
WATTAGE: 192
AREA: 558
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 160
AREA: 509
PROPOSED LPD = 0.31
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 656
AREA: 572
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 384
AREA: 1015
PROPOSED LPD = 0.38
ALLOWABLE LPD = 1.0

ACTIVE STORAGE
WATTAGE: 96
AREA: 376
PROPOSED LPD = 0.29
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(1020+192+160+656+384+96)/(903+558+509+572+1015+376) = 0.56
ALLOWABLE FLOOR LPD =
(903+558+509+572+1015+376)/(903+558+509+572+1015+376) = 1.0

LIGHTING WITHIN DASHED LINES SHALL BE
PART OF A SEPARATE FIT-OUT FILING

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
STAIRS)

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
STAIRS)

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
STAIRS)

PROFESSIONAL'S STATEMENT

TO THE BEST OF OUR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE.

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SHEET NOTES

ENERGY ANALYSIS NOTES:

1. THE SCOPE OF WORK INDICATED IS BASED ON A PERFORMANCE BASED ENERGY ANALYSIS TO CONFIRM COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC).

2. REFER TO SHEET EN-200 FOR BUILDING ASSEMBLY DESCRIPTIONS, DETAILS, AND PERFORMANCE CRITERIA.

3. REFER TO PERFORMANCE BASED ENERGY ANALYSIS TITLED "ENERGY MODELING OF THE MANHATTAN WEST NORTH TOWER" FOR OUTPUT REPORTS OF THE ASSEMBLIES ON SHEET EN-200.

4. THE LIGHTING WITHIN THE TENANT OFFICE SPACE IS NOT PART OF THE CORE AND SHELL SCOPE OF WORK. A SEPARATE FIT-OUT IS REQUIRED FROM EACH TENANT WHICH PROVES INDIVIDUAL COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC).



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client

Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering

SOM

Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation

Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave. Suite 1, Mill Valley, California 94041

Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

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14 Penn Plaza, 225 W. 34th Street #610,
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Landscape Consultant

Field Operations
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Ducibella, Vantor & Santore
250 State Street #F1, North Haven, CT 06473

Blast Consultant

Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10005

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

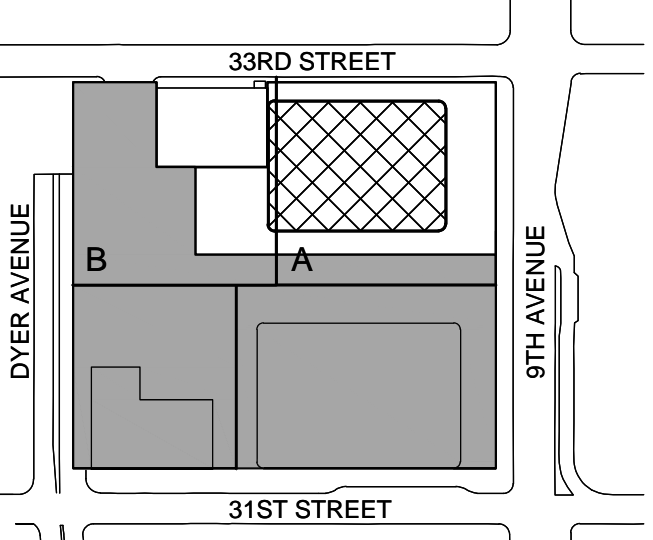
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

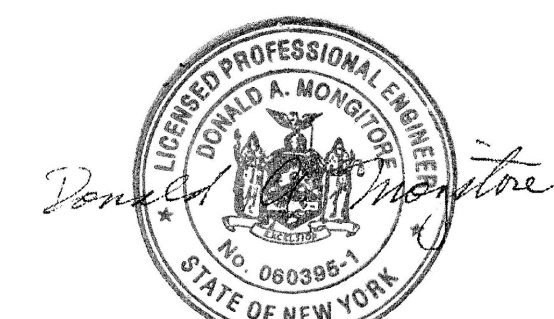
Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

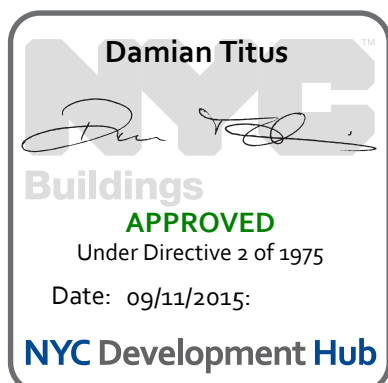
Key Plan:



Seal & Signature:



2 30 JAN 2015 ISSUED FOR BUILDING PERMIT
1 12 SEPT 2014 ISSUED FOR FOUNDATION PERMIT
No. Date Description
Sheet Name:



**NYC EC
COMPLIANCE
LIGHTING
LEVEL 50-51
FLOOR PLAN**

Project No.: 14200.A.000

Date: 19 DEC 2014

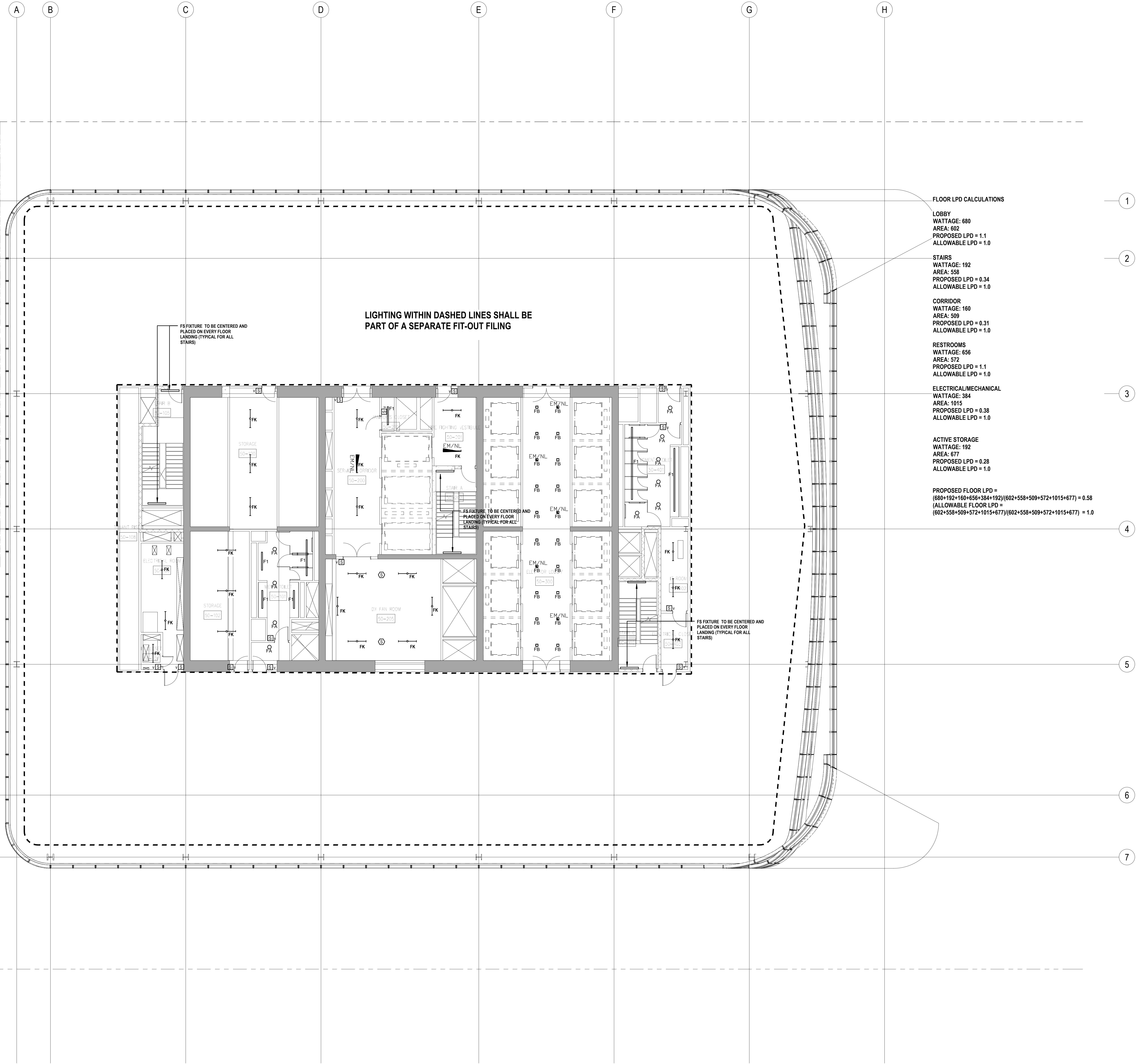
Scale: N.T.S.

File No.:

Sheet No.:

EN-123.00

Page No.:



FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 680
AREA: 802
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

STAIRS
WATTAGE: 192
AREA: 558
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 160
AREA: 509
PROPOSED LPD = 0.31
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 656
AREA: 572
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 384
AREA: 1015
PROPOSED LPD = 0.38
ALLOWABLE LPD = 1.0

ACTIVE STORAGE
WATTAGE: 192
AREA: 677
PROPOSED LPD = 0.28
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(680+192+160+656+384+192)/(602+558+509+572+1015+677) = 0.58
ALLOWABLE FLOOR LPD =
(602+558+509+572+1015+677)/(602+558+509+572+1015+677) = 1.0

LIGHTING WITHIN DASHED LINES SHALL BE
PART OF A SEPARATE FIT-OUT FILING

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
STAIRS)

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
STAIRS)

FS FIXTURE TO BE CENTERED AND
PLACED ON EVERY FLOOR
LANDING (TYPICAL FOR ALL
STAIRS)

PROFESSIONAL'S STATEMENT

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SHEET NOTES

ENERGY ANALYSIS NOTES:

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65 Broadway, Suite 401, New York, NY 10005

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215 West 40th Street, 15th Floor, New York, NY 10018

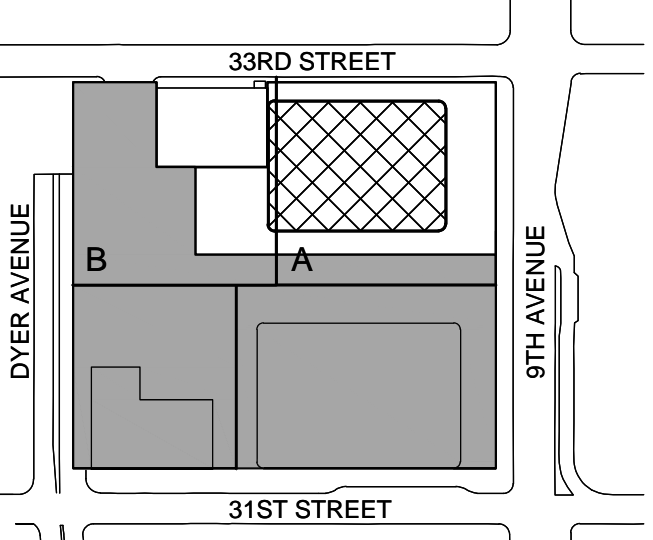
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

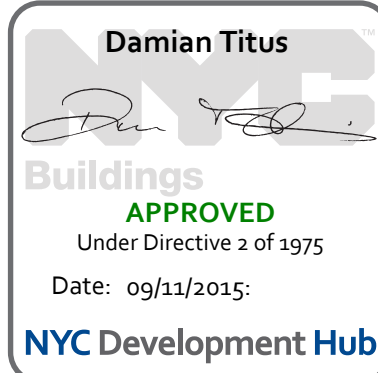


Seal & Signature:



| No. | Date | Description |
|-----|--------------|------------------------------|
| 2 | 30 JAN 2015 | ISSUED FOR BUILDING PERMIT |
| 1 | 12 SEPT 2014 | ISSUED FOR FOUNDATION PERMIT |

Sheet Name:



**NYC EC
COMPLIANCE
LIGHTING
LEVEL 52
FLOOR PLAN**

Project No.:

Date:

Scale:

File No.:

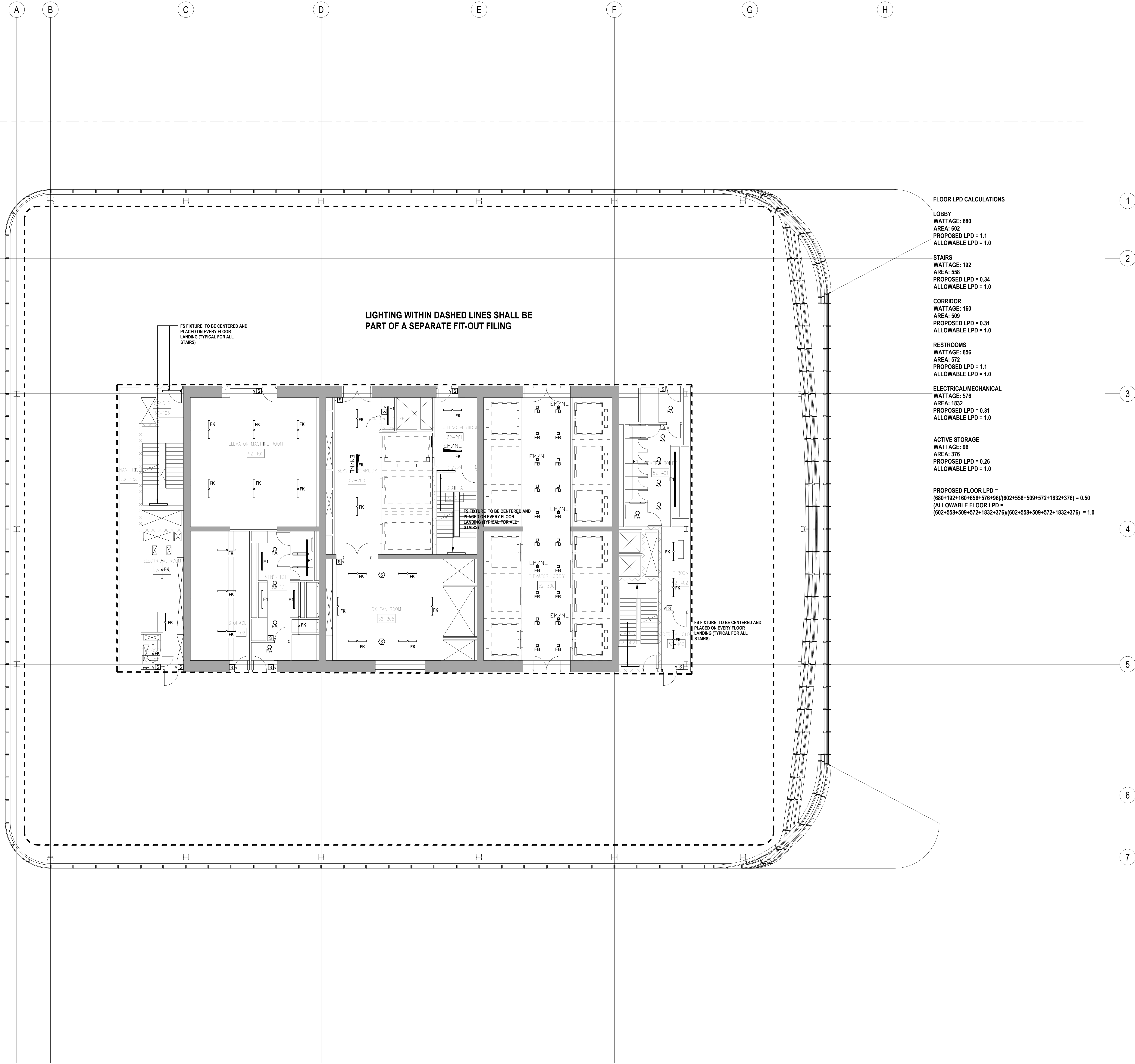
Sheet No.:

Date:

Scale:

Page No.:

EN-124.00



FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 680
AREA: 602
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

STAIRS
WATTAGE: 192
AREA: 558
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 160
AREA: 509
PROPOSED LPD = 0.31
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 656
AREA: 572
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 576
AREA: 1832
PROPOSED LPD = 0.31
ALLOWABLE LPD = 1.0

ACTIVE STORAGE
WATTAGE: 96
AREA: 376
PROPOSED LPD = 0.26
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(680+192+160+656+576+96)/(602+558+509+572+1832+376) = 0.50
ALLOWABLE FLOOR LPD =
(602+558+509+572+1832+376)/(602+558+509+572+1832+376) = 1.0

PROFESSIONAL'S STATEMENT

TO THE BEST OF OUR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE.

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SHEET NOTES

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65 Broadway, Suite 401, New York, NY 10005

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215 West 40th Street, 15th Floor, New York, NY 10018

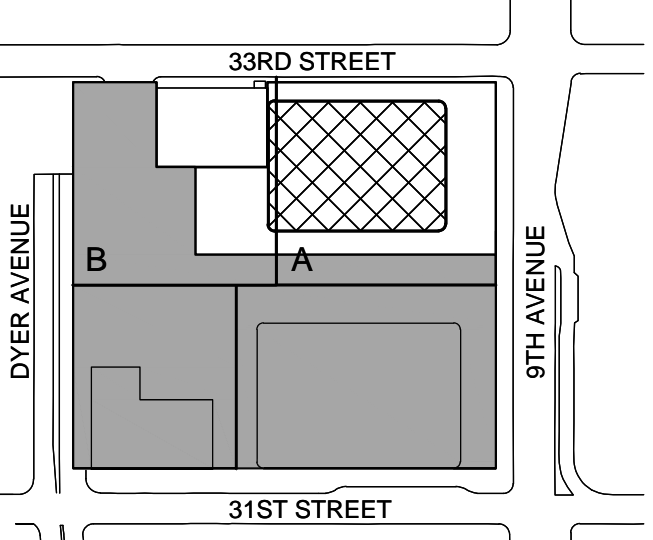
Facade Maintenance Consultant

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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

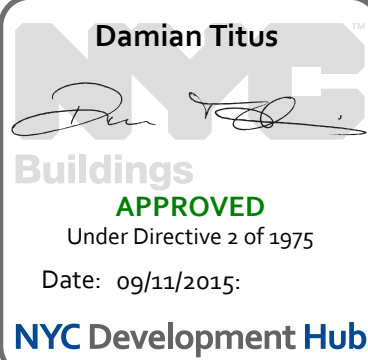


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| No. | Date | Description |
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| 2 | 30 JAN 2015 | ISSUED FOR BUILDING PERMIT |
| 1 | 12 SEPT 2014 | ISSUED FOR FOUNDATION PERMIT |

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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 53
FLOOR PLAN**

Project No.:

14500.A.000

Date:

19 DEC 2014

Scale:

N.T.S.

File No.:

Sheet No.:

EN-125.00

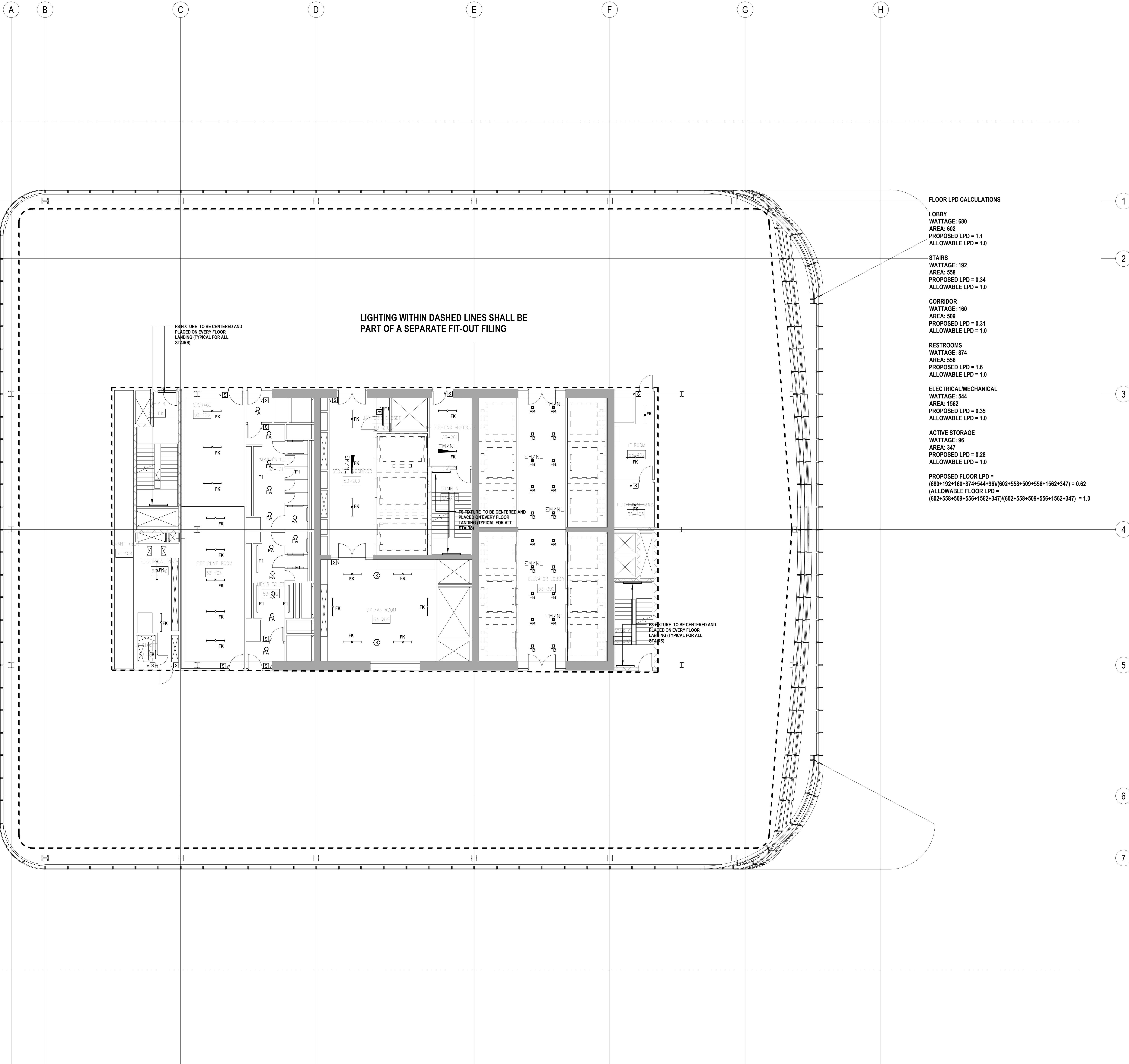
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SHEET NOTES

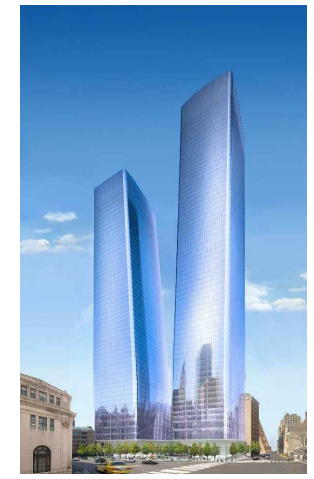
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MANHATTAN WEST:
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Brookfield
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Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

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Philip Habib & Associates
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Eggett Williams Consulting Group, Inc.
102 East Bithedale Ave. Suite 1, Mill Valley, California 94041

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Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

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14 Penn Plaza, 225 W. 34th Street #610,
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404 Fifth Avenue #8, New York, NY 10018

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65 Broadway, Suite 401, New York, NY 10005

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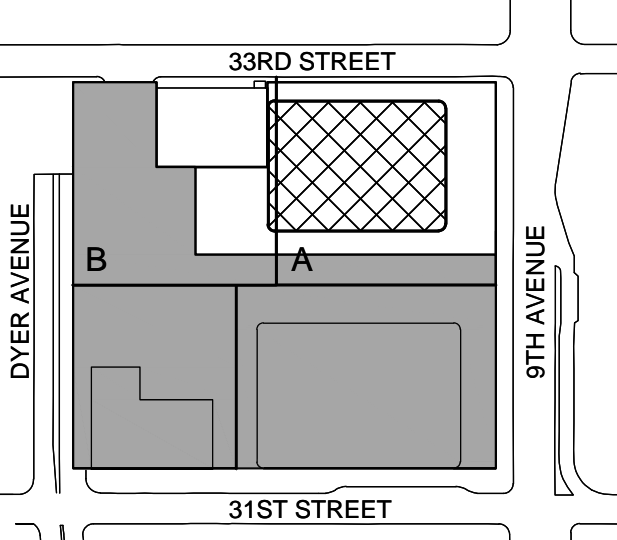
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

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650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

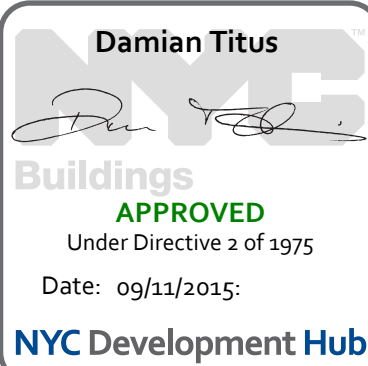
Key Plan:



Seal & Signature:



2 30 JAN 2015 ISSUED FOR BUILDING PERMIT
1 12 SEPT 2014 ISSUED FOR FOUNDATION PERMIT
No. Date Description
Sheet Name:



**NYC EC
COMPLIANCE
LIGHTING
LEVEL 54
FLOOR PLAN**

Project No.:

Date:

Scale:

File No.:

Sheet No.:

Date:

Scale:

Page No.:

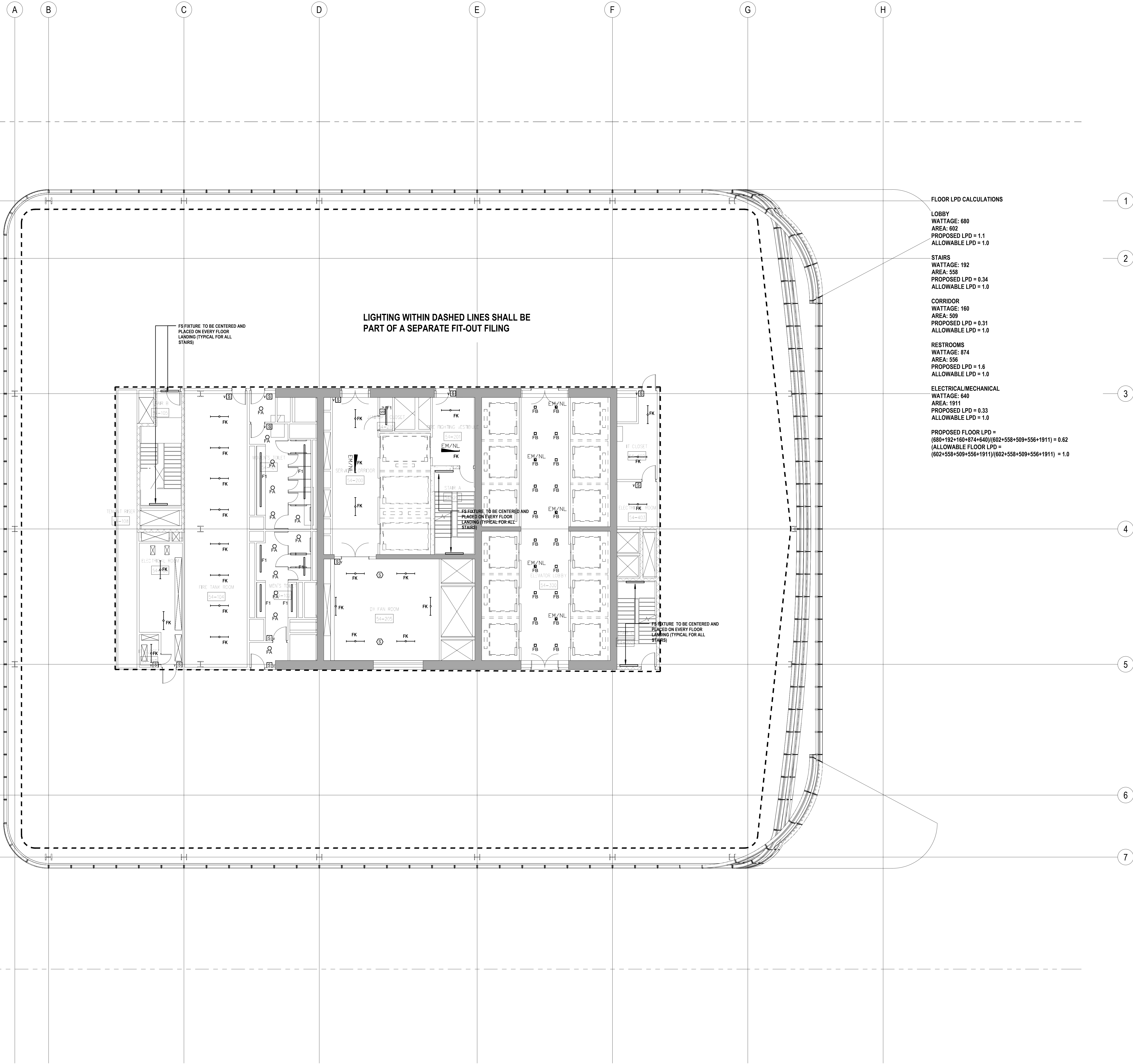
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PROFESSIONAL'S STATEMENT

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SHEET NOTES

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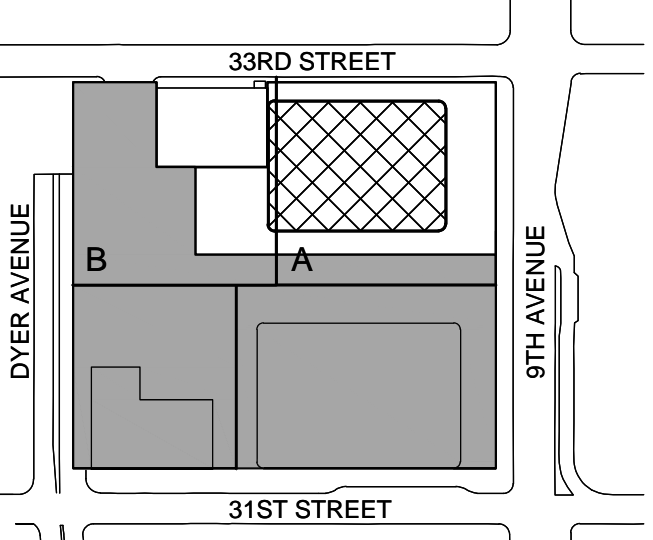
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650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

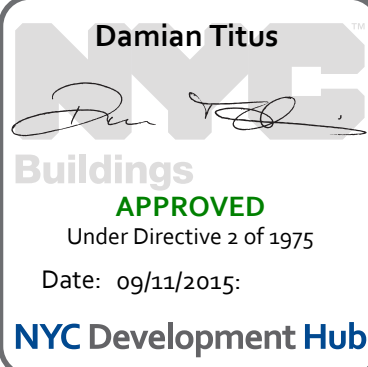


Seal & Signature:



| No. | Date | Description |
|-----|--------------|------------------------------|
| 2 | 30 JAN 2015 | ISSUED FOR BUILDING PERMIT |
| 1 | 12 SEPT 2014 | ISSUED FOR FOUNDATION PERMIT |

Sheet Name:



**NYC EC
COMPLIANCE
LIGHTING
LEVEL 55
FLOOR PLAN**

Project No.:

Date:

Scale:

File No.:

Sheet No.:

Date:

Scale:

Page No.:

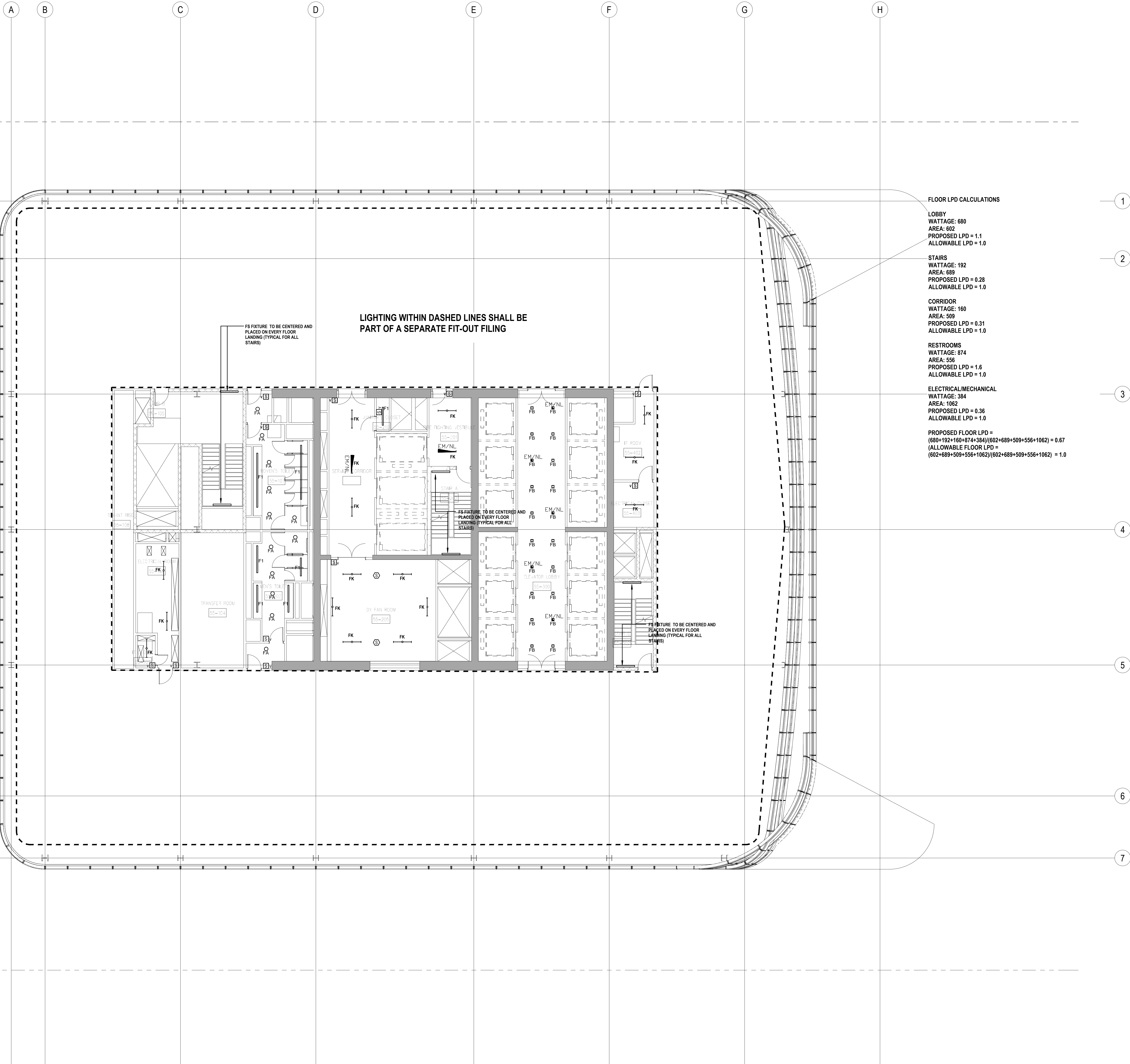
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PROFESSIONAL'S STATEMENT

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FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 680
AREA: 602
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

STAIRS
WATTAGE: 192
AREA: 689
PROPOSED LPD = 0.28
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 160
AREA: 509
PROPOSED LPD = 0.31
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 874
AREA: 556
PROPOSED LPD = 1.6
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 384
AREA: 1062
PROPOSED LPD = 0.36
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(680+192+160+874+384)/(602+689+509+556+1062) = 0.67
ALLOWABLE FLOOR LPD =
(602+689+509+556+1062)/(602+689+509+556+1062) = 1.0

SHEET NOTES

ENERGY ANALYSIS NOTES:

1. THE SCOPE OF WORK INDICATED IS BASED ON A PERFORMANCE BASED ENERGY ANALYSIS TO CONFIRM COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC).

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Code Consultants Professional Engineers PC
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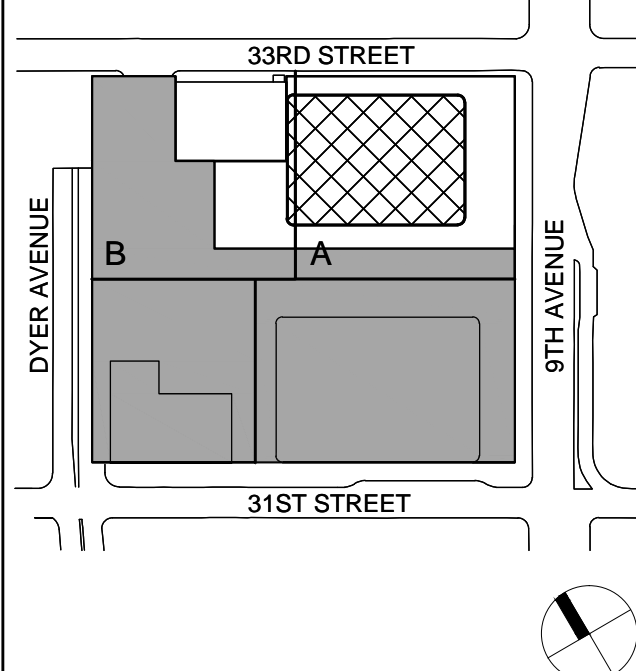
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

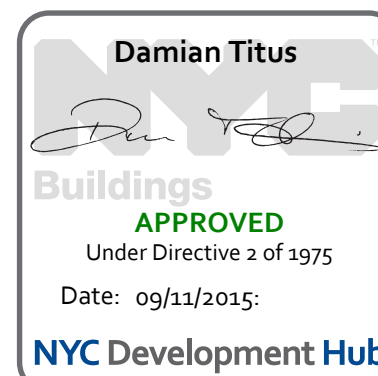


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| 2 | 30 JAN 2015 | ISSUED FOR BUILDING PERMIT |
| 1 | 12 SEPT 2014 | ISSUED FOR FOUNDATION PERMIT |

Sheet Name:



**NYC EC
COMPLIANCE
LIGHTING
LEVEL 56
FLOOR PLAN**

Project No.:

Date:

Scale:

File No.:

Sheet No.:

Date:

Scale:

Page No.:

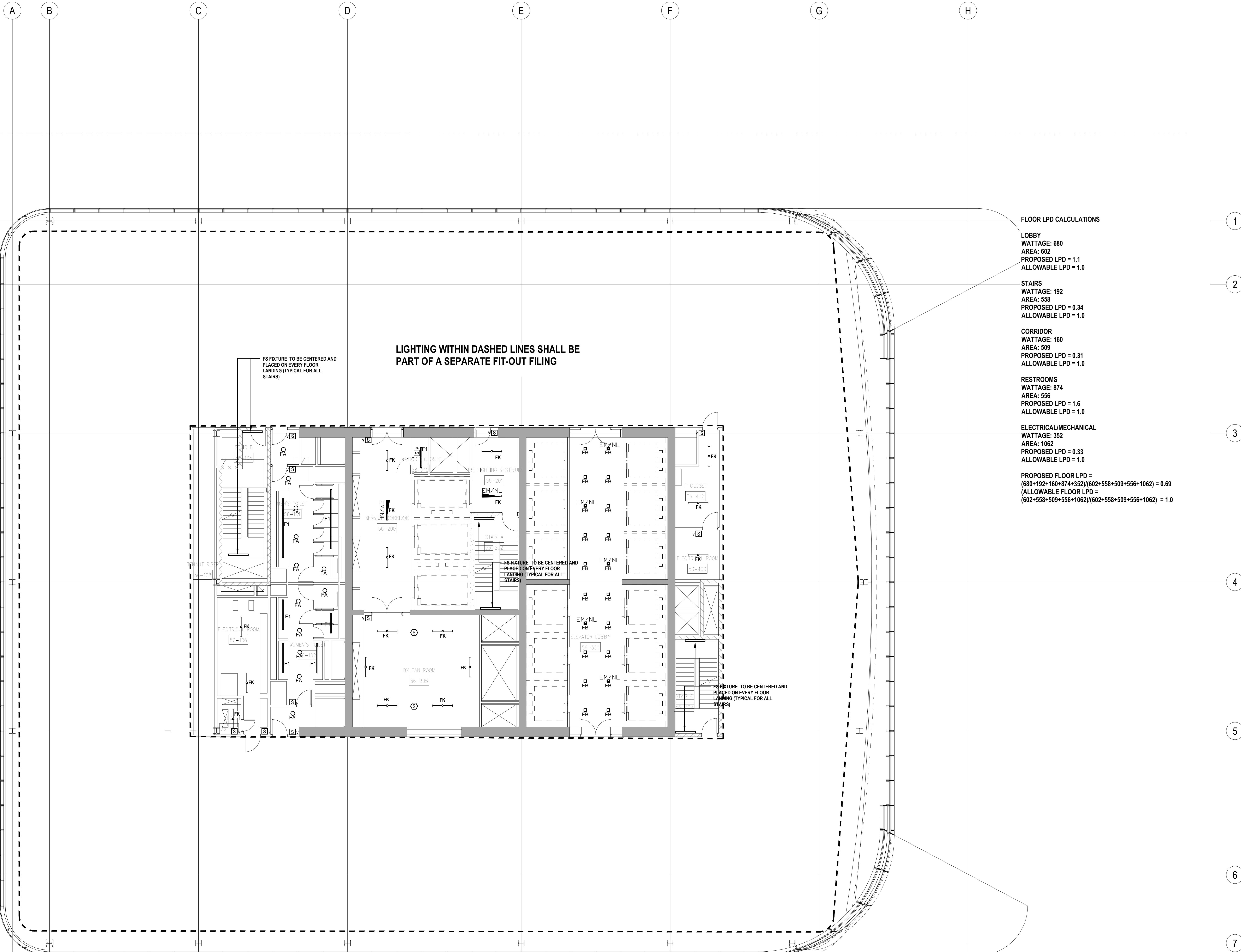
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PROFESSIONAL'S STATEMENT

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SHEET NOTES

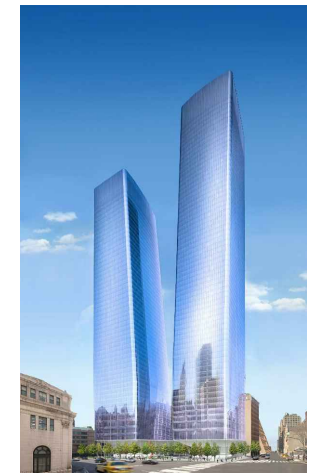
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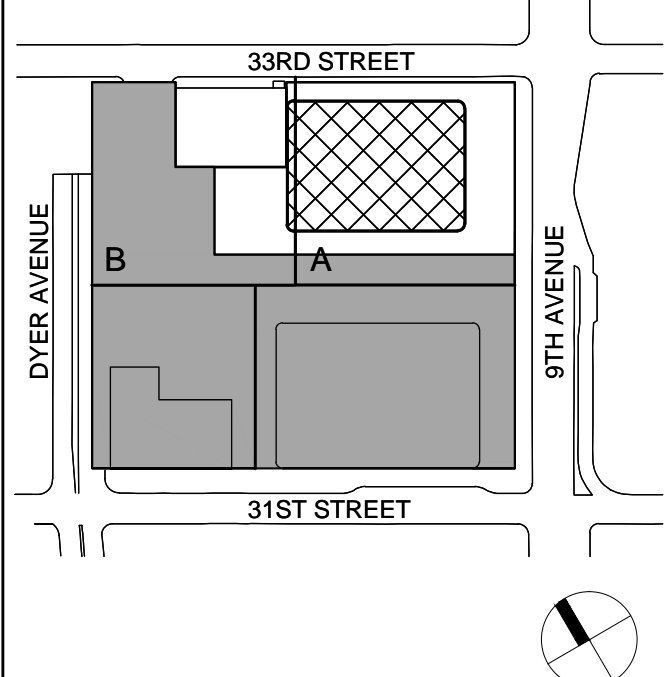
Facade Maintenance Consultant

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166 Ames Street, Hackensack, NJ 07601

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Key Plan:

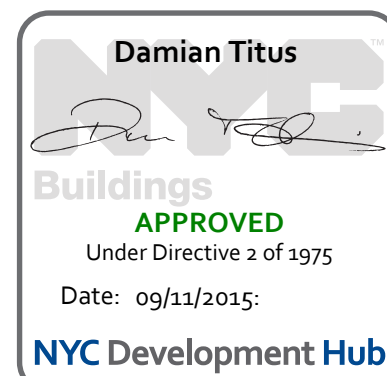


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| 2 | 30 JAN 2015 | ISSUED FOR BUILDING PERMIT |
| 1 | 12 SEPT 2014 | ISSUED FOR FOUNDATION PERMIT |

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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 57-58
FLOOR PLAN**

Project No.: 14200.A.000

Date: 19 DEC 2014

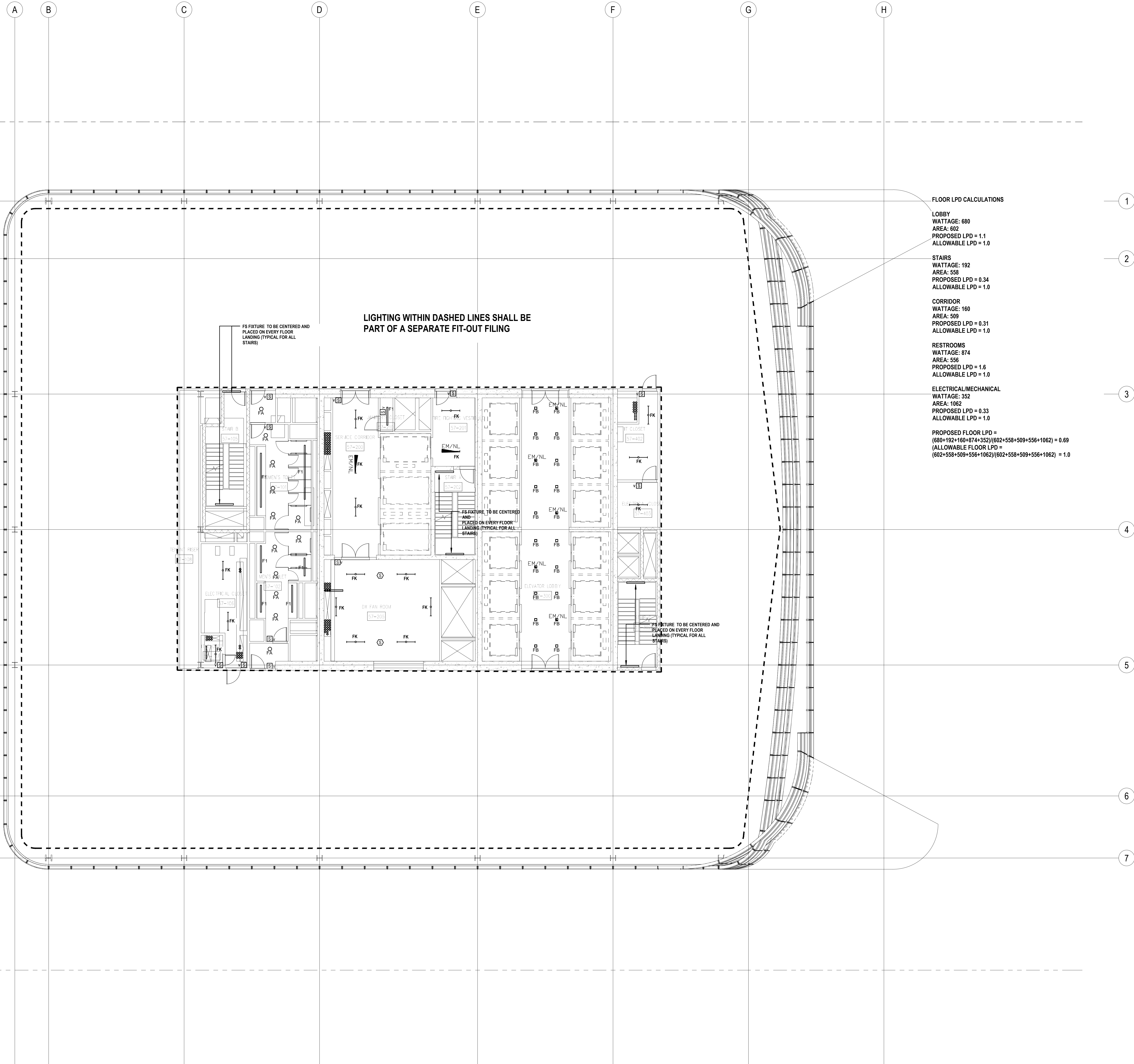
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Sheet No.:

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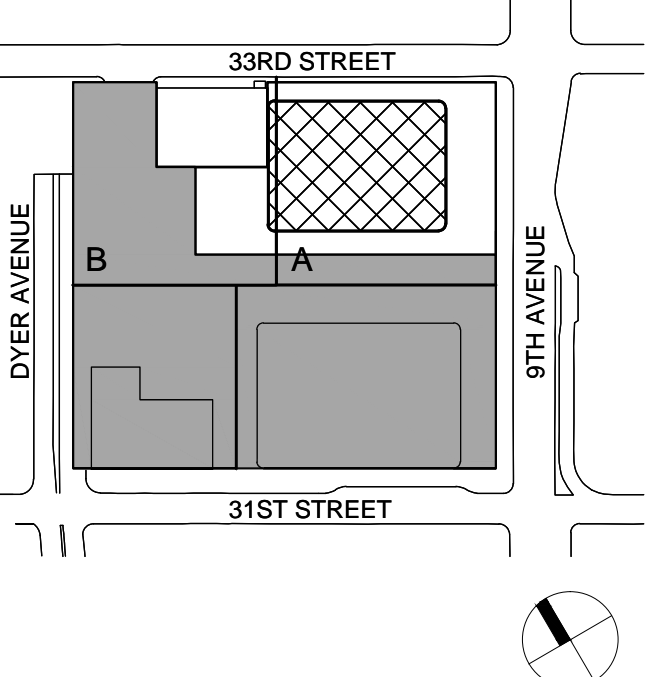
Facade Maintenance Consultant

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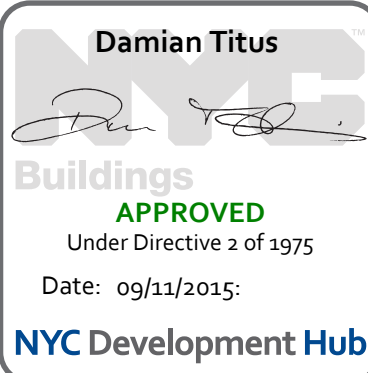
Key Plan:



Seal & Signature:



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1 12 SEPT 2014 ISSUED FOR FOUNDATION PERMIT
No. Date Description
Sheet Name:



**NYC EC
COMPLIANCE
LIGHTING
LEVEL 59
FLOOR PLAN**

Project No.: 14200.A.000

Date: 19 DEC 2014

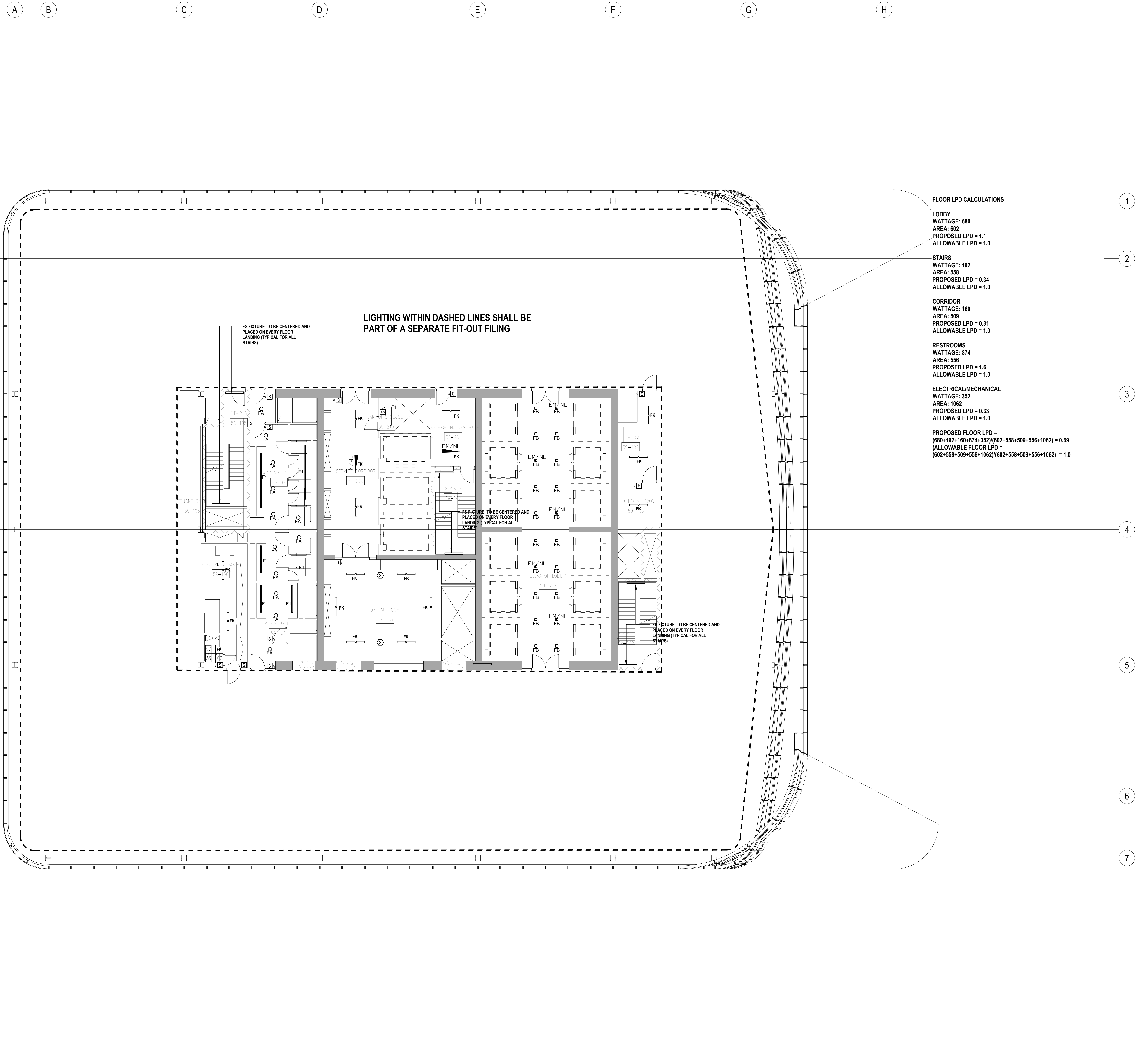
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File No.:

Sheet No.:

EN-130.00

Page No.:



FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 680
AREA: 602
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

STAIRS
WATTAGE: 192
AREA: 558
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 160
AREA: 509
PROPOSED LPD = 0.31
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 874
AREA: 556
PROPOSED LPD = 1.6
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 352
AREA: 1062
PROPOSED LPD = 0.33
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(680+192+160+874+352)/(602+558+509+556+1062) = 0.69
ALLOWABLE FLOOR LPD =
(602+558+509+556+1062)/(602+558+509+556+1062) = 1.0

PROFESSIONAL'S STATEMENT

TO THE BEST OF OUR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE.

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SHEET NOTES

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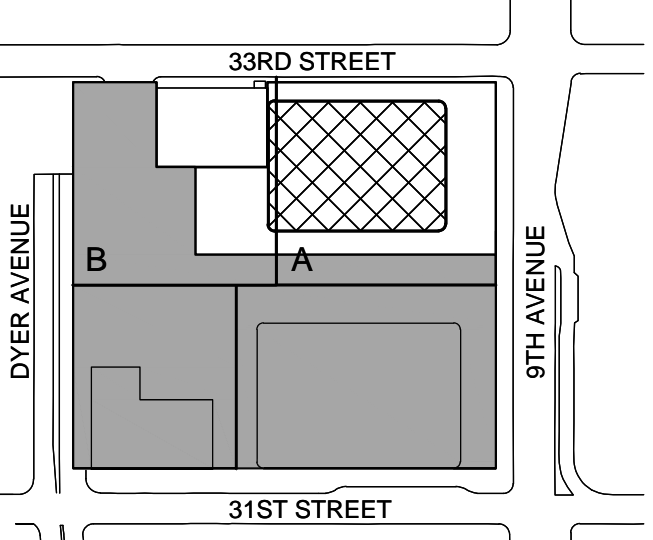
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

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650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

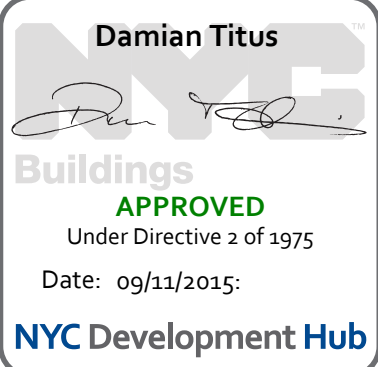


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| 1 | 12 SEPT 2014 | ISSUED FOR FOUNDATION PERMIT |

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NYC EC
COMPLIANCE
LIGHTING
LEVEL 60-61
FLOOR PLAN

Project No.:

14200.A.000

Date:

19 DEC 2014

Scale:

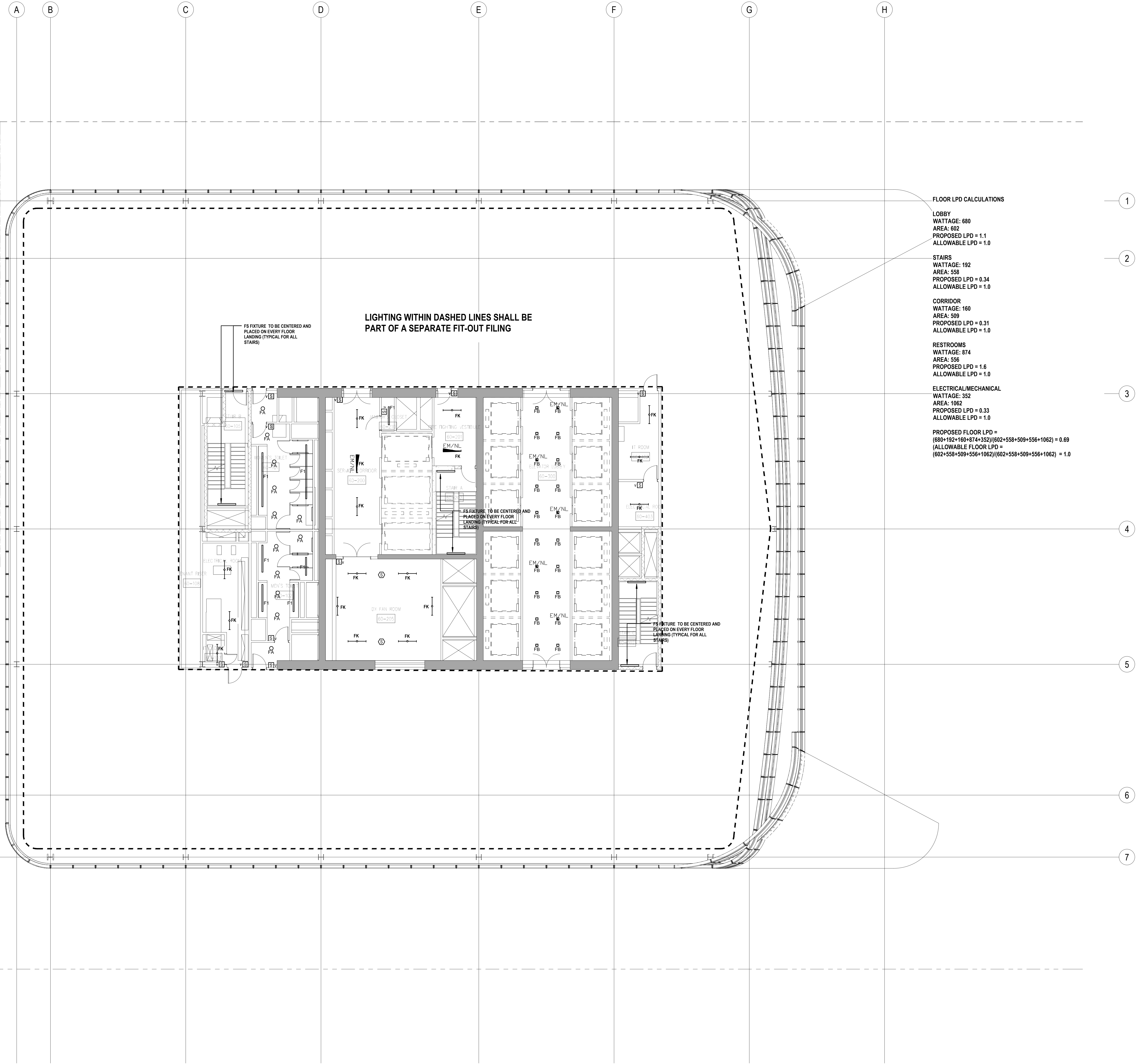
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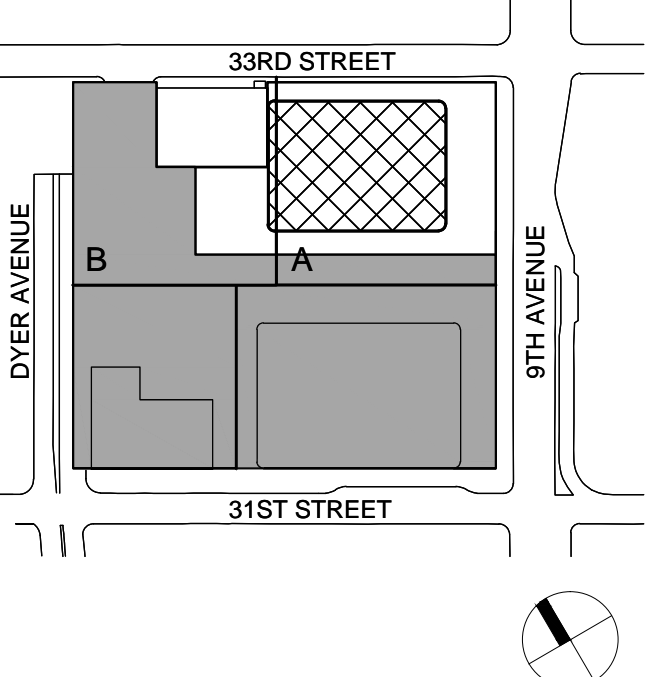
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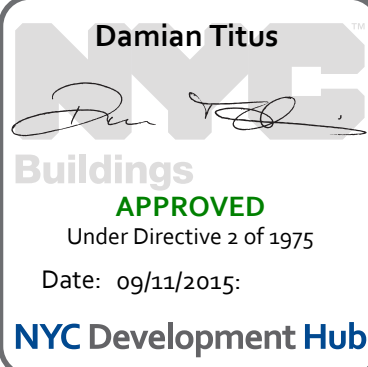


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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 62
FLOOR PLAN**

Project No.:

Date:

Scale:

File No.:

Sheet No.:

Date:

Scale:

Page No.:

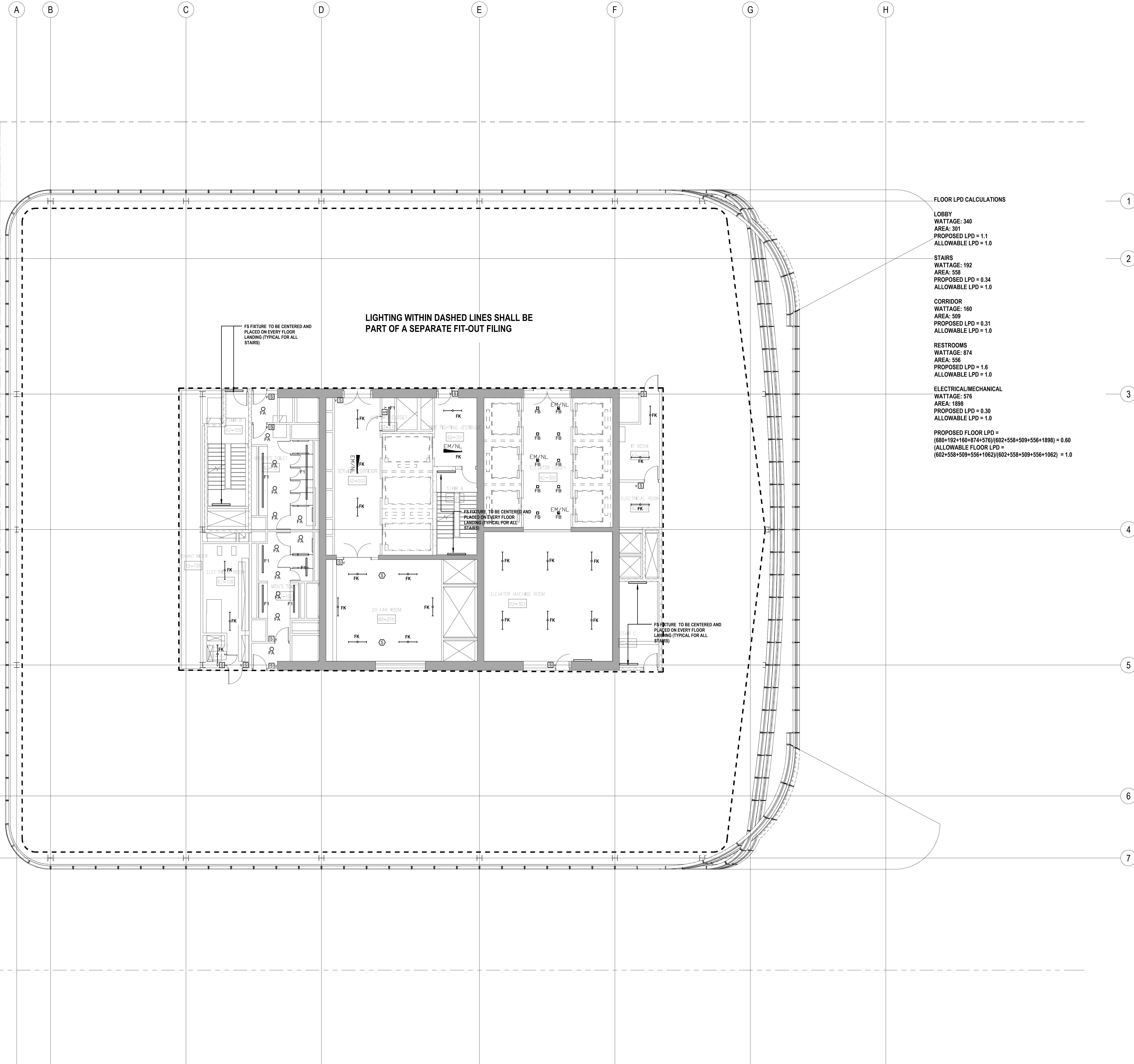
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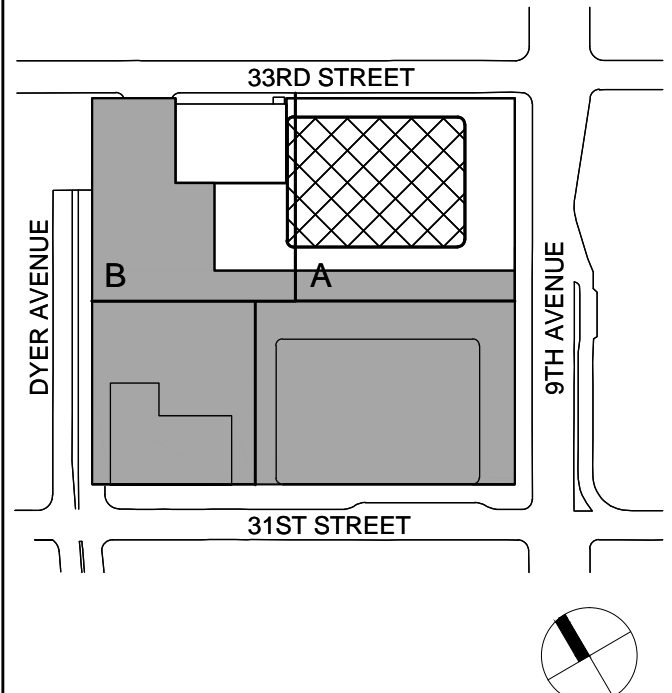
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Key Plan:



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Sustainable Design

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Geo-Technical Engineering

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New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Vantor & Santore
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Blast Consultant

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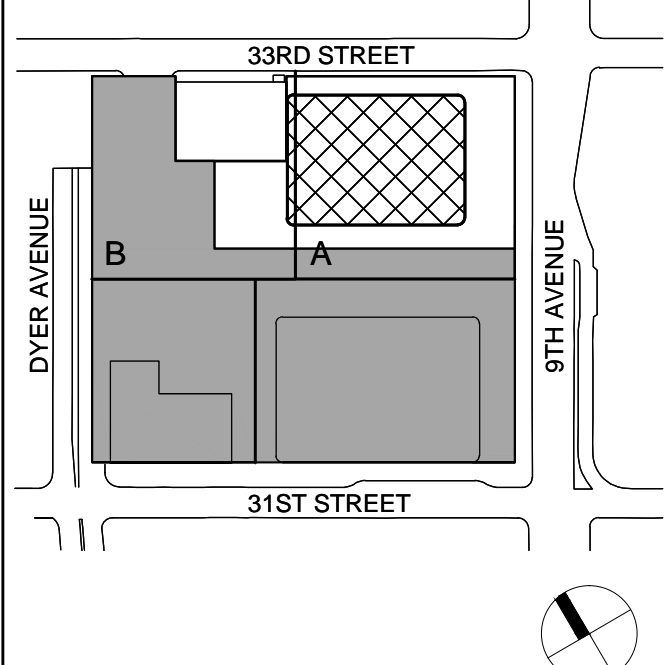
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

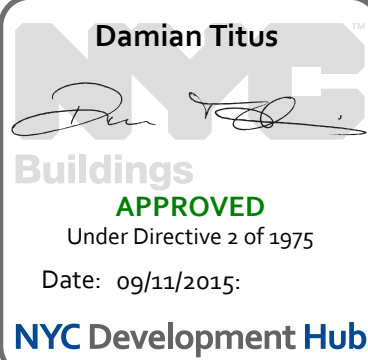


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Sheet Name:



**NYC EC
COMPLIANCE
LIGHTING
LEVEL 64-67
FLOOR PLAN**

Project No.:

Date:

Scale:

File No.:

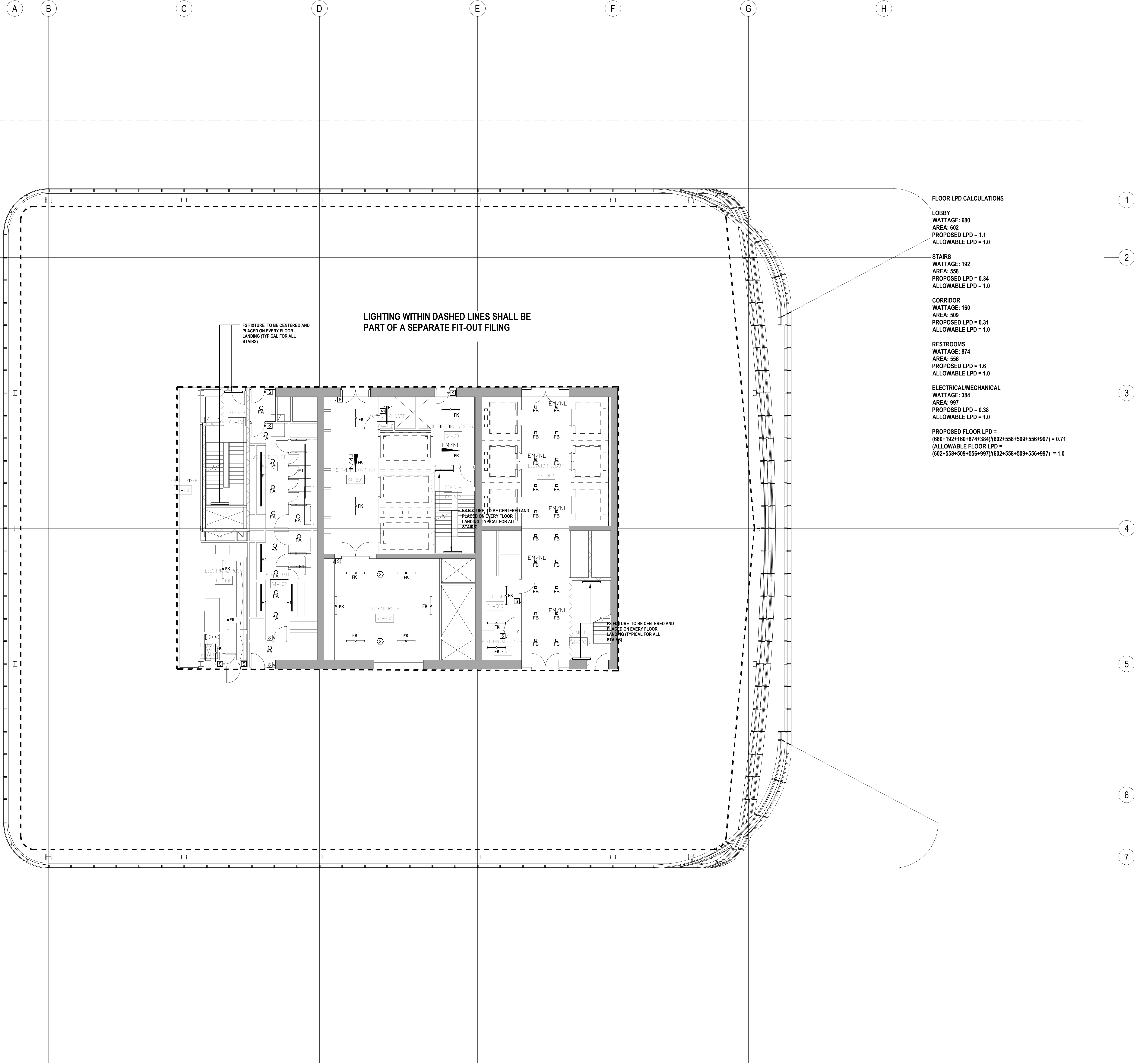
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Date:

Scale:

Page No.:

EN-134.00



FLOOR LPD CALCULATIONS

LOBBY
WATTAGE: 680
AREA: 602
PROPOSED LPD = 1.1
ALLOWABLE LPD = 1.0

STAIRS
WATTAGE: 192
AREA: 558
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 160
AREA: 509
PROPOSED LPD = 0.31
ALLOWABLE LPD = 1.0

RESTROOMS
WATTAGE: 874
AREA: 556
PROPOSED LPD = 1.6
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 384
AREA: 997
PROPOSED LPD = 0.38
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(680+192+160+874+384)/(602+558+509+556+997) = 0.71
ALLOWABLE FLOOR LPD =
(602+558+509+556+997)/(602+558+509+556+997) = 1.0

PROFESSIONAL'S STATEMENT

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SHEET NOTES

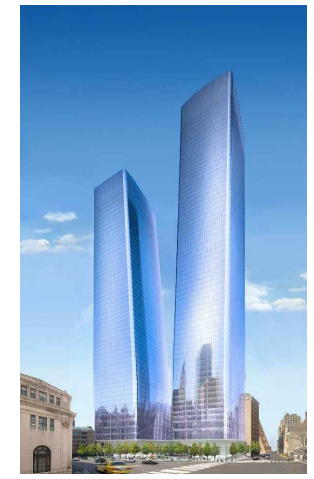
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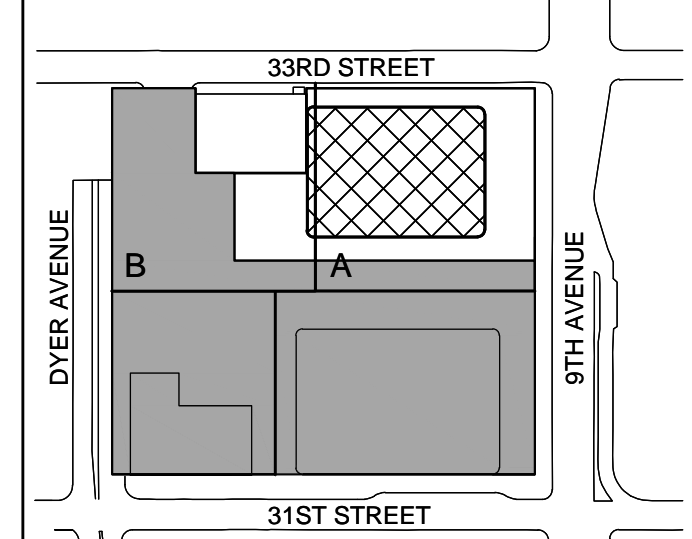
Facade Maintenance Consultant

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Ontario, Canada N1K 1B8

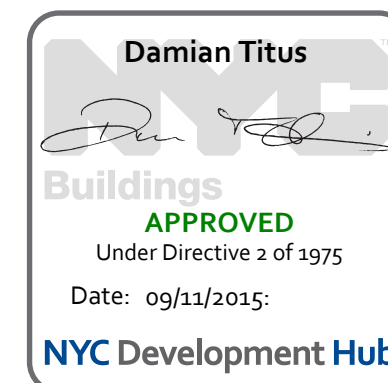
Key Plan:



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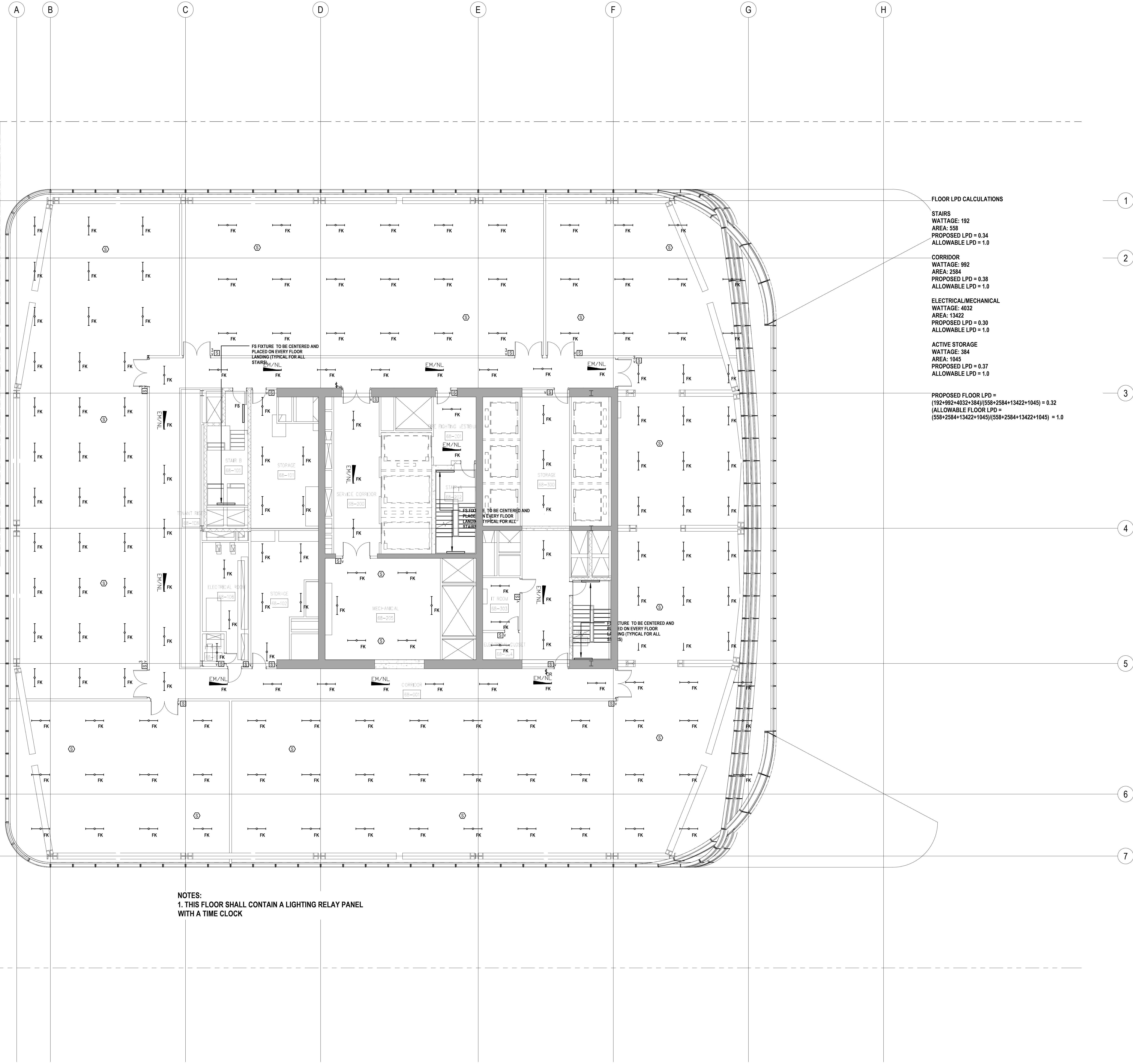


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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 68
FLOOR PLAN**

| | |
|--------------------------|----------------------|
| Project No.: 14500.0.000 | Sheet No.: EN-135.00 |
| Date: 19 DEC 2014 | |
| Scale: N.T.S. | |
| File No.: | Page No.: |



FLOOR LPD CALCULATIONS

STAIRS
WATTAGE: 192
AREA: 550
PROPOSED LPD = 0.34
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 992
AREA: 2584
PROPOSED LPD = 0.38
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 4032
AREA: 13422
PROPOSED LPD = 0.30
ALLOWABLE LPD = 1.0

ACTIVE STORAGE
WATTAGE: 384
AREA: 1045
PROPOSED LPD = 0.37
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(192+992+4032+384)/(550+2584+13422+1045) = 0.32
ALLOWABLE FLOOR LPD =
(550+2584+13422+1045)/(550+2584+13422+1045) = 1.0

NOTES:
1. THIS FLOOR SHALL CONTAIN A LIGHTING RELAY PANEL
WITH A TIME CLOCK

PROFESSIONAL'S STATEMENT

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SHEET NOTES

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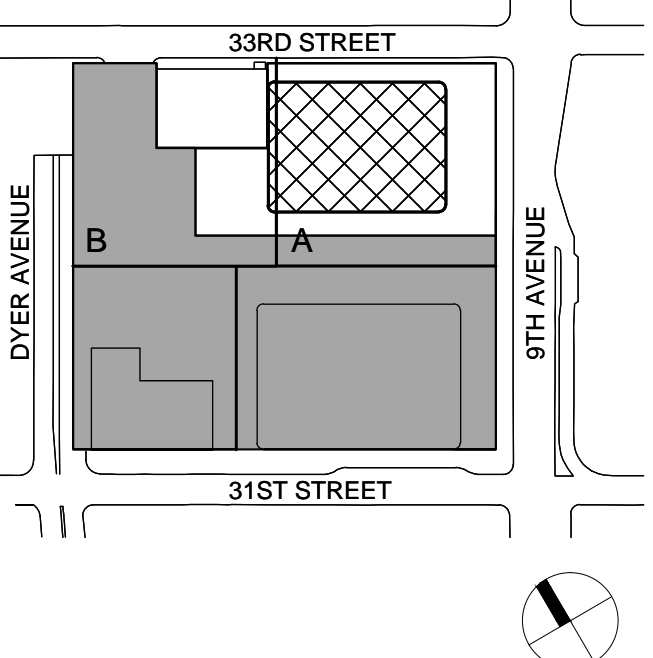
Facade Maintenance Consultant

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166 Ames Street, Hackensack, NJ 07601

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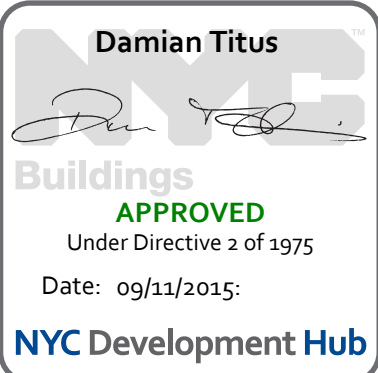
Key Plan:



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**NYC EC
COMPLIANCE
LIGHTING
LEVEL 69
FLOOR PLAN**

Project No.: 14530.A.000

Date: 19 DEC 2014

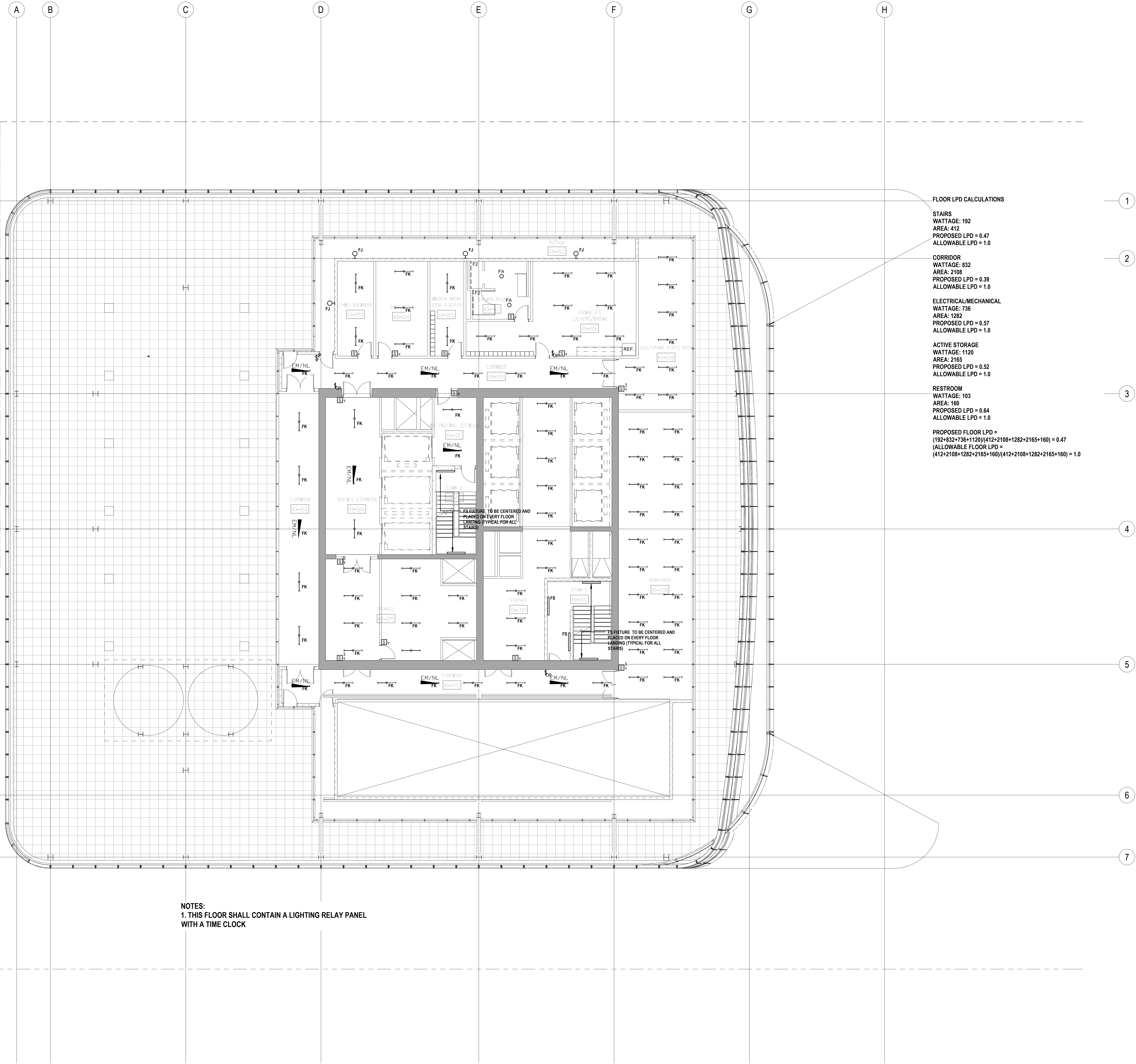
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File No.:

Sheet No.:

EN-136.00

Page No.:



FLOOR LPD CALCULATIONS

STAIRS
WATTAGE: 192
AREA: 412
PROPOSED LPD = 0.47
ALLOWABLE LPD = 1.0

CORRIDOR
WATTAGE: 832
AREA: 2108
PROPOSED LPD = 0.39
ALLOWABLE LPD = 1.0

ELECTRICAL/MECHANICAL
WATTAGE: 736
AREA: 1282
PROPOSED LPD = 0.57
ALLOWABLE LPD = 1.0

ACTIVE STORAGE
WATTAGE: 1120
AREA: 2165
PROPOSED LPD = 0.52
ALLOWABLE LPD = 1.0

RESTROOM
WATTAGE: 103
AREA: 160
PROPOSED LPD = 0.64
ALLOWABLE LPD = 1.0

PROPOSED FLOOR LPD =
(192+832+736+1120)/(412+2108+1282+2165+160) = 0.47
ALLOWABLE FLOOR LPD =
(412+2108+1282+2165+160)/(412+2108+1282+2165+160) = 1.0

NOTES:
1. THIS FLOOR SHALL CONTAIN A LIGHTING RELAY PANEL
WITH A TIME CLOCK

PROFESSIONAL'S STATEMENT

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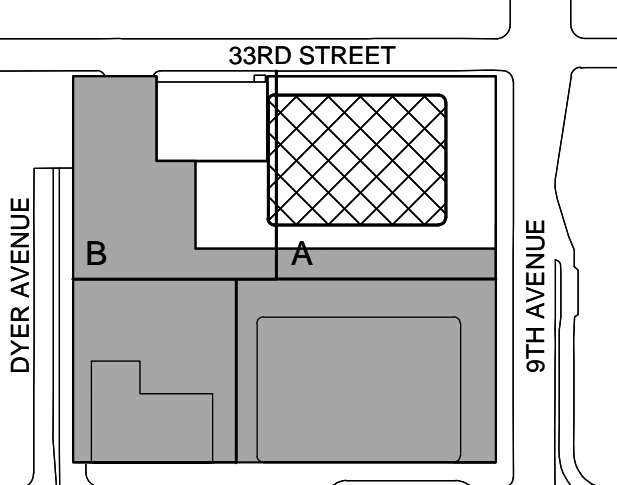
Facade Maintenance Consultant

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650 Woodlawn Road West, Guelph
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Key Plan:



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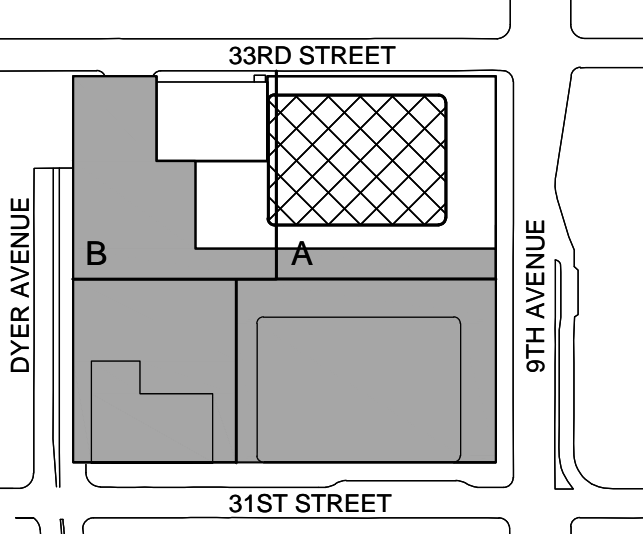
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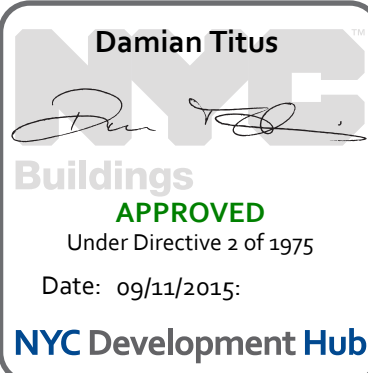
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NYC EC
COMPLIANCE
LIGHTING ROOF
PLAN MECH
PENTHOUSE
ROOF

Project No.:
14830.1.000

Date:
19 DEC 2014

Scale:
N.T.S.

File No.:

Sheet No.:

EN-138.00

Page No.:

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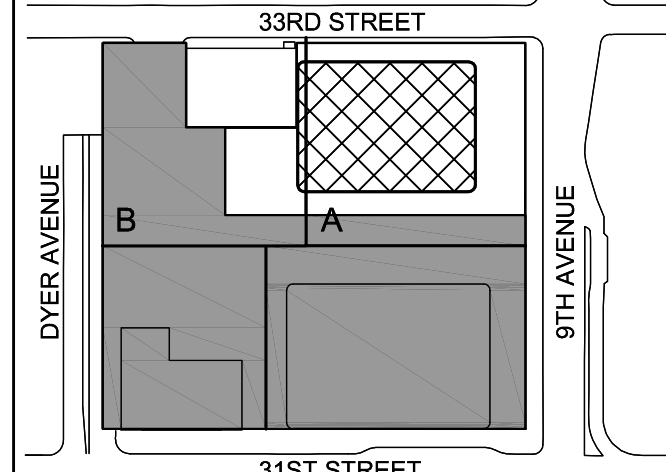
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Key Plan:



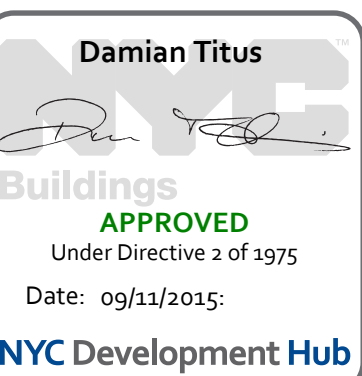
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| 2 | 30 JAN 2015 | ISSUED FOR BUILDING PERMIT |

NYC EC COMPLIANCE LIGHTING SYSTEM CONTROLS SHEET NO. 1

| | |
|--------------------------|----------------------|
| Project No.: 14830 A.000 | Sheet No.: EN-139.00 |
| Date: 19 DEC 2014 | Scale: N.T.S. |
| File No.: | Page No.: |



| | | |
|------------|----|----------|
| LP-3-01#1 | 1 | LIGHTING |
| LP-3-01#3 | 2 | LIGHTING |
| LP-3-01#5 | 3 | LIGHTING |
| LP-3-01#7 | 4 | LIGHTING |
| LP-3-01#9 | 5 | LIGHTING |
| LP-3-01#11 | 6 | LIGHTING |
| LP-3-01#13 | 7 | LIGHTING |
| LP-3-01#15 | 8 | LIGHTING |
| LP-3-01#17 | 9 | LIGHTING |
| LP-3-01#19 | 10 | LIGHTING |
| SPARE | 11 | SPARE |
| SPARE | 12 | SPARE |
| SPARE | 13 | SPARE |
| SPARE | 14 | SPARE |
| SPARE | 15 | SPARE |
| SPARE | 16 | SPARE |
| SPARE | 17 | SPARE |
| SPARE | 18 | SPARE |
| SPARE | 19 | SPARE |
| SPARE | 20 | SPARE |
| SPARE | 21 | SPARE |
| SPARE | 22 | SPARE |
| SPARE | 23 | SPARE |
| SPARE | 24 | SPARE |

RELAY PANEL SCHEDULE - LEVEL 3

- NOTES:
1. PROVIDE 24-POLE LIGHTING RELAY SYSTEM, GE LIGHT SWEEP, INCLUDE IN BID SYSTEM START-UP AND COMMISSIONING BY GE REPRESENTATIVE.
 2. TIE IN 2 LOW VOLTAGE OVERRIDE SWITCHES TO LIGHTING CONTROL SYSTEM
 3. RELAY PANEL SHALL CONTAIN TIME CLOCK TO AUTOMATICALLY TURN OFF ALL THE LIGHTS.

| | | |
|------------|----|----------|
| LP-B-01#1 | 1 | LIGHTING |
| LP-B-01#3 | 2 | LIGHTING |
| LP-B-01#5 | 3 | LIGHTING |
| LP-B-01#7 | 4 | LIGHTING |
| LP-B-01#9 | 5 | LIGHTING |
| LP-B-01#11 | 6 | LIGHTING |
| LP-B-01#13 | 7 | LIGHTING |
| LP-B-01#15 | 8 | LIGHTING |
| LP-B-01#17 | 9 | LIGHTING |
| LP-B-01#19 | 10 | LIGHTING |
| SPARE | 11 | SPARE |
| SPARE | 12 | SPARE |
| SPARE | 13 | SPARE |
| SPARE | 14 | SPARE |
| SPARE | 15 | SPARE |
| SPARE | 16 | SPARE |
| SPARE | 17 | SPARE |
| SPARE | 18 | SPARE |
| SPARE | 19 | SPARE |
| SPARE | 20 | SPARE |
| SPARE | 21 | SPARE |
| SPARE | 22 | SPARE |
| SPARE | 23 | SPARE |
| SPARE | 24 | SPARE |

RELAY PANEL SCHEDULE - CELLAR B

- NOTES:
1. PROVIDE 24-POLE LIGHTING RELAY SYSTEM, GE LIGHT SWEEP, INCLUDE IN BID SYSTEM START-UP AND COMMISSIONING BY GE REPRESENTATIVE.
 2. TIE IN 2 LOW VOLTAGE OVERRIDE SWITCHES TO LIGHTING CONTROL SYSTEM
 3. RELAY PANEL SHALL CONTAIN TIME CLOCK TO AUTOMATICALLY TURN OFF ALL THE LIGHTS.

| | | |
|------------|----|----------|
| LP-5-01#1 | 1 | LIGHTING |
| LP-5-01#3 | 2 | LIGHTING |
| LP-5-01#5 | 3 | LIGHTING |
| LP-5-01#7 | 4 | LIGHTING |
| LP-5-01#9 | 5 | LIGHTING |
| LP-5-01#11 | 6 | LIGHTING |
| LP-5-01#13 | 7 | LIGHTING |
| LP-5-01#15 | 8 | LIGHTING |
| LP-5-01#17 | 9 | LIGHTING |
| LP-5-01#19 | 10 | LIGHTING |
| SPARE | 11 | SPARE |
| SPARE | 12 | SPARE |
| SPARE | 13 | SPARE |
| SPARE | 14 | SPARE |
| SPARE | 15 | SPARE |
| SPARE | 16 | SPARE |
| SPARE | 17 | SPARE |
| SPARE | 18 | SPARE |
| SPARE | 19 | SPARE |
| SPARE | 20 | SPARE |
| SPARE | 21 | SPARE |
| SPARE | 22 | SPARE |
| SPARE | 23 | SPARE |
| SPARE | 24 | SPARE |

RELAY PANEL SCHEDULE - LEVEL 5

- NOTES:
1. PROVIDE 24-POLE LIGHTING RELAY SYSTEM, GE LIGHT SWEEP, INCLUDE IN BID SYSTEM START-UP AND COMMISSIONING BY GE REPRESENTATIVE.
 2. TIE IN 2 LOW VOLTAGE OVERRIDE SWITCHES TO LIGHTING CONTROL SYSTEM
 3. RELAY PANEL SHALL CONTAIN TIME CLOCK TO AUTOMATICALLY TURN OFF ALL THE LIGHTS.

| | | |
|------------|----|----------|
| LP-4-01#1 | 1 | LIGHTING |
| LP-4-01#3 | 2 | LIGHTING |
| LP-4-01#5 | 3 | LIGHTING |
| LP-4-01#7 | 4 | LIGHTING |
| LP-4-01#9 | 5 | LIGHTING |
| LP-4-01#11 | 6 | LIGHTING |
| LP-4-01#13 | 7 | LIGHTING |
| LP-4-01#15 | 8 | LIGHTING |
| LP-4-01#17 | 9 | LIGHTING |
| LP-4-01#19 | 10 | LIGHTING |
| SPARE | 11 | SPARE |
| SPARE | 12 | SPARE |
| SPARE | 13 | SPARE |
| SPARE | 14 | SPARE |
| SPARE | 15 | SPARE |
| SPARE | 16 | SPARE |
| SPARE | 17 | SPARE |
| SPARE | 18 | SPARE |
| SPARE | 19 | SPARE |
| SPARE | 20 | SPARE |
| SPARE | 21 | SPARE |
| SPARE | 22 | SPARE |
| SPARE | 23 | SPARE |
| SPARE | 24 | SPARE |

RELAY PANEL SCHEDULE - LEVEL 4

- NOTES:
1. PROVIDE 24-POLE LIGHTING RELAY SYSTEM, GE LIGHT SWEEP, INCLUDE IN BID SYSTEM START-UP AND COMMISSIONING BY GE REPRESENTATIVE.
 2. TIE IN 2 LOW VOLTAGE OVERRIDE SWITCHES TO LIGHTING CONTROL SYSTEM
 3. RELAY PANEL SHALL CONTAIN TIME CLOCK TO AUTOMATICALLY TURN OFF ALL THE LIGHTS.

| | | |
|-------------|----|----------|
| LP-69-01#1 | 1 | LIGHTING |
| LP-69-01#3 | 2 | LIGHTING |
| LP-69-01#5 | 3 | LIGHTING |
| LP-69-01#7 | 4 | LIGHTING |
| LP-69-01#9 | 5 | LIGHTING |
| LP-69-01#11 | 6 | LIGHTING |
| LP-69-01#13 | 7 | LIGHTING |
| LP-69-01#15 | 8 | LIGHTING |
| LP-69-01#17 | 9 | LIGHTING |
| LP-69-01#19 | 10 | LIGHTING |
| SPARE | 11 | SPARE |
| SPARE | 12 | SPARE |
| SPARE | 13 | SPARE |
| SPARE | 14 | SPARE |
| SPARE | 15 | SPARE |
| SPARE | 16 | SPARE |
| SPARE | 17 | SPARE |
| SPARE | 18 | SPARE |
| SPARE | 19 | SPARE |
| SPARE | 20 | SPARE |
| SPARE | 21 | SPARE |
| SPARE | 22 | SPARE |
| SPARE | 23 | SPARE |
| SPARE | 24 | SPARE |

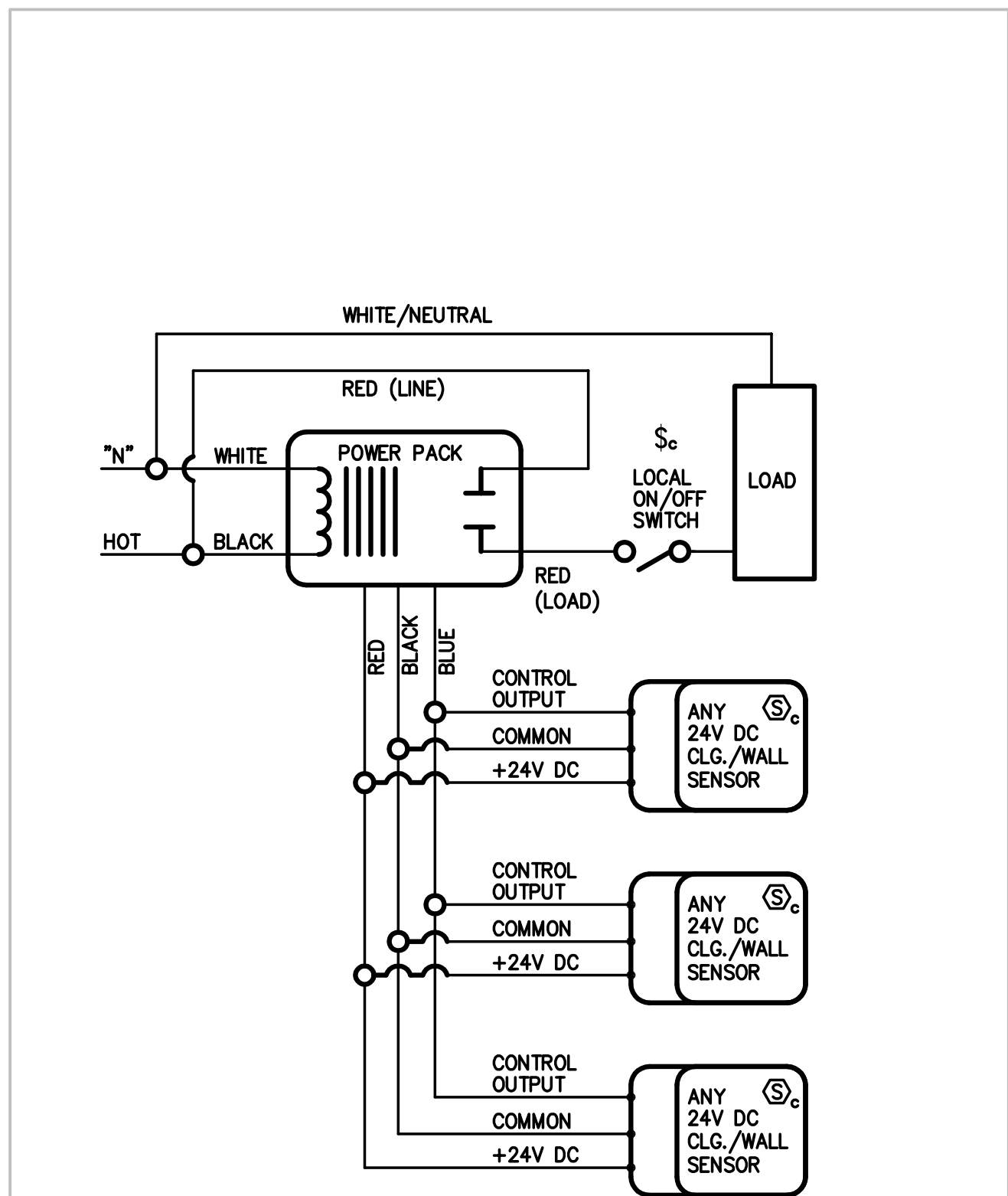
RELAY PANEL SCHEDULE - LEVEL 69

- NOTES:
1. PROVIDE 24-POLE LIGHTING RELAY SYSTEM, GE LIGHT SWEEP, INCLUDE IN BID SYSTEM START-UP AND COMMISSIONING BY GE REPRESENTATIVE.
 2. TIE IN 2 LOW VOLTAGE OVERRIDE SWITCHES TO LIGHTING CONTROL SYSTEM
 3. RELAY PANEL SHALL CONTAIN TIME CLOCK TO AUTOMATICALLY TURN OFF ALL THE LIGHTS.

| | | |
|-------------|----|----------|
| LP-68-01#1 | 1 | LIGHTING |
| LP-68-01#3 | 2 | LIGHTING |
| LP-68-01#5 | 3 | LIGHTING |
| LP-68-01#7 | 4 | LIGHTING |
| LP-68-01#9 | 5 | LIGHTING |
| LP-68-01#11 | 6 | LIGHTING |
| LP-68-01#13 | 7 | LIGHTING |
| LP-68-01#15 | 8 | LIGHTING |
| LP-68-01#17 | 9 | LIGHTING |
| LP-68-01#19 | 10 | LIGHTING |
| SPARE | 11 | SPARE |
| SPARE | 12 | SPARE |
| SPARE | 13 | SPARE |
| SPARE | 14 | SPARE |
| SPARE | 15 | SPARE |
| SPARE | 16 | SPARE |
| SPARE | 17 | SPARE |
| SPARE | 18 | SPARE |
| SPARE | 19 | SPARE |
| SPARE | 20 | SPARE |
| SPARE | 21 | SPARE |
| SPARE | 22 | SPARE |
| SPARE | 23 | SPARE |
| SPARE | 24 | SPARE |

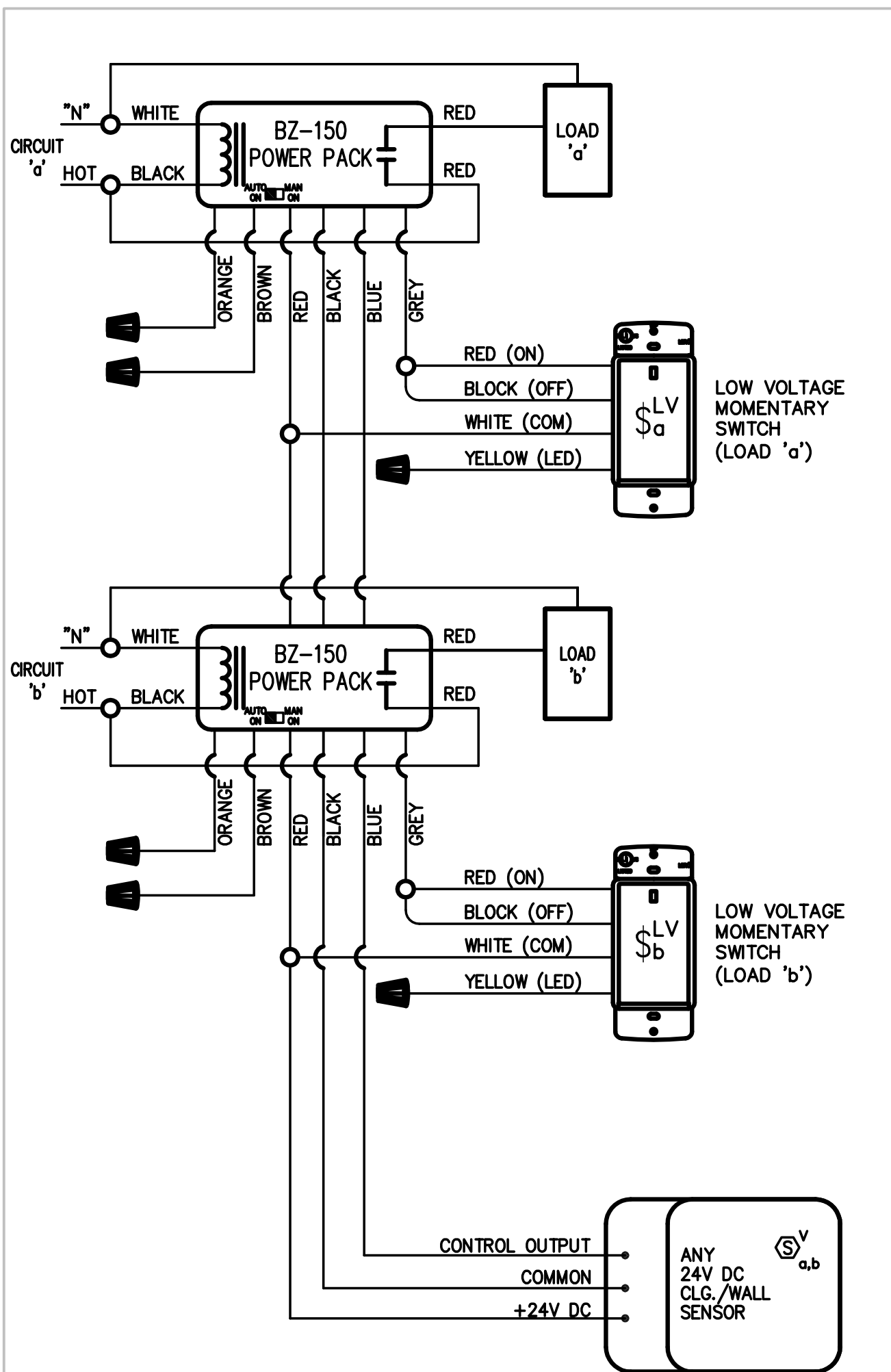
RELAY PANEL SCHEDULE - LEVEL 68

- NOTES:
1. PROVIDE 24-POLE LIGHTING RELAY SYSTEM, GE LIGHT SWEEP, INCLUDE IN BID SYSTEM START-UP AND COMMISSIONING BY GE REPRESENTATIVE.
 2. TIE IN 2 LOW VOLTAGE OVERRIDE SWITCHES TO LIGHTING CONTROL SYSTEM
 3. RELAY PANEL SHALL CONTAIN TIME CLOCK TO AUTOMATICALLY TURN OFF ALL THE LIGHTS.



DETAIL #2
MULTIPLE SENSORS WITH SINGLE POWER PACK WIRING DIAGRAM (N.T.S.)

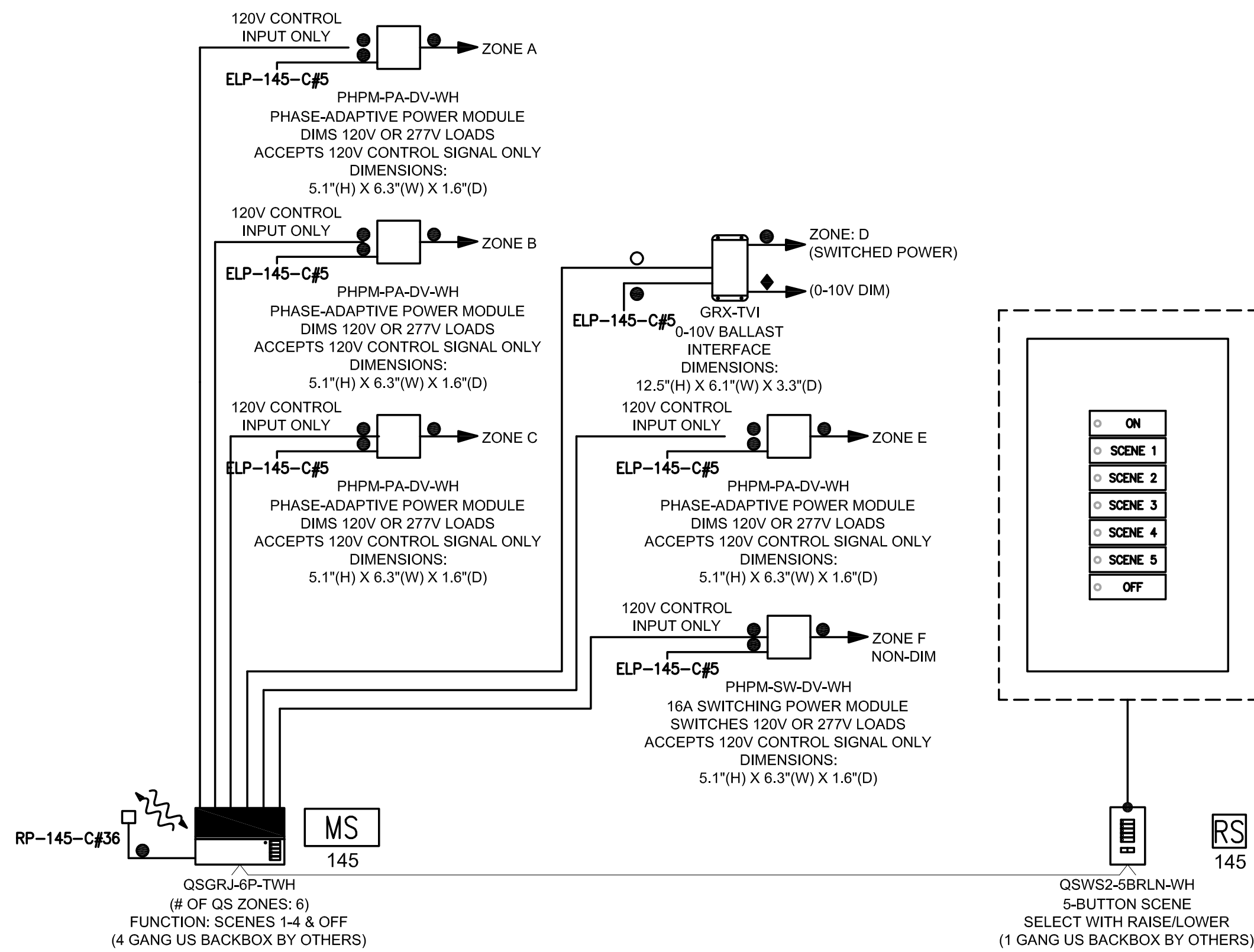
- NOTES:
1. ALL WIRING SHALL BE IN CONDUIT.
 2. DIAGRAM IS SCHEMATIC TO INDICATE DESIGN INTENT. COORDINATE EXACT WIRING REQUIREMENTS WITH EQUIPMENT VENDOR.
 3. COORDINATE EXACT LOCATION OF DEVICE WITH ARCHITECT AND FIELD CONDITIONS.
 4. WIRING DIAGRAM SHOWN TYPICAL FOR OCCUPANCY SENSORS LOCATED IN CORRIDOR.



DETAIL #1
"MANUAL-ON" SENSOR CONTROL FOR MULTIPLE ZONES (N.T.S.)

- NOTES:
1. ALL WIRING SHALL BE IN CONDUIT.
 2. DIAGRAM IS SCHEMATIC TO INDICATE DESIGN INTENT. COORDINATE EXACT WIRING REQUIREMENTS WITH EQUIPMENT VENDOR.
 3. PROVIDE ADDITIONAL POWER PACK(S) AND "DCC2" MOMENTARY SWITCH FOR EACH ADDITIONAL CONTROL ZONE. EXACT QTY. TO BE COORDINATED WITH ELECTRICAL DRAWINGS AND EQUIPMENT VENDOR.

LOBBY (GROUND FLOOR) DIMMING CONTROLS



PROFESSIONAL'S STATEMENT

TO THE BEST OF OUR KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE.

BUILDING DEPARTMENT NOTE:

THIS PLAN IS APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

| NYCECC BUILDING ENVELOPE REQUIREMENTS - OPAQUE ELEMENTS (ECCO/NS TABLE 502.1.2) | | | | | | | |
|---|---------------|-------------------|------------------|---------------|--------------|---------------|--------------|
| CLIMATE ZONE 4, COMMERCIAL BUILDING | | MAXIMUM U-FACTOR | | MAXIMUM SHGC | | PROPOSED SHGC | |
| ENVELOPE TYPE | ENVELOPE AREA | PROPOSED U-FACTOR | MAXIMUM U-FACTOR | PROPOSED SHGC | MAXIMUM SHGC | PROPOSED SHGC | MAXIMUM SHGC |
| A. ROOFS | | | | | | | |
| A1: INSULATION ENTIRELY ABOVE DECK - PLAZA | 76,599 sq' | U-0.048 | U-0.025 | - | - | - | - |
| A2: INSULATION ENTIRELY ABOVE DECK - TOWER | 31,173 sq' | U-0.048 | U-0.025 | - | - | - | - |
| B. WALLS | | | | | | | |
| B1: METAL FRAMED - CURTAIN WALL | 134,788 sq' | U-0.064 | U-0.179 | - | - | - | - |
| B2: METAL FRAMED - STOREFRONT | 536 sq' | U-0.064 | U-0.080 | - | - | - | - |
| B3: METAL FRAMED - SHADOW BOX | 43,895 sq' | U-0.064 | U-0.179 | - | - | - | - |
| B4: MASS - CONCRETE MASONRY UNIT | 31,371 sq' | U-0.104 | U-0.128 | - | - | - | - |
| C. BELOW-GRADE WALLS | | | | | | | |
| C1: MASS - CONCRETE WALL | 13,291 sq' | - | - | C-1.140 | C-0.550 | - | - |
| C2: MASS - CONCRETE MASONRY UNIT | 10,474 sq' | - | - | C-1.140 | C-0.143 | - | - |
| D. SLAB-ON-GRADE FLOORS | | | | | | | |
| D1: UNHEATED SLABS | 56,263 sq' | - | - | - | F-0.730 | F-0.480 | - |

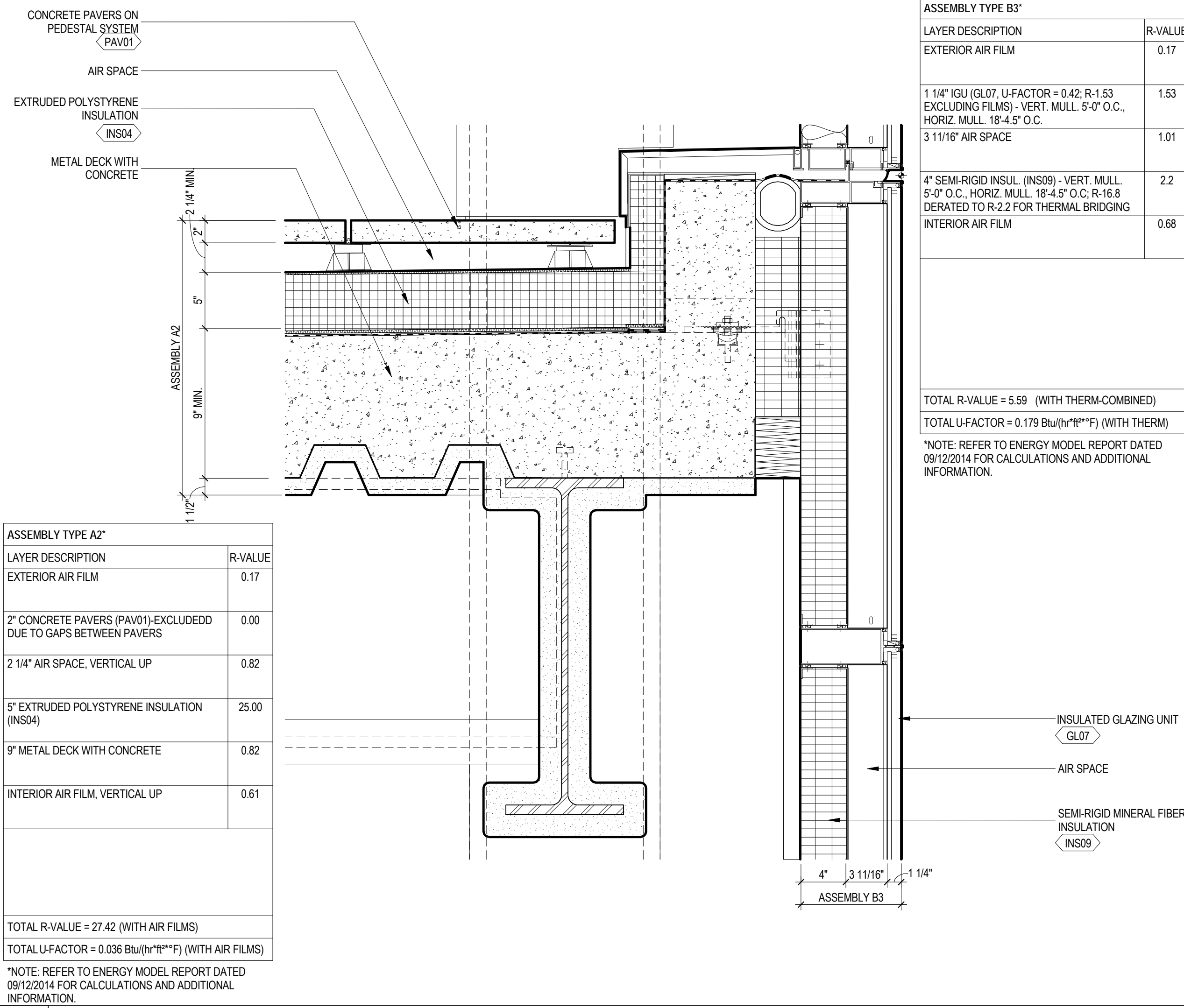
| NYCECC BUILDING ENVELOPE REQUIREMENTS - FENESTRATION (ECCO/NS TABLE 502.3) | | | | | |
|--|-------------------|-------------------|------------------|---------------|--------------|
| CLIMATE ZONE 4, COMMERCIAL BUILDING | | MAXIMUM U-FACTOR | | MAXIMUM SHGC | |
| FENESTRATION TYPE | FENESTRATION AREA | PROPOSED U-FACTOR | MAXIMUM U-FACTOR | PROPOSED SHGC | MAXIMUM SHGC |
| METAL FRAMING WITH OR WITHOUT THERMAL BREAK | | | | | |
| CURTAIN WALL (GLUT), PF < 0.25 | 498,969 sq' | U-0.500 | U-0.400 | SHGC 0.400 | SHGC 0.290 |
| STOREFRONT (GLUT), PF < 0.25 | 23,975 sq' | U-0.500 | U-1.06 | SHGC 0.400 | SHGC 0.880 |

| NYCECC BUILDING ENVELOPE MANDATORY PROVISIONS | | | CLIMATE ZONE 4, COMMERCIAL BUILDING | | COMPLIANCE | |
|---|--|---|-------------------------------------|------------|------------|------------|
| SECTION | TITLE | DESCRIPTION | COMPLIANCE | COMPLIANCE | COMPLIANCE | COMPLIANCE |
| 502.4.1 | WINDOW AND DOOR ASSEMBLIES | The air leakage of window and sliding or swinging door assemblies that are part of the building envelope shall be determined in accordance with AIAA/NOMAS/CA 1001.5.2040, or NFRC 600 by an accredited, independent laboratory, and labeled and certified by the manufacturer and shall not exceed 1.5 cfm per square foot (1.5 L/s/m ²), and swinging doors no more than 0.5 cfm per square foot (2.5 L/s/m ²). | COMPLIES | | | |
| 502.4.2 | CURTAIN WALL, STOREFRONT GLAZING AND COMMERCIAL ENTRANCE DOORS | Curtain wall, storefront glazing and commercial glazed swinging entrance doors and revolving doors shall be tested for air leakage at 1.57 pounds per square foot (75 Pa) in accordance with ASTM E 283. For curtain walls and storefront glazing, the maximum air leakage rate shall be 0.3 cubic foot per minute per square foot (0.0012) (5.5 L/s/m ²) of fenestration area. For commercial glazed swinging entrance doors and revolving doors, the maximum air leakage rate shall be 1.00 cfm/m ² (16.3 m ³ /h = m ²) of door area when tested in accordance with ASTM E 283. | COMPLIES | | | |
| 502.4.3 | CONTINUOUS AIR BARRIER | Except in unheated structures and as permitted by this section, a continuous air barrier shall be installed, sealing all seams, openings, and penetrations of the building and shall be sealed with caulking materials or closed with gasketing systems compatible with the construction materials and location. Joints and seams shall be sealed in the same manner or taped or covered with a moisture vapor-permeable wrapping material. Sealing materials spanning joints between construction materials shall allow for expansion and contraction of the construction materials. Such an air barrier shall have all the following characteristics: 1. Continuous throughout the envelope with all joints and seams sealed and with sealed connections between all transitions in planes and changes in materials and at all penetrations. 2. Joined and sealed in a flexible manner to the air barrier component of adjacent assemblies, allowing for the relative movement of these assemblies and components. 3. Installed in accordance with the manufacturer's instructions and in such a manner as to achieve the performance requirements. 4. Penetrations of the continuous air barrier shall be made in a way such that the integrity of the continuous air barrier is maintained. | COMPLIES | | | |
| 502.4.4 | OUTDOOR AIR INTAKES AND EXHAUST OPENINGS | Stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be equipped with not less than a Class I motorized, leakage-rated damper with a maximum leakage rate of 4 cfm per square foot (0.9 L/s = m ²) at 1.0 inch water gauge (4 g) (1250 Pa) when tested in accordance with AMCA 5000. | COMPLIES | | | |
| 502.4.5 | LOADING DOCK WEATHERSEALS | Cargo doors and loading dock doors shall be equipped with weatherseals to restrict infiltration when vehicles are parked in the doorway. | COMPLIES | | | |
| 502.4.6 | VESTIBULES | A door that separates conditioned space from the exterior shall be protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior doors to open at the same time. Exceptions: 1. Doors not intended to be used as a building entrance door, such as doors to mechanical or electrical equipment rooms. 2. Doors opening directly from a sleeping unit or dwelling unit. 3. Doors that open directly from a space less than 3,000 square feet (279 m ²) in area. 4. Revolving doors. 5. Doors used primarily to facilitate vehicular movement or material handling and adjacent personnel doors. | COMPLIES | | | |

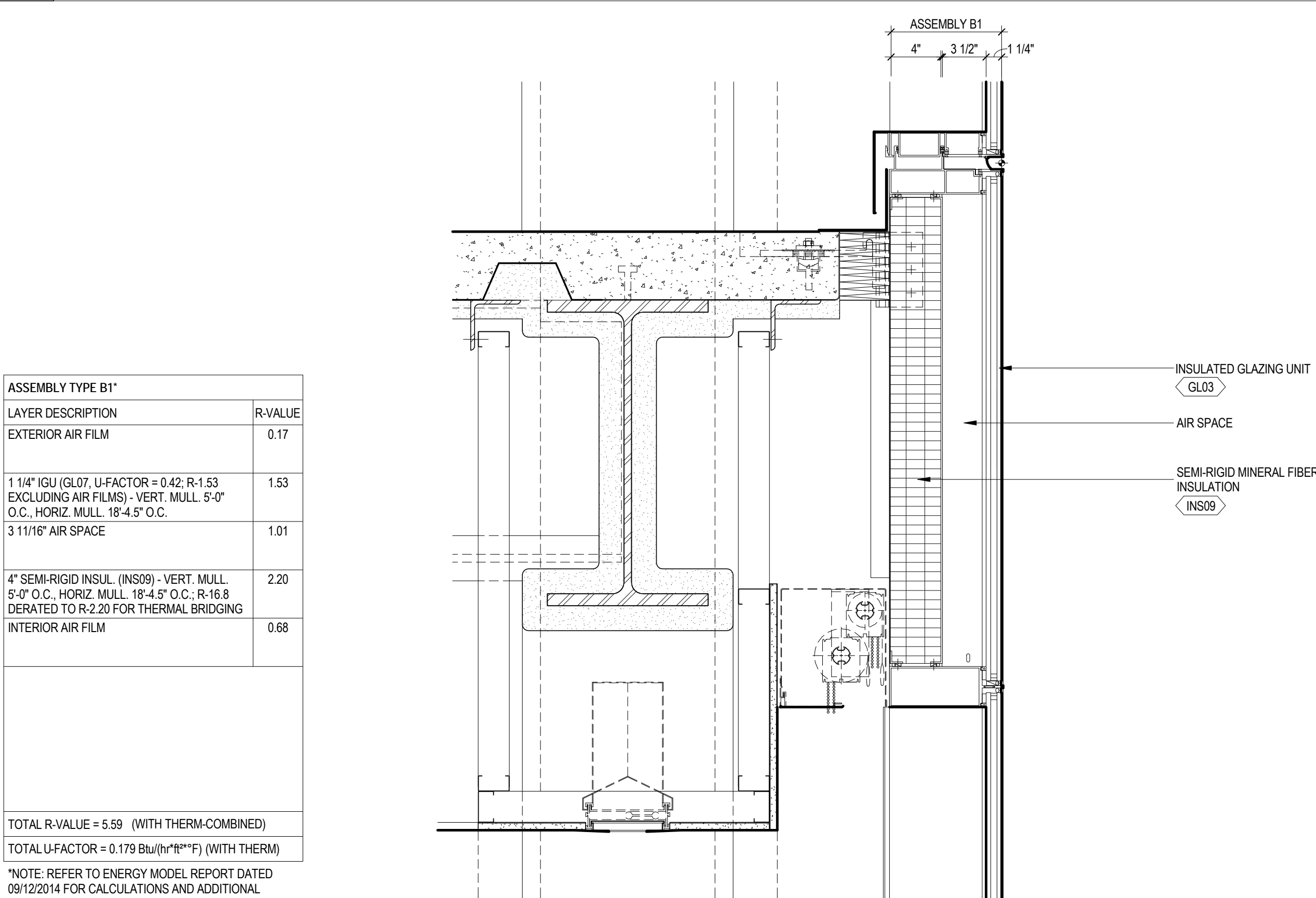
| BUILDING ENVELOPE MATERIALS | | | | COMMENTS | |
|-----------------------------|--|--|---|----------|----------|
| MATERIAL ID | DESCRIPTION | LOCATION | COMMENTS | COMMENTS | COMMENTS |
| GL01 | 1 1/4" INSULATED GLASS UNIT COMPOSED OF 3/8" CLEAR LOW-IRON, HEAT STRENGTHENED OUTER LITE WITH A LOW-E COATING ON THE NO. 2 SURFACE + 1/2" BLACK STAINLESS STEEL SPACER WITH ARGON FILL + 3/8" CLEAR LOW-IRON FULLY TEMPERED HEAT SOAKED INNER LITE. | TOWER CURTAIN WALL VISION GLAZING | GL01B IS A THERMALLY CURVED VERSION OF GL01 ASSEMBLY. | | |
| GL02 | 1 1/4" LAMINATED SAFETY GLASS COMPOSED OF 3/8" LOW-IRON HEAT STRENGTHENED GLASS + A .060" PVB INTERLAYER + 3/8" LOW-IRON HEAT STRENGTHENED GLASS. | STOREFRONT VISION GLAZING | GL02B IS A THERMALLY CURVED VERSION OF GL02 ASSEMBLY. | | |
| GL03 | 1 1/4" INSULATED GLASS UNIT COMPOSED OF 3/8" CLEAR LOW-IRON, HEAT STRENGTHENED OUTER LITE WITH A LOW-E COATING ON THE NO. 2 SURFACE + 1/2" SPACER WITH ARGON FILL + 3/8" CLEAR LOW-IRON INNER LITE. | TOWER CURTAIN WALL SPANDREL | GL03B IS A THERMALLY CURVED VERSION OF GL03 ASSEMBLY. | | |
| GL04 | 2 3/8" LAMINATED GLASS FIN COMPOSED OF 3/4" LOW-IRON TEMPERED GLASS + .060" IONOPLAST INTERLAYER + 3/4" LOW-IRON TEMPERED GLASS + .060" IONOPLAST INTERLAYER + 3/4" LOW-IRON TEMPERED GLASS. | STOREFRONT FINS | | | |
| GL05 | 3/4" LAMINATED SAFETY GLASS COMPOSED OF 3/8" LOW-IRON GLASS + .060" IONOPLAST INTERLAYER + 3/8" LOW-IRON GLASS WITH A CUSTOM CERAMIC FRIT ON THE NO. 2 SURFACE. | STOREFRONT CANOPY | | | |
| GL06 | 1/2" LOW-IRON FULLY TEMPERED GLASS. | STOREFRONT DOORS/REVOLVERS | | | |
| GL07 | 1 1/4" INSULATED GLASS UNIT COMPOSED OF 3/8" CLEAR LOW-IRON, HEAT STRENGTHENED OUTER LITE WITH A LOW-E COATING ON THE NO. 2 SURFACE + 1/2" BLACK STAINLESS STEEL SPACER WITH ARGON FILL + 3/8" CLEAR LOW-IRON HEAT STRENGTHENED INNER LITE. | TOWER CURTAIN WALL SHADOW BOX | GL07B IS A THERMALLY CURVED VERSION OF GL07 ASSEMBLY. | | |
| INS04 | EXTRUDED POLYSTYRENE INSULATION | ROOF DECK | | | |
| INS06 | EXTRUDED POLYSTYRENE INSULATION | PLAZA DECK | | | |
| INS09 | SEMI-RIGID MINERAL FIBER INSULATION | CURTAIN WALL / STOREFRONT | | | |
| MTL04 | STAINLESS STEEL BRIGHT DIRECTIONAL POLISH. | STOREFRONT INTERIOR MULLIONS | | | |
| MTL08 | STAINLESS STEEL NON-DIRECTIONAL MIRROR POLISH. | STOREFRONT EXTERIOR MULLIONS | | | |
| MTL20 | PAINTED ALUMINUM. | TOWER CURTAIN WALL EXTERIOR MULLIONS | | | |
| MTL21 | PAINTED ALUMINUM. | TOWER CURTAIN WALL INTERIOR MULLIONS | | | |
| MTL22 | PAINTED ALUMINUM. | TOWER CURTAIN WALL SPANDREL SHADOW BOX | | | |
| PAV01 | CONCRETE PAVERS | ROOF DECK | | | |
| ST05 | STONE | PLAZA DECK | | | |

REFERENCE STANDARDS:
2014 NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC)
2010 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE (ECCO/NS)
ASPRING STANDARD 04.1.2007

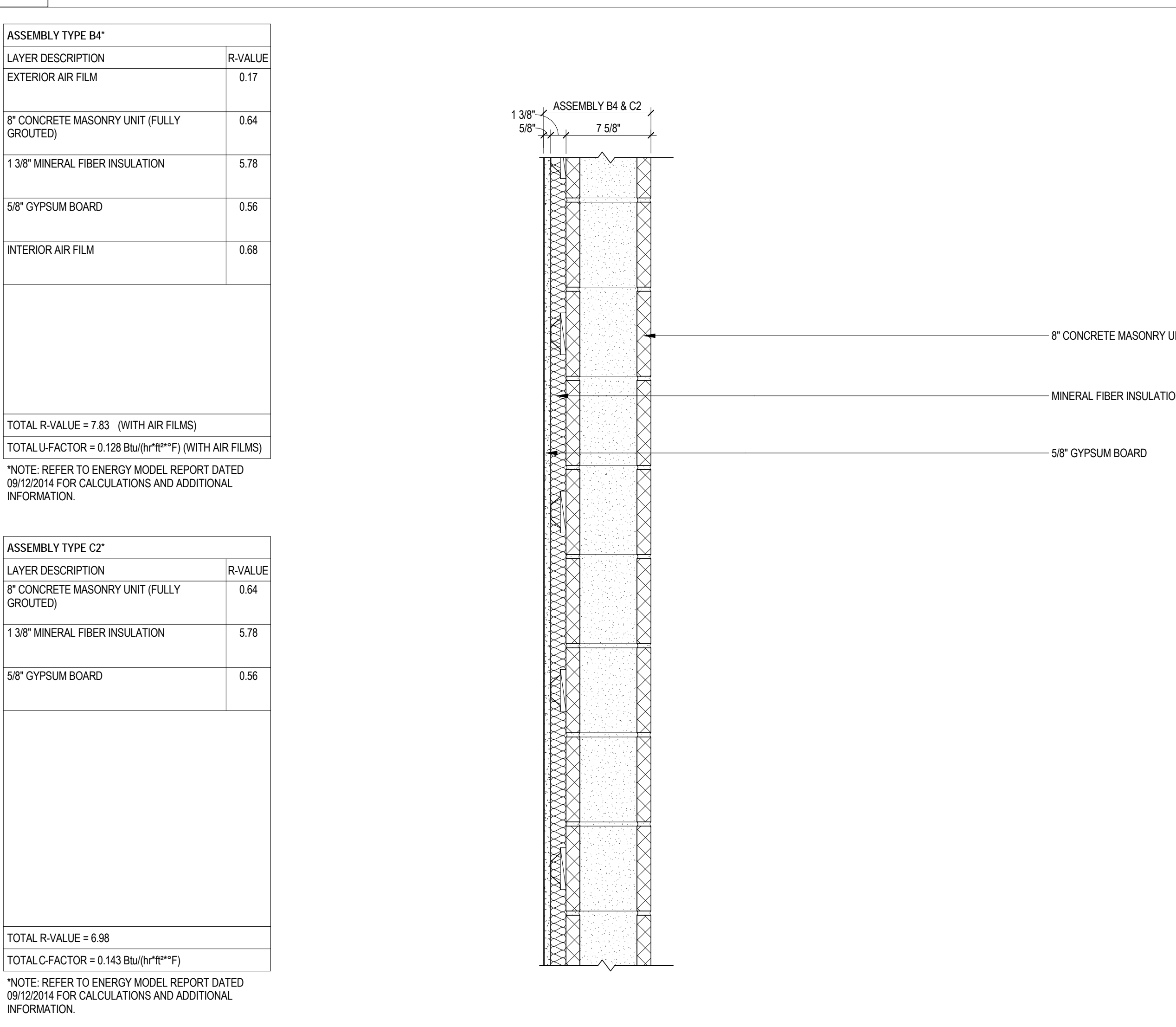
NOTE:
1. THE SCOPE OF WORK INDICATED IS BASED ON A PERFORMANCE BASED ENERGY ANALYSIS TO CONFIRM COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC).
2. REFER TO PERFORMANCE BASED ENERGY ANALYSIS TITLED "ENERGY MODELING OF THE MANHATTAN WEST NORTH TOWER" FOR OUTPUT REPORTS OF THE ASSEMBLIES ON THIS SHEET.
3. VESTIBULES COMPLY WITH SECTION 502.4.6 EXCEPTION 4 AND 5 OF THE NEW YORK CITY ENERGY CONSERVATION CODE.



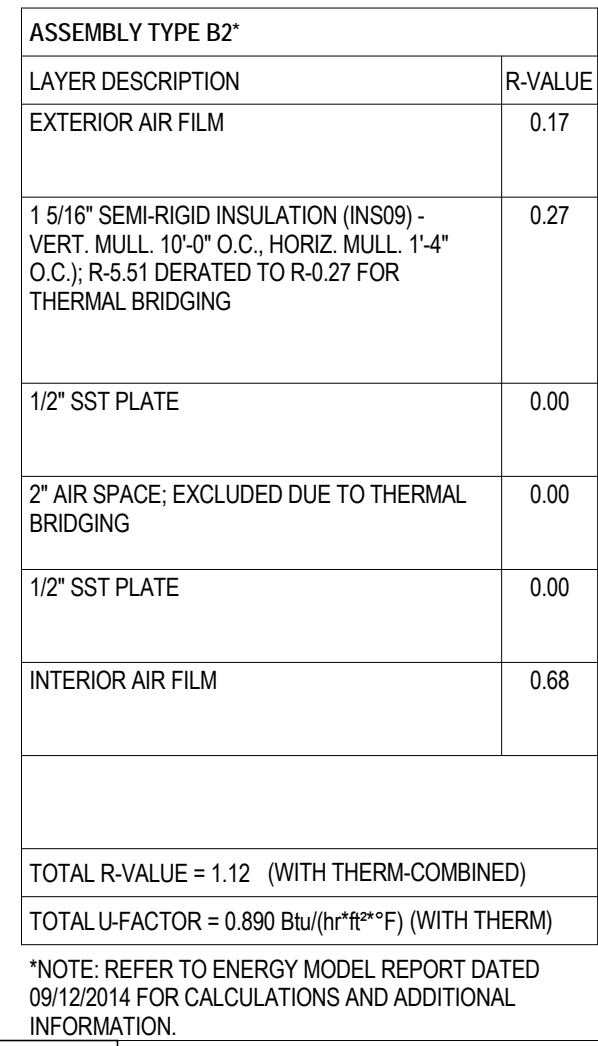
6 ROOF ASSEMBLY AT TOWER
SCALE: NTS



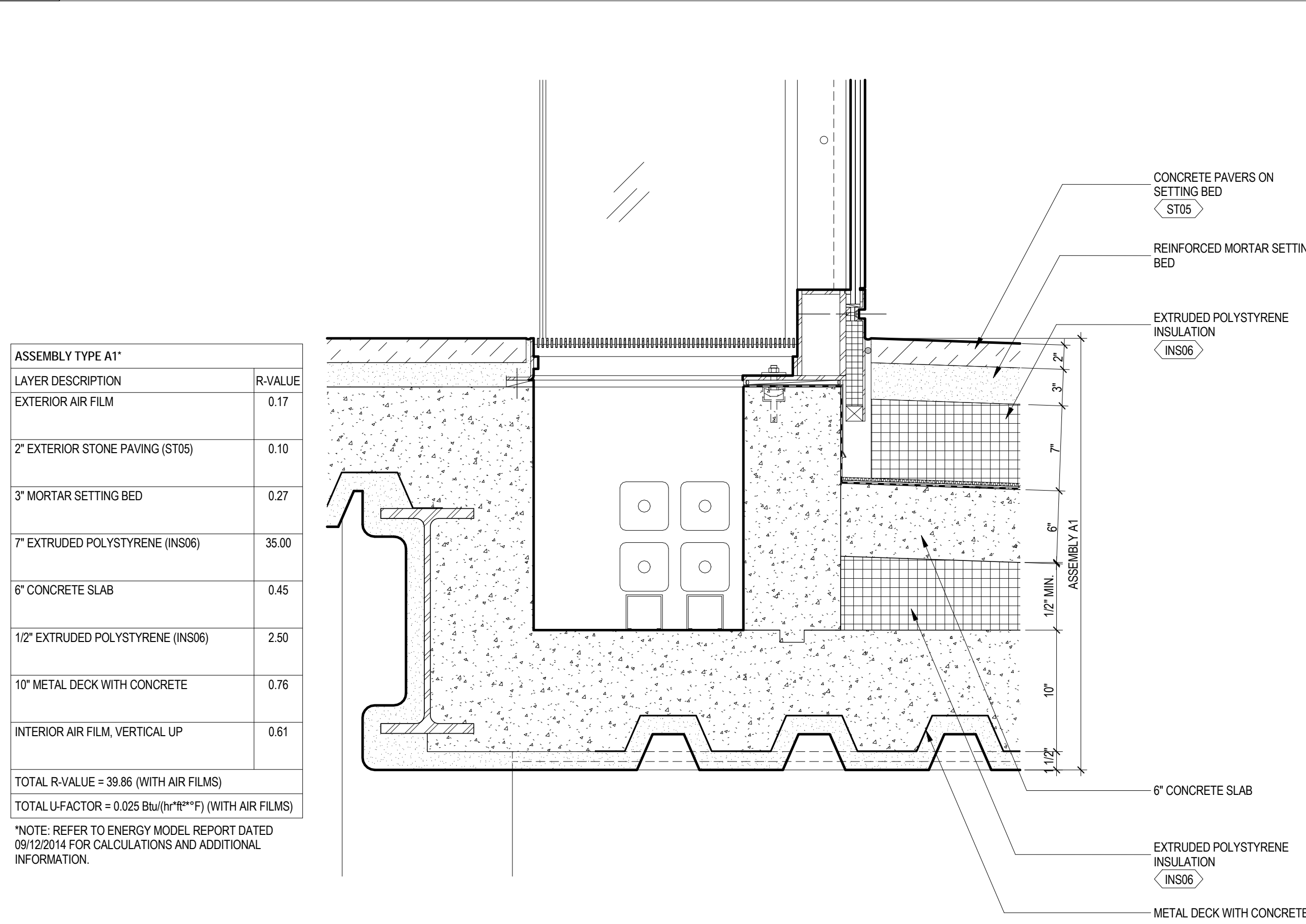
5 WALL/FLOOR ASSEMBLY AT CURTAIN WALL
SCALE: NTS



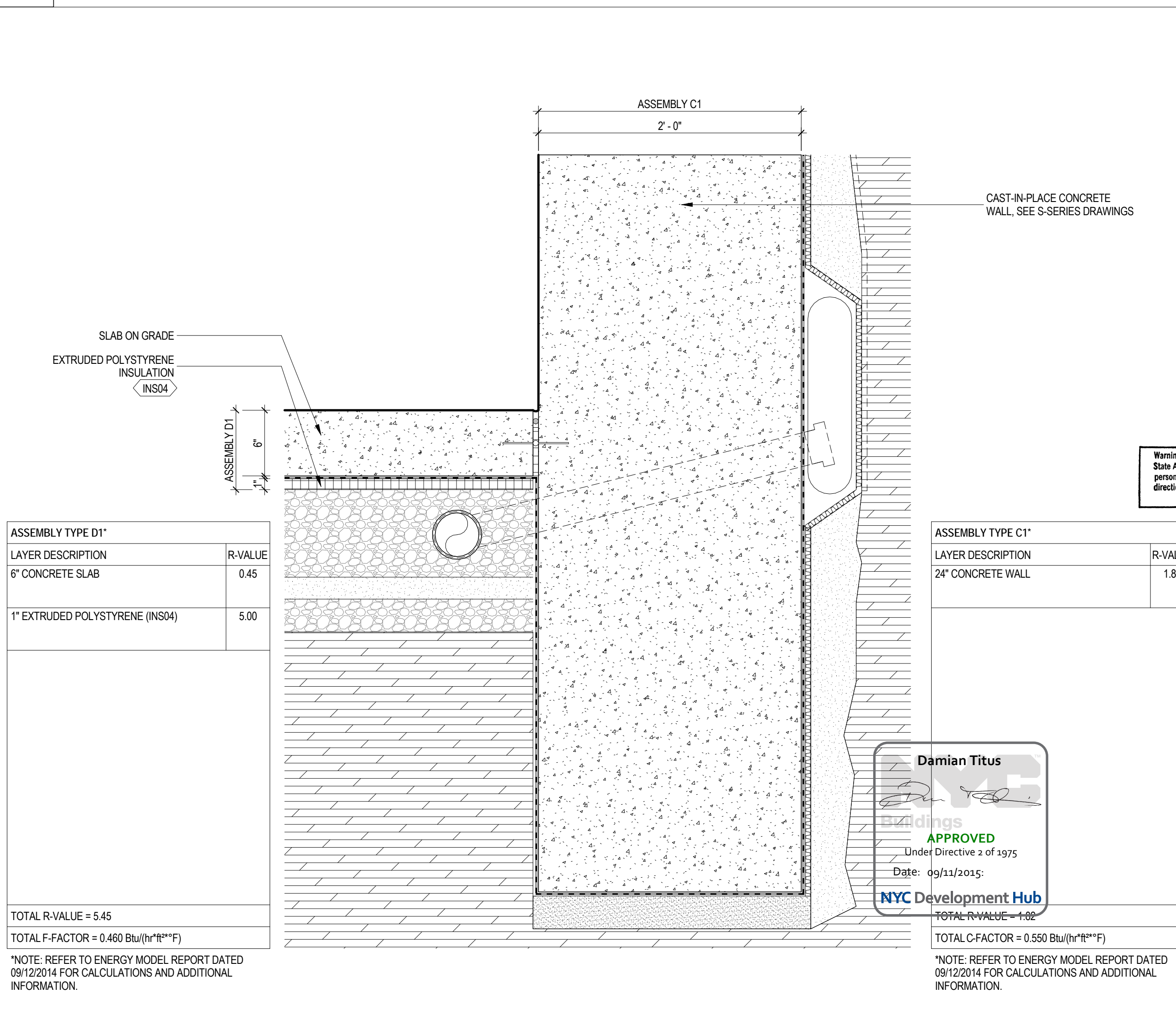
4 WALL ASSEMBLY AT CONCRETE MASONRY WALL
SCALE: 1 1/2" = 1'-0"



3 WALL ASSEMBLY AT STOREFRONT
SCALE: NTS



2 ROOF ASSEMBLY AT PLAZA
SCALE: NTS



Brookfield

250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habb & Associates
105 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Bluffside Ave., Suite 1, Mill Valley, California 94941

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

Geotechnical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 22nd W, 34th Street, New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:
Map showing project location on a grid of streets (Dyer Avenue, 31st Street, 32nd Street, 33rd Street, 9th Avenue).

Seal & Signature:
Professional Engineer Seal for Damian Titus, State of New York, No. 15649.

Warning: It is a violation of the New York State Environmental Conservation Law, § 87(1)(b) for any person, unless they are acting under the direction of a Licensed Architect, to alter this seal in any way.

3 28 APR 2015 ISSUED FOR ENERGY CODE REVIEW
2 30 JAN 2015 ISSUED FOR BUILDING PERMIT
1 12 SEPT 2014 ISSUED FOR FOUNDATION PERMIT

No. Date Description
Sheet Name:

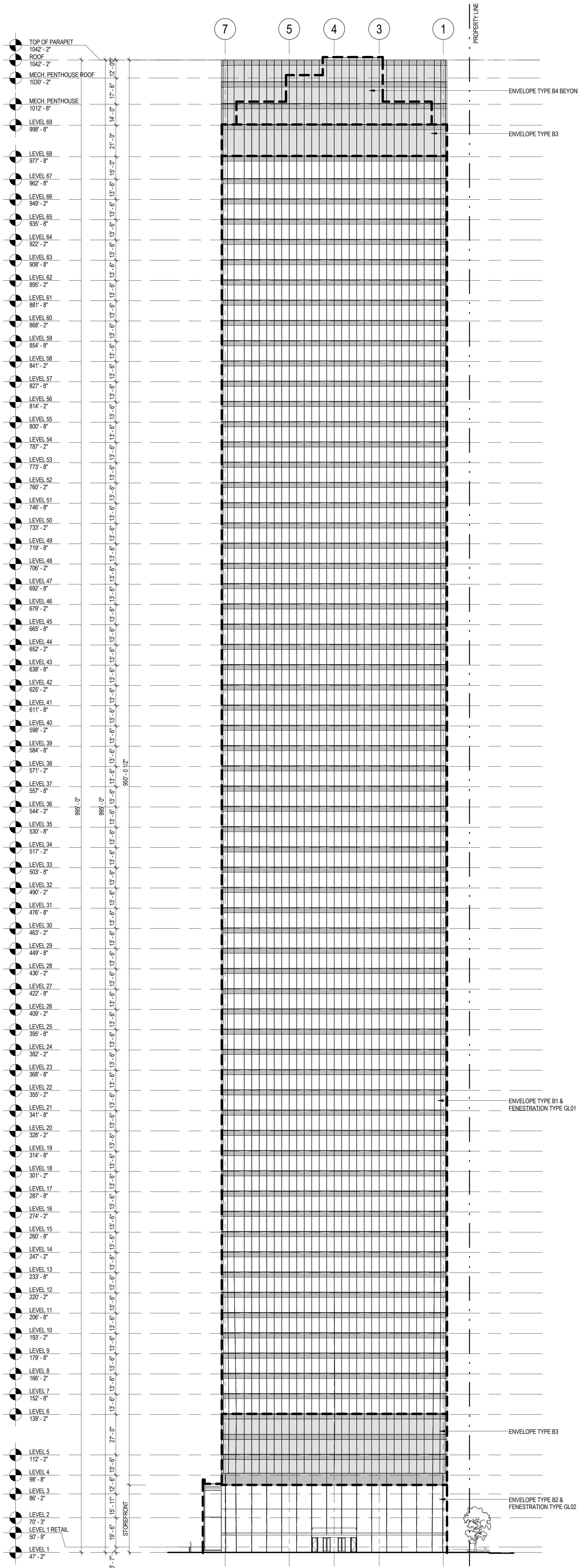
ENCLOSURE ASSEMBLIES

Project No.: 207150
Date: 28 APR 2015
Scale: 1 1/2" = 1'-0"
File No.: EN-200

Sheet No.: EN-200.00
Page No.: 1 OF 30

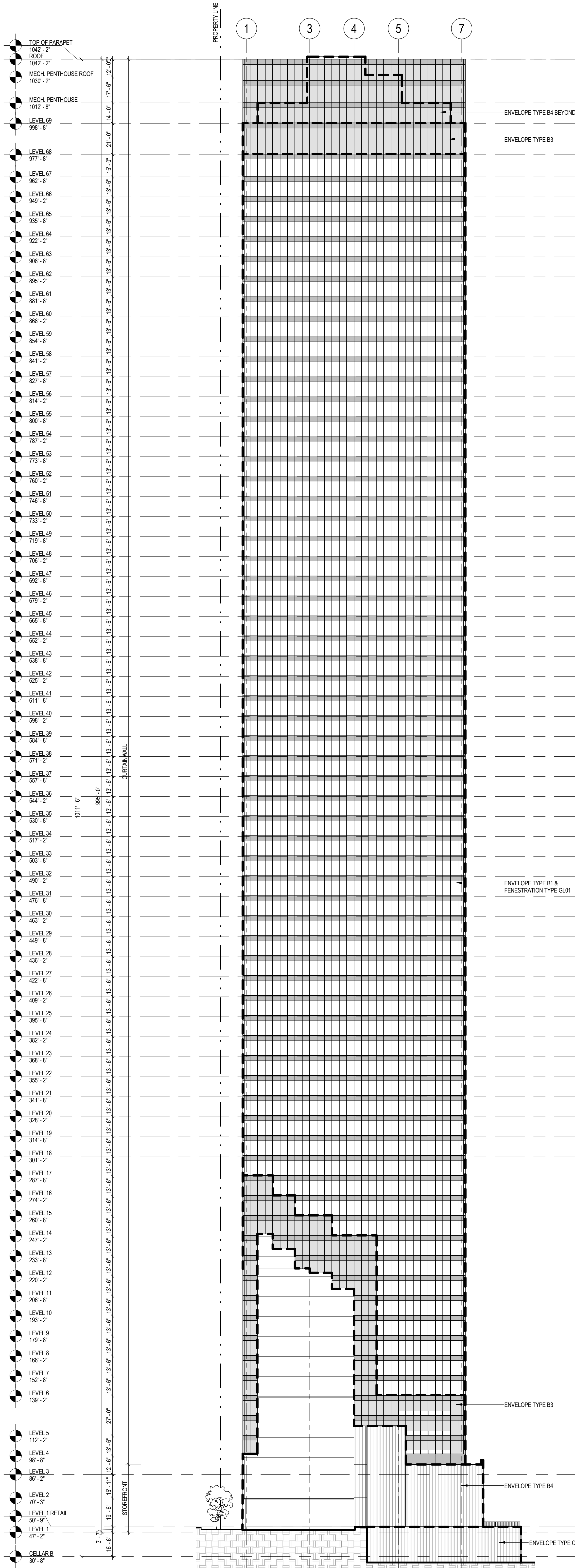
1 EAST BUILDING ELEVATION

SCALE: NTS



2 WEST BUILDING ELEVATION

SCALE: NTS



| NYCECC BUILDING ENVELOPE REQUIREMENTS - OPAQUE ELEMENTS (ECCOY'S TABLE 502.1.2) | | | | | | | |
|---|---------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|
| CLIMATE ZONE 4, COMMERCIAL BUILDING | | | | | | | |
| ENVELOPE TYPE | ENVELOPE AREA | MAXIMUM U-FACTOR | PROPOSED U-FACTOR | MAXIMUM C-FACTOR | PROPOSED C-FACTOR | MAXIMUM F-FACTOR | PROPOSED F-FACTOR |
| A. ROOFS | | | | | | | |
| A1: INSULATION ENTIRELY ABOVE DECK - PLAZA | 76,930 SF | U-0.048 | U-0.025 | - | - | - | - |
| A2: INSULATION ENTIRELY ABOVE DECK - TOWER | 31,173 SF | U-0.048 | U-0.038 | - | - | - | - |
| B. WALLS | | | | | | | |
| B1: METAL FRAMED - CURTAIN WALL | 134,788 SF | U-0.064 | U-0.179 | - | - | - | - |
| B2: METAL FRAMED - STOREFRONT | 536 SF | U-0.064 | U-0.890 | - | - | - | - |
| B3: METAL FRAMED - SHADOW BOX | 43,805 SF | U-0.064 | U-0.179 | - | - | - | - |
| B4: MASS - CONCRETE MASONRY UNIT | 31,371 SF | U-0.104 | U-0.128 | - | - | - | - |
| C. BELOW-GRADE WALLS | | | | | | | |
| C1: MASS - CONCRETE WALL | 13,291 SF | - | - | C-1.140 | C-0.550 | - | - |
| C2: MASS - CONCRETE MASONRY UNIT | 10,474 SF | - | - | C-1.140 | C-0.143 | - | - |
| D. SLAB-ON-GRADE FLOORS | | | | | | | |
| D1: UNHEATED SLABS | 55,263 SF | - | - | - | - | F-0.730 | F-0.480 |

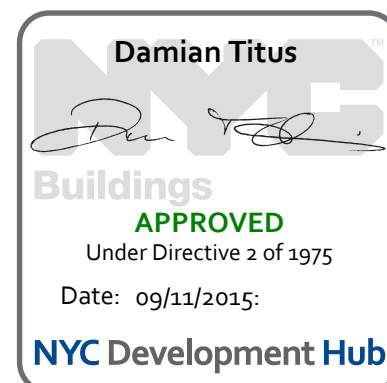
| NYCECC BUILDING ENVELOPE REQUIREMENTS - FENESTRATION (ECCOY'S TABLE 502.3) | | | | | |
|--|-------------------|------------------|-------------------|--------------|---------------|
| CLIMATE ZONE 4, COMMERCIAL BUILDING | | | | | |
| FENESTRATION TYPE | FENESTRATION AREA | MAXIMUM U-FACTOR | PROPOSED U-FACTOR | MAXIMUM SHGC | PROPOSED SHGC |
| METAL FRAMING WITH OR WITHOUT THERMAL BREAK | | | | | |
| CURTAIN WALL (GL01) - PF < 0.25 | 406,958 SF | U-0.500 | U-0.450 | SHGC-0.400 | SHGC-0.280 |
| STOREFRONT (GL02) - PF < 0.25 | 23,979 SF | U-0.500 | U-0.106 | SHGC-0.400 | SHGC-0.080 |

REFERENCE STANDARDS:

2014 NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC)
2010 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE (ECCOY'S)
ASHRAE STANDARD 90.1-2007

NOTES:

1. THE SCOPE OF WORK INDICATED IS BASED ON A PERFORMANCE BASED ENERGY ANALYSIS TO CONFIRM COMPLIANCE WITH THE NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC).
2. REFER TO SHEET EN-200 FOR BUILDING ASSEMBLY DESCRIPTIONS, DETAILS AND PERFORMANCE CRITERIA.
3. REFER TO PERFORMANCE BASED ENERGY ANALYSIS TITLED "ENERGY MODELING OF THE MANHATTAN WEST NORTH TOWER" FOR OUTPUT REPORTS OF THE ASSEMBLIES ON SHEET EN-200.



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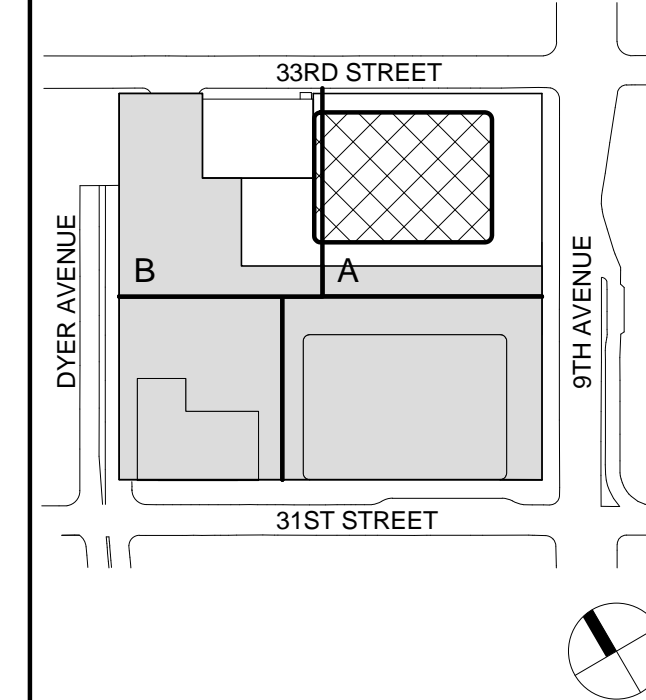
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Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature



Warning: It is a violation of the New York State Architecture Law, §13-5(b) for any person, unless they are acting under the direction of a Licensed Architect, to alter this item in any way.

1 30 JAN 2015 ISSUED FOR BUILDING PERMIT
No. Date Description
Sheet Name:

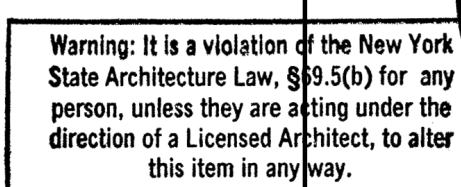
**BUILDING
ELEVATIONS -
FACADE
PERFORMANCE**

Project No.: 207150
Date: 30 JAN 2015
Scale: 1/32" = 1'-0"
File No.: EN-201
B-SCAN Sheet No.: EN-201.00
Sheet No.: EN-201
Page No.: 30

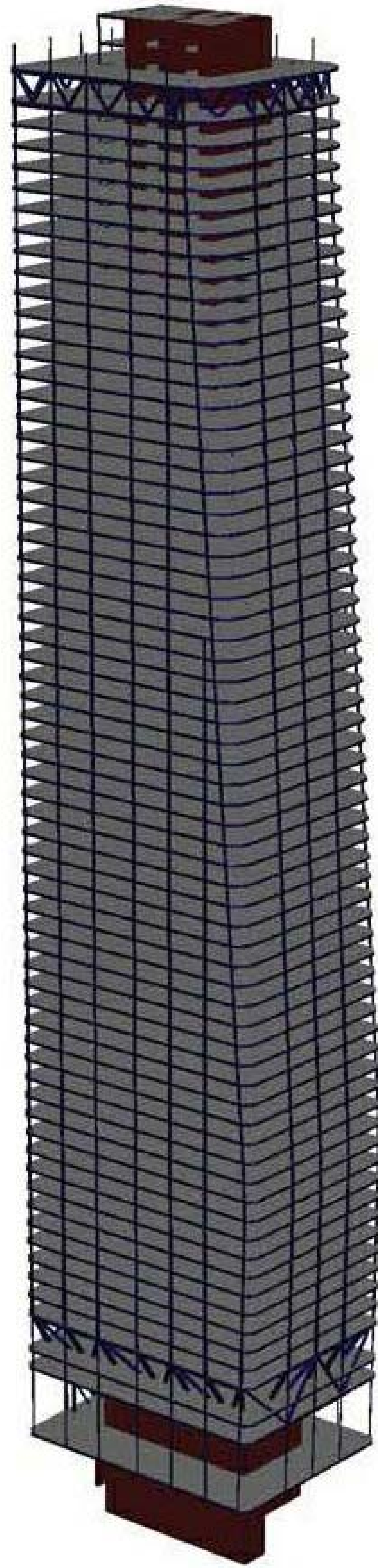


| PROPOSED U-FACTOR | MAXIMUM SHGC | PROPOSED SHGC |
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| U-1.06 | SHGC-0.400 | SHGC-0.880 |

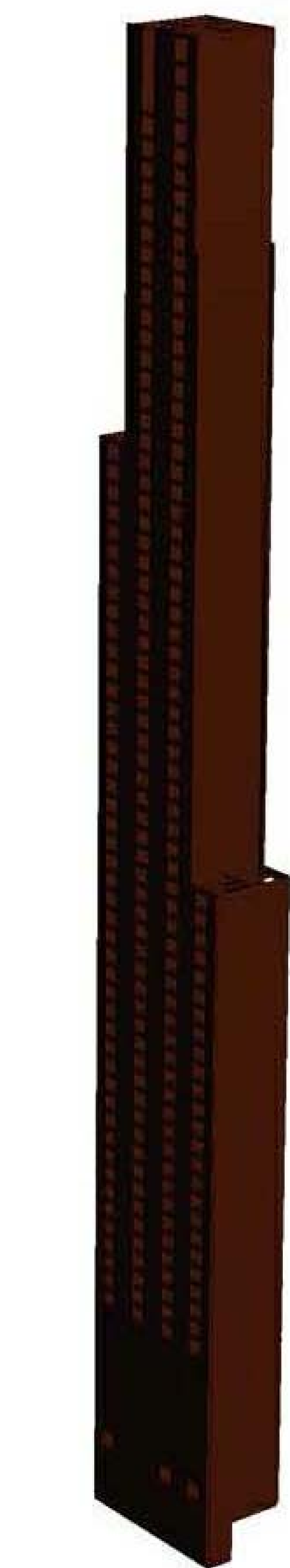
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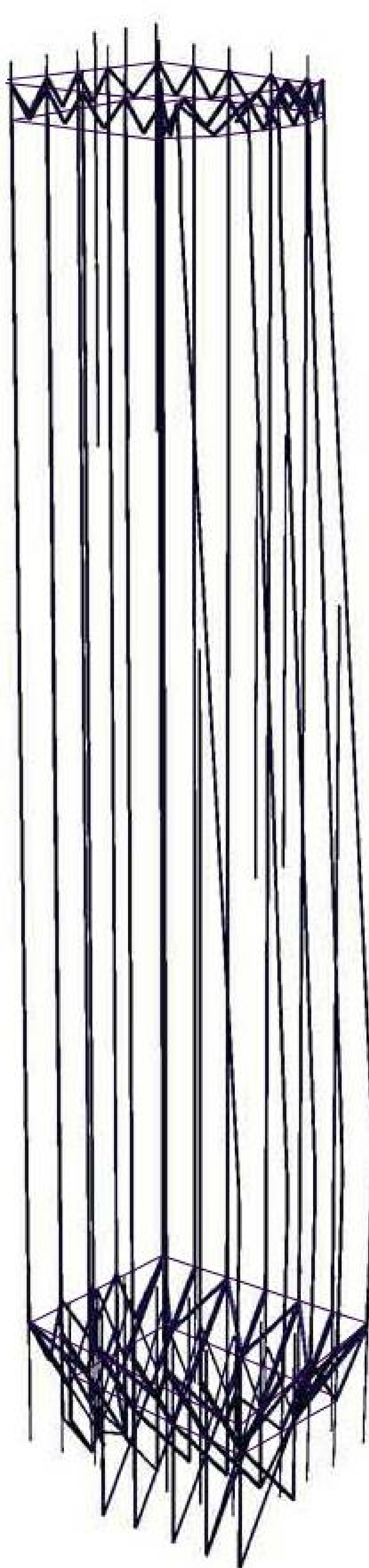
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| Date: 30 JAN 2015 | Sheet No.: EN-202 |
| Scale: 1/32" = 1'-0" | |
| File No.: EN-202 | Page No.: 30 |



OVERALL STRUCTURAL SYSTEM



REINFORCED CONCRETE CORE WALLS



STEEL COLUMNS, "KICKERS" & BELT TRUSSES



COMPOSITE DECK & STEEL FLOOR FRAMING

| STRUCTURAL DRAWINGS | | |
|---------------------|---|------------|
| DOB Sheet Number | DRAWING NAME | SCALE |
| S-001.00 | STRUCTURAL SYSTEMS DRAWING AND SHEET LIST | NTS |
| S-002.00 | TYPICAL STRUCTURAL SYMBOLS AND ABBREVIATIONS | NTS |
| S-003.00 | EXCAVATION AND FOUNDATION NOTES | NTS |
| S-004.00 | STRUCTURAL CONCRETE NOTES | NTS |
| S-005.00 | STRUCTURAL STEEL AND METAL DECK NOTES | NTS |
| S-010.00 | LOADING DIAGRAMS | NTS |
| S-011.00 | LOADING DIAGRAMS | NTS |
| S-050.00 | OVERALL LEVEL 8 PLAN | NTS |
| S-051.00 | OVERALL GROUND FLOOR PLAN | NTS |
| S-092.00 | FOUNDATION LOWER PLAN (TRACK LEVEL) | 1/8"=1'-0" |
| S-093.00 | FOUNDATION UPPER PLAN | 1/8"=1'-0" |
| S-094.00 | CELLAR B1 PITS FLOOR FRAMING PLAN | 1/8"=1'-0" |
| S-095.00 | CELLAR B1 FLOOR FRAMING PLAN - PART A | 1/8"=1'-0" |
| S-096.00 | CELLAR B1 FLOOR FRAMING PLAN - PART B | 1/8"=1'-0" |
| S-097.00 | CELLAR B FLOOR FRAMING PLAN - PART A | 1/8"=1'-0" |
| S-098.00 | CELLAR B FLOOR FRAMING PLAN - PART B | 1/8"=1'-0" |
| S-100.00 | GROUND FLOOR FRAMING PLAN - LOBBY - PART A | 1/8"=1'-0" |
| S-101.00 | GROUND FLOOR FRAMING PLAN - LOBBY - PART B | 1/8"=1'-0" |
| S-102.00 | 2ND FLOOR FRAMING PLAN | 1/8"=1'-0" |
| S-103.00 | 3RD FLOOR FRAMING PLAN | 1/8"=1'-0" |
| S-104.00 | 4TH FLOOR FRAMING PLAN - MECHANICAL | 1/8"=1'-0" |
| S-105.00 | 5TH FLOOR FRAMING PLAN - MECHANICAL MEZZANINE | 1/8"=1'-0" |
| S-106.00 | 6TH FLOOR FRAMING PLAN - LOW-RISE | 1/8"=1'-0" |
| S-116.00 | 16TH FLOOR FRAMING PLAN - TYPICAL LOW-RISE | 1/8"=1'-0" |
| S-131.00 | 31ST FLOOR FRAMING PLAN - MID-RISE | 1/8"=1'-0" |
| S-137.00 | 37TH FLOOR FRAMING PLAN - TYPICAL MID-RISE | 1/8"=1'-0" |
| S-153.00 | 53RD FLOOR FRAMING PLAN - HIGH-RISE | 1/8"=1'-0" |
| S-159.00 | 59TH FLOOR FRAMING PLAN - TYPICAL HIGH-RISE | 1/8"=1'-0" |
| S-168.00 | 68TH FLOOR FRAMING PLAN - MECHANICAL | 1/8"=1'-0" |
| S-169.00 | 68TH FLOOR FRAMING PLAN - MECHANICAL MEZZANINE | 1/8"=1'-0" |
| S-170.00 | ROOF FRAMING PLAN - MECHANICAL PENTHOUSE | 1/8"=1'-0" |
| S-171.00 | ROOF FRAMING PLAN | 1/8"=1'-0" |
| S-201.00 | TOWER ELEVATIONS | AS NOTED |
| S-202.00 | TOWER ELEVATIONS | AS NOTED |
| S-203.00 | TOWER SECTIONS | AS NOTED |
| S-204.00 | TOWER SECTIONS | AS NOTED |
| S-301.00 | CORE WALL CONT. FOOTING SECTIONS & DETAILS | AS NOTED |
| S-302.00 | CORE WALL CONT. FOOTING SECTIONS & DETAILS | AS NOTED |
| S-307.00 | SPREAD FOOTING SCHEDULE, SECTIONS & DETAILS | AS NOTED |
| S-310.00 | WEST PERIMETER COLUMN FOUNDATION SECTIONS & DETAILS | AS NOTED |
| S-311.00 | WEST PERIMETER COLUMN FOUNDATION SECTIONS & DETAILS | AS NOTED |
| S-315.00 | FOUNDATION WALL ELEVATIONS | AS NOTED |
| S-316.00 | FOUNDATION WALL SECTIONS & DETAILS | AS NOTED |
| S-317.00 | FOUNDATION WALL SECTIONS & DETAILS | AS NOTED |
| S-318.00 | FOUNDATION WALL SECTIONS & DETAILS | AS NOTED |
| S-325.00 | SLAB-ON-GRADE SECTIONS & DETAILS | AS NOTED |
| S-340.00 | REINFORCED CONCRETE CORE WALL SCHEDULE, SECTIONS & DETAILS | AS NOTED |
| S-341.00 | TYPICAL REINFORCED CONCRETE WALL DETAILS | AS NOTED |
| S-342.00 | CORE WALL REINFORCEMENT LAYOUT | AS NOTED |
| S-343.00 | CORE WALL REINFORCEMENT LAYOUT | AS NOTED |
| S-344.00 | CORE WALL REINFORCEMENT LAYOUT | AS NOTED |
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| S-353.00 | CORE WALL REINFORCEMENT LAYOUT | AS NOTED |
| S-354.00 | CORE WALL REINFORCEMENT LAYOUT | AS NOTED |
| S-355.00 | LINK BEAM SCHEDULES, SECTIONS & DETAILS | AS NOTED |
| S-356.00 | LINK BEAM SECTION AND DETAILS | AS NOTED |
| S-360.00 | CORE WALL ELEVATIONS ALONG LINE 3 | AS NOTED |
| S-361.00 | CORE WALL ELEVATIONS ALONG LINE 5 | AS NOTED |
| S-362.00 | CORE WALL ELEVATIONS ALONG LINE C | AS NOTED |
| S-363.00 | CORE WALL ELEVATIONS ALONG LINE D | AS NOTED |
| S-364.00 | CORE WALL ELEVATIONS ALONG LINE E | AS NOTED |
| S-365.00 | CORE WALL ELEVATIONS ALONG LINE F | AS NOTED |
| S-366.00 | CORE WALL ELEVATIONS ALONG LINE G | AS NOTED |
| S-367.00 | CORE WALL ELEVATIONS ALONG LINE 4 | AS NOTED |
| S-368.00 | CORE WALL ELEVATIONS WITHIN SERVICE CORE BETWEEN LINES D & E | AS NOTED |
| S-370.00 | REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS & DETAILS | AS NOTED |
| S-375.00 | REINFORCED CONCRETE SLAB SCHEDULE, SECTIONS & DETAIL | AS NOTED |
| S-401.00 | STRUCTURAL STEEL COLUMN SCHEDULE, SECTIONS & DETAILS | AS NOTED |
| S-402.00 | STRUCTURAL STEEL COLUMN SCHEDULE, SECTIONS & DETAILS | AS NOTED |
| S-405.00 | KICKER COLUMNS AT CORE LINES C TO F - SCHEDULES, ELEVATIONS, SECTIONS & DETAILS | AS NOTED |
| S-406.00 | KICKER COLUMNS AT CORE LINE G - SCHEDULES, ELEVATIONS, SECTIONS & DETAILS | AS NOTED |
| S-407.00 | KICKER COLUMNS AT CORE LINE 3 & 5 SCHEDULES, ELEVATIONS, SECTIONS & DETAILS | AS NOTED |
| S-408.00 | KICKER COLUMN AT LINE B - SCHEDULE, ELEVATIONS, SECTIONS & DETAILS | AS NOTED |
| S-409.00 | COLUMNS & DIAGONALS ON LINE A BELOW LEVEL 6 - SECTIONS & DETAILS | AS NOTED |
| S-410.00 | KICKER COLUMN SECTIONS & DETAILS | AS NOTED |
| S-411.00 | COLUMNS & DIAGONALS EAST OF LINE J BELOW LEVEL 1 - SECTIONS & DETAILS | AS NOTED |
| S-415.00 | LOWER BELT TRUSS SCHEDULES, SECTIONS & DETAILS | AS NOTED |
| S-416.00 | UPPER BELT TRUSS SCHEDULES, SECTIONS & DETAILS | AS NOTED |
| S-417.00 | BELT TRUSS SECTIONS & DETAILS | AS NOTED |
| S-420.00 | TYPICAL STRUCTURAL STEEL SECTIONS & DETAILS | AS NOTED |
| S-421.00 | TYPICAL STRUCTURAL STEEL SECTIONS & DETAILS | AS NOTED |
| S-422.00 | RETAIL SECTIONS | AS NOTED |
| S-501.00 | METAL DECK SLAB SCHEDULES, SECTIONS & DETAILS | AS NOTED |

STRUCTURAL SYSTEM DESCRIPTION

A. FOUNDATIONS

1. Foundation System

The primary foundation system for the North Tower is a series of continuous reinforced concrete footings on rock supporting the Tower's central reinforced concrete core walls. These footings are excavated in the underlying rock beginning near the Track Level of the site. The nominal rock capacity at Track Level is 40 to 90TSPF. The footings under the core will be embedded into the sound rock to enhance the allowable strength increases per the NYC Building Code. A significant number of rock anchor tie-downs will be required primarily under the north and south continuous footings of the core to resist the overturning forces from the applied wind loads. In addition to the continuous footings under the core, a mega column foundation will be constructed on the west face of the Tower to take the load from the perimeter columns which "kick" in from the north, south and west sides towards the middle of each face. These foundations are constructed near the B Level and occur just behind the existing retaining wall and Platform support structure.

B. SUPERSTRUCTURE

1. Gravity System

The North Tower will consist of seventy-one stories above grade and one below-grade level. Height above Plaza Level is currently anticipated to be approximately 995'. Typical floor-to-floor heights in the office floors will be 13'-6". The eastern face of the building curves back to the west over the height of the Tower leading to a smaller floor plan at the top.

The gravity system will utilize reinforced concrete slab on composite metal deck supported by structural steel floor beams and girders outside of the core wall system and one-way reinforced concrete beams and slabs within the core area. The floor beams and girders will frame to either perimeter columns, spandrel beams or the concrete core at the center of the building. The column elements will be rolled shapes where possible. Built-up structural steel column shapes will likely be required in the lower portions of the building where loads are the highest. The majority of exterior columns along grid line 1 and 7 will "kick back" to the concrete core below level 6. The mechanical floor will have in-plane bracing to take out the tension forces. Additional bracing is utilized below level 6 along grid line A and B, to take the shear force due to unbalanced live load cases. With all the gravity loads transferred back to the core, the uplift due to wind or seismic is also reduced. At the two major mechanical levels, structural steel belt trusses are used which aid in equalizing the columns loads. The belt trusses will also provide system redundancy for progressive collapse mitigation.

2. Lateral System

The lateral system will be a ductile reinforced concrete core system. The flange wall thickness varies from 54" to 24", and the web wall thickness varies from 24" to 18". The core wall concrete strength is 10000 psi at the lower portion and 8000 psi at upper portion for all the walls. The core walls are currently designed for wind loads based on the Wind Tunnel testing results from the 50% DD model extrapolated by SOM to the new height. Revised wind tunnel loads are pending.

| PRELIMINARY STRUCTURAL QUANTITIES | | | | |
|--|----------------|--|--|------------------------|
| Gross Building Area (not including Slab-on-Grade) | | 1,934,000 sf (within Tower footprint) | | |
| STRUCTURAL CONCRETE | | | | |
| Foundations | Concrete Rebar | 3200 cy 370 tons | | 0.04 cfsf 0.38 psf |
| Core Walls/Link Beams Below Level 6 | Concrete Rebar | 9500 cy 1580 tons | | 0.13 cfsf 1.63 psf |
| Core Walls/Link Beams Above Level 6 | Concrete Rebar | 29100 cy 4200 tons | | 0.41 cfsf 4.34 psf |
| Composite Deck Slab | Concrete Rebar | 20350 tons 650 tons | | 0.28 cfsf 0.67 psf |
| Core Beams & Slabs | Concrete Rebar | 6300 cy 580 tons | | 0.09 cfsf 0.60 psf |
| Total Quantity | Concrete Rebar | 68450 cy 10210 tons | | 0.96 cfsf 10.56 psf |
| STRUCTURAL STEEL | | | | |
| Columns Above Level 6 | | 5600 tons | | 5.79 psf |
| Kicker Columns, Lower Belt Trusses, & Diagonals Below Level 6 (including Embedded Steel) | | 4200 tons | | 4.34 psf |
| Upper Belt Trusses and Outrigger Trusses | | 1200 tons | | 1.24 psf |
| Floor Beams & Girders | | 7500 tons | | 7.76 psf |
| Embedded Steel in Link Beams | | 400 tons | | 0.41 psf |
| Connections | | 1700 tons | | 1.76 psf |
| Misc. | | 240 tons | | 0.25 psf |
| Total Quantity | | 20840 tons | | 21.55 psf |

NOTES:

- The quantities given are anticipated and only include materials required for the primary structural system within the footprint of the tower. The quantities above exclude exterior cladding support, miscellaneous mechanical support framing, stairs, window washing framing, elevator framing, cooling tower framing, secondary services framing and framing for entrance canopies. Removable steel work required for temporary building stability or shoring during construction is also excluded. These quantities include additional concrete required for MEP pads, architectural curbs, pit walls, and additional reinforcement bar required for slab openings.
- The above quantities do include progressive collapse based on project security recommendations and direction from Brookfield.
- The above quantities do not include the structural components outside the footprint of the tower as documented in the structural drawings.
- The above quantities do not include seismic special detailing or blast requirements, if required.
- The above quantities do not include rock tie-downs.
- The above quantities do not include slab-on-grade.
- The baseline structure has been designed to accommodate the security criteria developed for this project which is more stringent than that currently required by NYC code.

This alternative would base the design on the approach outlined in the NYC code. The following preliminary tonnage savings are expected:

- Structural Steel Columns = 1900 tons (including connection allowances)
- Structural Steel Kicker Columns, Belt Trusses and Outrigger Trusses = 1400 tons (including connection allowances)

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650 Woodlawn Road West, Guelph Ontario, Canada N1K 1B6

Key Plan:

Seal & Signature:

PRELIMINARY
NOT FOR CONSTRUCTION

| | | |
|---|-------------|-----------------------------------|
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2013 | ISSUED FOR RECONCILIATION |

No. _____ Date _____ Description _____
Sheet Name _____

Project No.: 211157
Date: 20 JUN 2014
Scale: _____
File No.: S-001

B-SCAN Sheet No.:
S-001.00
Sheet No.:
S-001
Page No.: 1 of 90



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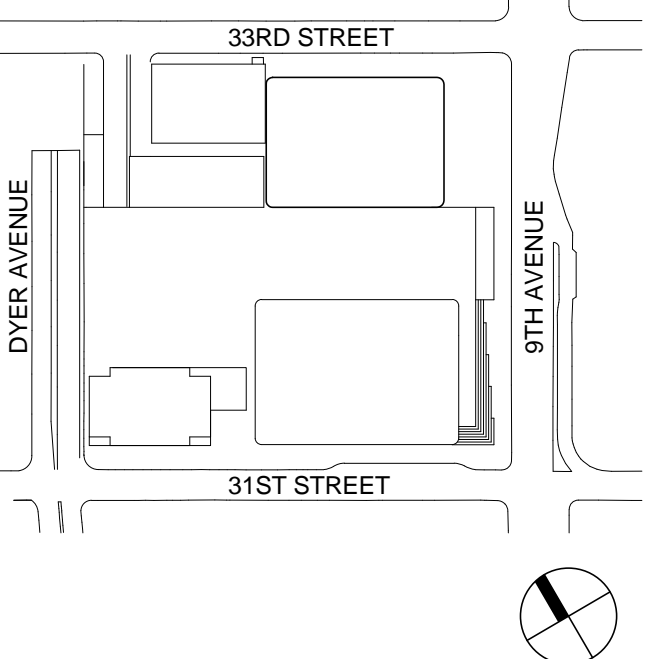
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Key Plan:



Seal & Signature:

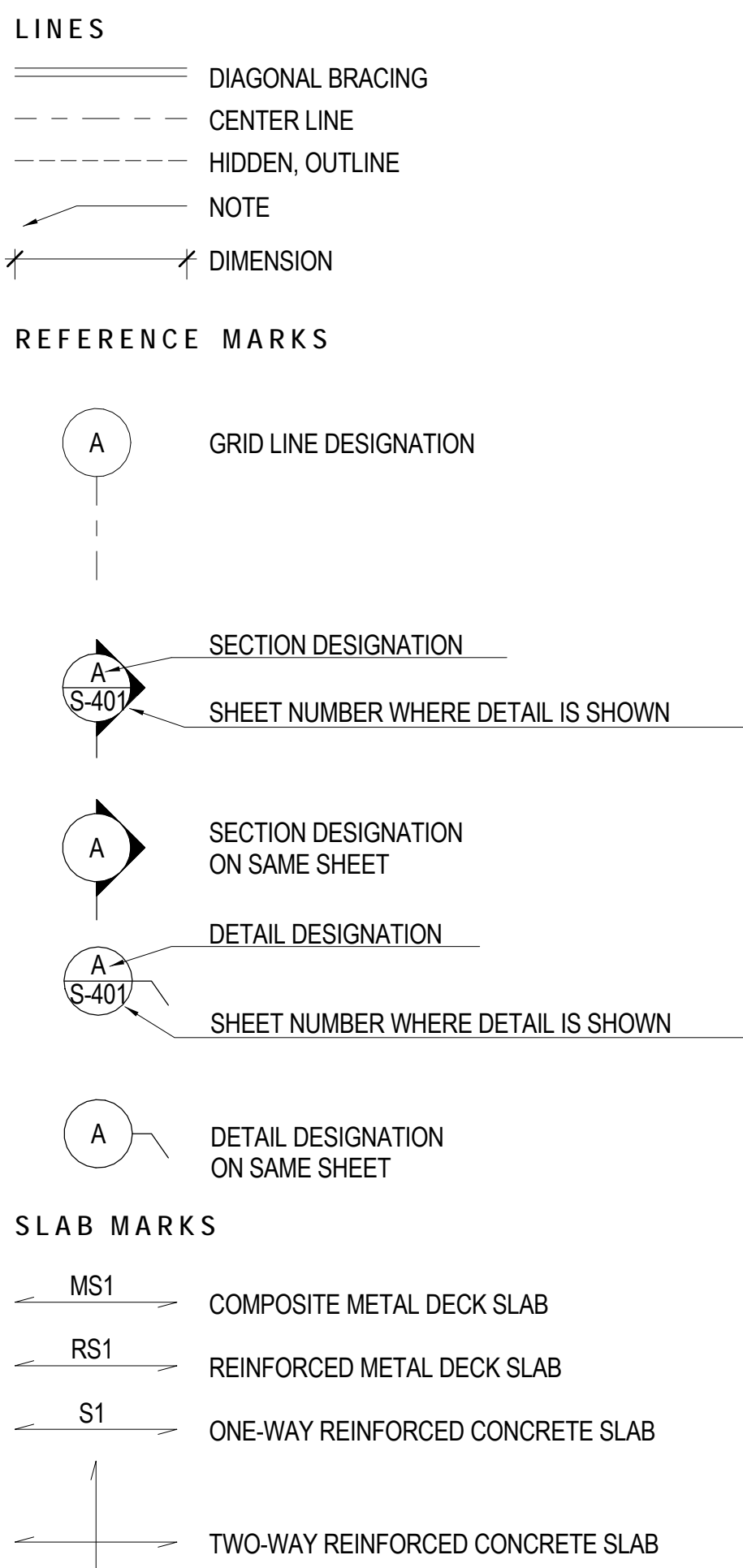
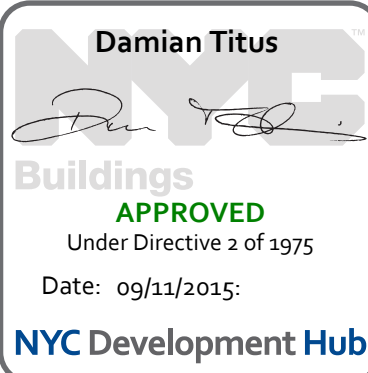
PRELIMINARY
NOT FOR CONSTRUCTION

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| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 30% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

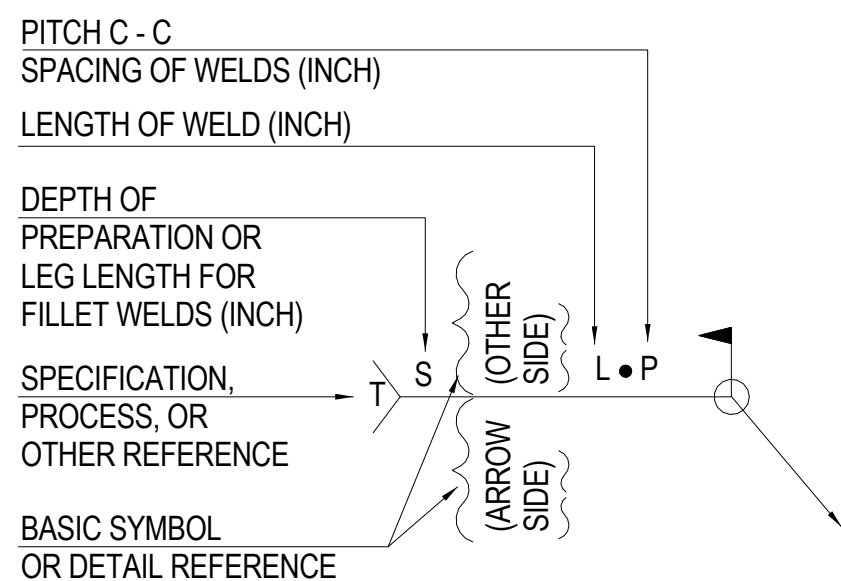
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TYPICAL
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SYMBOLS AND
ABBREVIATIONS

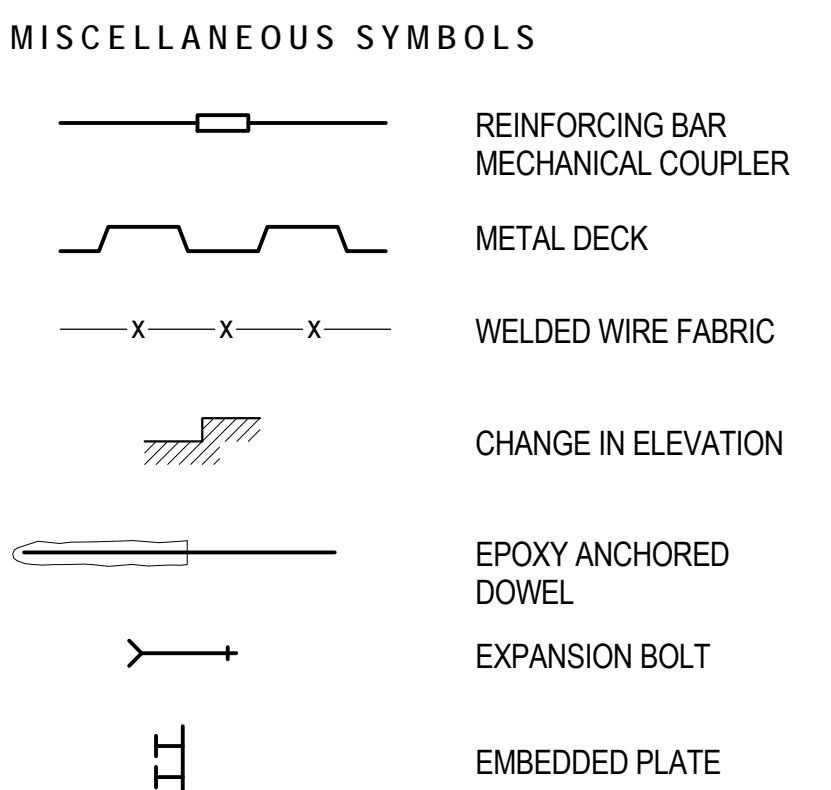
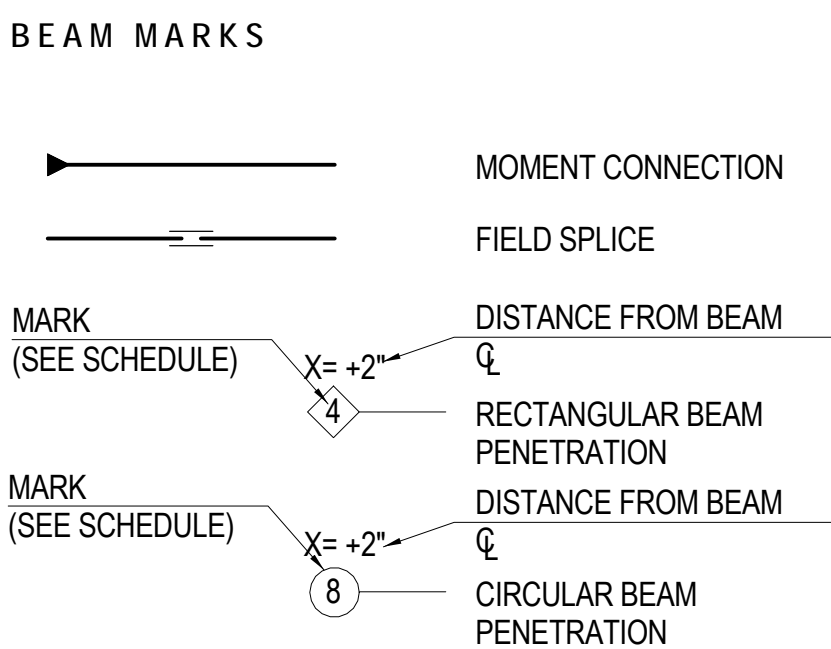
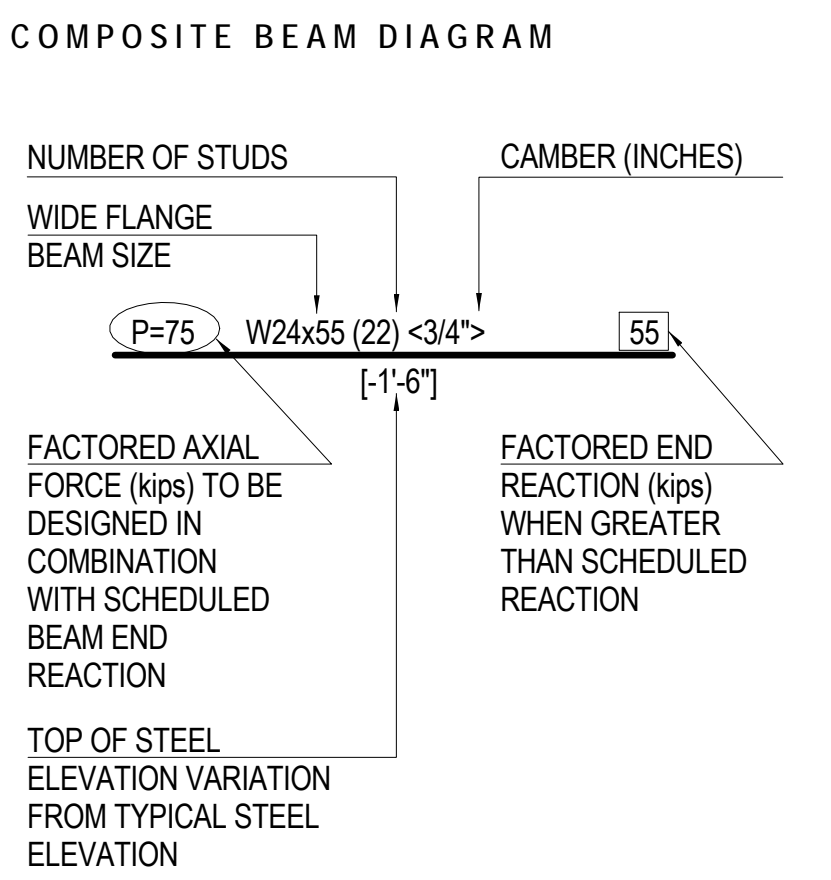
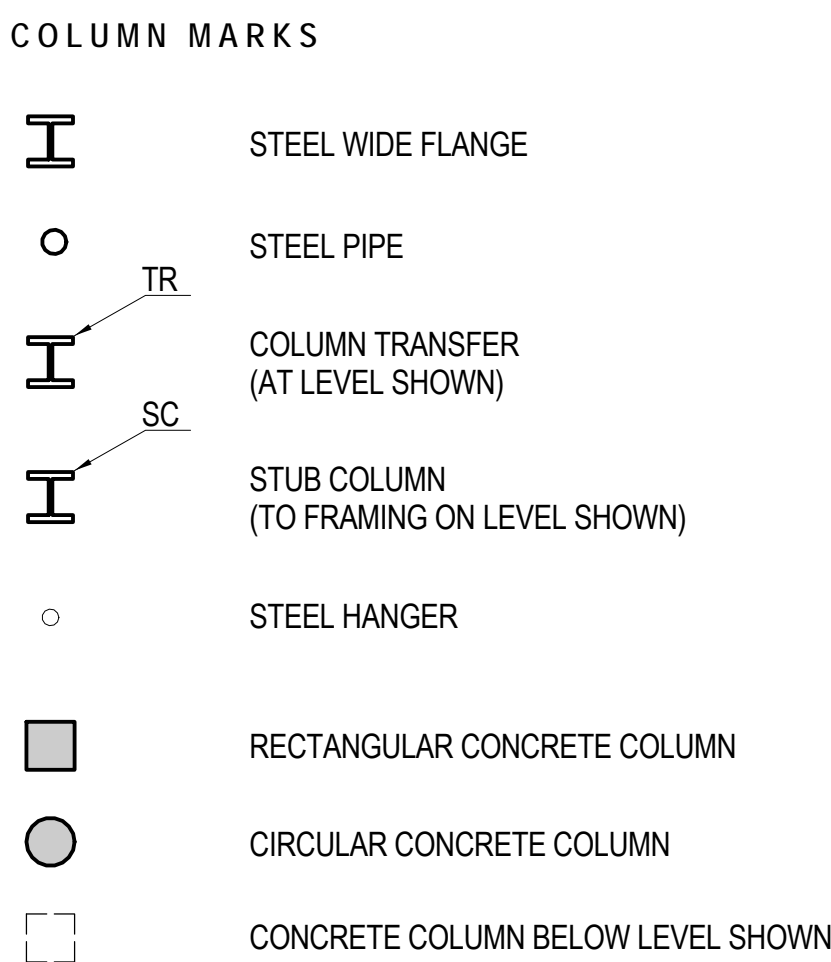
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| Project No.: 211157 | B-SCAN Sheet No.: S-002.00 |
| Date: 20 JUN 2014 | Sheet No.: S-002 |
| Scale: 1/2" = 1'-0" | Page No.: 2 of 90 |
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| BASIC SYMBOLS | | | | | |
|-----------------------|-------------|------------|---------------|----------------|-------|
| BACK | FILLET | PLUG SLOT | SQUARE | GROOVE OR BUTT | BEVEL |
| | | | | | |
| SUPPLEMENTARY SYMBOLS | | | | | |
| BACKING | WELD AROUND | FIELD WELD | CONTOUR FLUSH | CONVEX | |
| | | | | | |



| PAINT SYSTEM IDENTIFICATION | |
|-----------------------------|--|
| II | INTERIOR EXPOSED STRUCTURAL STEEL WITH INTUMESCENT FIREPROOFING |
| IP | INTERIOR EXPOSED STRUCTURAL STEEL WITHOUT INTUMESCENT FIREPROOFING |
| EP | EXTERIOR EXPOSED STRUCTURAL STEEL |
| EC | EPOXY BARRIER COATING SYSTEM |



| ABBREVIATIONS | |
|---------------|--|
| ACI | = AMERICAN CONCRETE INSTITUTE |
| AESS | = ARCHITECTURALLY EXPOSED STRUCTURAL STEEL |
| AISC | = AMERICAN INSTITUTE OF STEEL CONSTRUCTION |
| ASIS | = AMERICAN IRON AND STEEL INSTITUTE |
| APPROX | = APPROXIMATE, APPROXIMATELY |
| ARCH | = ARCHITECT, ARCHITECTURAL |
| ASCE | = AMERICAN SOCIETY OF CIVIL ENGINEERS |
| ASTM | = AMERICAN SOCIETY OF CIVIL ENGINEERS |
| AWS | = AMERICAN WELDING SOCIETY |
| B/ | = BOTTOM OF |
| C-C | = CENTER-TO-CENTER |
| CONC | = CONCRETE |
| CONT | = CONTINUOUS |
| CU | = CUBIC |
| DEG | = DEGREE |
| DIA | = DIAMETER |
| DIAG | = DIAGONAL |
| EA | = EACH |
| EW, EF | = EACH WAY, EACH FACE |
| EOS | = EDGE OF SLAB |
| E | = ELEVATOR SHAFT |
| EL | = ELEVATION |
| EXT | = EXTERIOR |
| FDN | = FOUNDATION |
| FTG | = FOOTING |
| GA | = GAUGE, GAGE |
| GALV | = GALVANIZED |
| HORIZ | = HORIZONTAL |
| HP | = HIGH POINT |
| HSS | = HOLLOW STRUCTURAL SHAPE |
| IBC | = INTERNATIONAL BUILDING CODE |
| INT | = INTERIOR |
| KIPS | = THOUSANDS OF POUNDS |
| KLF | = KIPS PER LINEAL FOOT |
| KSF | = KIPS PER SQUARE FOOT |
| KSI | = KIPS PER SQUARE INCH |
| LB(S) | = POUND(S) |
| LOC | = LOCATION |
| LLV | = LONG LEG VERTICAL |
| LLH | = LONG LEG HORIZONTAL |
| LWT | = LIGHTWEIGHT |
| M | = MECHANICAL SHAFT |
| MAX | = MAXIMUM |
| MEZZ | = MEZZANINE |
| MIN | = MINIMUM |
| MISC | = MISCELLANEOUS |
| NTS | = NOT TO SCALE |
| NWT | = NORMAL WEIGHT |
| O.C. | = ON CENTER |
| OPP. | = OPPOSITE |
| PERP | = PERPENDICULAR |
| PL | = PLATE |
| PLF | = POUNDS PER LINEAL FOOT |
| PSF | = POUNDS PER SQUARE FOOT |
| PSI | = POUNDS PER SQUARE INCH |
| REQ'D | = REQUIRED |
| REV | = REVISION, REVISED |
| S | = STAIR OPENING |
| S.C. | = SLIP-CRITICAL |
| SCHED | = SCHEDULE |
| SECT | = SECTION |
| SHT | = SHEET |
| SIM | = SIMILAR |
| SPEC | = SPECIFICATION |
| S.S. | = STAINLESS STEEL |
| STRUC | = STRUCTURE, STRUCTURAL |
| T/ | = TOP OF |
| TYP. | = TYPICAL |
| U.N.O. | = UNLESS NOTED OTHERWISE |
| V.I.F. | = VERIFY IN FIELD |
| W/ | = WITH |
| W/O | = WITHOUT |
| W.P. | = WORK POINT |
| W.W.F. | = WELDED WIRE FABRIC |

GENERAL EXCAVATION NOTES

1. THE GENERAL EXCAVATION PROGRAM, INCLUDING METHODS, SEQUENCES, PROTECTION OF EXCAVATION SURFACES, ETC., SHALL BE THE COMPLETE AND SOLE RESPONSIBILITY OF THE CONTRACTOR. SOIL RETENTION SYSTEMS WILL BE REQUIRED IN ALL THE NON-ROCK EXCAVATION ZONES, ESPECIALLY ADJACENT TO ROADWAYS AND RAILROAD TRACKS. EXCAVATION-RETENTION SYSTEM DESIGN, INSTALLATION, MAINTENANCE, AND REMOVAL SHALL ALSO BE THE COMPLETE AND SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND MINIMIZE SETTLEMENT OF EXISTING OR NEW CONSTRUCTION INSIDE OR OUTSIDE THE PROJECT LIMITS. ANY DAMAGE TO NEW OR EXISTING CONSTRUCTION, INSIDE OR OUTSIDE OF THE PROJECT LIMITS, CAUSED BY EXCAVATION TECHNIQUES OR MOVEMENTS OF THE ANY SOIL RETENTION SYSTEM IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. WHEN EXCAVATION IS NEAR THE TRACKS, RAILROAD PROTECTION IS REQUIRED. WHEN EXCAVATION IS NEAR THE TRACKS, SUPPORT OF THE TRACKS IS REQUIRED.
2. THE CONTRACTOR SHALL RETAIN A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK ACCEPTABLE TO THE ENGINEER-OF-RECORD TO DESIGN AND INSPECT THE ROCK EXCAVATION PROGRAM AND ANY EXCAVATION-RETENTION SYSTEM COMPONENTS, INCLUDING ALL MEASURES REQUIRED TO SUPPORT, EITHER PERMANENTLY OR TEMPORARILY, ADJACENT FOUNDATIONS, BUILDINGS, RAILROAD TRACKS, STREETS, PROPERTIES, SIDEWALKS, AND UTILITIES. THESE MEASURES INCLUDE UNDERPINNING, ROCK BOLTING, SHOTCRETING, TIEBACKS, SHEETING, AND SHORING.
3. THE ROCK EXCAVATION PROGRAM AND ANY EXCAVATION-RETENTION SYSTEMS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE GEOTECHNICAL DESIGN PARAMETERS AND SOIL PRESSURES AS INDICATED IN THE GEOTECHNICAL EXPLORATION REPORT. REFER TO NOTE #19 BELOW.
4. SLOT OR LINE DRILL AS REQUIRED.
5. PLUG ALL SLEEPS & LENSES IN ROCK WITH GROUT AS REQUIRED.
6. BLASTING OPERATIONS SHALL COMPLY WITH ALL LOCAL & STATE LAWS, RULES AND REGULATIONS. ALL BLASTING OPERATIONS SHALL COMPLY WITH AMTRAK BLASTING SPECIFICATIONS.
7. BLASTING OPERATIONS SHALL COMPLY WITH THE RECOMMENDATIONS OF THE OWNERS BLAST CONSULTANT, ESPECIALLY WITH REGARD TO COORDINATING TIMING AND EFFECTS OF BLASTING WITH EXISTING RAILROAD OPERATIONS. ALL BLASTING OPERATIONS SHALL COMPLY WITH AMTRAK BLASTING SPECIFICATIONS.
8. AFTER CONCRETE HAS BEEN PLACED, BLASTING SHALL NOT OCCUR WITHIN A 50-FOOT RADIUS UNLESS WRITTEN PERMISSION IS OBTAINED FROM THE ENGINEER-OF-RECORD. ALL BLASTING OPERATIONS SHALL COMPLY WITH AMTRAK BLASTING SPECIFICATIONS.
9. THE CONTRACTOR SHALL COORDINATE ALL GENERAL EXCAVATION WORK AND ALL ELEMENTS OF ANY SOIL RETENTION SYSTEMS WITH ALL ELEMENTS OF THE PERMANENT BUILDINGS.
10. PRIOR TO ANY GENERAL EXCAVATION OR INSTALLATION OF ELEMENTS OF ANY SOIL RETENTION SYSTEM, THE CONTRACTOR SHALL ESTABLISH A GRID OF SURVEY POINTS AROUND THE PERIMETER OF THE AREA TO BE EXCAVATED, INCLUDING POINTS UP TO 200 FEET BEYOND THE PERIMETER AND POINTS ON ADJACENT EXISTING STRUCTURES TO REMAIN. THESE POINTS SHALL BE SURVEYED FOR VERTICAL AND HORIZONTAL MOVEMENT AT FREQUENT INTERVALS DURING ACTUAL EXCAVATION, AND CONTINUED DURING EACH SUBSEQUENT PHASE OF THE WORK, AND SUBMITTED TO THE ARCHITECT FOR INFORMATION. MONITORING POINTS WILL ALSO BE REQUIRED ON ALL RAILROAD TRACKS THAT HAVE ANY EXCAVATION OR DEWATERING ADJACENT TO THEM. A DETAILED MONITORING PROGRAM SHALL BE PREPARED AND SUBMITTED TO THE RAILROADS AS WELL AS THE RESULTS OF THE MONITORING PROGRAM.
11. EXCAVATION WORK SHALL BE BASED UPON ENGINEERED DRAWINGS PREPARED BY THE CONTRACTOR INCLUDING PLANS AND SECTIONS OF EXCAVATION SEQUENCES. THE EXCAVATION SEQUENCES SHALL BE CONTROLLED TO MATCH THE REQUIREMENTS OF ALL NEW AND EXISTING CONSTRUCTION WORK.
12. THE GENERAL EXCAVATION ACROSS THE SITE SHALL NOT EXTEND DEEPER THAN THE SLAB-ON-GRADE GRANULAR FILL SUBGRADE ELEVATION. THE DEEPER EXCAVATIONS FOR GRADE BEAMS, SPREAD FOOTINGS, PITS, ETC., SHALL BE EXCAVATED ON AN INDIVIDUAL, LOCALIZED BASIS DOWN FROM THE SLAB-ON-GRADE SUBGRADE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ANY STRUCTURAL COMPONENTS WHICH ARE TO RESIST TEMPORARY LOADS AS PART OF THE CONTRACTOR'S EXCAVATION-RETENTION PROGRAM.
14. EXCAVATION BELOW THE SLAB LEVEL REQUIRED FOR PITS SHALL BE RETAINED BY LOCALIZED EXCAVATION-RETENTION SYSTEMS, AS MAY BE NECESSARY, BASED ON THE CONTRACTOR'S DESIGN USING APPROPRIATE EARTH-ROCK AND HYDRAULIC PRESSURES AS INDICATED IN THE GEOTECHNICAL EXPLORATION REPORT, AND OTHER CONSTRUCTION LOADING.
15. THE CONTRACTOR SHALL PROVIDE POSITIVE PROTECTION (MATS/SHEET COVERINGS), FOR ALL EXCAVATION FACES, TO PROTECT FACES FROM INSTABILITY AND DETERIORATION DUE TO RAIN, WIND OR SNOWICE.
16. THE CONTRACTOR SHALL PROVIDE SURFACE DRAINAGE CHANNELS AND SUMPS AND SUMP PUMPS TO PROTECT ALL EXCAVATIONS FROM FLOODING. FLOODING OF ANY EXCAVATION AFTER APPROVAL OF ANY SUBGRADE WILL BE CAUSE FOR THE COMPLETE REPREPARATION AND APPROVAL OF THE SUBGRADE, INCLUDING REMOVAL OF CONCRETE MUD SLABS, IF ANY EXIST, NO DISCHARGE OF ANY DEWATERING OPERATION IS TO BE MADE ONTO AMTRAK PROPERTY. IF THE CONTRACTOR DISCHARGES ANY WATER INTO EXISTING STORMWATER FACILITIES ON AMTRAK, THEN THE CONTRACTOR IS TO PROVIDE PROOF THAT THE SYSTEM CAN HANDLE THE FLOWS. UPON THE COMPLETION OF THE DEWATERING, THE CONTRACTOR IS TO CLEAN PIPES OF ALL DEBRIS THAT HAS ACCUMULATED AS A RESULT OF THE DEWATERING OPERATION.
17. AFTER COMPLETION OF EACH EXCAVATION PHASE, IN EACH AREA, THE SITE SHALL BE DEWATERED, AS REQUIRED, BEFORE (OR AS) THE EXCAVATION PROCEEDS. THE CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION AND EQUIPMENT FOR THE DEWATERING SYSTEM INCLUDING, BUT NOT LIMITED TO, TRENCHES, SUMPS, DEWATERING WELLS, WELL POINTS, OBSERVATION WELLS, PUMPING SYSTEM, DISPOSAL LOCATION, SETTLING BASINS, MAINTENANCE AND EMERGENCY BACK-UP EQUIPMENT, ETC. AT ALL TIMES, THE DEWATERING SYSTEM SHALL MAINTAIN THE WATER LEVEL A MINIMUM OF 3 FEET BELOW THE DEEPEST FOUNDATION SUBGRADE. THE DEWATERING SYSTEM SHALL BE MAINTAINED UNTIL ALL LOWER LEVEL AND GROUND FLOOR SLABS, PERIMETER WALLS AND WATERPROOFING ARE INSTALLED AND THE PERMANENT BUILDING DRAINAGE SYSTEM IS FULLY OPERATIONAL.
18. THE OWNERS SOIL TESTING AGENCY SHALL REVIEW AND CONTINUOUSLY MONITOR THE EXCAVATION, DEWATERING AND SOIL RETENTION SYSTEMS. THE CONTRACTOR SHALL INSTALL AND CONTINUOUSLY SURVEY: (A) VERTICAL AND HORIZONTAL MOVEMENTS OF THE TOP OF THE SOIL RETENTION SYSTEM; (B) BENCH MARKS ADJACENT TO AND AWAY FROM THE SITE PERIMETER FOR VERTICAL AND HORIZONTAL MOVEMENTS; (C) INCLINOMETERS INSTALLED ALONG THE PERIMETER OF THE EXCAVATION, PRIOR TO THE START OF EXCAVATION; AND (D) OBSERVATION WELLS FOR MONITORING WATER LEVELS BELOW GROUND SURFACE. REFER TO FINAL SOIL CONSULTANTS REPORT FOR MONITORING REQUIREMENTS.
19. ALL WORK IS SUBJECT TO CONTROLLED INSPECTION AS REQUIRED BY THE NEW YORK CITY BUILDING CODE.
20. A GEOTECHNICAL EXPLORATION REPORT, INCLUDING SOIL AND ROCK BORING DATA, HAS BEEN PREPARED BY MUESER RUTLEDGE CONSULTING ENGINEERS, 14 PENN PLAZA, 225 WEST 34TH STREET, NEW YORK, NY 10122.
21. FOR ADDITIONAL REQUIREMENTS, SEE SPECIFICATIONS.

| | |
|-----------|-----------------------------------|
| 312300 | EXCAVATION & FILL |
| 312316.26 | ROCK EXCAVATION |
| 312319 | CONSTRUCTION DEWATERING |
| 312313 | ROCK GROUTING |
| 315100 | EXCAVATION SUPPORT AND PROTECTION |
| 316813 | ROCK FOUNDATION ANCHORS |
| 334619 | UNDERSLAB DRAINAGE PIPING |
| 071000 | FOUNDATION WATERPROOFING |

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ANY STRUCTURAL COMPONENTS WHICH ARE TO RESIST TEMPORARY LOADS AS PART OF THE CONTRACTOR'S EXCAVATION-RETENTION PROGRAM.

GENERAL FOUNDATION NOTES

1. FOUNDATION DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE LATEST EDITION, EXCEPT AS VARIANCES ARE OBTAINED.
2. THE GEOTECHNICAL REPORT BY MRCE CONTAINING BORING AND TEXT PIT INFORMATION IS PROVIDED FOR INFORMATION.
3. THE FOUNDATION OF THE BUILDING CONSISTS OF:
 - LARGE "MEGA COLUMN" FOUNDATION WALL
 - SPREAD FOOTINGS
 - STRIP FOOTINGS
4. FOOTINGS AND GRADE BEAMS SHALL BE FOUNDED UPON UNDISTURBED, NATURAL ROCK SUBGRADE WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 20 TSF TO 60 TSF AS INDICATED ON THE DRAWINGS. THE BOTTOM OF THE FOOTING ELEVATIONS AND ROCK BEARING CAPACITIES AS SHOWN ON THE DRAWINGS ARE ESTIMATED FROM THE ROCK BORING DATA. FINAL EXACT BEARING ELEVATIONS SHALL BE FIELD DETERMINED AND ROCK BEARING CAPACITIES VERIFIED BY THE OWNERS SOIL TESTING LABORATORY DURING CONSTRUCTION.
5. THE ROCK SUBGRADE FOR ALL FOOTINGS, GRADE BEAMS, AND SLABS SHALL BE INSPECTED AND APPROVED BY THE OWNERS TESTING AGENCY IMMEDIATELY PRIOR TO PLACING FOUNDATION CONCRETE OR CONCRETE MUD SLABS.
6. ALL ORGANIC AND/OR OTHER UNSUITABLE MATERIALS SHALL BE REMOVED FROM FOUNDATION AND SLAB SUBGRADES AND BACKFILL AREAS, AND THEN BACKFILLED WITH LEAN CONCRETE (f_c=2000 psi).
7. PROVIDE TEMPORARY BRACING FOR ALL BASEMENT WALLS, IN ACCORDANCE WITH THE GEOTECHNICAL DESIGN PARAMETERS AND SOIL PRESSURES AS INDICATED IN THE GEOTECHNICAL EXPLORATION REPORT. UNTIL THE GROUND FLOOR AND LOWER LEVEL SLABS HAVE BEEN PLACED, AND THE CONCRETE HAS ATTAINED FULL DESIGN STRENGTH.
8. NO MUD SLABS, FOOTINGS OR STRUCTURAL SLABS SHALL BE PLACED INTO OR AGAINST SUBGRADES CONTAINING FREE WATER, FROST OR ICE. SHOULD WATER OR FROST ENTER A FOOTING/MUD SUBSTRUCTURAL SLAB EXCAVATION AFTER SUBGRADE APPROVAL, THE SUBGRADE SHALL BE REINSPECTED BY THE OWNERS SOIL TESTING AGENCY AFTER REMOVAL OF WATER, FROST, OR ICE.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY WATER, FROST, OR ICE FROM PENETRATING ANY FOOTING OR STRUCTURAL MUD SLAB SUBGRADE BEFORE AND AFTER PLACING OF CONCRETE, AND UNTIL SUCH SUBGRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE.
10. ALL SLAB AND FOOTING MUD SLABS SHALL BE THOROUGHLY CLEANED IMMEDIATELY PRIOR TO CONCRETE PLACEMENT.
11. THE CONCRETE FOR EACH ISOLATED OR COMBINED FOOTING SHALL BE PLACED IN ONE (1) CONTINUOUS POUR.
12. SLABS-ON-GRADE SHALL BE PLACED OVER A CONTINUOUS VAPOR BARRIER OVER A MINIMUM OF 8" COMPACTED GRANULAR MATERIAL.
13. SEE PLUMBING AND CIVIL DRAWINGS FOR UNDERFLOOR AND PERIMETER WALL DRAINAGE SYSTEMS, AND SPECIAL GRANULAR FILL MATERIALS FOR SUCH DRAINAGE SYSTEMS.
14. SEE ARCHITECTURAL DRAWINGS FOR ALL WATERPROOFING AND DAMP PROOFING DETAILS.
15. ELEVATIONS ON THE FOUNDATION PLANS ARE GIVEN RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88). FOR REFERENCE, 0.0' NAV88 = 301.675 PENN RAIL ROAD TUNNELS DATUM.

GEOTECHNICAL ASSUMPTIONS:

1. ALL FOUNDATION DESIGNS ARE BASED ON RECOMMENDATIONS PROVIDED BY MRCE PRIOR TO THE FINAL GEOTECHNICAL REPORT AND ON THE FINAL GEOTECHNICAL REPORT TITLED "FOUNDATION DESIGN RECOMMENDATIONS, 9TH AVENUE DEVELOPMENT, NEW YORK, NEW YORK" DATED JUNE 10,2009, EXCEPT AS NOTED IN ITEM 3 BELOW.
2. THE TOP 1'-0" OF ROCK BELOW BALLAST IS ASSUMED TO BE TOO FRACTURED TO PROVIDE RESISTANCE TO LOAD.
3. ALLOWABLE ROCK BEARING CAPACITY AT TRACK LEVEL HAS BEEN ASSUMED TO BE 60 TSF. THIS IS TO BE VERIFIED BY ADDITIONAL BORINGS BY MRCE.
4. ALLOWABLE ROCK BEARING CAPACITY NEAR LEVEL B1 HAS BEEN ASSUMED TO BE 40 TSF.
5. AN ALLOWABLE ROCK BEARING CAPACITY INCREASE OF 10% PER FOOT OF EMBEDMENT INTO ROCK (BEYOND THE FIRST FOOT) UP TO A 100% INCREASE HAS BEEN ASSUMED IN MOST CASES REGARDLESS OF THE ELEVATION OF THE ROCK.
6. FOR TENSION RESISTANCE, UNIT WEIGHT OF BUOYANT ROCK ASSUMED TO BE 100 pcf.
7. LATERAL LOADS APPLIED TO THE TOPS OF FOOTINGS BY THE STRUCTURE ARE ASSUMED TO BE TRANSFERRED TO THE ROCK ENTIRELY THROUGH FRICTION ON THE SIDE AND BOTTOM OF THE FOOTING AND PASSIVE PRESSURE RESISTANCE OF THE ROCK AGAINST THE FOOTING.
8. TENSION CAPACITY BASED ON A FAILURE CONE OF 45° FROM THE BOTTOM OF THE CAISSON SHAFT.
9. FRICTIONLESS CAISSON SHAFT ELEVATIONS INDICATED ON THE DRAWINGS HAVE BEEN BASED UPON THE FOLLOWING:
 - THE ASSUMPTION PROVIDED BY MRCE THAT NO ADDITIONAL SURCHARGE LOAD MAY BE APPLIED TO THE EXISTING ROCK BOLTED RETAINING WALLS.
 - THE ASSUMPTION PROVIDED BY MRCE OF A 1:2 INFLUENCE LINE EXTENDING FROM THE INTERFACE OF THE WALL AND THE ROCK AT THE BOTTOM OF THE EXISTING RETAINING WALL.
 - ASSUMED LOCATION OF THE EXISTING RETAINING WALL BASED UPON SURVEY DATA PROVIDED BY MEDINA.
10. ADDITIONAL ROCK BOLTS INTO THE EXISTING RETAINING WALL ARE ASSUMED TO BE ADDED AS REQUIRED.
11. THE TOP OF FOOTING ELEVATION ARE GENERALLY ASSUMED TO MATCH THE TOP OF SOUND ROCK ELEVATION.
12. TIFOUNDATION ELEVATIONS INDICATED ON THE DRAWINGS HAVE BEEN BASED UPON THE FOLLOWING INFORMATION:
 - TRAIL PROFILE AND OFFSET FROM TRAIL TO TROCK SHOWN ON "TERMINAL STATION WEST, TYPICAL SECTIONS, CONTRACT DRAWING NO. 2112B" DATED FEBRUARY 1906 WITH REVISIONS ON SEPT. 20, 1907 AND NOV. 15, 1909 FOR THE PENNSYLVANIA, NEW YORK AND LONG ISLAND RAILROAD COMPANY.
 - FOUNDATION AND DRAINAGE CONFLICT ANALYSIS PERFORMED BY TURNER AND EVALUATED BY PARSONS BRINCKERHOFF RECEIVED BY SOM ON 24 APRIL, 2008.
 - TISSOUND ROCK ELEVATIONS PROVIDED BY MRCE IN THE FINAL GEOTECHNICAL REPORT.



MANHATTAN WEST: NORTH TOWER

375 Ninth Avenue, New York, NY 10001

Client

Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

SOM

Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habb & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Boles
80 Pine Street, New York, NY 10005

Vertical Transportation

Edgett Williams Consulting Group, Inc.
102 East Bliffedale Ave, Suite 1, Mill Valley, California 94041

Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

Geo-Technical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W, 34th Street #610, New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Venter & Santore
250 State Street #F1, North Haven, CT 06473

Blast Consultant

Weidlinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant

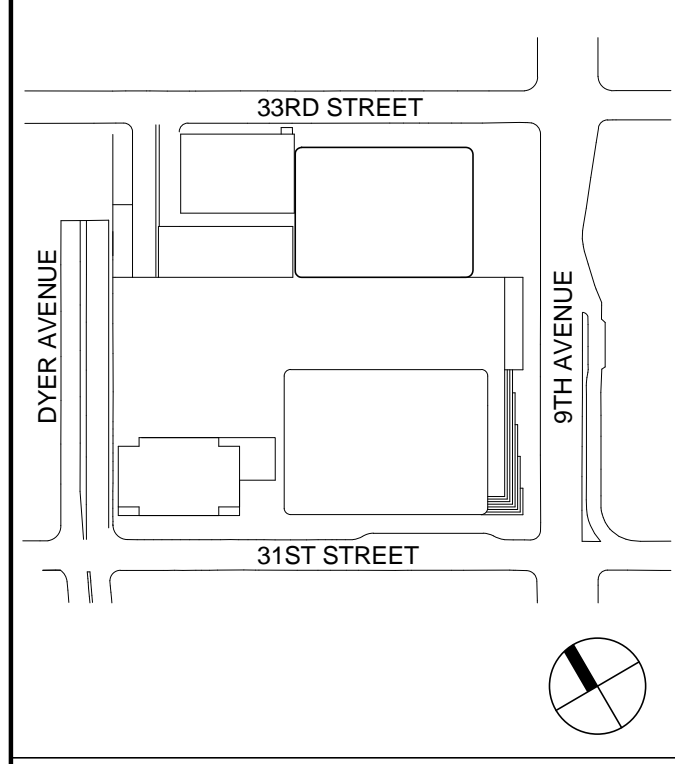
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6



Key Plan:



Seal & Signature

PRELIMINARY
NOT FOR CONSTRUCTION

6 20 JUN 2014 ISSUED FOR FOUNDATION BD
5 20 JUN 2014 ISSUED FOR FOUNDATION PERMIT
4 20 DEC 2013 ISSUED FOR FOUNDATION PERMIT
3 15 NOV 2013 ISSUED FOR 50% PROGRESS PRICING
2 12 JUL 2013 ISSUED FOR 90% DESIGN DEVELOPMENT
1 16 MAR 2012 ISSUED FOR RECONSTRUCTION

No. Date Description

Sheet Name

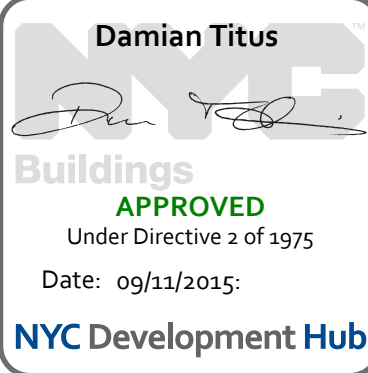
EXCAVATION AND FOUNDATION NOTES

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CONCRETE NOTES

A. GENERAL

1. SHOP DRAWINGS FOR FORMWORK AND REINFORCING SHALL BE APPROVED PRIOR TO FORMWORK CONSTRUCTION OR REINFORCING FABRICATION AND PLACEMENT.
2. IN ADDITION TO CAMBERS SHOWN, CAMBER FORMWORK TO COMPENSATE FOR DEFLECTION OF FORMS UNDER THE WET WEIGHT OF CONCRETE AS REQUIRED TO ACHIEVE THE SPECIFIED TOLERANCES.
3. SLAB-ON-GRADE THICKNESSES SHALL BE FIVE (5) INCHES FOR SIDEWALKS, SIX (6) INCHES FOR BASEMENT AND PLAZA SLABS, EIGHT (8) INCHES FOR AUTOMOBILE DRIVEWAY AREAS, AND TEN (10) INCHES FOR TRUCK TRAFFIC AREAS, UNLESS NOTED OTHERWISE.
4. CONCRETE BEAMS AND SLABS SHALL NOT BE SLEEVED, BOXED-OUT OR HAVE THEIR REINFORCING INTERRUPTED EXCEPT AS SHOWN ON THE STRUCTURAL DRAWINGS.
5. EXPOSED CONCRETE CORNERS SHALL HAVE 3/4 INCH CHAMFERS UNLESS NOTED OTHERWISE.
6. REFER TO ARCHITECTURAL DRAWINGS FOR THE TYPE, SIZE AND LOCATION OF FLOOR FINISHES, FLOOR DEPRESSIONS AND CURBS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR WATERPROOFING AND DAMPPROOFING REQUIREMENTS.
8. PROVIDE SLEEVES AND BLOCKOUTS AS SHOWN ON THE APPROVED HVAC, ELECTRICAL, FIRE PROTECTION AND PLUMBING SHOP DRAWINGS IN ACCORDANCE WITH THE STRUCTURAL DETAILS.
9. INSERTS AND EMBEDMENTS SHALL BE ANCHORED SECURELY AND POSITIONED SO THAT THEY WILL BE FLUSH WITH THE FINISHED CONCRETE SURFACE TO A TOLERANCE OF 1/8 INCH, UNLESS NOTED OTHERWISE.
10. PERFORM AND SUBMIT INSTRUMENT SURVEYS OF ALL FINISHED REINFORCED CONCRETE AND STEEL DECK CONCRETE SLAB SURFACES. CONDUCT SURVEYS IMMEDIATELY BOTH BEFORE AND AFTER REMOVAL OF FORMWORK AND/OR SHORING SYSTEMS.
11. REFER TO SPECIFICATION SECTION 031000, "CONCRETE FORMWORK," SECTION 032000, "CONCRETE REINFORCEMENT," AND SECTION 033000, "CAST-IN-PLACE CONCRETE" FOR ADDITIONAL REQUIREMENTS.
12. REFER TO "STATEMENT OF SPECIAL INSPECTIONS" FOR SPECIAL INSPECTION REQUIREMENTS AND THE SPECIFICATIONS FOR THE REQUIRED PROGRAM OF TESTING AND INSPECTIONS. PROVIDE MATERIAL TESTS, DATA AND ACCESS AS REQUIRED TO FACILITATE SPECIAL INSPECTIONS AND OWNER MONITORING.

B. CONCRETE

1. CAST-IN-PLACE CONCRETE SHALL BE OF THE TYPES AND MINIMUM 28-DAY COMPRESSIVE STRENGTHS AND MAXIMUM WATER-CEMENT RATIOS AS SHOWN IN THE CONCRETE MATERIAL SCHEDULE.
2. ALL CONCRETE SHALL CONTAIN A WATER-REDUCING OR HIGH-RANGE WATER-REDUCING, PLASTICIZING ADMIXTURE.
3. CONCRETE PERMANENTLY EXPOSED TO WEATHER SHALL CONTAIN AN APPROVED AIR-ENTRAINING ADMIXTURE.
4. CONCRETE ELEMENTS WITH A LEAST CROSS-SECTIONAL DIMENSION GREATER THAN 48 INCHES SHALL BE CONSIDERED TO BE "MASS CONCRETE."

C. REINFORCING

1. MATERIALS:
 - a. REINFORCING BARS: ASTM A615, ASTM A706 (WELDABLE REBAR) GRADE 60.
 - b. WELDED WIRE FABRIC (WWF): ASTM A185.
 - c. STRUCTURAL MACRO FIBERS: ASTM C1116, MIN. 2 INCH LENGTH.
 - d. ANCHOR RODS: ASTM A1559 UNLESS NOTED OTHERWISE.
2. CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, SPACED IN FORMS, AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITIONS OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318, AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 311.5.
3. REINFORCING SPLICES SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, BUT NOT LESS THAN 36 BAR DIAMETERS, UNLESS NOTED OTHERWISE.
4. WELDED WIRE FABRIC SPLICES SHALL BE LAPPED EIGHT (8) INCHES AND TIED SECURELY.
5. MACRO FIBERS AT A DOSAGE RATE OF 4 LBS/CU YARD MAY BE SUBSTITUTED FOR WELDED WIRE FABRIC IN STEEL DECK SLABS AND FILL CONCRETE OVER STRUCTURAL SLABS. SLABS WITH MACRO FIBERS SHALL HAVE #3 BY 2'-0" AT 12 INCHES ON CENTER AT CONSTRUCTION JOINTS IN ADDITION TO THE REINFORCING BARS SHOWN.
6. MECHANICAL COUPLERS SHALL BE USED WHERE NOTED AND OTHERWISE AT THE CONTRACTOR'S OPTION. COUPLERS SHALL DEVELOP IN TENSION 125% OF THE BAR STRENGTH UNLESS NOTED OTHERWISE.
7. DOWELS SHALL MATCH THE SIZE AND NUMBER OF MAIN REINFORCING, UNLESS NOTED OTHERWISE.
8. FIELD WELDING OR BENDING OF REINFORCING IS NOT PERMITTED EXCEPT WHERE SHOWN ON THE DRAWINGS OR OTHERWISE APPROVED.
9. MINIMUM REINFORCING, UNLESS NOTED OTHERWISE:
 - a. WALLS AND STRUCTURAL SLABS: #4 AT 12 INCH WAY, EACH FACE.
 - b. SLABS ON GRADE: 1 LAYER 6X6 - W2.9XW2.9 WWF.
 - c. FILLS/WEAR SLABS: 1 LAYER 6X6 - W1.4XW1.4 WWF.
 - d. MEP EQUIPMENT PADS: 1 LAYER 6X6 - W4.0XW4.0 WWF.
10. MINIMUM REINFORCING FOR EXTERIOR AND VEHICLE TRAFFIC SLABS-ON-GRADE, GALVANIZED OR EPOXY COATED UNLESS NOTED OTHERWISE:
 - a. SIDEWALKS, PLAZAS: 1 LAYER 4X4 - W2.9XW2.9 WWF.
 - b. AUTO TRAFFIC AREAS: 1 LAYER 4X4 - W6.0XW6.0 WWF.
 - c. TRUCK TRAFFIC AREAS: 1 LAYER 4X4 - W7.0XW7.0 WWF.
11. BAR SUPPORTS SHALL BE GALVANIZED OR EPOXY COATED. BAR SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL ALSO BE PLASTIC TIPPED.
12. SLAB-ON-GRADE REINFORCING SHALL BE SUPPORTED BY CONCRETE BLOCKS.

D. CONSTRUCTION JOINTS:

1. CONSTRUCTION JOINTS IN ALL WALLS, SLABS AND BEAMS SHALL NOT BE FURTHER APART THAN 90 FEET IN ANY DIRECTION.
2. CONSTRUCTION JOINTS SHALL BE WIRE BRUSHED, CLEANED AND MOISTENED IMMEDIATELY PRIOR TO PLACING NEW CONCRETE.
3. PLACE SLABS-ON-GRADE IN STRIP POURS OF A MAXIMUM WIDTH OF 15 FEET WITH A MINIMUM OF 24 HOURS BETWEEN ADJACENT POURS.
4. SLABS-ON-GRADE STRIP POURED SLABS SHALL HAVE SAWCUT CONTROL JOINTS AT 15'-0" CENTERS IN EACH DIRECTION AT THE FOLLOWING MAXIMUM CENTERS, UNLESS SHOWN OTHERWISE:
 - a. 4 INCH SLAB: 10 FEET.
 - b. 5 INCH SLAB: 12 FEET.
 - c. 6 INCH OR GREATER SLAB: 15 FEET.
5. CONSTRUCTION JOINTS IN STEEL DECK SLABS SHALL BE LOCATED A MINIMUM OF 18 INCHES FROM ANY BEAM LINE.
6. PROVIDE SHEAR KEYS AT ALL BEAM, REINFORCED SUSPENDED SLAB, GRADE BEAM, MAT AND FOUNDATION WALL CONSTRUCTION JOINTS. REFER TO STEEL DECK DETAILS FOR REQUIREMENTS AT STEEL DECK SLABS. REFER TO DETAILS FOR SLAB-ON-GRADE AND SLAB ON METAL DECK CONSTRUCTION JOINT REQUIREMENTS.
7. CONSTRUCTION JOINTS SHALL BE LOCATED ONLY IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
8. ALLOW A MINIMUM OF THREE (3) HOURS BETWEEN PLACEMENT OF CONCRETE FOR COLUMNS, WALLS OR PIERS AND PLACEMENT OF CONCRETE ON THE ADJACENT FLOOR.

E. ELECTRICAL CONDUIT

1. CONDUIT SHALL BE STEEL OR RIGID PLASTIC ONLY.
2. MAXIMUM CONDUIT DIAMETER IS 1/8 THE SLAB DEPTH.
3. CONDUIT SHALL BE LOCATED IN THE CENTER 1/3 OF THE SLAB AND AS SHOWN IN THE STEEL DECK DETAILS.
4. CLEAR DISTANCE BETWEEN CONDUITS SHALL BE 3 TIMES THE CONDUIT DIAMETER.
5. CONDUIT SHALL BE SECURELY TIED TO REINFORCING TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT.
6. CONDUIT SHALL BE PLACED ONLY IN ACCORDANCE WITH SHOP DRAWINGS APPROVED BY THE STRUCTURAL ENGINEER.

F. CURING AND SEALING

1. PROVIDE APPROVED CURING COMPOUND AND SEALER FOR THE TOP SURFACE OF ALL SLAB WORK, UNLESS NOTED OTHERWISE.
2. PROVIDE APPROVED CURING COMPOUND, SEALER, AND HARDENER FOR ALL SLABS IN M.E.P. AND STORAGE AREAS, UNLESS NOTED OTHERWISE.
3. MOIST CURE PARKING SLABS FOR A MINIMUM OF 7 DAYS.
4. MOIST CURE CONCRETE FILLS AND TOPPINGS PLACED OVER STRUCTURAL SLABS.
5. CURE FORMED CONCRETE IN FORMS OR PROVIDE APPROVED CURING COMPOUND.

G. DRILLED IN ANCHORS AND REINFORCING BARS

1. DRILLED IN EXPANSION ANCHORS, ADHESIVE ANCHORS AND GROUTED BARS MAY BE USED ONLY WHERE SHOWN ON THE DRAWINGS.
2. DRILLED IN BARS SHALL BE ADHESIVE ANCHORED UNLESS NOTED OTHERWISE.
3. CONDUCT A PRECONSTRUCTION CONFERENCE AT LEAST 14 DAYS PRIOR TO INSTALLATION OF ANCHORS TO VERIFY MATERIALS AND PROCEDURES. CONFERENCE SHALL BE ATTENDED BY REPRESENTATIVES OF THE MANUFACTURER, INSTALLER, CONTRACTOR AND ARCHITECT.
4. ADHESIVE ANCHORED BARS SHALL BE INSTALLED BY TRAINED PERSONNEL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE INSTALLATION SHALL BE MONITORED AND APPROVED BY THE MANUFACTURER'S REPRESENTATIVE.

| CONCRETE MATERIALS SCHEDULE | | | | | |
|-----------------------------|---|---------------------|---|------------------------------------|----------------------------------|
| LOCATION | COMPRESSIVE STRENGTH (28 DAY U.N.C.) | MAX. SIZE AGGREGATE | SUPPLEMENTARY MATERIALS | MAXIMUM W/C RATIO | AIR CONTENT |
| STRIP FOOTINGS | 8,000 PSI @ 28 DAYS | 1" | FLY ASH AND/OR SLAG | 0.45 | 3% MAXIMUM |
| SHEAR WALLS | 10,000 PSI @ 56 DAYS 6,000 PSI @ 28 DAYS | 3/4" | FLY ASH AND/OR SLAG SILICA FUME REQUIRED FOR FC ≥ 10,000 PSI | 0.30 (10 KSI) 0.45 (6 TO 9 KSI) | 3% TO 5% MAXIMUM |
| BASEMENT WALLS | 5,000 PSI | 3/4" | | 0.50 | 3% MAXIMUM |
| SLABS AND BEAMS | 5,000 PSI | 3/4" | | 0.50 | 3% MAXIMUM |
| EXPOSED TO FREEZING | 5,000 PSI @ 28 DAYS | 3/4" | | 0.45 | 4.5% TO 7.5% |
| SLABS ON STEEL DECK | 4,000 PSI @ 28 DAYS | 3/4" | MACRO FIBERS | 0.50 | 3% MAXIMUM |
| TIGHT POURS | COORDINATE W/ ELEMENTS | 3/8" | COORDINATE W/ ELEMENT | COORDINATE W/ ELEMENT | 3% MAXIMUM |
| TOPPING/FILL SLABS | 4,000 PSI @ 28 DAYS | 3/4" | MACRO FIBERS FLY ASH AND/OR SLAG | 0.40 | 3% INTERIOR 3% TO 7% EXTERIOR |

NOTES:
1. ALL CONCRETE NORMAL WEIGHT UNLESS NOTED OTHERWISE.

| TENSION DEVELOPMENT LENGTH AND CLASS 'A' TENSION LAP SPlice LENGTH | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------------|--------|------------|--------|---------------------------|--------|------------|--------|---------------------------|--------|------------|--------|---------------------------|--------|------------|--------|---------------------------|--------|------------|--------|----------------------------|--------|------------|--------|
| BAR SIZE | f _c = 4000 psi | | | | f _c = 5000 psi | | | | f _c = 6000 psi | | | | f _c = 7000 psi | | | | f _c = 8000 psi | | | | f _c = 10000 psi | | | |
| | TOP BARS | | OTHER BARS | | TOP BARS | | OTHER BARS | | TOP BARS | | OTHER BARS | | TOP BARS | | OTHER BARS | | TOP BARS | | OTHER BARS | | TOP BARS | | OTHER BARS | |
| | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 |
| #3 | 19 | 28 | 15 | 22 | 17 | 25 | 13 | 19 | 15 | 23 | 12 | 18 | 14 | 21 | 12 | 16 | 13 | 20 | 12 | 15 | 12 | 18 | 12 | 14 |
| #4 | 25 | 37 | 19 | 29 | 22 | 33 | 17 | 26 | 20 | 31 | 16 | 24 | 19 | 28 | 15 | 22 | 18 | 26 | 14 | 20 | 16 | 24 | 12 | 18 |
| #5 | 31 | 47 | 24 | 36 | 28 | 42 | 22 | 32 | 25 | 38 | 20 | 29 | 24 | 35 | 18 | 27 | 22 | 33 | 17 | 25 | 20 | 30 | 15 | 23 |
| #6 | 37 | 56 | 29 | 43 | 33 | 50 | 26 | 38 | 31 | 46 | 24 | 35 | 28 | 42 | 22 | 33 | 26 | 40 | 20 | 30 | 24 | 35 | 18 | 27 |
| #7 | 54 | 81 | 42 | 63 | 49 | 73 | 37 | 56 | 44 | 66 | 34 | 51 | 41 | 61 | 32 | 47 | 38 | 58 | 30 | 44 | 34 | 51 | 27 | 40 |
| #8 | 62 | 93 | 48 | 71 | 55 | 83 | 43 | 64 | 51 | 76 | 39 | 58 | 47 | 70 | 36 | 54 | 44 | 66 | 34 | 51 | 39 | 59 | 30 | 45 |
| #9 | 70 | 105 | 54 | 81 | 63 | 94 | 48 | 72 | 57 | 85 | 44 | 66 | 53 | 79 | 41 | 61 | 49 | 74 | 38 | 57 | 44 | 66 | 34 | 51 |
| #10 | 79 | 118 | 61 | 91 | 70 | 105 | 54 | 81 | 64 | 96 | 49 | 74 | 59 | 89 | 46 | 69 | 56 | 83 | 43 | 64 | 50 | 75 | 38 | 57 |
| #11 | 87 | 131 | 67 | 101 | 78 | 117 | 60 | 90 | 71 | 107 | 55 | 82 | 66 | 99 | 51 | 76 | 62 | 93 | 48 | 71 | 55 | 83 | 43 | 64 |
| #14 | 105 | 157 | 81 | 121 | 94 | 140 | 72 | 108 | 86 | 128 | 66 | 99 | 79 | 119 | 61 | 91 | 74 | 111 | 57 | 85 | 66 | 99 | 51 | 76 |
| #18 | 139 | 209 | 107 | 161 | 125 | 187 | 96 | 144 | 114 | 171 | 88 | 131 | 106 | 158 | 81 | 122 | 98 | 148 | 76 | 114 | 88 | 132 | 68 | 102 |

NOTES:

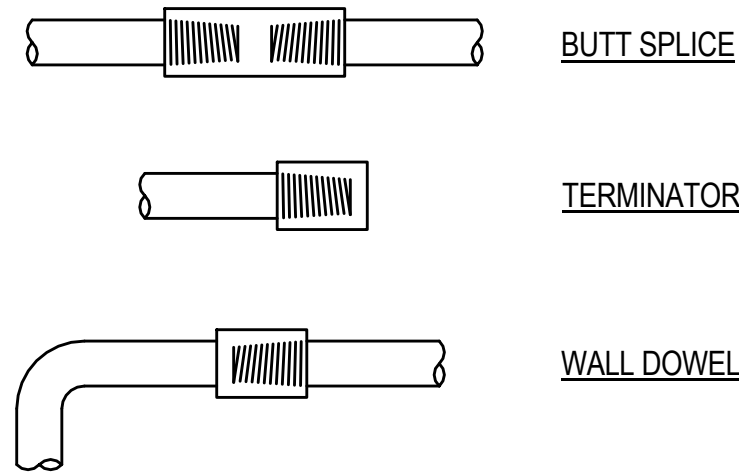
1. TABULATED TENSION DEVELOPMENT LENGTHS ARE GIVEN IN INCHES, AND ARE CALCULATED FOR REINFORCEMENT CONFORMING TO ASTM A615 GRADE 60 AS PER THE REQUIREMENTS OF ACI 318 (2005).
2. CASES 1 AND 2 DEPEND UPON CONCRETE COVER AND THE CENTER-TO-CENTER SPACING OF THE BARS, DEFINED AS FOLLOWS:

CASE 1: CLEAR SPACING AT LEAST ONE (1) BAR DIAMETER
CLEAR COVER AT LEAST ONE (1) BAR DIAMETER
STIRRUPS OR TIES THROUGHOUT THE DEVELOPMENT LENGTH NOT LESS THAN THE CODE MINIMUM
OR
CLEAR SPACING AT LEAST TWO (2) BAR DIAMETERS
CLEAR COVER AT LEAST ONE (1) BAR DIAMETER

CASE 2: ALL OTHER CASES
3. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
4. TABULATED TENSION DEVELOPMENT LENGTHS HAVE BEEN CALCULATED WITH RESPECT TO NORMALWEIGHT CONCRETE. FOR LIGHTWEIGHT CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.
5. FOR EPOXY COATED BARS, MULTIPLY THE TABULATED VALUES BY ONE OF THE FOLLOWING FACTORS:

1.5 FOR EPOXY COATED BARS WITH COVER LESS THAN 3 BAR DIAMETERS, OR CLEAR SPACING LESS THAN 6 BAR DIAMETERS
1.2 FOR ALL OTHER EPOXY COATED BARS
6. LAP SPICE LENGTHS (ACI 12.15.1) ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS:
CLASS A = 1.0 LD, WHERE 50% OR LESS BARS ARE LAP SPICED AT A SECTION FOR A DISTANCE EQUAL TO THE REQUIRED LAP SPICE LENGTH, OR
CLASS B = 1.3 LD, AT ALL OTHER LOCATIONS.
7. ALL ADJACENT LAP SPLICES IN SLAB-ON-GRADE SHALL BE STAGGERED BY A MINIMUM DISTANCE EQUAL TO THE REQUIRED LAP SPICE LENGTH.
8. USE MECHANICAL SPICE FOR #14 AND #18 BAR SIZES.

LENTION MECHANICAL SPLICES



NOTE: USE LENTION MECHANICAL SPLICES OR MECHANICAL SPLICES THAT MEET OR EXCEED STRENGTH OF EQUIVALENT LENTION SPICE.

MINIMUM CONCRETE COVER

| CONCRETE SURFACE EXPOSURE | MINIMUM CONCRETE CLEAR COVER |
|---------------------------|------------------------------|
| FOOTINGS/CAISSONS | 3" |
| CORE WALLS/SUBTRESS WALLS | 1" |
| SLAB - ON - GRADE | 2" |
| SLABS | 3/4" |
| BEAMS | 1 1/2" |
| COLUMNS | 1 1/2" |
| SLAB ON COMPOSITE DECK | 3/4" |
| FOUNDATION WALLS | 2" O.F./1" I.F. |

COMPRESSION LAP SPICE LENGTH AND COMPRESSION DEVELOPMENT LENGTH

| BAR SIZE | COMPRESSION LAP SPICE | COMPRESSION DEVELOPMENT LENGTH | | | | | |
|----------|-----------------------|--------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|
| | | f _c = 4000 psi | f _c = 5000 psi | f _c = 6000 psi | f _c = 7000 psi | f _c = 8000 psi | f _c = 10000 psi |
| #3 | 12 | 8 | 8 | 8 | 8 | 8 | 8 |
| #4 | 15 | 10 | 9 | 9 | 9 | 9 | 9 |
| #5 | 19 | 12 | 12 | 12 | 12 | 12 | 12 |
| #6 | 23 | 15 | 14 | 14 | 14 | 14 | 14 |
| #7 | 27 | 17 | 16 | 16 | 16 | 16 | 16 |
| #8 | 30 | 19 | 18 | 18 | 18 | 18 | 18 |
| #9 | 34 | 22 | 21 | 21 | 21 | 21 | 21 |
| #10 | 39 | 25 | 23 | 23 | 23 | 23 | 23 |
| #11 | 43 | 27 | 26 | 26 | 26 | 26 | 26 |
| #14 | SEE NOTE 2 | 33 | 31 | 31 | 31 | 31 | 31 |
| #18 | SEE NOTE 2 | 43 | 41 | 41 | 41 | 41 | 41 |

NOTES:

1. TABULATED COMPRESSION DEVELOPMENT LENGTHS AND COMPRESSION LAP SPLICES ARE GIVEN IN INCHES, AND ARE CALCULATED FOR REINFORCEMENT CONFORMING TO ASTM A615 GRADE 60 AS PER THE REQUIREMENTS OF ACI 318-05.
2. USE MECHANICAL SPICE FOR #14 AND #18 BAR SIZES.



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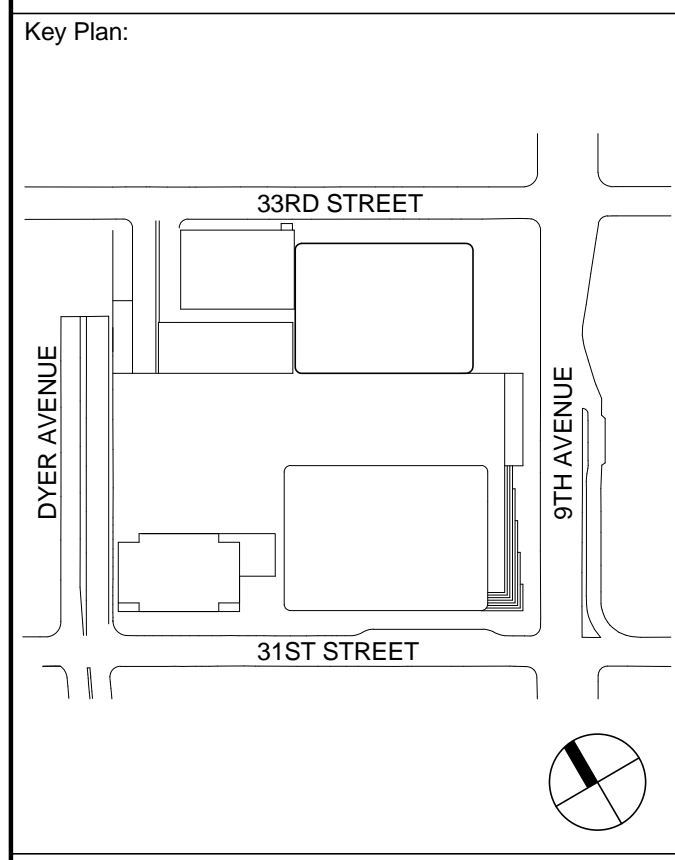
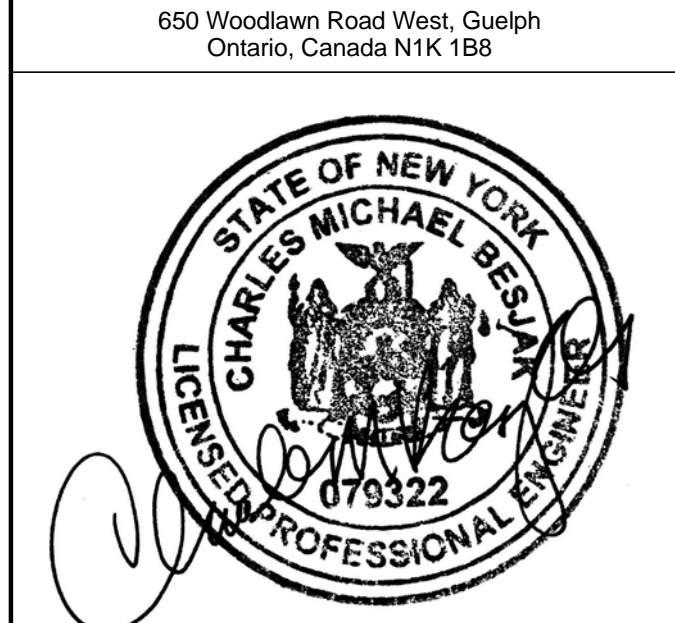
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Seal & Signature

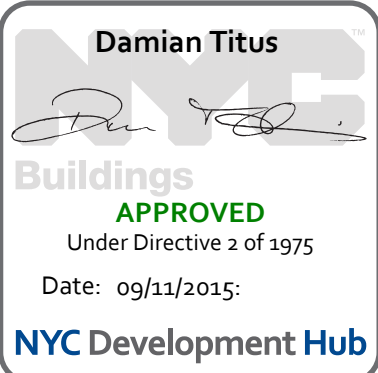
PRELIMINARY
NOT FOR CONSTRUCTION

6 20 JUN 2014 ISSUED FOR FOUNDATION BD
5 20 JUN 2014 ISSUED FOR FOUNDATION PERMIT
4 20 DEC 2013 ISSUED FOR FOUNDATION PERMIT
3 15 NOV 2013 ISSUED FOR 90% PROGRESS PRICING
2 12 JUL 2013 ISSUED FOR 90% DESIGN DEVELOPMENT
1 18 MAR 2013 ISSUED FOR RECONCILIATION

No. Date Description
Sheet Name

**STRUCTURAL
CONCRETE
NOTES**

Project No.: 211157 B-SCAN Sheet No.:
Date: 20 JUN 2014 **S-004.00**
Scale: 12" = 1'-0" Sheet No.:
File No.: S-004 Page No.: 4 of 90



STRUCTURAL STEEL NOTES

A. GENERAL

1. ALL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO AISC (LRFD) SPECIFICATIONS AND CODES, LATEST EDITION.

2. ALL WELDING WORK SHALL CONFORM TO THE AWS D1.1 "STRUCTURAL WELDING CODE - STEEL," LATEST EDITION, AND SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.

3. ALL STEEL BEAM SIZES FOLLOWED BY A NUMBER IN PARENTHESES, (XX), ARE COMPOSITE BEAMS WITH SHEAR STUDS. SEE "STRUCTURAL METAL DECK NOTES" FOR ADDITIONAL INFORMATION.

4. COMPOSITE BEAMS ARE NOT REQUIRED TO BE SHORED, UNLESS NOTED OTHERWISE.

5. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT PRIOR REVIEW BY THE ARCHITECT.

6. ALL STRUCTURAL STEEL SHALL BE FIREPROOFED TO ATTAIN THE APPLICABLE FIRE RATING REQUIRED BY CODE WITH UL APPROVED SPRAYED-ON CEMENTITIOUS FIREPROOFING MATERIALS. SEE THE ARCHITECTURAL DRAWINGS FOR SPECIFIC FIREPROOFING REQUIREMENTS. ALL STEEL SURFACES ENCASED IN CONCRETE, ELEVATOR GUIDE BEAMS, AND PENTHOUSE ROOF FRAMING DO NOT REQUIRE SPRAY FIREPROOFING.

7. AFTER FABRICATION AND JUST PRIOR TO SITE APPLICATION OF SPRAY-ON FIREPROOFING, ALL STEEL SHALL BE CLEANED OF ALL RUST, LOOSE MILL SCALE AND OTHER FOREIGN MATERIALS. PRIMING AND PAINTING OF THE STRUCTURAL STEEL WILL NOT BE REQUIRED EXCEPT FOR STEEL WHICH IS PERMANENTLY EXPOSED.

8. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88) FOR REFERENCE 0.0 NAV88 = 301.75 PENN RAIL ROAD TUNNELS DATUM

9. SEE SPECIFICATION SECTION 05120, "STRUCTURAL STEEL," FOR ADDITIONAL REQUIREMENTS NOT NOTED HEREIN.

B. MATERIALS

1. STRUCTURAL STEEL GRADES SHALL BE AS FOLLOWS:

BUILT-UP STEEL COLUMNS: ASTM A572 Gr. 50
FLOOR BEAMS: ASTM A992 - GRADE 50
W14 COLUMNS, HANGERS, & BRACED FRAME DIAGONALS: ASTM A913 - GRADE 65
W12, W24, W30, W36 COLUMNS: ASTM A992 - GRADE 50
WT DIAGONALS: ASTM A992 - GRADE 50
CONNECTIONS, PLATES: ASTM A572 - GRADE 50
ANGLES: ASTM A36 - GRADE 36
WELDING: E70XX ELECTRODES

2. ALL STRUCTURAL STEEL TUBING SHALL BE ASTM A500, GRADE B, UNLESS NOTED OTHERWISE.

3. ALL STRUCTURAL STEEL PIPE SHALL BE ASTM A53, TYPE E, GRADE B, UNLESS NOTED OTHERWISE.

4. ALL BOLTS, NUT AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 OR A490.

C. CONNECTIONS

1. ALL CONNECTIONS, EXCEPT FOR THOSE CONNECTIONS COMPLETELY DESIGNED ON THE DRAWINGS, SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR. DETAILING SHALL BE PERFORMED USING RATIONAL ENGINEERING DESIGN AND STANDARD PRACTICE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE GENERAL DETAILS SHOWN ON THE DRAWINGS ARE CONCEPTUAL ONLY AND DO NOT INDICATE THE REQUIRED NUMBER OF BOLTS OR WELD SIZES, UNLESS SPECIFICALLY NOTED. THE CONTRACTOR SHALL SUBMIT ENGINEERING CALCULATIONS AND CONNECTION DETAIL DRAWINGS FOR EACH CONNECTION TYPE. MEMBER SIZE, AND REACTION INDICATED ON THE DRAWINGS FOR REVIEW BY THE ARCHITECT PRIOR TO THE SUBMITTAL OF THE STRUCTURAL STEEL SHOP DRAWINGS. AFTER REVIEW BY THE ARCHITECT, THESE DETAIL DRAWINGS SHALL BE UTILIZED AS THE STANDARD FOR FABRICATION AND SHOP DRAWING DETAILING. THE DESIGN CALCULATIONS SHALL BE PREPARED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK.

2. ALL CONNECTIONS, UNLESS NOTED OTHERWISE, SHALL BE SIMPLE SHEAR CONNECTIONS UTILIZING "SHORT-SLOTTED" HOLES AND HIGH-STRENGTH BOLTS IN BEARING-TYPE CONNECTIONS WITH THREADS EXCLUDED FROM THE SHEAR PLANE. THE CONNECTION CAPACITIES SHALL BE AS SHOWN IN NOTE C5 BELOW, OR AS NOTED ON THE STRUCTURAL FRAMING PLANS.

3. BEAM-TO-COLUMN CONNECTIONS SHALL BE MOMENT CONNECTED WHERE SHOWN ON THE DRAWINGS. THE WEB SHEAR CONNECTION FOR THESE MEMBERS SHALL UTILIZE SINGLE SHEAR PLATE SLIP-CRITICAL TYPE CONNECTIONS WITH HIGH-STRENGTH BOLTS WITH THREADS EXCLUDED FROM THE SHEAR PLANE FOR THE CAPACITIES SHOWN IN NOTE C5 BELOW.

4. ALL BOLTS SHALL BE FULLY TORQUED FOR BOTH SLIP CRITICAL AND BEARING TYPE CONNECTIONS.

5. MINIMUM SERVICE END REACTIONS (ASD) FOR STANDARD ROLLED SHAPES:

W36 160 kips W16 40 kips C18 35 kips
W33 135 kips W14 30 kips C15 30 kips
W30 115 kips W12 20 kips C12 10 kips
W27 85 kips W10 15 kips C10 10 kips
W24 75 kips W8 10 kips C8,C9 6 kips
W21 60 kips W6 10 kips C7,C9 6 kips
W18 50 kips W5 10 kips

ANY MEMBERS WITH END REACTIONS EXCEEDING THE VALUES LISTED ABOVE ARE INDICATED ON THE PLANS, EITHER WITH BOXED END REACTIONS OR IN TABULAR FORM.

6. THE MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE TWO (2) 3/4 INCH DIAMETER, A325 BOLTS.

7. MINIMUM FILLET WELD SIZES SHALL COMPLY WITH THE AISC SPECIFICATION REQUIREMENTS, BUT SHALL NOT BE LESS THAN 1/4 INCH, UNLESS NOTED OTHERWISE.

D. DETAILING AND FABRICATION

1. THE CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, COORDINATED AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL TO THE ARCHITECT FOR REVIEW PRIOR TO THE START OF FABRICATION AND/OR ERECTION.

2. ALL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER UP. PROVIDE ADDITIONAL CAMBERS AS INDICED IN BRACKETS <XX> ON THE STRUCTURAL DRAWINGS. FOR CANTILEVERS, CAMBER SHALL BE MEASURED AT THE FREE END.

3. ALL SIMPLE SHEAR CONNECTIONS SHALL BE CAPABLE OF END ROTATION AS PER THE REQUIREMENTS OF AISC SPECIFICATION, CHAPTER J1.2, "SIMPLE CONNECTIONS."

4. ALL BEAMS FRAMING INTO NEW CONCRETE WALLS SHALL BE DETAILED TO SUIT THE HORIZONTAL FIELD TOLERANCES

E. ERECTION

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES, ESPECIALLY WITH RELATION TO TEMPERATURE DIFFERENTIALS, ERECTION TOLERANCES, AND WITH RESPECT TO STRUCTURAL STEEL FRAMING INTO REINFORCED CONCRETE WALLS.

2. SURVEY THE TOPS OF ALL COLUMNS AT EACH LEVEL. RECORD X, Y & Z - COORDINATES MEASURED CONSISTANTLY FROM AN ESTABLISHED BENCHMARK. PROVIDE A COPY OF THE SURVEY DATA TO THE ARCHITECT AND STRUCTURAL ENGINEER WITHIN TWO DAYS OF THE COMPLETION OF EACH SURVEY.

3. ALL ERECTION PROCEDURES, DESIGNS AND CALCULATIONS SHALL BE PERFORMED BY THE CONTRACTOR'S QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK. ANY REVIEW OF SUCH CALCULATIONS AND/OR DRAWINGS BY THE ARCHITECT WILL BE SOLELY LIMITED TO ANY EFFECTS ON THE INTEGRITY OF THE PERMANENT PRIMARY STRUCTURE.

4. ALL ADDITIONAL STEEL REQUIRED BY THE CONTRACTOR FOR ERECTION PURPOSES AND SITE ACCESS OF STOCKPILED MATERIALS SHALL BE PROVIDED AT NO COST TO THE OWNER. ALL SUCH ADDITIONAL STEEL SHALL BE REMOVED BY THE CONTRACTOR UNLESS APPROVED BY THE OWNER IN WRITING.

5. THE CONTRACTOR SHALL SUBMIT A METHODS STATEMENT FOR ALL STRUCTURAL STEEL/METAL DECK ERECTION PROGRAMS.

F. NON-SELF-SUPPORTING STEEL FRAMES

THE STEEL STRUCTURE (COMPRISED OF GRAVITY COLUMNS, FLOOR BEAMS, FLOOR BRACING, BRACED FRAMES AND MOMENT FRAMES) IS A NON SELF-SUPPORTING FRAME. THE FLOOR DIAPHRAGM (METAL DECK AND HARDENED CONCRETE SLAB TOPPING) AND R/C CONCRETE WALLS ARE REQUIRED TO PROVIDE STABILITY AND STRENGTH TO RESIST THE LOADS FOR WHICH THE FRAME IS DESIGNED. THE CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY SUPPORT AS NECESSARY UNTIL THE COMPLETE STRUCTURE IS ERECTED.

G. TESTING AND INSPECTION

TESTING AND INSPECTION OF BOTH SHOP AND FIELD STRUCTURAL STEEL FABRICATION AND ERECTION WORK, INCLUDING WELDED AND BOLTED CONNECTIONS, SHALL BE AS FOLLOWS:

1. ALL STRUCTURAL STEEL FABRICATION AND ERECTION SHALL BE VISUALLY INSPECTED.

2. ALL WELDERS SHALL BE AWS CERTIFIED.

3. ALL WELDS SHALL BE AWS/AISC PREQUALIFIED.

4. ALL WELDS SHALL BE VISUALLY INSPECTED PER AWS D1.1. WELD MEASUREMENTS SHALL BE PERFORMED FOR 15% OF ALL WELDS ON A RANDOM BASIS.

5. MAGNETIC PARTICLE TESTING IN ACCORDANCE WITH ASTM E709 SHALL BE PERFORMED FOR A MINIMUM OF:

A. 10% OF ALL FILLET WELDS CHOSEN AT RANDOM, FINAL PHASE ONLY.

B. 100% OF TENSION MEMBER CONNECTION WELDS (I.E., HANGER CONNECTION PLATES, ETC.) FOR ROOT AND FINAL PASSES.

6. ULTRASONIC TESTING IN ACCORDANCE WITH AWS D1.1 SHALL BE PERFORMED FOR A MINIMUM OF:

A. 100% OF ALL FULL PENETRATION WELDS.

B. 20% OF ALL COLUMN SPICE WELDS, CHOSEN AT RANDOM.

7. ULTRASONIC TESTING AND VISUAL INSPECTION IN ACCORDANCE WITH ASTM A435 SHALL BE UTILIZED TO VERIFY BASE MATERIALS FOR LAMINATIONS, INCLUSIONS, AND OTHER DISCONTINUITIES AS FOLLOWS:

A. ALL STRUCTURAL STEEL PLATES GREATER THAN 1 1/2" THICK USED FOR THE CAISSON CORE STEEL, FOR THE CAISSON CAP TRANSFER GIRDERS, AND FOR THE DIAGONAL JOINT ASSEMBLIES w/ THE BEAMS IN THE CONTINUOUS CAISSON CAPS PRIOR TO FABRICATION.

B. ALL COLUMN FLANGES AND WEBS WITHIN STRUCTURAL SHAPE GROUPS 4 AND 5 AS DEFINED BY AISC LOCATED AT MOMENT CONNECTIONS. TEST AREA IS DEFINED AS 6" ABOVE AND BELOW BEAM FLANGE CONNECTION.

C. ALL GUSSET PLATES USED IN X-BRACED FRAMES GREATER THAN 1 1/2" THICK.

D. ALL COLUMN FLANGES IN COLUMNS WITH GUSSET PLATES ATTACHED TO BOTH FLANGES. TEST AREA IS DEFINED AS 6" AT 2'-0" INTERVALS.

8. ALL BOLTED CONNECTIONS SHALL BE VISUALLY INSPECTED AND TESTED WITH A CALIBRATED TORQUE WRENCH TO VERIFY A MINIMUM OF 25% OF BOLTS IN EACH CONNECTION (2 BOLTS PER CONNECTION MINIMUM).

9. THE REQUIRED CONTACT SURFACE CONDITIONS OF ALL SHEAR CONNECTIONS SHALL BE VISUALLY INSPECTED IMMEDIATELY PRIOR TO BEAM ERECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REMEDIAL WORK REQUIRED TO CONTACT SURFACES.

10. THE OWNER'S STRUCTURAL STEEL TESTING SHALL PERFORM ALL FIELD INSPECTION AND TESTING AS OUTLINED ABOVE, AND MONITOR THE CONTRACTOR'S INSPECTION AND TESTING OUTLINED ABOVE FOR ALL SHOP WORK. IF THE CONTRACTOR'S QUALITY CONTROL PROGRAM IS NOT AISC CERTIFIED, THE CONTRACTOR SHALL ENGAGE AN APPROVED STRUCTURAL STEEL TESTING LABORATORY, ACCEPTABLE TO THE OWNER, WHO SHALL PERFORM ALL SHOP TESTING AND INSPECTION.

11. THE STRUCTURAL STEEL FABRICATOR AND ERECTOR SHALL SCHEDULE ALL WORK TO ALLOW THE ABOVE INSPECTION AND TESTING REQUIREMENTS TO BE COMPLETED.

STRUCTURAL STEEL PAINTING

1. ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED AS REQUIRED BY THE TECHNICAL SPECIFICATIONS.

2. ALL STRUCTURAL STEEL TO RECEIVE SPRAYED-ON FIREPROOFING AND/OR TO BE ENCASED IN CONCRETE DOES NOT REQUIRE PAINTING UNLESS NOTED OTHERWISE.

3. THE FOLLOWING STRUCTURAL STEEL ELEMENTS REQUIRE CLEANING AND PAINTING SYSTEMS:

A. ELEVATOR SEPARATOR BEAMS: CLEANED; PRIMED

B. NON-FIREPROOFED, INTERIOR STRUCTURAL STEEL: CLEANED; PRIMED; FIELD PAINTED (1 COAT)

STRUCTURAL METAL DECK NOTES

1. ALL METAL DECK SHALL BE FABRICATED FROM STEEL TYPE ASTM A446, GRADE A, HAVING A MINIMUM YIELD STRENGTH OF 40,000 PSI. ALL FLOOR DECKING SHALL BE HOT-DIPPED GALVANIZED, OR PHOSPHATIZED AND PAINTED. ALL DECKING AT ROOF LEVELS, PARKING/VEHICULAR LEVELS, LOADING DOCK/FREIGHT AREAS, AND SIDEWALK AREAS SHALL BE HOT-DIPPED GALVANIZED. ALL INSULATED METAL ROOF DECKING SHALL BE FORMED WITH TELESCOPED ENDS TO ALLOW ENDS OF SHEETS TO BE LAPPED A MINIMUM OF 2 INCHES.

2. ALL METAL DECK SHALL BE DESIGNED FOR THE SPAN AND LOADING CONDITIONS SHOWN ON THE STRUCTURAL DRAWINGS AND IN THE METAL DECK SCHEDULE. NONCELLULAR METAL DECK SHALL BE PROVIDED IN ALL AREAS, UNLESS NOTED OTHERWISE.

3. METAL DECK SECTION PROPERTIES SHALL BE COMPUTED IN ACCORDANCE WITH THE AISI "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION, UNLESS NOTED OTHERWISE.

4. THE MINIMUM GAGE OF ALL METAL DECK SHALL BE 18 GAGE WHEN THE CONCRETE TOPPING SLAB THICKNESS IS LESS THAN OR EQUAL TO 4 1/2" AND 16 GAGE WHEN CONCRETE TOPPING SLAB THICKNESS IS GREATER THAN 4 1/2".

5. THE METAL DECK CONTRACTOR SHALL SUBMIT, TO THE ARCHITECT FOR REVIEW, STRUCTURAL ENGINEERING CALCULATIONS, PREPARED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW YORK, PROVIDE PUBLISHED MANUFACTURERS' DATA, AND INDEPENDENTLY CERTIFIED LOAD TEST DATA, VERIFYING THAT THE METAL DECK AND RELATED DECK ACCESSORIES SATISFY THE SPECIFIED LOADING AND DEFLECTION REQUIREMENTS FOR THE SPANS INDICATED ON THE DRAWINGS.

6. THE CONTRACTOR SHALL PROVIDE DETAILED, COORDINATED, AND CHECKED SHOP DRAWINGS INDICATING LOCATION, GAGE AND SIZE OF EACH PIECE OF DECKING AND RELATED ACCESSORIES. THE DRAWINGS SHALL CLEARLY SHOW WELDING DETAILS TO STRUCTURAL FRAMING ELEMENTS, SIDE LAP CONNECTION DETAILS, DECK OPENING/EDGE CLOSURES, AND WHERE REQUIRED, SUPPLEMENTARY DECK AND/OR CLOSURE REINFORCING.

7. ALL NON-CELLULAR COMPOSITE METAL DECK SHALL HAVE WIDE RIBS SUITABLE FOR SHEAR STUD PLACEMENT WHERE STUDS ARE REQUIRED. THE CONFIGURATION OF THE METAL DECK SHALL BE SUCH AS TO DEVELOP THE FULL HORIZONTAL SHEAR VALUE OF THE STUD FOR THE PARTICULAR METAL DECK-SLAB CONFIGURATION PER THE AISC SPECIFICATIONS, LATEST EDITION, AND AS REQUIRED BY NOTE 17C HEREIN.

8. ALL DECKING SHALL BE WELDED TO STRUCTURAL STEEL BY QUALIFIED WELDERS USING PRE-QUALIFIED PROCEDURES. THE TECHNICAL SPECIFICATIONS ESTABLISH A PROCEDURE FOR PRE-QUALIFICATION OF THE PLUG WELDING OF THE STEEL DECKING TO THE STRUCTURAL STEEL FOR THE PARTICULAR GAGES USED. PRIOR TO THE START OF ERECTION OF THE STEEL DECK, EACH WELDER SHALL BE QUALIFIED USING THIS PROCEDURE AS WITNESSED BY THE OWNER'S TESTING LABORATORY.

9. ALL METAL DECK SHALL BE WELDED AT 12 INCHES MAXIMUM ON CENTER TO THE SUPPORTING STEEL WITH A 3/4 INCH DIAMETER PLUG WELD. SIDE LAPS SHALL BE FASTENED AT 30 INCHES MAXIMUM ON CENTER.

10. THE METAL DECK SHALL BE DESIGNED TO BE UNSHORED AND CONTINUOUS OVER A MINIMUM OF THREE (3) SPANS IN THE DIRECTION INDICATED. METAL DECKING FOR SINGLE AND DOUBLE SPANS, IF REQUIRED, SHALL ALSO SATISFY THE SPECIFIED LOAD AND DEFLECTION REQUIREMENTS, NOTED HEREIN.

11. THE METAL DECK SHALL BE DESIGNED FOR AN ASSUMED SUITABLE CONSTRUCTION LIVE LOAD TAKING INTO CONSIDERATION THE PARTICULAR METHOD OF CONCRETE PLACEMENT TO BE USED ON THE PROJECT. SPAN AND LOAD CONDITIONS INDICATED BY THE SUPPORTING FRAMEWORK OPENINGS, AND ACTUAL DECK PIECE SIZES UTILIZED. THE ASSUMED CONSTRUCTION LIVE LOAD SHALL NOT BE LESS THAN 20 PSF. THE CONTRACTOR SHALL NOT EXCEED THE ASSUMED CONSTRUCTION DESIGN LIVE LOAD WITHOUT FIRST TAKING ALL NECESSARY SAFETY PRECAUTIONS SUCH AS SHORING, ETC. ADDITIONALLY, FOLLOW ALL APPLICABLE CITY, LOCAL AND AISI REQUIREMENTS FOR TEMPORARY CONSTRUCTION LOADINGS, IF MORE STRINGENT.

12. COMPOSITE METAL DECK DESIGN CRITERIA: (CELLULAR AND NON-CELLULAR DECKS)

A. METAL DECK: (CONSTRUCTION LOADS ONLY)

1A. MAXIMUM DECK DEFLECTION FOR CONCRETE WET WEIGHT SHALL BE LESS THAN OR EQUAL TO L/240, BUT NOT TO EXCEED 1/2"; COMPUTED EITHER ON A SINGLE SPAN BASIS, OR ON LOADING ONLY ONE (1) SPAN FOR MULTIPLE SPAN CONDITIONS.

2A. MAXIMUM STRESS IN DECK FOR CONCRETE WET WEIGHT AND CONSTRUCTION LOADS SHALL BE LESS THAN OR EQUAL TO 0.6 Fy (Fy = YIELD STRESS) COMPUTED ON A SINGLE SPAN BASIS, OR ON LOADING TWO ADJACENT SPANS FOR MULTIPLE SPAN CONDITIONS.

3A. ALLOW FOR AN AVERAGE OF 5 PSF WET CONCRETE WEIGHT FOR CONCRETE LEVELING (AS PER SPECIFICATIONS) IN ADDITION TO THE SPECIFIED SLAB THICKNESS, FOR STRESS AND DEFLECTION CALCULATIONS.

4A. PROVIDE DECK SHORING, IF REQUIRED, TO MEET THE CONDITIONS OF ITEMS NO. 1, 2, AND 3 ABOVE.

5A. ALL FORM DECKS, FOR REINFORCED CONCRETE SLABS, SHALL BE DESIGNED FOR THE SAME CRITERIA STATED IN ITEMS NOS. 1, 2, 3, AND 4 ABOVE.

B. COMPOSITE METAL DECK SLAB: (FINAL DESIGN LOAD)

1B. THE DECK SHALL DEVELOP FULL COMPOSITE ACTION FOR IMPOSED LOADS AS SHOWN IN THE DECK SCHEDULE.

2B. MAXIMUM DEFLECTION UNDER SUPERIMPOSED LOAD SHALL BE LESS THAN OR EQUAL TO L/360.

3B. MAXIMUM STRESS IN DECK FOR TOTAL LOAD USING APPROPRIATE NON-COMPOSITE AND COMPOSITE PROPERTIES SHALL BE LESS THAN OR EQUAL TO 0.75 FY.

4B. MAXIMUM ALLOWABLE STRESS IN CONCRETE SHALL BE AS PER ACI 318, LATEST EDITION.

5B. THE COMPOSITE DECK SHALL BE DESIGNED ON THE BASIS OF OBTAINING A MINIMUM FACTOR OF SAFETY OF 2 FOR THE TOTAL SUPERIMPOSED LOAD ON A SINGLE SPAN BASIS. TEST RESULTS SHALL BE FURNISHED TO SUBSTANTIATE THE FACTOR OF SAFETY.

16. SHEAR STUDS:

A. ALL SHEAR STUD PLACEMENT DIAGRAM SHOWN REPRESENT IDEALIZED CONDITIONS, AND ACTUAL FRAMING CONFIGURATIONS MAY REQUIRE ADDITIONAL MODIFICATIONS AND INTERPRETATIONS.

B. THE CONTRACTOR SHALL SUBMIT CHECKED SHOP DRAWINGS INDICATING THE SHEAR STUD LAYOUT, INCLUDING SIZE, SPACING AND GROUPING, FOR EACH BEAM.

C. THE NUMBER OF STUDS PER BEAM AS SHOWN ON THE DRAWINGS INCLUDES REDUCTIONS BASED ON RIB WIDTH, NUMBER OF STUDS PER CELL, DECK RIB ORIENTATION, AND SLAB THICKNESS AS PER AISC SPECIFICATIONS FOR COMPOSITE CONSTRUCTION, LATEST EDITION. THE ASSUMED ALLOWABLE HORIZONTAL SHEAR DESIGN VALUE (ASD) FOR A NOMINAL 3/4"-DIA. x 6" LONG STUD IS 10.5 KIPS PER STUD FOR NON-CELLULAR DECK WITH LIGHTWEIGHT CONCRETE AND 12.5 KIPS PER STUD FOR NON-CELLULAR DECK WITH NORMAL WEIGHT CONCRETE. THE ASSUMED DECK NOMINAL RIB HEIGHT IS 3", AND THE ASSUMED AVERAGE CONCRETE RIB WIDTH IS 6". THE METAL DECK CONTRACTOR SHALL SUBMIT LOAD TEST DATA VERIFYING THE HORIZONTAL SHEAR CAPACITY OF SHEAR STUDS FOR DIFFERENT DECK TYPES AND CELL CONFIGURATIONS, AS DETAILED ON THE SHOP DRAWINGS. IF ANY OF THE ASSUMPTIONS LISTED ABOVE ARE VIOLATED, THE METAL DECK CONTRACTOR SHALL SUBMIT STRUCTURAL DESIGN CALCULATIONS, PREPARED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK, BASED ON THE DETAILED SHOP DRAWINGS. PROVIDE ALL EXTRA STUDS AS MAY BE REQUIRED TO ACHIEVE THE TOTAL HORIZONTAL SHEAR CAPACITY.

D. MAXIMUM SPACING OF STUDS SHALL BE 12" ON CENTER.

E. SHEAR STUDS SHALL BE EITHER WELDED DIRECTLY TO STRUCTURAL STEEL ELEMENTS AT LOCATIONS WITHOUT DECK OR WELDED TYPE THROUGH THE METAL DECK BY PREQUALIFIED METHODS. IF THROUGH DECK WELDING IS UNFEASIBLE, THE STUDS SHALL BE INSTALLED IN PRE-PUNCHED HOLES IN THE METAL DECK. THE CONTRACTOR SHALL ESTABLISH SPECIFIC WELDING REQUIREMENTS FOR EACH THICKNESS OF FRAMING ELEMENT AND/OR GAGE OF METAL DECK.

17. THE OWNER'S TESTING LABORATORY SHALL INSPECT AND TEST ALL METAL DECK AND SHEAR STUD INSTALLATION WORK. SEE TECHNICAL SPECIFICATION SECTION 05310, "STEEL DECK" FOR ADDITIONAL TESTING AND INSPECTION REQUIREMENTS.

18. CONDUIT SHALL NOT BE PLACED IN STRUCTURAL SLABS.

19. ALL ELEVATIONS ARE REFERENCED TO A LOCAL SITE DATUM, WHERE Z = 0'-0" = 44'-6" BOROUGH OF MANHATTAN DATUM (2.75' ABOVE NATIONAL GEODETIC SURVEY VERTICAL DATUM OF 1929, MEAN SEA LEVEL, SANDY HOOK, NEW JERSEY).

20. SEE SPECIFICATION SECTION 05310, "STEEL DECK", FOR ADDITIONAL REQUIREMENTS.



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Key Plan:



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3 15 NOV 2013 ISSUED FOR 50% PROGRESS PRICING
2 12 JUL 2013 ISSUED FOR 90% DESIGN DEVELOPMENT
1 18 MAR 2012 ISSUED FOR RECONCILIATION

No. Date Description
Sheet Name

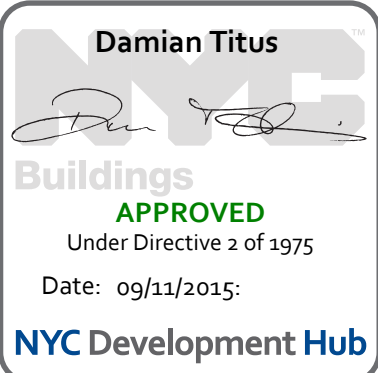
STRUCTURAL
STEEL AND
METAL DECK
NOTES

Project No.: 211157 B-SCAN Sheet No.:

Date: 20 JUN 2014 S-005.00

Scale: 1/2" = 1'-0" Sheet No.:

File No. S-005 Page No. 5 of 90





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079322

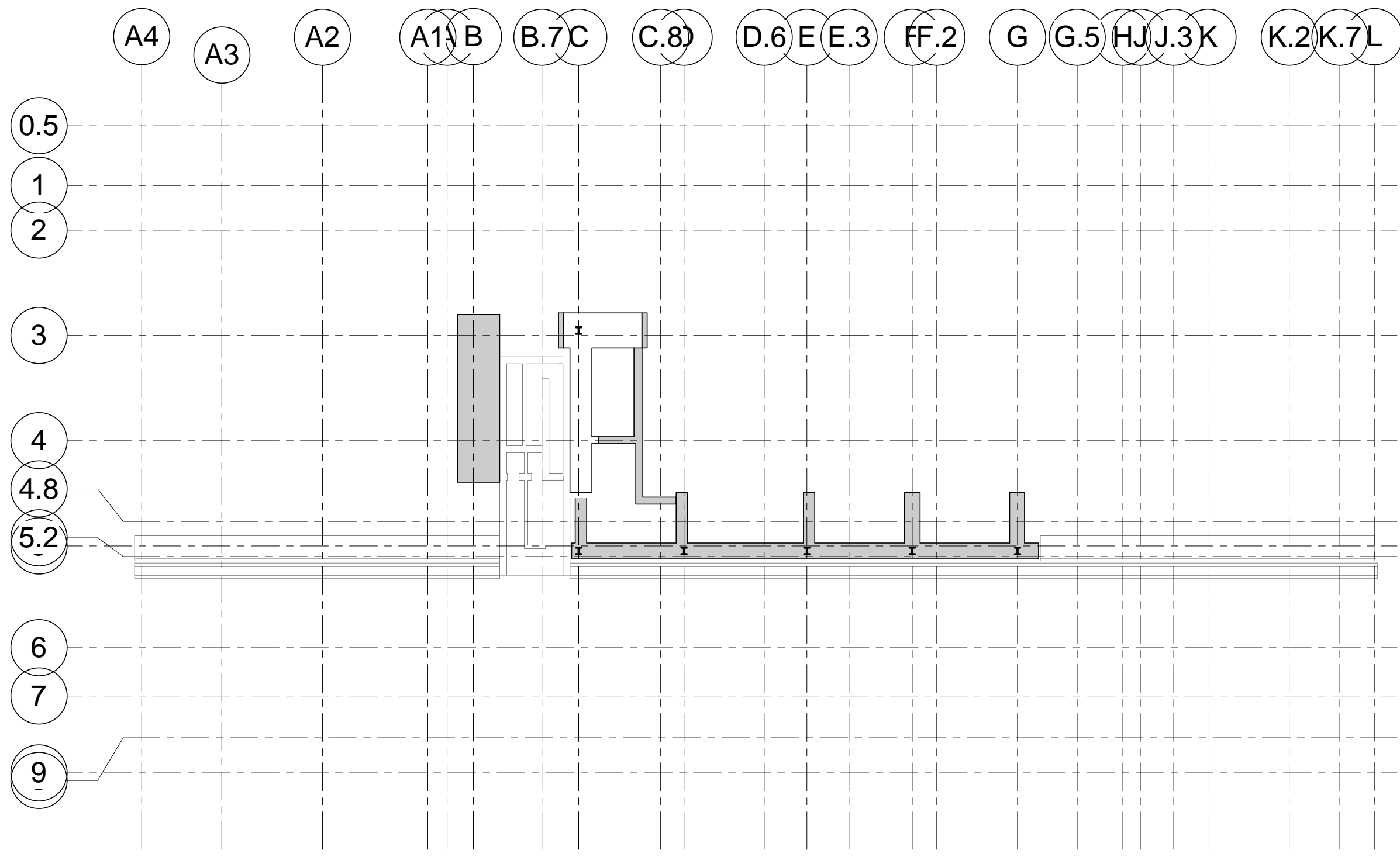
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33RD STREET
DYER AVENUE
31ST STREET
9TH AVENUE

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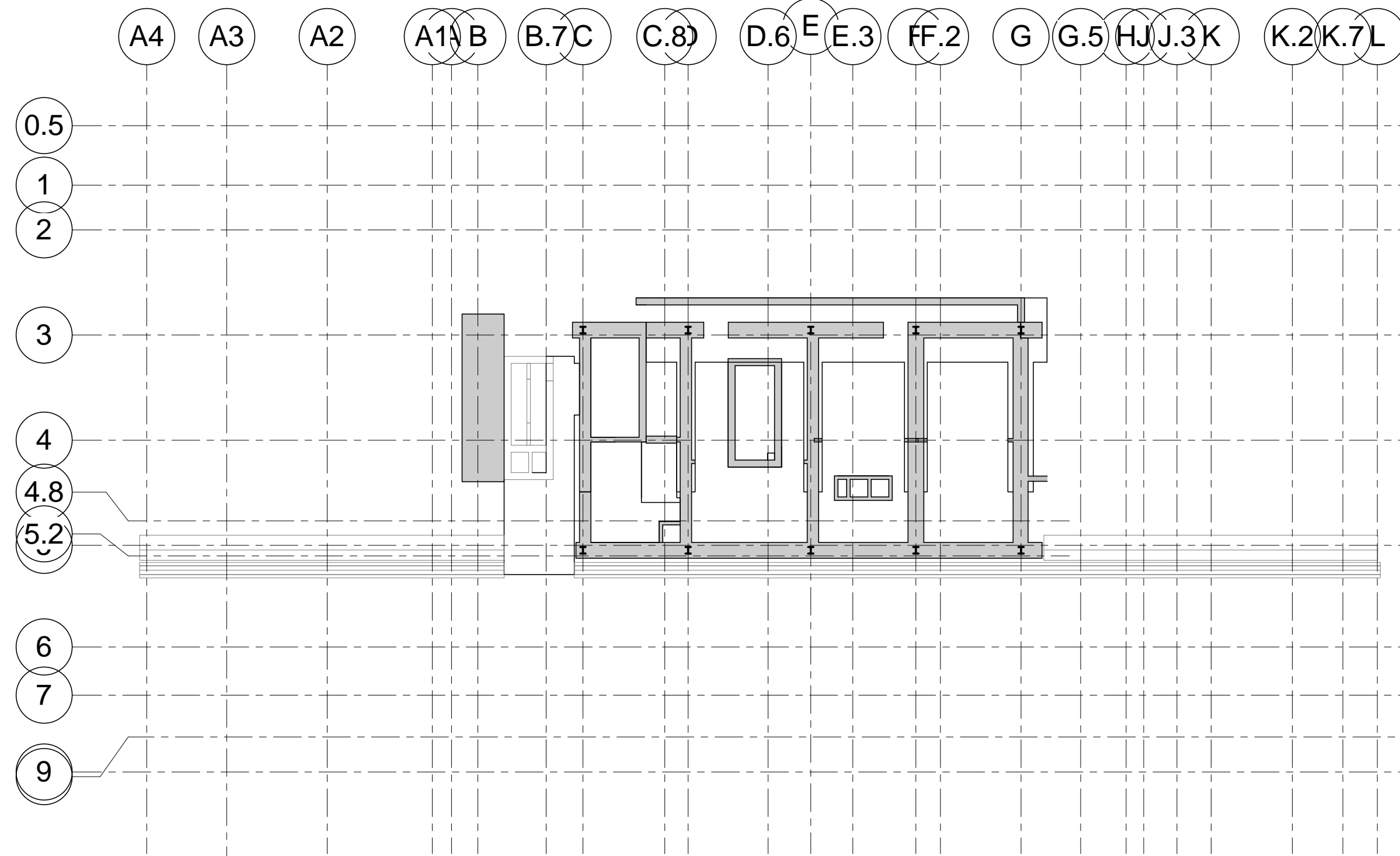
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Date: 20 JUN 2014
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File No.: S-010

B-SCAN Sheet No.: S-010.00
Sheet No.: S-010
Page No.: 6 of 90

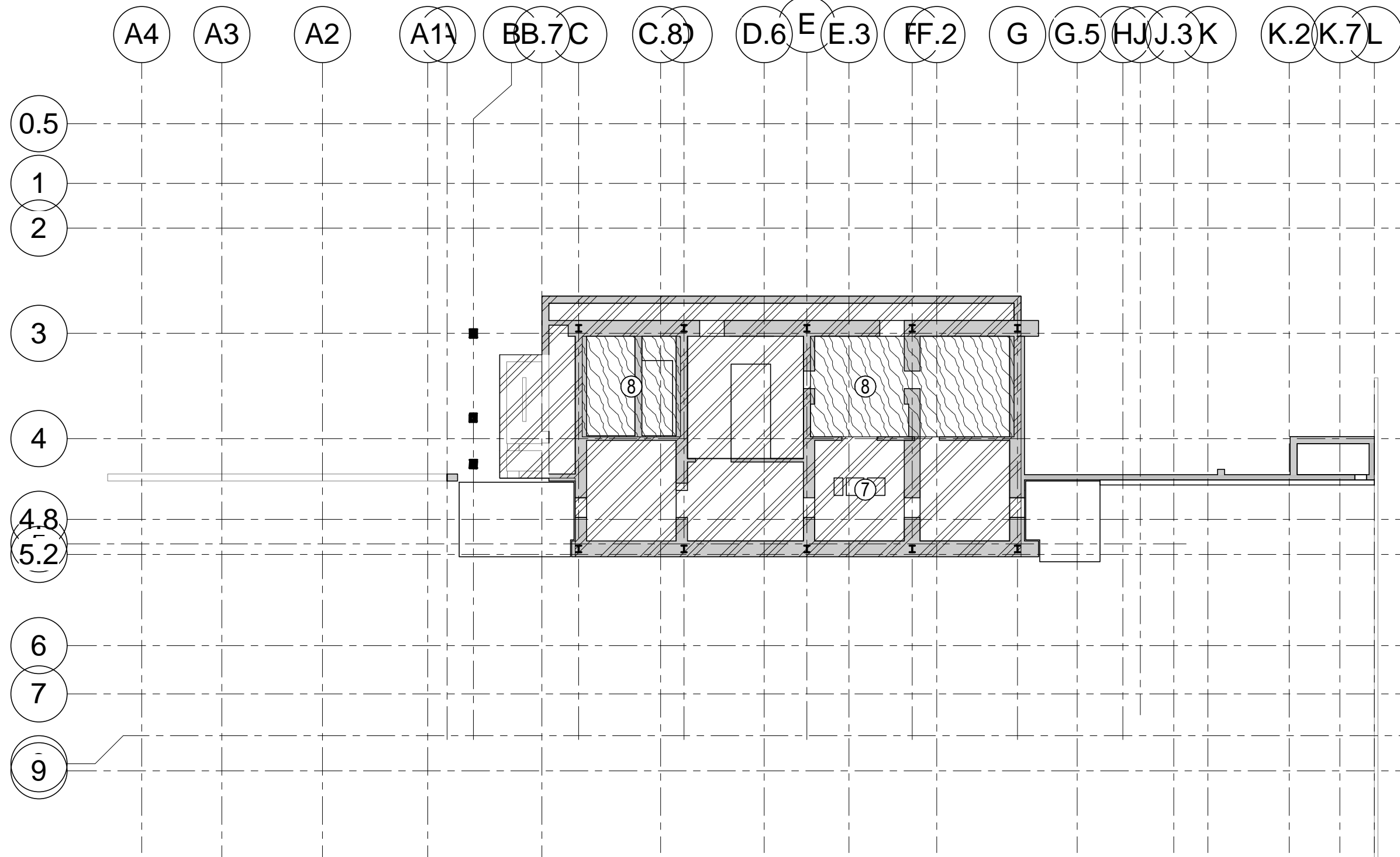
| LOADING SCHEDULE | | | |
|------------------|------------------|---------|--------|
| KEY | FUNCTION | SDL PSF | LL PSF |
| ① | TERRACE | 250 | 100 |
| ② | MECHANICAL | 60 | 150 |
| ③ | HEAVY MECHANICAL | 60 | 225 |
| ④ | LIGHT MECHANICAL | 50 | 100 |
| ⑤ | OFFICE | 45 | 50 |
| ⑥ | PLAZA | 60 | 100 |
| ⑦ | CORRIDOR | 50 | 100 |
| ⑧ | FUEL TANK | 40 | 880 |
| ⑨ | BACK OF HOUSE | 50 | 50 |
| ⑩ | ROOF MECH | 60 | 250 |
| ⑪ | RETAIL | 60 | 100 |



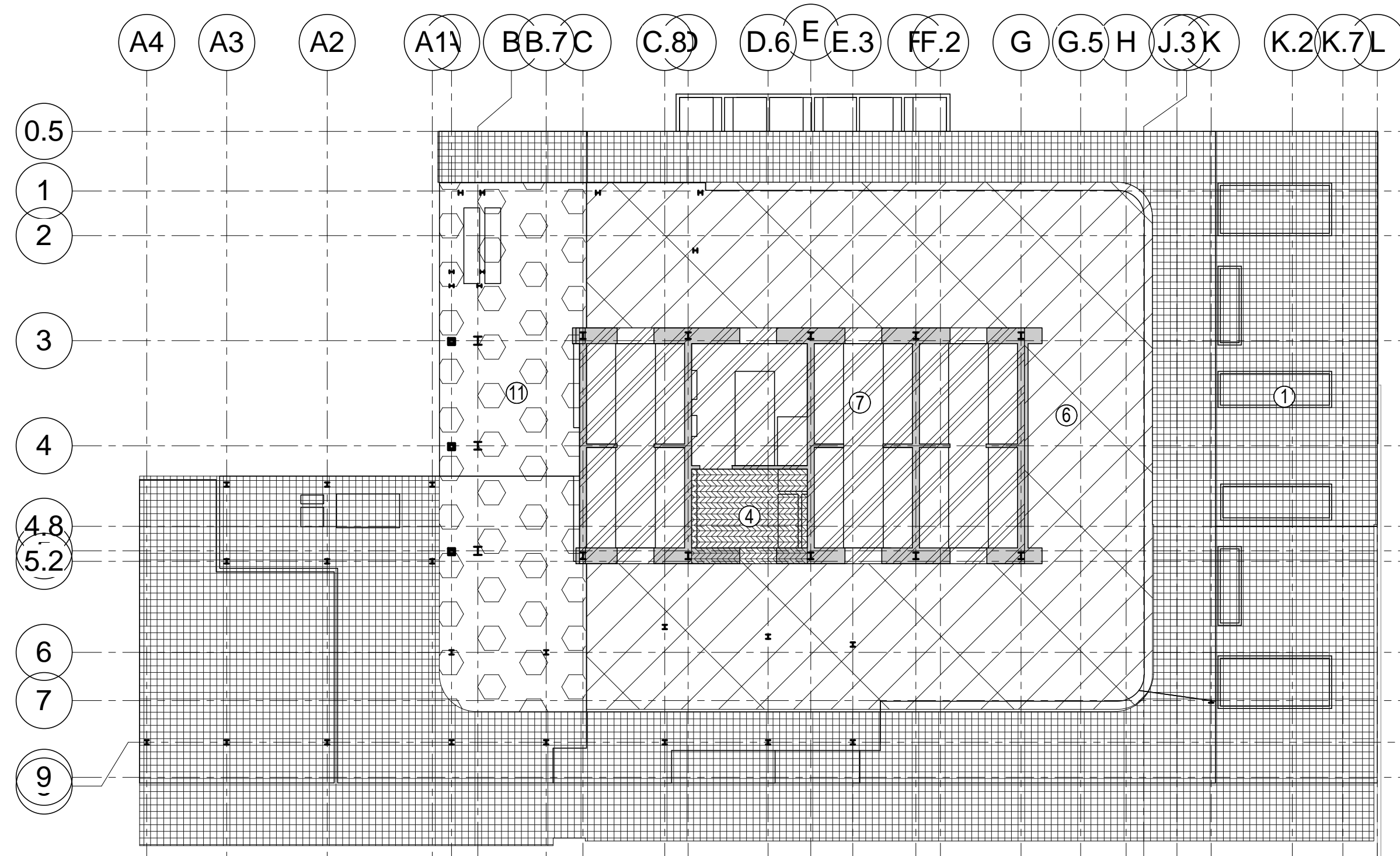
1 LEVEL B3 LOADING DIAGRAM
1/32" = 1'-0"



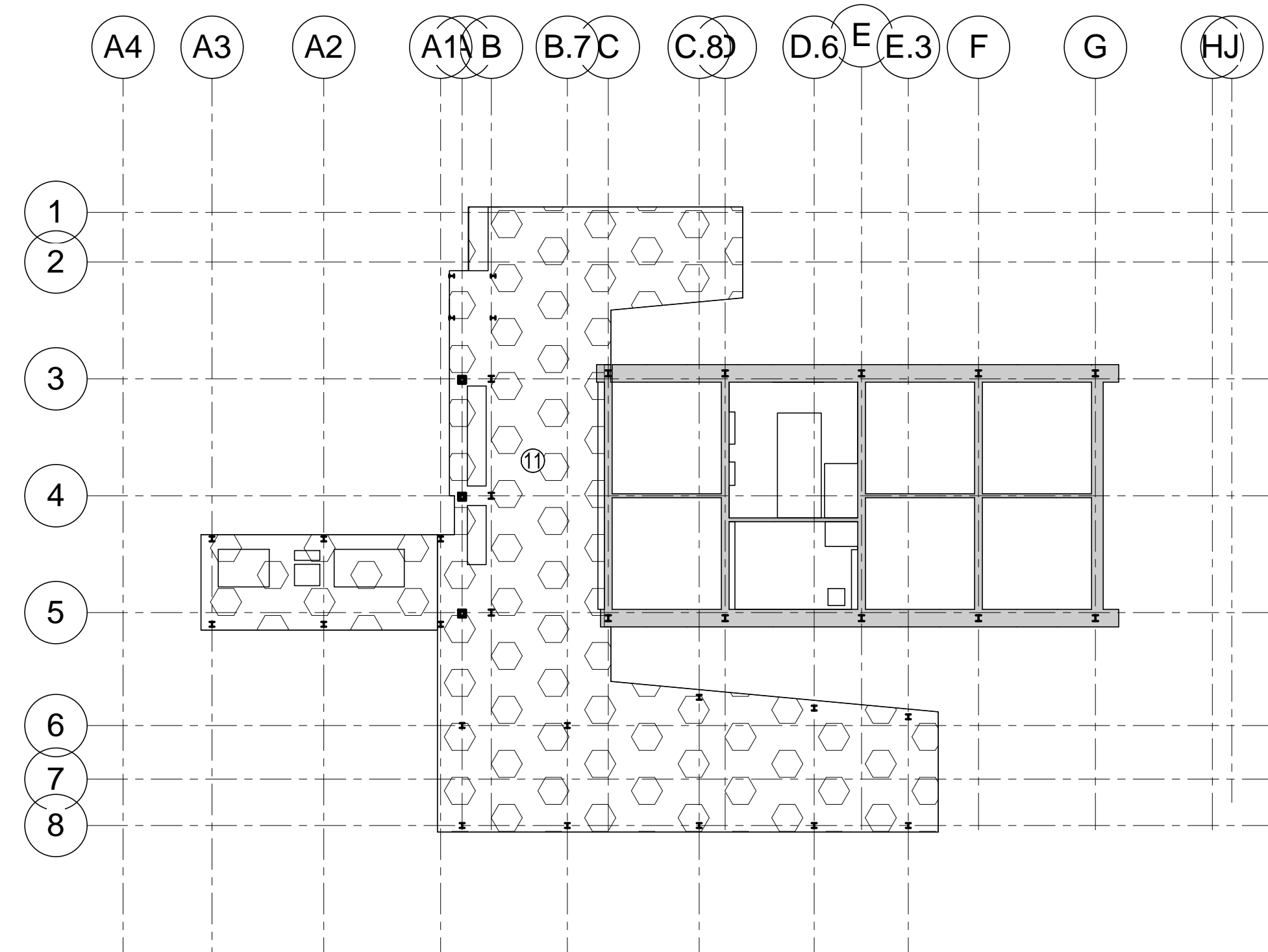
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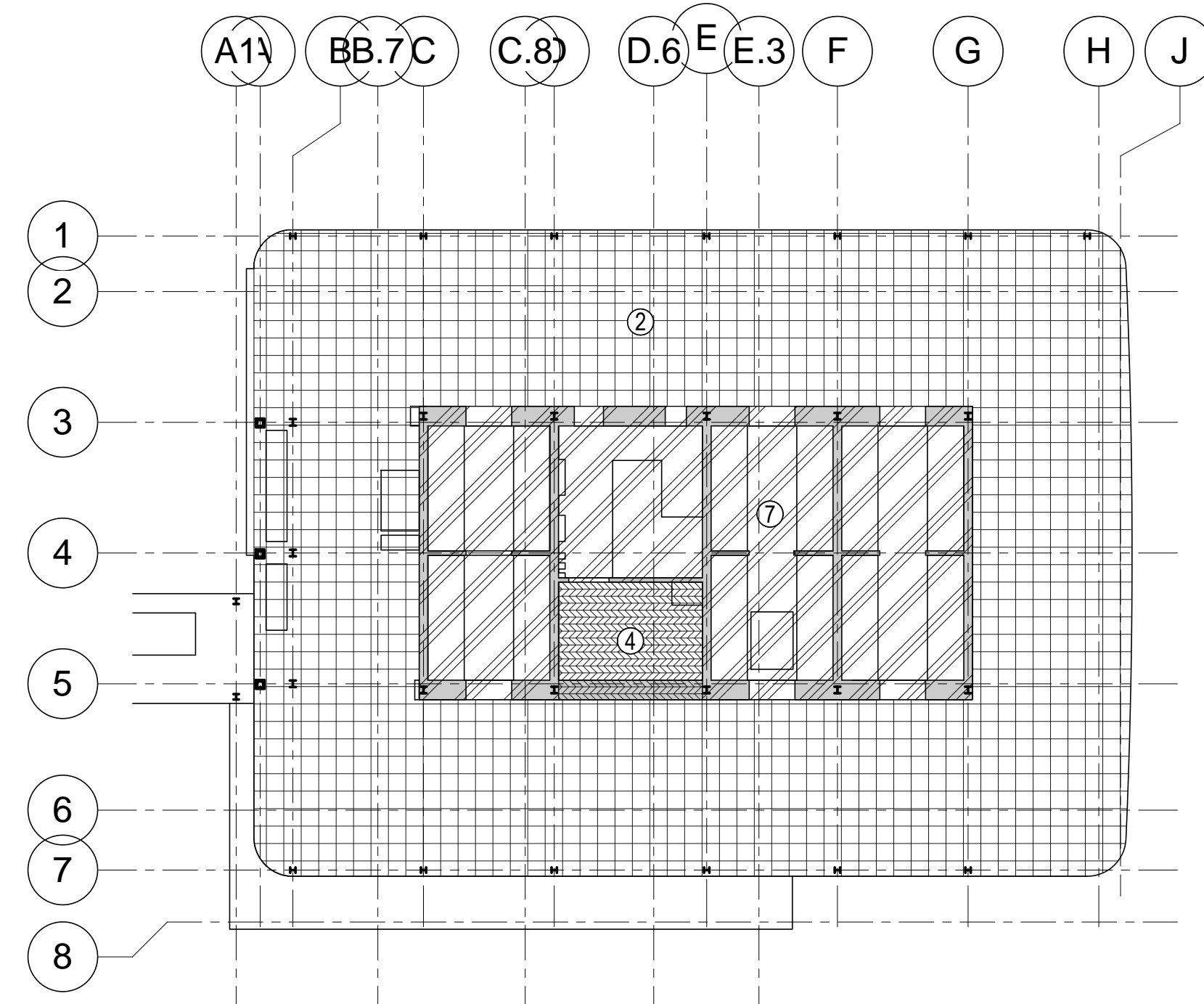
3 LEVEL B1 LOADING DIAGRAM
NOT TO SCALE



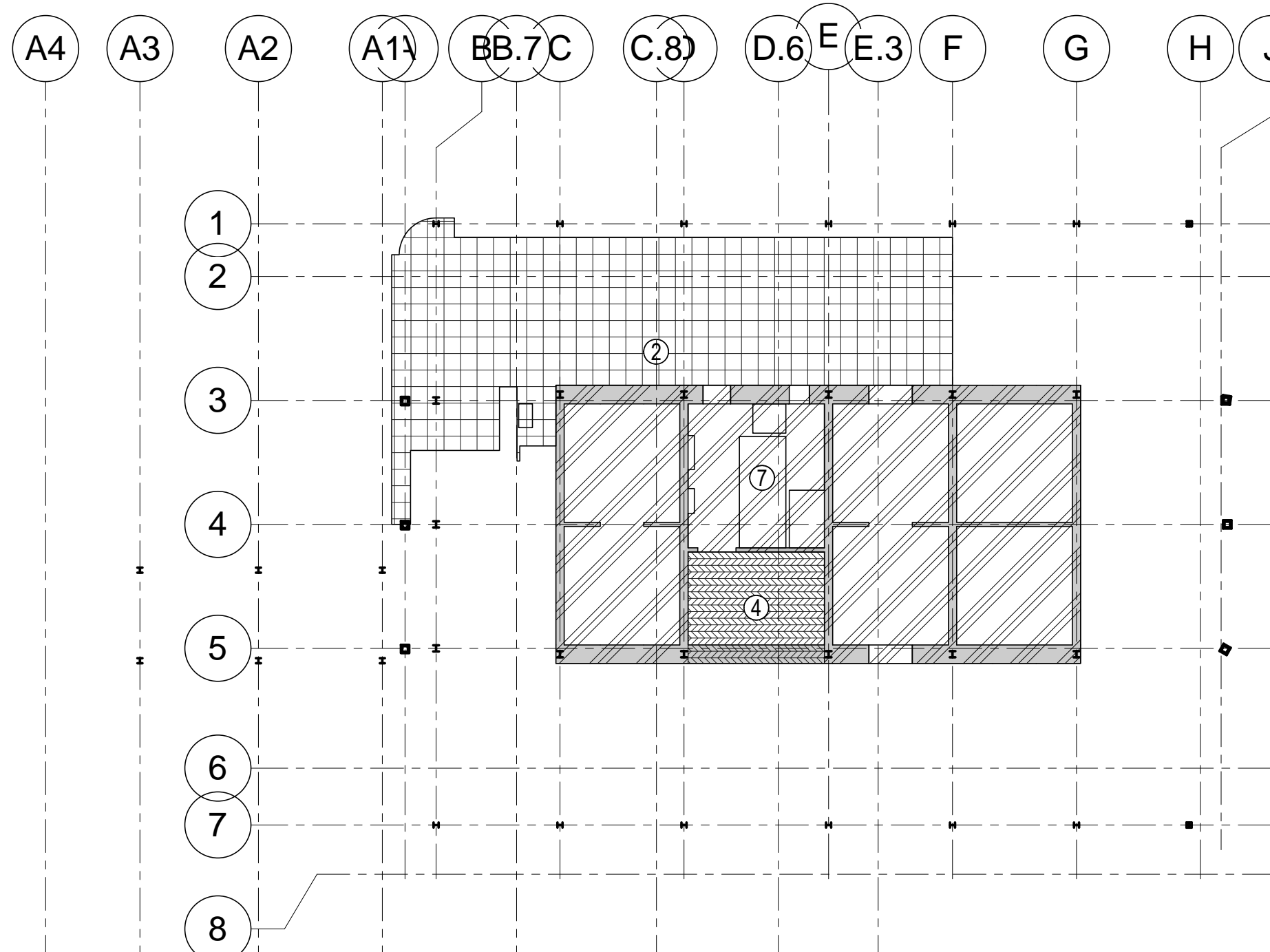
4 LEVEL 1 LOADING DIAGRAM
1/32" = 1'-0"



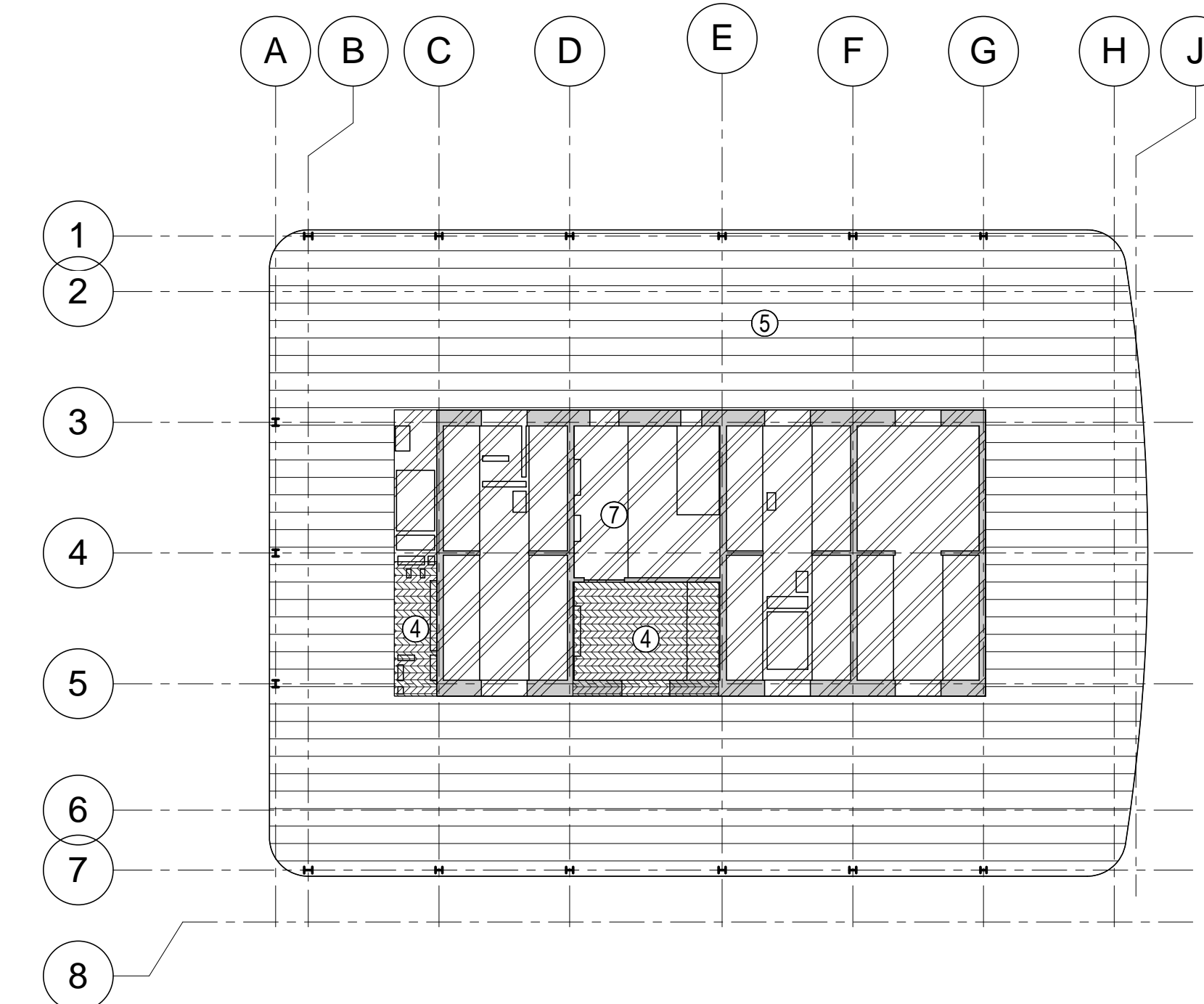
5 LEVEL 2 LOADING DIAGRAM
1/32" = 1'-0"



6 LEVEL 4 MECH. LOADING DIAGRAM
1/32" = 1'-0"

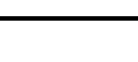
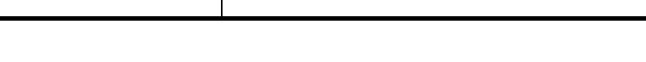


7 LEVEL 5 MECHANICAL MEZZ. LOADING DIAGRAM
1/32" = 1'-0"



8 LEVEL 22 TYP LOW-RISE LOADING DIAGRAM
1/32" = 1'-0"

Damian Titus
Date: 09/12/2015
NYC Development Hub





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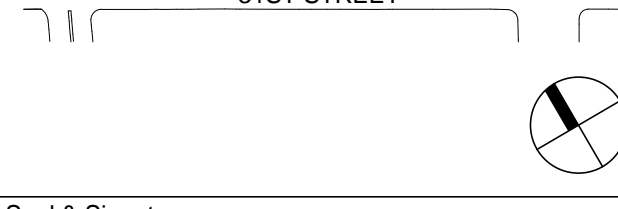
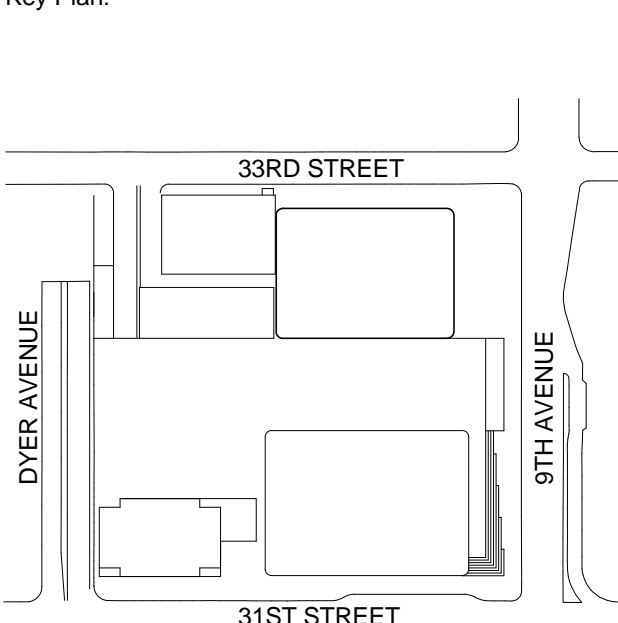
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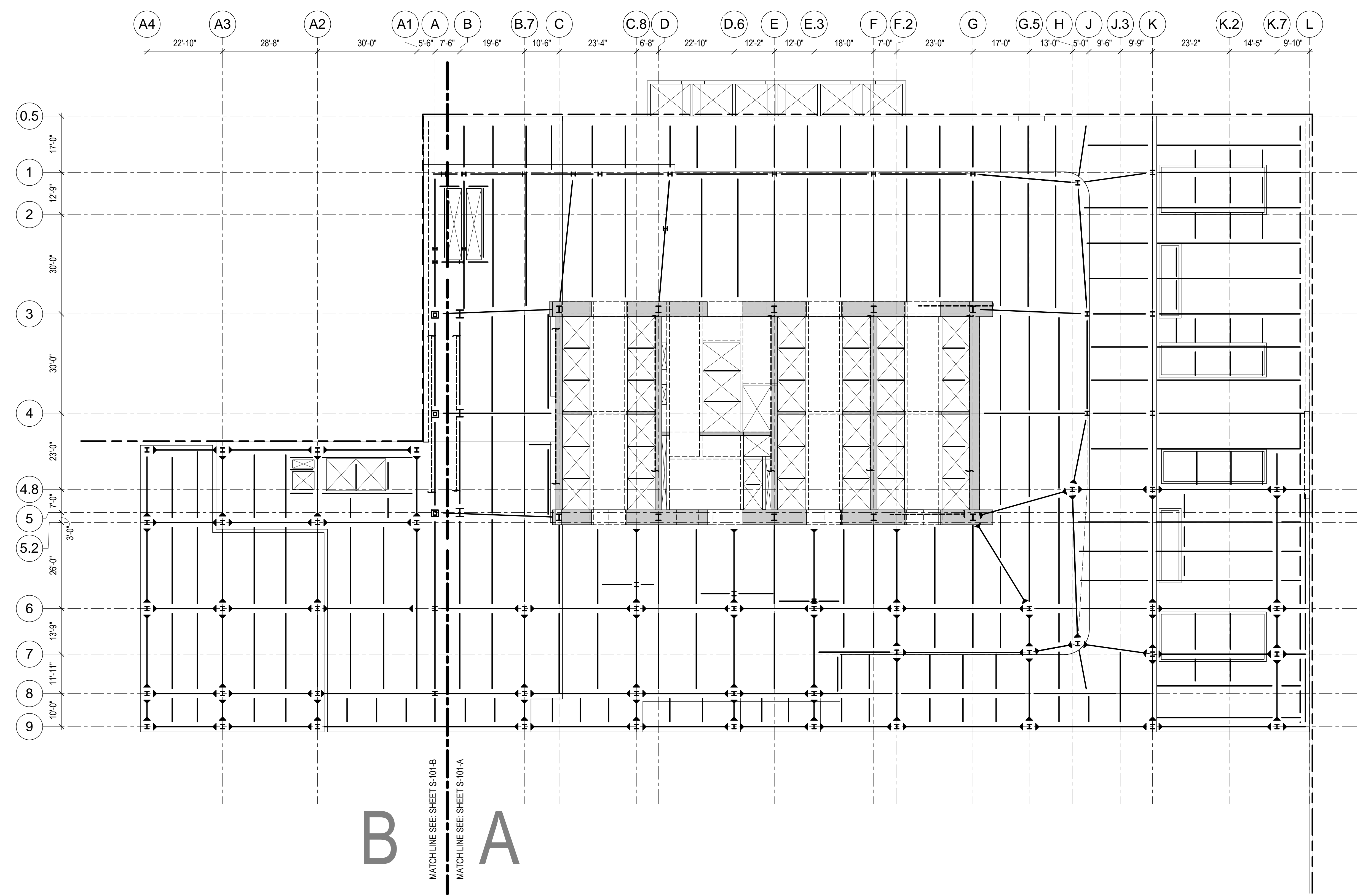
OVERALL
GROUND FLOOR
PLAN

| | | |
|---|-------------|-----------------------------------|
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 30% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONCILIATION |

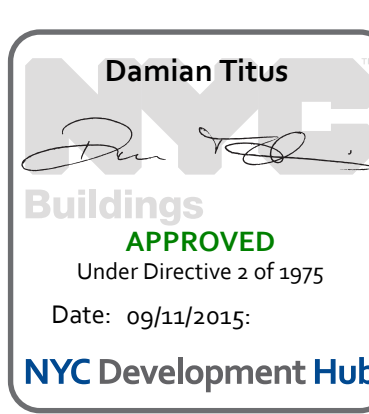
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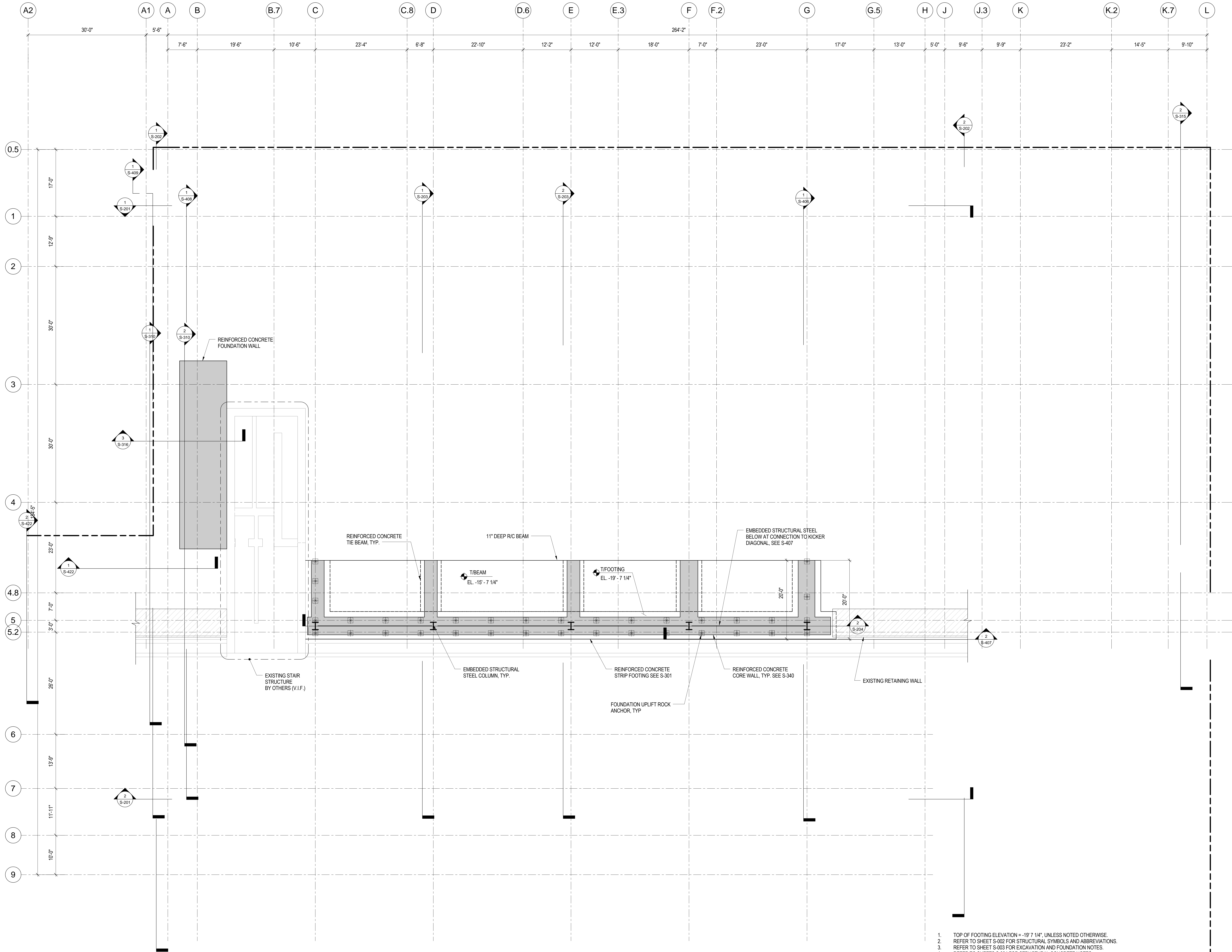
Project No.: 211157
Date: 20 JUN 2014
Scale: 1/16" = 1'-0"
File No.: S-051

B-SCAN Sheet No.: S-051.00
Sheet No.: S-051
Page No.: 9 of 90



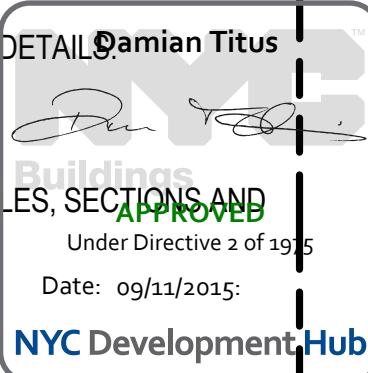
1 OVERALL GROUND FLOOR PLAN
1/16" = 1'-0"





1 FOUNDATION LOWER PLAN (TRACK LEVEL)
1/8" = 1'-0"

1. TOP OF FOOTING ELEVATION = -19' 7 1/4", UNLESS NOTED OTHERWISE.
2. REFER TO SHEET S-002 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.
3. REFER TO SHEET S-003 FOR EXCAVATION AND FOUNDATION NOTES.
4. REFER TO SHEETS S-004 FOR STRUCTURAL CONCRETE NOTES.
5. REFER TO SHEETS S-005 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
6. REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.
7. REFER TO SHEETS S-301 AND S-302 FOR CORE WALL CONTINUOUS FOOTINGS SECTIONS AND DETAILS.
8. REFER TO SHEET S-305 FOR CAISSON SCHEDULE, SECTIONS AND DETAILS.
9. REFER TO SHEET S-340 FOR REINFORCED CONCRETE CORE WALL SCHEDULE, SECTIONS AND DETAILS.
10. REFER TO SHEET S-341 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
11. REFER TO SHEET S-355 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
12. REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
13. REFER TO SHEETS S-405 TO S-407 FOR EMBEDDED STRUCTURAL STEEL ELEVATIONS, SCHEDULES, SECTIONS AND DETAILS.
14. REFER TO DRAWINGS PREPARED BY ENTUITIVE FOR ADJACENT PLATFORM STRUCTURE.



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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B6

Key Plan:

Seal & Signature:

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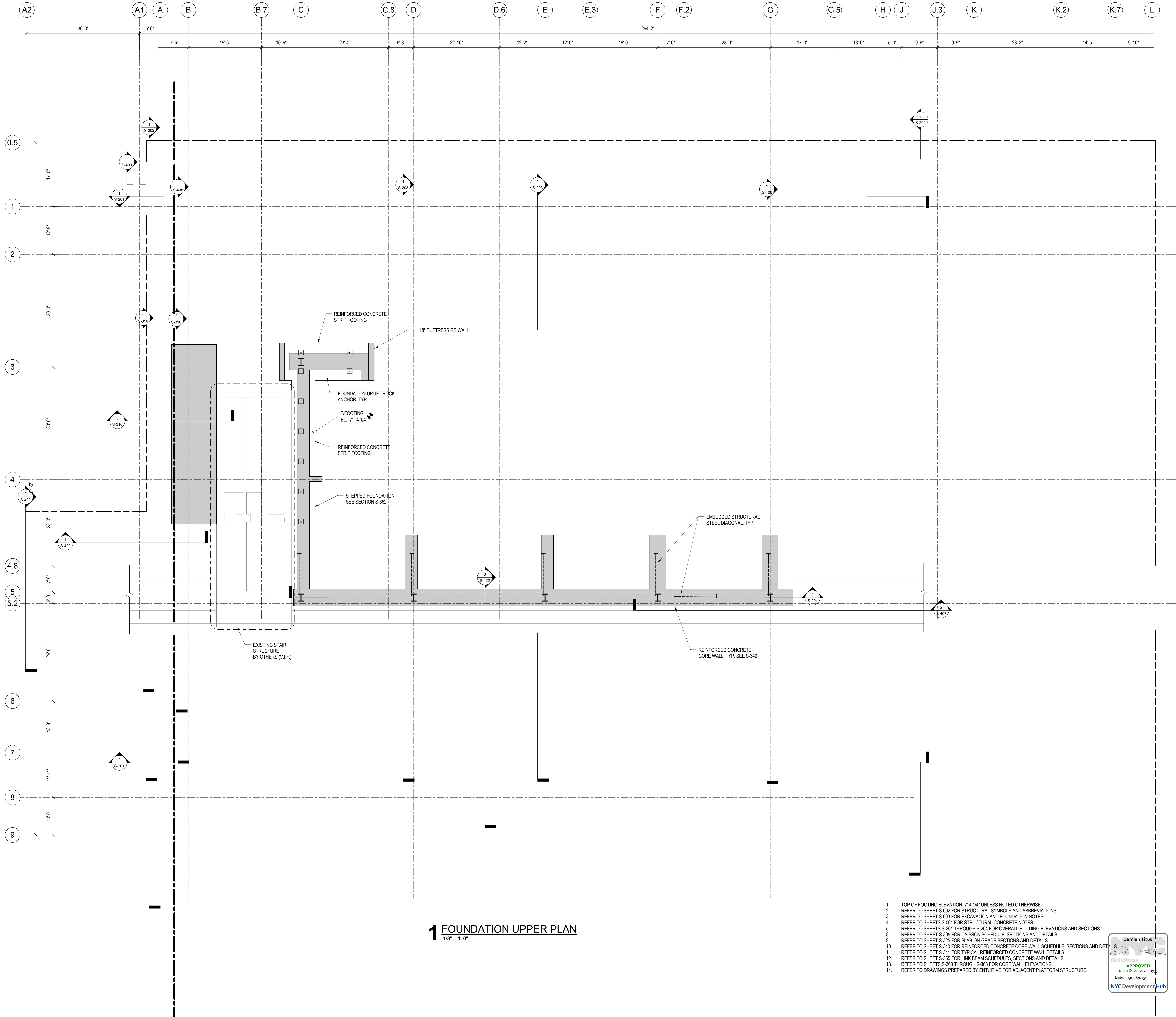
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| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 20% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

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**FOUNDATION
LOWER PLAN
(TRACK LEVEL)**

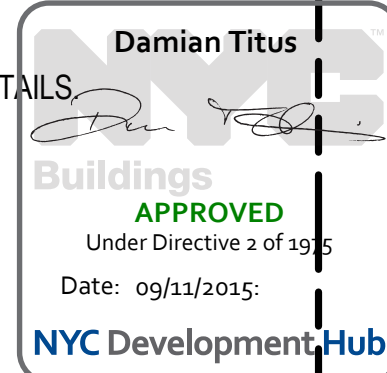
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Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: S-FND

B-SCAN Sheet No.: **S-092.00**
Sheet No.: **S-FND**
Page No.: 10 of 90



1 FOUNDATION UPPER PLAN
1/8" = 1'-0"

1. TOP OF FOOTING ELEVATION -7'-4 1/4" UNLESS NOTED OTHERWISE.
2. REFER TO SHEET S-002 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.
3. REFER TO SHEET S-003 FOR EXCAVATION AND FOUNDATION NOTES.
4. REFER TO SHEETS S-004 FOR STRUCTURAL CONCRETE NOTES.
5. REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.
6. REFER TO SHEET S-305 FOR CAISSON SCHEDULE, SECTIONS AND DETAILS.
7. REFER TO SHEET S-325 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
8. REFER TO SHEET S-340 FOR REINFORCED CONCRETE CORE WALL SCHEDULE, SECTIONS AND DETAILS.
9. REFER TO SHEET S-341 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
10. REFER TO SHEET S-345 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
11. REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
12. REFER TO DRAWINGS PREPARED BY ENTUITIVE FOR ADJACENT PLATFORM STRUCTURE.



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Ontario, Canada N1K 1B6

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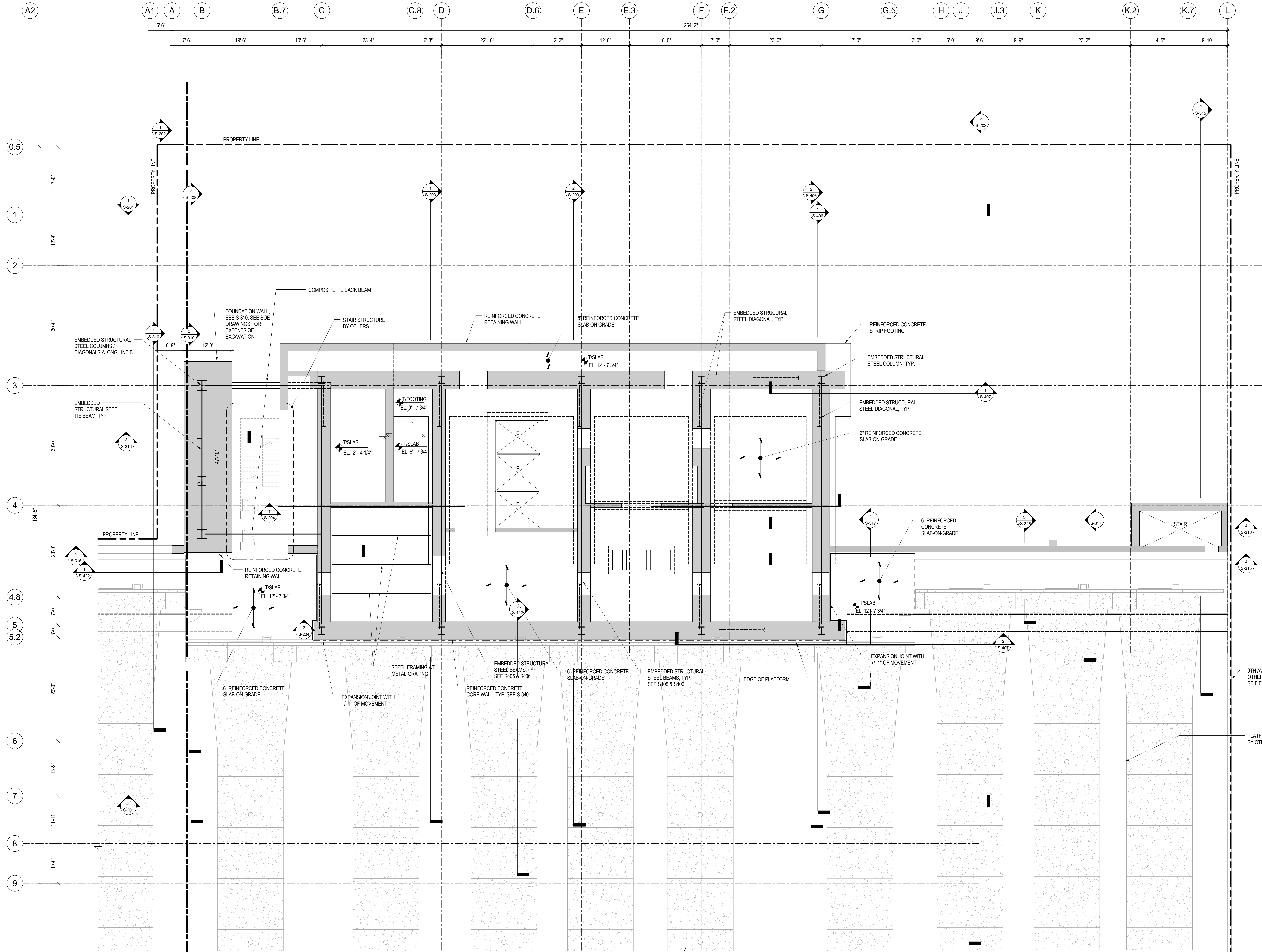
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| 3 | 15 NOV 2013 | ISSUED FOR 3D PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

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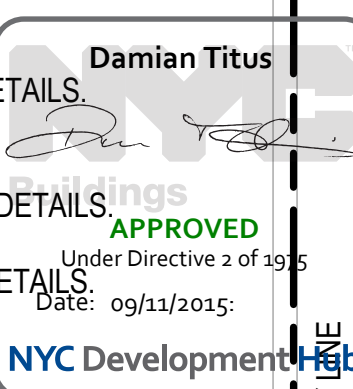
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| Date: 20 JUN 2014 | Sheet No.: |
| Scale: 1/8" = 1'-0" | S-097B3 |
| File No. S-097B3 | Page No. 11 of 90 |



1 CELLAR B1 FLOOR FRAMING PLAN - PART A
1/8" = 1'-0"

1. TOP OF SLAB ELEVATION = +12'-7 3/4", UNLESS NOTED OTHERWISE.
2. REFER TO SHEET S-002 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.
3. REFER TO SHEET S-003 FOR EXCAVATION AND FOUNDATION NOTES.
4. REFER TO SHEETS S-004 FOR STRUCTURAL CONCRETE NOTES.
5. REFER TO SHEETS S-005 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
6. REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.
7. REFER TO SHEETS S-301 AND S-302 FOR CORE WALL CONTINUOUS FOOTINGS SECTIONS AND DETAILS.
8. REFER TO SHEET S-315 FOR SPREAD FOOTING SCHEDULE, SECTIONS AND DETAILS.
9. REFER TO SHEET S-316 FOR GRADE BEAM SCHEDULE, SECTIONS AND DETAILS.
10. REFER TO SHEETS S-320 THROUGH S-322 FOR FOUNDATION WALL ELEVATIONS, SECTIONS AND DETAILS.
11. REFER TO SHEET S-330 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
12. REFER TO SHEET S-330 FOR REINFORCED CONCRETE CORE WALL SCHEDULE, SECTIONS AND DETAILS.
13. REFER TO SHEET S-351 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
14. REFER TO SHEET S-355 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
15. REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
16. REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
17. REFER TO SHEET S-375 FOR REINFORCED CONCRETE SLAB SCHEDULE, SECTIONS AND DETAILS.
18. REFER TO SHEET S-401 FOR STRUCTURAL STEEL COLUMN SCHEDULE, SECTIONS AND DETAILS.
19. REFER TO DRAWINGS PREPARED BY ENTUITIVE FOR ADJACENT PLATFORM STRUCTURE.



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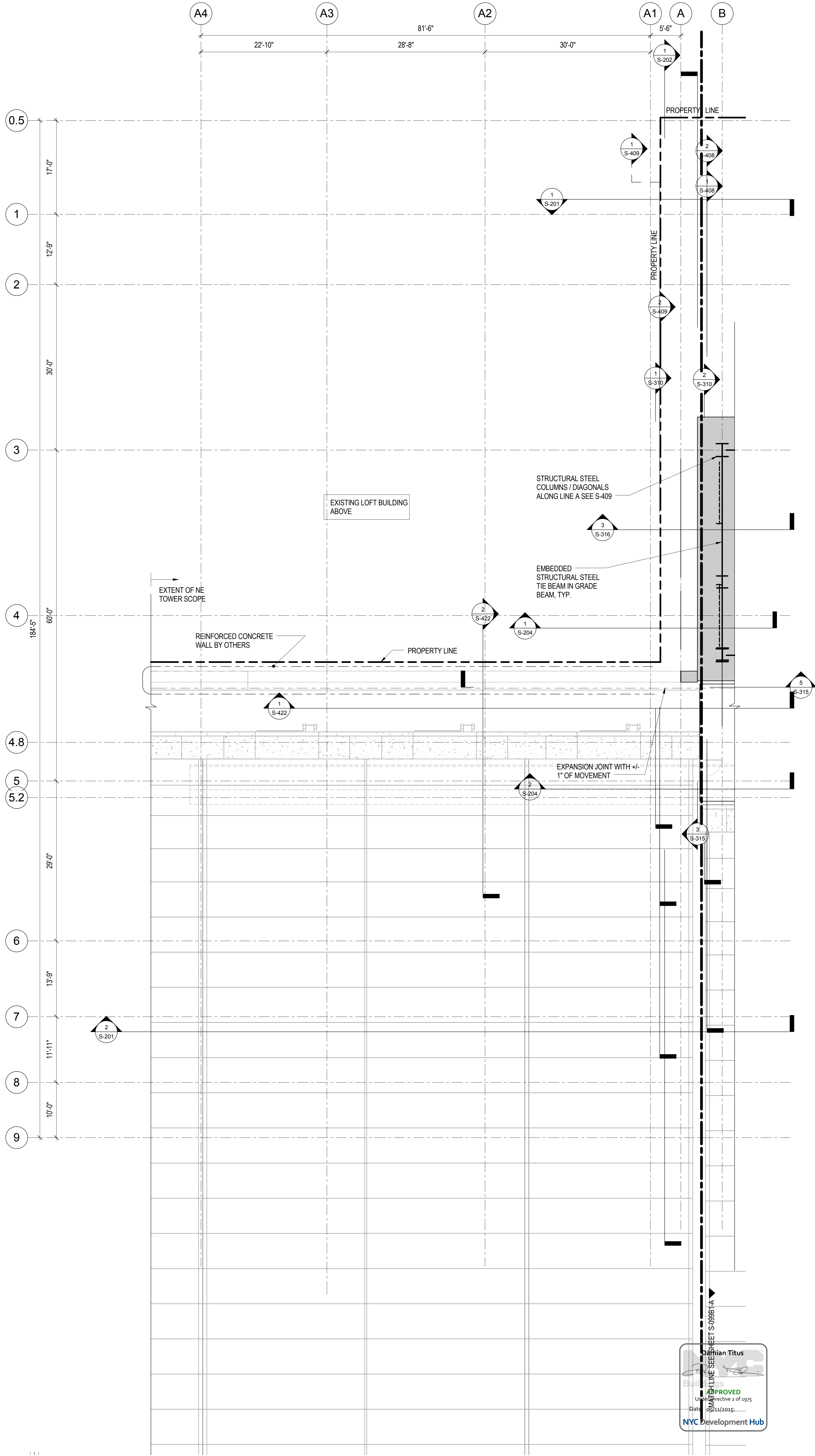
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Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: S-099B1-A

B-SCAN Sheet No.:
S-095.00
Sheet No.:
S-099B1-A
Page No.: 13 of 90

**CELLAR B1
FLOOR FRAMING
PLAN - PART A**

1 CELLAR B1 FLOOR FRAMING PLAN - PART B
1/8" = 1'-0"

1. TOP OF SLAB ELEVATION = +12'-7 3/4"; UNLESS NOTED OTHERWISE.
2. REFER TO SHEET S-202 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.
3. REFER TO SHEET S-203 FOR EXCAVATION AND FOUNDATION NOTES.
4. REFER TO SHEETS S-204 FOR STRUCTURAL CONCRETE NOTES.
5. REFER TO SHEETS S-205 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
6. REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.
7. REFER TO SHEETS S-301 AND S-302 FOR CORE WALL CONTINUOUS FOOTINGS SECTIONS AND DETAILS.
8. REFER TO SHEET S-315 FOR SPREAD FOOTING SCHEDULE, SECTIONS AND DETAILS.
9. REFER TO SHEET S-316 FOR GRADE BEAM SCHEDULE, SECTIONS AND DETAILS.
10. REFER TO SHEETS S-320 THROUGH S-322 FOR FOUNDATION WALL ELEVATIONS, SECTIONS AND DETAILS.
11. REFER TO SHEET S-330 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
12. REFER TO SHEET S-350 FOR REINFORCED CONCRETE CORE WALL SCHEDULE, SECTIONS AND DETAILS.
13. REFER TO SHEET S-351 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
14. REFER TO SHEET S-355 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
15. REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
16. REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
17. REFER TO SHEET S-375 FOR REINFORCED CONCRETE SLAB SCHEDULE, SECTIONS AND DETAILS.
18. REFER TO SHEET S-401 FOR STRUCTURAL STEEL COLUMN SCHEDULE, SECTIONS AND DETAILS.
19. REFER TO DRAWINGS PREPARED BY ENTUITIVE FOR ADJACENT PLATFORM STRUCTURE.



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Wind Tunnel Consultant
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| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

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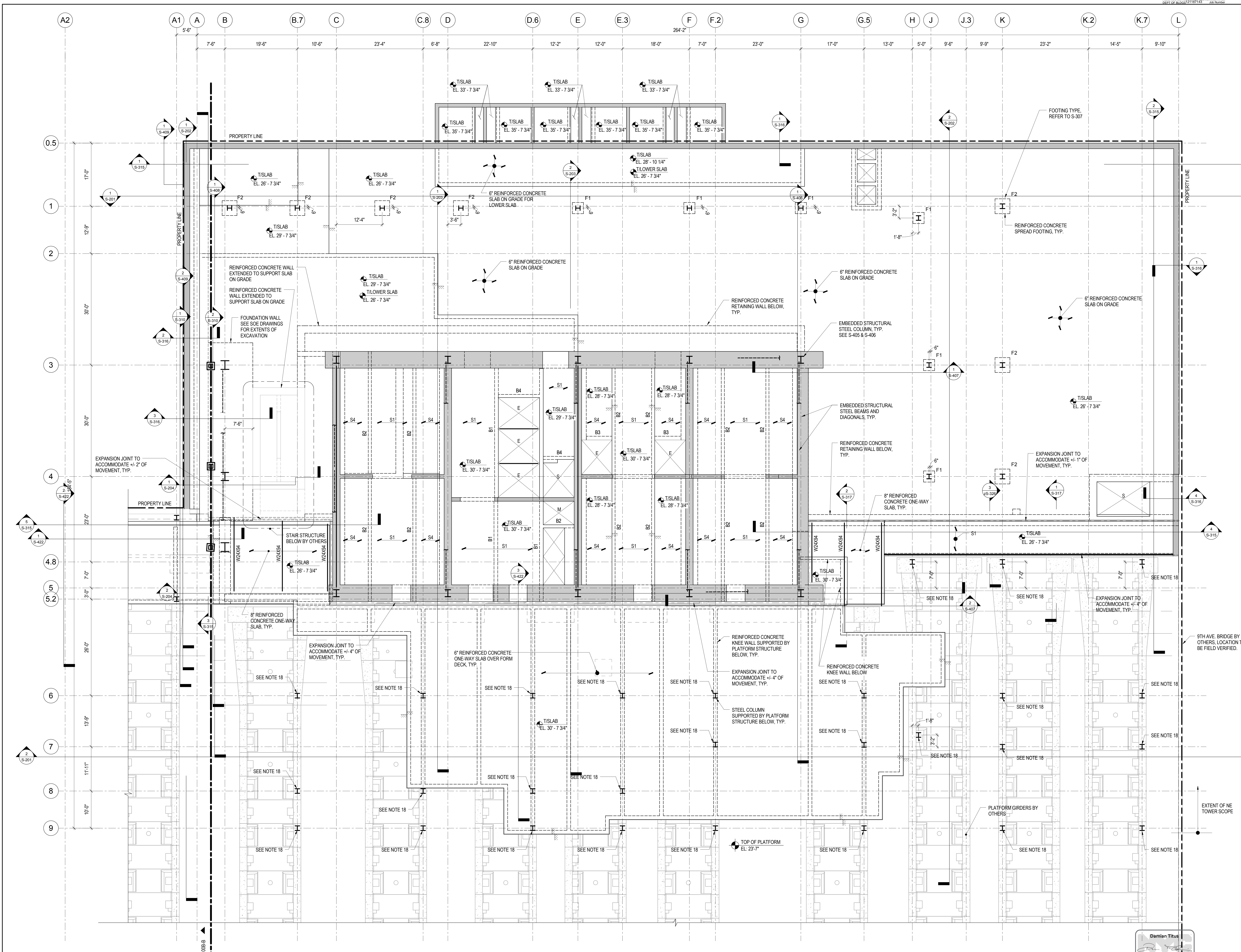
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Project No.: 211157 B-SCAN Sheet No.: **S-096.00**

Date: 20 JUN 2014

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

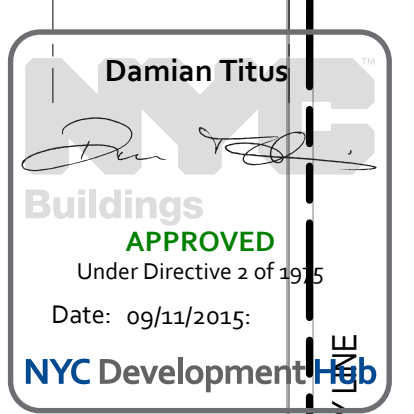
File No.: S-096B1-B Sheet No.: S-099B1-B Page No.: 14 of 90



1 CELLAR B FLOOR FRAMING PLAN - PART A

1/8" = 1'-0"

- 1. TOP OF SLAB ELEVATION = +30'-7 3/4" UNLESS NOTED OTHERWISE.
- 2. REFER TO SHEET S-002 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.
- 3. REFER TO SHEET S-003 FOR EXCAVATION AND FOUNDATION NOTES.
- 4. REFER TO SHEETS S-004 FOR STRUCTURAL CONCRETE NOTES.
- 5. REFER TO SHEETS S-005 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
- 6. REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.
- 7. REFER TO SHEET S-317 FOR SPREAD FOOTING SCHEDULE, SECTIONS AND DETAILS.
- 8. REFER TO SHEETS S-315 THROUGH S-317 FOR FOUNDATION SLAB ELEVATIONS, SECTIONS AND DETAILS.
- 9. REFER TO SHEET S-325 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
- 10. REFER TO SHEET S-340 FOR REINFORCED CONCRETE CORE WALL SCHEDULE, SECTIONS AND DETAILS.
- 11. REFER TO SHEET S-341 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
- 12. REFER TO SHEET S-355 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
- 13. REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
- 14. REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
- 15. REFER TO SHEET S-375 FOR REINFORCED CONCRETE SLAB SCHEDULE, SECTIONS AND DETAILS.
- 16. REFER TO SHEET S-401 AND S-402 FOR STRUCTURAL STEEL COLUMN SCHEDULE, SECTIONS AND DETAILS.
- 17. REFER TO SHEETS S-315 THROUGH S-317 FOR FOUNDATION SLAB ELEVATIONS, SECTIONS AND DETAILS.
- 18. PROVIDE SLIDING BEARING SUPPORT AT COLUMN CONNECTION TO BOX BEAM BELOW. SEE S-402 FOR DETAILS AND SCHEDULE.



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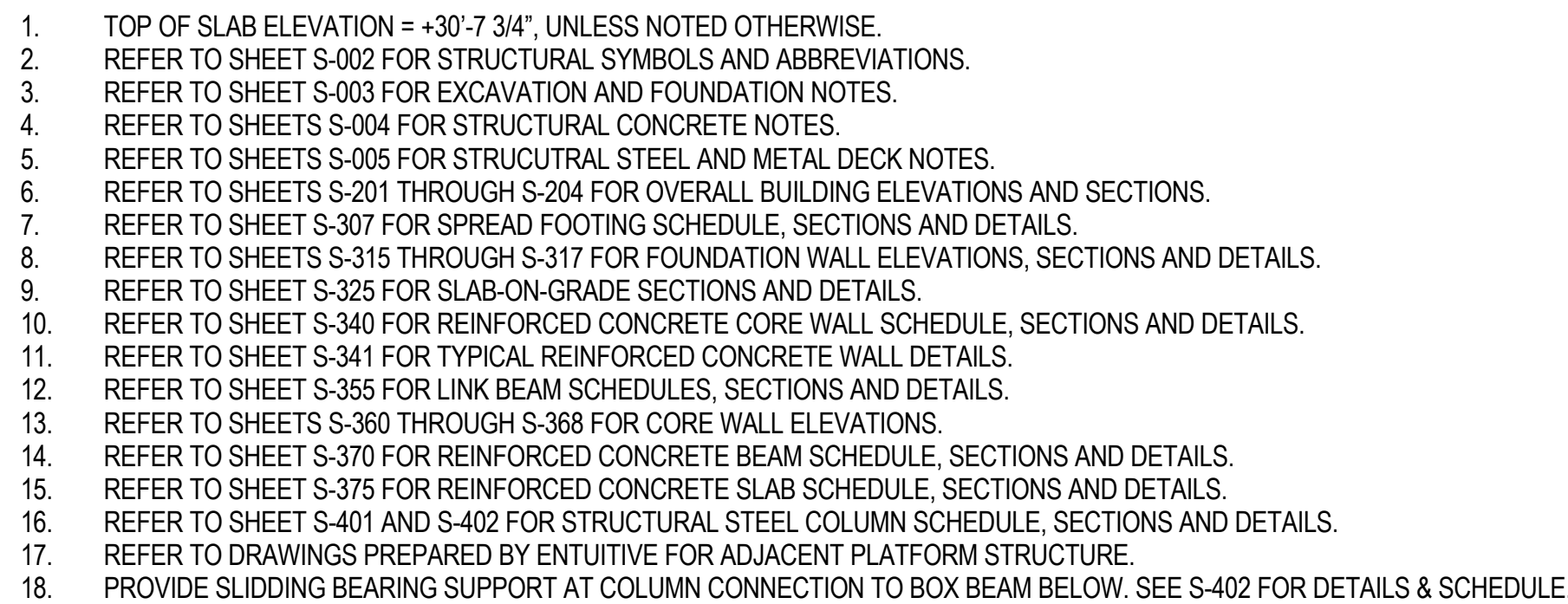
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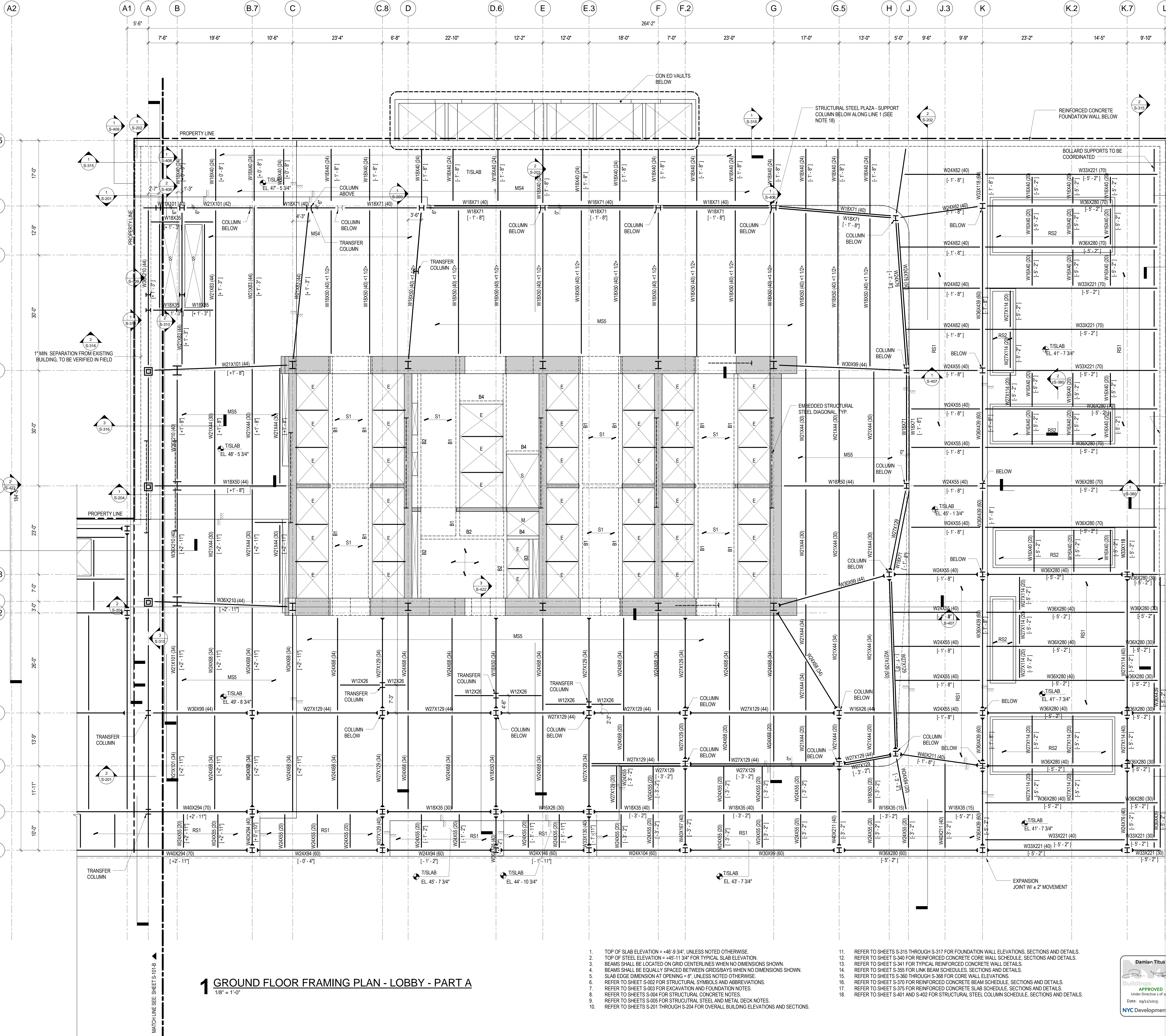
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File No.: S-100B-A

Sheet No.: S-097.00
Page No.: 15 of 90


$$1/8'' = 1'-0''$$

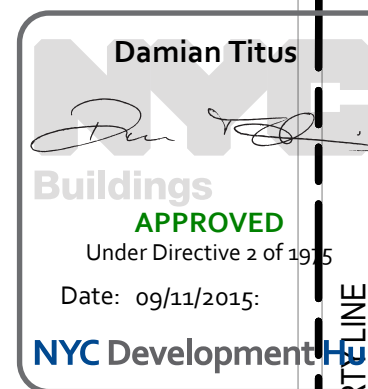


1 GROUND FLOOR FRAMING PLAN - LOBBY - PART A

1/8" = 1'-0"

1. TOP OF SLAB ELEVATION = +46'-9 3/4", UNLESS NOTED OTHERWISE.
2. TOP OF STEEL ELEVATION = +45'-11 3/4" FOR TYPICAL SLAB ELEVATION.
3. BEAMS SHALL BE LOCATED ON GRID CENTERLINES WHEN NO DIMENSIONS SHOWN.
4. BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDS/BAYS WHEN NO DIMENSIONS SHOWN.
5. SLAB EDGE DIMENSION AT OPENING = 8", UNLESS NOTED OTHERWISE.
6. REFER TO SHEET S-302 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.
7. REFER TO SHEET S-303 FOR EXCAVATION AND FOUNDATION NOTES.
8. REFER TO SHEETS S-304 FOR STRUCTURAL CONCRETE NOTES.
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| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
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| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2013 | ISSUED FOR RECONCILIATION |

Sheet Name: **GROUND FLOOR FRAMING PLAN - LOBBY - PART A**

Project No.: 211157

Date: 30 JAN 2015

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

File No.: S-101-A

B-SCAN Sheet No.: **S-100.00**

Sheet No.: **S-101-A**

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Report of submittal 12/18/14
Sheet No. 102.00



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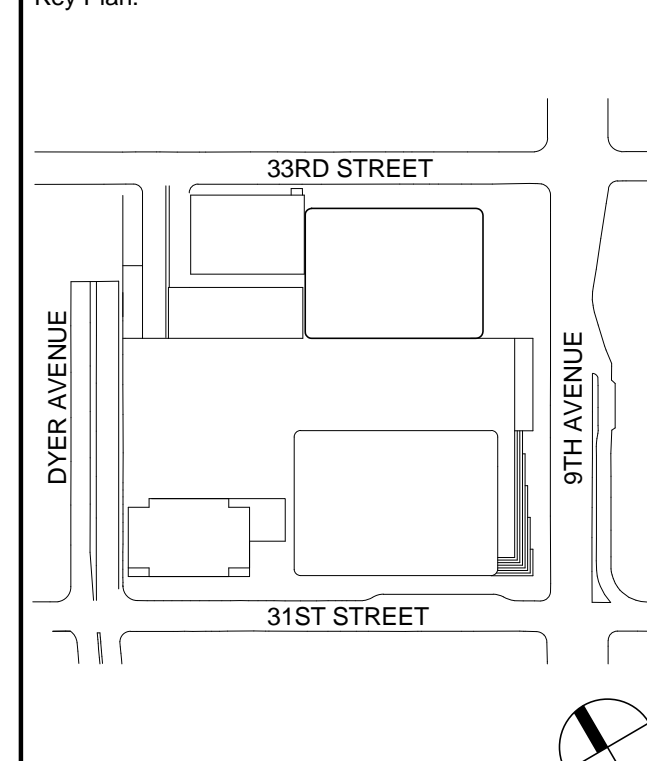
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Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
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Key Plan:



Seal & Signature:

PRELIMINARY
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Project No.: 211157
Date: 30 JAN 2015
Scale: 1/8" = 1'-0"

Sheet Name: 2ND FLOOR FRAMING PLAN

Project No.: 211157
Date: 30 JAN 2015
Scale: 1/8" = 1'-0"

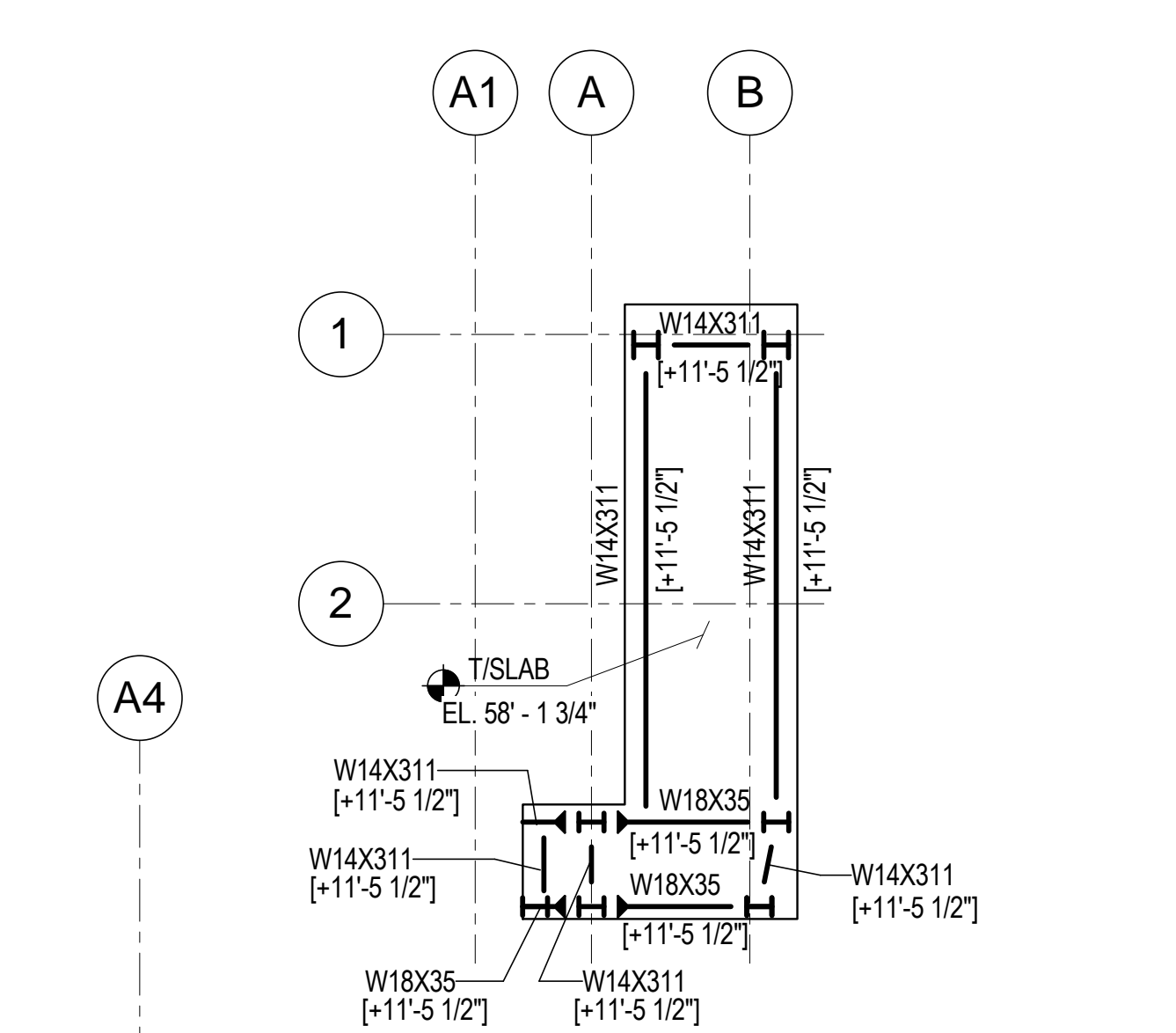
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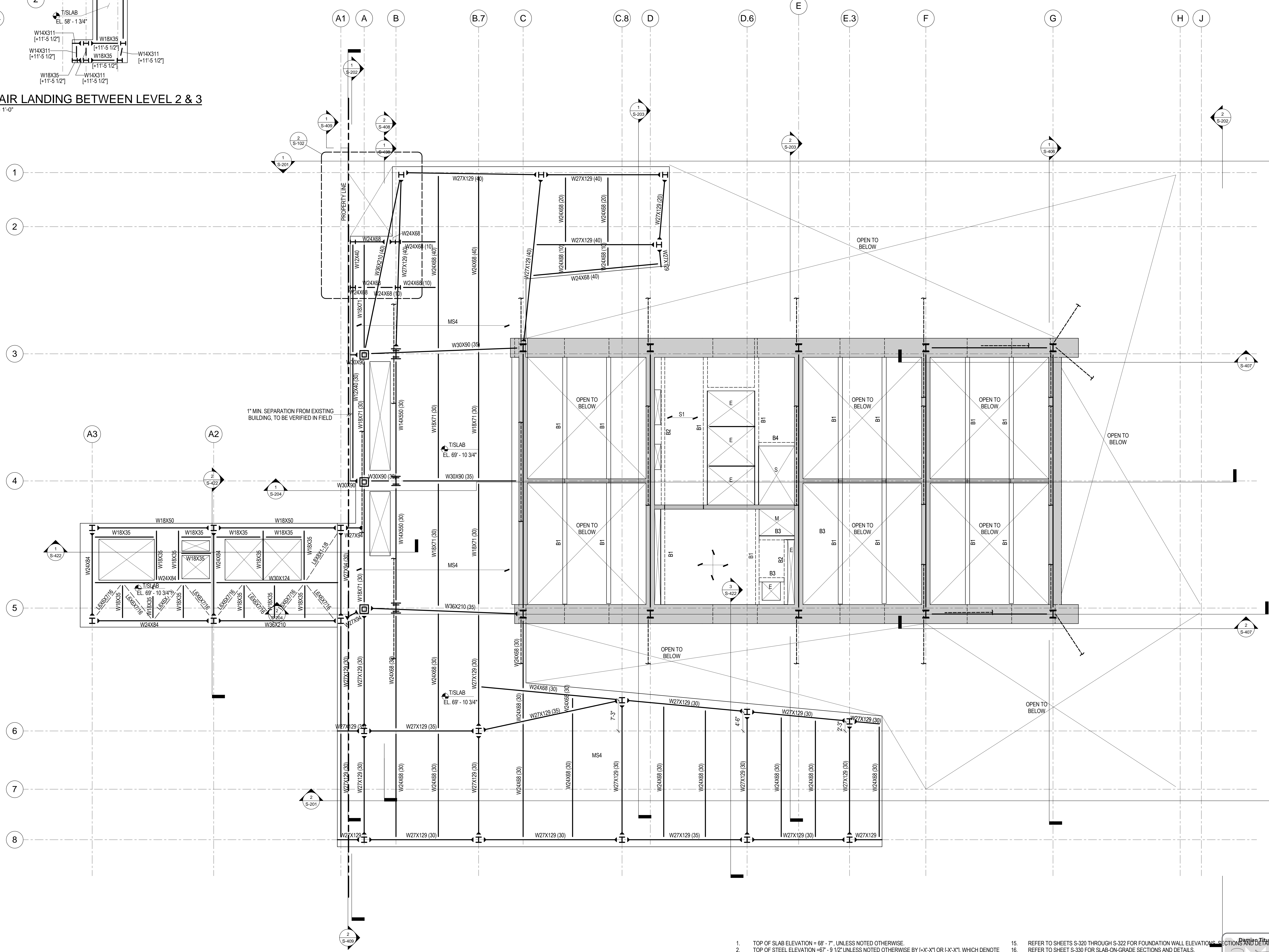
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Sheet Name: 2ND FLOOR FRAMING PLAN

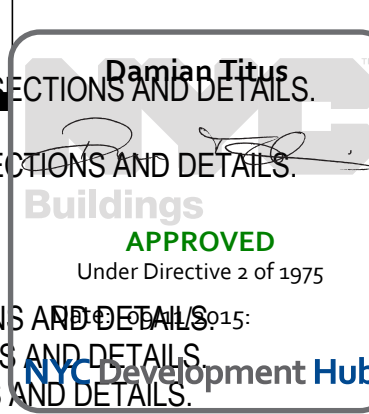


2 STAIR LANDING BETWEEN LEVEL 2 & 3
1/8" = 1'-0"



1 2ND FLOOR FRAMING PLAN
1/8" = 1'-0"

1. TOP OF SLAB ELEVATION = 68'-7", UNLESS NOTED OTHERWISE.
2. TOP OF STEEL ELEVATION = 67'-9 1/2" UNLESS NOTED OTHERWISE BY "[X-X]" OR "[X-X]", WHICH DENOTE POSITIVE OR NEGATIVE VERTICAL OFFSET, RESPECTIVELY.
3. BEAMS SHALL BE LOCATED ON GRID CENTERLINES WHEN NO DIMENSIONS SHOWN.
4. BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDBAYS WHEN NO DIMENSIONS SHOWN.
5. SLAB EDGE DIMENSION AT OPENING = 8", UNLESS NOTED OTHERWISE.
6. REFER TO SHEET S-002 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.
7. REFER TO SHEET S-003 FOR EXCAVATION AND FOUNDATION NOTES.
8. REFER TO SHEET S-004 FOR STRUCTURAL CONCRETE NOTES.
9. REFER TO SHEETS S-005 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
10. REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.
11. REFER TO SHEETS S-301 AND S-302 FOR CORE WALL CONTINUOUS FOOTINGS SECTIONS AND DETAILS.
12. REFER TO SHEET S-303 FOR CAISSON SCHEDULE, SECTIONS AND DETAILS.
13. REFER TO SHEET S-315 FOR SPREAD FOOTING SCHEDULE, SECTIONS AND DETAILS.
14. REFER TO SHEET S-316 FOR GRADE BEAM SCHEDULE, SECTIONS AND DETAILS.
15. REFER TO SHEETS S-320 THROUGH S-322 FOR FOUNDATION WALL ELEVATIONS, SECTIONS AND DETAILS.
16. REFER TO SHEET S-330 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
17. REFER TO SHEET S-350 FOR REINFORCED CONCRETE CORE WALL SCHEDULE, SECTIONS AND DETAILS.
18. REFER TO SHEET S-351 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
19. REFER TO SHEET S-355 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
20. REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
21. REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
22. REFER TO SHEET S-375 FOR REINFORCED CONCRETE SLAB SCHEDULE, SECTIONS AND DETAILS.
23. REFER TO SHEET S-401 FOR STRUCTURAL STEEL COLUMN SCHEDULE, SECTIONS AND DETAILS.
24. REFER TO DRAWINGS PREPARED BY ENTITLED FOR ADJACENT PLATFORM STRUCTURE.
25. REFER TO SHEET S-501 FOR METAL DECK SLAB SCHEDULES, SECTIONS AND DETAILS.

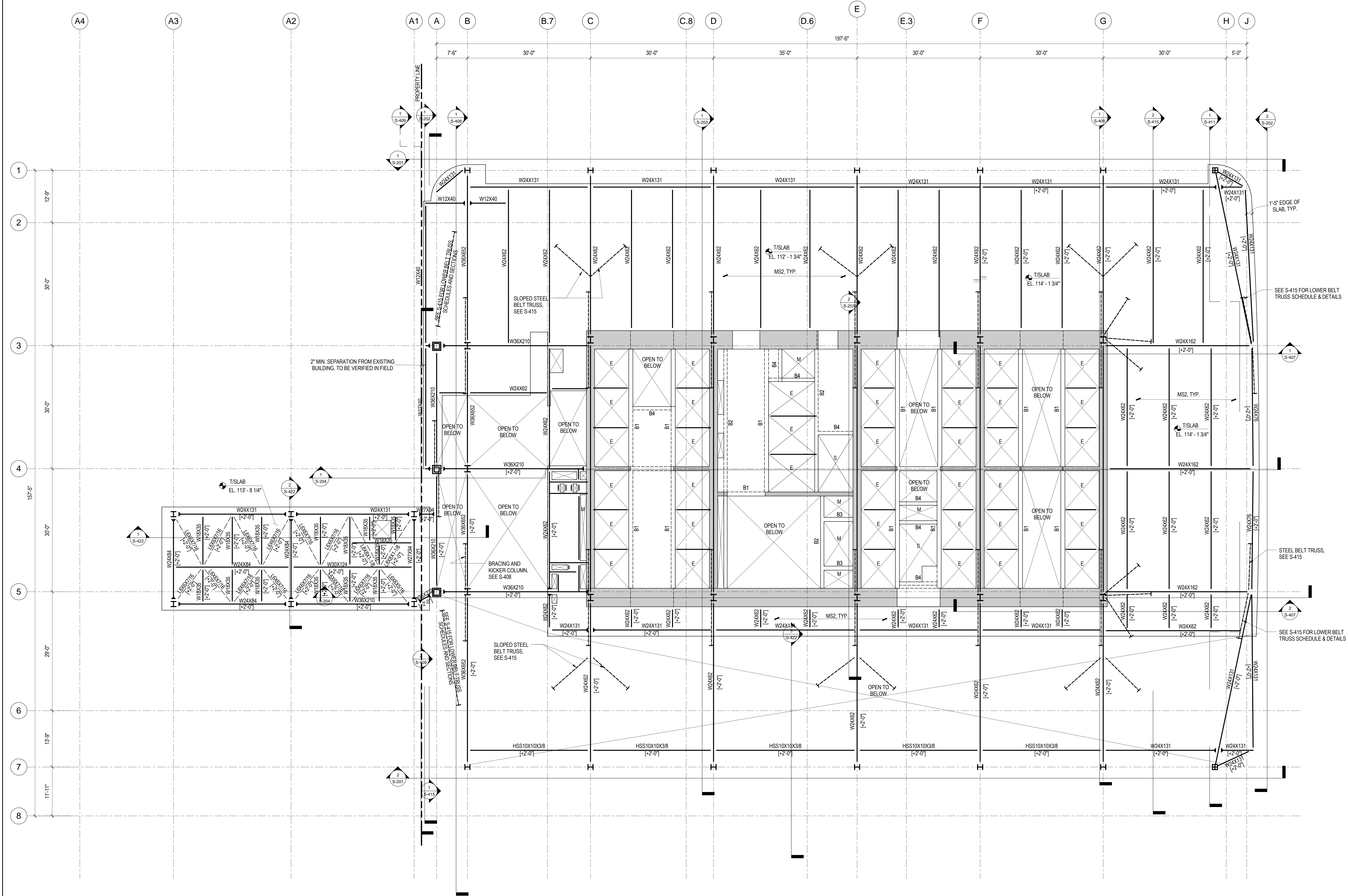




17. REFER TO SHEET S-360 FOR REINFORCED CONCRETE CORE WALL SCHEDULES, SECTIONS AND DETAILS.
18. REFER TO SHEET S-351 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
19. REFER TO SHEET S-365 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
20. REFER TO SHEETS S-368 THROUGH S-368 FOR CORE WALL ELEVATIONS.
21. REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
22. REFER TO SHEET S-375 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
23. REFER TO SHEET S-400 FOR TYPICAL STAIR, COLUMN SCHEDULE, SECTIONS AND DETAILS.
24. REFER TO DRAWINGS PREPARED BY TENTATIVE FOR ADJACENT PLANT STRUCTURE.
25. REFER TO SHEET S-501 FOR METAL DECK SLAB SCHEDULES, SECTIONS AND DETAILS.



- 15 REFER TO SHEETS S-330 THROUGH S-322 FOR FOUNDATION WALL ELEVATIONS, SECTIONS AND DETAILS.
16 REFER TO SHEET S-330 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
17 REFER TO SHEET S-350 FOR REINFORCED CONCRETE CORE WALL SCHEDULES AND DETAILS.
18 REFER TO SHEET S-351 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
19 REFER TO SHEET S-355 FOR LINK BEAM SCHEDULES, SECTIONS, AND DETAILS.
20 REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
21 REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
22 REFER TO SHEET S-371 FOR TYPICAL REINFORCED CONCRETE BEAM DETAILS.
23 REFER TO SHEET S-401 FOR STRUCTURAL STEEL COLUMN SCHEDULES, SECTIONS AND DETAILS.
24 REFER TO DRAWINGS PREPARED BY ENTITLUT FOR ADJACENT PLATFORM STRUCTURE.
25 REFER TO SHEET S-501 FOR METAL DECK SLAB SCHEDULES, SECTIONS AND DETAILS.

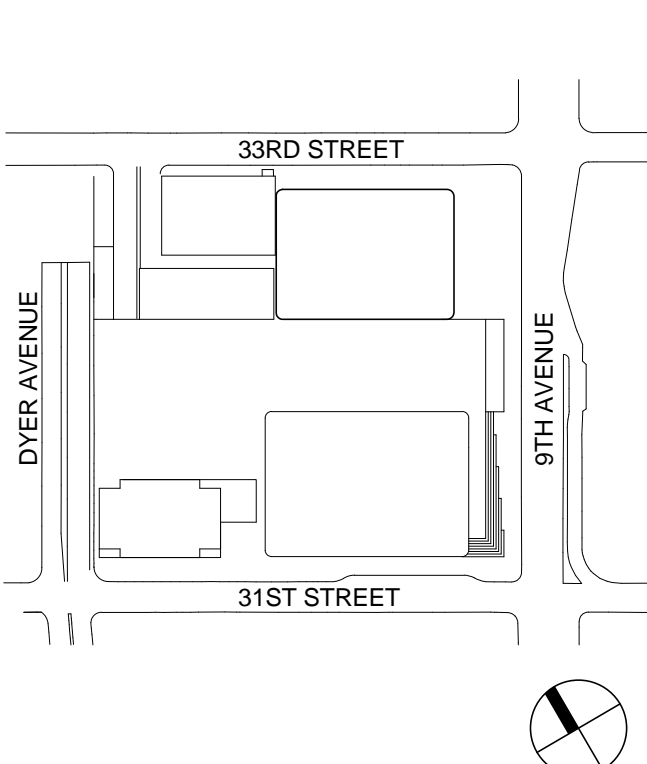


1 5TH FLOOR FRAMING PLAN - MECHANICAL MEZZANINE
1/8" = 1'-0"

1. TOP OF SLAB ELEVATION = 110'-6", UNLESS NOTED OTHERWISE.
2. TOP OF STEEL ELEVATION = 109'-7", UNLESS NOTED OTHERWISE BY (+X'-X") OR (X'-X"), WHICH DENOTE POSITIVE OR NEGATIVE VERTICAL OFFSET, RESPECTIVELY.
3. BEAMS SHALL BE LOCATED ON GRID CENTERLINES WHEN NO DIMENSIONS SHOWN.
4. BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDSBAYS WHEN NO DIMENSIONS SHOWN.
5. SLAB EDGE DIMENSION AT OPENING = 8", UNLESS NOTED OTHERWISE.
6. REFER TO SHEET S-002 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.
7. REFER TO SHEET S-003 FOR EXCAVATION AND FOUNDATION NOTES.
8. REFER TO SHEETS S-004 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
9. REFER TO SHEETS S-005 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
10. REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.
11. REFER TO SHEETS S-301 AND S-302 FOR CORE WALL CONTINUOUS FOOTINGS SECTIONS AND DETAILS.
12. REFER TO SHEET S-305 FOR CAISSON SCHEDULE, SECTIONS AND DETAILS.
13. REFER TO SHEET S-315 FOR SPREAD FOOTING SCHEDULE, SECTIONS AND DETAILS.
14. REFER TO SHEET S-316 FOR GRADE BEAM SCHEDULE, SECTIONS AND DETAILS.
15. REFER TO SHEETS S-320 THROUGH S-322 FOR FOUNDATION WALL ELEVATIONS, SECTIONS AND DETAILS.
16. REFER TO SHEET S-330 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
17. REFER TO SHEET S-350 FOR REINFORCED CONCRETE CORE WALL SCHEDULE, SECTIONS AND DETAILS.
18. REFER TO SHEET S-351 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
19. REFER TO SHEET S-355 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
20. REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
21. REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
22. REFER TO SHEET S-375 FOR REINFORCED CONCRETE SLAB SCHEDULE, SECTIONS AND DETAILS.
23. REFER TO SHEET S-401 FOR STRUCTURAL STEEL COLUMN SCHEDULE, SECTIONS AND DETAILS.
24. REFER TO DRAWINGS PREPARED BY ENTITLED FOR ADJACENT PLATEFORM STRUCTURE.
25. REFER TO SHEET S-501 FOR METAL DECK SLAB SCHEDULES, SECTIONS AND DETAILS.



Key Plan:



Seal & Signature:

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Project No.: 211157
Date: 30 JAN 2015
Scale: 1/8" = 1'-0"
File No.: S-106

Sheet No.: S-106
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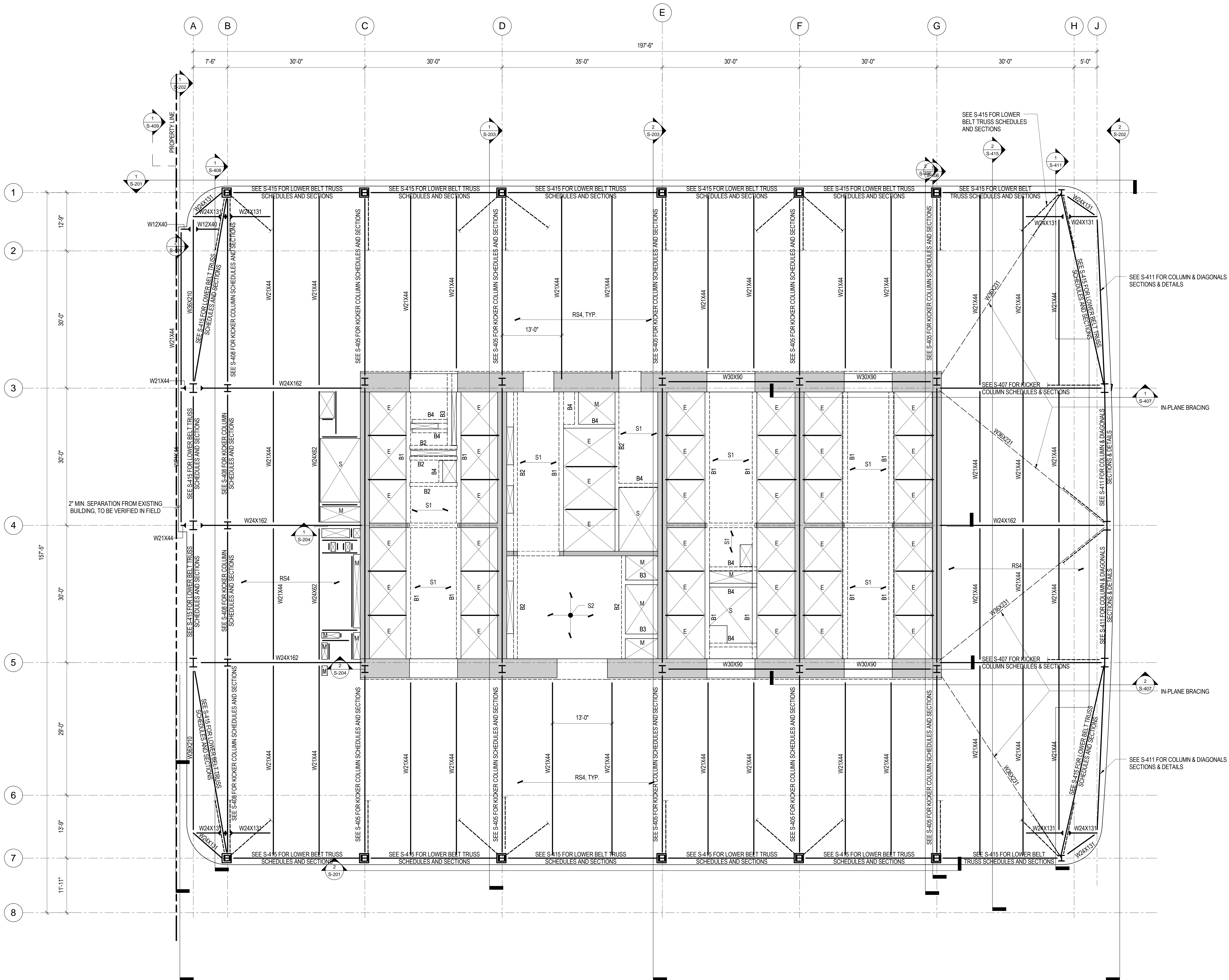
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4 20 DEC 2013 ISSUED FOR FOUNDATION PERMIT
3 15 NOV 2013 ISSUED FOR 50% PROGRESS PERMIT
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1 18 MAR 2012 ISSUED FOR RECONCILIATION

No. Date Description
Sheet Name:

6TH FLOOR
FRAMING PLAN-
LOW-RISE

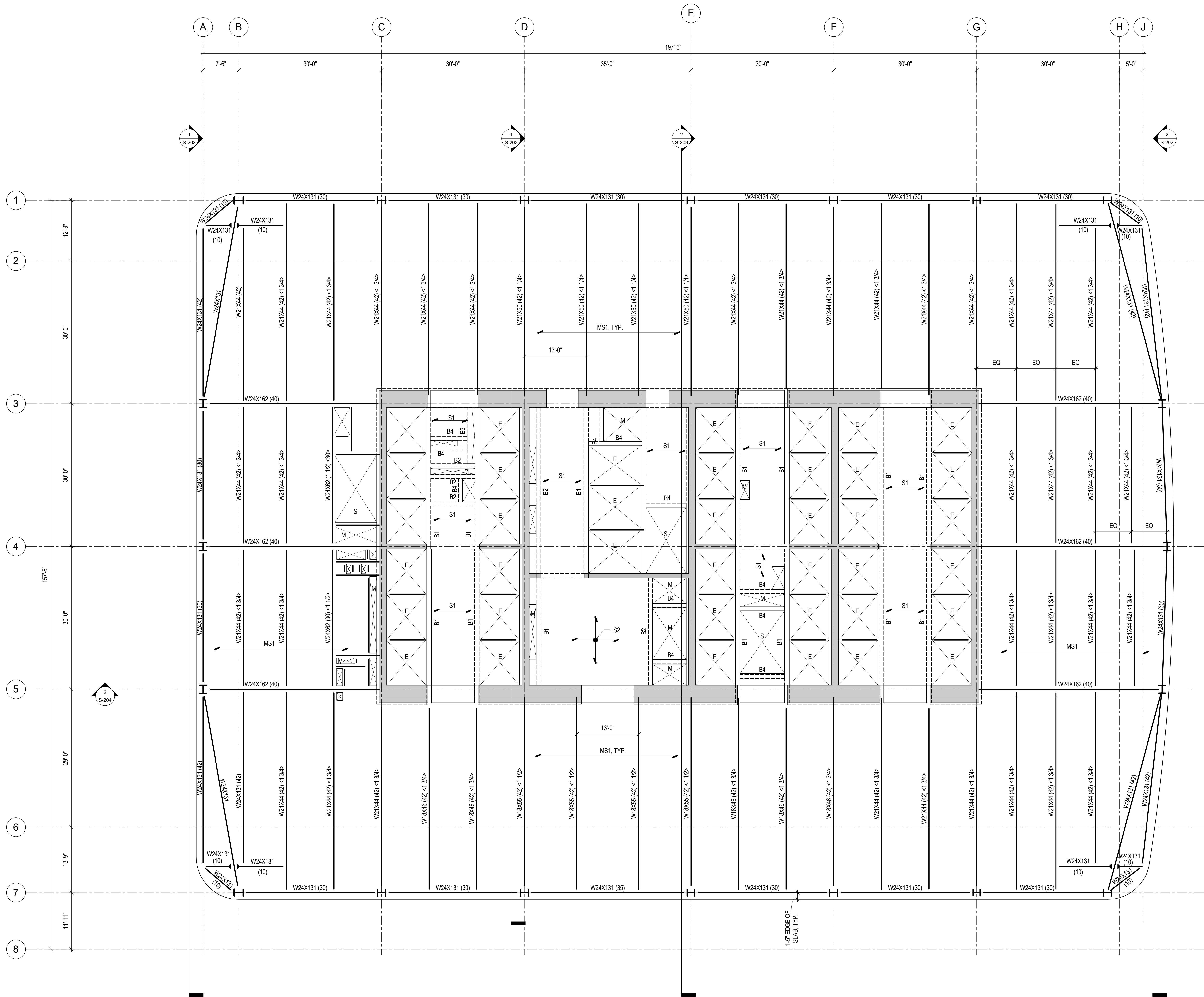
Project No.: 211157
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Scale: 1/8" = 1'-0"
File No.: S-106

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Page No.: 23 of 90



1 6TH FLOOR FRAMING PLAN- LOW-RISE
1/8" = 1'-0"


1. TOP OF SLAB ELEVATION = 137'-6", UNLESS NOTED OTHERWISE.
2. TOP OF STEEL ELEVATION = 136'-7", UNLESS NOTED OTHERWISE BY (+X'-X") OR (X'-X") WHICH DENOTE POSITIVE OR NEGATIVE VERTICAL OFFSET, RESPECTIVELY.
3. BEAMS SHALL BE LOCATED ON GRID CENTERLINES WHEN NO DIMENSIONS SHOWN.
4. BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDS/BAYS WHEN NO DIMENSIONS SHOWN.
5. SLAB EDGE DIMENSION AT OPENING = 8", UNLESS NOTED OTHERWISE.
6. REFER TO SHEET S-002 FOR EXCAVATION AND FOUNDATION NOTES.
7. REFER TO SHEET S-003 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
8. REFER TO SHEET S-004 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
9. REFER TO SHEET S-005 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
10. REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.
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12. REFER TO SHEET S-305 FOR CAISSON SCHEDULE, SECTIONS AND DETAILS.
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14. REFER TO SHEET S-316 FOR GRADE BEAM SCHEDULE, SECTIONS AND DETAILS.
15. REFER TO SHEETS S-320 THROUGH S-322 FOR FOUNDATION WALL ELEVATIONS, SECTIONS AND DETAILS.
16. REFER TO SHEET S-330 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
17. REFER TO SHEET S-350 FOR REINFORCED CONCRETE CORE WALL SCHEDULES AND DETAILS.
18. REFER TO SHEET S-351 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
19. REFER TO SHEET S-355 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
20. REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
21. REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
22. REFER TO SHEET S-375 FOR REINFORCED CONCRETE SLAB SCHEDULE, SECTIONS AND DETAILS.
23. REFER TO SHEET S-401 FOR STRUCTURAL STEEL COLUMN SCHEDULES AND DETAILS.
24. REFER TO DRAWINGS PREPARED BY ENTITLED FOR ADJACENT PLATEFORM STRUCTURE.
25. REFER TO SHEET S-501 FOR METAL DECK SLAB SCHEDULES, SECTIONS AND DETAILS.



1 16TH FLOOR FRAMING PLAN - TYPICAL LOW-RISE
1/8" = 1'-0"

1. TOP OF SLAB ELEVATION = 272'-6", UNLESS NOTED OTHERWISE.
2. TOP OF STEEL ELEVATION = 272'-1/2", UNLESS NOTED OTHERWISE BY (+X'-X") OR (X'-X"), WHICH DENOTE POSITIVE OR NEGATIVE VERTICAL OFFSET, RESPECTIVELY.
3. BEAMS SHALL BE LOCATED ON GRID CENTERLINES WHEN NO DIMENSIONS SHOWN.
4. BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDS/BAYS WHEN NO DIMENSIONS SHOWN.
5. SLAB EDGE DIMENSION AT OPENING = 8", UNLESS NOTED OTHERWISE.
6. REFER TO SHEET S-002 FOR EXCAVATION AND FOUNDATION NOTES.
7. REFER TO SHEET S-003 FOR EXCAVATION AND FOUNDATION NOTES.
8. REFER TO SHEET S-004 FOR STRUCTURAL CONCRETE NOTES.
9. REFER TO SHEETS S-005 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
10. REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.
11. REFER TO SHEETS S-301 AND S-302 FOR CORE WALL CONTINUOUS FOOTINGS SECTIONS AND DETAILS.
12. REFER TO SHEET S-305 FOR CAISSON SCHEDULE, SECTIONS AND DETAILS.
13. REFER TO SHEET S-315 FOR SPREAD FOOTING SCHEDULE, SECTIONS AND DETAILS.
14. REFER TO SHEET S-316 FOR GRADE BEAM SCHEDULE, SECTIONS AND DETAILS.

15. REFER TO SHEETS S-320 THROUGH S-322 FOR FOUNDATION WALL ELEVATIONS, SECTIONS AND DETAILS.
16. REFER TO SHEET S-330 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
17. REFER TO SHEET S-350 FOR REINFORCED CONCRETE CORE WALL, SECTION AND DETAILS.
18. REFER TO SHEET S-351 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
19. REFER TO SHEET S-355 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
20. REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
21. REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
22. REFER TO SHEET S-375 FOR REINFORCED CONCRETE SLAB SCHEDULE, SECTIONS AND DETAILS.
23. REFER TO SHEET S-401 FOR STRUCTURAL STEEL COLUMN SCHEDULE, SECTIONS AND DETAILS.
24. REFER TO DRAWINGS PREPARED BY ENTITLED FOR ADJACENT PLATEFORM STRUCTURE.
25. REFER TO SHEET S-501 FOR METAL DECK SLAB SCHEDULES, SECTIONS AND DETAILS.



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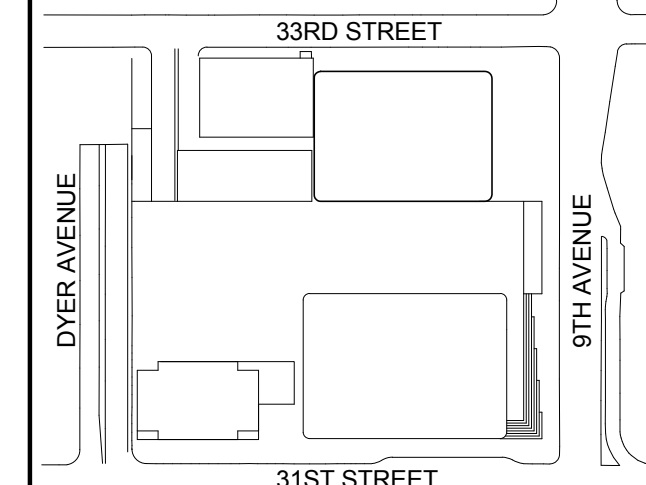
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Key Plan:



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Scale: 1/8" = 1'-0"
File No.: S-116

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**16TH FLOOR
FRAMING PLAN -
TYPICAL
LOW-RISE**



- | | |
|---|--|
| <p>1 TOP OF SLAB ELEVATION = +75'-0". UNLESS NOTED OTHERWISE.</p> <p>2 TOP OF STEEL ELEVATION = +74'-6 1/4" UNLESS NOTED OTHERWISE BY {X-X'} OR {Y-Y'}, WHICH DENOTE</p> <p>3 POSITIVE OR NEGATIVE VERTICAL OFFSET, RESPECTIVELY.</p> <p>4 BEAMS SHALL BE LOCATED ON GRID CENTERLINES WHEN NO DIMENSIONS SHOWN.</p> <p>5 WALLS SHALL BE EQUALLY SPACED BETWEEN CORNERS WHEN NO DIMENSIONS SHOWN.</p> <p>6 SLAB EDGE DIMENSION AT OPENING = 8". UNLESS NOTED OTHERWISE.</p> <p>7 REFER TO SHEET S-002 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.</p> <p>8 REFER TO SHEET S-003 FOR EXCAVATION AND FOUNDATION NOTES.</p> <p>9 REFER TO SHEETS S-004 FOR STRUCTURAL CONCRETE NOTES.</p> <p>10 REFER TO SHEETS S-005 FOR STRUCTURAL STEEL CONNECTION CHECK NOTES.</p> <p>11 REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.</p> <p>12 REFER TO SHEETS S-301 AND S-302 FOR CORE WALL CONTINUOUS FOOTINGS SECTIONS AND DETAILS.</p> <p>13 REFER TO SHEET S-305 FOR CAISSON SCHEDULE, SECTIONS AND DETAILS.</p> <p>14 REFER TO SHEET S-315 FOR SPREAD FOOTING SCHEDULE, SECTIONS AND DETAILS.</p> <p>15 REFER TO SHEET S-316 FOR GRADE-BEAM SCHEDULE, SECTIONS AND DETAILS.</p> | <p>16 REFER TO SHEETS S-320 THROUGH S-322 FOR FOUNDATION WALL ELEVATIONS, SECTIONS AND DETAILS.</p> <p>17 REFER TO SHEET S-330 FOR SLAB ON-GRADE SECTIONS AND DETAILS.</p> <p>18 REFER TO SHEET S-350 FOR REINFORCED CONCRETE CORE WALL SCHEDULE, SECTIONS AND DETAILS.</p> <p>19 REFER TO SHEET S-351 FOR TYPICAL REINFORCED CONCRETE WALL SECTION.</p> <p>20 REFER TO SHEET S-355 FOR LINK BRACE SCHEDULE, SECTIONS AND DETAILS.</p> <p>21 REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.</p> <p>22 REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.</p> <p>23 REFER TO SHEET S-375 FOR REINFORCED CONCRETE SLAB SCHEDULE, SECTIONS AND DETAILS.</p> <p>24 REFER TO SHEET S-401 FOR STRUCTURAL STEEL COLUMN SCHEDULE, SECTIONS AND DETAILS.</p> <p>25 REFER TO DRAWINGS PREPARED FOR ADJACENT BUILDING STRUCTURE.</p> <p>26 REFER TO SHEET S-501 FOR METAL DECK SLAB SCHEDULE, SECTIONS AND DETAILS.</p> |
|---|--|



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Scale:
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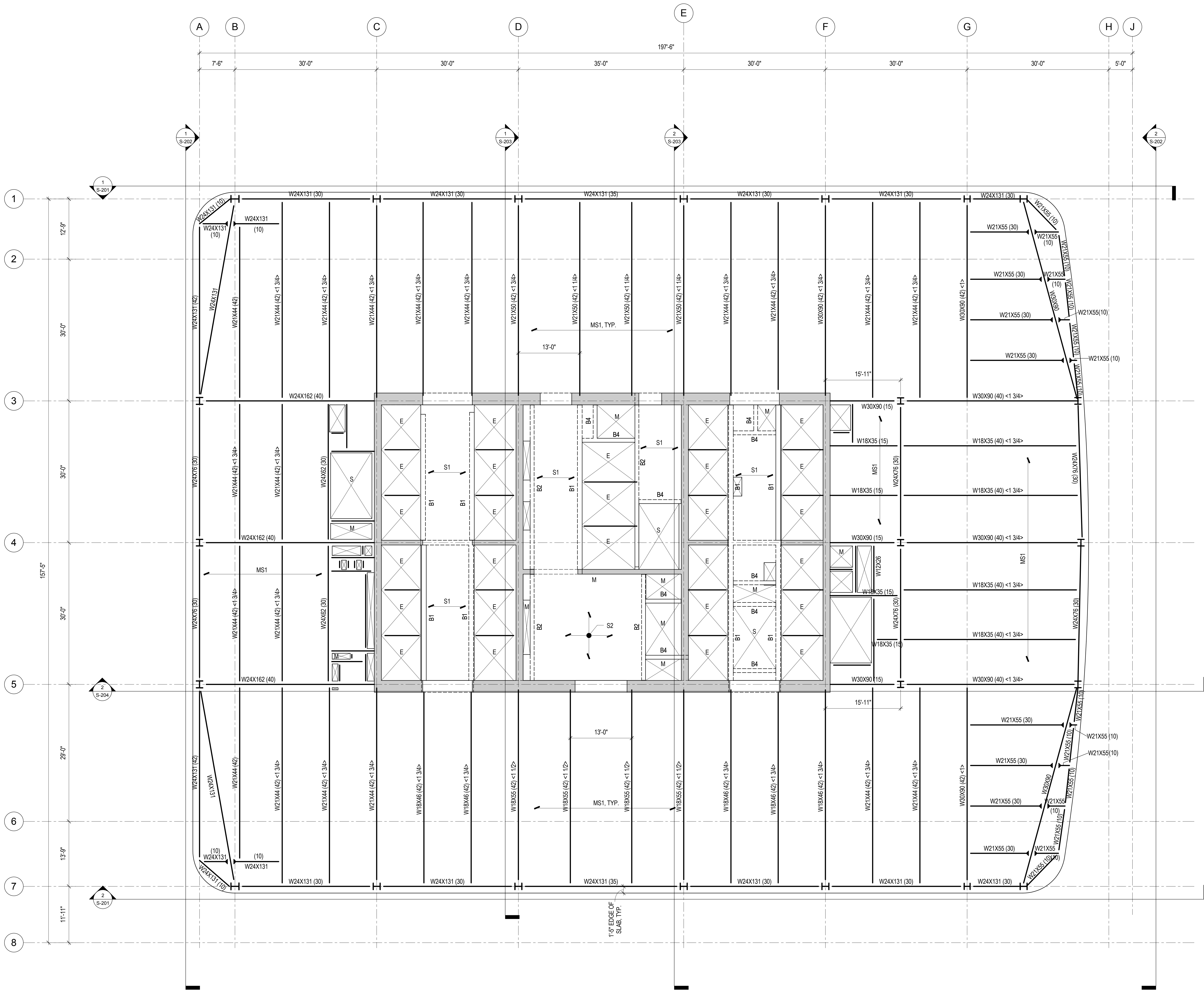
Project No.:
211157

Date:
20 JUN 2014

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

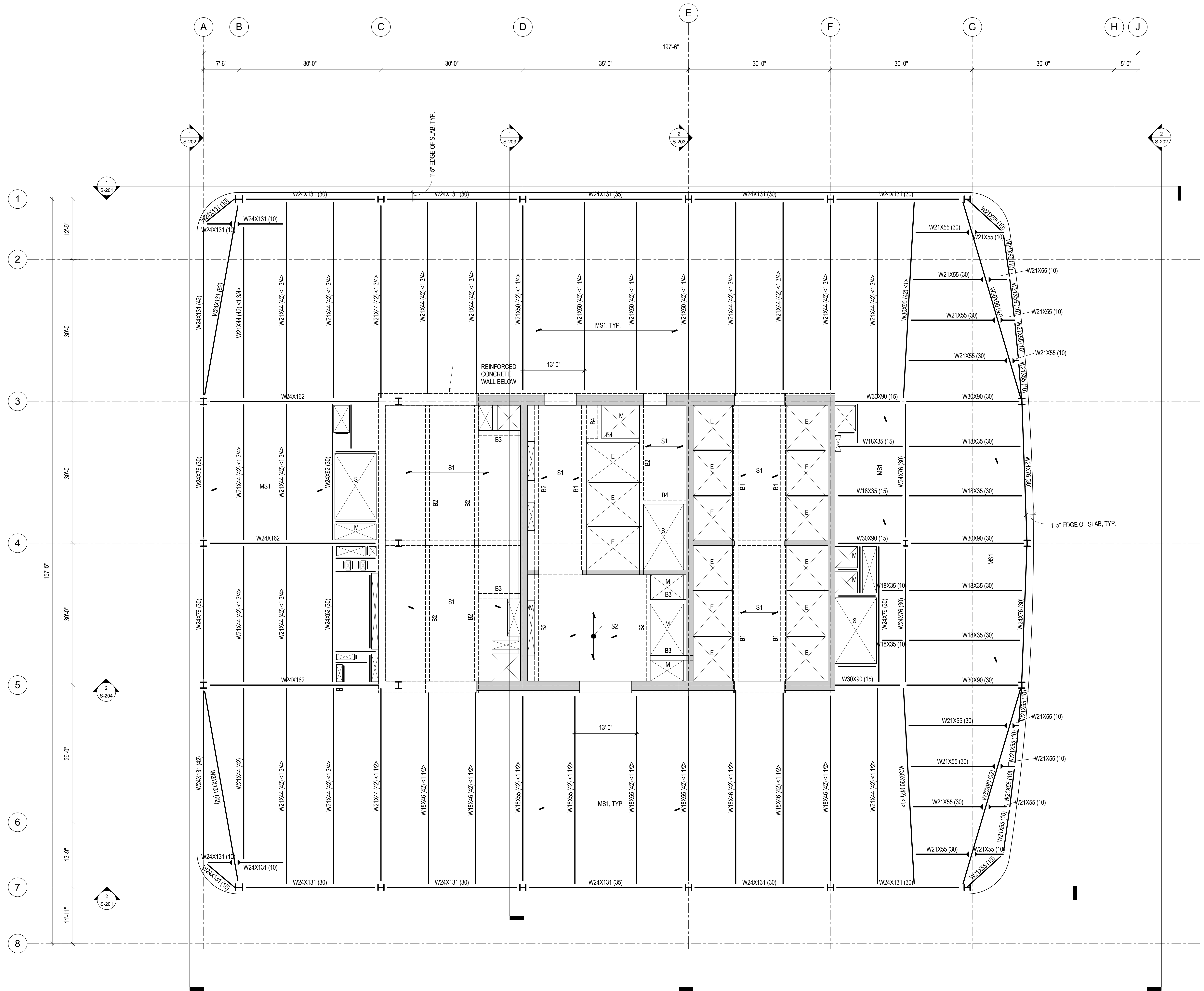
File No.:
S-137

Page No.:
26 of 90



1 37TH FLOOR FRAMING PLAN - TYPICAL MID-RISE
1/8" = 1'-0"

1. TOP OF SLAB ELEVATION = 556'-0", UNLESS NOTED OTHERWISE.
2. TOP OF STEEL ELEVATION = 556'-6 1/2" UNLESS NOTED OTHERWISE BY (+X'-X") OR (X'-X"), WHICH DENOTE POSITIVE OR NEGATIVE VERTICAL OFFSET, RESPECTIVELY.
3. BEAMS SHALL BE LOCATED ON GRID CENTERLINES WHEN NO DIMENSIONS SHOWN.
4. BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDS/BAYS WHEN NO DIMENSIONS SHOWN.
5. SLAB EDGE DIMENSION AT OPENING = 8", UNLESS NOTED OTHERWISE.
6. REFER TO SHEET S-002 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.
7. REFER TO SHEET S-003 FOR EXCAVATION AND FOUNDATION NOTES.
8. REFER TO SHEET S-004 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
9. REFER TO SHEET S-005 FOR STRUCTURAL STEEL AND METAL DECK NOTES.
10. REFER TO SHEETS S-201 THROUGH S-204 FOR OVERALL BUILDING ELEVATIONS AND SECTIONS.
11. REFER TO SHEETS S-301 AND S-302 FOR CORE WALL CONTINUOUS FOOTINGS SECTIONS AND DETAILS.
12. REFER TO SHEET S-305 FOR CAISSON SCHEDULE, SECTIONS AND DETAILS.
13. REFER TO SHEET S-315 FOR SPREAD FOOTING SCHEDULE, SECTIONS AND DETAILS.
14. REFER TO SHEET S-316 FOR GRADE BEAM SCHEDULE, SECTIONS AND DETAILS.
15. REFER TO SHEETS S-320 THROUGH S-322 FOR FOUNDATION WALL ELEVATIONS, SECTIONS AND DETAILS.
16. REFER TO SHEET S-330 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
17. REFER TO SHEET S-350 FOR REINFORCED CONCRETE CORE WALL SCHEDULES AND DETAILS.
18. REFER TO SHEET S-351 FOR TYPICAL REINFORCED CONCRETE WALL DETAILS.
19. REFER TO SHEET S-355 FOR LINK BEAM SCHEDULES, SECTIONS AND DETAILS.
20. REFER TO SHEETS S-360 THROUGH S-368 FOR CORE WALL ELEVATIONS.
21. REFER TO SHEET S-370 FOR REINFORCED CONCRETE BEAM SCHEDULE, SECTIONS AND DETAILS.
22. REFER TO SHEET S-375 FOR REINFORCED CONCRETE SLAB SCHEDULE, SECTIONS AND DETAILS.
23. REFER TO SHEET S-401 FOR STRUCTURAL STEEL COLUMN SCHEDULE, SECTIONS AND DETAILS.
24. REFER TO DRAWINGS PREPARED BY ENTITLED FOR ADJACENT PLATEFORM STRUCTURE.
25. REFER TO SHEET S-501 FOR METAL DECK SLAB SCHEDULES, SECTIONS AND DETAILS.



1 53RD FLOOR FRAMING PLAN - HIGH-RISE
1/8" = 1'-0"

1. TOP OF SLAB ELEVATION = 758'-6", UNLESS NOTED OTHERWISE.
2. TOP OF STEEL ELEVATION = 758'-1/2", UNLESS NOTED OTHERWISE BY (+X'-X") OR (X'-X"), WHICH DENOTE POSITIVE OR NEGATIVE VERTICAL OFFSET, RESPECTIVELY.
3. BEAMS SHALL BE LOCATED ON GRID CENTERLINES WHEN NO DIMENSIONS SHOWN.
4. BEAMS SHALL BE EQUALLY SPACED BETWEEN GRID BAYS WHEN NO DIMENSIONS SHOWN.
5. SLAB EDGE DIMENSION AT OPENING = 8", UNLESS NOTED OTHERWISE.
6. REFER TO SHEET S-002 FOR STRUCTURAL SYMBOLS AND ABBREVIATIONS.
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15. REFER TO SHEETS S-320 THROUGH S-322 FOR FOUNDATION WALL ELEVATIONS, SECTIONS AND DETAILS.
16. REFER TO SHEET S-330 FOR SLAB-ON-GRADE SECTIONS AND DETAILS.
17. REFER TO SHEET S-350 FOR REINFORCED CONCRETE CORE WALL, SECTIONS AND DETAILS.
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**MANHATTAN WEST:
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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

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NOT FOR CONSTRUCTION

| No. | Date | Description |
|-----|-------------|-----------------------------------|
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 30% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 60% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

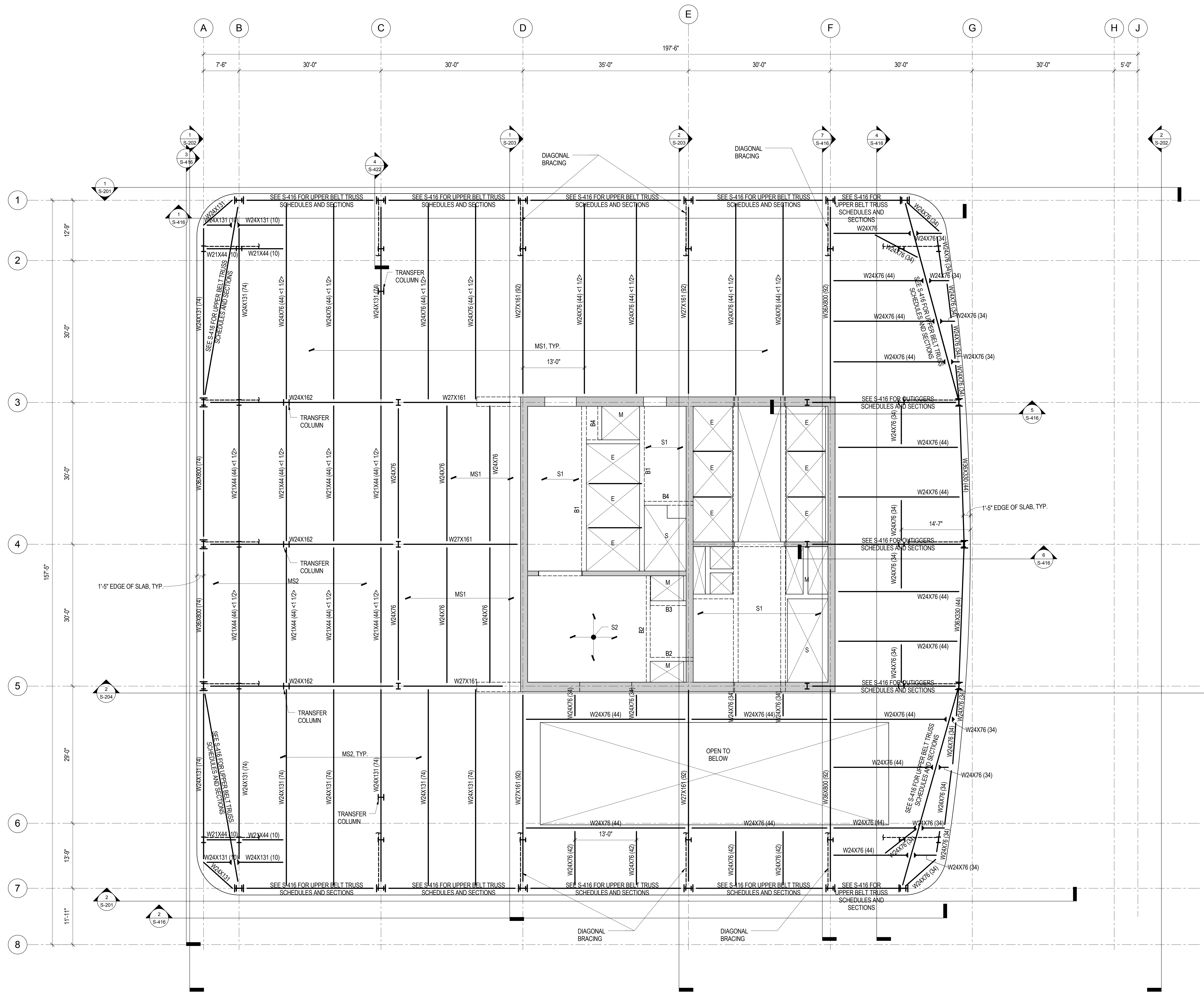
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**53RD FLOOR
FRAMING PLAN -
HIGH-RISE**

| Project No.: | B-SCAN Sheet No.: |
|------------------------|-------------------|
| 211157 | S-153.00 |
| Date: 20 JUN 2014 | Sheet No.: |
| Scale: 1/8" = 1'-0" | S-153 |
| File No.: | Page No.: |
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| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BGL | | | |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT | | | |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT | | | |
| 3 | 15 MAR 2011 | ISSUED FOR CD PROGRESS PRICING | | | |
| 2 | 12 MAR 2011 | ISSUED FOR 50% DESIGN DEVELOPMENT | | | |
| 1 | 15 MAR 2011 | ISSUED FOR RECONCILIATION | | | |
| Rev | Date | Description | | | |
| Sheet Name: | | | | | |
| <h1>59TH FLOOR</h1> <h1>FRAMING PLAN -</h1> <h1>TYPICAL</h1> <h1>HIGH-RISE</h1> | | | | | |
| Project No: | | | B-S-CAN Sheet No: | | |
| 211157 | | | | | |
| Date: | | | S-159.00 | | |
| 25 JUN 2014 | | | | | |
| Scale: | | | Sheet No: | | |
| 1/8" = 1'-0" | | | S-159 | | |
| File No: | | | Page No: | | |
| | | | 28 of 90 | | |



1 69TH FLOOR FRAMING PLAN - MECHANICAL MEZZANINE
1/8" = 1'-0"

1. TOP OF SLAB ELEVATION = 969'-10" UNLESS NOTED OTHERWISE.
2. TOP OF STEEL ELEVATION = 969' - 11" UNLESS NOTED OTHERWISE BY (+'-X'-X") OR (X'-X") WHICH DENOTE POSITIVE OR NEGATIVE VERTICAL OFFSET, RESPECTIVELY.
3. BEAMS SHALL BE LOCATED ON GRID CENTERLINES WHEN NO DIMENSIONS SHOWN.
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**MANHATTAN WEST:
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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B6

Key Plan:

Seal & Signature:

PRELIMINARY
NOT FOR CONSTRUCTION

| No. | Date | Description |
|-----|-------------|-----------------------------------|
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| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 20% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 60% DESIGN DEVELOPMENT |
| 1 | 16 MAR 2012 | ISSUED FOR RECONCILIATION |

Sheet Name: **69TH FLOOR FRAMING PLAN - MECHANICAL MEZZANINE**

| Project No.: | B-SCAN Sheet No.: |
|--------------|-------------------|
| 211157 | S-169.00 |

| Date: | 20 JUN 2014 |
|-----------|--------------|
| Scale: | 1/8" = 1'-0" |
| File No.: | S-169 |
| Page No.: | 30 of 90 |



- # ROOF FRAMING PLAN - MECHANICAL PENTHOUSE



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client
Brookfield
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250 Vesey Street, 15th Floor, New York, NY 10021

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Skidmore, Owings & Merrill LLP
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Mueser Rutledge Consulting Engineers
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New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Ventor & Santore
250 State Street #F1, North Haven, CT 06473

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Vibration Consultant
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Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B6

Professional Engineer Seal
CHARLES MICHAEL BELL
079322
Professional Engineer

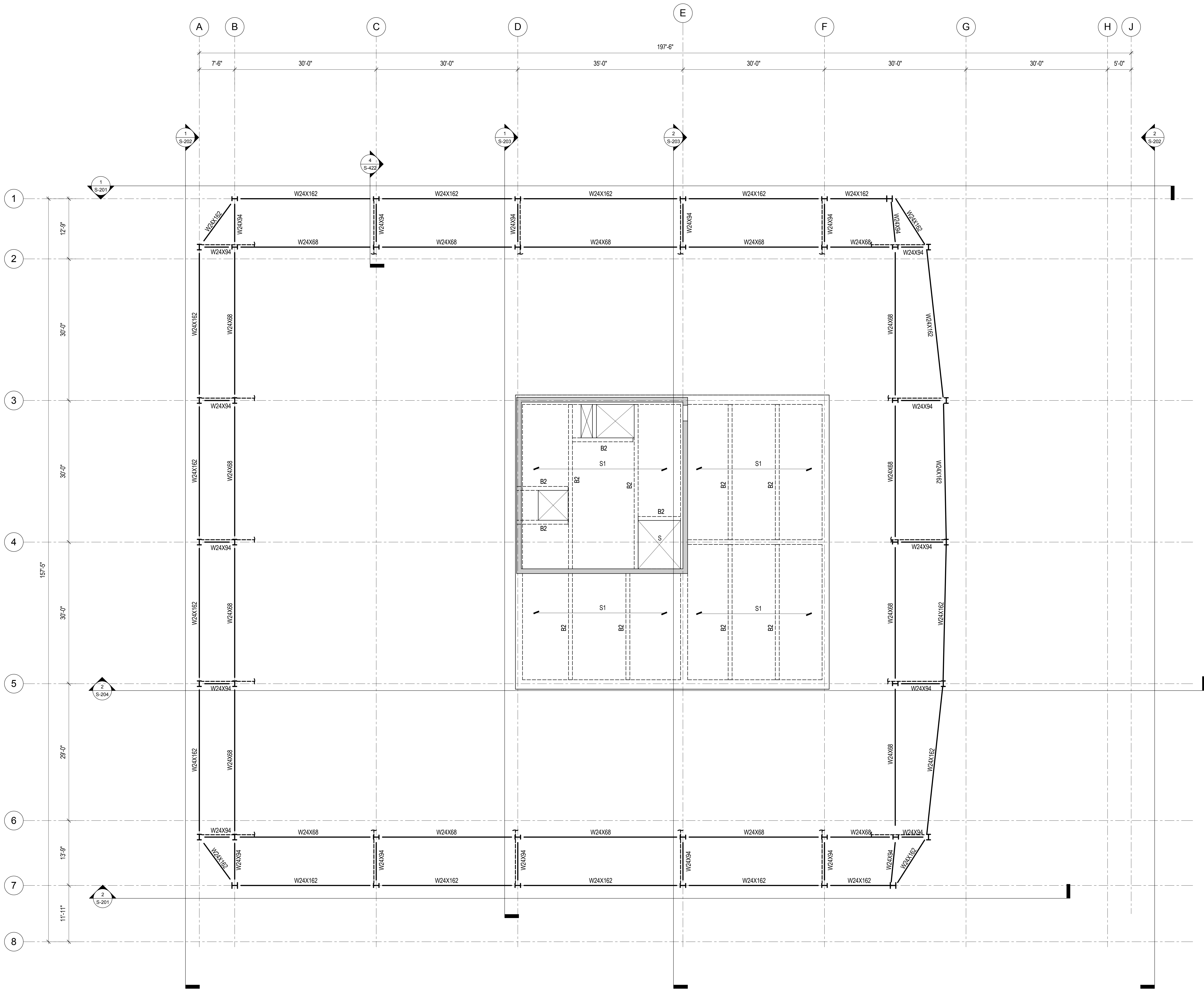
Key Plan:
Map showing the location of the building on the corner of 31st Street and 9th Avenue, near 33rd Street and Dyer Avenue.

Seal & Signature:
PRELIMINARY
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Project No.: 211157
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"

Sheet Name: ROOF FRAMING PLAN
Sheet No.: S-171.00

Page No.: 32 of 90

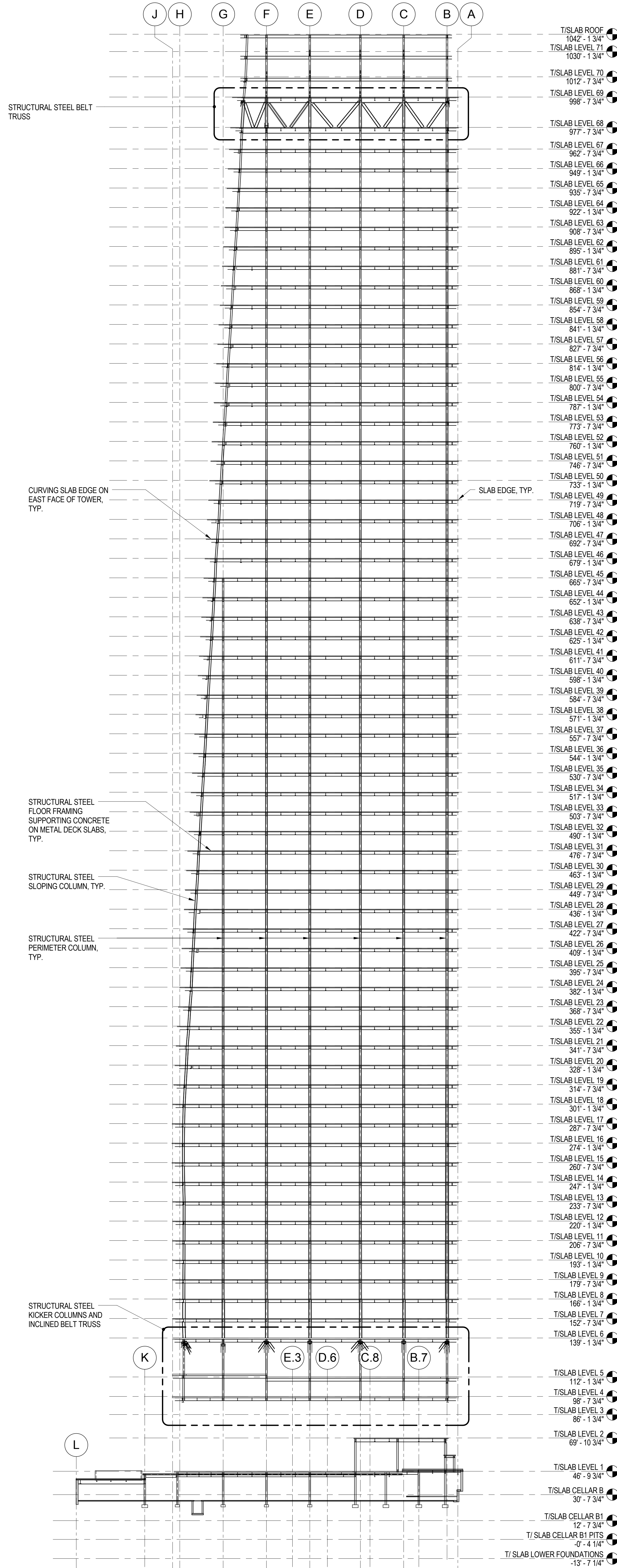


1 ROOF FRAMING PLAN

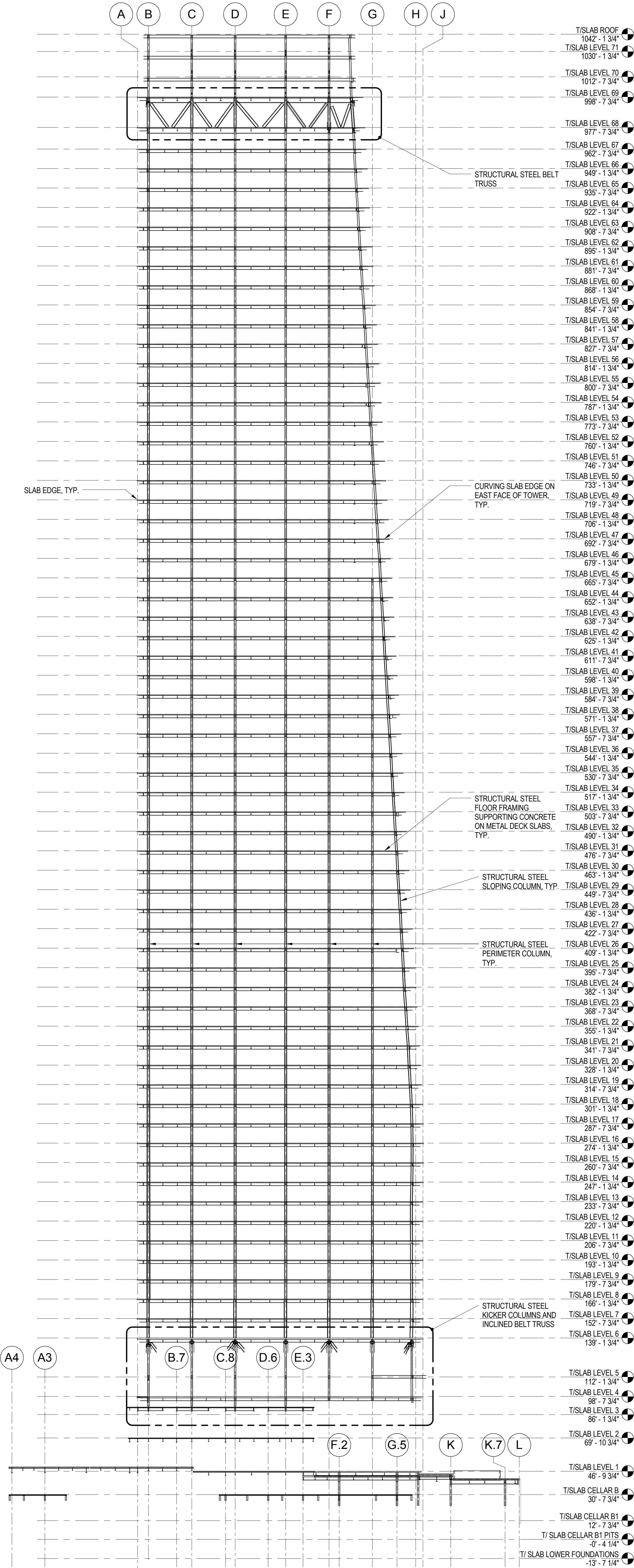
1/8" = 1'-0"

1. TOP OF SLAB ELEVATION = 998'-0", UNLESS NOTED OTHERWISE.
2. BEAMS SHALL BE LOCATED ON GRID CENTERLINES WHEN NO DIMENSIONS SHOWN.
3. BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDLINES WHEN NO DIMENSIONS SHOWN.
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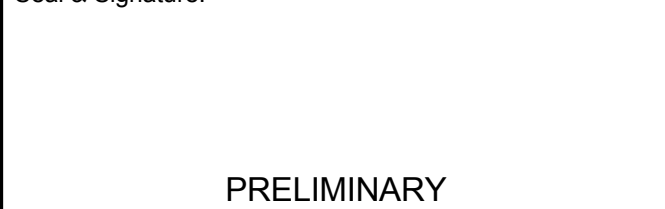
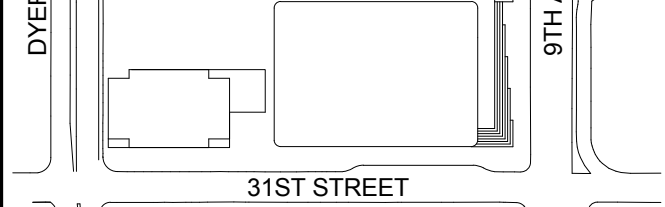
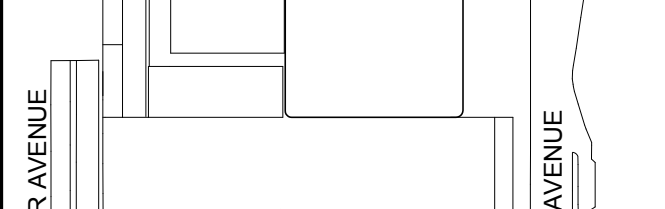
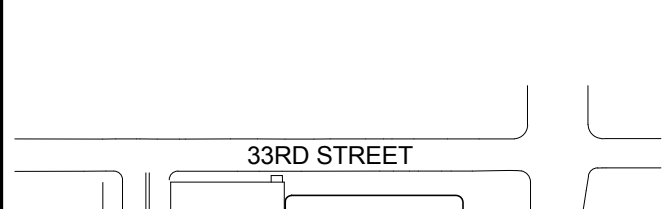
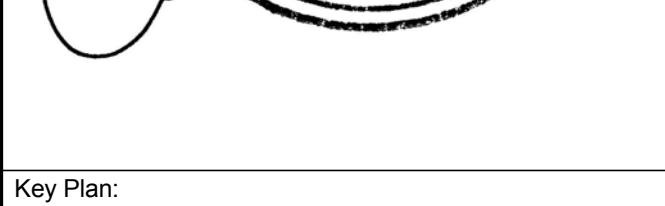
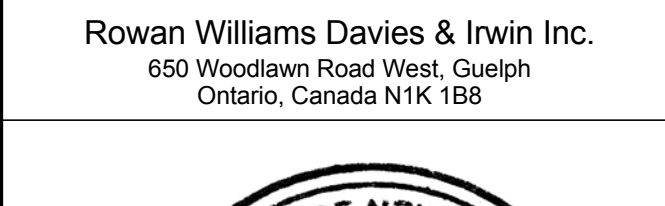
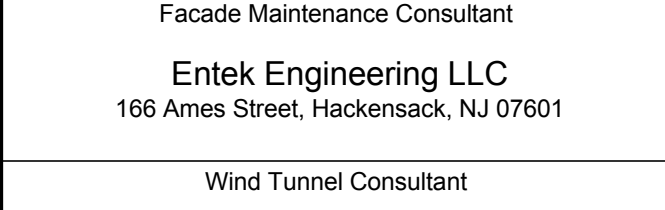
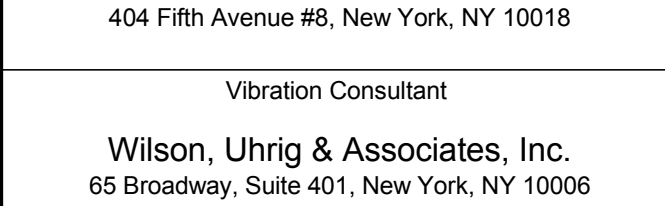
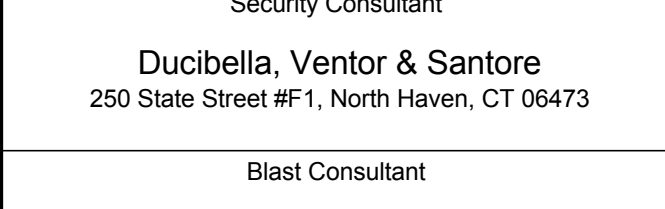
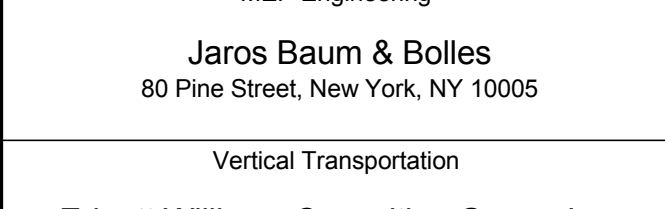
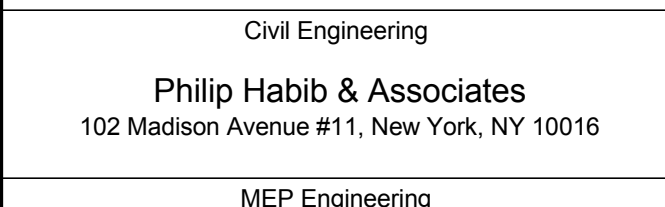
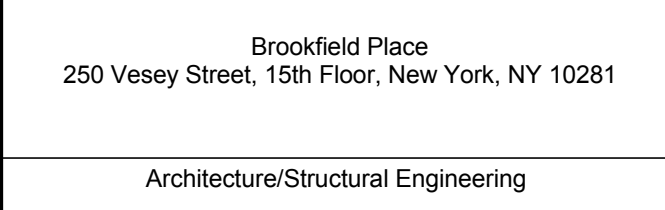
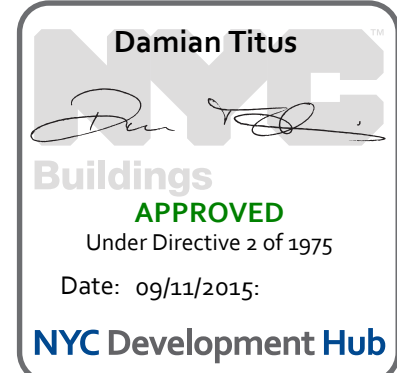
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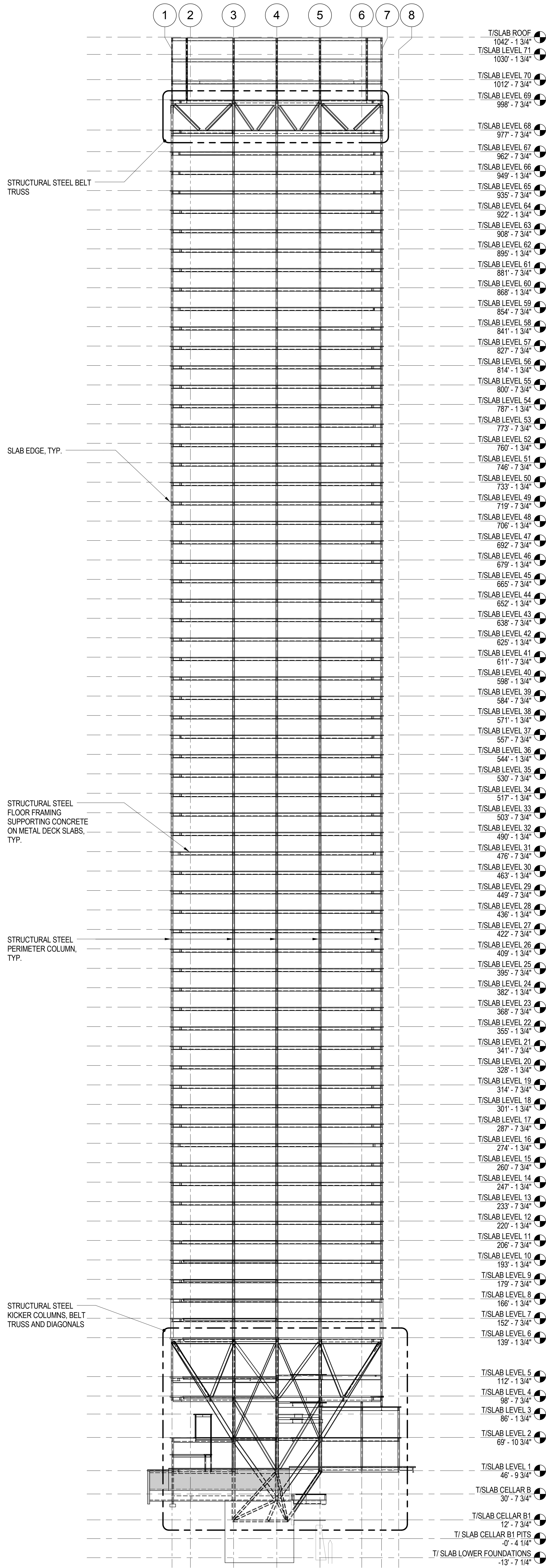


1 TOWER ELEVATION NORTH (LOOKING SOUTH)
1/32" = 1'-0"

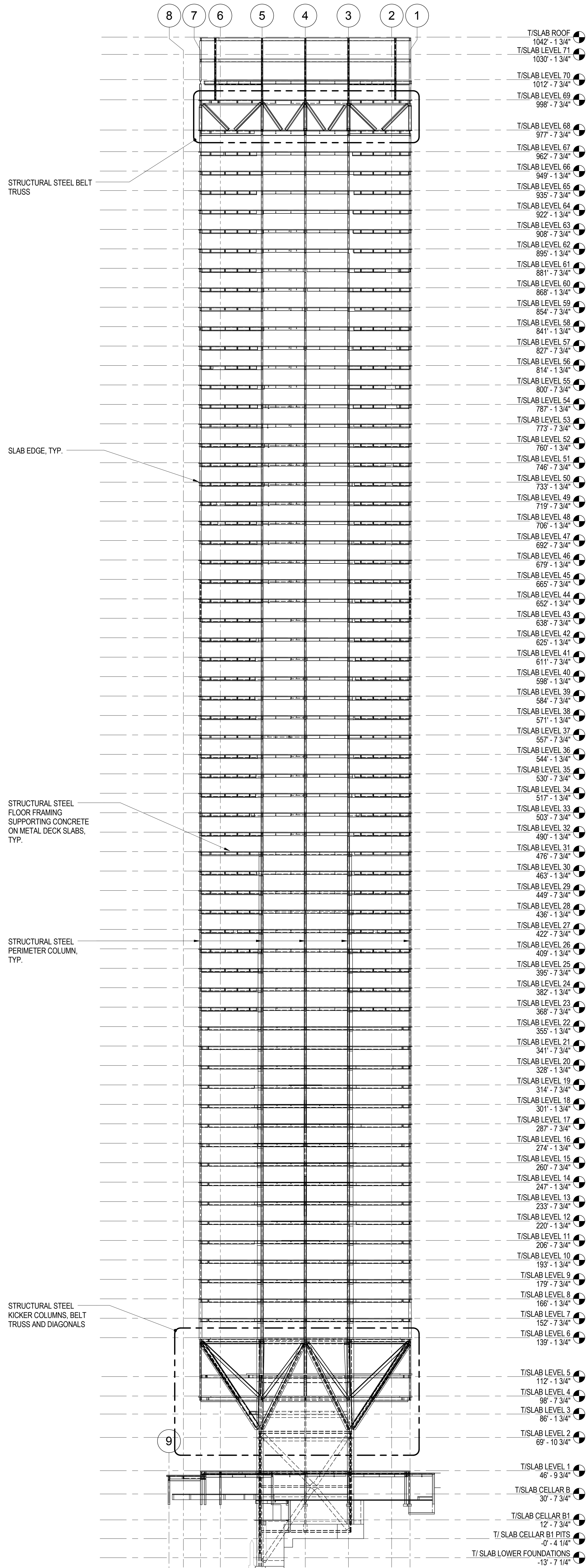


2 TOWER ELEVATION SOUTH (LOOKING NORTH)
1/32" = 1'-0"

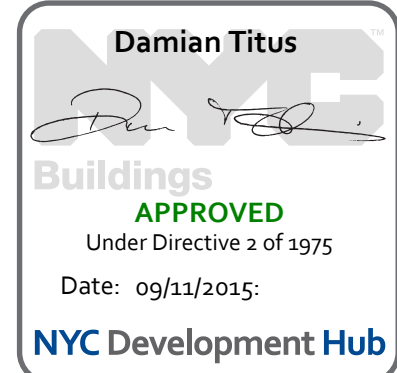




1 TOWER ELEVATION WEST (LOOKING EAST)
1/32" = 1'-0"



2 TOWER ELEVATION EAST (LOOKING WEST)
1/32" = 1'-0"



MANHATTAN WEST:
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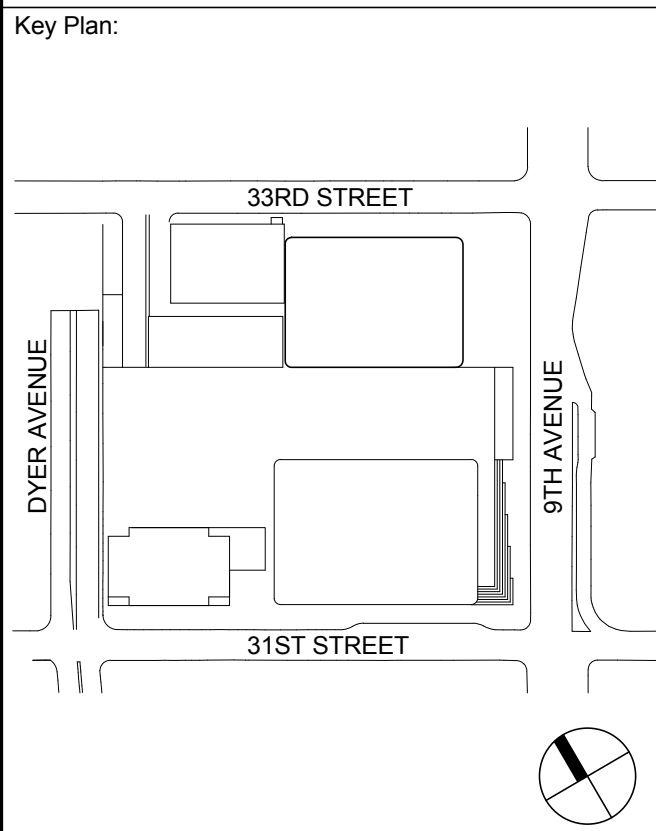
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Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8



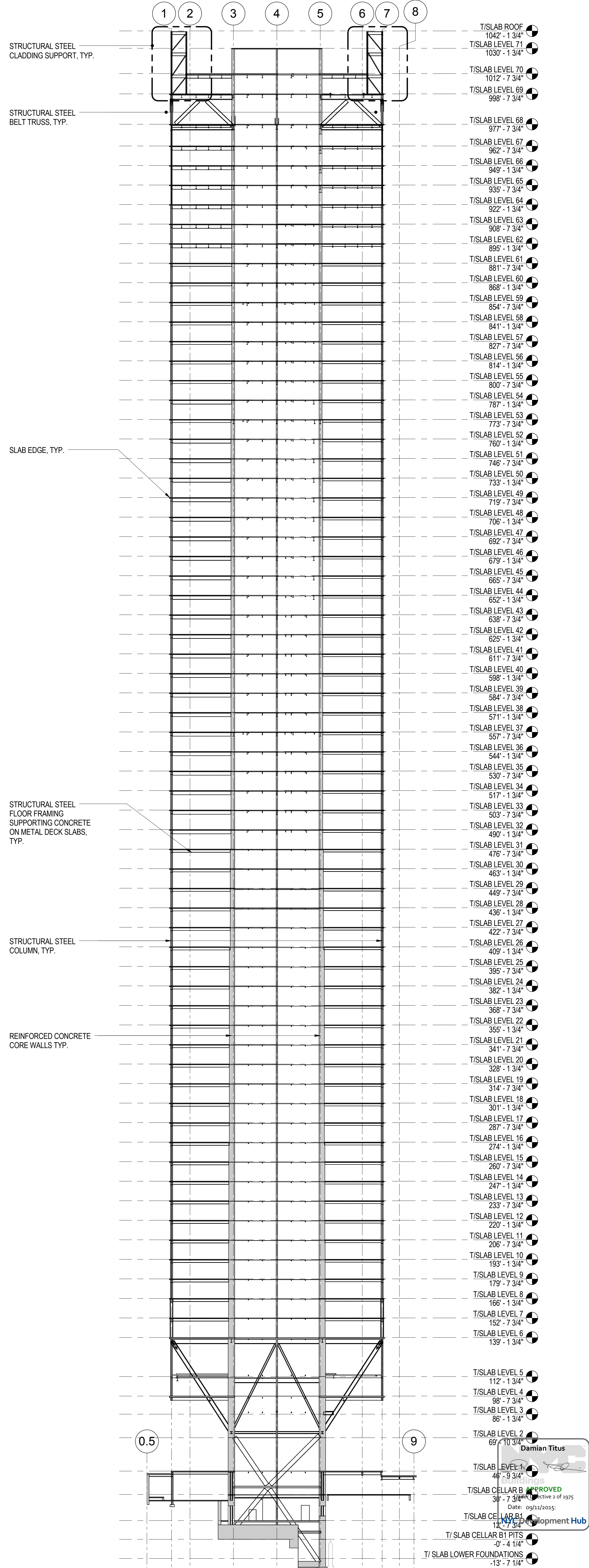
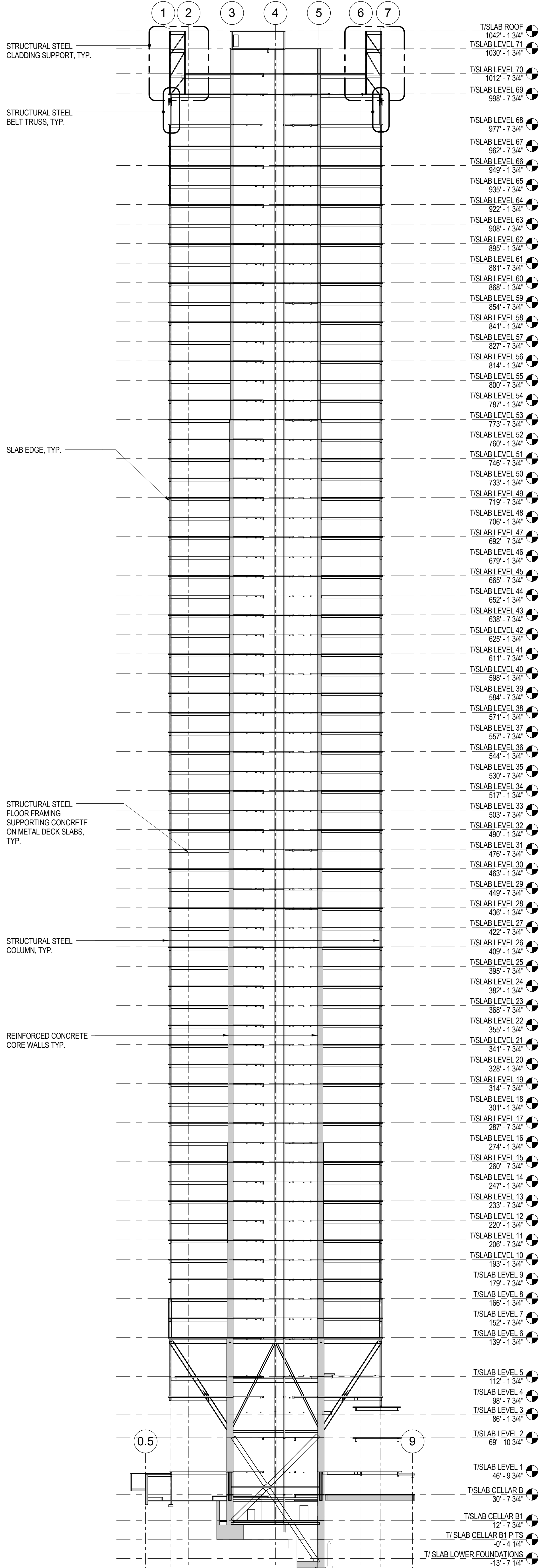
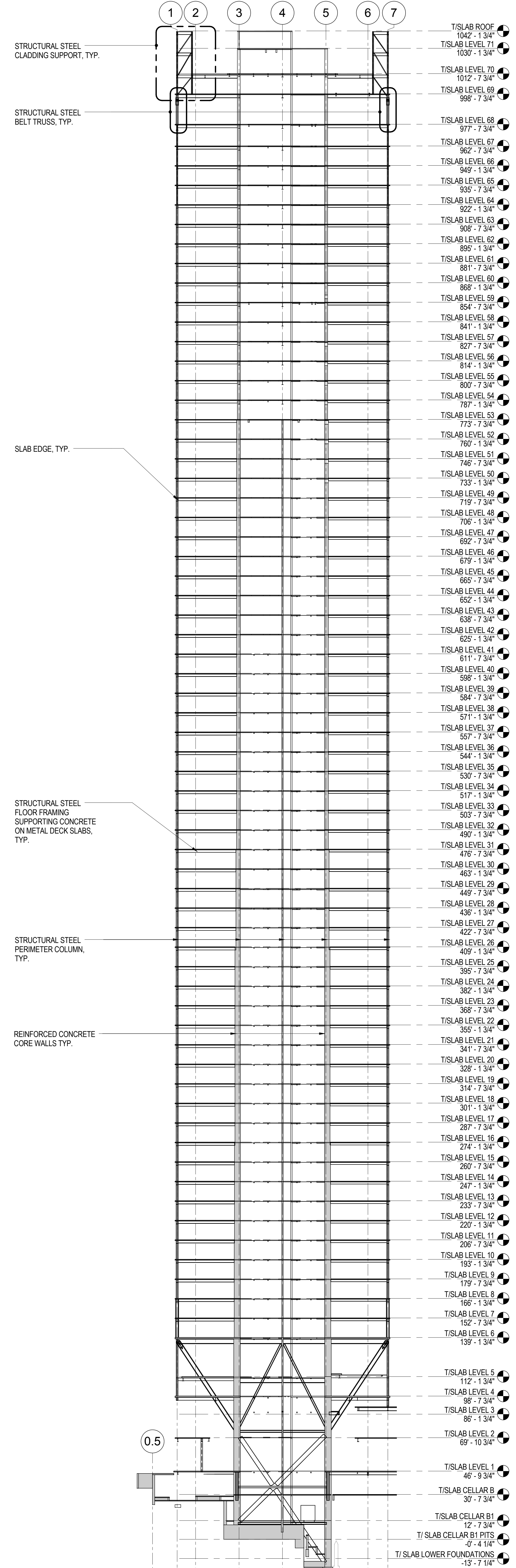
Seal & Signature


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| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
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| 3 | 15 NOV 2013 | ISSUED FOR 2D PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 16 MAR 2013 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name: TOWER ELEVATIONS

| | |
|----------------------|----------------------------|
| Project No.: 211157 | B-SCAN Sheet No.: S-202.00 |
| Date: 20 JUN 2014 | Sheet No.: S-202 |
| Scale: 1/32" = 1'-0" | File No.: S-202 |
| Page No.: 34 of 90 | |





**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
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102 Madison Avenue #11, New York, NY 10016

MEP Engineering
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Vertical Transportation
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50 Washington Street, Norwalk, CT 06854

Geo-Technical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610,
New York, NY 10012

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Ventor & Santoro
250 State Street #1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005


Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
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65 Broadway, Suite 401, New York, NY 10006

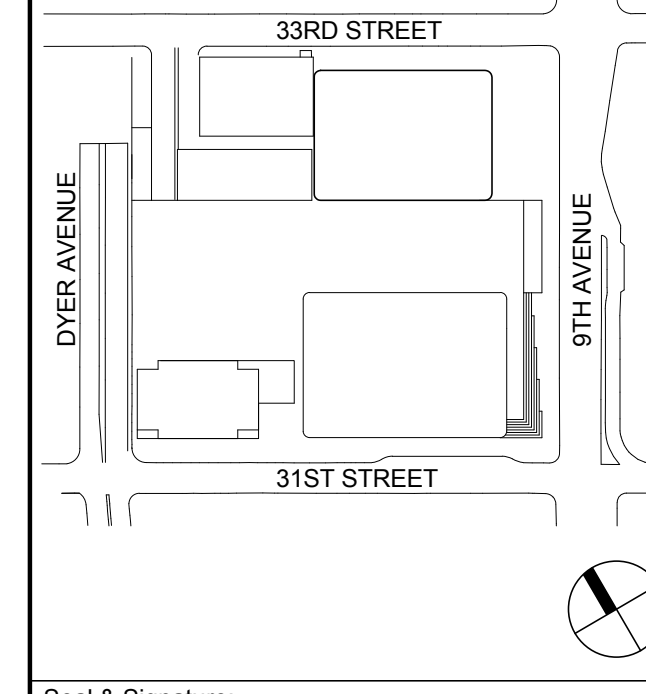
Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

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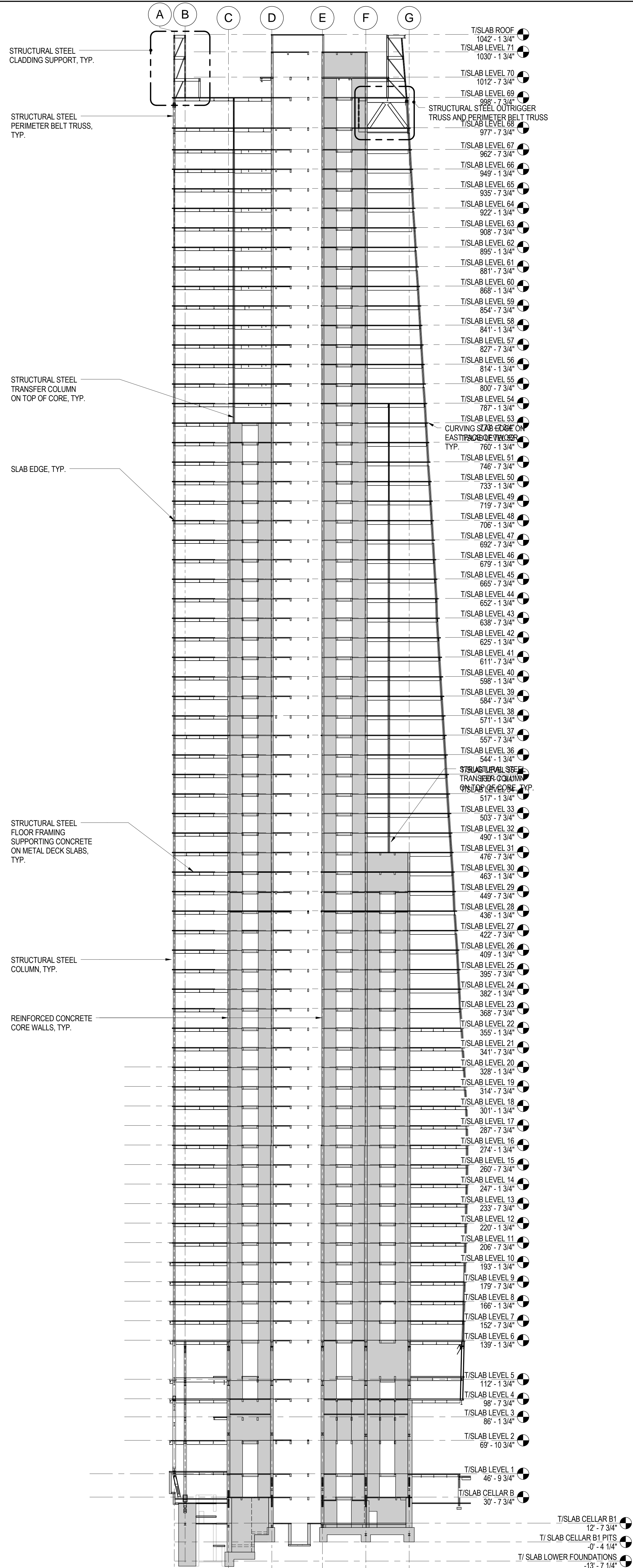
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| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 60% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

No. _____ Date _____ Description _____
Sheet Name: _____

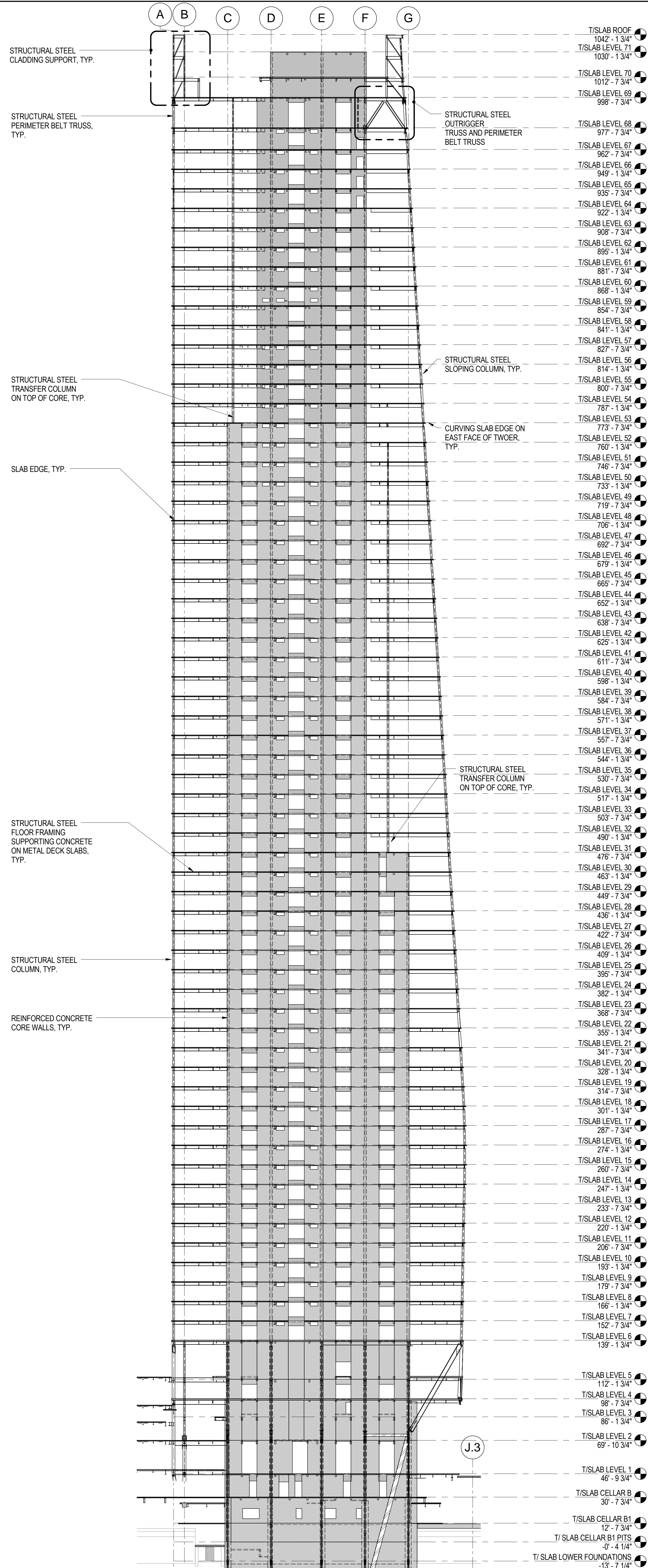
**TOWER
SECTIONS**

Project No.: 211157
Date: 20 JUN 2014
Scale: 1/32" = 1'-0"
File No: S-203

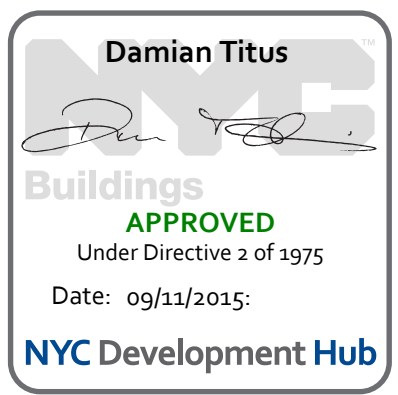
B-SCAN Sheet No.:
S-203.00
Sheet No.:
S-203
Page No.:
35 of 90



1 TOWER SECTION AT GRID 4 (LOOKING NORTH)
1/32" = 1'-0"



2 TOWER SECTION AT GRID 5 (LOOKING NORTH)
1/32" = 1'-0"



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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

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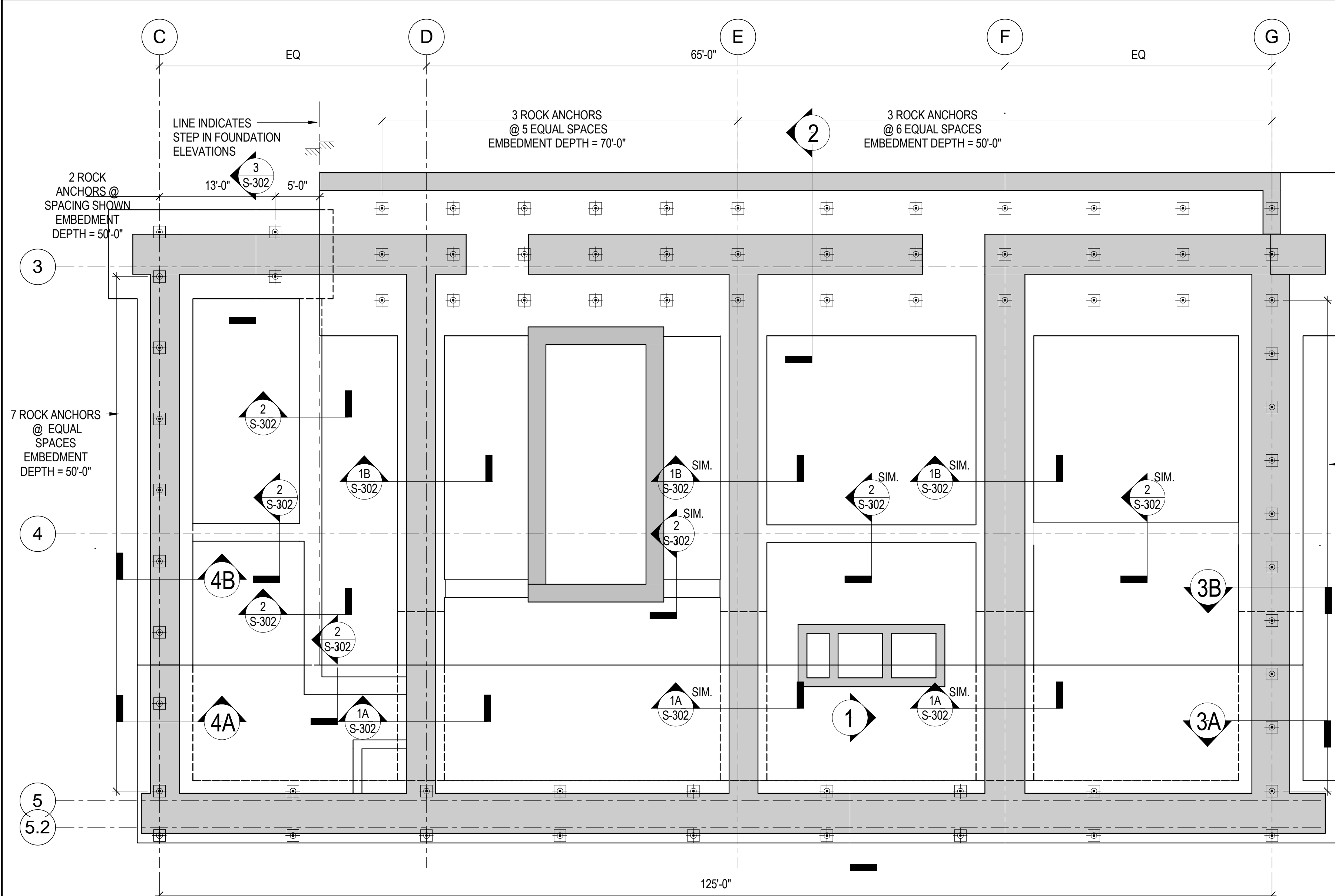
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| Project No.: | B-SCAN Sheet No.: |
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| 211157 | S-204.00 |

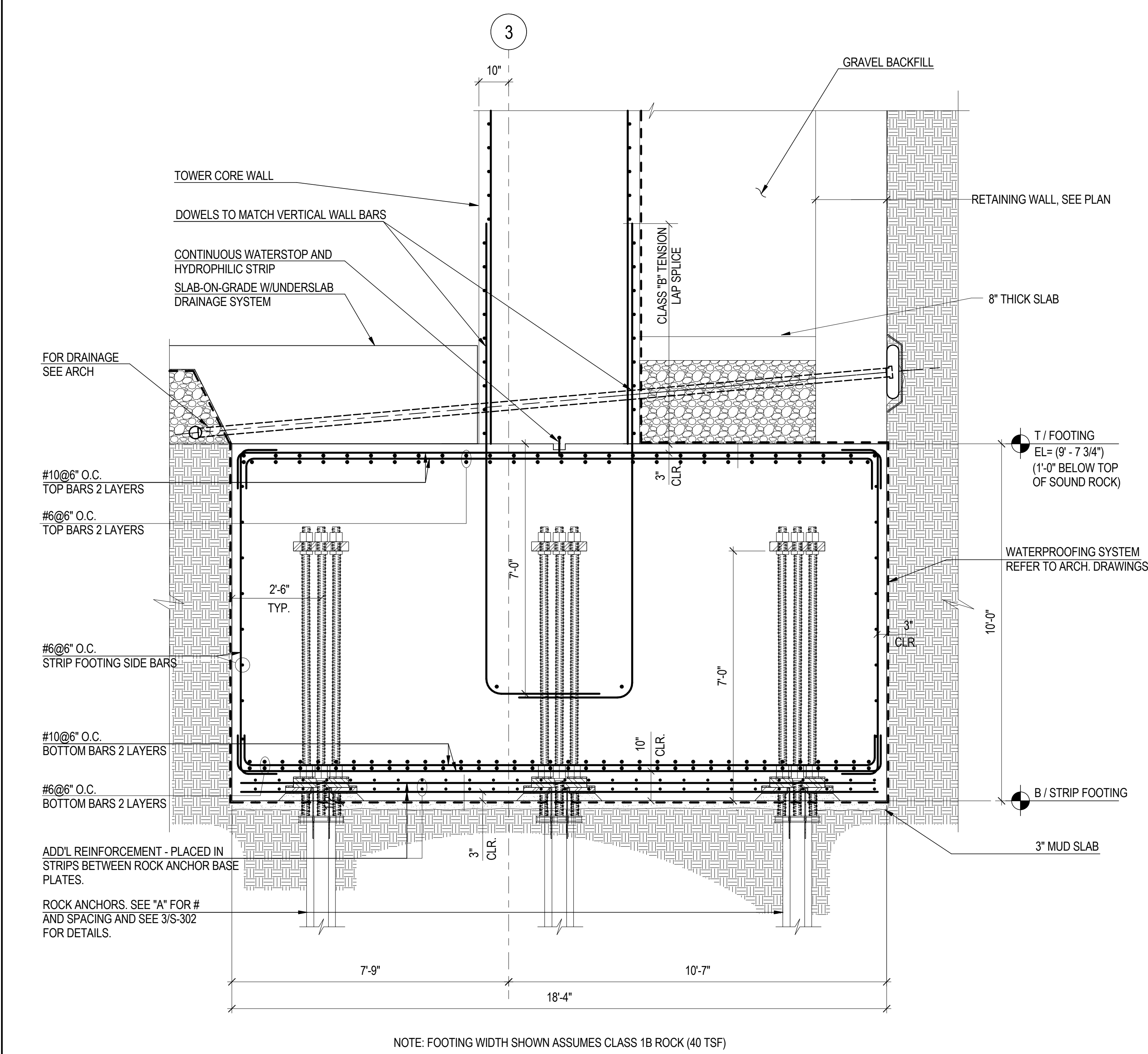
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| Scale: | Page No.: |
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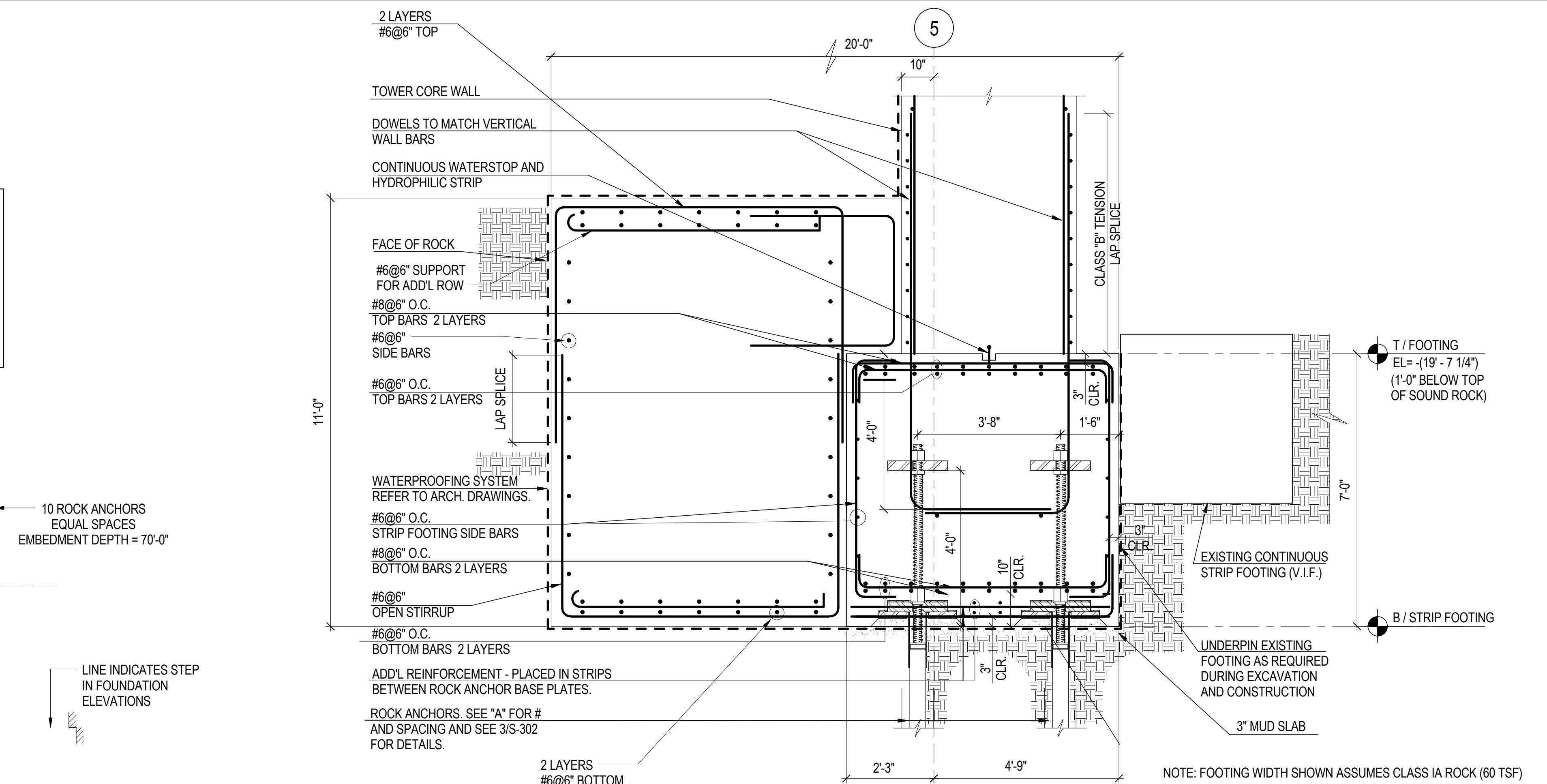
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| S-204 | 36 of 90 |



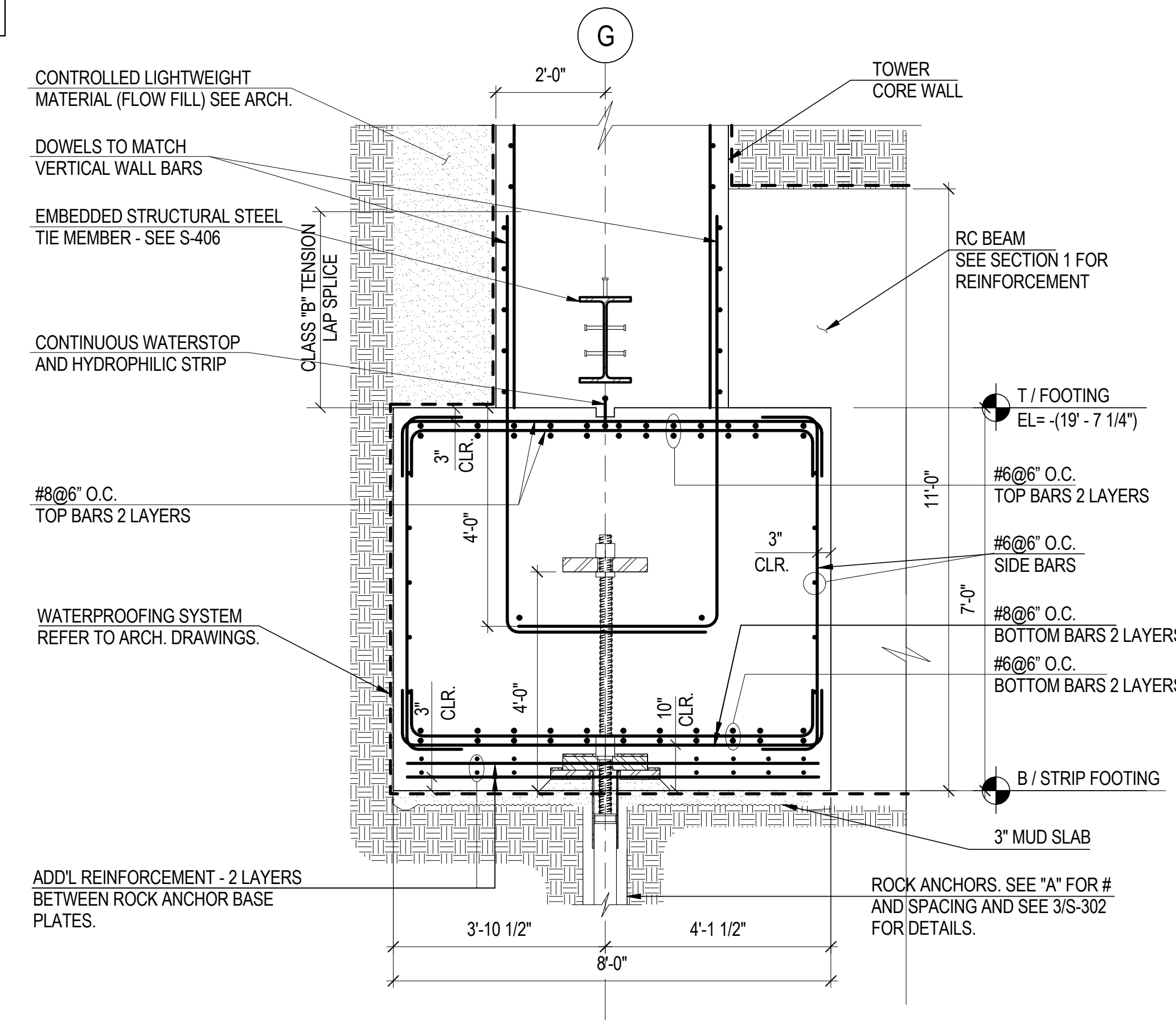
A KEY PLAN - TOWER CONCRETE CORE FOUNDATION
NOT TO SCALE



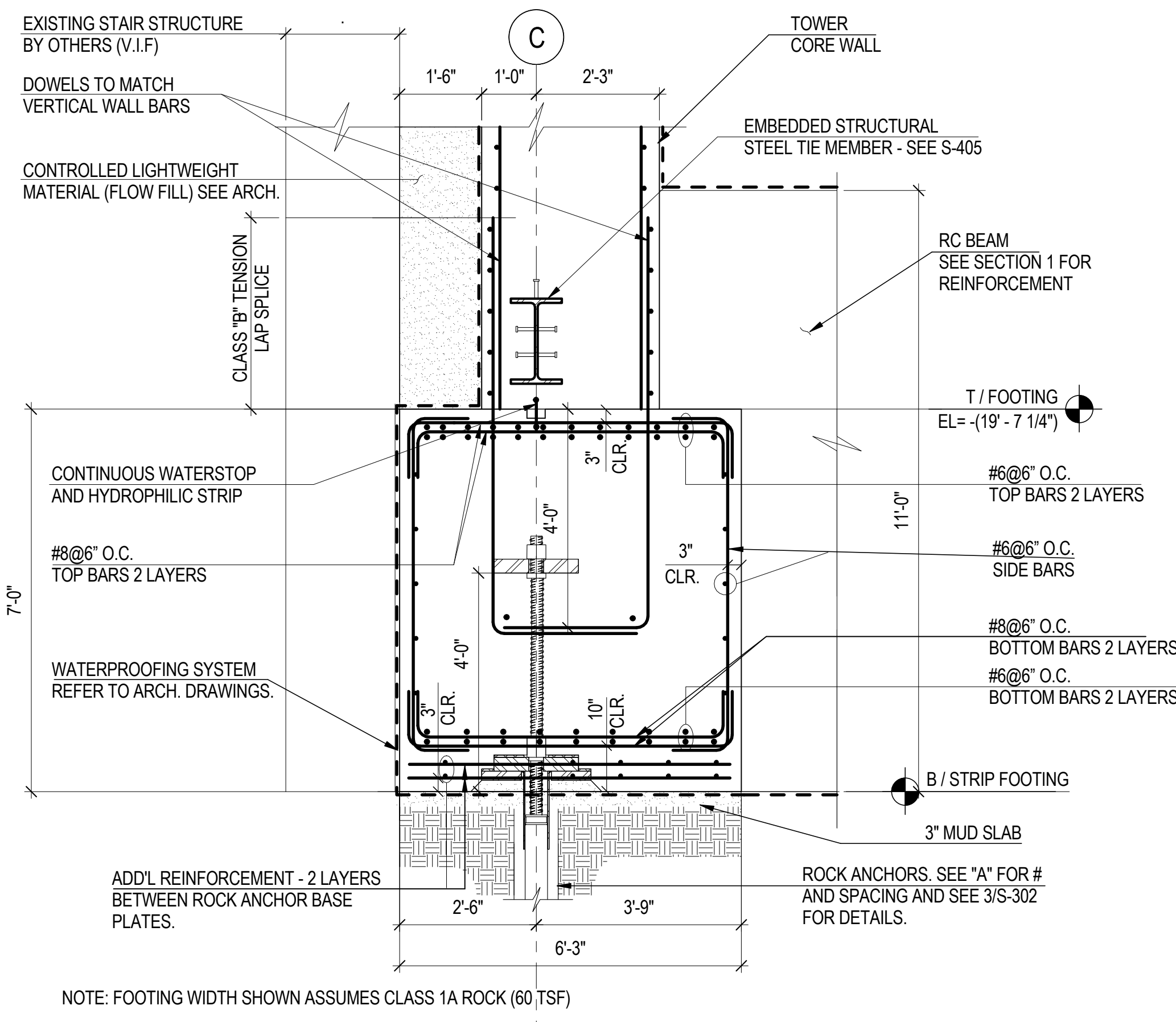
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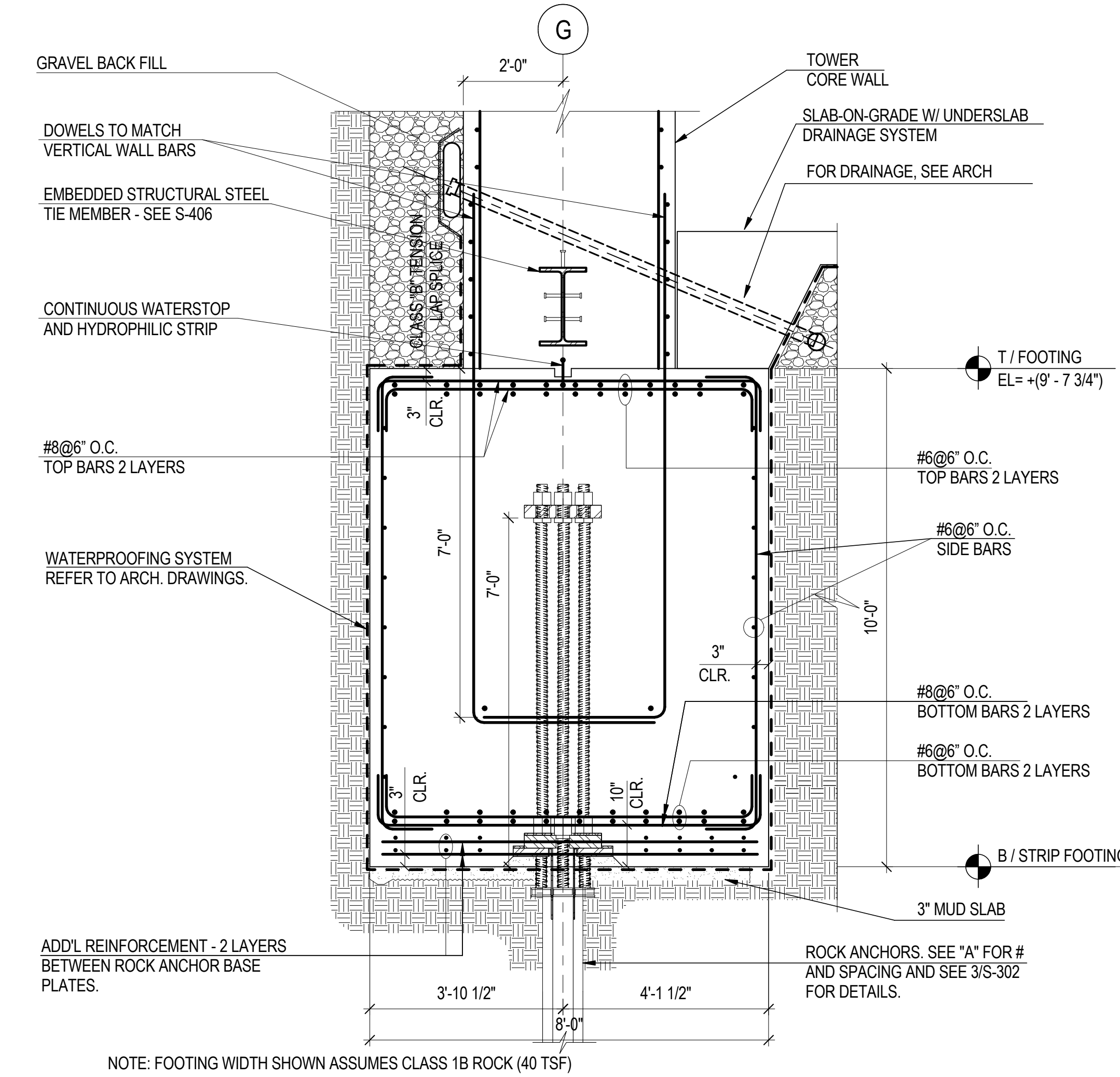
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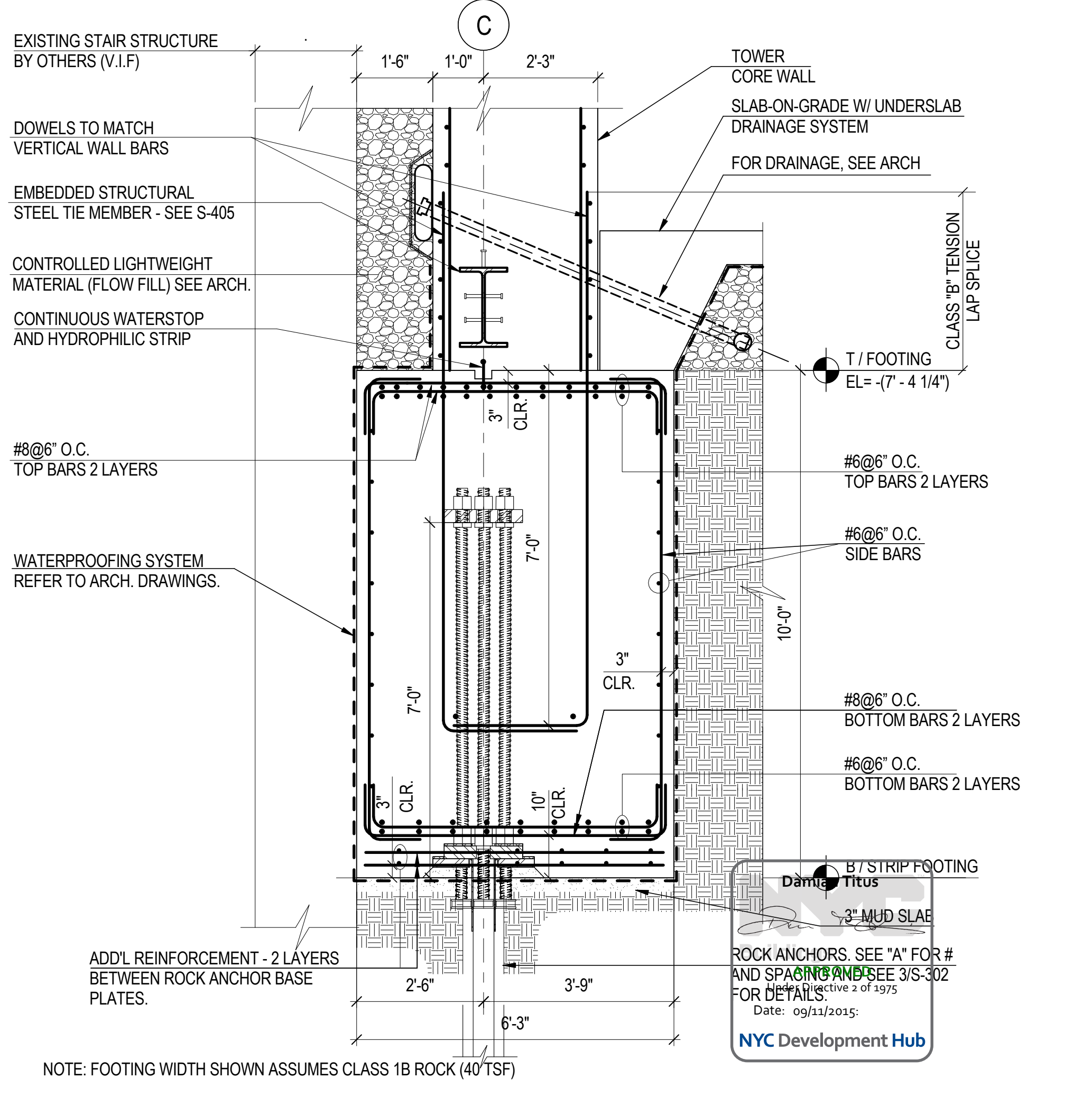
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NOT TO SCALE




4A LOWER - SECTION THRU WEST EXTERIOR WALL CONT. FOOTING ON ROCK W/ ROCK ANCHORS
NOT TO SCALE



3B UPPER - SECTION THRU EAST EXTERIOR WALL CONT. FOOTING ON ROCK W/ ROCK ANCHORS
NOT TO SCALE



4B UPPER - SECTION THRU WEST EXTERIOR WALL CONT. FOOTING ON ROCK W/ ROCK ANCHORS
NOT TO SCALE



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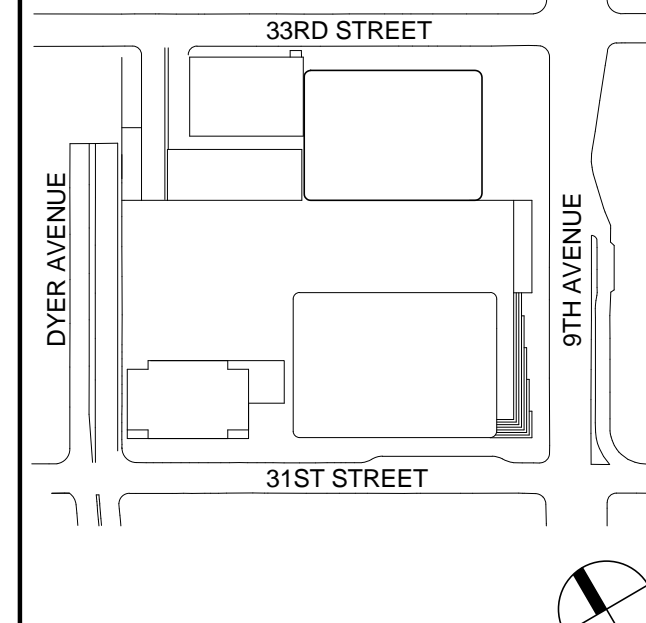
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B6



Key Plan:



Seal & Signature:

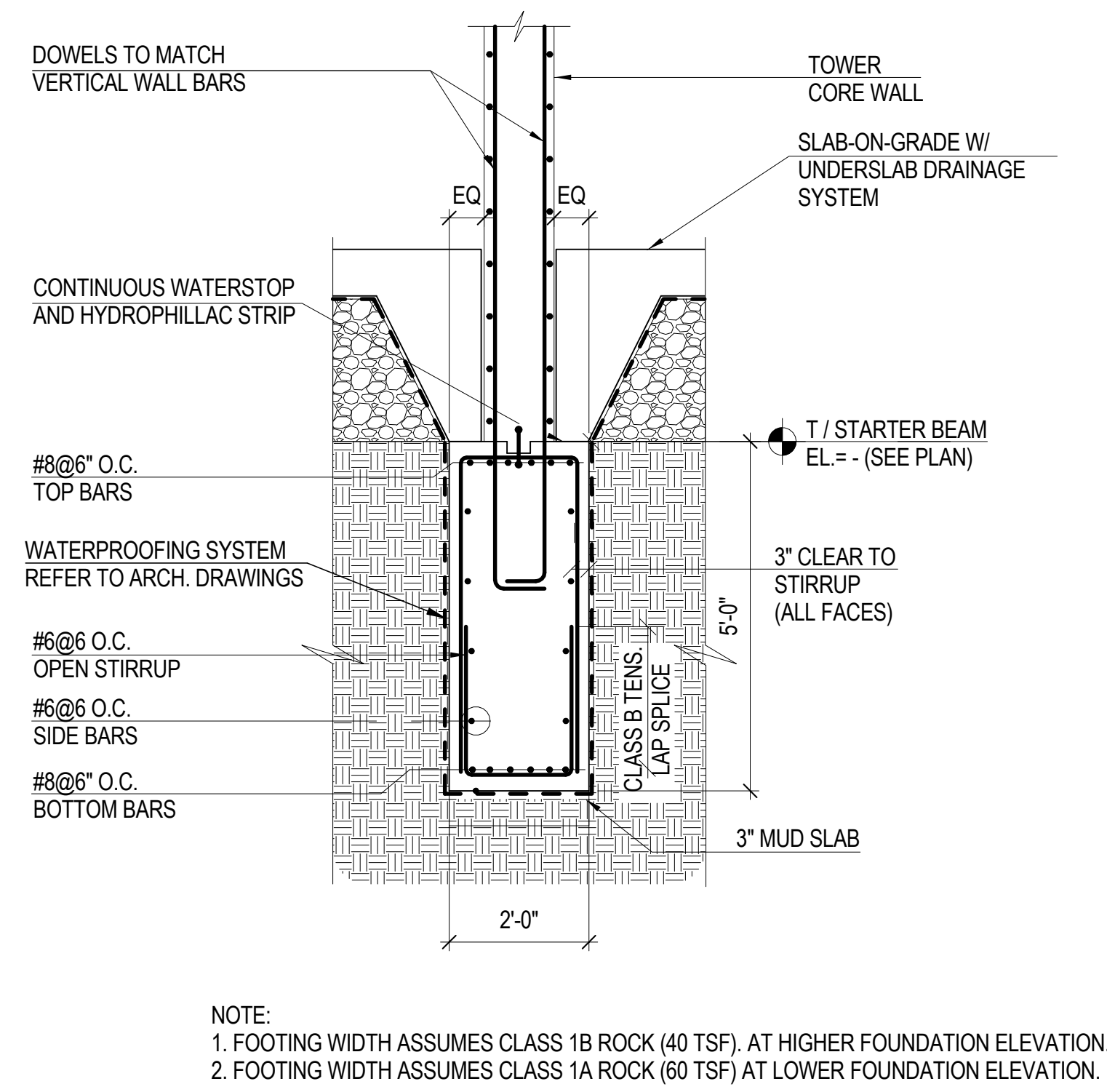
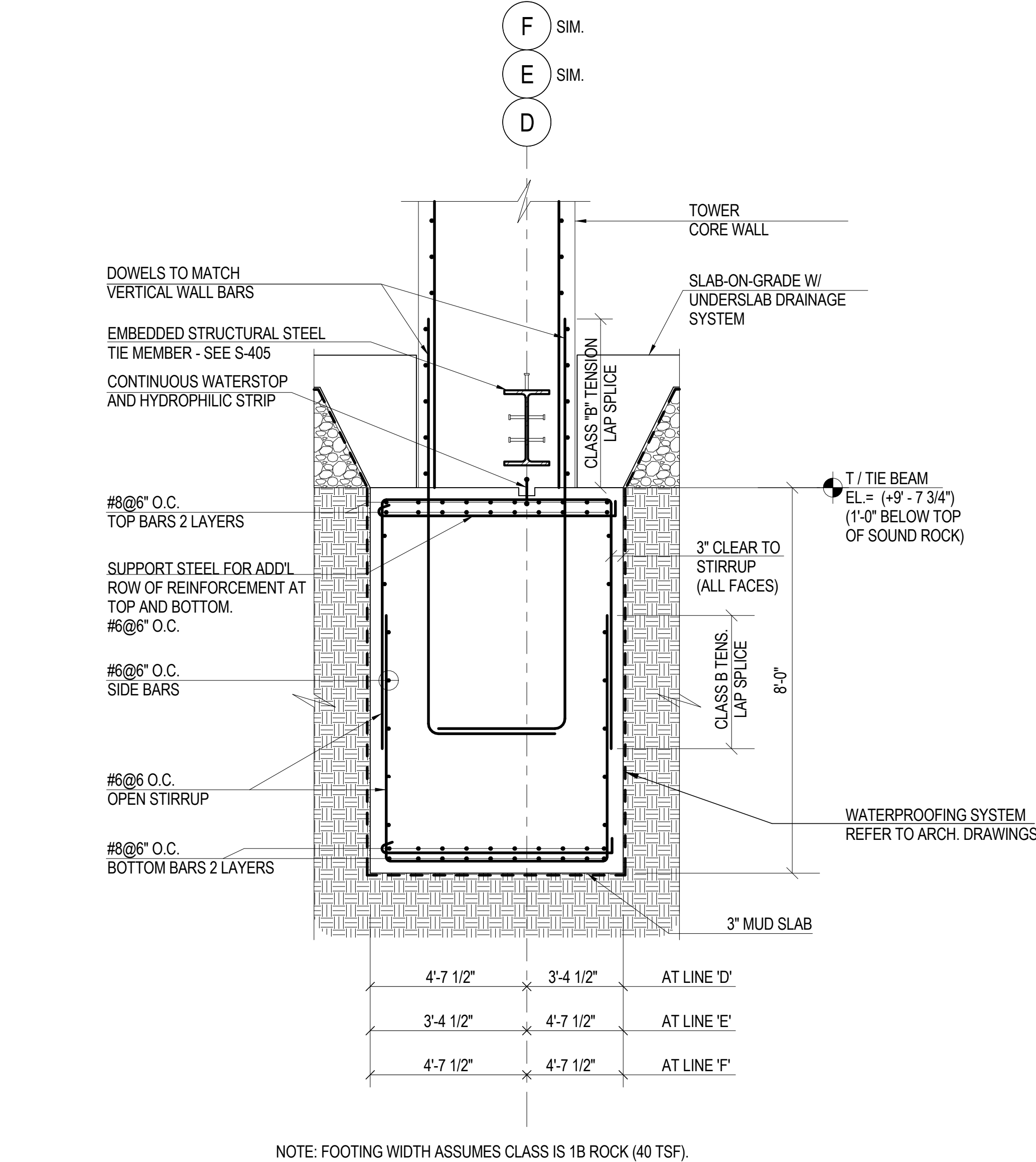
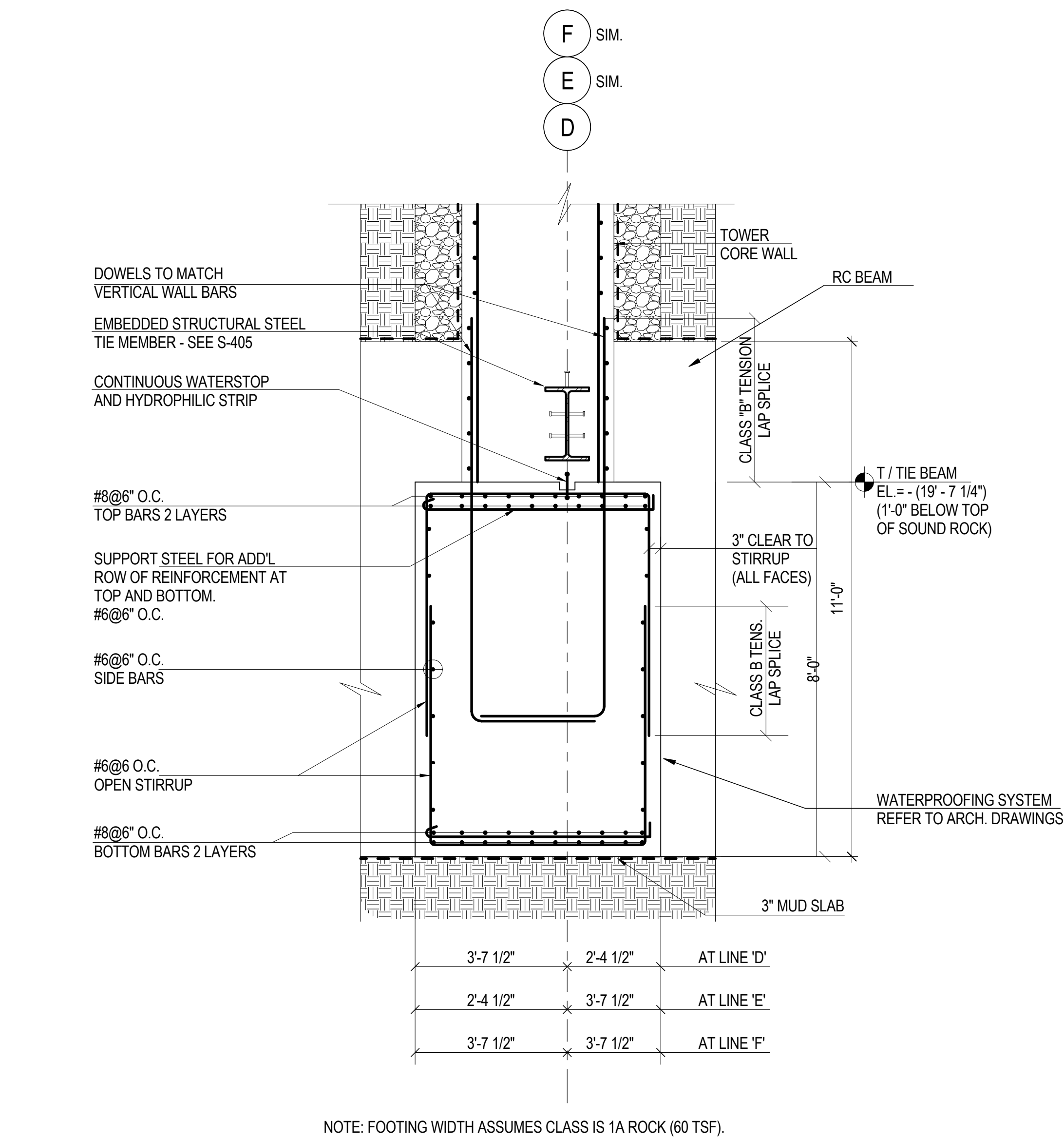
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NOT FOR CONSTRUCTION

| No. | Date | Description |
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| 1 | 18 MAR 2013 | ISSUED FOR RECONCILIATION |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 3 | 15 NOV 2013 | ISSUED FOR 20% PROGRESS PRICING |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |

CORE WALL CONT. FOOTING SECTIONS & DETAILS

Project No.: 211157
Date: 20 JUN 2014
Scale: As indicated
File No.: S-301

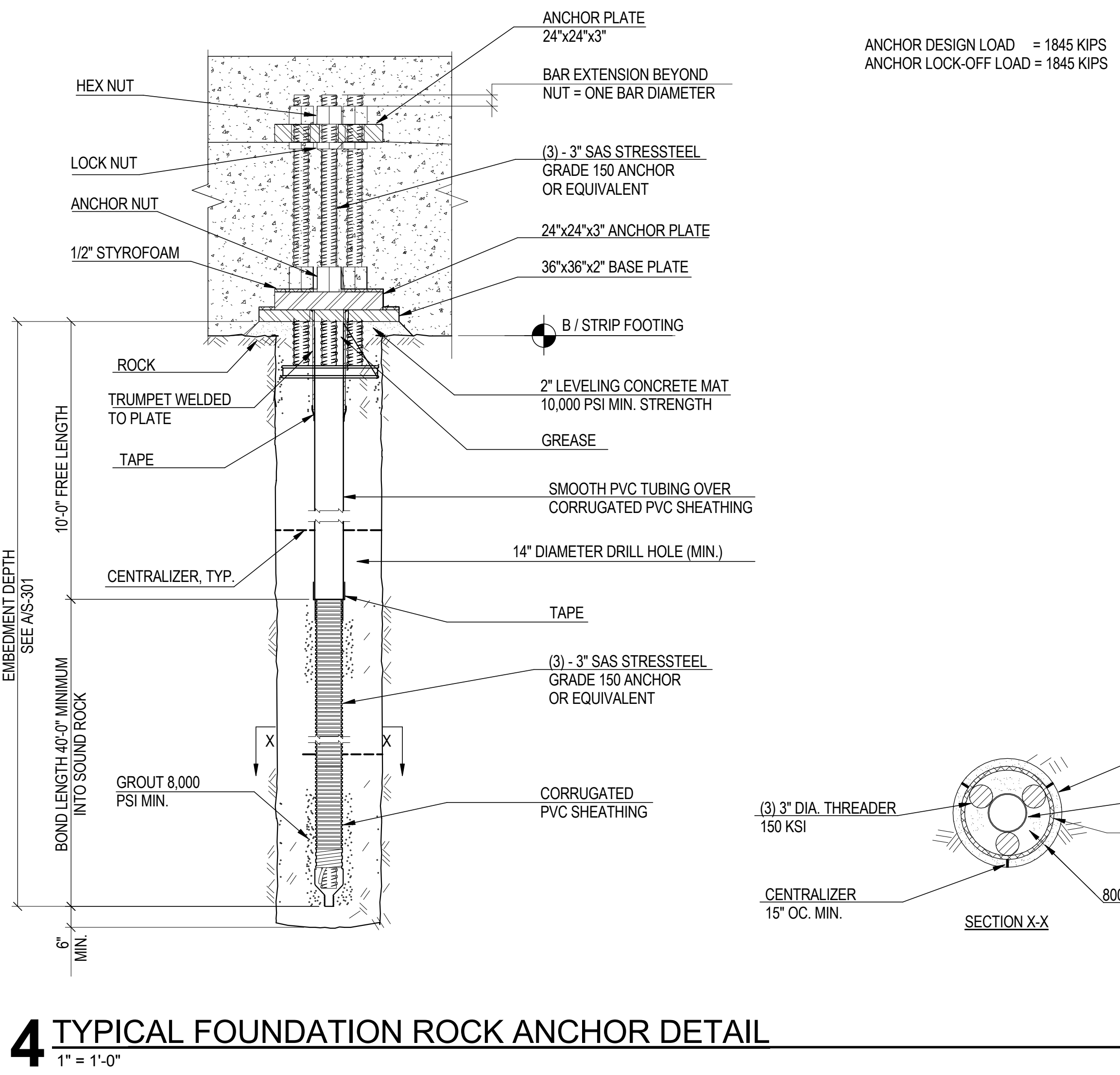
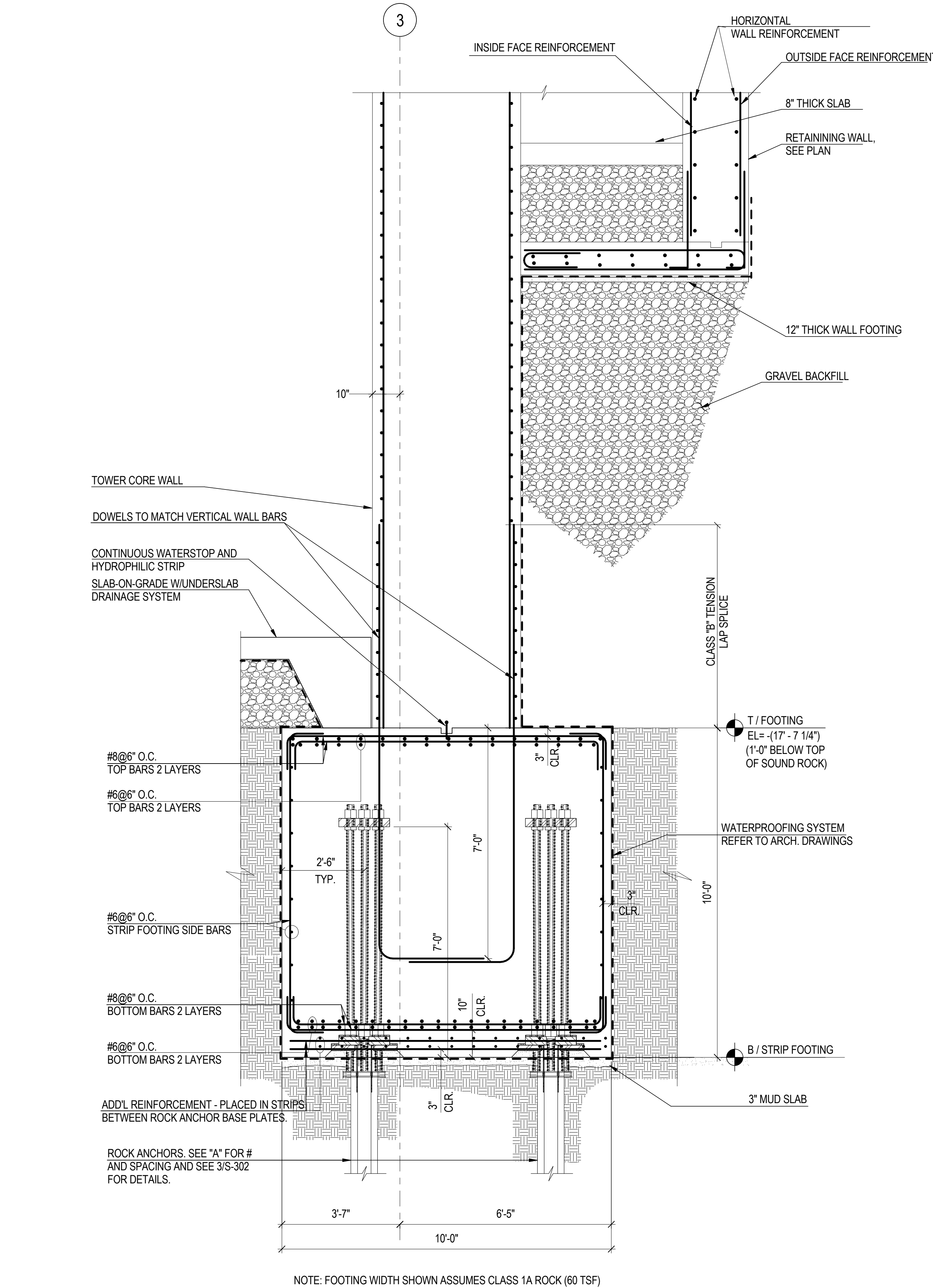
Sheet Name: **S-301**
Page No.: 37 of 90



1A SECTION THRU CONTINUOUS FOOTING UNDER N-S WEB WALLS (LOWER)

1B SECTION THRU CONTINUOUS FOOTING UNDER N-S WEB WALLS (UPPER)

2 SECTION THRU CONTINUOUS FOOTING UNDER E-W WEB WALLS



- #### INSTALLATION PROCEDURE
1. DETERMINE ANCHOR LOCATION AS INDICATED ON CONTRACT DRAWINGS.
 2. DRILL 14" MINIMUM DIAMETER HOLE TO SPECIFIED DEPTH.
 3. CLEAN DRILL HOLE OF ALL DRILL CUTTINGS AND DEBRIS.
 4. INSERT A GROUT PIPE AND PREFABRICATED ANCHOR TO THE BOTTOM OF THE ANCHOR HOLE AND PUMP FULL OF CEMENT GROUT DISPLACING ANY STANDING WATER.
 5. AFTER GROUT REACHES SPECIFIED STRENGTH, (3 DAYS FOR PORTLAND CEMENT TYPE III OR 7 DAYS FOR PORTLAND TYPE I OR II) LOAD ANCHORS USING CALIBRATED JACKS.
 6. AFTER SUCCESSFUL TESTING, LOCK OFF ANCHOR AT 680 KIP. USING EXTERNAL WRENCH AND RELEASE PRESSURE FROM JACK.
 7. INSTALL UPPER PLATE & NUTS AND POUR FOOTING CONCRETE.

- #### GENERAL NOTES
1. ROCK ANCHORS SHALL BE IN CONFORMANCE WITH PTI (POST TENSIONING INSTITUTE) LATEST RECOMMENDATIONS ON ROCK & SOIL ANCHORS.
 2. ALL ANCHORS SHALL BE 3" DIAMETER SAS STRESSSTEEL THREADED BARS OR EQUIVALENT, GRADE 150 KSI, MEETING OR EXCEEDING PROPERTIES OF ASTM A-722.
 3. THE THREADED BAR SHALL BE PROVIDED WITH SHOP-FABRICATED DOUBLE CORROSION PROTECTION. THE ANCHOR BARS SHALL BE ENCAPSULATED WITH HIGH STRENGTH PVC CORRUGATED SHEATHING (COMPRESSIVE STRENGTH=7000 psi) AND PRE-GROUTED.
 4. PLATES SHALL CONFORM TO ASTM A-36.
 5. ANCHOR NUTS & COUPLERS SHALL BE CAPABLE OF DEVELOPING 100% OF THE ULTIMATE STRENGTH OF THREADBAR.
 6. CARE MUST BE TAKEN NOT TO DAMAGE THE THREADED BAR TENDONS. KEEP THREADBARS FREE OF DIRT OR OTHER DELETERIOUS SUBSTANCES.
 7. DO NOT WELD IN THE VICINITY OF THE HIGH STRENGTH BARS.
 8. DO NOT USE ANCHORS AS A GROUND FOR WELDING.
 9. THE FIRST THREE ANCHORS INSTALLED, AND 10% OF THE REMAINING ANCHORS SHALL BE PERFORMANCE TESTED. ALL OTHER ANCHORS SHALL BE PROOF TESTED USING A CALIBRATED CENTER HOLE JACK.
 10. PERFORMANCE TEST SHALL BE CONDUCTED BY CYCLICALLY AND INCREMENTALLY LOADING AND UNLOADING THE ANCHOR AS NOTED BELOW:

| | | |
|---------------------------------|-------|------------|
| AL, 25P | 50P | P=615 KIPS |
| AL, 25P, 50P | 75P | |
| AL, 25P, 50P, 75P | 1,00P | |
| AL, 25P, 50P, 75P, 1,00P | 1,20P | |
| AL, 25P, 50P, 75P, 1,00P, 1,20P | 1,33P | |

HOLD 1.33P FOR CREEP TEST. RECORD MOVEMENTS USING A DIAL INDICATOR CAPABLE OF READING INCREMENTS OF .001". RECORD READINGS AT 0.1, 2.3, 4.5, 6 AND 10 MINUTES. THE ANCHOR IS ACCEPTABLE IF THE ANCHOR MOVEMENT BETWEEN THE 1 MIN. AND 10 MIN. DOES NOT EXCEED 0.040". RELEASE TO TRANSFER LOAD AND LOCK OFF ANCHOR NUT.

11. PROOF TESTS SHALL BE CONDUCTED BY CYCLICALLY AND INCREMENTALLY LOADING THE ANCHOR AS NOTED BELOW.

| | |
|--|--|
| AL, 25P, 50P, 75P, 1,00P, 1,20P, 1,33P | |
|--|--|

HOLD 1.33P FOR CREEP TEST AS ABOVE.

**MANHATTAN WEST:
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Client

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Key Plan:

Seal & Signature:

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No. _____ Date _____ Description _____

Sheet Name: **CORE WALL CONT. FOOTINGS SECTIONS & DETAILS**

Project No.: 211157 B-SCAN Sheet No.: **S-302.00**

Date: 20 JUN 2014

Scale: As indicated

File No.: S-302 Page No.: 38 of 90

Damian Titus
Building Consultant
APPROVED
Under Directive 2 of 1975
Date: 09/24/2015
NYC Development Hub



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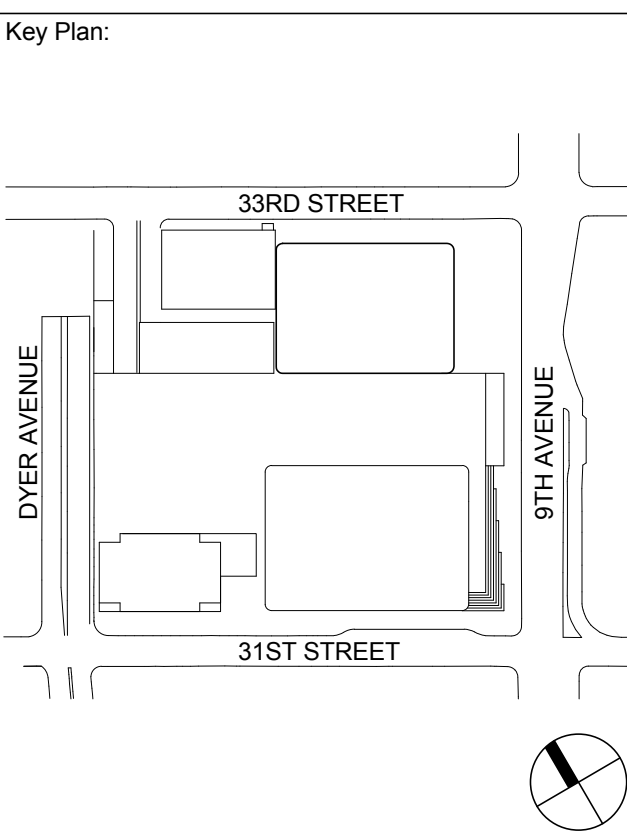
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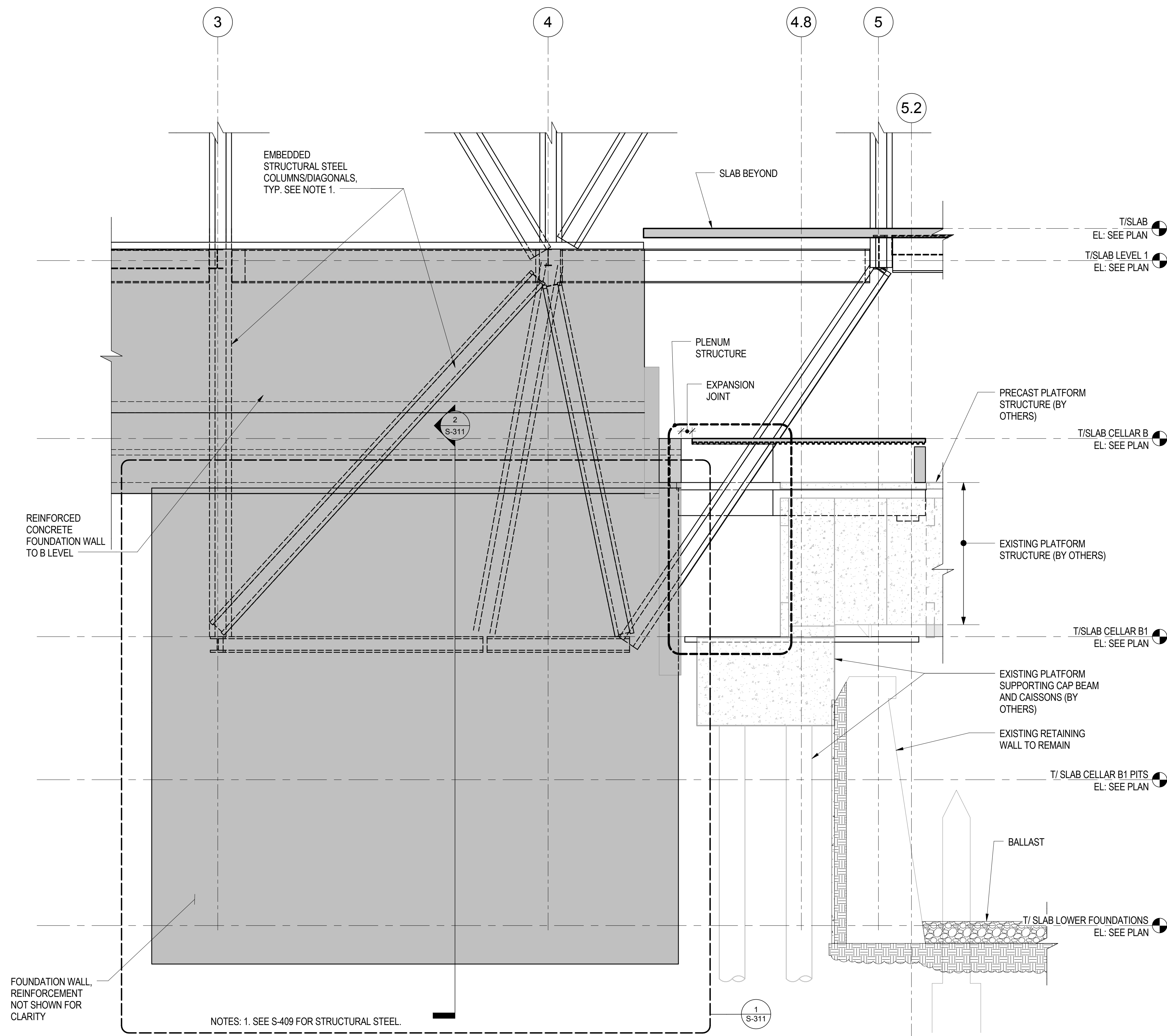
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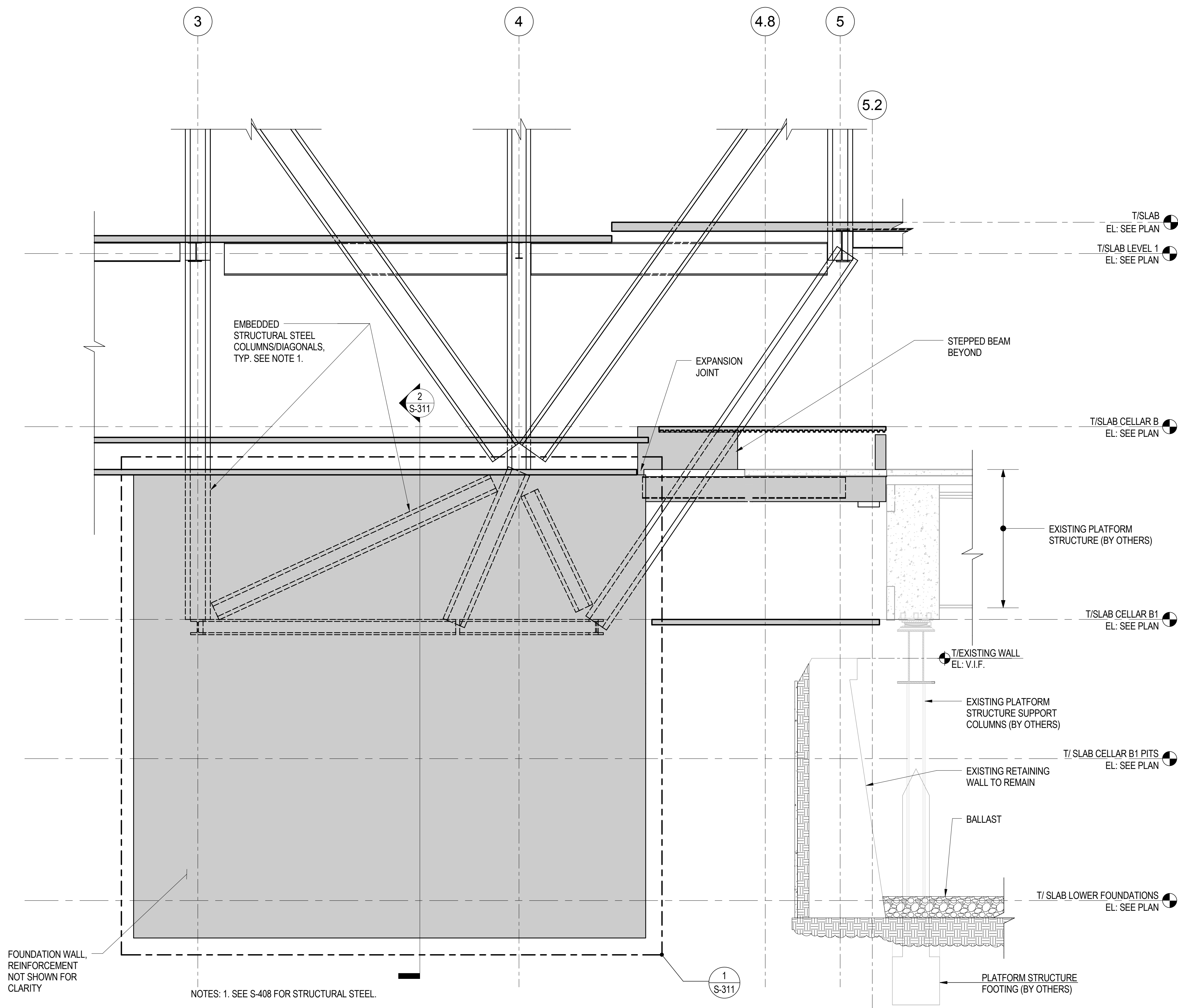
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WEST
PERIMETER
COLUMN
FOUNDATION
SECTIONS &
DETAILS

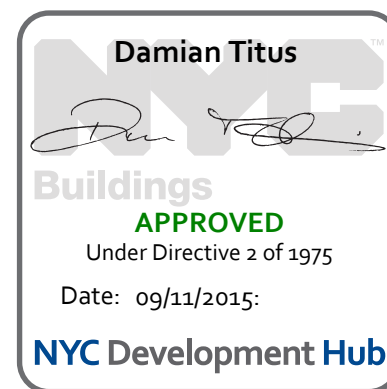
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| Date: 20 JUN 2014 | Sheet No.: S-310 |
| Scale: 3/16" = 1'-0" | Page No.: 40 of 90 |
| File No.: S-310 | |

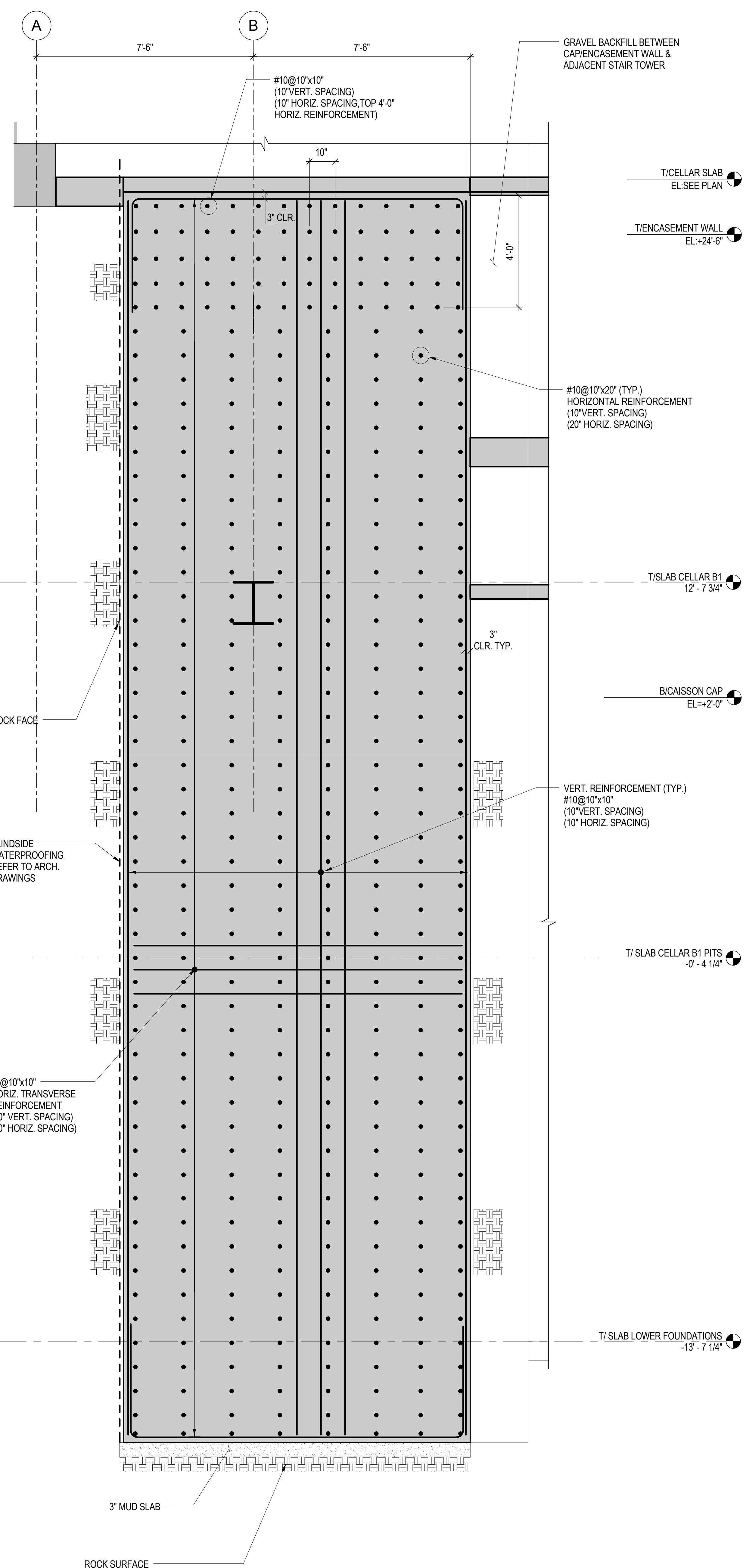


1 FOUNDATION SECTION AT GRIDLINE A
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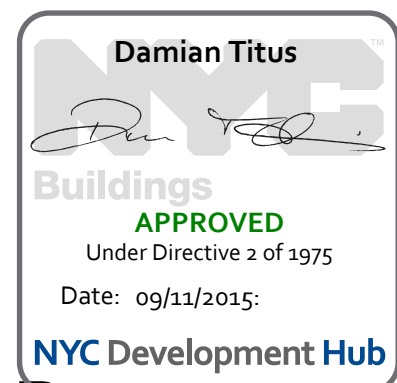
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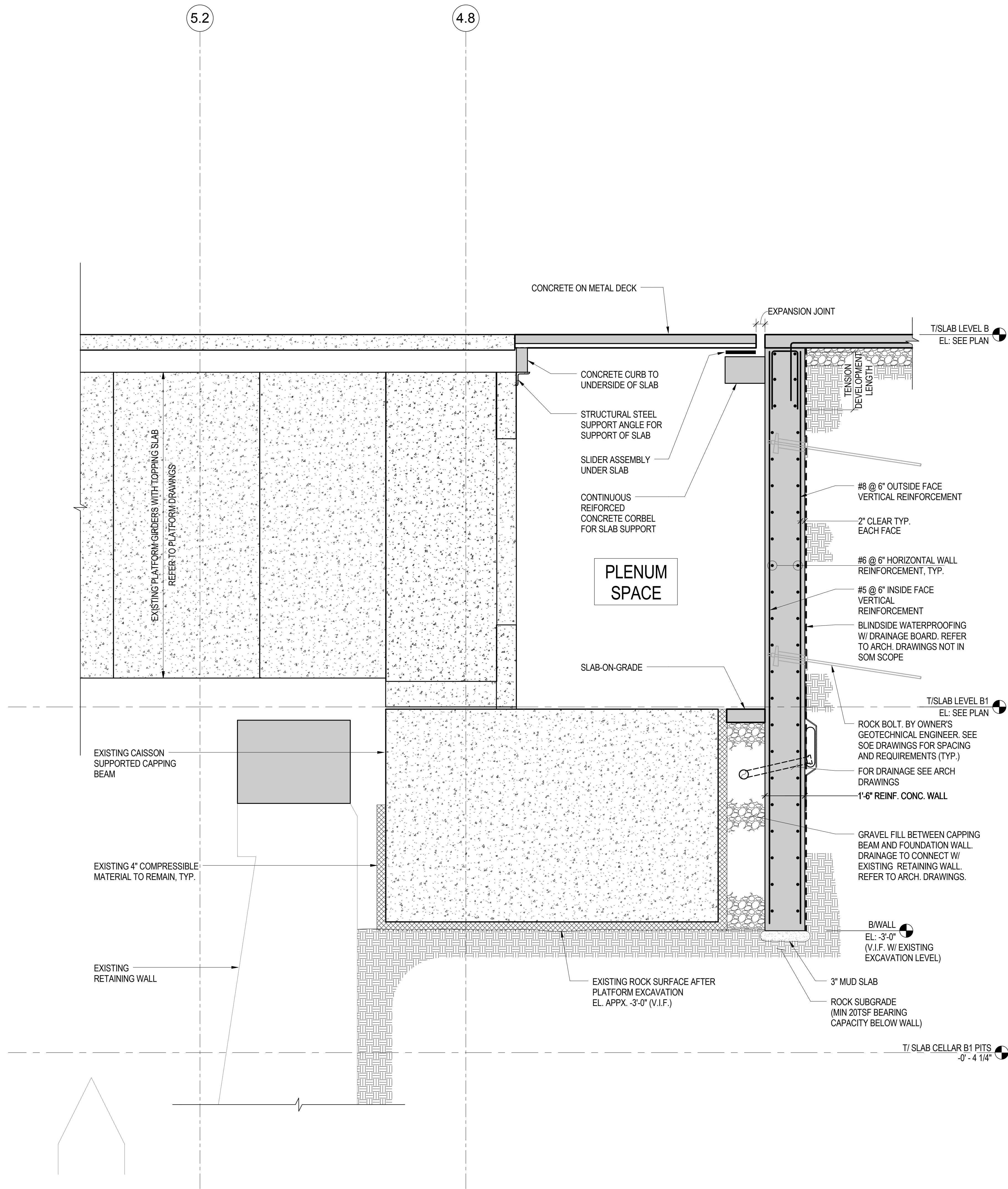
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COLUMNS/DIAGONALS ALONG LINES 'A' AND 'B'

NOT TO SCALE

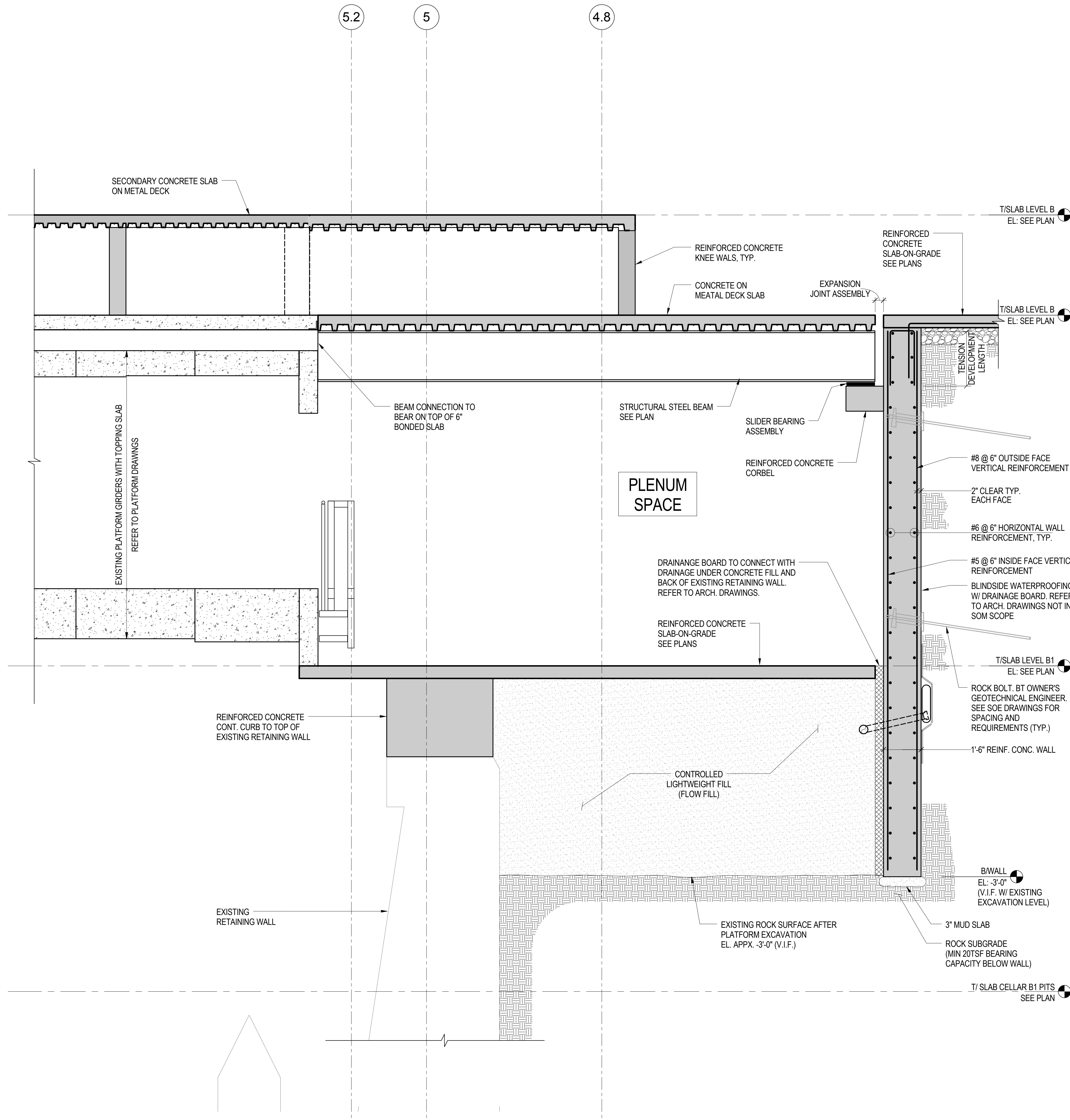




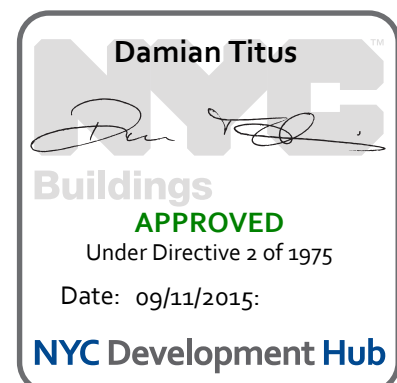
Damian Titus
LOOKING NORTH
John J. M. ...
Buildings
APPROVED
Under Directive 2 of 1975
Date: 09/11/2015:
NYC Development Hub



1 SECTION AT RETAINING WALL NORTH OF PLATFORM
NOT TO SCALE



2 SECTION AT RETAINING WALL NORTH OF PLATFORM ADJACENT TO TOWER CORE
NOT TO SCALE



**MANHATTAN WEST:
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Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation

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Sustainable Design

Viridian Energy & Environmental
40 Washington Street, Newark, CT 06854

Geo-Technical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610,
New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Ventor & Santore
250 State Street #1, North Haven, CT 06473

Blast Consultant

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65 Broadway, Suite 401, New York, NY 10006

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Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant

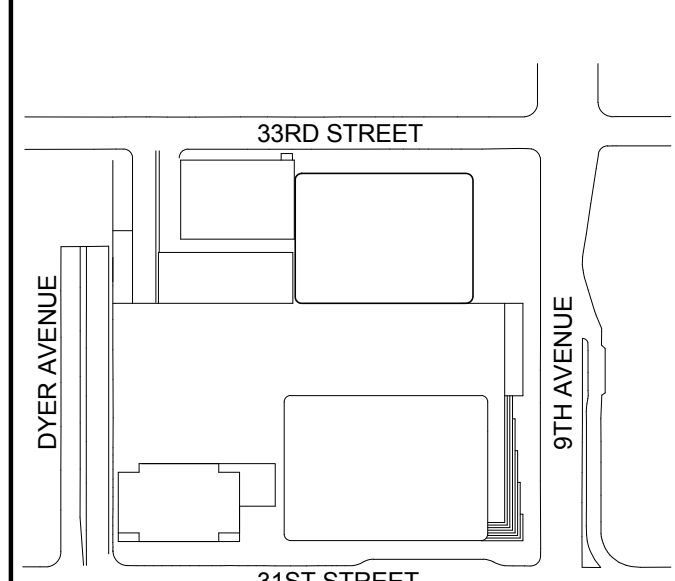
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

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NOT FOR CONSTRUCTION

| No. | Date | Description |
|-----|-------------|-----------------------------------|
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

Sheet Name:

**FOUNDATION
WALL SECTIONS
& DETAILS**

Project No.: 211157

Date: 20 JUN 2014

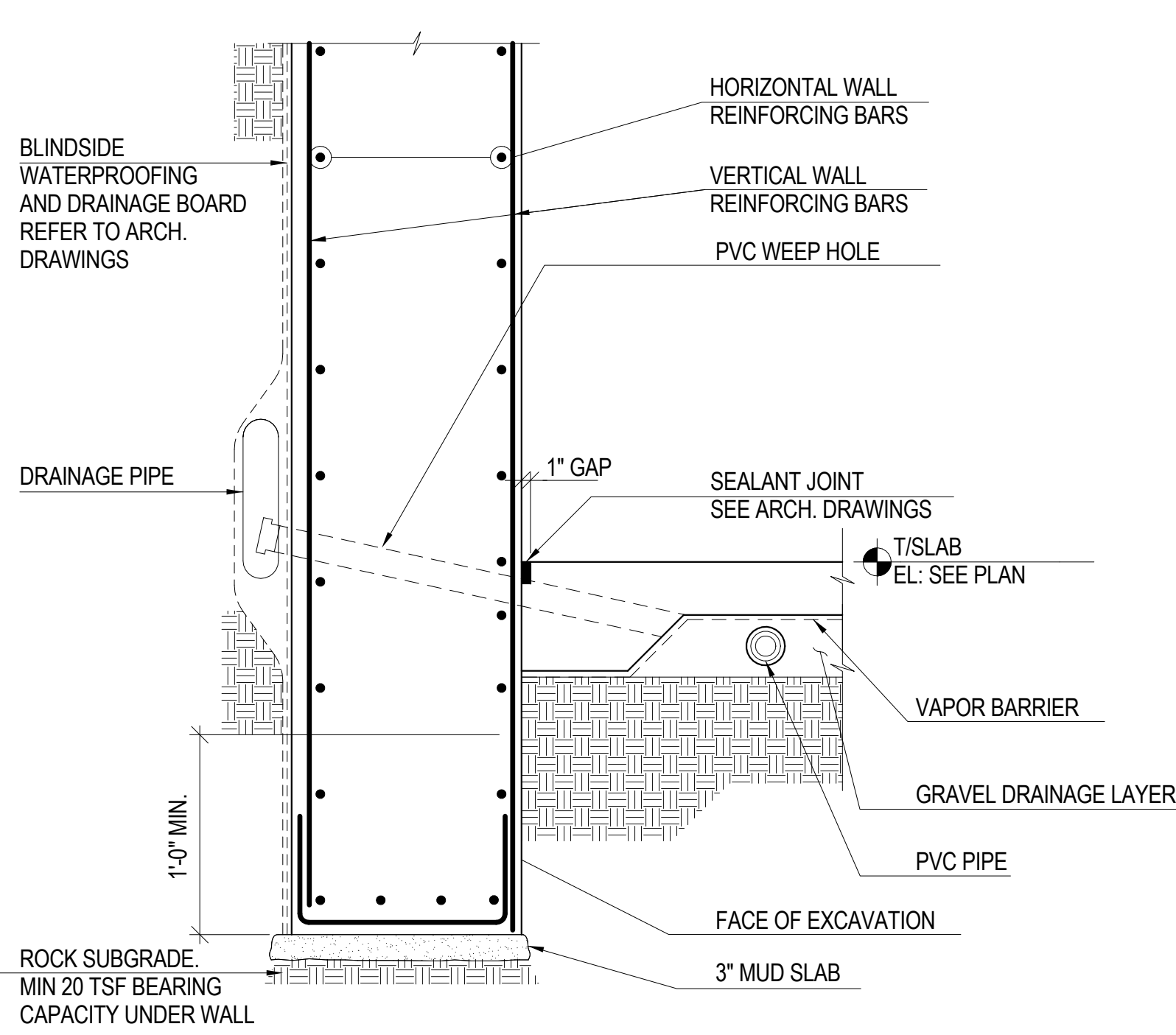
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File No.: S-317

B-SCAN Sheet No.: S-317.00

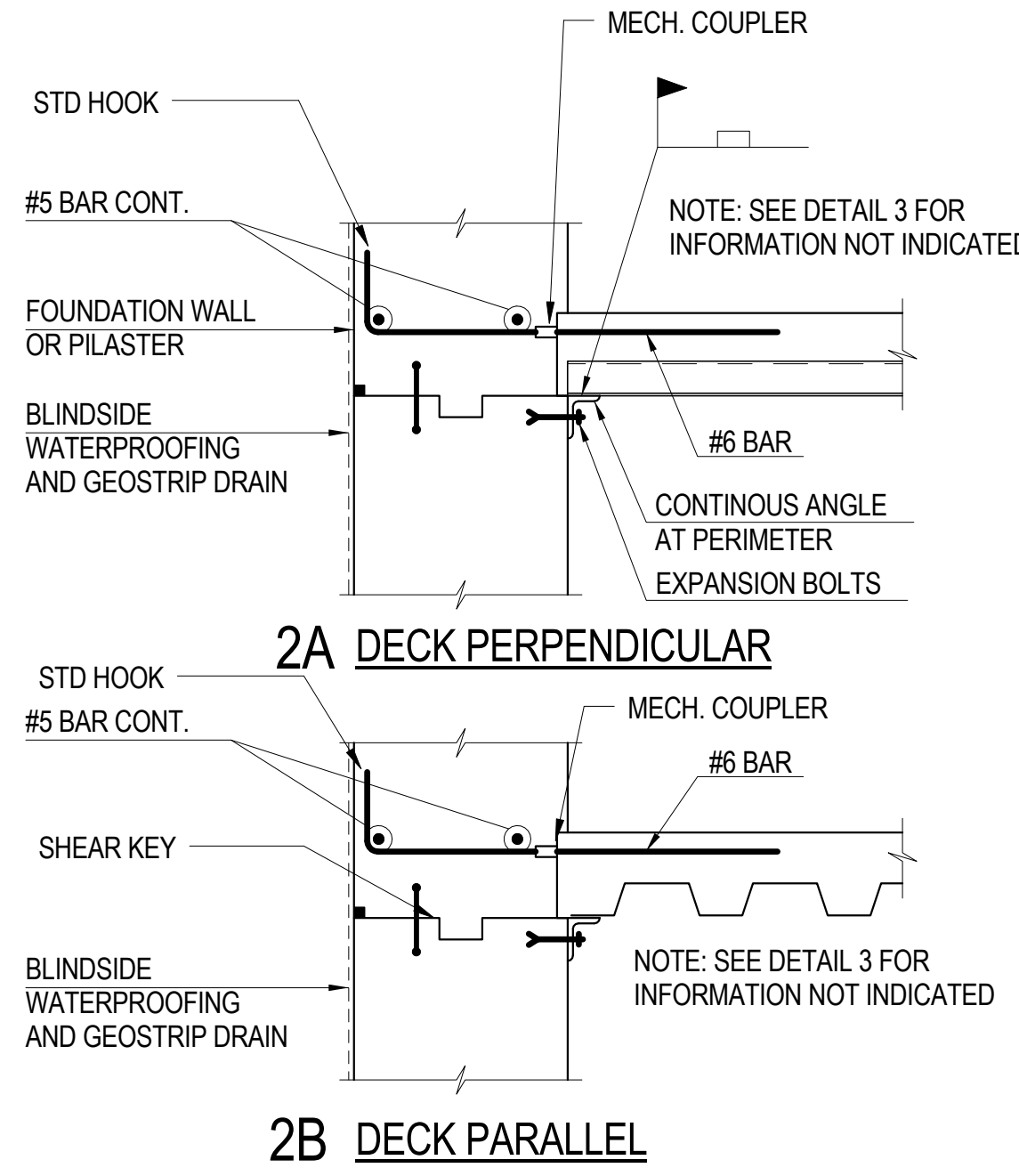
Sheet No.: S-317

Page No.: 44 of 90

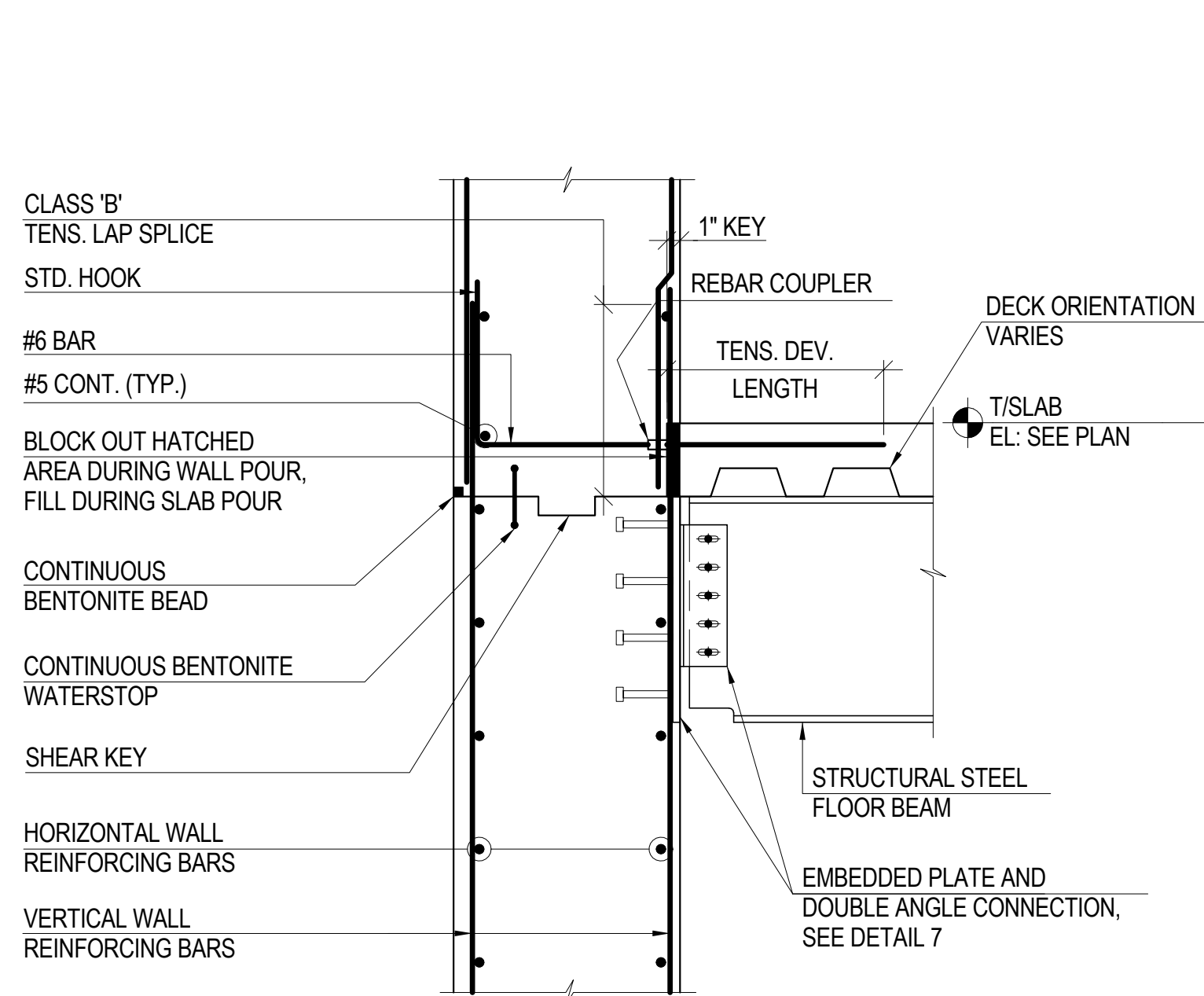


NOTE: REFER TO THE DRAWING U-001 FOR DETAILS OF THE UNDERDRAIN SYSTEM.

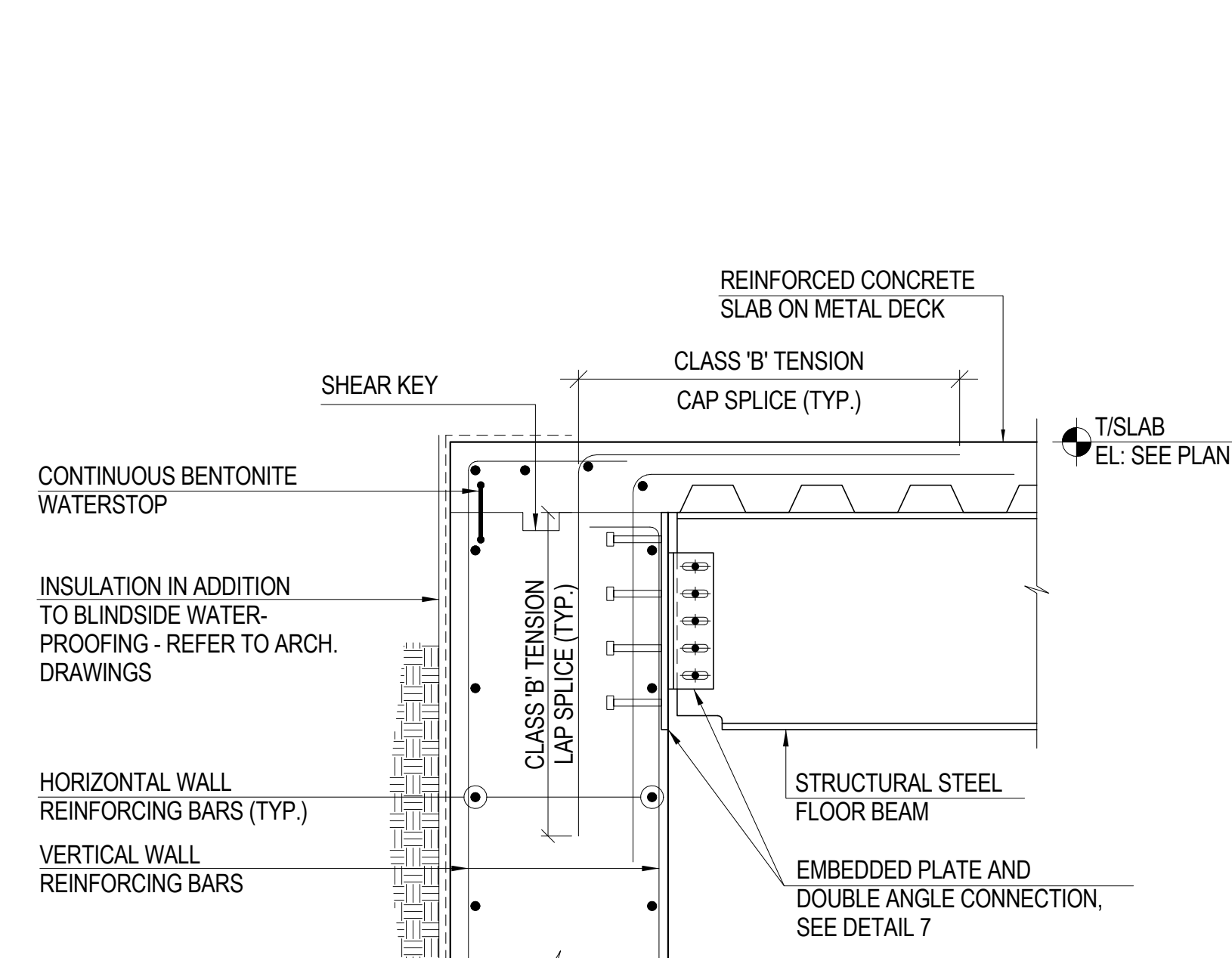
1 TYPICAL FOUNDATION WALL DETAIL AT BASE
SCALE: 3/4" = 1'-0"



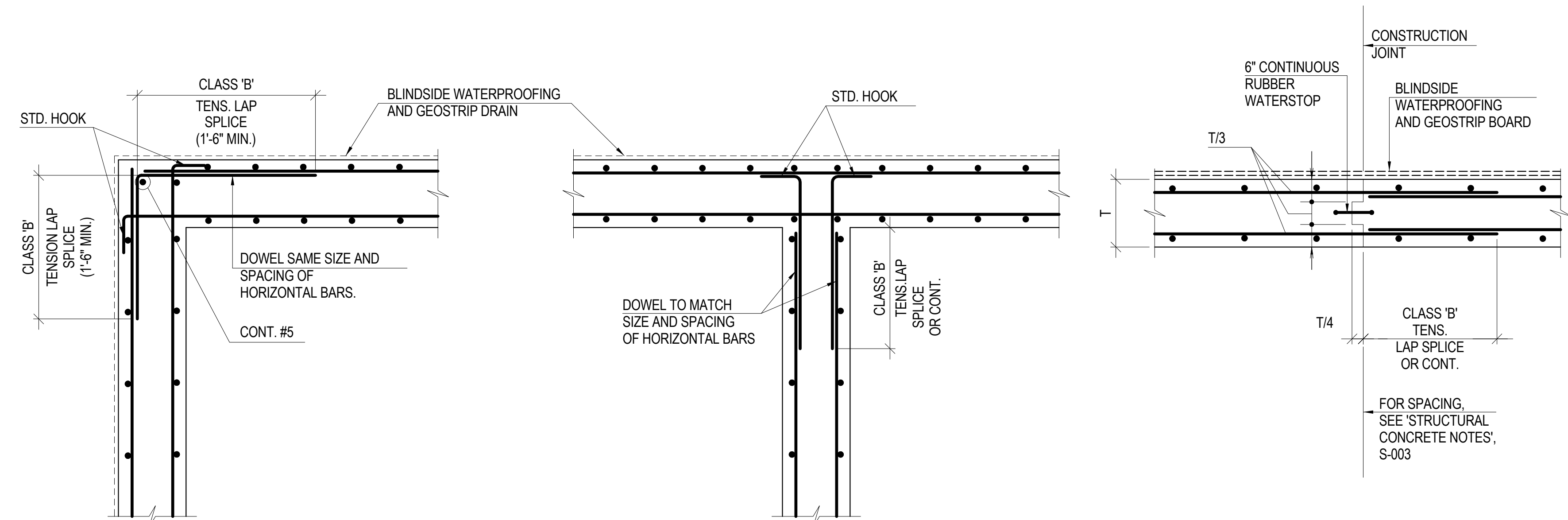
2 TYPICAL METAL DECK TO FOUNDATION WALL DETAILS
SCALE: 3/4" = 1'-0"



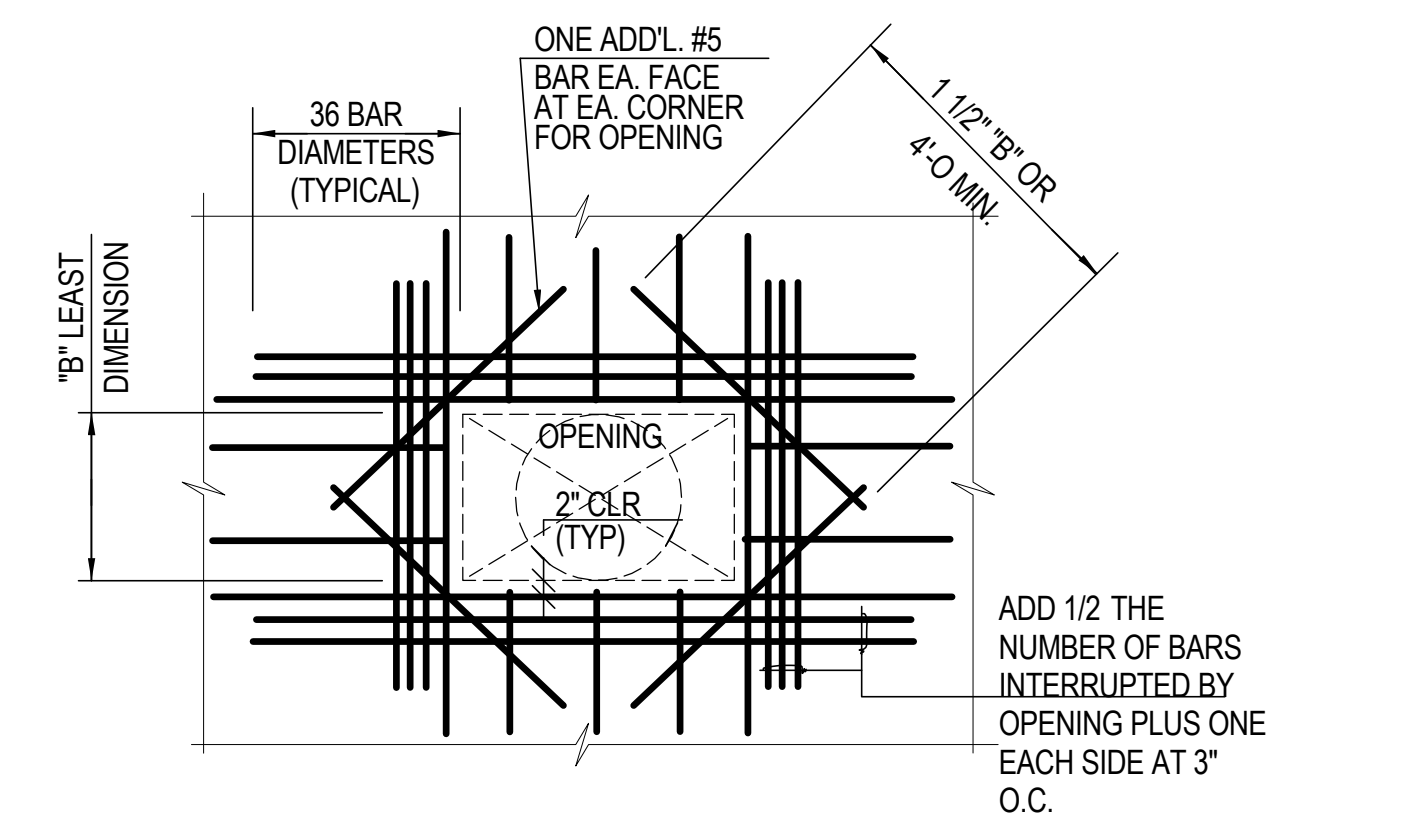
3 TYPICAL BEAM TO FOUNDATION WALL DETAIL
SCALE: 3/4" = 1'-0"



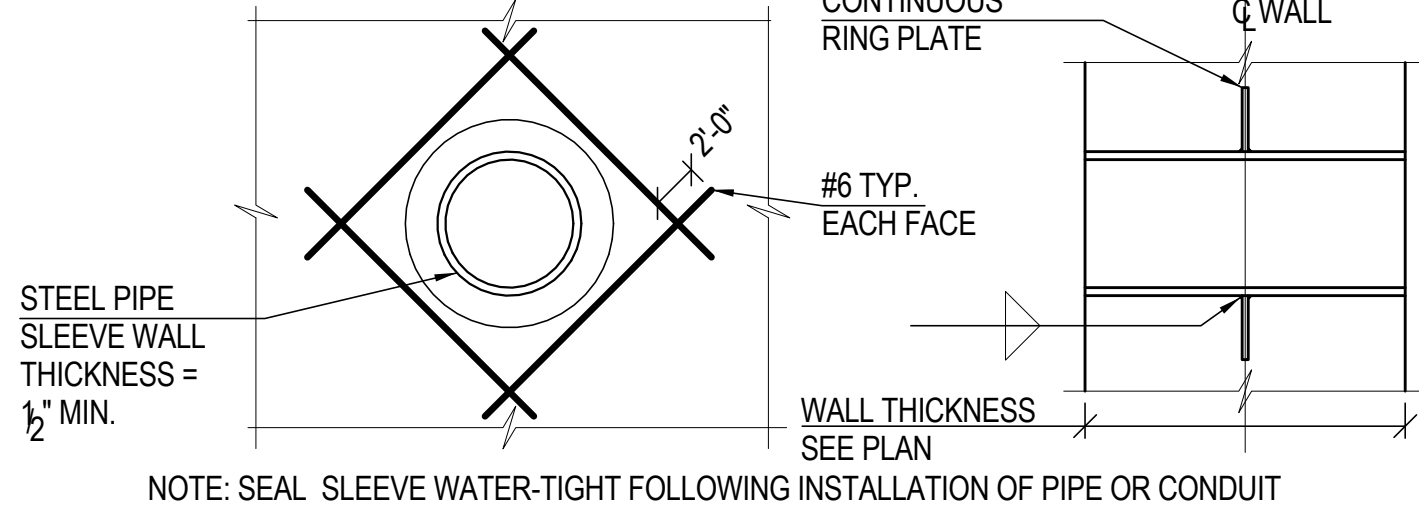
4 TYPICAL FOUNDATION WALL DETAIL AT TOP
SCALE: 3/4" = 1'-0"



5 TYPICAL FOUNDATION WALL DETAILS
SCALE: 3/4" = 1'-0"

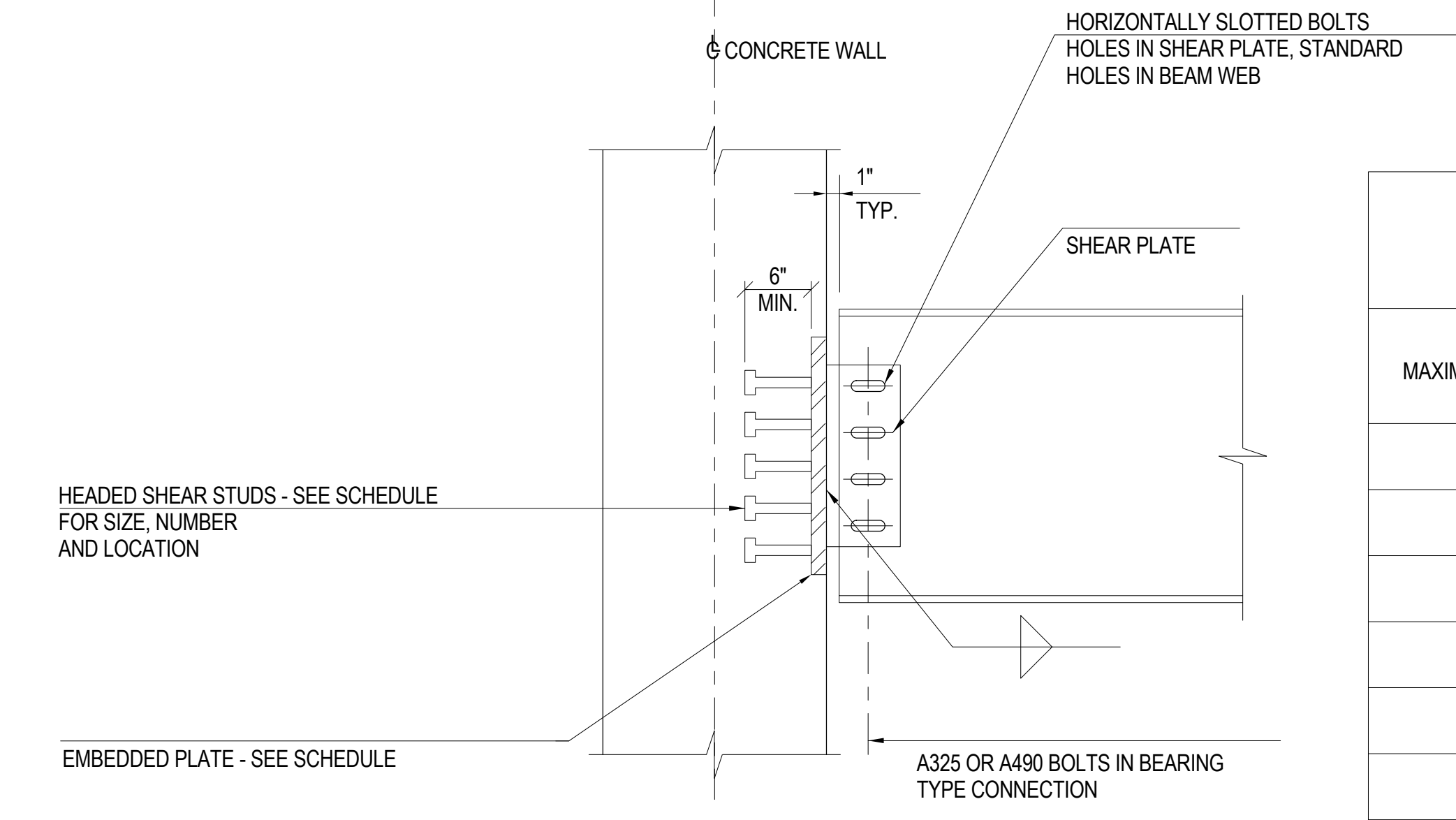


6A TYPICAL RECTANGULAR WALL OPENING



6B TYPICAL SLEEVE WALL OPENING (10" DIA. MAX.)

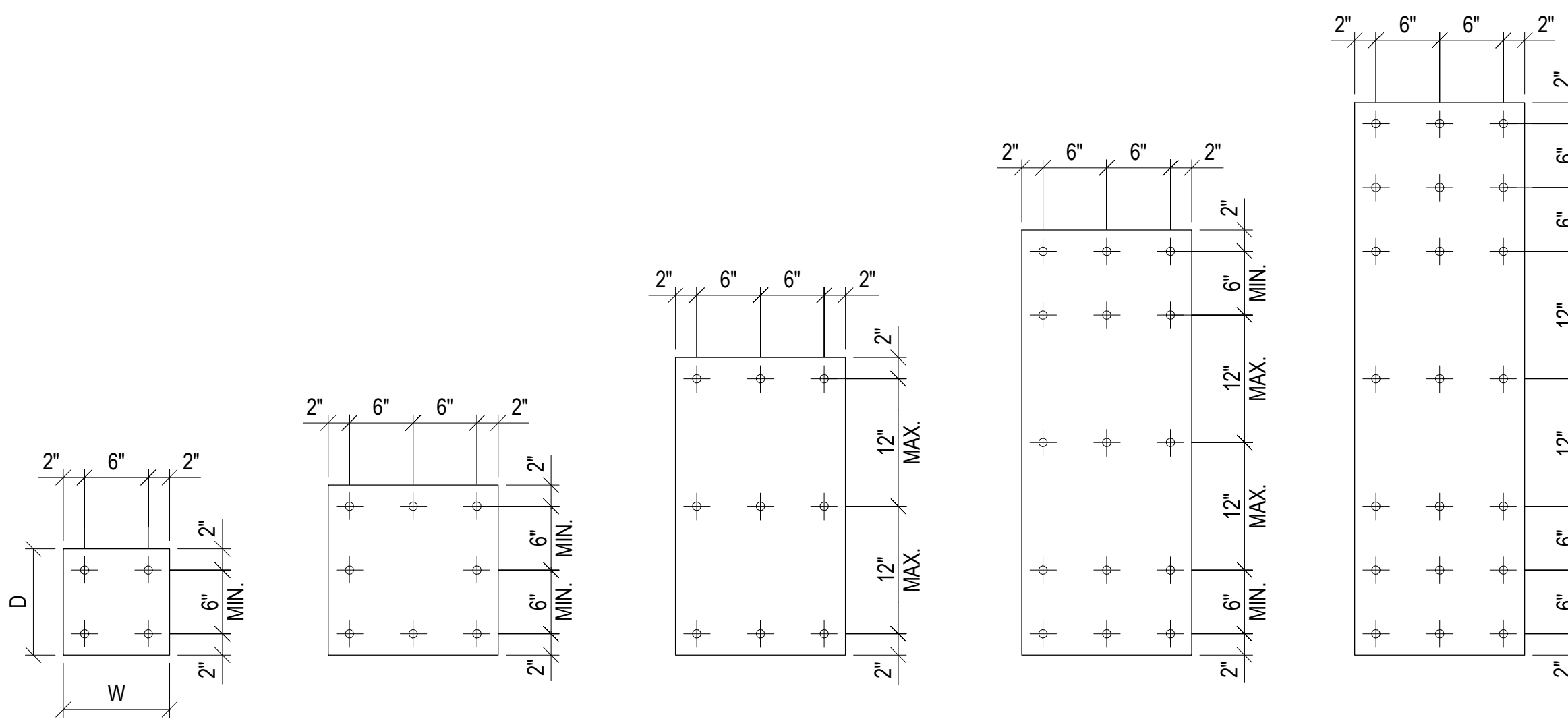
6 TYPICAL OPENING DETAILS
NOT TO SCALE



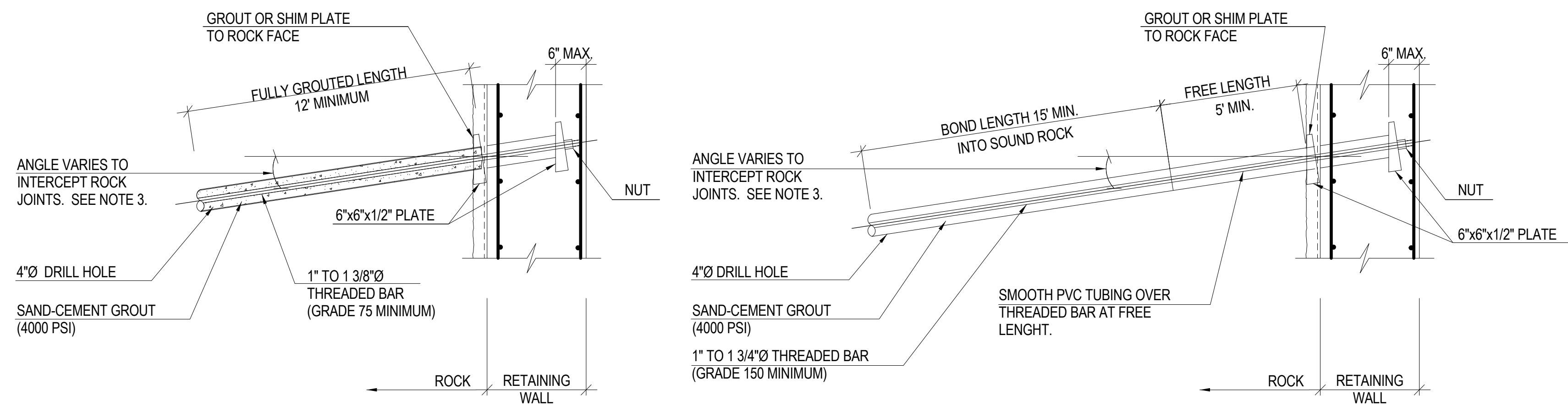
NOTE: WELDS, SHEAR PLATE AND BOLTS TO DEVELOP 100% OF SCHEDULED BEAM REACTION.

- NOTES:
1. BOLTS, WELDS AND ANGLES TO DEVELOP REACTIONS LISTED ON THE PLANS
 2. ALL SHEAR STUD CONNECTORS, ANGLES & WELDS SHALL MEET THE REQUIREMENTS OF THE AISC SPECIFICATION
 3. ALL SHEAR STUDS SHALL BE TYPE B ASTM A108
 4. ALL SHEAR STUD WELDS SHALL DEVELOP THE ULTIMATE STRENGTH OF THE STUD

| EMBEDDED PLATE SCHEDULE | | | | | F _y PLATE = 50ksi F _y STUDS = 60 ksi |
|-------------------------|-------------------------|-----------------------|---|----------------------------|---|
| MAXIMUM BEAM SIZE | MAXIMUM CAPACITY (kips) | NUMBER OF SHEAR STUDS | EMBEDDED PLATE SIZE T _x W _x D | MIN SHEAR PLATE DEPTH (in) | PLATE TYPE |
| W12 | | | | | |
| W14-W18 | | | | | |
| W21-W24 | | | | | |
| W27-W30 | | | | | |
| W33-W36 | | | | | |



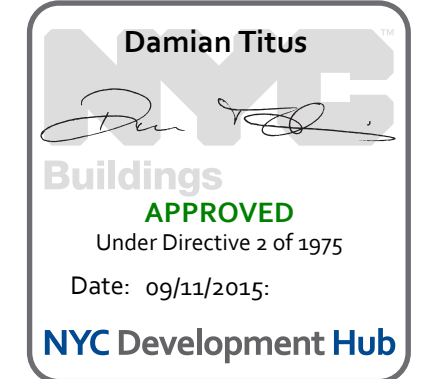
7 EMBEDDED PLATE DETAIL
NOT TO SCALE



NON - TENSIONED ROCK ANCHORS

- NOTES:
1. DETAILS TO BE CONFIRMED WITH MUESER RUTLEDGE CONSULTING ENGINEERS (MRCE).
 2. ANCHORS CAN BE ALSO USED FOR TEMPORARY SUPPORT OF EXCAVATION.
 3. DURING EXCAVATION, THE BOLT CAPACITY, ANGLE AND LENGTH SHOULD BE VERIFIED BY FOUNDATION CONTRACTOR BASED ON THE JOINTING PATTERN OBSERVED. SUPPLEMENTAL BOLTS MAY BE REQUIRED IF UNFAVORABLE JOINTING PATTERNS ARE ENCOUNTERED AND WHEN EXISTING BUILDING LOADS ARE SUPERIMPOSED.
 4. ROCK BOLT TO BE ANGLED DOWNWARD A MINIMUM OF 5° FROM HORIZONTAL. BOLTS WITHIN 5' OF THE TOP OF BEDROCK SHALL BE ANGLED DOWNWARD A MINIMUM OF 30° FROM HORIZONTAL TO ENGAGE AN ADEQUATE BLOCK OF BEDROCK. BOLT ANGLE WILL VARY DEPENDING ON THE DIP AND DIRECTION OF THE ROCK JOINTS.
 5. ALL BOLTS SHOULD BE GALVANIZED FOR CORROSION PROTECTION.
 6. ANCHOR NUTS AND COUPLERS SHALL BE CAPABLE OF DEVELOPING 100% OF THE ULTIMATE STRENGTH OF THREADED BAR.
 7. POST-TENSIONED ANCHORS SHALL BE IN CONFORMANCE WITH PTI (POST TENSIONING INSTITUTE) LATEST RECOMMENDATIONS ON ROCK AND SOIL ANCHORS.
 8. POST-TENSIONED ANCHOR LOCK-OFF LOAD SHOULD NOT EXCEED 70% OF THE GUARANTEED ULTIMATE STRENGTH OF THE THREADED BAR.

8 TYPICAL PERMANENT ROCK ANCHOR DETAIL
NOT TO SCALE



MANHATTAN WEST: NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

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680 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:

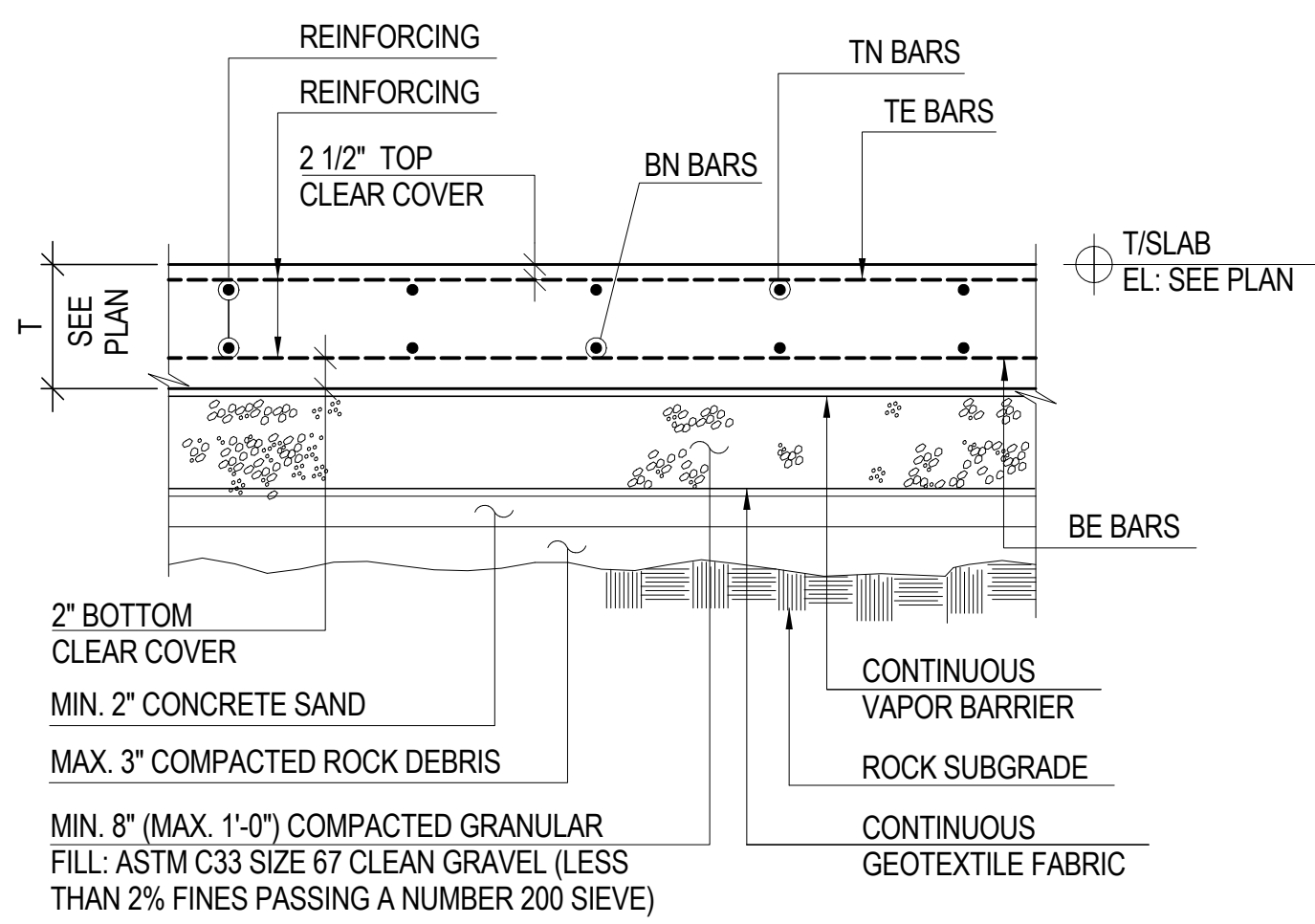
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Project No.: 211157
Date: 20 JUN 2014
Scale: As indicated
File No.: S-318

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File No.: S-318

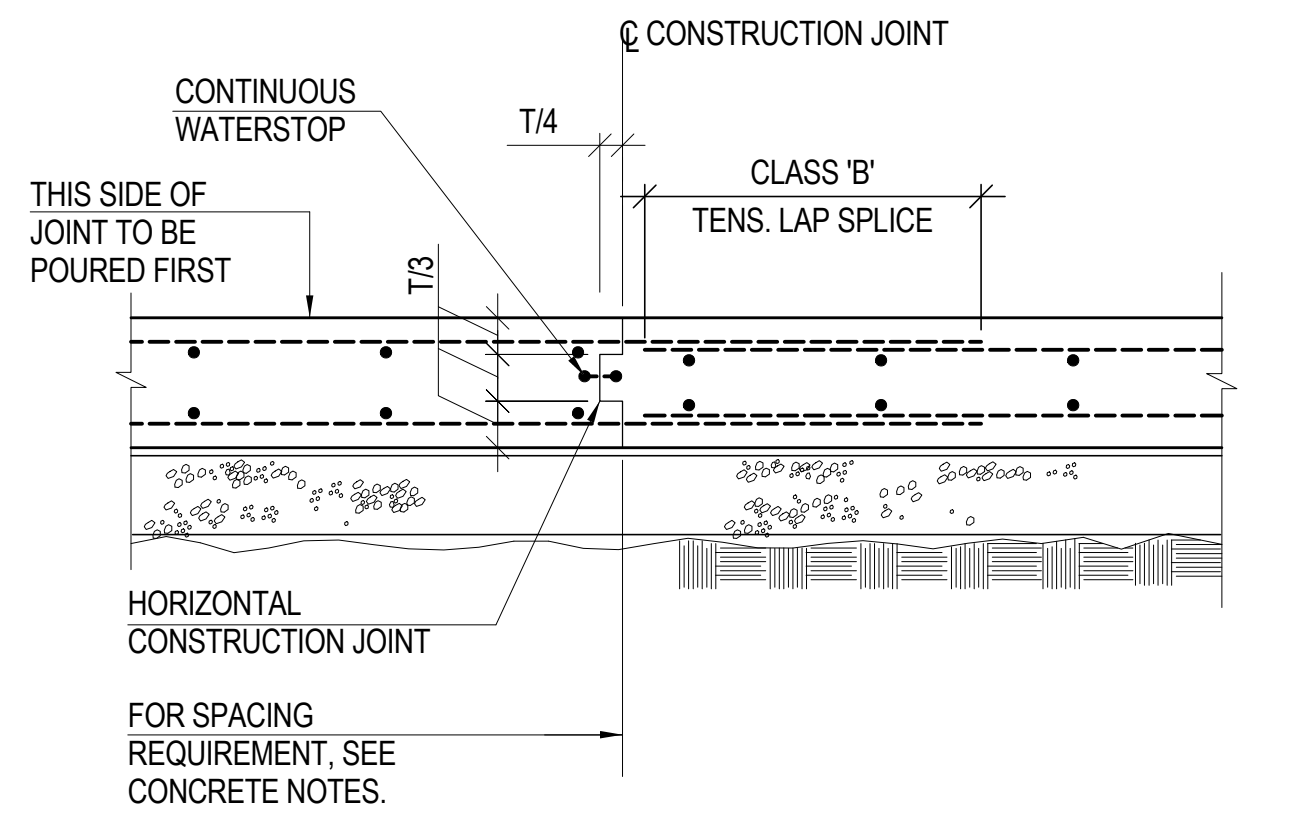
B-SCAN Sheet No.: S-318.00
Sheet No.: S-318
Page No.: 45 of 90



NOTE: REFER TO THE DRAWING U-001 FOR DETAILS OF THE UNDERDRAIN SYSTEM.

1 TYPICAL SLAB-ON-GRADE DETAIL - REBAR

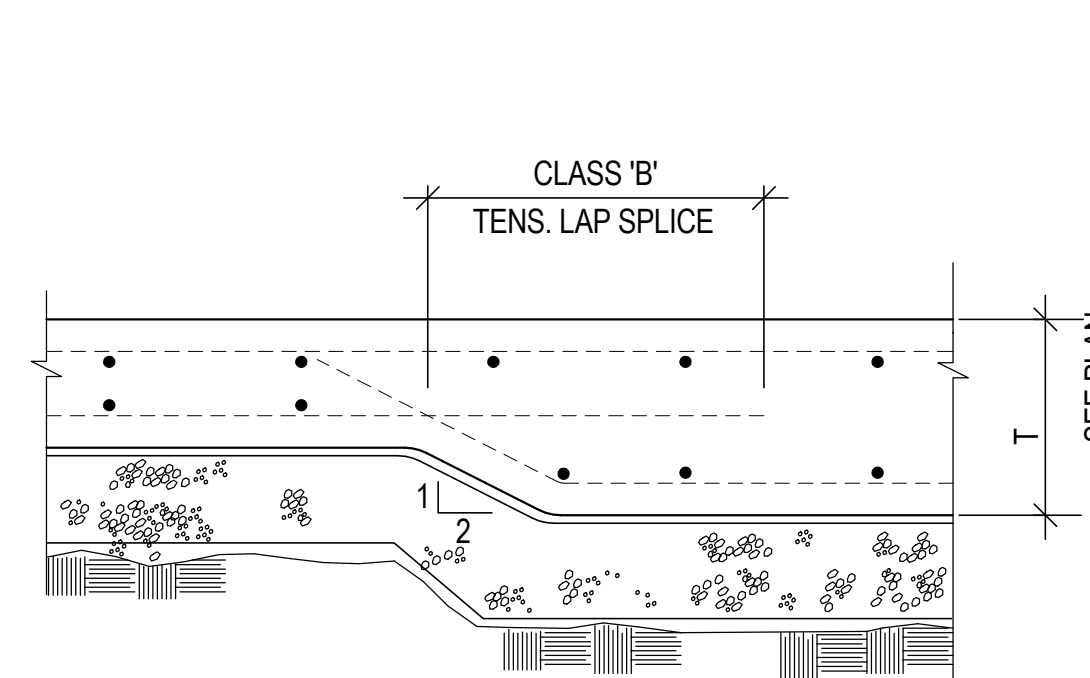
NOT TO SCALE



NOTES: 1. REFER TO DETAIL 1 FOR ADDITIONAL INFORMATION NOT INDICATED.
2. REFER TO THE DRAWING U-001 FOR DETAILS OF THE UNDERDRAIN SYSTEM.

2 TYPICAL SLAB-ON-GRADE CONSTRUCTION JOINT - REBAR

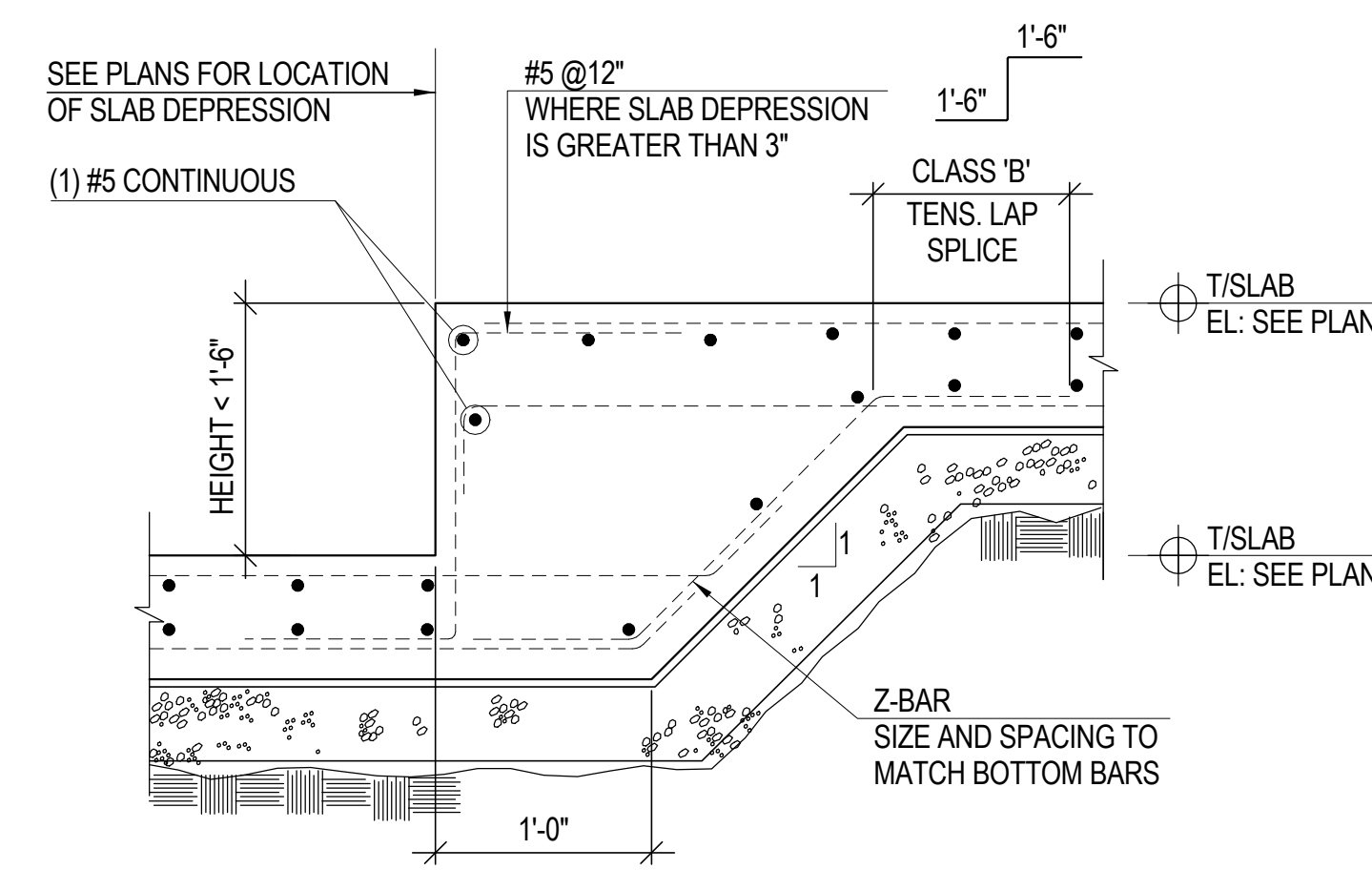
NOT TO SCALE



NOTES: 1. REFER TO DETAIL 1 FOR ADDITIONAL INFORMATION NOT INDICATED.
2. REFER TO THE DRAWING U-001 FOR DETAILS OF THE UNDERDRAIN SYSTEM.

3 TYPICAL SLAB-ON-GRADE CHANGE IN THICKNESS - REBAR

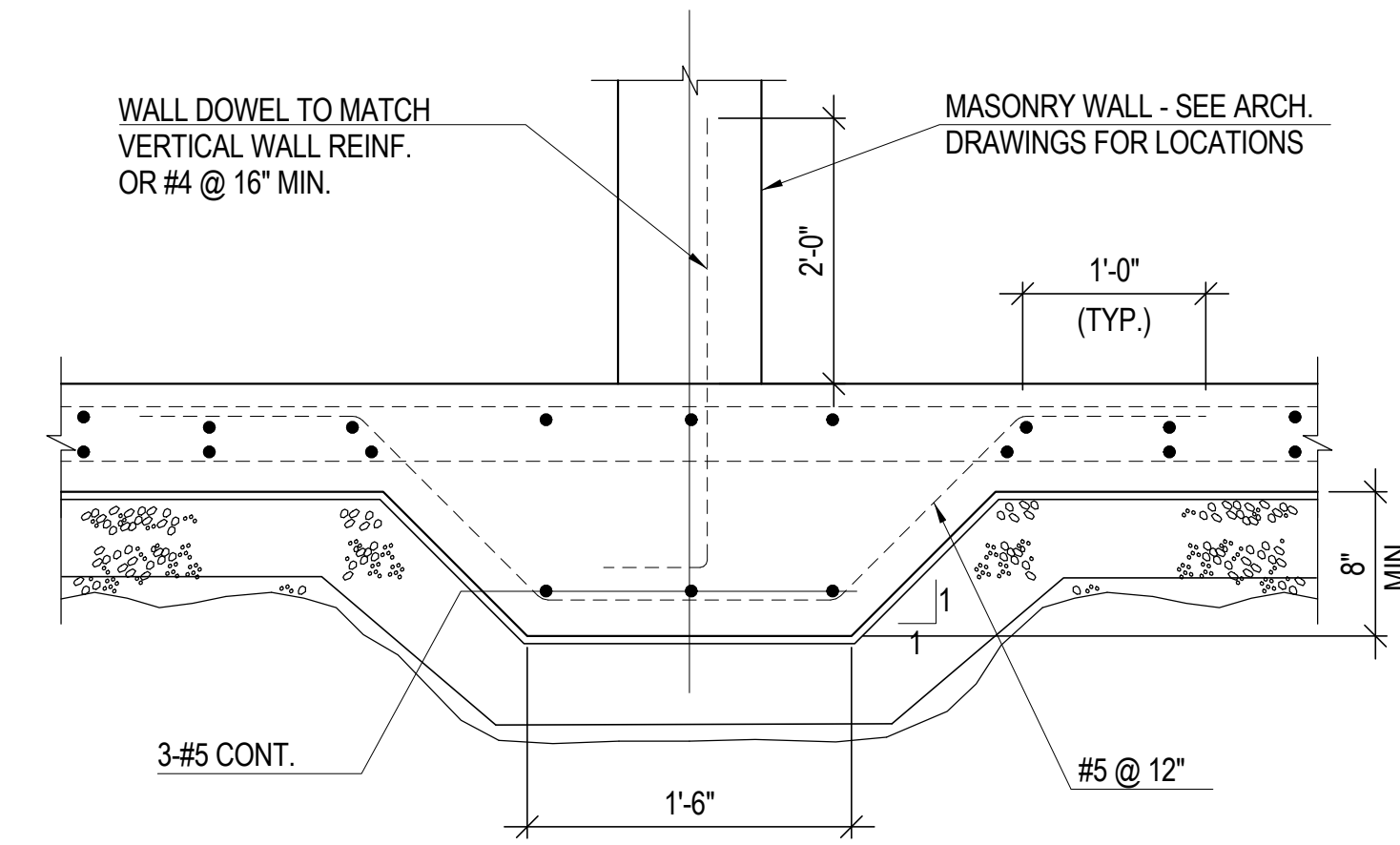
NOT TO SCALE



NOTES: 1. REFER TO DETAIL 1 FOR ADDITIONAL INFORMATION NOT INDICATED.
2. REFER TO THE DRAWING U-001 FOR DETAILS OF THE UNDERDRAIN SYSTEM.

4 TYPICAL SLAB-ON-GRADE DEPRESSION (HEIGHT LESS THAN 1'-6")-REBAR

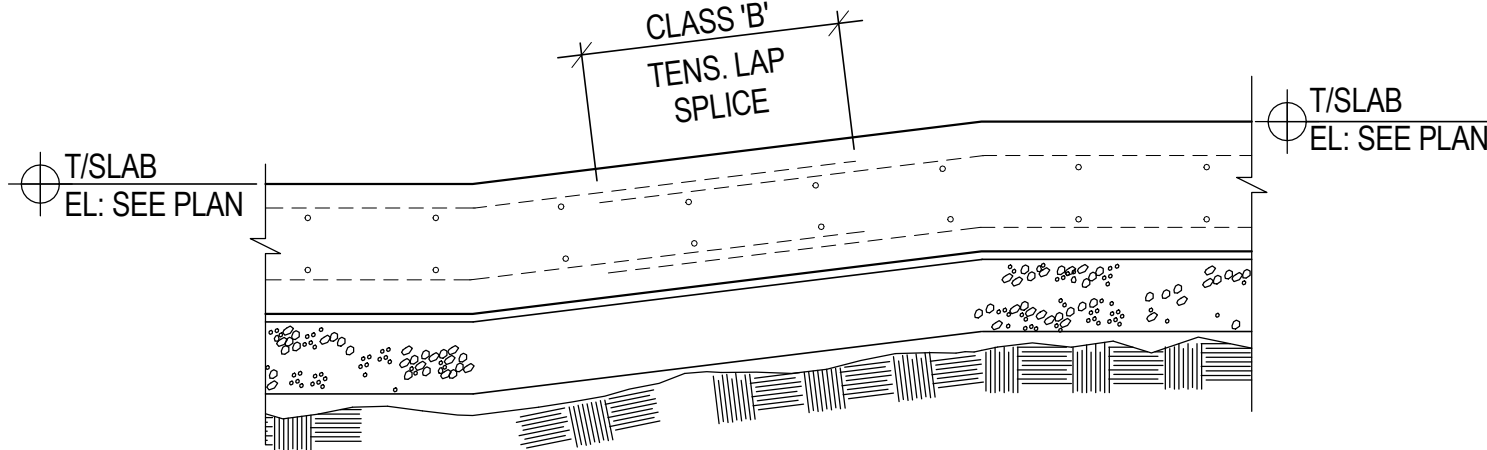
NOT TO SCALE



NOTES: 1. REFER TO DETAIL 1 FOR ADDITIONAL INFORMATION NOT INDICATED.
2. REFER TO THE DRAWING U-001 FOR DETAILS OF THE UNDERDRAIN SYSTEM.

5 TYPICAL SLAB-ON-GRADE AT MASONRY WALL - REBAR

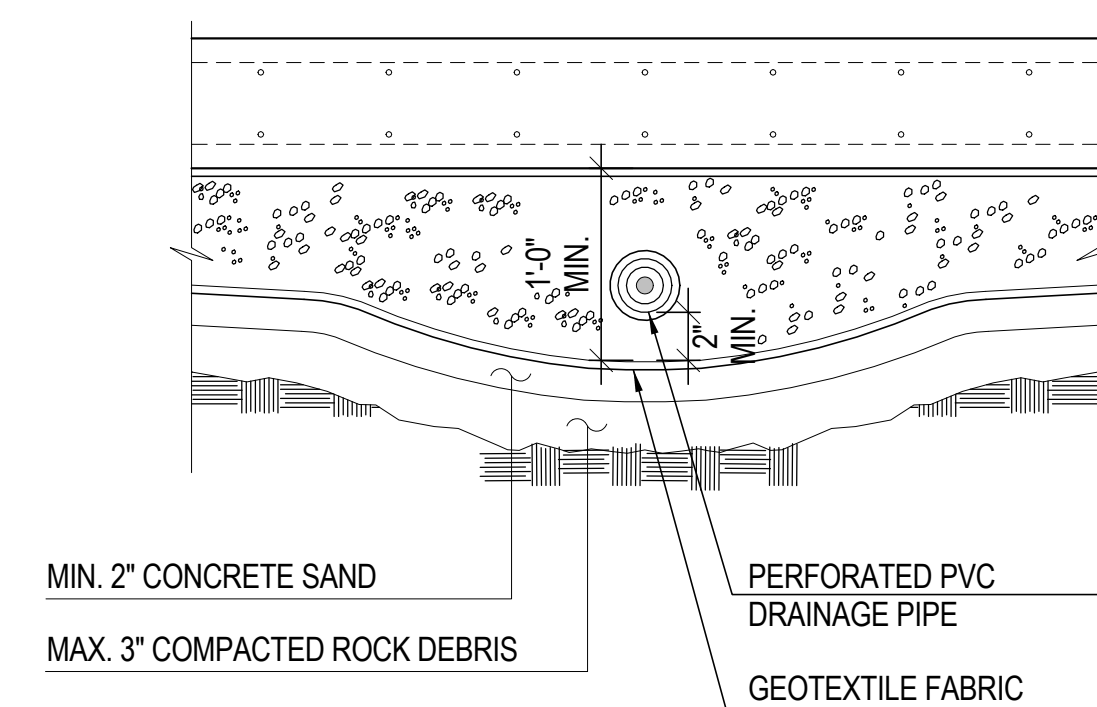
NOT TO SCALE



NOTES: 1. REFER TO DETAIL 1 FOR ADDITIONAL INFORMATION NOT INDICATED.
2. REFER TO THE DRAWING U-001 FOR DETAILS OF THE UNDERDRAIN SYSTEM.

6 TYPICAL SLAB-ON-GRADE RAMP DETAIL - REBAR

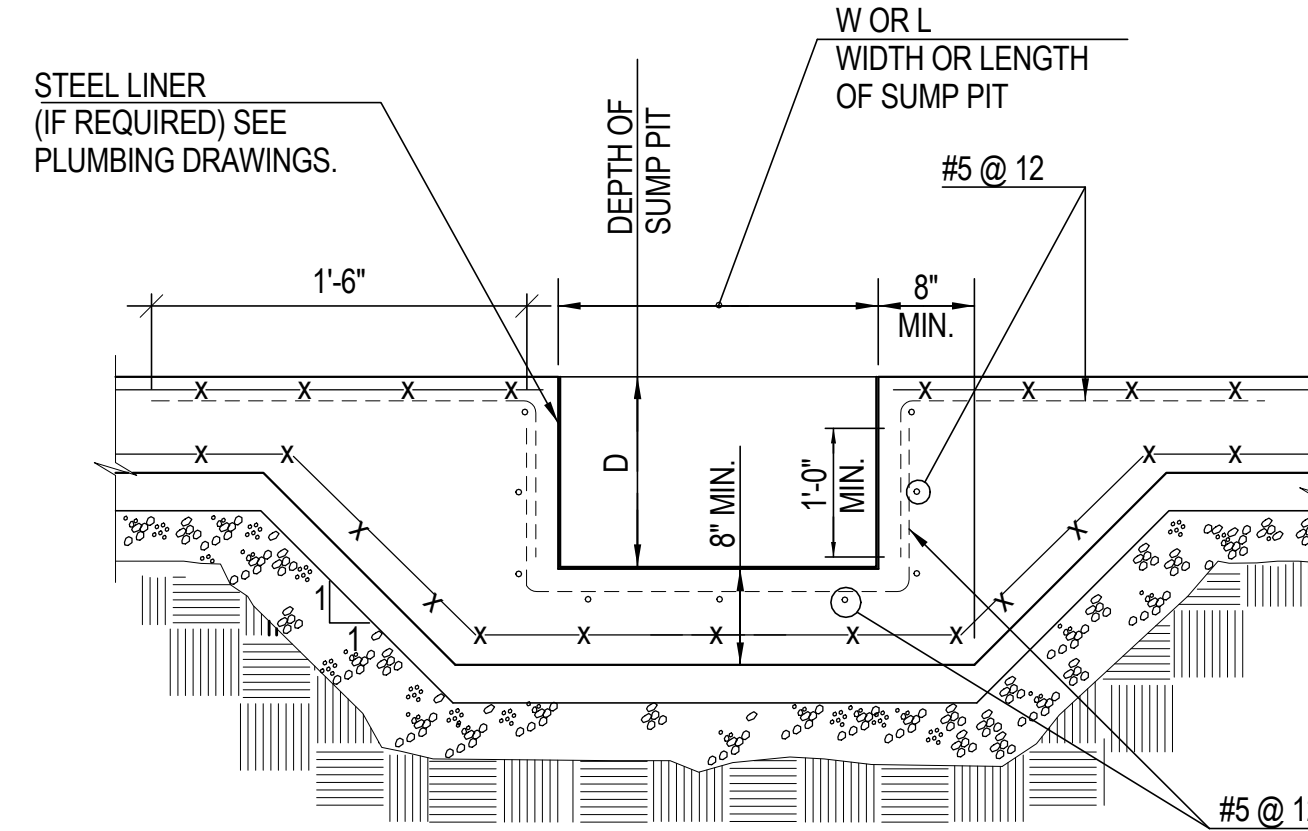
NOT TO SCALE



NOTES: 1. REFER TO DETAIL 1 FOR ADDITIONAL INFORMATION NOT INDICATED.
2. REFER TO PLUMBING DRAWINGS FOR LOCATIONS OF UNDER DRAIN CONNECTIONS TO SUMP PUMPS.
3. REFER TO THE DRAWING U-001 FOR DETAILS OF THE UNDERDRAIN SYSTEM.

7 TYPICAL SLAB-ON-GRADE UNDERDRAIN DETAIL - REBAR

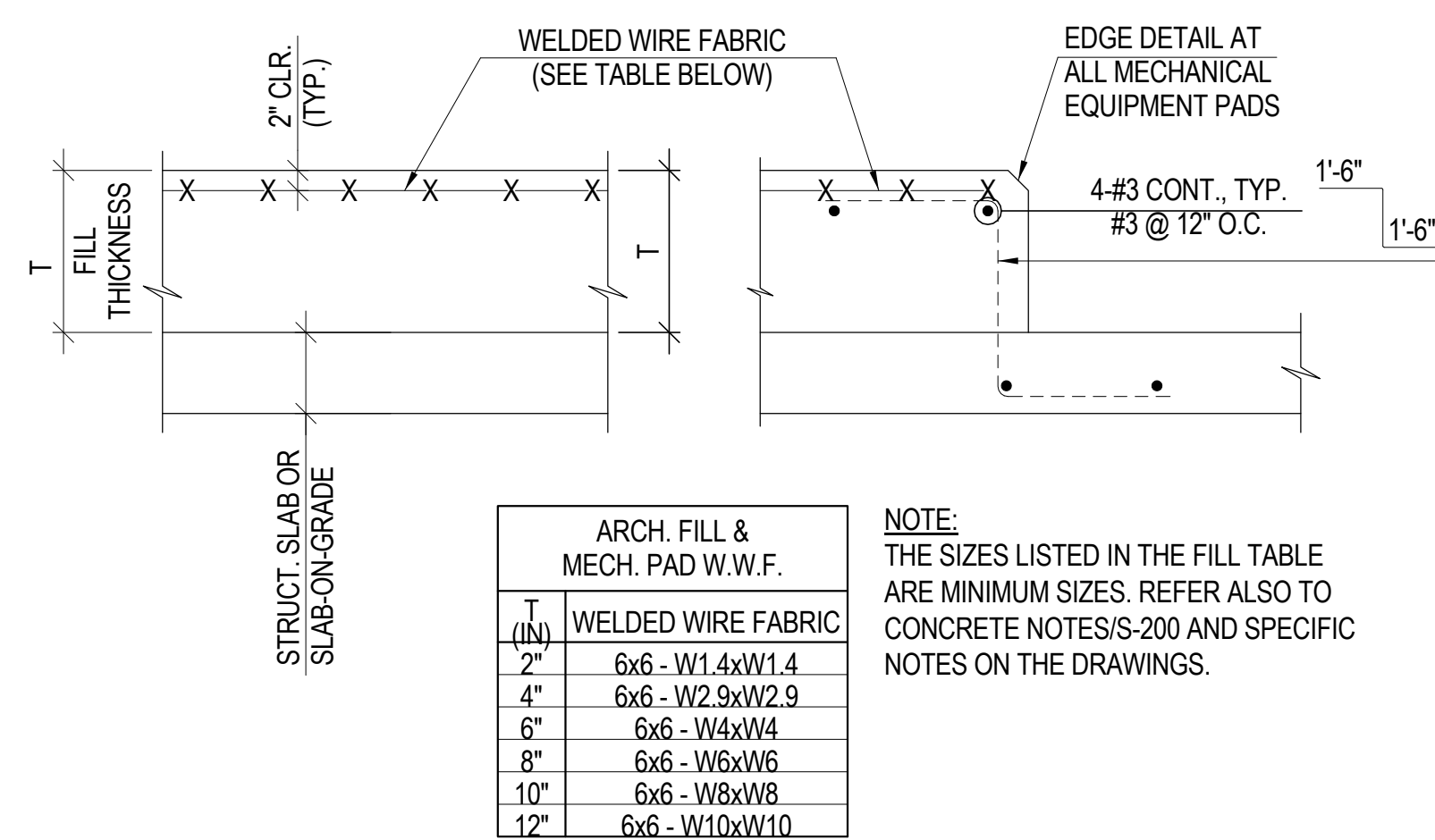
NOT TO SCALE



NOTES: 1. REFER TO DETAIL 2 FOR ADDITIONAL INFORMATION NOT INDICATED.
2. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION.
3. REFER TO THE DRAWING U-001 FOR DETAILS OF THE UNDERDRAIN SYSTEM.

8 TYPICAL SLAB-ON-GRADE TRENCH DETAIL - WWF

NOT TO SCALE



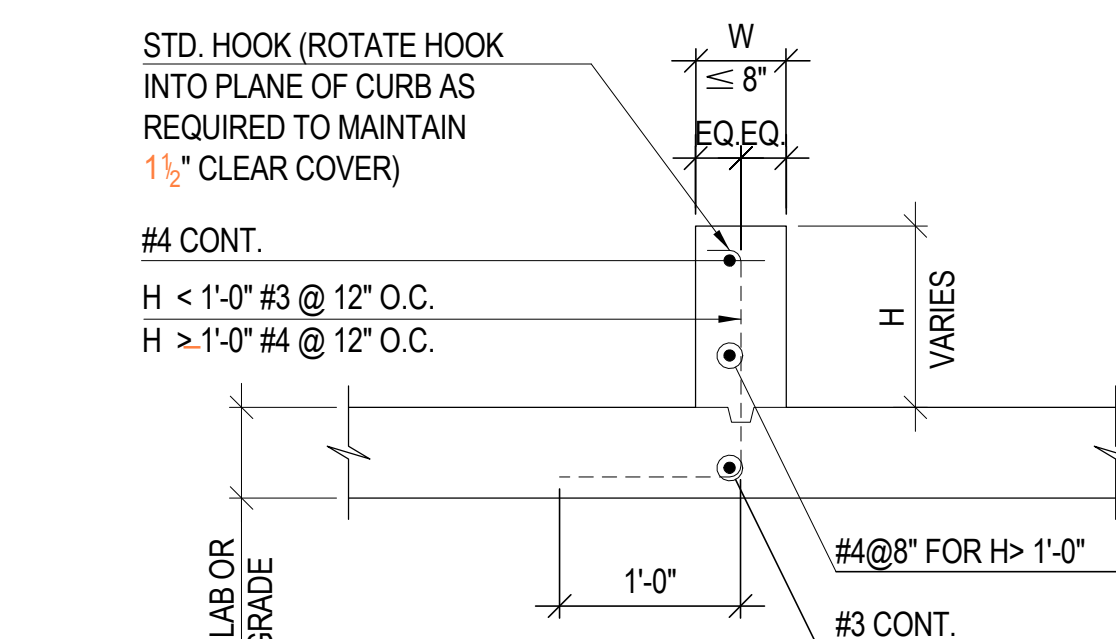
| ARCH. FILL & MECH. PAD W.W.F. |
|-------------------------------|
| 1'-0" 6x6 - W1.4xW1.4 |
| 2'-0" 6x6 - W2.9xW2.9 |
| 4'-0" 6x6 - W4xW4 |
| 6'-0" 6x6 - W6xW6 |
| 8'-0" 6x6 - W8xW8 |
| 10'-0" 6x6 - W8xW8 |
| 12'-0" 6x6 - W10xW10 |

NOTE: THE SIZES LISTED IN THE FILL TABLE ARE MINIMUM SIZES. REFER ALSO TO CONCRETE NOTES S-200 AND SPECIFIC NOTES ON THE DRAWINGS.

NOTE: 1. SEE ARCH., MECH., ELEC., AND PLUMBING DRAWINGS FOR PAD SIZES AND LOCATIONS.

9 TYPICAL CONCRETE PAD/ ARCH. FILL DETAIL - WWF

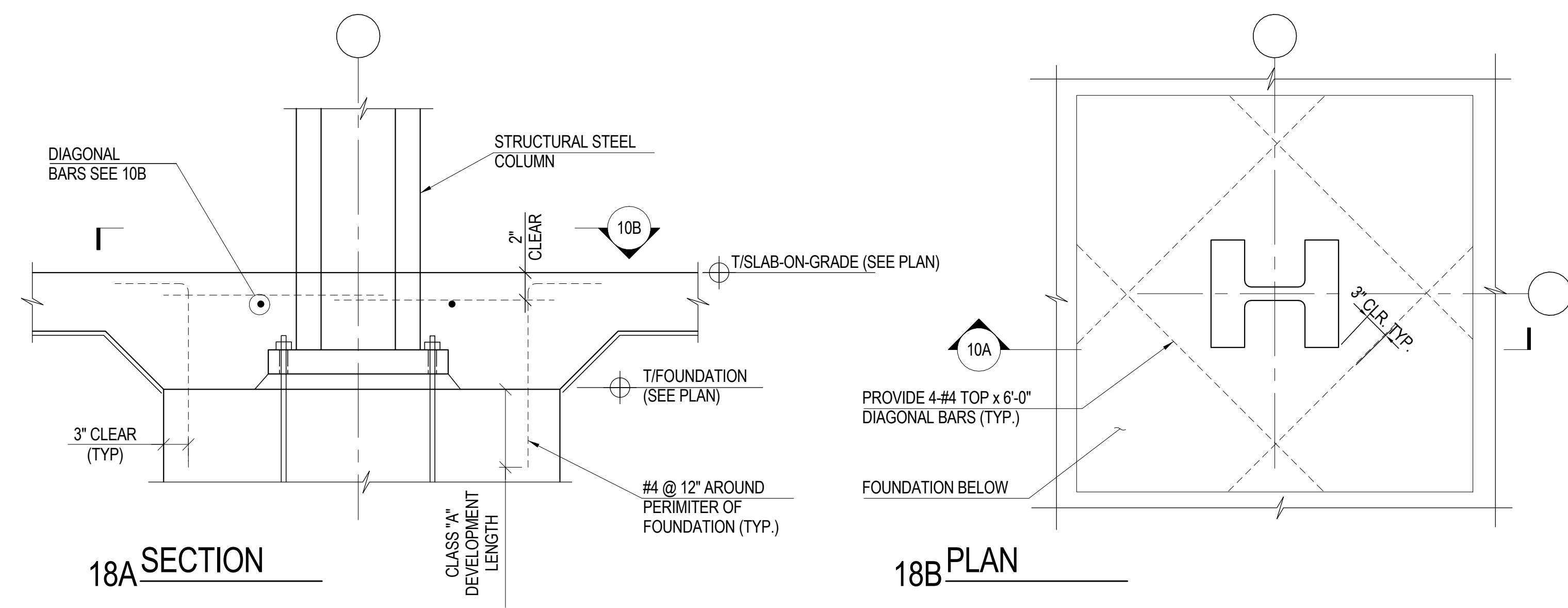
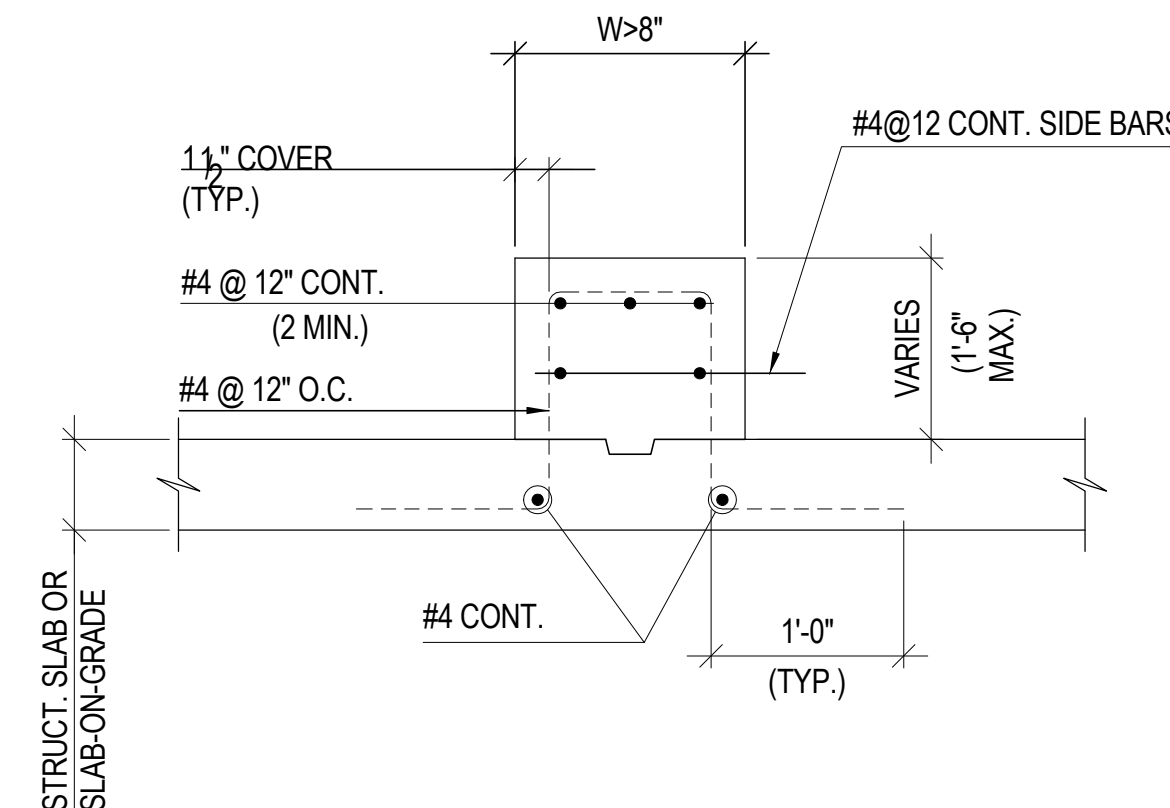
1" = 1'-0"



NOTE: 1. SEE ARCH., MECH., ELEC., AND PLUMBING DRAWINGS FOR CURB SIZE AND LOCATION.

10 TYPICAL CURB DETAILS - WWF

1" = 1'-0"



11 TYPICAL ADDITIONAL SLAB REINFORCEMENT AT COLUMN

1" = 1'-0"



Manhattan West: North Tower
375 Ninth Avenue, New York, NY 10001
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680 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:
33RD STREET
DYER AVENUE
31ST STREET
9TH AVENUE

Seal & Signature:
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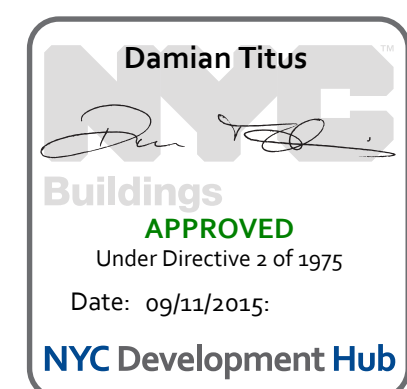
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Date: 20 JUN 2014
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Sheet No.: S-325
File No.: S-325

B-SCAN Sheet No.: S-325.00
Sheet No.: S-325
Page No.: 46 of 90

6 20 JUN 2014 ISSUED FOR FOUNDATION BID
5 20 JUN 2014 ISSUED FOR FOUNDATION PERMIT
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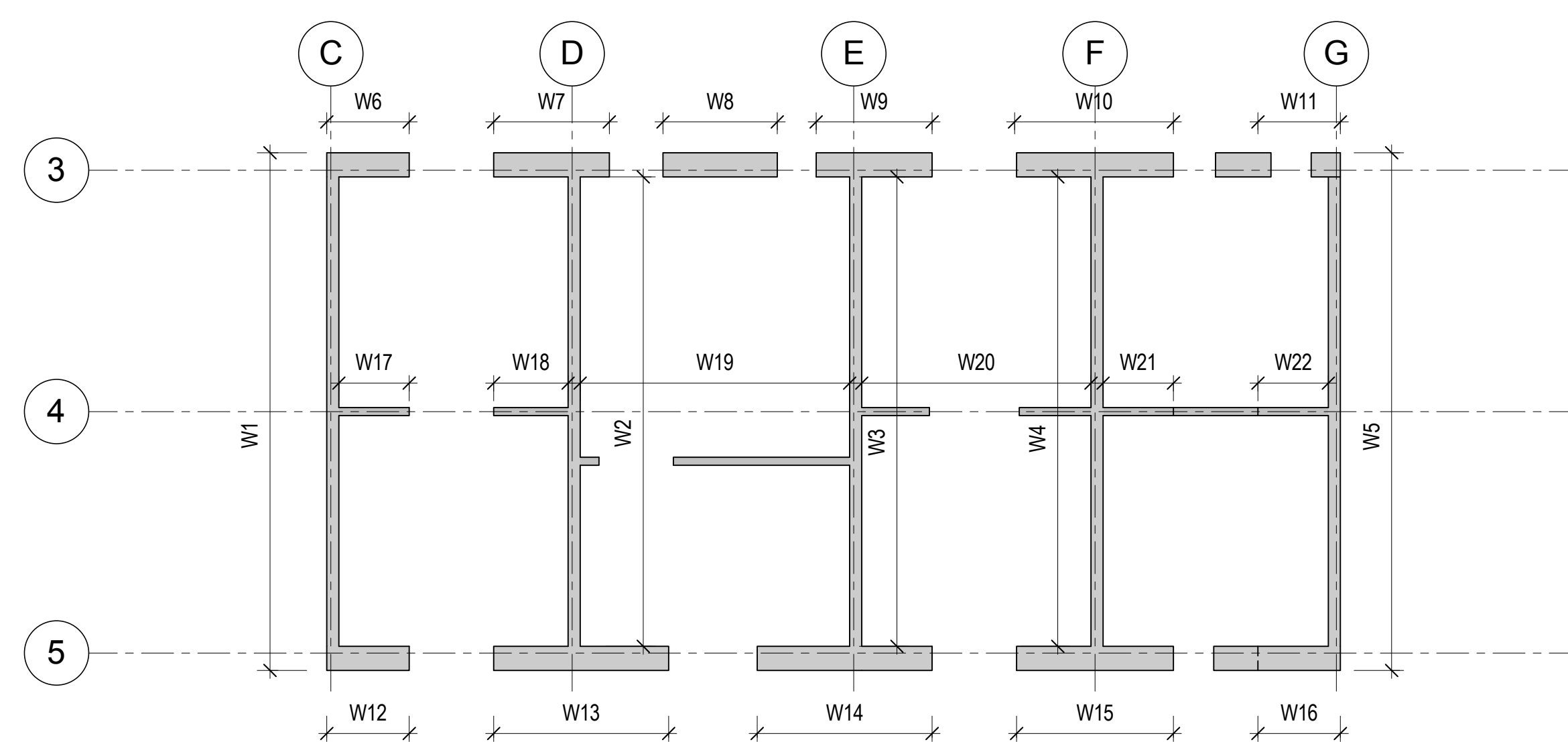
No. Date Description
Sheet Name: SLAB-ON-GRADE SECTIONS & DETAILS



REINFORCED CONCRETE CORE WALL SCHEDULE FOR NORTH TOWER

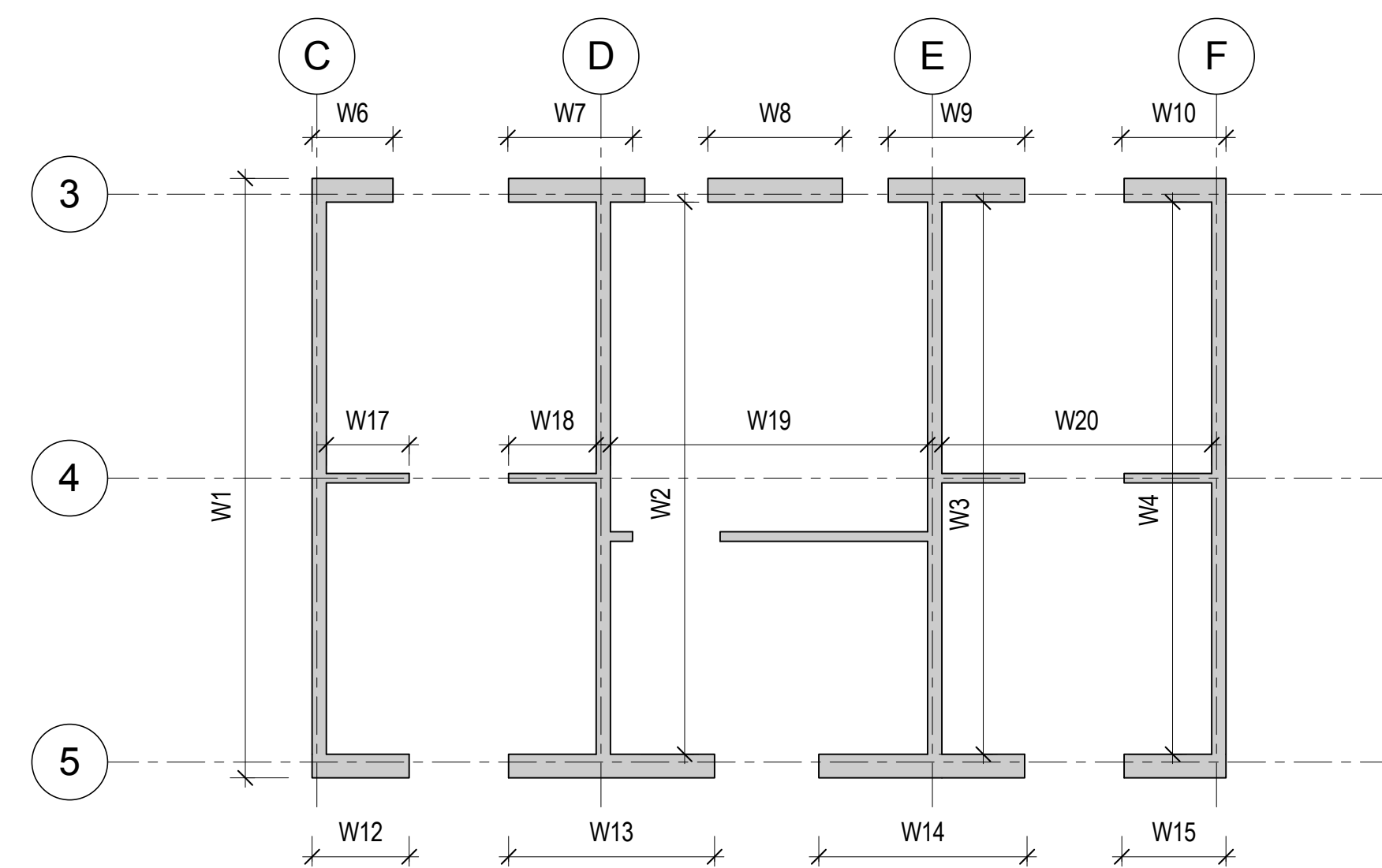
CONCRETE: AS NOTED
REINFORCEMENT: ASTM A615 GR. 60

| LEVEL | WALL MARK | CONCRETE (PSI) | WALL 1 WALL THICKNESS TW (IN) | WALL 2 WALL THICKNESS TW (IN) | WALL 3 WALL THICKNESS TW (IN) | WALL 4 WALL THICKNESS TW (IN) | WALL 5 WALL THICKNESS TW (IN) | WALL 6 WALL THICKNESS TW (IN) | WALL 7 WALL THICKNESS TW (IN) | WALL 8 WALL THICKNESS TW (IN) | WALL 9 WALL THICKNESS TW (IN) | WALL 10 WALL THICKNESS TW (IN) | WALL 11 WALL THICKNESS TW (IN) | WALL 12 WALL THICKNESS TW (IN) | WALL 13 WALL THICKNESS TW (IN) | WALL 14 WALL THICKNESS TW (IN) | WALL 15 WALL THICKNESS TW (IN) | WALL 16 WALL THICKNESS TW (IN) | WALL 17 WALL THICKNESS TW (IN) | WALL 18 WALL THICKNESS TW (IN) | WALL 19 WALL THICKNESS TW (IN) | WALL 20 WALL THICKNESS TW (IN) | WALL 21 WALL THICKNESS TW (IN) | WALL 22 WALL THICKNESS TW (IN) | REINFORCEMENT |
|-----------------|-----------|----------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------|
| ROOF LEVEL | | 8000 | - | 18 | 18 | - | - | - | 24 | 24 | 24 | 24 | - | - | - | - | - | - | - | 12 | 12 | - | 12 | - | SEE 1/S-354 |
| LEVEL 70 - ROOF | | 8000 | - | 18 | 18 | 18 | - | - | 24 | 24 | 24 | 24 | - | - | - | 24 | 24 | 24 | - | - | 12 | 12 | 12 | - | SEE 2/S-353 |
| LEVEL 69 - 70 | | 8000 | - | 18 | 18 | 18 | - | - | 24 | 24 | 24 | 24 | - | - | - | 24 | 24 | 24 | - | - | 12 | 12 | 12 | - | SEE 1/S-353 |
| LEVEL 68 - 69 | | 8000 | - | 18 | 18 | 18 | - | - | 24 | 24 | 24 | 24 | - | - | - | 24 | 24 | 24 | - | - | 12 | 12 | 12 | - | SEE 2/S-352 |
| LEVEL 63 - 68 | | 8000 | - | 18 | 18 | 18 | - | - | 24 | 24 | 24 | 24 | - | - | - | 24 | 24 | 24 | - | - | 12 | 12 | 12 | - | SEE 1/S-352 |
| LEVEL 58 - 63 | | 8000 | - | 18 | 18 | 18 | - | - | 24 | 24 | 24 | 24 | - | - | - | 24 | 24 | 24 | - | - | 12 | 12 | 12 | - | SEE 2/S-351 |
| LEVEL 53 - 58 | | 8000 | - | 18 | 18 | 18 | - | - | 24 | 24 | 24 | 24 | - | - | - | 24 | 24 | 24 | - | - | 12 | 12 | 12 | - | SEE 1/S-351 |
| LEVEL 47 - 53 | | 8000 | 18 | 18 | 18 | 18 | - | 30 | 30 | 30 | 30 | 30 | - | 30 | 30 | 30 | 30 | 30 | - | 12 | 12 | 12 | 12 | - | SEE 2/S-350 |
| LEVEL 42 - 47 | | 8000 | 18 | 18 | 18 | 18 | - | 30 | 30 | 30 | 30 | 30 | - | 30 | 30 | 30 | 30 | 30 | - | 12 | 12 | 12 | 12 | - | SEE 1/S-350 |
| LEVEL 36 - 42 | | 8000 | 18 | 18 | 18 | 18 | - | 30 | 30 | 30 | 30 | 30 | - | 30 | 30 | 30 | 30 | 30 | - | 12 | 12 | 12 | 12 | - | SEE 2/S-349 |
| LEVEL 31 - 36 | | 8000 | 18 | 18 | 18 | 18 | - | 30 | 30 | 30 | 30 | 30 | - | 30 | 30 | 30 | 30 | 30 | - | 12 | 12 | 12 | 12 | - | SEE 1/S-349 |
| LEVEL 28 - 31 | | 8000 | 18 | 18 | 18 | 18 | 18 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 2/S-348 |
| LEVEL 26 - 28 | | 8000 | 18 | 18 | 18 | 18 | 18 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 1/S-348 |
| LEVEL 16 - 26 | | 8000 | 18 | 18 | 18 | 18 | 18 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 2/S-347 |
| LEVEL 11 - 16 | | 10000 | 24 | 24 | 24 | 24 | 24 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 48 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 1/S-347 |
| LEVEL 6 - 11 | | 10000 | 24 | 24 | 24 | 24 | 24 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 2/S-346 |
| LEVEL 5 - 6 | | 10000 | 39 | 39 | 39 | 39 | 39 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 1/S-346 |
| LEVEL 4 - 5 | | 10000 | 39 | 39 | 39 | 39 | 39 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 2/S-345 |
| LEVEL 3 - 4 | | 10000 | 39 | 39 | 39 | 39 | 39 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 1/S-345 |
| LEVEL 2 - 3 | | 10000 | 39 | 39 | 39 | 39 | 39 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 2/S-344 |
| LEVEL 1 - 2 | | 10000 | 39 | 39 | 39 | 39 | 39 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 1/S-344 |
| LEVEL B - 1 | | 10000 | 39 | 39 | 39 | 39 | 39 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 2/S-343 |
| LEVEL B1 - B | | 10000 | 39 | 39 | 39 | 39 | 39 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 1/S-343 |
| LEVEL B2 - B1 | | 10000 | 39 | 39 | 39 | 39 | 39 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 2/S-342 |
| LEVEL B3 - B2 | | 10000 | 39 | 39 | 39 | 39 | 39 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 12 | 12 | 12 | 12 | 12 | 12 | SEE 1/S-342 |
| DOWELS | | - | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | #8 @ 6 | |



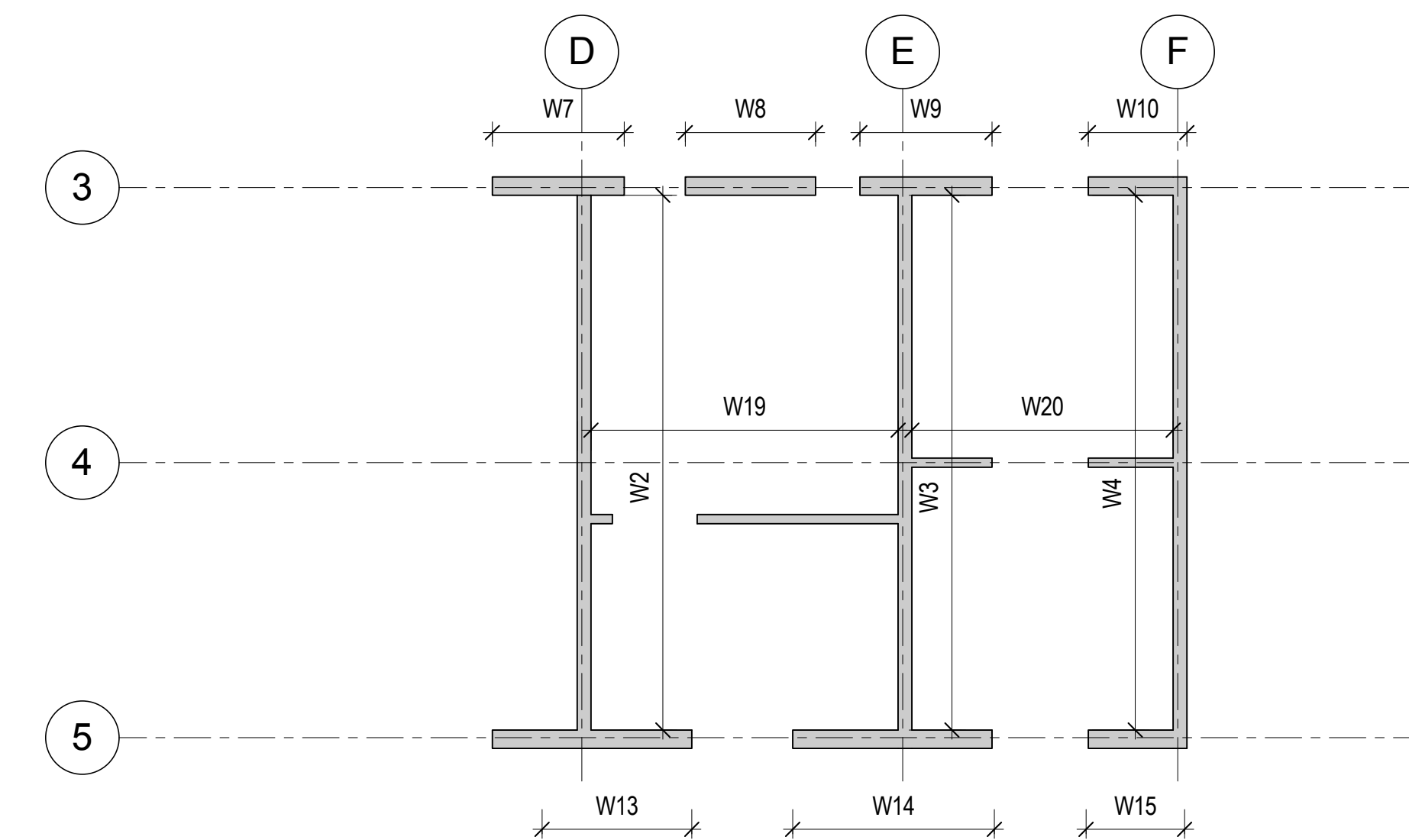
A KEY PLAN A - UP TO LEVEL 31

1/16" = 1'-0"



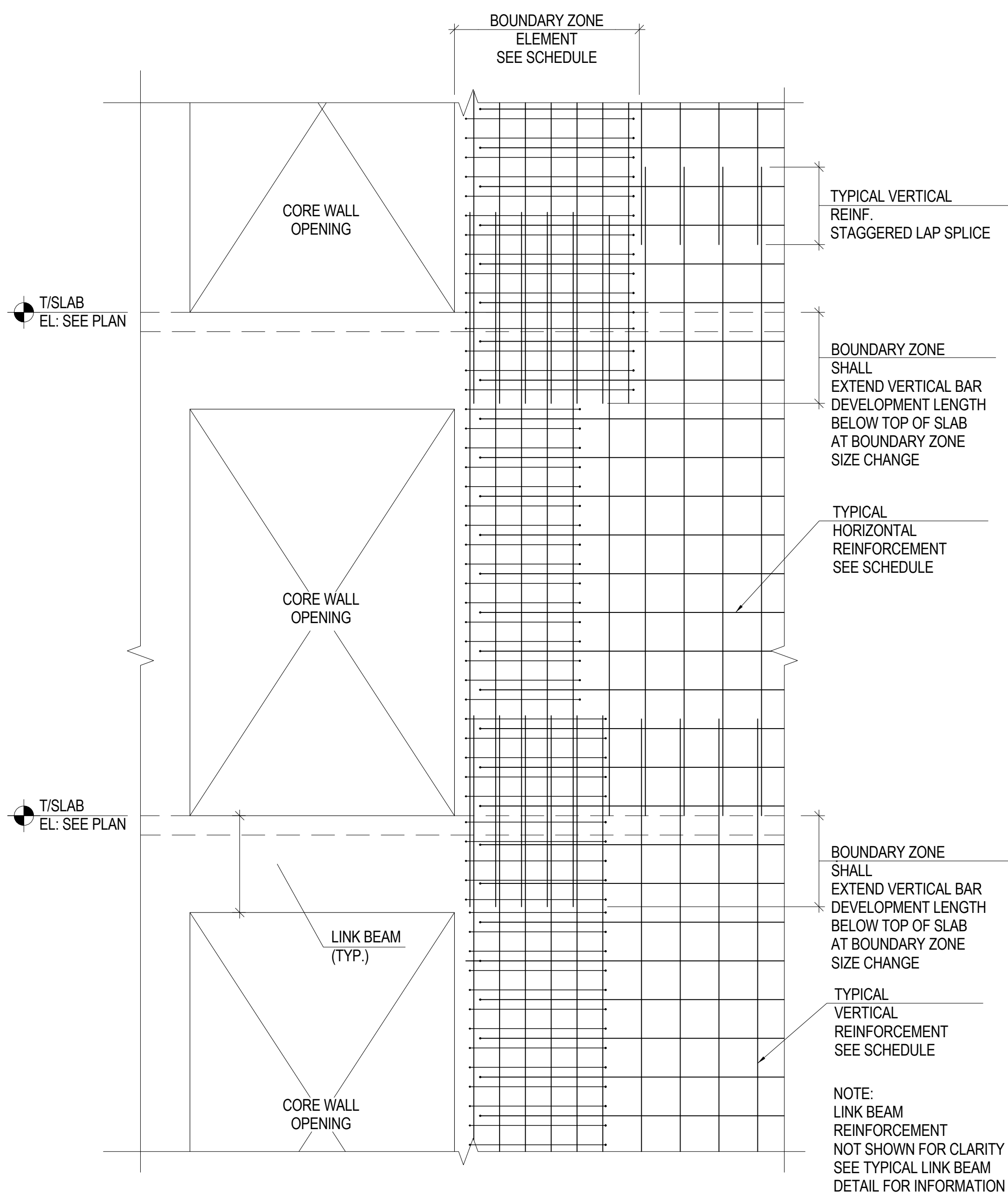
B KEY PLAN B - LEVEL 31 TO LEVEL 53

1/16" = 1'-0"



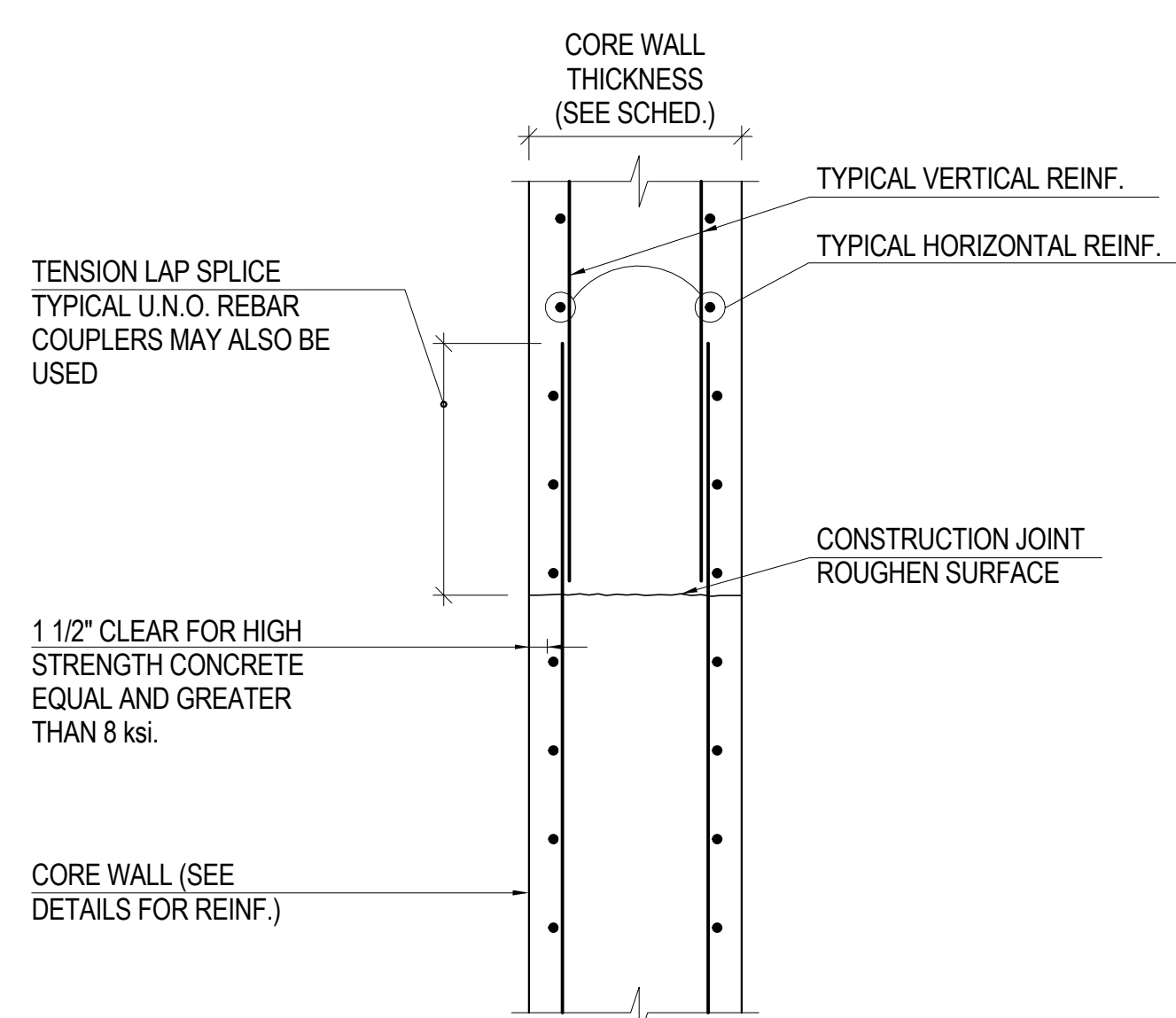
C KEY PLAN C - LEVEL 53 TO ROOF

1/16" = 1'-0"



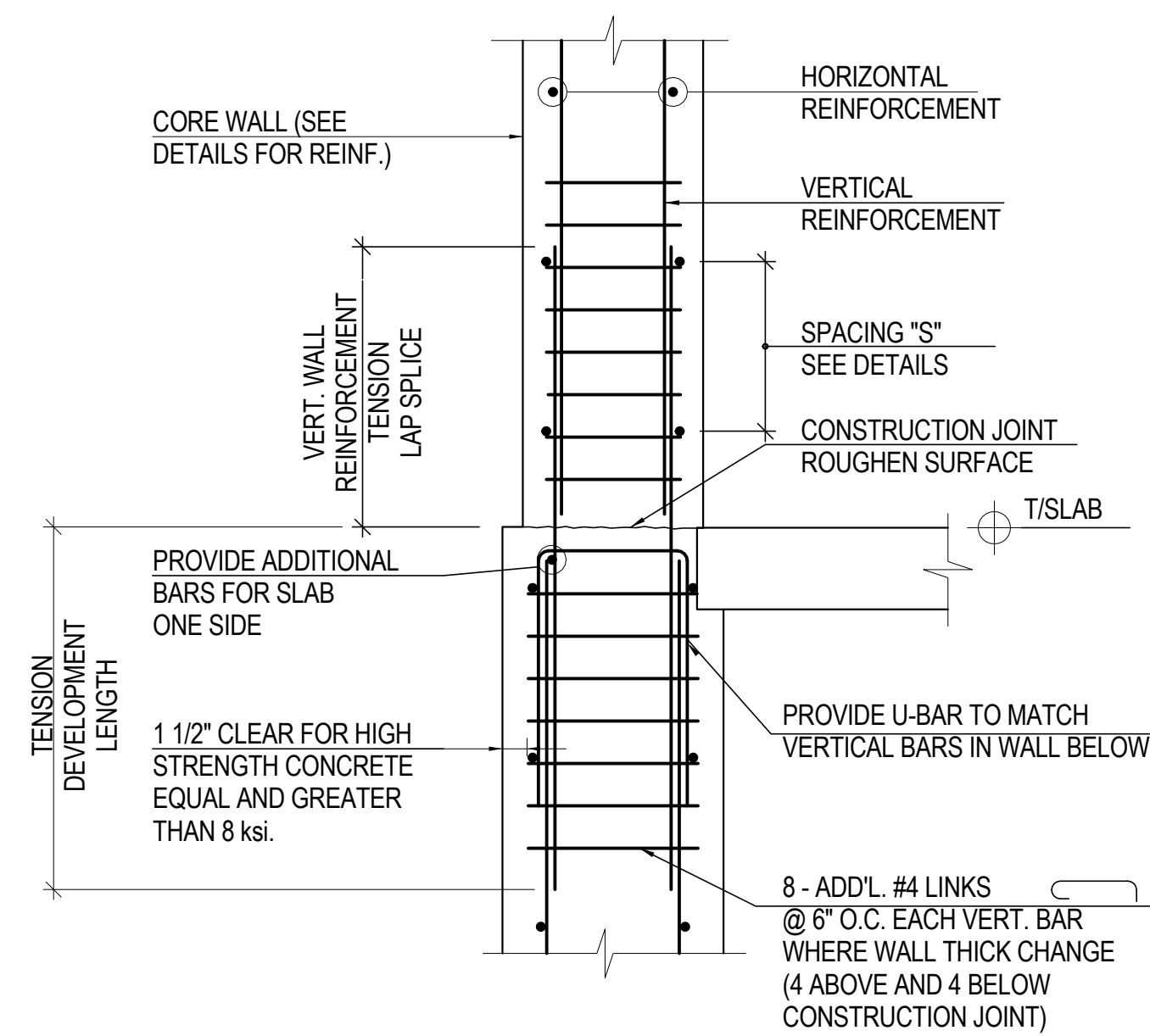
1 TYPICAL SHEAR WALL TIE REINFORCEMENT

1/2" = 1'-0"



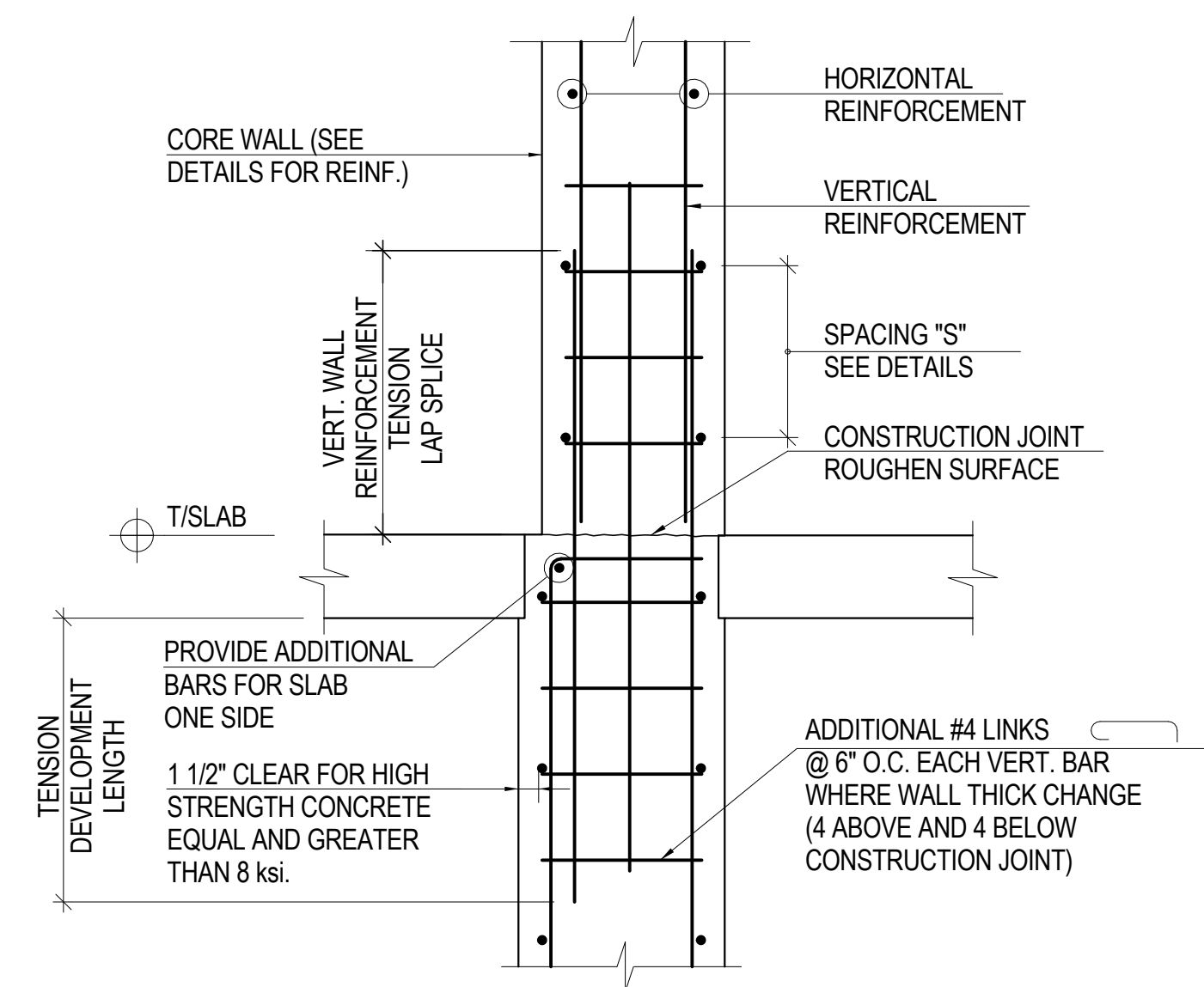
2 TYPICAL CORE WALL SPLICE

1" = 1'-0"



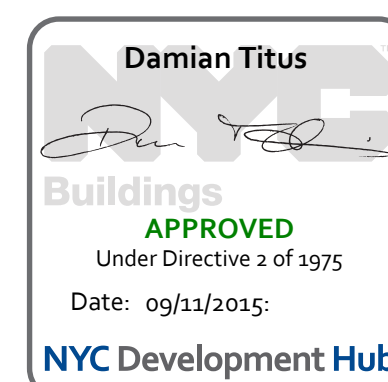
3 TYPICAL CORE WALL SPLICE WITH WALL THICKNESS CHANGE

NOT TO SCALE



4 TYPICAL CORE WALL SPLICE WITH WALL THICKNESS

NOT TO SCALE



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Code Consultant

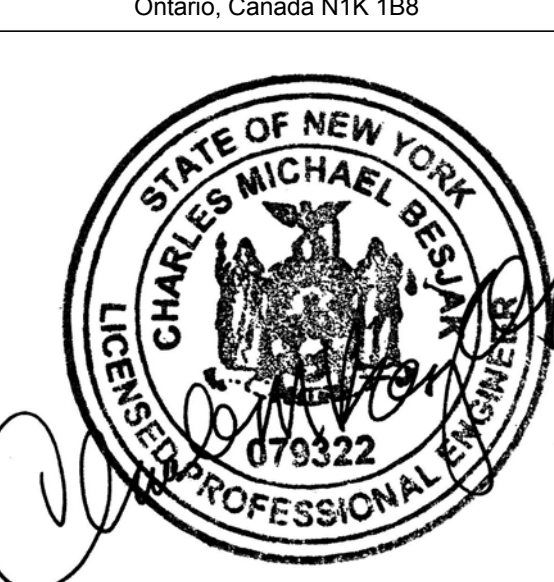
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215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant

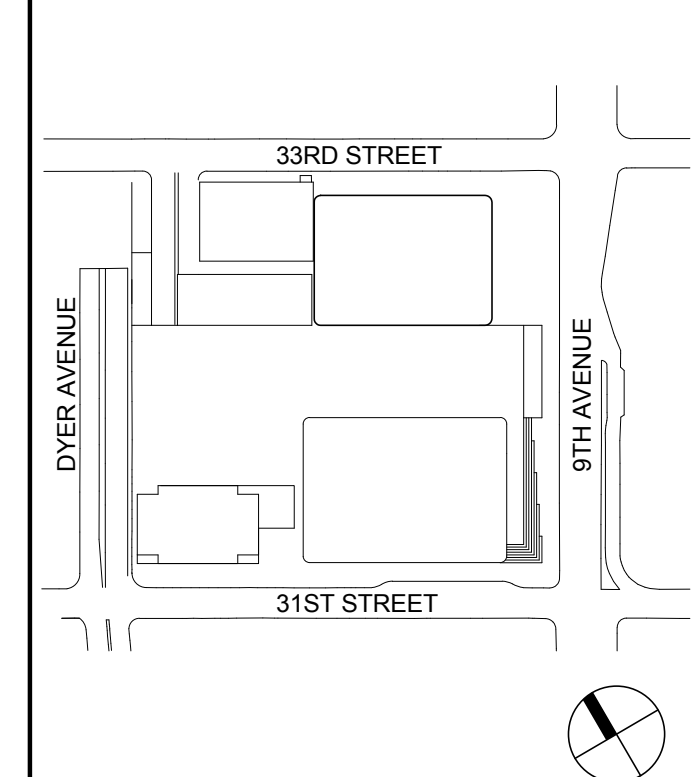
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature

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REINFORCED
CONCRETE CORE
WALL SCHEDULE,
SECTIONS &
DETAILS

Project No.:

211157

Date:

20 JUN 2014

Scale:

As indicated

File No.:

S-340

Sheet No.:

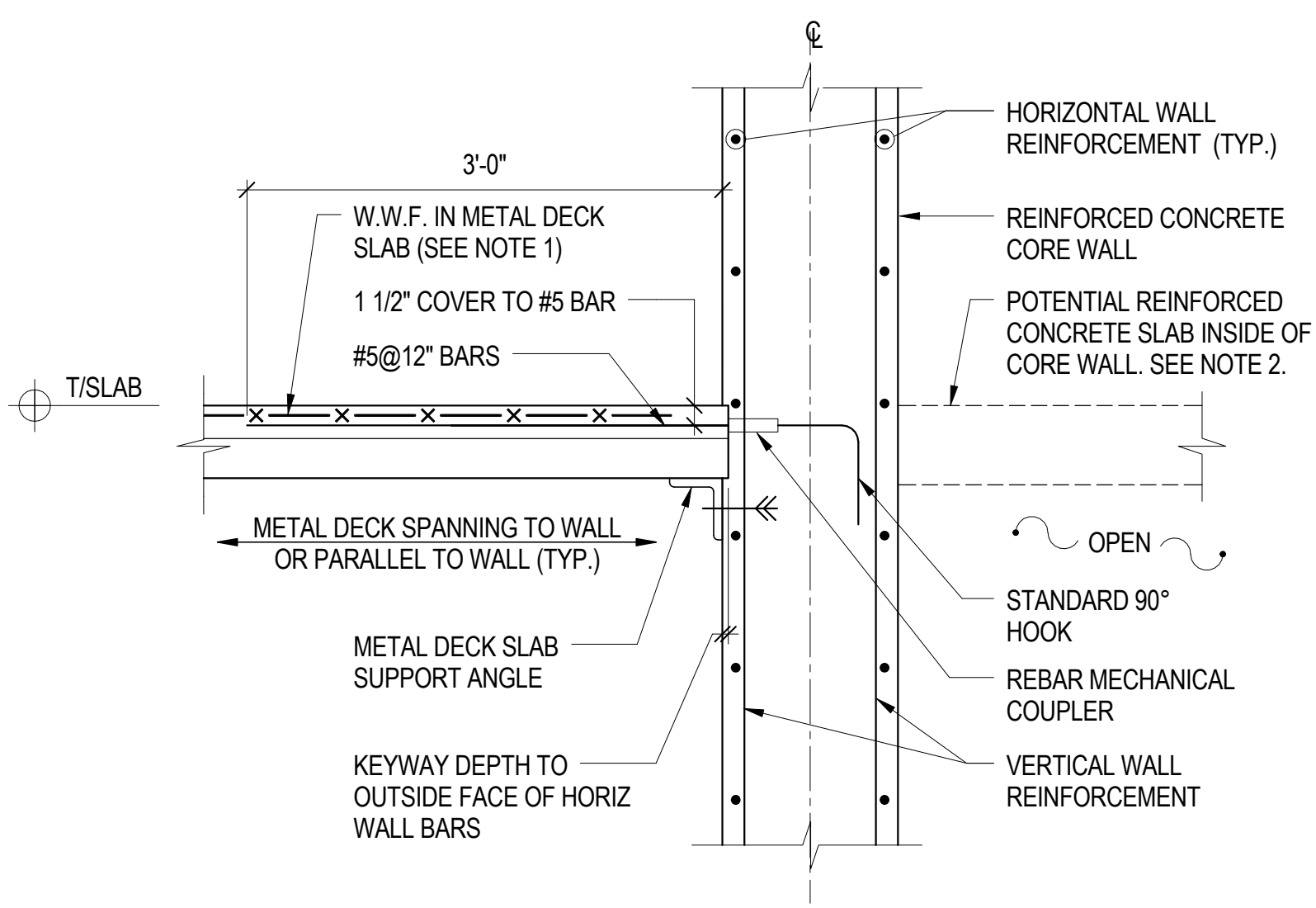
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Sheet No.:

S-340

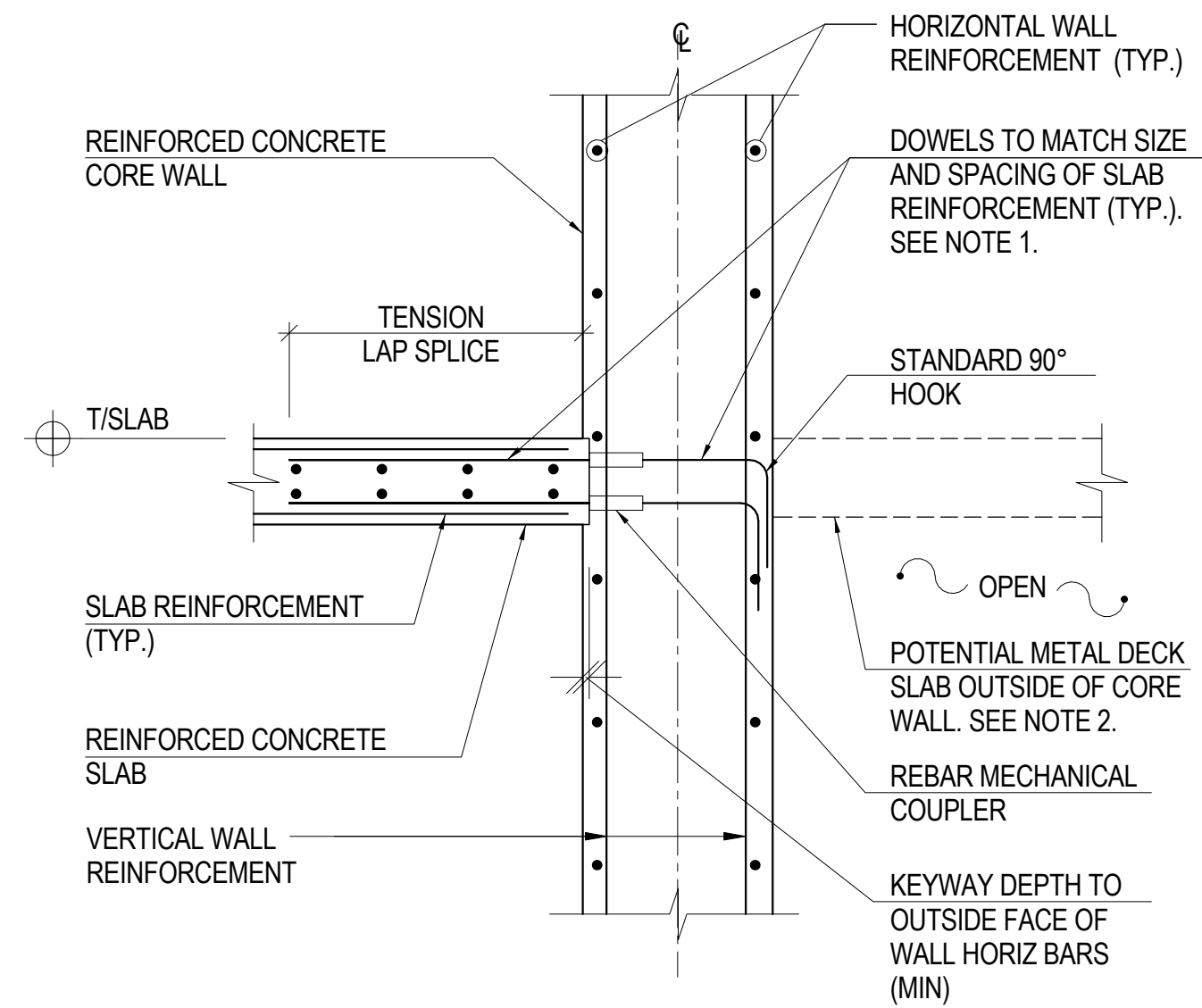
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47 of 90



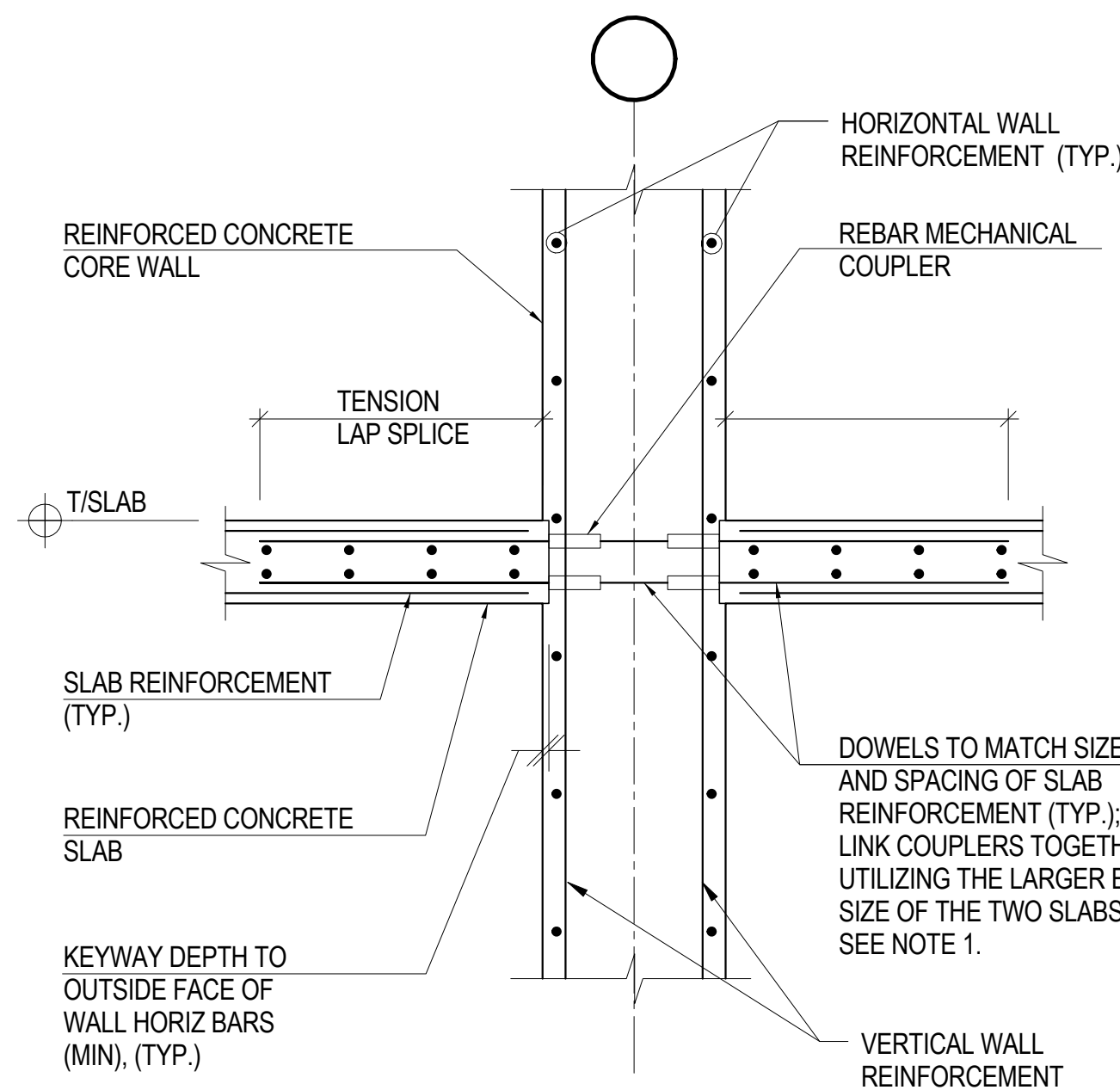
- NOTE:
1. 'RS' SLABS TO HAVE REBAR IN LIEU OF W.W.F. REFER TO PLANS AND S-301.
 2. AT CONDITIONS WHERE A R/C SLAB EXISTS ON THE OTHER SIDE OF THE CORE WALL, THIS DETAIL TO BE USED IN CONJUNCTION WITH DETAIL 2.

1 TYPICAL METAL DECK SLAB CONNECTION DETAIL: ONE-SIDED
NOT TO SCALE



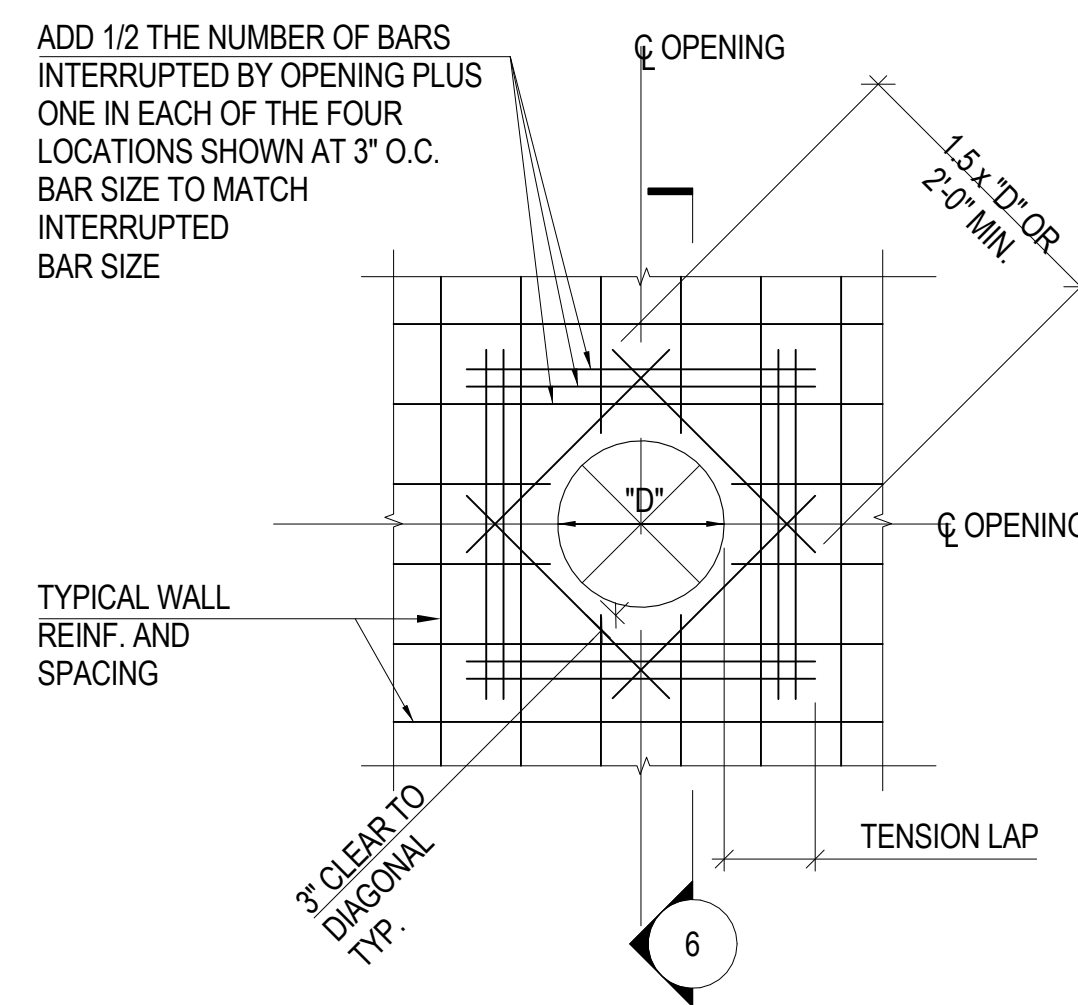
- NOTE:
1. AT ONE WAY SLABS SPANNING PARALLEL TO CORE WALL, PROVIDE EQUIVALENT OF #5@12\"/>

2 TYPICAL R/C SLAB CONNECTION DETAIL: ONE-SIDED
NOT TO SCALE

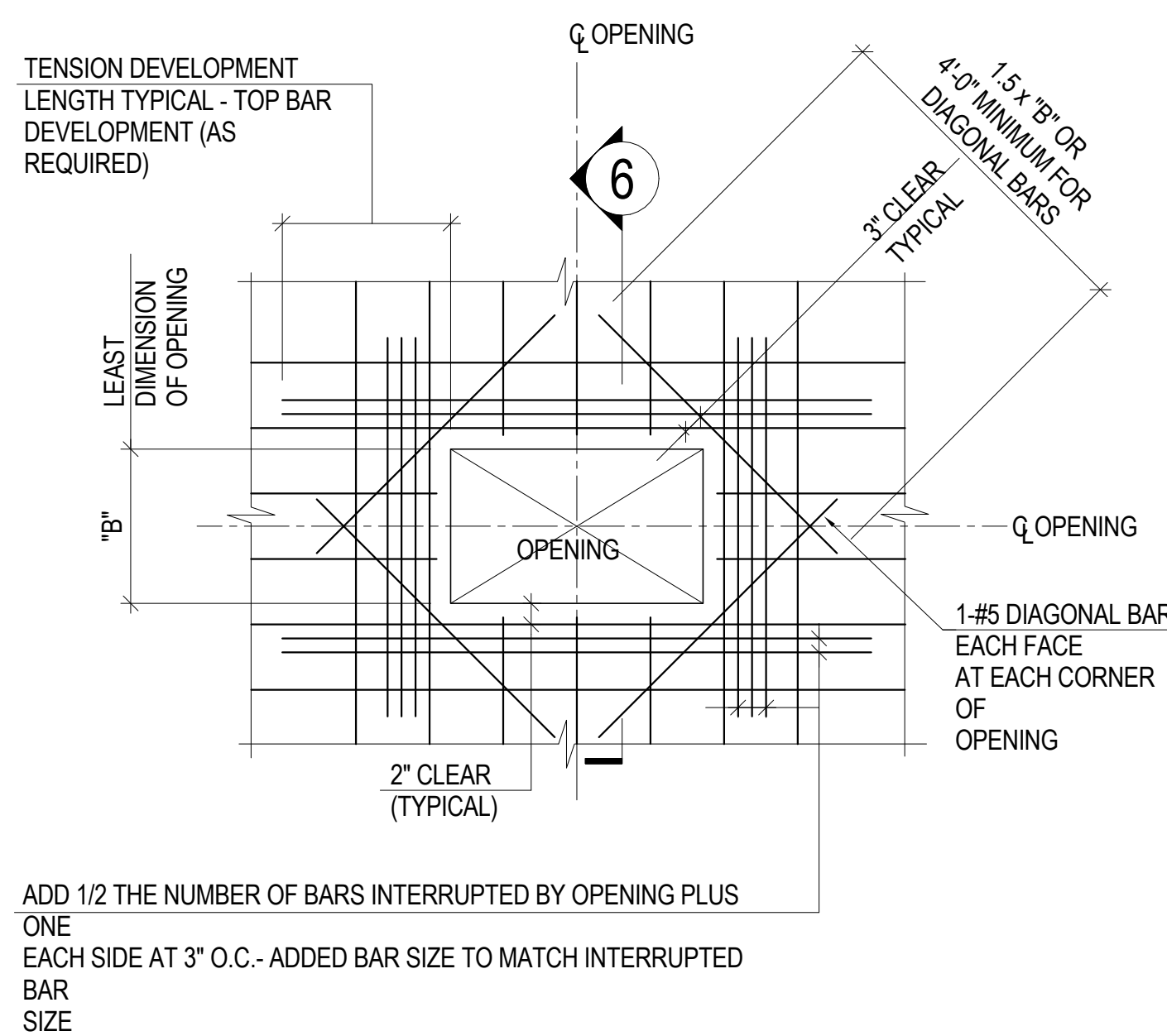


- NOTE:
1. AT ONE WAY SLABS SPANNING PARALLEL TO CORE WALL, PROVIDE EQUIVALENT OF #5@12\"/>

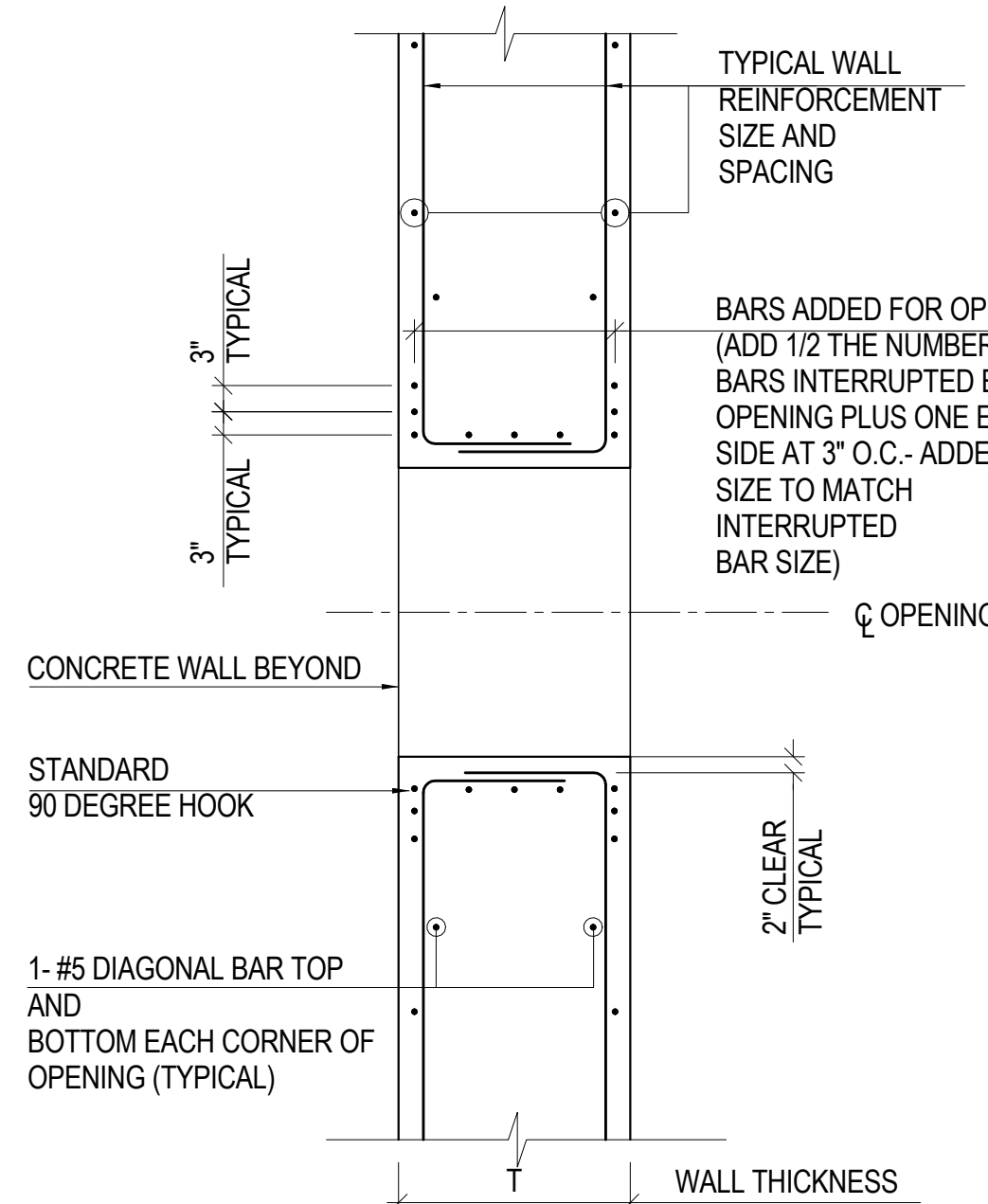
3 TYPICAL R/C SLAB CONNECTION DETAIL: TWO-SIDED
NOT TO SCALE



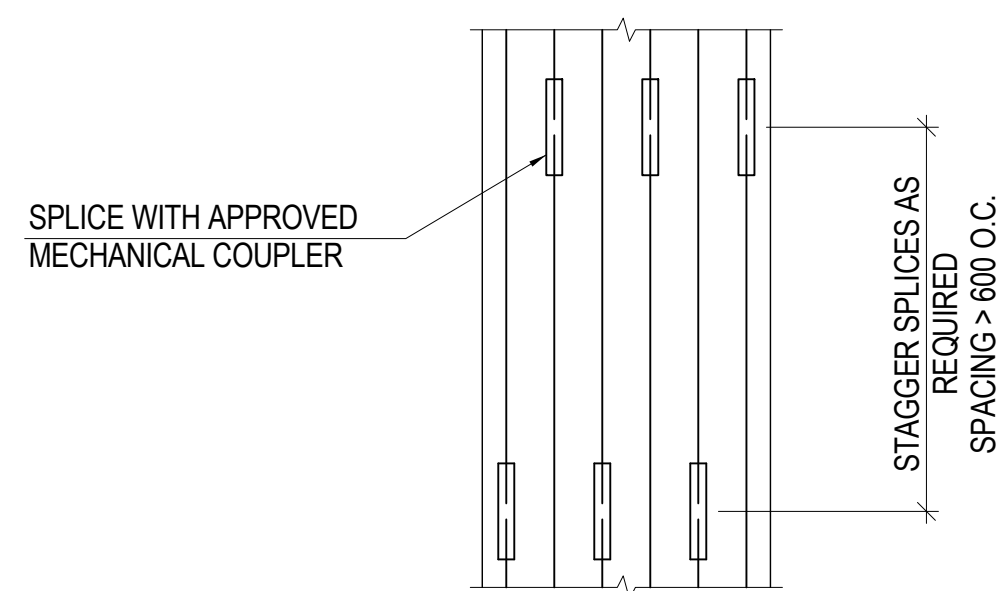
4 TYPICAL RECTANGULAR CORE WALL OPENING DETAIL
NOT TO SCALE



5 TYPICAL RECTANGULAR CORE WALL OPENING DETAIL
NOT TO SCALE

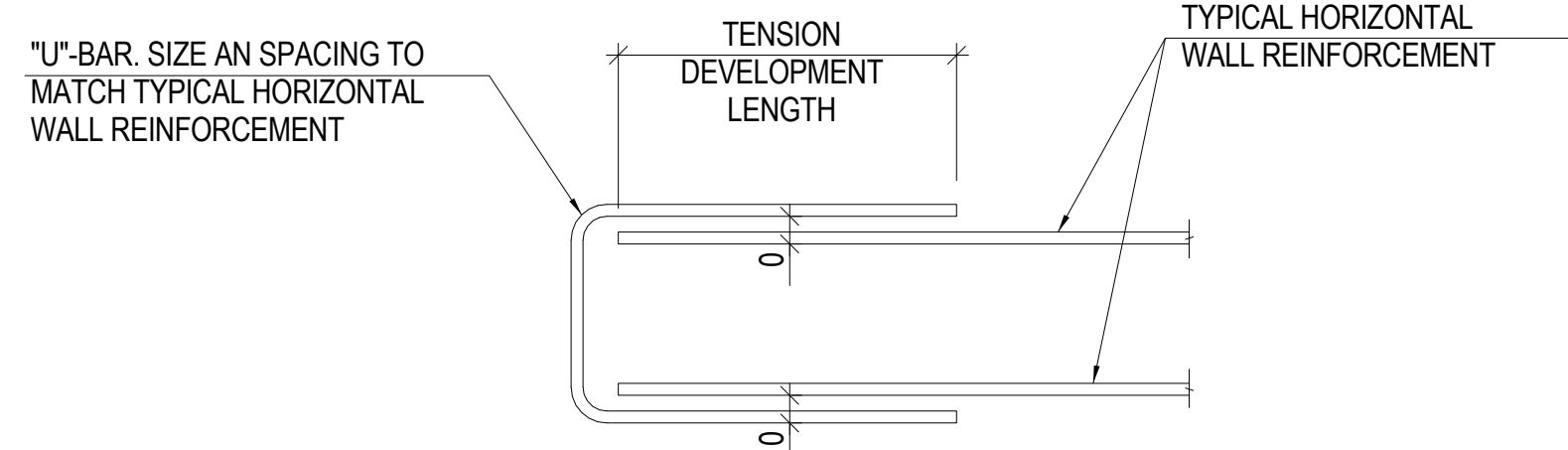


6 TYPICAL RECTANGULAR/CIRCULAR CORE WALL OPENING DETAIL
NOT TO SCALE

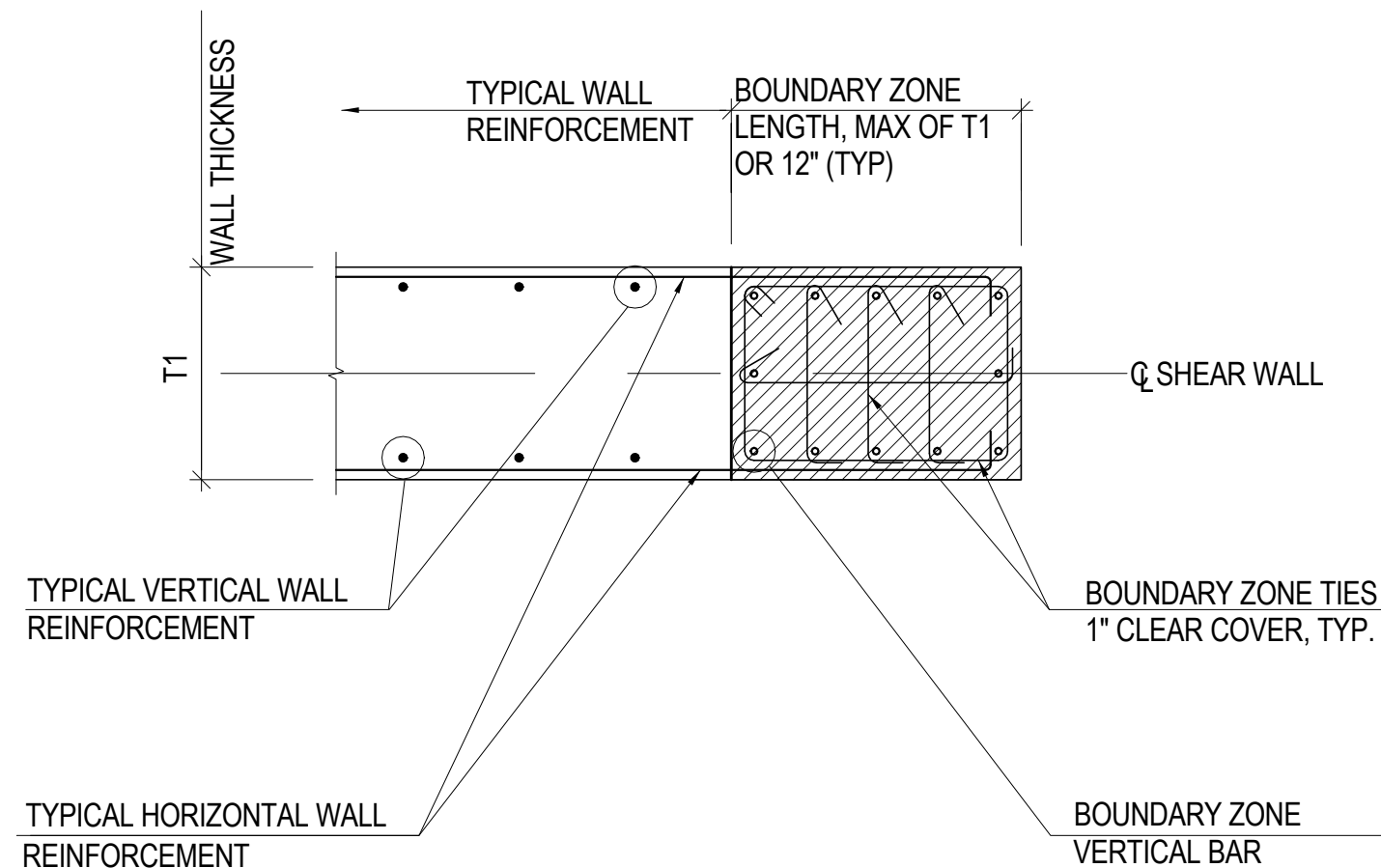


- NOTE:
- TIE REINFORCEMENT NOT SHOWN FOR CLARITY. REDISTRIBUTE STIRRUP VERTICAL SPACING FOR NOT TO BE PLACED AT CONNECTOR LOCATION.

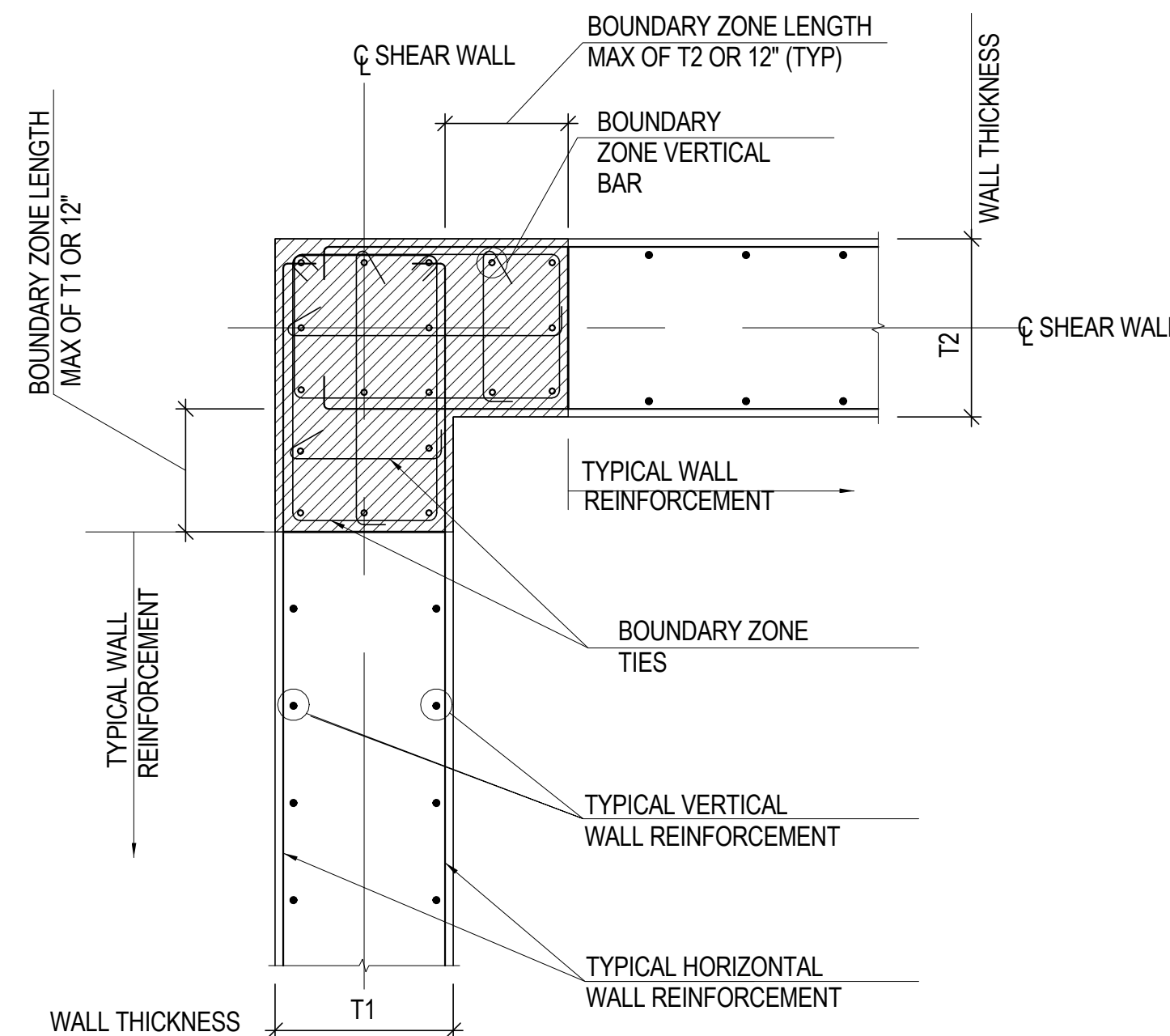
7 ALTERNATE REBAR SPLICE DETAIL
NOT TO SCALE



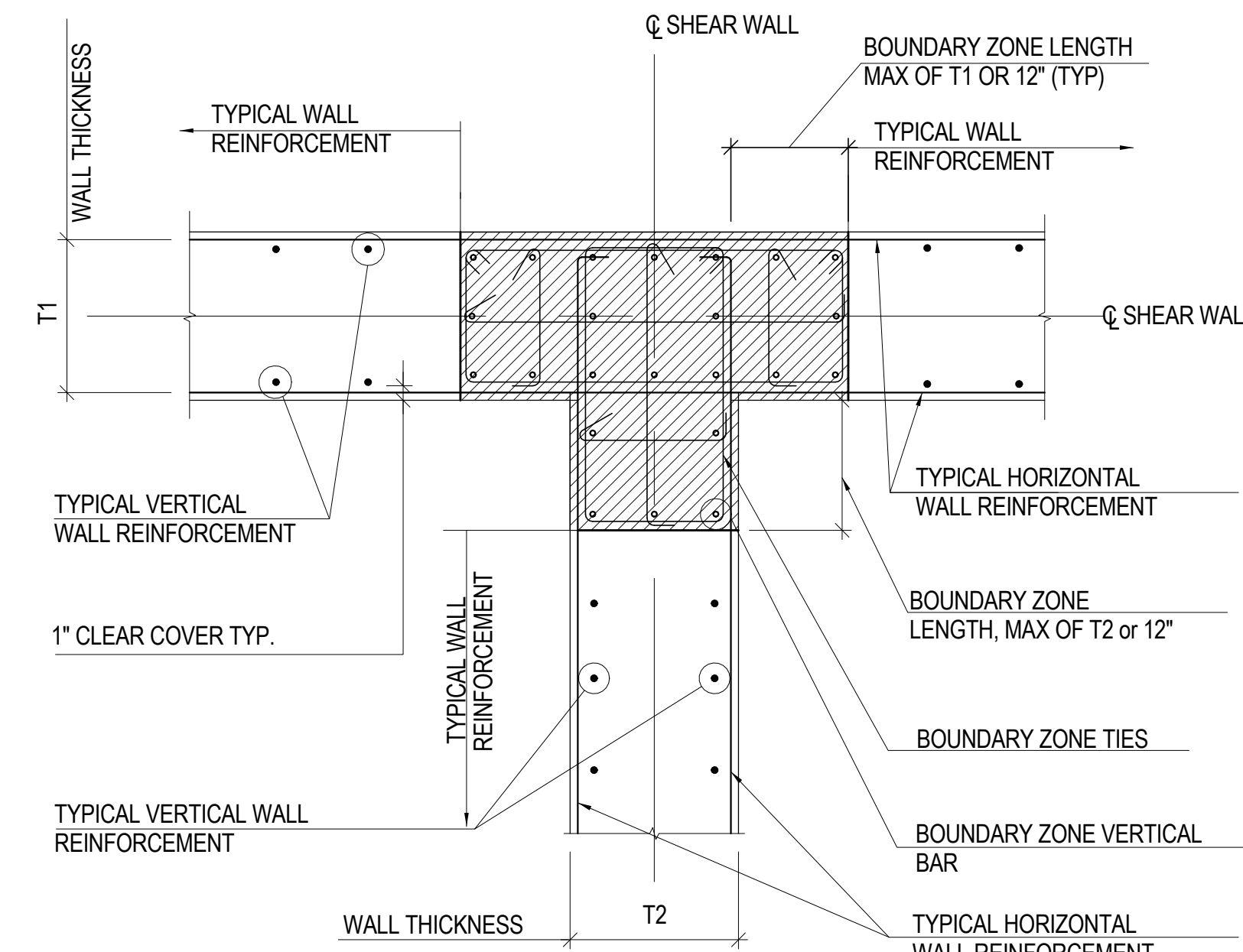
8 ALTERNATE REBAR SPLICE DETAIL
NOT TO SCALE



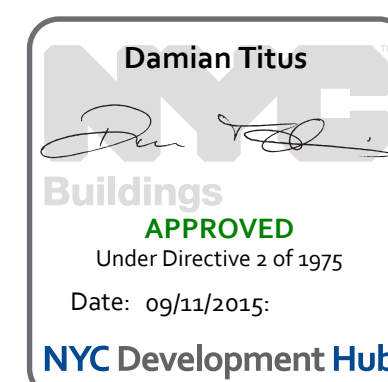
9 TYPICAL SHEAR WALL BOUNDARY ELEMENT END DETAIL
NOT TO SCALE



10 TYPICAL SHEAR WALL BOUNDARY ELEMENT CORNER DETAIL
NOT TO SCALE



11 TYPICAL SHEAR WALL BOUNDARY ELEMENT INTERSECTION DETAIL
NOT TO SCALE



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Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

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| No. | Date | Description |
|-----|-------------|-----------------------------------|
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

Sheet Name:

**TYPICAL
REINFORCED
CONCRETE WALL
DETAILS**

| Project No.: | B-SCAN Sheet No.: |
|--------------|-------------------|
| 211157 | S-341.00 |

| Date: | Sheet No.: |
|-------------|------------|
| 20 JUN 2014 | S-341 |

| Scale: | Page No.: |
|--------------|-----------|
| As indicated | 48 of 90 |



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650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Professional Engineer Seal
CHARLES MICHAEL BE...
070322
Professional Engineer

Key Plan:
Map showing the building location relative to 33RD STREET, 31ST STREET, DYER AVENUE, and 9TH AVENUE.

Seal & Signature:
PRELIMINARY
NOT FOR CONSTRUCTION

Project No.: 211157
Date: 20 JUN 2014
Scale: 3/16" = 1'-0"
File No.: S-342

B-SCAN Sheet No.: S-342.00
Sheet No.: S-342
Page No.: 49 of 90

Project No.: 211157
Date: 20 JUN 2014
Scale: 3/16" = 1'-0"
File No.: S-342

B-SCAN Sheet No.: S-342.00
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Date: 20 JUN 2014
Scale: 3/16" = 1'-0"
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Date: 20 JUN 2014
Scale: 3/16" = 1'-0"
File No.: S-342

B-SCAN Sheet No.: S-342.00
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Date: 20 JUN 2014
Scale: 3/16" = 1'-0"
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Sheet No.: S-342
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Project No.: 211157
Date: 20 JUN 2014
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File No.: S-342

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Sheet No.: S-342
Page No.: 49 of 90

Project No.: 211157
Date: 20 JUN 2014
Scale: 3/16" = 1'-0"
File No.: S-342

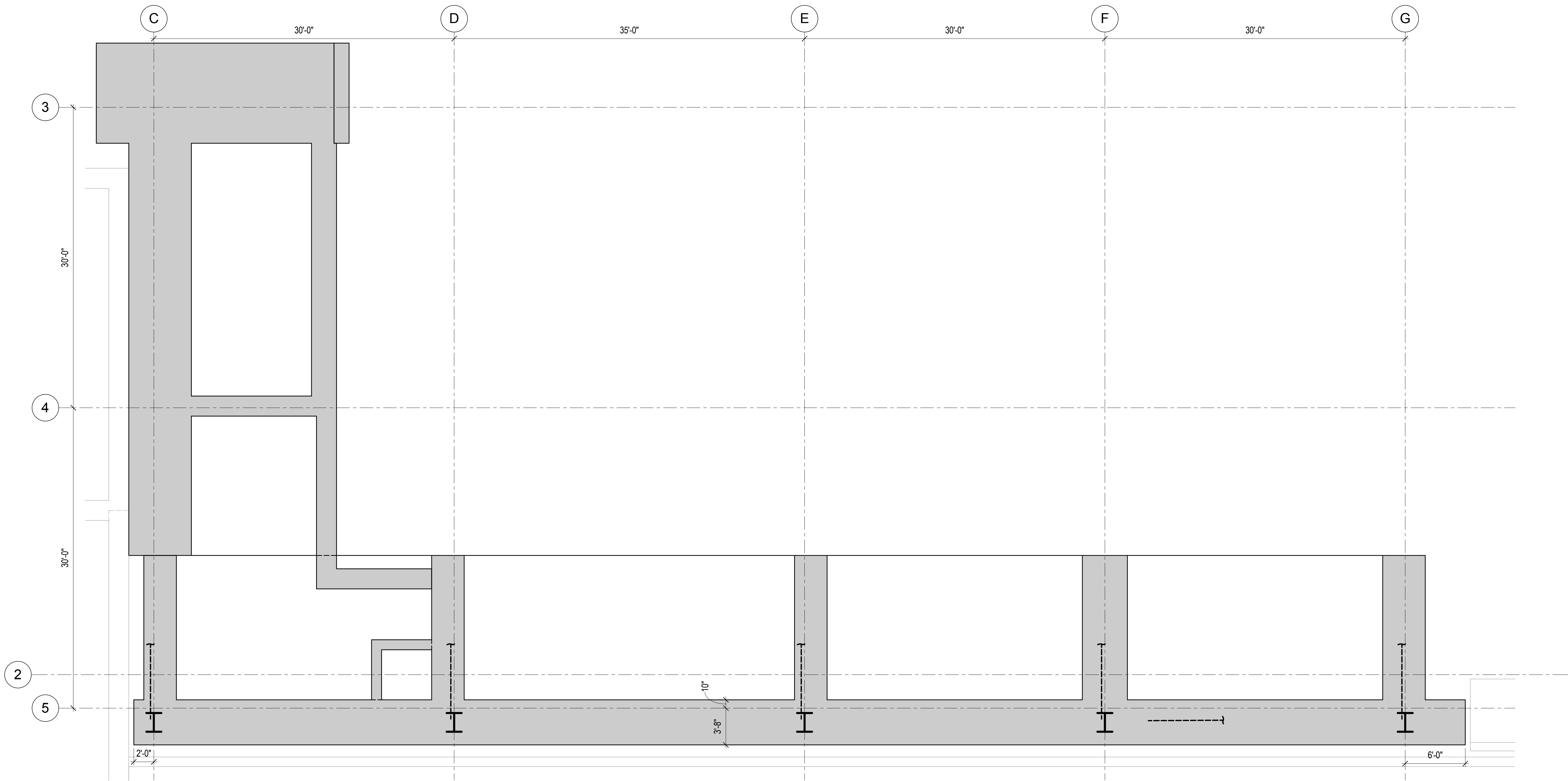
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Page No.: 49 of 90

Project No.: 211157
Date: 20 JUN 2014
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File No.: S-342

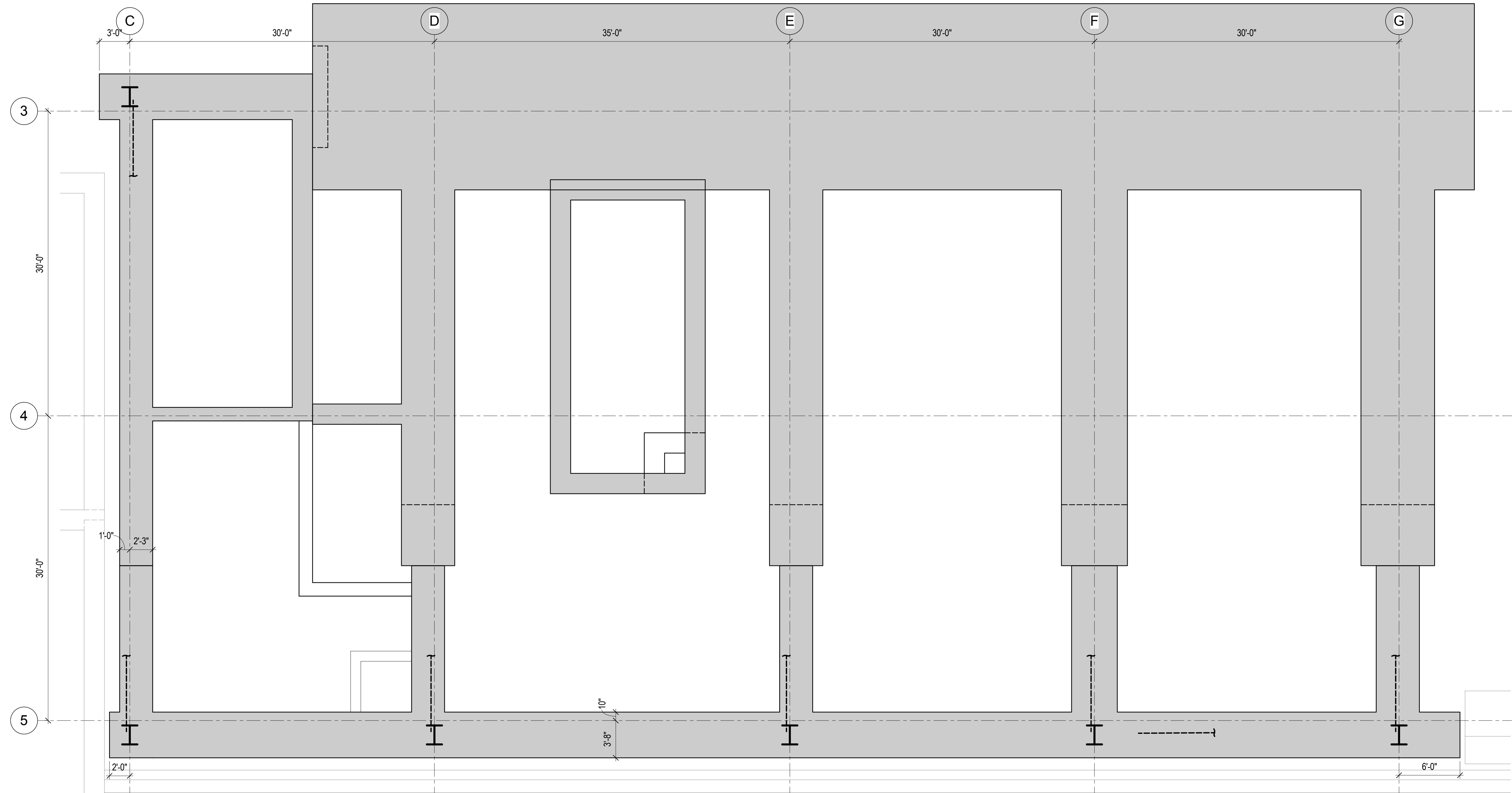
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Sheet No.: S-342
Page No.: 49 of 90

Project No.: 211157
Date: 20 JUN 2014
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File No.: S-342

B-SCAN Sheet No.: S-342.00
Sheet No.: S-342
Page No.: 49 of 90

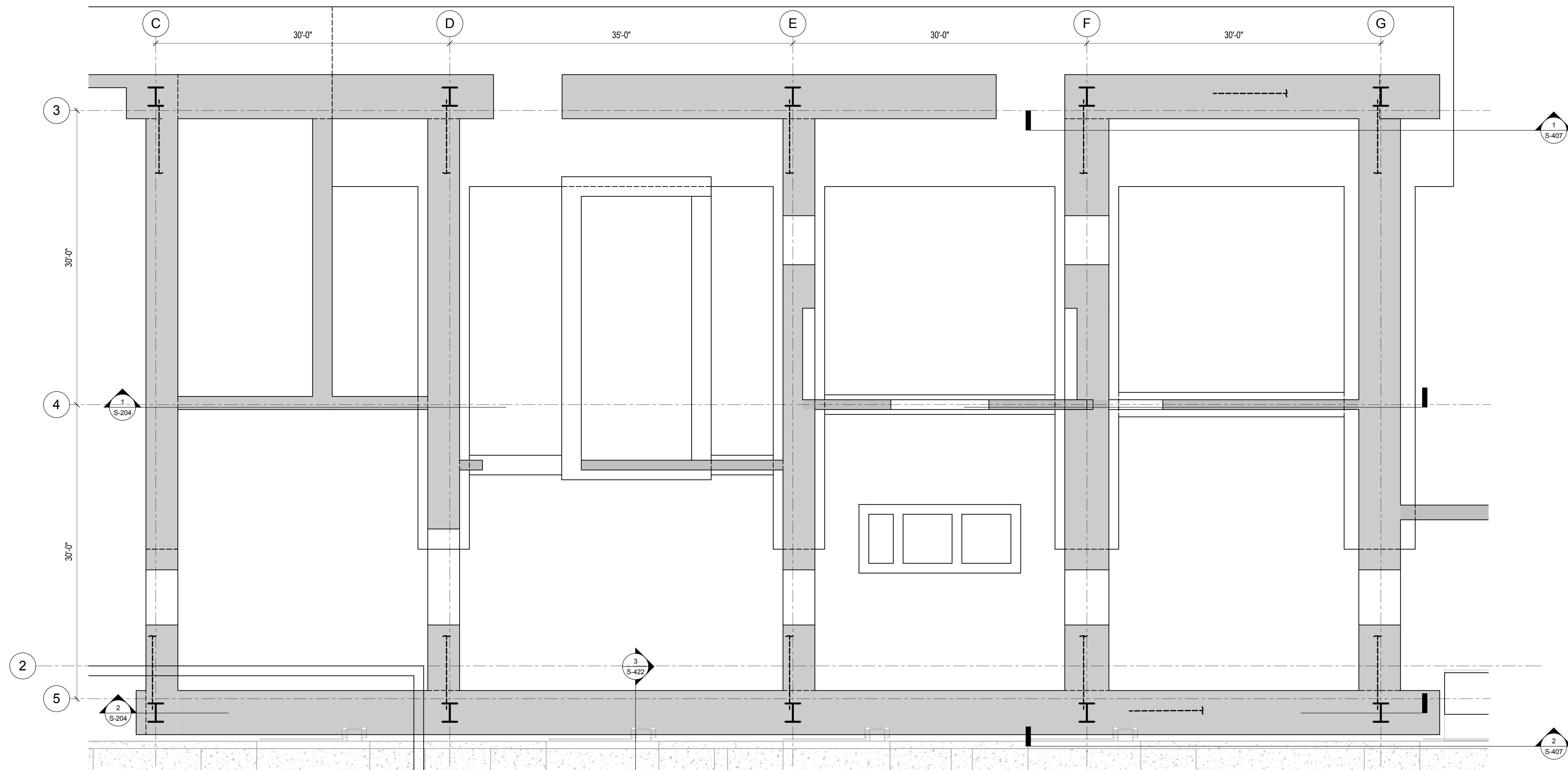


1 REINFORCEMENT LAYOUT - LEVEL B3 TO LEVEL B2
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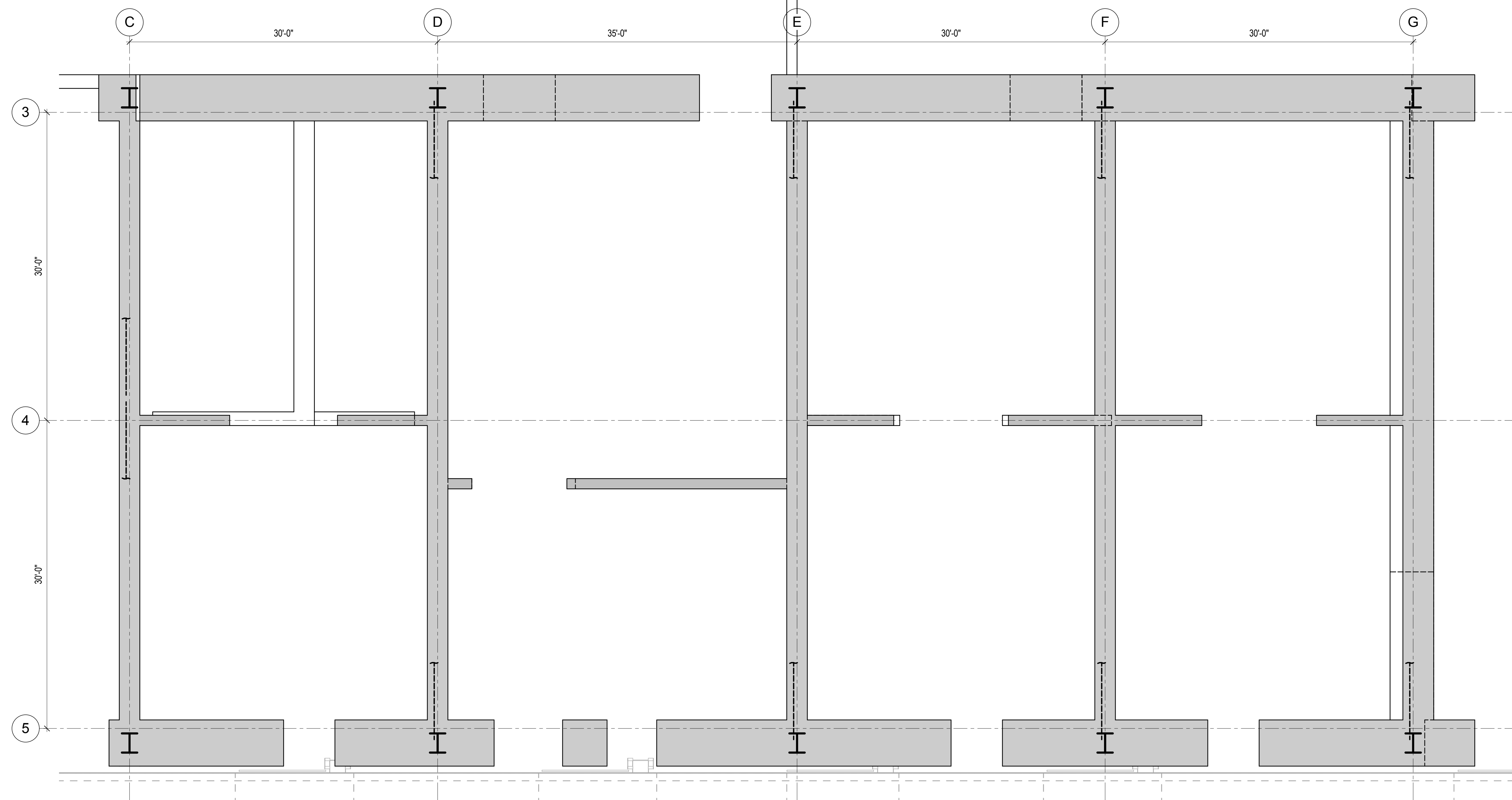


2 REINFORCING LAYOUT - LEVEL B2 TO LEVEL B1
3/16" = 1'-0"





1 REINFORCEMENT LAYOUT - LEVEL B1 TO LEVEL B
3/16" = 1'-0"



2 REINFORCEMENT LAYOUT - LEVEL B TO LEVEL 1
3/16" = 1'-0"

Sheet No. 211157
B-SCAN Sheet No. S-343.00



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40 Wall Street, New York, NY 10005

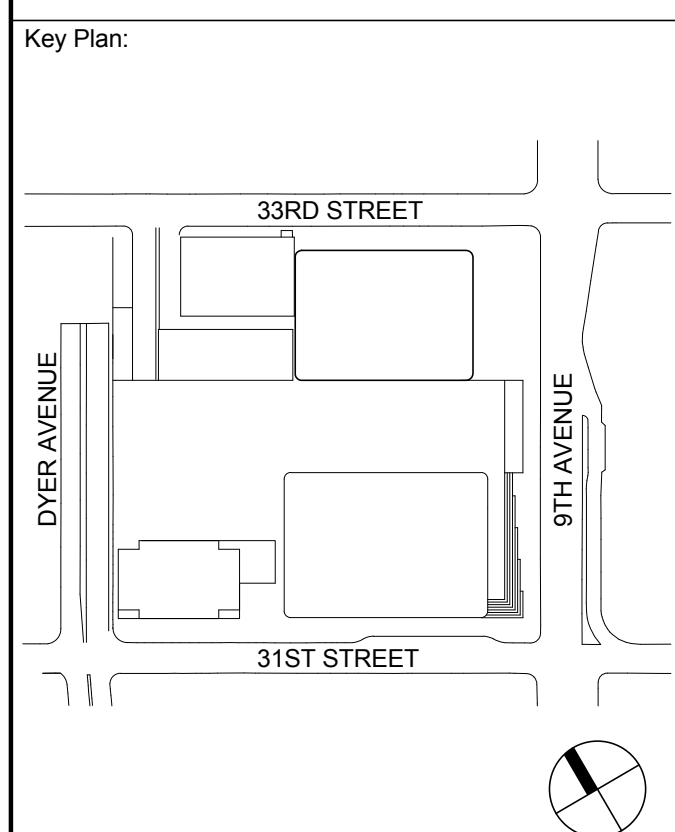
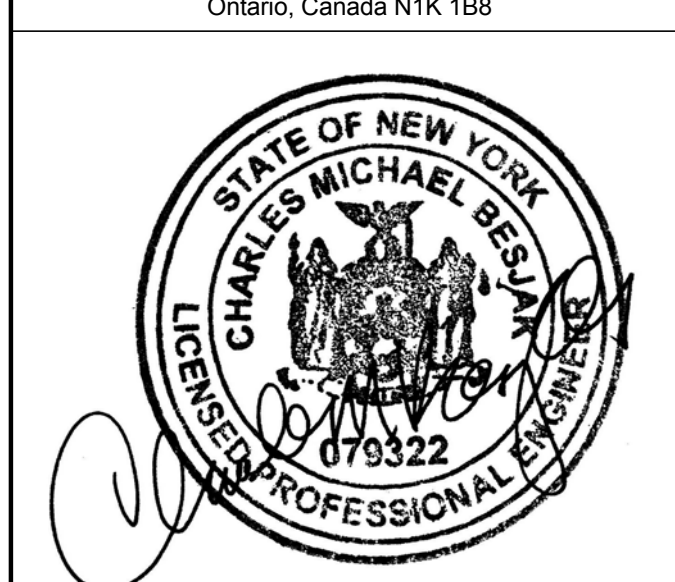
Acoustical Consultant
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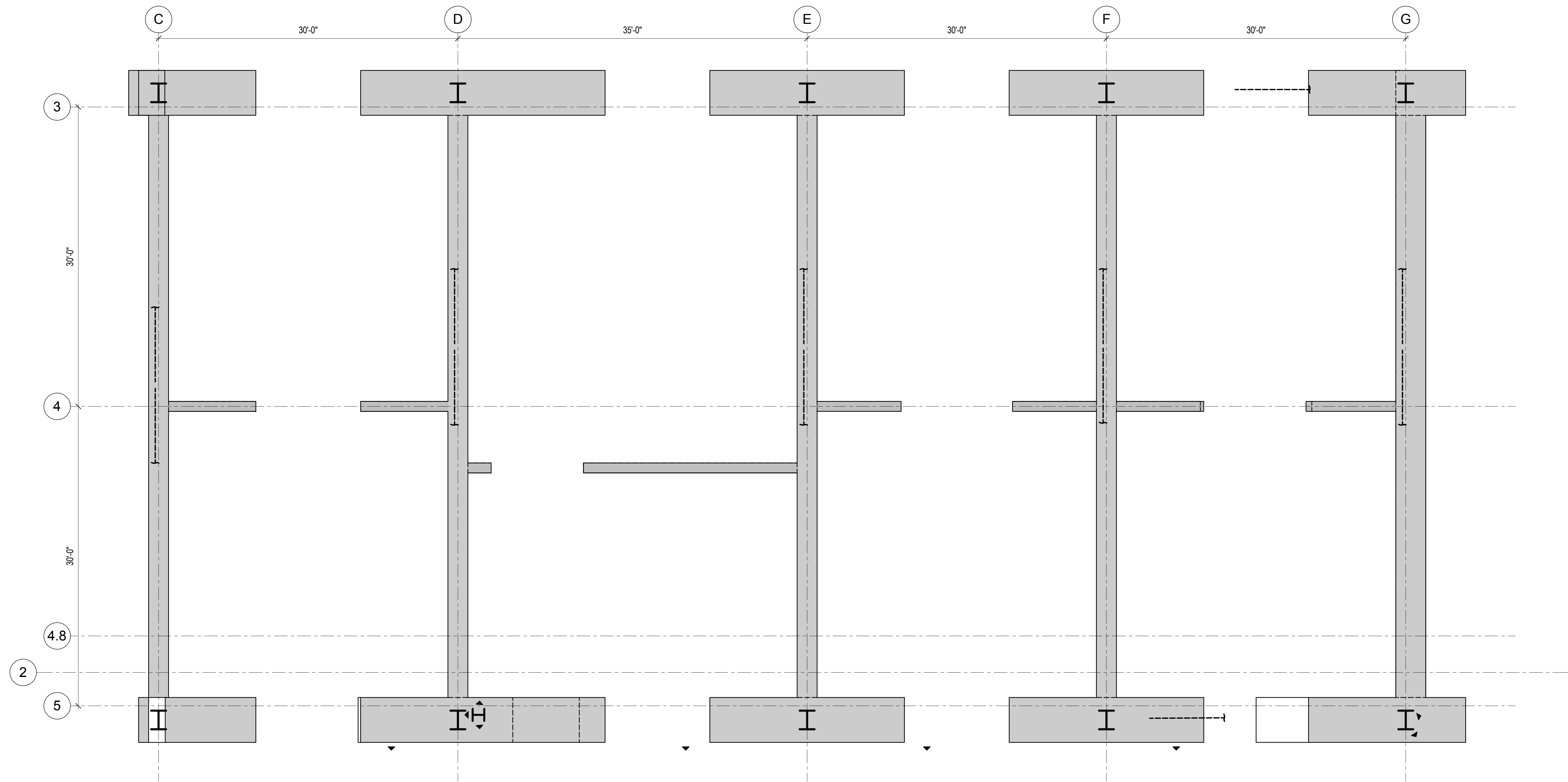
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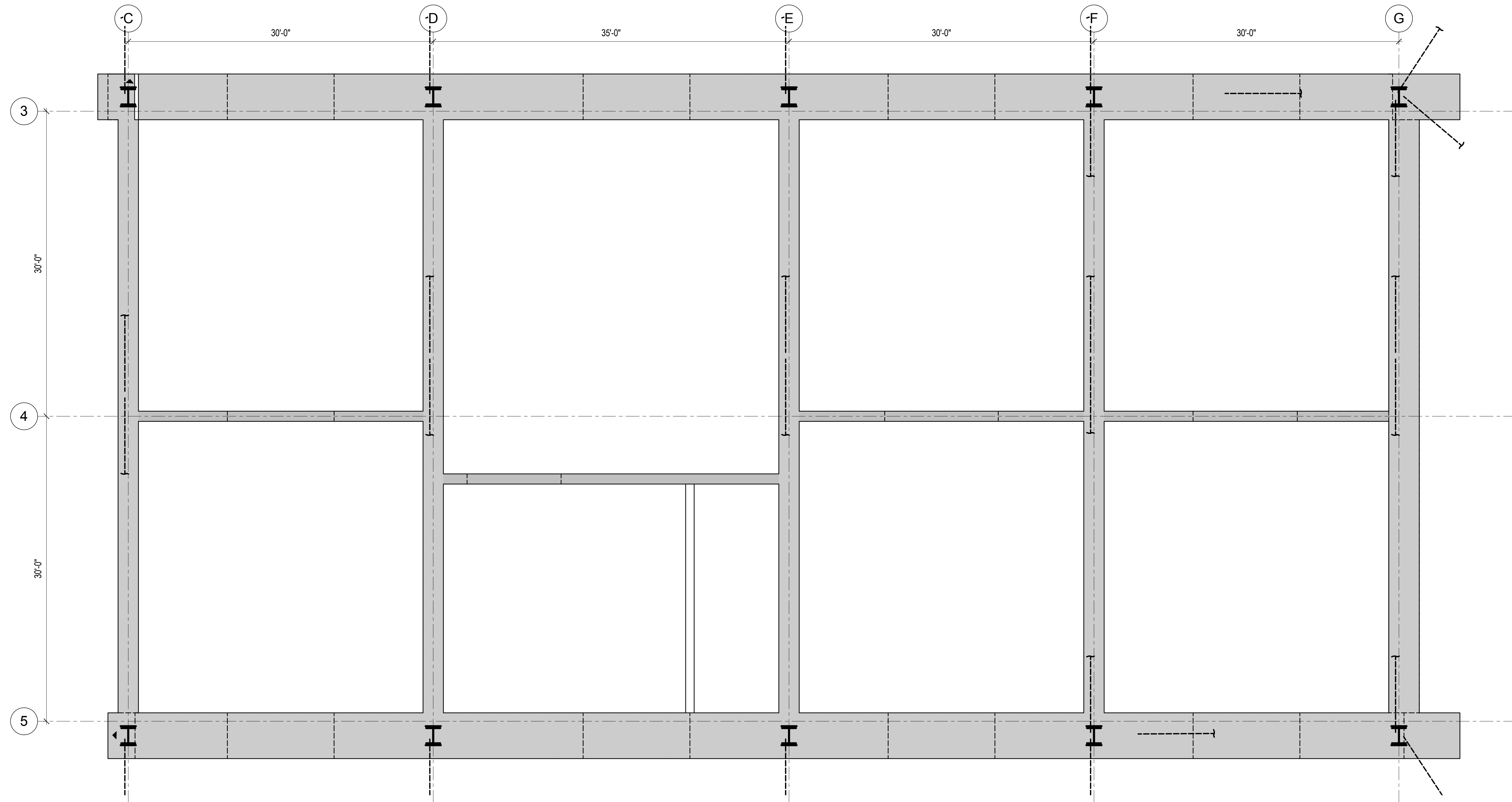
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Sheet Name

**CORE WALL
REINFORCEMENT
LAYOUT**

Project No.: 211157
Date: 20 JUN 2014
Scale: 3/16" = 1'-0"
File No.: S-343
B-SCAN Sheet No.: S-343.00
Sheet No.: S-343
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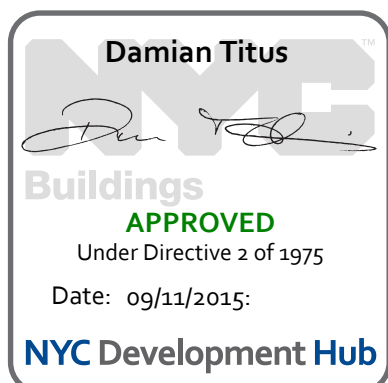
1 REINFORCEMENT LAYOUT - LEVEL 1 TO LEVEL 2
3/16" = 1'-0"



2 REINFORCEMENT LAYOUT - LEVEL 2 TO LEVEL 3
3/16" = 1'-0"

REINFORCING LAYOUT DESIGN IN-
PROGRESS AND WILL BE SHOWN ON
FUTURE DRAWING ISSUES.

REINFORCING LAYOUT DESIGN IN-
PROGRESS AND WILL BE SHOWN ON
FUTURE DRAWING ISSUES.



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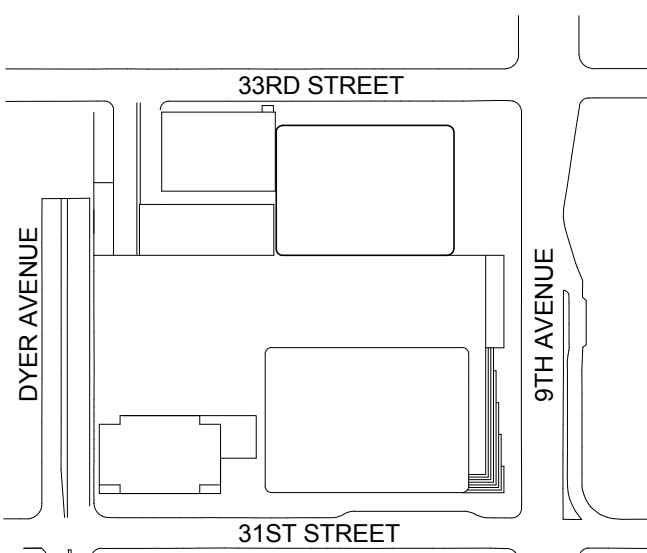
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Code Consultants Professional Engineers PC
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Ontario, Canada N1K 1B6



Key Plan:



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Project No.: 211157
Date: 20 JUN 2014
Scale: 3/16" = 1'-0"

B-SCAN Sheet No.: S-344.00
Sheet No.: S-344
Page No.: 51 of 90

Project No.: 211157
Date: 20 JUN 2014
Scale: 3/16" = 1'-0"

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Date: 20 JUN 2014
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B-SCAN Sheet No.: S-344.00
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Sheet No.: S-344
Page No.: 51 of 90



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215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant

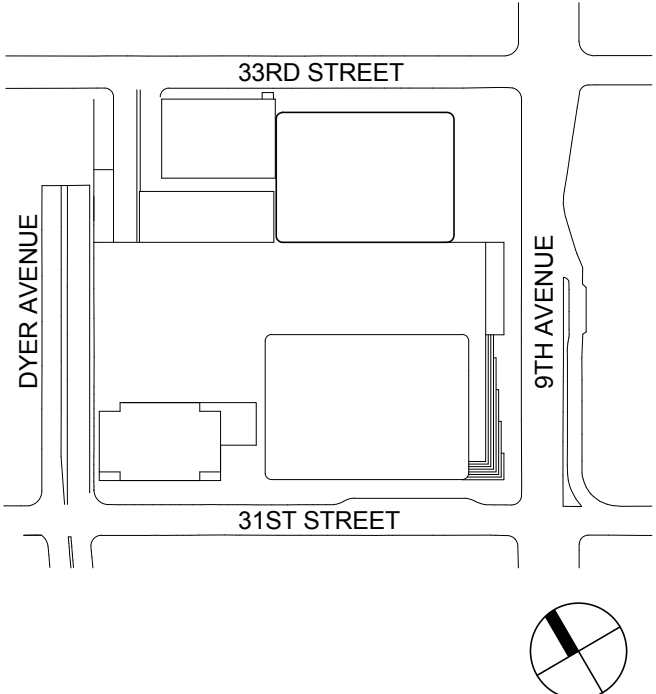
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

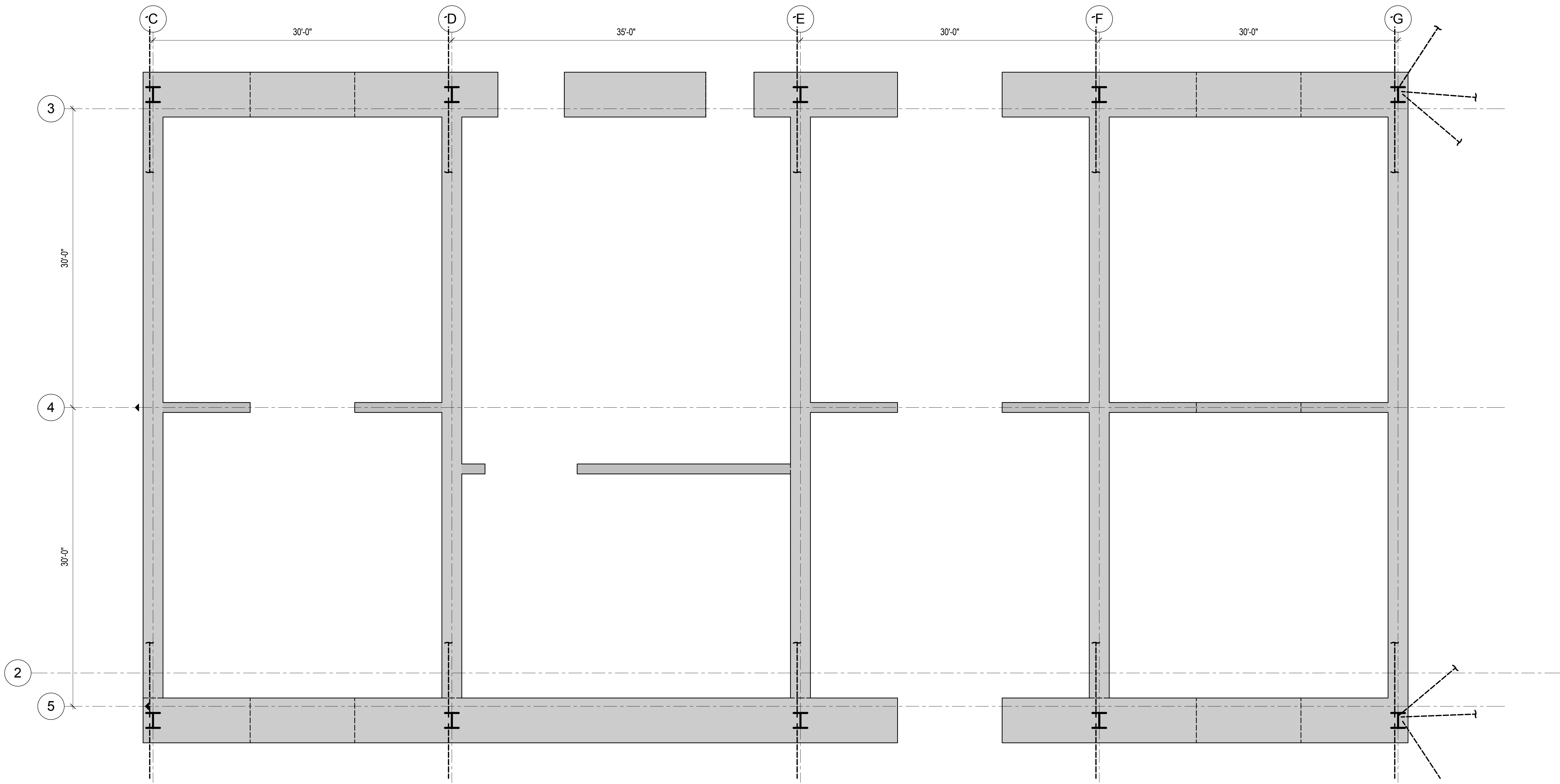
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| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
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| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% DESIGN PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 60% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name

**CORE WALL
REINFORCEMENT
LAYOUT**

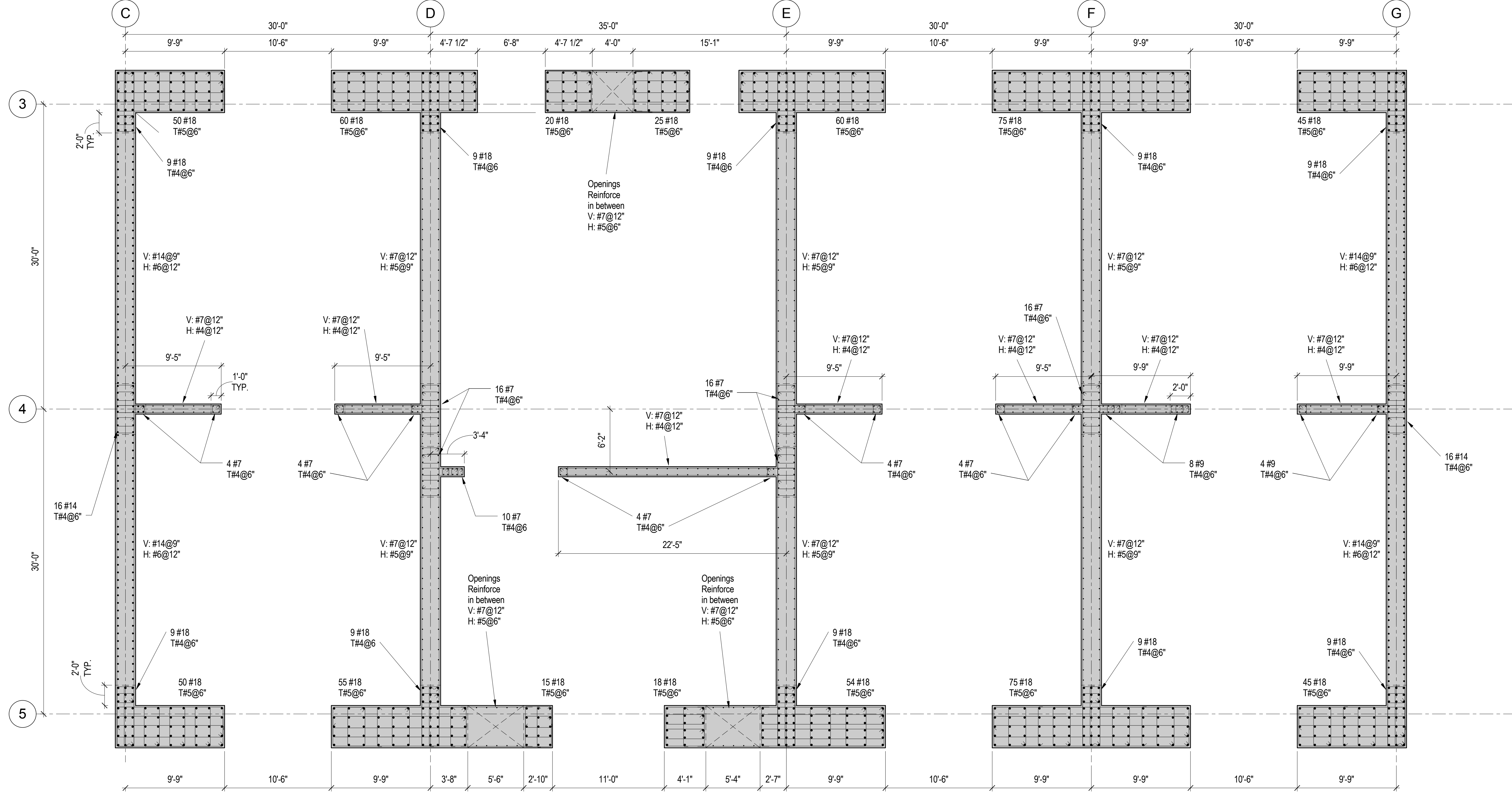
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| Project No.: | 21157 | B-SCAN Sheet No.: | S-346.00 |
| Date: | 20 JUN 2014 | Sheet No.: | S-346 |
| Scale: | 3/16" = 1'-0" | Page No.: | 53 of 90 |
| File No.: | S-346 | | |



REINFORCING LAYOUT DESIGN IN-
PROGRESS AND WILL BE SHOWN ON
FUTURE DRAWING ISSUES.

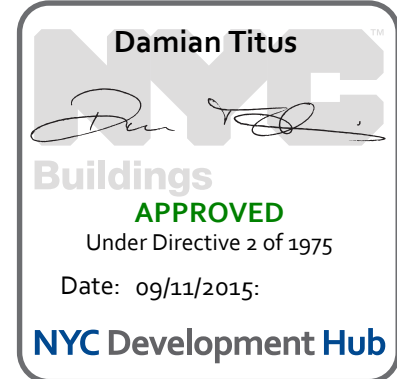
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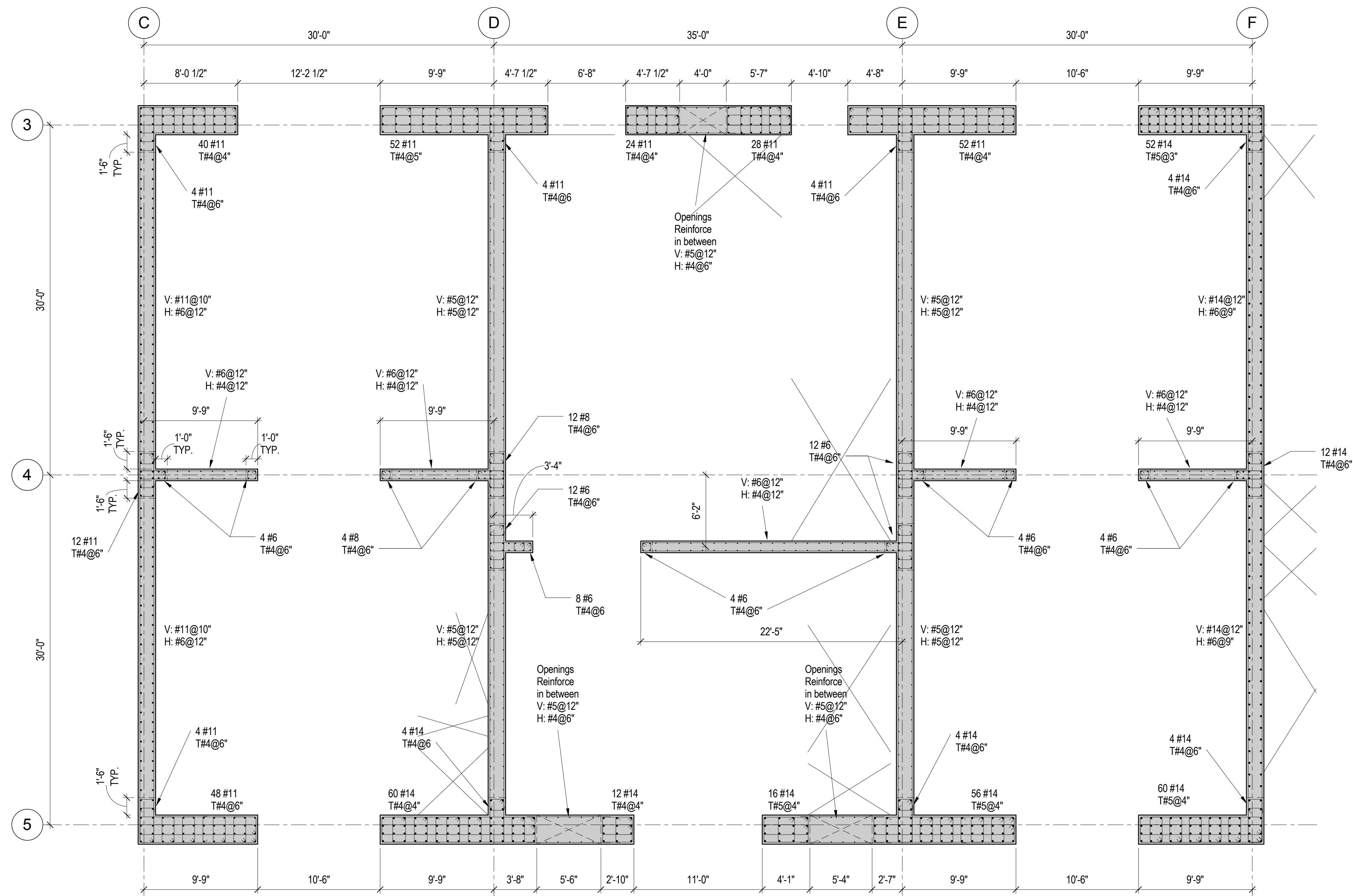
3/16" = 1'-0"



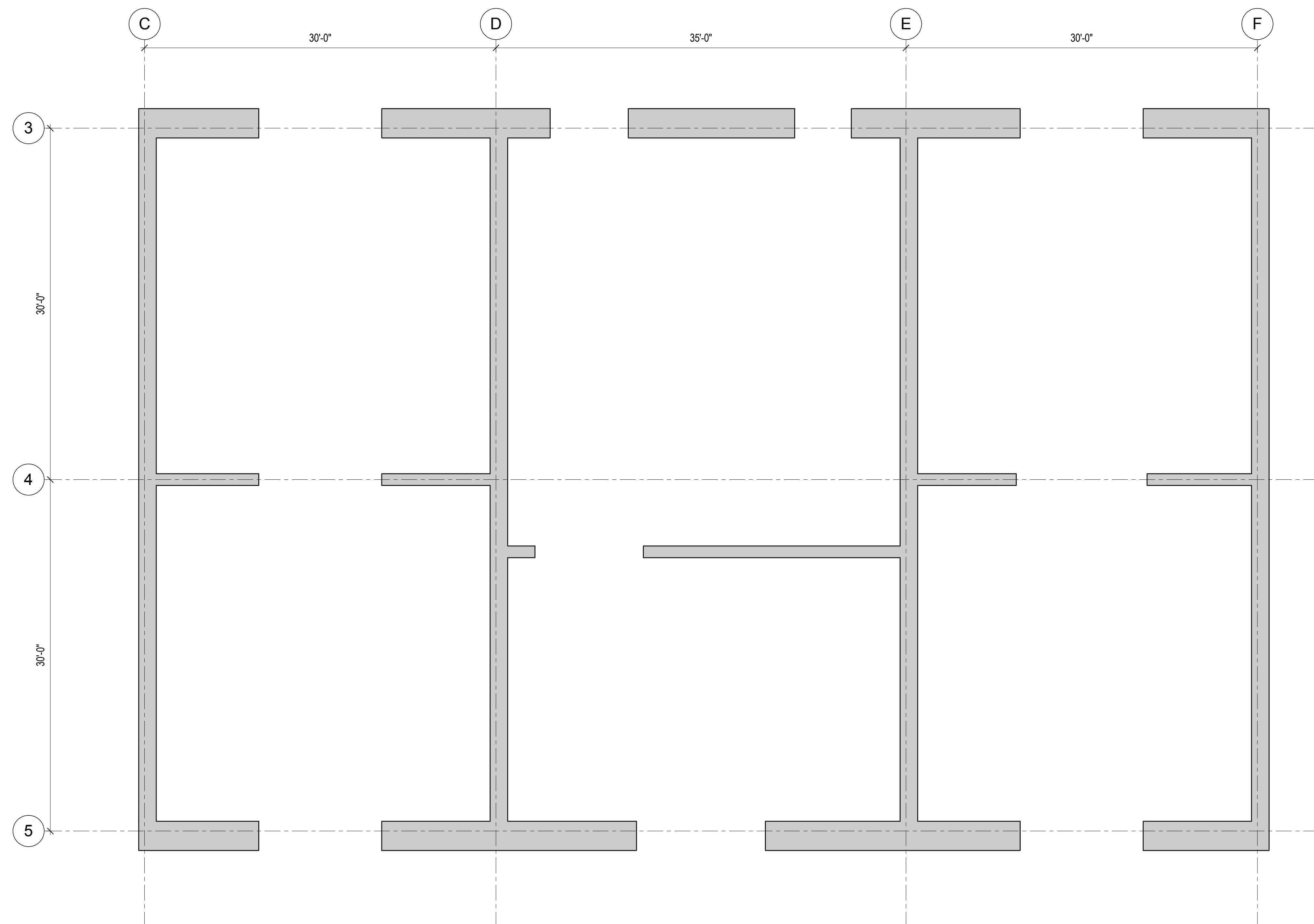
2 REINFORCEMENT LAYOUT - LEVEL 6 TO LEVEL 11

3/16" = 1'-0"



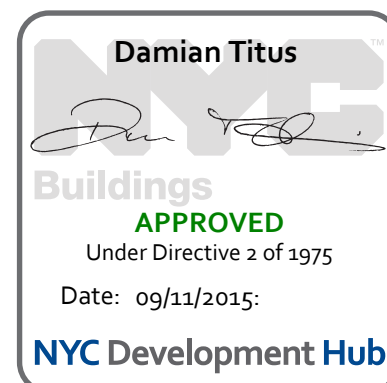


1 REINFORCEMENT LAYOUT - LEVEL 31 TO LEVEL 36
3/16" = 1'-0"



2 REINFORCEMENT LAYOUT - LEVEL 36 TO LEVEL 42
3/16" = 1'-0"

REINFORCING LAYOUT DESIGN IN-PROGRESS AND WILL BE SHOWN ON FUTURE DRAWING ISSUES. REFER TO 1/S-349 FOR SIMILAR LAYOUT.



Brookfield
250 Vesey Street, 15th Floor, New York, NY 10021

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SOM
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MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
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Sustainable Design
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50 Washington Street, Newark, CT 06854

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Mueser Rutledge Consulting Engineers
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Landscape Consultant
Field Operations
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Security Consultant
Ducibella, Ventor & Santore
250 State Street #1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

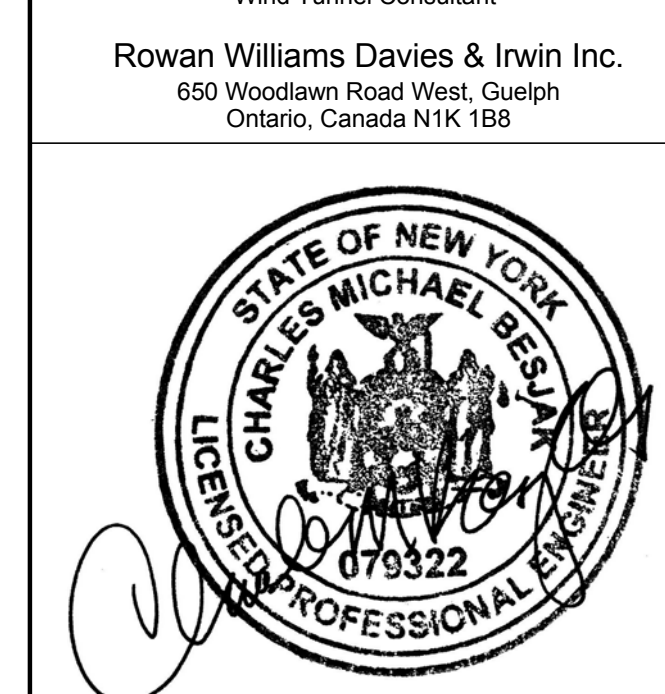
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

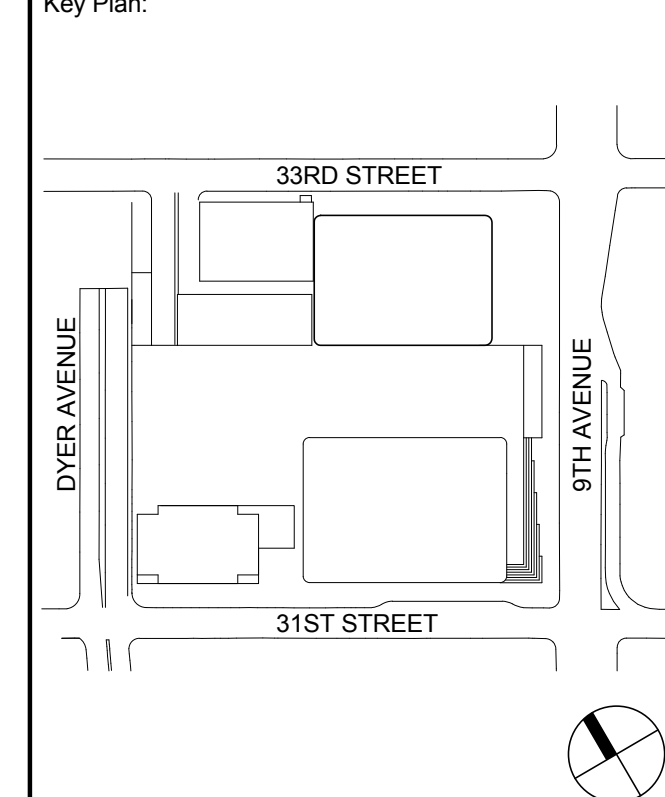
Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

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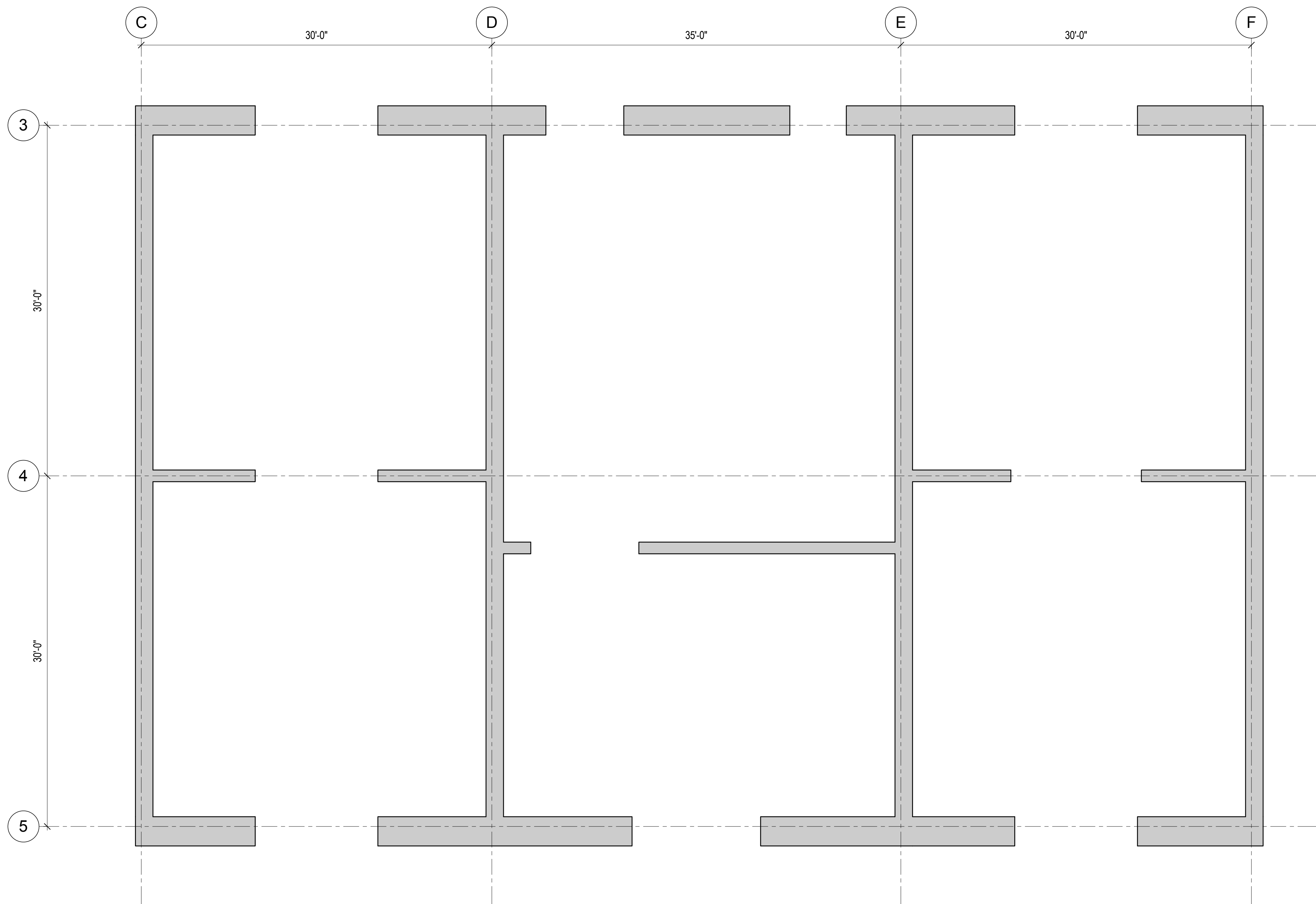
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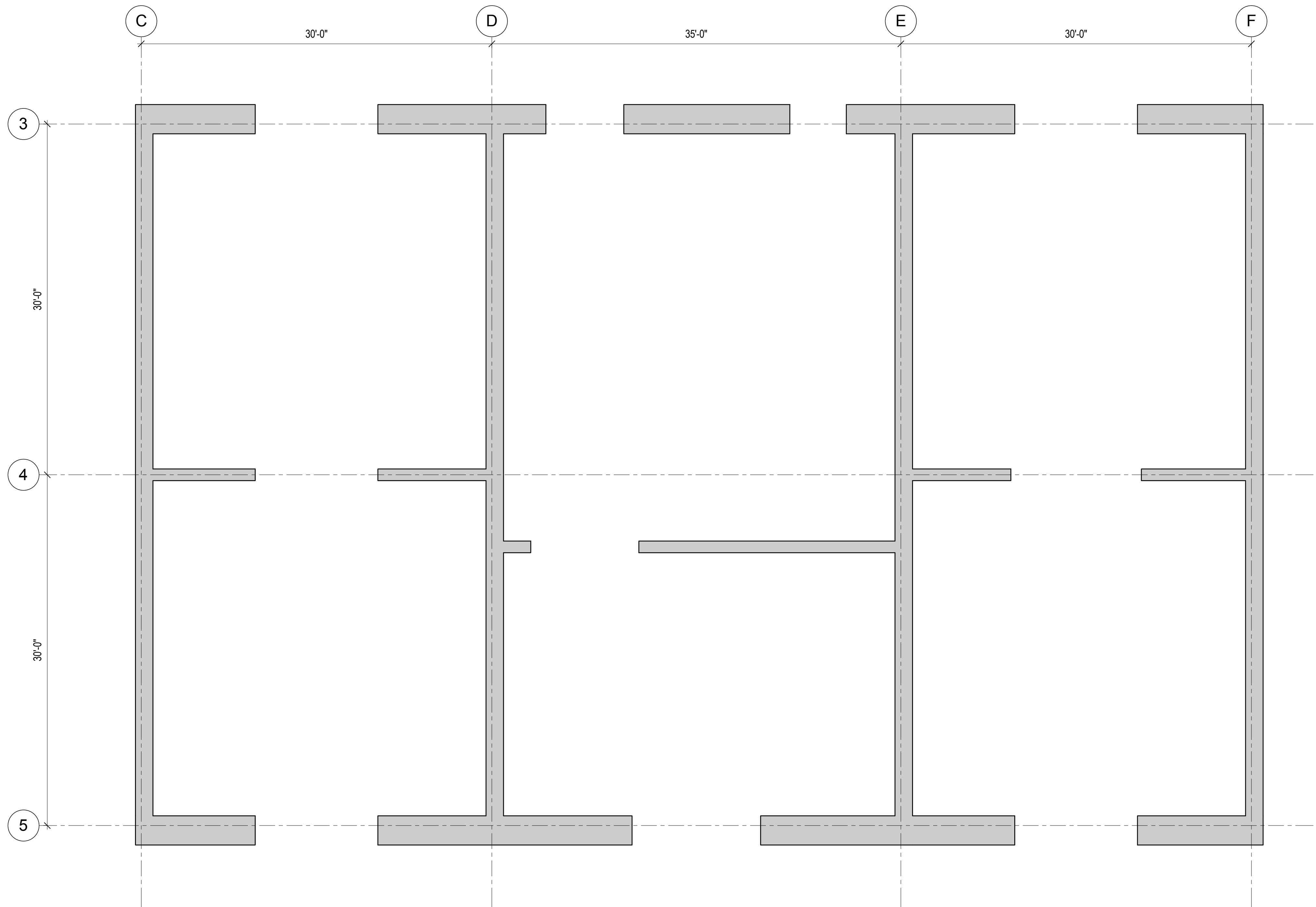
No. Date Description
Sheet Name

CORE WALL
REINFORCEMENT
LAYOUT

| | |
|----------------------|----------------------------|
| Project No.: 211157 | B-SCAN Sheet No.: S-349.00 |
| Date: 20 JUN 2014 | Sheet No.: S-349 |
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| File No.: 3-349 | |



1 REINFORCEMENT LAYOUT - LEVEL 42 TO LEVEL 47
3/16" = 1'-0"



2 REINFORCEMENT LAYOUT - LEVEL 47 TO LEVEL 53
3/16" = 1'-0"

REINFORCING LAYOUT DESIGN IN-PROGRESS AND WILL BE SHOWN ON FUTURE DRAWING ISSUES. REFER TO 1/S-349 FOR SIMILAR LAYOUT.

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MANHATTAN WEST:
NORTH TOWER
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Skidmore, Owings & Merrill LLP
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Code Consultants Professional Engineers PC
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Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Professional Engineer Seal
Charles Michael Bell
073322
Professional Engineer

Key Plan:
Map showing the location of the project on a street grid. The project is located at the intersection of 33rd Street and 9th Avenue. The map also shows 31st Street and Dyer Avenue.

Seal & Signature:
PRELIMINARY
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Project No.: 211157
Date: 20 JUN 2014
Scale: 3/16" = 1'-0"
File No.: S-350

B-SCAN Sheet No.: S-350.00
Sheet No.: S-350
Page No.: 57 of 90

Project No.: 211157
Date: 20 JUN 2014
Scale: 3/16" = 1'-0"
File No.: S-350

B-SCAN Sheet No.: S-350.00
Sheet No.: S-350
Page No.: 57 of 90

Project No.: 211157
Date: 20 JUN 2014
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Sheet No.: S-350
Page No.: 57 of 90

Project No.: 211157
Date: 20 JUN 2014
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B-SCAN Sheet No.: S-350.00
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Sheet No.: S-350
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Project No.: 211157
Date: 20 JUN 2014
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B-SCAN Sheet No.: S-350.00
Sheet No.: S-350
Page No.: 57 of 90

Project No.: 211157
Date: 20 JUN 2014
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File No.: S-350

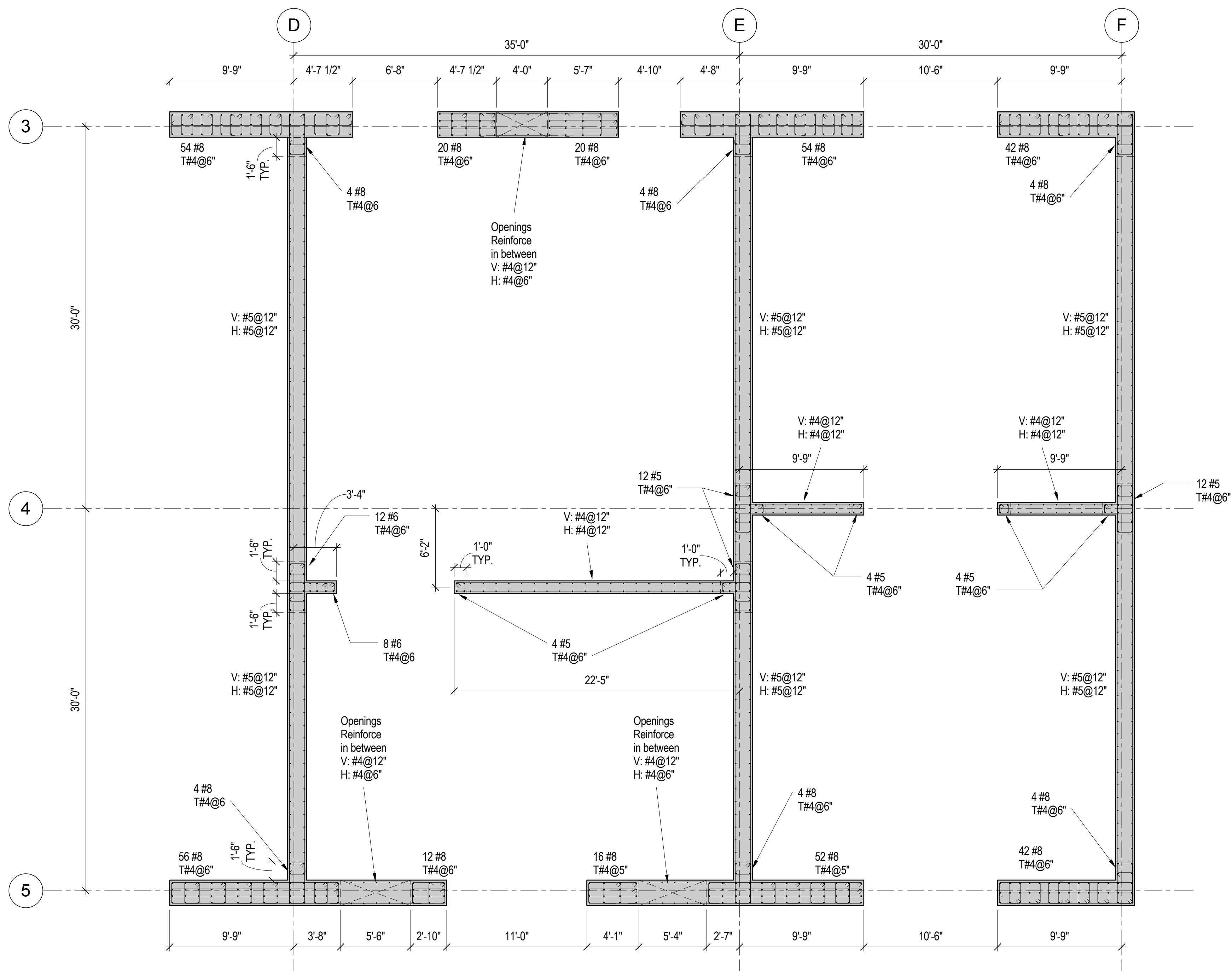
B-SCAN Sheet No.: S-350.00
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Page No.: 57 of 90

Project No.: 211157
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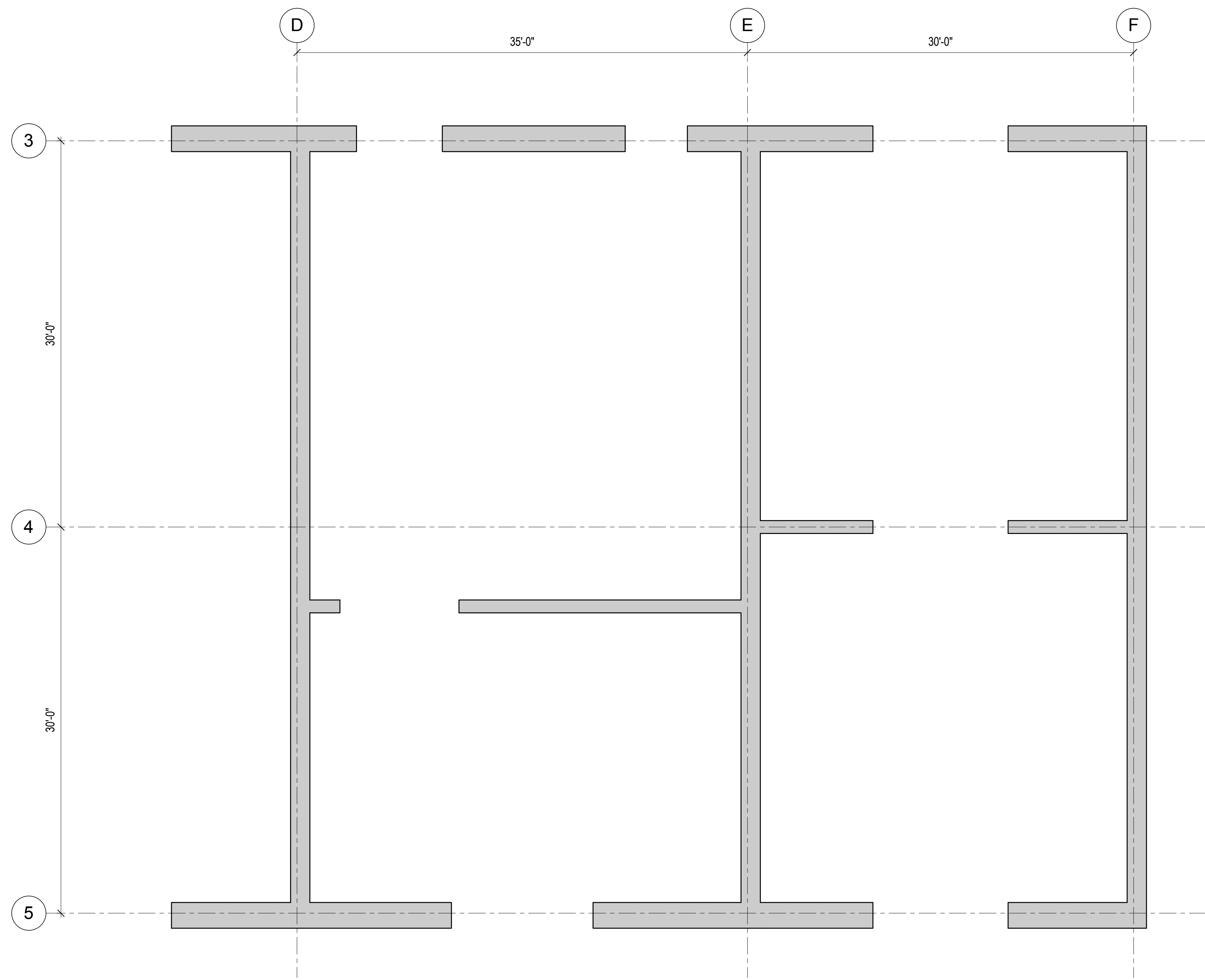
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Sheet No.: S-350
Page No.: 57 of 90

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B-SCAN Sheet No.: S-350.00
Sheet No.: S-350
Page No.: 57 of 90



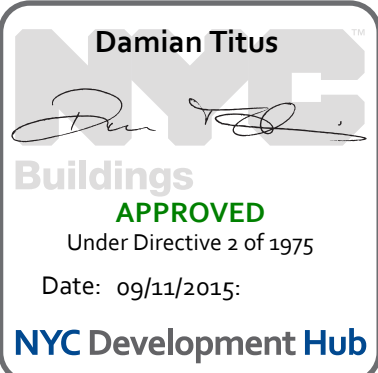
1 REINFORCEMENT LAYOUT - LEVEL 53 TO LEVEL 58
3/16" = 1'-0"




2 REINFORCEMENT LAYOUT - LEVEL 58 TO LEVEL 63
3/16" = 1'-0"

REINFORCING LAYOUT DESIGN IN-PROGRESS AND WILL BE SHOWN ON FUTURE DRAWING ISSUES. REFER TO 1/S-349 FOR SIMILAR LAYOUT.

REINFORCING LAYOUT DESIGN IN-PROGRESS AND WILL BE SHOWN ON FUTURE DRAWING ISSUES. REFER TO 1/S-351 FOR SIMILAR LAYOUT.





MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client

Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

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Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

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MEP Engineering

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New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Ventor & Santore
250 State Street #F1, North Haven, CT 06473

Blast Consultant

Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant


Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

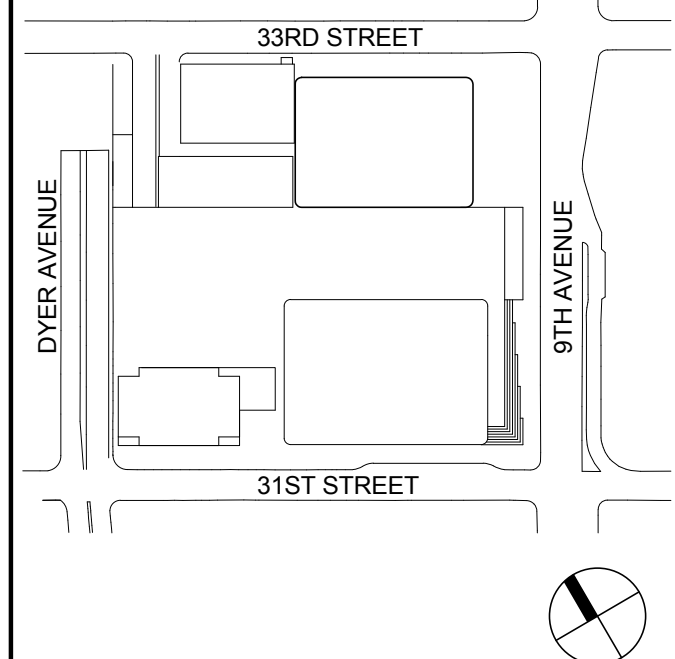
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:


Seal & Signature:

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**CORE WALL
REINFORCEMENT
LAYOUT**

Project No.: 211157

Date: 20 JUN 2014

Scale: 3/16" = 1'-0"

File No.: S-351

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Sheet No.: S-351

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MANHATTAN WEST:
NORTH TOWER

375 Ninth Avenue, New York, NY 10001
Client

Brookfield
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

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Skidmore, Owings & Merrill LLP
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New York, NY 10122

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Field Operations

475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Ventor & Santore
250 State Street #F1, North Haven, CT 06473

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Facade Maintenance Consultant

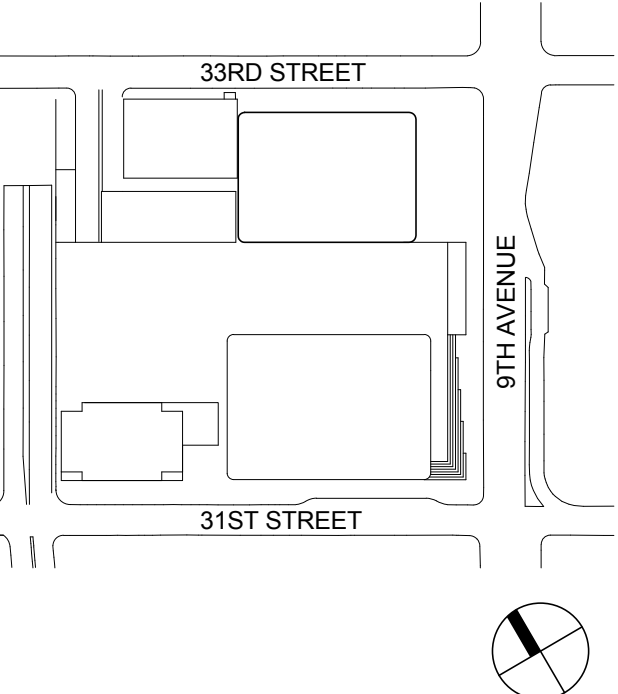
Entek Engineering LLC
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Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

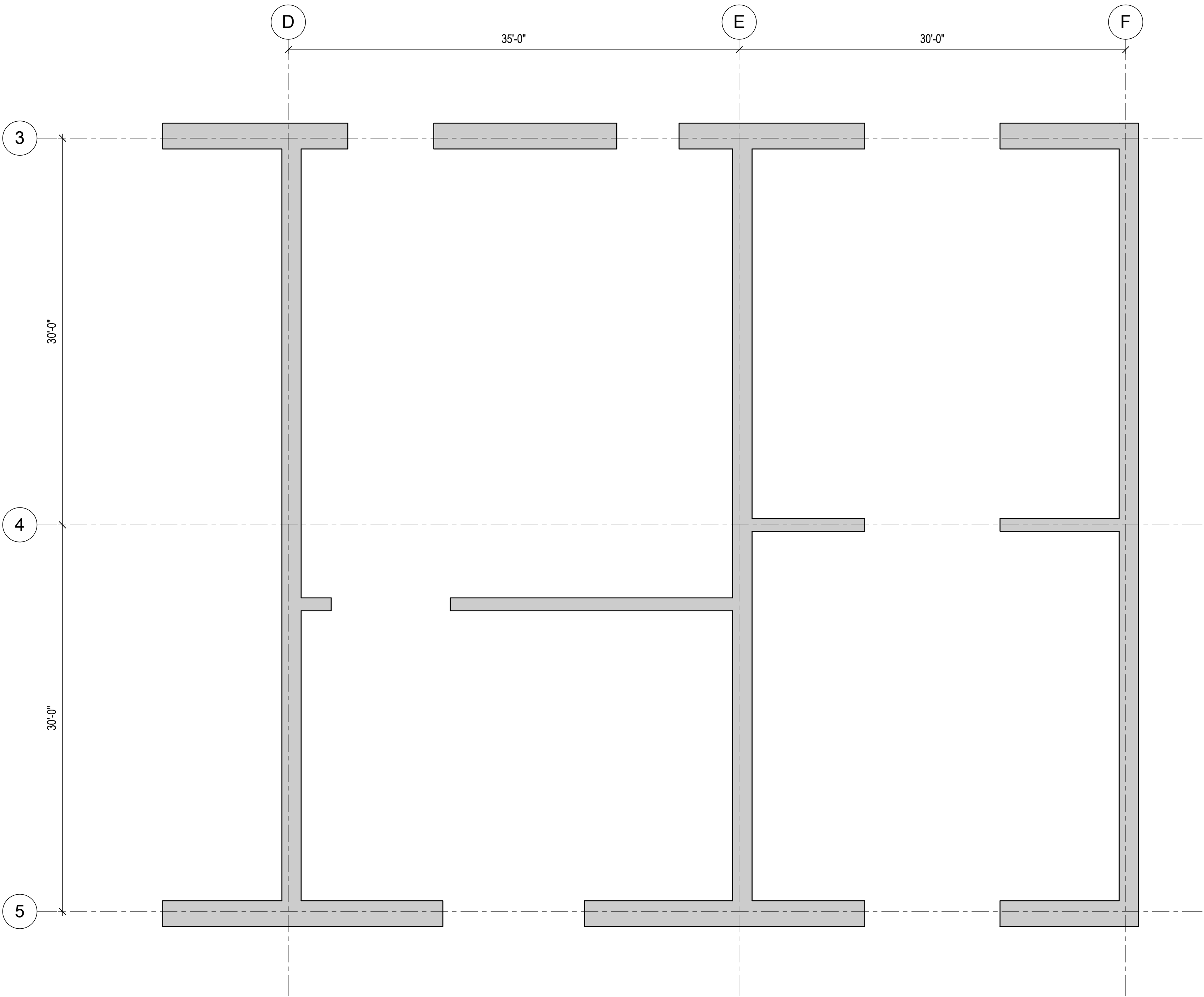
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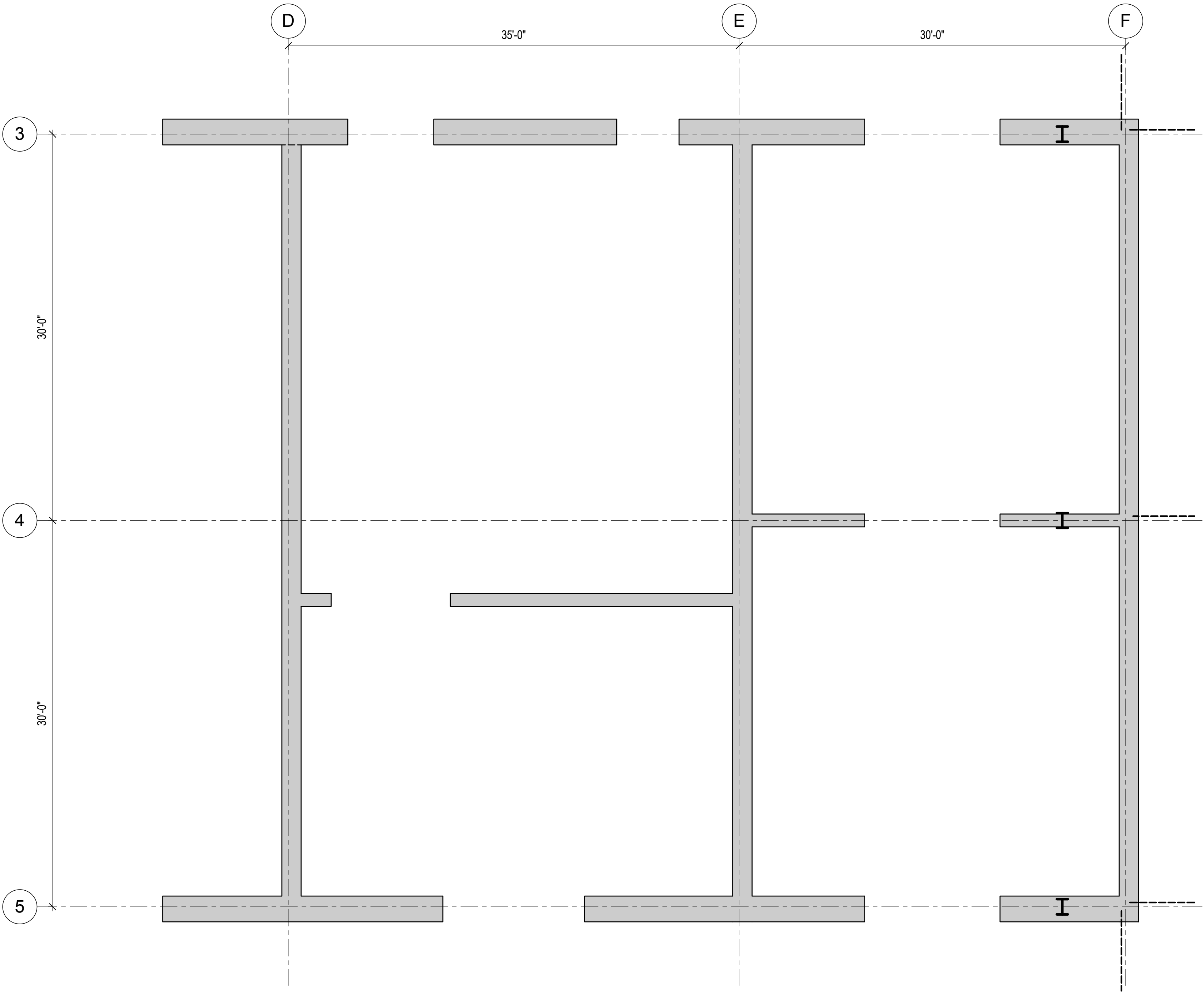
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| Sheet Name | | |

CORE WALL
REINFORCEMENT
LAYOUT

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| Project No.: | 211157 | B-SCAN Sheet No.: | S-352.00 |
| Date: | 20 JUN 2014 | Sheet No.: | S-352 |
| Scale: | 3/16" = 1'-0" | Page No.: | 59 of 90 |
| File No.: | S-352 | | |



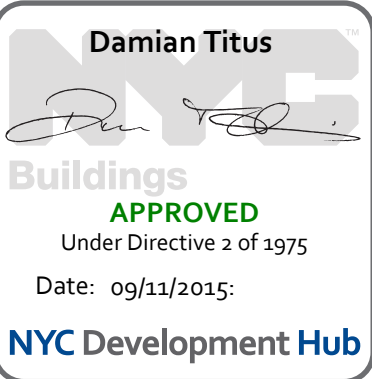
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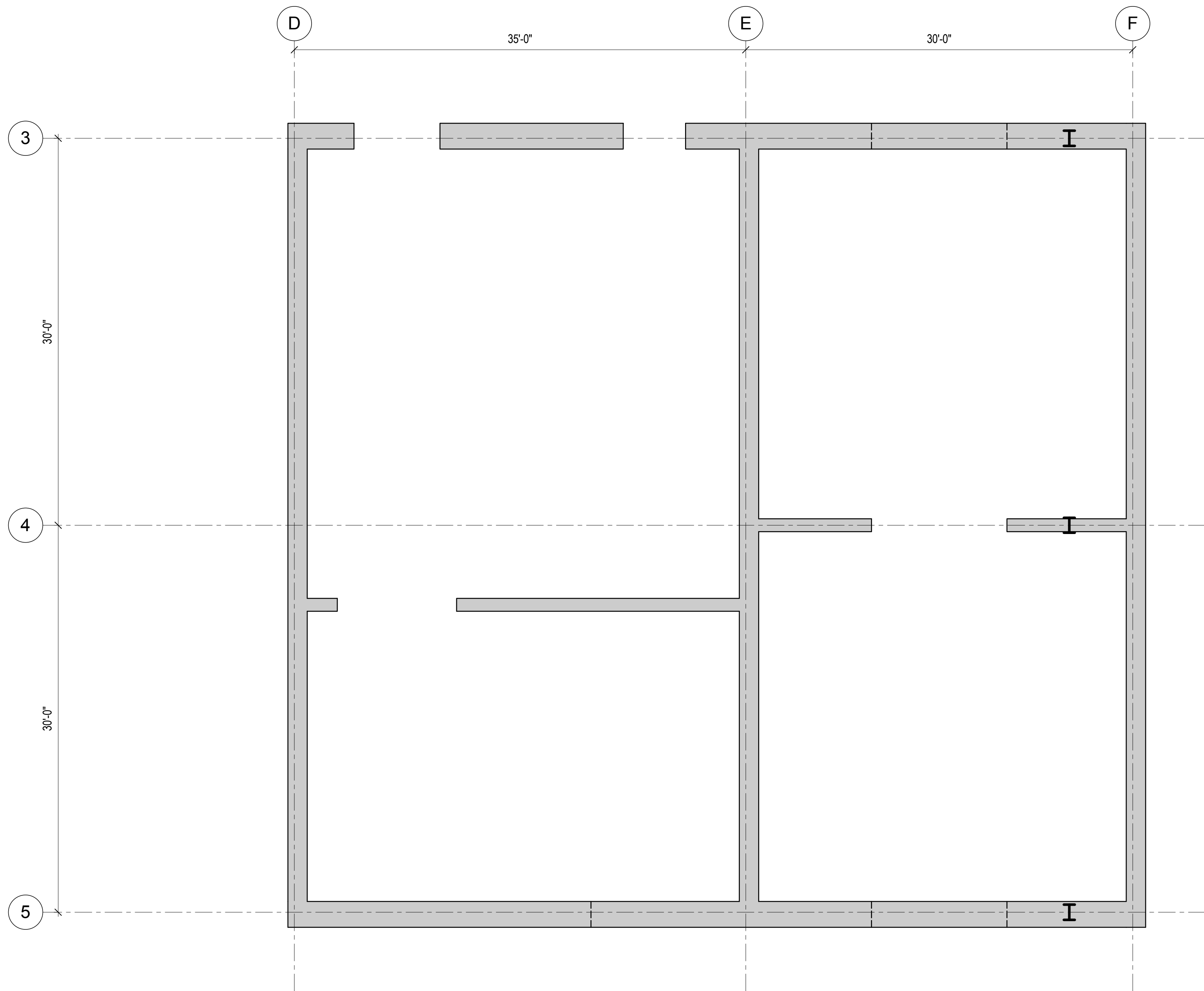
2 REINFORCEMENT LAYOUT - LEVEL 68 TO LEVEL 69
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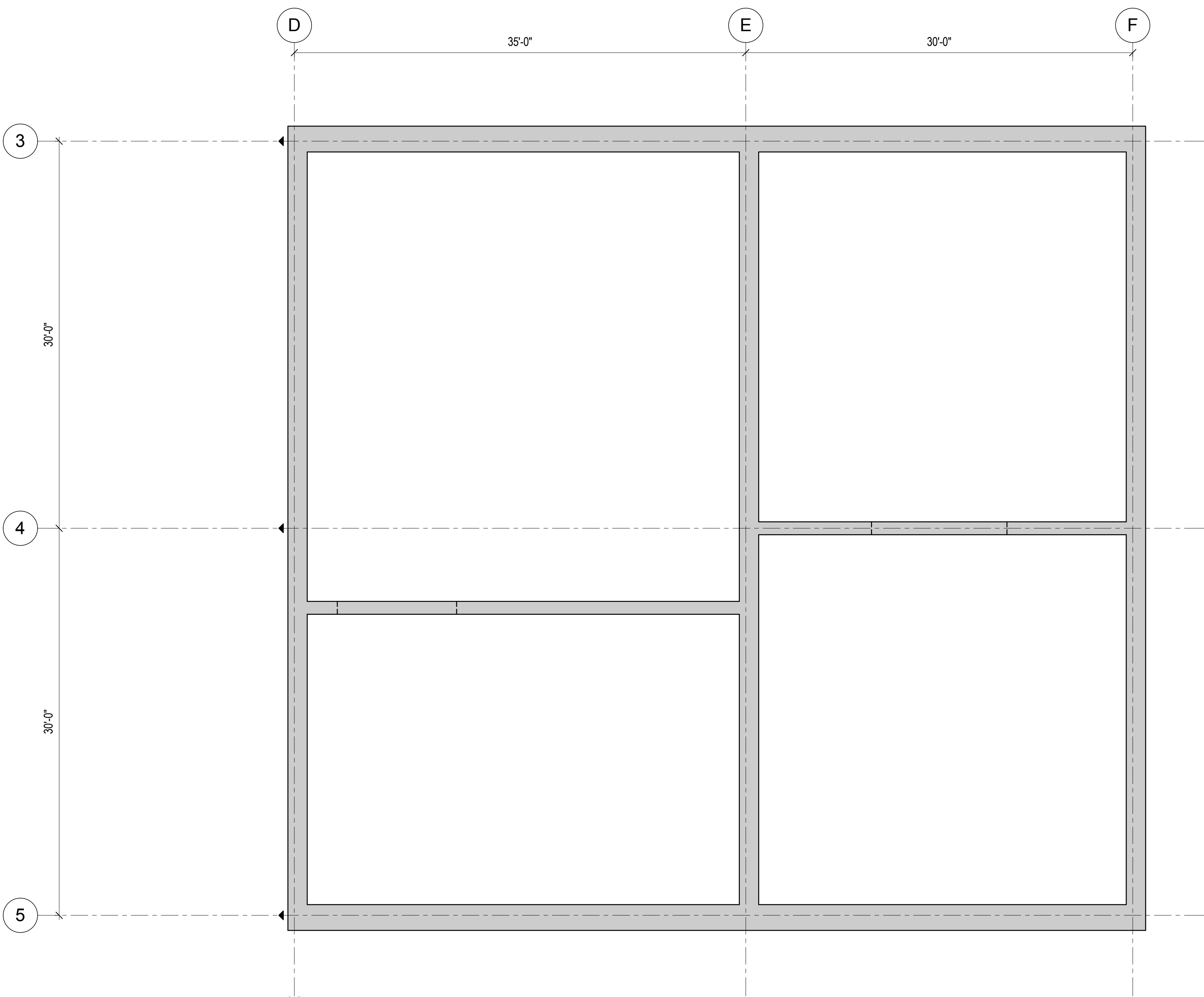
REINFORCING LAYOUT DESIGN IN-PROGRESS AND WILL BE SHOWN ON FUTURE DRAWING ISSUES. REFER TO 1/S-351 FOR SIMILAR LAYOUT.



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1 REINFORCEMENT LAYOUT - LEVEL 69 TO LEVEL 70
3/16" = 1'-0"



2 REINFORCEMENT LAYOUT - LEVEL 70 TO ROOF
3/16" = 1'-0"

REPORT NUMBER: 211157-01 SHEET NUMBER: S-353



**MANHATTAN WEST:
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Client

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SOM
Skidmore, Owings & Merrill LLP
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Vibration Consultant
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65 Broadway, Suite 401, New York, NY 10006

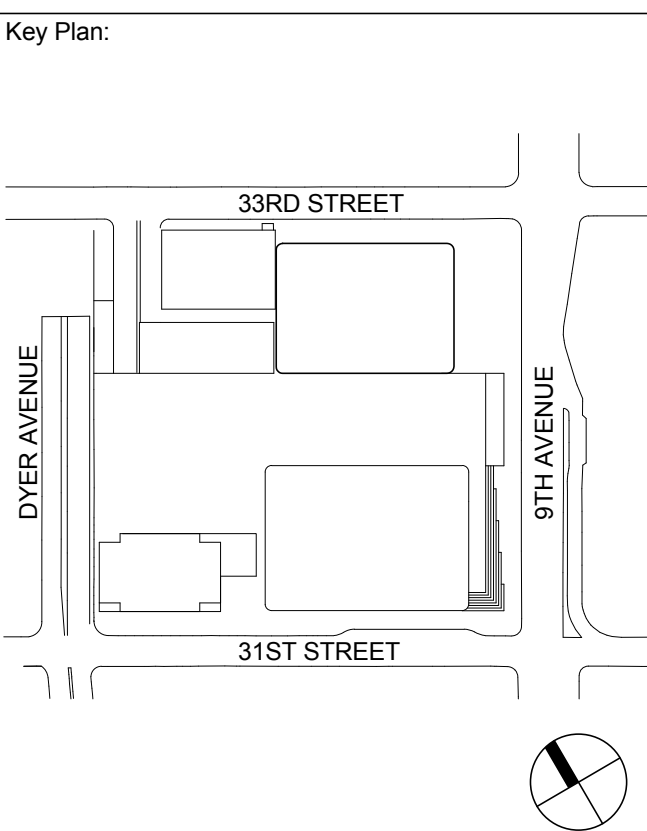
Code Consultant
Code Consultants Professional Engineers PC
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650 Woodlawn Road West, Guelph
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Key Plan:



Seal & Signature:

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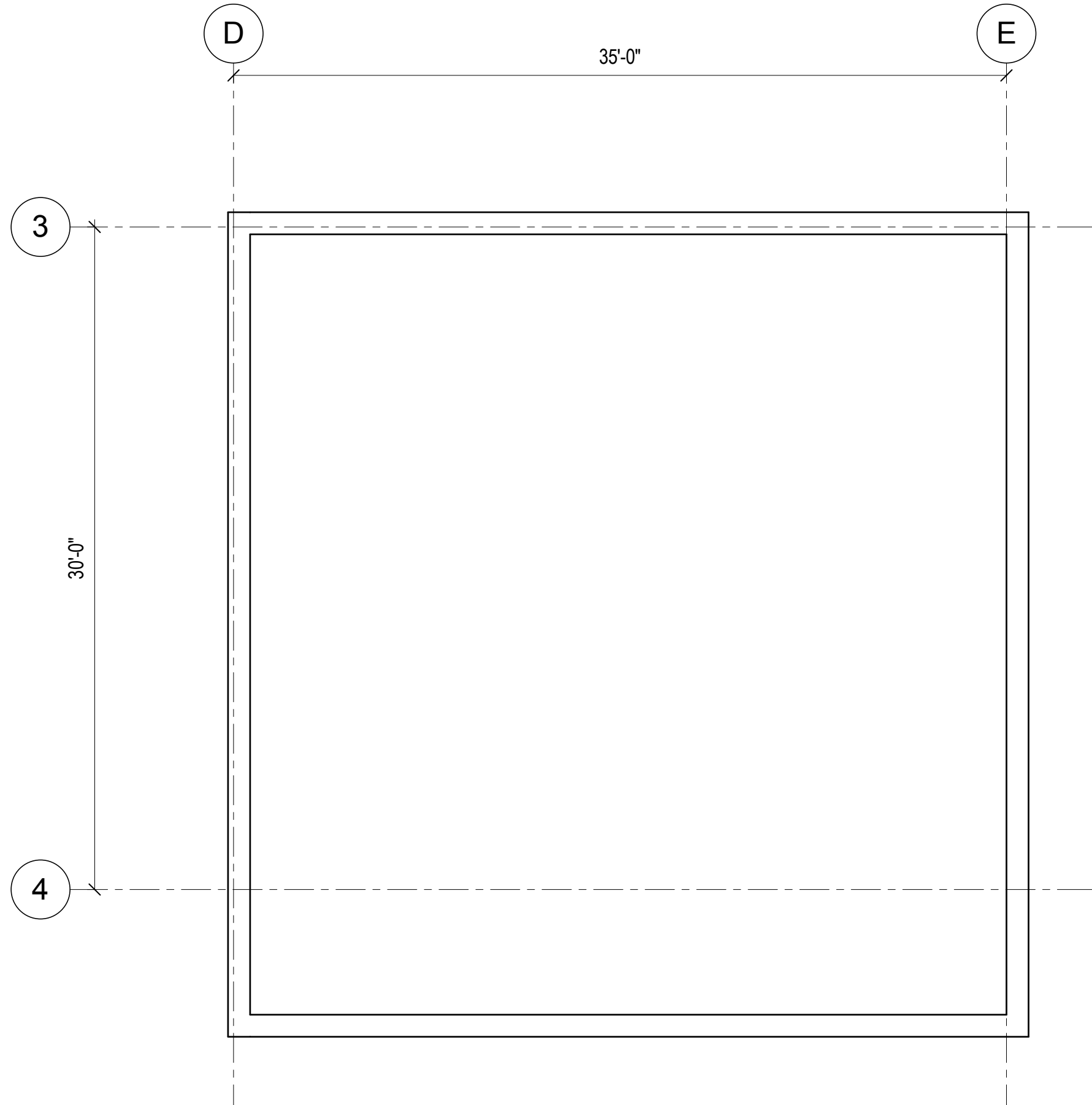
No. Date Description

Sheet Name

**CORE WALL
REINFORCEMENT
LAYOUT**



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| Project No.: 211157 | B-SCAN Sheet No.: S-353.00 |
| Date: 20 JUN 2014 | Sheet No.: S-353 |
| Scale: 3/16" = 1'-0" | Page No.: 60 of 90 |
| File No.: S-353 | |



1 REINFORCEMENT LAYOUT - ROOF
3/16" = 1'-0"

REINFORCING LAYOUT DESIGN IN-PROGRESS AND WILL BE SHOWN ON FUTURE DRAWING ISSUES.



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40 Wall Street, New York, NY 10005
Acoustical Consultant

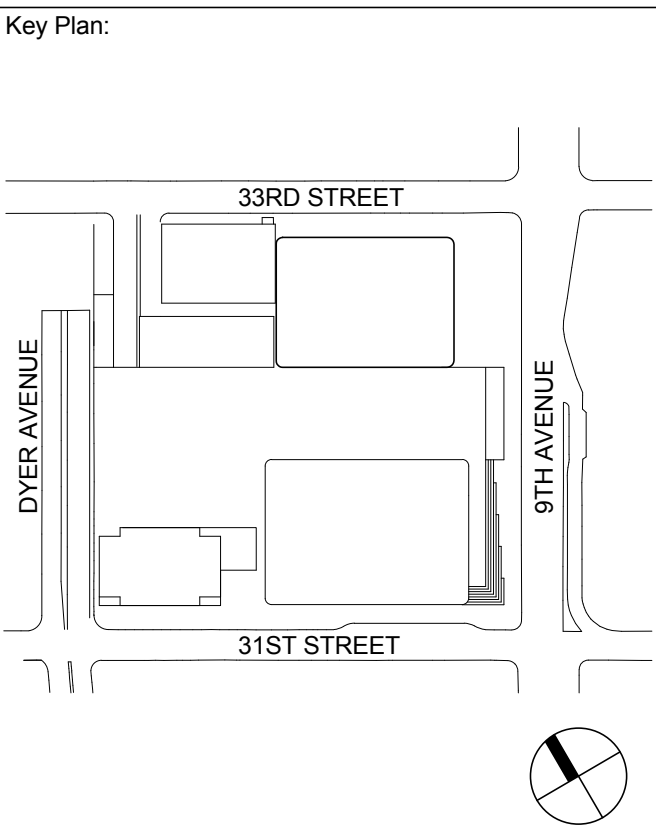
Cerami & Associates
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Vibration Consultant

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Code Consultant

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Ontario, Canada N1K 1B8



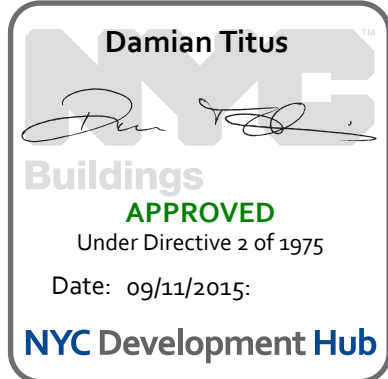
Seal & Signature:

PRELIMINARY
NOT FOR CONSTRUCTION

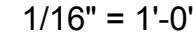
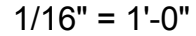
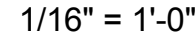
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| | | | | | |
| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID | | | |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT | | | |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT | | | |
| 3 | 15 NOV 2013 | ISSUED FOR DD PROGRESS PRICING | | | |
| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT | | | |
| 1 | 15 MAR 2013 | ISSUED FOR RECONCILIATION | | | |
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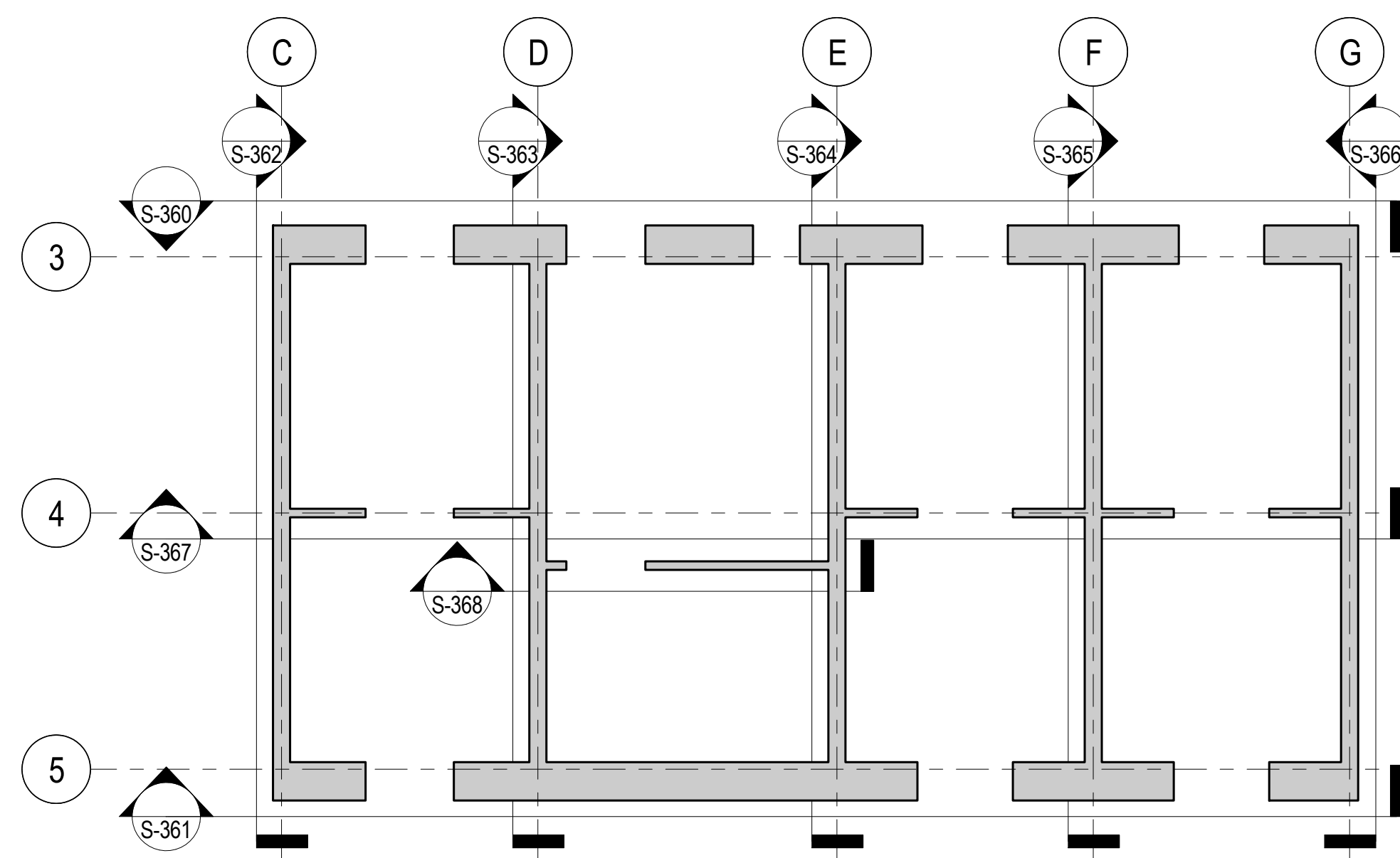
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Date: 20 JUN 2014
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File No: S-354

B-SCAN Sheet No.:
S-354.00
Sheet No.: S-354
Page No.: 61 of 90

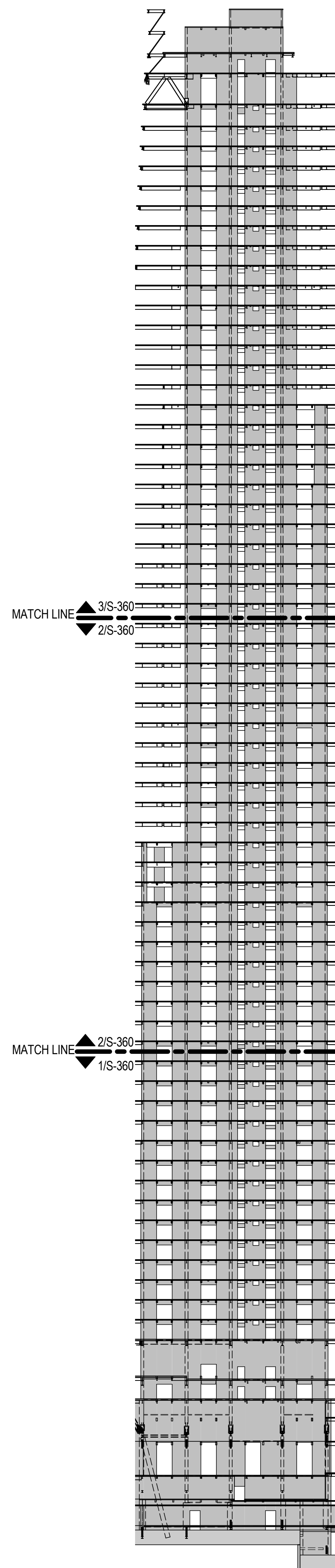


$f_y = 60 \text{ ksi}$
 $f_c = \text{SEE NOTE 1}$
 $E = \text{SEE NOTE 1}$

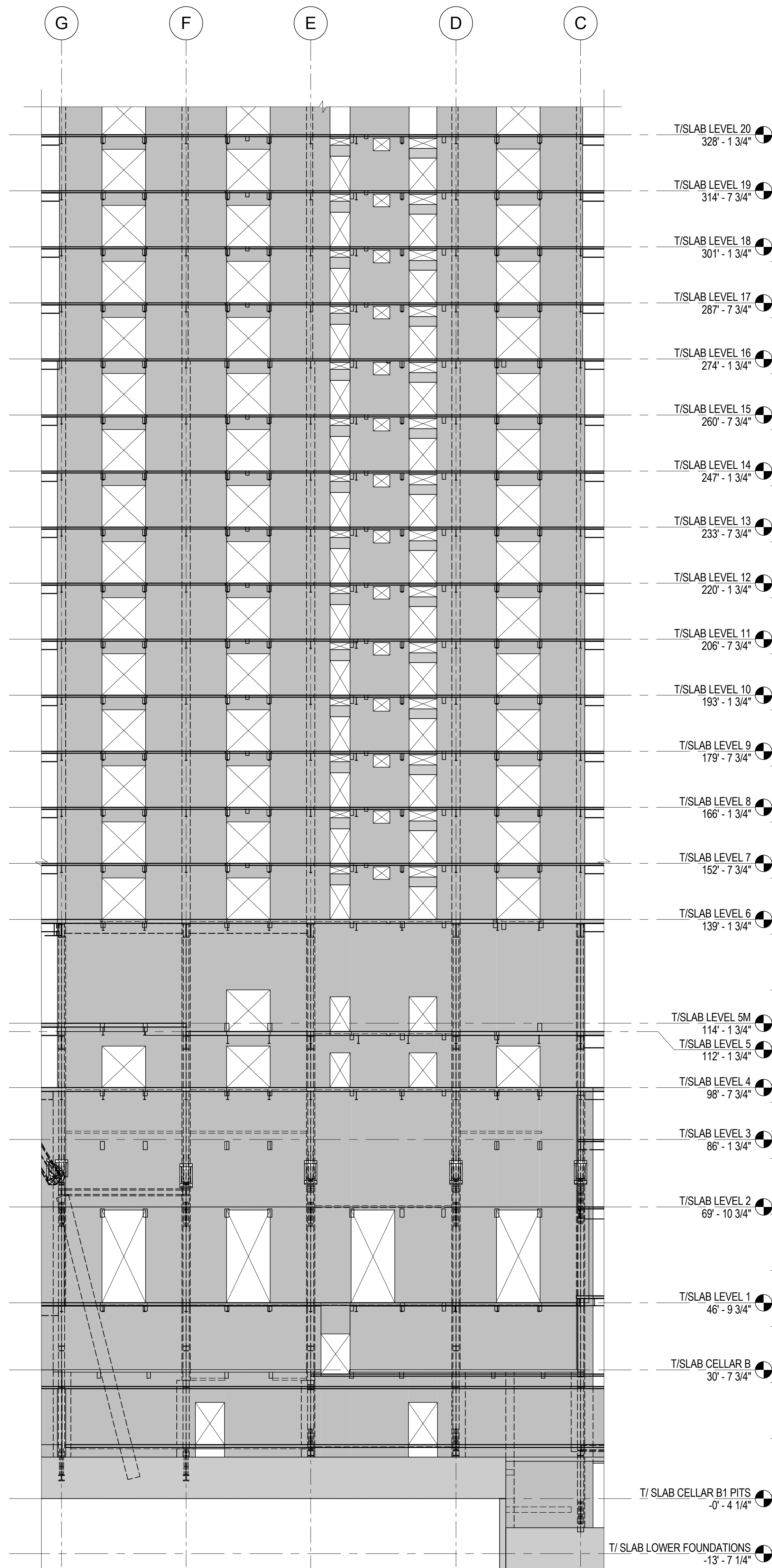

$$1'' = 1' - 0'$$




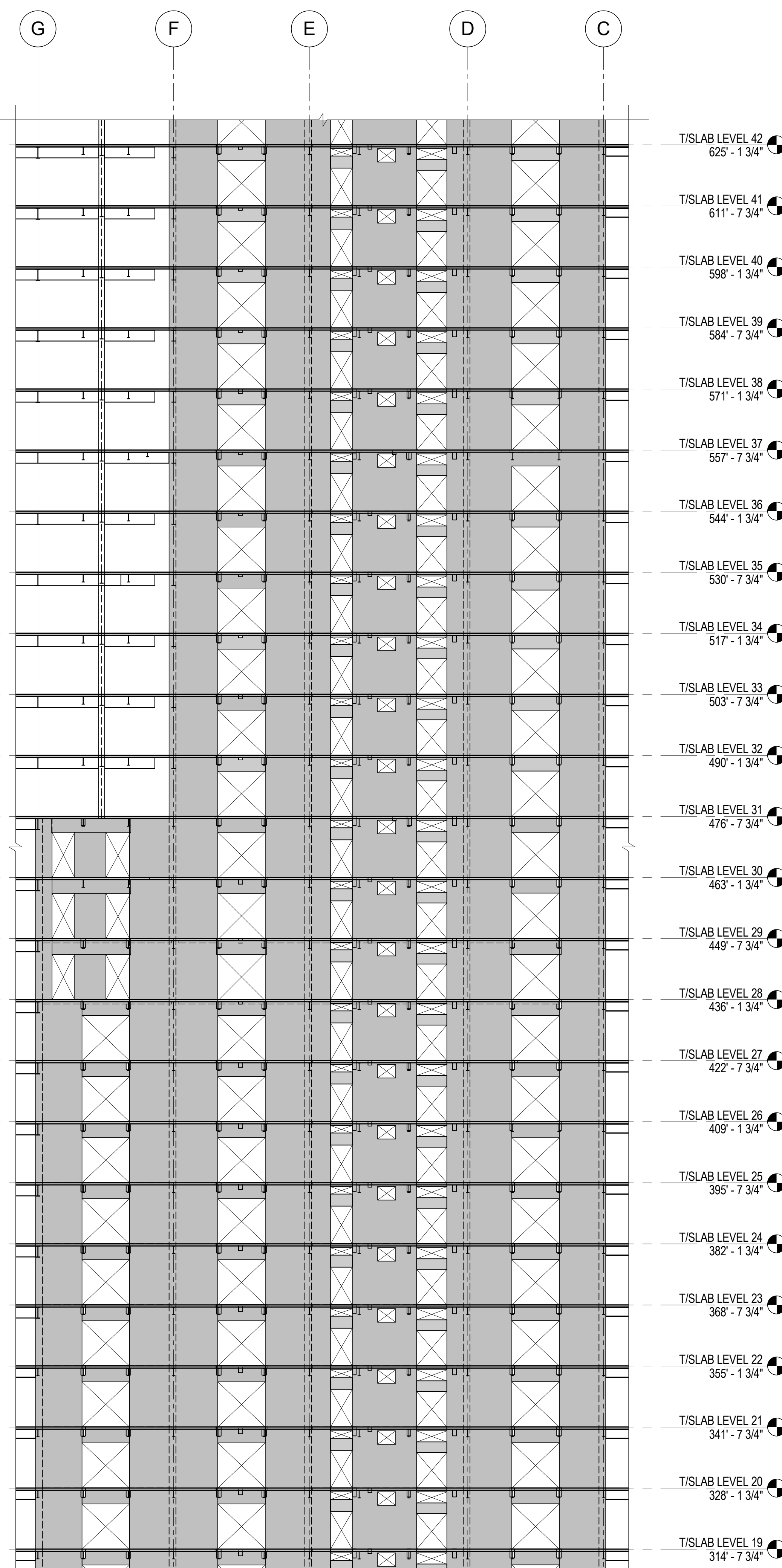
CORE WALL ELEVATION KEY PLAN
NTS



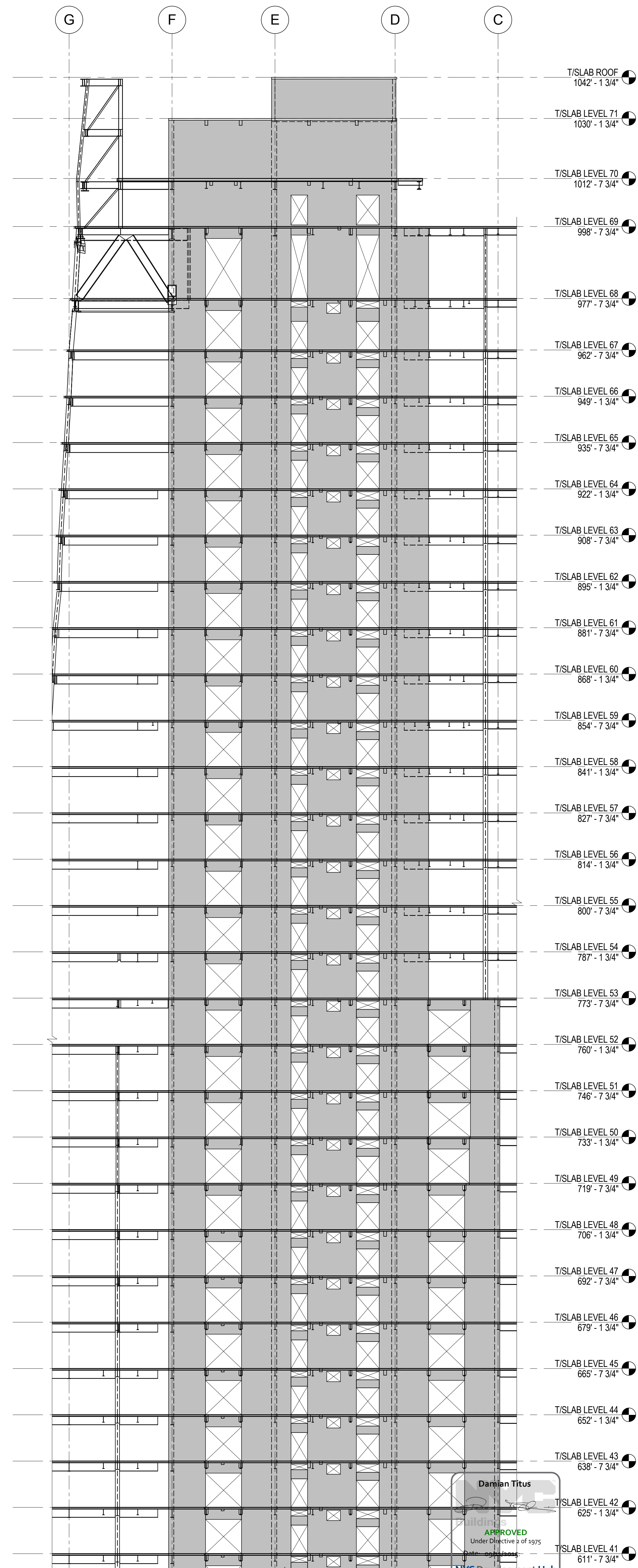
ELEVATION KEY
N.T.S.



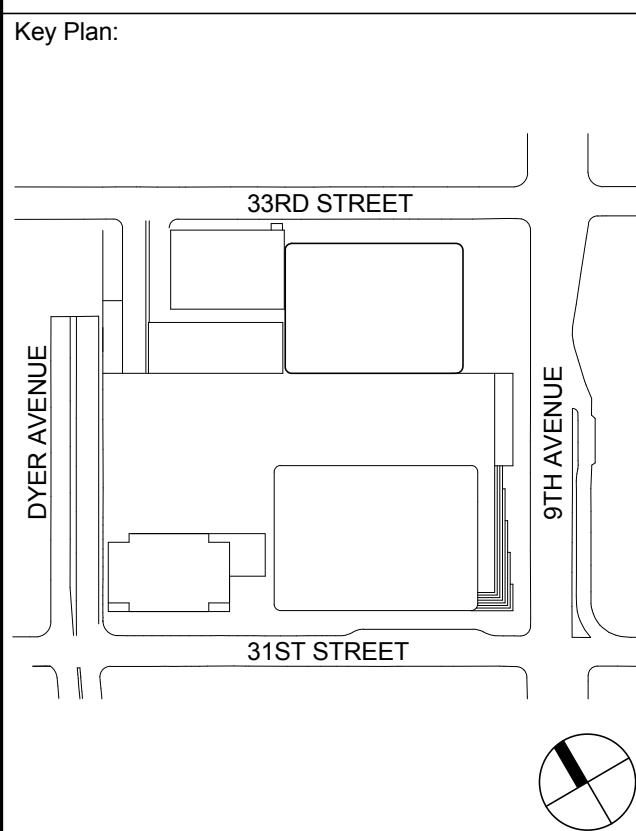
1 ELEVATION ALONG LINE 3
1/16" = 1'-0"



2 ELEVATION ALONG LINE 3
1/16" = 1'-0"



3 ELEVATION ALONG LINE 3
1/16" = 1'-0"



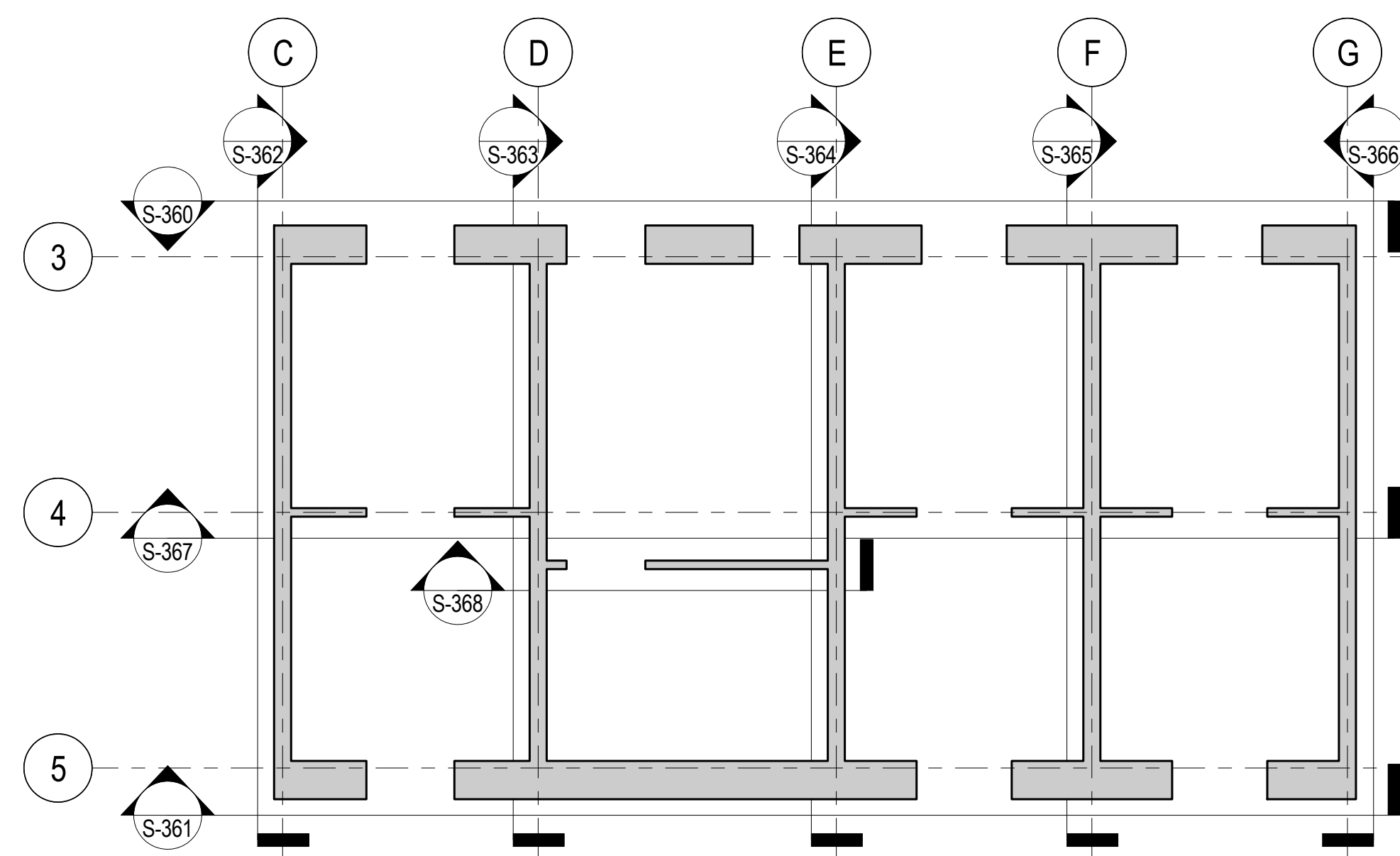
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PRELIMINARY
NOT FOR CONSTRUCTION

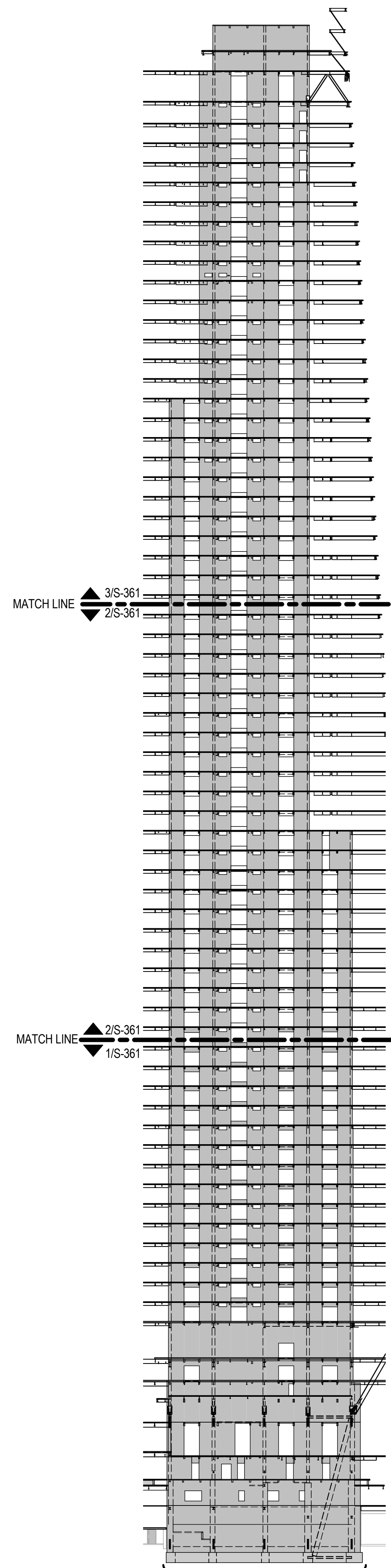
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| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 2D PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

Sheet Name: CORE WALL ELEVATIONS ALONG LINE 3

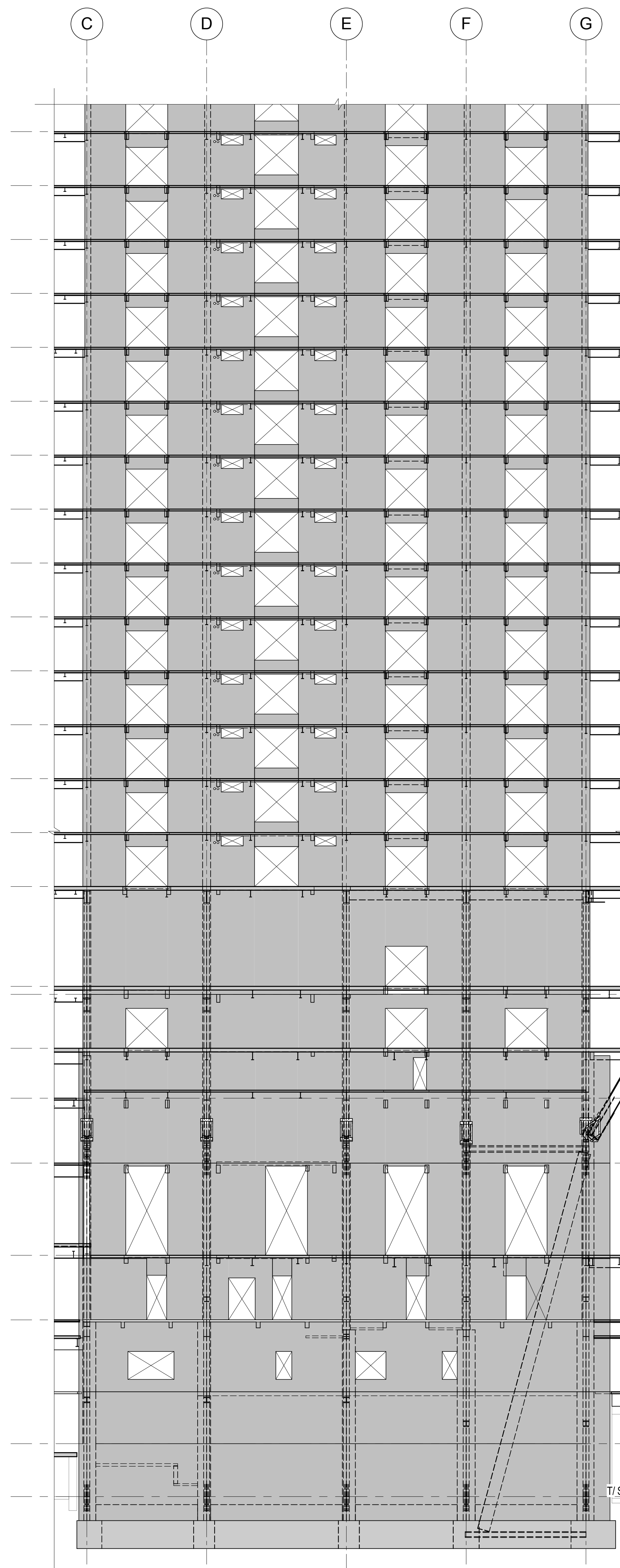
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| Project No.: 211157 | B-SCAN Sheet No.: S-360.00 |
| Date: 20 JUN 2014 | Sheet No.: S-360 |
| Scale: As indicated | Page No.: 64 of 90 |
| File No.: S-360 | |



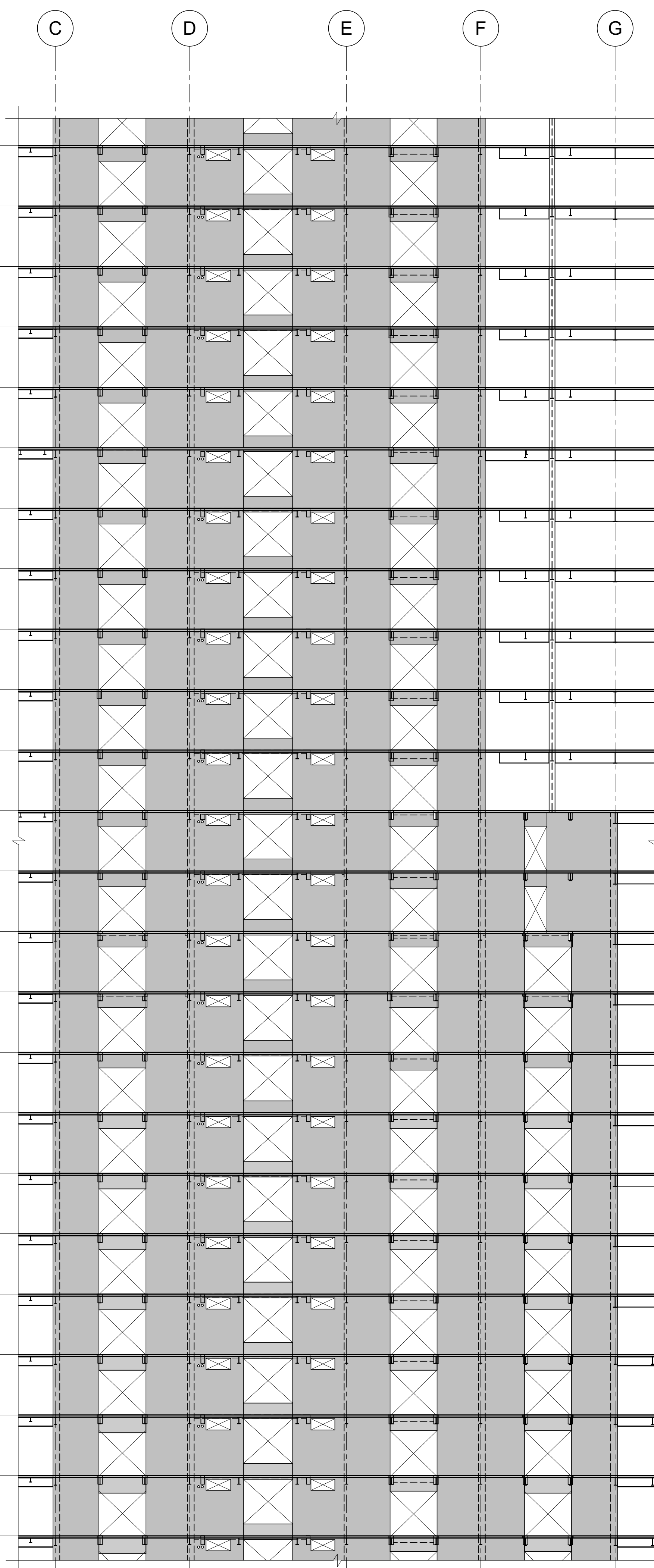
CORE WALL ELEVATION KEY PLAN
NTS



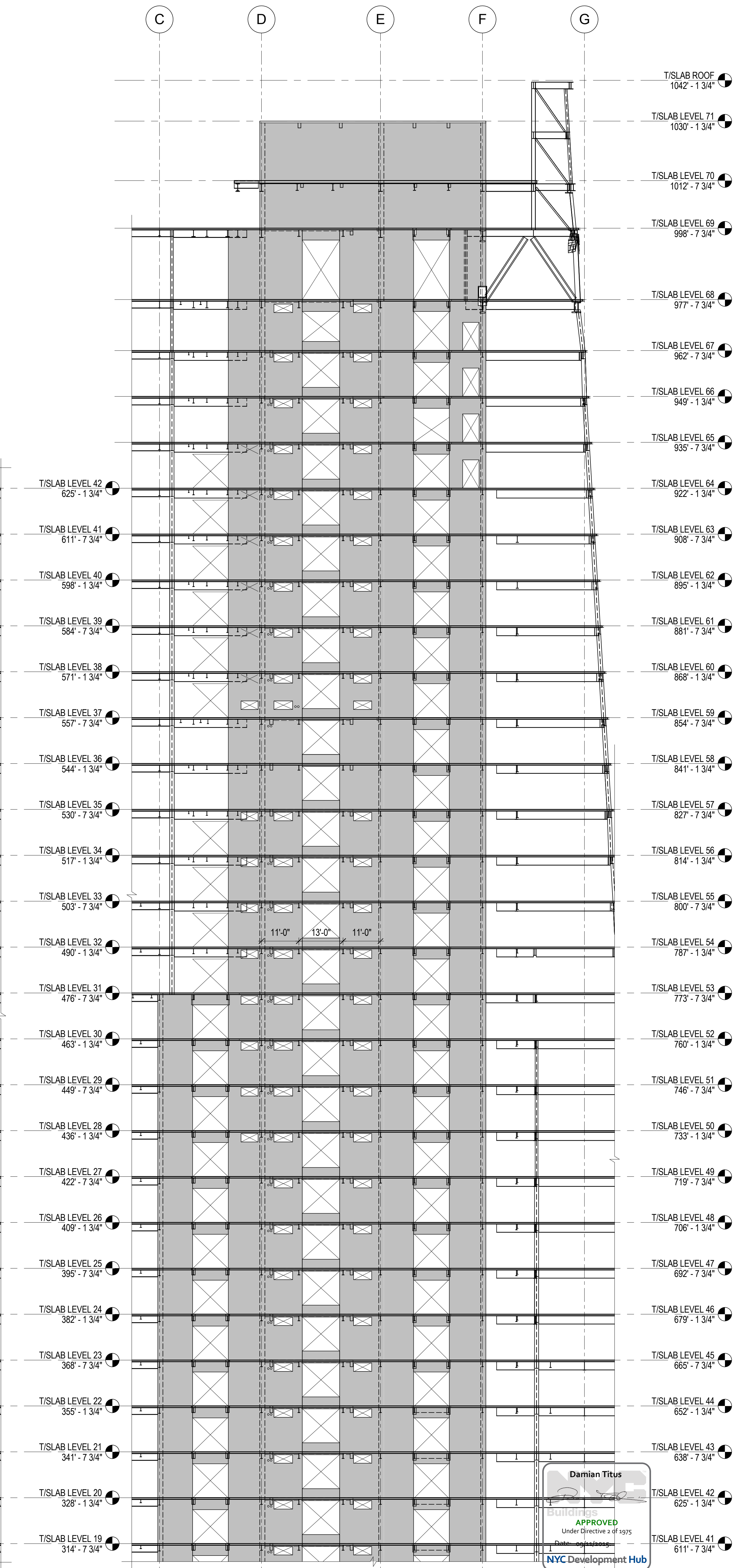
ELEVATION KEY
NTS




1 ELEVATION ALONG LINE 5
1/16" = 1'-0"



2 ELEVATION ALONG LINE 5
1/16" = 1'-0"



3 ELEVATION ALONG LINE 5
1/16" = 1'-0"



**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave, Suite 1, Mill Valley, California 94041

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geo-Technical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 22nd W, 34th Street #610,
New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Venter & Santore
250 State Street #1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005


Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

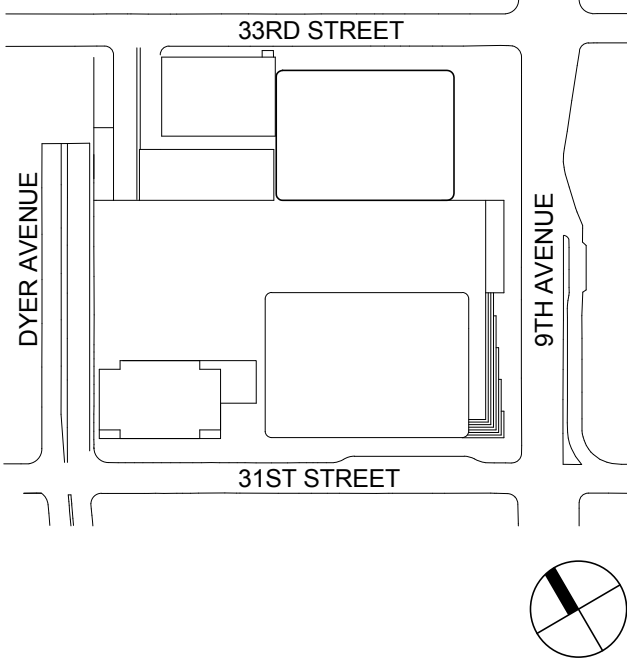
Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

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NOT FOR CONSTRUCTION

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| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. _____ Date _____ Description _____

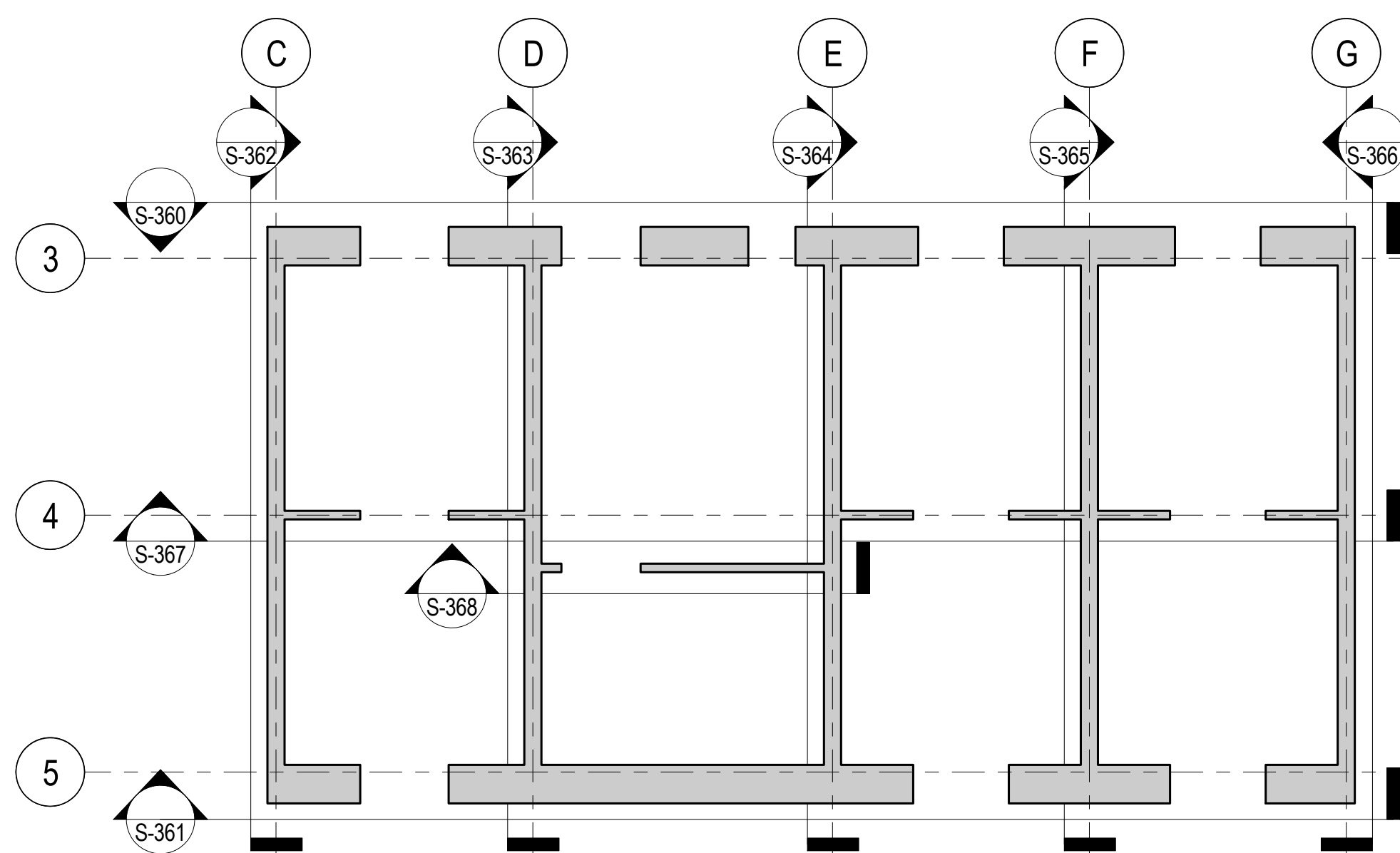
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Project No.: 211157 B-SCAN Sheet No.: **S-361.00**

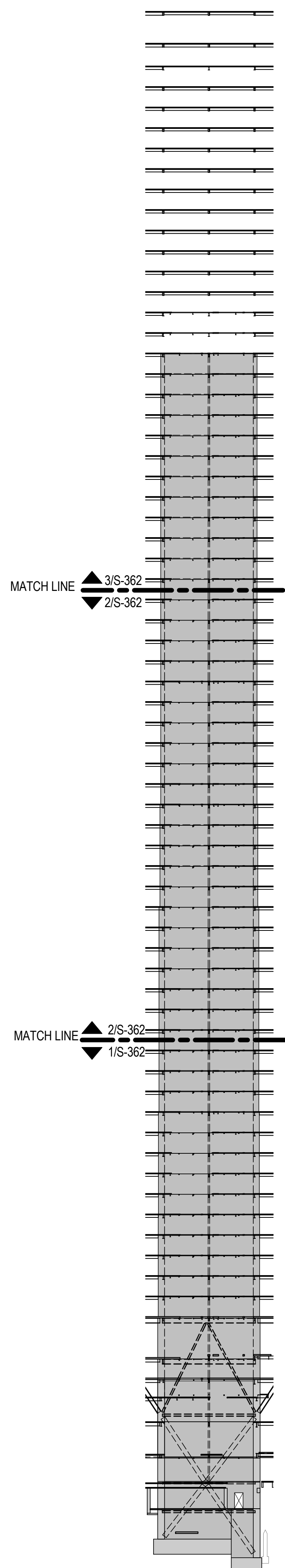
Date: 20 JUN 2014 Sheet No.: **S-361**

Scale: As indicated Page No.: 65 of 90

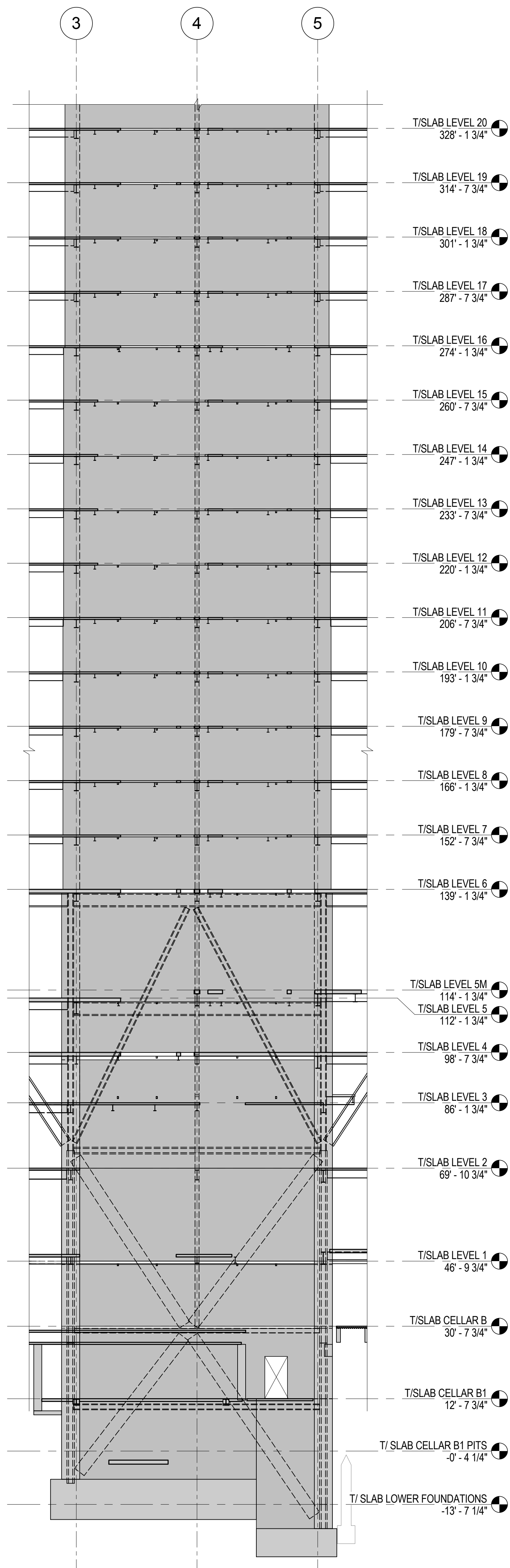
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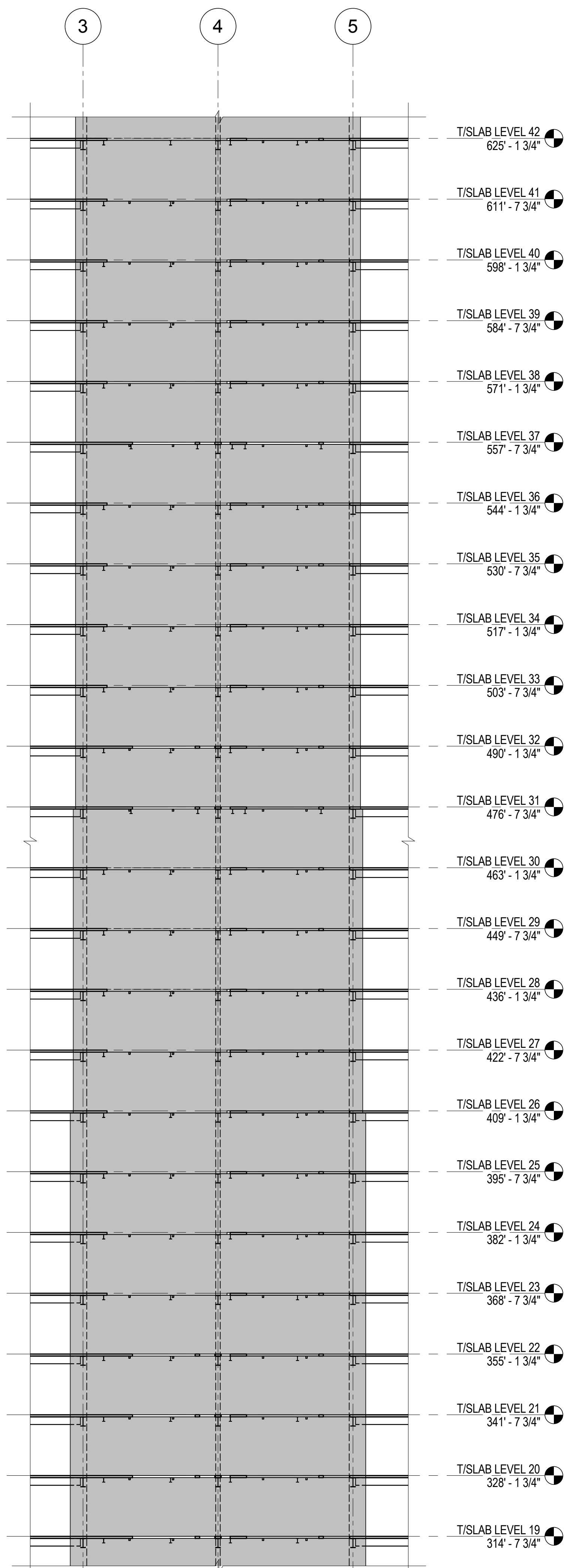
CORE WALL ELEVATION KEY PLAN
NTS



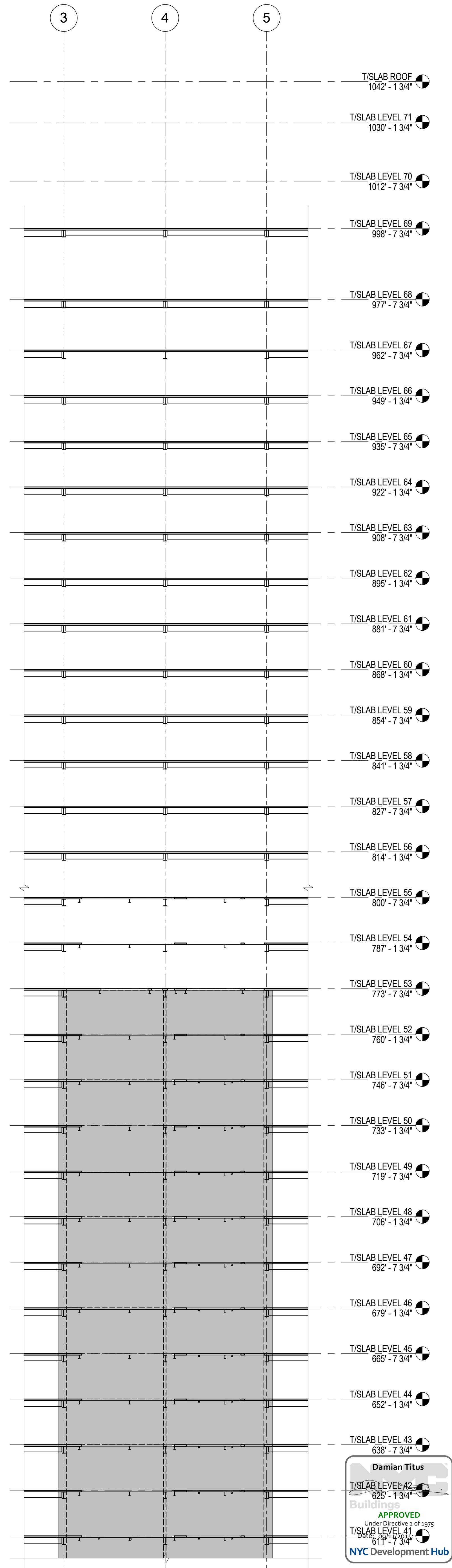
ELEVATION KEY
NTS



1 ELEVATION ALONG LINE C
1/16" = 1'-0"



2 ELEVATION ALONG LINE C
1/16" = 1'-0"



3 ELEVATION ALONG LINE C
1/16" = 1'-0"



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client
Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering
SOM

Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East 8th Street, Suite 1, Mill Valley, California 94041

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geo-Technical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 22nd W, 34th Street #610,
New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Vantor & Santore
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

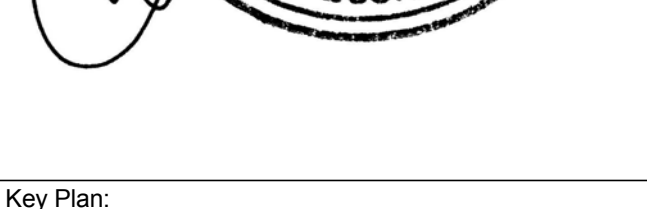
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

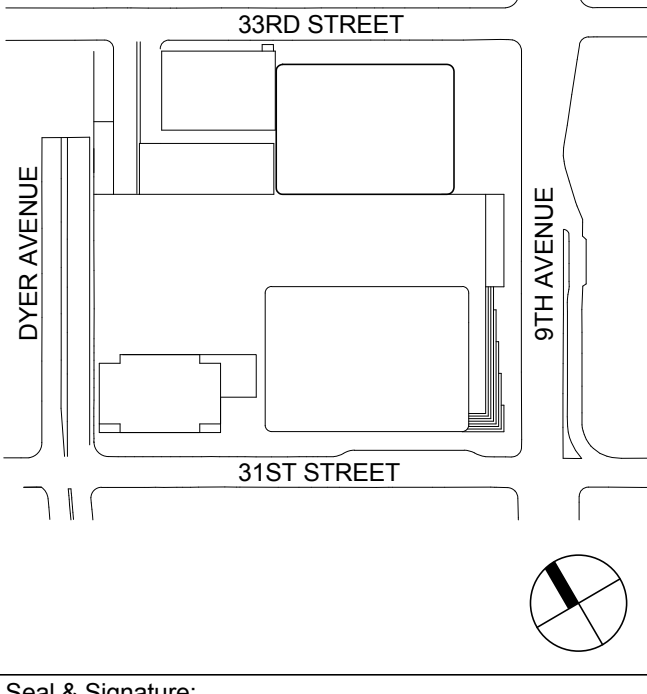
Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

PRELIMINARY
NOT FOR CONSTRUCTION

| No. | Date | Description |
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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

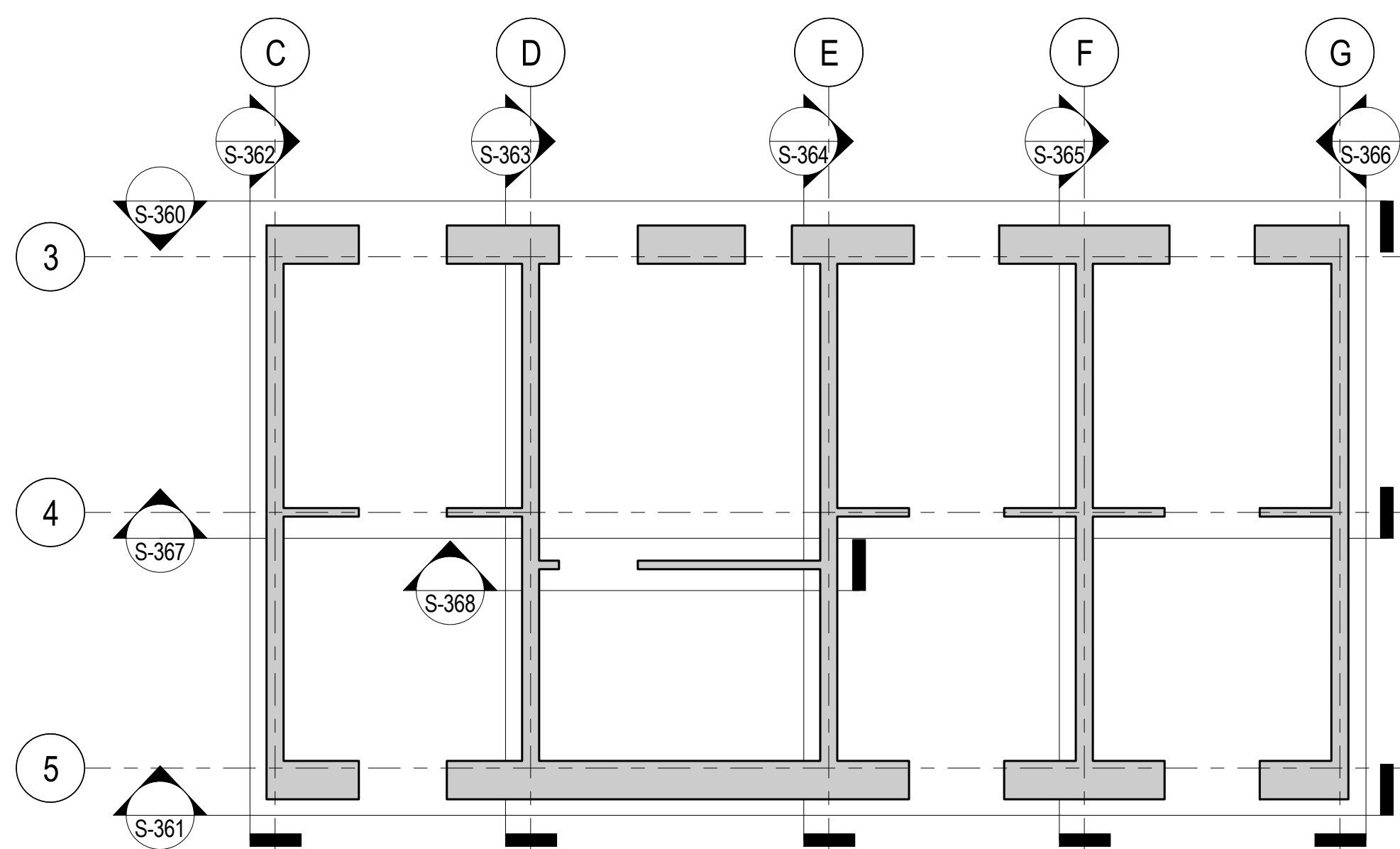
Project No.: 211157
Date: 20 JUN 2014
Scale: As indicated
File No: S-362

Sheet No.: S-362
Page No.: 66 of 90

**CORE WALL
ELEVATIONS
ALONG LINE C**

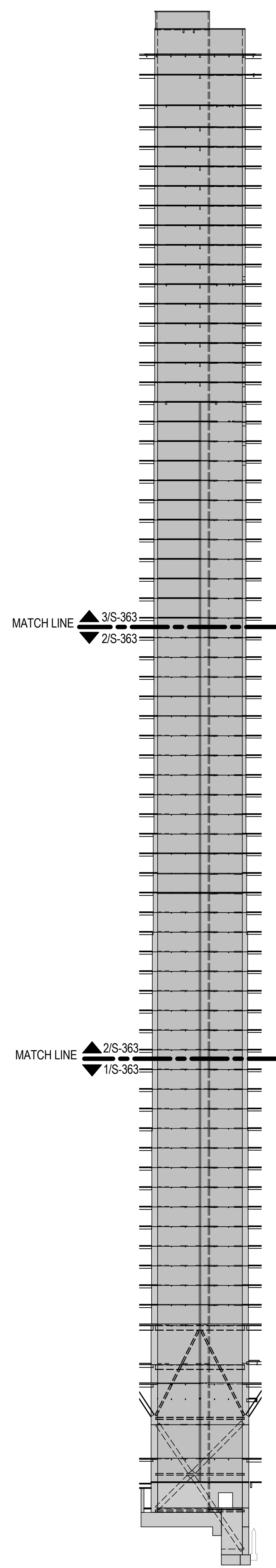
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Date: 20 JUN 2014
Scale: As indicated
File No: S-362

Sheet No.: S-362
Page No.: 66 of 90



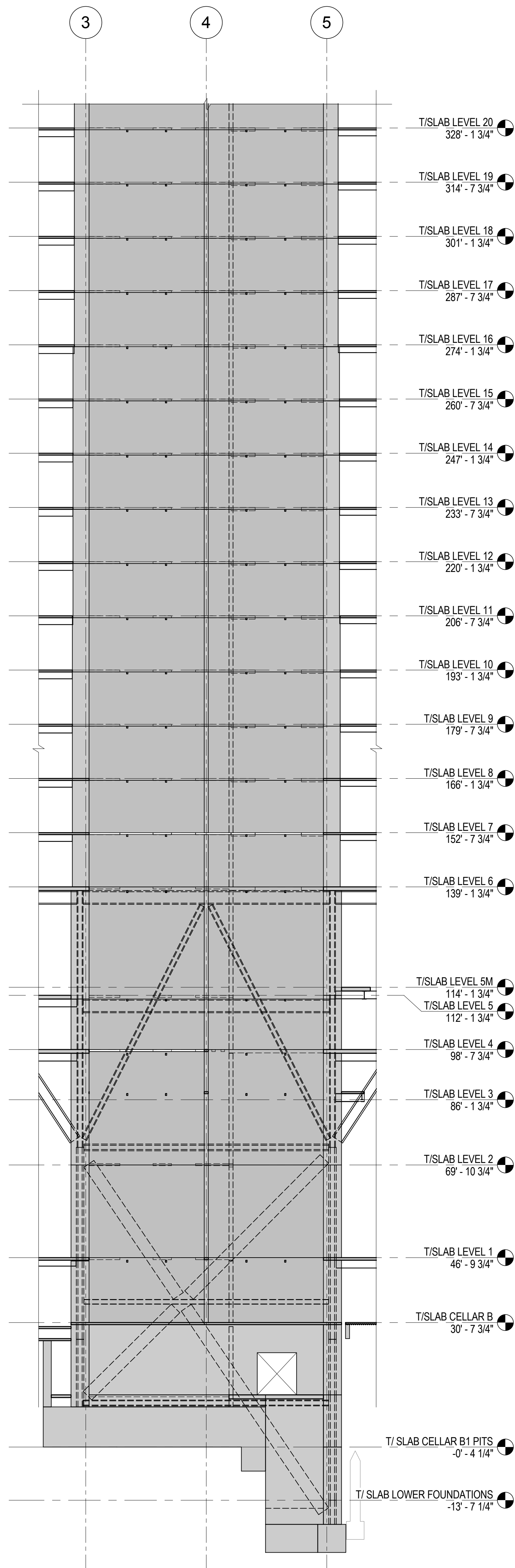
CORE WALL ELEVATION KEY PLAN

NTS



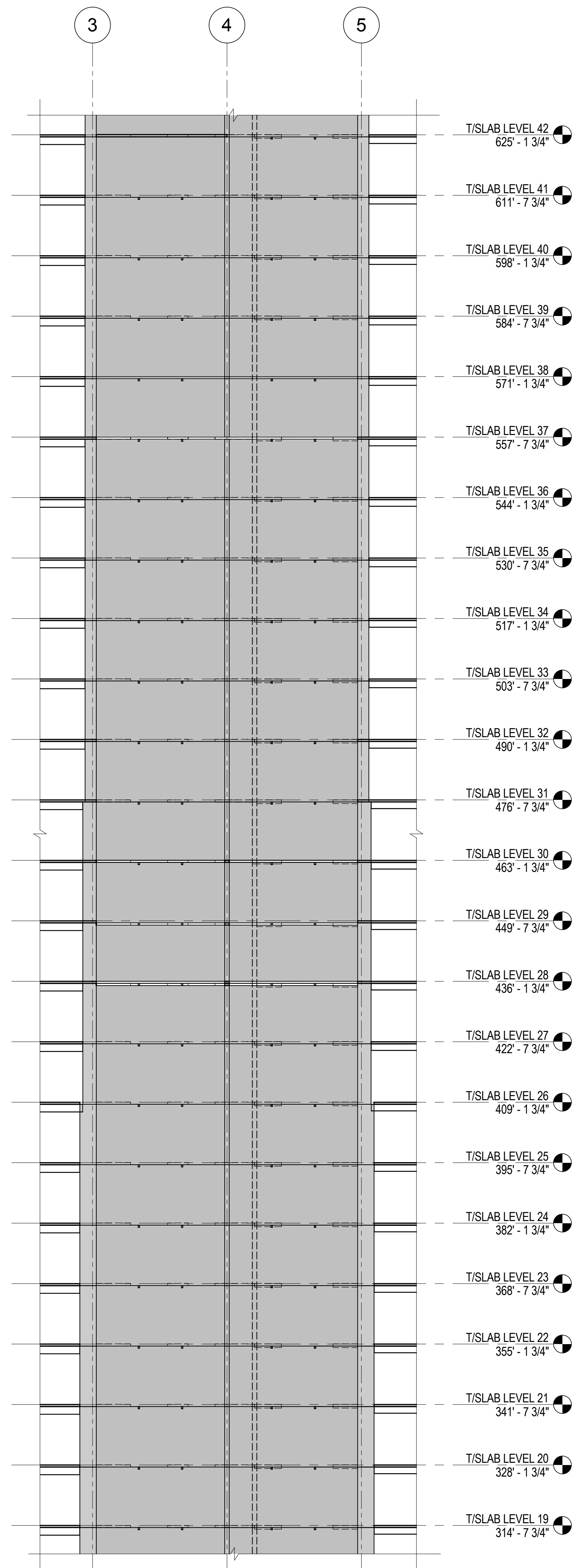
ELEVATION KEY

N.T.S



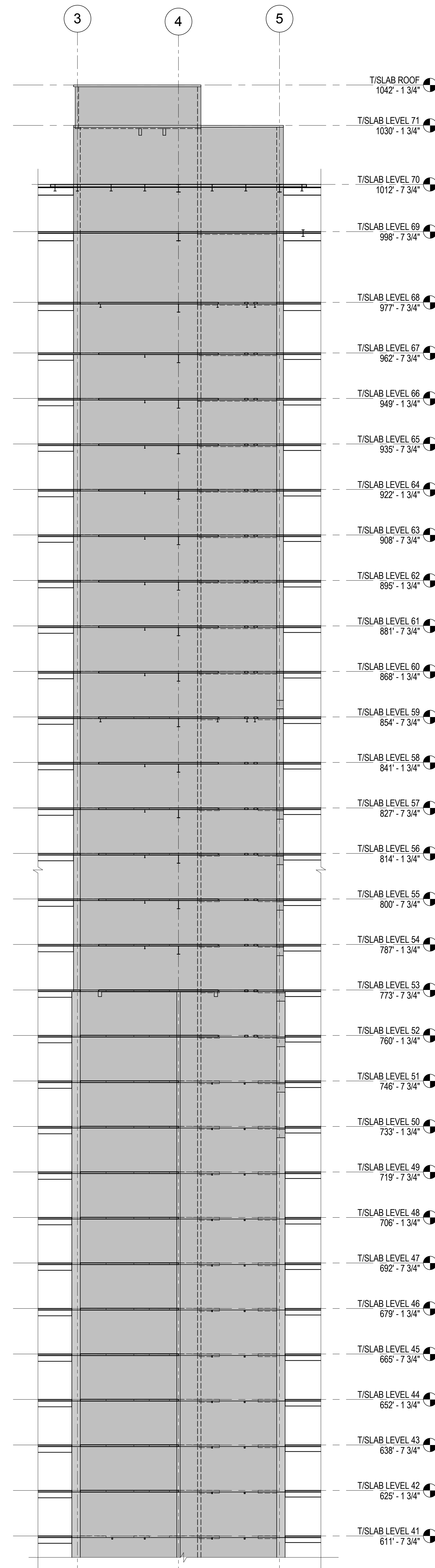
1 ELEVATION ALONG LINE D

1/16" = 1'-0"



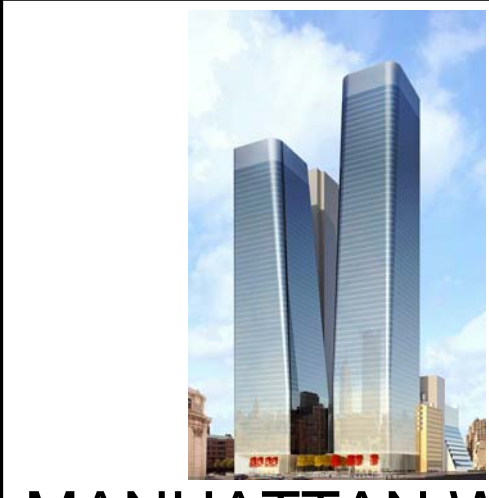
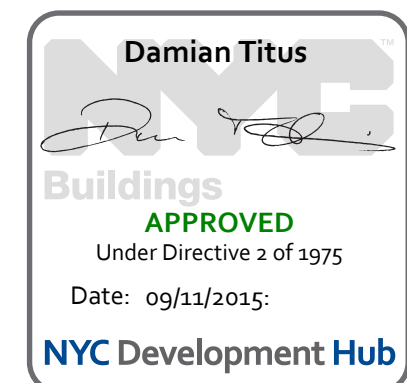
2 ELEVATION ALONG LINE D

1/16" = 1'-0"



3 ELEVATION ALONG LINE D

1/16" = 1'-0"



MANHATTAN WEST:
NORTH TOWER

375 Ninth Avenue, New York, NY 10001

Client

Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

SOM

Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation

Edgett Williams Consulting Group, Inc.
102 East 81st Street, Suite 1, Mill Valley, California 94041

Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geo-Technical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 22nd W, 34th Street #610,
New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Ventor & Santore
250 State Street #1, North Haven, CT 06473

Blast Consultant

Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant

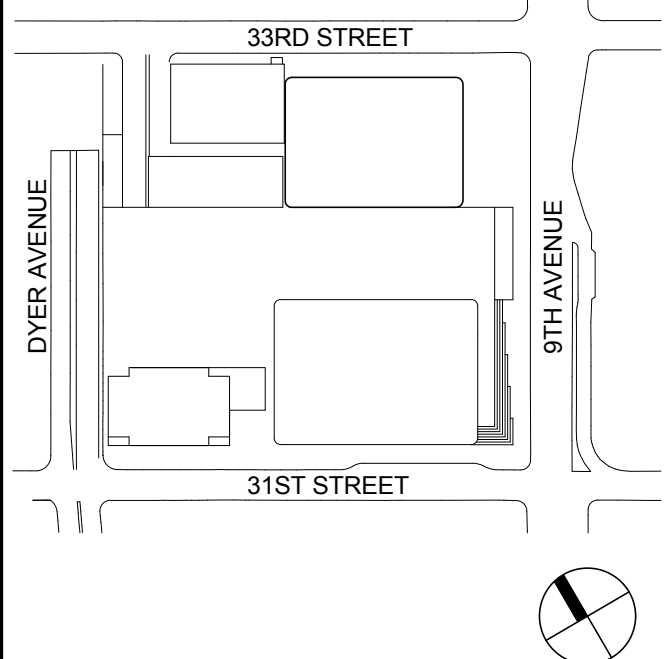
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

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| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

| No. | Date | Description |
|------------|------|-------------|
| Sheet Name | | |

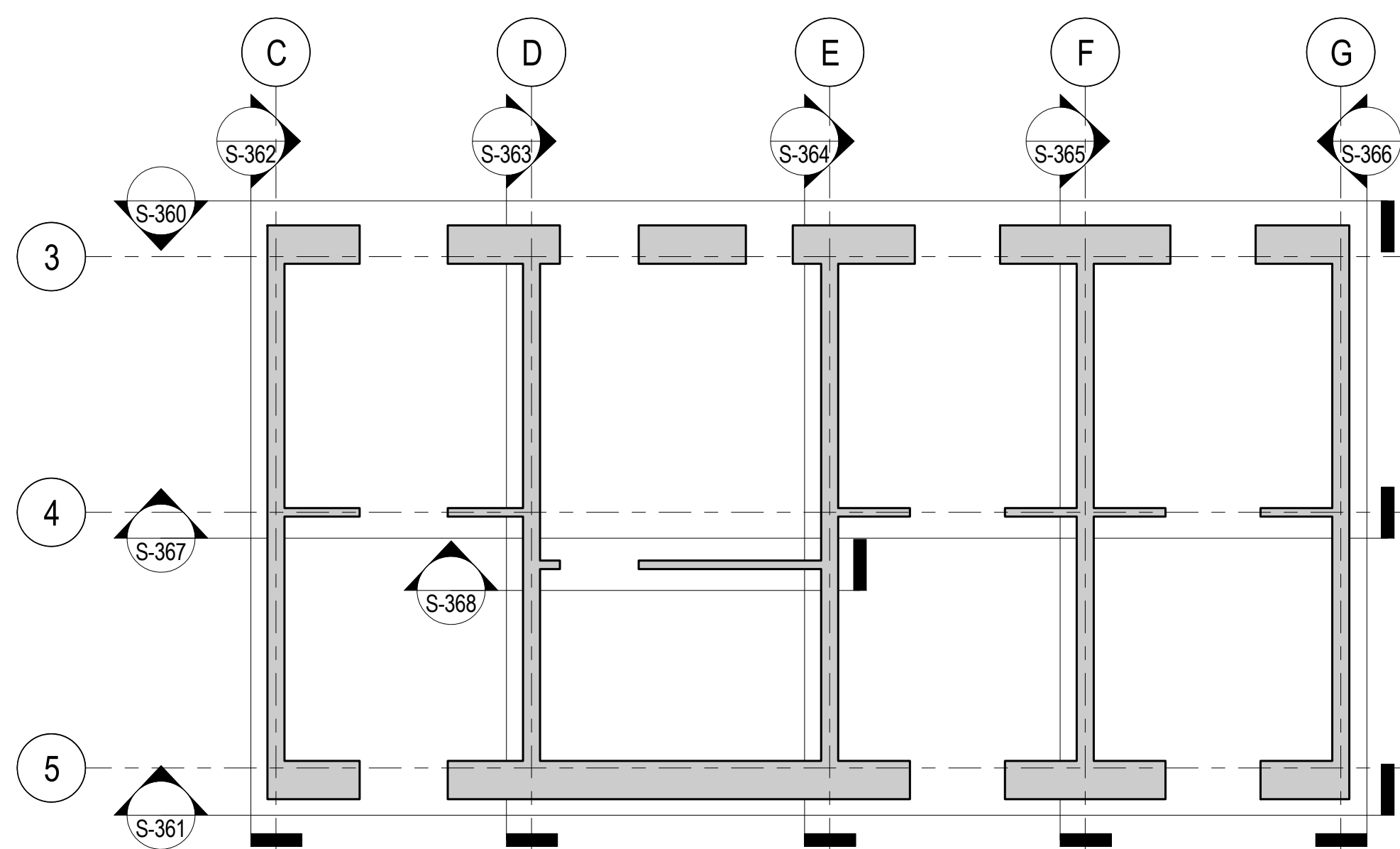
**CORE WALL
ELEVATIONS
ALONG LINE D**

Project No.: 211157 B-SCAN Sheet No.: S-363.00

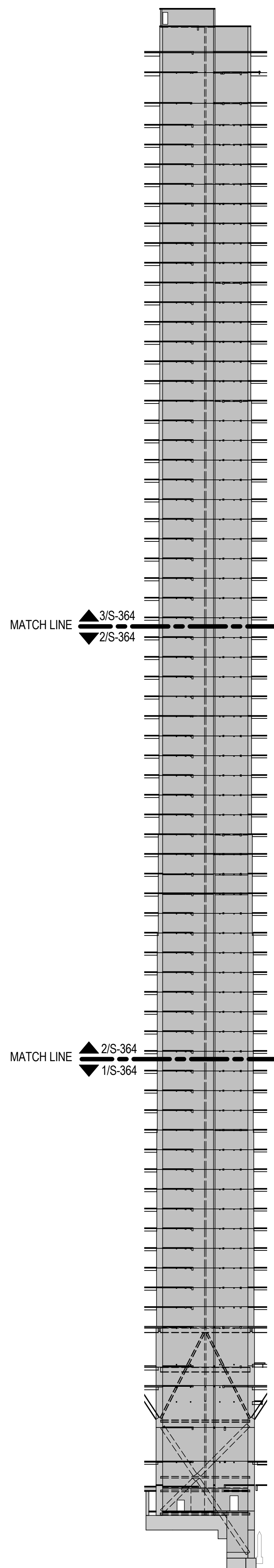
Date: 20 JUN 2014

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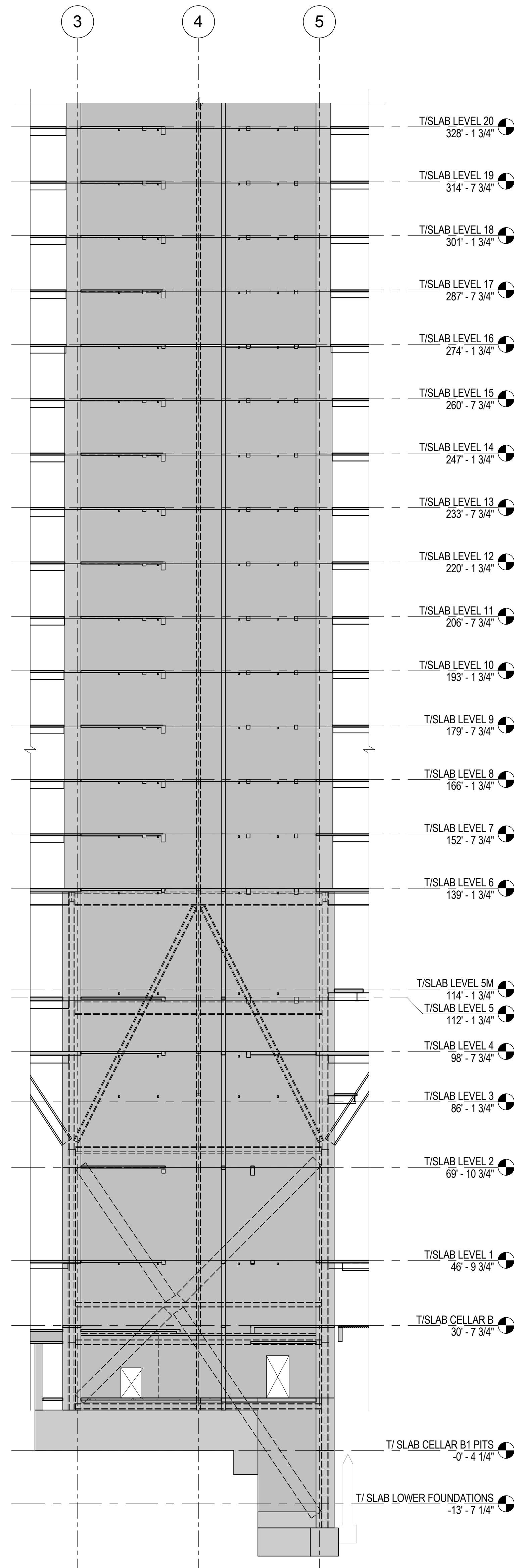
File No: S-363 Page No.: 67 of 90



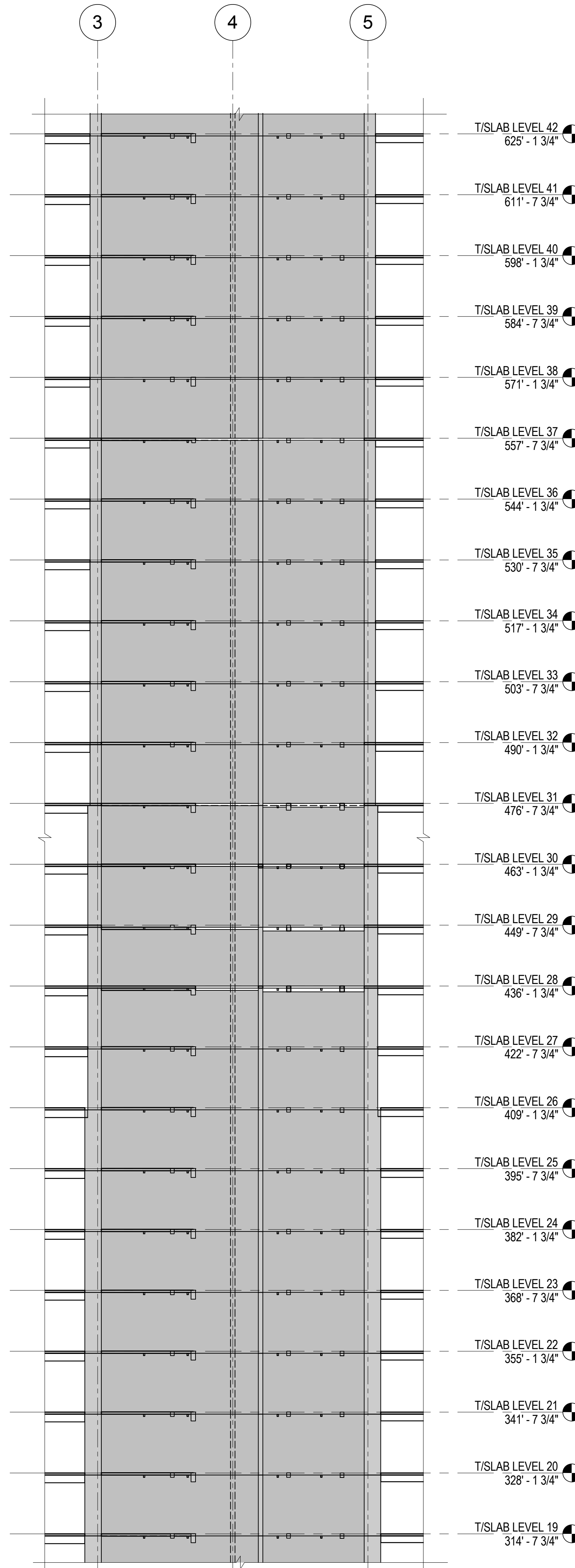
CORE WALL ELEVATION KEY PLAN
NTS



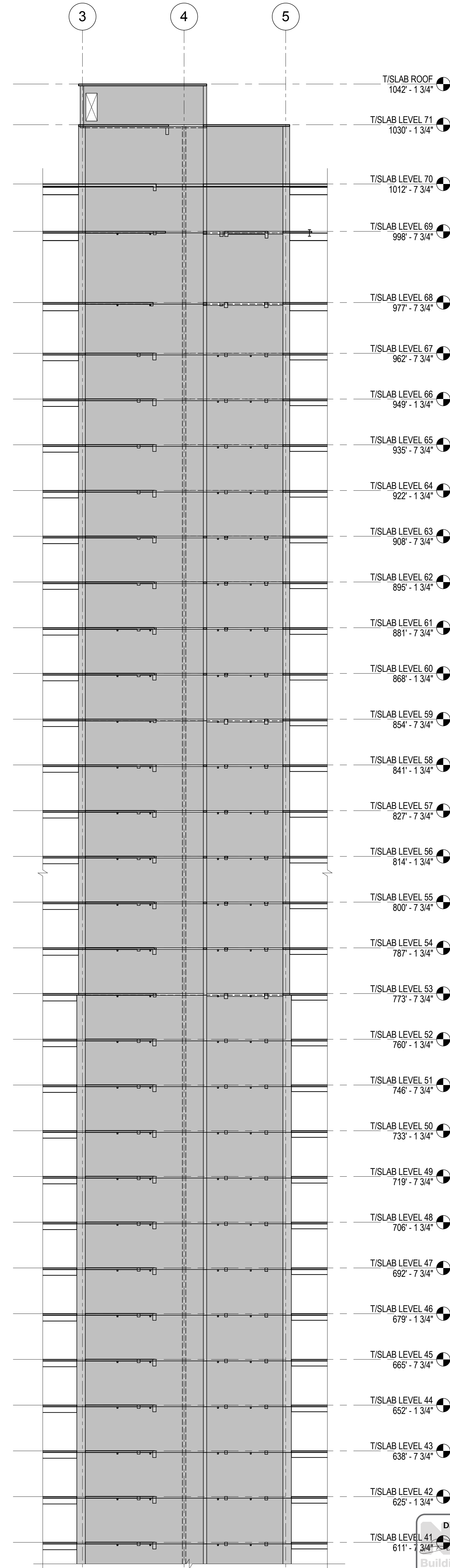
ELEVATION KEY
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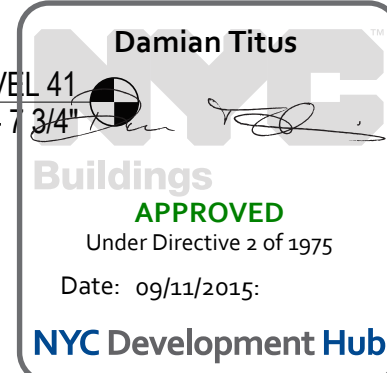
1 ELEVATION ALONG LINE E
1/16" = 1'-0"



2 ELEVATION ALONG LINE E
1/16" = 1'-0"



3 ELEVATION ALONG LINE E
1/16" = 1'-0"



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10021

Architecture/Structural Engineering

SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave., Suite 1, Mill Valley, California 94041

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geo-Technical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610,
New York, NY 10022

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Ventor & Santore
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

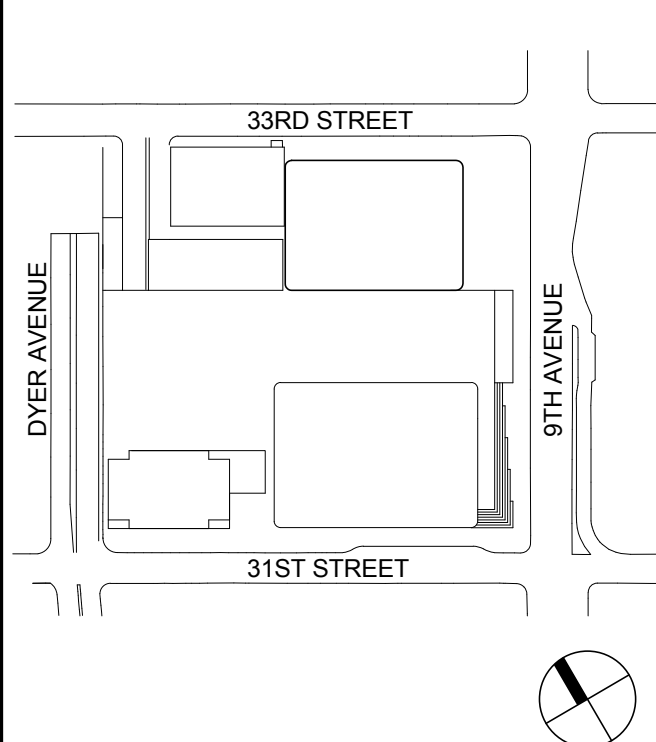
Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

PRELIMINARY
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Project No.: 211157
Date: 20 JUN 2014
Scale: As indicated
File No.: S-364

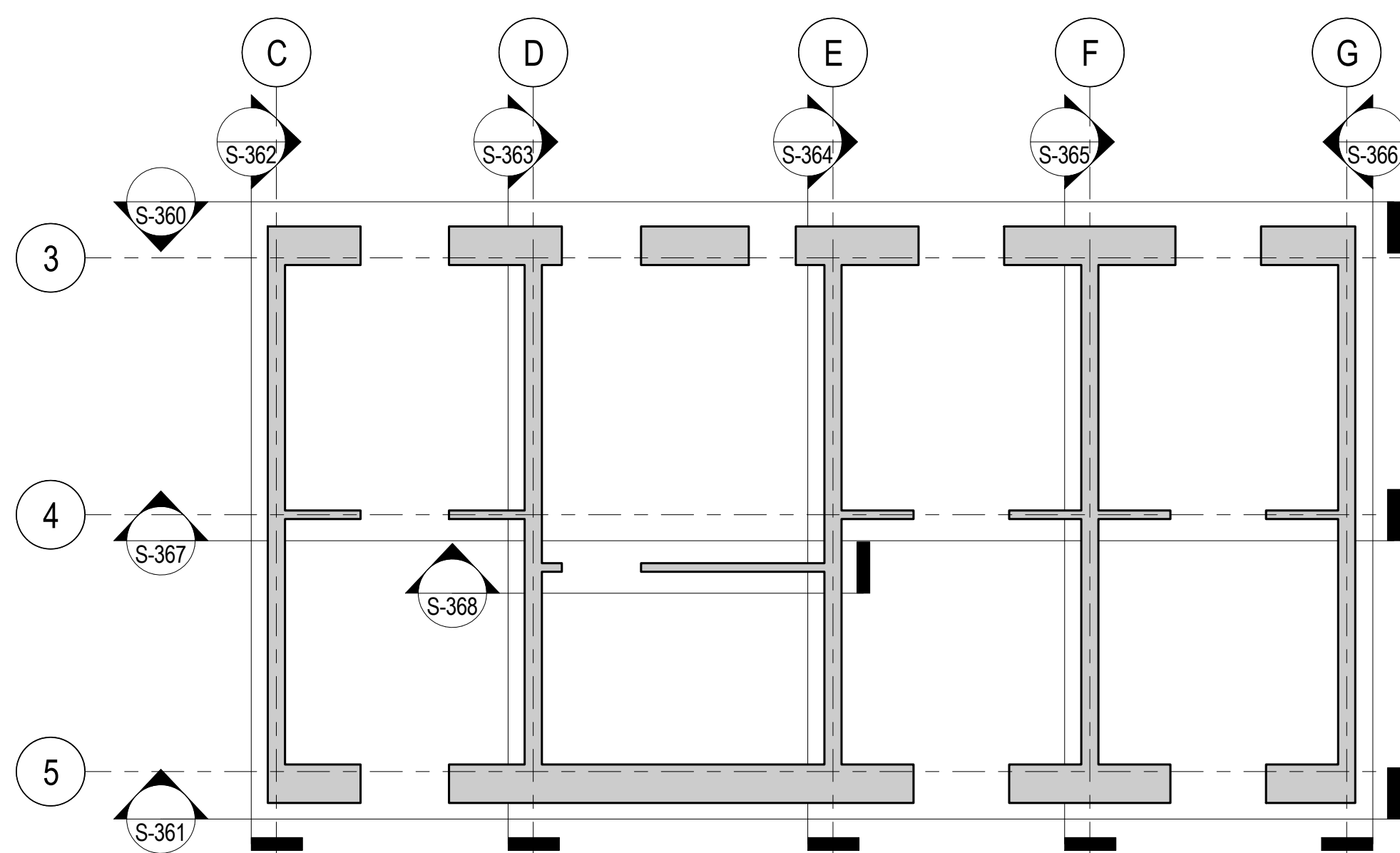
B-SCAN Sheet No.:
S-364.00
Sheet No.:
S-364
Page No.: 68 of 90

CORE WALL
ELEVATIONS
ALONG LINE E

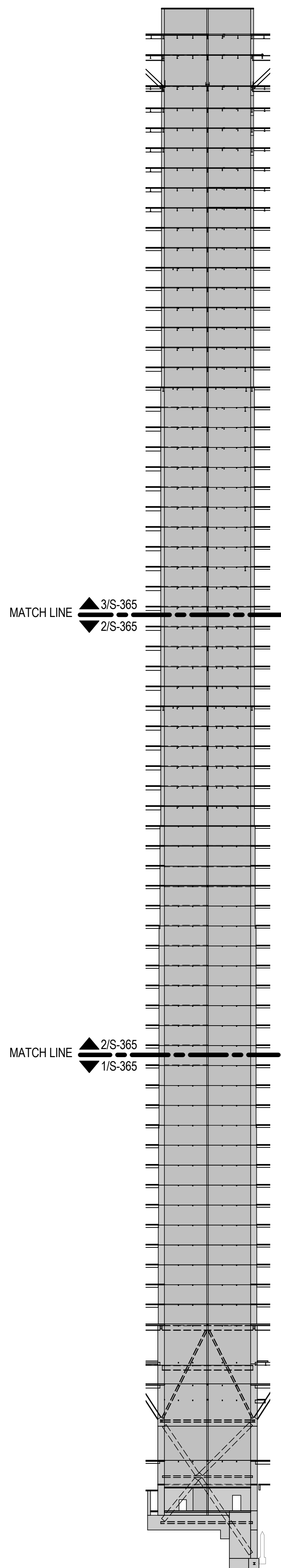
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5 20 JUN 2014 ISSUED FOR FOUNDATION PERMIT
4 20 DEC 2013 ISSUED FOR FOUNDATION PERMIT
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2 12 JUL 2013 ISSUED FOR 90% DESIGN DEVELOPMENT
1 18 MAR 2012 ISSUED FOR RECONCILIATION

No. Date Description
Sheet Name

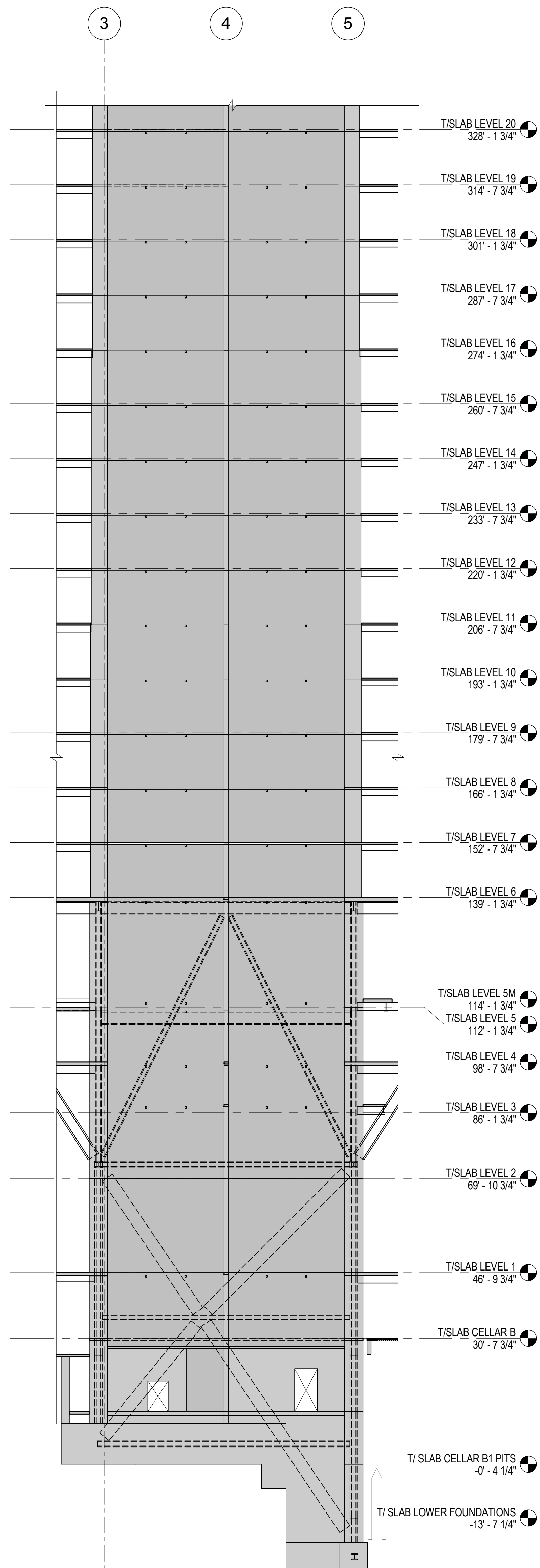
APPROVED
Under Directive 2 of 1975
Date: 09/12/2015
NYC Development Hub



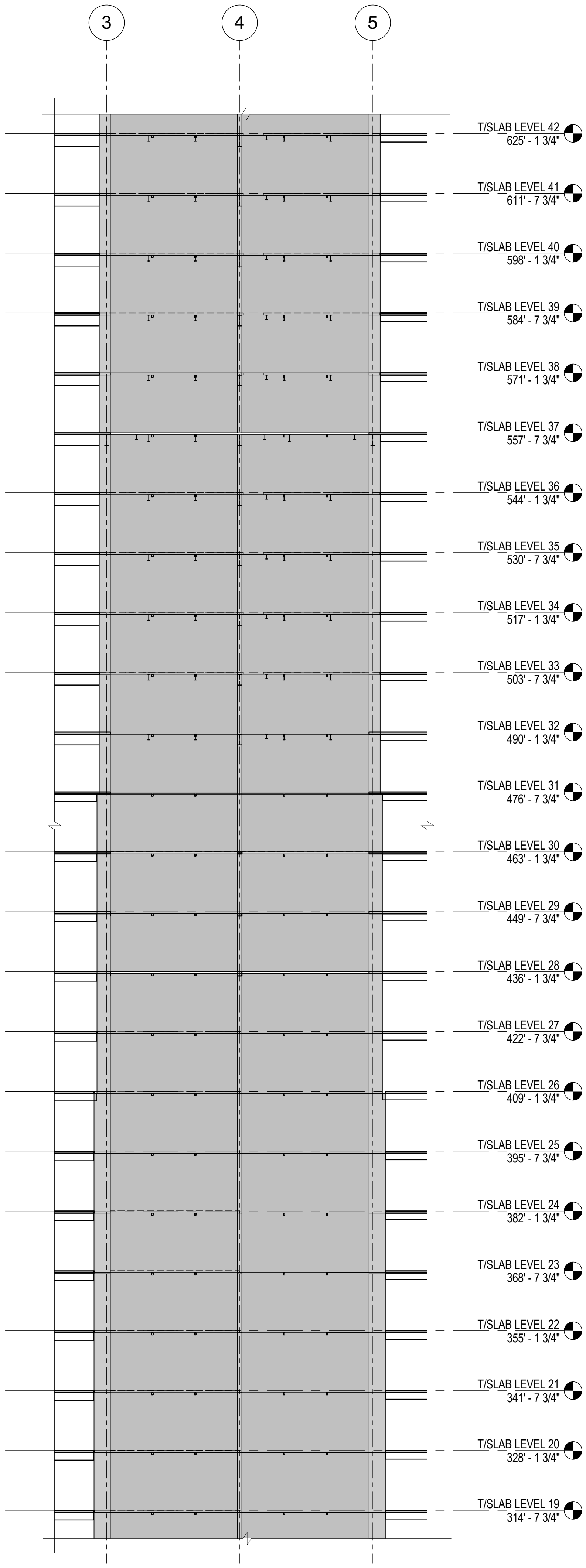
CORE WALL ELEVATION KEY PLAN
NTS



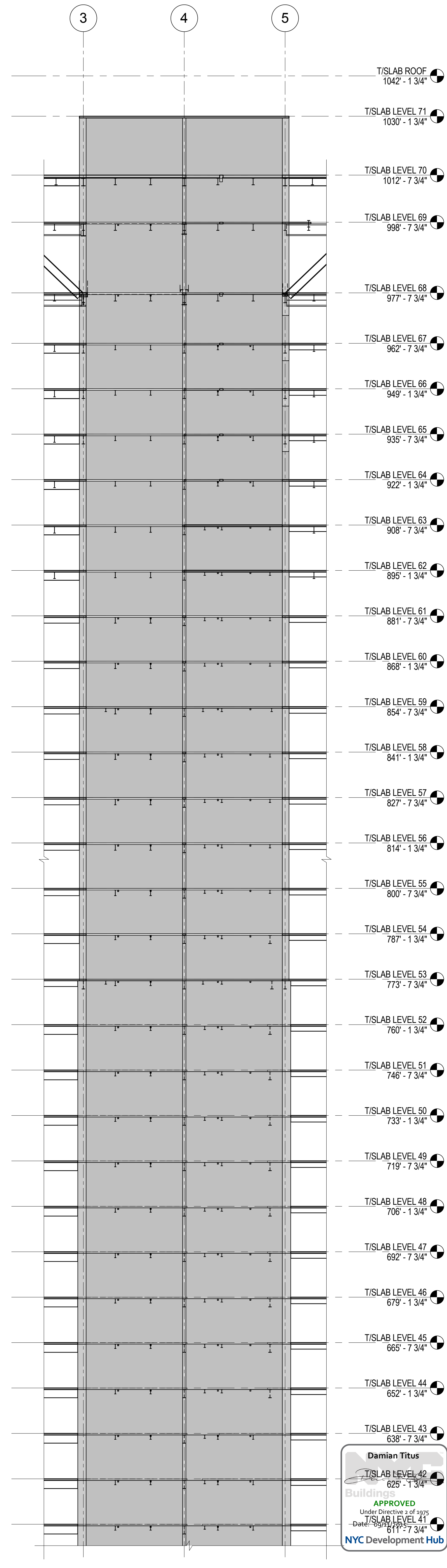
ELEVATION KEY
NTS



1 ELEVATION ALONG LINE F
1/16" = 1'-0"



2 ELEVATION ALONG LINE F
1/16" = 1'-0"



3 ELEVATION ALONG LINE F
1/16" = 1'-0"



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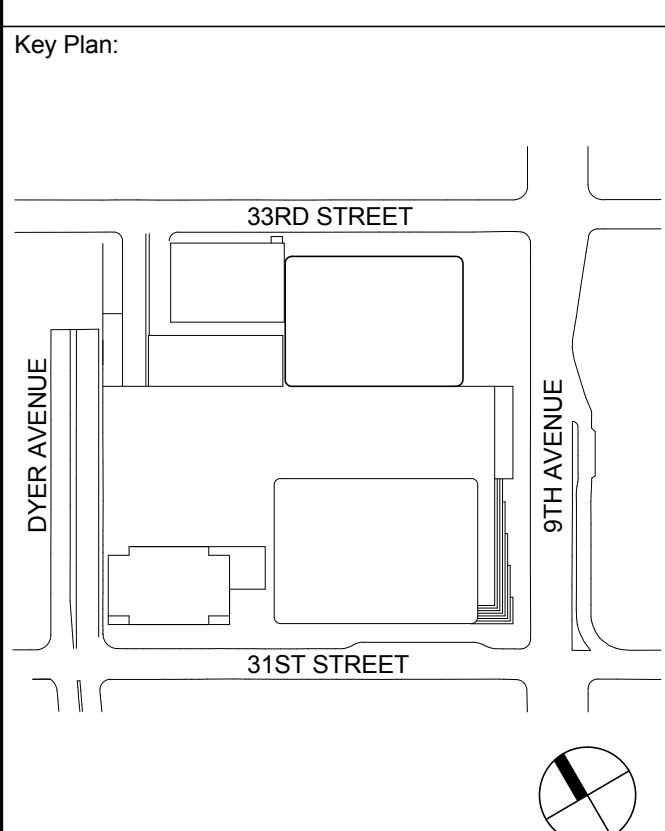
Entek Engineering LLC
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Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



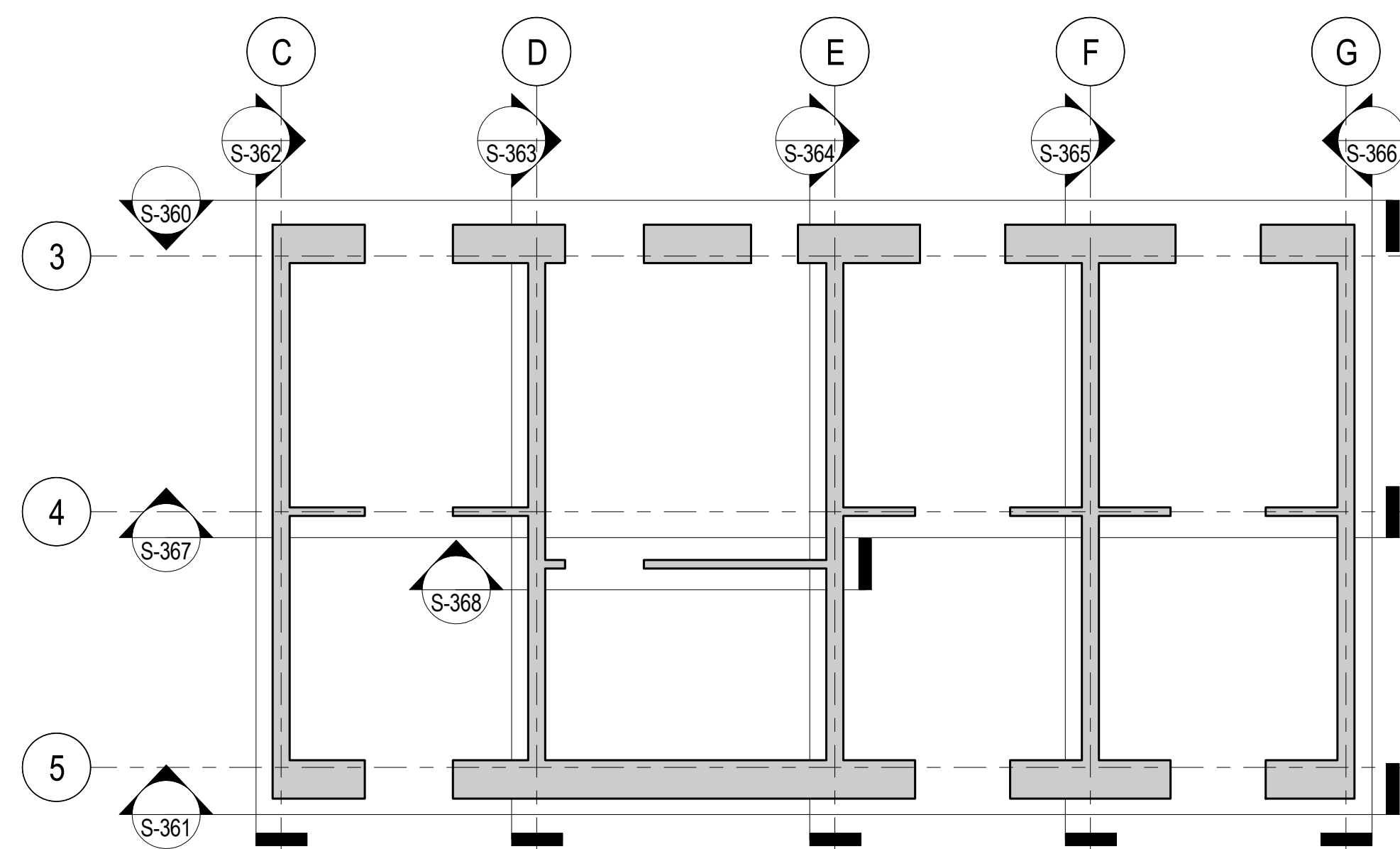
Seal & Signature:

PRELIMINARY
NOT FOR CONSTRUCTION

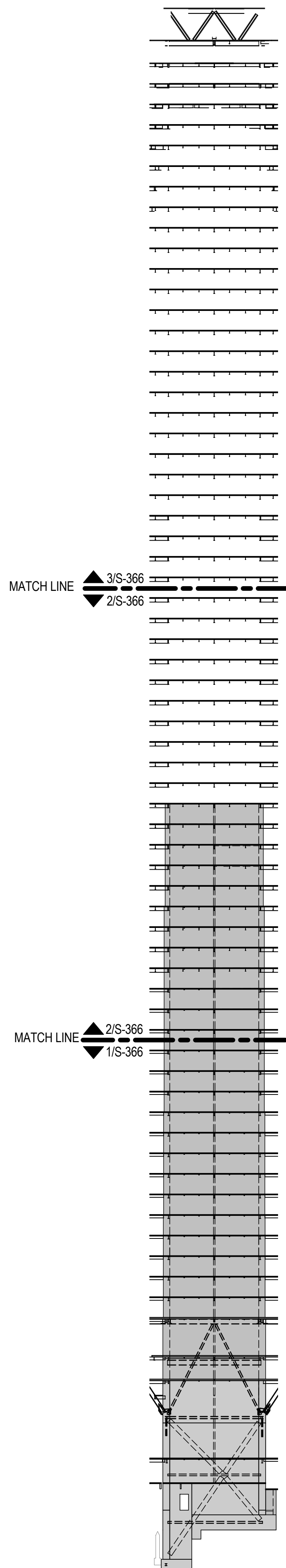
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| 6 | 20 JUN 2014 | ISSUED FOR FOUNDATION BID |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

Sheet Name
**CORE WALL
ELEVATIONS
ALONG LINE F**

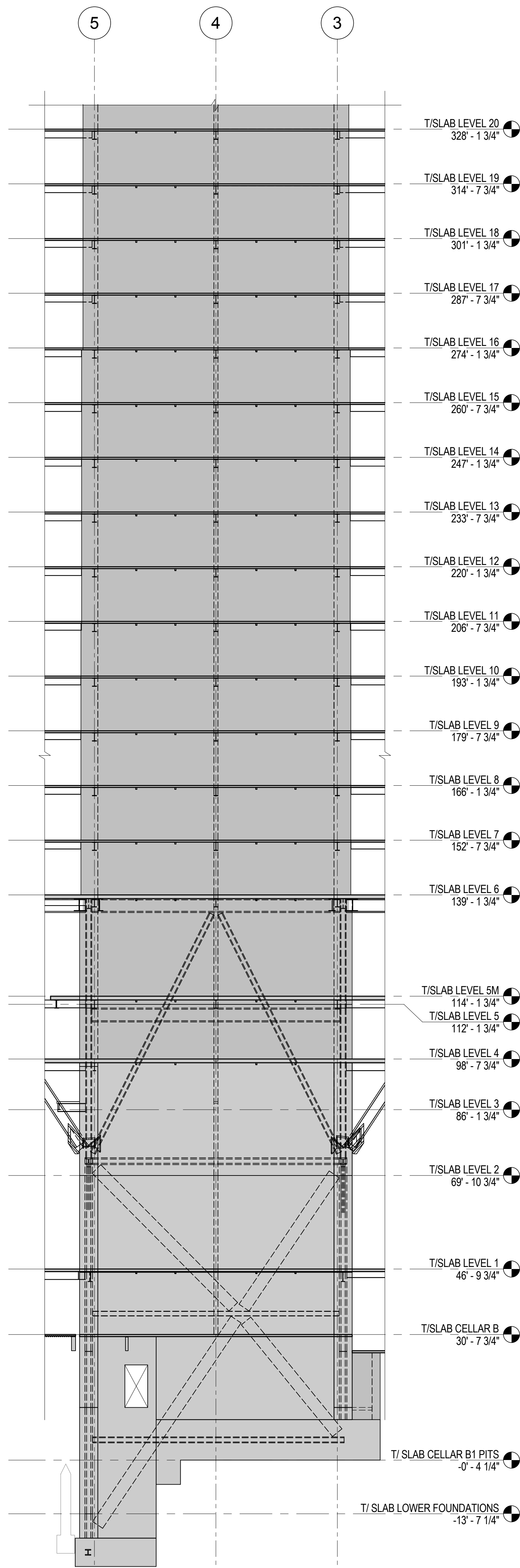
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| Project No.: 211157 | B-SCAN Sheet No.: S-365.00 |
| Date: 20 JUN 2014 | Sheet No.: S-365 |
| Scale: As indicated | Page No.: 69 of 90 |
| File No.: S-365 | |



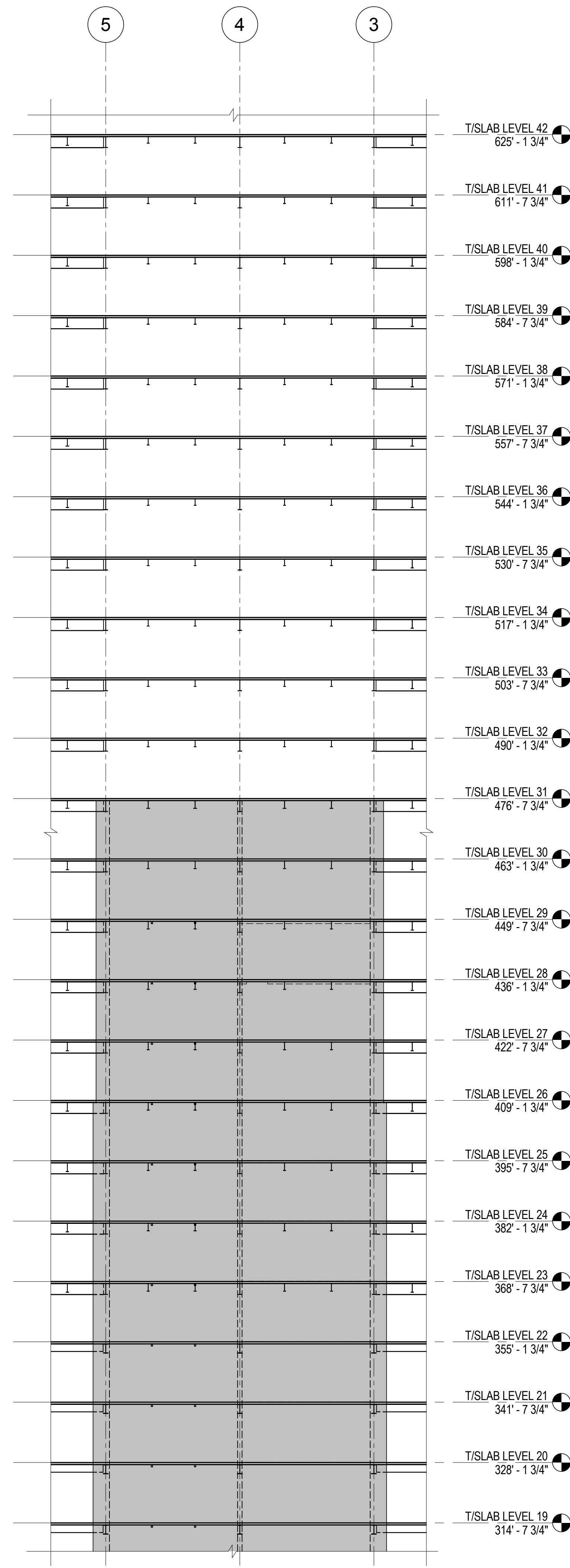
CORE WALL ELEVATION KEY PLAN
NTS



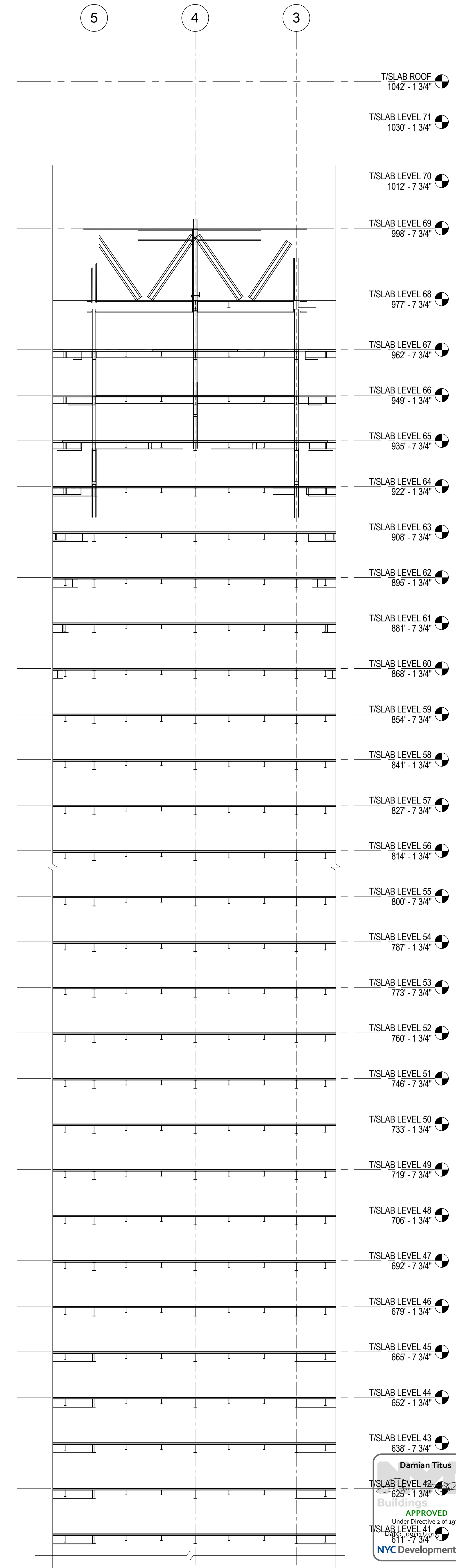
ELEVATION KEY
NTS



1 ELEVATION KEY
1/16" = 1'-0"



2 ELEVATION KEY
1/16" = 1'-0"



3 ELEVATION KEY
1/16" = 1'-0"



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield

Brookfield Place
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SOM

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MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation

Edgett Williams Consulting Group, Inc.
102 East 87th Street, Suite 1, Mill Valley, California 94041

Sustainable Design

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Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant

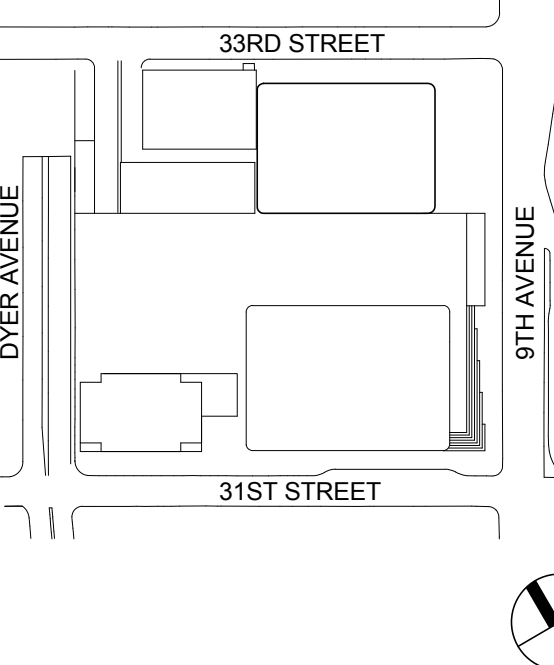
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

Sheet Name

**CORE WALL
ELEVATIONS
ALONG LINE G**

Project No.:

211157

Date:

20 JUN 2014

Scale:

As indicated

File No.:

S-366

B-SCAN Sheet No.:

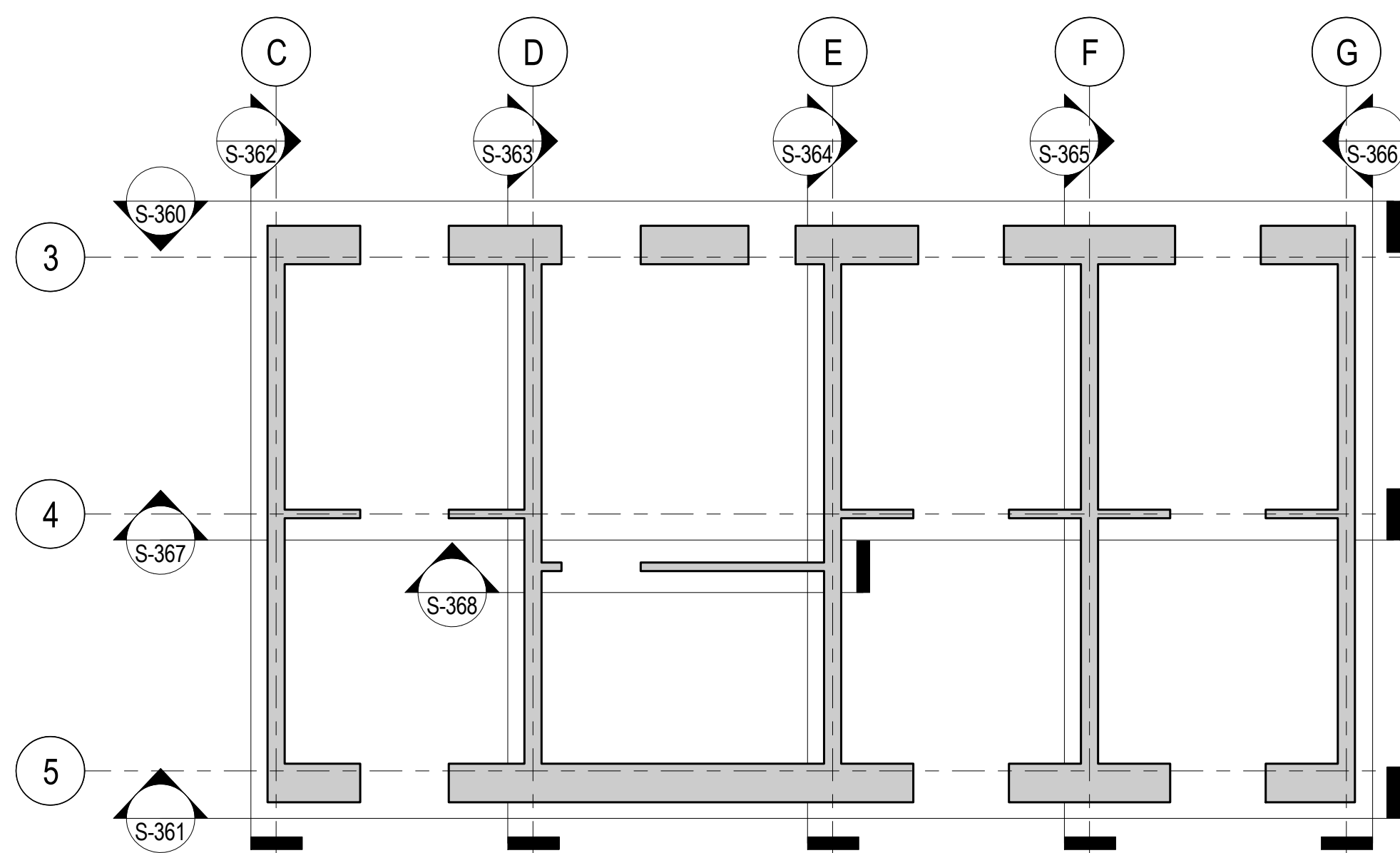
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Sheet No.:

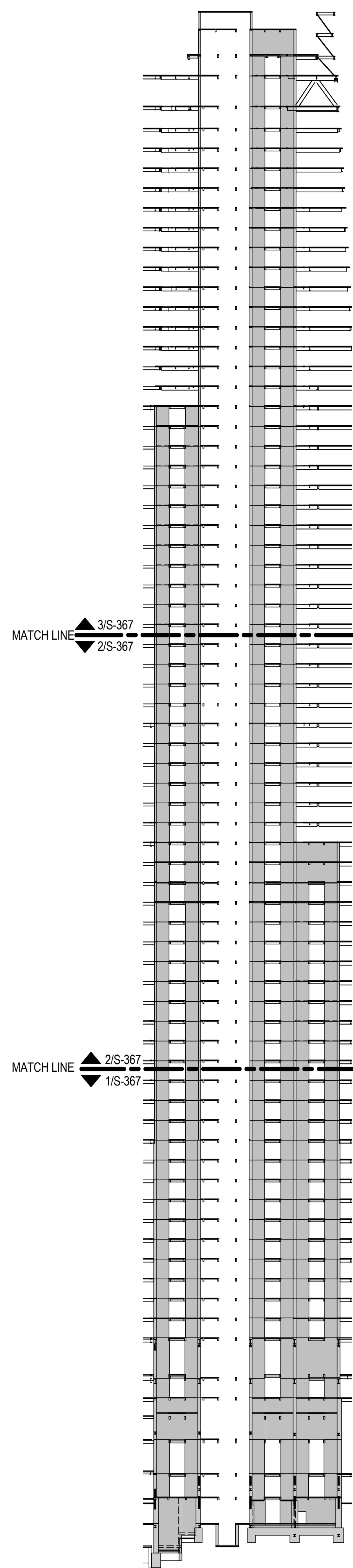
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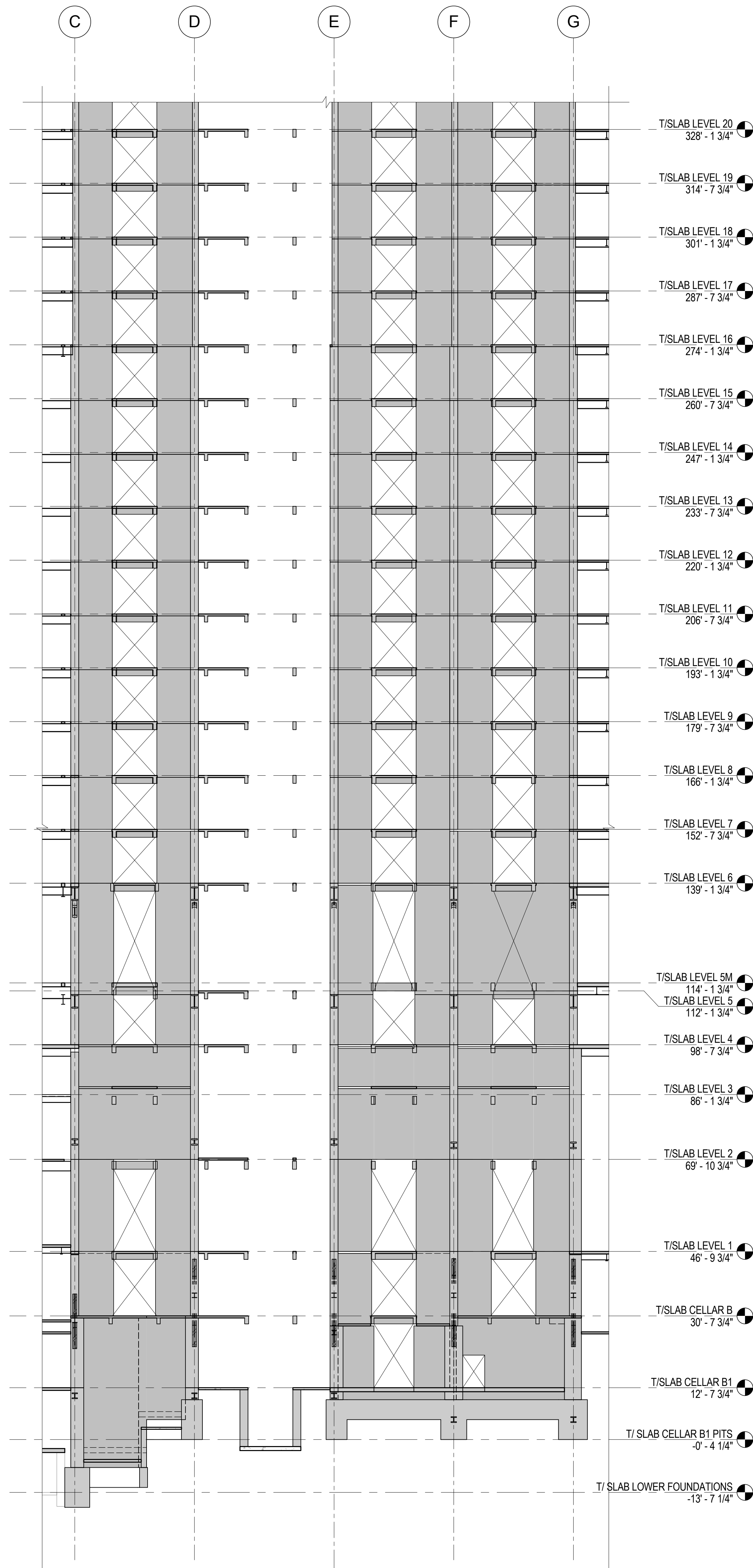
70 of 90



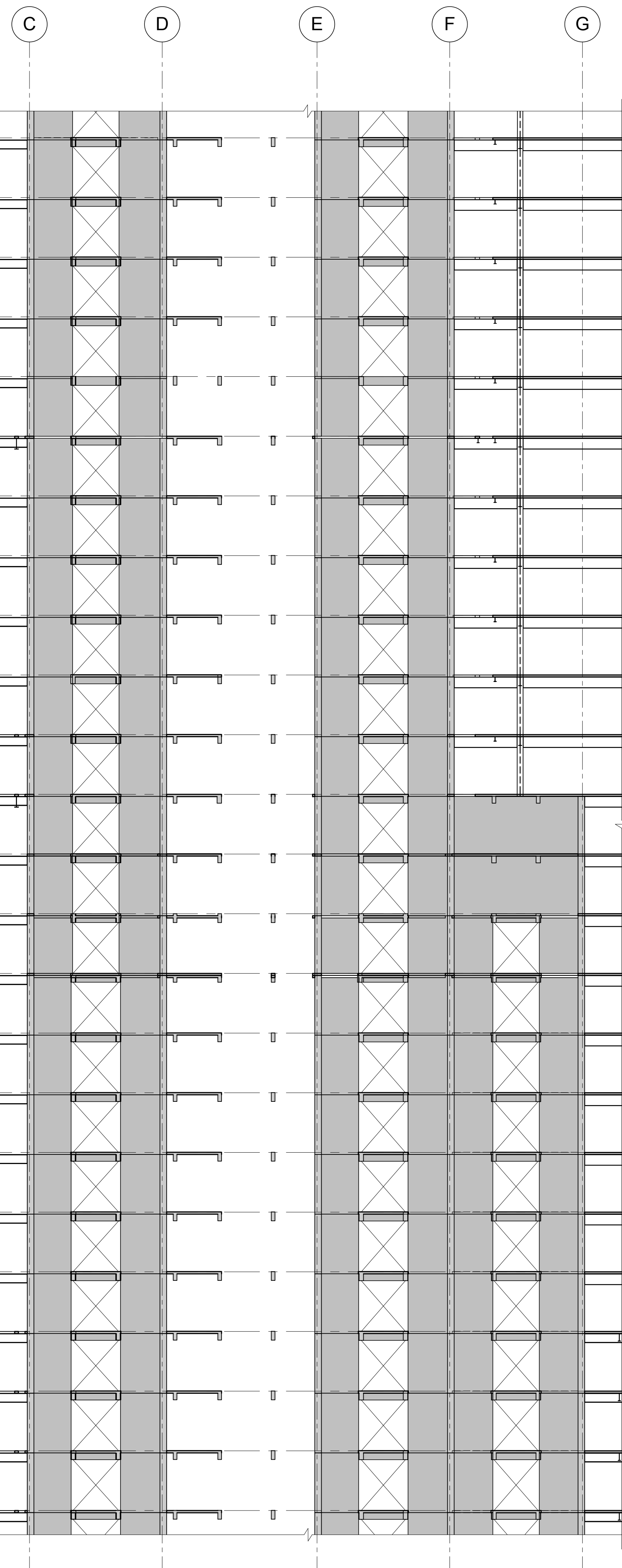
CORE WALL ELEVATION KEY PLAN
NTS



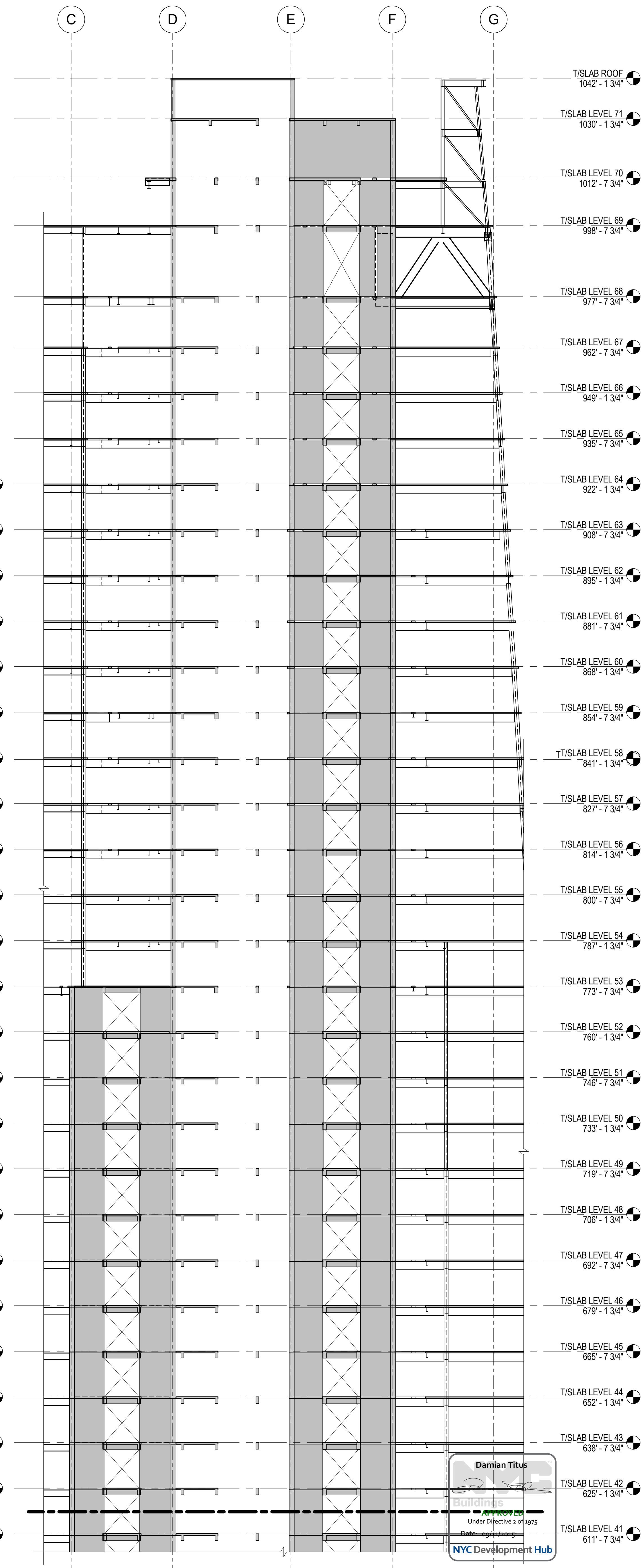
ELEVATION KEY
NTS



1 ELEVATION ALONG LINE 4
1/16" = 1'-0"



2 ELEVATION ALONG LINE 4
1/16" = 1'-0"



3 ELEVATION ALONG LINE 4
1/16" = 1'-0"

MANHATTAN WEST:
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Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

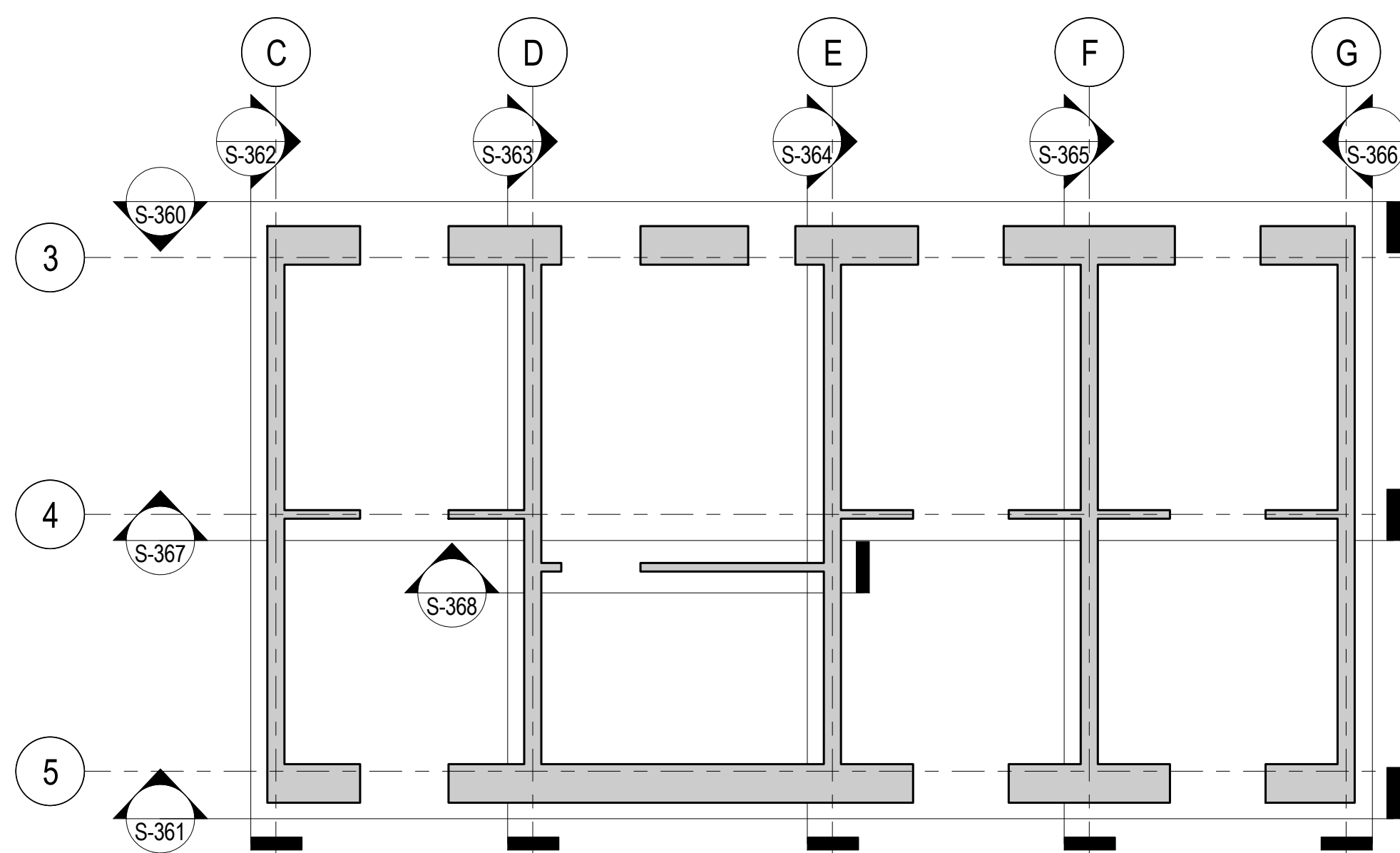
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| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
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| 3 | 15 NOV 2013 | ISSUED FOR 60% DESIGN PERMITTING |
| 2 | 12 JUL 2013 | ISSUED FOR 60% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

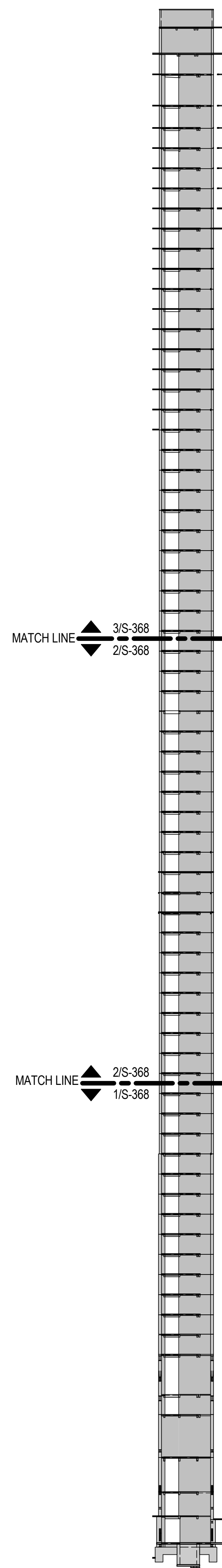
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Project No.: 211157
Date: 20 JUN 2014
Scale: As Indicated
File No.: S-367
B-SCAN Sheet No.: **S-367.00**
Sheet No.: S-367
Page No.: 71 of 90



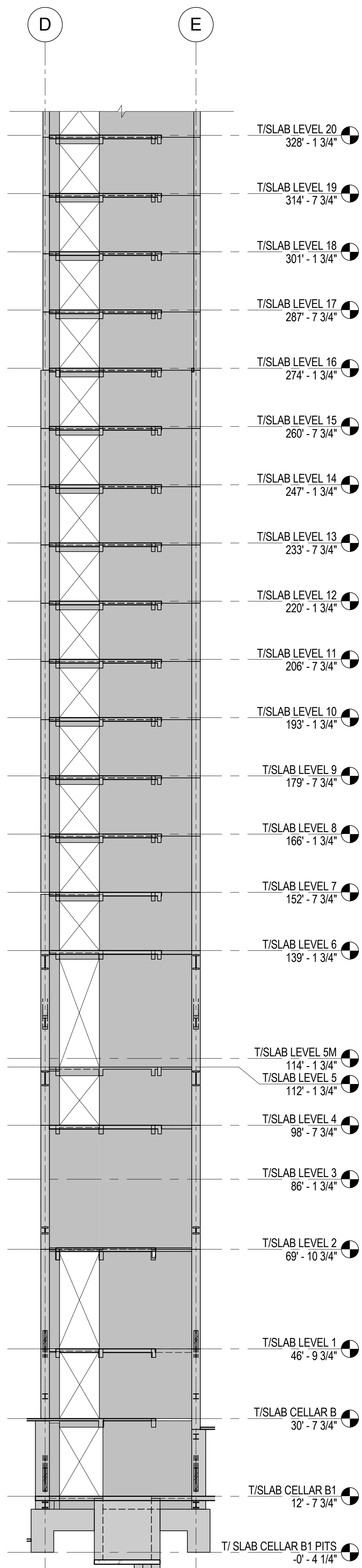
CORE WALL ELEVATION KEY PLAN

NTS



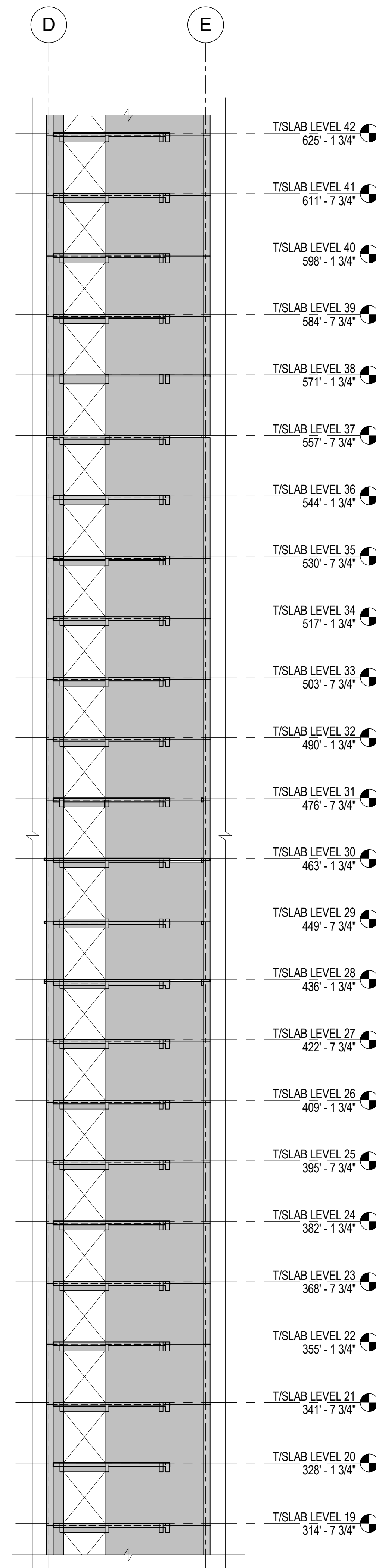
ELEVATION KEY

N.T.S.



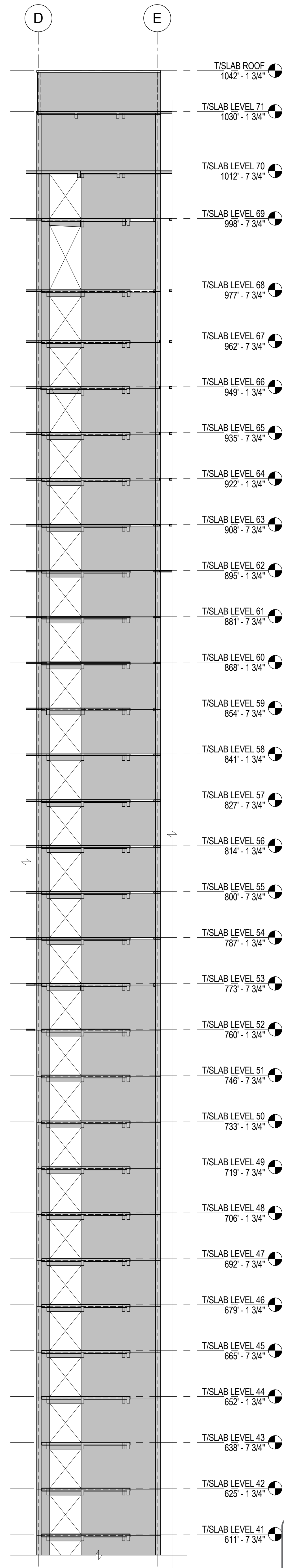
1 ELEVATION WITHIN SERVICE CORE BETWEEN LINES D & E

1/16" = 1'-0"



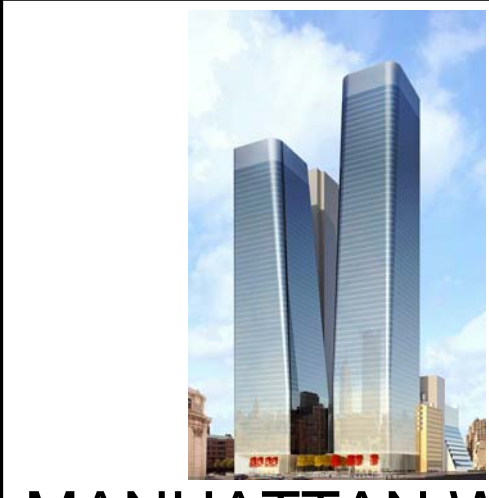
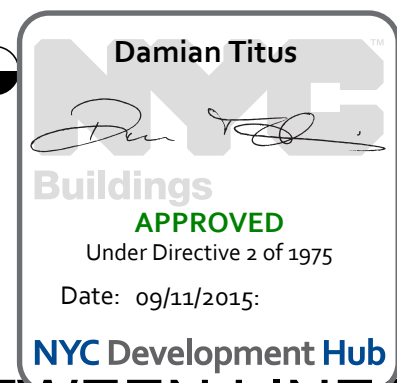
2 ELEVATION WITHIN SERVICE CORE BETWEEN LINES D & E

1/16" = 1'-0"



3 ELEVATION WITHIN SERVICE CORE BETWEEN LINES D & E

1/16" = 1'-0"



MANHATTAN WEST:
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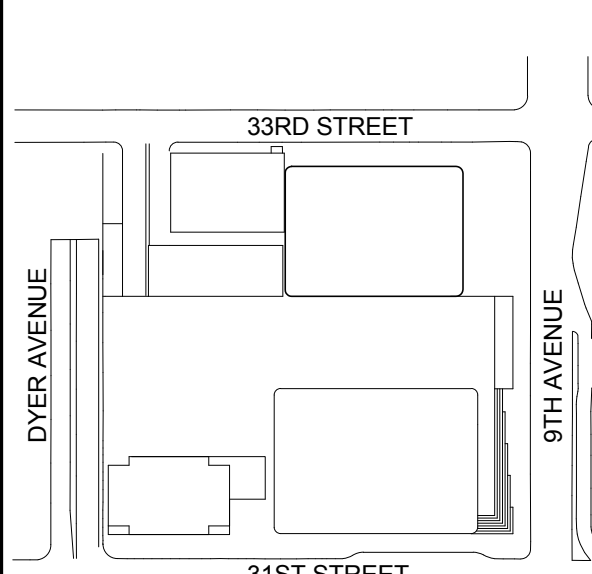
680 Woodlawn Road West, Guelph

Ontario, Canada N1K 1B8

Seal & Signature:



Key Plan:



Seal & Signature:

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NOT FOR CONSTRUCTION

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| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name

CORE WALL
ELEVATIONS
WITHIN SERVICE
CORE BETWEEN
LINES D & E

Project No.:

211157

Date:

20 JUN 2014

Scale:

As indicated

File No.:

S-368

B-SCAN Sheet No.:

S-368.00

Sheet No.:

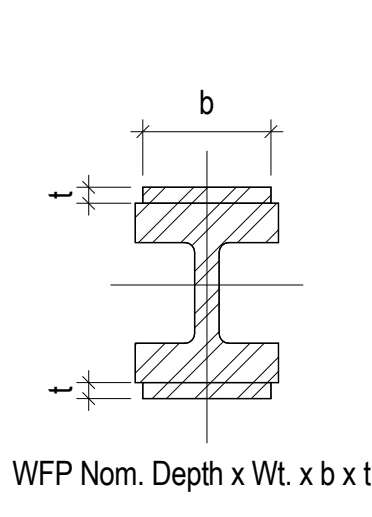
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Page No.:

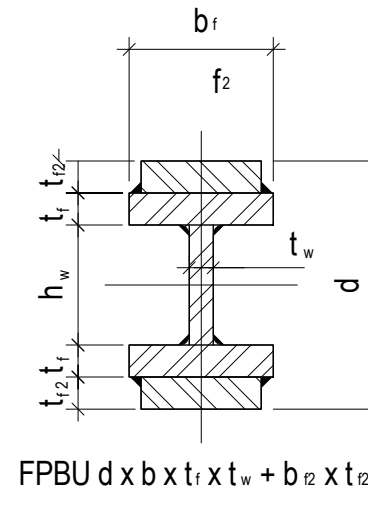
72 of 90

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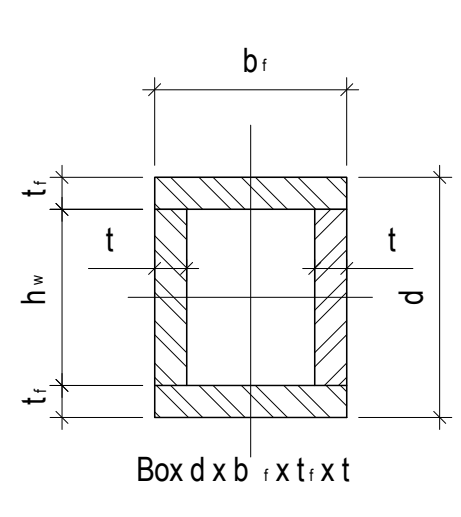
| STRUCTURAL STEEL COLUMN SCHEDULE OF NE TOWER | | | | | | | W14 COLUMNS: ASTM A913-GRADE 65 PLATE MATERIAL: ASTM A572 GR 50, TYP. U.N.O. | | | | |
|---|-----------------|------------|------------------|------------------------|----------------------|------------------------------|---|---------------------|------------------|---------------------|--|
| GRID LOCATION | | | | | | | | | | | |
| FLOOR LEVEL | A-3, A-5 | A-4 | B-1, B-7 | TC-1, TC-7 | TC-3, TC-4, TC-5 | C-1, C-7, D-1, D-7, E-1, E-7 | F-1, F-7 | C-1-3, C-1-4, C-1-5 | G-1, G-7 | F-5-3, F-5-4, F-5-5 | |
| ROOF LEVEL EL: SEE PLAN | | | | | | | | | | | |
| LEVEL 71 EL: SEE PLAN | W14X61 | W14X61 | W14X90 | W14X90 | W14X61 | W14X61 | W14X61 | -- | -- | -- | |
| LEVEL 70 EL: SEE PLAN | W14X61 | W14X61 | W14X90 | W14X90 | W14X61 | W14X61 | W14X61 | -- | -- | -- | |
| LEVEL 69 EL: SEE PLAN | W14X61 | W14X61 | W14X90 | W14X90 | W14X61 | W14X61 | W14X61 | -- | -- | -- | |
| LEVEL 68 EL: SEE PLAN | SEE NOTE 1 | SEE NOTE 1 | SEE NOTE 1 | SEE NOTE 1 | SEE NOTE 1 | SEE NOTE 1 | SEE NOTE 1 | W14X109 | -- | -- | |
| LEVEL 67 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X109 | -- | -- | |
| LEVEL 66 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X109 | -- | -- | |
| LEVEL 65 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X109 | -- | -- | |
| LEVEL 64 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X109 | -- | -- | |
| LEVEL 63 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X109 | -- | -- | |
| LEVEL 62 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X109 | -- | -- | |
| LEVEL 61 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X109 | -- | -- | |
| LEVEL 60 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X109 | -- | -- | |
| LEVEL 59 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X109 | -- | -- | |
| LEVEL 58 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X159 | -- | -- | |
| LEVEL 57 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X159 | -- | -- | |
| LEVEL 56 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X159 | -- | -- | |
| LEVEL 55 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X193 | -- | -- | |
| LEVEL 54 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | W14X193 | -- | -- | |
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| LEVEL 52 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | -- | -- | |
| LEVEL 51 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | -- | W14X61 | |
| LEVEL 50 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | -- | W14X61 | |
| LEVEL 49 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | -- | W14X61 | |
| LEVEL 48 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | -- | W14X61 | |
| LEVEL 47 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | -- | W14X61 | |
| LEVEL 46 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | -- | W14X61 | |
| LEVEL 45 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | -- | W14X90 | |
| LEVEL 44 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X159 | W14X90 | |
| LEVEL 43 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X159 | W14X90 | |
| LEVEL 42 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X159 | W14X132 | |
| LEVEL 41 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X159 | W14X132 | |
| LEVEL 40 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X159 | W14X132 | |
| LEVEL 39 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X159 | W14X159 | |
| LEVEL 38 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X211 | W14X159 | |
| LEVEL 37 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X211 | W14X159 | |
| LEVEL 36 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X211 | W14X211 | |
| LEVEL 35 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X283 | W14X211 | |
| LEVEL 34 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X283 | W14X211 | |
| LEVEL 33 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X283 | W14X211 | |
| LEVEL 32 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X283 | W14X283 | |
| LEVEL 31 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X342 | W14X283 | |
| LEVEL 30 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X342 | -- | |
| LEVEL 29 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X342 | -- | |
| LEVEL 28 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X342 | -- | |
| LEVEL 27 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X426 | -- | |
| LEVEL 26 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X426 | -- | |
| LEVEL 25 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X426 | -- | |
| LEVEL 24 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X426 | -- | |
| LEVEL 23 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X426 | -- | |
| LEVEL 22 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X426 | -- | |
| LEVEL 21 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X500 | -- | |
| LEVEL 20 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X500 | -- | |
| LEVEL 19 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X500 | -- | |
| LEVEL 18 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X500 | -- | |
| LEVEL 17 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X500 | -- | |
| LEVEL 16 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X500 | -- | |
| LEVEL 15 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X550 | -- | |
| LEVEL 14 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X550 | -- | |
| LEVEL 13 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X550 | -- | |
| LEVEL 12 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X455 | W14X665 | W14X665 | W14X665 | -- | W14X550 | -- | |
| LEVEL 11 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X500 | W14X665 | W14X665 | W14X665 | -- | W14X605 | -- | |
| LEVEL 10 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X500 | W14X730 | W14X665 | W14X665 | -- | W14X605 | -- | |
| LEVEL 09 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X2 | W14X500 | W14X730 | W14X665 | W14X665 | -- | W14X605 | -- | |
| LEVEL 08 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X3 | W14X500 | W14X730 | W14X730 | W14X730 | -- | W14X605 | -- | |
| LEVEL 07 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X3 | W14X500 | W14X730 | W14X730 | W14X730 | -- | W14X730 | -- | |
| LEVEL 06 EL: SEE PLAN | W14X665 | W14X665 | WFP 14X730X16X3 | W14X500 | WFP 14X730X16X1 | W14X730 | W14X730 | -- | W14X730 | -- | |
| LEVEL 05 EL: SEE PLAN | WFP 14X730X16X1 | W14X730 | DP BOX 24X24X3X3 | DP BOX 24X24X3 25X3 25 | DP BOX 24X24X2 5X2 5 | DP BOX 24X24X2 5X2 5 | BOX 24X24X4X4 | -- | DP BOX 24X24X3X3 | -- | |
| LEVEL 04 EL: SEE PLAN | WFP 14X730X16X1 | W14X730 | DP BOX 24X24X3X3 | DP BOX 24X24X3 25X3 25 | DP BOX 24X24X2 5X2 5 | DP BOX 24X24X2 5X2 5 | BOX 24X24X4X4 | -- | DP BOX 24X24X3X3 | -- | |
| LEVEL 03 EL: SEE PLAN | SEE NOTE 2 | SEE NOTE 2 | W14X132 | W14X132 | SEE NOTE 3 | W14X132 | W14X132 | -- | W14X132 | -- | |
| LEVEL 02 EL: SEE PLAN | SEE NOTE 2 | SEE NOTE 2 | W14X132 | W14X132 | SEE NOTE 3 | W14X132 | W14X132 | -- | W14X132 | -- | |
| LEVEL 01 EL: SEE PLAN | SEE NOTE 2 | SEE NOTE 2 | HSS 12X12X1/2 | HSS 12X12X1/2 | DP BOX 24X24X3X3 | HSS 12X12X1/2 | HSS 12X12X1/2 | -- | HSS 12X12X1/2 | -- | |
| 1. REFER TO S-416 FOR UPPER BELT TRUSS COLUMN SCHEDULE. 2. REFER TO S-409 FOR COLUMN SCHEDULE ALONG GRID A BELOW LEVEL 6. 3. REFER TO S-415 FOR COLUMN SCHEDULE ALONG GRID J ON LOWER BELT TRUSS. | | | | | | | | | | | |



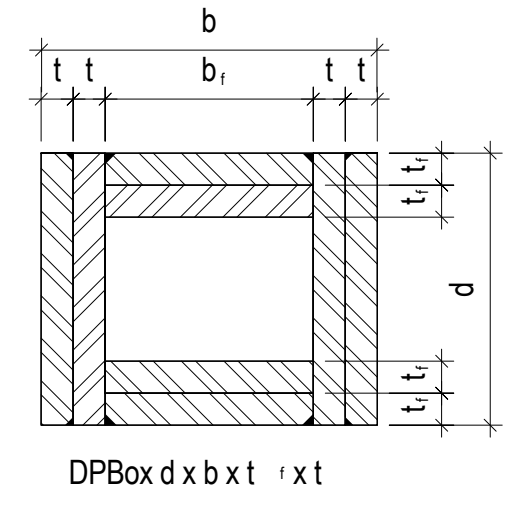
WFP Nom. Depth x Wt. x b x t



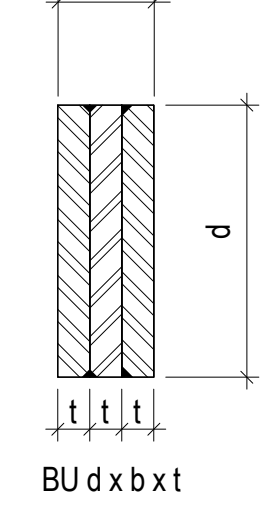
FPBU d x b x t x t + b x t



Box d x b x t x t



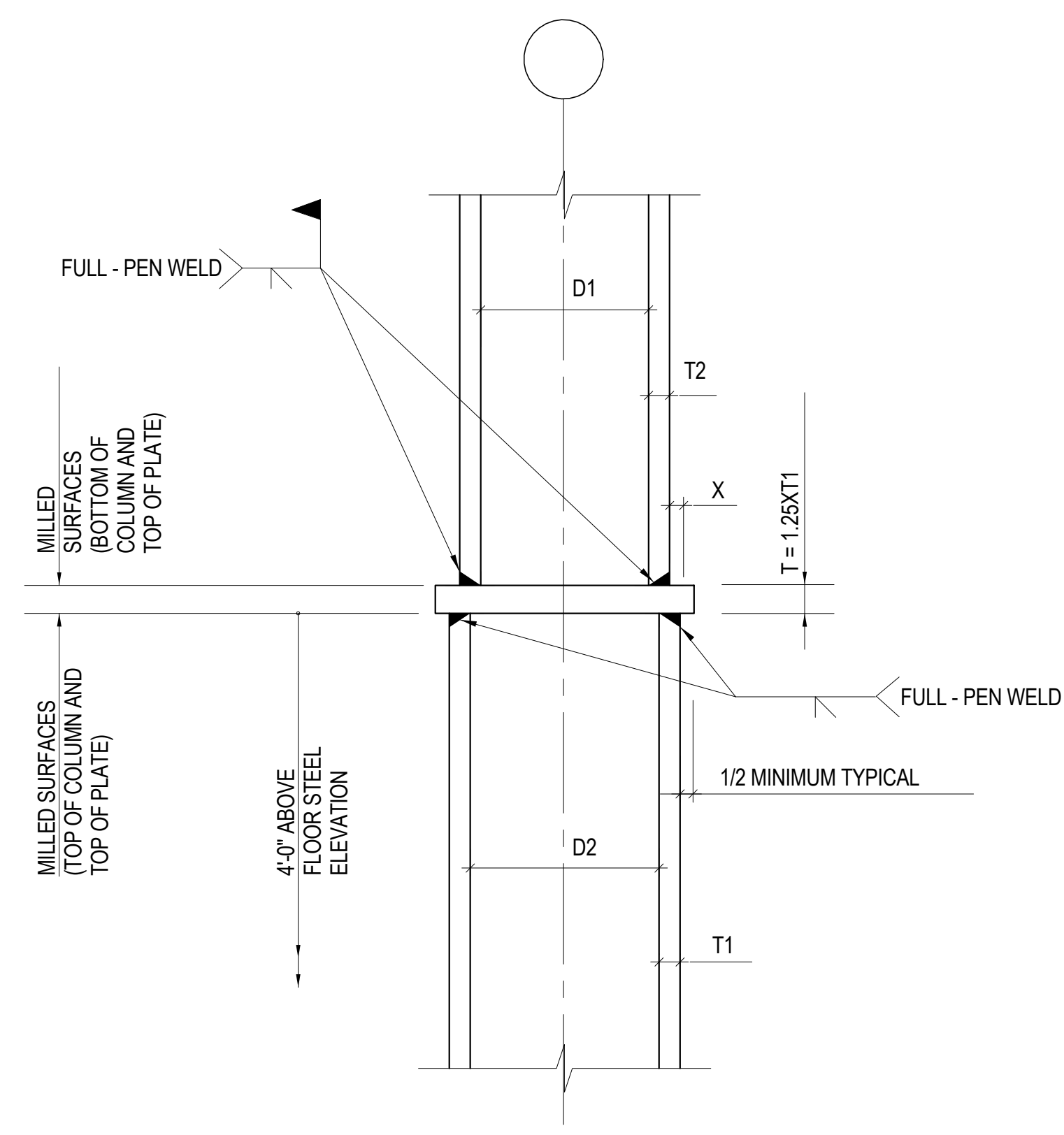
DPBox d x b x t x t



BU d x b x t

1 NOMENCLATURE FOR BUILT-UP COLUMN SECTIONS

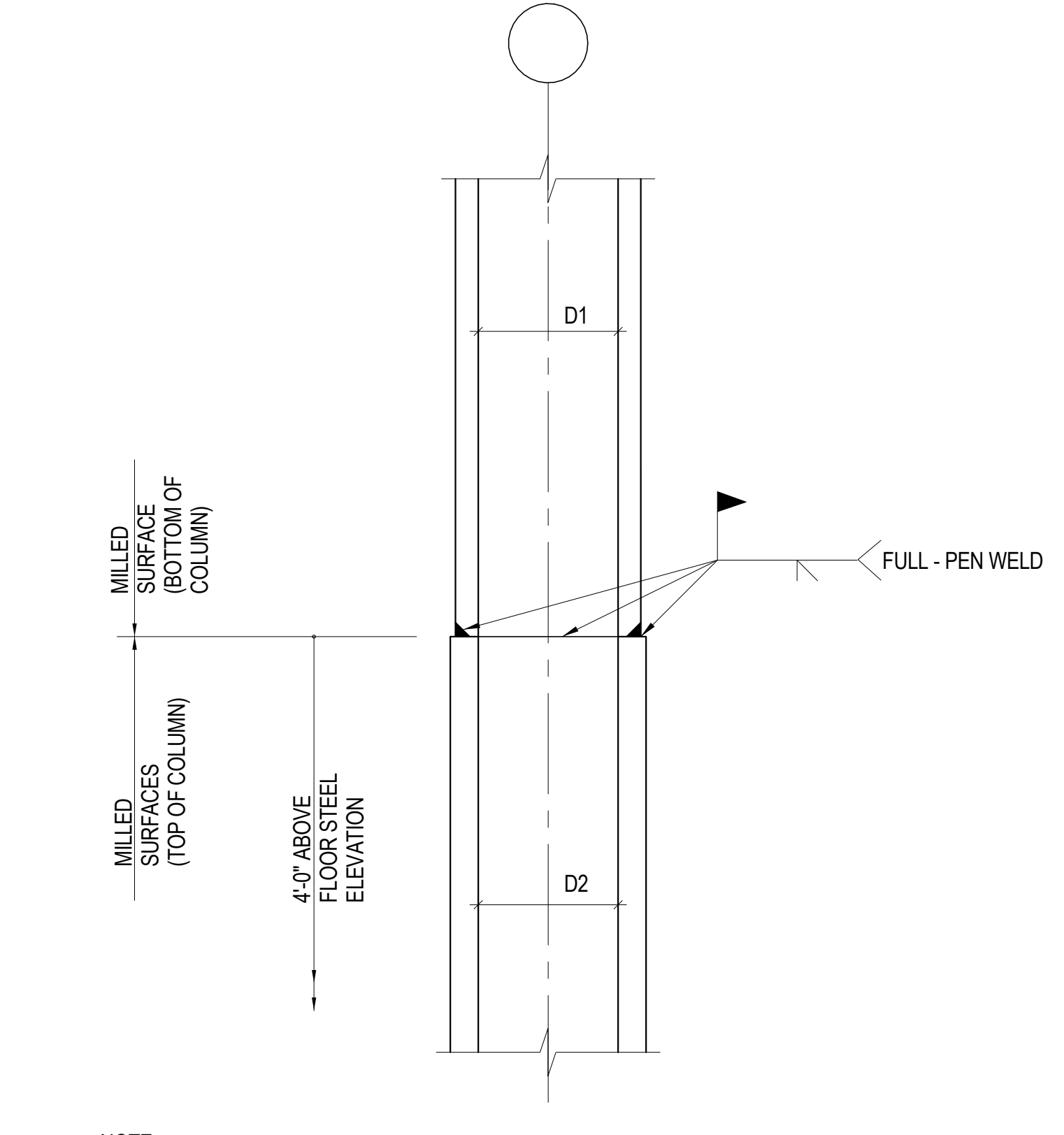
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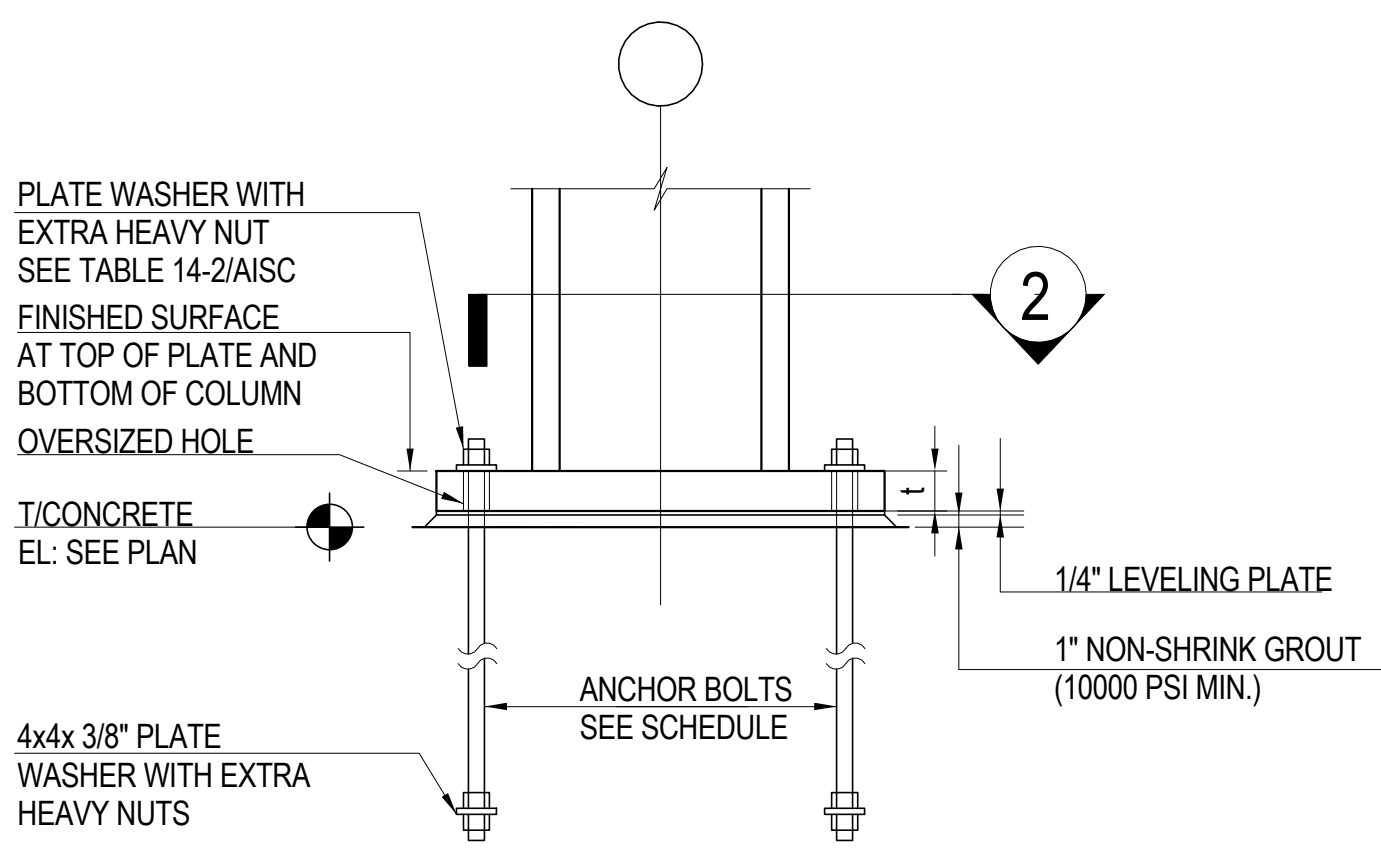
NOTE:
1. CONNECTION VALID FOR 3/16" < x < 1".
2. SPLICE CONNECTION SHALL DEVELOP LOAD EQUAL TO TENSION CAPACITY OF SMALLER COLUMN.

2 TYPICAL COLUMN SPLICE (D1 ≠ D2)

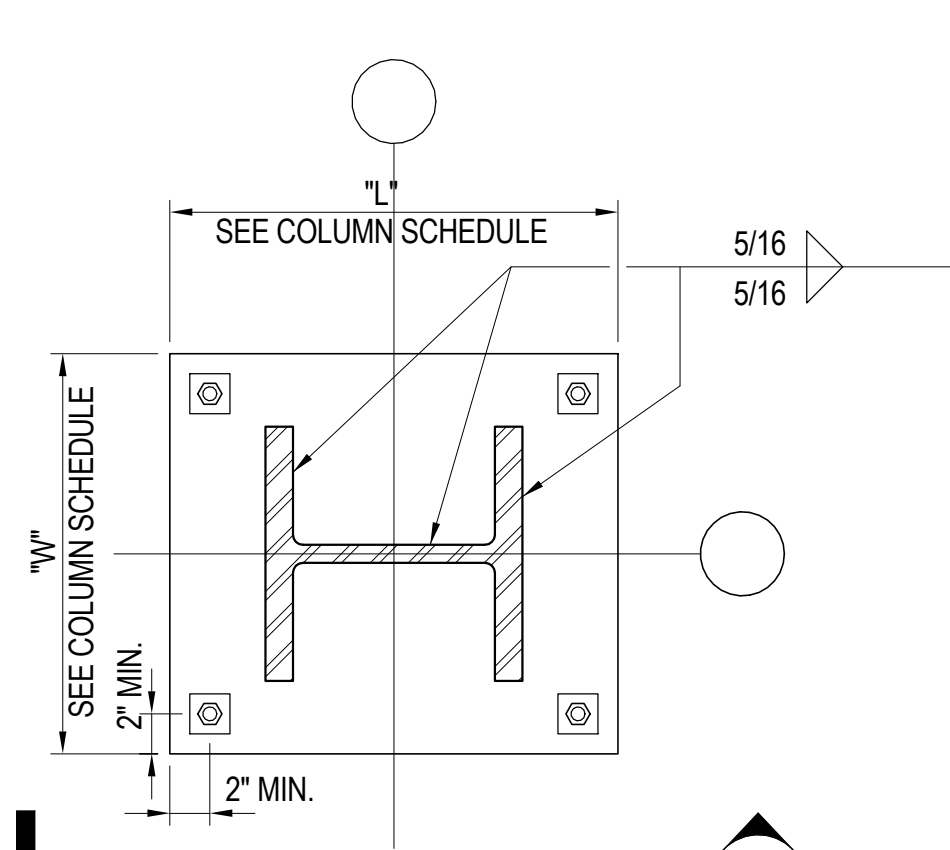
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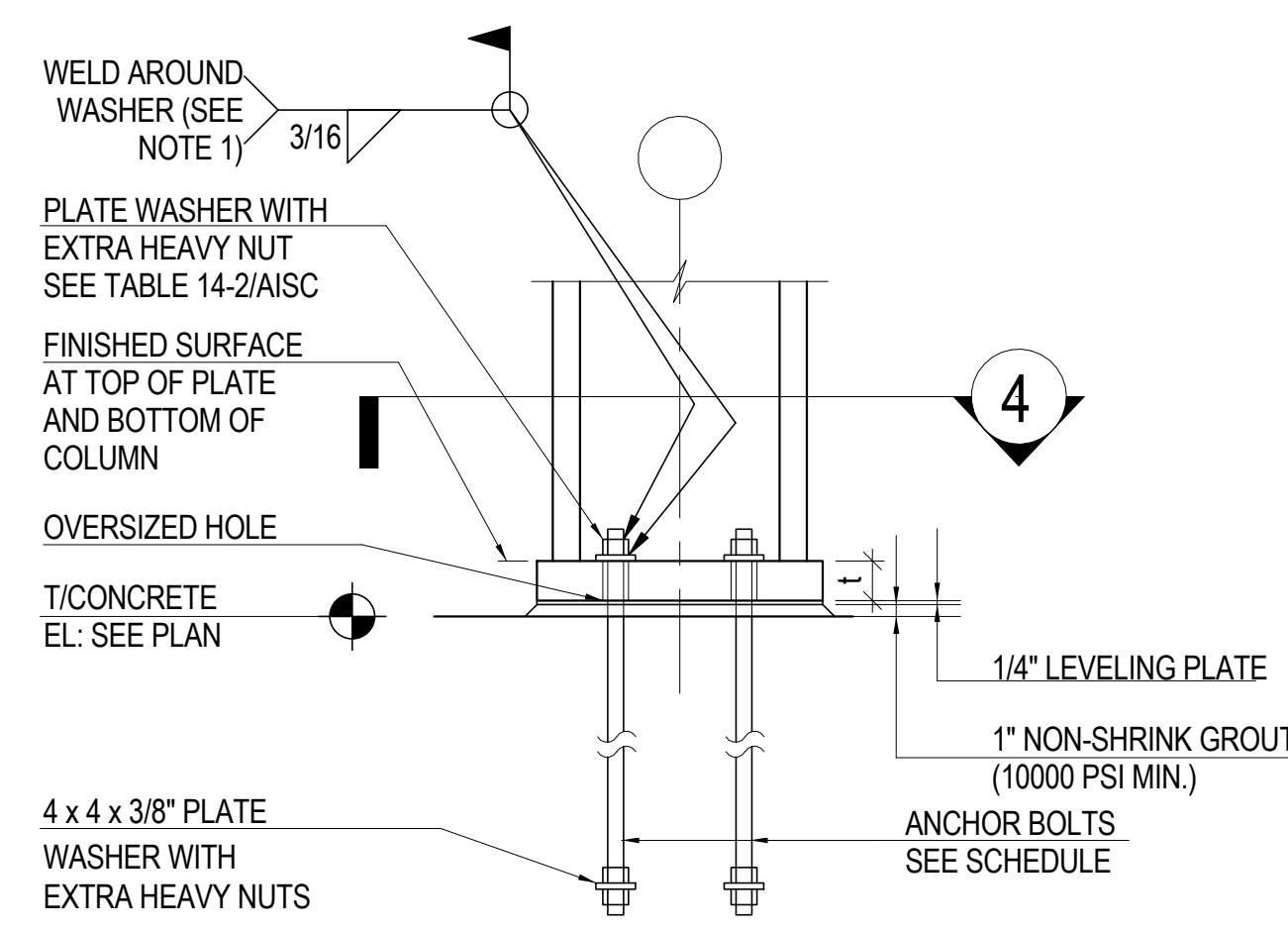
NOTE:
1. SPLICE CONNECTION SHALL DEVELOP LOAD EQUAL TO TENSION CAPACITY OF SMALLER COLUMN.
2. BOLTED CONNECTIONS WHICH ACHIEVE THE SAME CAPACITY WILL BE CONSIDERED.



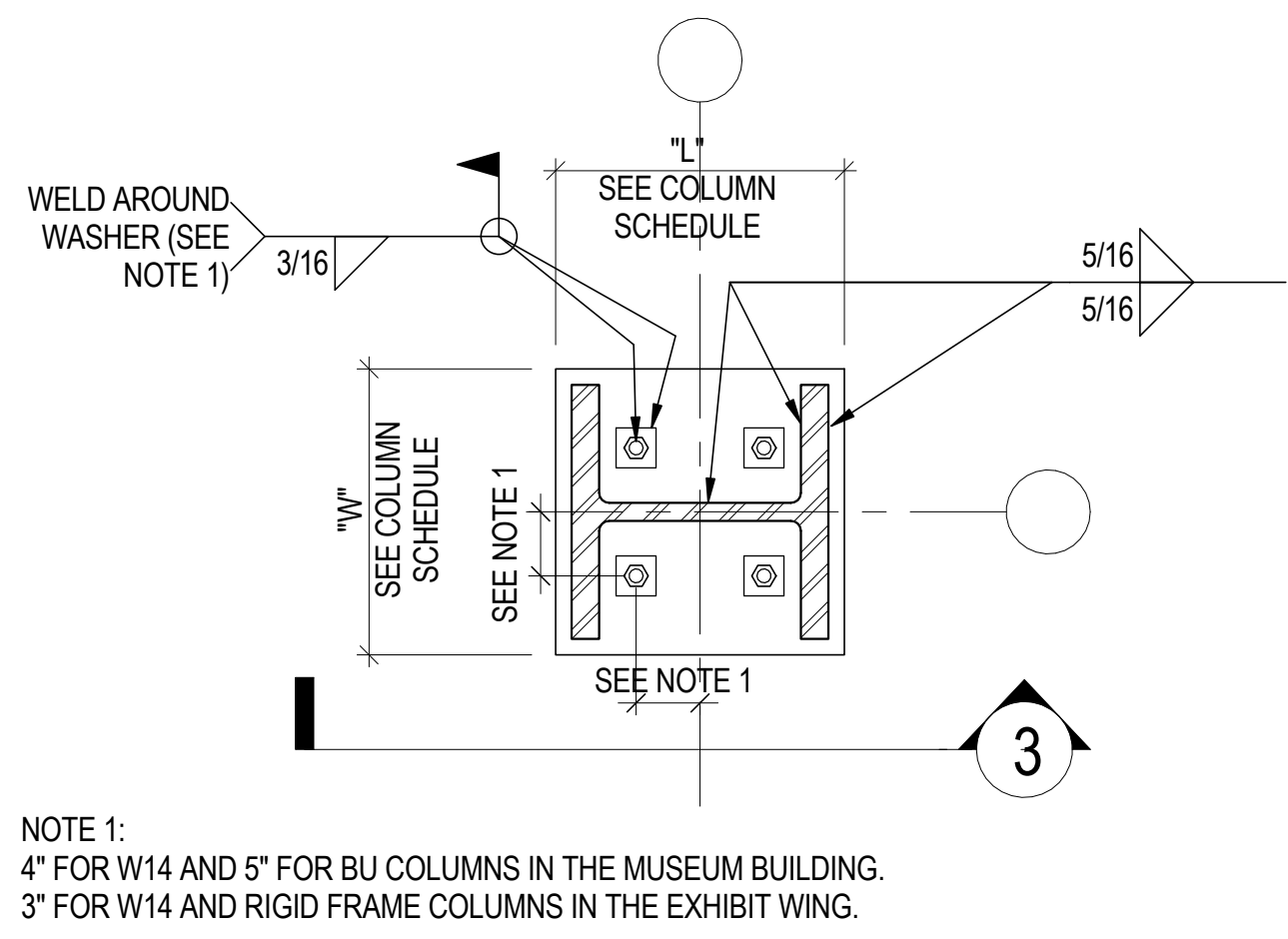
1 TYPICAL BASE PLATE ELEVATION
1" = 1'-0"



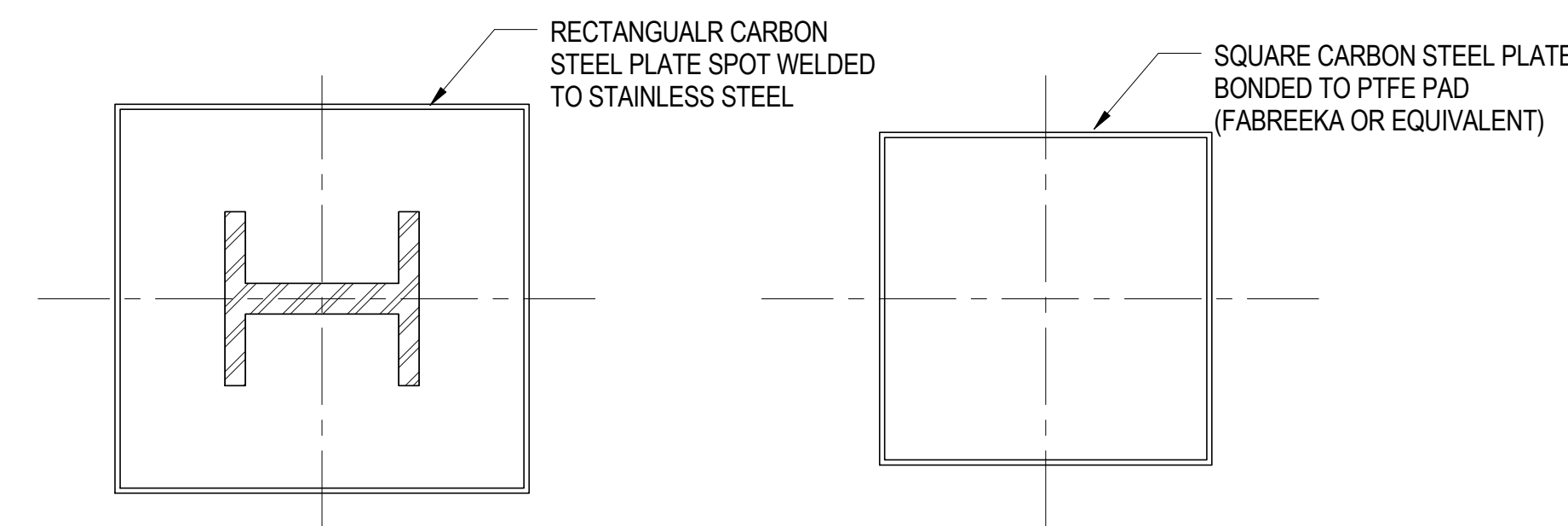
2 TYPICAL BASE PLATE PLAN
1" = 1'-0"



3 BASE PLATE WITH INTERIOR ANCHOR RODS ELEVATION
1" = 1'-0"



4 BASE PLATE WITH INTERIOR ANCHOR RODS PLAN
1" = 1'-0"



5 TYPICAL COLUMN BASE DETAIL AT SLIDING SUPPORT
3/4" = 1'-0"

| STRUCTURAL STEEL COLUMN SCHEDULE AT RETAIL | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|
| GRID LOCATION | W14 COLUMNS: ASTM A913-GRADE 50 PLATE MATERIAL: ASTM A572 GR 50, TYP. U.N.O. | | | | | | | | | | | | | | | | | | | | | | |
| FLOOR LEVEL | B-7 - 6 | C-8 - 6 | D-6 - 6 | E-3 - 6 | B-7 - 8 | C-8 - 8 | D-6 - 8 | E-3 - 8 | A-3 - 5 | A-2 - 5 | A-1 - 5 | A-3 - 4 | A-2 - 4 | A-1 - 4 | A-4 - 4.5 | A-4 - 5 | A-4 - 6 | A-4 - 8 | A-4 - 9 | A-3 - 6 | A-3 - 8 | A-3 - 9 | A-2 - 6 |
| LEVEL 05 EL: SEE PLAN | | | | | | | | | | | | | | | | | | | | | | | |
| LEVEL 04 EL: SEE PLAN | | | | | | | | | W14X43 | W14X43 | W14X43 | W14X43 | W14X43 | W14X43 | | | | | | | | | |
| LEVEL 03 EL: SEE PLAN | | | | | | | | | W14X43 | W14X43 | W14X43 | W14X43 | W14X43 | W14X43 | | | | | | | | | |
| LEVEL 02 EL: SEE PLAN | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X43 | W14X61 | W14X48 | W14X48 | W14X61 | W14X43 | | | | | | | | W14X132 | W14X132 |
| LEVEL 01 EL: SEE PLAN | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X176 | W14X145 | W14X132 | W14X159 | W14X145 | | | | | | | | W14X132 | W14X132 |
| CELLAR B EL: SEE PLAN | W14X370 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X370 | W14X132 | W14X176 | W14X145 | W14X132 | W14X159 | W14X145 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X370 | W14X370 | W14X370 |
| 1. ALL COLUMNS SUPPORTED ON A SLIDING BEARING PAD WEST OF GL C SHALL BE DESIGNED FOR AN AXIAL LOAD (LRFD) OF 1110 KIPS AND ACCOMMODATE MOVEMENTS IN THE EAST-WEST DIRECTION OF +/- 2-3/4in AND IN THE NORTH-SOUTH DIRECTION OF +/- 4in. 2. ALL COLUMNS SUPPORTED ON A SLIDING BEARING PAD EAST OF GL C AND WEST OF GL H SHALL BE DESIGNED FOR AN AXIAL LOAD (LRFD) OF 500 KIPS AND ACCOMMODATE MOVEMENTS IN THE EAST-WEST DIRECTION OF +/- 2-3/4in AND IN THE NORTH-SOUTH DIRECTION OF +/- 4in. 3. ALL COLUMNS SUPPORTED ON A SLIDING BEARING PAD EAST OF GL H SHALL BE DESIGNED FOR AN AXIAL LOAD (LRFD) OF 500 KIPS AND ACCOMMODATE MOVEMENTS IN THE EAST-WEST DIRECTION OF +/- 1-1/2in AND IN THE NORTH-SOUTH DIRECTION OF +/- 4in. | | | | | | | | | | | | | | | | | | | | | | | |

| STRUCTURAL STEEL COLUMN SCHEDULE OUTSIDE OF TOWER | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| GRID LOCATION | W14 COLUMNS: ASTM A913-GRADE 50 PLATE MATERIAL: ASTM A572 GR 50, TYP. U.N.O. | | | | | | | | | | | | | | | | | | | | | | |
| FLOOR LEVEL | B-7 - 9 | C-8 - 9 | D-6 - 9 | E-3 - 9 | F-2 - 9 | G-5 - 9 | K-9 | K-7 - 9 | F-2 - 7 | G-5 - 7 | K-7 | K-7 - 7 | F-2 - 6 | G-5 - 6 | K-6 | K-7 - 6 | J-7 | H-4-8 | K-4-8 | K-7-4-8 | H-4 | K-4 | H-3 |
| LEVEL 01 EL: SEE PLAN | | | | | | | | | | | | | | | | | | | | | | | |
| CELLAR B EL: SEE PLAN | W14X370 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 | W14X132 |
| 1. ALL COLUMNS SUPPORTED ON A SLIDING BEARING PAD WEST OF GL C SHALL BE DESIGNED FOR AN AXIAL LOAD (LRFD) OF 1110 KIPS AND ACCOMMODATE MOVEMENTS IN THE EAST-WEST DIRECTION OF +/- 2-3/4in AND IN THE NORTH-SOUTH DIRECTION OF +/- 4in. 2. ALL COLUMNS SUPPORTED ON A SLIDING BEARING PAD EAST OF GL C AND WEST OF GL H SHALL BE DESIGNED FOR AN AXIAL LOAD (LRFD) OF 500 KIPS AND ACCOMMODATE MOVEMENTS IN THE EAST-WEST DIRECTION OF +/- 2-3/4in AND IN THE NORTH-SOUTH DIRECTION OF +/- 4in. 3. ALL COLUMNS SUPPORTED ON A SLIDING BEARING PAD EAST OF GL H SHALL BE DESIGNED FOR AN AXIAL LOAD (LRFD) OF 500 KIPS AND ACCOMMODATE MOVEMENTS IN THE EAST-WEST DIRECTION OF +/- 1-1/2in AND IN THE NORTH-SOUTH DIRECTION OF +/- 4in. | | | | | | | | | | | | | | | | | | | | | | | |



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Professional Engineer
Charles Michael Bell
076322

Key Plan:
33RD STREET
DYER AVENUE
31ST STREET
9TH AVENUE

Seal & Signature:
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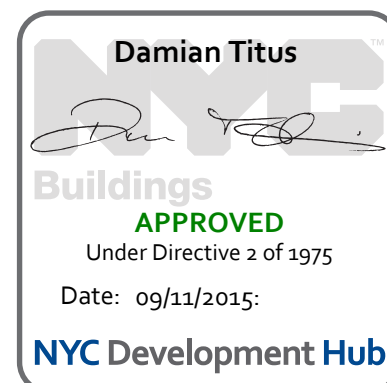
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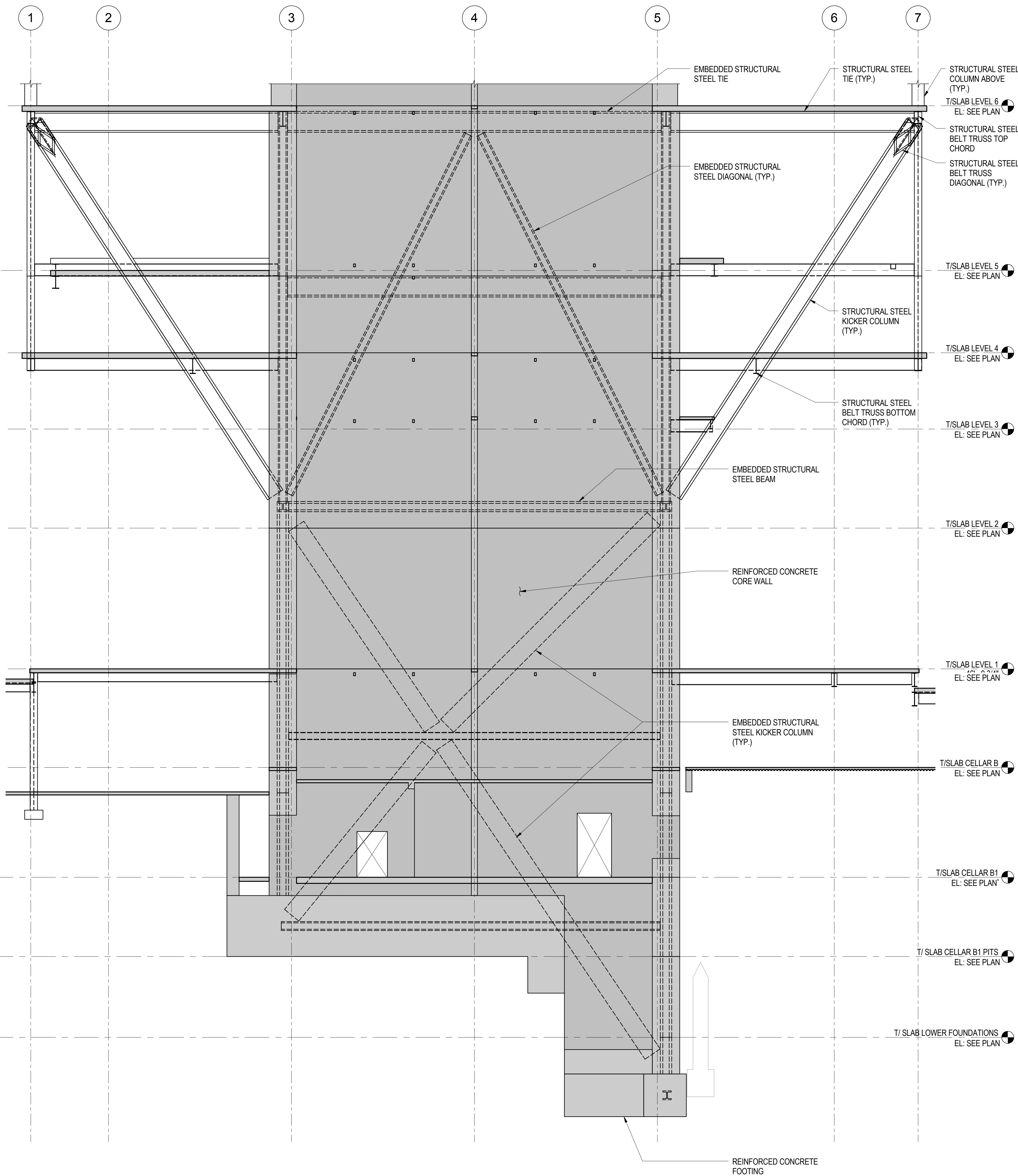
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Sheet No.: S-402
Page No.: 76 of 90

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4 20 DEC 2013 ISSUED FOR FOUNDATION PERMIT
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2 12 JUL 2013 ISSUED FOR 90% DESIGN DEVELOPMENT
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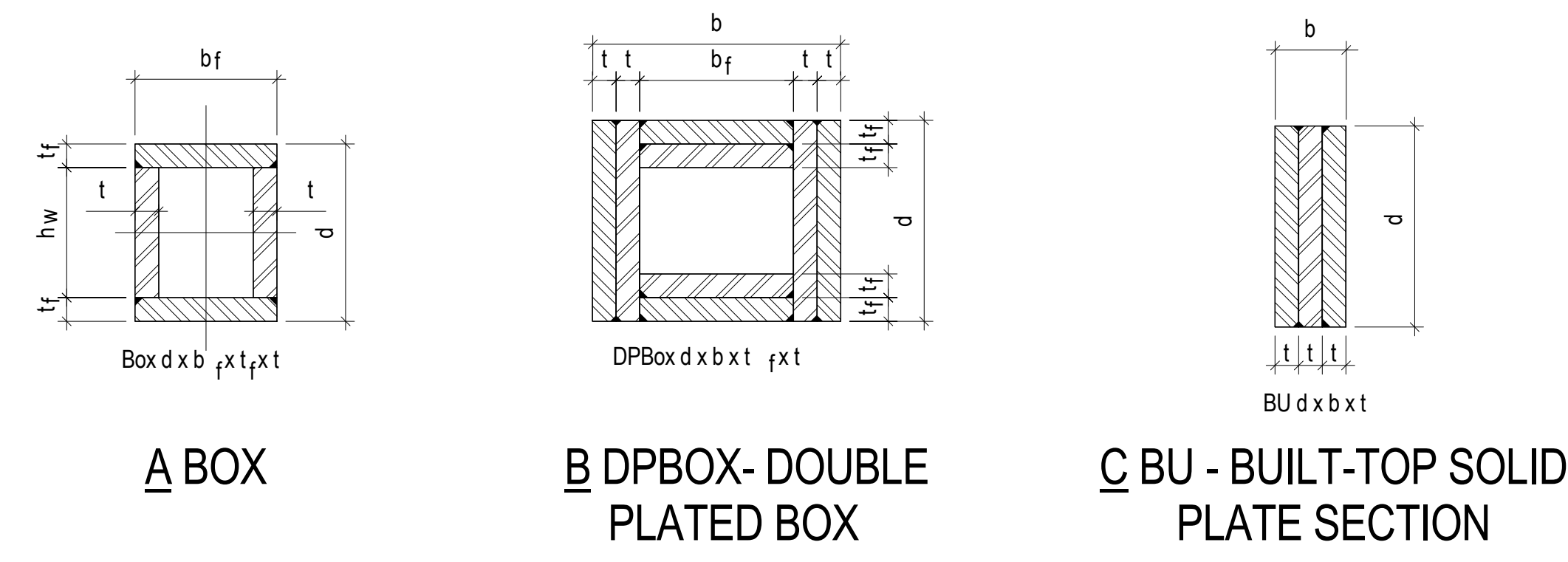
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**STRUCTURAL
STEEL COLUMN
SCHEDULE,
SECTIONS &
DETAILS**

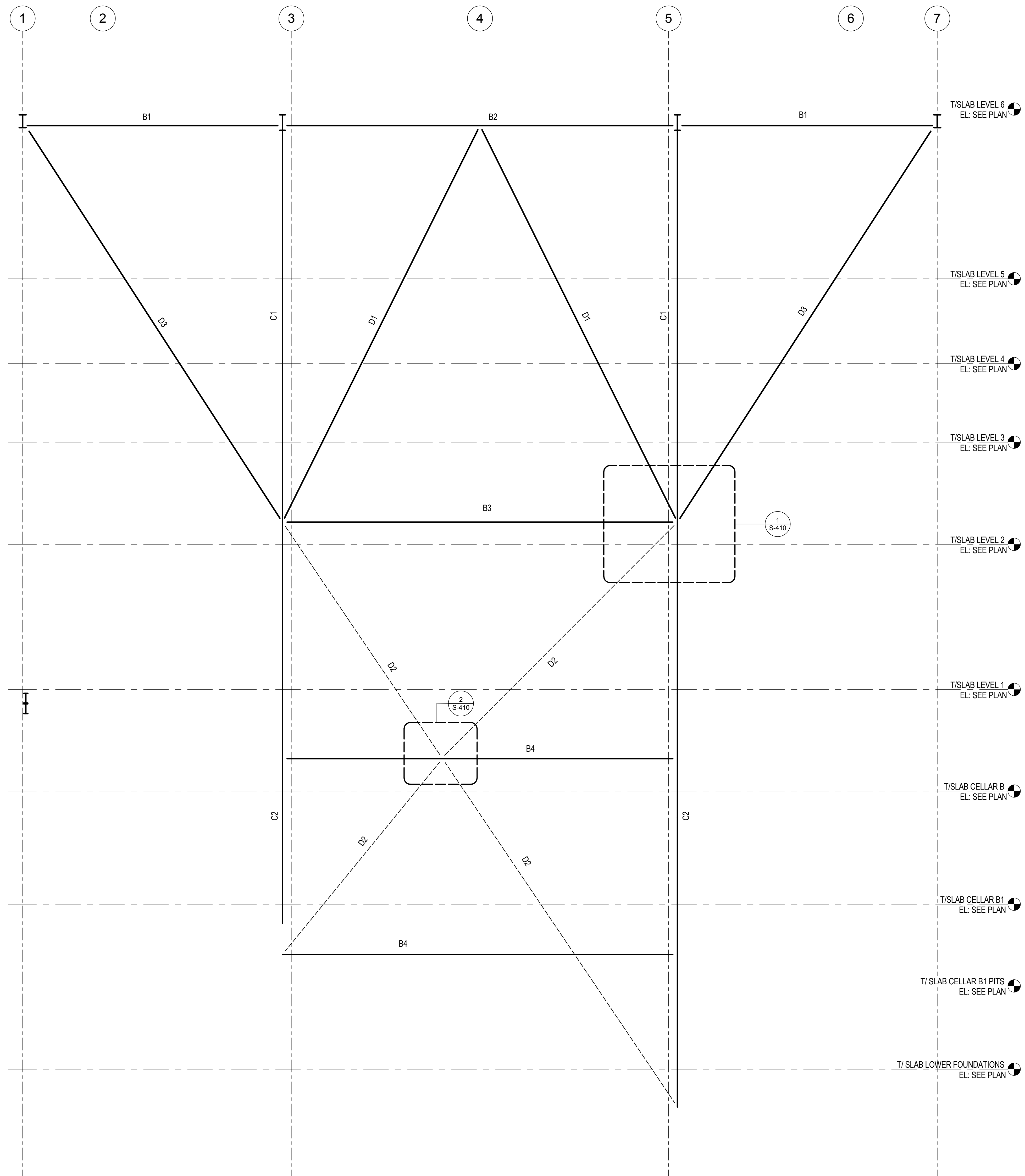




1 TYPICAL SECTION @ KICKERS THRU CORE WALL ALONG GRID LINES C TO F LOOKING EAST
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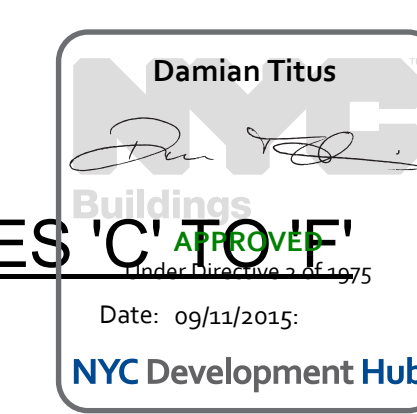


NOMENCLATURE FOR BUILT-UP SECTIONS
1/2" = 1'-0"



| STEEL MEMBER SCHEDULE FOR KICKER COLUMN ASSEMBLY | |
|--|-------------------------|
| MARK | LINE C, D, E, F, G |
| B1 | W36X852 |
| B2 | W36X852 |
| B3 | W14X550 |
| B4 | W14X109 |
| B5 | W14X311 |
| D1 | W12X336 |
| D2 | BU 36X12X4 |
| D3 | DPBOX 36X36X2-1/4X2-1/4 |
| C1 | W14X730 |
| C2 | W14X730 |

2 KEY SECTION AND SCHEDULE FOR KICKER COLUMN ASSEMBLY ALONG GRID LINES 'C' TO 'F'
NOT TO SCALE



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Ontario, Canada N1K 1B6

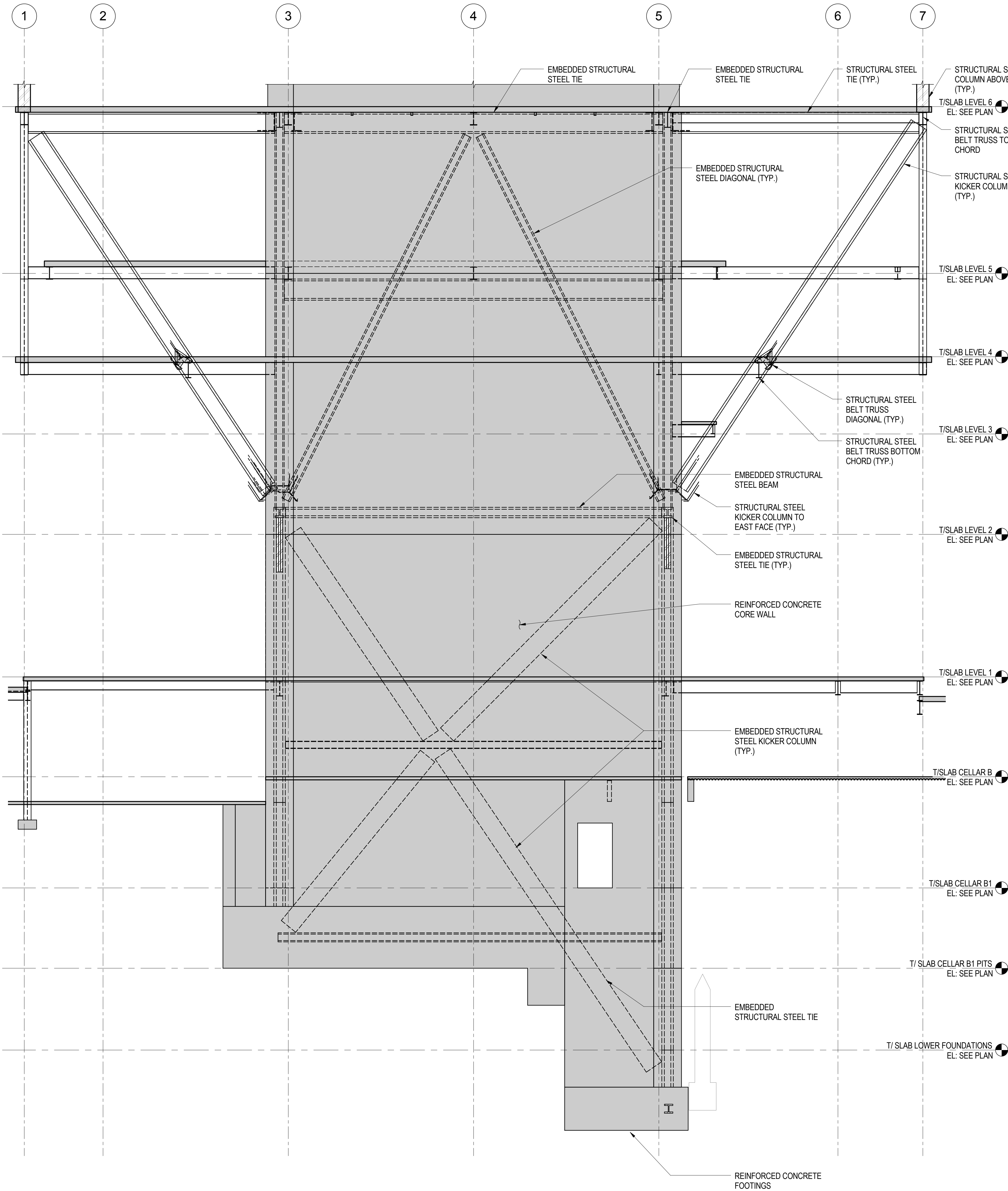
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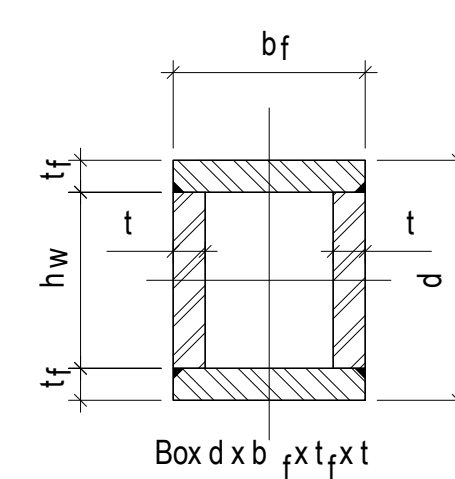
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**KICKER
COLUMNS AT
CORE LINES C TO
F - SCHEDULES,
ELEVATIONS,
SECTIONS &
DETAILS**

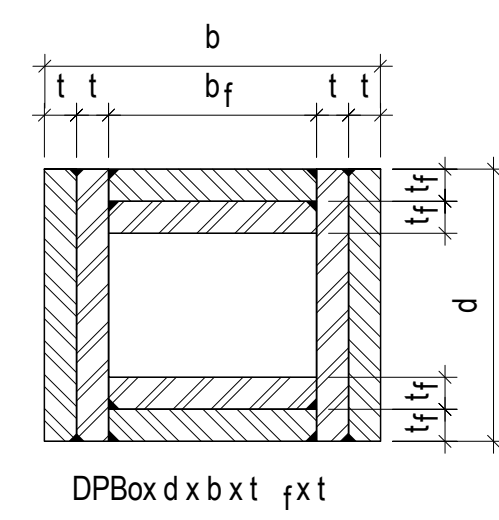
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| Date: 20 JUN 2014 | Sheet No.: S-405 |
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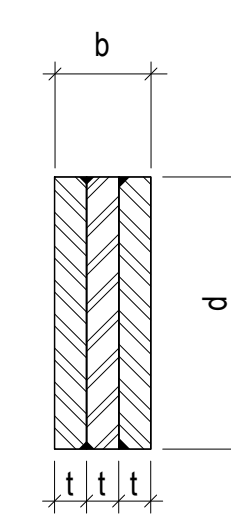
1 TYPICAL SECTION @ KICKERS THRU CORE WALL ALONG GRID LINE 'G' LOOKING EAST
NOT TO SCALE



A BOX

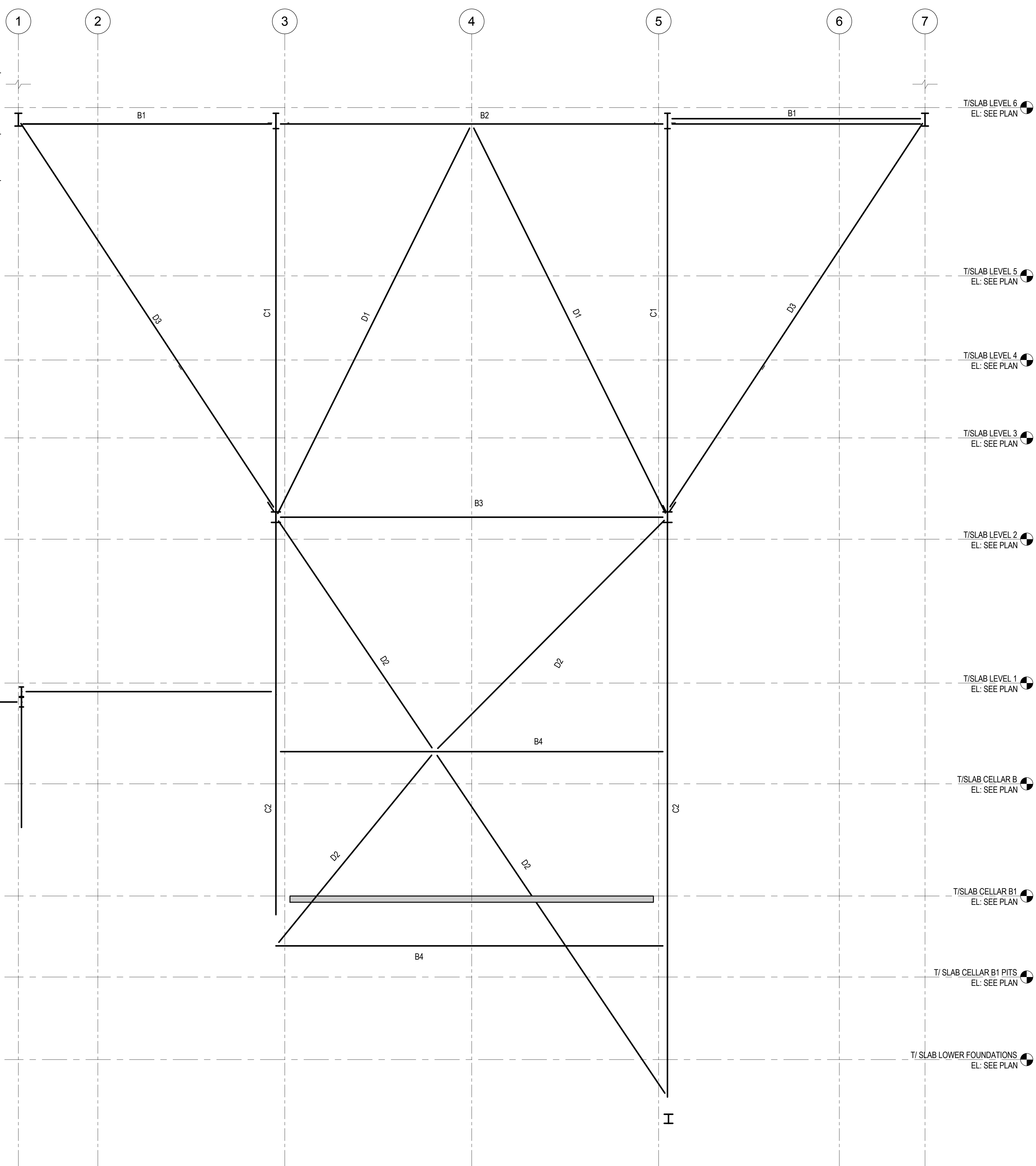


B DPBOX-DOUBLE PLATED BOX



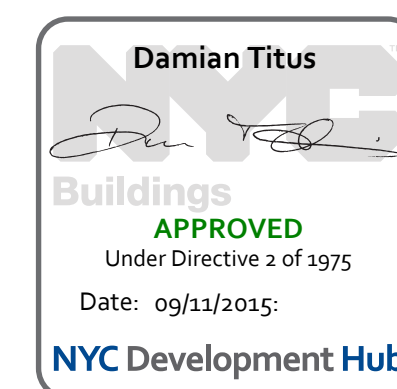
C BU - BUILT-TOP SOLID PLATE SECTION

NOMENCLATURE FOR BUILT-UP SECTIONS
1/2" = 1'-0"



| STEEL MEMBER SCHEDULE FOR KICKER COLUMN ASSEMBLY | |
|--|-------------------------|
| MARK | LINE C, D, E, F, G |
| B1 | W36X652 |
| B2 | W36X652 |
| B3 | W14X550 |
| B4 | W14X109 |
| B5 | W14X311 |
| D1 | W12X336 |
| D2 | BU 36X12X4 |
| D3 | DPBOX 36X36X2-1/4X2-1/4 |
| C1 | W14X730 |
| C2 | W14X730 |

2 KEY SECTION AND SCHEDULE FOR KICKER COLUMN ASSEMBLY ALONG LINE 'G'
1/8" = 1'-0"



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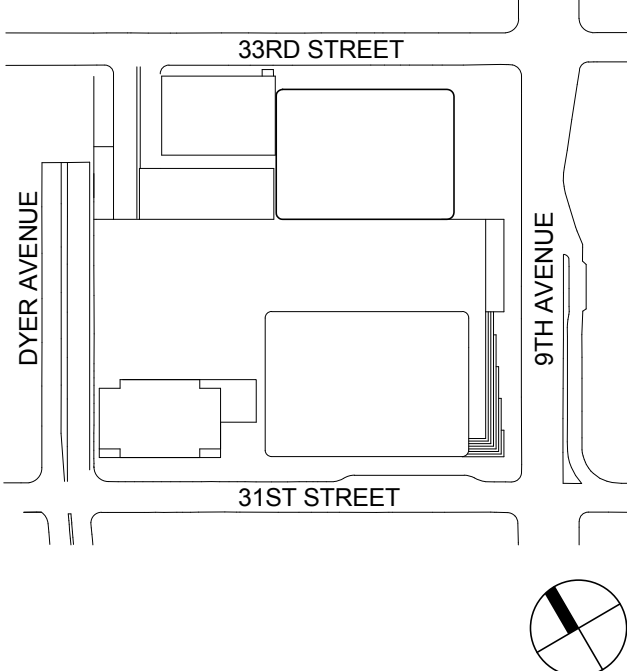
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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
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Key Plan:
33RD STREET
DYER AVENUE
31ST STREET
9TH AVENUE



Seal & Signature:

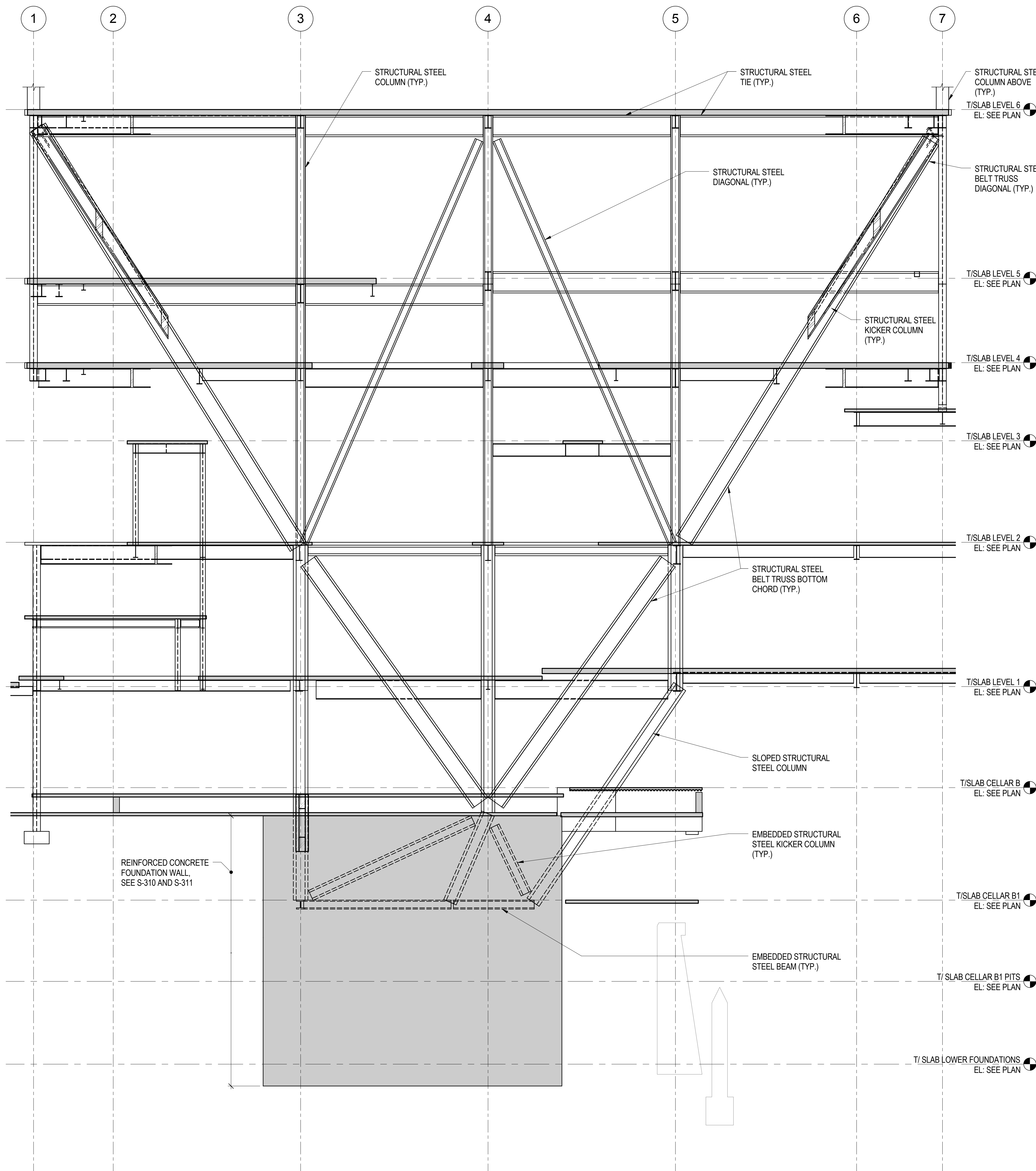
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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

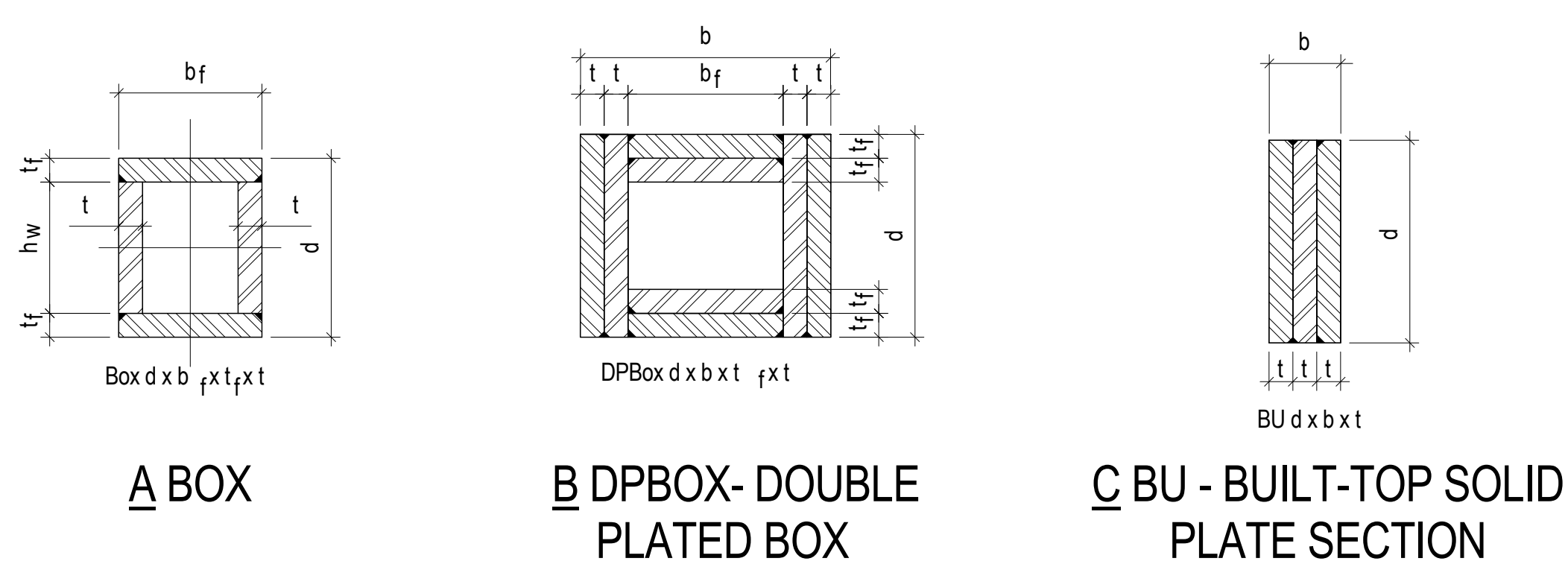
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Sheet Name:

**KICKER
COLUMNS AT
CORE LINE G -
SCHEDULES,
ELEVATIONS,
SECTIONS &
DETAILS**

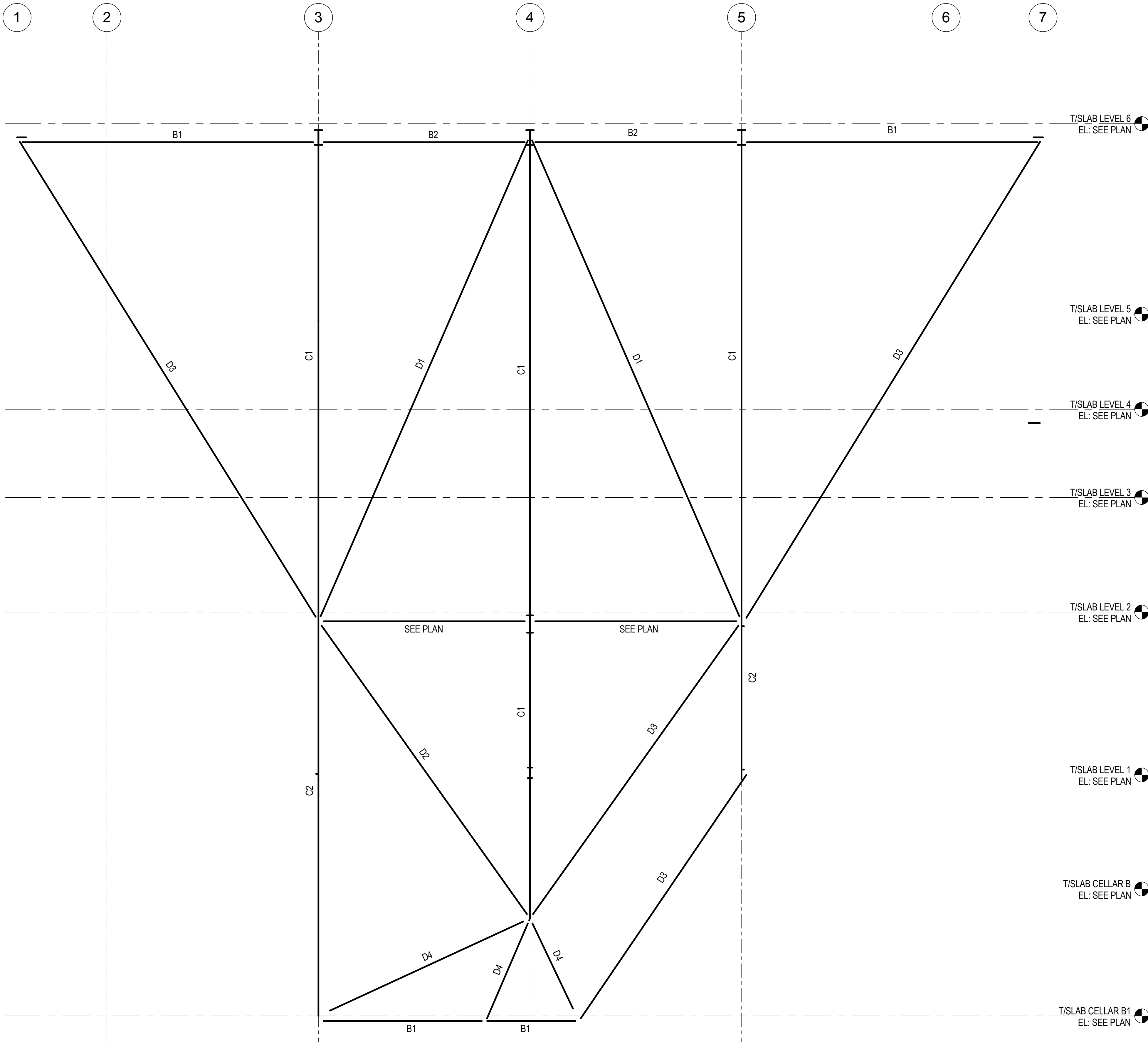
Project No.: 211157
Date: 20 JUN 2014
Scale: As indicated
File No.: S-406
B-SCAN Sheet No.:
Sheet No.: S-406.00
Page No.: 78 of 90



1 TYP SECTION @ LINE B KICKER COLUMN ASSEMBLY LOOKING EAST
1/8" = 1'-0"



NOMENCLATURE FOR BUILT-UP SECTIONS
1/2" = 1'-0"



| STEEL MEMBER SCHEDULE | |
|-----------------------|------------------------|
| MARK | SECTION |
| B1 | W14X311 |
| B2 | W36X552 |
| C1 | W14X370 |
| C2 | BOX 28X26X5.5X3.75 |
| D1 | W14X283 |
| D2 | BU 36X12X4 |
| D3 | DPBU 36X36X2 1/4X2 1/4 |
| D4 | W14X605 |

2 KEY SECTION AND SCHEDULE FOR KICKER COLUMN ASSEMBLY
NOT TO SCALE

**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
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Architecture/Structural Engineering

SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

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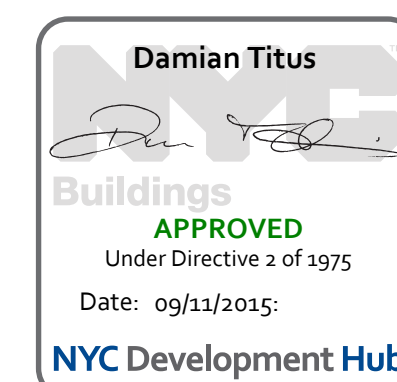
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| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

Sheet Name:

**KICKER COLUMN
AT LINE B -
SCHEDULE,
ELEVATIONS,
SECTIONS &
DETAILS**

Project No.: 211157
Date: 20 JUN 2014
Scale: As indicated
File No.: S-408

B-SCAN Sheet No.: S-408.00
Sheet No.: S-408
Page No.: 80 of 90





MANHATTAN WEST:
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Ducibella, Ventor & Santore

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Code Consultants Professional Engineers PC

215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant

Entek Engineering LLC

166 Ames Street, Hackensack, NJ 07601

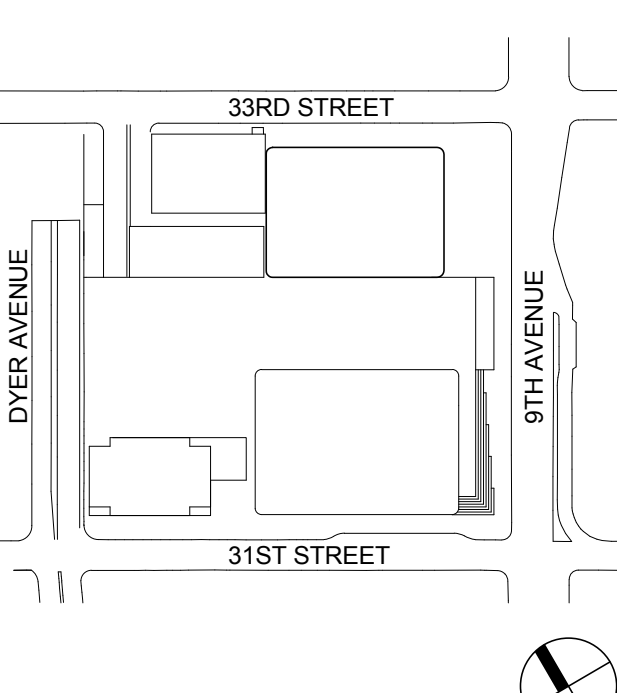
Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.

650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B6



Key Plan:



Seal & Signature:

PRELIMINARY
NOT FOR CONSTRUCTION

Project No.: 211157

Sheet No.: S-409.00

Date: 20 JUN 2014

Scale: As Indicated

File No: S-409

Page No.: 81 of 90

Project No.: 211157

Sheet No.: S-409.00

Date: 20 JUN 2014

Scale: As Indicated

File No: S-409

Page No.: 81 of 90

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Sheet No.: S-409.00

Date: 20 JUN 2014

Scale: As Indicated

File No: S-409

Page No.: 81 of 90

Project No.: 211157

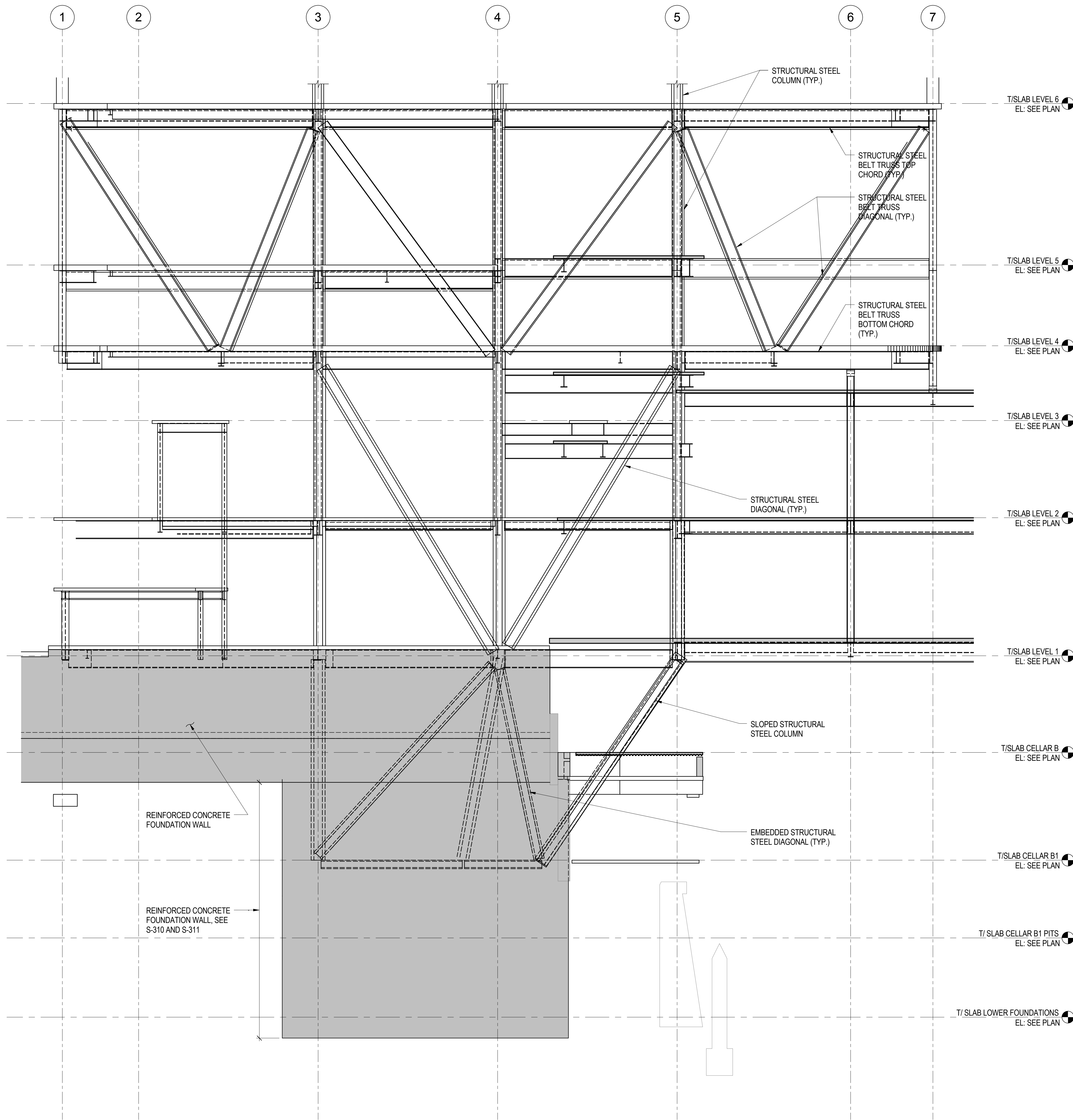
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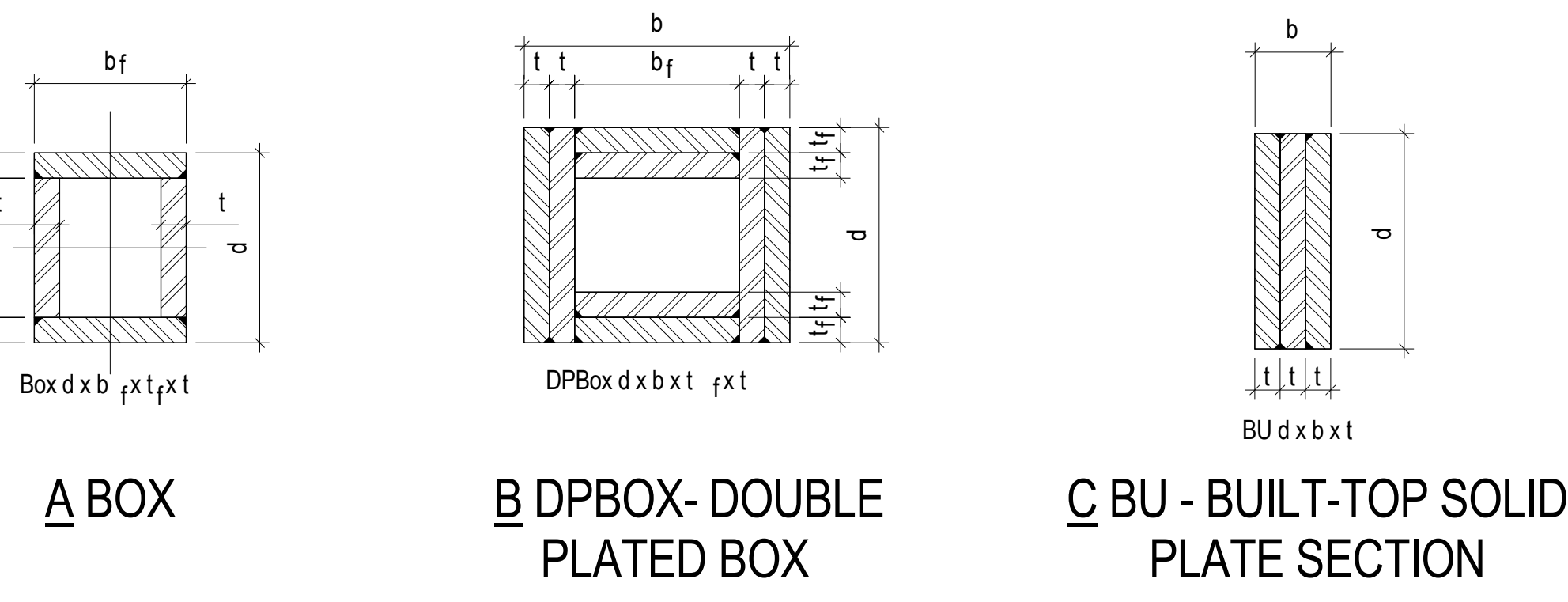
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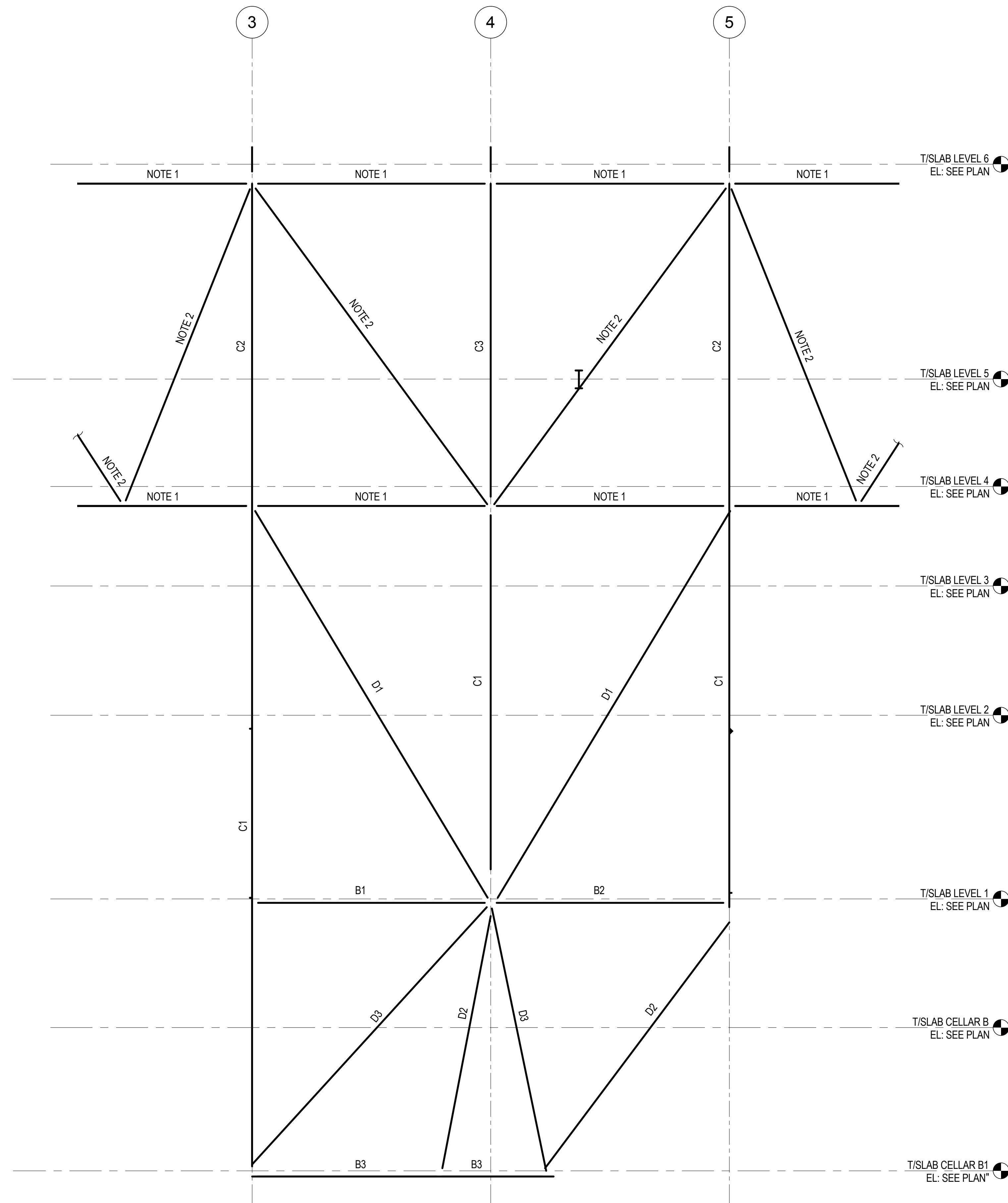
Page No.: 81 of 90



1 SECTION @ LINE 'A' BELOW LEVEL 6 LOOKING EAST
1/8" = 1'-0"



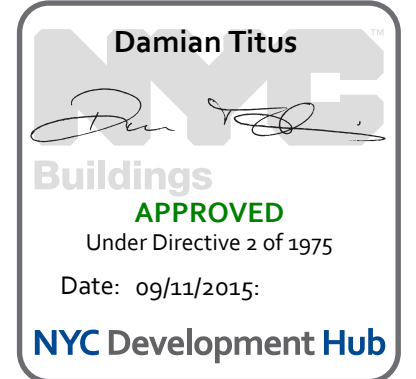
NOMENCLATURE FOR BUILT-UP SECTIONS
1/2" = 1'-0"



| STEEL MEMBER SCHEDULE | |
|-----------------------|--------------------------|
| MARK | SECTION |
| B1 | W24X76 |
| B2 | W24X76 |
| B3 | W14X311 |
| D1 | BU 26X24X3.5 |
| D2 | DP BOX 24X24X3X3 |
| D3 | W14X605 |
| C1 | DP BOX 24X24X3X3 |
| C2 | BOX 24X24X3.75X3.75 |
| C3 | DP BOX 24X24X2.375X2.375 |

NOTES:
1. BELT TRUSS CHORD MEMBER SEE S-415.
2. BELT TRUSS DIAGONAL MEMBER SEE S-415.

2 KEY SECTION AND SCHEDULE AT LINE 'A' BELOW LEVEL 6
NOT TO SCALE





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Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
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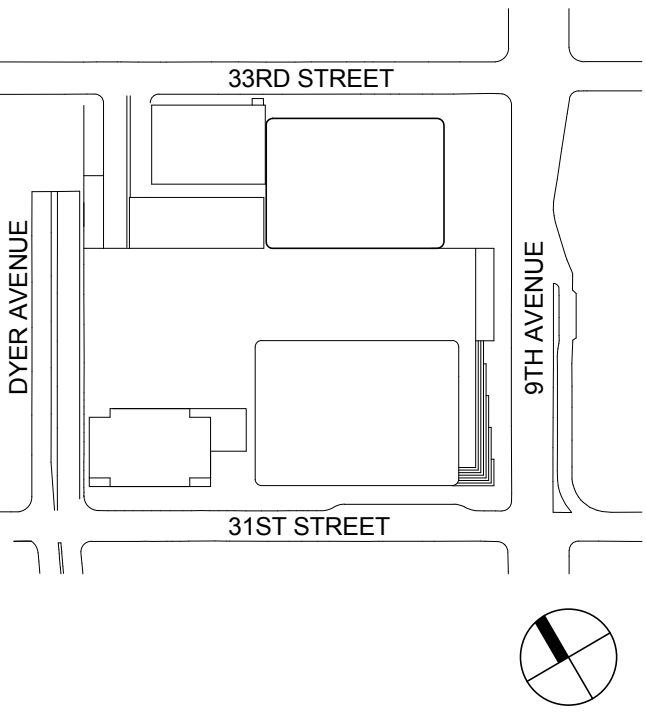
Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

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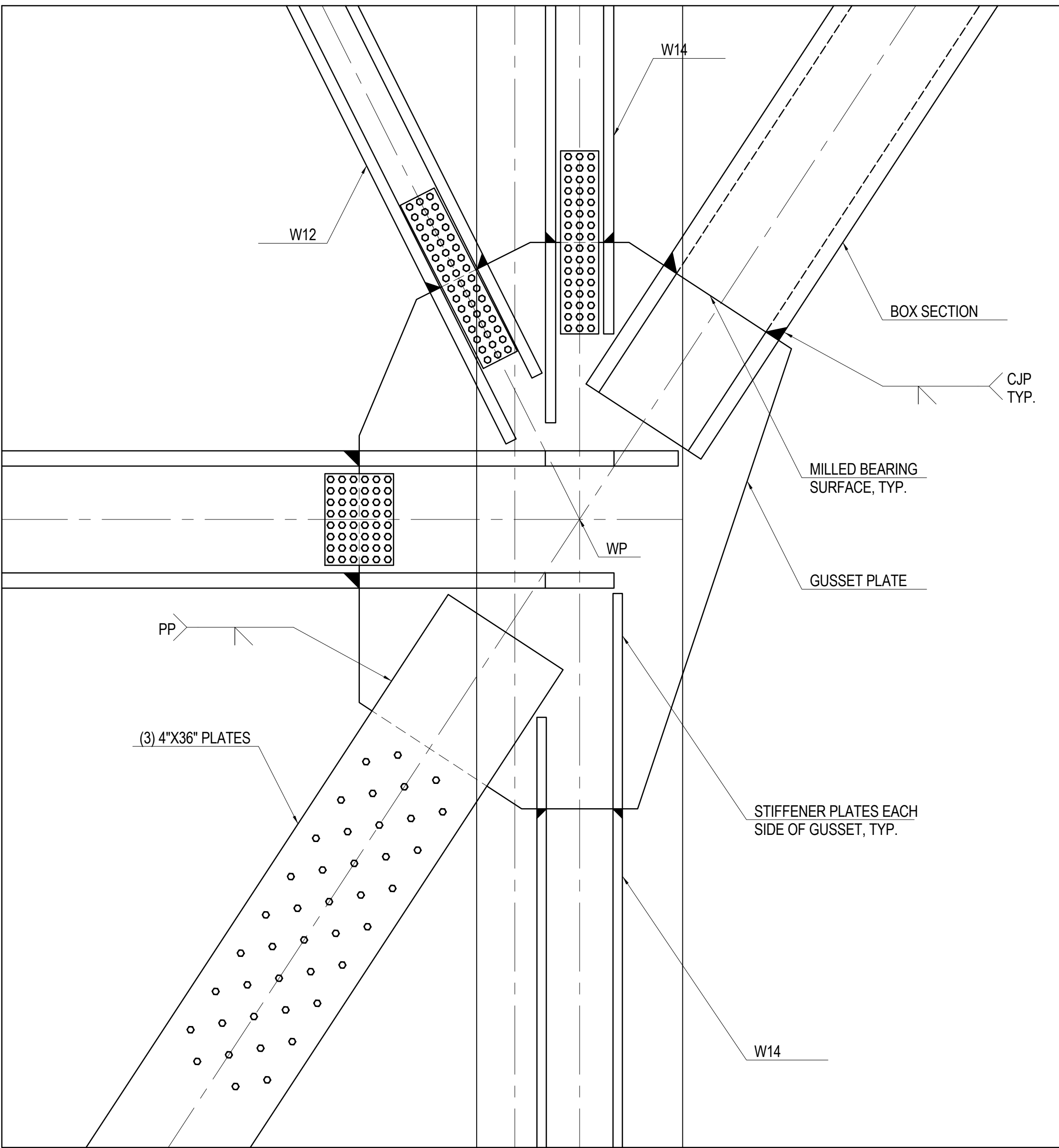
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| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description

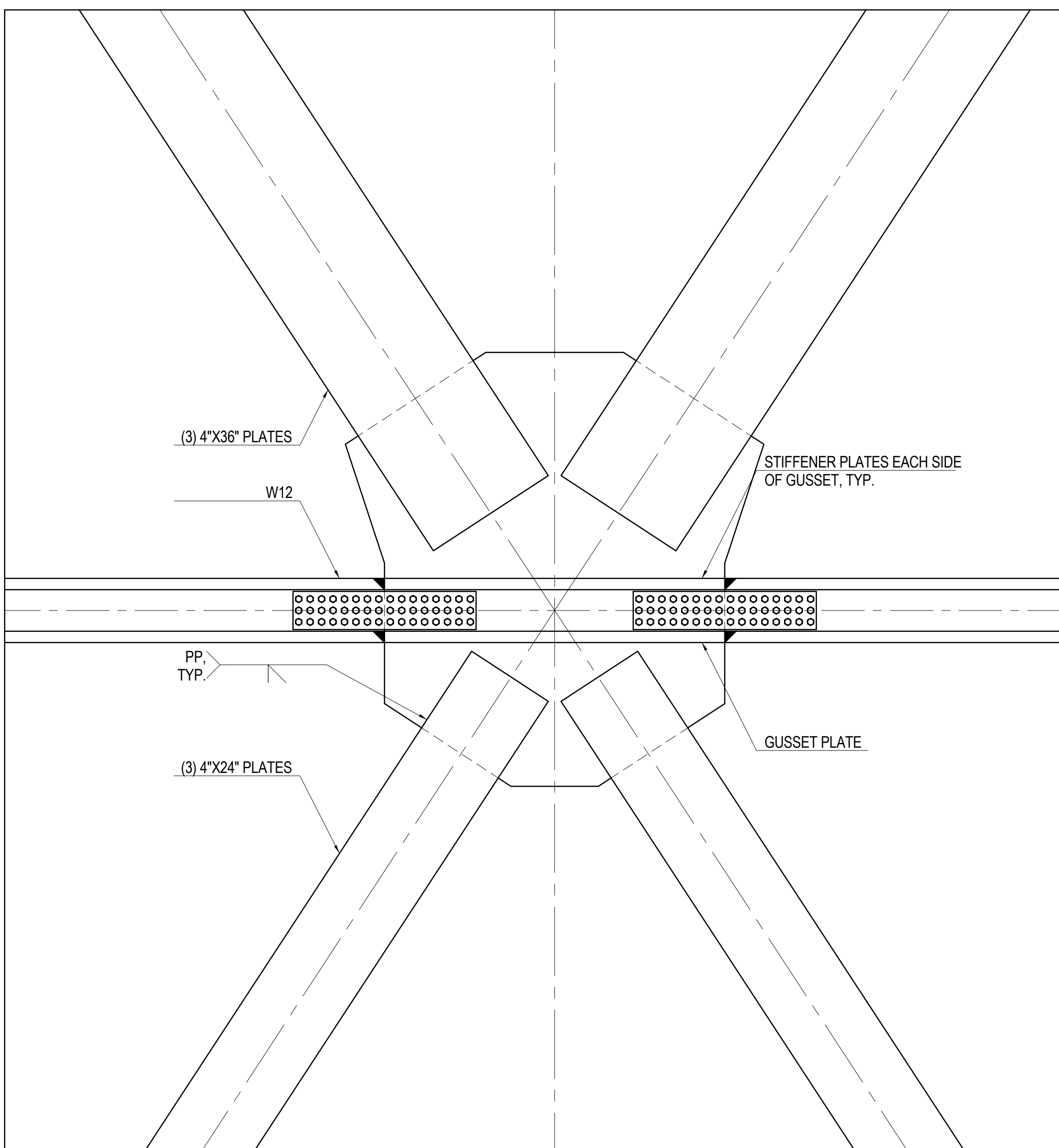
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**KICKER COLUMN
SECTIONS &
DETAILS**

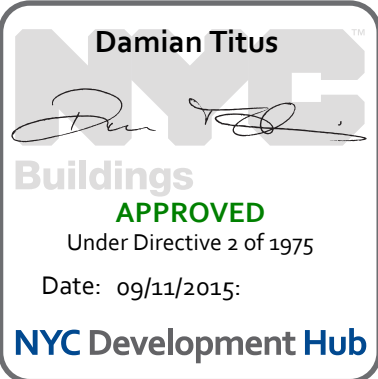
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| Date: 20 JUN 2014 | Sheet No.: S-410 |
| Scale: 1/2" = 1'-0" | Page No.: 82 of 90 |
| File No.: S-410 | |

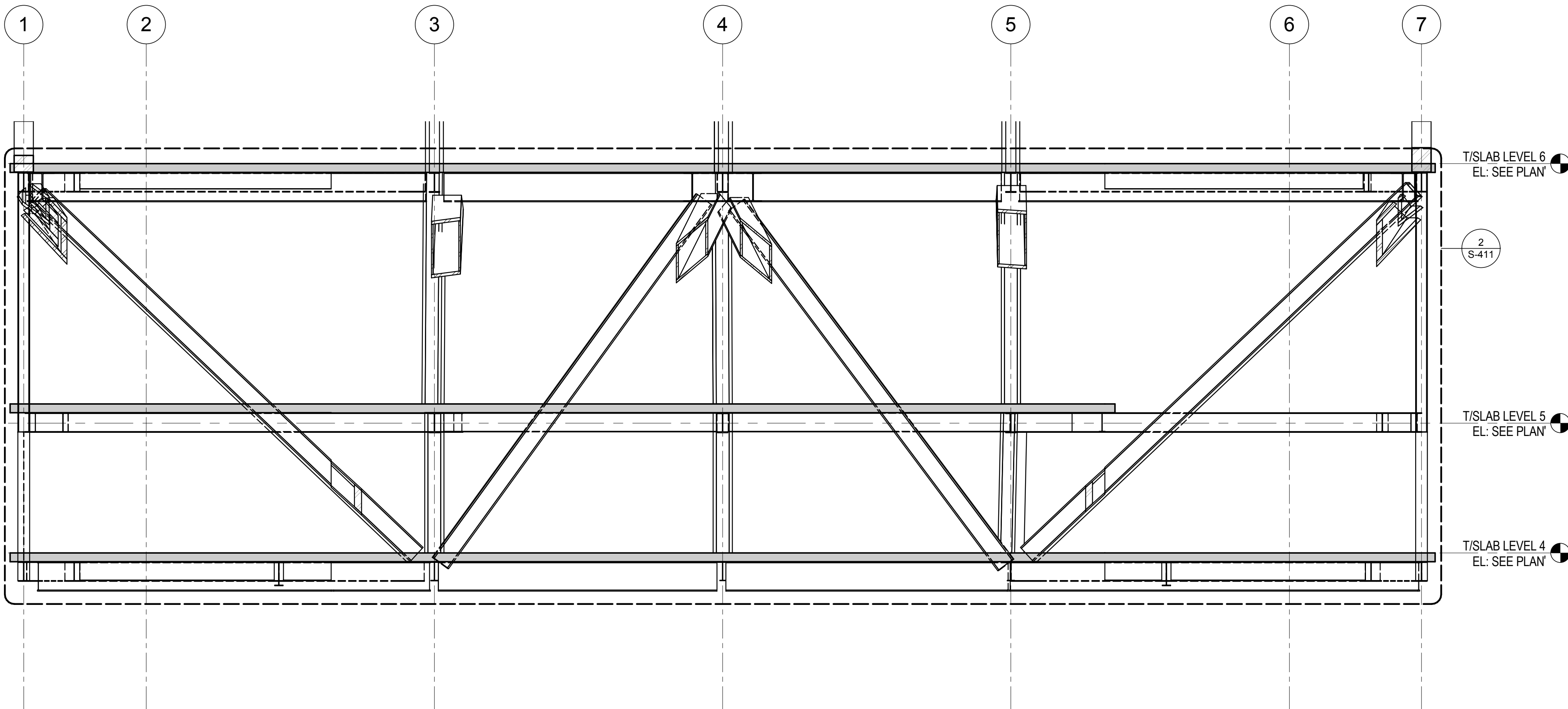


1 DETAIL AT KICKER COLUMN INTERFACE WITH CORE WALL
1/2" = 1'-0"

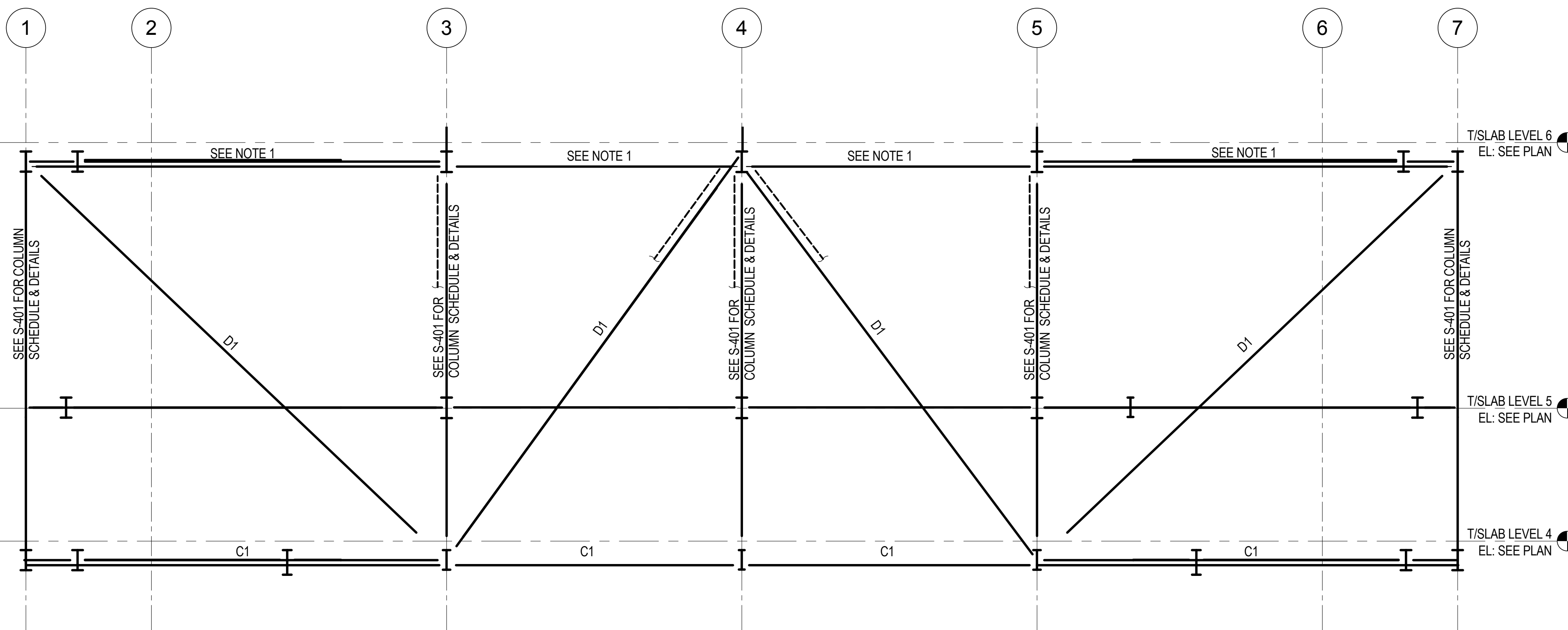


2 DETAIL AT KICKER COLUMN INTERSECTION WITHIN CORE WALL
1/2" = 1'-0"



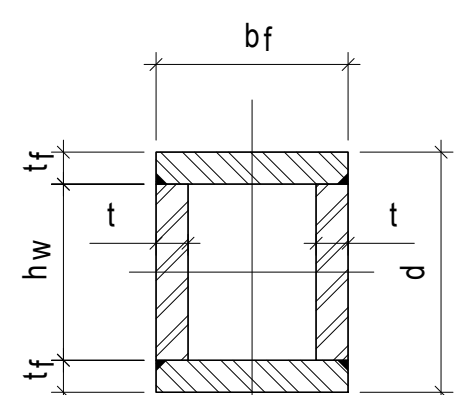


1 TYP SECTION @ LINE J LOOKING EAST
1/8" = 1'-0"

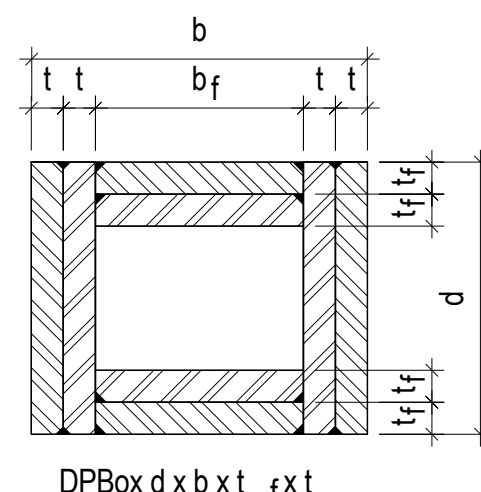


C1: W36X210
D1: BOX 24X24X1-3/4X1-3/4
NOTE: REFER TO S-415 FOR LOWER BELT TRUSS TOP CHORD.

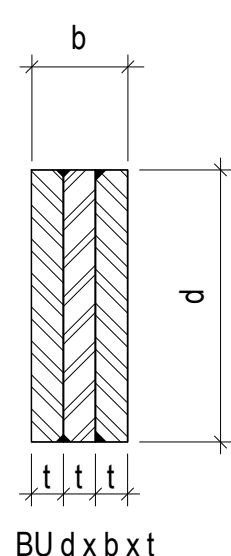
2 TYP SECTION @ LINE J LOOKING EAST
1/8" = 1'-0"



A BOX

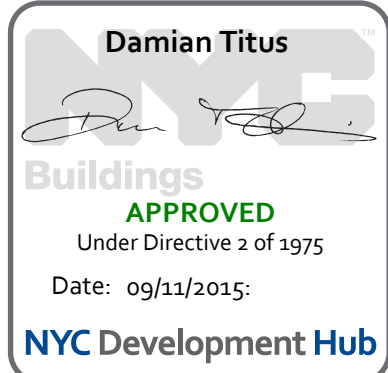


B DPBOX- DOUBLE PLATED BOX



C BU - BUILT-TOP SOLID PLATE SECTION

NOMENCLATURE FOR BUILT-UP SECTIONS
1/2" = 1'-0"



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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B6

Key Plan:

Seal & Signature:

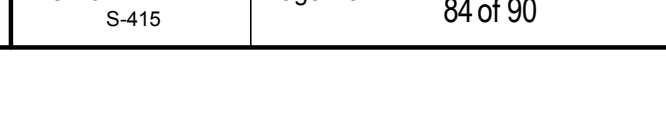
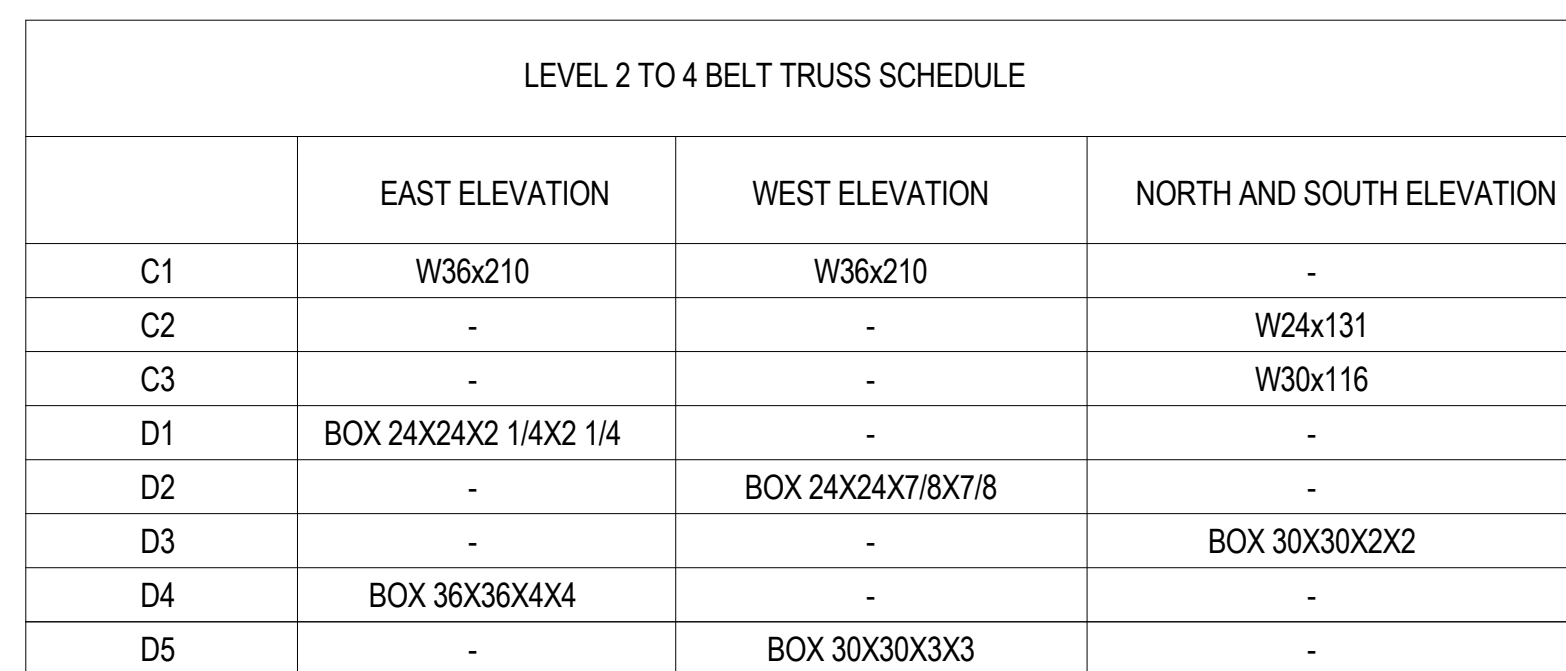
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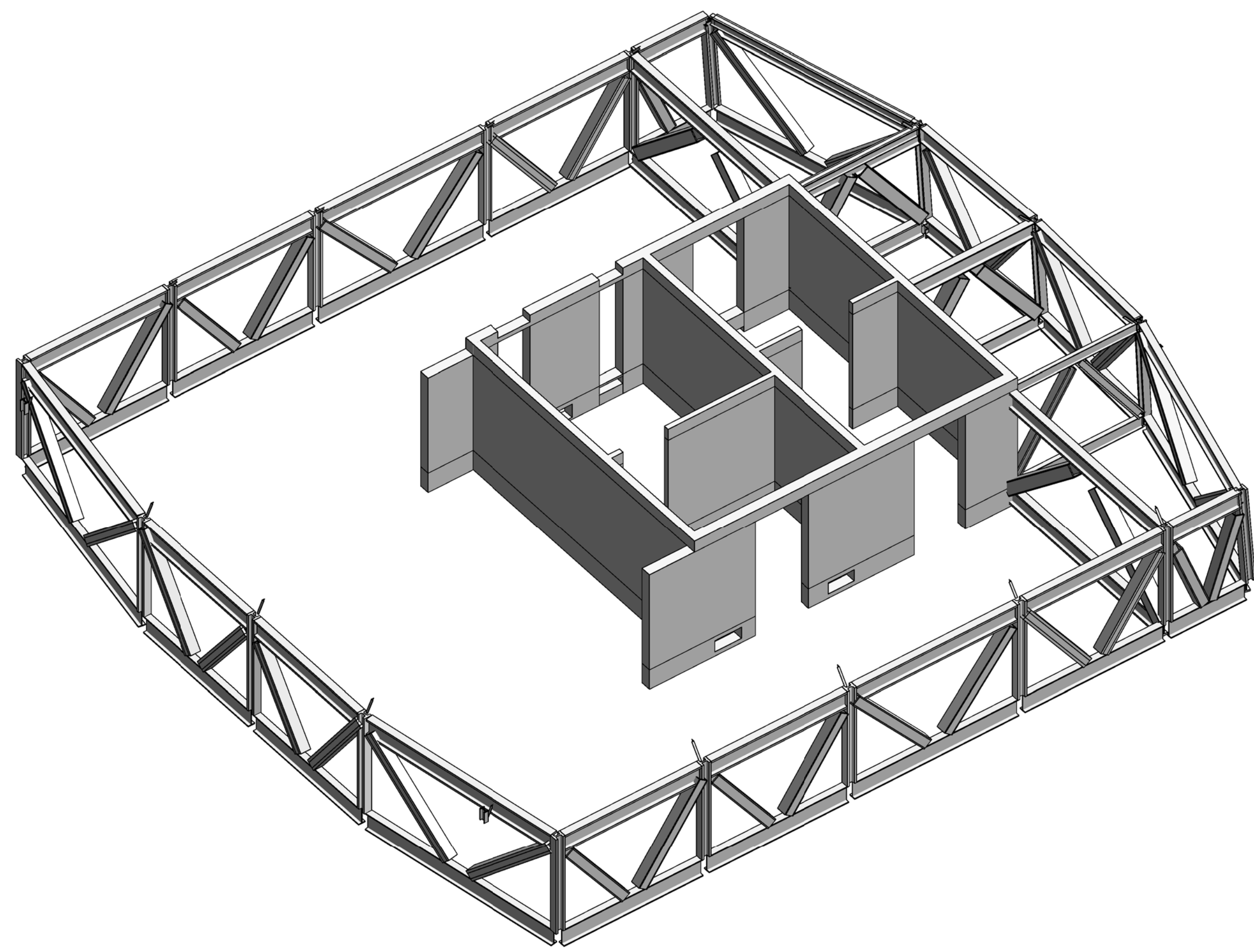
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No. _____ Date _____ Description _____

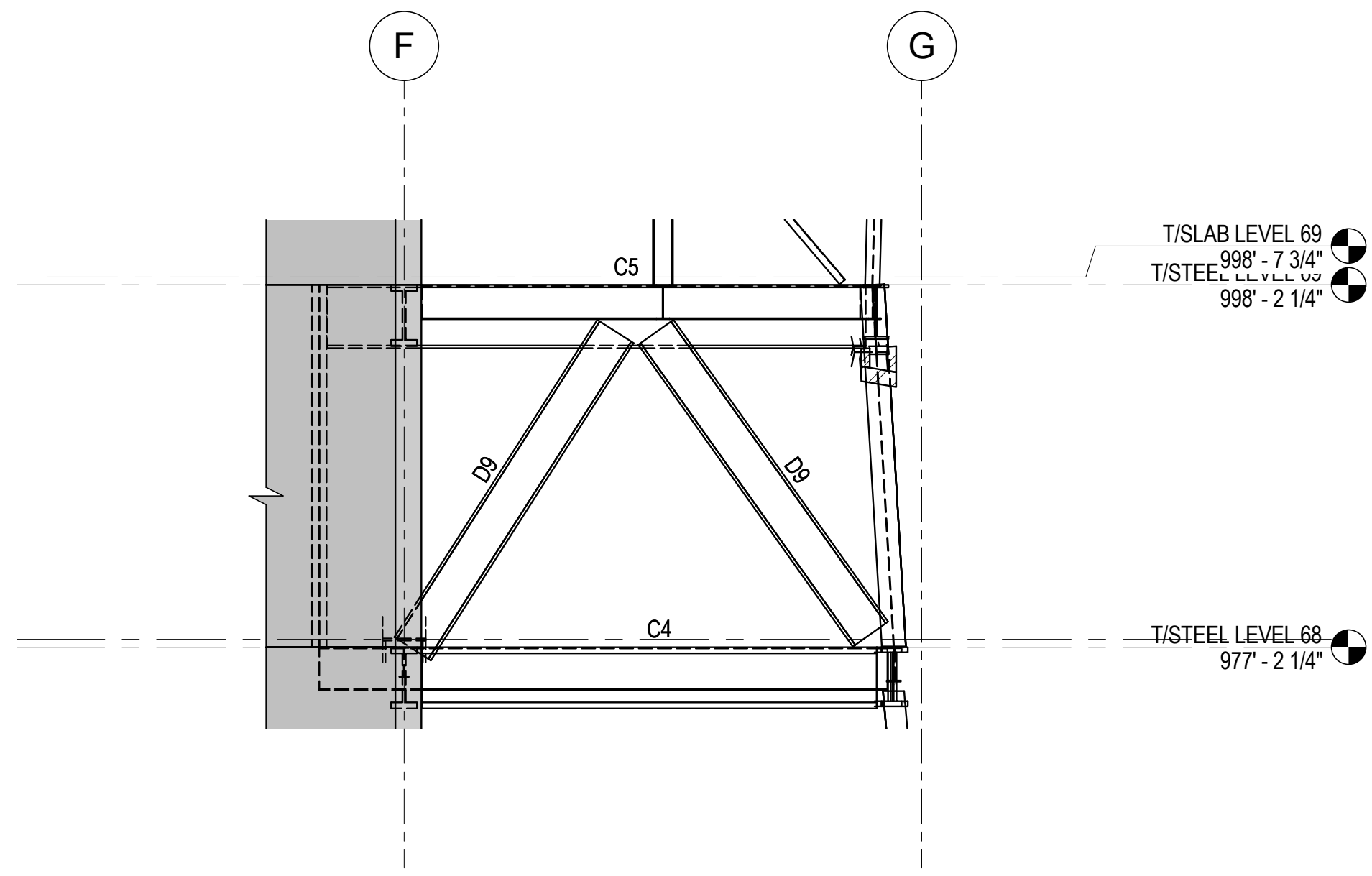
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| Project No.: 211157 | B-SCAN Sheet No.: S-411.00 |
| Date: 20 JUN 2014 | Sheet No.: S-411 |
| Scale: As indicated | Page No.: 83 of 90 |

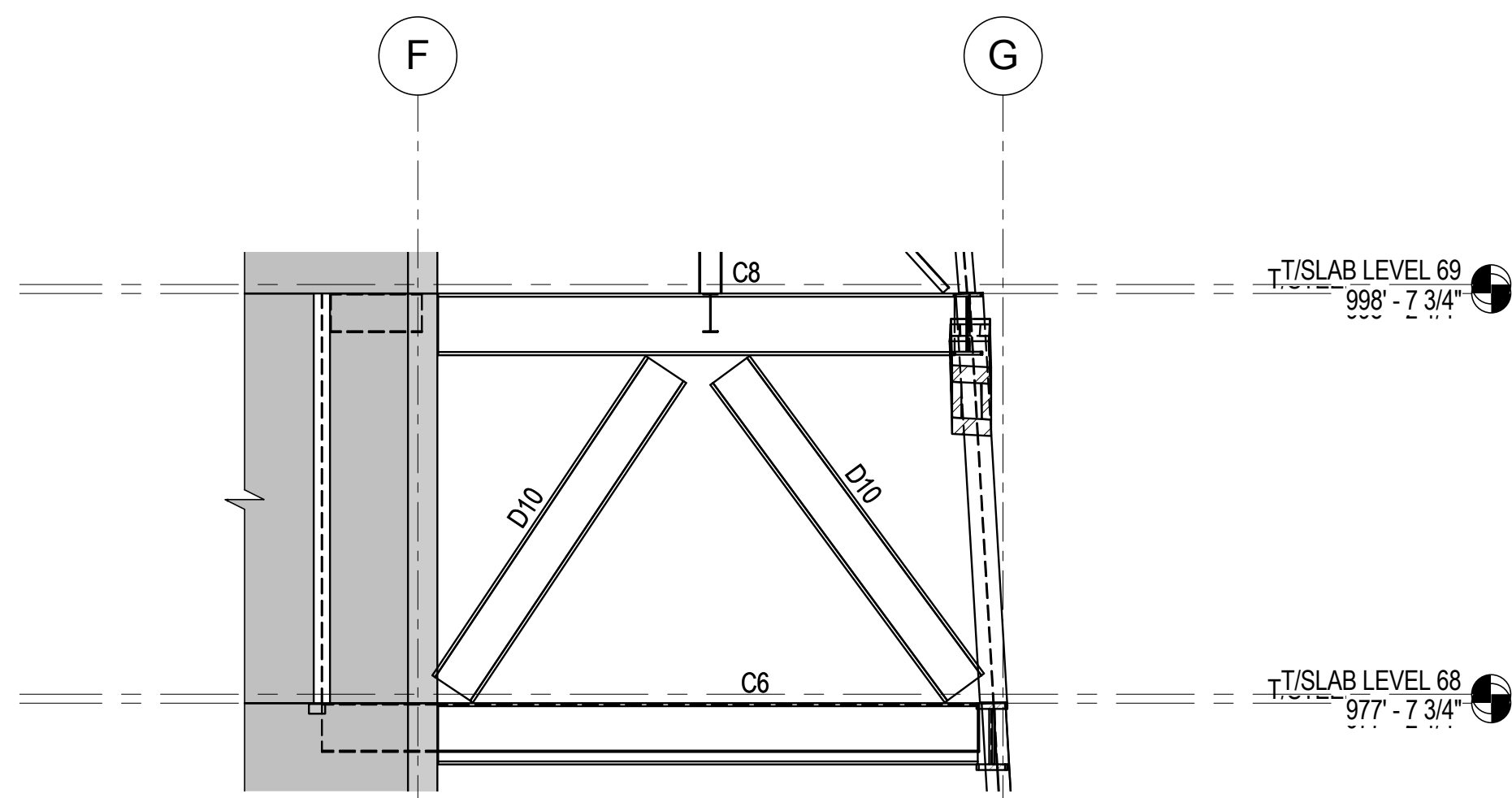




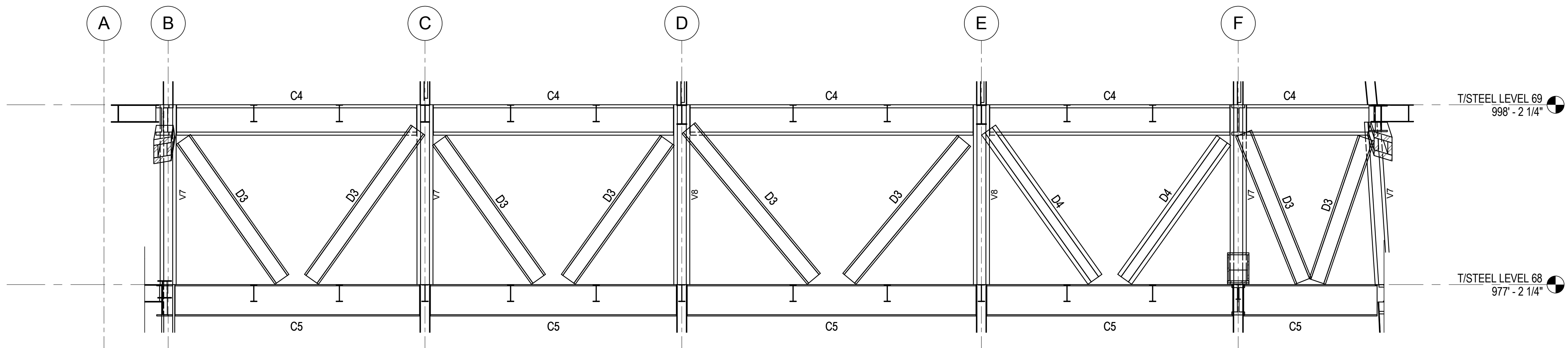
| LEVEL 64 TO 65 BELT TRUSS SCHEDULE | | | | |
|------------------------------------|---------------------------|----------------------|----------------------|----------------------|
| | NORTH AND SOUTH ELEVATION | WEST ELEVATION | EAST ELEVATION | OUTRIGGERS |
| C4 | W36x800 | W36x800 | - | W36x800 |
| C5 | BU44x20x4x4 | BU44x20x4x4 | - | BU44x20x4x4 |
| C6 | - | - | W36x330 | W36x330 |
| C7 | - | - | W36x652 | W36x652 |
| C8 | - | - | - | W36x361 |
| D3 | BOX24x24x2 1/2x2 1/2 | - | - | - |
| D4 | BOX24x24x3 1/4x3 1/4 | BOX24x24x3 1/4x3 1/4 | - | - |
| D5 | - | BOX24x24x2 1/4x2 1/4 | - | - |
| D6 | - | - | BOX24x24x1 1/4x1 1/4 | - |
| D9 | - | - | - | BOX30x24x4x4 |
| D10 | - | - | - | BOX30x24x1 1/2x1 1/2 |
| D11 | - | - | - | BOX30x24x3 1/2x3 1/2 |
| V7 | W14x730 | W14x730 | W14x730 | - |
| V8 | WFP14x730x17x1 | WFP14x730x17x1 | - | - |
| V9 | - | - | W14x426 | - |



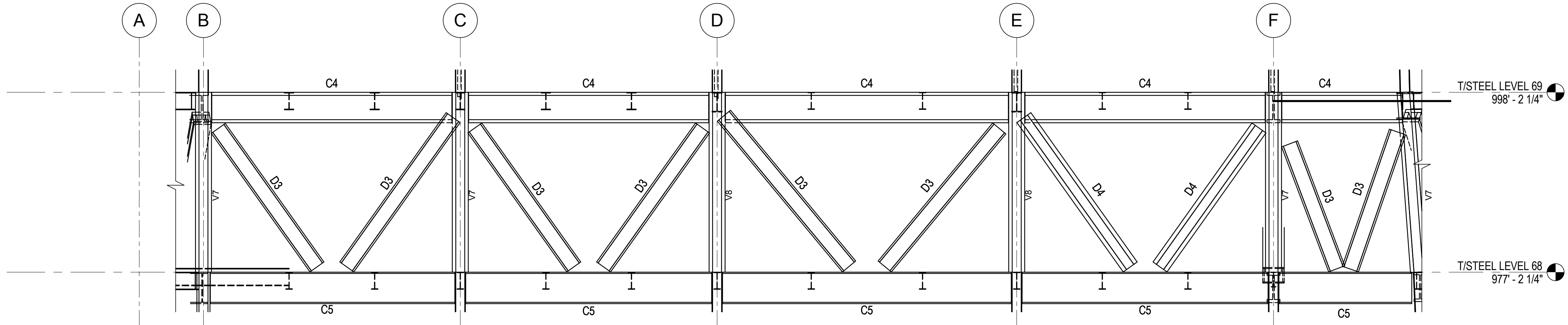
5 OUTRIGGER SECTION ALONG LINES 3 AND 5
1/8" = 1'-0"



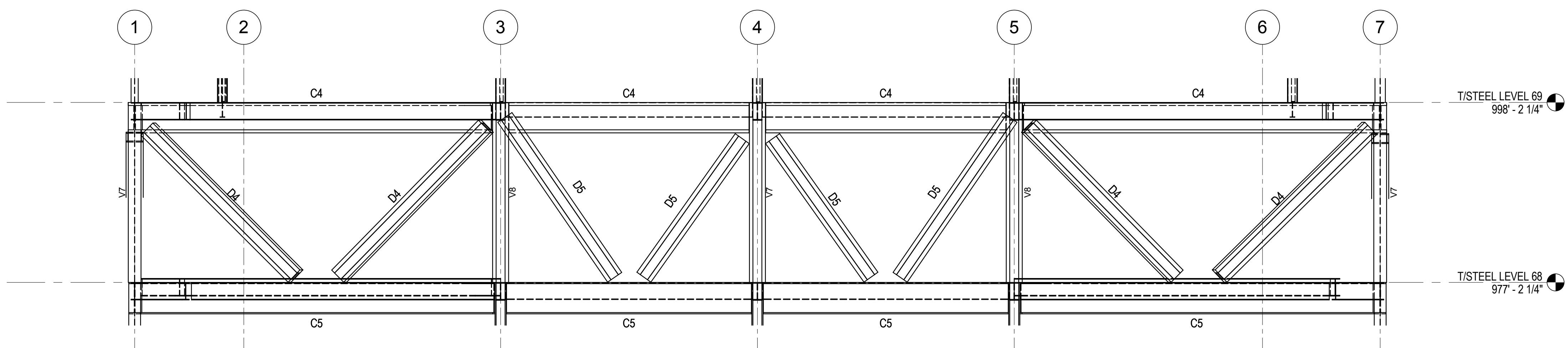
6 OUTRIGGER SECTION ALONG LINE 4
1/8" = 1'-0"



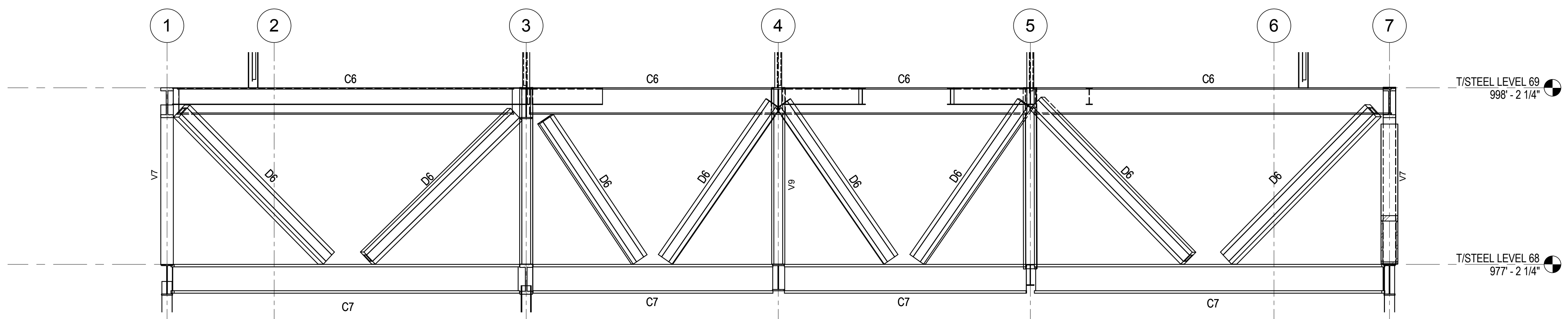
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1/8" = 1'-0"



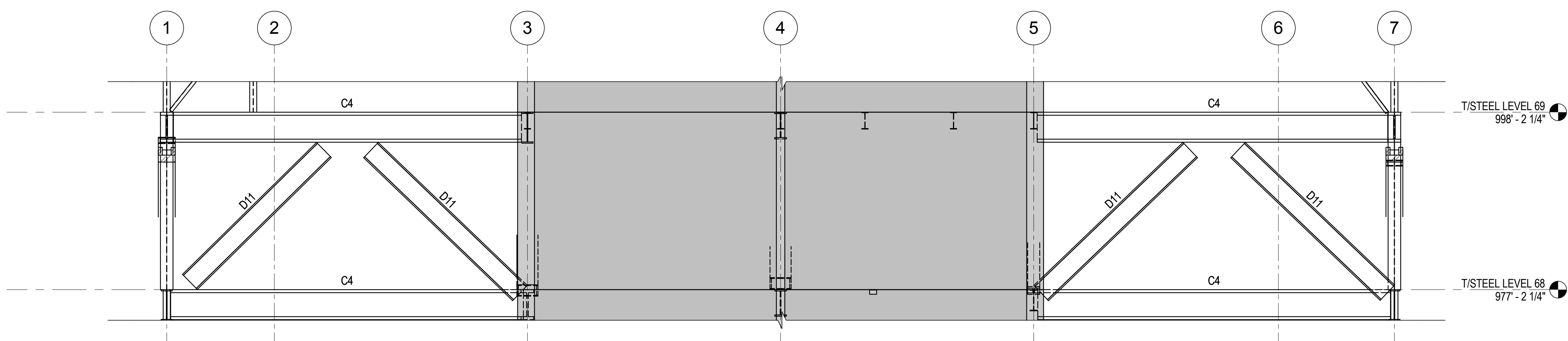
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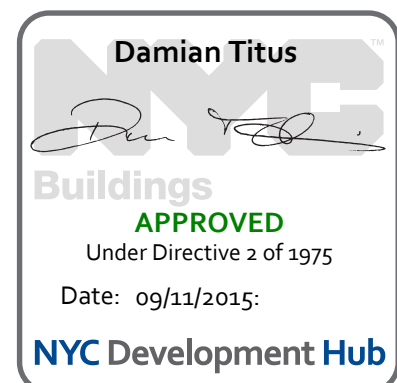
3 WEST ELEVATION @ BELT TRUSS GRID LINE A (LOOKING EAST)
1/8" = 1'-0"



4 EAST ELEVATION @ BELT TRUSS GRID LINE G (LOOKING EAST)
1/8" = 1'-0"



7 ELEVATION @ LINE F (LOOKING EAST)
1/8" = 1'-0"



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Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

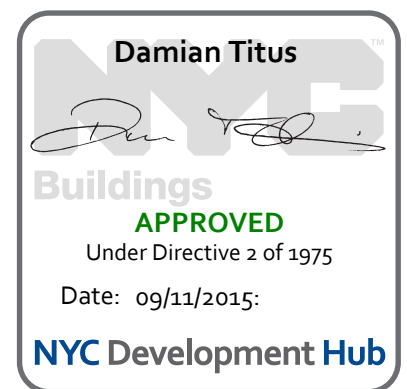
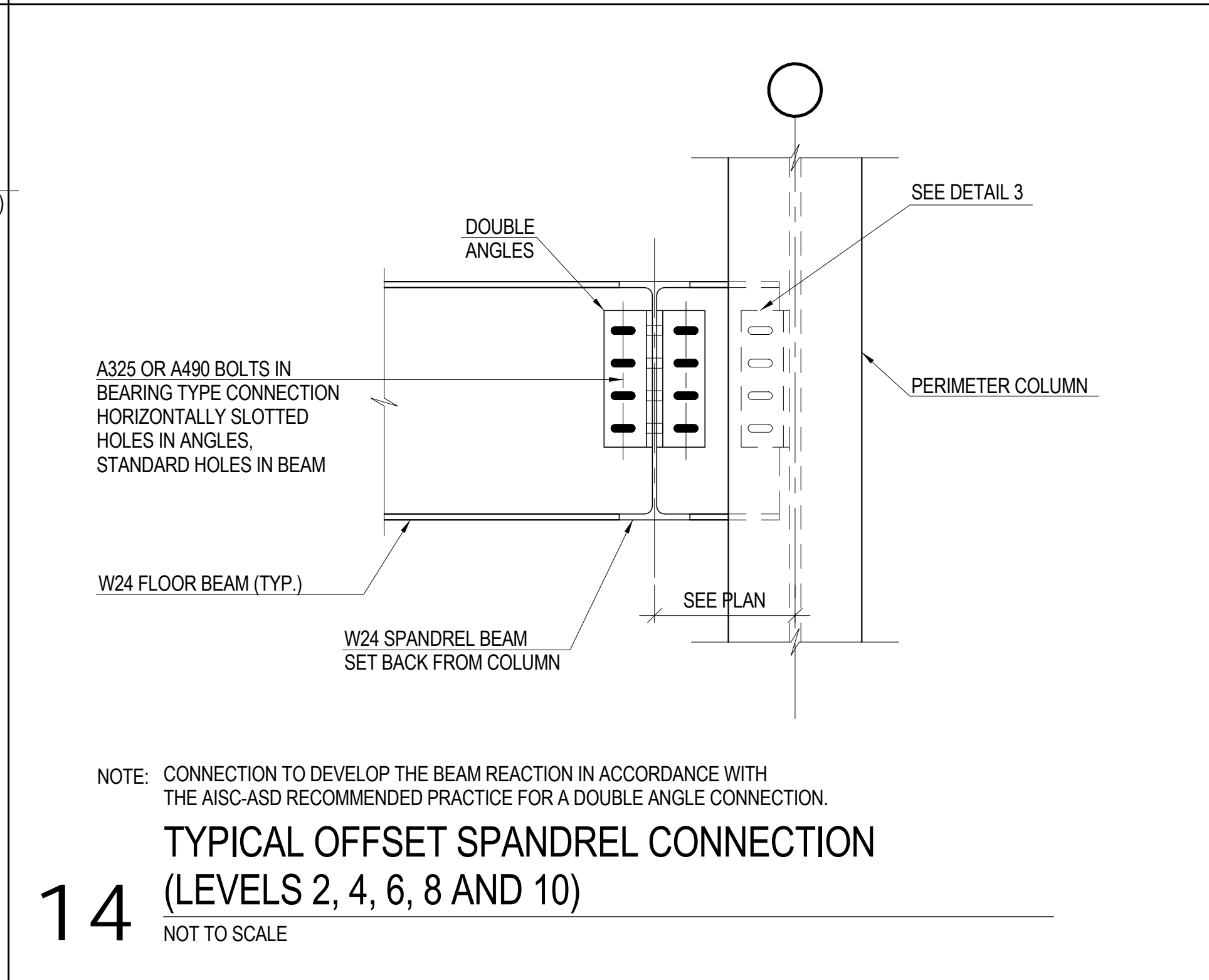
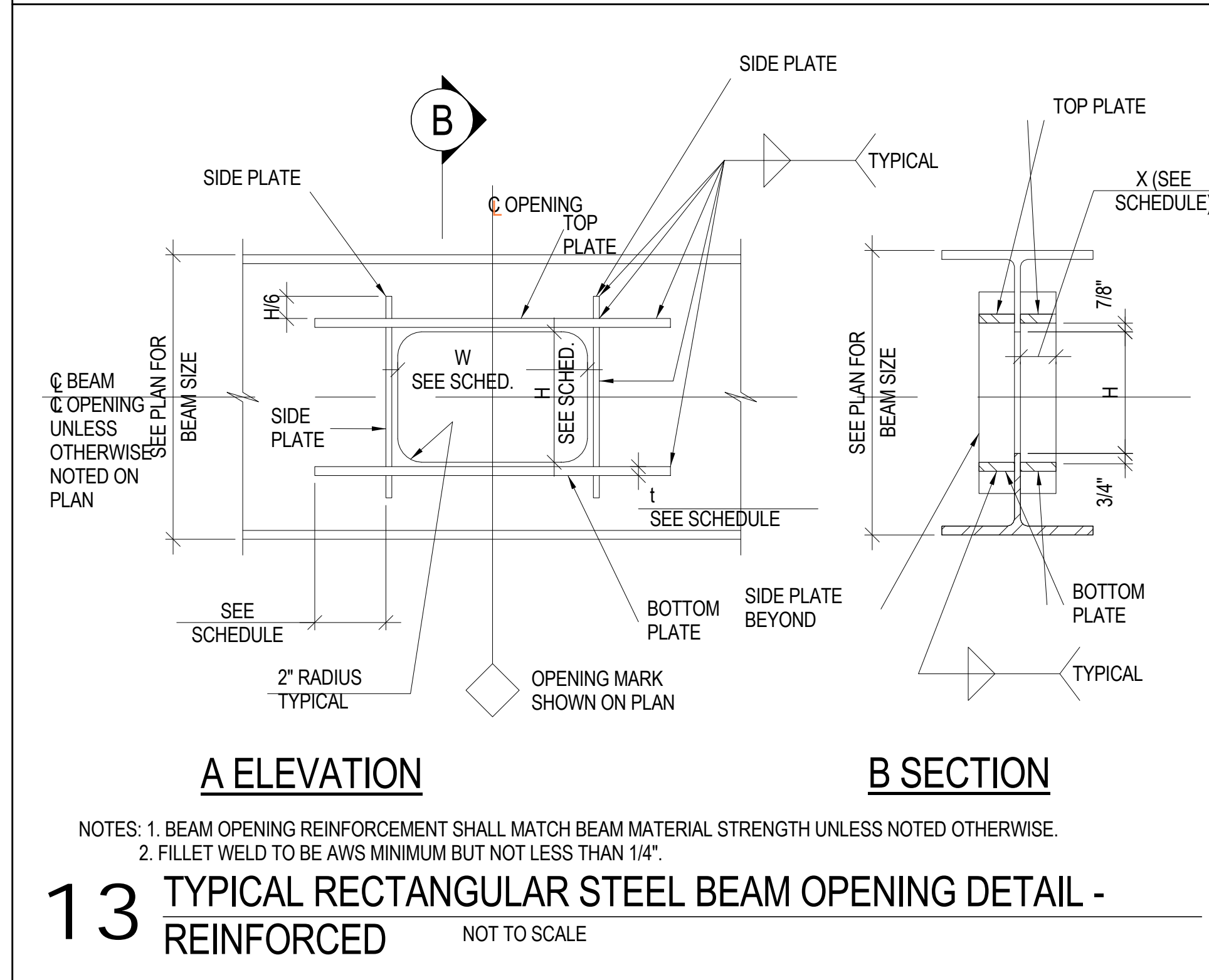
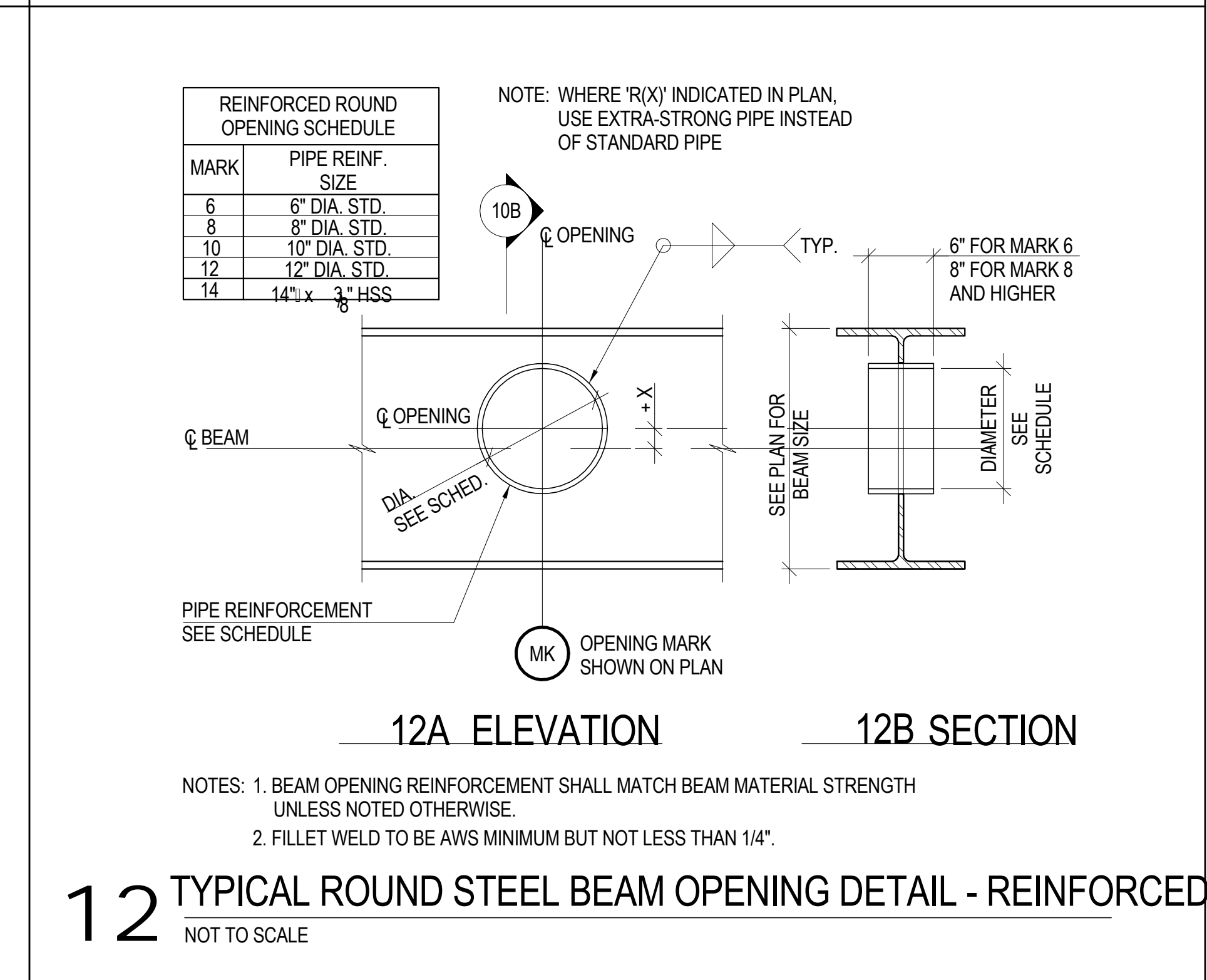
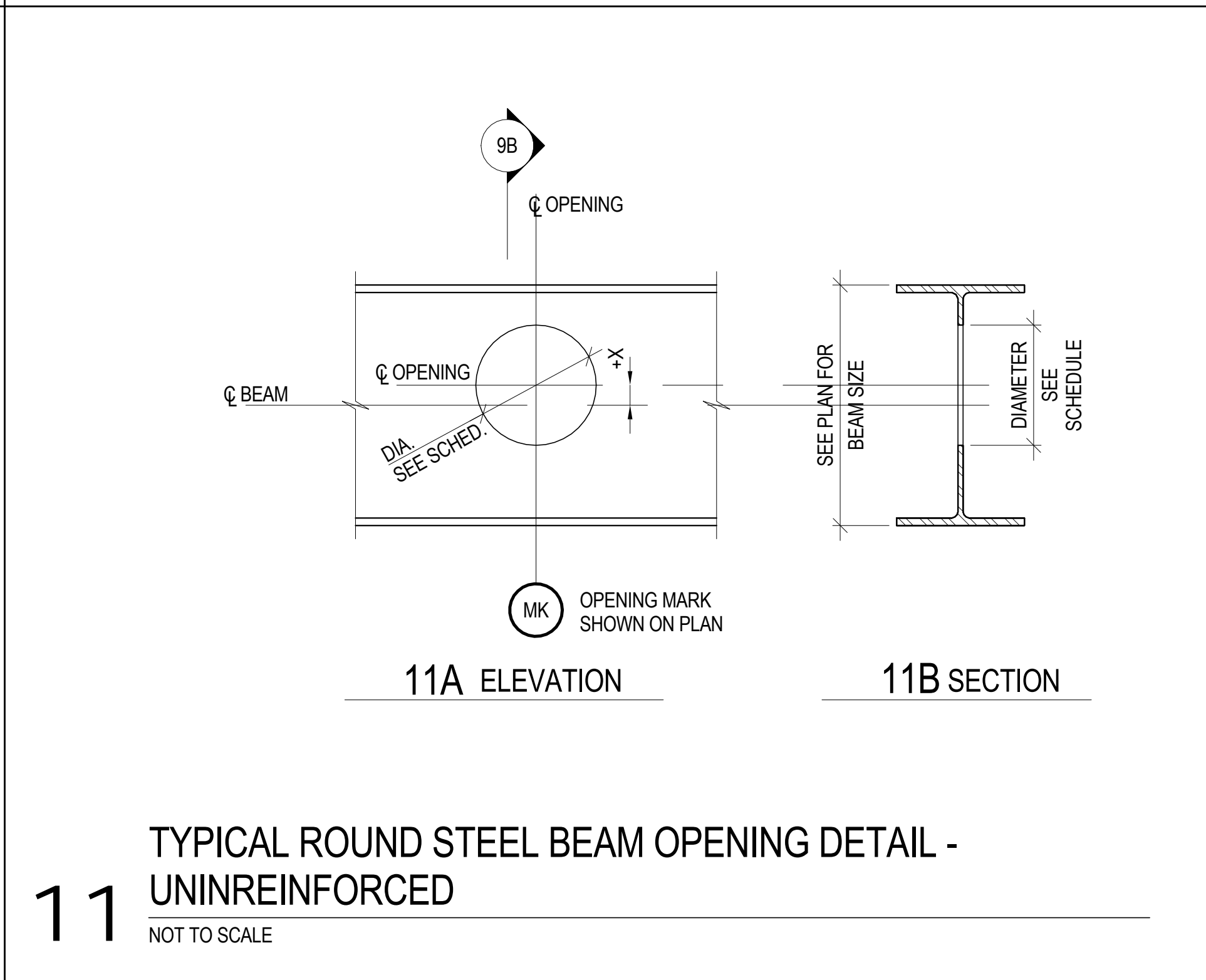
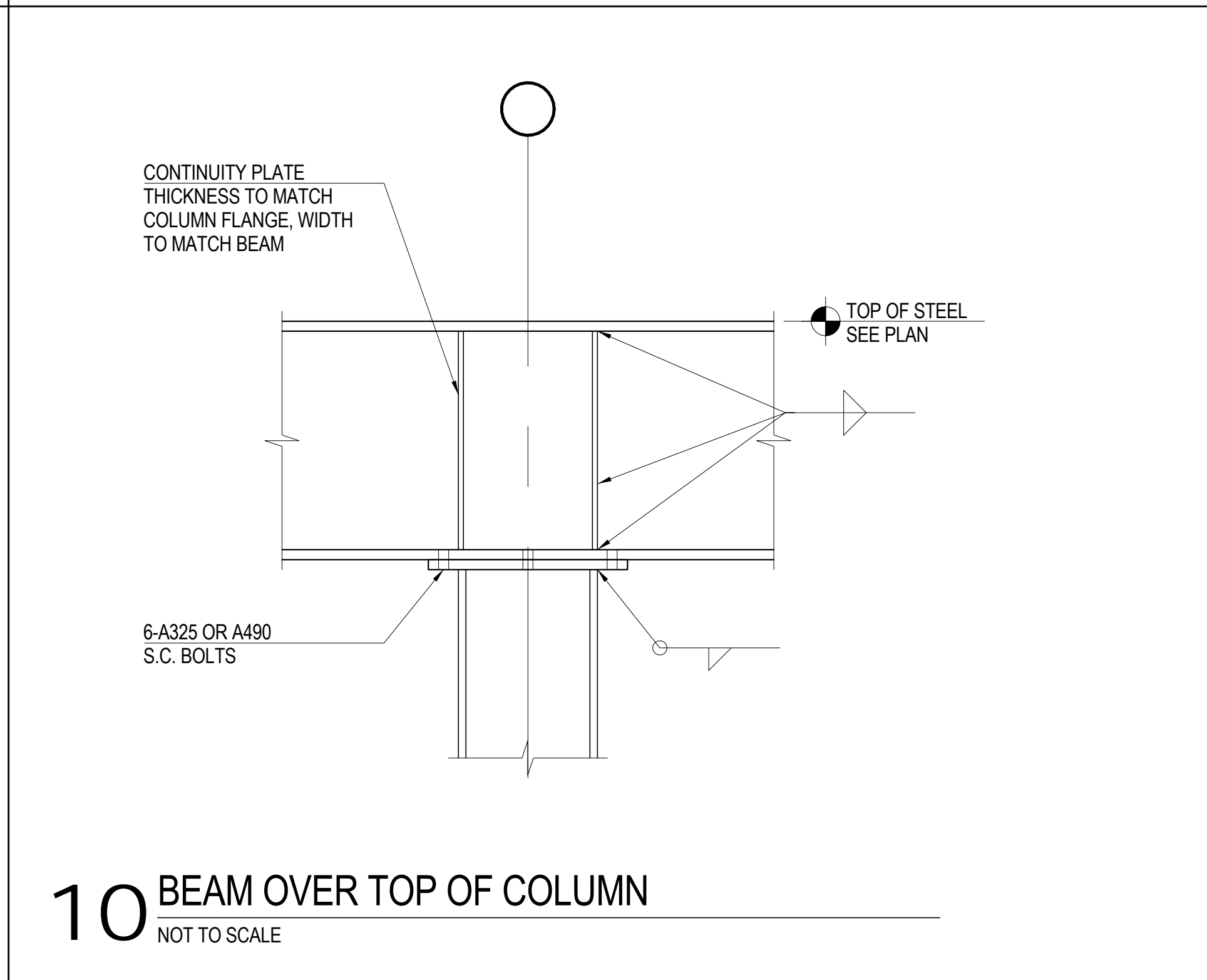
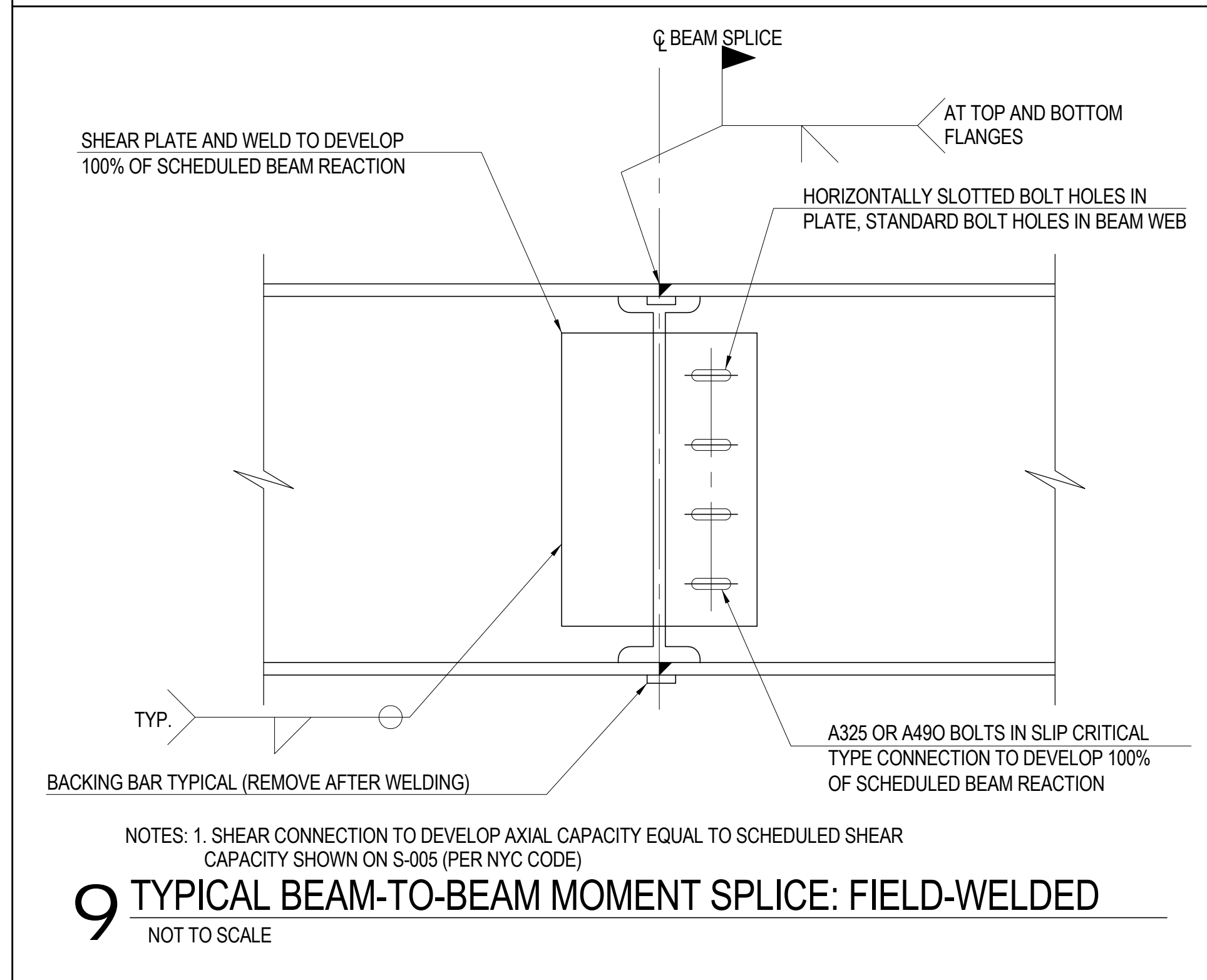
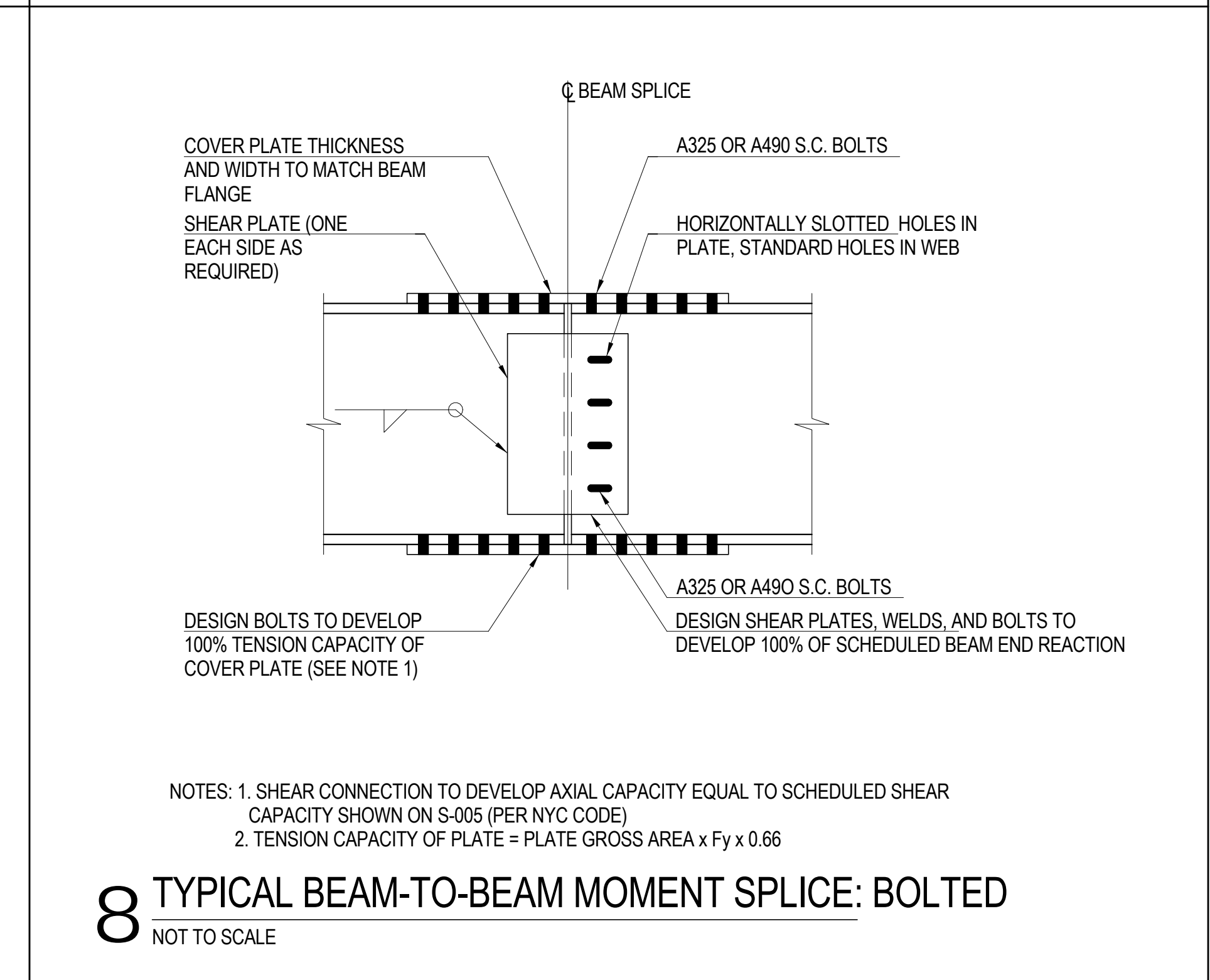
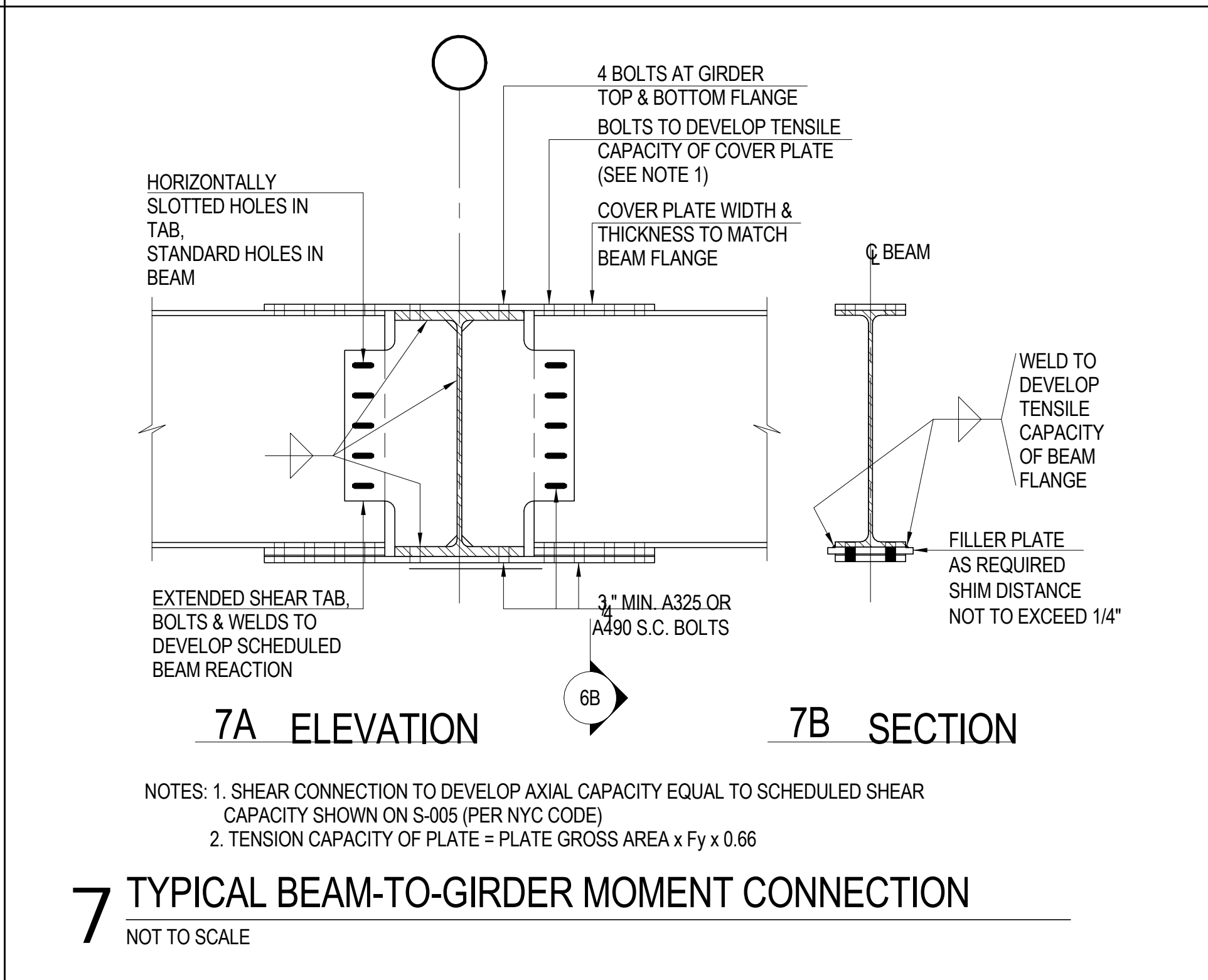
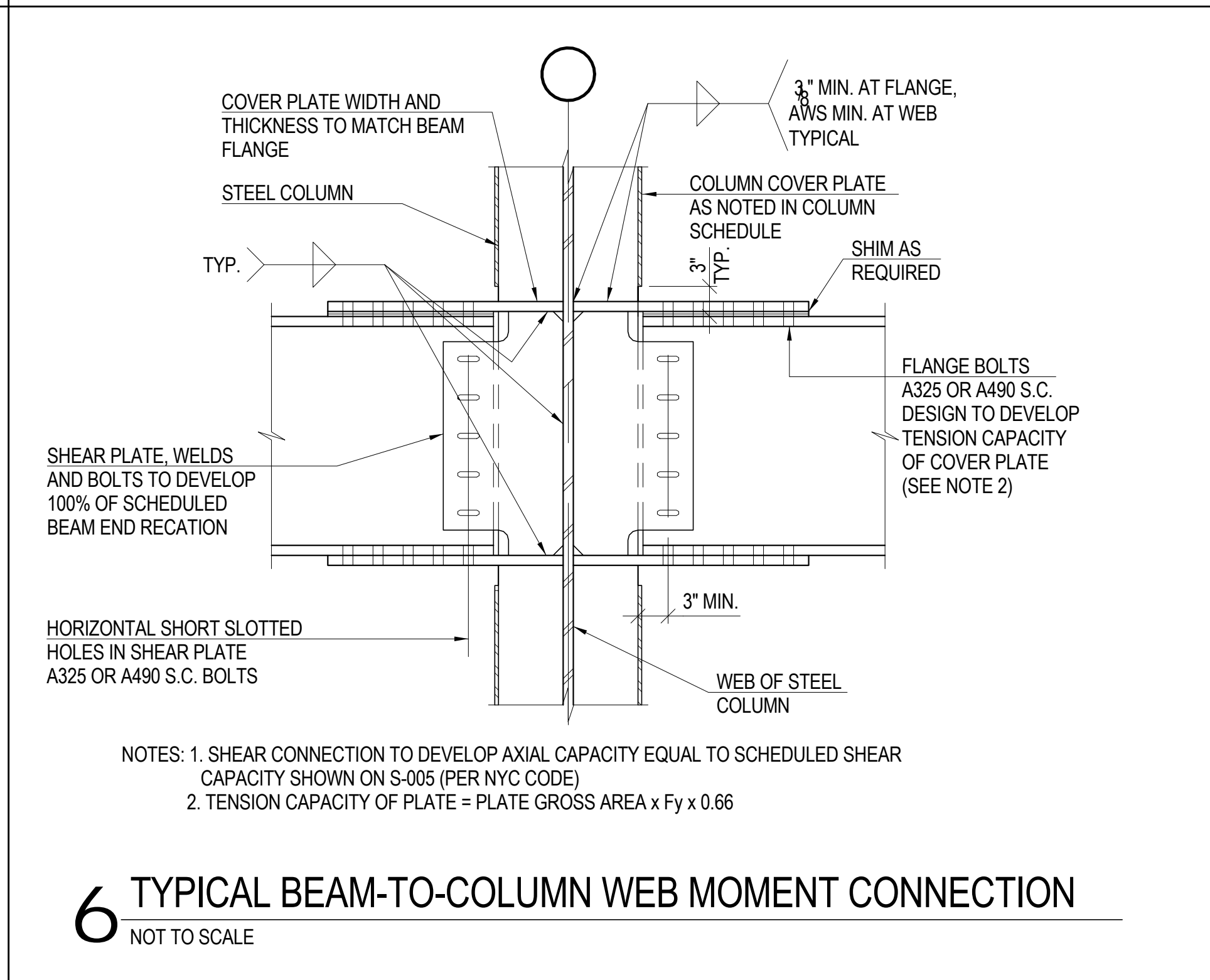
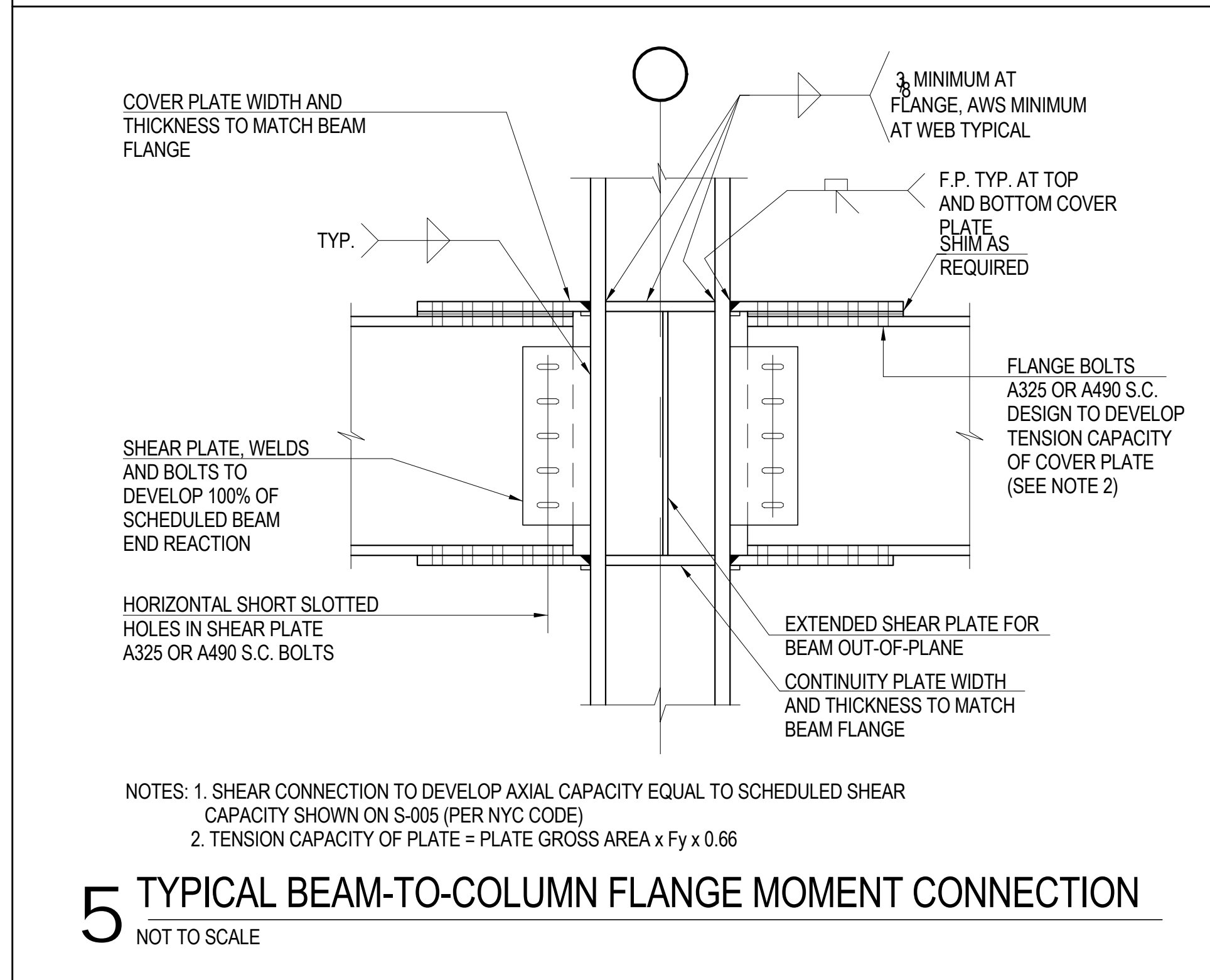
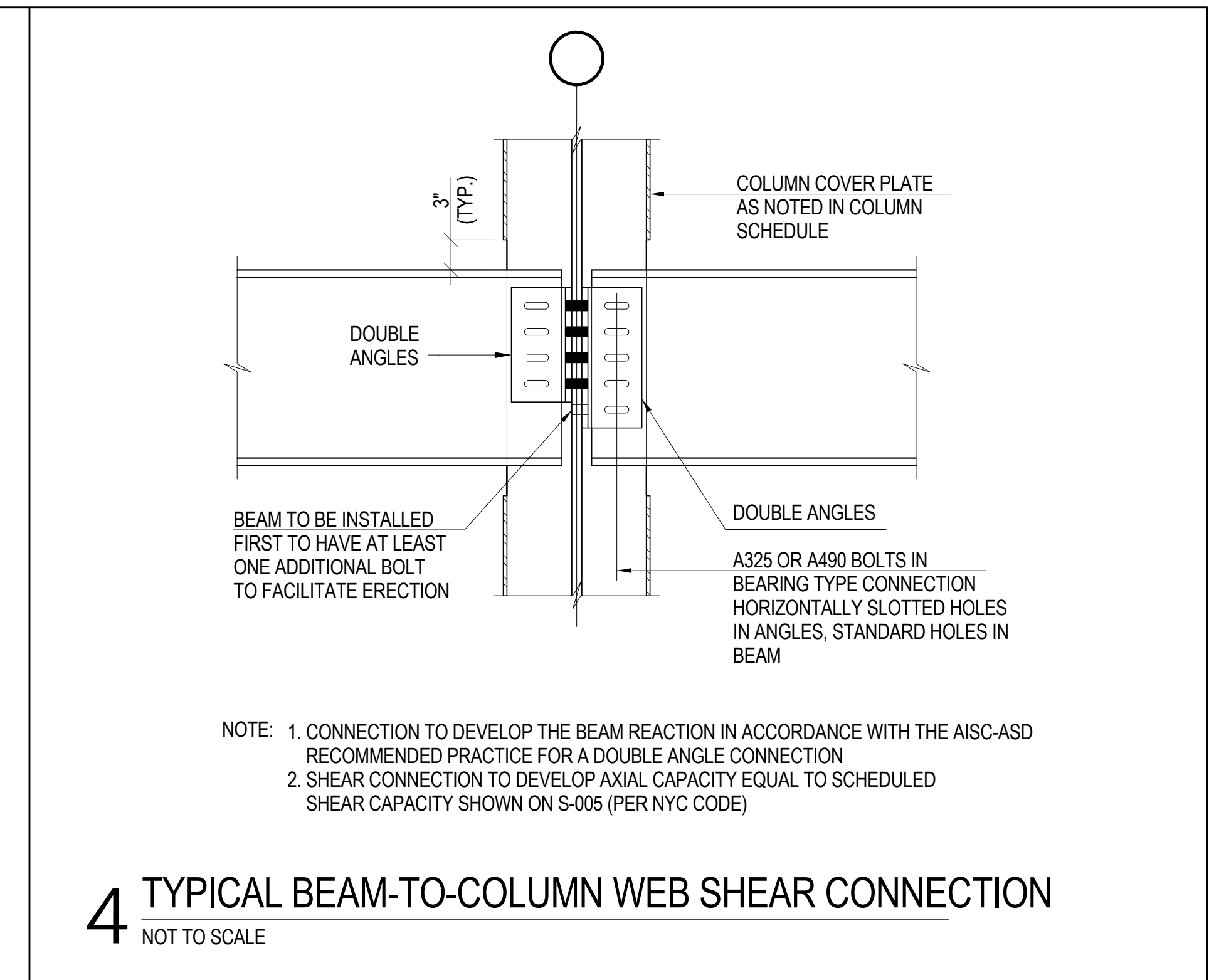
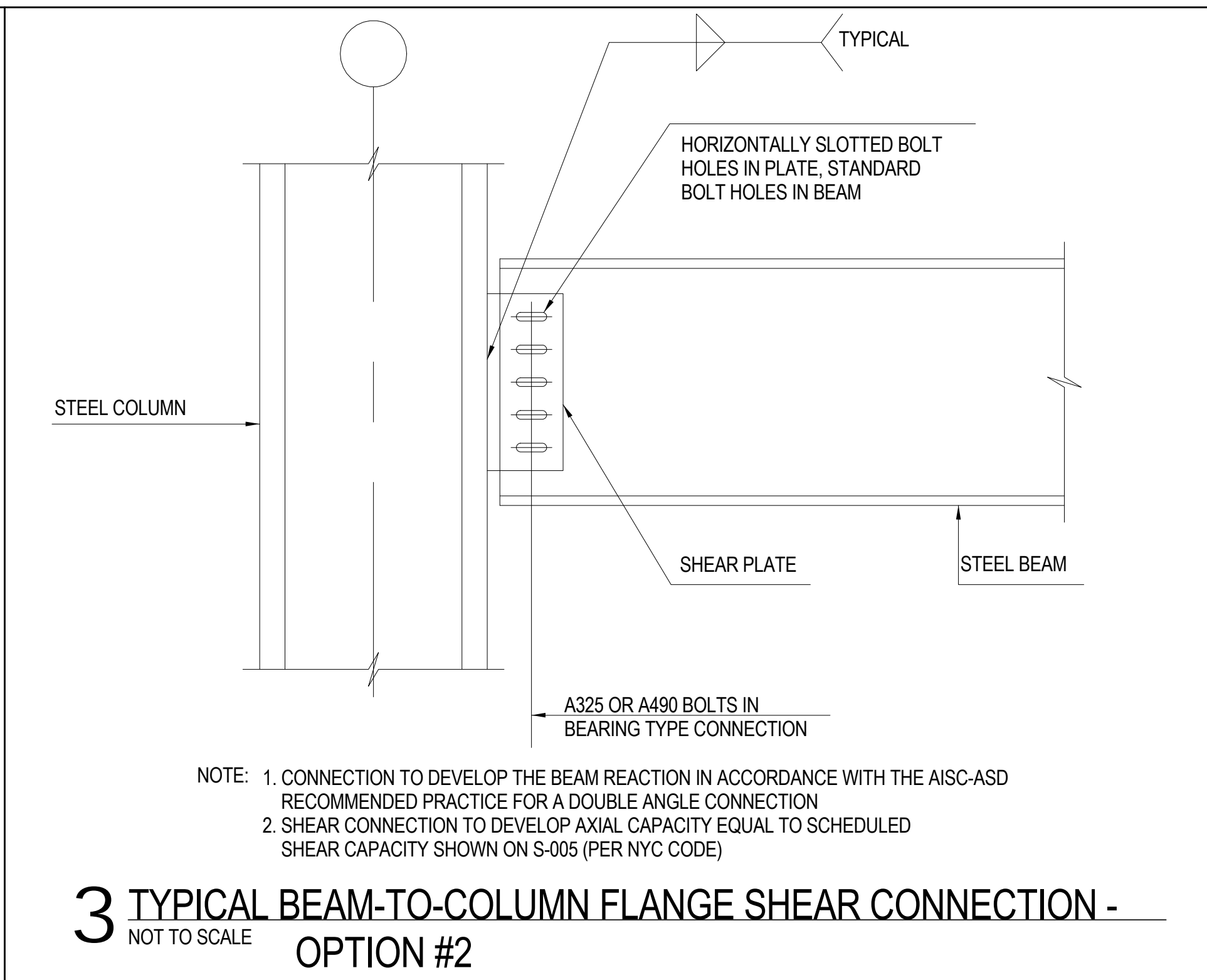
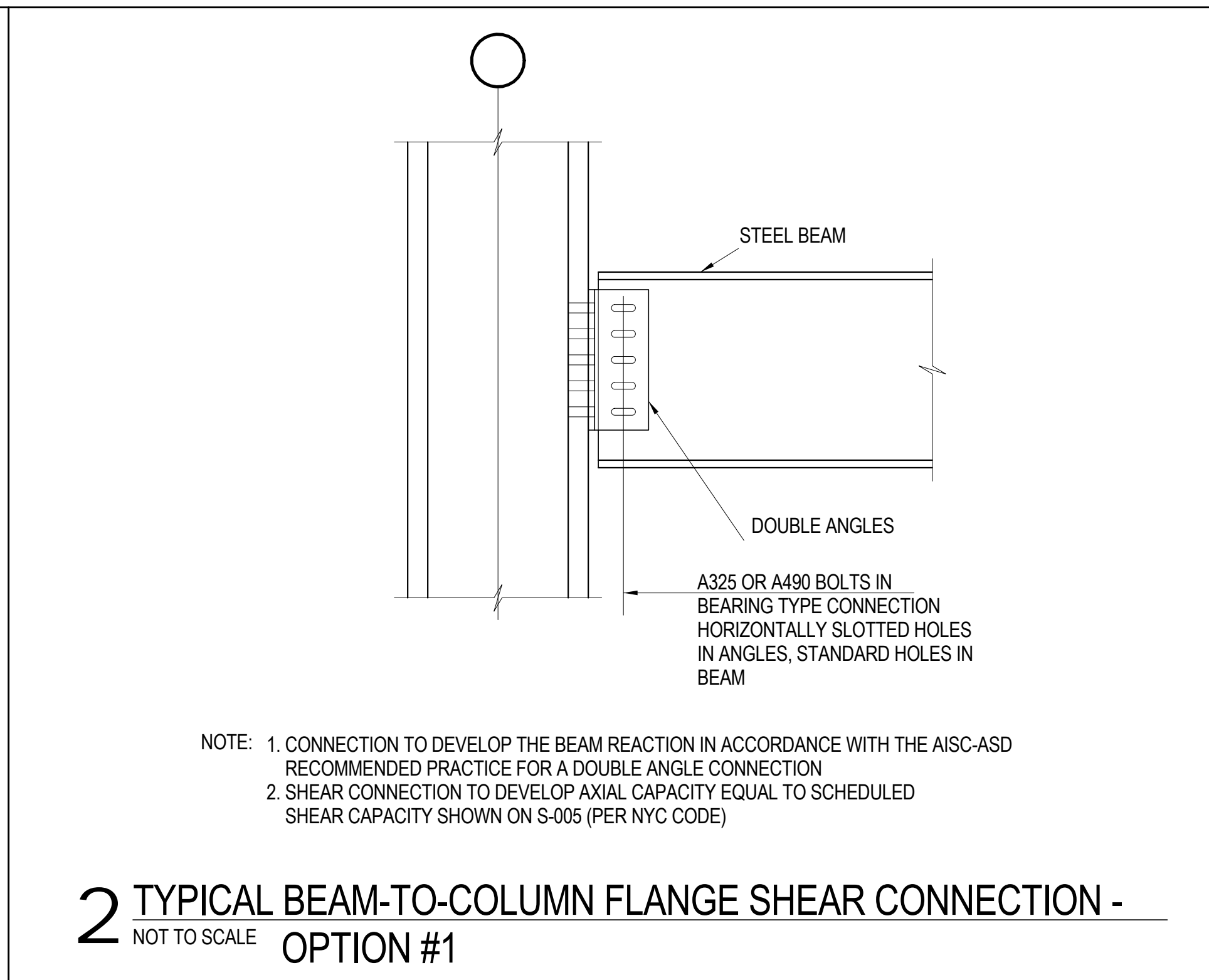
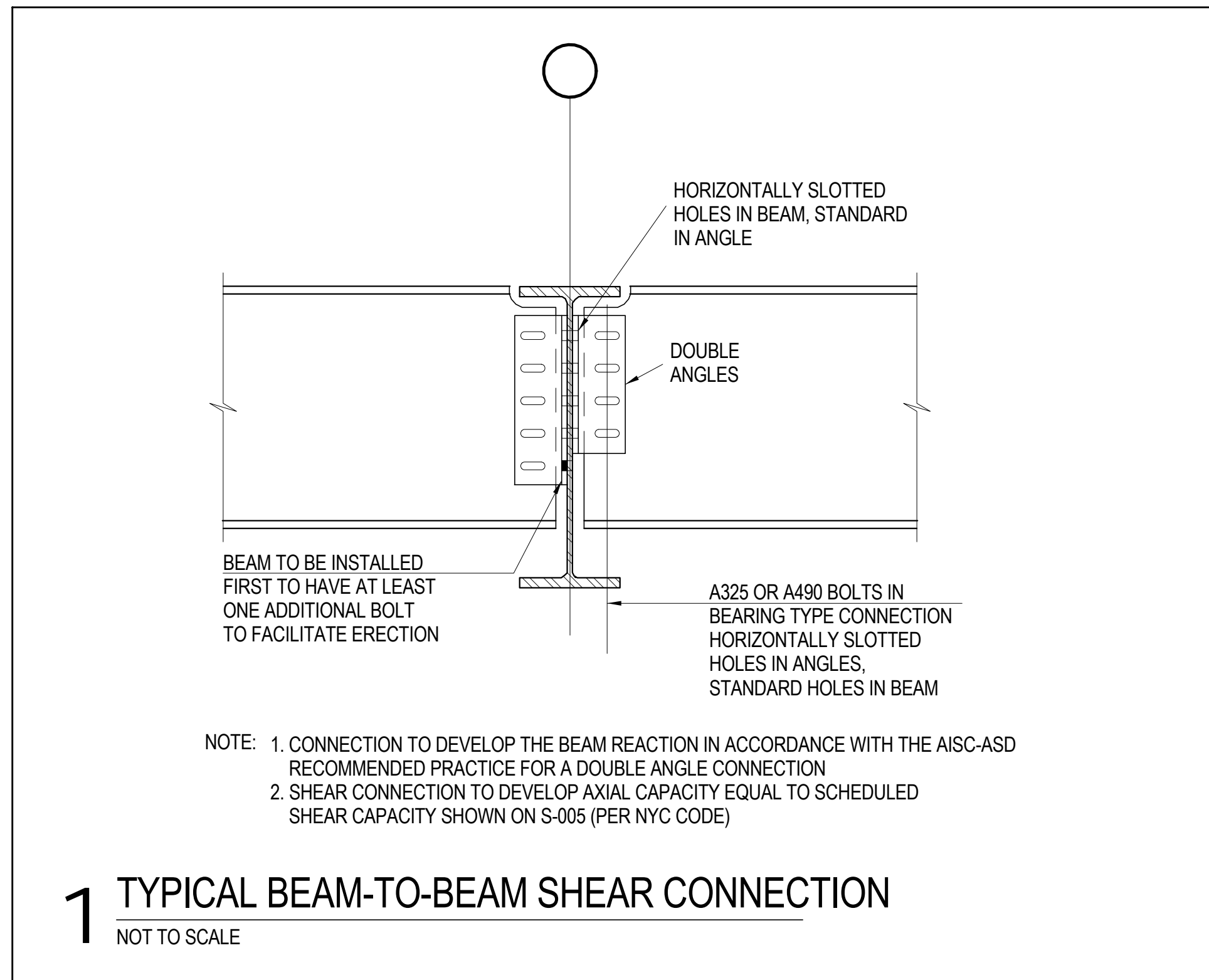
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| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
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| 2 | 12 JUL 2013 | ISSUED FOR 90% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONCILIATION |

No. _____ Date: _____ Description: _____
Sheet Name: _____

**UPPER BELT
TRUSS
SCHEDULES,
SECTIONS &
DETAILS**

| | |
|------------------------|-------------------------------|
| Project No.: 211157 | B-SCAN Sheet No.: S-416.00 |
| Date: 20 JUN 2014 | Sheet No.: S-416 |
| Scale: As indicated | Page No.: 85 of 90 |
| File No.: S-416 | |



MANHATTAN WEST: NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
Brookfield Place
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SOM
Skidmore, Owings & Merrill LLP
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80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East 8th Street, Suite 1, Mill Valley, California 94041

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50 Washington Street, Newark, CT 06854

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250 State Street #1, North Haven, CT 06473

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40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10016

Vibration Consultant
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Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1B8

Key Plan:

Seal & Signature:

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| 2 | 12 JUL 2013 | ISSUED FOR 60% DESIGN DEVELOPMENT |
| 1 | 18 MAR 2012 | ISSUED FOR RECONSTRUCTION |

No. _____ Date _____ Description _____

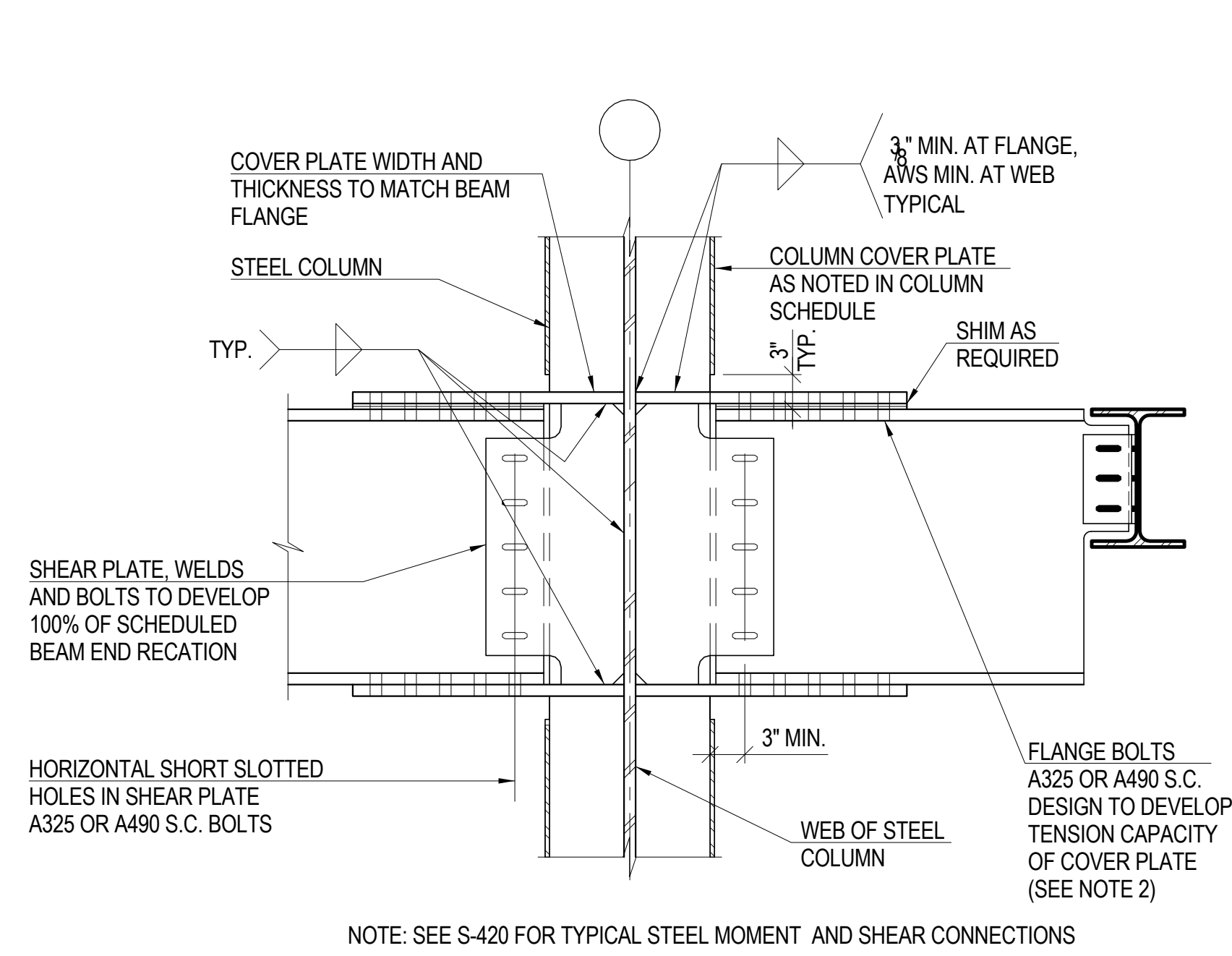
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Project No.: 211157 B-SCAN Sheet No.: **S-420.00**

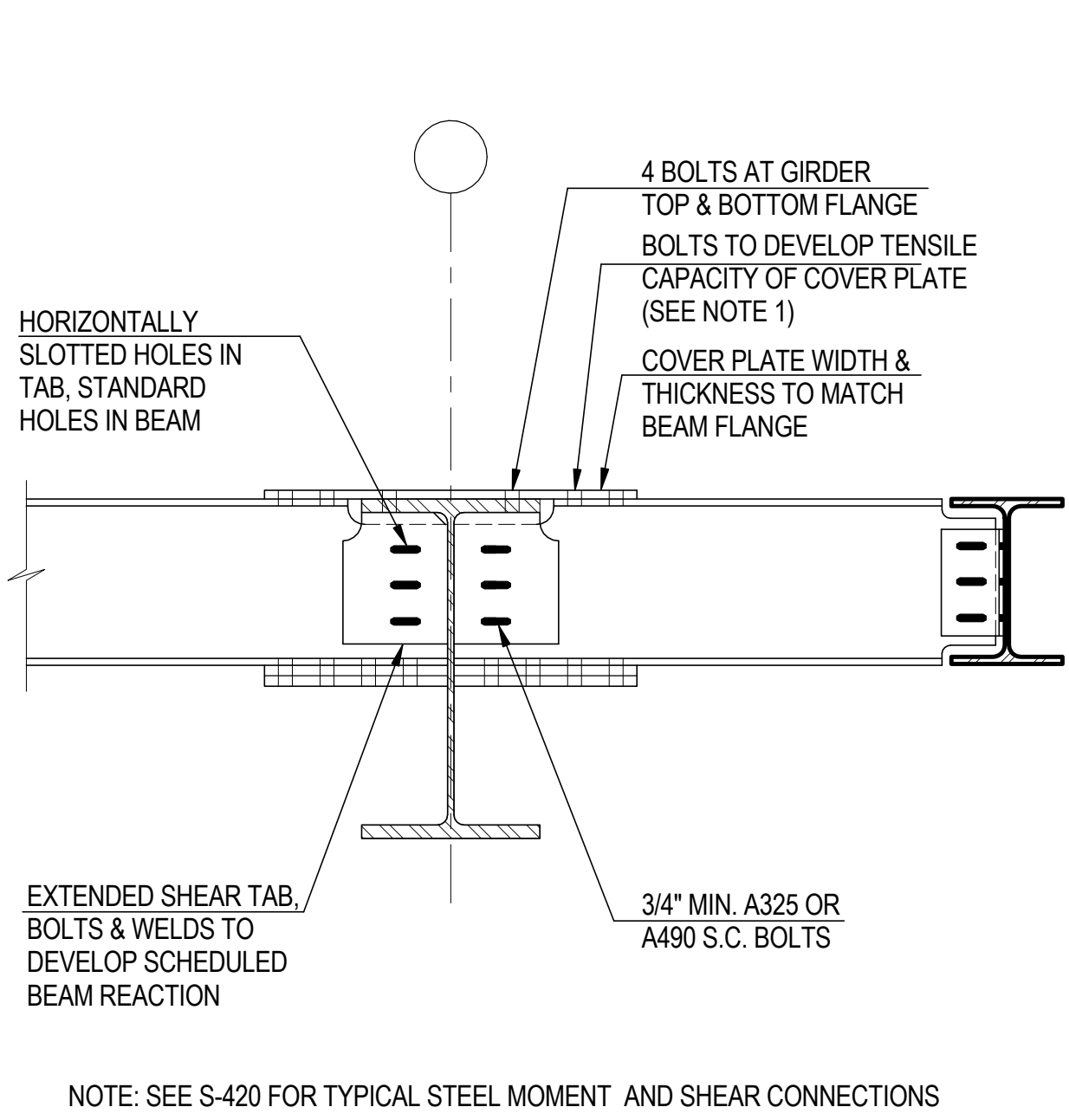
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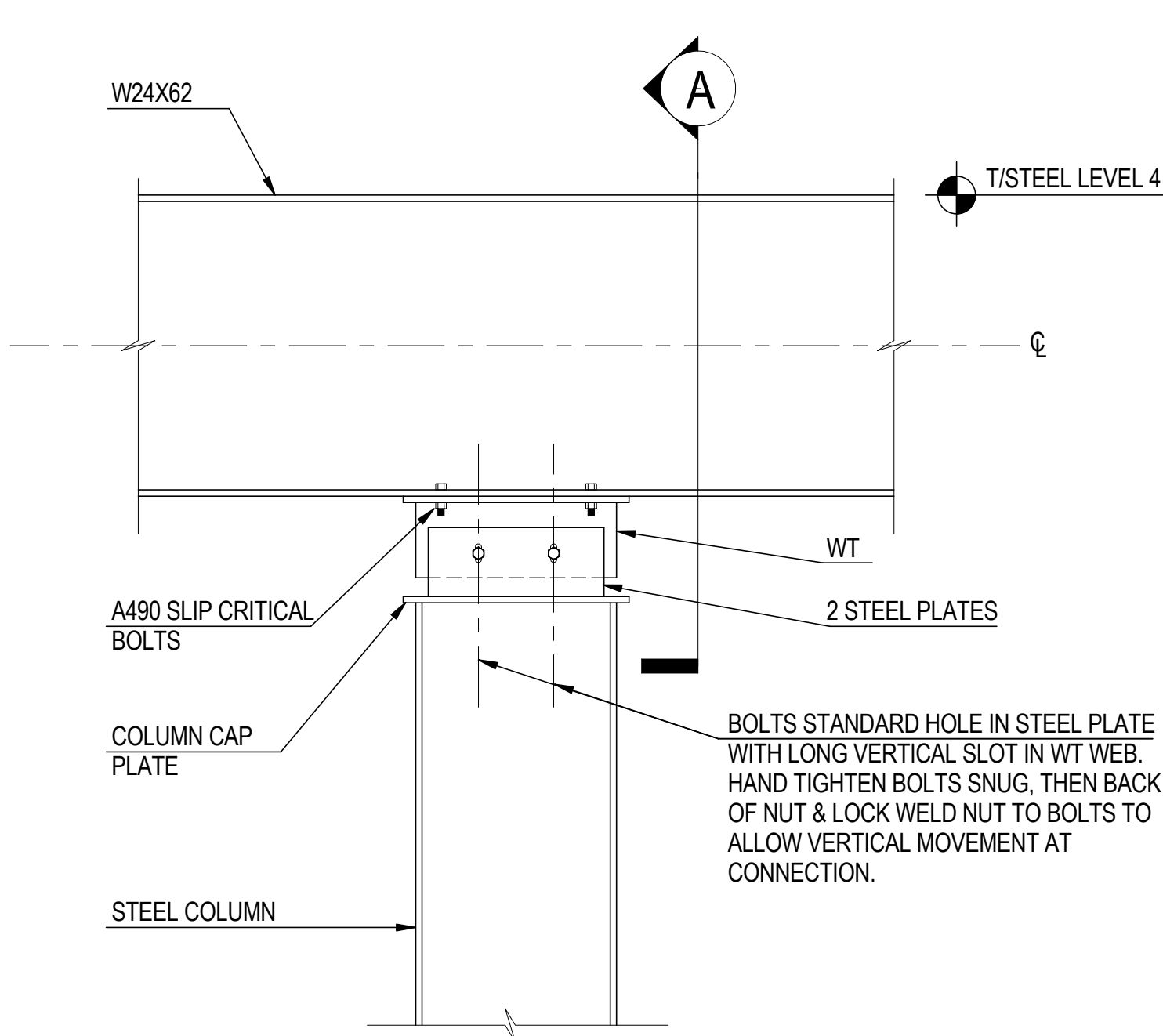
File No.: S-420 Page No.: 87 of 90



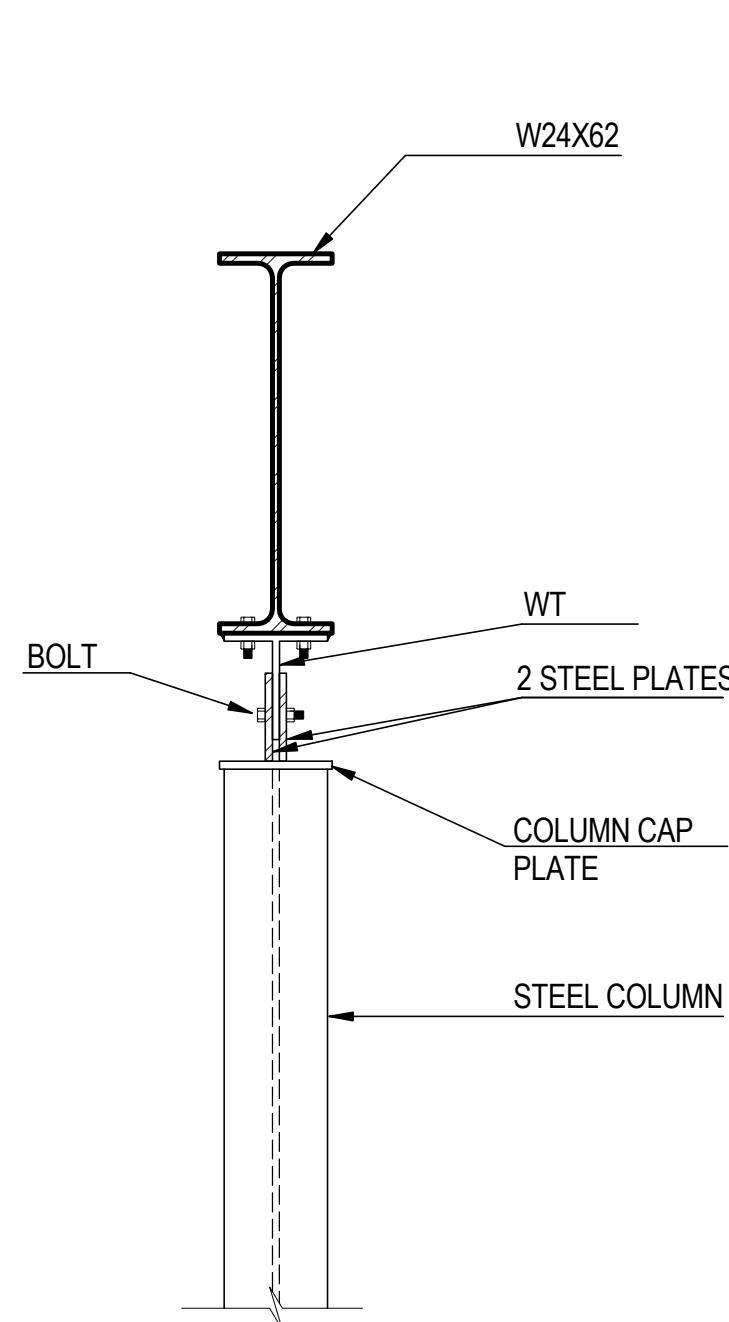
1 BEAM CONNECTION
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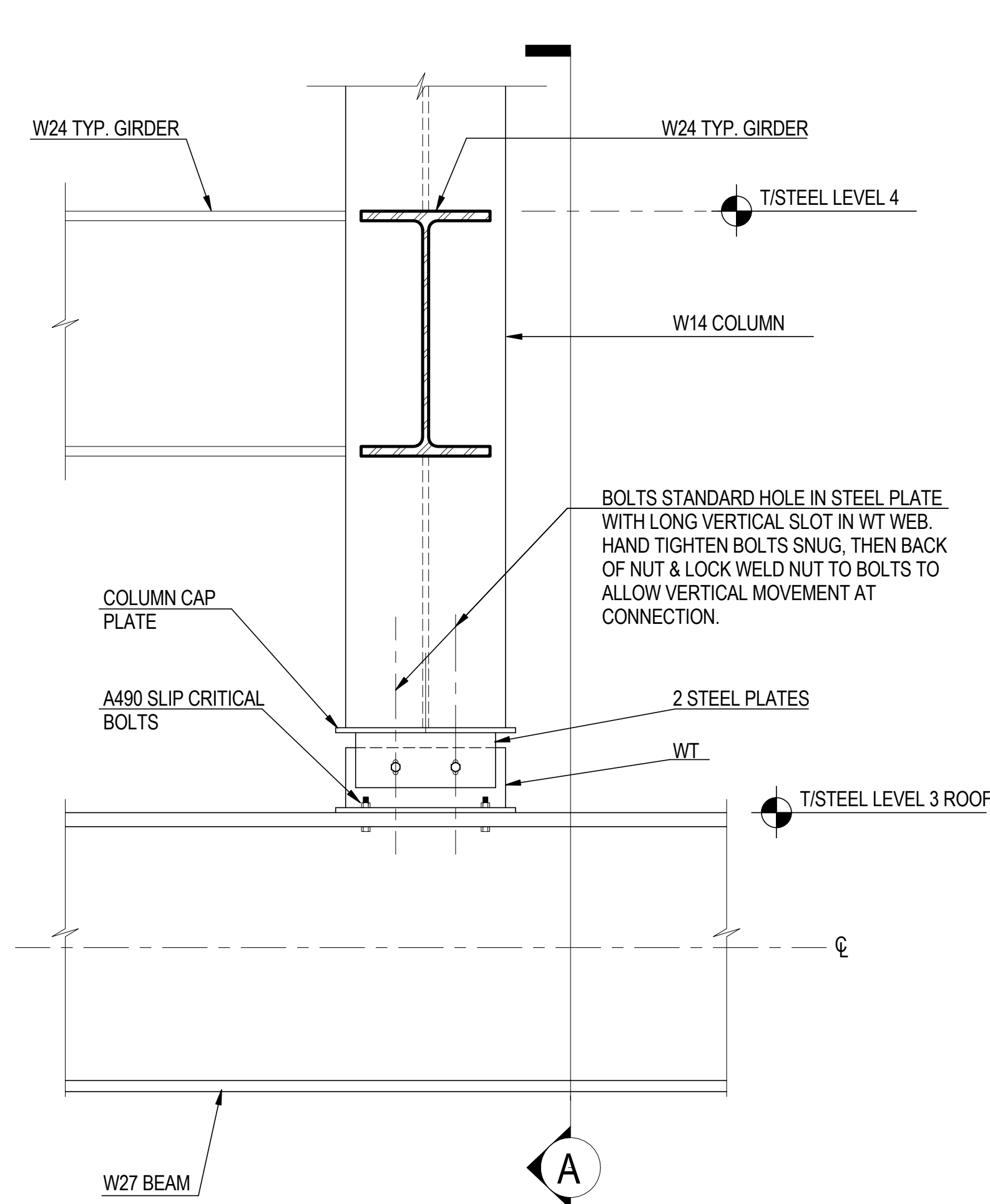
2 BEAM CONNECTION
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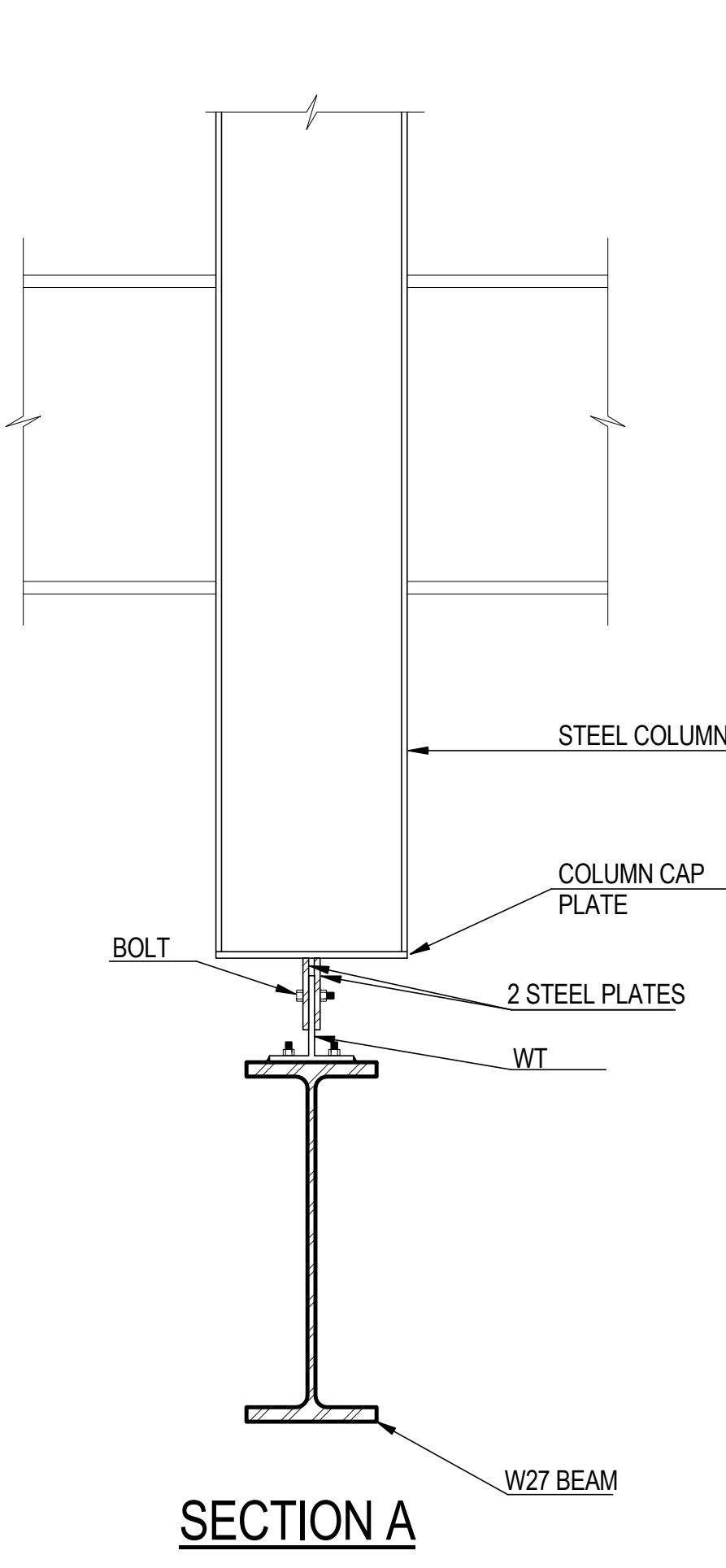
3 DETAIL AT RETAIL BUILDING ROOF CONNECTION TO UNDERSIDE OF LEVEL 4
NOT TO SCALE




SECTION A



4 DETAIL AT RETAIL BUILDING ROOF CONNECTION TO UNDERSIDE OF LEVEL 4
NOT TO SCALE



SECTION A



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Vibration Consultant
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65 Broadway, Suite 401, New York, NY 10006

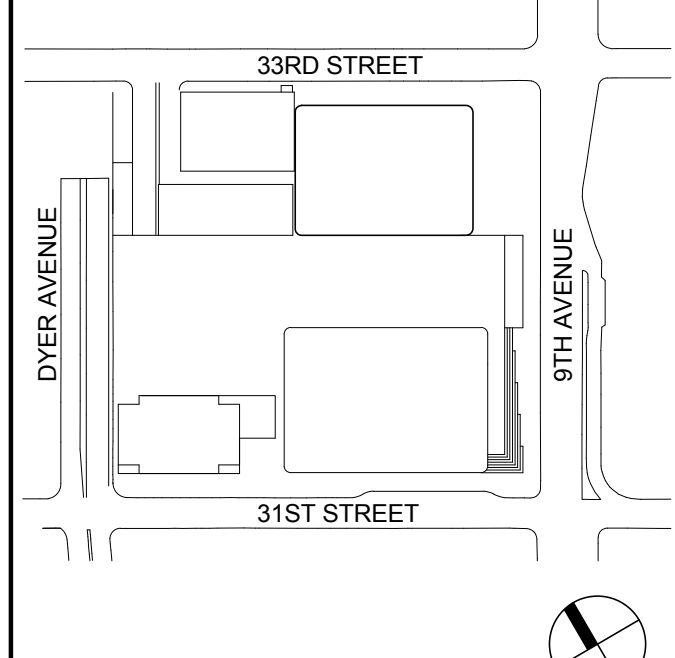
Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

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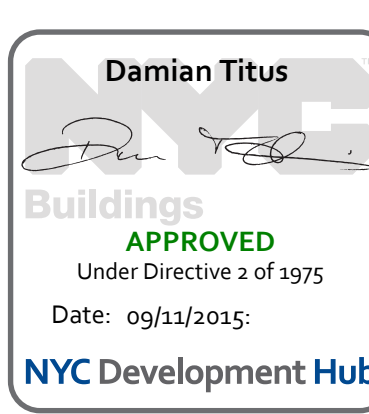
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No. _____ Date _____ Description _____

Sheet Name: **TYPICAL
STRUCTURAL
STEEL SECTIONS
& DETAILS**

Project No.: 211157
Date: 20 JUN 2014
Scale: 1" = 1'-0"

B-SCAN Sheet No.: **S-421.00**
Sheet No.: **S-421**
Page No.: 88 of 90



Damian Titus
Building
APPROVED
Under Directive 2 of 1975
Date: 09/24/2015
NYC Development Hub



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650 Woodlawn Road West, Guelph
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Key Plan:

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Project No.: 211157
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"

Sheet No.: S-422
Page No.: 89 of 90

Project No.: 211157
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"

Sheet No.: S-422
Page No.: 89 of 90

Project No.: 211157
Date: 20 JUN 2014
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Page No.: 89 of 90

Project No.: 211157
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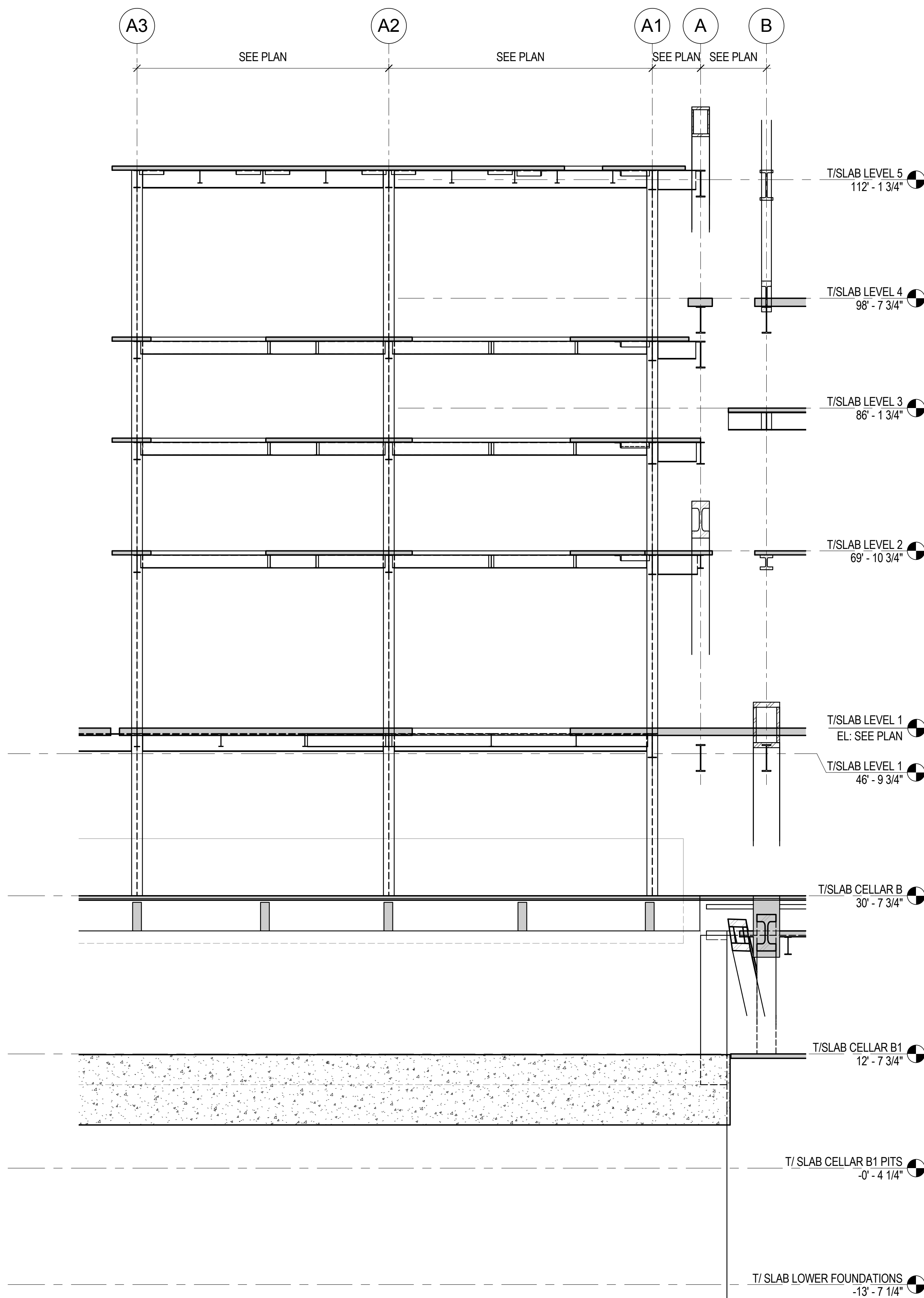
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Page No.: 89 of 90

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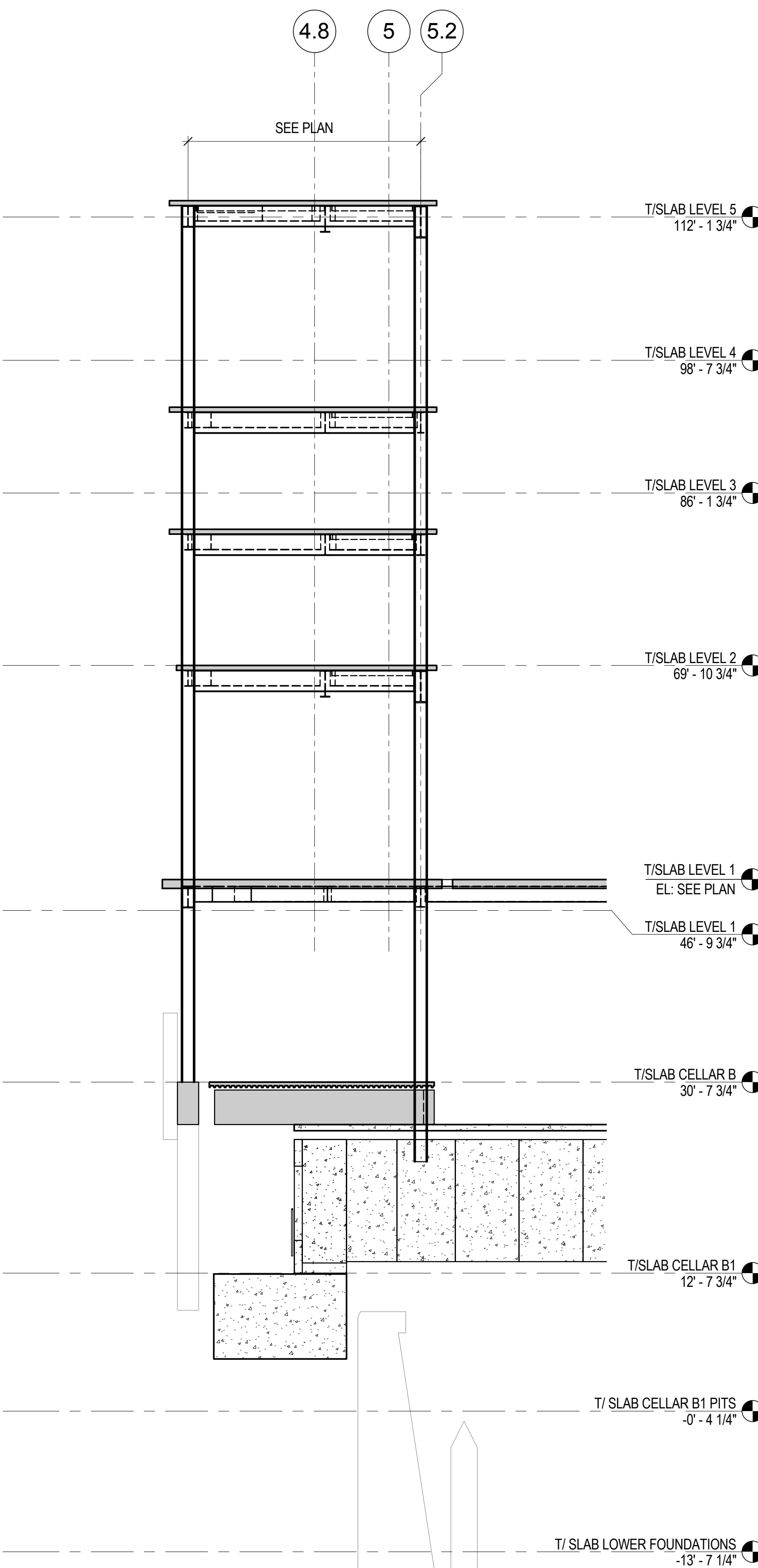
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Page No.: 89 of 90

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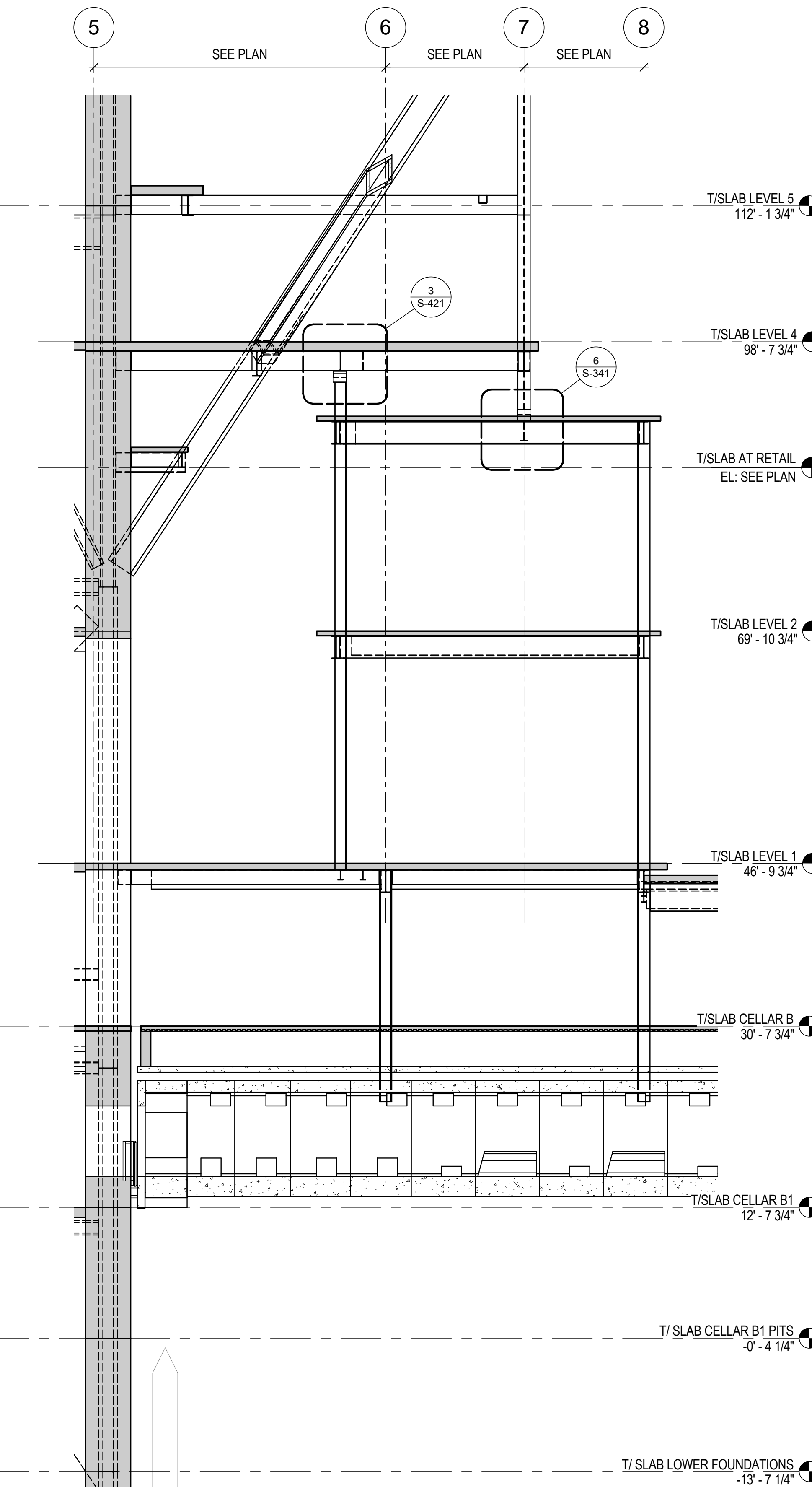
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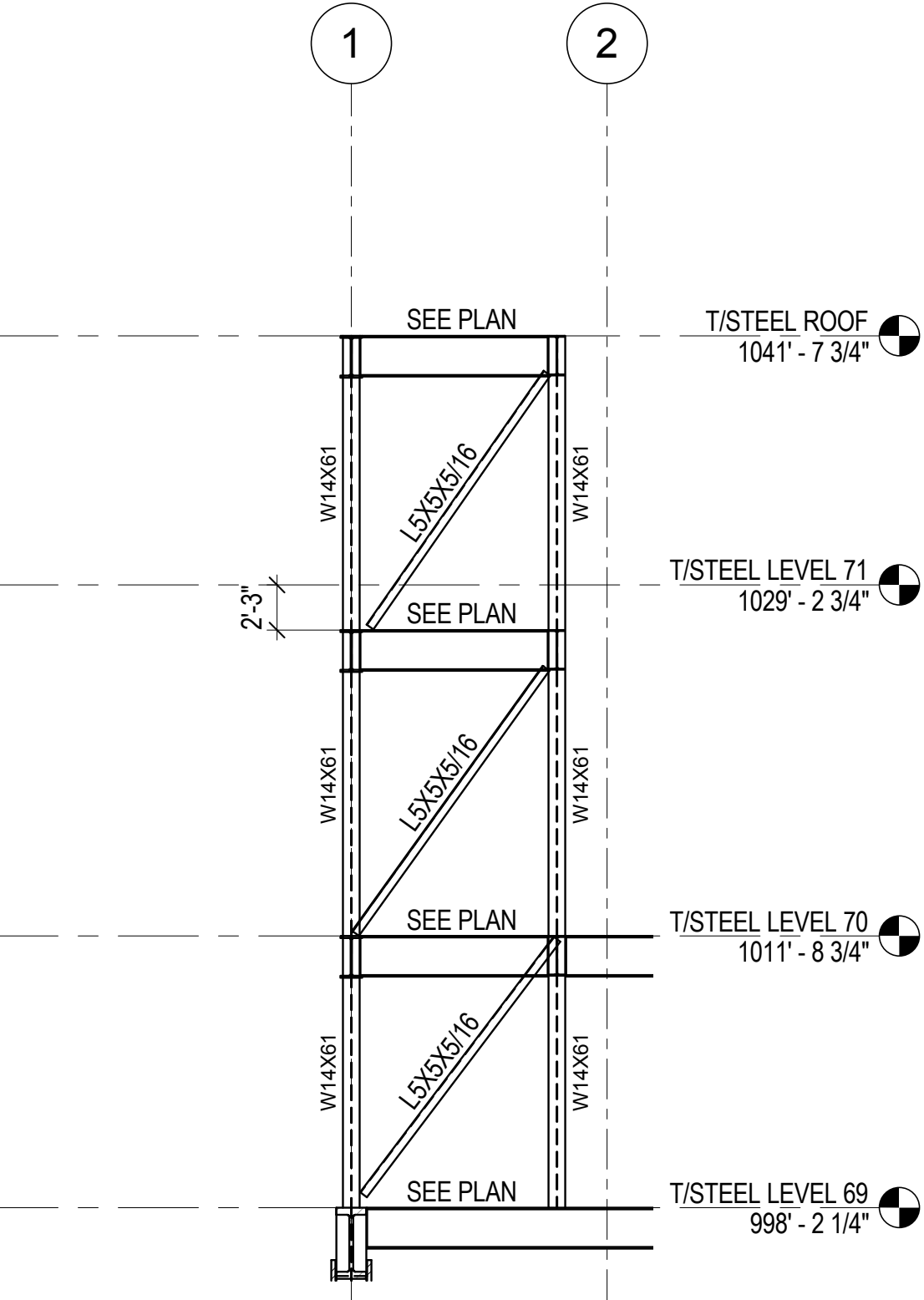
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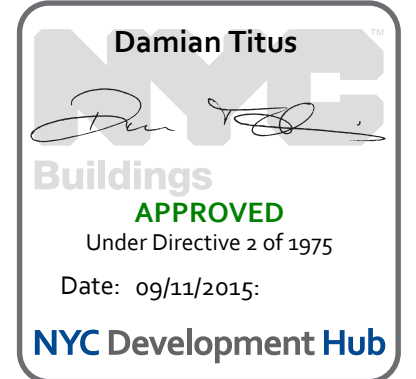
2 RETAIL SECTION LOOKING WEST
1/8" = 1'-0"



3 RETAIL SECTION NEAR BUILDING LOOKING WEST
1/8" = 1'-0"



4 TYPICAL BRACING AT TOP OF TOWER
1/8" = 1'-0"





MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client

Brookfield
Brookfield Place
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Architecture/Structural Engineering

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680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Key Plan:



Seal & Signature:

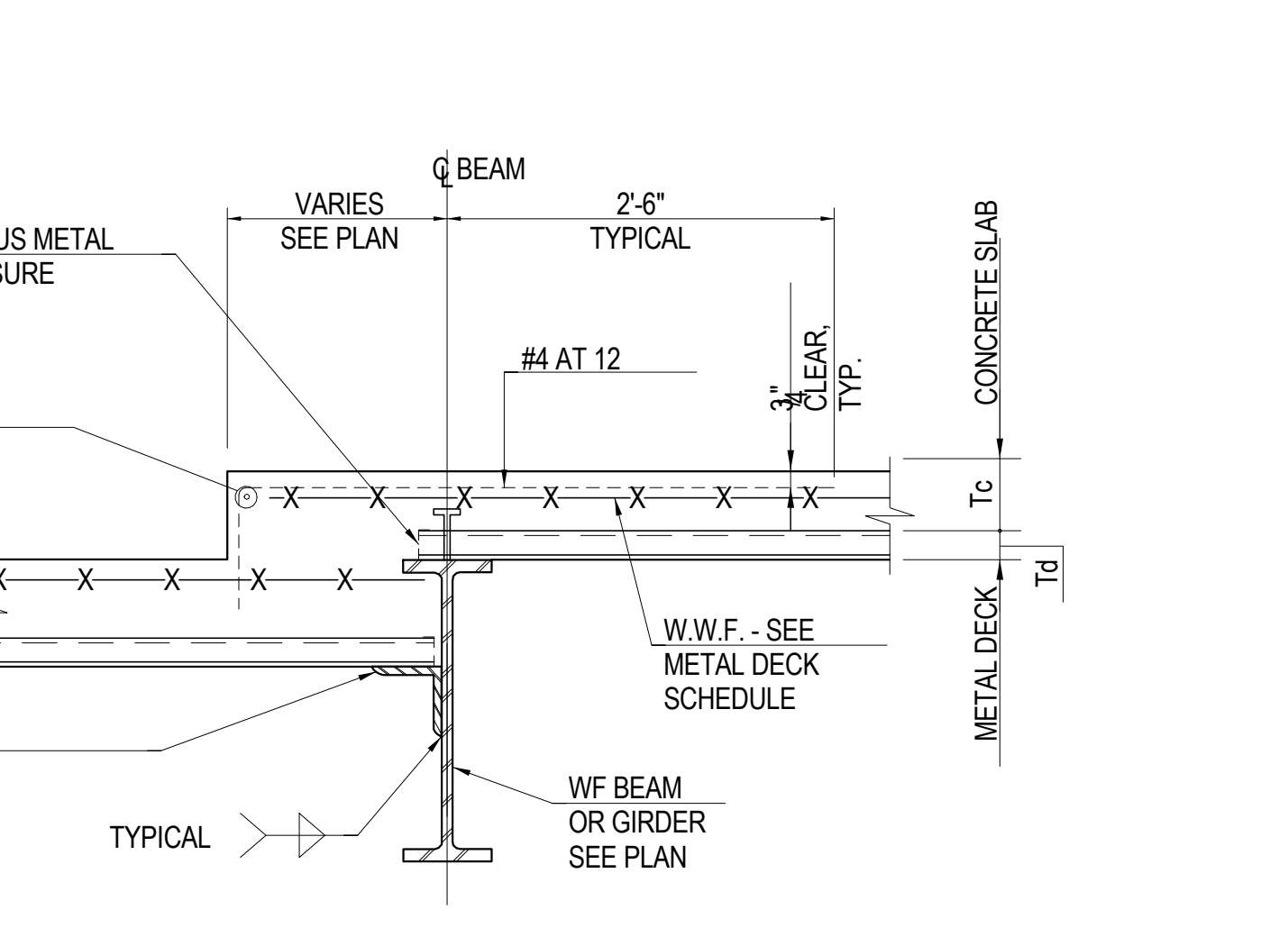
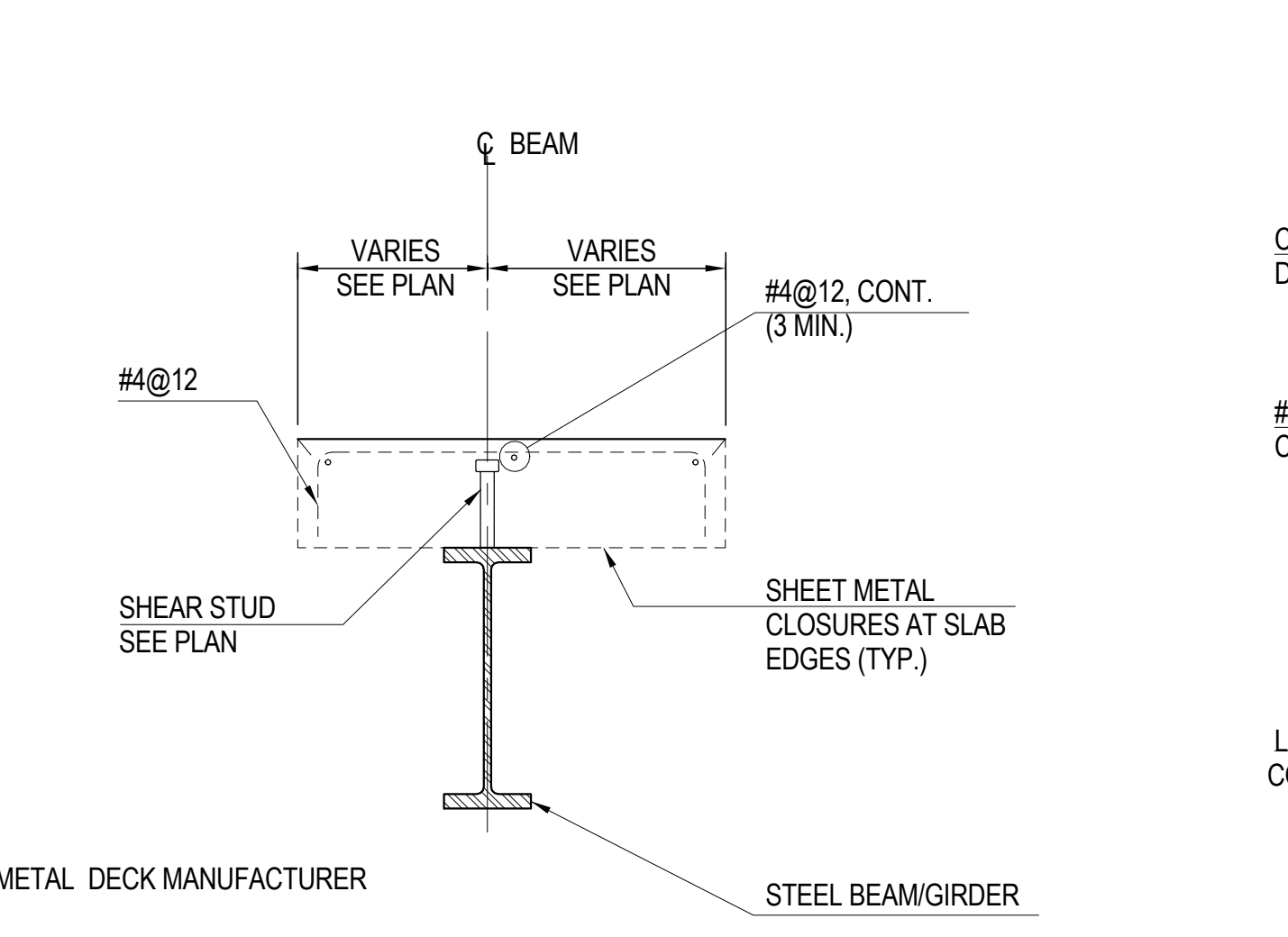
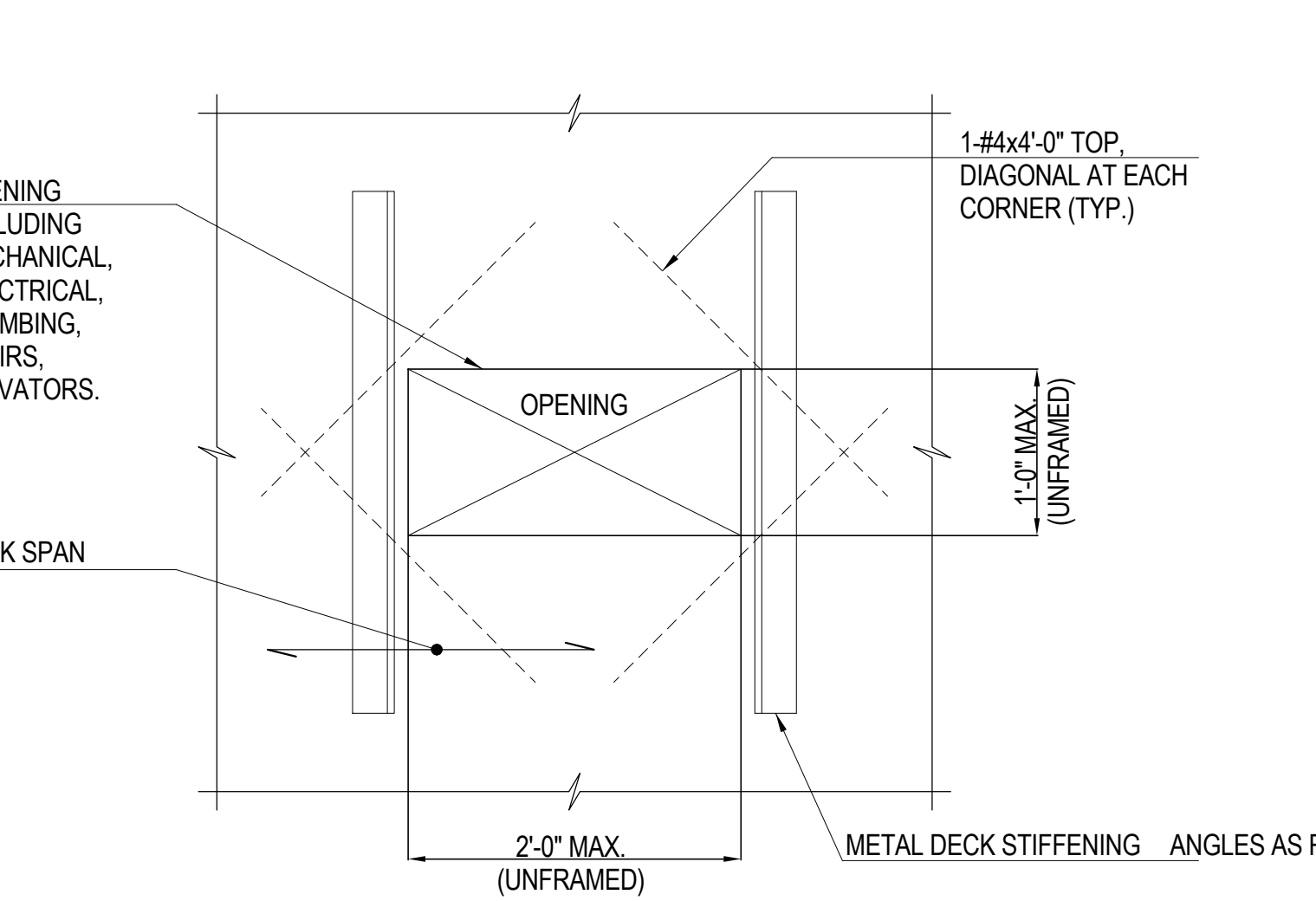
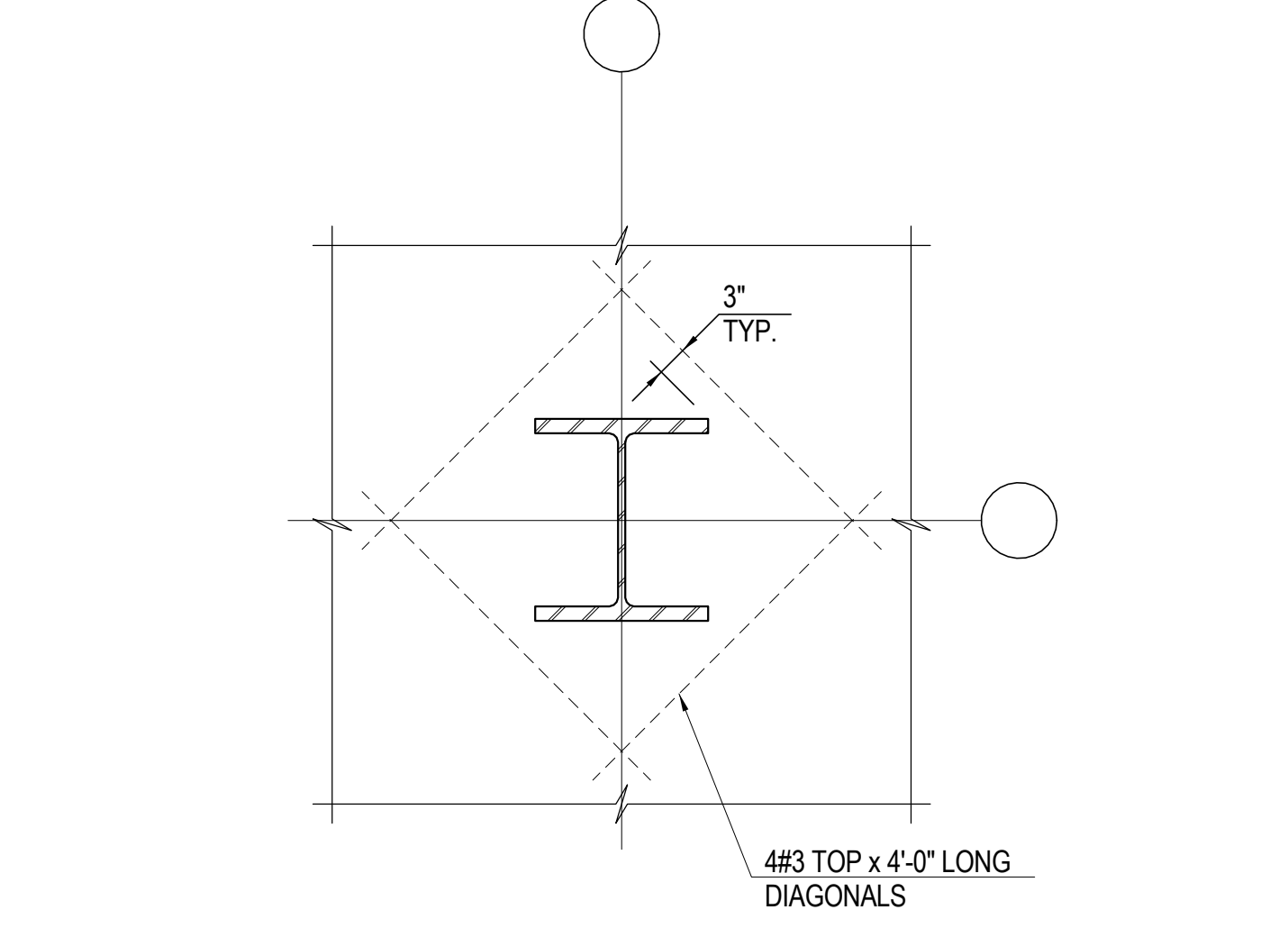
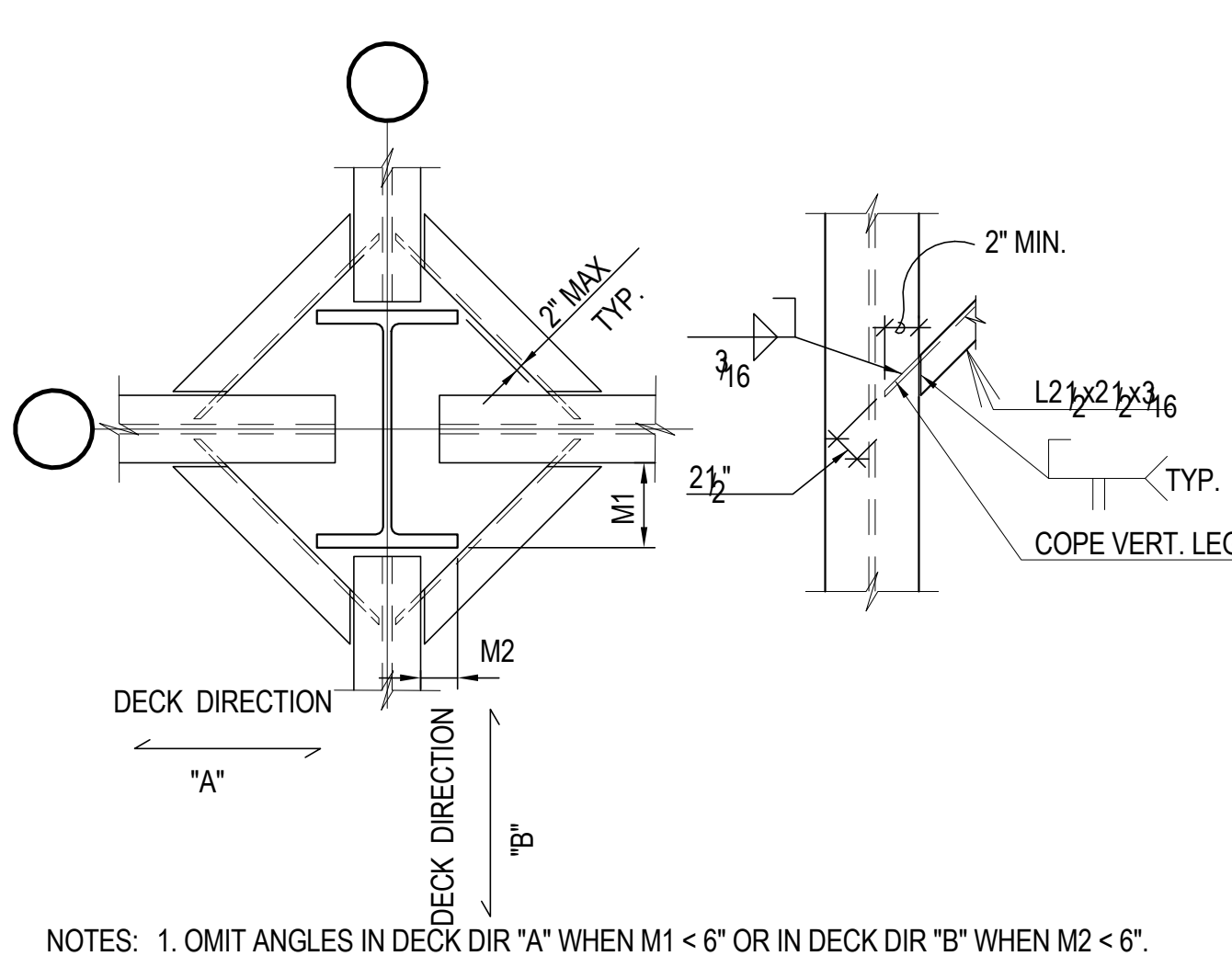
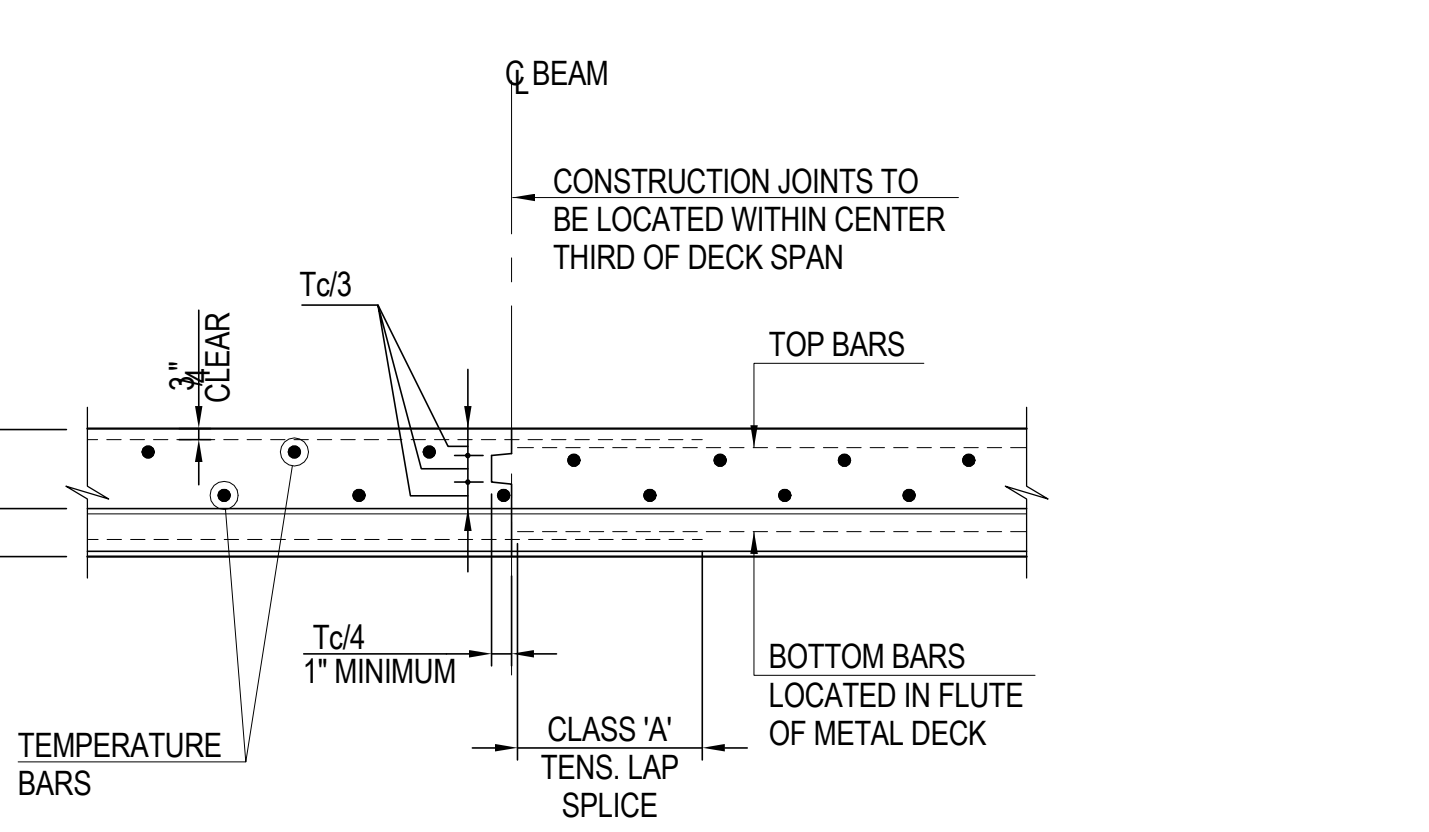
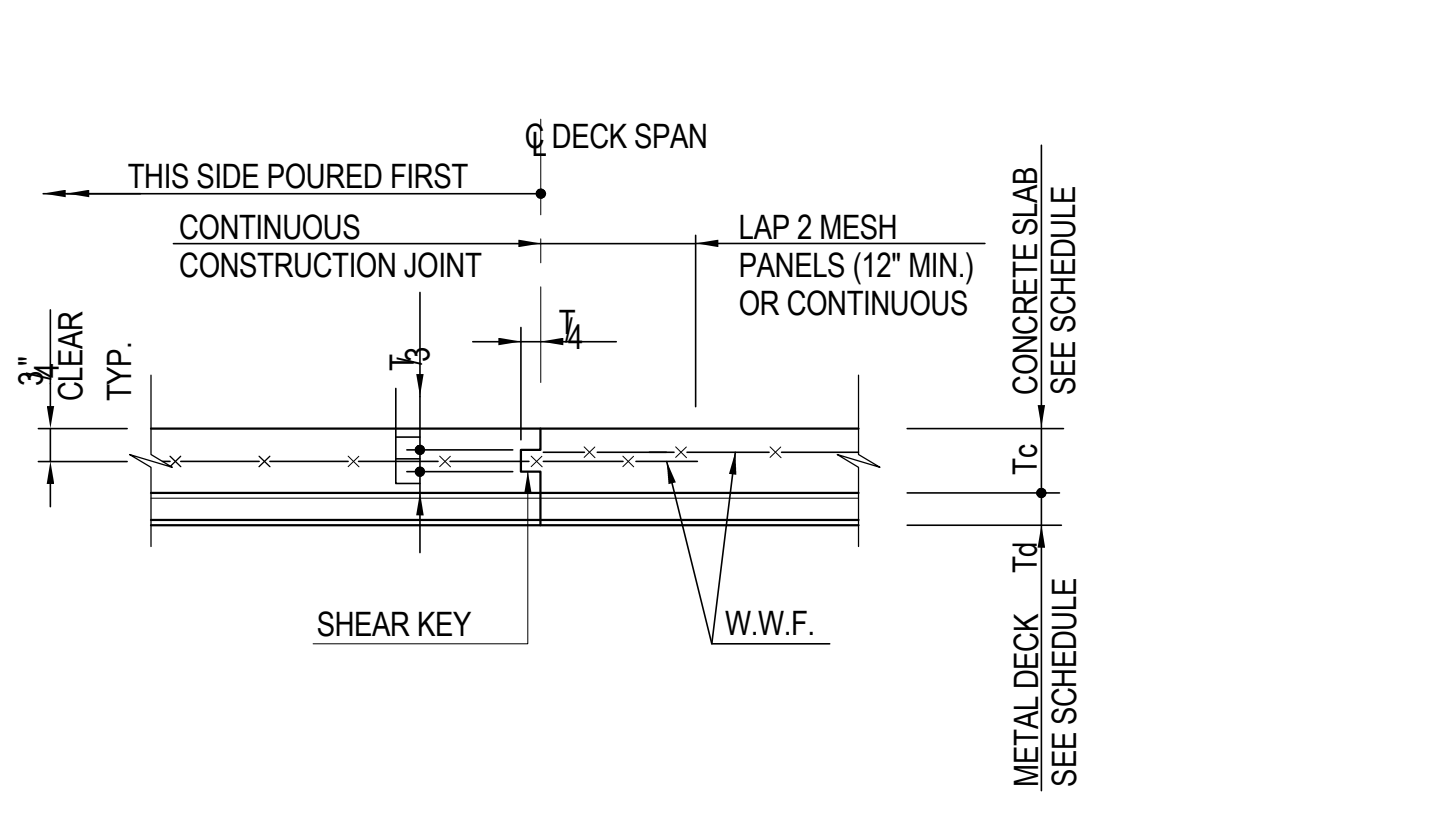
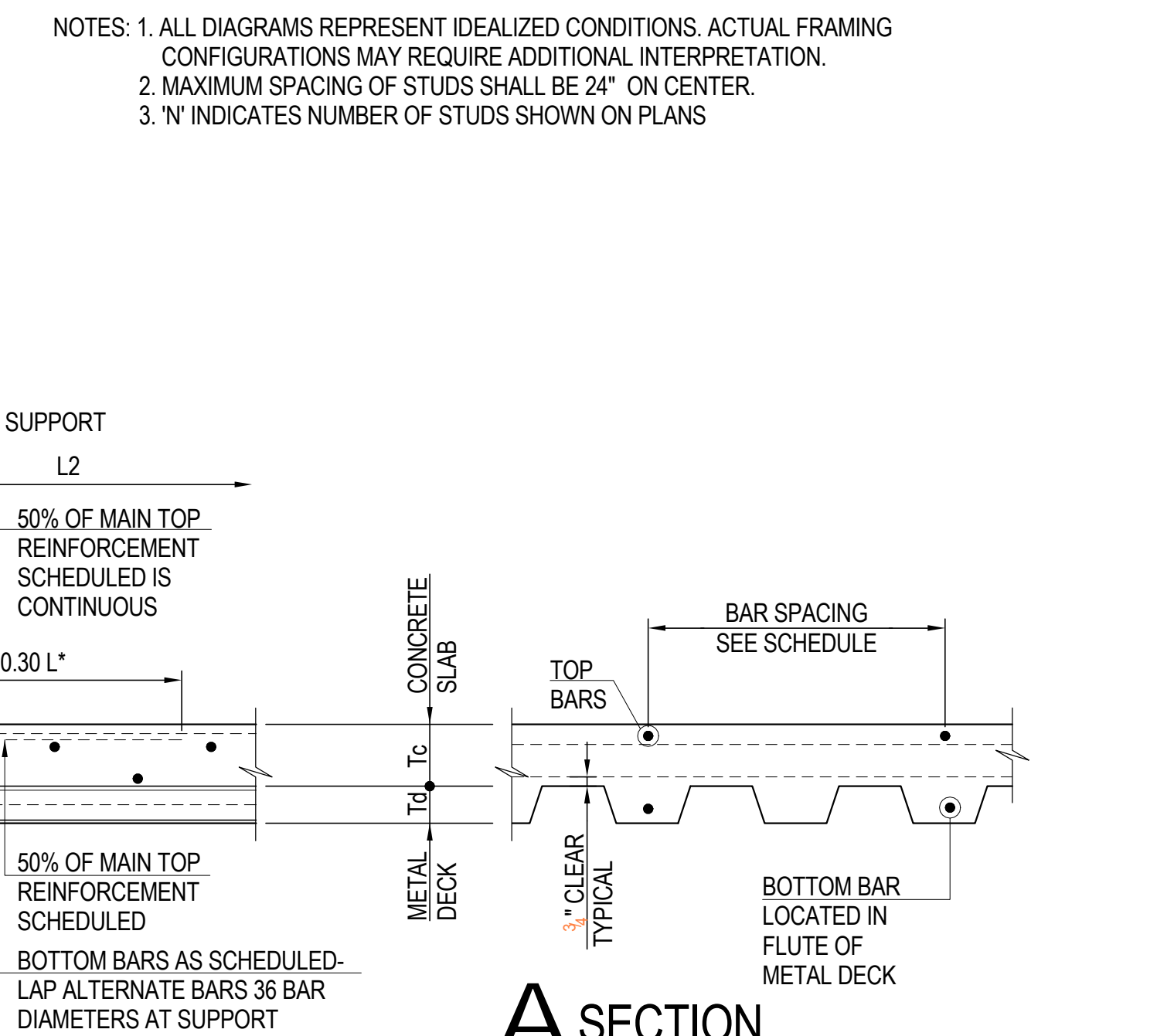
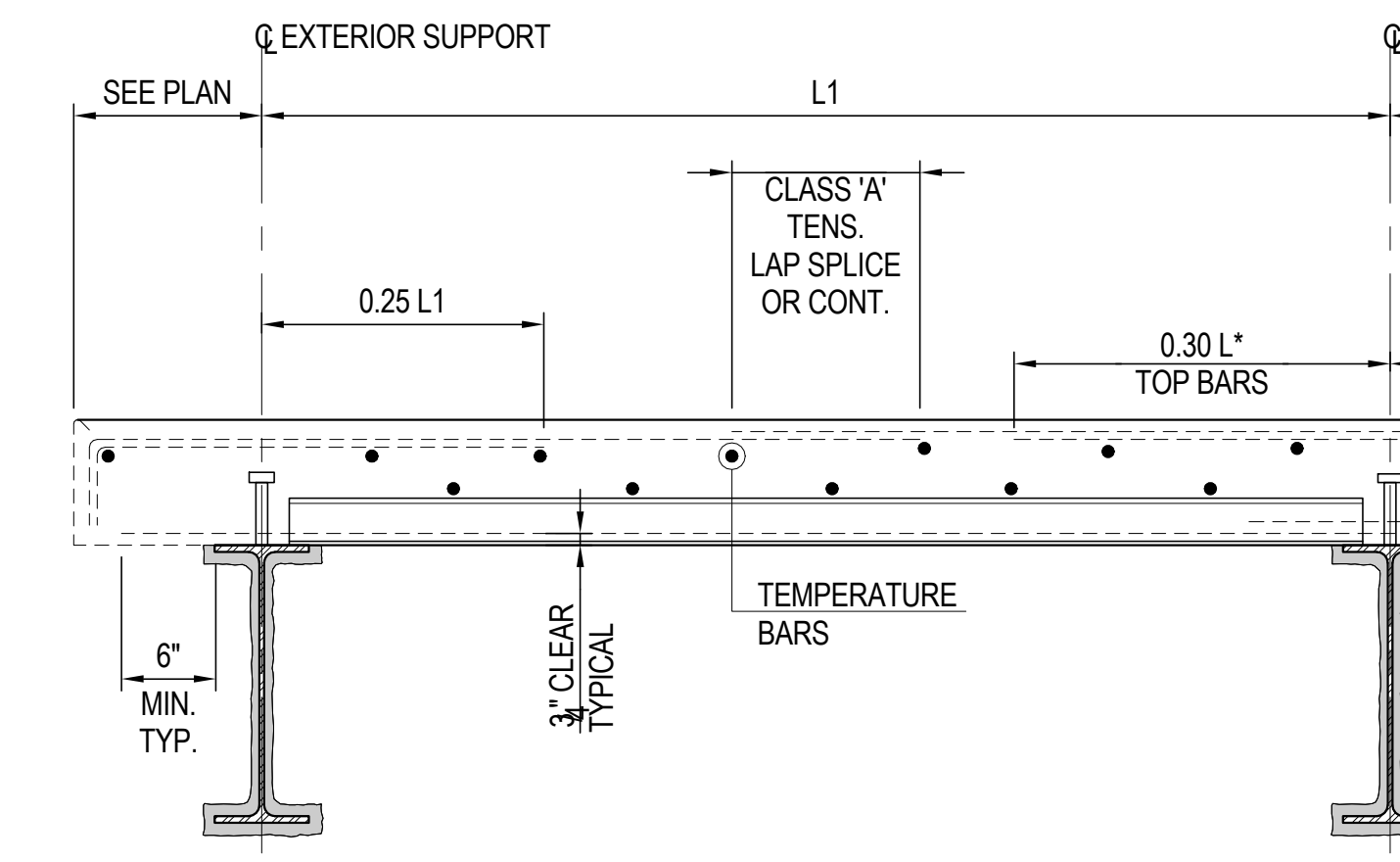
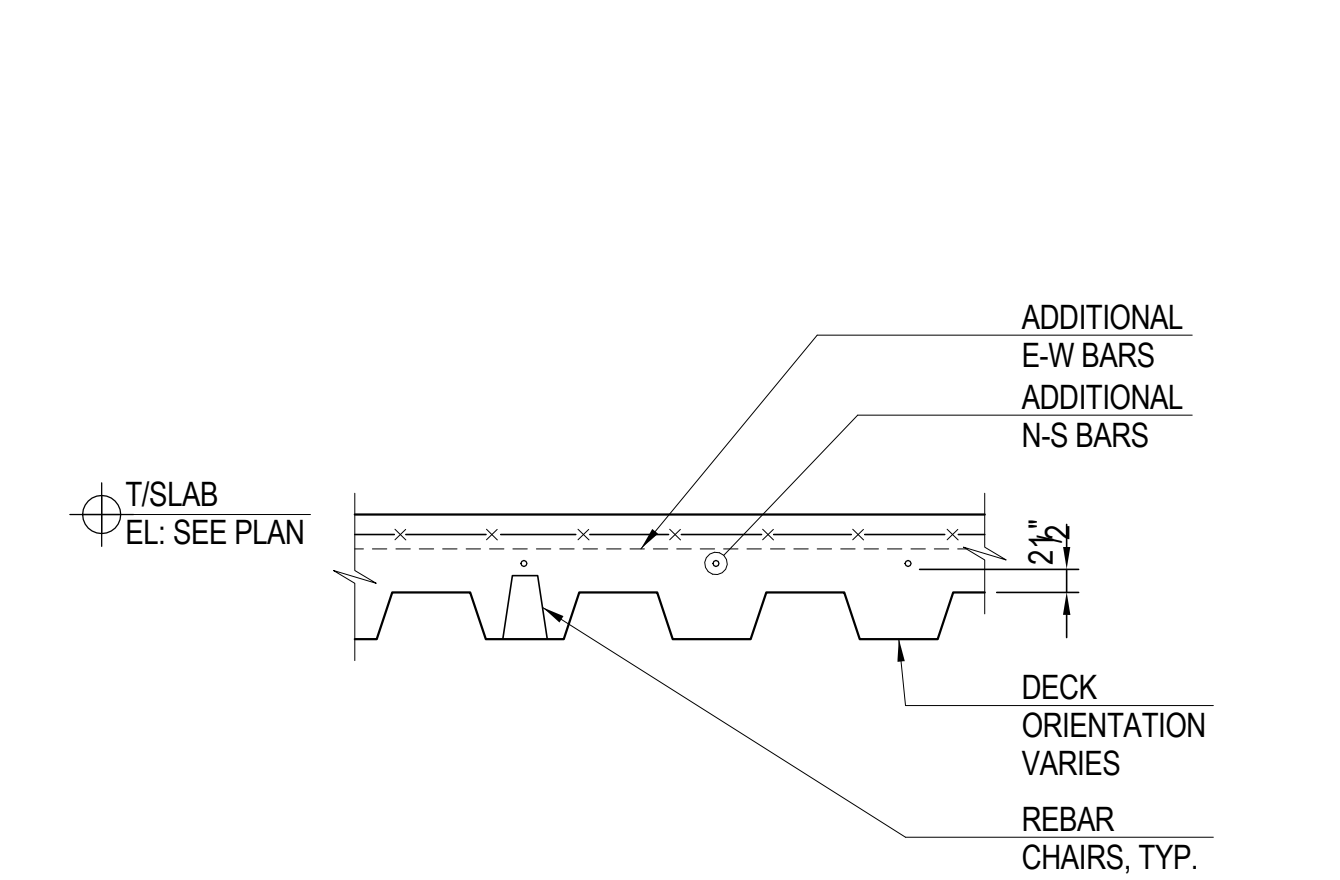
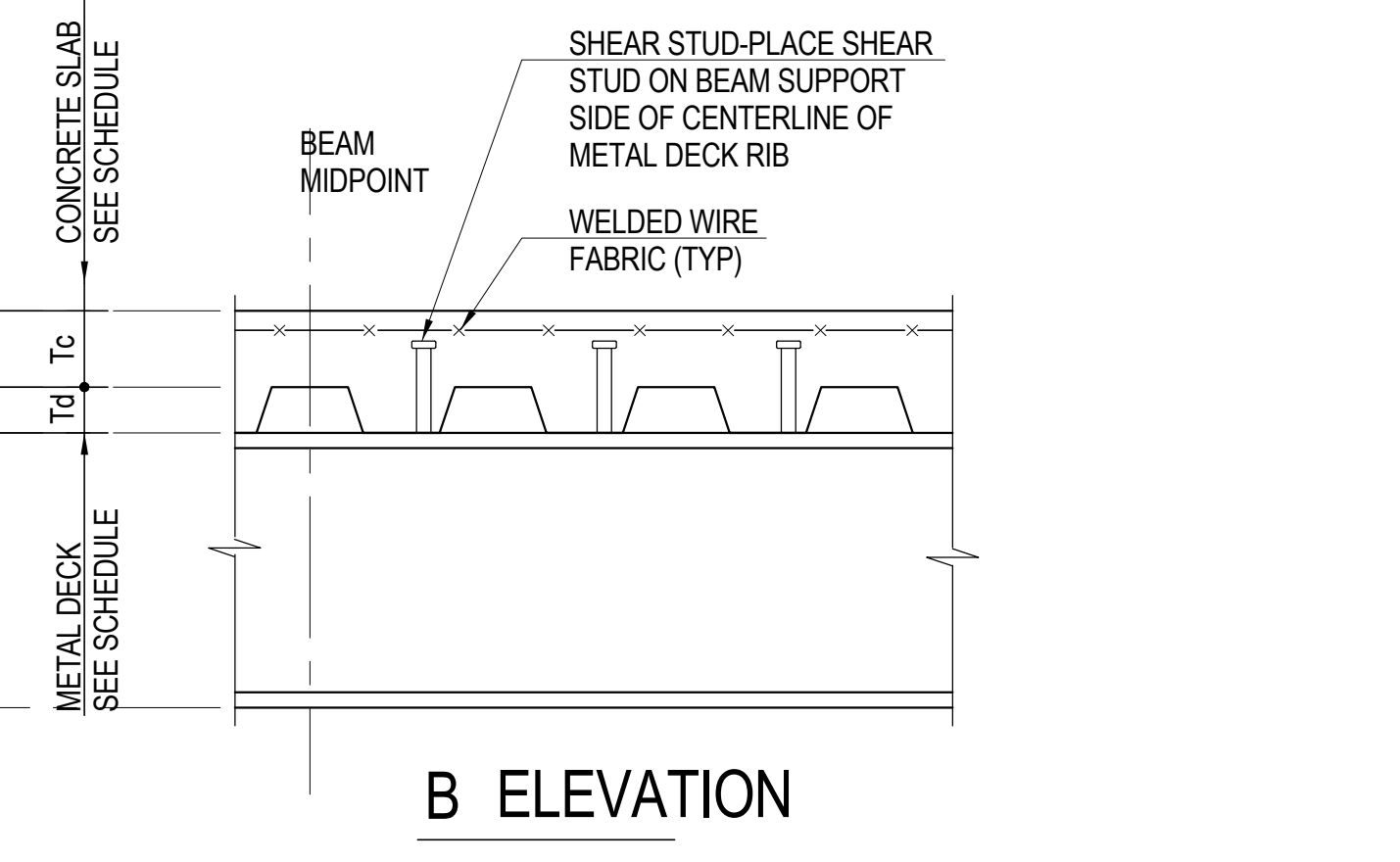
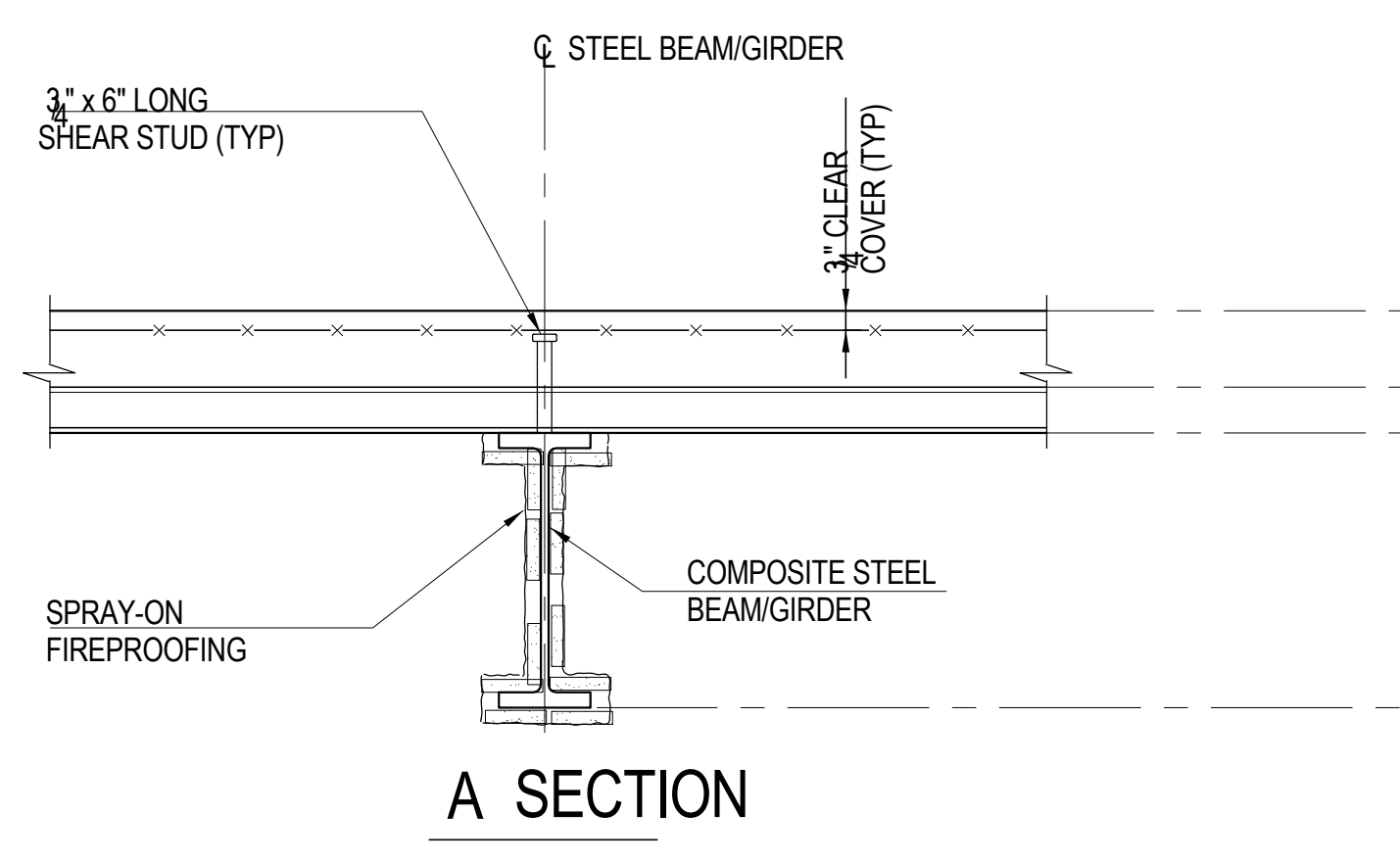
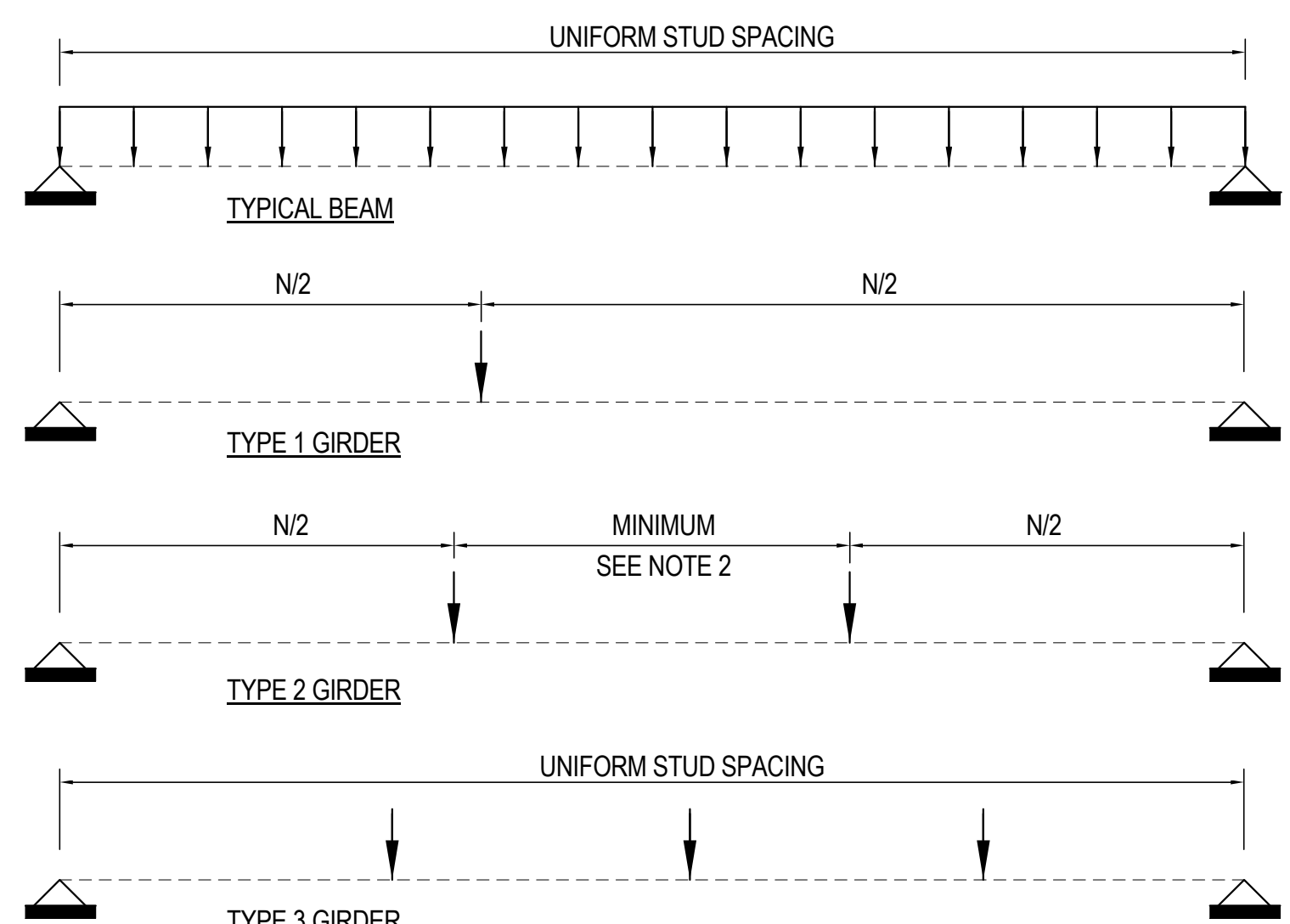
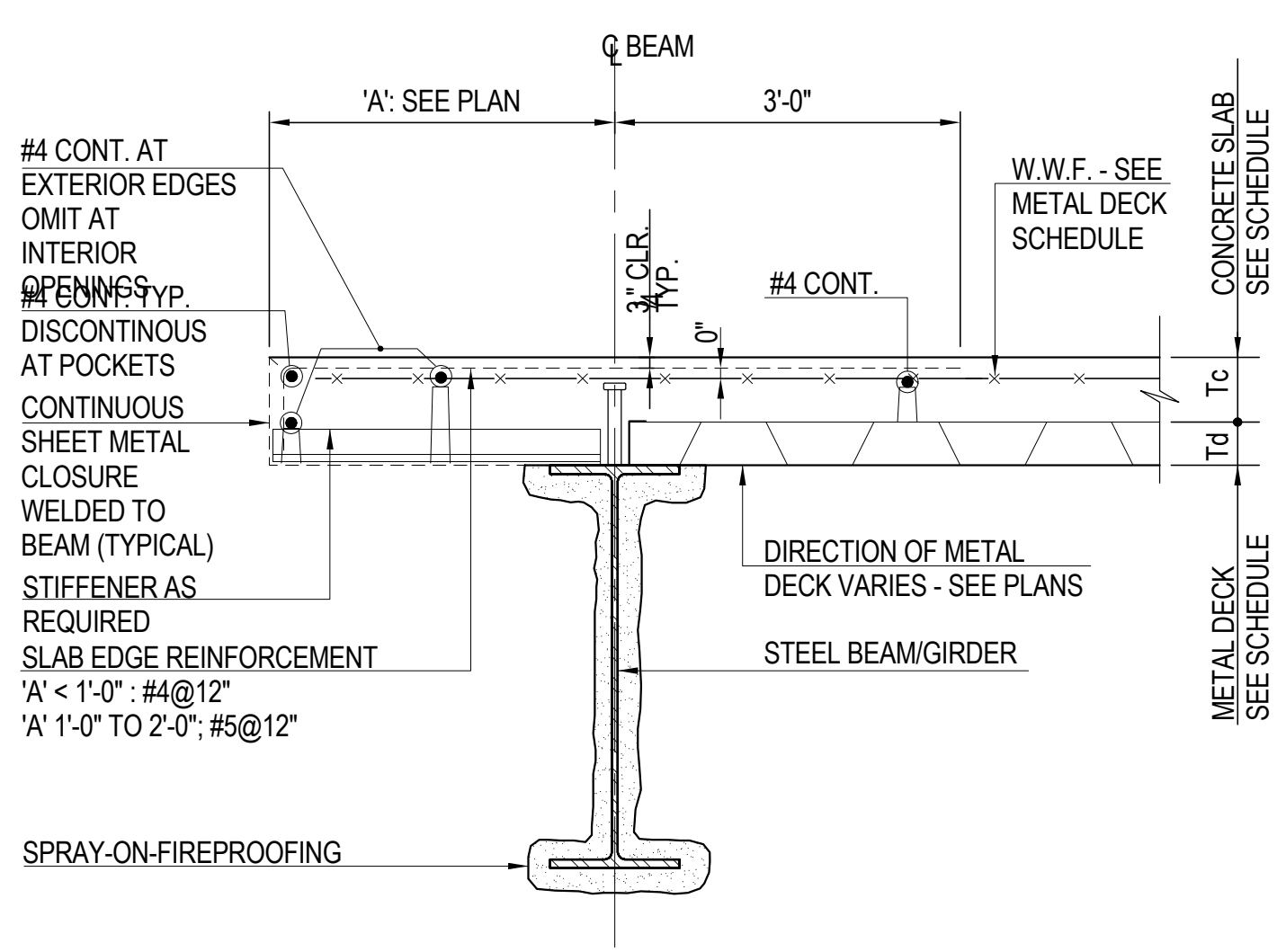
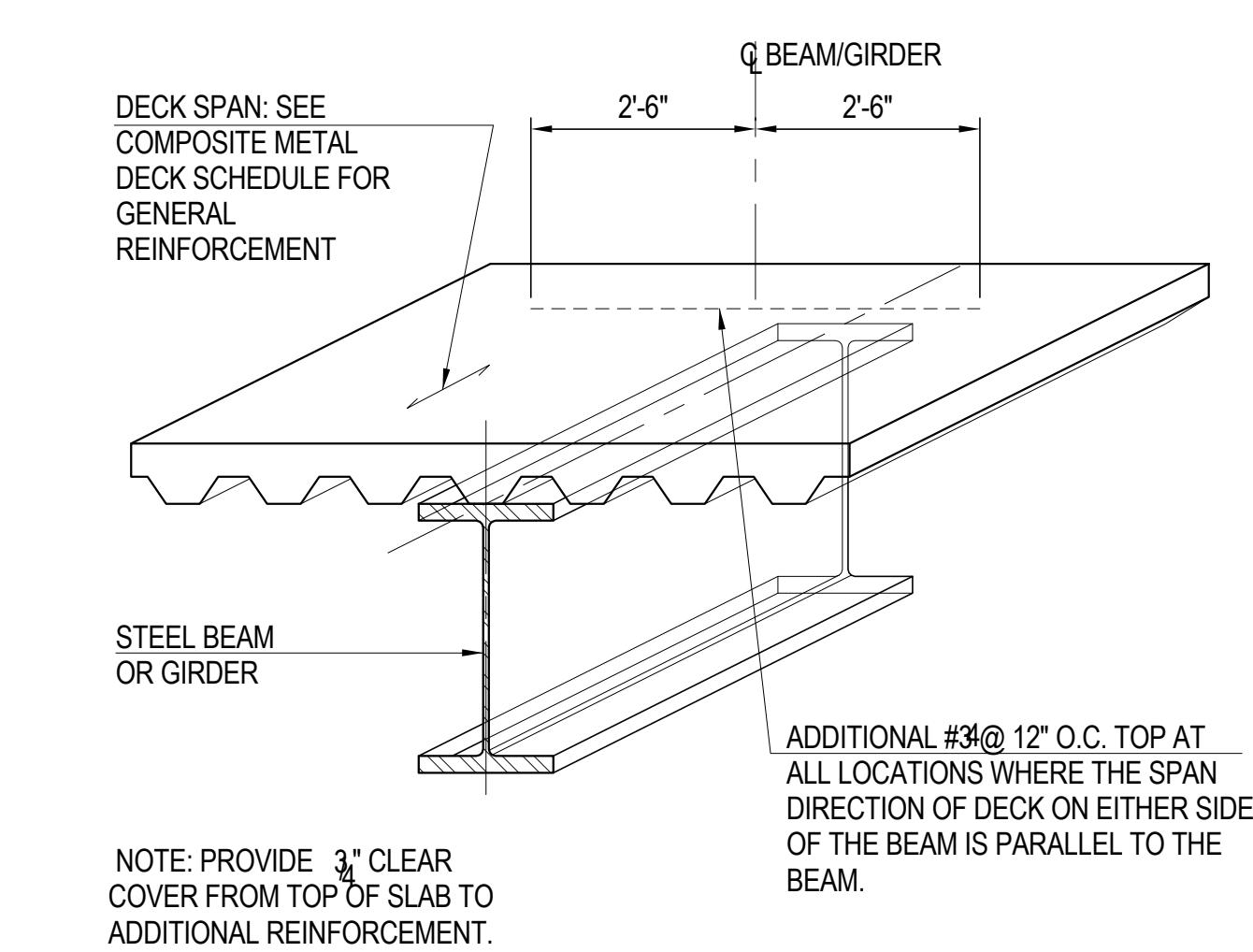
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No. Date Description
Sheet Name

**METAL DECK
SLAB
SCHEDULES,
SECTIONS &
DETAILS**

| | |
|------------------------|-------------------------------|
| Project No.: 211157 | B-SCAN Sheet No.: S-501.00 |
| Date: 20 JUN 2014 | Sheet No.: S-501 |
| Scale: 1" = 1'-0" | Page No.: 90 of 90 |
| File No.: S-501 | |

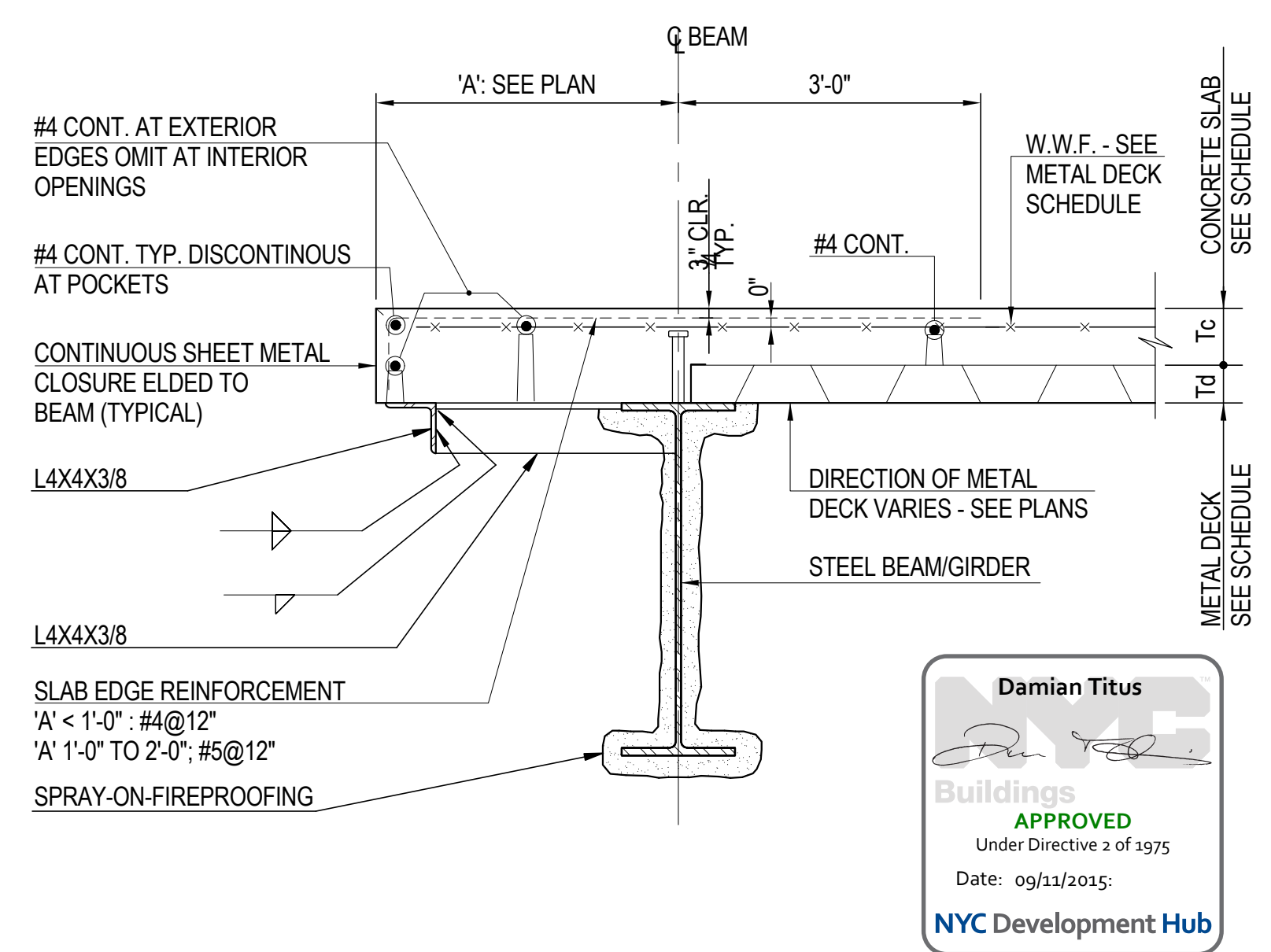


| COMPOSITE METAL DECK SLAB SCHEDULE | | | | | | | REBAR | fy = 60 ksi |
|------------------------------------|------|-------|-------------------------------|------------------------|------------|----------------------|-------------------------------|-------------|
| MARK | Td | Tc | IMPOSED LOAD CAPACITIES (PSF) | ONE LAYER TEMP. REINF. | CONCRETE | REMARKS | DECK | fy = 40 ksi |
| | (IN) | (IN) | LL | SDL | WGT. (PCF) | f _c (PSI) | | |
| MS1 | 3 | 2 1/2 | | | 150 | 4000 | TYPICAL OFFICE FLOOR SLAB | |
| MS2 | 3 | 8 | | | 150 | 4000 | TYPICAL MECHANICAL FLOOR SLAB | |
| MS3 | 3 | 6 | | | 150 | 4000 | TYPICAL ROOF SLAB | |
| MS4 | 3 | 2 1/2 | | | 150 | 4000 | TYPICAL RETAIL SLAB | |
| MS5 | 4 | 3 1/2 | | | 150 | 4000 | TYPICAL LOBBY SLAB | |

NOTES:
1. SEE DETAIL 4 FOR TYPICAL COMPOSITE METAL DECK SLAB DETAIL.

| REINFORCED METAL DECK SLAB SCHEDULE | | | | | | | | | | REBAR | fy = 60 ksi |
|-------------------------------------|------|------|-------------------------------|--------------------|--------------|----------|------------|----------------------|-------------------------------------|-------|-------------|
| MARK | Td | Tc | IMPOSED LOAD CAPACITIES (PSF) | MAIN REINFORCEMENT | TEMP. REINF. | CONCRETE | REMARKS | | | DECK | fy = 40 ksi |
| | (IN) | (IN) | LL | SDL | BOT. | TOP | WGT. (PCF) | f _c (PSI) | | | |
| RS1 | 3 | 7 | | | | | | | TYPICAL PLAZA SLAB AT PLANTED AREAS | | |
| RS2 | 3 | 9 | | | | | | | TYPICAL TREE PIT SLAB | | |
| RS3 | 3 | 8 | | | | | | | TYPICAL MECHANICAL | | |
| RS4 | 3 | 8 | | | | | | | TYPICAL AT TOP OF KICKERS | | |

NOTES: 1. SEE DETAIL 5 FOR TYPICAL REINFORCED METAL DECK SLAB DETAIL.





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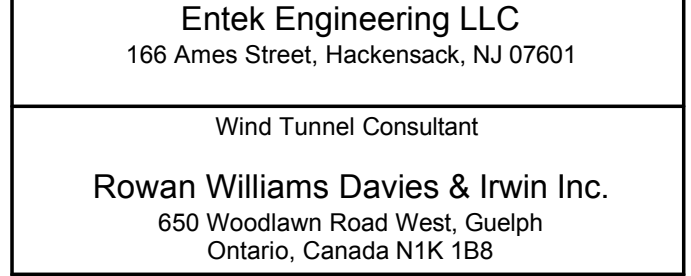
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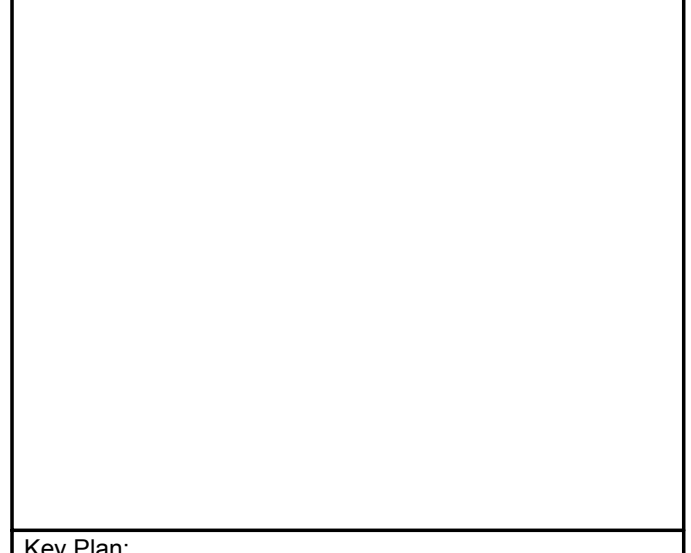
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Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

Key Plan:



Seal & Signature:



Project No.: 14830.A.000
Date: 20 JUN 2014
Scale: 1/8"=1'-0"

Sheet No.: M-097
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MECHANICAL
CELLAR B
FLOOR PLAN -
PART A

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Date: 20 JUN 2014
Scale: 1/8"=1'-0"

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MECHANICAL
CELLAR B
FLOOR PLAN -
PART A

Project No.: 14830.A.000
Date: 20 JUN 2014
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MECHANICAL
CELLAR B
FLOOR PLAN -
PART A

Project No.: 14830.A.000
Date: 20 JUN 2014
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MECHANICAL
CELLAR B
FLOOR PLAN -
PART A

Project No.: 14830.A.000
Date: 20 JUN 2014
Scale: 1/8"=1'-0"

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MECHANICAL
CELLAR B
FLOOR PLAN -
PART A

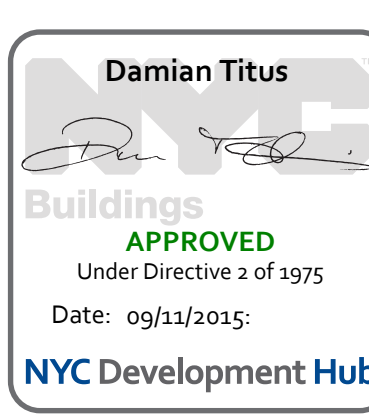
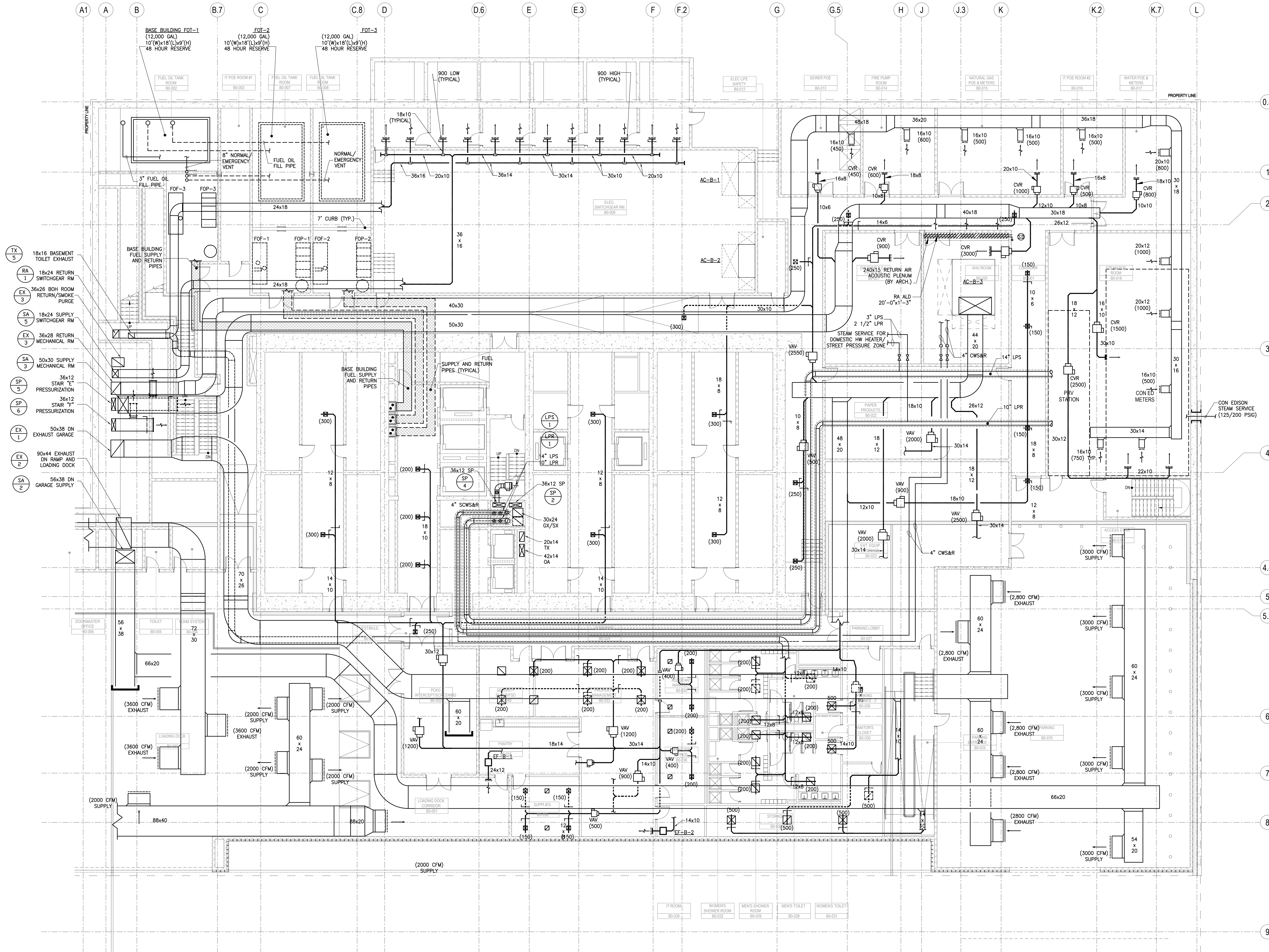
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Date: 20 JUN 2014
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MECHANICAL
CELLAR B
FLOOR PLAN -
PART A

Project No.: 14830.A.000
Date: 20 JUN 2014
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APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client

Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering

SOM

Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation

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102 East Blithedale Ave. Suite 1, Mill Valley, California 94941

Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

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Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant

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65 Broadway, Suite 401, New York, NY 10006

Code Consultant

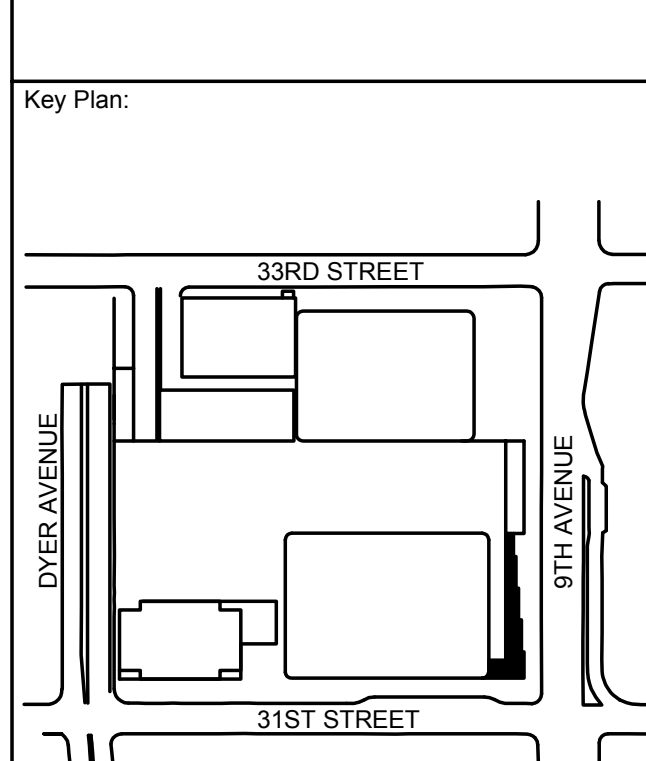
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
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| 5 | 13 MAR 2013 | ISSUED FOR RECONFIGURATION |

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**MECHANICAL
GROUND
FLOOR PLAN -
PART A**

Project No:
14830.A.000

Date:
20 JUN 2014

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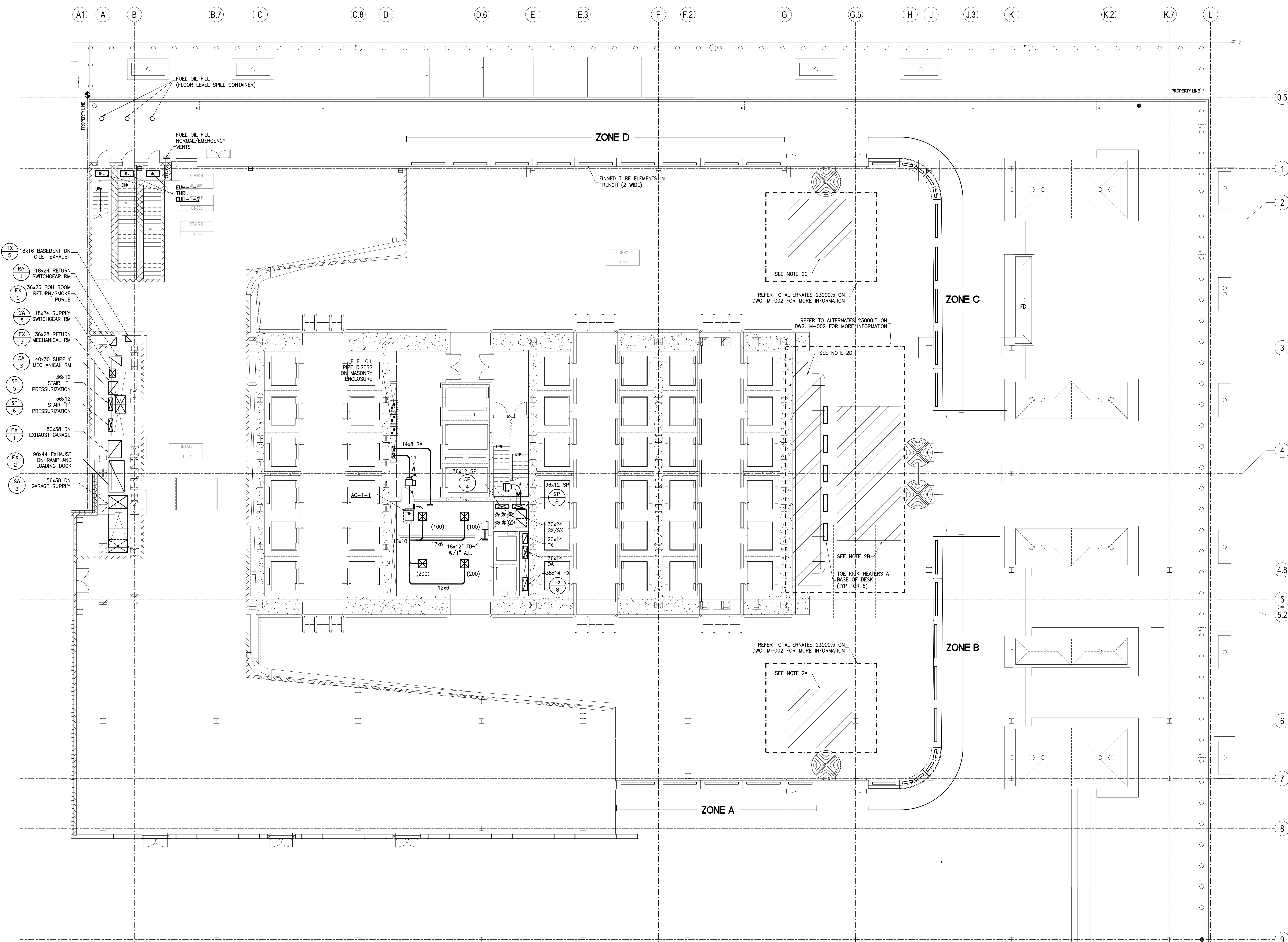
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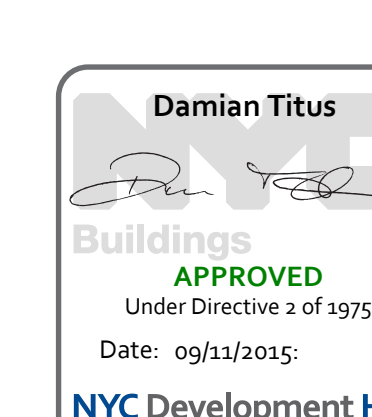
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Sheet No.:

Page No.:



- NOTES:
1. LOBBY HEATING AT PERIMETER WILL CONSIST OF HOT WATER FINNED TUBE ELEMENTS IN PERIMETER TRENCH PROVIDE 2-WIDE FINNED TUBE ELEMENTS. IN SOFFIT PROVIDE SINGLE ROW FINNED TUBE ELEMENTS. REFER TO LOBBY HOT WATER FLOW DIAGRAM FOR PIPING AND ZONING REQUIREMENTS.
 2. FLOOR AREA IN FRONT OF ENTRY DOOR TO BE PROVIDED WITH ELECTRICAL RADIANT FLOOR HEATING. (REFER TO ELECTRICAL DRAWINGS).
 - A. RADIANT FLOOR AREA APPROXIMATELY 15'x15'
 - B. RADIANT FLOOR AREA APPROXIMATELY 30'x15'
 - C. RADIANT FLOOR AREA APPROXIMATELY 15'x15'
 - D. RADIANT FLOOR AREA APPROXIMATELY 54'x7'





MANHATTAN WEST:
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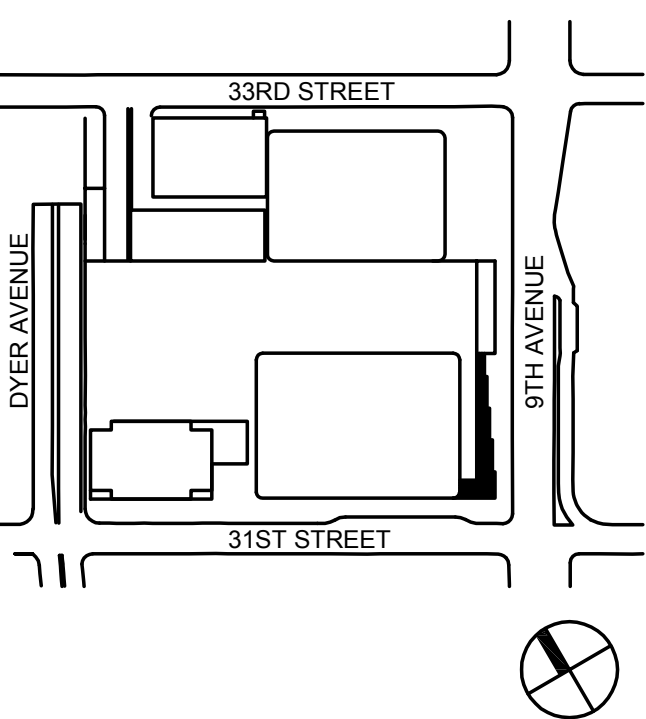
ode Maintenance Cons

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Wind Tunnel Consultation

Rowan Williams Davies & Irwin Inc.
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Ontario, Canada N1H 1T5

Key Plan:



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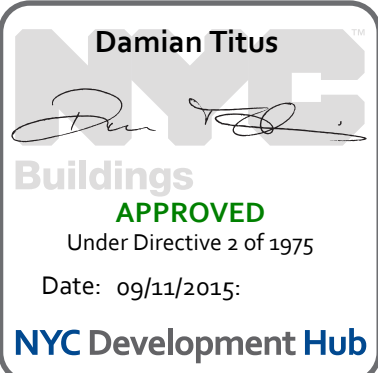
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MECHANICAL
GROUND
FLOOR PLAN -
PART B

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|-----------------------------|--------------------------------------|
| Project No.: 14830.A.000 | B-SCAN Sheet No.: M-101.00 |
| Date: 20 JUN 2014 | Sheet No.: M-101 |
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| File No.: | Page No.: |





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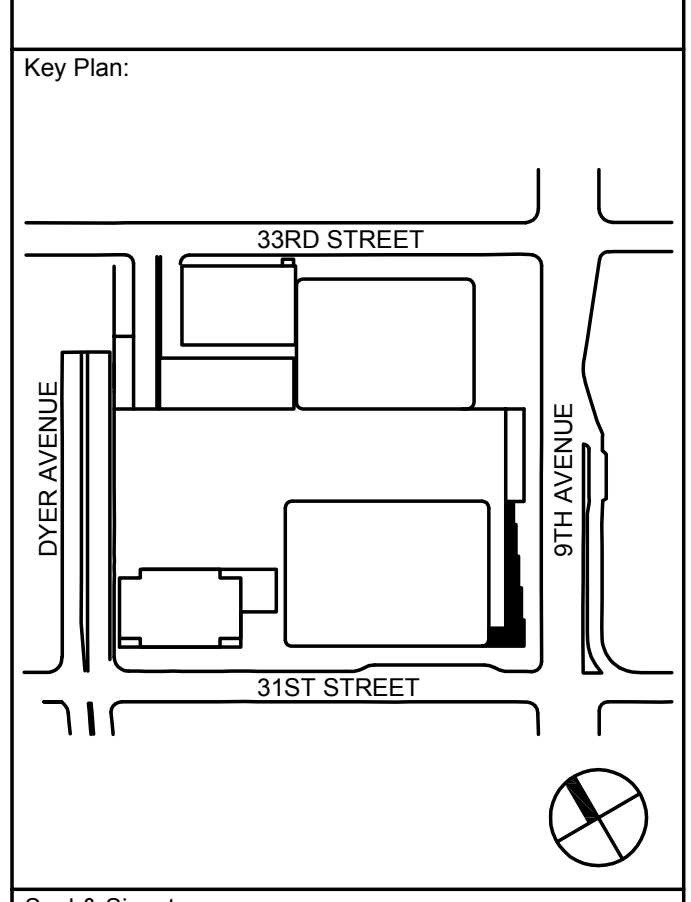
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166 Ames Street, Hackensack, NJ 07601

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Rowan Williams Davies & Irwin Inc.
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Ontario, Canada N1K 1S8

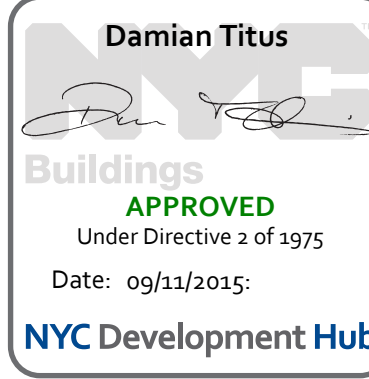


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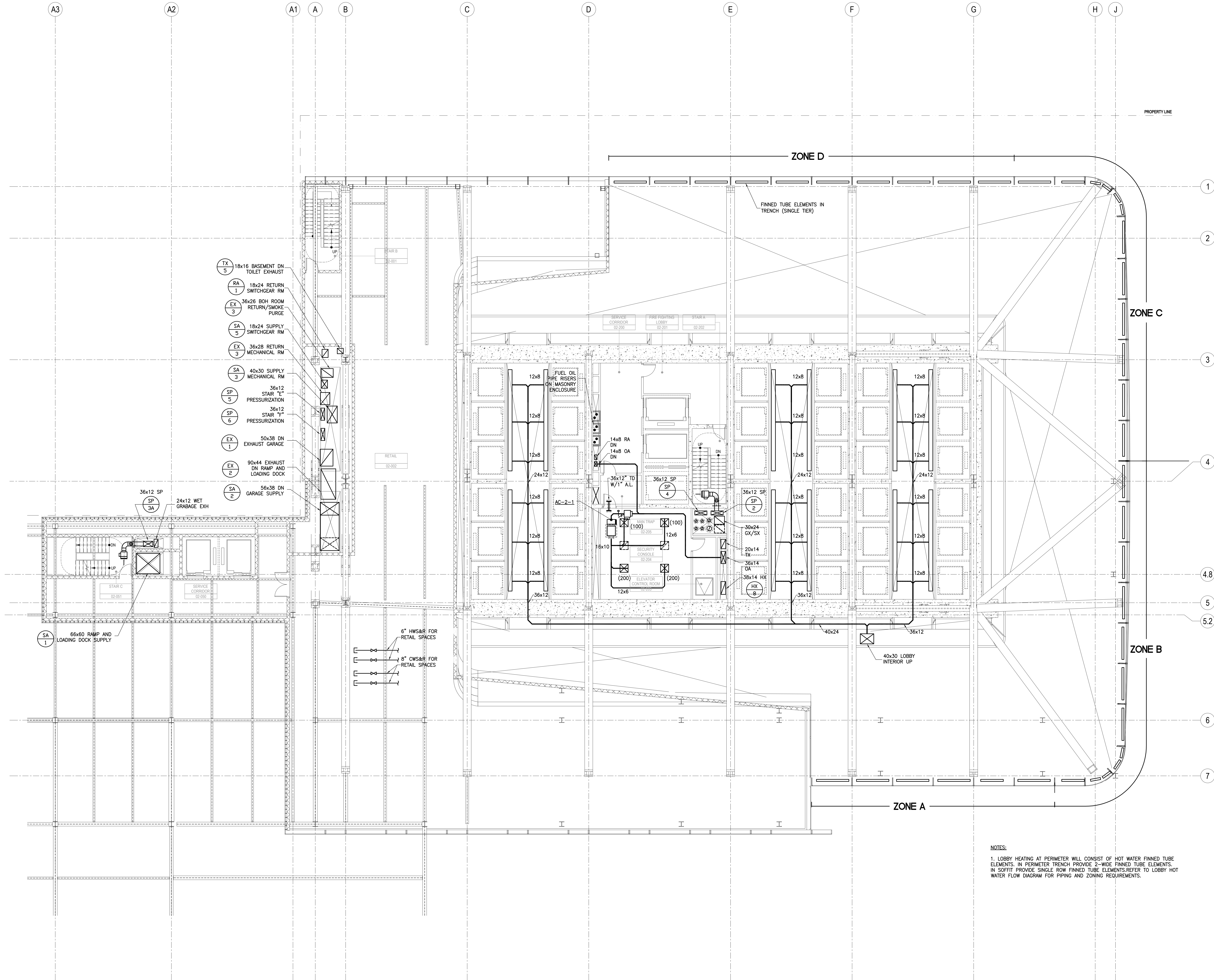
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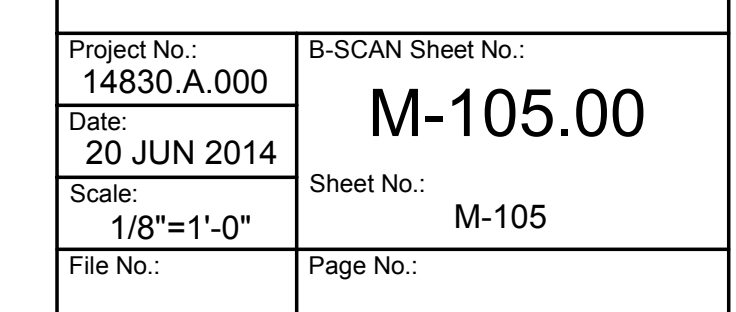
MECHANICAL
LEVEL 2
FLOOR PLAN -
RETAIL

Project No:
14830.A.000
Date:
20 JUN 2014
Scale:
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File No.:
B-SCAN Sheet No.:
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M-102
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Ducibella Ventor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

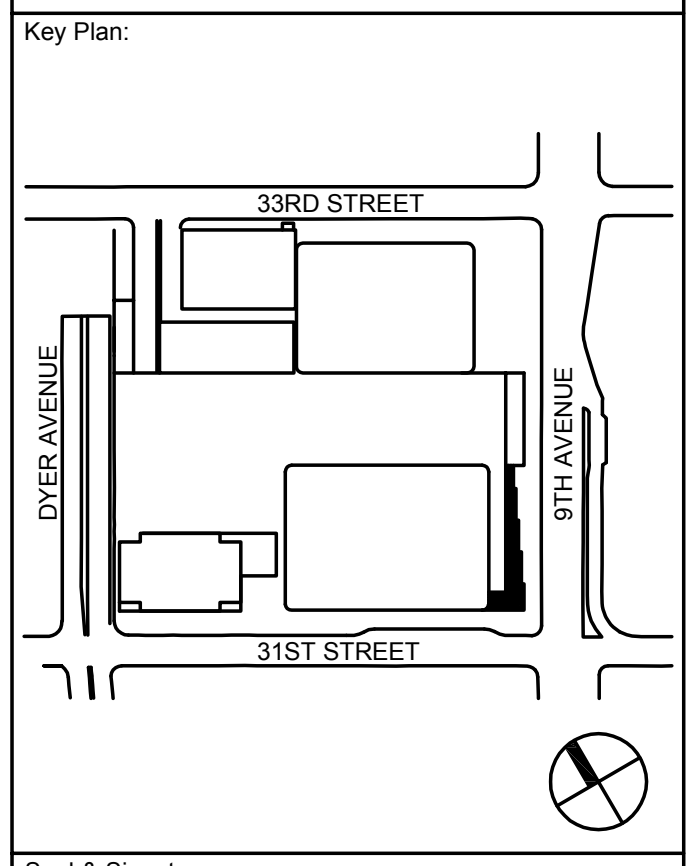
Acoustical Consultant
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404 Fifth Avenue #8, New York, NY 10018

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166 Ames Street, Hackensack, NJ 07601

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Ontario, Canada N1K 1S8

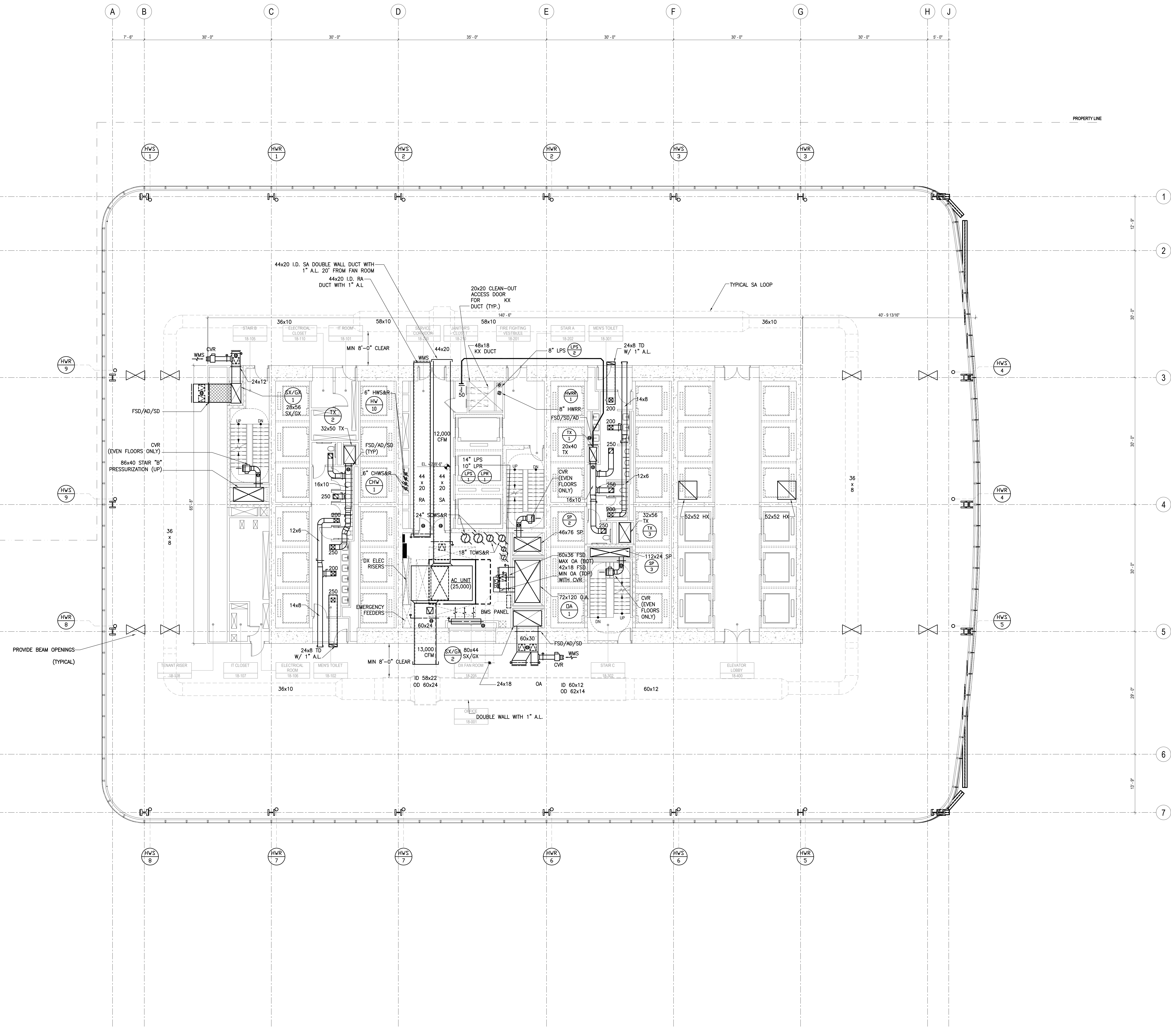
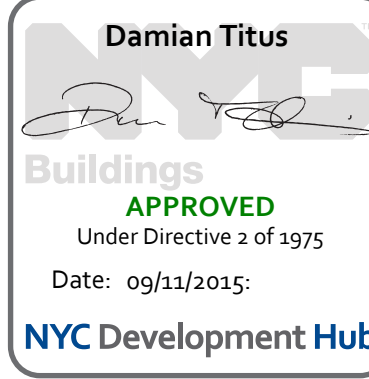


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| 5 | 13 MAR 2013 | ISSUED FOR RECONSTRUCTION |
| No. | Date | Description |
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**MECHANICAL
LEVEL
18 FLOOR
PLAN - LOW-RISE
OVERRUN**

Project No:
14830.A.000
Date:
20 JUN 2014
Scale:
1/8"=1'-0"
File No.:
B-SCAN Sheet No.:
M-118.00
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M-118
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MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client
Brookfield
Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10281

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SOM
Skidmore, Owings & Merrill LLP
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Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave. Suite 1, Mill Valley, California 94941

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

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Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610,
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Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473

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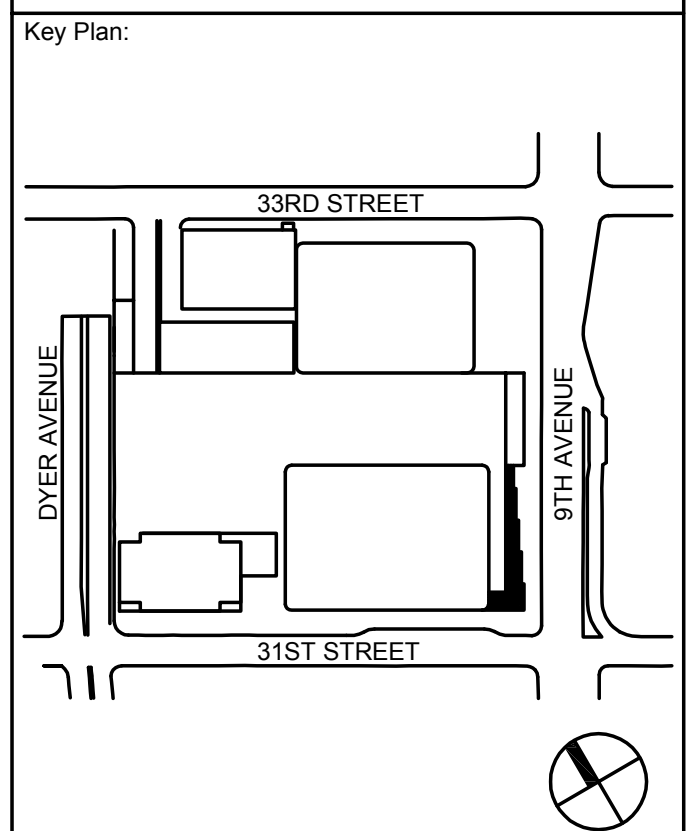
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404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant
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65 Broadway, Suite 401, New York, NY 10006

Code Consultant
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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

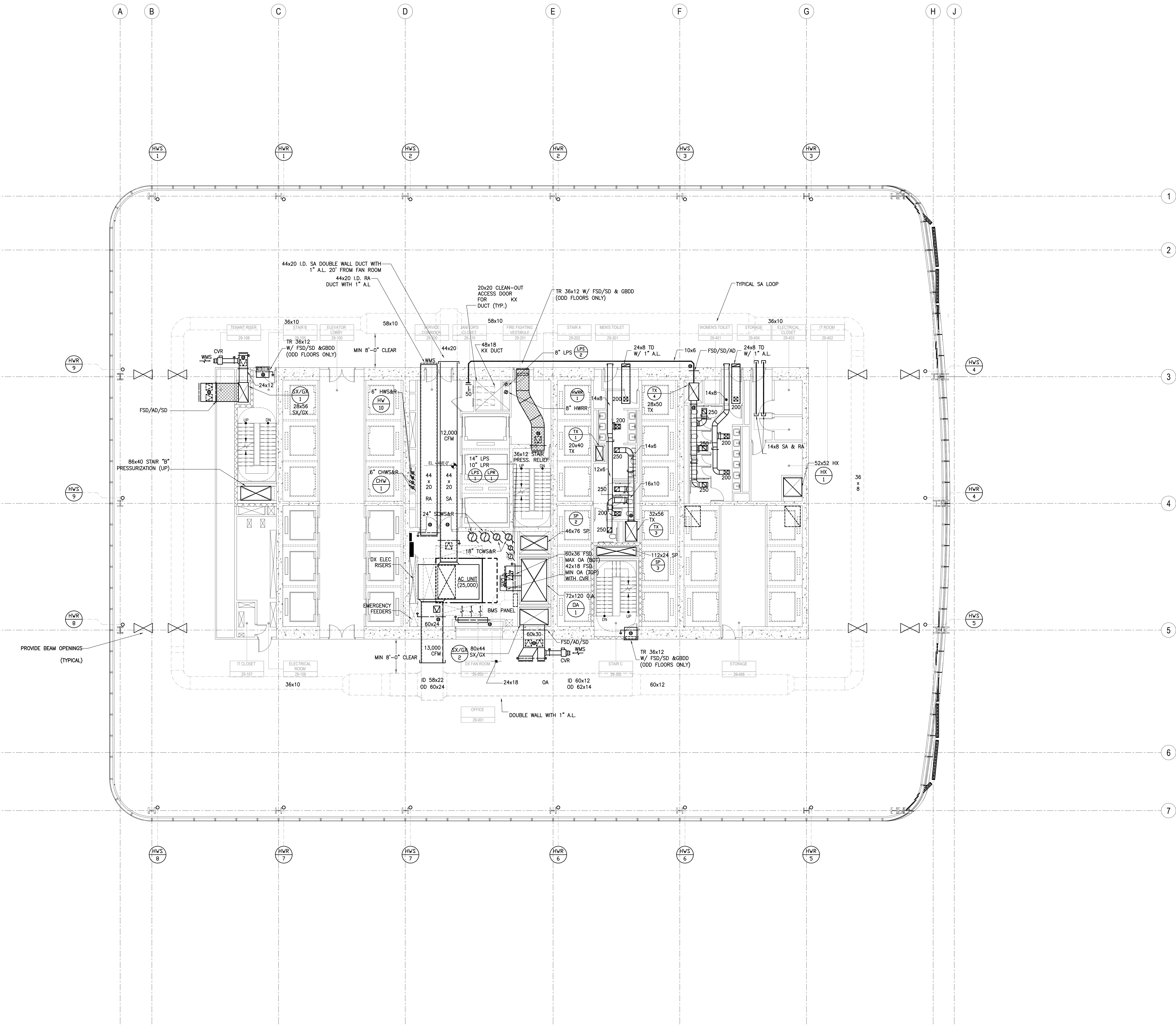
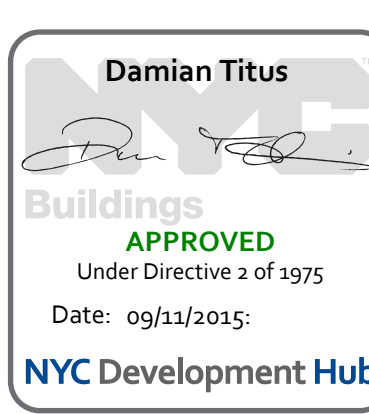


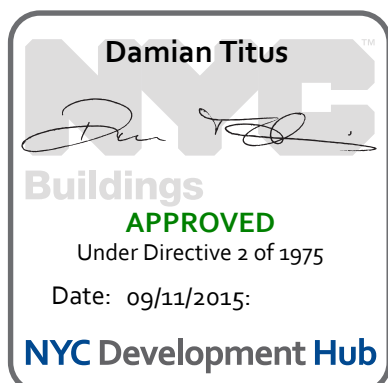
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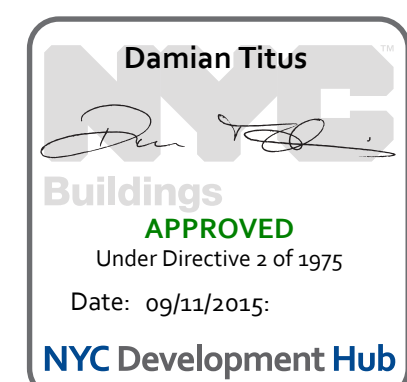
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**MECHANICAL
LEVEL
29 FLOOR
PLAN - MID-RISE
OVERRUN**

Project No:
14830.A.000
Date:
20 JUN 2014
Scale:
1/8"=1'-0"
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M-129
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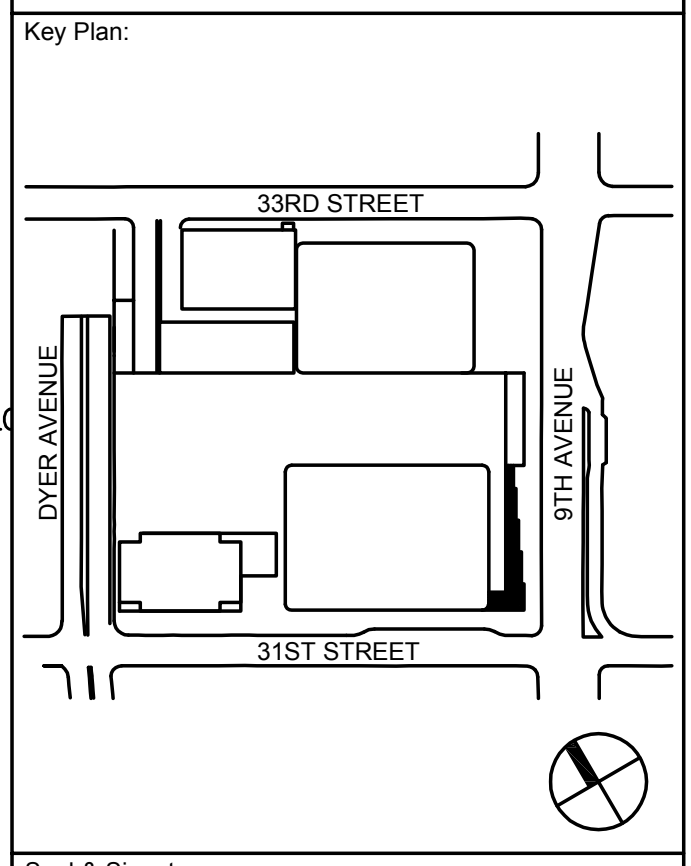
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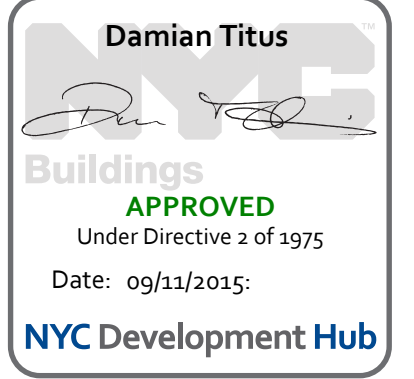
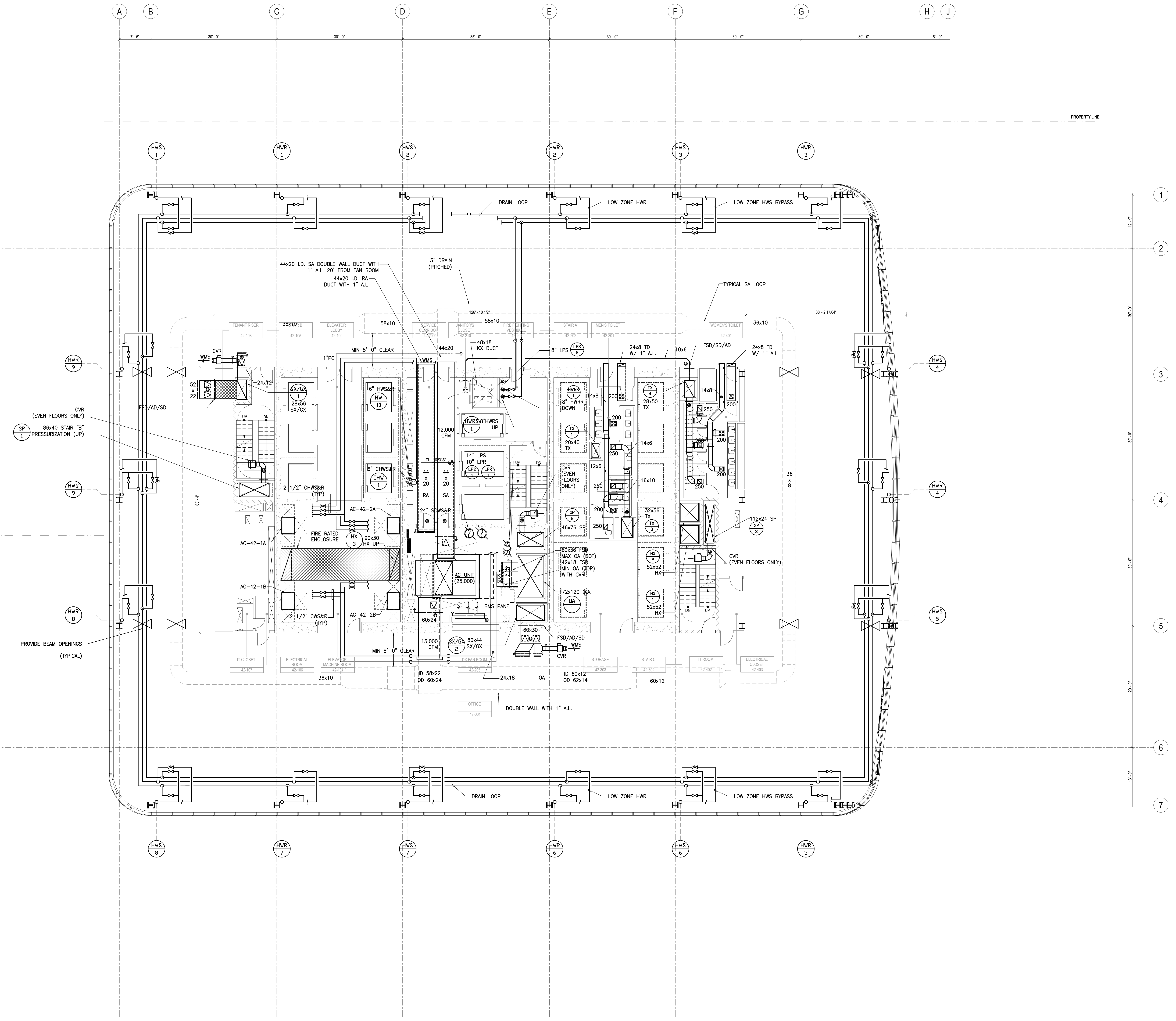


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**MECHANICAL
LEVEL
42 FLOOR
PLAN - MID-RISE
EMR**

Project No:
14830.A.000
Date:
20 JUN 2014
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1/8"=1'-0"
File No.:
B-SCAN Sheet No.:
M-142.00
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M-142
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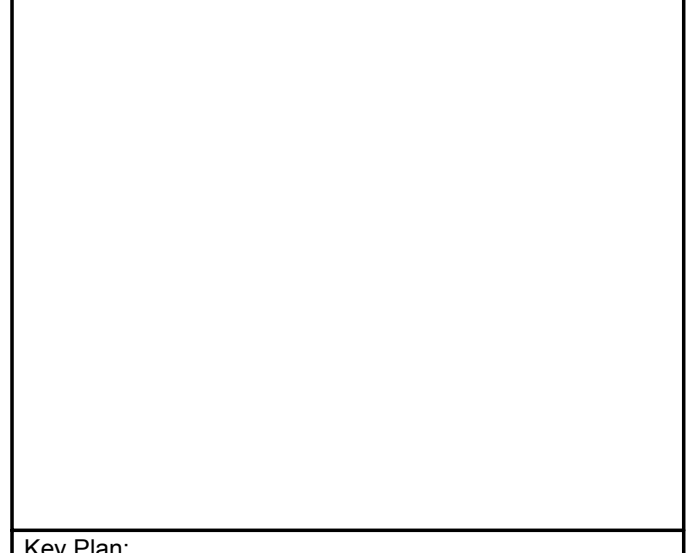
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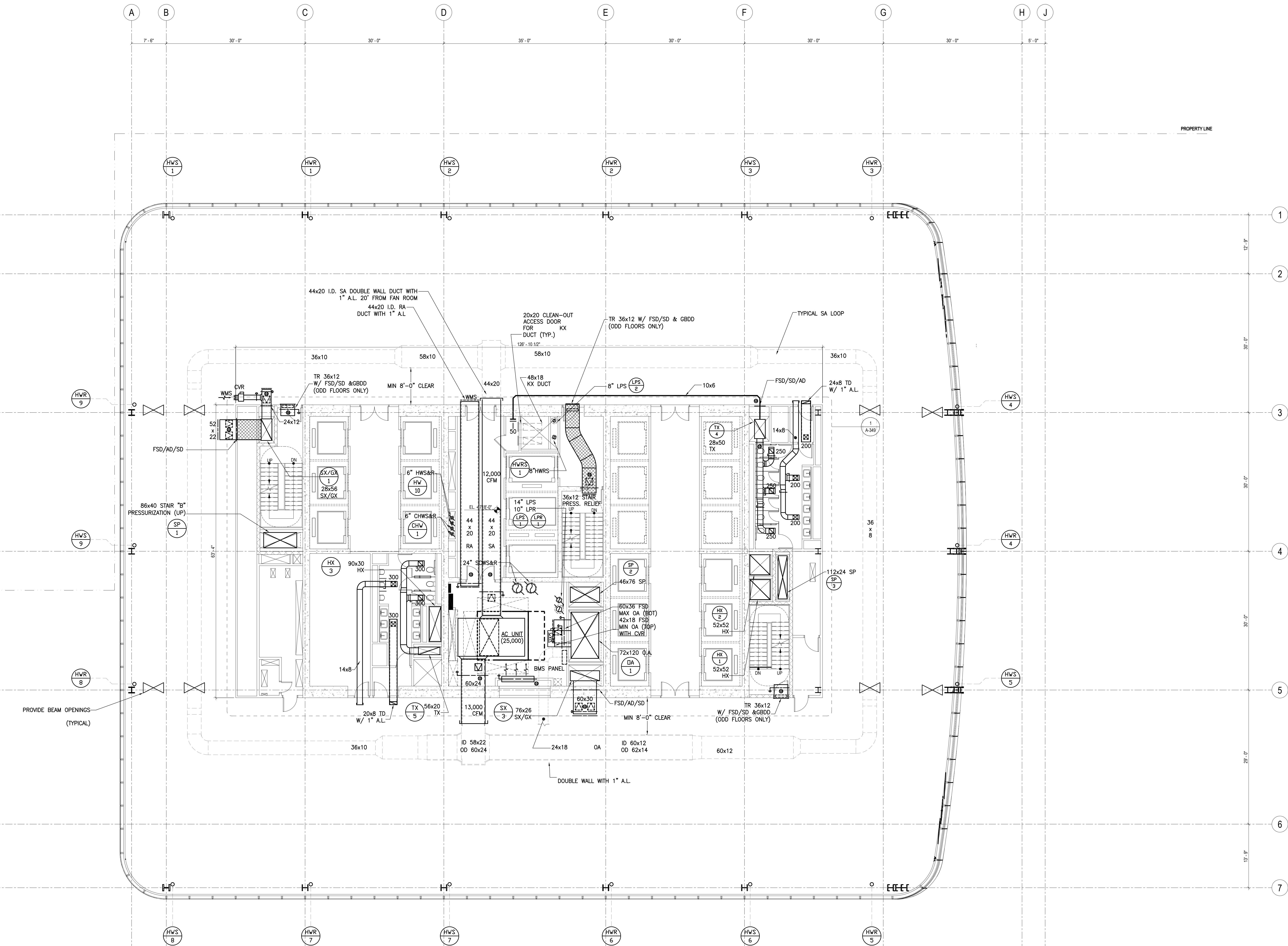
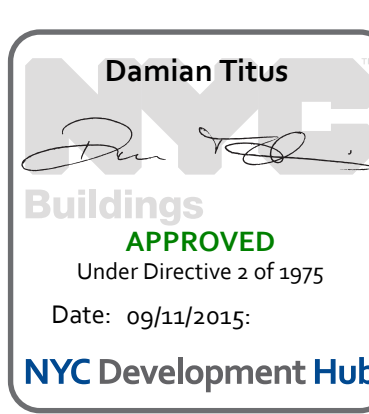
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Date: 20 JUN 2014
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MECHANICAL
LEVEL 49
FLOOR
PLAN - MID-RISE &
HIGH RISE





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Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610,
New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

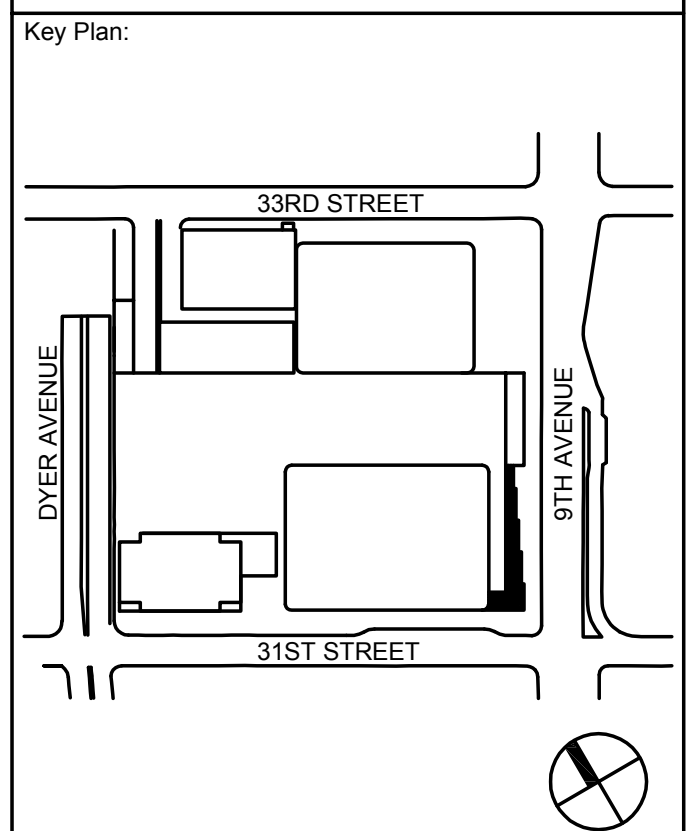
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

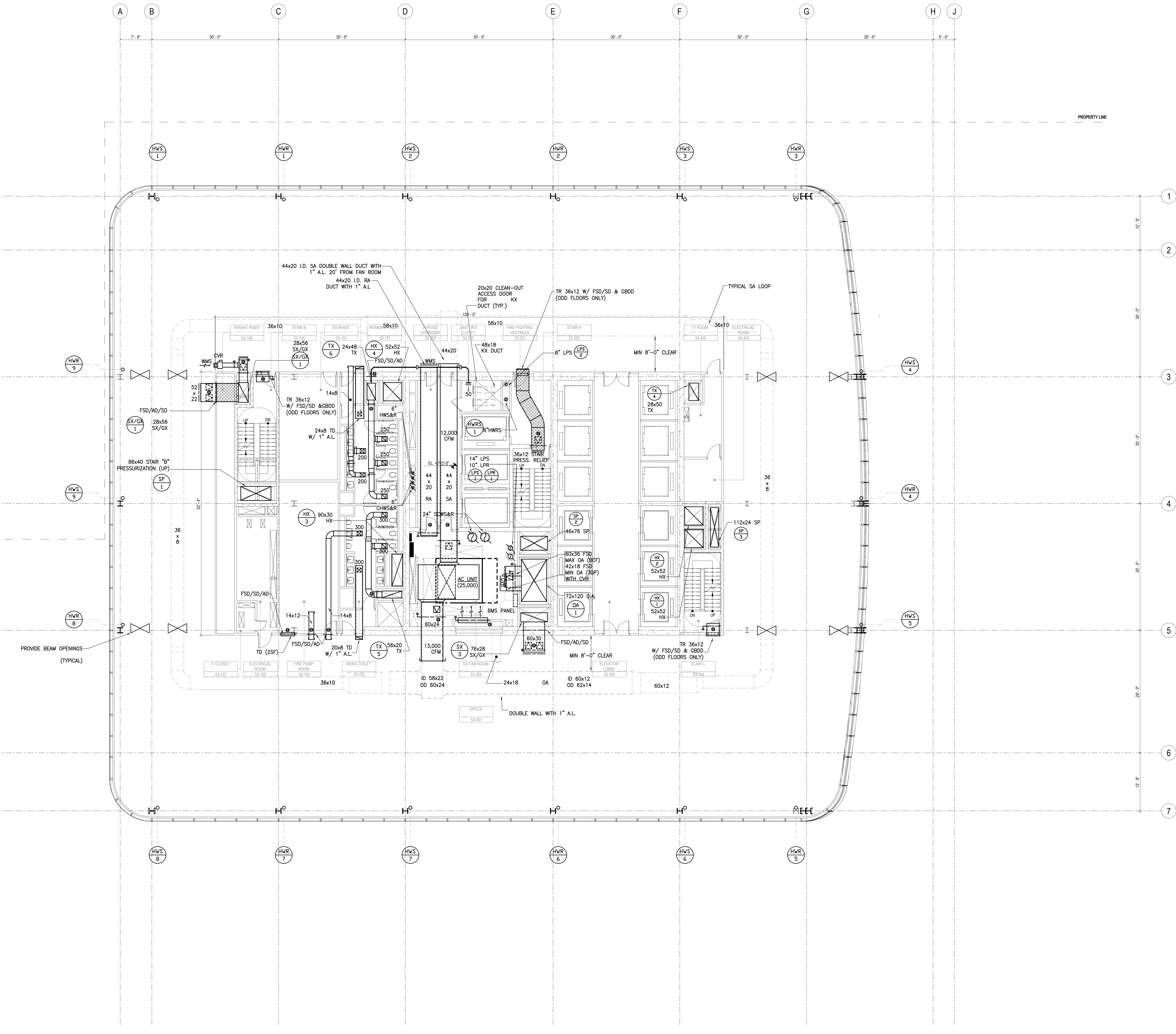
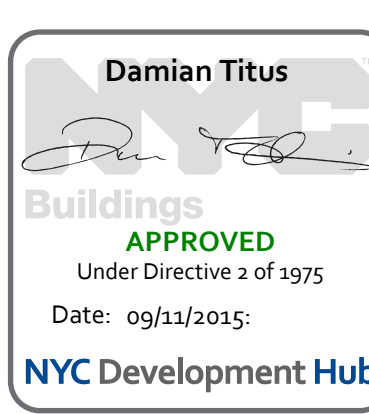


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| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 13 NOV 2013 | ISSUED FOR DD PROJECTS PERMITTING |
| 4 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 5 | 13 MAR 2013 | ISSUED FOR RECONFIGURATION |
| No. | Date | Description |
| Sheet Name: | | |

**MECHANICAL
LEVEL 53
FLOOR
PLAN - HIGH RISE
PUMP ROOM**

Project No:
14830.A.000
Date:
20 JUN 2014
Scale:
1/8"=1'-0"
File No.:
B-SCAN Sheet No.:
M-153.00
Sheet No.:
M-153
Page No.:





MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client
Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering

SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave. Suite 1, Mill Valley, California 94941

Sustainable Design
Viridian Energy & Environmental
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Mueser Rutledge Consulting Engineers
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Landscape Consultant
Field Operations
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Security Consultant
Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

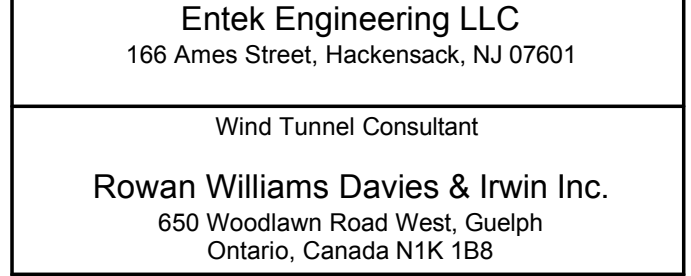
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

Key Plan:



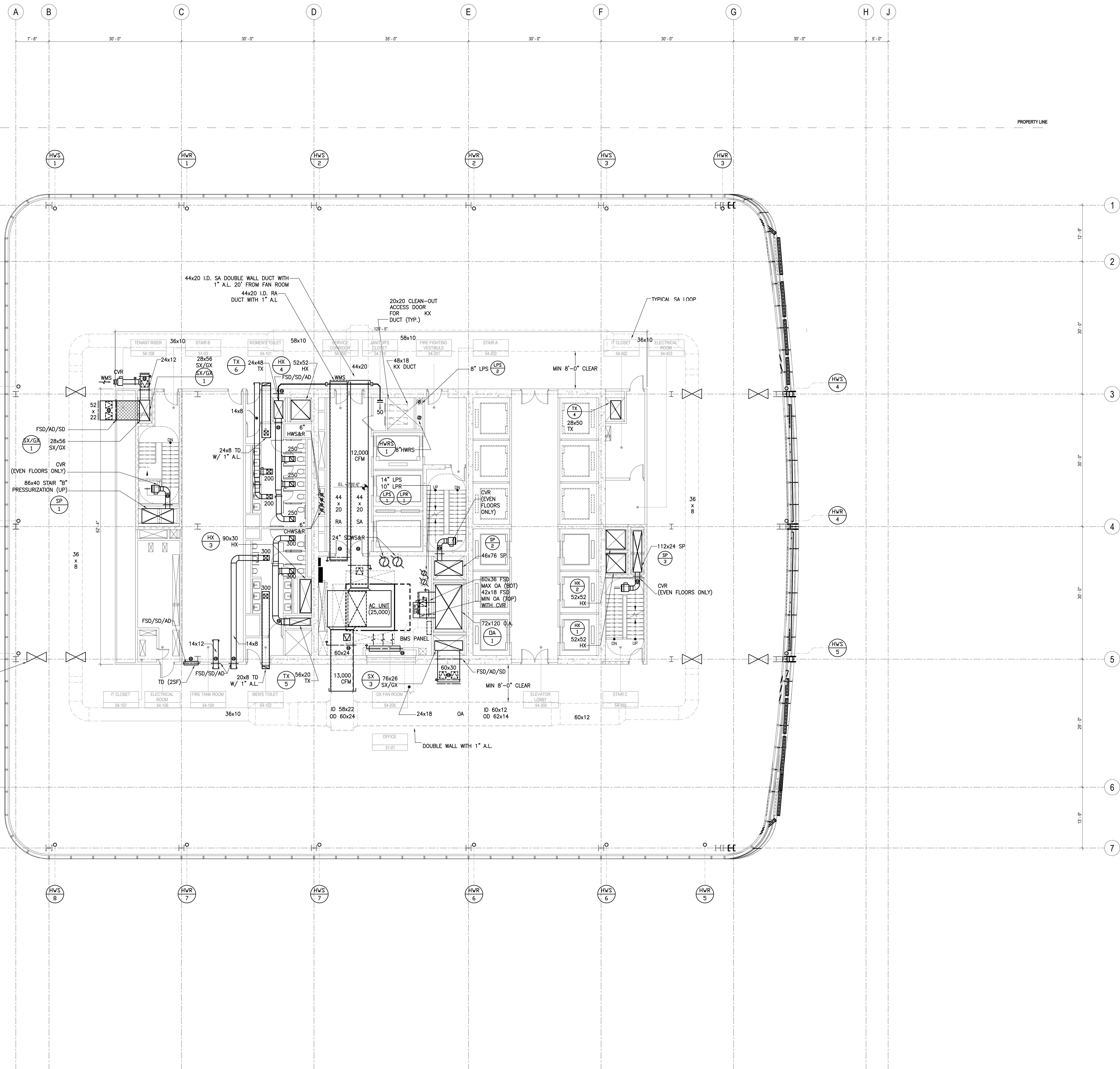
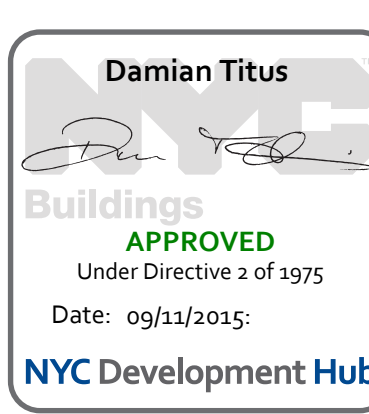
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Project No.: 14830.A.000
Date: 20 JUN 2014
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MECHANICAL
LEVEL 54
FLOOR
PLAN - HIGH RISE
WATER TANK



PROVIDE BEAM OPENINGS
(TYPICAL)

PROPERTY LINE

1
2
3
4
5
6
7

A B C D E F G H J
7'-6" 30'-0" 30'-0" 30'-0" 30'-0" 30'-0" 30'-0" 5'-0"



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client
Brookfield

Brookfield Place
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Architecture/Structural Engineering
SOM

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Civil Engineering
Philip Habib & Associates
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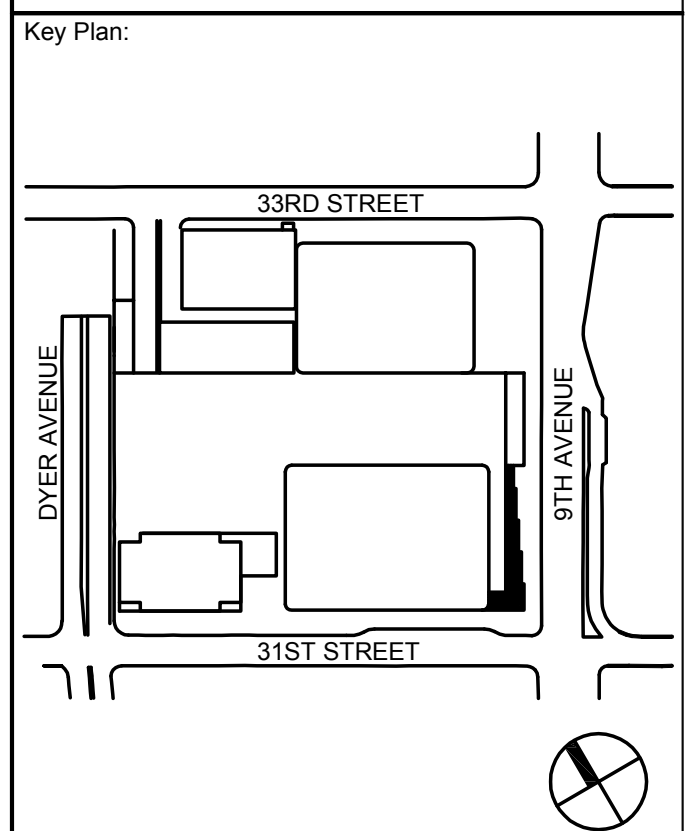
Acoustical Consultant
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| 5 | 13 MAR 2010 | ISSUED FOR RECONFIGURATION |

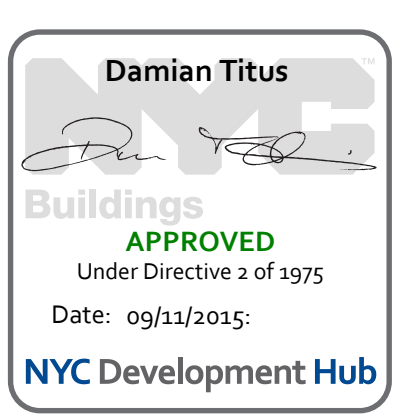
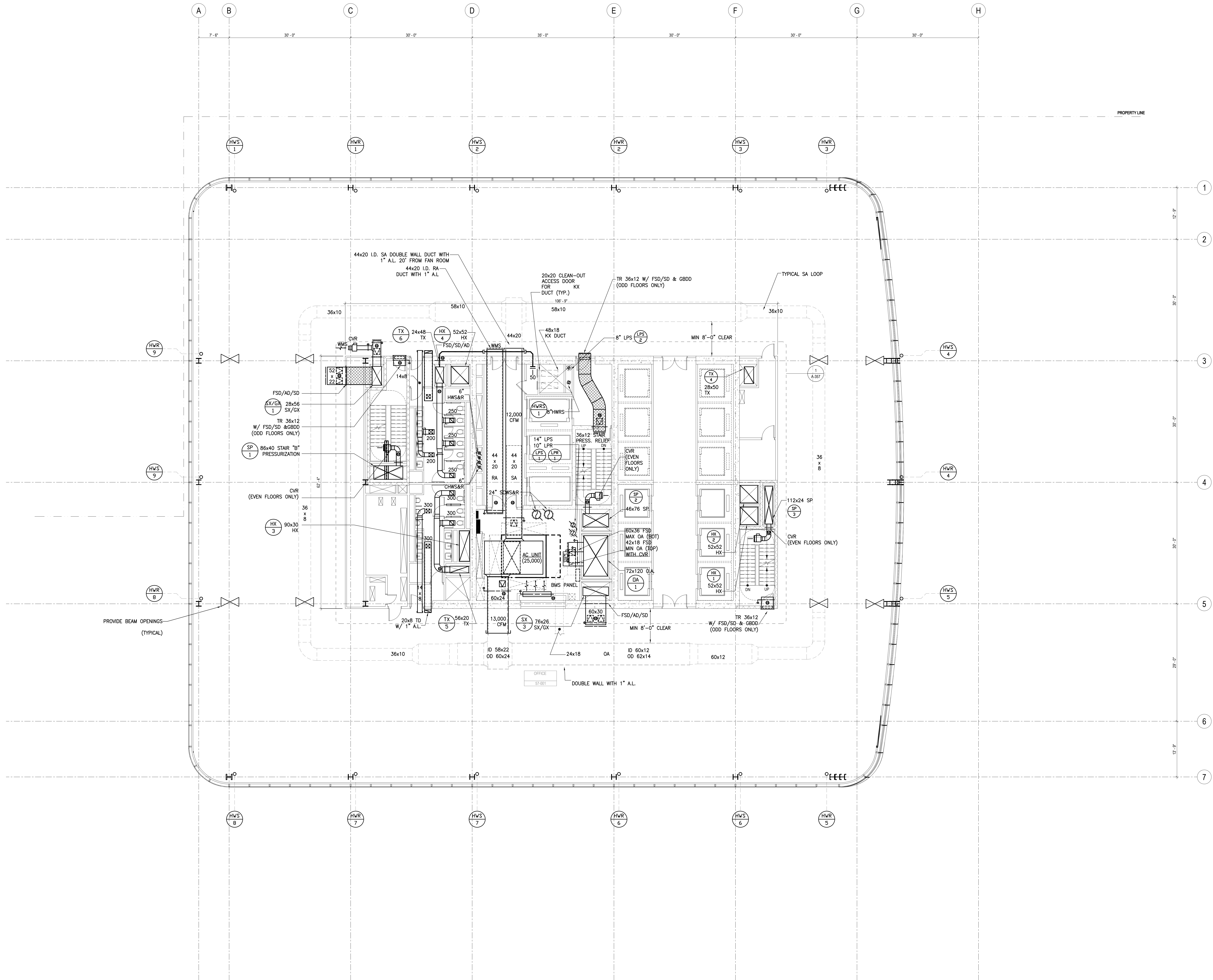
MECHANICAL
LEVEL 57-58
FLOOR
PLAN - TYPICAL
HIGH RISE

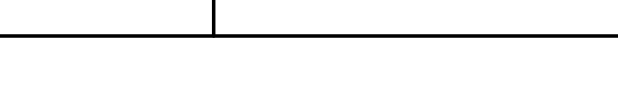
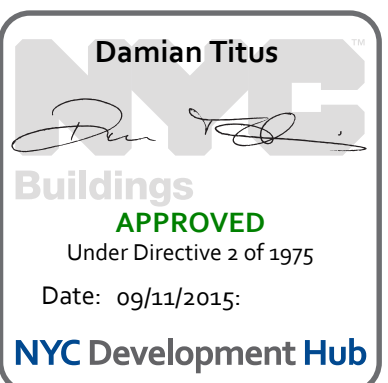
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File No.:

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NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client
Brookfield

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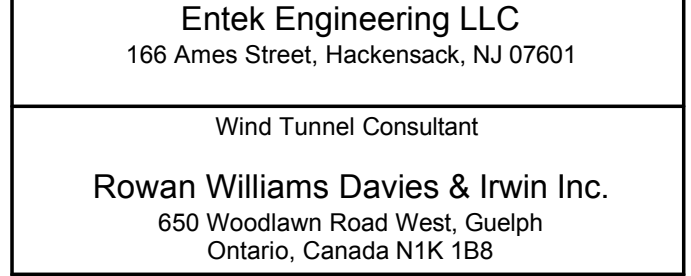
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Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

Key Plan:



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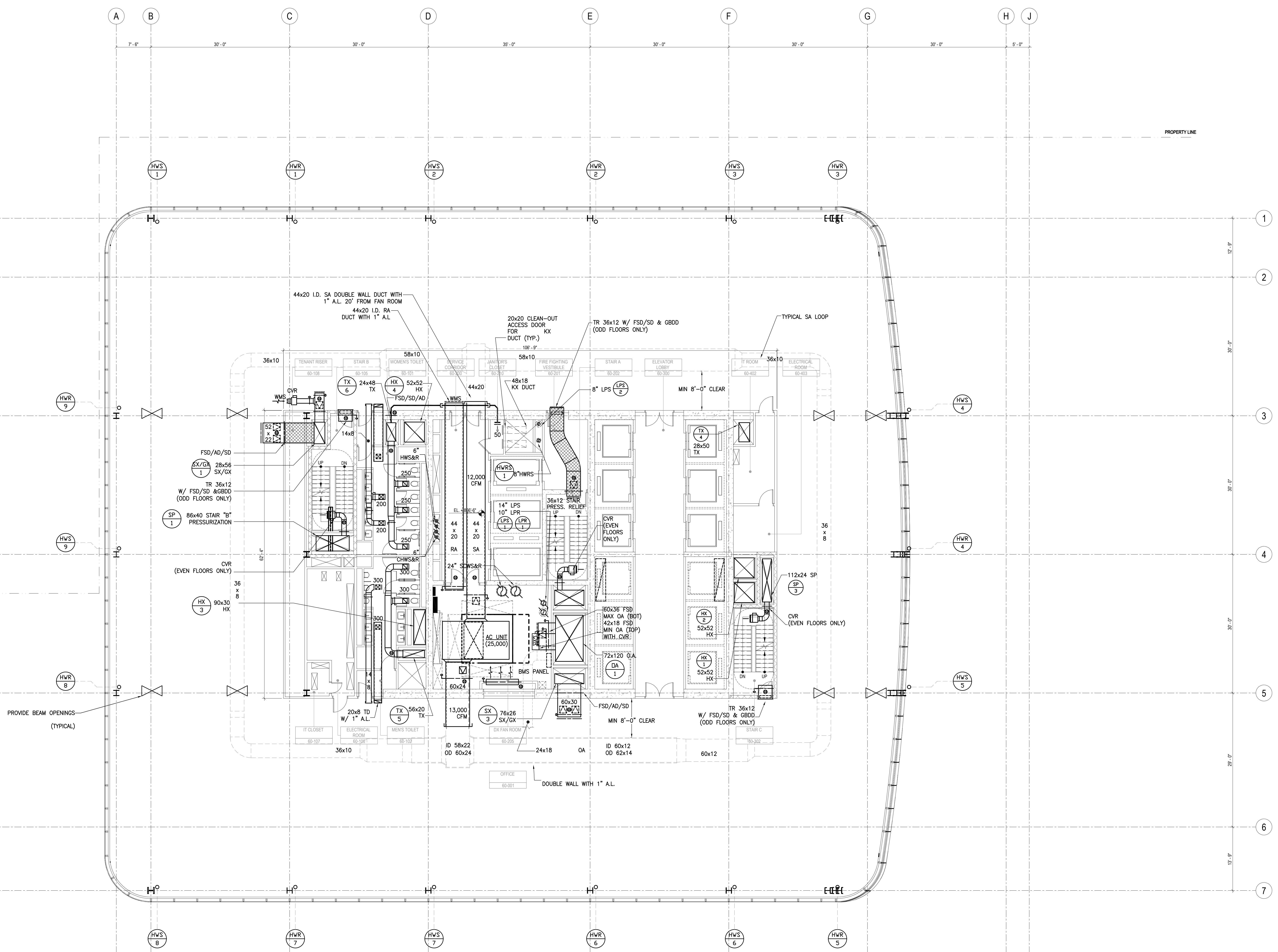
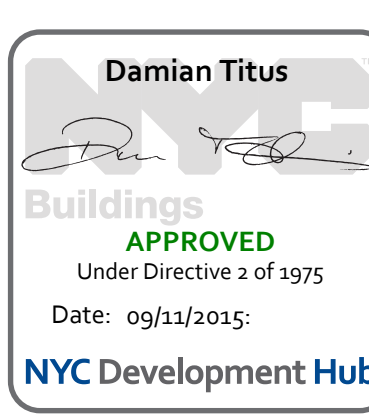


Project No.: 14830.A.000
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Sheet Name: MECHANICAL
LEVEL 60-61
FLOOR PLAN -
HIGH RISE
OVERRUN

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Date: 20 JUN 2014
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SHEET NOTES



MANHATTAN WEST:
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Client

Brookfield

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250 Vesey Street, 15th Floor, New York, NY 10021

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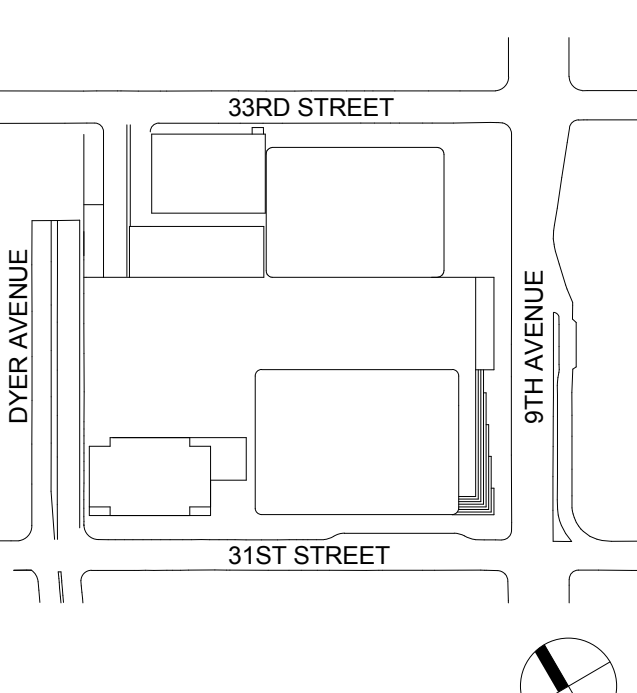
Facade Maintenance Consultant

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166 Ames Street, Hackensack, NJ 07601

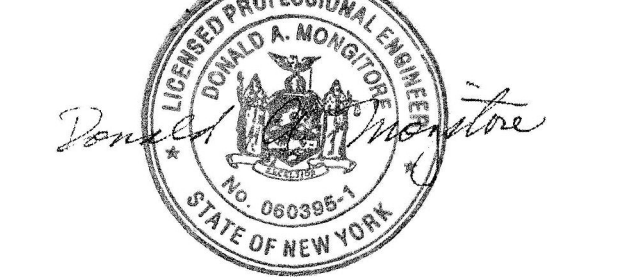
Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
680 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature



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| 3 | 15 NOV 2013 | ISSUED FOR SD PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR REDESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

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Sheet Name:

**MECHANICAL
LEVEL 68 FLOOR
PLAN -
MECHANICAL**

Project No.: 14830 A.000

Date: 20 JUN 2014

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

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BUILDING DEPARTMENT NOTE:
THIS PLAN IS APPROVED ONLY FOR WORK INDICATED ON THE
APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS
SHOWN ARE NOT TO BE RELIED UPON OR TO BE
CONSIDERED AS EITHER BEING APPROVED OR IN
ACCORDANCE WITH APPLICABLE CODES.

Project No.: 14830 A.000

Date: 20 JUN 2014

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**MECHANICAL
LEVEL 68 FLOOR
PLAN -
MECHANICAL**

Project No.: 14830 A.000
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PLAN -
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MECHANICAL**

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**MECHANICAL
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MECHANICAL**

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Project No.: 14830 A.000
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Scale: 1/8" = 1'-0"
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**MECHANICAL
LEVEL 68 FLOOR
PLAN -
MECHANICAL**

Project No.: 14830 A.000
Date: 20 JUN 2014
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**MECHANICAL
LEVEL 68 FLOOR
PLAN -
MECHANICAL**

Project No.: 14830 A.000
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**MECHANICAL
LEVEL 68 FLOOR
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MECHANICAL**

Project No.: 14830 A.000
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**MECHANICAL
LEVEL 68 FLOOR
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MECHANICAL**

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**MECHANICAL
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**MECHANICAL
LEVEL 68 FLOOR
PLAN -
MECHANICAL**

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**MECHANICAL
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LEVEL 68 FLOOR
PLAN -
MECHANICAL**

Project No.: 14830 A.000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: M-168
Page No.: 44 OF 77

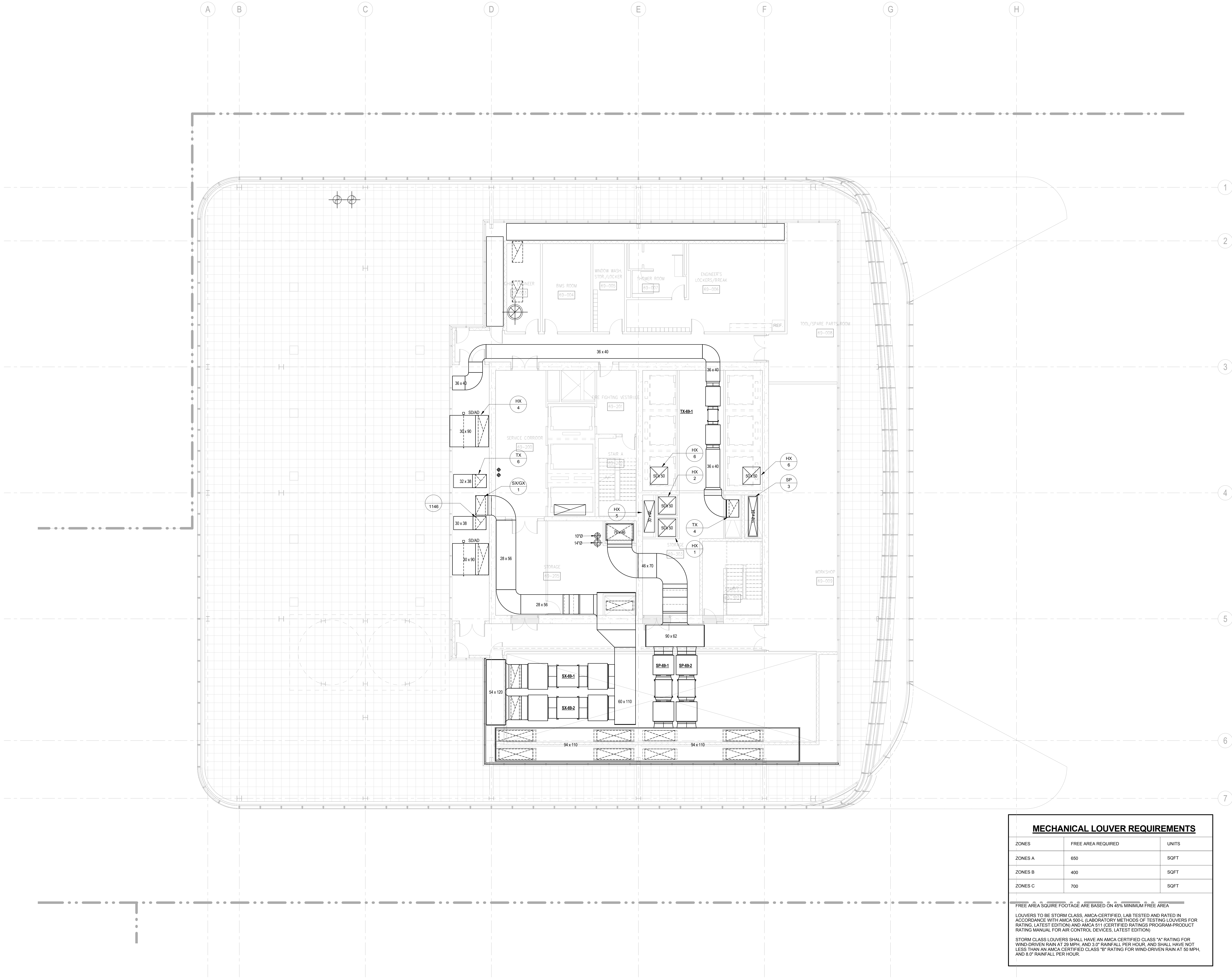
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LEVEL 68 FLOOR
PLAN -
MECHANICAL**

Project No.: 14830 A.000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: M-168
Page No.: 44 OF 77

**MECHANICAL
LEVEL 68 FLOOR
PLAN -
MECHANICAL**

Project No.: 14830 A.000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: M-168
Page No.: 44 OF 77

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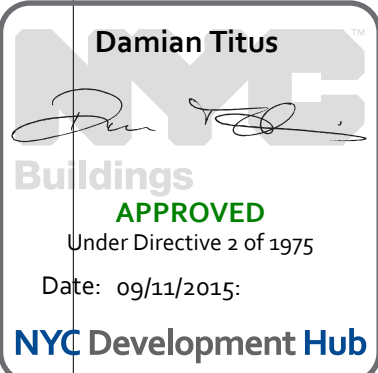
| MECHANICAL LOUVER REQUIREMENTS | | |
|--------------------------------|--------------------|-------|
| ZONES | FREE AREA REQUIRED | UNITS |
| ZONES A | 650 | SQFT |
| ZONES B | 400 | SQFT |
| ZONES C | 700 | SQFT |

FREE AREA SQUIRE FOOTAGE ARE BASED ON 45% MINIMUM FREE AREA

LOUVERS TO BE STORM CLASS, AMCA-CERTIFIED, LAB TESTED AND RATED IN ACCORDANCE WITH AMCA 500-L (LABORATORY METHODS OF TESTING LOUVERS FOR RATING, LATEST EDITION) AND AMCA 511 (CERTIFIED RATINGS PROGRAM-PRODUCT RATING MANUAL FOR AIR CONTROL DEVICES, LATEST EDITION)

STORM CLASS LOUVERS SHALL HAVE AN AMCA CERTIFIED CLASS "A" RATING FOR WIND-DRIVEN RAIN AT 20 MPH, AND 3.0" RAINFALL PER HOUR, AND SHALL HAVE NOT LESS THAN AN AMCA-CERTIFIED CLASS "B" RATING FOR WIND-DRIVEN RAIN AT 50 MPH, AND 8.0" RAINFALL PER HOUR.

SHEET NOTES



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NORTH TOWER
375 Ninth Avenue, New York, NY 10001
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Brookfield
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Cerami & Associates
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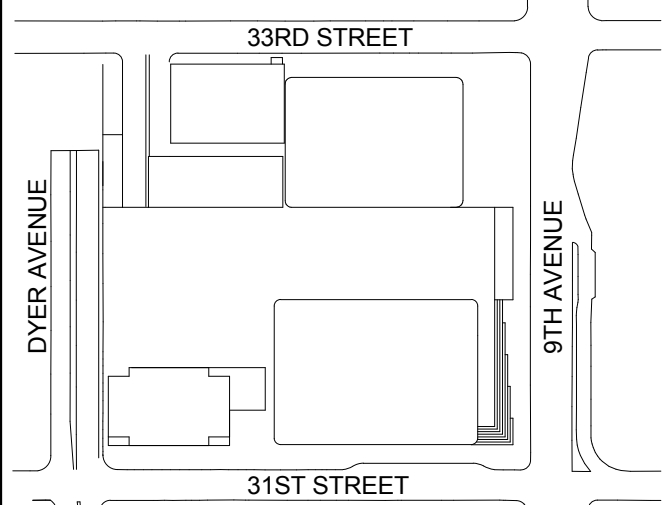
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

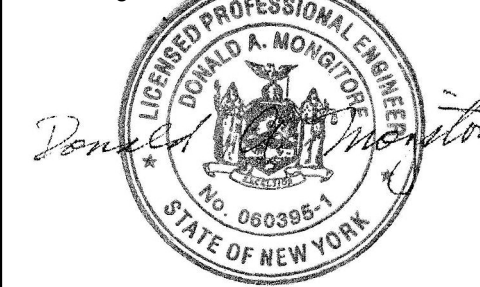
Facade Maintenance Consultant
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature

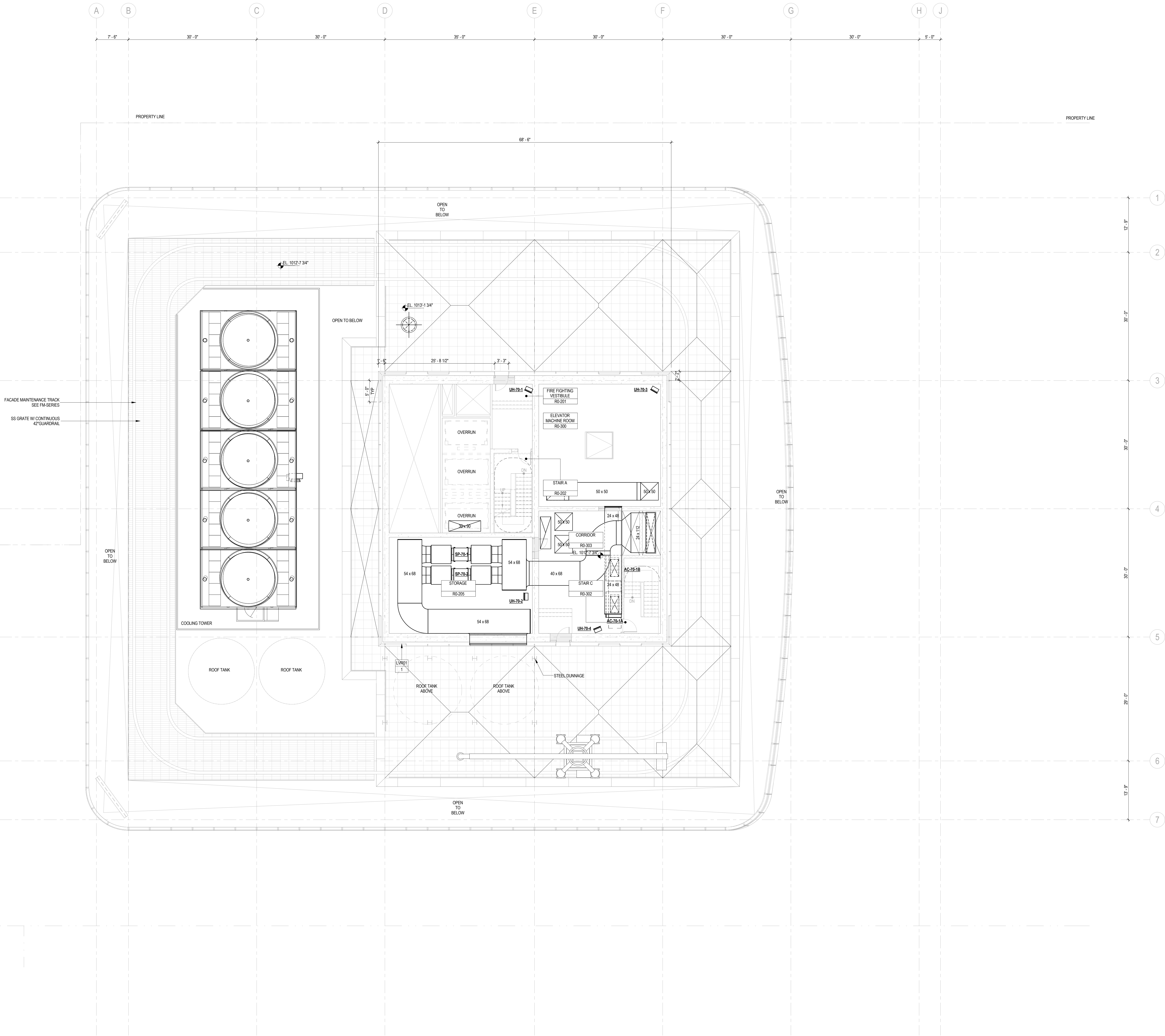


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| 2 | 12 JUL 2013 | ISSUED FOR REDESIGN DEVELOPMENT |
| 1 | 19 MAR 2012 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

MECHANICAL
LEVEL 69 FLOOR
PLAN -
MECHANICAL
MEZZANINE

Project No.: 14000 A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: M-169
B-SCAN Sheet No.:
M-169.00
Sheet No.:
M-169
Page No.: 45 OF 77



SHEET NOTES

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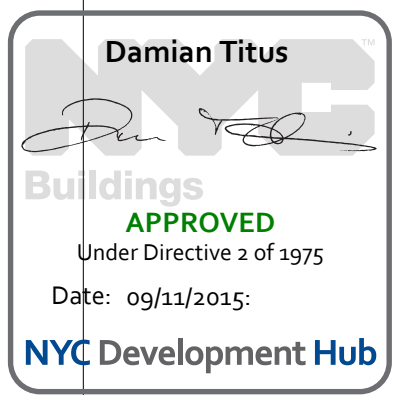
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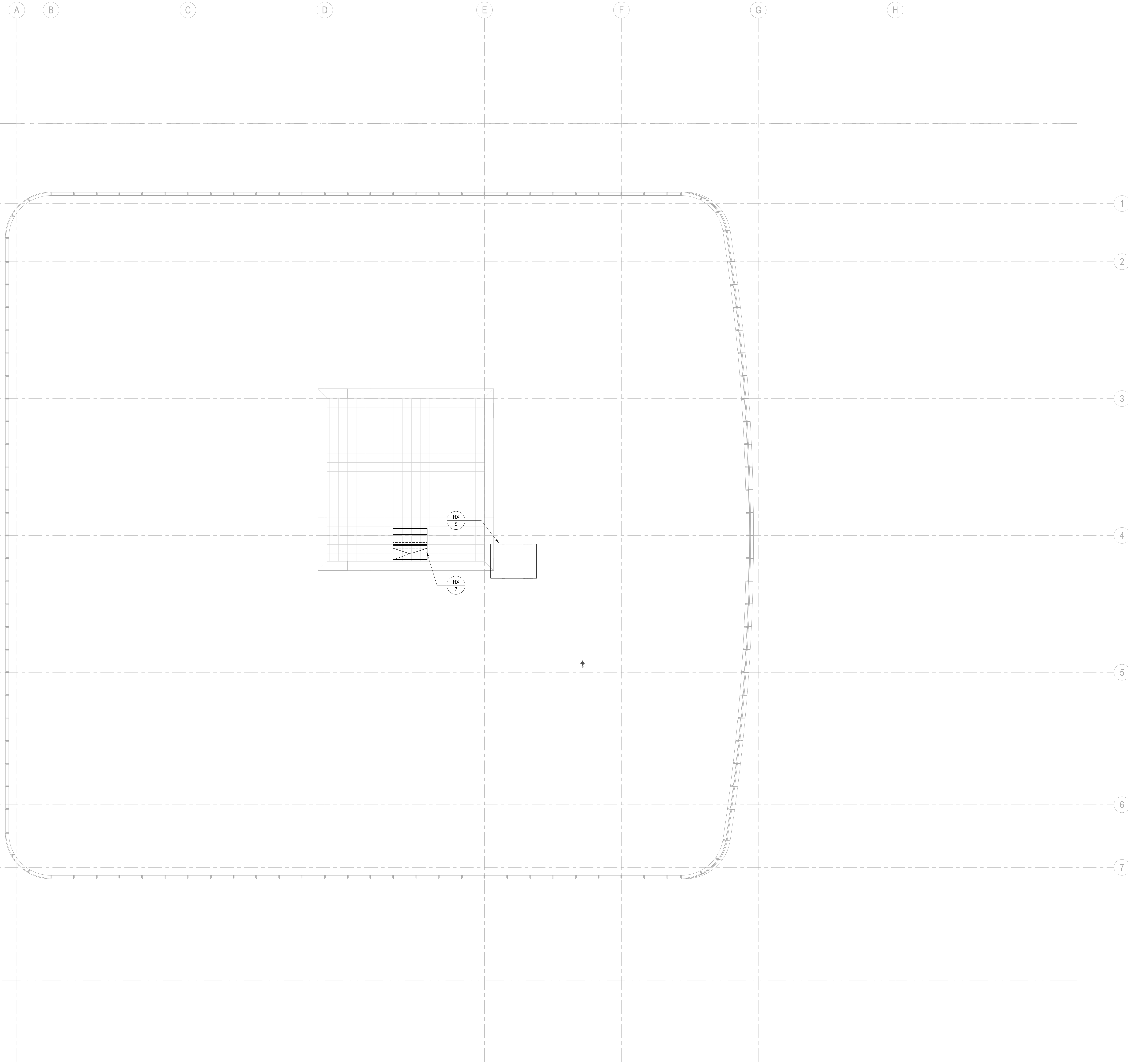
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**MECHANICAL
ROOF PLAN -
MECHANICAL
PENTHOUSE**

Project No.: 14830 A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: M-170
B-SCAN Sheet No.:
M-170.00
Sheet No.:
M-170
Page No.: 46 OF 77

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SHEET NOTES

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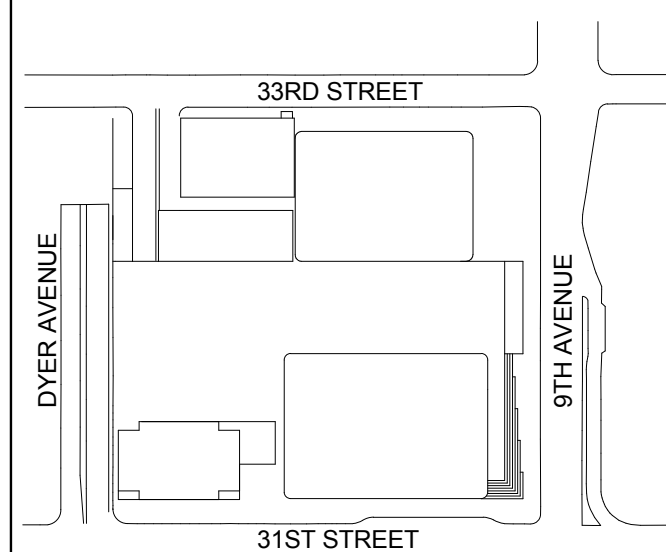
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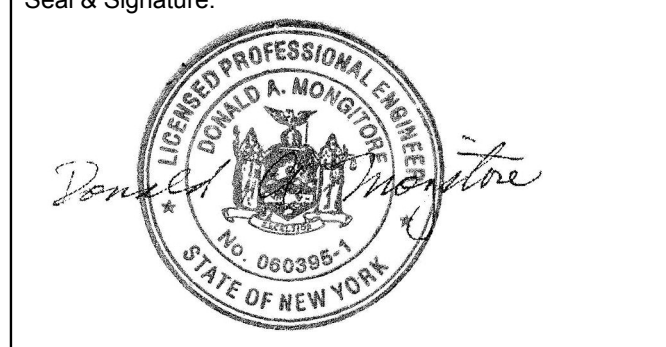
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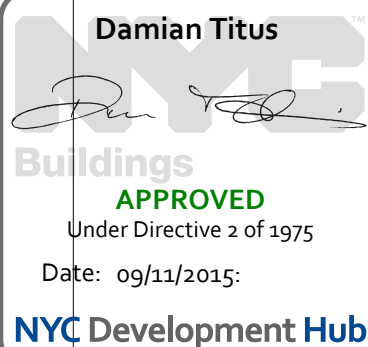
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**MECHANICAL
ROOF PLAN**

Project No.: 14830 A.000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: M-172
B-SCAN Sheet No.:
M-172.00
Sheet No.: M-172
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Code Consultant

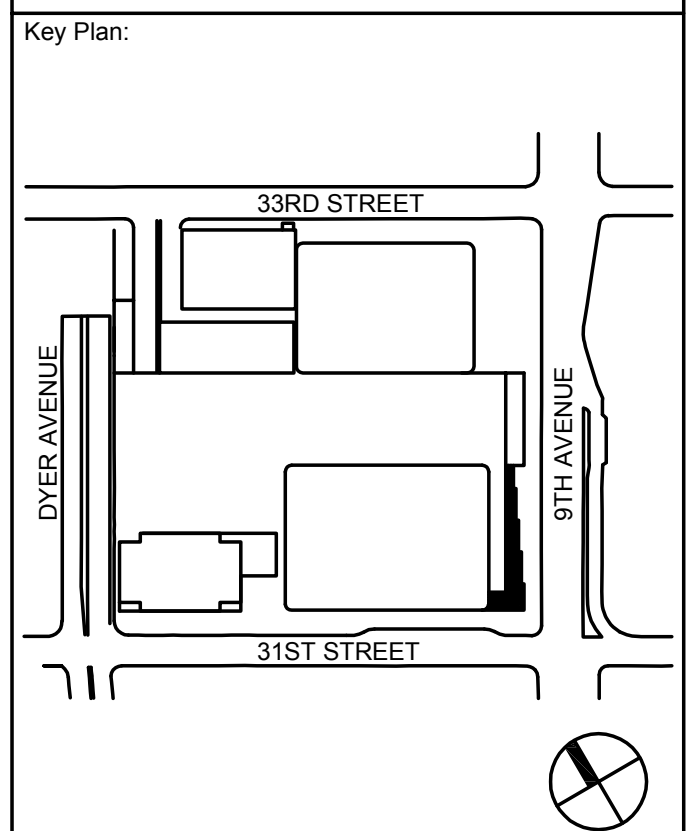
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Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

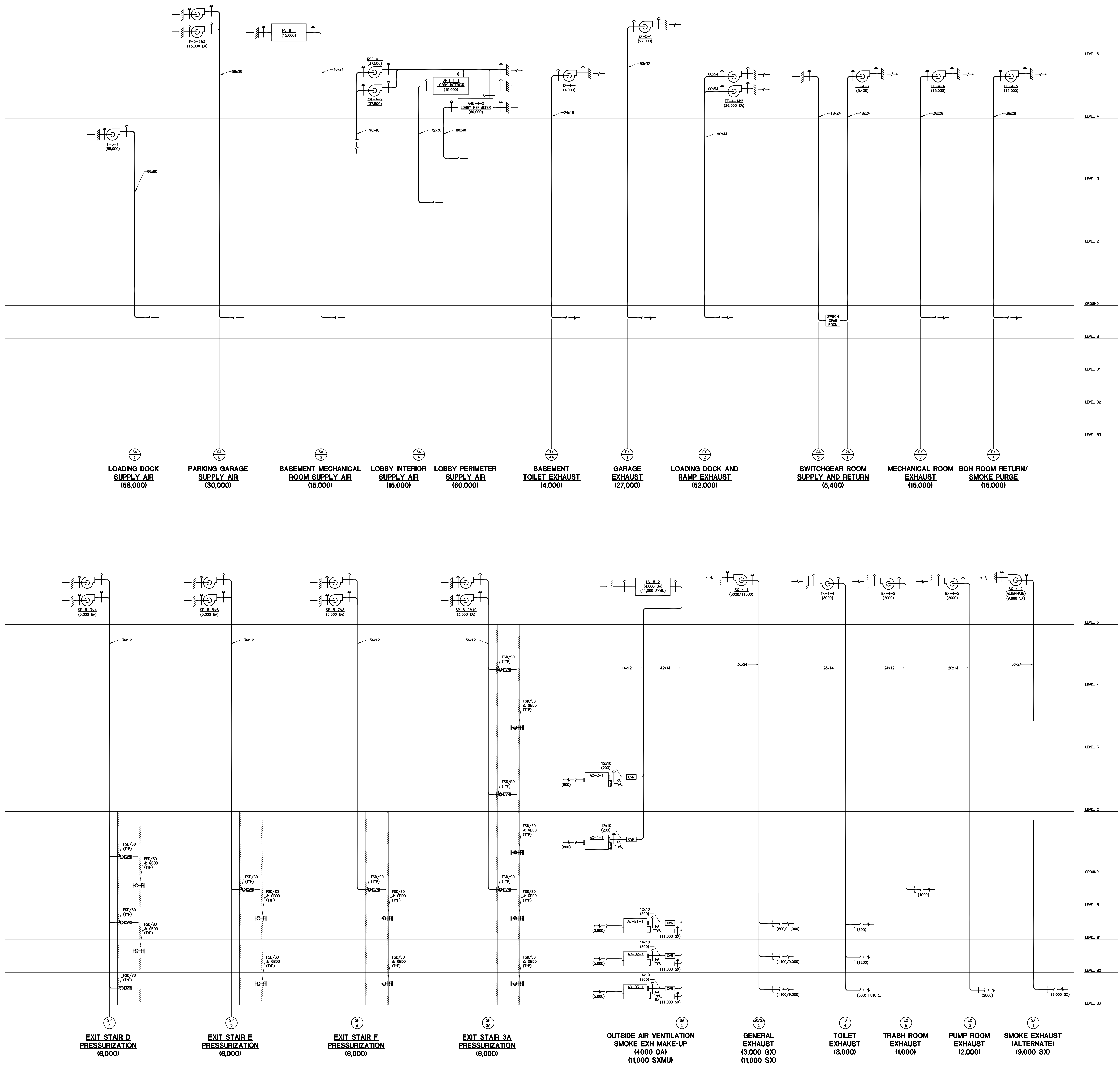
Rowan Williams Davies & Irwin Inc.
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| 3 | 13 NOV 2013 | ISSUED FOR DD PROJECT SUBMITTING |
| 4 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 5 | 13 MAR 2013 | ISSUED FOR RECONFIGURATION |

MECHANICAL
BASEMENT
AIR RISER
DIAGRAM





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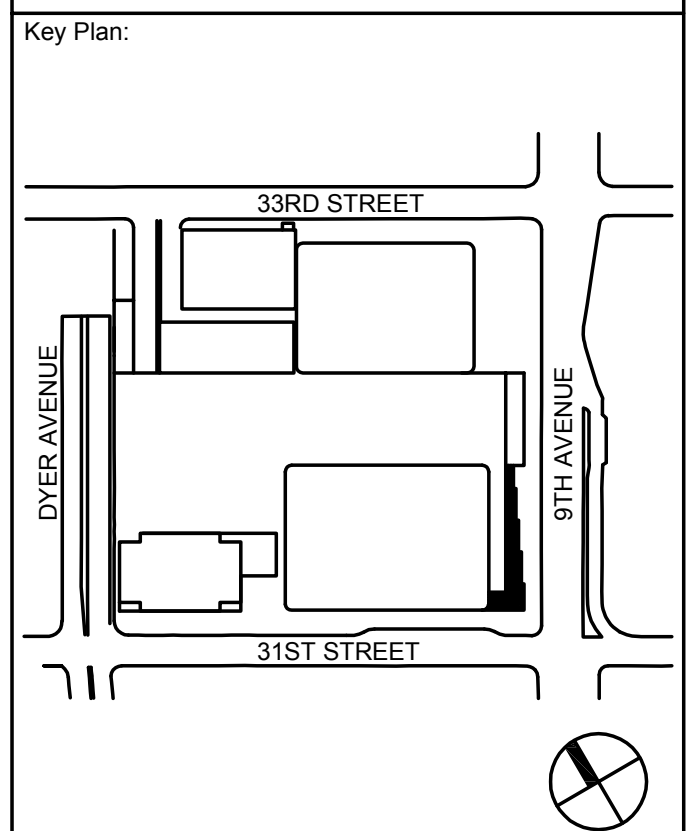
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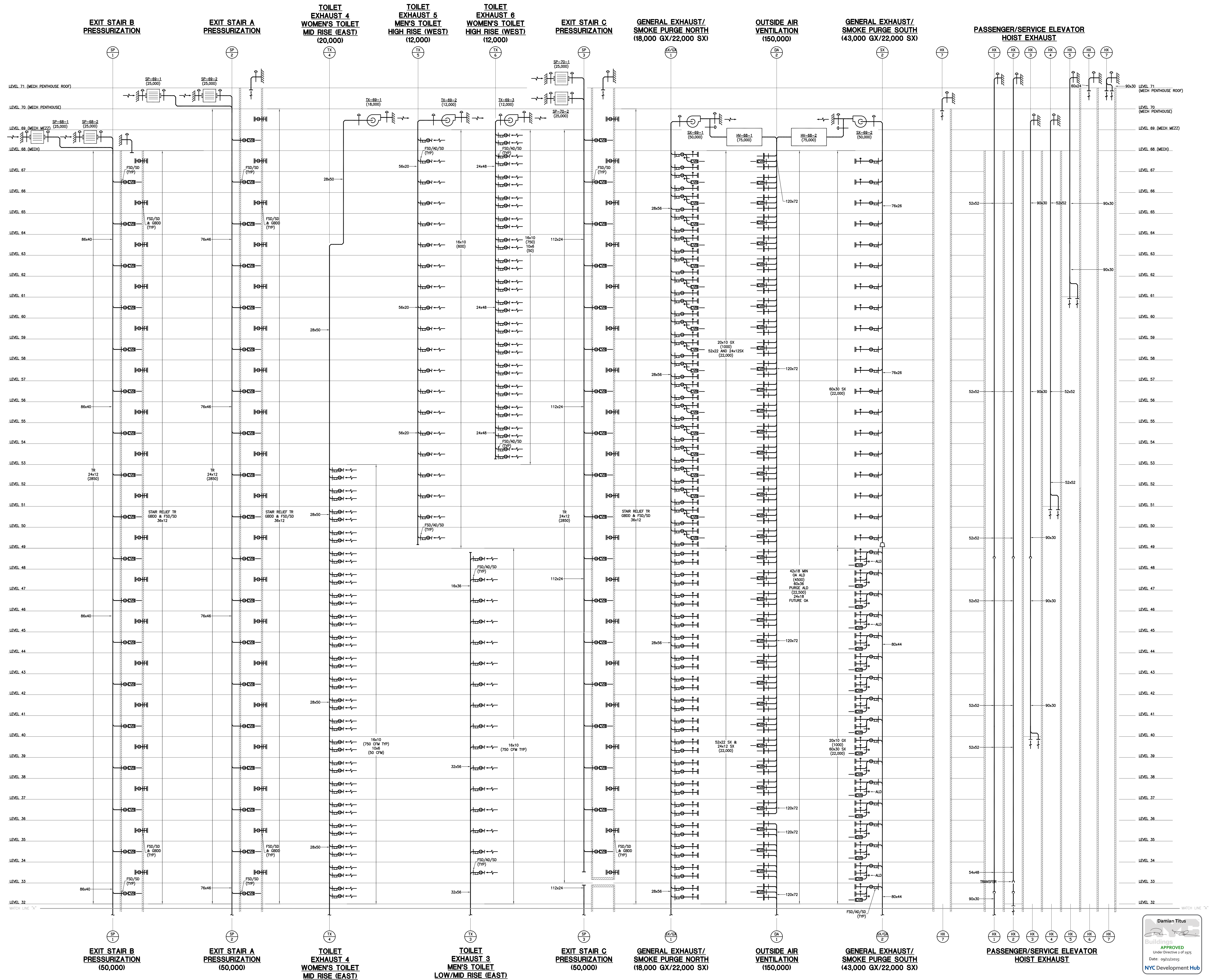
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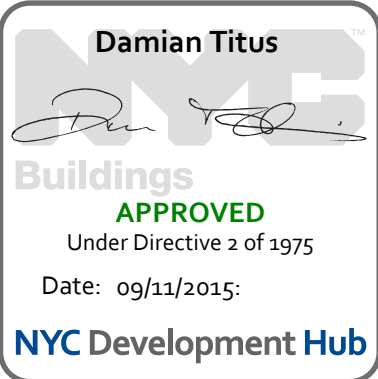
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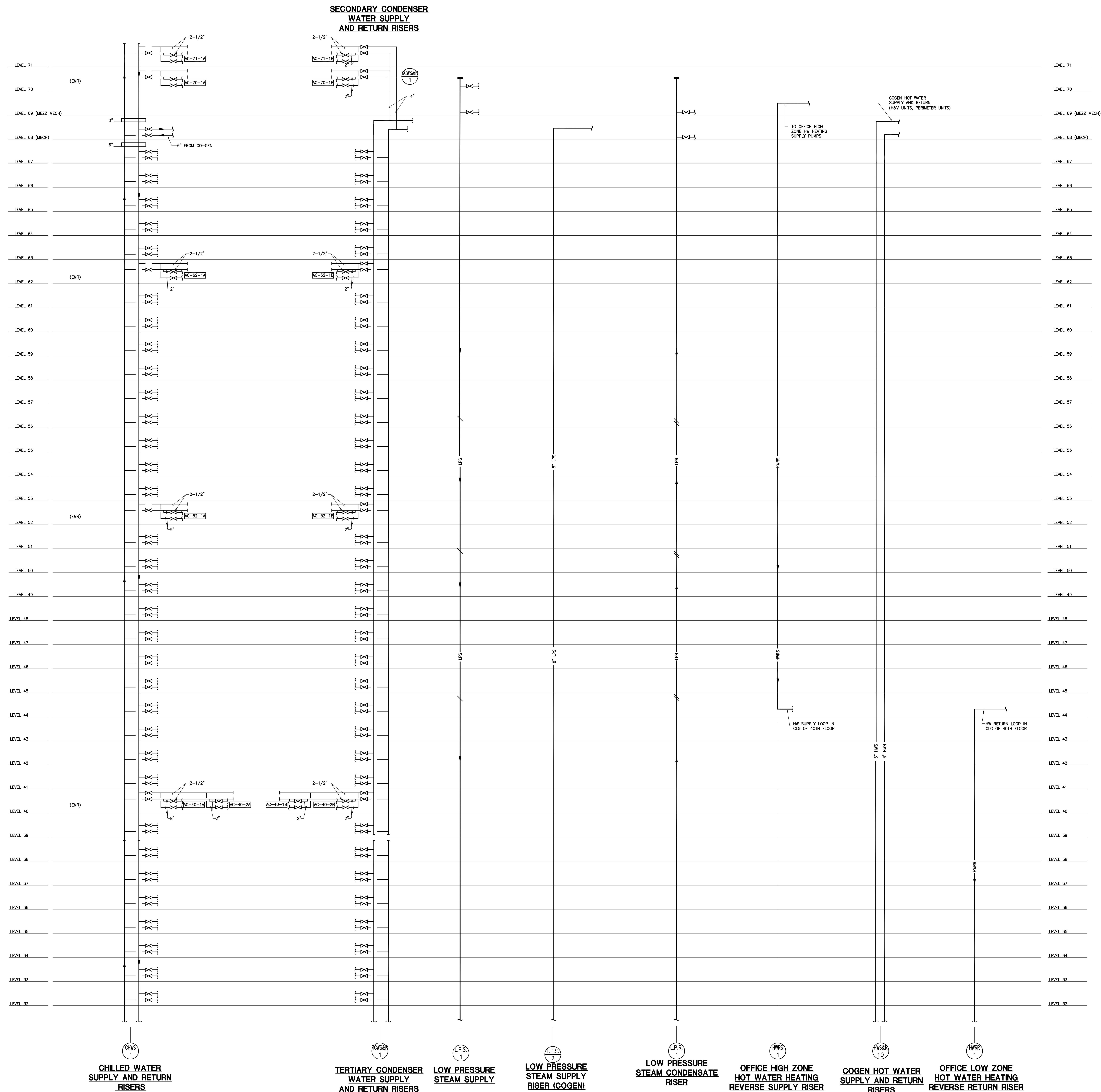
MECHANICAL HIGH-RISE AIR RISER DIAGRAM

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| Project No: 14830.A.000 | B-SCAN Sheet No.: M-402.00 |
| Date: 20 JUN 2014 | Sheet No.: M-402 |
| Scale: NTS | Page No.: 1 |
| File No.: 14830.A.000 | |



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Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub





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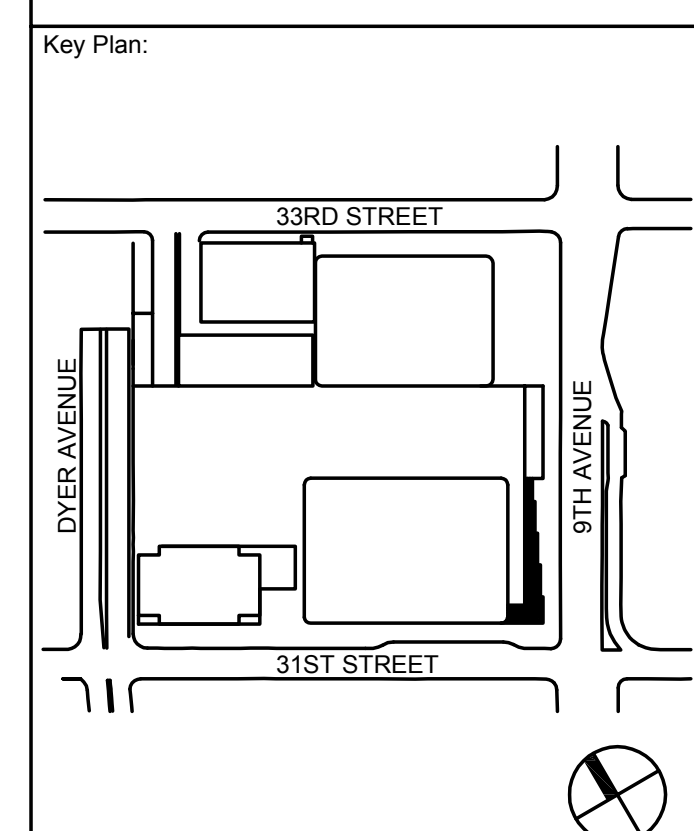
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Acade Maintenance Con

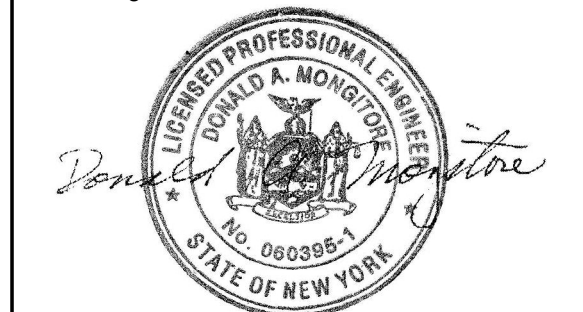
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Wind Tunnel Consultants

Rowan Williams Davies & Irwin Inc.



Seal & Signature

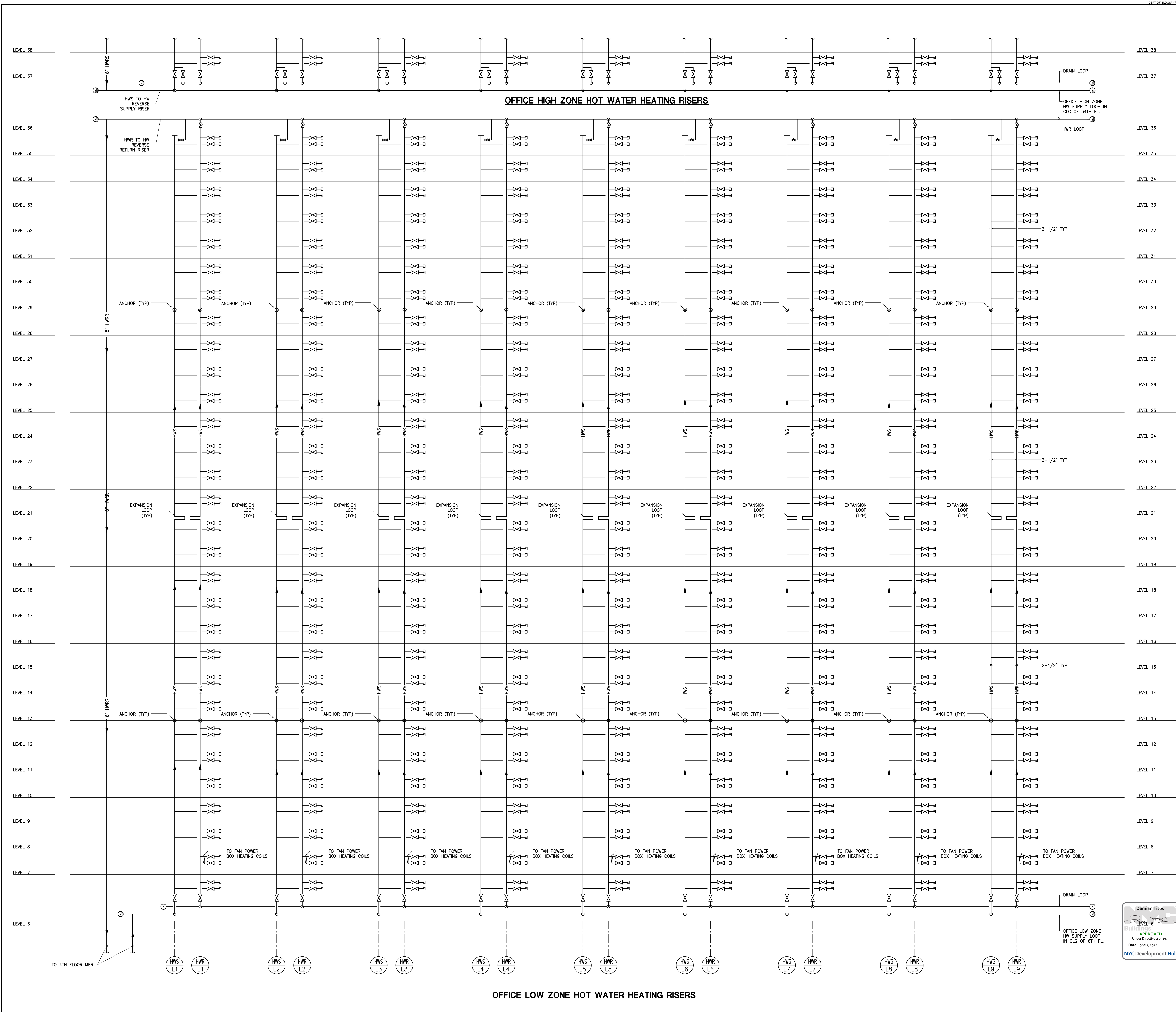



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| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR DD PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 1 | 15 MAR 2013 | ISSUED FOR RECONCILIATION |
| No. | Date | Description |
| Sheet Name: | | |

MECHANICAL
PIPING RISER
DIAGRAM
SHEET 2


| | |
|--------------|-------------|
| Project No.: | 14830.A.000 |
| Date: | 20 JUN 201 |
| Scale: | NTS |
| File No.: | |

SCAN Sheet No.:
M-404.00
Sheet No.:
M-404
Page No.:






**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client



Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering



Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation

Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave. Suite 1, Mill Valley, California 94941

Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

Geo-Technical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610,
New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Ventor & Santore
250 State Street #F1, North Haven, CT 06473

Blast Consultant

Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

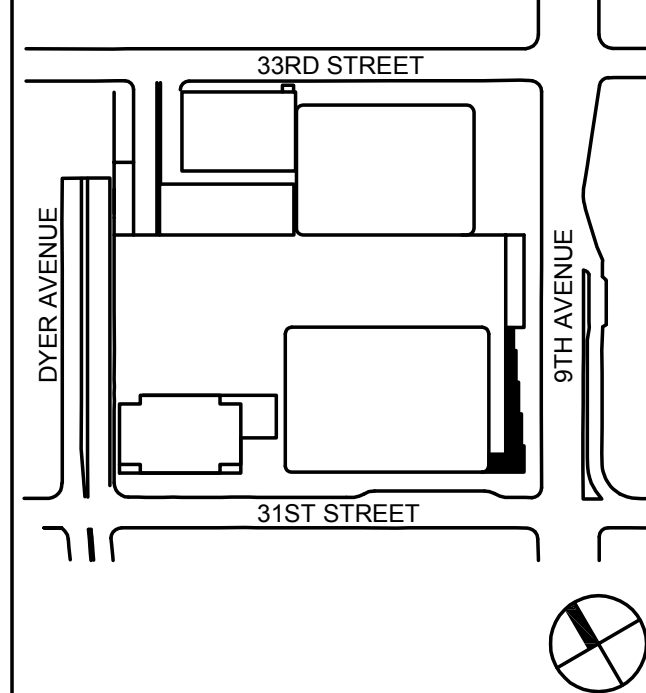
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601


Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

Key Plan:



Seal & Signature:



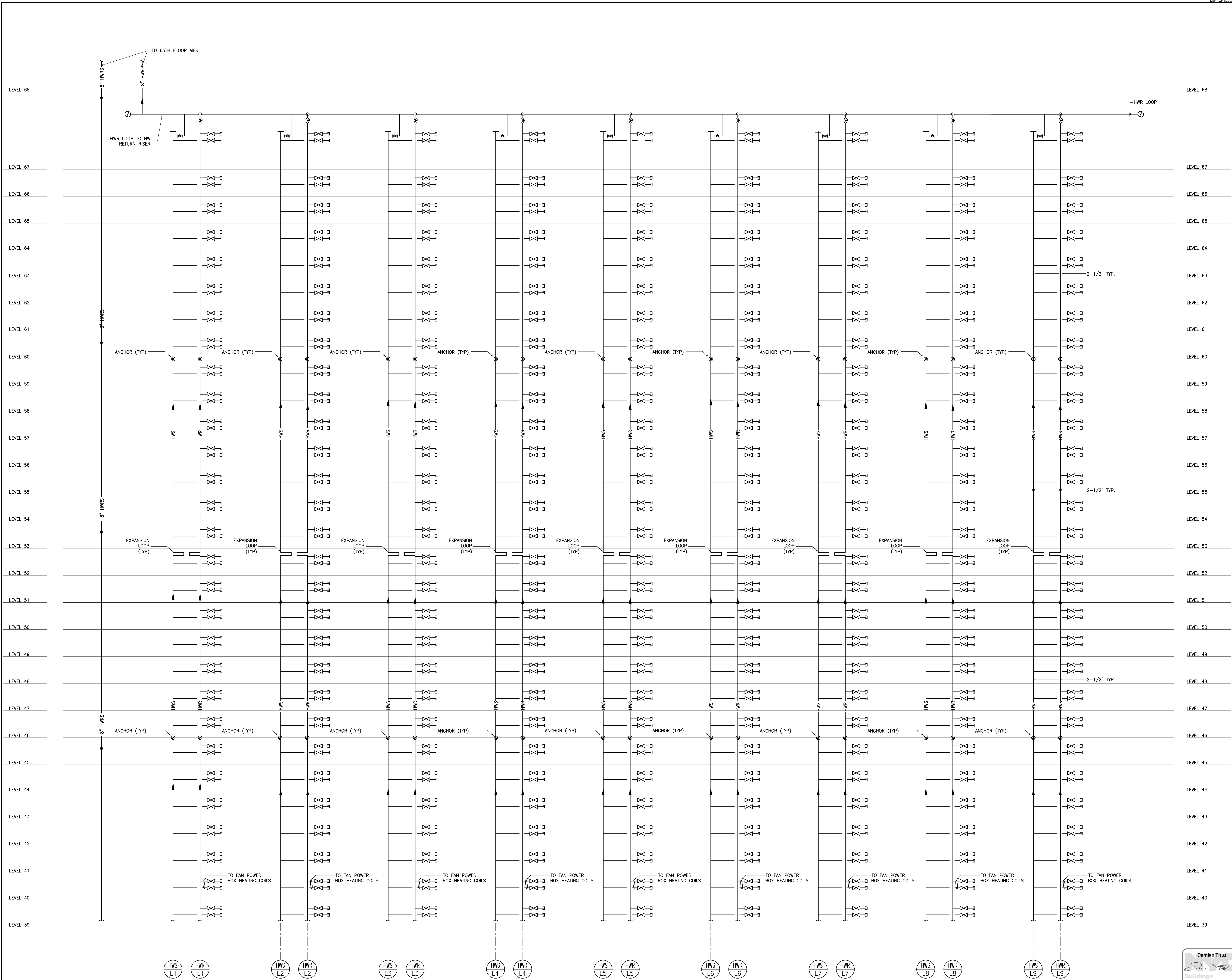
Seal & Signature of Damian Titus, Licensed Professional Engineer, State of New York

| No. | Date | Description |
|-----|-------------|-----------------------------------|
| 1 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 13 NOV 2013 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 5 | 14 MAR 2013 | ISSUED FOR RECONSTRUCTION |

Sheet Name:

**MECHANICAL
HOT WATER
RISER DIAGRAM
SHEET 1**

| | |
|----------------------------|-------------------------------|
| Project No: 14830.A.000 | B-SCAN Sheet No.: M-405.00 |
| Date: 20 JUN 2014 | Sheet No.: M-405 |
| Scale: NTS | Page No.: 1 |



OFFICE HIGH ZONE HOT WATER HEATING RISERS

Damian Titus
Buildings & Mechanical
APPROVED
Under Directive 2 of 1975
Date: 09/21/2015
NYC Development Hub

**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

Key Plan:

Seal & Signature:

| No. | Date | Description |
|-----|-------------|-----------------------------------|
| 1 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 13 NOV 2013 | ISSUED FOR 10% DESIGN DEVELOPMENT |
| 4 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 5 | 13 MAR 2013 | ISSUED FOR RECONFIGURATION |

MECHANICAL
HOT WATER
RISER DIAGRAM
SHEET 2

| Project No: | B-SCAN Sheet No.: |
|-------------|-------------------|
| 14830.A.000 | M-406.00 |
| Date: | Sheet No.: |
| 20 JUN 2014 | M-406 |
| Scale: | Page No.: |
| NTS | |
| File No.: | |

| RETURN, EXHAUST AND VENTILATION (SUPPLY) FANS | | | | | | | | | | | | | | | | | | | | | | | | (TWIN CITY FAN BLOWER) (UNLESS OTHERWISE NOTED) | | |
|---|-------------------------|--|--|------------------------------|-------------------------------|------------------------|-------------|------------|--------------|-----------------|----------------------------|------------------------------------|-------|--------|--------|-----------------|--------------|----------------|-------|-------|-------|-----------------------|--------------------------------------|--|-------|---|
| FAN NO. | LOCATION | SERVICE | CFM | STATIC PRESS (INCHES H2O) | MAX. OUTLET VELOCITY (FPM) | DISCHARGE DIRECTION | ARRANGEMENT | FAN R.P.M. | FAN ROTATION | WIDTH AND INLET | WHEEL DIAMETER (INCHES) | ACCESS DOOR LOCATION (0' CLOCK) | UNIT | | B.H.P. | MIN. MOTOR H.P. | MOTOR R.P.M. | MOTOR LOCATION | VOLTS | PHASE | HERTZ | ON EMERGENCY POWER | VIBRATION BASE SPECIFICATION TYPE | VIBRATION BASE MIN. STATIC DEFLECTION (INCHES) | CLASS | REMARKS |
| | | | | | | | | | | | | | TYPE | SIZE | | | | | | | | | | | | |
| F-5-1A&B | 5TH FLOOR MER | B LEVEL RAMP AND LOADING DOCK SUPPLY | 22,500 | 2.0 | 2298 | | 4 | 1192 | | N/A | | | TCVX | 420532 | 10.59 | 15 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| F-5-2A&B | 5TH FLOOR MER | B LEVEL GARAGE SUPPLY | 10,000 | 2.5 | 2298 | | 4 | 1775 | | N/A | | | TCVX | 280534 | 6.15 | 7.5 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TX-4-1 | 4TH FLOOR MER | MEN'S LOW RISE TOILET EXHAUST 1 | 10,500 | 2.0 | 1442 | | 9 | 1096 | | SWSI | | | QSL | 270 | 4.72 | 7.5 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| TX-4-2 | 4TH FLOOR MER | WOMEN'S LOW RISE TOILET EXHAUST 2 | 16,500 | 2.0 | 1238 | | 9 | 750 | | SWSI | | | QSL | 365 | 7.28 | 10 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| TX-4-3 | 4TH FLOOR MER | MEN'S LOW/MID RISE TOILET EXHAUST 3 | 22,000 | 2.0 | 1650 | | 9 | 846 | | SWSI | | | QSL | 365 | 10.06 | 15 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| TX-4-4 | 4TH FLOOR MER | B LEVEL TOILET EXHAUST | 5,000 | 2.0 | 1238 | | 9 | 1419 | | SWSI | | | QSL | 200 | 2.44 | 3 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| TX-4-5 | 4TH FLOOR MER | B3-B1 LEVEL TOILET EXHAUST AND LOW RISE JC EXHAUST | 3,600 | 2.0 | 1324 | | 9 | 1796 | | SWSI | | | QSL | 165 | 8.88 | 15 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| TX-69-1 | 69TH FLOOR MER | WOMEN'S MID RISE TOILET EXHAUST 4 | 20,000 | 2.0 | 1500 | | 9 | 806 | | SWSI | | | QSL | 365 | 8.88 | 15 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| TX-68-1 | 68TH FLOOR MER | MEN'S HIGH RISE TOILET EXHAUST 5 | 12,000 | 2.0 | 1648 | | 9 | 728 | | SWSI | | | QSL | 270 | 5.57 | 7.5 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| TX-68-2 | 68TH FLOOR MER | WOMEN'S HIGH RISE TOILET EXHAUST 6 | 12,000 | 2.0 | 1648 | | 9 | 1167 | | SWSI | | | QSL | 270 | 5.57 | 7.5 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| TX-69-4 | 69TH FLOOR MER | HIGH RISE JC EXHAUST | 1600 | 2.0 | 1524 | | 10 | 1864 | | SWSI | | | BCV | 135 | .78 | 1 | 1725 | | 460 | 3 | 60 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EF-4-1 | 4TH FLOOR MER | B LEVEL SWITCHGEAR EXHAUST | 5,400 | 2.0 | 1692 | | 4 | 1715 | | N/A | | | TCVX | 240630 | 2.56 | 5 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-4-2 | 4TH FLOOR MER | B LEVEL BOH SPACES RETURN/SMOKE PURGE | 15,000 | 2.0 | 2093 | | 4 | 1192 | | N/A | | | TCVX | 3606 | 7.27 | 10 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-4-3 | 4TH FLOOR MER | FUEL OIL PUMPS | 2,400 | 2.0 | 1067 | | 9 | 1812 | | SWSI | | | QSL | 150 | 1.17 | 1.5 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-4-4 | 4TH FLOOR MER | SKADDEN LAUNDRY EXHAUST | 2,400 | 2.0 | 1067 | | 9 | 1812 | | SWSI | | | QSL | 150 | 1.17 | 1.5 | 1725 | | 460 | 3 | 60 | | | | | |
| EF-4-8 | 4TH FLOOR MER | SECURITY CONSOLE ROOM AND VISITOR CENTER EXHAUST | 1,500 | 1.5 | 667 | | 9 | 1466 | | SWSI | | | QSL | 150 | .59 | 1 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-5-1A&B | 5TH FLOOR MER | B LEVEL GARAGE EXHAUST | 10,000 | 2.5 | 2297 | | 4 | 1742 | | N/A | | | TCVX | 280535 | 6.13 | 7.5 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-5-2 | 5TH FLOOR MER | B LEVEL MECHANICAL ROOM EXHAUST | 10,000 | 2.0 | 2297 | | 4 | 1742 | | N/A | | | TCVX | 280535 | 5.0 | 7.5 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-68-1&2 | 68TH FLOOR MER | CO-GEN SYSTEM | 23,000 | 1.5 | 2349 | | 4 | 1197 | | N/A | | | TCVX | 420530 | 8.53 | 15 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EF-A | TYP OFFICE FLOOR (4-64) | LARGE ELEC CLOSET | 400 | 0.75 | 905 | | 4 | 747 | | SWSI | | | TL | 900S | 0.32 | 1 | 1725 | | 115 | 1 | 60 | | | | | SPEED CONTROL SWITCH (PROVIDE ALT. PRICE) |
| EF-B | TYP OFFICE FLOOR (4-64) | SMALL ELEC CLOSET | 400 | 0.75 | 905 | | 4 | 747 | | SWSI | | | TL | 900S | 0.32 | 1 | 1725 | | 115 | 1 | 60 | | | | | SPEED CONTROL SWITCH (PROVIDE ALT. PRICE) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SP-4-1&2 | 4TH FLOOR MER | 3 STAIR "C" PRESSURIZATION | 25,000 | 3.0 | 2553 | | 4 | 1220 | | N/A | | | TCVX | 420735 | 18.67 | 25 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| SP-5-1&2 | 5TH FLOOR MER | 5 STAIR "E" PRESSURIZATION | 3,000 | 2.0 | 1333 | | 9 | 1969 | | SWSI | | | QSLSH | 150 | 1.49 | 2 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| SP-5-3&4 | 5TH FLOOR MER | 6 STAIR "F" PRESSURIZATION | 3,000 | 2.0 | 1333 | | 9 | 1969 | | SWSI | | | QSLSH | 150 | 1.49 | 2 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| SP-5-5&6 | 5TH FLOOR MER | 4 STAIR "D" PRESSURIZATION | 3,000 | 2.0 | 1333 | | 9 | 1969 | | SWSI | | | QSLSH | 150 | 1.49 | 2 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| SP-5-7&8 | 5TH FLOOR MER | 3A STAIR "A" PRESSURIZATION B LEVELS | 3,000 | 2.0 | 1333 | | 9 | 1969 | | SWSI | | | QSLSH | 150 | 1.49 | 2 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SP-68-1&2 | 68TH FLOOR MER | STAIR "B" PRESSURIZATION | 25,000 | 3.0 | 2553 | | 4 | 1199 | | N/A | | | TCVX | 420736 | 18.71 | 25 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| SP-69-1&2 | 69TH FLOOR MER | STAIR "A" PRESSURIZATION (HIGH RISE) | 25,000 | 3.0 | 2553 | | 4 | 1199 | | N/A | | | TCVX | 420736 | 18.71 | 25 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| SP-70-1&2 | 70TH FLOOR MER | STAIR "C" PRESSURIZATION (HIGH RISE) | 25,000 | 3.0 | 2553 | | 4 | 1199 | | N/A | | | TCVX | 420736 | 18.71 | 25 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SX-5-1 | 5TH FLOOR MER | GEN EXH/SMOKE PURGE SOUTH | 43,000 GX / SX 22,000 | 3.0 | 2667 | | 4 | 2667 | | N/A | | | TCVX | 540530 | 29.9 | 40 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| SX-4-1 | 4TH FLOOR MER | GEN EXH/SMOKE PURGE CELLAR LEVELS | 3,000 GX / SX 11,000 18,000 GX / SX 22,000 | 1.5 | 1939 | | 4 | 1161 | | N/A | | | TCVX | 320635 | 3.96 | 5 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| SX-69-1 | 69TH FLOOR MER | GEN EXH/SMOKE PURGE NORTH | 43,000 GX / SX 22,000 | 3.5 | 3070 | | 4 | 1696 | | N/A | | | TCVX | 360634 | 19.19 | 25 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| SX-69-2 | 69TH FLOOR MER | GEN EXH/SMOKE PURGE SOUTH | 43,000 GX / SX 22,000 | 3.0 | 3070 | | 4 | 1163 | | N/A | | | TCVX | 468740 | 37.59 | 50 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RSF-4-1&2 | 4TH FLOOR MER | LOBBY RETURN/SMOKE EXH | 37,500 | 1.5 | 2939 | | 4 | 1141 | | N/A | | | TCVX | 480435 | 15.58 | 20 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EF-5-3 | ANNEX MER | B-LEVEL WET GARBAGE EXHAUST | 2000 | 1.5 | 889 | | 9 | 1552 | | SWSI | | | QSL | 150 | .73 | 1 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-5-4A&B | ANNEX MER | B LEVEL LOADING DOCK AND RAMP EXHAUST | 12000 | 2.0 | 1675 | | 4 | 1208 | | N/A | | | TCVX | 360531 | 5.91 | 7.5 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F-5-4A&B | ANNEX MER | GARAGE SUPPLY AIR SW AND NW TOWER | 25,000 | 2 | 2553 | | 4 | 1175 | | N/A | | | TCVX | 420535 | 12.11 | 15 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-5-5A&B | ANNEX MER | GARAGE EXHAUST AIR SW AND NW TOWER | 22,500 | 2 | 2298 | | 4 | 1192 | | N/A | | | TCVX | 420532 | 10.59 | 15 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-5-6 | ANNEX MER | RETAIL AND ANNEX GX/SX | 10,000 GX / SX 40,000 | 2 | 2481 | | 4 | 1141 | | N/A | | | TCVX | 540332 | 19.58 | 25 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-5-7 | ANNEX MER | LOADING DOCK EXHAUST AIR SW TOWER | 18,000 | 2 | 2093 | | 4 | 1192 | | N/A | | | TCVX | 360635 | 7.27 | 10 | 1725 | | 460 | 3 | 60 | Y | | | | PROVIDE WITH VFD AND SOUND TRAPS |
| EF-5-10 | ANNEX MER | LOADING DOCK BOH GX/SX | 1000 GX / SX 5,000 | 2 | 2042 | | 4 | 1807 | | N/A | | | TCVX | 210742 | 2.6 | 5 | 1725 | | 460 | 3 | 60 | | | | | |
| TX-5-1 | ANNEX MER | ANNEX AND RETAIL TOILET EXHAUST | 5,000 | 2.0 | 1238 | | 9 | 1144 | | SWSI | | | QSL | 200 | 2.44 | 3 | 1725 | | 460 | 3 | 60 | | | | | PROVIDE WITH VFD AND SOUND TRAPS |

REFER TO ALTERNATES 23000.4 ON M-002 FOR MORE INFORMATION

REFER TO ALTERNATES 23000.2 ON M-002 FOR MORE INFORMATION

| RETURN, EXHAUST AND VENTILATION (SUPPLY) FANS CONT. | | | | | | | | | | | | | | | | | | | | | | | (TWIN CITY FAN BLOWER) (UNLESS OTHERWISE NOTED) | | | | |
|---|------------------|-----------------|--------|------------------------------|-------------------------------|------------------------|-------------|------------|--------------|-----------------|----------------------------|------------------------------------|------|------|--------|-----------------|--------------|----------------|-------|-------|-------|-----------------------|--|--------------------------------------|-----------------------------|-------|---------|
| FAN NO. | LOCATION | SERVICE | CFM | STATIC PRESS (INCHES H2O) | MAX. OUTLET VELOCITY (FPM) | DISCHARGE DIRECTION | ARRANGEMENT | FAN R.P.M. | FAN ROTATION | WIDTH AND INLET | WHEEL DIAMETER (INCHES) | ACCESS DOOR LOCATION (0° CLOCK) | UNIT | | B.H.P. | MIN. MOTOR H.P. | MOTOR R.P.M. | MOTOR LOCATION | VOLTS | PHASE | HERTZ | ON EMERGENCY POWER | VIBRATION BASE MIN. | VIBRATION BASE SPECIFICATION TYPE | SWAY DEFLECTION (INCHES) | CLASS | REMARKS |
| | | | | | | | | | | | | | TYPE | SIZE | | | | | | | | | | | | | |
| F-5-5 | 5TH FLOOR MER | WEST MER SUPPLY | 21,000 | 2.0 | 2931 | | 4 | 1465 | | N/A | | | TCVX | 3686 | 12.34 | 15 | 1725 | | 460 | 3 | 60 | | | | | | |
| F-5-6 | 5TH FLOOR MER | EAST MER SUPPLY | 20,000 | 2.0 | 3528 | | 4 | 1751 | | N/A | | | TCVX | 3284 | 12.71 | 15 | 1725 | | 460 | 3 | 60 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EF-4-5 | 4TH FLOOR MER | NORTH MER EXH | 6000 | 1 | 1378 | | 4 | 1143 | | N/A | | | TCVX | 2887 | 1.52 | 2 | 1725 | | 460 | 3 | 60 | | | | | | |
| EF-4-6 | 4TH FLOOR MER | NORTH MER EXH | 6000 | 1 | 1378 | | 4 | 1143 | | N/A | | | TCVX | 2887 | 1.52 | 2 | 1725 | | 460 | 3 | 60 | | | | | | |
| EF-4-7 | 4TH FLOOR MER | SOUTH MER EXH | 23000 | 2.0 | 2349 | | 4 | 1131 | | N/A | | | TCVX | 4285 | 11.39 | 15 | 1725 | | 460 | 3 | 60 | | | | | | |
| EF-5-9 | 5TH FLOOR MER | NORTH MER EXH | 5000 | .5 | 882 | | 4 | 673 | | N/A | | | TCVX | 3286 | .62 | 1 | 1725 | | 460 | 3 | 60 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |



MANHATTAN WEST:
NORTH TOWER

Client

Brookfield

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250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering

SOM

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14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
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MEP Engineering

Jaros Baum & Bolles
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102 East Blithedale Ave. Suite 1, Mill Valley, California 94941

Sustainable Design

Meridian Energy & Environmental
100 Washington Street, Norwalk, CT 06854

Geo-Technical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610.

Landscape Consultant

Field Operations

avenue, New York

Security Consultant

et #F1, North Hs

Blast Consultant

40 Wall Street, New York, NY 10005

.....

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U. I. A.

Wilson, Kling & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

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215 West 40th Street, 15th Floor, New York, NY

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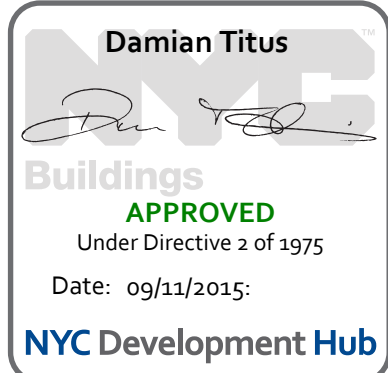
ENTER Engineering LLC
166 Ames Street, Hackensack, NJ 07601

[illegible]

| SIDESTREAM FILTRATION SYSTEM (DIAMOND WATER SYSTEMS AS STD.) | | | | | | | | | | | |
|--|----------------|-----------------|------------------------|--------------------|----------------------------|--------------|---------|-----------------|--------------------|-----------|---------|
| SERVICE | LOCATION | FLOW RATE (GPM) | WORKING PRESSURE (PSI) | TANK DIAMETER (IN) | FILTRATION RATING (MICRON) | BACKWASH GPM | PUMP HP | NUMBER OF PUMPS | VOLTS / PHASE / HZ | MODEL No. | REMARKS |
| PRIMARY CONDENSER WATER | 68TH FLOOR MER | | 150 | | | | | | | | |
| SECONDARY CONDENSER WATER | 68TH FLOOR MER | | 150 | | | | | | | | |
| HIGH ZONE HOT WATER | 68TH FLOOR MER | | 150 | | | | | | | | |
| CHILLED WATER | 68TH FLOOR MER | | 150 | | | | | | | | |
| | | | | | | | | | | | |
| SECONDARY CONDENSER WATER | 4TH FLOOR MER | | 450 | | | | | | | | |
| LOW ZONE HOT WATER | 4TH FLOOR MER | | 300 | | | | | | | | |
| RETAIL HOT WATER | 4TH FLOOR MER | | 150 | | | | | | | | |
| | | | | | | | | | | | |
| LOBBY/BOH HOT WATER | LEVEL B1 | | 150 | | | | | | | | |

NOTES:

1. PROVIDE AUTOMATIC CONTROLS PACKAGE WITHIN NEMA 3R ENCLOSURE.(ALL CONTROLS AND SOLENOID VALVES SHALL OPERATE ON 120/1/60 POWER.
2. FILTER MEDIA SHALL BE CAPABLE OF REMOVING 95% BY VOLUMES OF SUSPENDED SOLIDS 1/2 MICRON AND LARGER.
3. FILTER UNIT SHALL INCLUDE A PLC CONTROLLER TO CONTROL THE BACKWASH CYCLE. PLC SHALL BE ABLE TO INTERFACE WITH THE BMS SYSTEM VIA DRY CONTACT OUTPUT INDICATING A COMMON ALARM.



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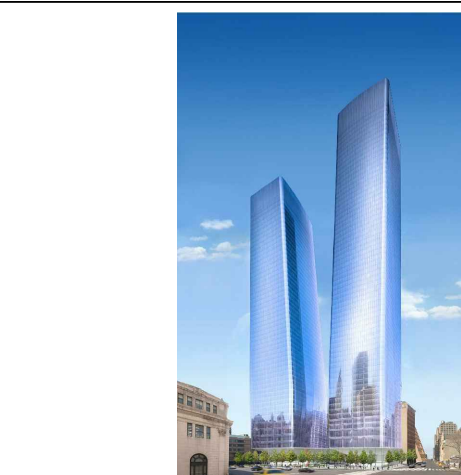
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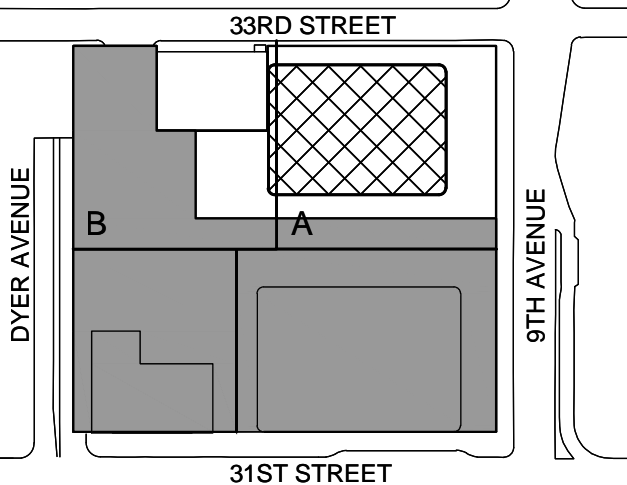
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Key Plan:

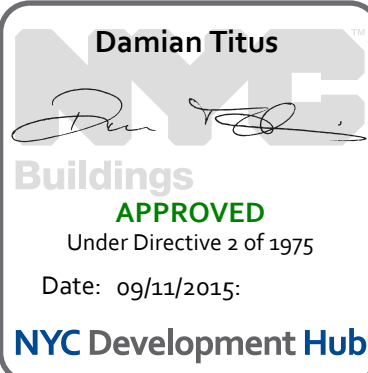


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| | |
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| Project No.: 14830.A.000 | Sheet No.: M-503 |
| Date: 19 DEC 2014 | B-SCAN Sheet No.: M-503.00 |
| Scale: 1/8"=1'-0" | Page No.: |
| File No.: | |

CONSTANT / VARIABLE VOLUME BOXES

(TITUS TYPE 'DES' AS STD)

| BOX SIZES (SEE DWGS) | MAXIMUM SET POINT CFM RANGE | | MIN. SET POINT OF CFM SHOWN ON PLANS | MIN. SP @ MAX. CFM | INLET AND OUTLET SIZES | | BOXES WITH HEATING COIL | | | | | | SOUND TRAP | | REMARKS |
|-------------------------|-----------------------------|------|--------------------------------------|--------------------|------------------------|---------|-------------------------|------------------------|---------------------------|--------------------------|-------------|-----------|--------------------------------|---------------------------------|------------------|
| | LOW | HIGH | | | IN | OUT | ENTERING AIR TEMP. (°F) | LEAVING AIR TEMP. (°F) | ENTERING WATER TEMP. (°F) | LEAVING WATER TEMP. (°F) | Nº. OF ROWS | GPM | MAX. COIL PRESSURE DROP (PSIG) | MIN. SP @ MAX. CFM (BOX + COIL) | |
| 7 | 90 | 500 | 65 | 0.14 | 7"ø | 12x10 | 55 | VARIES | 140 | VARIES | 1 | SEE NOTES | .10 | .19 | 3HL 12x12x36 .01 |
| 8 | 245 | 800 | 120 | 0.20 | 8"ø | 12x10 | 55 | VARIES | 140 | VARIES | 1 | SEE NOTES | .10 | .27 | 3HL 18x12x36 .01 |
| 10 | 385 | 1000 | 195 | 0.12 | 10"ø | 14x12.5 | 55 | VARIES | 140 | VARIES | 1 | SEE NOTES | .10 | .19 | 3HL 18x12x36 .02 |
| 12 | 550 | 1500 | 280 | 0.15 | 12"ø | 16x15 | 55 | VARIES | 140 | VARIES | 1 | SEE NOTES | .10 | .22 | 5HL 24x12x60 .04 |
| 14 | 880 | 2000 | 400 | 0.16 | 14"ø | 20x17.5 | 55 | VARIES | 140 | VARIES | 1 | SEE NOTES | .10 | .22 | 5HL 24x12x60 .06 |
| 16 | 1000 | 2500 | 530 | 0.15 | 16"ø | 24x18 | 55 | VARIES | 140 | VARIES | 1 | SEE NOTES | .10 | .22 | 5HL 30x12x60 .06 |

NOTES:

- REFER TO SPECIFICATIONS FOR ACOUSTICAL PERFORMANCE.
- ALL COILS SHALL BE ONE ROW UNLESS NOTED, REFER TO PLANS FOR LOCATIONS. HEATING PERFORMANCE OF ALL COILS SHALL BE BASED ON 2.0 GPM FLOW RATE.
- ALL COILS SHALL BE SUITABLE FOR A MINIMUM OF 250 PSIG. WATER WORKING PRESSURE.
- V = VARIABLE VOLUME
VR = VARIABLE VOLUME WITH HEATING COIL
C = CONSTANT VOLUME
CR = CONSTANT VOLUME WITH HEATING COIL
- EACH VAV BOX SHALL BE PROVIDED WITH DUCT MOUNTED SOUND TRAP AS SCHEDULED ABOVE.
- ALL BOXES SHALL BE PROVIDED WITH BOTTOM ACCESS DOOR. FOR INTERNAL ACCESS TO CONTROLS & TO HEATING COIL.

CONSTANT VOLUME REGULATORS

(TITUS TYPE AQCV/DQCV AS STD.)

| BOX SIZES (SEE DWGS) | CFM RANGE | | DAMPER SIZE (IN) | MIN. SP @ MAX. CFM | DISCHARGE NO. RATING FOR 1" INLET | RADIATED NO. RATING FOR 2" WD. INLET PRESSURE | REMARKS |
|-------------------------|-----------|--------|------------------|--------------------|-----------------------------------|---|---------|
| | LOW | HIGH | | | | | |
| F | 250 | 500 | 14x8 | 0.155 | 26 | 35 | |
| H | 435 | 1000 | 18x10 | 0.172 | 22 | 37 | |
| K | 725 | 2000 | 20x14 | 0.185 | 22 | 38 | |
| M | 970 | 3500 | 22x16 | 0.185 | 25 | 43 | |
| N | 1220 | 5000 | 24x18 | 0.165 | 26 | 44 | |
| P | 1860 | 6000 | 30x20 | 0.162 | 24 | 42 | |
| R | 2750 | 8000 | 40x20 | 0.152 | 24 | 42 | |
| R | 8001 | 10,000 | 40x20 | 0.210 | 25 | 43 | |

NOTES:

- THE MECHANICAL CONTRACTOR SHALL PROVIDE A PLENUM LENGTH OF 5'-0" OF STRAIGHT DUCT RUN DOWN STREAM OF EACH CVR.

FAN POWERED TERMINAL UNITS

(TITUS TYPE DTQS STD)

| BOX SIZES (SEE DWGS) | MAX. SET POINT CFM RANGE OF VALVE 45°F EAT | | MINIMUM SET POINT CFM OF VALVE | SET OF POINT OF FAN | | MIN. MOTOR H.P. HIGH SPEED | DISCHARGE S.P. OF FETU (INCLUDING HEATING COIL) | INLET SIZES | BOXES WITH HEATING COIL | | | | | | SOUND TRAP | | REMARKS | | |
|-------------------------|--|------------|--------------------------------------|---------------------------|-------------------|-------------------------------|--|----------------|----------------------------|---------------------------|------------------------------|-----------------------------|---------------|--|---------------------------------------|---|-----------------|---------------------------------------|-------------------------|
| | LOW | HIGH | | LOW | OFFICE TRADING | | | | ENTERING AIR TEMP. (°F) | LEAVING AIR TEMP. (°F) | ENTERING WATER TEMP. (°F) | LEAVING WATER TEMP. (°F) | GPM | MAX. COIL PRESSURE DROP (F.T. /20) | MIN. SP @ MAX. CFM (COIL & BOX) | ELECTRICAL CHGR. (VOLTS /PHASE HERTZ) | | IAC TYPE AND DIMENSIONS (WxHxL) | PRESS DROP INCH. WG. |
| 2 | 145 | 335 | 145 | 150 | 400 535 | 1/6 | .40 | 8" | 60 | VARIES | 170 | 140 | SEE NOTE 2 | .66 | .08 | 277/1/60 | 3HL 12x12x36 | .01 | |
| 3 | 200 336 | 480 900 | 160 260 | 401 | 1050 1150 | 1/4 | .40 | 8" 10" | 60 | VARIES | 170 | 140 | SEE NOTE 2 | .20 | .26 | 277/1/60 | 3HL 18x12x36 | .03 | |
| 5 | 801 | 1130 | 375 | 951 | 1350 1600 | 1/3 | .40 | 12" | 60 | VARIES | 170 | 140 | SEE NOTE 2 | .43 | .16 | 277/1/60 | 5HL 24x12x60 | .04 | |
| 6 | 1131 | 1350 | 470 | 1351 | 1650 2000 | 3/4 | .40 | 14" | 60 | VARIES | 170 | 140 | SEE NOTE 2 | .93 | .22 | 277/1/60 | 5HL 24x12x60 | .06 | |
| | | | | | | | | | | | | | | | | | | | |

NOTES:

- REFER TO FLOOR PLANS FOR ACTUAL QUANTITY OF FAN POWERED BOXES WITH AND WITHOUT HOT WATER HEATING COILS AND UNIT LEFT/RIGHT HAND ARRANGEMENT.
- ALL COILS SHALL BE ONE ROW UNLESS NOTED, REFER TO PLANS FOR LOCATIONS. COILS ON FLOORS 15 THRU 69 SHALL HAVE 2.5 GPM FLOW RATE.
- KEY TO SYMBOL: FAN CFM
(MAX. VALVE CFM)
(MIN. VALVE CFM)
- REFER TO SPECIFICATIONS FOR ACOUSTICAL PERFORMANCE.
- FAN POWERED TERMINAL UNITS BASED ON MAXIMUM OF 1.5 INCHES INLET STATIC PRESSURE.
- ALL COILS SHALL BE SUITABLE FOR A MINIMUM OF 250 PSIG. WATER WORKING PRESSURE.
- FPB = FAN POWERED BOX
FPBH = FAN POWERED BOX WITH HEATING COIL
- EACH FPB BOX SHALL BE PROVIDED WITH DUCT MOUNTED SOUND TRAP AS SCHEDULED ABOVE.
- ALL FANS PROVIDED WITH THE FPB'S SHALL BE SET TO PROVIDE A MINIMUM ESP OF .4 INCH W.G. AT THE MAXIMUM AIRFLOW RATES NOTED IN THE SCHEDULE.

FUEL OIL TRANSFER PUMPS

(MO DELAVAL AS STD.)

| PUMP NO. | LOCATION | SERVICE | GPM | DISCHARGE HEAD, (PSIG) | SUCTION PRESSURE (IN HG.) | PUMP RPM | BHP | MINIMUM MOTOR H.P. | MODEL NO. | REMARKS |
|----------|--------------------|---------------------|-----|------------------------|---------------------------|----------|-----|--------------------|----------------|-----------------------|
| FOP-1 | LEVEL B FO TANK RM | EMERGENCY GENERATOR | 12 | 70 | 15 | 1,750 | 2.0 | 3.0 | A30-156 DUPLEX | POSITIVE DISPLACEMENT |
| | | | | | | | | | | |
| | | | | | | | | | | |

NOTE:

- PUMPS SHALL BE FURNISHED AS A DUPLEX SET ON A SINGLE SKID AND SHALL COME PREPARED WITH ALL VALVES, STARTERS, ALTERNATER, ETC.
- FUEL PUMP SHALL BE CONNECTED TO THE BUILDINGS LIFE SAFETY EMERGENCY GENERATORS.



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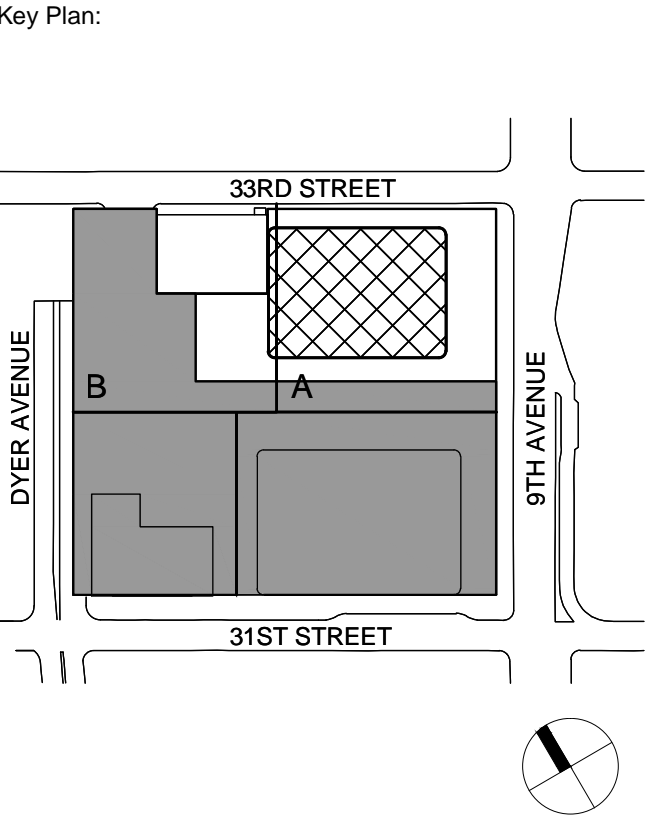
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| 4 | 19 DEC 2014 | ISSUED FOR CD CONFIRMATION |
| 5 | 24 APR 2015 | ISSUED FOR 50% CD |

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Under Directive 2 of 1975

Date: 09/23/2015

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| UNIT AND ENTRANCE HEATERS | | | | | | | | | | | | | | | | | |
|---------------------------|------------|----------------------|------------|----------------------------------|----------------------------|-------------------------|-----------|---------------------------|--------------------------|-------------------------|----------------|----------|--------|------|---------------|---------------|--|
| UNIT HEATER No. | LOCATION | FAN CFM (HIGH SPEED) | FAN R.P.M. | HEAT OUTPUT BTU'S PER HOUR (MBH) | ENTERING AIR TEMP. DB (°F) | FINAL AIR TEMP. DB (°F) | HOT WATER | | | STEAM @ 2 PSIG (LBS/HR) | ELECTRIC | | MOTOR | | REMARKS | | |
| | | | | | | | GPM | ENTERING WATER TEMP. (°F) | LEAVING WATER TEMP. (°F) | | VOLTS/PHASE/Hz | H.P. | R.P.M. | TYPE | | | |
| | | | | | | | | | | | | | | | | | |
| UH-B-1 THRU UH-B-8 | LEVEL 8 | 1400 | 1000 | 52 | 60 | 95 | 6 | 180 | 160 | - | - | 115/1/60 | 1/12 | 1000 | HORIZ S-84 | TRANE AS STD. | |
| UH-4-1 THRU UH-4-12 | LEVEL 4 | 900 | 1000 | 50 | 60 | 110 | - | - | - | 50 | - | 115/1/60 | 1/20 | 1000 | HORIZ S-60 | TRANE AS STD. | |
| UH-5-1 THRU UH-5-14 | LEVEL 5 | 900 | 1000 | 50 | 60 | 110 | - | - | - | 50 | - | 115/1/60 | 1/20 | 1000 | HORIZ S-60 | TRANE AS STD. | |
| UH-68-1 THRU UH-68-8 | LEVEL 68 | 900 | 1000 | 50 | 60 | 110 | - | - | - | 50 | - | 115/1/60 | 1/20 | 1000 | HORIZ S-60 | TRANE AS STD. | |
| UH-69-1 THRU UH-69-10 | 69TH FLOOR | 900 | 1000 | 50 | 60 | 110 | - | - | - | 50 | - | 115/1/60 | 1/20 | 1000 | HORIZ S-60 | TRANE AS STD. | |
| UH-71-1 & UH-71-2 | 70TH FLOOR | 900 | 1000 | 50 | 60 | 110 | - | - | - | 50 | - | 115/1/60 | 1/20 | 1000 | HORIZ S-60 | TRANE AS STD. | |
| EUH-B-1 THRU EUH-B-8 | LEVEL 8 | 760 | 1475 | 65 | 70 | 149.4 | 4.34 | 180 | 150 | - | - | 115/1/60 | 1/4 | 1475 | HORIZ FFDB-60 | TRANE AS STD. | |
| EUH-1-1 THRU EUH-1-6 | 1ST FLOOR | 760 | 1475 | 65 | 70 | 149.4 | 4.34 | 180 | 150 | - | - | 115/1/60 | 1/4 | 1475 | HORIZ FFDB-60 | TRANE AS STD. | |

NOTES:
1. UNLESS OTHERWISE NOTED THERMOSTATS FOR ALL UNIT HEATERS SHALL BE UNIT MOUNTED.

| LOBBY FAN COIL UNITS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|----------|--------------|---------|----------------------------|-----------------|---------------|------|-----------|----------------------------|-------------------------|-----------------------|--------|----------|----------|-----|-----------------------------------|-------------|-----------------|---------------------------|---------------------|-------------------------|----------|---------|----------------------------------|-------------|-----------------|----------------------|---------------------|------|--------------|---------|--|--|
| TYPE | QUANTITY | LOCATION | SERVICE | FAN SECTION @ MEDIUM SPEED | | | | | SENSIBLE CAPACITY (BTU/HR) | TOTAL CAPACITY (BTU/HR) | COOLING COIL CAPACITY | | | | | | | | | | HOT WATER COIL CAPACITY | | | | | | | | | | | | |
| | | | | CFM | EXT. S.P. (IN.) | MIN. MOTOR HP | AMPS | RPM | | | EAT DB | EAT WB | EWT (°F) | LWT (°F) | GPM | MAX. WATER PRESSURE DROP (FT H2O) | NO. OF ROWS | NO. OF CIRCUITS | HEATING CAPACITY (BTU/HR) | ENT. AIR TEMP. (°F) | LEAVING AIR TEMP. (°F) | EWT/L WT | GPM | MAX WATER PRESSURE DROP (FT H2O) | NO. OF ROWS | NO. OF CIRCUITS | SURFACE AREA (SQ.FT) | FILTER | | MODEL NUMBER | REMARKS | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | SIZE (IN x IN) | EFF. | | | | |
| TYPE A | - | GROUND FLOOR | LOBBY | 460 | 0.05 | (2) 1/12 | 1 | MED SPEED | 277/1/60 | 9370 | 11370 | 75 | 62.5 | 45 | 55 | 2.3 | 4 | 3 | NA | 41000 | 60 | 142 | 180/150 | 2.8 | 4 | 3 | NA | 1" THICK THROW-AWAY | | LHW06 | | | |
| TYPE B | - | GROUND FLOOR | LOBBY | 245 | 0.05 | 1/12 | .5 | MED SPEED | 277/1/60 | 5050 | 6100 | 75 | 62.5 | 45 | 55 | 1.2 | 4.5 | 3 | NA | 22400 | 60 | 143 | 180/150 | 1.5 | 5 | 3 | NA | 1" THICK THROW-AWAY | | LHW03 | | | |
| TYPE C | - | GROUND FLOOR | LOBBY | 120 | 0.05 | 1/20 | .3 | MED SPEED | 277/1/60 | 2020 | 2440 | 75 | 62.5 | 45 | 55 | 0.5 | 1 | 3 | NA | 8900 | 60 | 128 | 180/150 | 0.6 | 1 | 3 | NA | 1" THICK THROW-AWAY | | LHW02 | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTES:
1. THE FOLLOWING ACCESSORIES SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR:
a. THERMOSTAT (UNIT MOUNTED IN THE RETURN AIR STREAM.
b. DISCONNECT SWITCH
c. VIBRATION ISOLATION
2. COOLING/HEATING COILS PROVIDED WITH THE FAN COIL UNITS SHALL BE SUITABLE FOR 250 PSIG WATER WORKING PRESSURE.
3. CONTROL VALVES FOR CONTROL OF GROUPS OF FAN COIL UNITS SHALL BE AS SPECIFIED UNDER THE BATIC SECTION OF THE SPECIFICATIONS.

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Date: 19 DEC 2014

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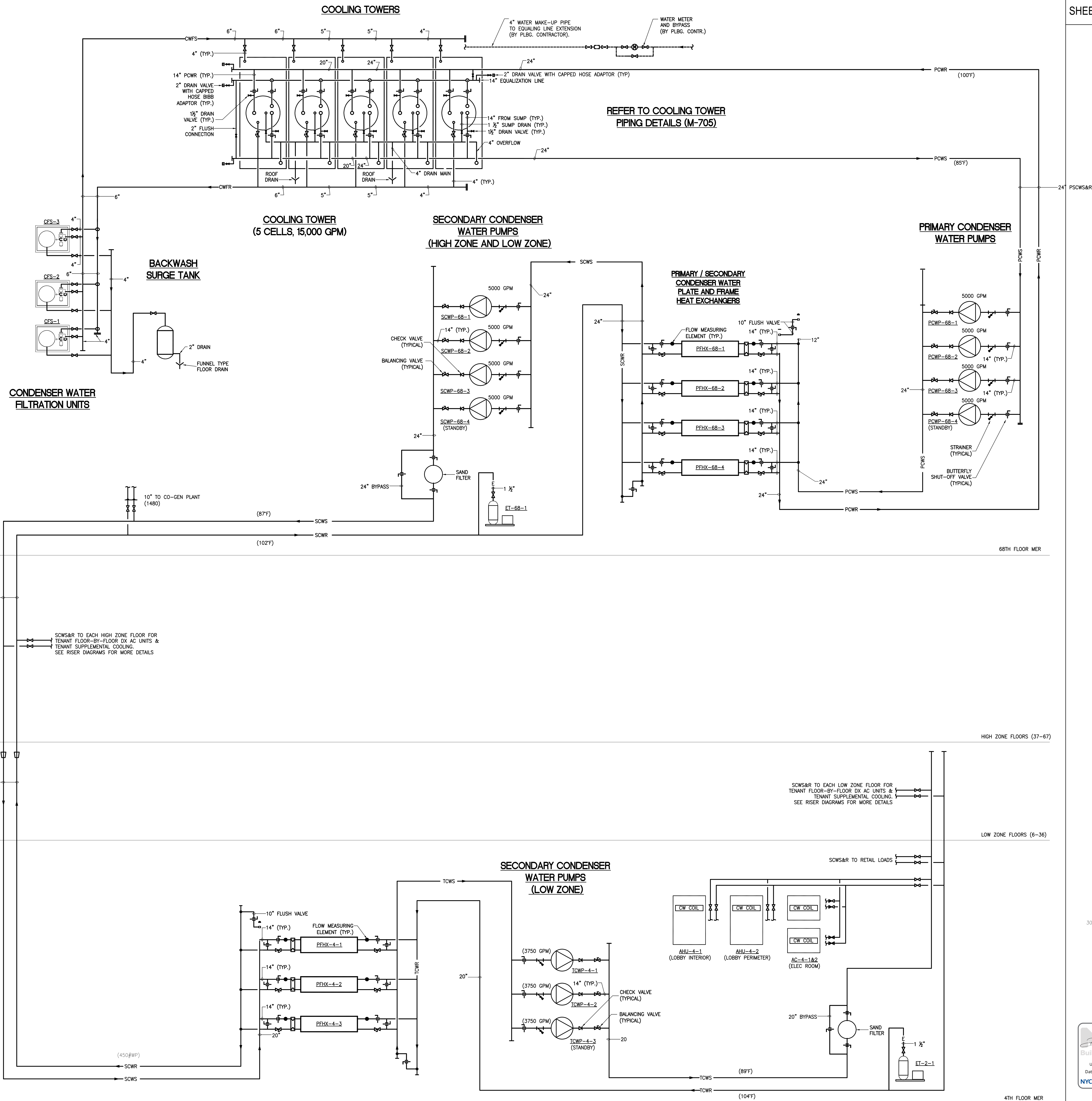
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MECHANICAL CONDENSER WATER FLOW DIAGRAM

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20 DEC 2013
13 NOV 2013
12 JUL 2013
13 MAR 2013

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ISSUED FOR FOUNDATION PERMIT
ISSUED FOR OLD PROJECTS PERMITTING
ISSUED FOR 50% DESIGN DEVELOPMENT
ISSUED FOR RECONFIGURATION

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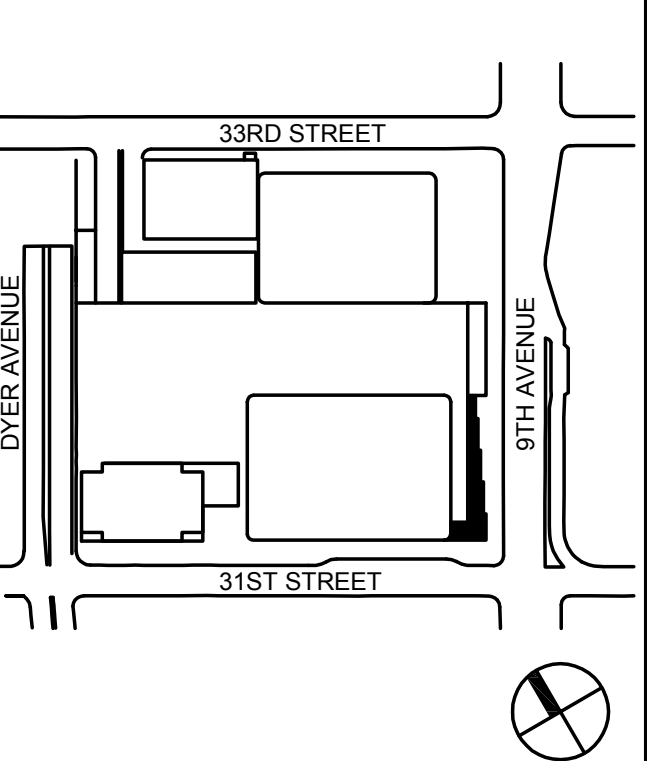
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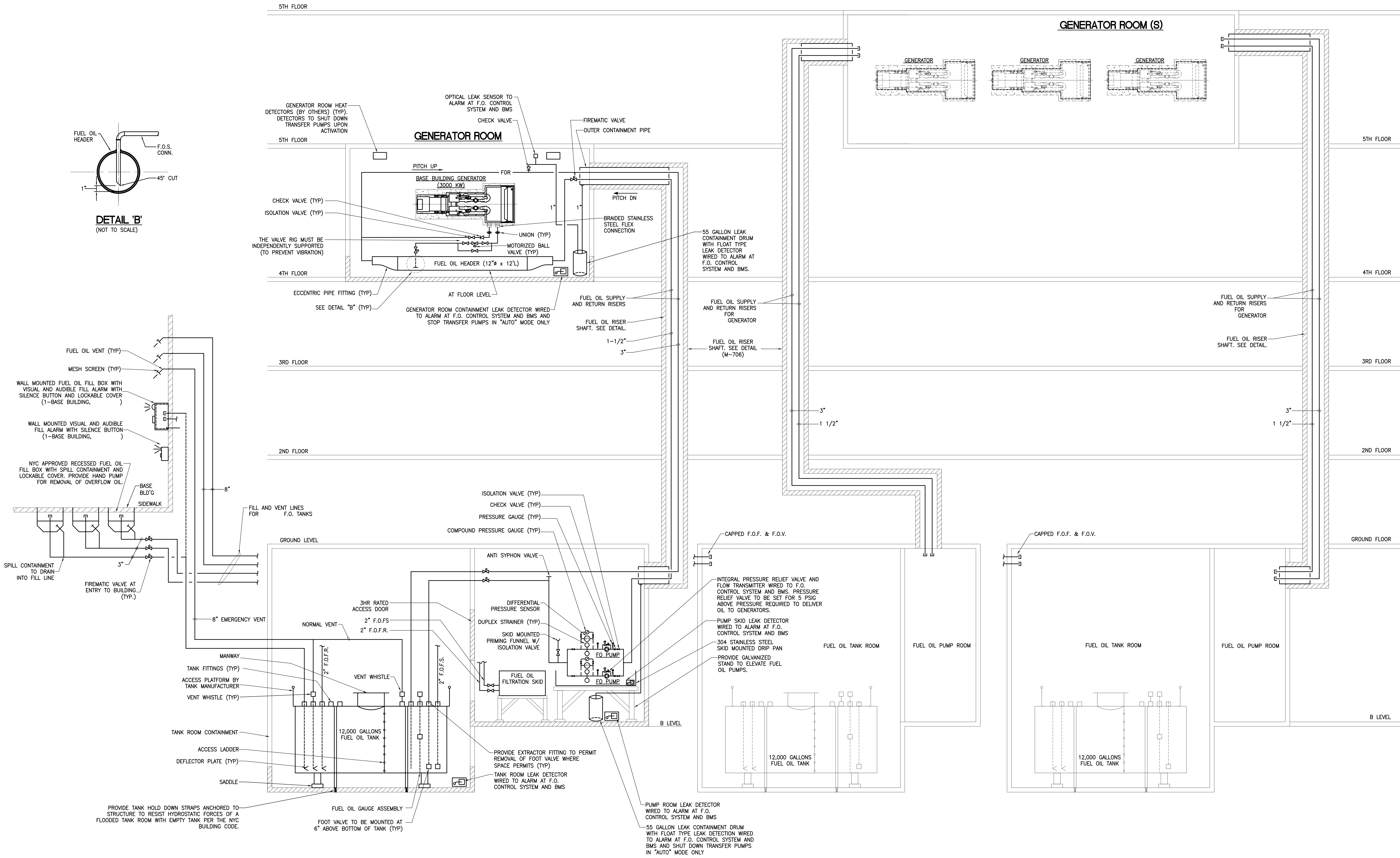
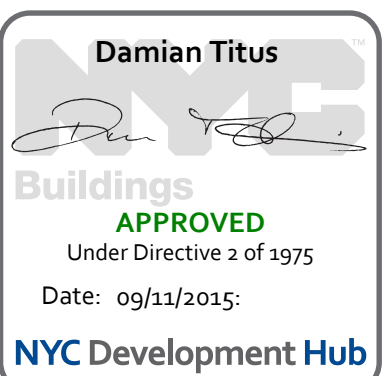
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| No. | Date | Description |
| 1 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 13 NOV 2013 | ISSUED FOR 10% DESIGN DEVELOPMENT |
| 4 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 5 | 13 MAR 2013 | ISSUED FOR PRELIMINARY |

Sheet Name:

MECHANICAL FUEL OIL FLOW DIAGRAM

Project No:
14830.A.000
Date:
20 JUN 2014
Scale:
NTS
File No.:

B-SCAN Sheet No.:
M-602.00
Sheet No.:
M-602
Page No.:



- NOTES:
1. ALL F.O. PIPING FROM THE F.O. PUMP ROOM TO THE UNDERSIDE OF THE MASONRY F.O. SHAFTS AND FROM THEIR RESPECTIVE MASONRY SHAFTS TO THE GENERATOR EQUIPMENT ROOM SHALL BE PIPE-WITHIN-A-PIPE CONSTRUCTION. IN ADDITION, THE PIPING SHALL BE ENCLOSED WITHIN A TWO (2) HOUR RATED ENCLOSURE (AS DETAILED ABOVE).
 2. EACH SET OF F.O. SUPPLY AND RETURN RISERS SHALL BE INSTALLED WITHIN SEPARATE DEDICATED 4" MASONRY RISER SHAFTS.
 3. ALL FUEL OIL ISOLATION, BALANCING, BRIDGE AND/OR FIREMATIC VALVES SHALL BE PROVIDED WITH INTEGRAL TAMPER SWITCHES, WIRED TO THE BMS SYSTEM FOR ANNUNCIATION.
 4. ALL LEAK DETECTORS SHALL BE OPTICAL TYPE AND SHALL BE CAPABLE OF DISTINGUISHING BETWEEN OIL AND WATER.



**MANHATTAN WEST:
NORTH TOWER**
375 Ninth Avenue, New York, NY 10001

Client
Brookfield

Brookfield Place
250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering

SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering

Jaros Baum & Bolles
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Vertical Transportation

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102 East Blithedale Ave. Suite 1, Mill Valley, California 94941

Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

Geo-Technical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610,
New York, NY 10122

Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant

Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant

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40 Wall Street, New York, NY 10005

Acoustical Consultant

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

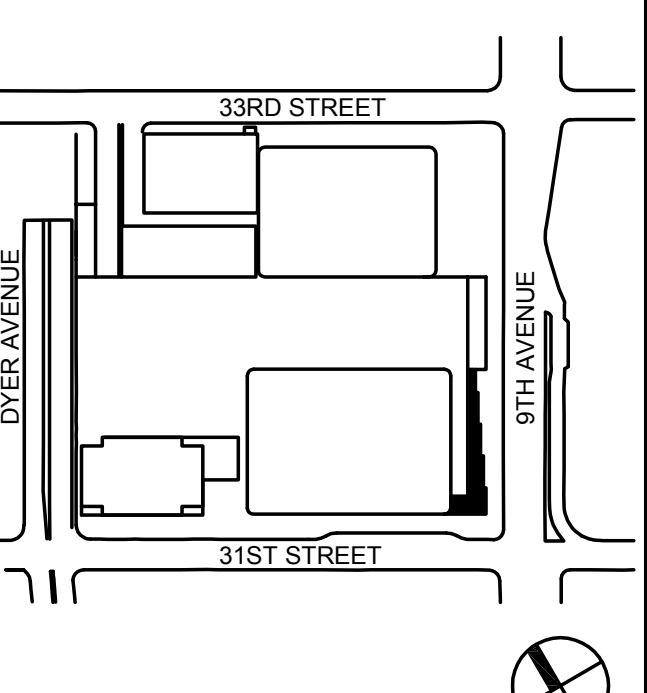
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

Key Plan:



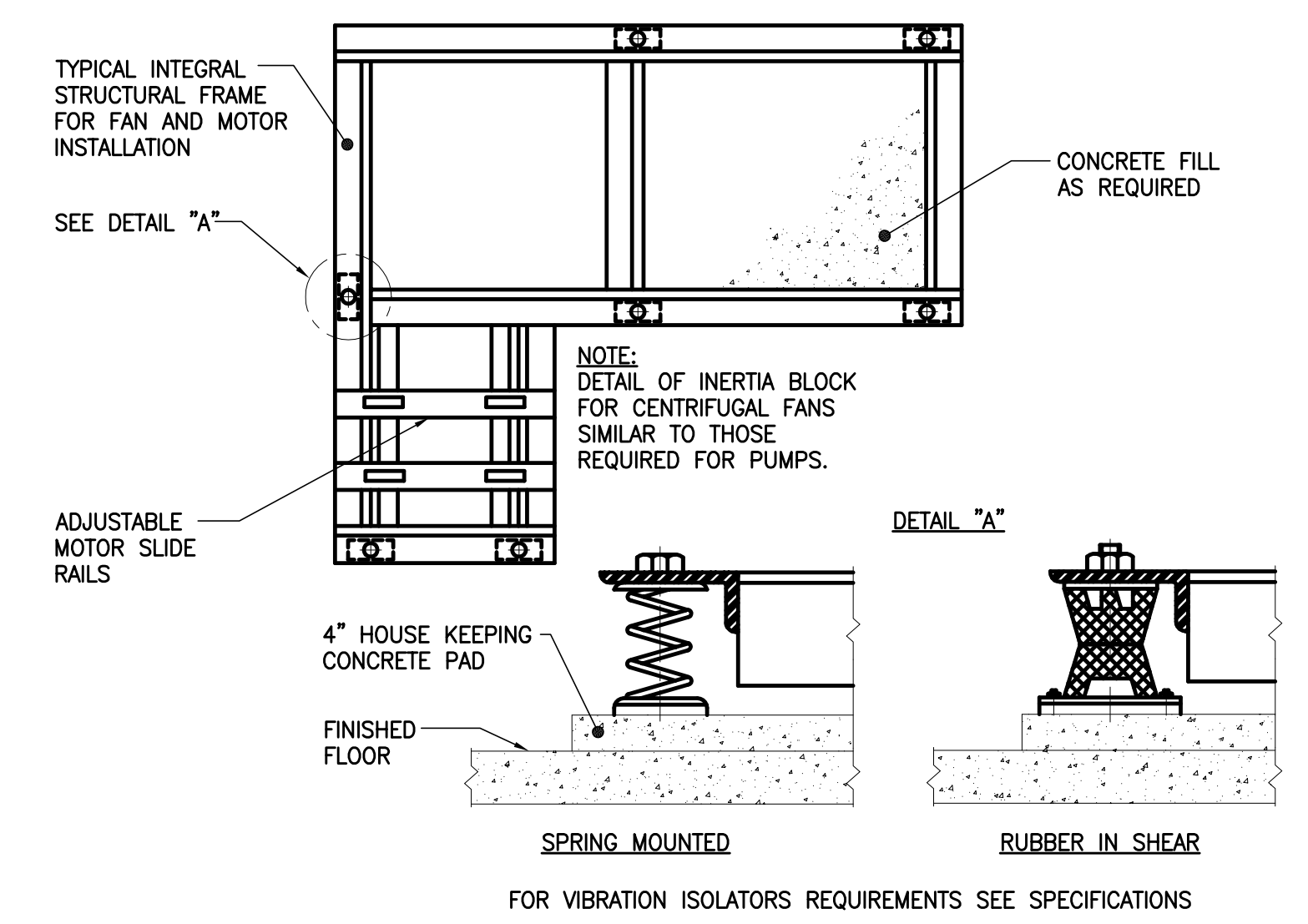
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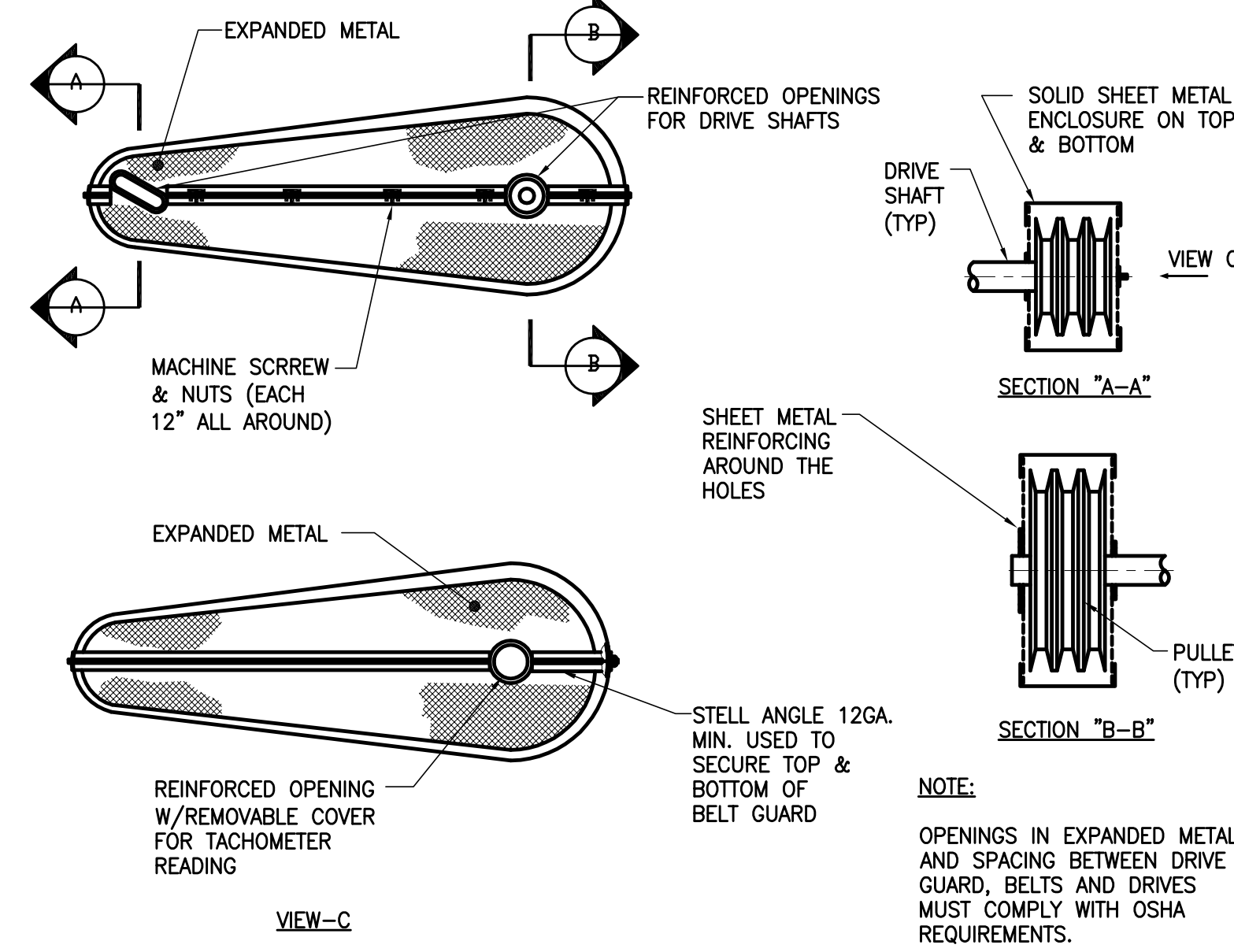
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| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 13 NOV 2013 | ISSUED FOR FORD PROGRESS DRAWING |
| 4 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 5 | 13 MAR 2013 | ISSUED FOR REVISION |

MECHANICAL
DETAIL
SHEET
NO. 1

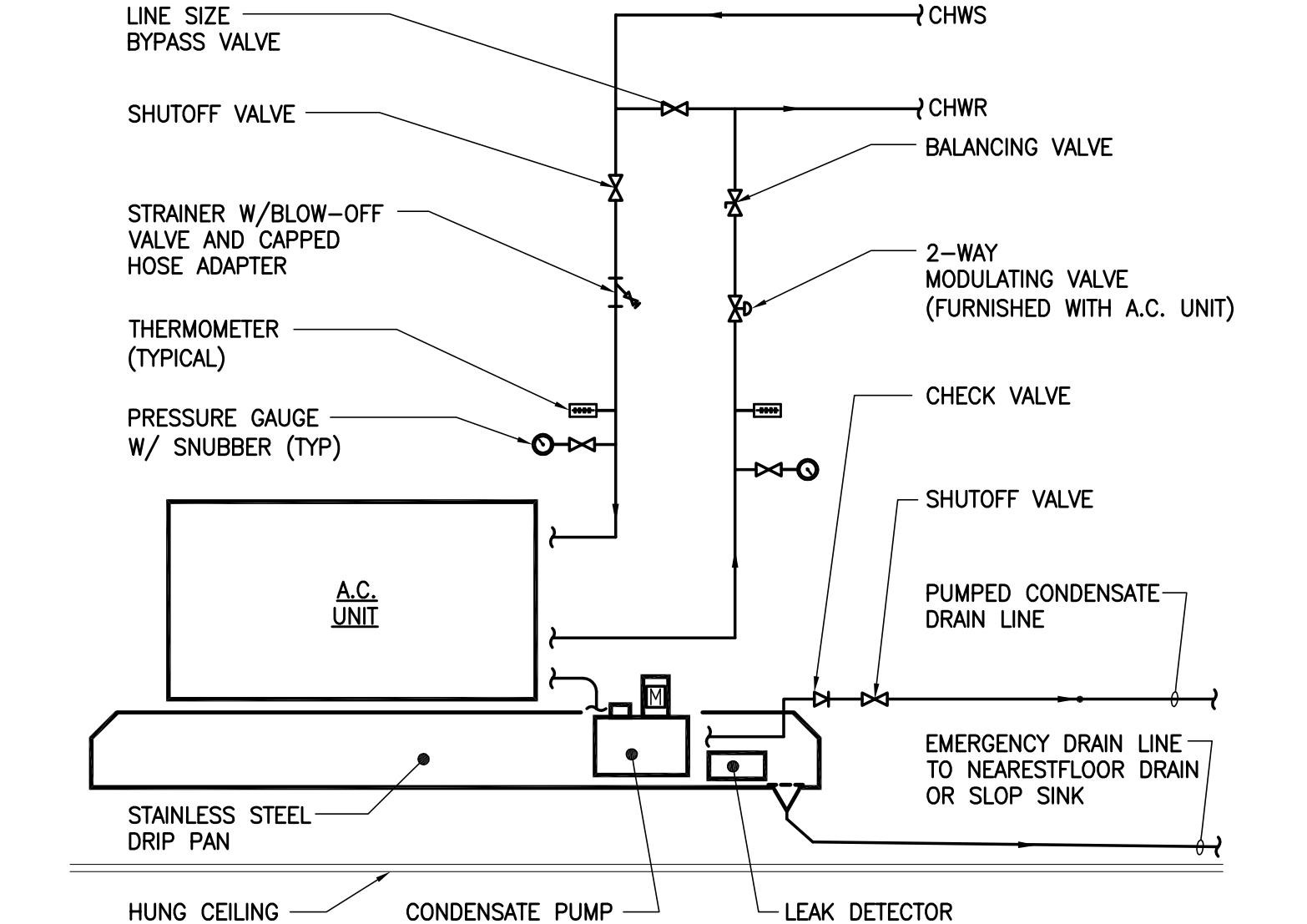
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|----------------------------|-------------------------------|
| Project No: 14830.A.000 | B-SCAN Sheet No.: M-700.00 |
| Date: 20 JUN 2014 | Sheet No.: M-700 |
| Scale: NTS | Page No.: |
| File No.: | |



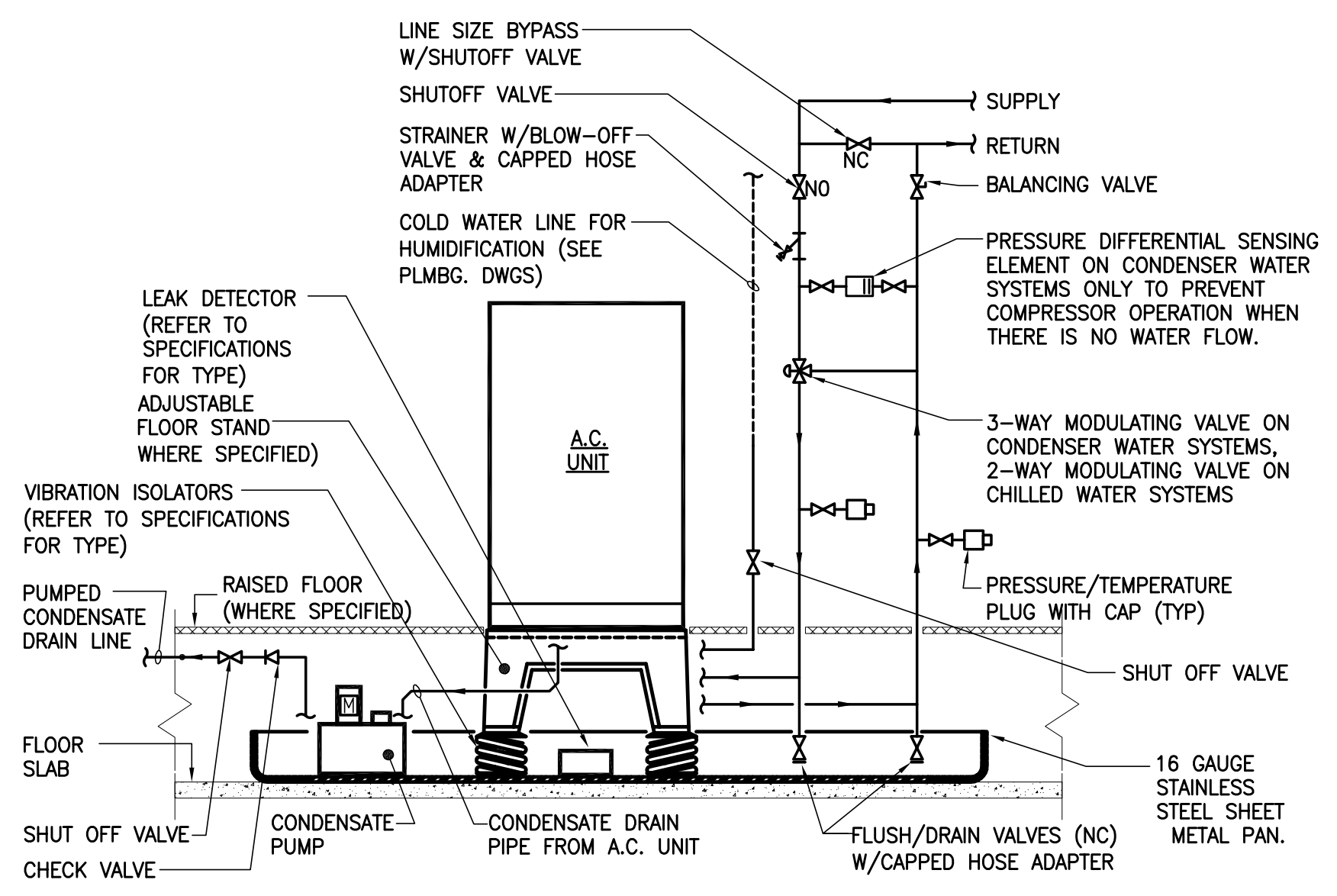
TYPICAL CENTRIFUGAL FAN BASE MOUNTING DETAIL



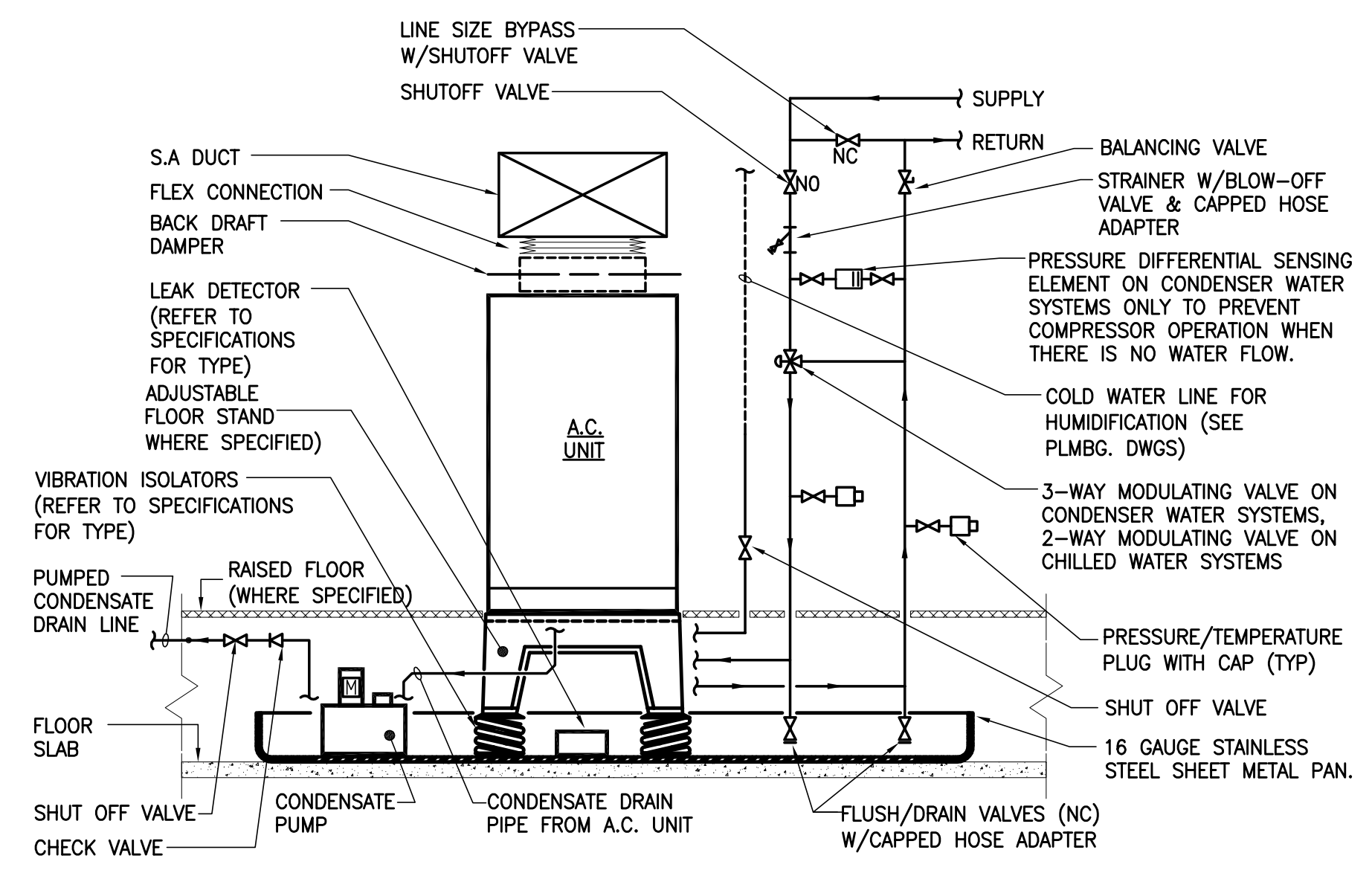
DRIVE GUARD DETAILS



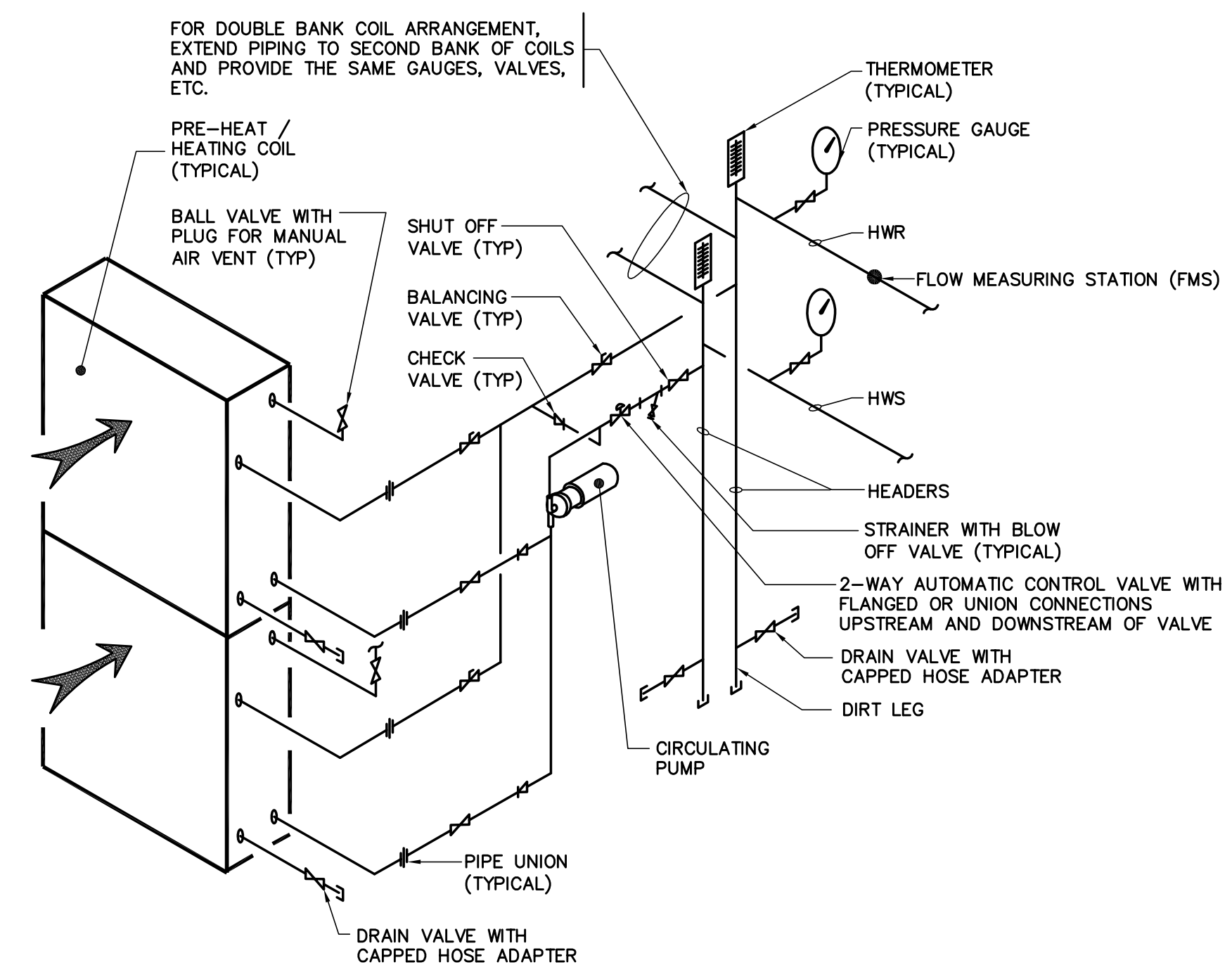
**CEILING MOUNTED A.C. UNIT,
CHILLED WATER PIPING CONNECTION DETAIL**



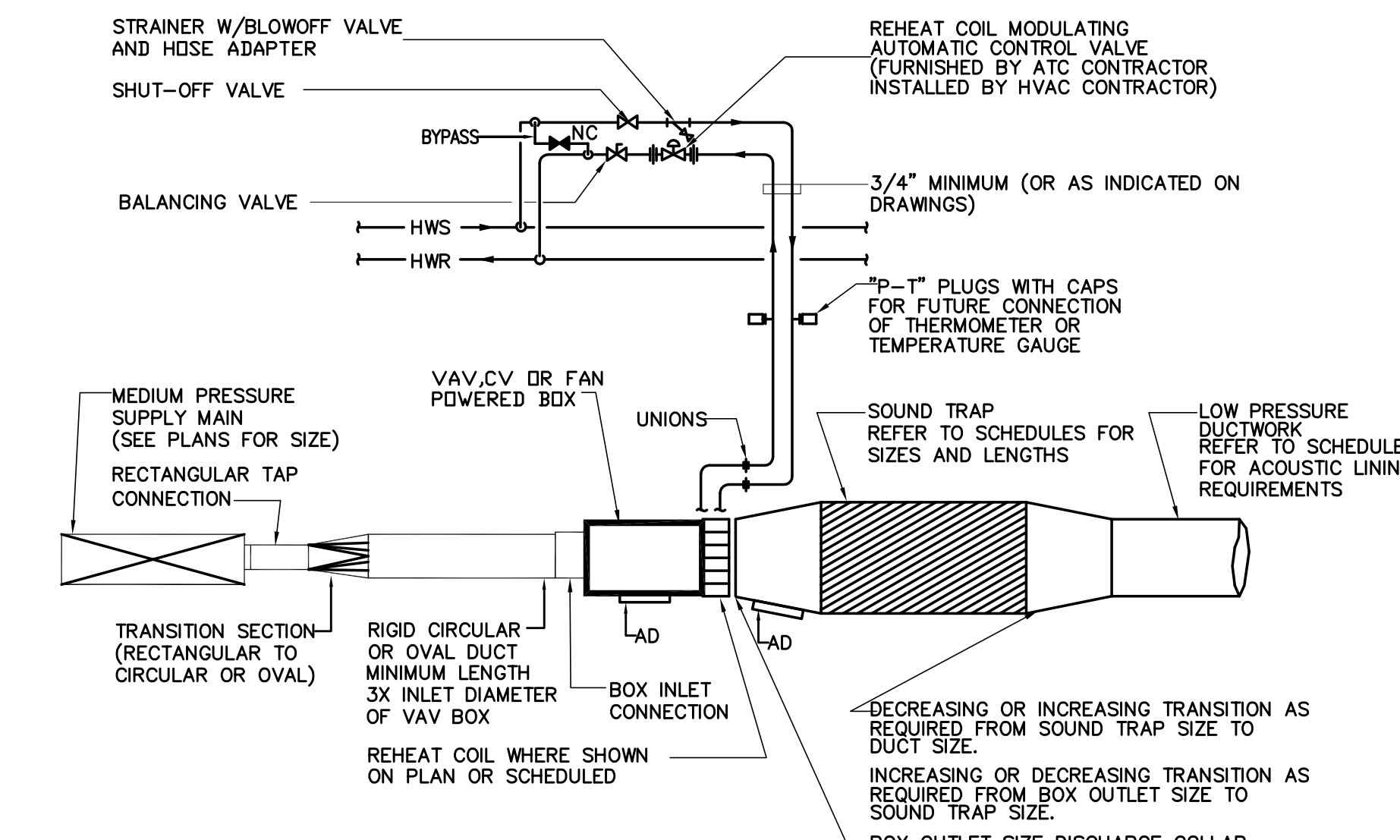
**FLOOR MOUNTED A.C. UNIT, OVERHEAD
WATER PIPING CONNECTION DETAIL**



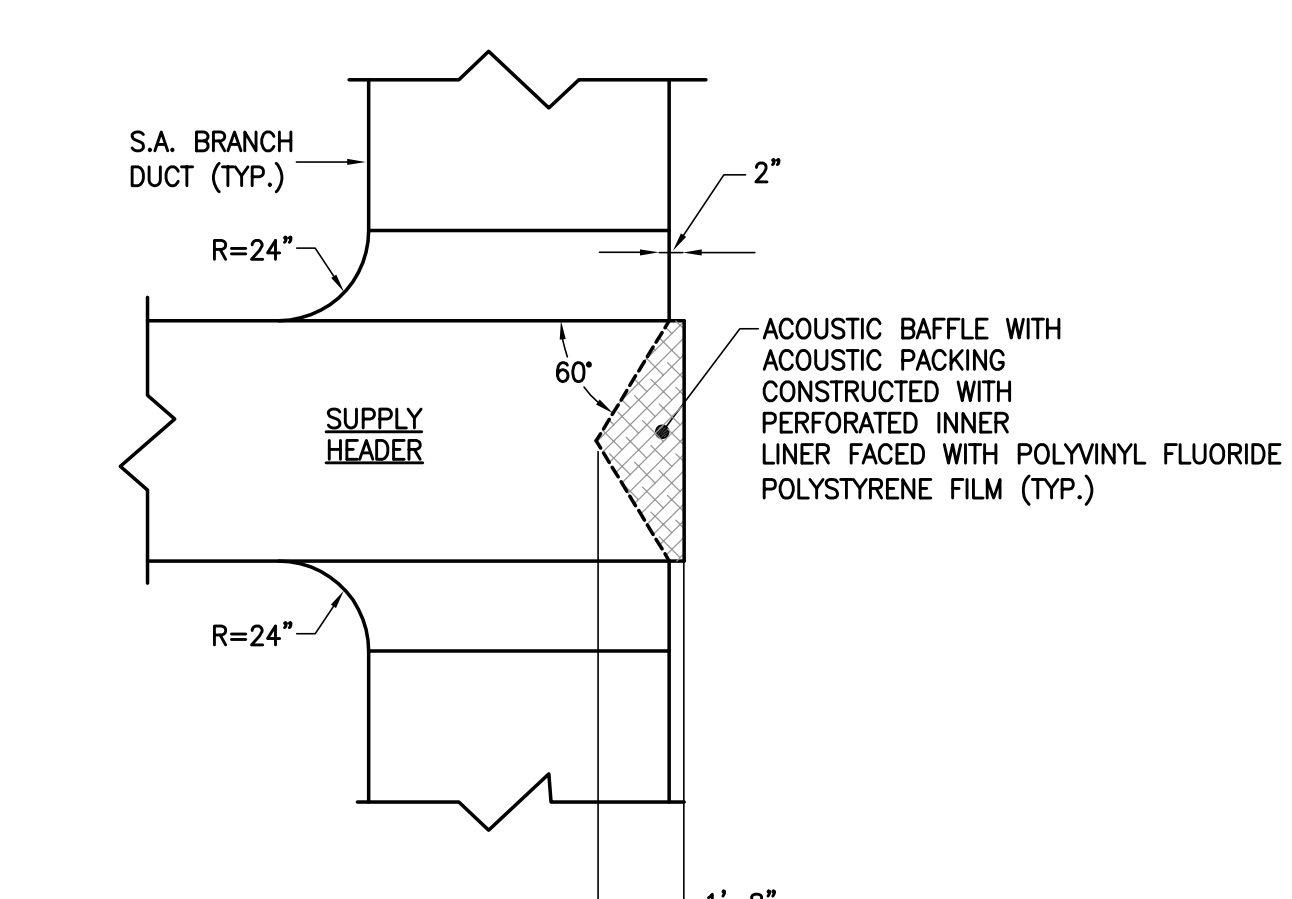
**FLOOR MOUNTED TOP DISCHARGE A.C. UNIT, OVERHEAD
WATER PIPING CONNECTION DETAIL**



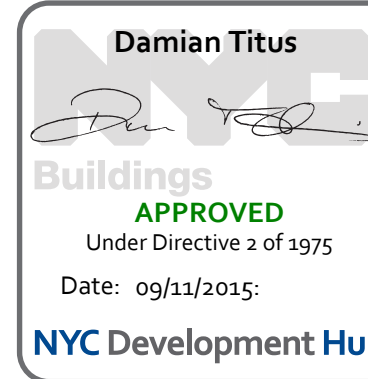
**HOT WATER PRE-HEAT / HEATING
COIL PIPING CONNECTION DETAIL**



**CVR, VAV, FPB or TERMINAL UNIT WITH
REHEAT COIL CONNECTION DETAIL**



**TYPICAL MEDIUM PRESSURE
TAP-OFF WITH INTERNAL ACOUSTICAL
BAFFLE**



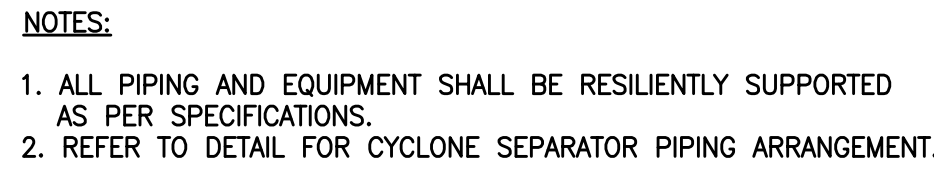
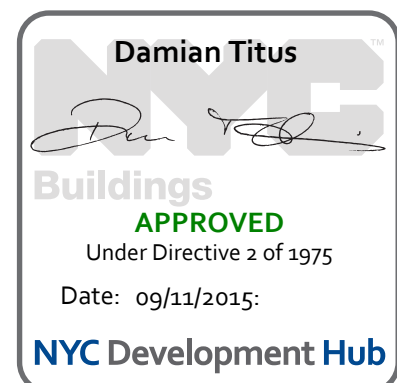
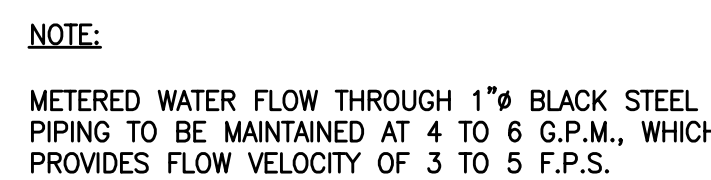
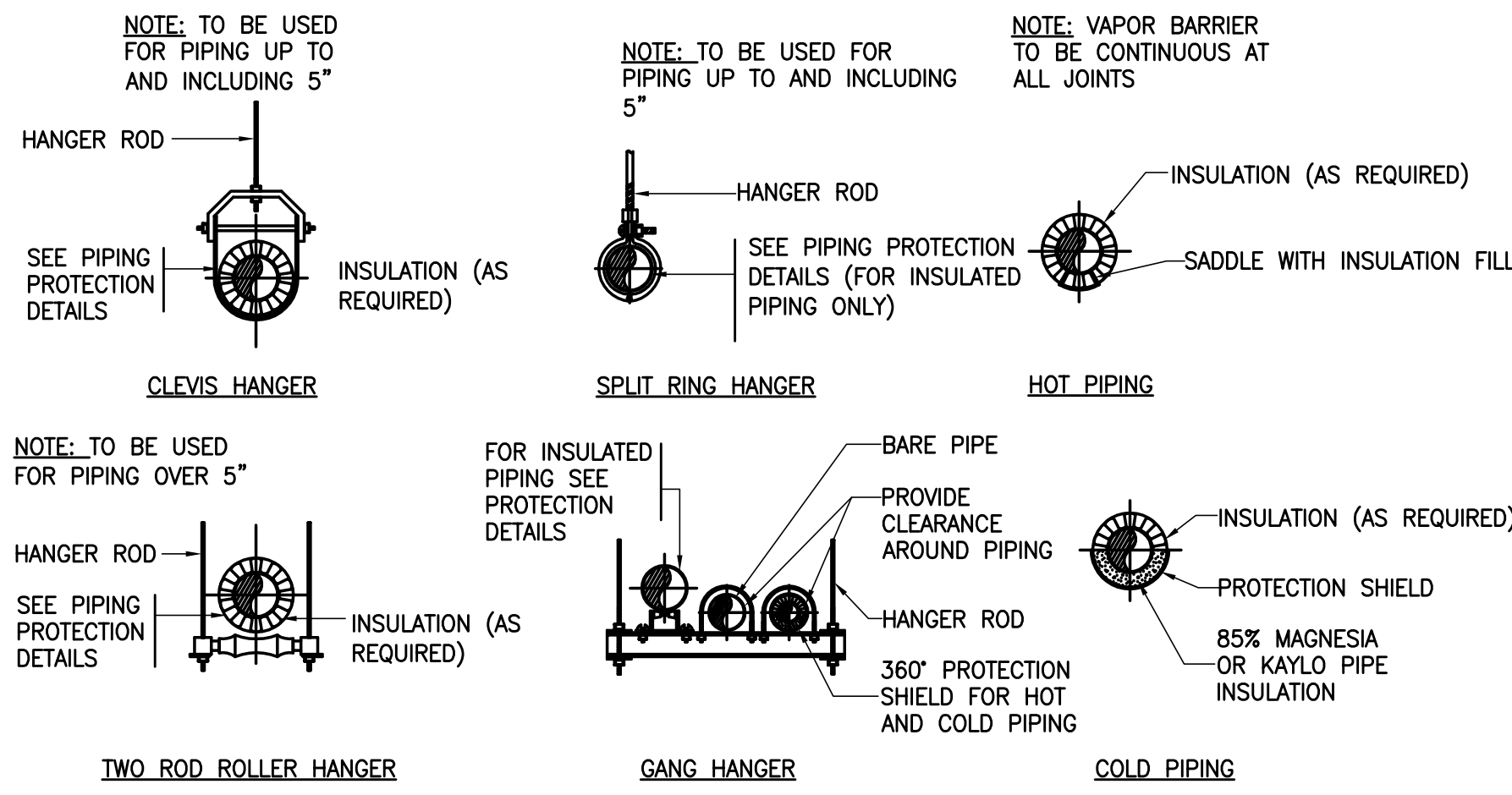


Diagram illustrating the components of a Relief Assembly A, showing the flow path and structural elements:

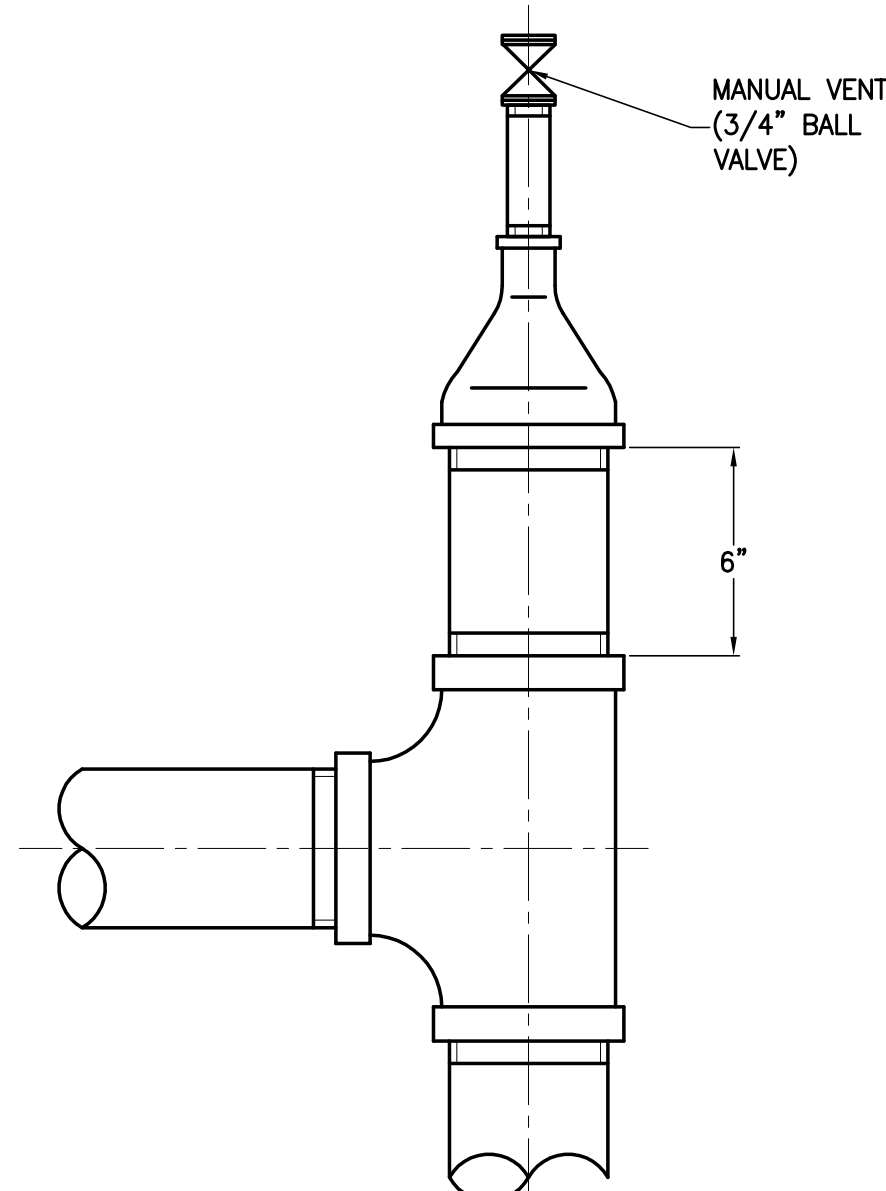
- 2 HR RATED WALL**: The main structural wall separating the corridor from the stair side.
- 14 GA FSD SLEEVE**: A sleeve for the Fire/Smoke Damper (FSD) assembly.
- BAROMETRIC RELIEF DAMPER (BRD)**: Located on the top of the wall, allowing for pressure equalization.
- FIRE/SMOKE DAMPER**: Located on the bottom of the wall, preventing fire and smoke from passing through.
- FSD ACTUATOR**: A diamond-shaped component used to operate the Fire/Smoke Damper.
- WMS**: A component (likely a Wall Mounting System) located at the bottom right of the assembly.
- CORRIDOR OR ROOM SIDE**: The area to the left of the wall.
- STAIR SIDE**: The area to the right of the wall.
- RELIEF ASSEMBLY A**: The overall assembly shown in the diagram.



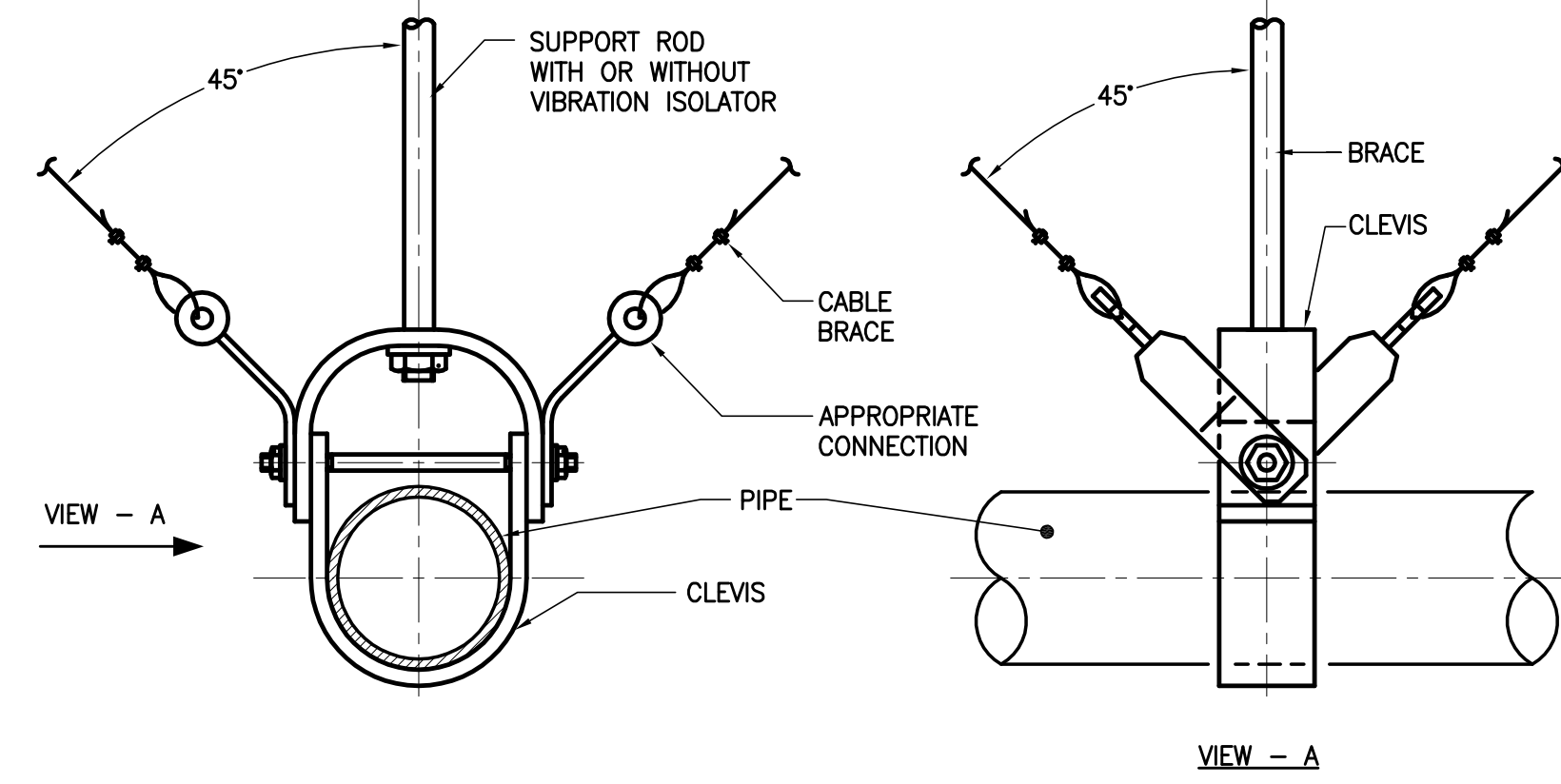


NOTE: PROVIDE AIR VENT AT HIGH POINT OF PIPING PROVIDE DRAIN VALVE AT LOW POINT OF PIPING.

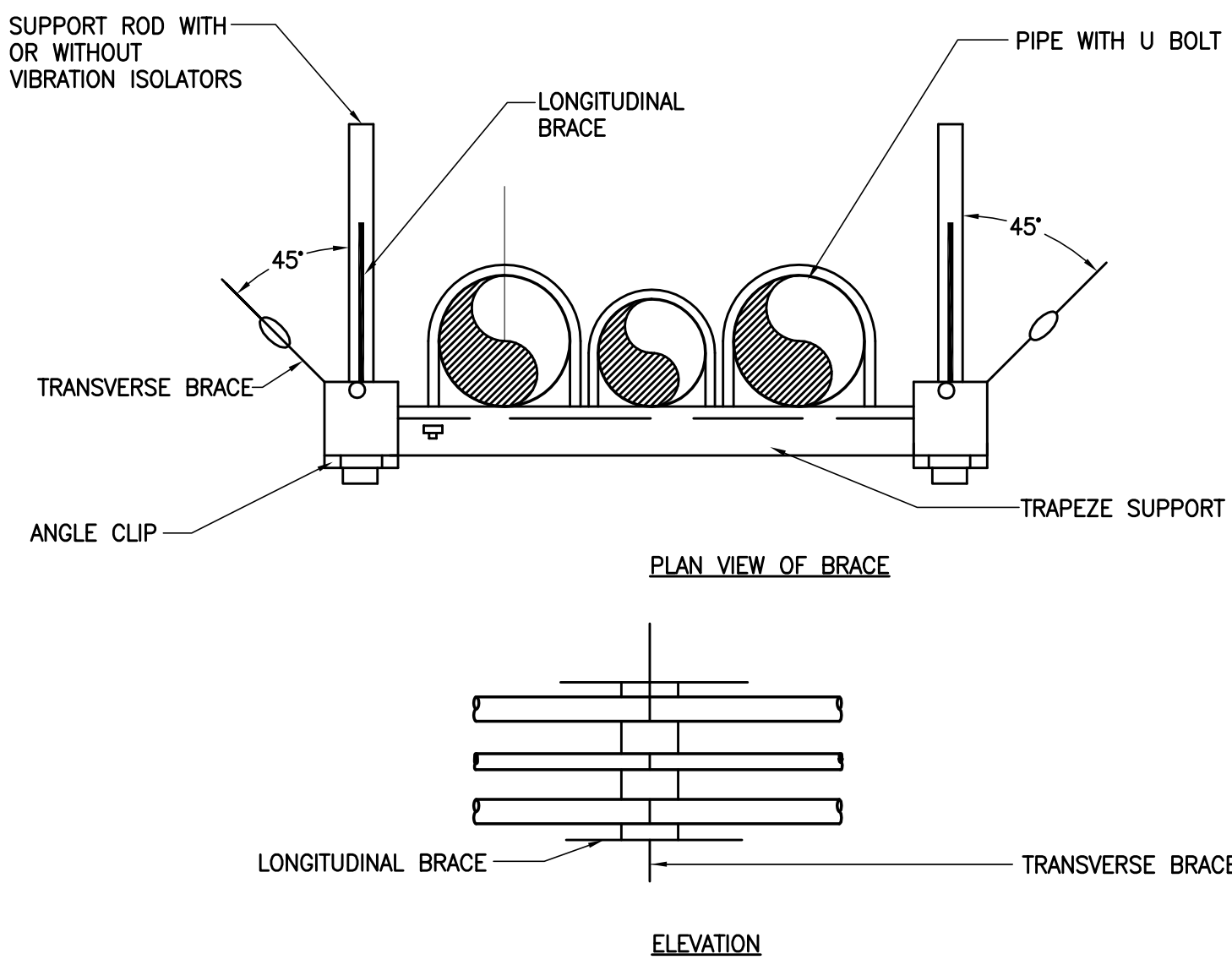
NON-SEISMIC PIPING SUPPORT AND INSULATION DETAILS



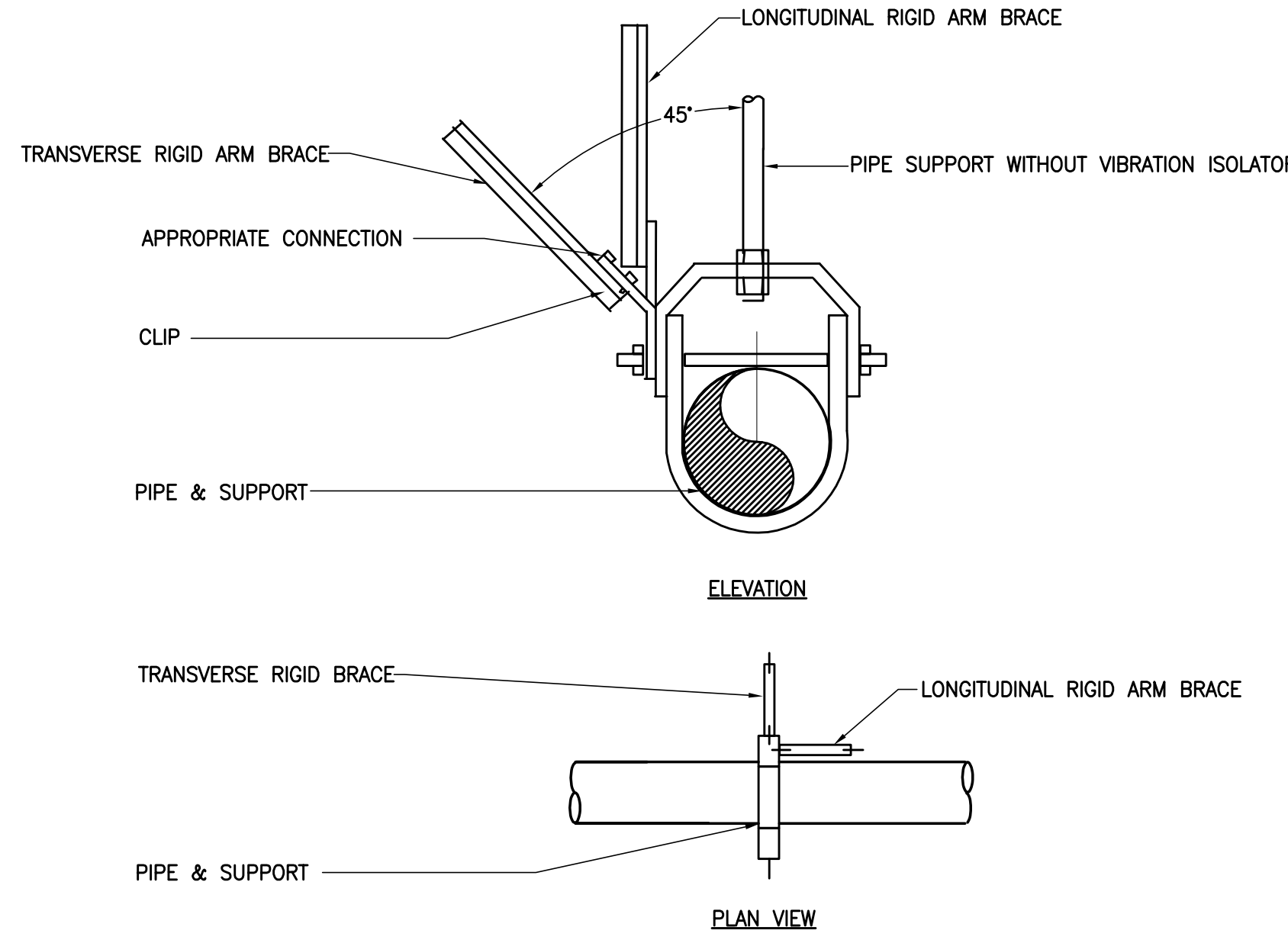
VENT ON PIPE RISER



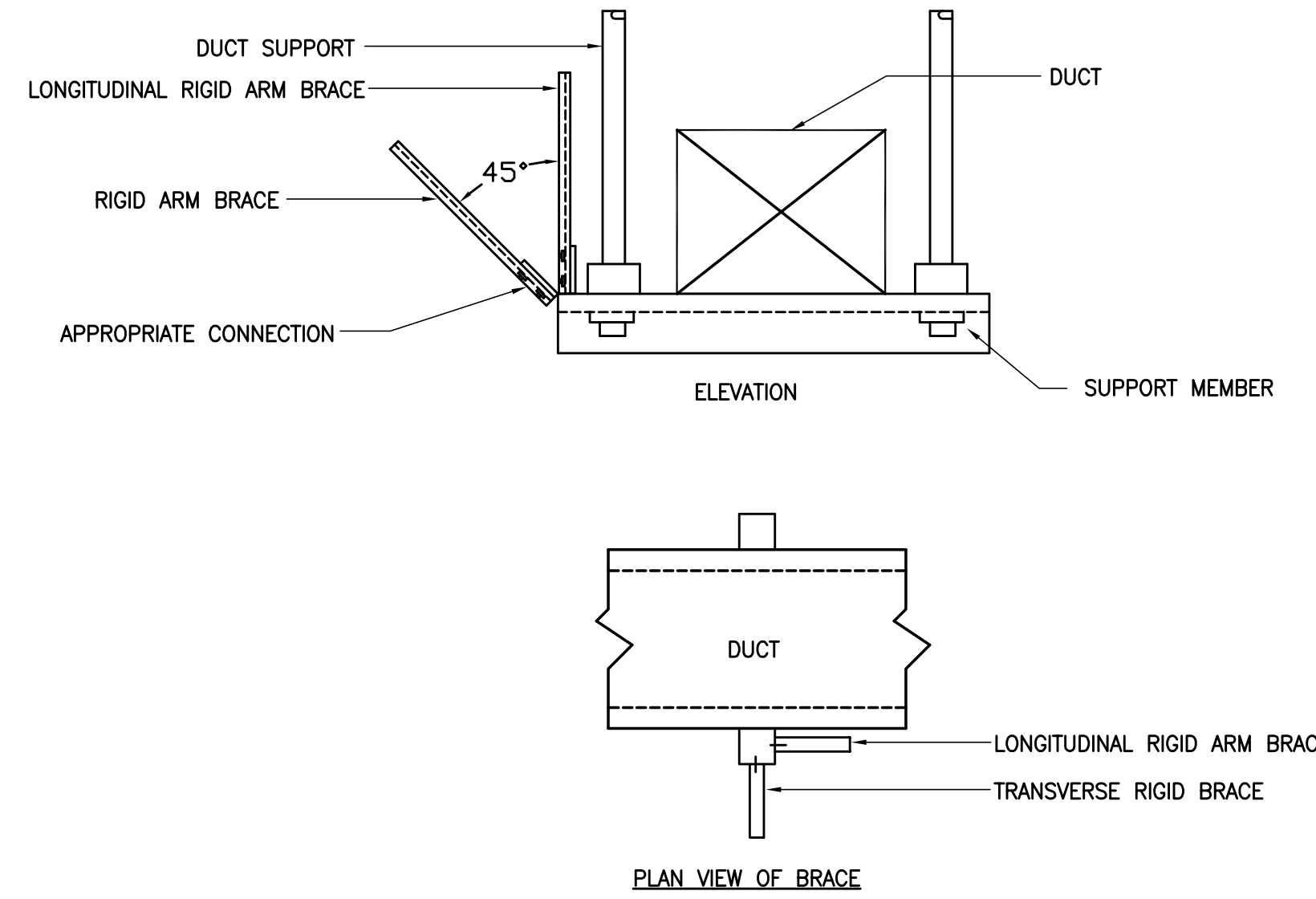
SEISMIC CABLE BRACE FOR PIPEWORK MOUNTING DETAIL



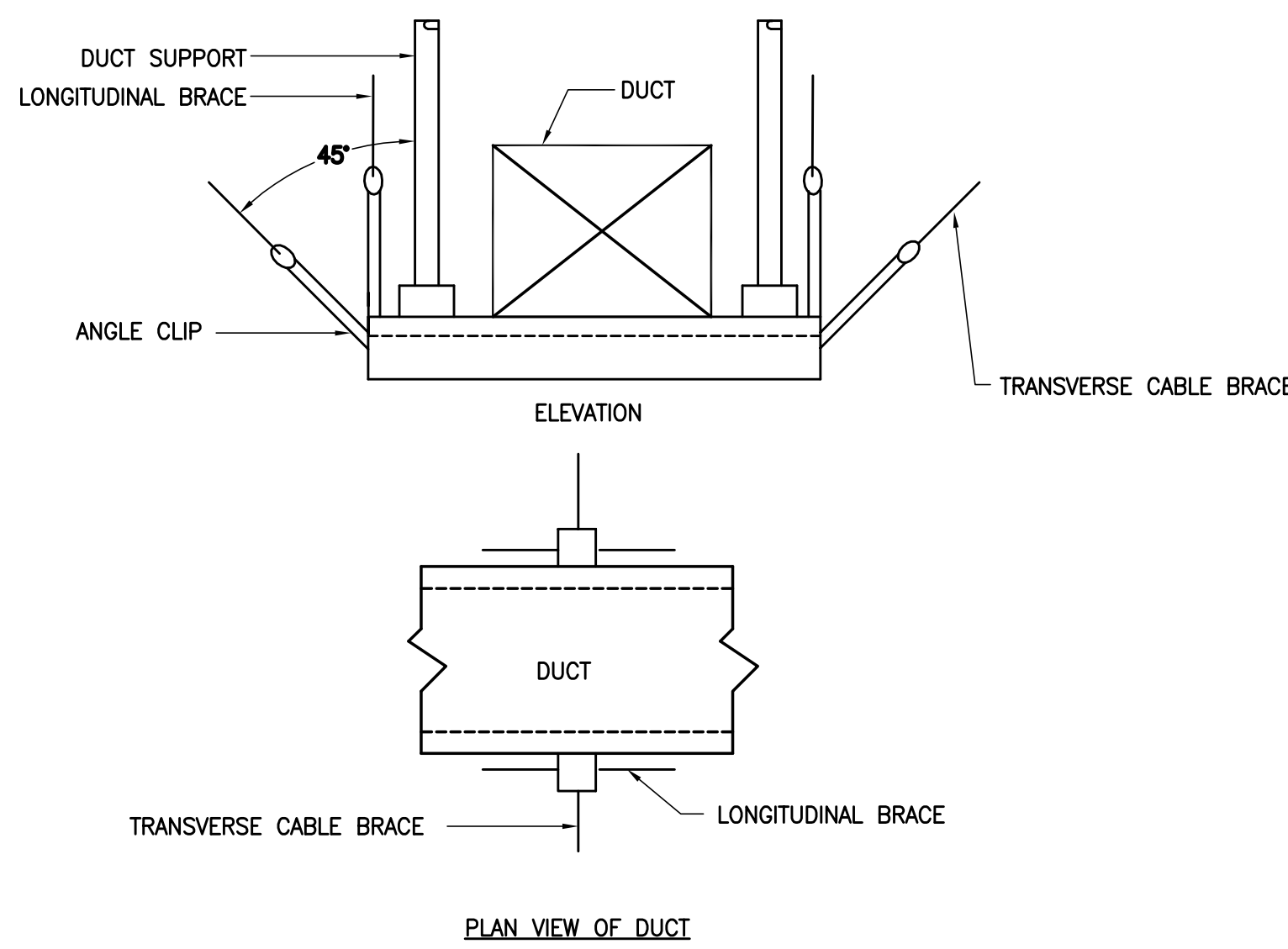
SEISMIC TWO DIRECTIONAL CABLE BRACE FOR PIPEWORK ON TRAPEZE



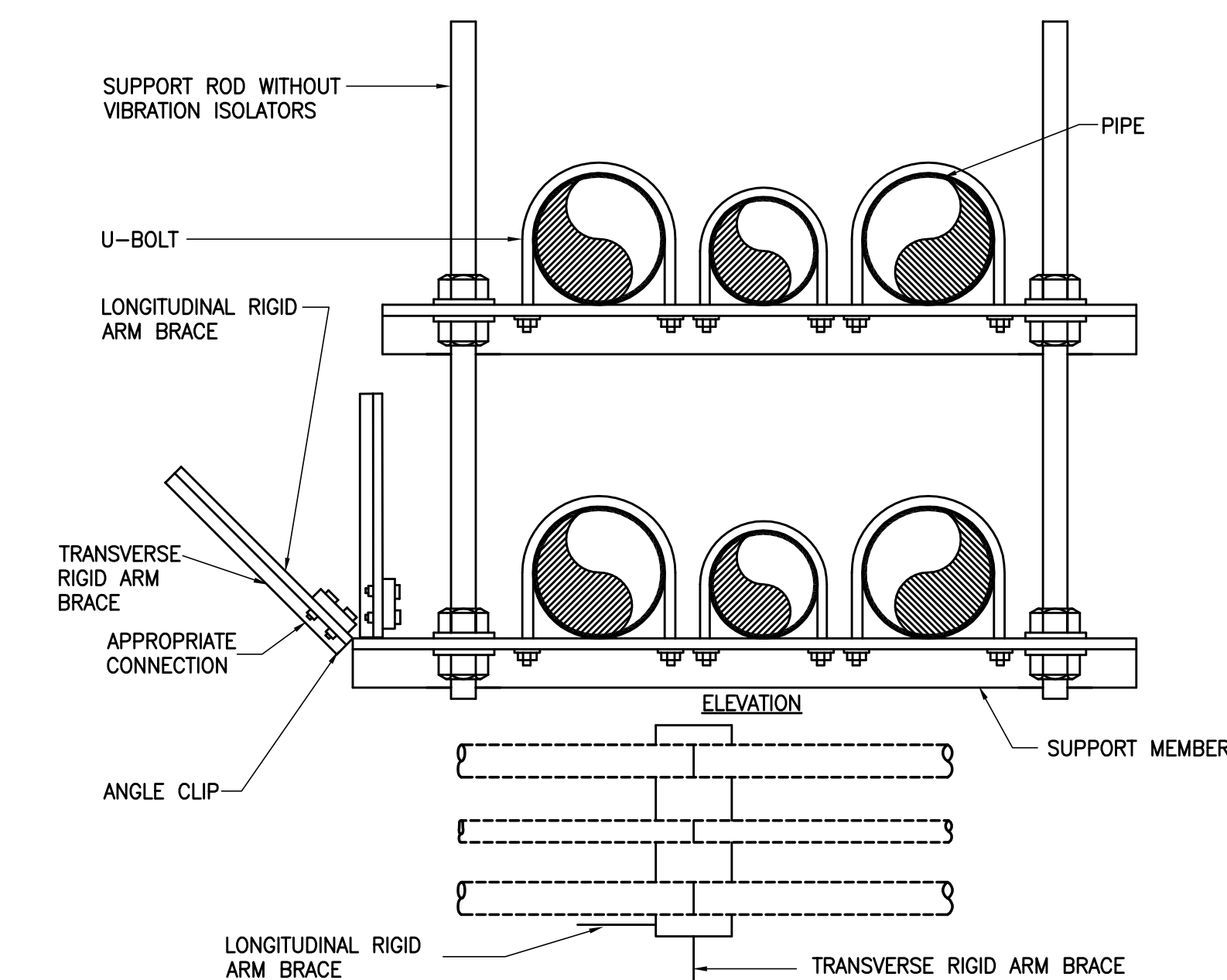
SEISMIC RIGID ARM NON-INSULATED PIPE BRACE



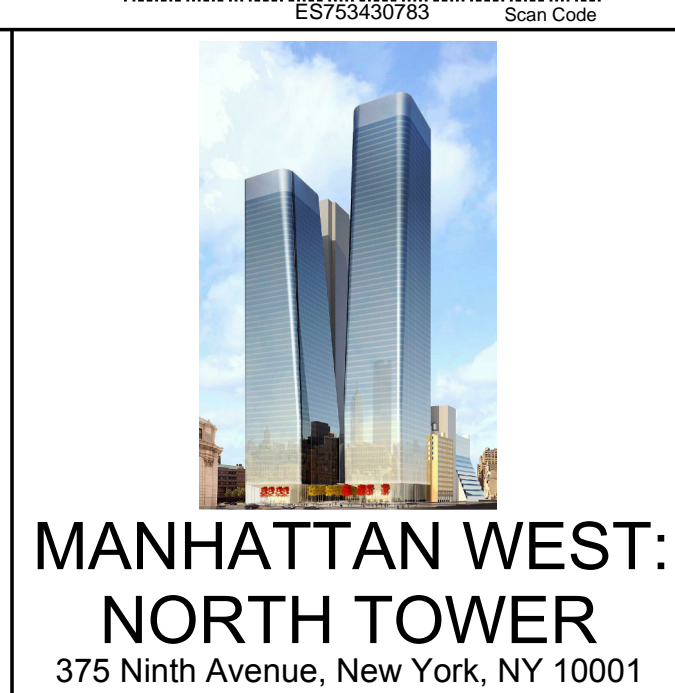
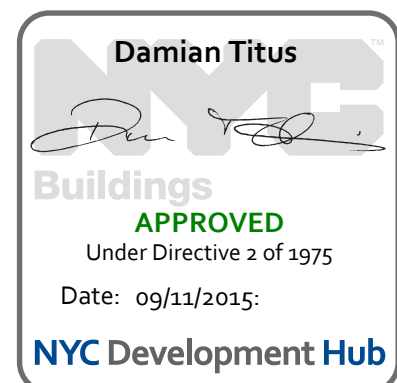
SEISMIC SINGLE RIGID ARM BRACE FOR DUCTS



SEISMIC TWO DIRECTIONAL CABLE BRACE FOR DUCT



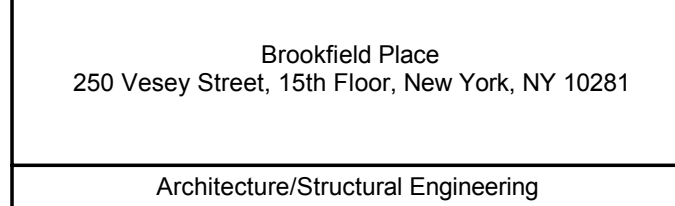
SEISMIC RIGID ARM BRACE FOR NON-ISOLATED PIPES



MANHATTAN WEST: NORTH TOWER

375 Ninth Avenue, New York, NY 10001

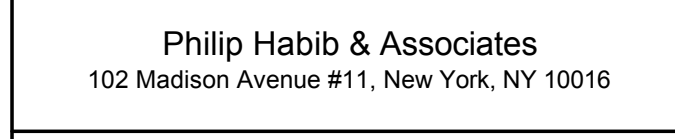
Client



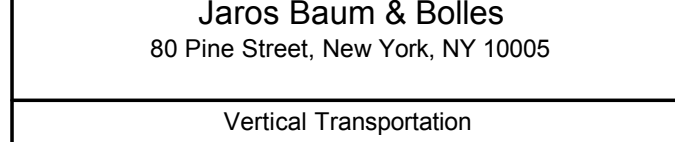
Architecture/Structural Engineering



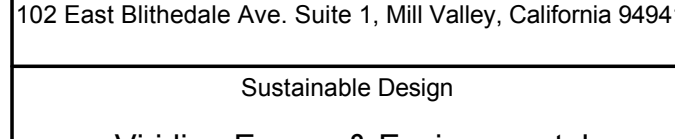
Civil Engineering



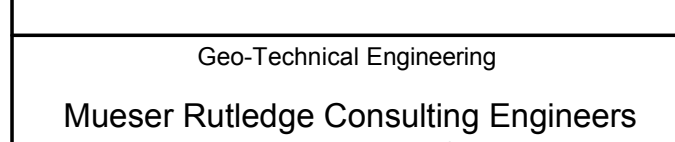
MEP Engineering



Vertical Transportation



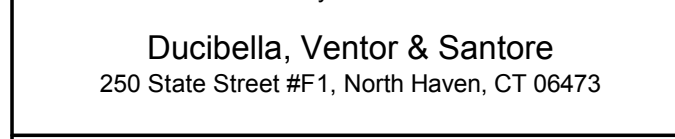
Sustainable Design



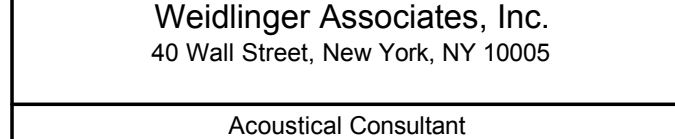
Geo-Technical Engineering



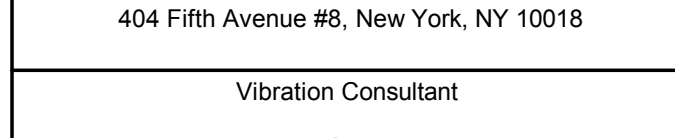
Landscape Consultant



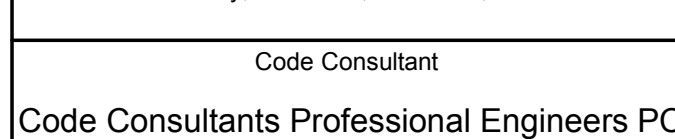
Security Consultant



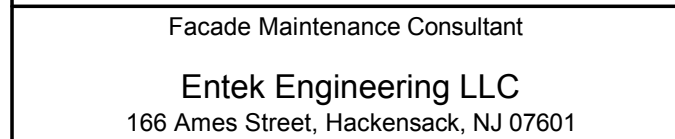
Blast Consultant



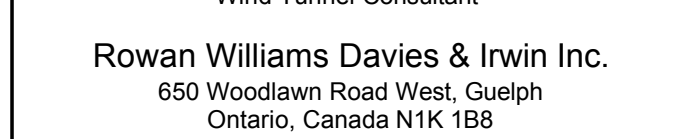
Acoustical Consultant



Vibration Consultant



Code Consultant



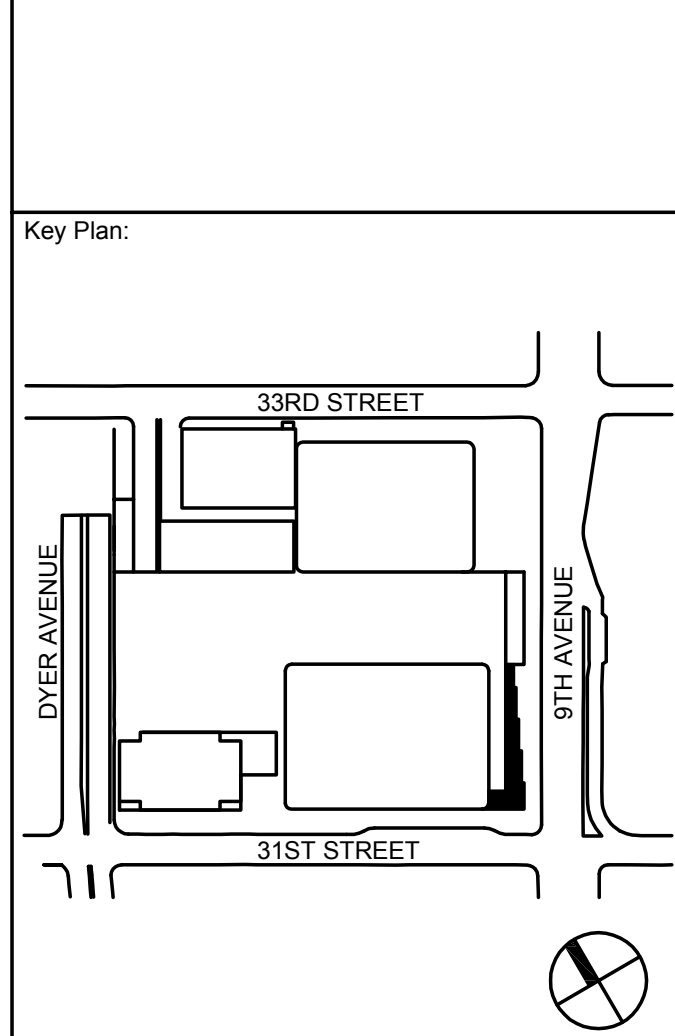
Facade Maintenance Consultant



Wind Tunnel Consultant



Key Plan:



Seal & Signature:



| No. | Date | Description |
|-----|-------------|-----------------------------------|
| 1 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 13 NOV 2013 | ISSUED FOR BID PROCESSING |
| 4 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 5 | 13 MAR 2013 | ISSUED FOR REVISION |

Sheet Name:

MECHANICAL DETAIL SHEET NO. 4

| | |
|----------------------------|-------------------------------|
| Project No: 14830.A.000 | B-SCAN Sheet No.: M-703.00 |
| Date: 20 JUN 2014 | Sheet No.: M-703 |
| Scale: NTS | Page No.: |



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Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave. Suite 1, Mill Valley, California 94941

Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854

Geo-Technical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street #610,
New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

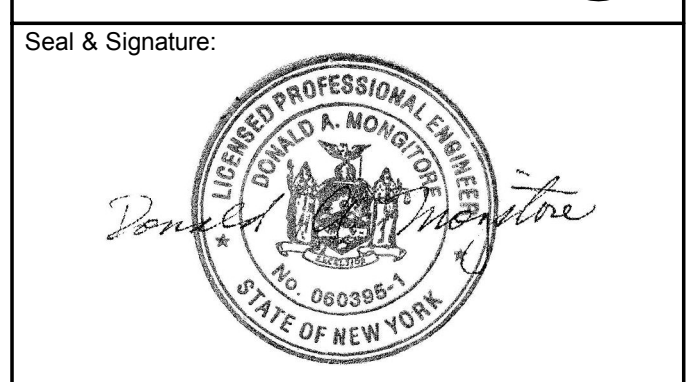
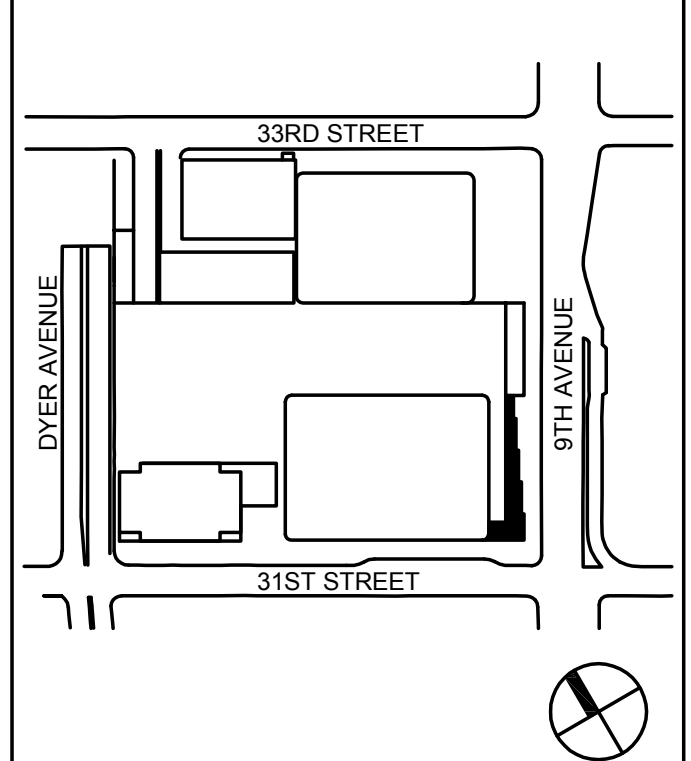
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
186 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

Key Plan:



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| 2 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 13 NOV 2013 | ISSUED FOR FLOOD PROOFING PERMIT |
| 4 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 5 | 13 MAR 2013 | ISSUED FOR RECONFIGURATION |

MECHANICAL
DETAIL
SHEET
NO. 5

Project No:
14830.A.000

Date:
20 JUN 2014

Scale:
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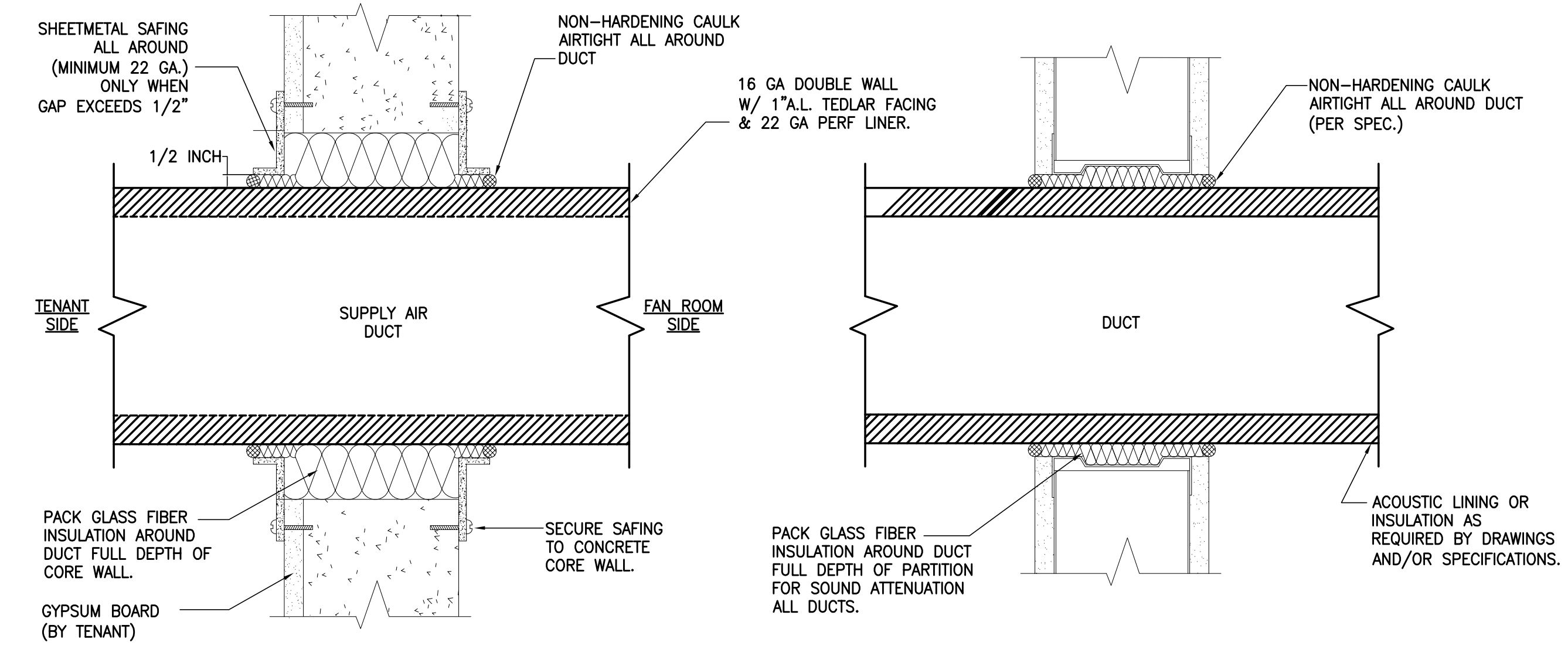
B-SCAN Sheet No.:

M-704.00

Sheet No.:

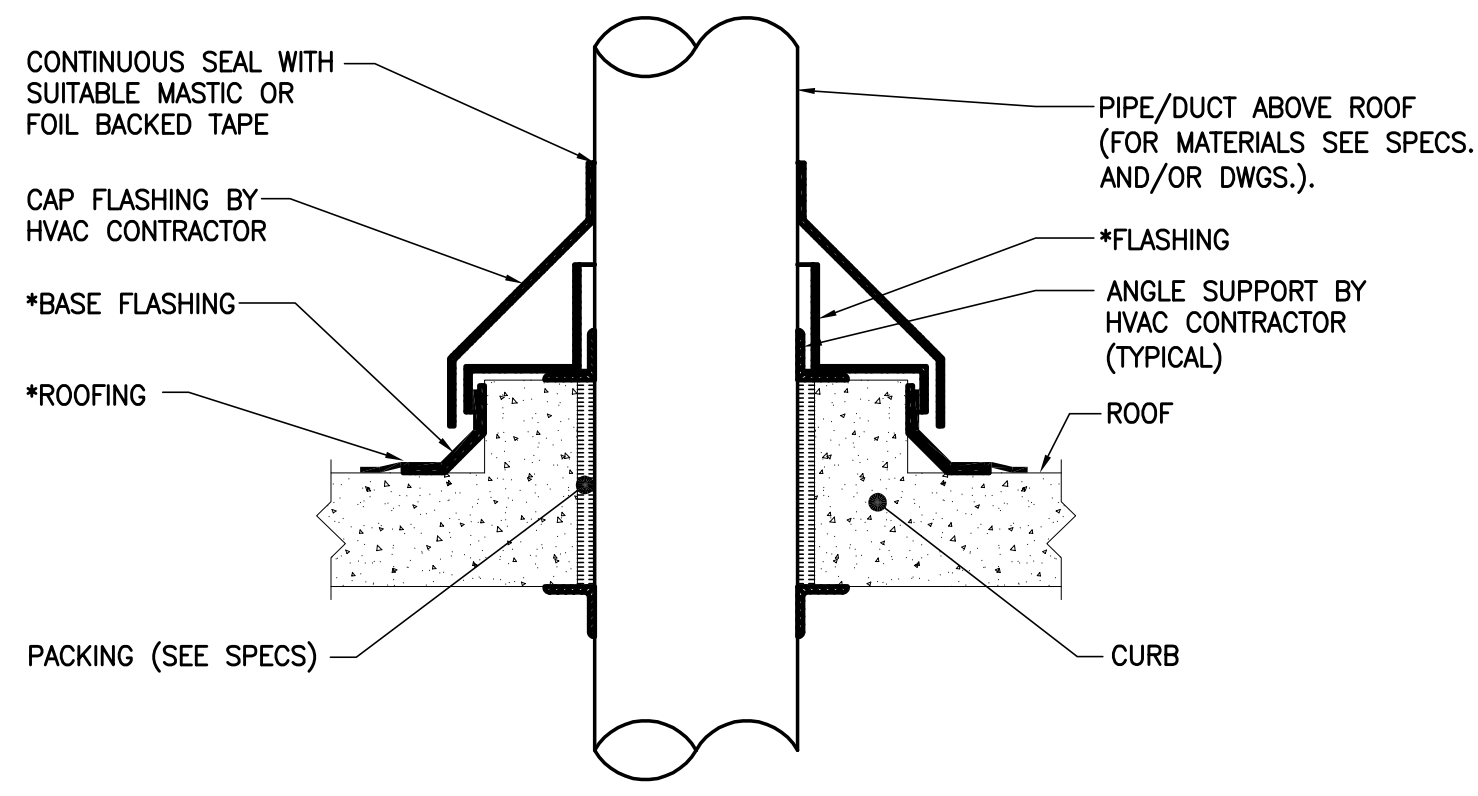
M-704

Page No.:



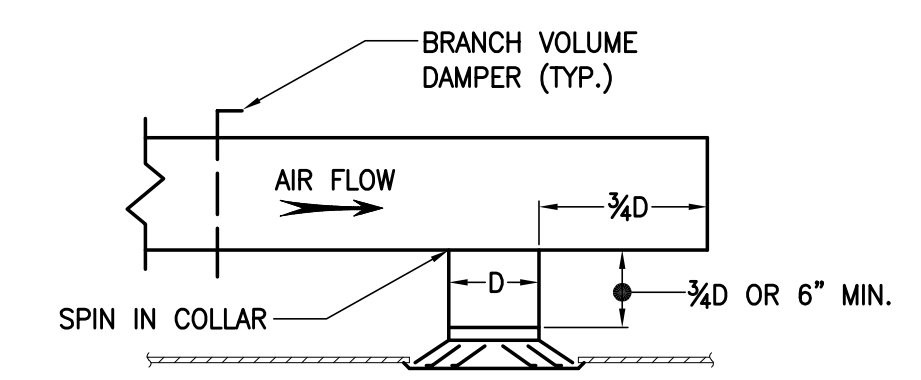
FAN ROOM DUCT PENETRATION
(NON-RATED PARTITIONS)

TYPICAL DUCT AT WALL PENETRATION
(NON-RATED PARTITIONS)

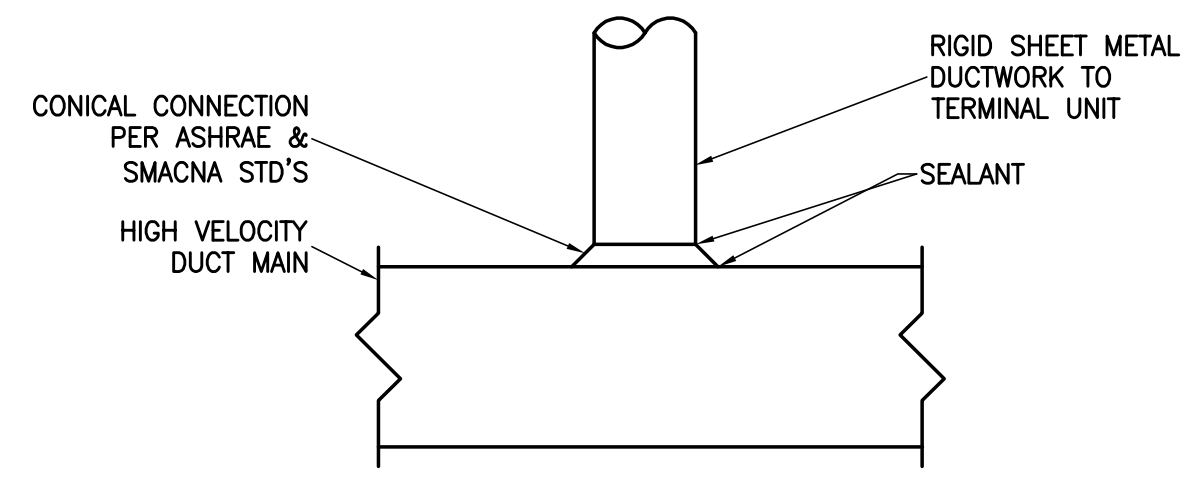


*NOTE:
TO BE FURNISHED UNDER OTHER SECTIONS OF THE SPECIFICATION.

CURB AND FLASHING DETAIL FOR
PIPE/DUCT PENETRATIONS AT ROOF



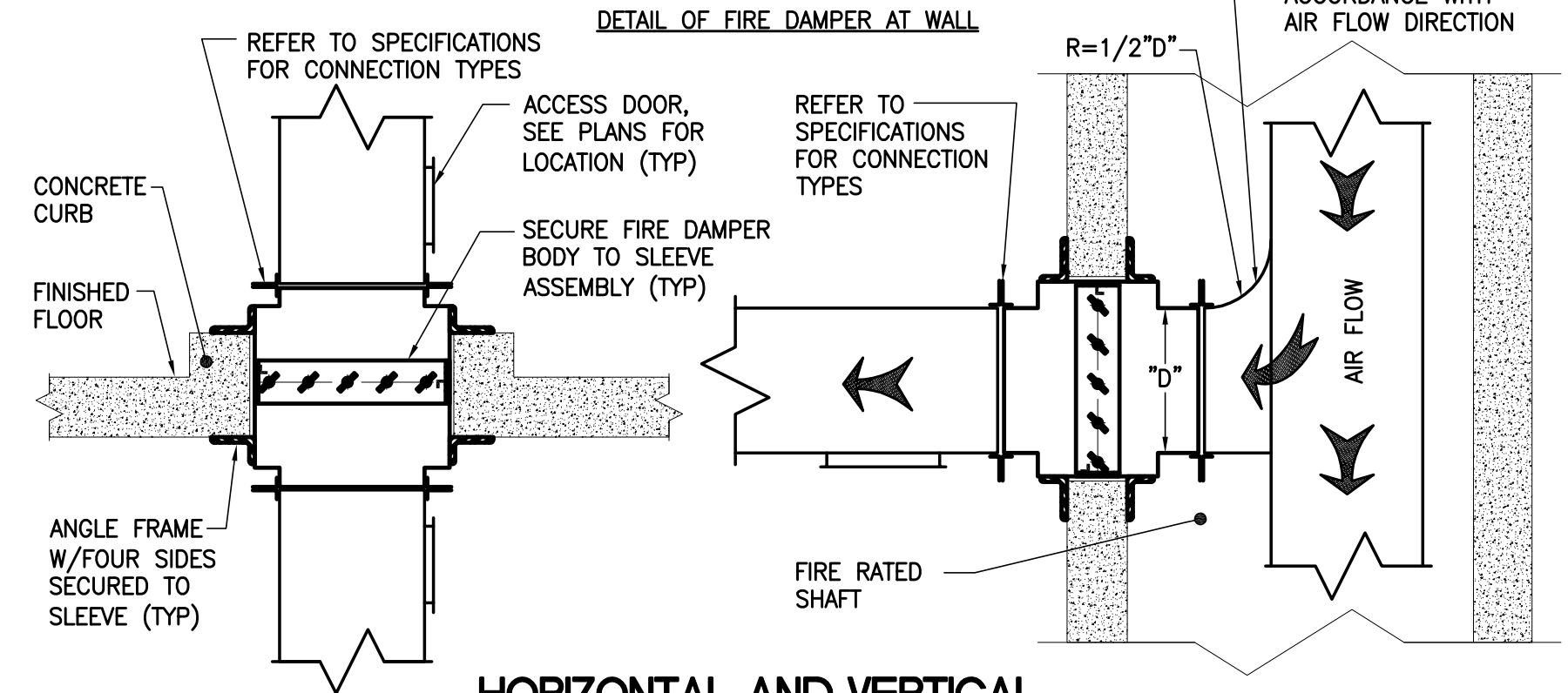
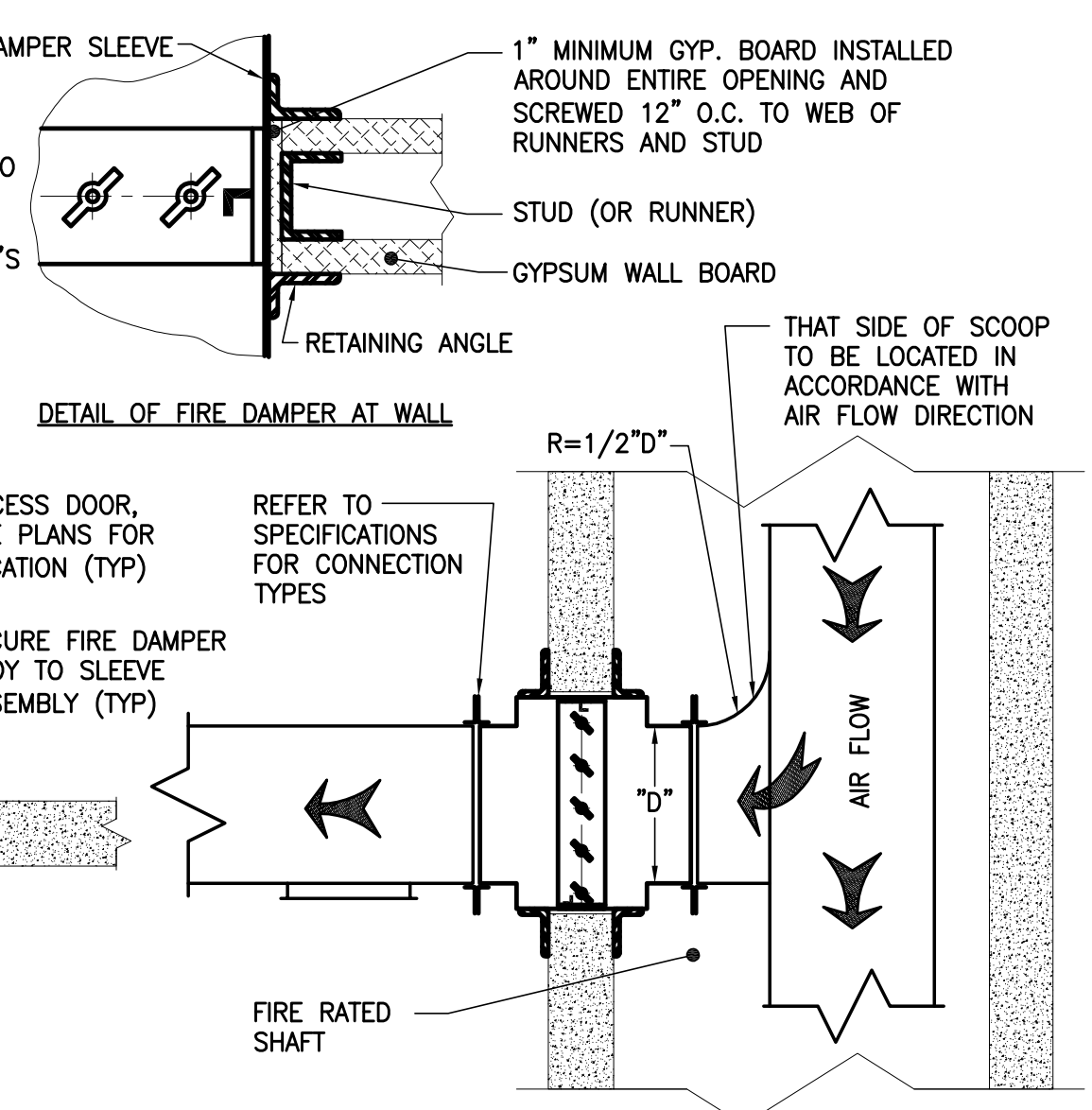
TYPICAL DIFFUSER INSTALLATION



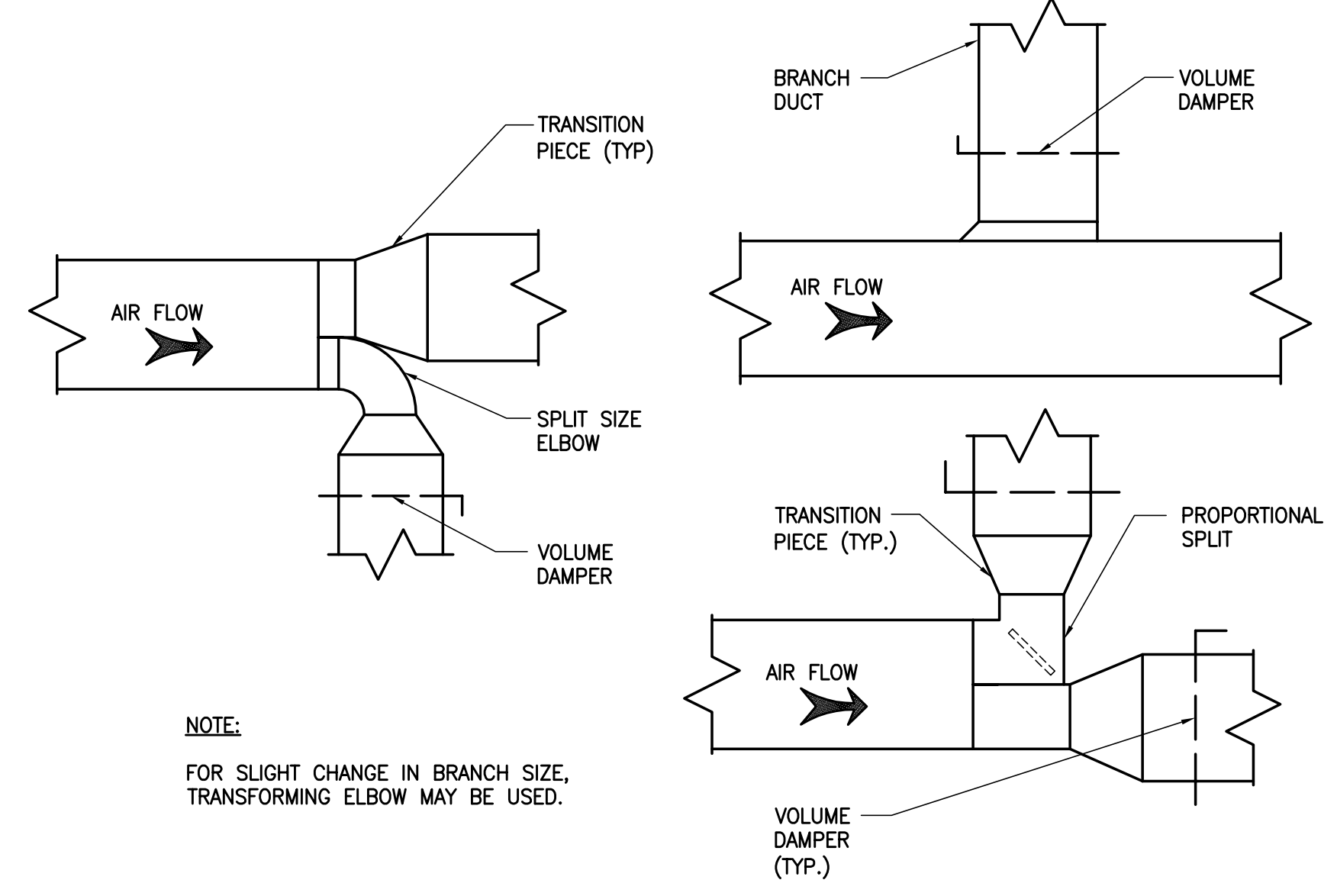
HIGH VELOCITY DUCT CONNECTION

FIRE DAMPER NOTES:

1. DRY WALL FRAMING AT FIRE DAMPERS MUST BE IN ACCORDANCE WITH WALL SYSTEM MANUFACTURER'S UL APPROVED DETAILS.
2. SHEET METAL SLEEVES FOR ALL DAMPERS TO BE 14 GA.
3. FIRE DAMPERS ARE TO BE INSTALLED IN FULL ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS PER UL 555D.
4. SEE ARCHT. DWGS FOR STUD LOCATION AT DAMPERS.

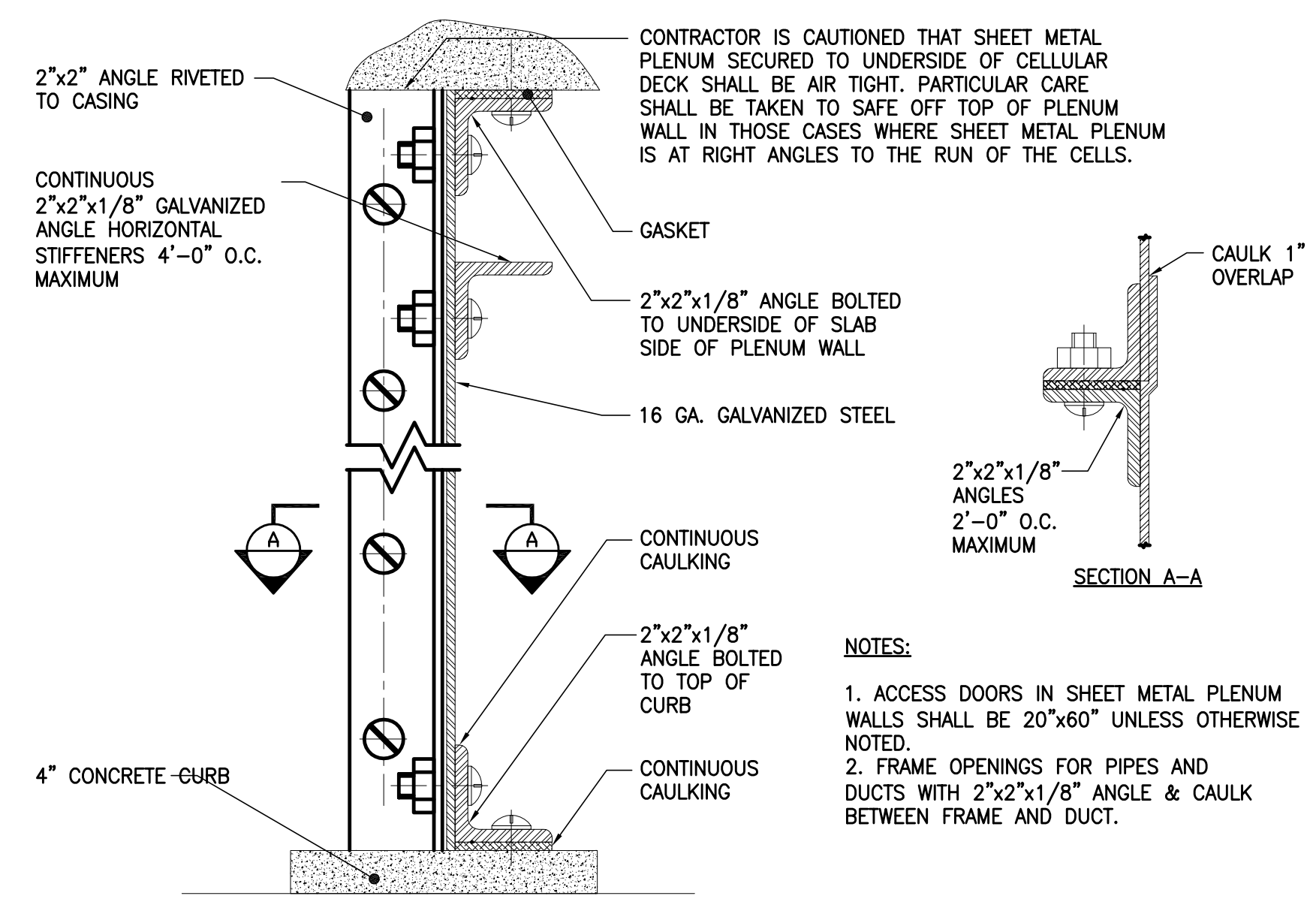


HORIZONTAL AND VERTICAL
FIRE OR FIRE SMOKE DAMPERS INSTALLATION DETAIL



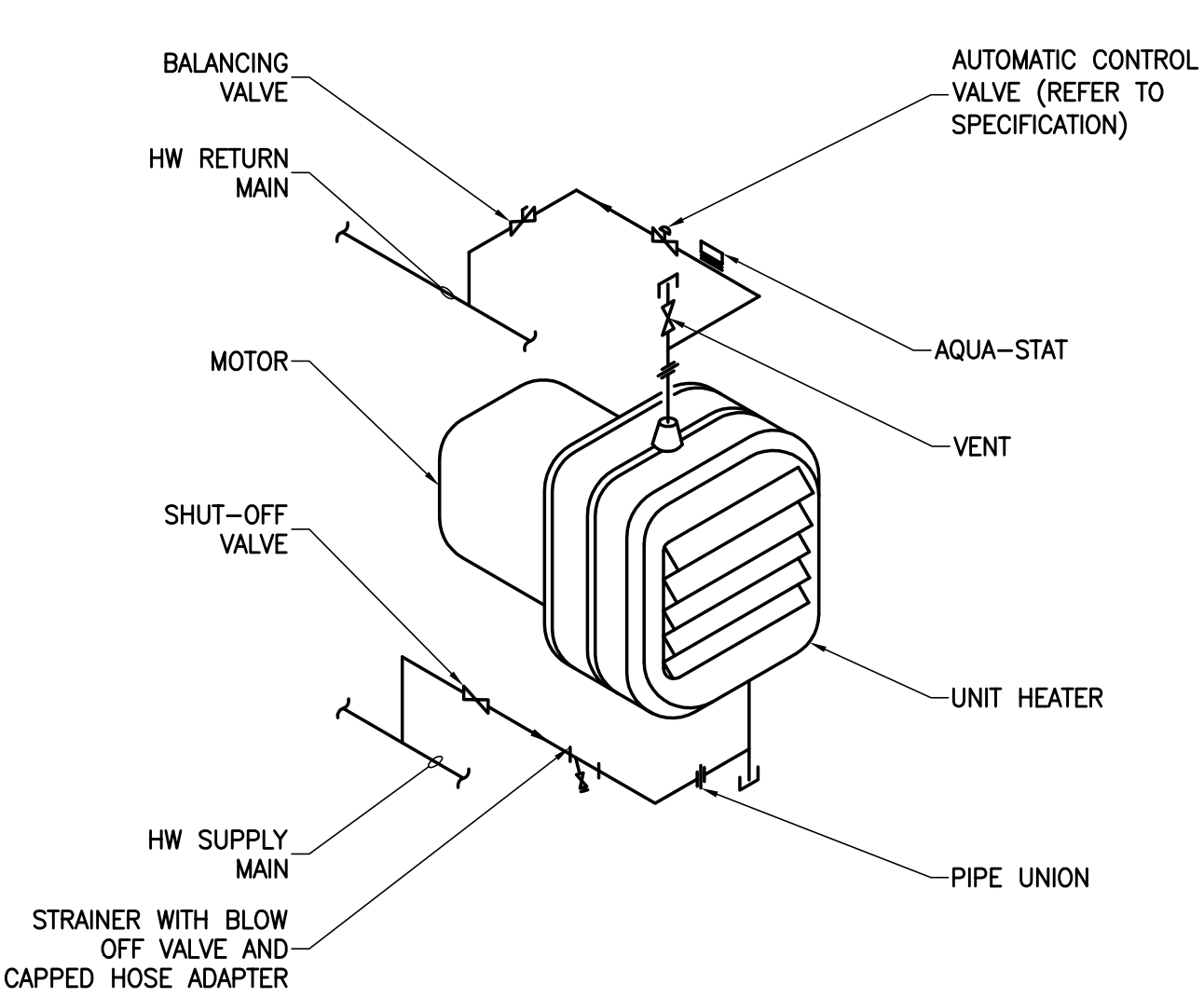
*NOTE:
FOR SLIGHT CHANGE IN BRANCH SIZE, TRANSFORMING ELBOW MAY BE USED.

LOW VELOCITY DUCT CONNECTIONS

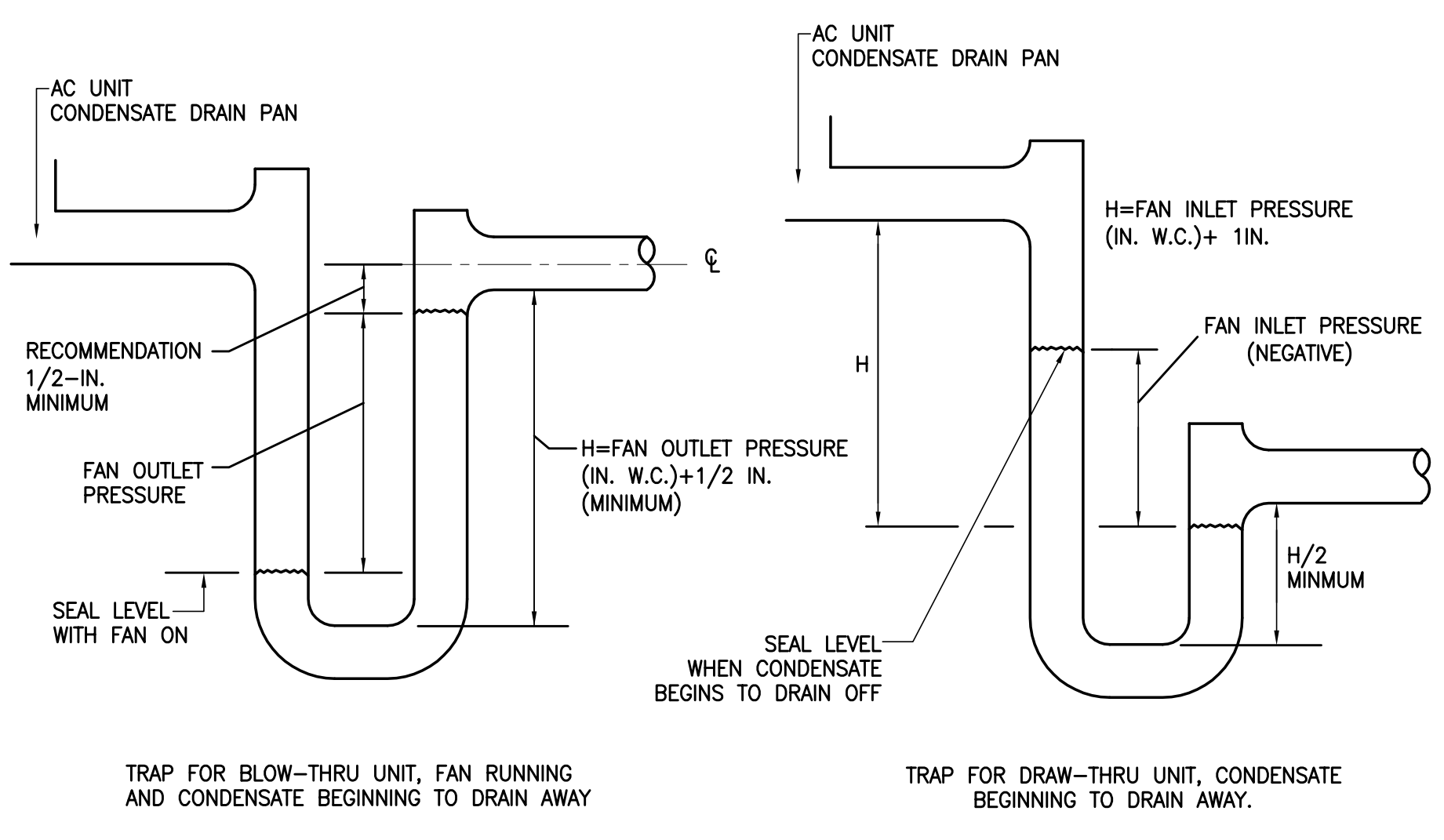


- NOTES:
1. ACCESS DOORS IN SHEET METAL PLENUM WALLS SHALL BE 20"x60" UNLESS OTHERWISE NOTED.
 2. FRAME OPENINGS FOR PIPES AND DUCTS WITH 2"x2"x1/8" ANGLE & CAULK BETWEEN FRAME AND DUCT.

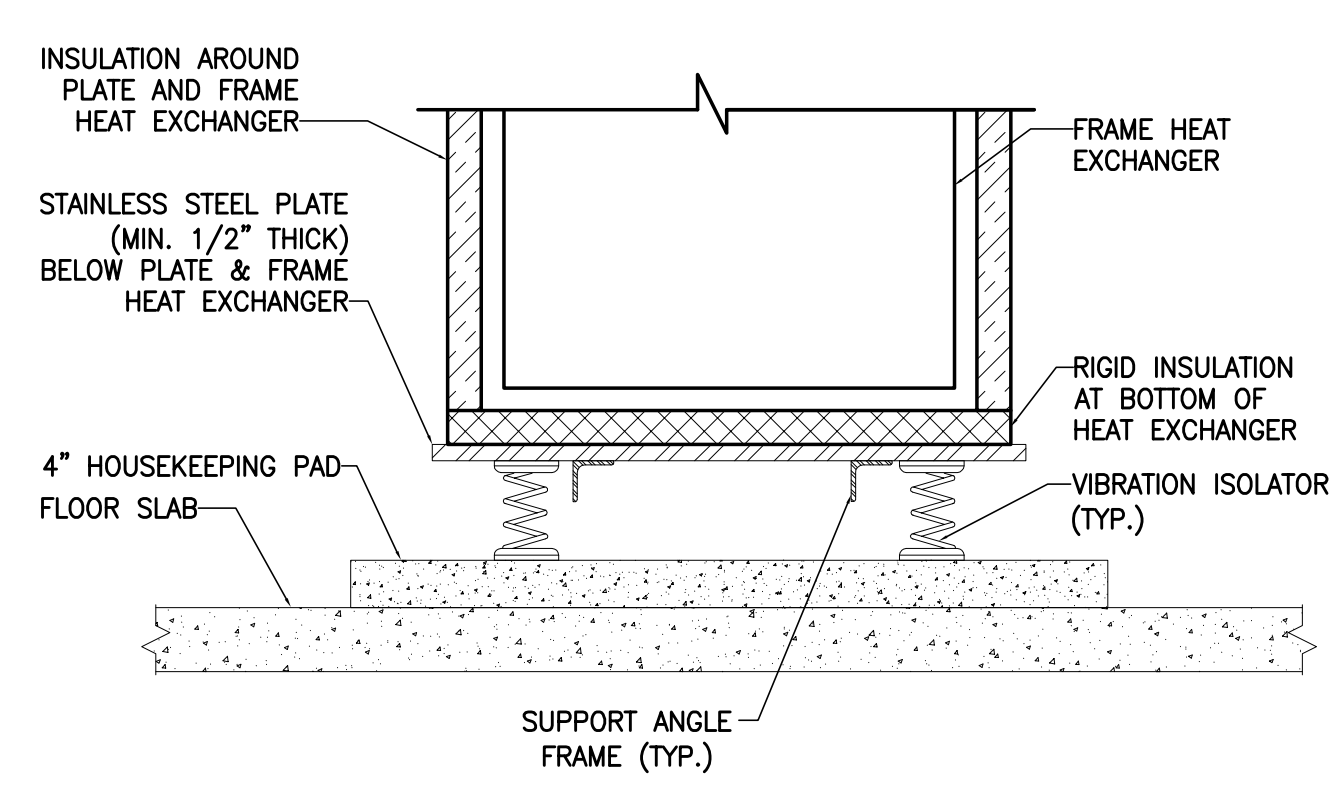
SHEET METAL PLENUM DETAIL



HW UNIT HEATER PIPING CONNECTION

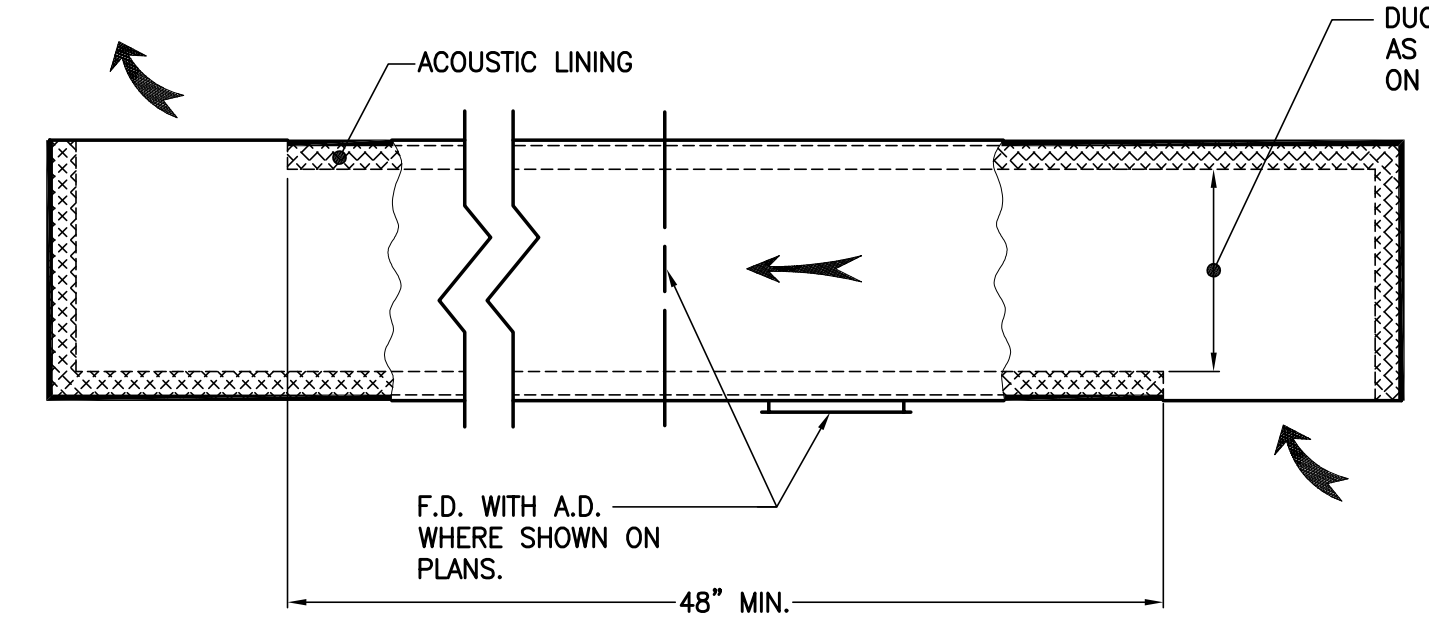


CONDENSATE TRAPS FOR COOLING COILS

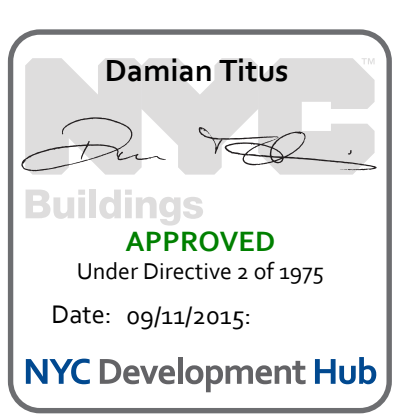


SUPPORT DETAIL FOR FLAT PLATE
HEAT EXCHANGER WITH INSULATION

*NOTE:
REQUIREMENT FOR SUPPORT ANCHORS AND FOR THE THICKNESS OF THE SUPPORT PLATE BELOW THE PLATE & FRAME HEAT EXCHANGER SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR AND SHALL BE AS SPECIFIED BY THE STRUCTURAL ENGINEER.



TRANSFER DUCT DETAIL





MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001

Client

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Brookfield Plaza
250 Vesey Street, 15th Floor, New York, NY 10281

Architecture/Structural Engineering

SOM

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250 State Street #F1, North Haven, CT 06473

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Vibration Consultant

Wilson, Uhrig & Associates, Inc.
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Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

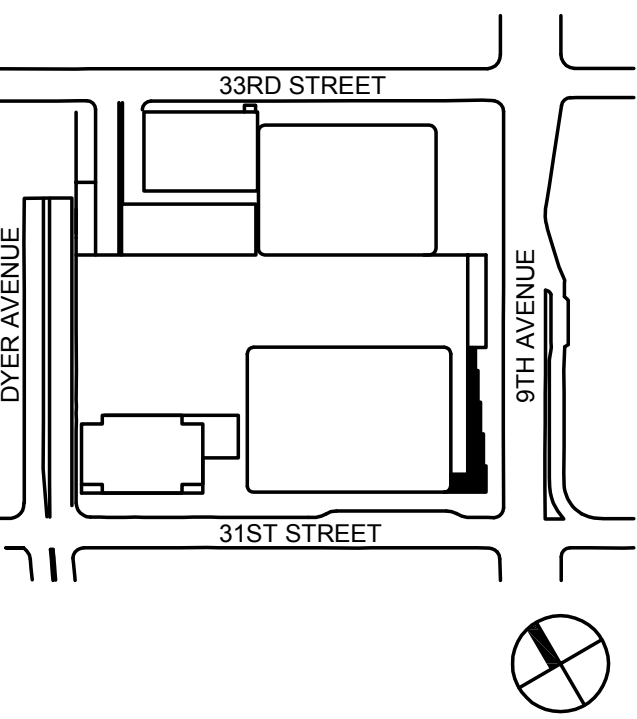
Facade Maintenance Consultant

Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



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| 1 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
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| 3 | 13 NOV 2013 | ISSUED FOR DD PROJECT SUBMITTING |
| 4 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 5 | 13 MAR 2013 | ISSUED FOR RECONFIGURATION |

Sheet Name:

MECHANICAL
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SHEET
NO. 7

Project No:

14830.A.000

Date:

20 JUN 2014

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NTS

File No.:

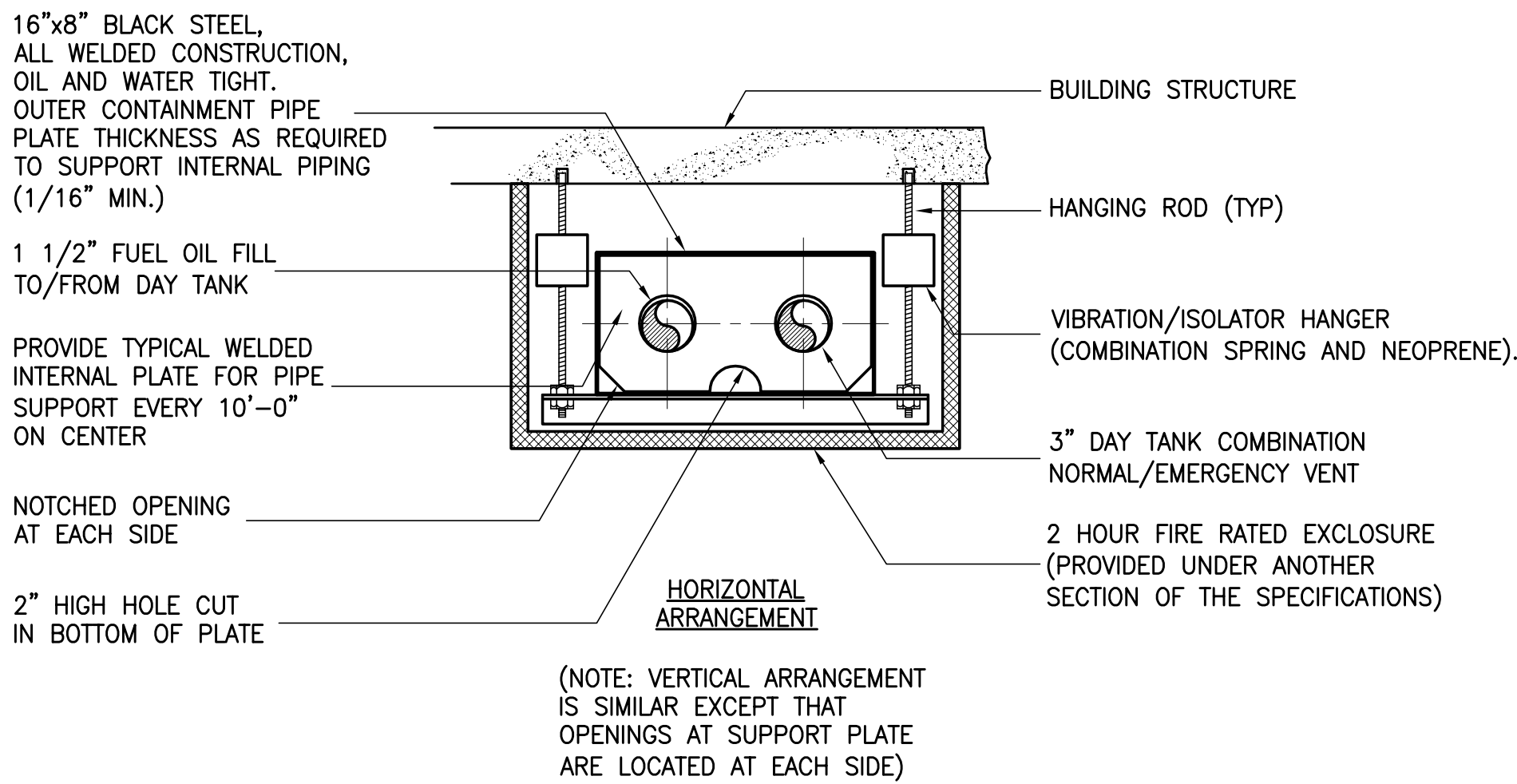
B-SCAN Sheet No.:

M-706.00

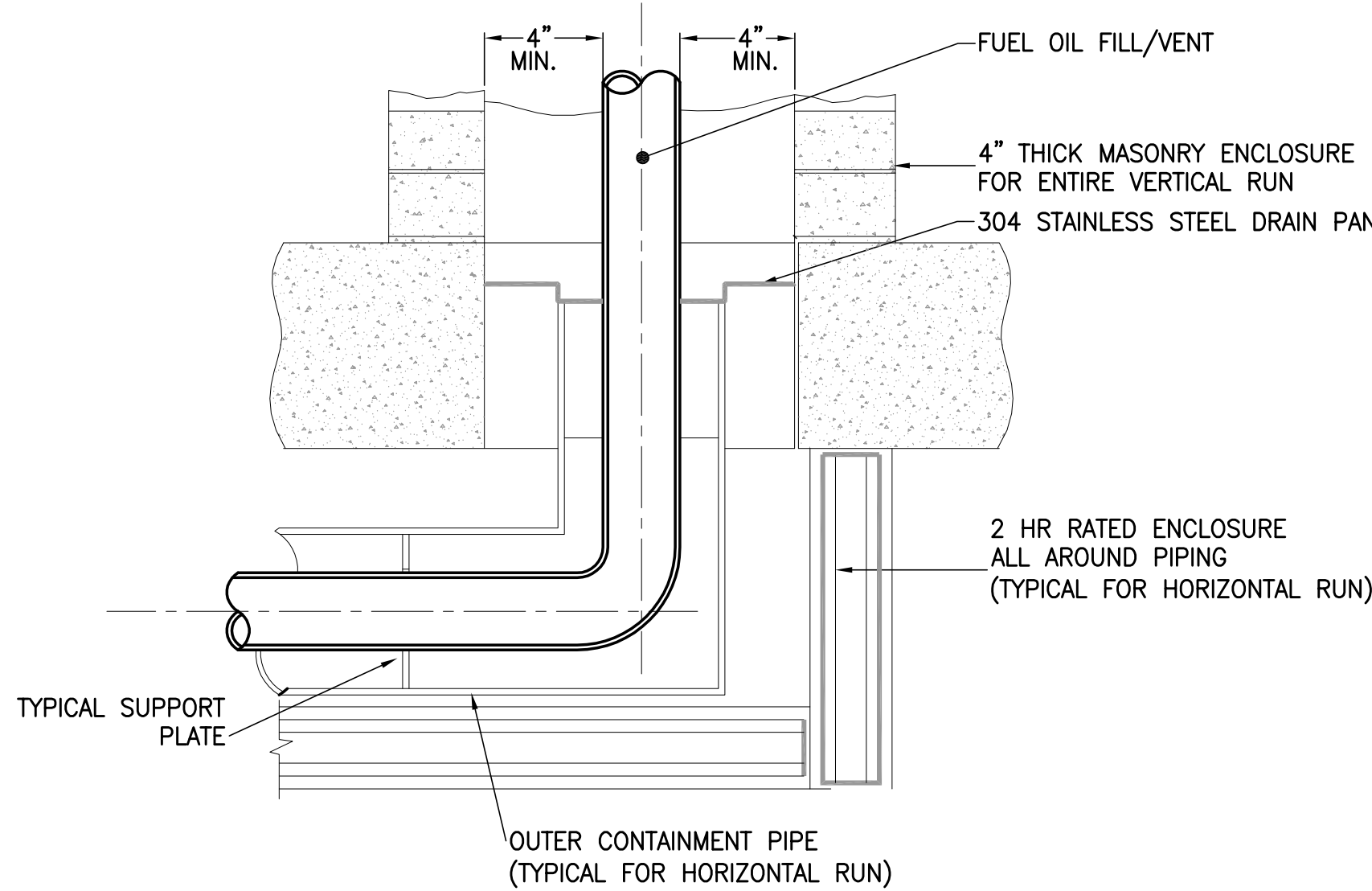
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M-706

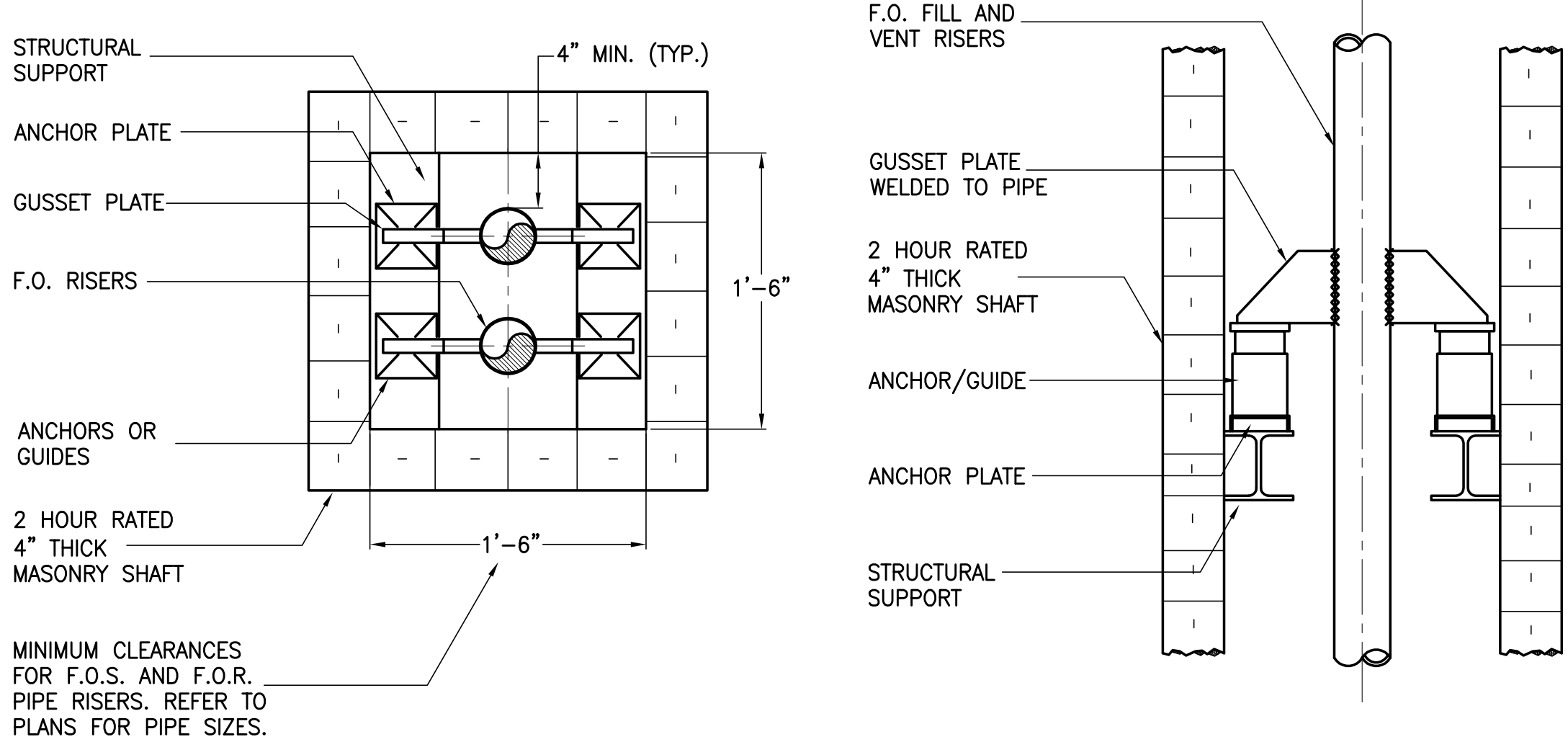
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DETAIL OF CONTAINMENT PIPE AND PIPE SUPPRT PLATE



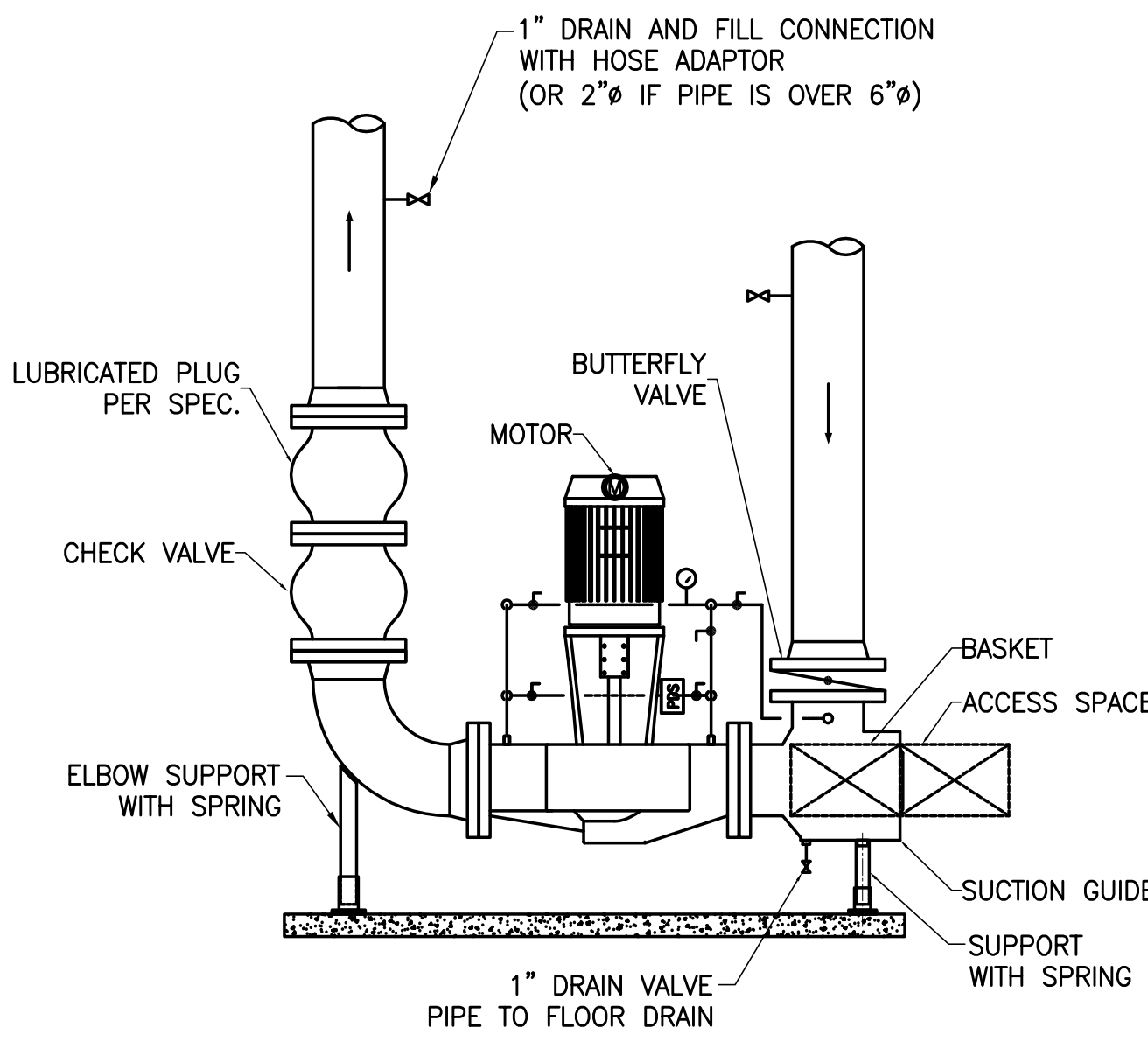
DETAIL OF BOTTOM OF FUEL OIL PIPE SHAFT



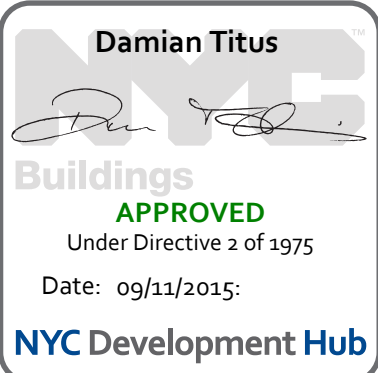
NOTES:

1. ALL FUEL OIL PIPING FROM THE FUEL OIL PUMP ROOM TO THE UNDERSIDE OF THE MASONRY FUEL OIL SHAFTS AND FROM THEIR RESPECTIVE MASONRY SHAFTS TO THE GENERATOR EQUIPMENT ROOM SHALL BE PIPE-WITHIN-A-PIPE CONSTRUCTION. IN ADDITION, THE PIPING SHALL BE ENCLOSED WITHIN A TWO (2) HOUR RATED ENCLOSURE (AS DETAILED ABOVE).
2. REFER TO ARCHITECTURAL DETAILS FOR DIMENSIONS.

VERTICAL FUEL OIL PIPE ENCLOSURE DETAILS



VERTICAL PUMP DETAIL
PROVIDE SPRING ON ELBOW SUPPORTS



Project No:

14830.A.000

Date:

20 JUN 2014

Scale:

NTS

File No.:

B-SCAN Sheet No.:

M-706.00

Sheet No.:

M-706

Page No.:

| 22 00 - Plumbing Sheet Matrix - DOB FILING | | | | | | |
|--|--------------|---|-------------|-------------|-------------------|-------------------|
| DOB Sheet Number | Sheet Number | Sheet Name | 12 JUL 2013 | 15 NOV 2013 | 20 DEC 2013 | 20 JUN 2014 |
| | | | 50% DD | DD PROGRESS | FOUNDATION PERMIT | FOUNDATION PERMIT |
| 000 - Cover Sheet, General Notes, Legends | | | | | | |
| P-001.00 | P-001 | PLUMBING DRAWING INDEX | • | • | • | • |
| P-002.00 | P-002 | PLUMBING ABBREVIATIONS AND SYMBOLS LIST | • | • | • | • |
| 100 - Floor Plans | | | | | | |
| P-093.00 | P-098B1-A | B1 PIT PART FLOOR PLAN - PART A | | • | • | • |
| P-094.00 | P-099B1-A | PLUMBING CELLAR B1 FLOOR PLAN - PART A | • | • | • | • |
| P-095.00 | P-099B1-B | PLUMBING CELLAR B1 FLOOR PLAN - PART B | | • | • | • |
| P-096.00 | P-099B1-C | PLUMBING CELLAR B1 FLOOR PLAN - PART C | • | • | • | • |
| P-097.00 | P-100B-A | PLUMBING CELLAR B FLOOR PLAN - PART A | • | • | • | • |
| P-098.00 | P-100B-B | PLUMBING CELLAR B FLOOR PLAN - PART B | | • | • | • |
| P-099.00 | P-100B-C | PLUMBING CELLAR B FLOOR PLAN - PART C | | • | • | • |
| P-100.00 | P-101-A | PLUMBING GROUND FLOOR PLAN - PART A | • | • | • | • |
| P-101.00 | P-101-B | PLUMBING GROUND FLOOR PLAN - PART B | | • | • | • |
| P-102.00 | P-102 | PLUMBING LEVEL 2 FLOOR PLAN - RETAIL | • | • | • | • |
| P-103.00 | P-103 | PLUMBING LEVEL 3 FLOOR PLAN - STAIR TRANSFER | • | • | • | • |
| P-104.00 | P-104 | PLUMBING LEVEL 4 FLOOR PLAN - MECHANICAL | • | • | • | • |
| P-105.00 | P-105 | PLUMBING LEVEL 5 FLOOR PLAN - MECHANICAL MEZZANINE | • | • | • | • |
| P-106.00 | P-106 | PLUMBING LEVEL 6-15 FLOOR PLAN - TYPICAL LOW-RISE | | • | • | • |
| P-116.00 | P-116 | PLUMBING LEVEL 16 FLOOR PLAN - TYPICAL LOW-RISE | | • | • | • |
| P-117.00 | P-117 | PLUMBING LEVEL 17 FLOOR PLAN - LOW-RISE | | • | • | • |
| P-118.00 | P-118 | PLUMBING LEVEL 18 FLOOR PLAN - LOW-RISE OVERRUN | | • | • | • |
| P-119.00 | P-119 | PLUMBING LEVEL 19-20 FLOOR PLAN - LOW-RISE EMR | • | • | • | • |
| P-121.00 | P-121 | PLUMBING LEVEL 21-27 FLOOR PLAN - TYPICAL LOW-RISE | | • | • | • |
| P-128.00 | P-128 | PLUMBING LEVEL 28 FLOOR PLAN - LOW-RISE & MID-RISE | | • | • | • |
| P-129.00 | P-129 | PLUMBING LEVEL 29 FLOOR PLAN - MID-RISE OVERRUN | • | • | • | • |
| P-130.00 | P-130 | PLUMBING LEVEL 30 FLOOR PLAN - MID-RISE EMR | • | • | • | • |
| P-131.00 | P-131 | PLUMBING LEVEL 31 FLOOR PLAN - MID-RISE PUMP ROOM | • | • | • | • |
| P-132.00 | P-132 | PLUMBING LEVEL 32 FLOOR PLAN - MID-RISE WATER TANK | | • | • | • |
| P-133.00 | P-133 | PLUMBING LEVEL 33-35 FLOOR PLAN - TYPICAL MID-RISE | | • | • | • |
| P-136.00 | P-136 | PLUMBING LEVEL 36 FLOOR PLAN - TYPICAL MID-RISE | | • | • | • |
| P-137.00 | P-137 | PLUMBING LEVEL 37-38 FLOOR PLAN - TYPICAL MID-RISE | | • | • | • |
| P-139.00 | P-139 | PLUMBING LEVEL 39 FLOOR PLAN - MID-RISE | | • | • | • |
| P-140.00 | P-140 | PLUMBING LEVEL 40-41 FLOOR PLAN - MID-RISE OVERRUN | | • | • | • |
| P-142.00 | P-142 | PLUMBING LEVEL 42 FLOOR PLAN - MID-RISE EMR | | • | • | • |
| P-143.00 | P-143 | PLUMBING LEVEL 43-46 FLOOR PLAN - TYPICAL MID-RISE | | • | • | • |
| P-147.00 | P-147 | PLUMBING LEVEL 47-48 FLOOR PLAN - TYPICAL MID-RISE | | • | • | • |
| P-149.00 | P-149 | PLUMBING LEVEL 49 FLOOR PLAN - MID-RISE & HIGH-RISE | | • | • | • |
| P-150.00 | P-150 | PLUMBING LEVEL 50-51 FLOOR PLAN - HIGH-RISE OVERRUN | • | • | • | • |
| P-152.00 | P-152 | PLUMBING LEVEL 52 FLOOR PLAN - HIGH-RISE EMR | • | • | • | • |
| P-153.00 | P-153 | PLUMBING LEVEL 53 FLOOR PLAN - HIGH-RISE PUMP ROOM | • | • | • | • |
| P-154.00 | P-154 | PLUMBING LEVEL 54 FLOOR PLAN - HIGH-RISE WATER TANK | | • | • | • |
| P-155.00 | P-155 | PLUMBING LEVEL 55 FLOOR PLAN - HIGH-RISE | | • | • | • |
| P-156.00 | P-156 | PLUMBING LEVEL 56 FLOOR PLAN - HIGH-RISE | | • | • | • |
| P-157.00 | P-157 | PLUMBING LEVEL 57-58 FLOOR PLAN - TYPICAL HIGH-RISE | | • | • | • |
| P-159.00 | P-159 | PLUMBING LEVEL 59 FLOOR PLAN - HIGH-RISE | | • | • | • |
| P-160.00 | P-160 | PLUMBING LEVEL 60-61 FLOOR PLAN - HIGH-RISE OVERRUN | | • | • | • |
| P-162.00 | P-162 | PLUMBING LEVEL 62 FLOOR PLAN - HIGH-RISE EMR | | • | • | • |
| P-163.00 | P-163 | PLUMBING LEVEL 63 FLOOR PLAN - HIGH-RISE | | • | • | • |
| P-164.00 | P-164 | PLUMBING LEVEL 64-66 FLOOR PLAN - TYPICAL HIGH-RISE | • | • | • | • |
| P-167.00 | P-167 | PLUMBING LEVEL 67 FLOOR PLAN - TYPICAL HIGH-RISE | | • | • | • |
| P-168.00 | P-168 | PLUMBING LEVEL 68 FLOOR PLAN - MECHANICAL | | • | • | • |
| P-169.00 | P-169 | PLUMBING LEVEL 69 FLOOR PLAN - MECHANICAL MEZZANINE | | • | • | • |
| P-170.00 | P-170 | PLUMBING ROOF PLAN - MECHANICAL PENTHOUSE | | • | • | • |
| P-171.00 | P-171 | PLUMBING ROOF PLAN - MECHANICAL PENTHOUSE ROOF | | • | • | • |
| P-172.00 | P-172 | PLUMBING ROOF PLAN | | • | • | • |
| 400 - Risers & One Line Diagrams | | | | | | |
| P-400.00 | P-400 | PLUMBING DOMESTIC WATER RISER DIAGRAM | • | • | • | • |
| P-401.00 | P-401 | PLUMBING SANITARY RISER DIAGRAM - SHEET 1 | • | • | • | • |
| P-402.00 | P-402 | PLUMBING SANITARY RISER DIAGRAM - SHEET 2 | | • | • | • |
| P-403.00 | P-403 | PLUMBING STORM & NATURAL GAS RISER DIAGRAMS | • | • | • | • |
| 500 - Schedules | | | | | | |
| P-500.00 | P-500 | PLUMBING SCHEDULE SHEET | • | • | • | • |
| 600 - Details | | | | | | |
| P-600.00 | P-600 | PLUMBING DETAILS - SHEET 1 | | • | • | • |
| P-601.00 | P-601 | PLUMBING DETAILS - SHEET 2 | • | • | • | • |

SHEET NOTES



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404 Fifth Avenue #8, New York, NY 10018

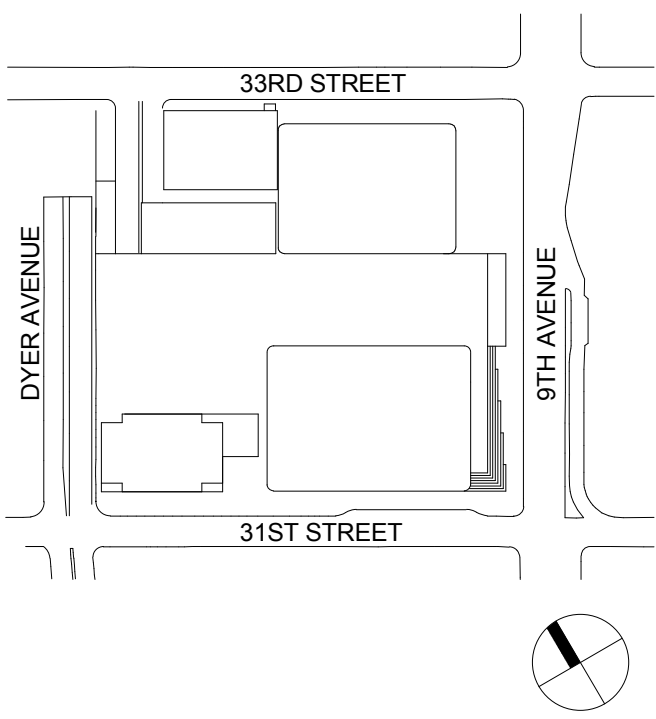
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
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650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:

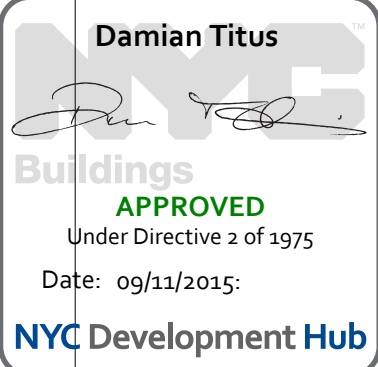


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| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR 50% PROGRESS PERING |
| 2 | 12 JUL 2013 | ISSUED FOR 60% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

PLUMBING
DRAWING INDEX

| | |
|-----------------------------|--------------------------------------|
| Project No.: 14830-A-000 | B-SCAN Sheet No.: P-001.00 |
| Date: 20 JUN 2014 | Sheet No.: P-001 |
| Scale: | Page No.: 1 OF 6 |
| File No.: P-001 | |



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ACCORDANCE WITH APPLICABLE CODES.

SHEET NOTES



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MEP Engineering

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Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

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215 West 40th Street, 15th Floor, New York, NY 10018

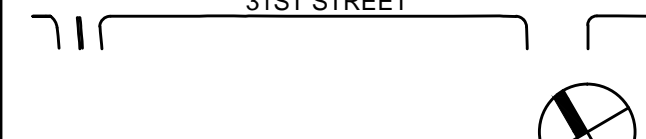
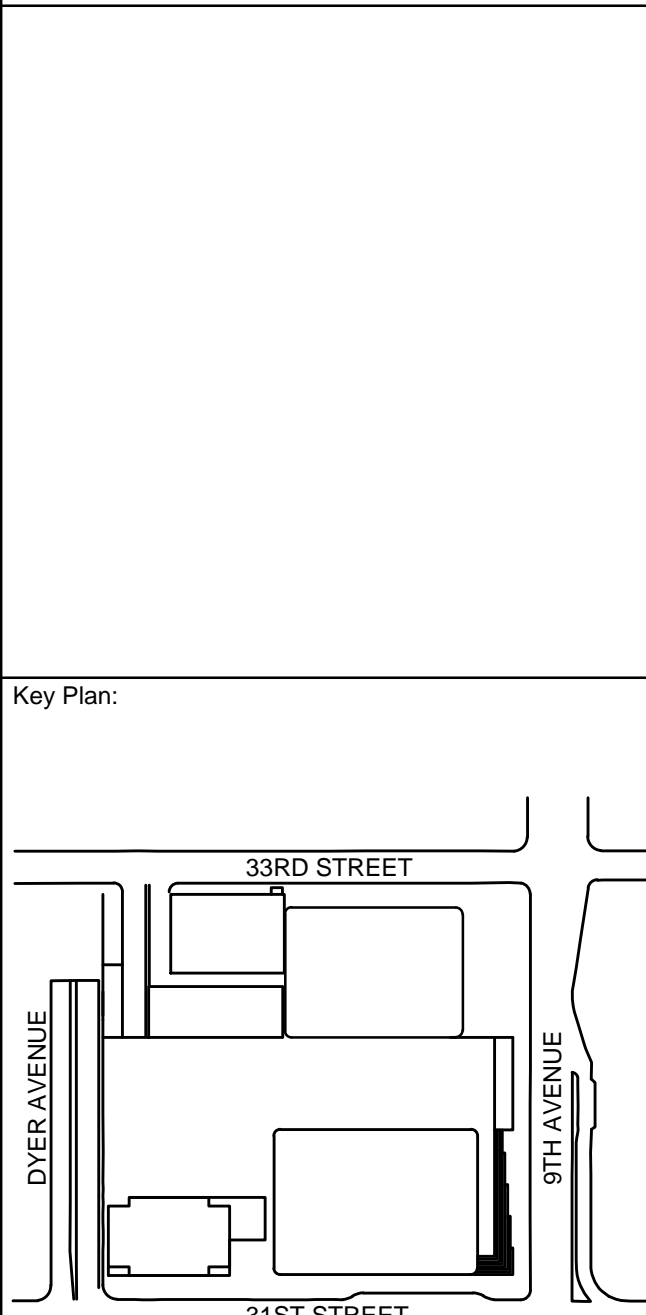
Facade Maintenance Consultant

Entek Engineering LLC
186 Ames Street, Hackensack, NJ 07601

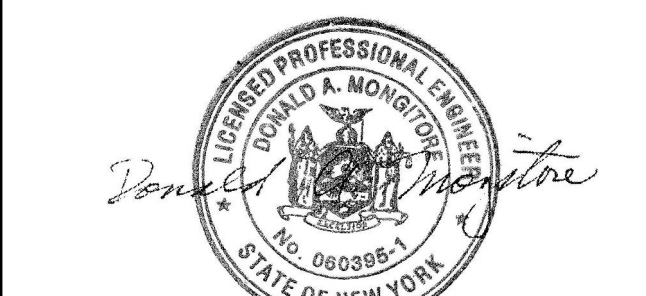
Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
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Key Plan:



Seal & Signature:



Project No. 14630 A

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Date: 20 DEC 2013

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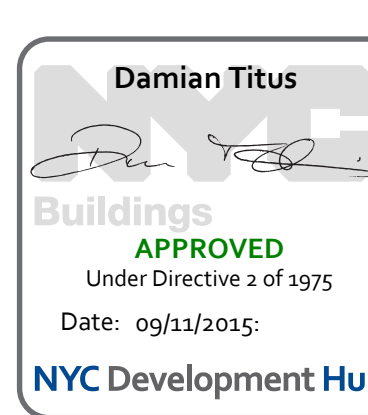
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APPROVED

Under Directive 2 of 1975

Date: 09/21/2015

NYC Development Hub

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| SYMBOLS SCHEDULE | |
|---|-----|
| PRIMARY SYSTEMS PIPING | |
| COLD WATER PIPING | —○— |
| HOT WATER PIPING | —●— |
| HOT WATER CIRCULATION PIPING | —○— |
| SANITARY PIPING | —○— |
| VENT PIPING | —○— |
| LOW PRESSURE NATURAL GAS PIPING | —○— |
| STORM PIPING | —○— |
| STORM OVERFLOW PIPING | —○— |
| SECONDARY SYSTEMS PIPING | |
| PUMP DISCHARGE PIPING | —○— |
| COLD WATER FROM GRAVITY TANK | —○— |
| DOMESTIC WATER INCOMING SERVICE | —○— |
| COLD WATER PNEUMATIC TANK ZONE | —○— |
| COLD WATER STREET PRESSURE ZONE | —○— |
| HOT WATER STREET PRESSURE ZONE | —○— |
| HOT WATER CIRCULATION STREET PRESSURE ZONE | —○— |
| Cooling Tower Pump Discharge Piping | —○— |
| Irrigation Water Piping | —○— |
| Auto Ball Drift Discharge Piping | —○— |
| Indirect Waste Piping | —○— |
| Sump Discharge Piping | —○— |
| Sanitary Relief Vent Piping | —○— |
| Sanitary Yoke Vent Piping | —○— |
| Ejector Discharge Piping | —○— |
| VALVES | |
| CHECK VALVE | —○— |
| CHECK VALVE W/BALL DRIP | —○— |
| VALVE ON HORIZONTAL PIPE (NORMALLY OPEN) | —○— |
| VALVE ON HORIZONTAL PIPE (NORMALLY CLOSED) | —○— |
| VALVE ON VERTICAL PIPE | —○— |
| OS&Y VALVE ON HORIZONTAL PIPE | —○— |
| OS&Y VALVE ON VERTICAL PIPE | —○— |
| 3-WAY VALVE | —○— |
| 3-WAY VALVE SOLENOID | —○— |
| 2-WAY VALVE SOLENOID | —○— |
| 2-WAY VALVE MOTORISED | —○— |
| GAS VALVE | —○— |
| CHECK VALVE W/ VACUUM BREAKER ASSEMBLY | —○— |
| PRESSURE RELIEF VALVE | —○— |
| ZONE CHECK VALVE ASSEMBLY | —○— |
| ZONE DOUBLE CHECK VALVE ASSEMBLY | —○— |
| PIPING SYSTEM COMPONENTS COMMON SYMBOLS | |
| PIPE SLEEVE | —○— |
| PIPE TURNING UP | —○— |
| PIPE TURNING DOWN | —○— |
| PIPE TAP | —○— |
| CAPPED PIPE | —○— |
| PIPE BREAK | —○— |
| VACUUM BREAKER | —○— |
| HOSE BIBB | —○— |
| PIPE CLEANOUT OPENING | —○— |
| PIPE RUNNING TRAP (ON RISERS) | —○— |
| PIPE RUNNING TRAP W/SINGLE CLEAN OUT(ON PLANS) | —○— |
| PIPE RUNNING TRAP W/SINGLE CLEAN OUT(ON RISERS) | —○— |
| PIPE RUNNING TRAP W/DOUBLE CLEAN OUT(ON PLANS) | —○— |
| PIPE RUNNING TRAP W/DOUBLE CLEAN OUT(ON RISERS) | —○— |
| PIPE RUNNING TRAP W/SINGLE CLEAN OUT EXTENDED TO COOP (ON RISERS) | —○— |
| CLEANOUT DECK PLATE | —○— |
| FLOOR/ ROOF/ AREA OR PLENUM DRAIN | —○— |
| COMMON EQUIPMENT SYMBOLS | |
| GAS BOOSTER | —○— |
| GAS MEETER | —○— |
| DOMESTIC HOT WATER HEATER | —○— |
| PNEUMATIC TANK | —○— |
| END SUCTION PUMP | —○— |
| SPLIT CASE PUMP | —○— |
| IN LINE MOUNTED PUMP | —○— |
| WATER METER | —○— |
| DOUBLE SUMP SUCTION PUMP (ON PLANS) | —○— |
| DOUBLE SUMP SUCTION PUMP (ON RISER) | —○— |
| ANNOTATION SYMBOLS | |
| CW, HW, SAN, HWR RISER LABEL | —○— |
| STORM LEADER RISER LABEL | —○— |
| GAS RISER LABEL | —○— |
| SECTION/ DETAIL REFERENCE | |
| CENTER LINE SYMBOL | —○— |
| DIRECTION OF LIQUID FLOW | —○— |
| DIRECTION OF PUMPED LIQUID FLOW | —○— |

| ABBREVIATION SCHEDULE | |
|-----------------------|---|
| A | AIR |
| ABD | AUTOMATIC BALL DRIP |
| AD | AREA DRAIN |
| ADJ. | ADJUSTABLE |
| AF | ABOVE FINISHED FLOOR |
| AFP | AUTOMATIC FIRE PUMP |
| AFPH | ANTI-FREEZE POST HYDRANT |
| AFH | ANTI-FREEZE WALL HYDRANT |
| AI | AIR INTAKE |
| AP | ACCESS PANEL |
| A ^c | ARGON |
| AV | AUTOMATIC |
| AW | ACID WASTE |
| BFP | BACKFLOW PREVENTER |
| BLDG | BUILDING |
| BLKHD | BULKHEAD |
| BMS | BUILDING MANAGEMENT SYSTEM |
| BOP | BOTTOM OF PIPE |
| BOT | BOTTOM |
| BR | BRANCH |
| BSMT | BASEMENT |
| BW | BLACK WATER |
| BWV | BLACK WATER VENT |
| BWV | BLACK WATER WASTE |
| CB | CABINET |
| CAB | CATCH BASIN |
| CEM | CEMENT(TIOUS) |
| CF | CUBIC FEET |
| CI | CAST IRON |
| CLG | CEILING |
| CLOS | CLOSET |
| CO | CAPPED OUTLET |
| CO2 | CARBON DIOXIDE |
| COOP | CLEAN OUT DECK PLATE |
| COL | COLUMN |
| COMP | COMPLEMENT |
| CONC | CONCRETE |
| COND | CONDENSATE |
| CTDP | COOLING TOWER PUMP DISCHARGE |
| CONF | CONFERENCE |
| CORR | CORRIDOR |
| CONST | CONSTRUCTION |
| CON'T | CONTINUATION |
| CONV | CONVECTOR |
| COMP | CLEAN OUT WALL PLATE |
| CPVC | CHLORINATED POLYVINYL CHLORIDE |
| CT | COOPER TUBE |
| CTMU | COOLING TOWER MAKE UP |
| CV | CHECK VALVE |
| CW | COLD WATER |
| CDP | COLD WATER PUMP DISCHARGE |
| CWV | COLD WATER VALVED OUTLET |
| DDA | DOUBLE CHECK DETECTOR ASSEMBLY |
| DCTRN | DUCTILE IRON |
| DCV | DOUBLE CHECK VALVE |
| DET | DETAIL |
| DEONIS | DEIONISED |
| DIAG | DIAGONAL |
| DIA | DIAMETER |
| DM | DIMENSION |
| DIR | DEIONISED RETURN |
| DN | DOWN |
| DP | DRY PIPE |
| DPV | DRY PIPE VALVE |
| DR | DRAIN |
| DRW | DRINKING WATER |
| DW | DISHWASHER |
| DWG | DRAWING |
| DWPD | DOMESTIC WATER PUMP DISCHARGE |
| EA | EACH |
| ED | EJECTOR DISCHARGE |
| EL | ELEVATION |
| ELEC | ELECTRICAL |
| ELEV | ELEVATOR |
| EMER | EMERGENCY |
| EMR | ELEVATOR MACHINE ROOM |
| ENCL | ENCLOSURE |
| ENGR | ENGINEER |
| ENTR | ENTRANCE |
| EOS | END/EDGE OF SLAB |
| EQUIP | EQUIPMENT |
| EXIST | EXISTING |
| EXH | EXHAUST |
| EXP | EXPRESS |
| EXP. JT. | EXPANSION JOINT |
| EXT | EXTERIOR |
| F | FIRE |
| FAI | FRESH AIR INTAKE |
| FD | FLOOR DRAIN |
| FDN | FOUNDATION |
| FI | FIRE HYDRANT |
| FHC | FIRE HOSE CABINET |
| FHR | FIRE HOSE RACK |
| FHV | FIRE HOSE VALVE |
| FN | FINISH(ED) |
| FN.FL | FINISH(ED) FLOOR |
| FN.GR | FINISHED GRADE |
| FL | FLOOR |
| FRF | FIREPROOFING |
| FRFC | FIREPROOF SELF CLOSING |
| FS | FIRE SERVICE PIPE |
| FSK | FLOOR SINK |
| FSP | FIRE STANDPIPE |
| FT | FOOT, FEET |
| FTG | FITTING |
| FXT | FIXTURE |
| G | GAS (LOW PRESSURE) |
| GA | GAUGE |
| GAL | GALLONS |
| GALV | GALVANIZED |
| GC | GENERAL CONTRACTING |
| GD | GARAGE DRAIN |
| GEN | GENERAL |
| GH(P) | GAS (HIGH PRESSURE) |
| GH(P) | GAS (MEDIUM PRESSURE) |
| GR | GREASE |
| GRD | GRADE |
| GT | GRAVITY TANK |
| GV | GAS VENT |
| GW | GRAY WATER |
| GWV | GRAY WATER VENT |
| GWV | GRAY WATER WASTE |
| HB | HOSE BIBB |
| HC | HANDICAPPED |
| HE | HEATING |
| HGT | HEIGHT |
| HORIZ | HORIZONTAL |
| HPT | HIGH POINT |
| HR | HOOR |
| H2 | HYDROGEN |
| HTG | HEATING |
| HTR | HEATER |
| HVAC | HEATING, VENTILATION & AIR CONDITIONING |
| HW | HOT WATER |
| HWC | HOT WATER CIRCULATION |
| HWH | HOT WATER HEATER |
| HZ | HIGH ZONE |
| ID | INSIDE DIAMETER |
| IE | INVERT ELEVATION |
| INSUL | INSULATION |
| IR | IRRIGATION |
| IW | INDIRECT WASTE |
| JAN | JANITOR |
| JAN.CL | JANITOR'S CLOSET |
| JP | JOCKEY PUMP |
| JT | JOINT |
| L | LEADER |
| LAB | LABORATORY |
| LP | LOW POINT |
| LV | LOCAL VENT (W/BEDPAN WASHERS) |
| LVR | LOUVER |
| LZ | LOW ZONE |
| MA | MEDICAL AIR |
| MACH | MACHINE |
| MAX | MAXIMUM |
| MECH | MECHANICAL |
| MEMB | MEMBRANE |
| MEZZ | MEZZANINE |
| MFR | MANUFACTURE |
| MH | MANHOLE |
| MIN | MINIMUM |
| MSC | MISCELLANEOUS |
| MTD | MOUNTED |
| MTG | MEETING |
| MTL | METAL |
| MV | MEDICAL VACUUM |
| MZ | MID ZONE |
| NC | NORMALLY CLOSED |
| NIC | NOT IN CONTRACT |
| N _o | NUMBER |
| NO | NORMALLY OPEN |
| NOM | NOMINAL |
| N2 | NITROGEN |
| N2O | NITROUS OXIDE |
| NTS | NOT TO SCALE |
| OC | ON CENTER |
| OD | OVERFLOW DRAIN |
| OF | OVERFLOW |
| OFF | OFFICE |
| OPN | OPENING |
| OPP | OPPOSITE |
| O2 | OXYGEN |
| OWHD | OVERHEAD |
| P | PNEUMATIC |
| P-1 & P-1A | WATER CLOSET |
| P-3 & P-3A | LAVATORY |
| P-5 | SHOWER |
| P-6 & P-6A | DRINKING FOUNTAIN |
| PA | PANEL |
| PAN | PAN |
| PAV | PRACTION VALVE |
| PD | PLAZA DRAIN |
| PE | PASSENGER ELEVATOR |
| PERF | PERFORATED |
| PL | PLATE |
| PLAS | PLASTER |
| PLBG | PLUMBING |
| PO | PLUGGED OUTLET |
| POL | POLISHED |
| PR | PAIR |
| PRV | PRESSURE REDUCING VALVE |
| PSI | POUNDS PER SQUARE INCH |
| PTN | PARTITION |
| PVC | POLYVINYL CHLORIDE |
| RA | RETURN AIR |
| RCV | RISER CONTROL VALVE |
| RD | ROOF DRAIN |
| REFR | REFRIGERATOR |
| REIN | REINFORCED |
| REQ'S | REQUIREMENTS |
| REV | REVISION |
| RM | ROOM |
| RO | REVERSE OSMOSIS |
| ROD | REVERSE OSMOSIS DEIONISED |
| RODR | REVERSE OSMOSIS DEIONISED RETURN |
| ROR | REVERSE OSMOSIS RETURN |
| RPDA | REDUCED PRESSURE DETECTOR ASSEMBLY |
| RPZ | REDUCED PRESSURE ZONE ASSEMBLY |
| RV | RELIEF VALVE |
| S | SOIL, SANITARY |
| SCHED | SCHEDULE |
| SD | SUMP DISCHARGE |
| SE | SERVICE ELEVATOR |
| SECT | SECTION |
| SH | SHOWER |
| SHIT | SHIT |
| SM | SIMILAR (TO) |
| SLV | SLEEVE |
| SPFCA | SPRINKLER FLOW CONTROL ASSEMBLY |
| SPO | SANITARY PLUGGED OUTLET |
| SPR | SPRINKLER |
| SQ | SQUARE |
| SQ.FT. | SQUARE FEET (w) |
| SS | STAINLESS STEEL |
| SFP | SPECIAL SERVICE FIRE PUMP |
| ST | STREET PRESSURE |
| STD | STANDARD |
| STL | STEEL |
| STOR | STORAGE |
| STRUCT | STRUCTURAL |
| SUSP | SUSPENDED |
| SYMM | SYMMETRICAL |
| TDH | TOTAL DYNAMIC HEAD |
| TEL | TELEPHONE |
| TEMP | TEMPORARY |
| TER | TERRACE |
| THRU | THROUGH |
| TOS | TOP OF SLAB |
| TP | TRAP PRIMER |
| TBT | TIGHT TO BEAM |
| TW | TEPID WATER |
| TWC | TEPID WATER CIRCULATION |
| TYP. | TYPICAL |
| UON | UNLESS OTHERWISE NOTED |
| V | VACUUM |
| VCD | VALVED, CAPPED OUTLET |
| VE | VACUUM EXHAUST |
| VEX | VENT EXHAUST |
| VERT | VERTICAL |
| VEST | VESTIBULE |
| VO | VALVED OUTLET |
| VPO | VENT PLUGGED OUTLET |
| VTR | VENT THRU ROOF |
| W | WASTE |
| W/ | WITH |
| WAGD | WASTE ANESTHETIC GAS DISPOSAL |
| WE | WASTE ANESTHETIC GAS DISPOSAL EXHAUST |
| WF | WIDE FLANGE |
| WH | WALL HYDRANT |
| WP | WATERPROOFING |
| WPD | WASTE PLUGGED OUTLET |

| NEW YORK CITY PLUMBING NOTES | |
|---|--|
| THE PLUMBING SYSTEMS (SANITARY, WASTE, VENT, & WATER DISTRIBUTION) AND ALL ASSOCIATED EQUIPMENT WILL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE FULL REQUIREMENTS OF THE 2008 BUILDING CODE OF THE CITY OF NEW YORK AND THE 2008 PLUMBING CODE OF THE CITY OF NEW YORK. | |
| 1. THE SANITARY SYSTEM SHALL BE PROVIDED IN FULL ACCORDANCE WITH THE GENERAL PROVISIONS OF SECTION PC 701. | |
| 2. THE MATERIALS USED IN THE PLUMBING SYSTEM WILL BE PROVIDED IN FULL ACCORDANCE WITH SECTION PC 303. | |
| 3. EQUIPMENT HOOK-UP AND THE JOINING OF PIPING WILL BE IN FULL COMPLIANCE WITH CHAPTER 4. | |
| 4. THE INSTALLATION OF FIXTURES WILL BE FULL ACCORDANCE WITH CHAPTER 4. | |
| 5. TRAPS FOR FIXTURES AND DRAIN LINES WILL BE PROVIDED AND CLEANOUTS INSTALLED IN FULL COMPLIANCE WITH CHAPTER 7. | |
| 6. VERTICAL AND HORIZONTAL PIPING WILL BE HUNG AND SUPPORTED AS DIRECTED IN SPECIFICATIONS AND WITH SECTION PC 308. | |
| 7. THE WATER SUPPLY SYSTEMS OF THE SUBJECT BUILDING SHALL BE INSTALLED AND MAINTAINED IN FULL COMPLIANCE WITH CHAPTER 6. | |
| 8. THE SANITARY DRAINAGE SYSTEM WILL BE SIZED AND INSTALLED IN FULL COMPLIANCE WITH SECTIONS PC 708 AND PC 710. | |
| 9. THE VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM OF THE SUBJECT BUILDING WILL BE INSTALLED IN FULL COMPLIANCE WITH CHAPTER 9. | |
| 10. ALL TRENCHING SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 306. | |
| 11. RAT PROOFING SHALL BE IN ACCORDANCE WITH SECTION PC 304. | |
| 12. TEMPORARY TOILET FACILITIES SHALL BE PROVIDED FOR WORKMAN AS PER SECTION PC 311. | |

| GENERAL NOTES | |
|---------------|--|
| 1. | ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. |
| 2. | INSTALL ALL WORK IN FULL ACCORDANCE WITH THE REQUIREMENTS OF ALL LOCAL AND GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION OVER THESE MATTERS, AS WELL AS WITH ANY REQUIREMENTS OF THE NFPA, UL, AND OTHER APPLICABLE CODES. SECURE AND PAY FOR NECESSARY APPROVALS, PERMITS, INSPECTIONS, ETC., AND DELIVER THE ORIGINAL RECORDS OF THE GRANTING OF PERMITS TO THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER. |
| 3. | PREPARE AND SUBMIT FOR APPROVAL MANUFACTURER'S SHOP DRAWINGS AND DATA FOR EQUIPMENT, AND DETAILED DRAWINGS OF ALL PLUMBING WORK. |
| 4. | KEEP AN ACCURATE RECORD ON ALL DEVIATIONS BETWEEN WORK SHOWN ON DRAWINGS AND THAT WHICH IS ACTUALLY PERFORMED. |
| 5. | COORDINATE FINAL FLOOR DRUM LOCATIONS WITH ARCHITECT FOR EXACT DIMENSIONAL LOCATIONS WITHIN THE ROOMS CONTAINING DRUMS. |

SHEET NOTES



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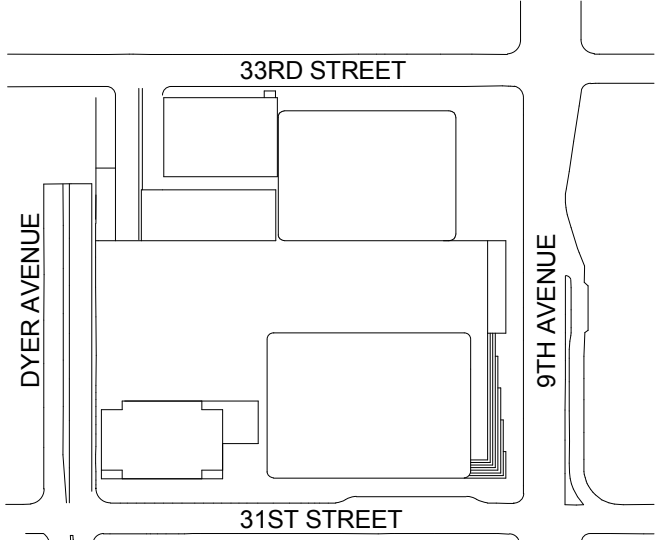
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PLUMBING
CELLAR B1 PIT
PART PLAN -
PART A

Project No.:
14830-A-000

Date:
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P-098B1-A

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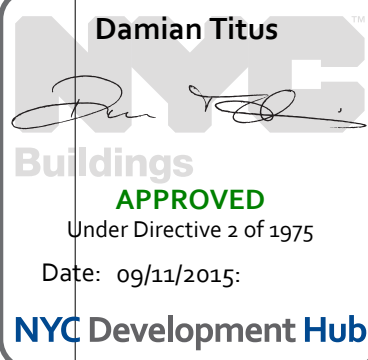
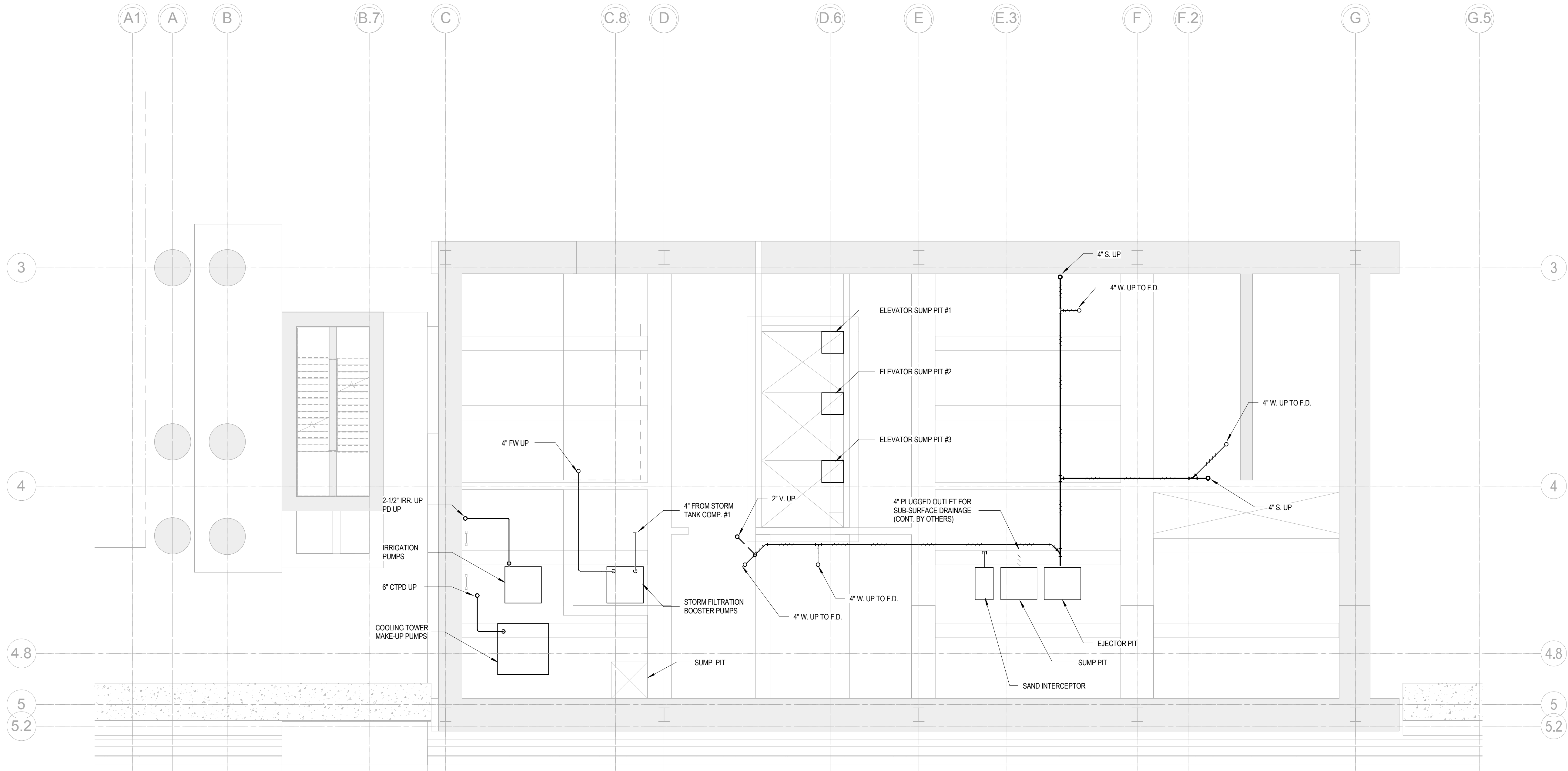
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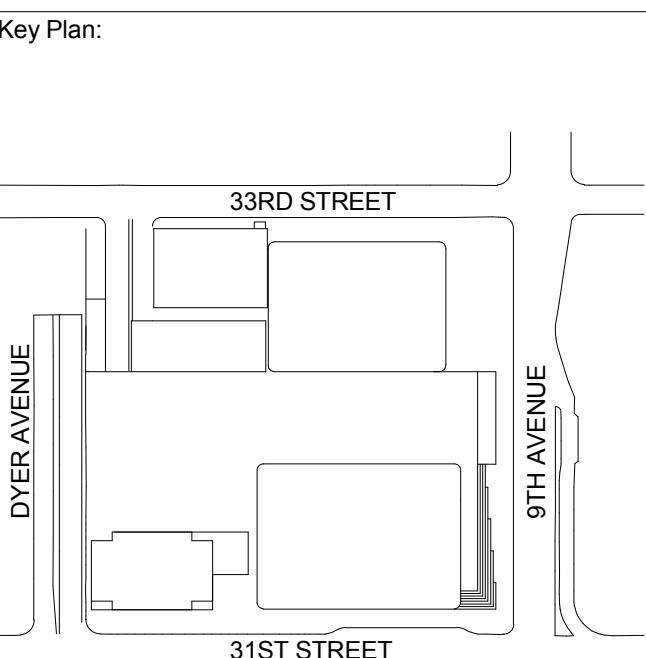
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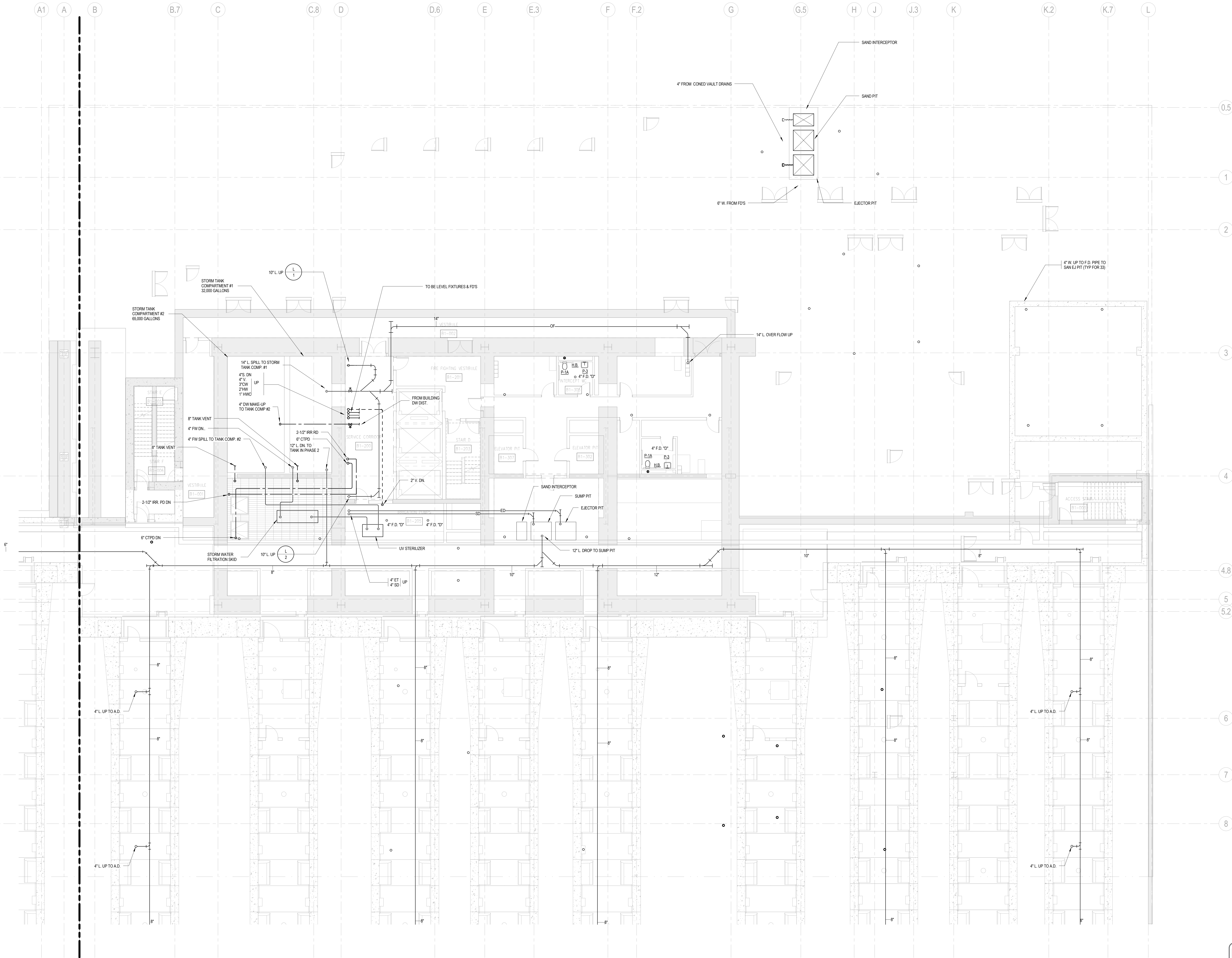
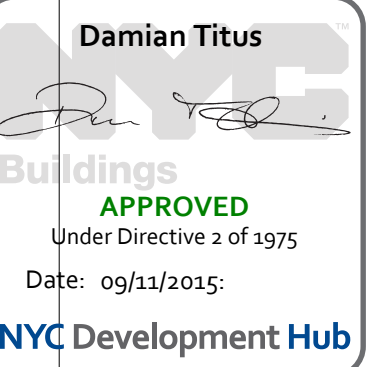


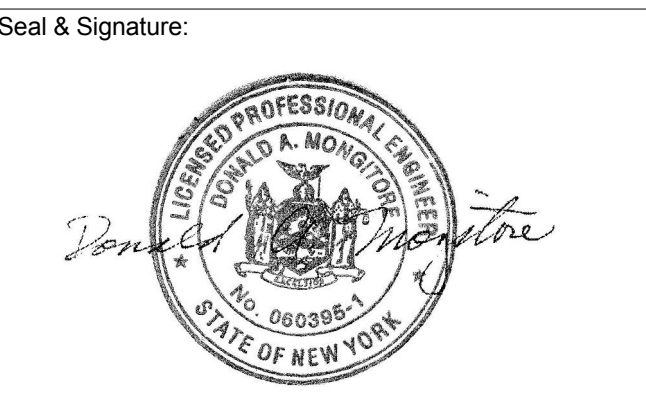
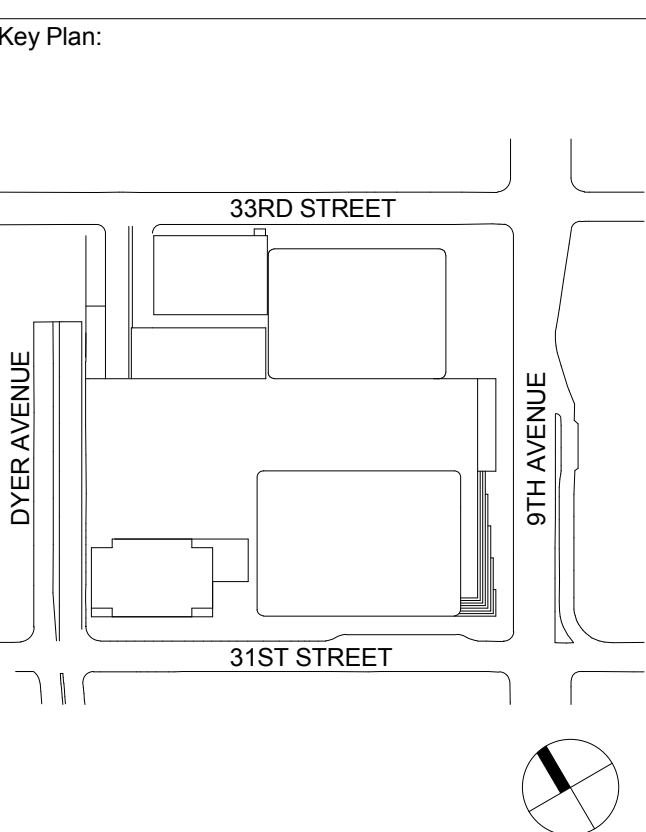
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**PLUMBING
CELLAR B1
FLOOR PLAN -
PART A**

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: P-099B1-A
B-SCAN Sheet No.:
P-094.00
Sheet No.:
P-099B1-A
Page No.: 6 OF 6

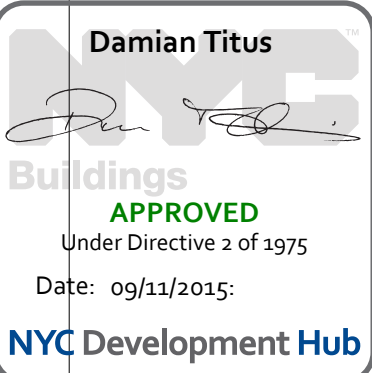
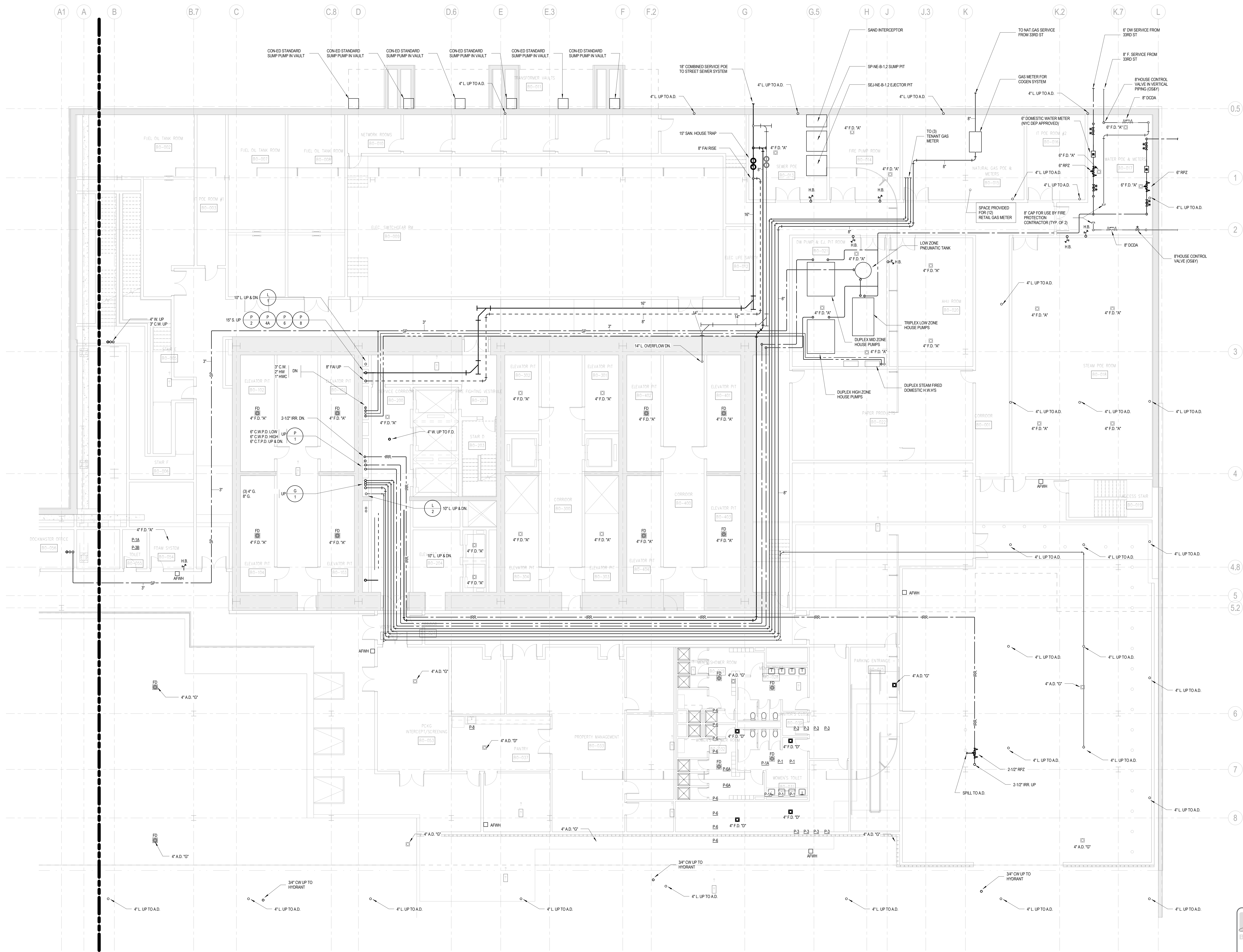
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PLUMBING
CELLAR B FLOOR
PLAN - PART A



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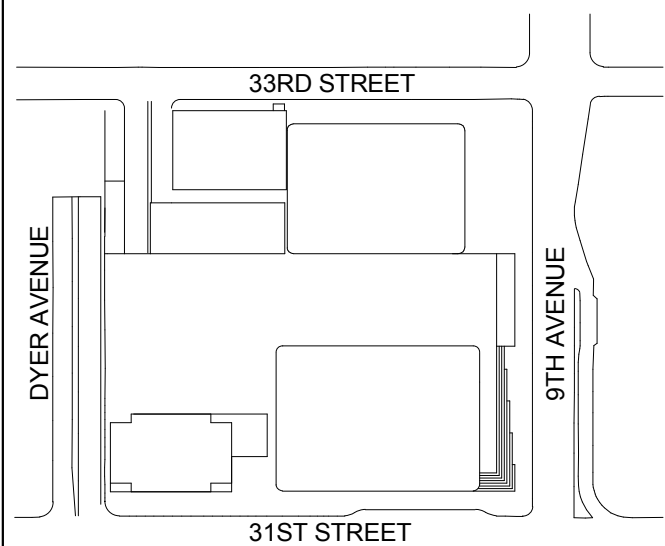
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**PLUMBING
CELLAR B FLOOR
PLAN - PART B**

Project No.:
14830-A-000

Date:
20 JUN 2014

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File No.:
P-1008-B

B-SCAN Sheet No.:

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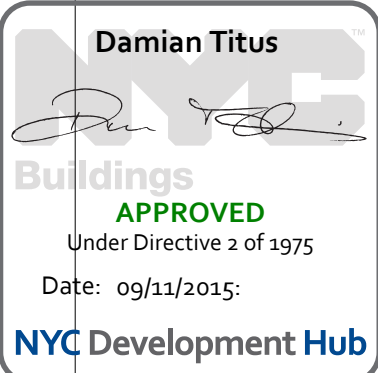
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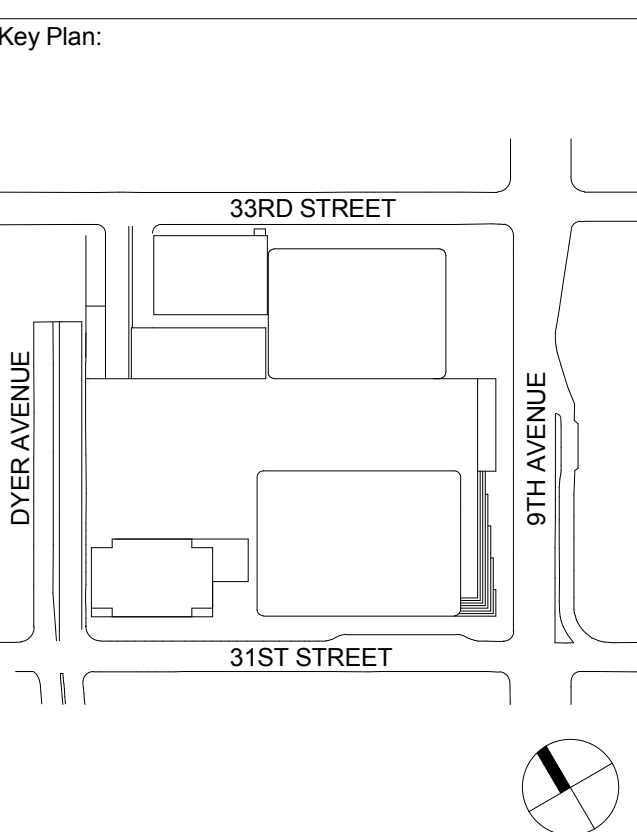
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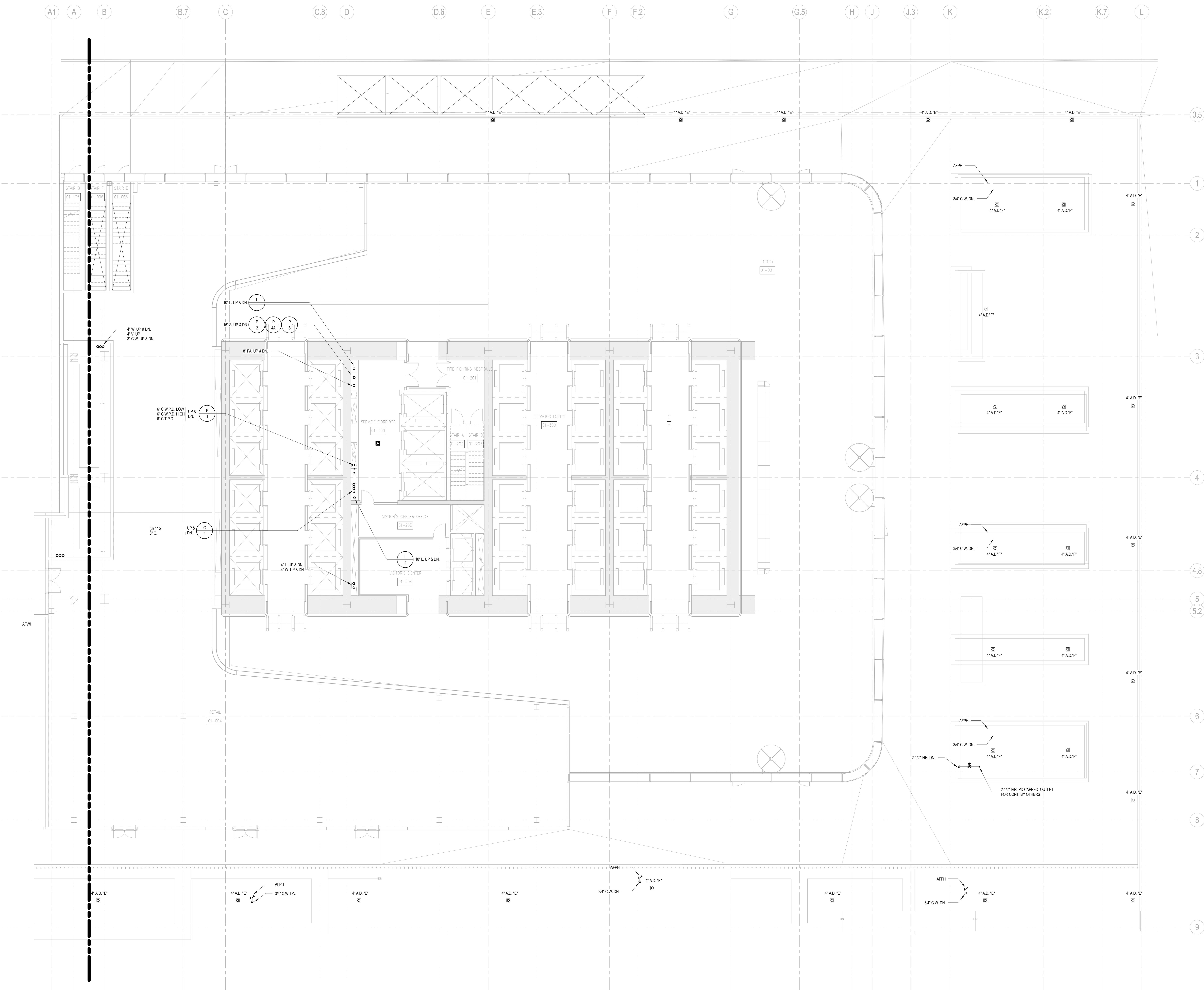


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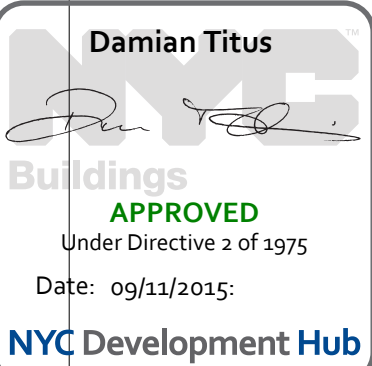
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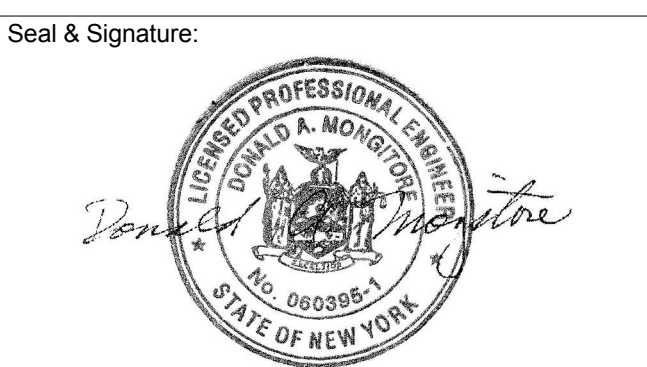
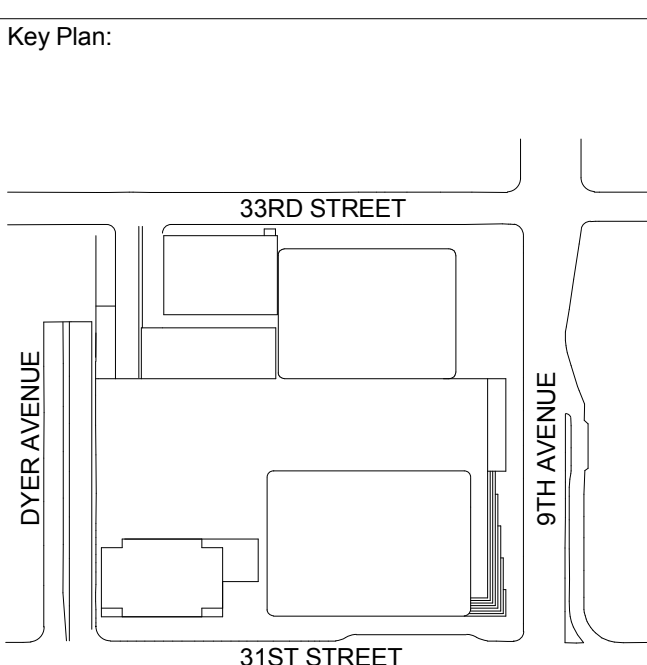
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**PLUMBING
GROUND FLOOR
PLAN - PART A**

Project No.: 14330-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: P-101-A
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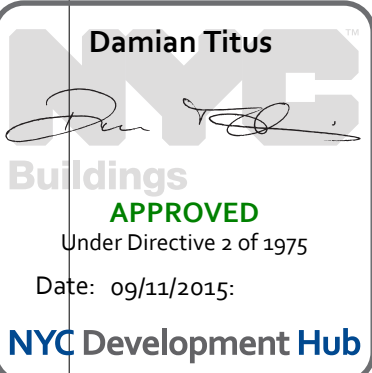


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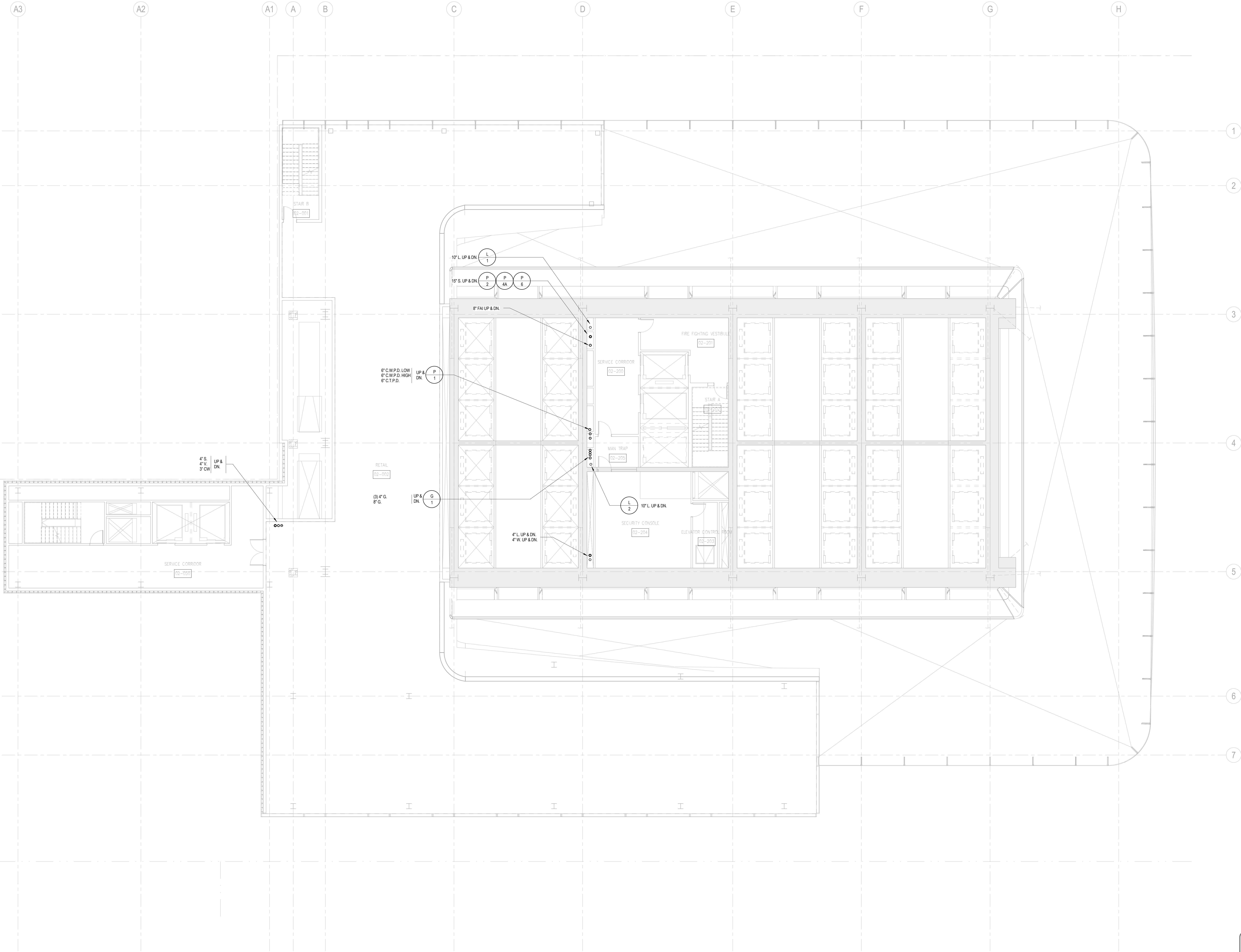
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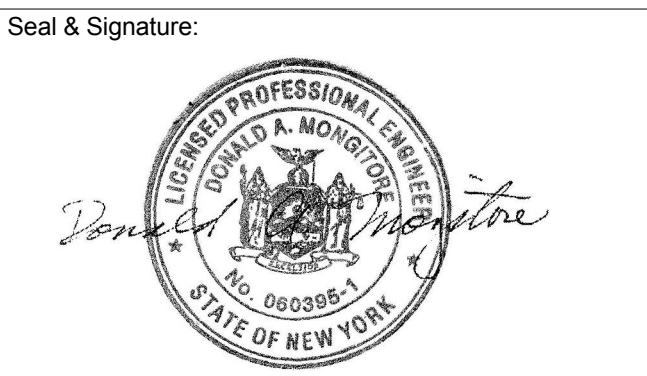
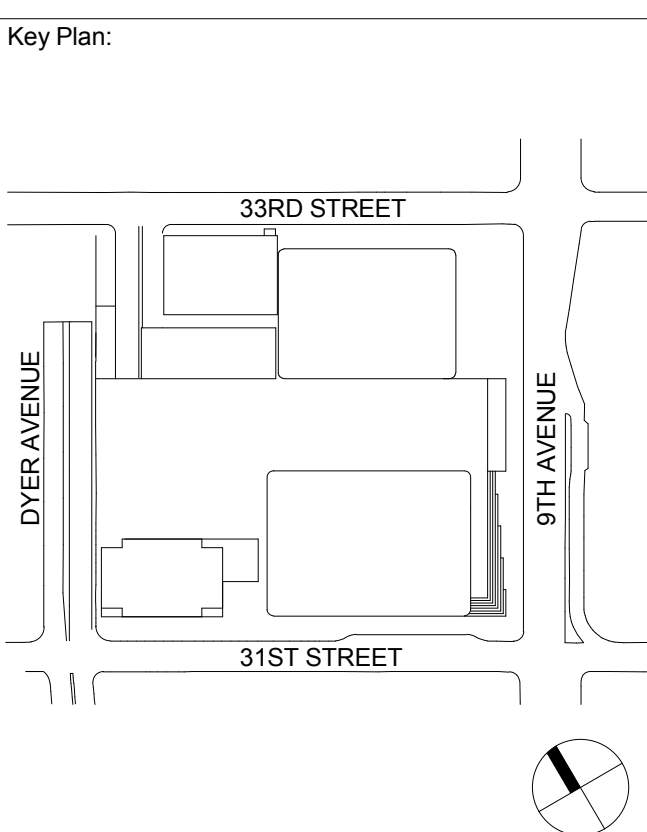
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LEVEL 2 FLOOR
PLAN - RETAIL



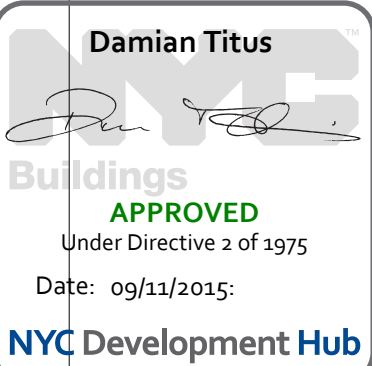
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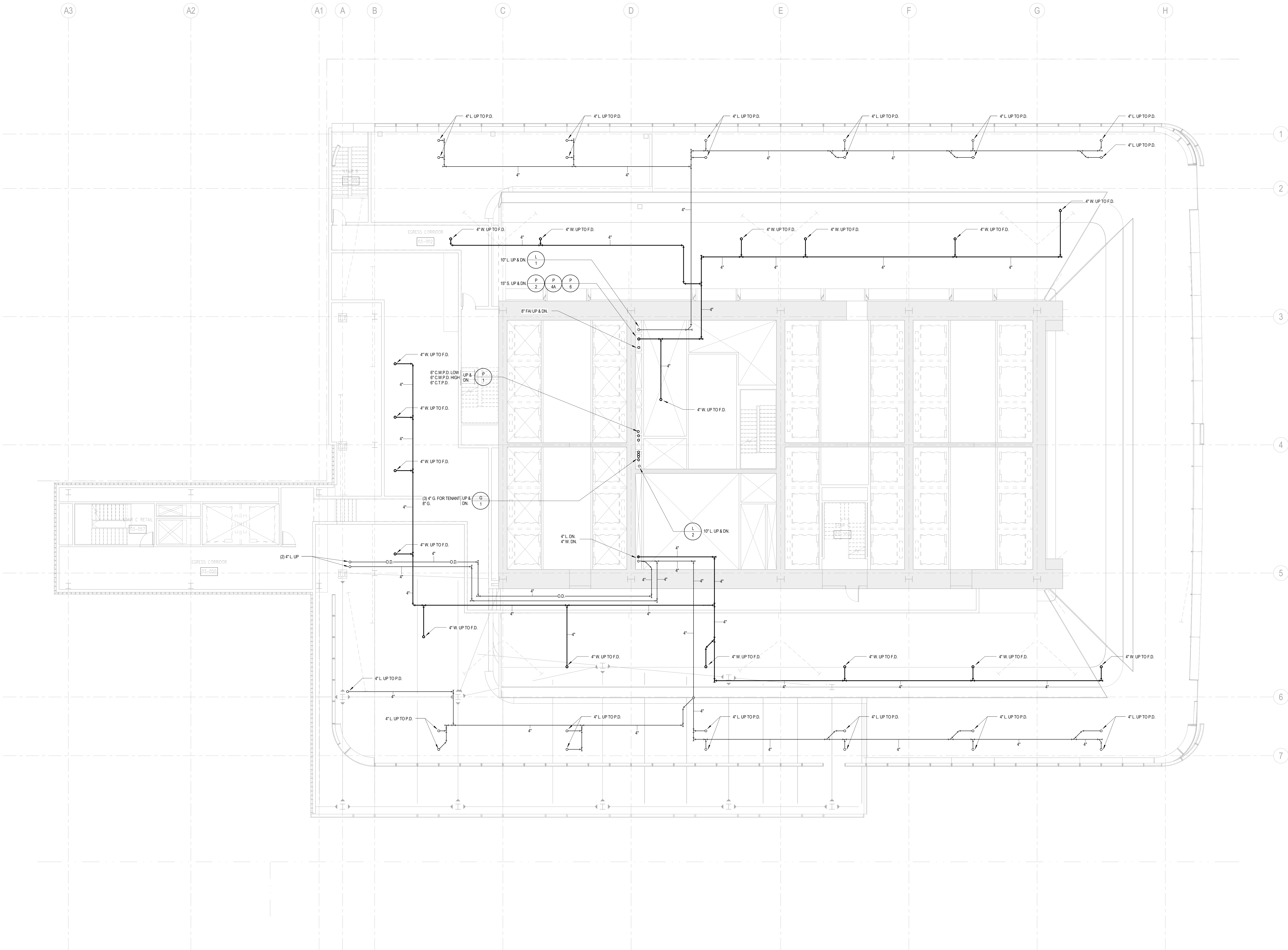


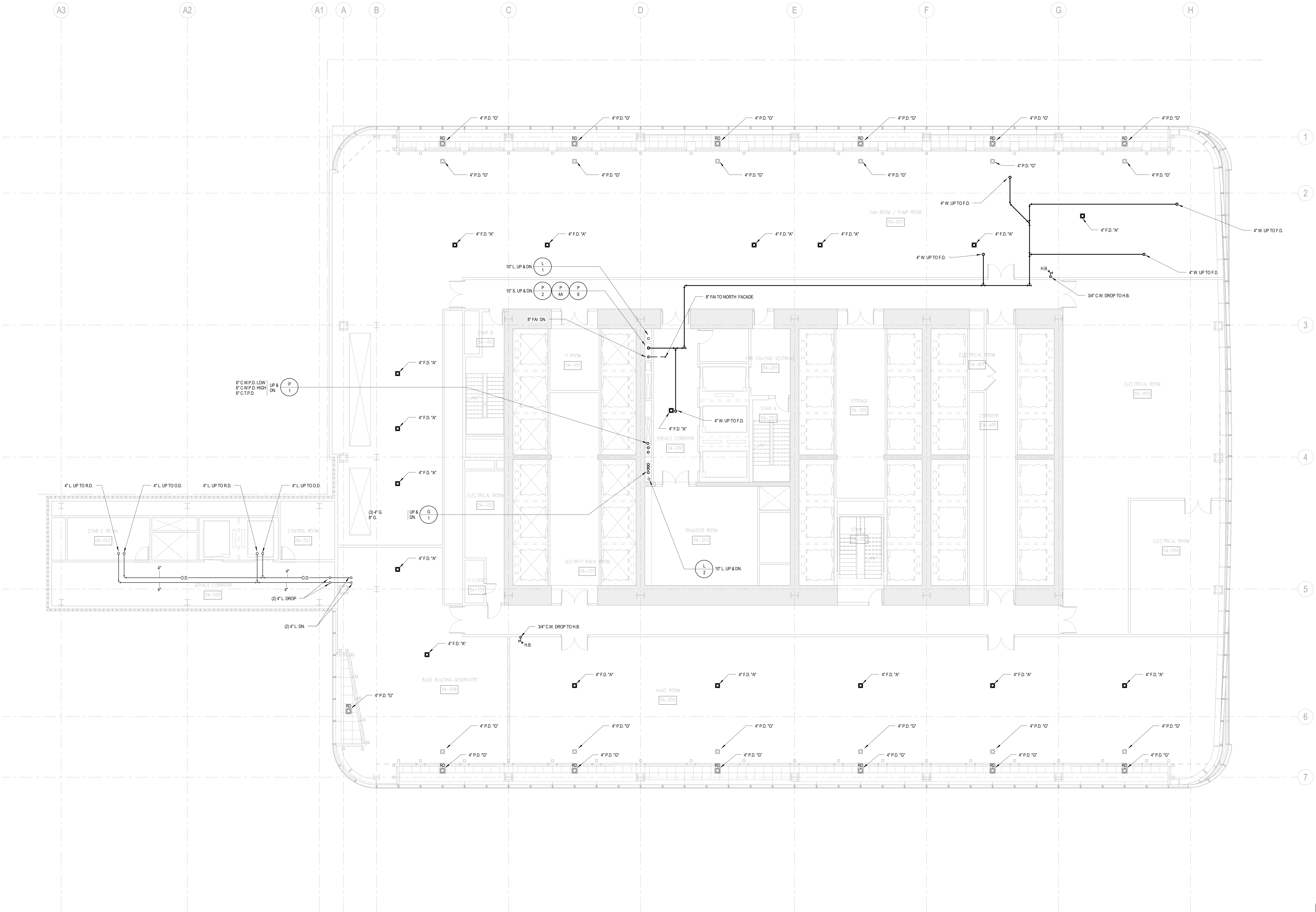
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| 1 | 19 NOV 2013 | ISSUED FOR DD PROGRESS PRICING |

PLUMBING
LEVEL 3 FLOOR
PLAN - STAIR
TRANSFER



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Security Consultant
Ducibella, Ventor & Santore
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

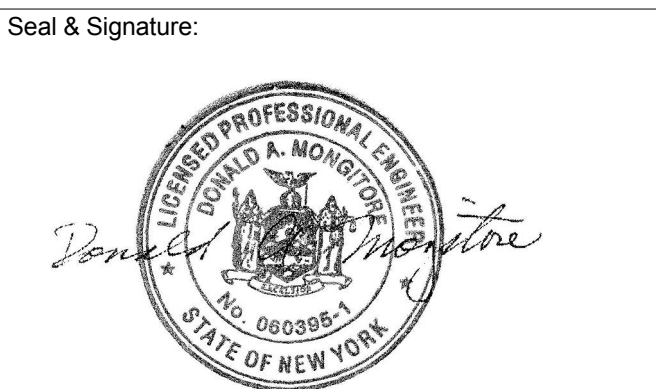
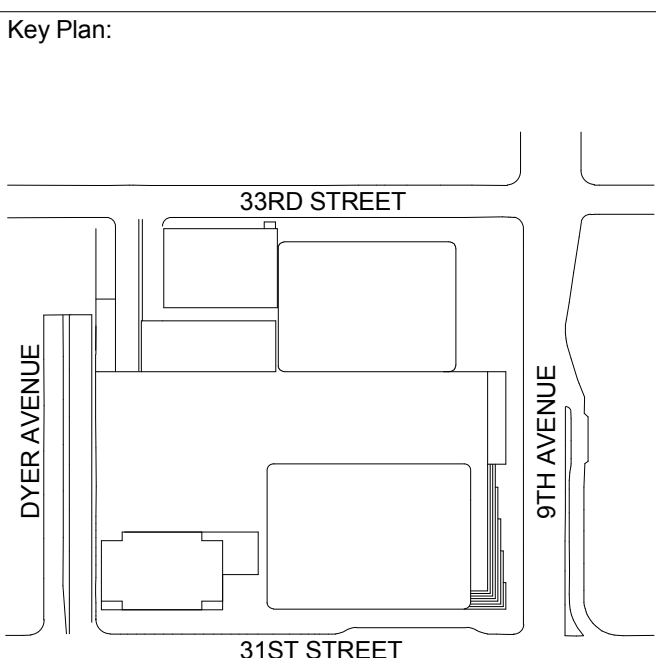
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant
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65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
188 Ames Street, Hackensack, NJ 07601

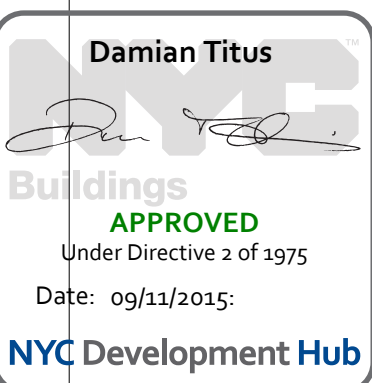
Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



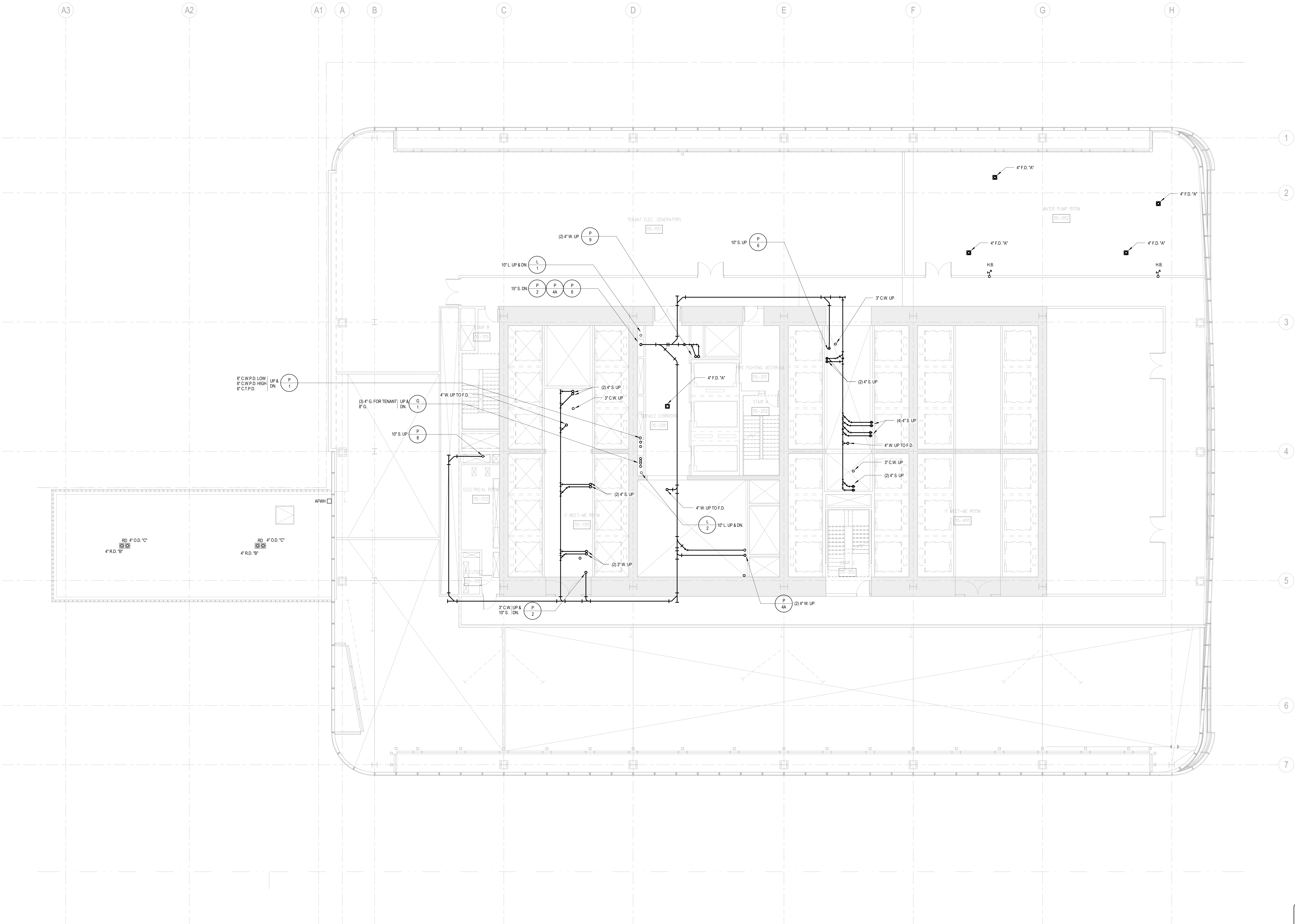
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**PLUMBING
LEVEL 5 FLOOR
PLAN -
MECHANICAL
MEZZANINE**

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-105
B-SCAN Sheet No.:
P-105.00
Sheet No.:
P-105
Page No.: 17 OF 6



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Blast Consultant
Weidinger Associates, Inc.
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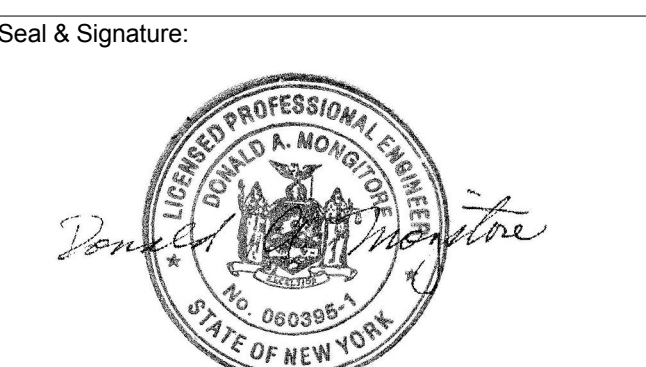
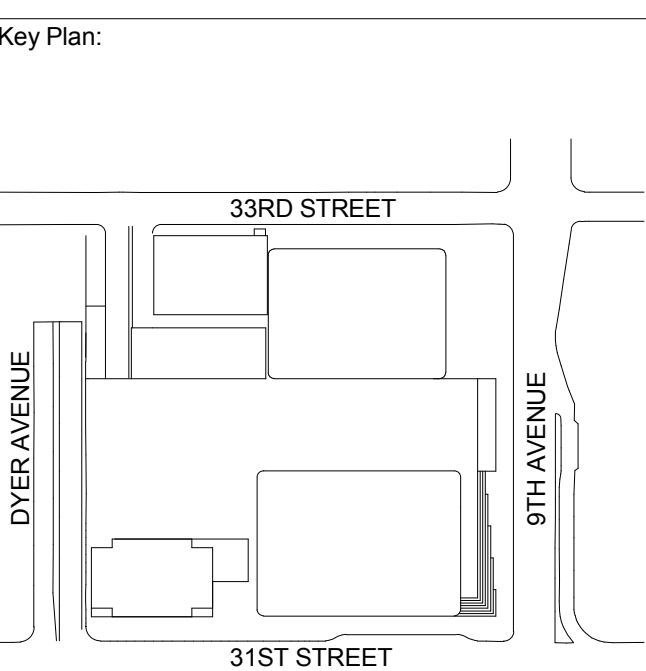
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

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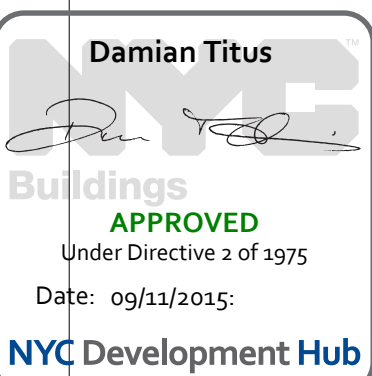
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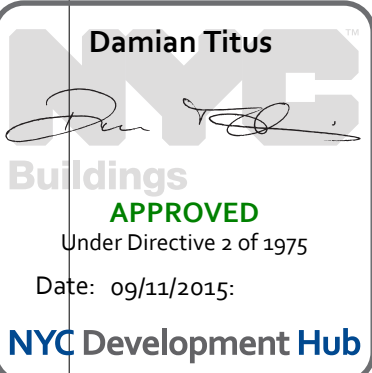
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**PLUMBING
LEVEL 6-15
FLOOR PLAN -
TYPICAL
LOW-RISE**

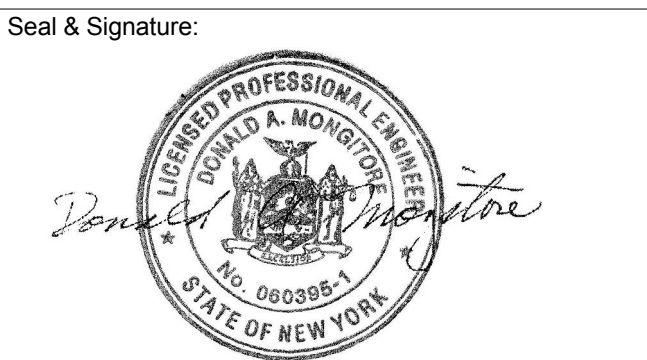
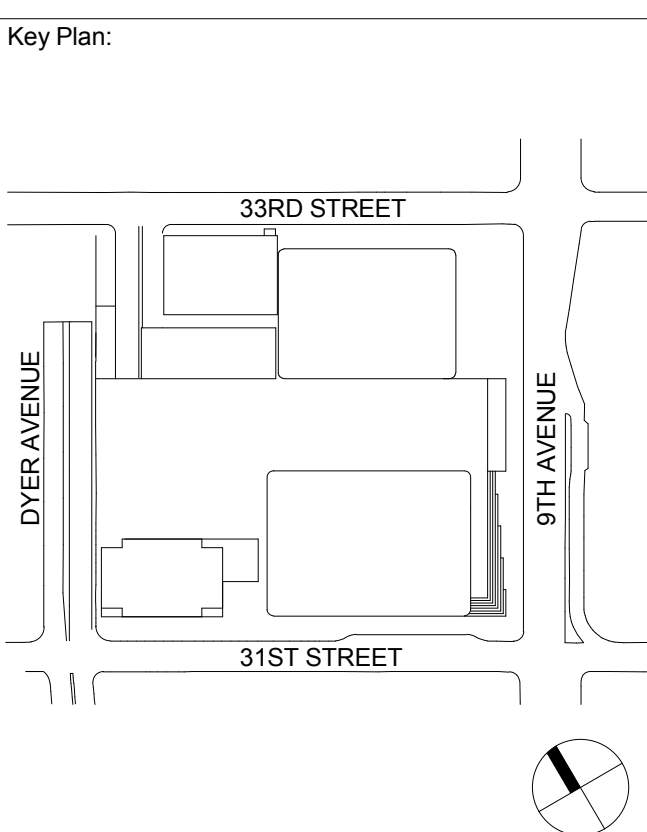
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Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: P-106
B-SCAN Sheet No.:
P-106.00
Sheet No.:
P-106
Page No.:
18 OF 6

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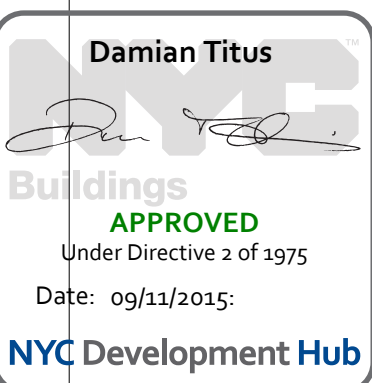
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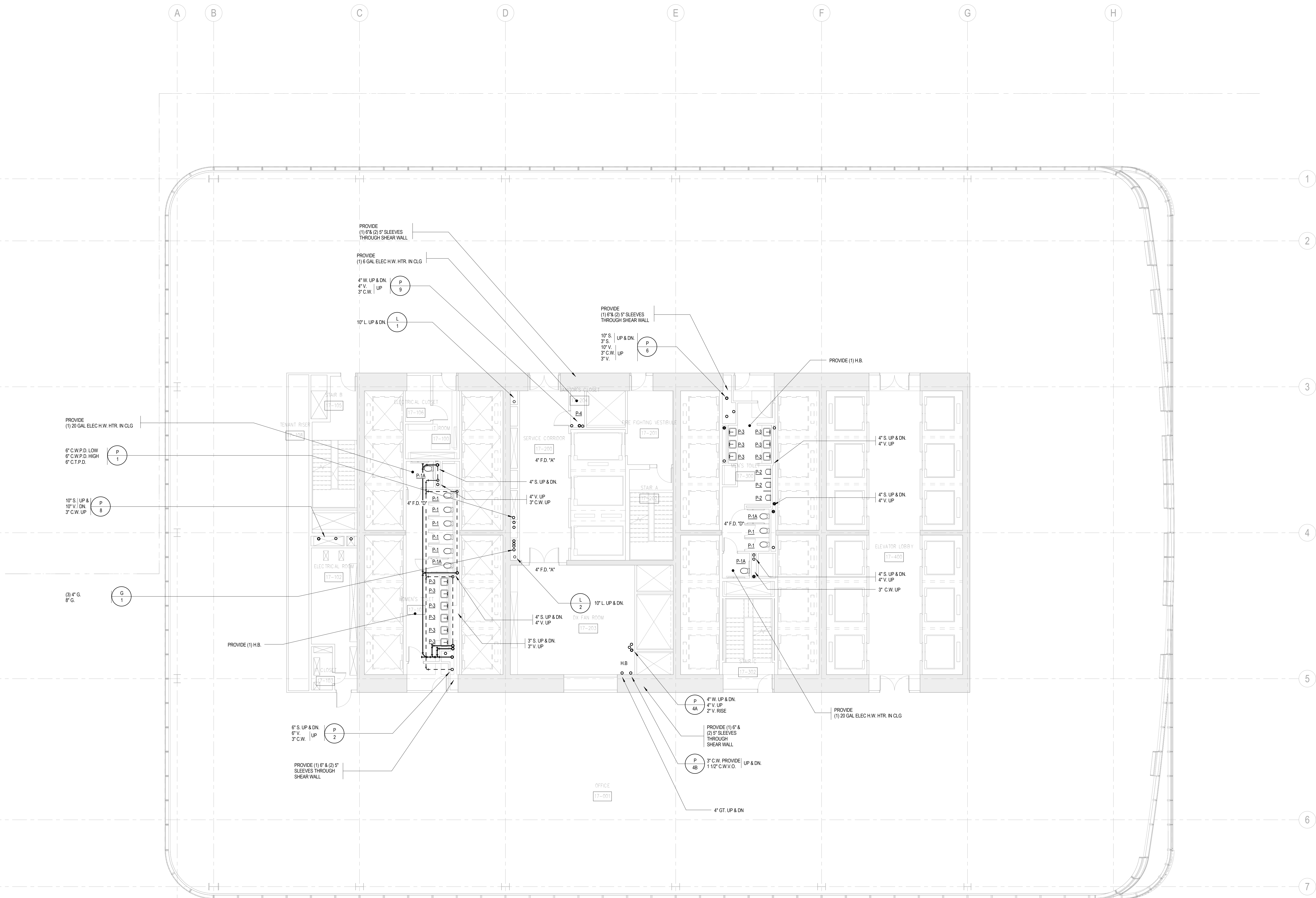
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PLUMBING
LEVEL 17 FLOOR
PLAN - LOW-RISE



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SHEET NOTES



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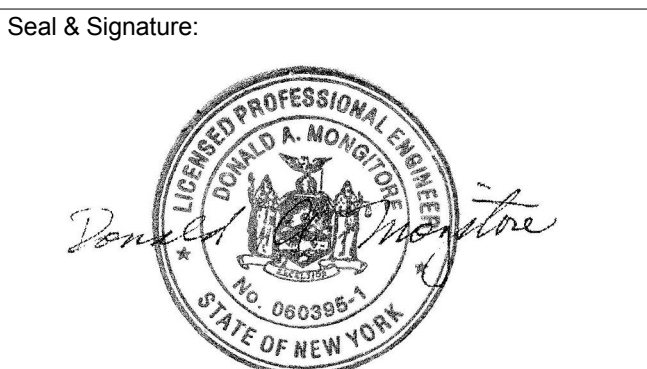
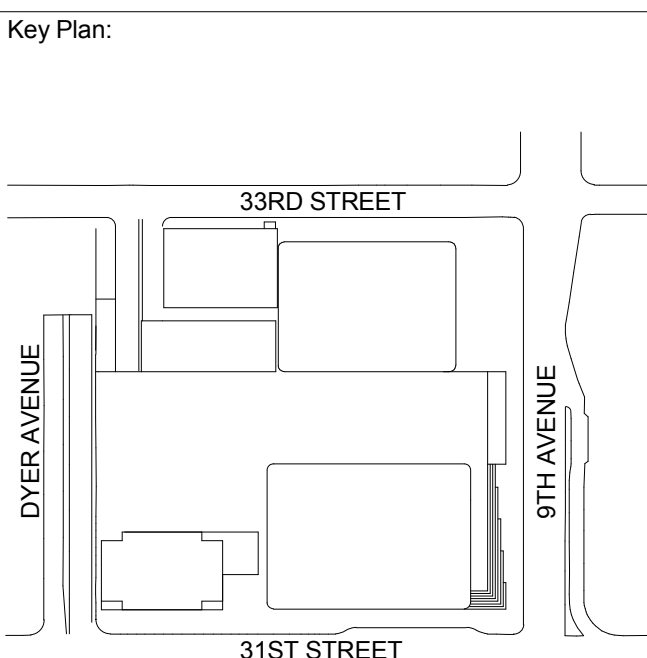
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188 Ames Street, Hackensack, NJ 07601

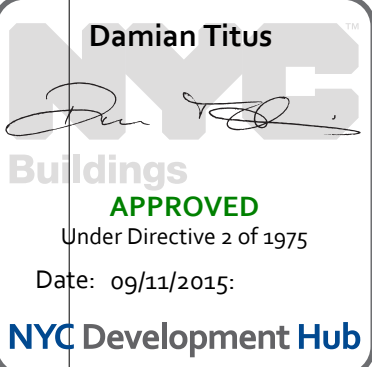
Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



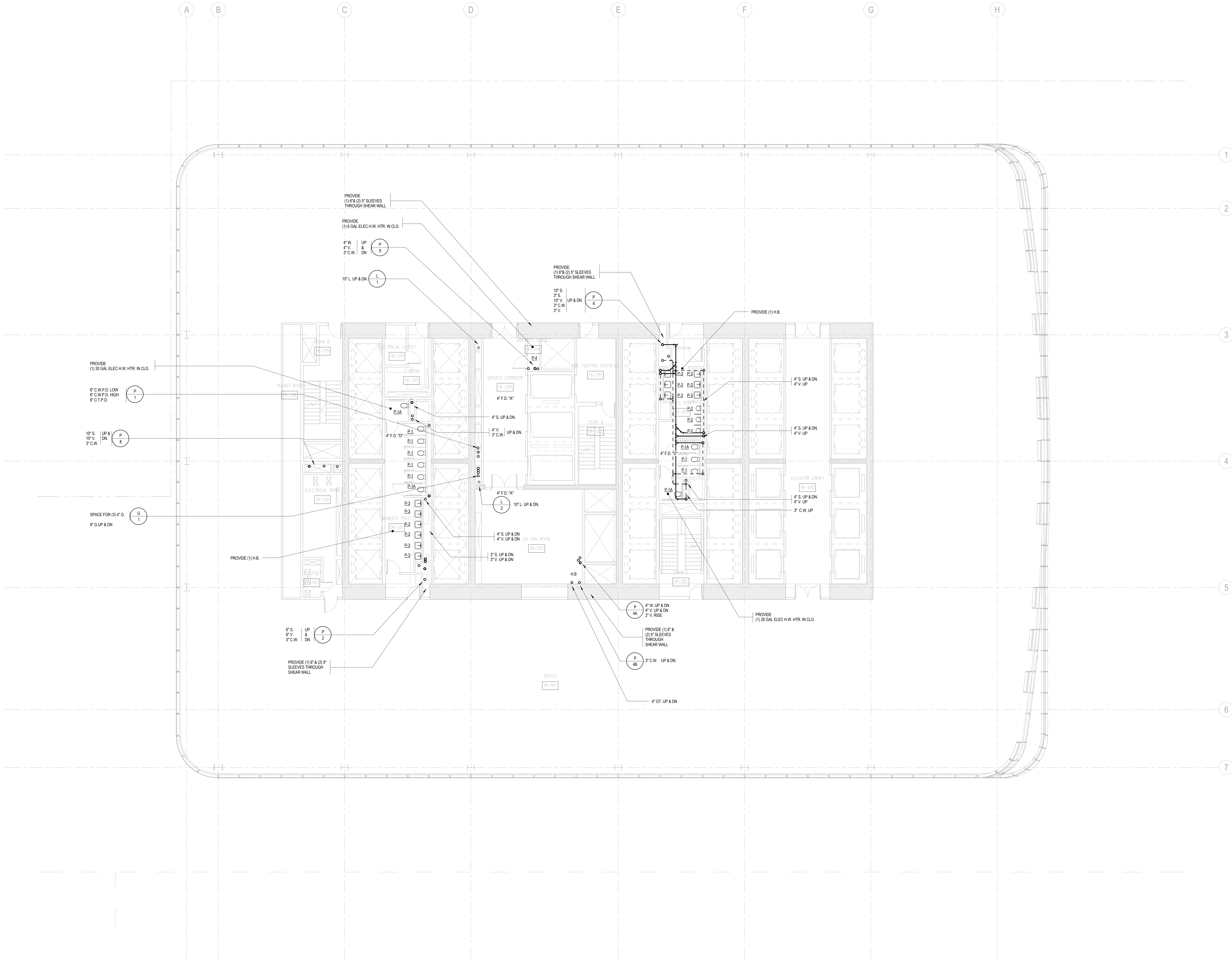
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| Sheet Name: | | |

**PLUMBING
LEVEL 18 FLOOR
PLAN - LOW-RISE
OVERRUN**

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-118
B-SCAN Sheet No.:
P-118.00
Sheet No.:
P-118
Page No.: 21 OF 6



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40 Wall Street, New York, NY 10005

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Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

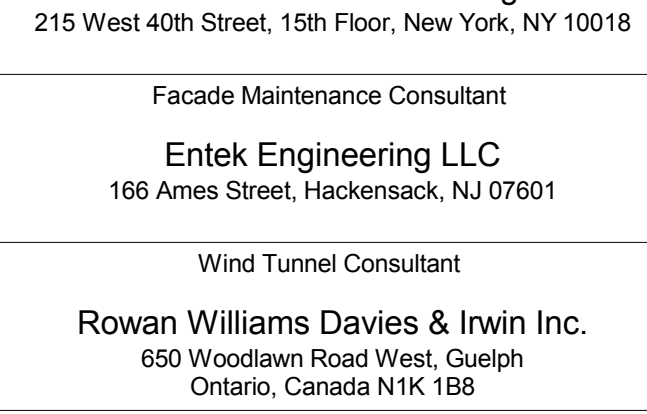
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

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Entek Engineering LLC
188 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-119

B-SCAN Sheet No.:
Sheet No.: P-119
Page No.: 22 OF 6

PLUMBING
LEVEL 19-20
FLOOR PLAN -
LOW-RISE EMR

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-119

B-SCAN Sheet No.:
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Page No.: 22 OF 6

PLUMBING
LEVEL 19-20
FLOOR PLAN -
LOW-RISE EMR

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-119

B-SCAN Sheet No.:
Sheet No.: P-119
Page No.: 22 OF 6

PLUMBING
LEVEL 19-20
FLOOR PLAN -
LOW-RISE EMR

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-119

B-SCAN Sheet No.:
Sheet No.: P-119
Page No.: 22 OF 6

PLUMBING
LEVEL 19-20
FLOOR PLAN -
LOW-RISE EMR

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-119

B-SCAN Sheet No.:
Sheet No.: P-119
Page No.: 22 OF 6

PLUMBING
LEVEL 19-20
FLOOR PLAN -
LOW-RISE EMR

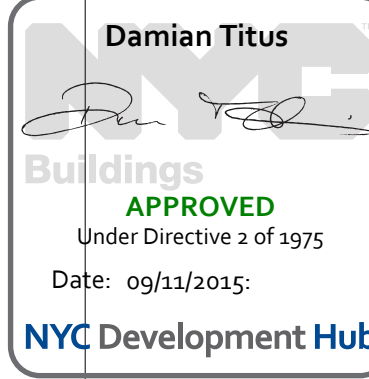
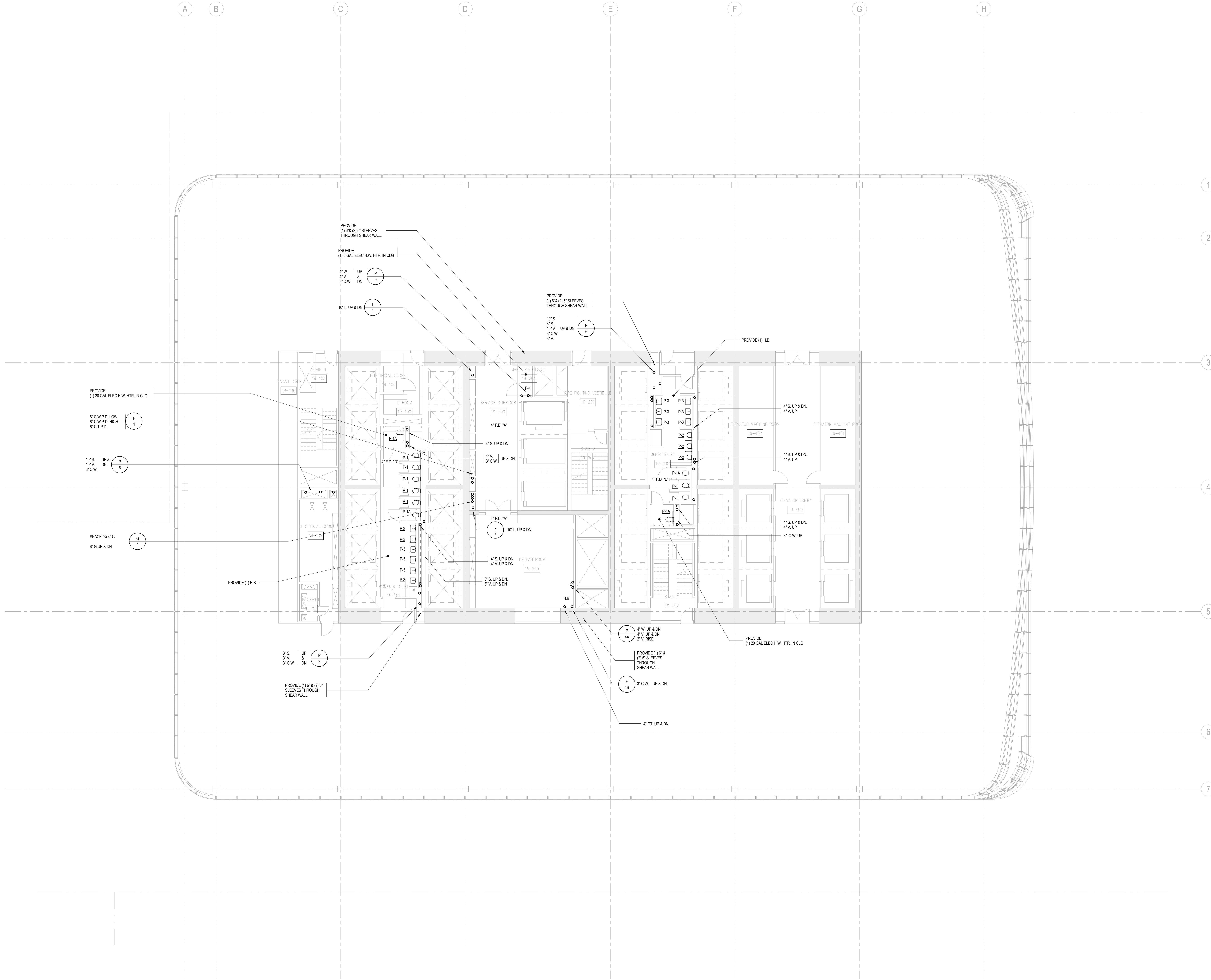
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B-SCAN Sheet No.:
Sheet No.: P-119
Page No.: 22 OF 6

PLUMBING
LEVEL 19-20
FLOOR PLAN -
LOW-RISE EMR

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-119

B-SCAN Sheet No.:
Sheet No.: P-119
Page No.: 22 OF 6



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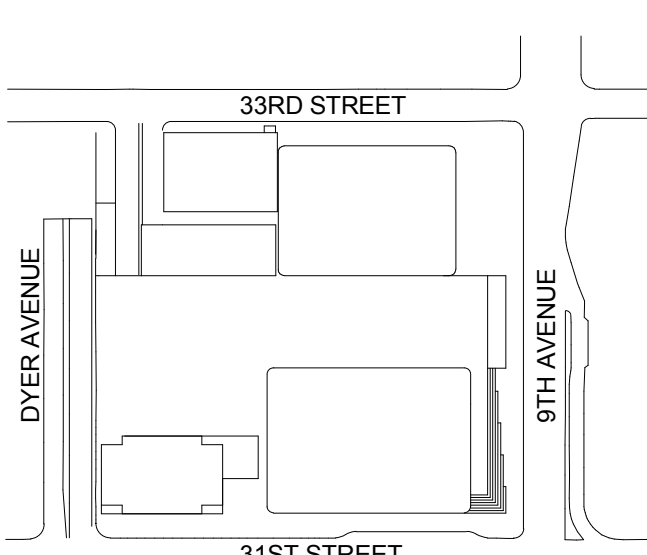
Facade Maintenance Consultant

Entek Engineering LLC
188 Ames Street, Hackensack, NJ 07601

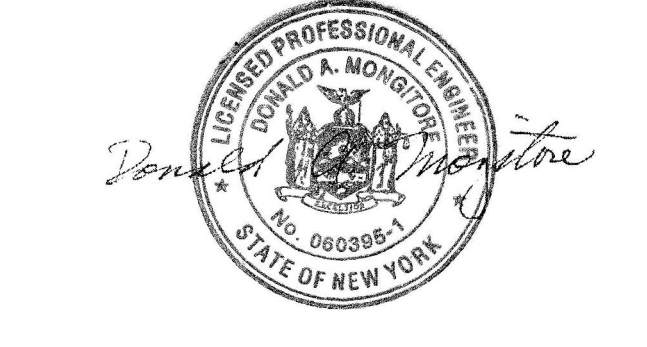
Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



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| 3 | 15 NOV 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONCILIATION |

No. Date Description

Sheet Name:

PLUMBING
LEVEL 28 FLOOR
PLAN - LOW-RISE
& MID-RISE

Project No.: 14830-A-000

Date: 20 JUN 2014

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

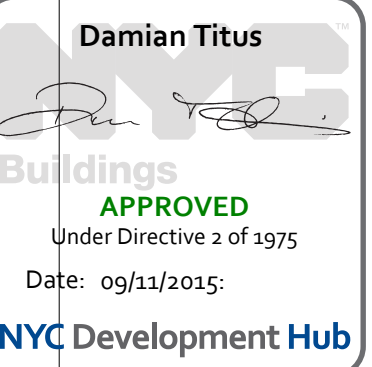
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Sheet No.: P-128

Page No.: 24 OF 6

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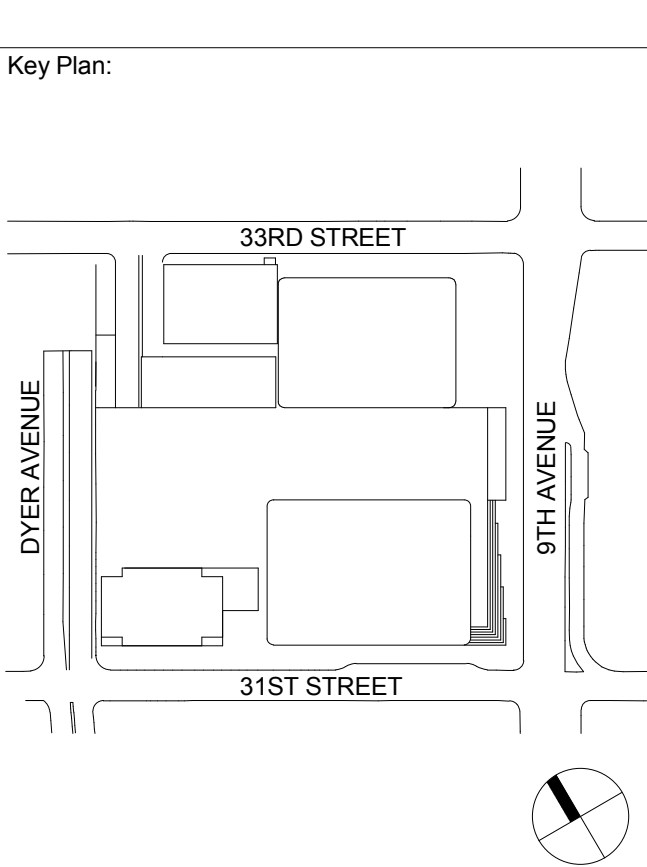
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404 Fifth Avenue #8, New York, NY 10018

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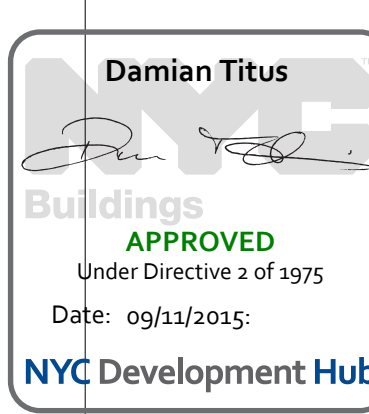
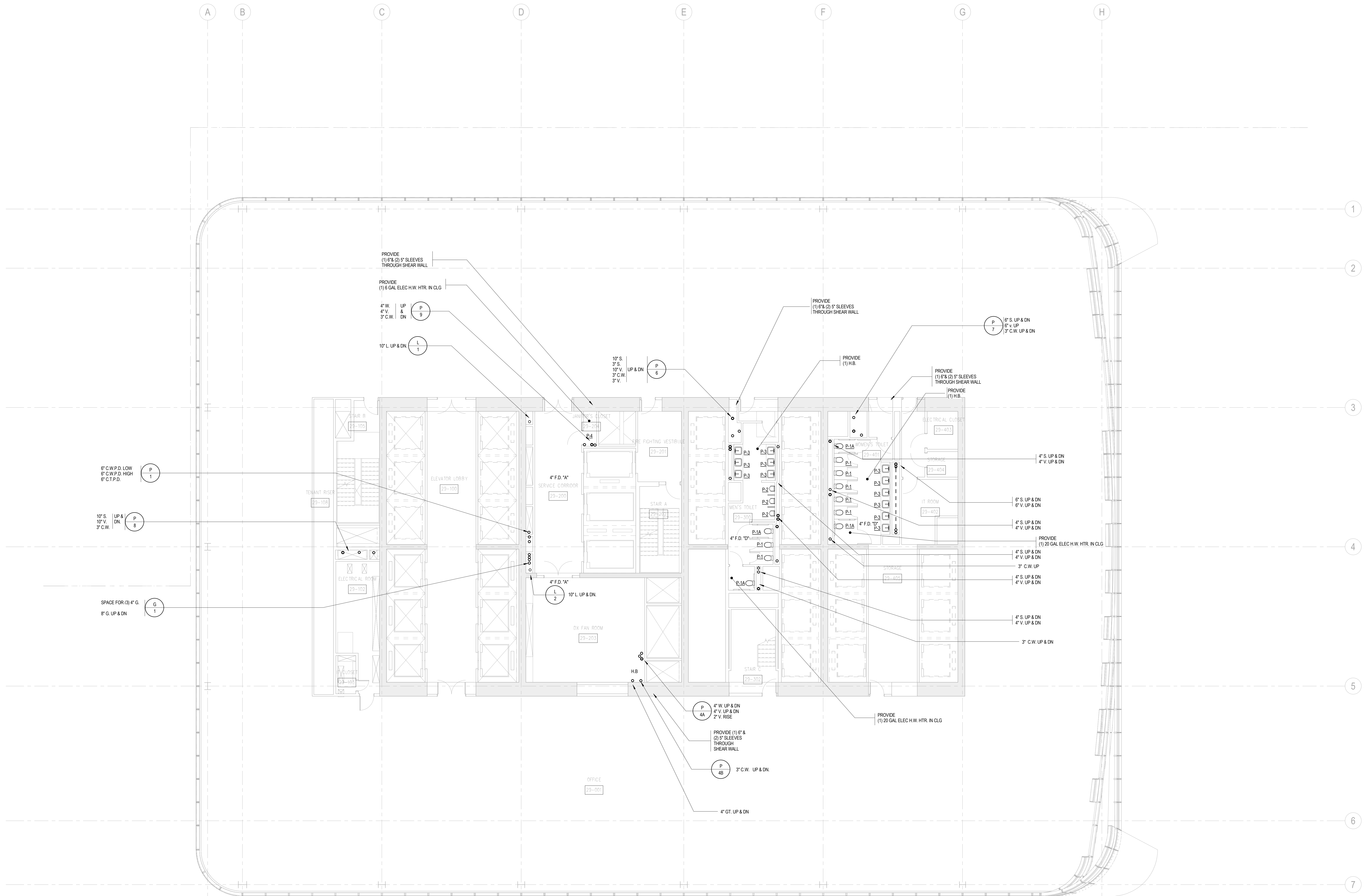
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| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
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| 3 | 15 NOV 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONCILIATION |

**PLUMBING
LEVEL 29 FLOOR
PLAN - MID-RISE
OVERRUN**

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-129

B-SCAN Sheet No.:
P-129.00
Sheet No.: P-129
Page No.: 25 OF 6



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Blast Consultant
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40 Wall Street, New York, NY 10005

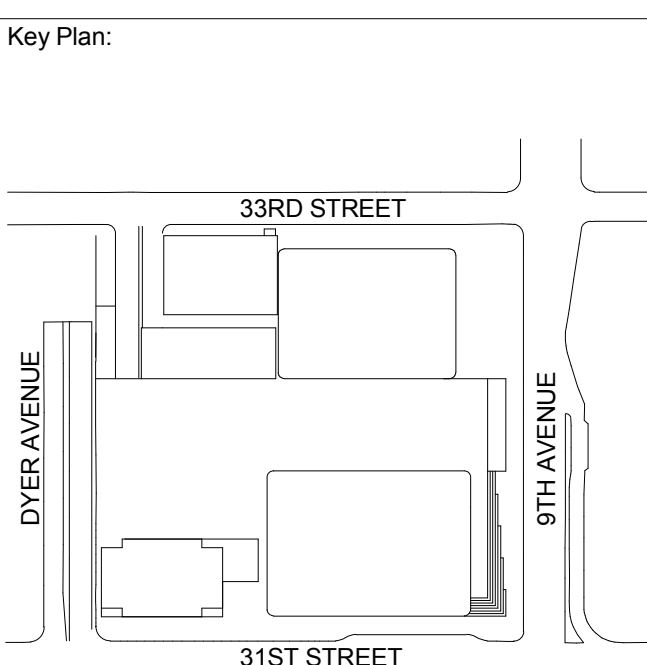
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
188 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



Seal & Signature:

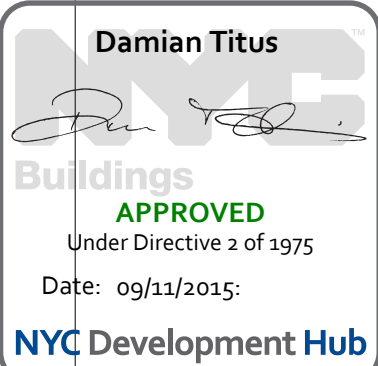
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| 3 | 15 NOV 2013 | ISSUED FOR 60% DESIGN DEVELOPMENT |
| 2 | 12 JUL 2013 | ISSUED FOR 60% DESIGN DEVELOPMENT |
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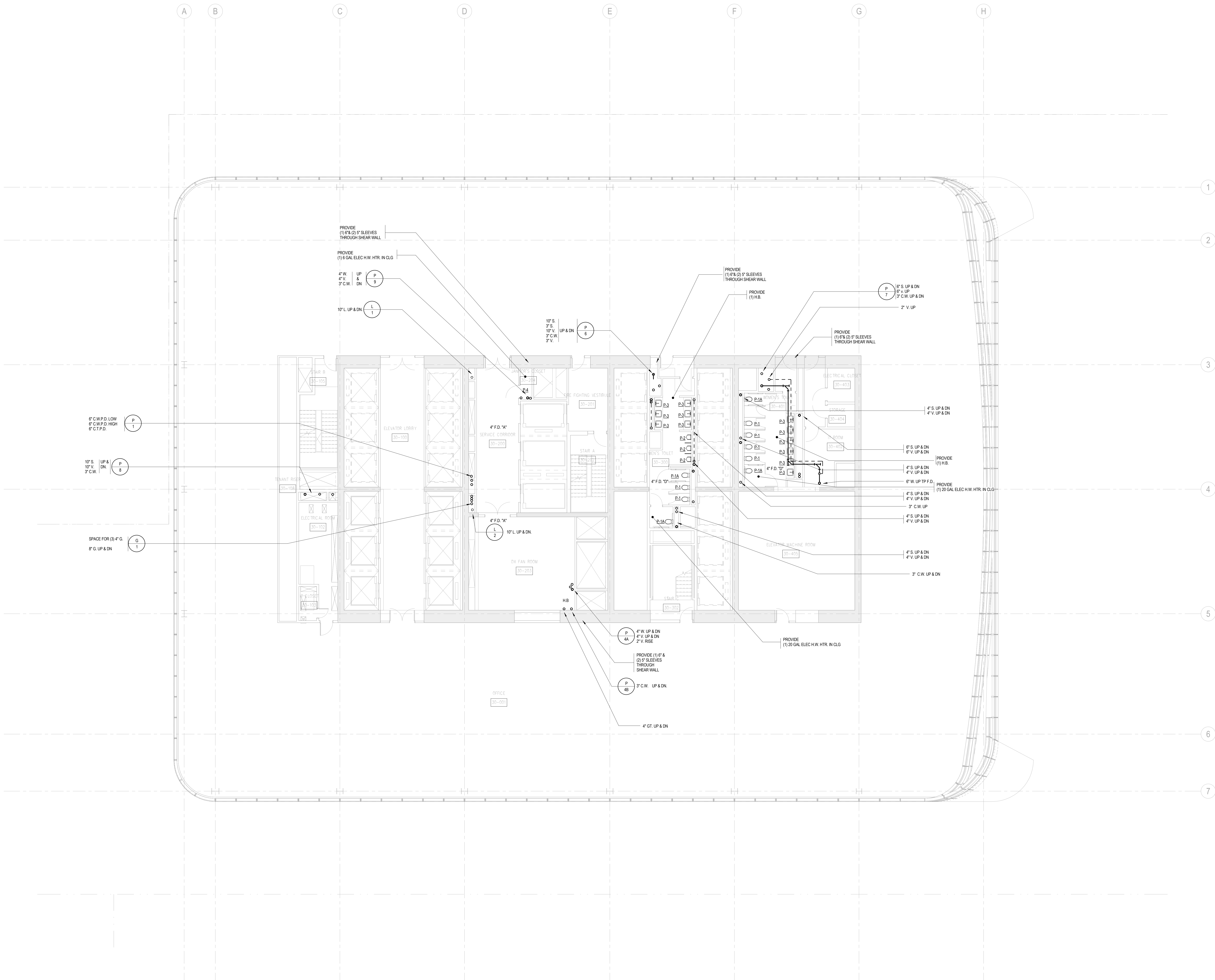
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**PLUMBING
LEVEL 30 FLOOR
PLAN - MID-RISE
EMR**

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-130
B-SCAN Sheet No.:
P-130.00
Sheet No.:
P-130
Page No.: 26 OF 6



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375 Ninth Avenue, New York, NY 10001

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Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

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Vibration Consultant

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

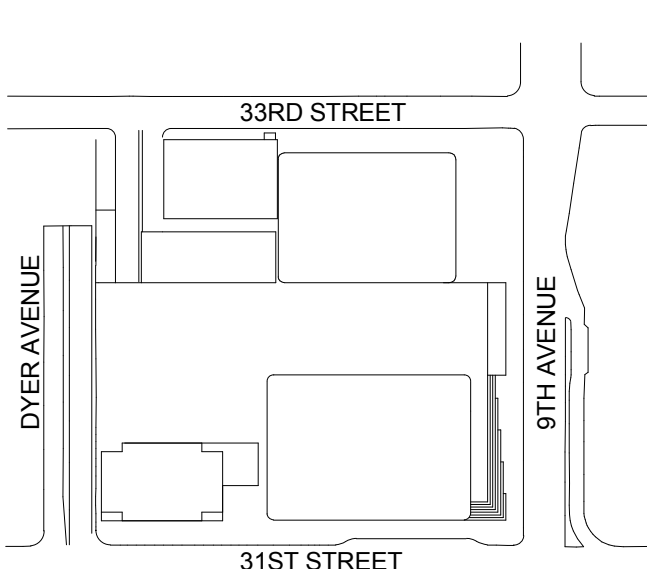
Facade Maintenance Consultant

Entek Engineering LLC
188 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



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| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONSTRUCTION |

No. Date Description
Sheet Name:

**PLUMBING
LEVEL 31 FLOOR
PLAN - MID-RISE
PUMP ROOM**

Project No.:
14830-A-000

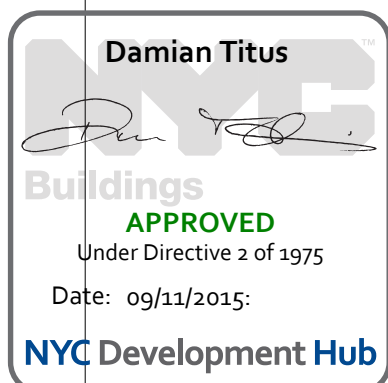
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Scale:
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File No.:
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Page No.:
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MANHATTAN WEST:
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Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

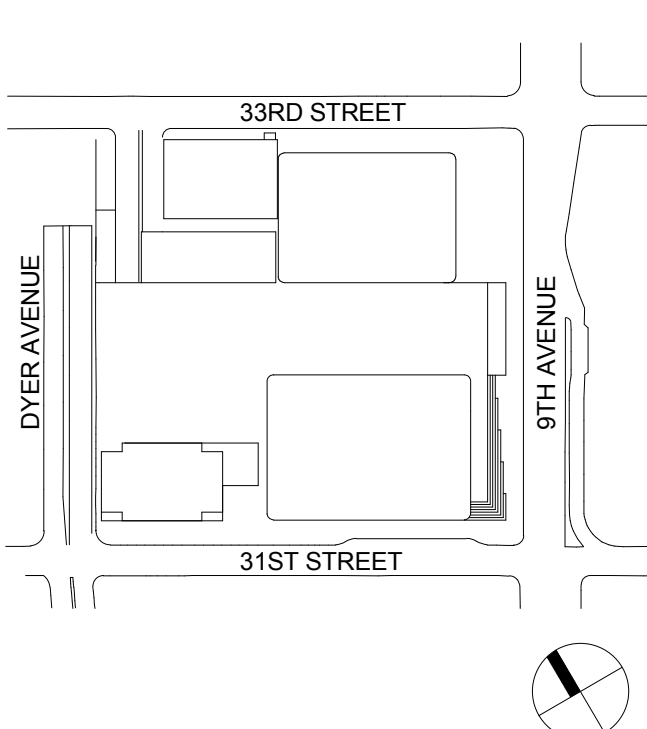
Facade Maintenance Consultant

Entek Engineering LLC
186 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



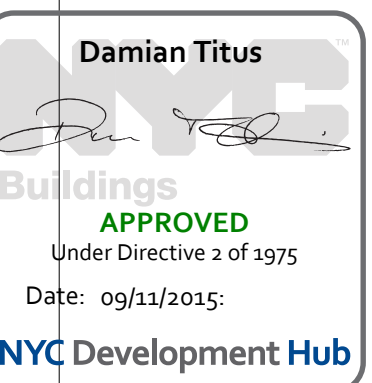
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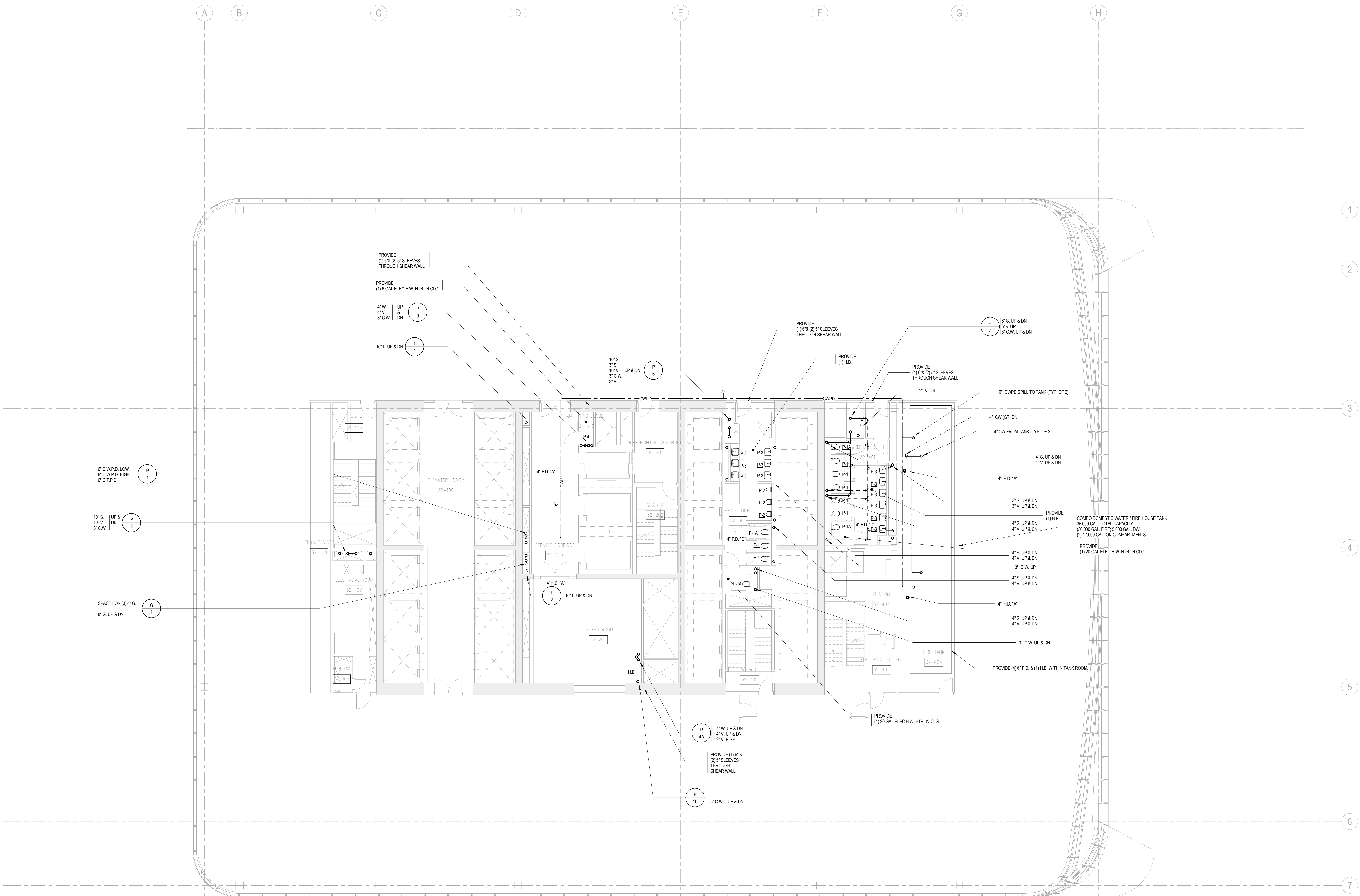
**PLUMBING
LEVEL 32 FLOOR
PLAN - MID-RISE
WATER TANK**

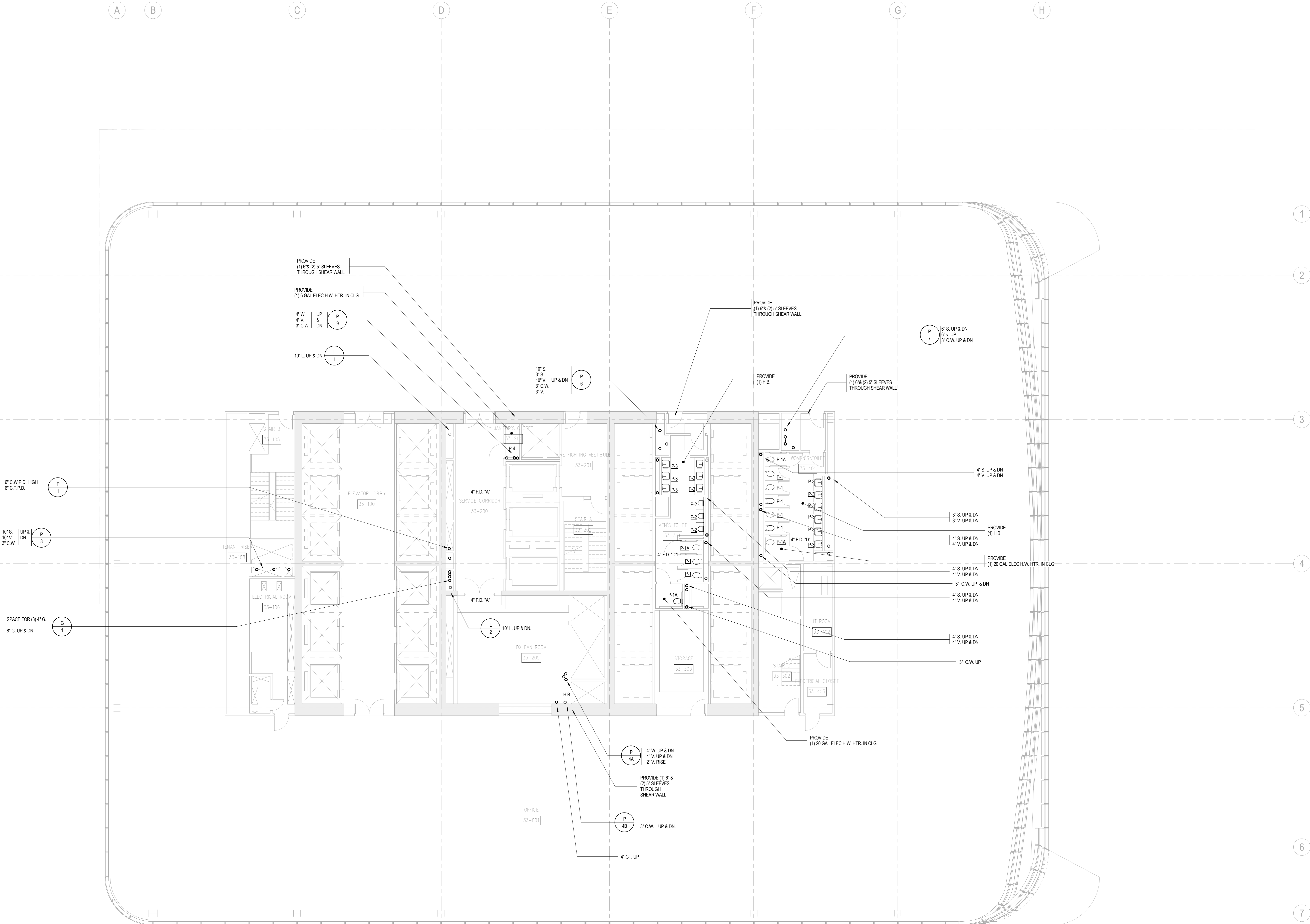
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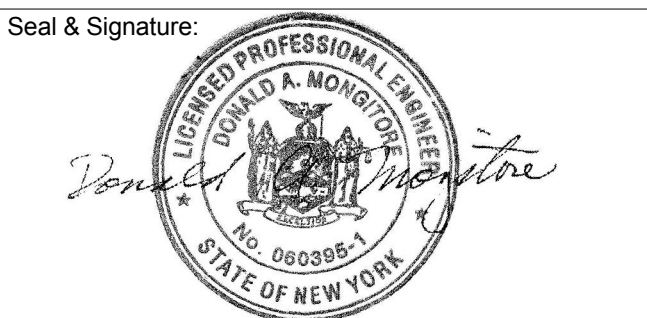
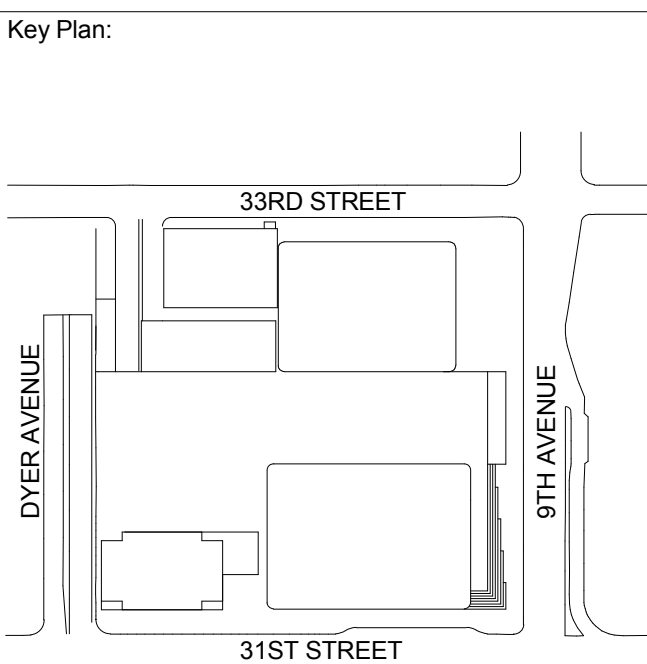
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NOTE: REFER TO RISER DIAGRAM FOR EXTENT
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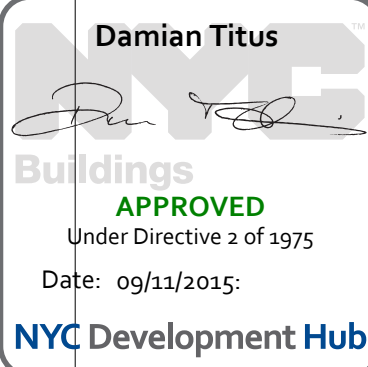
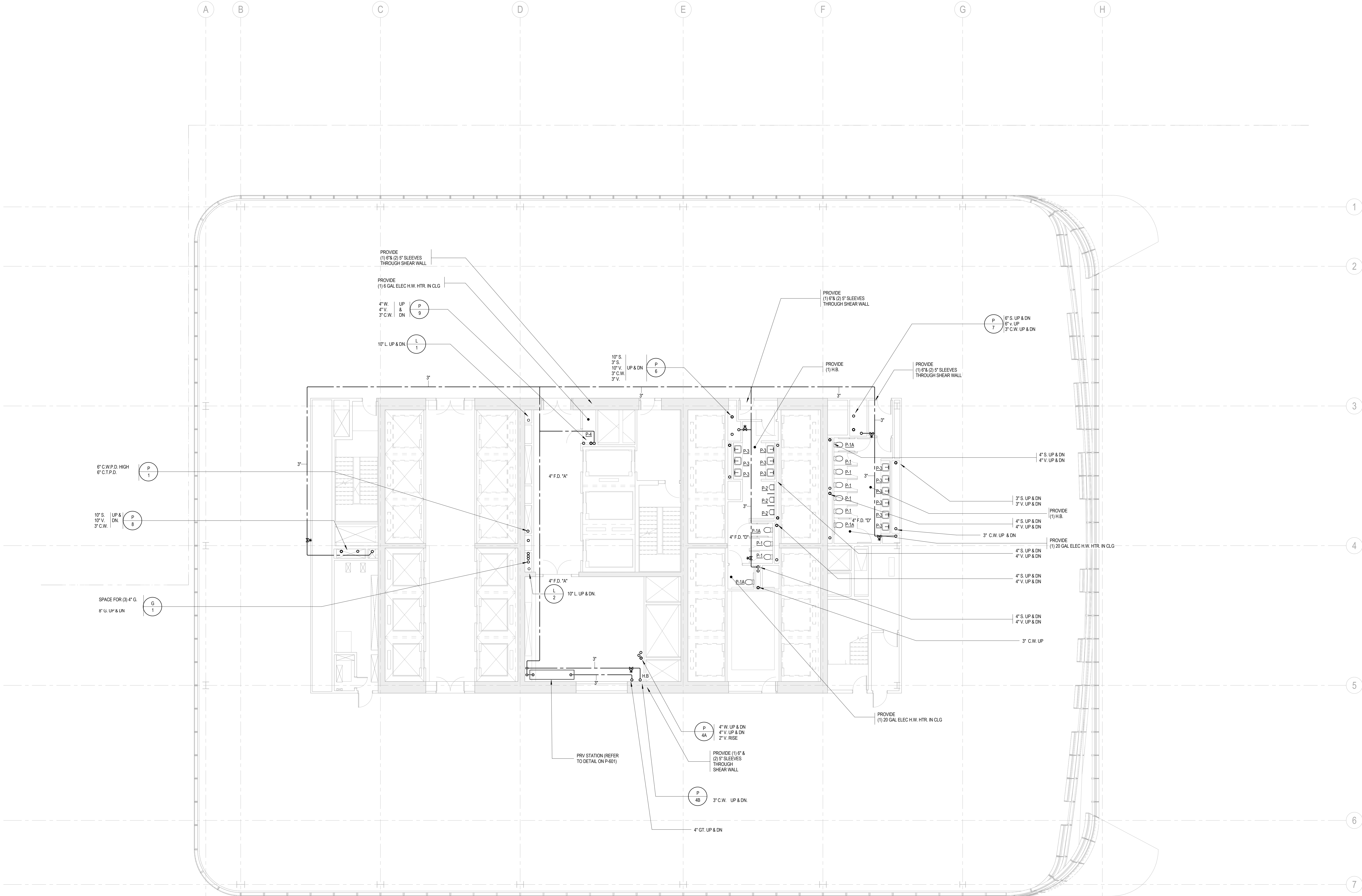


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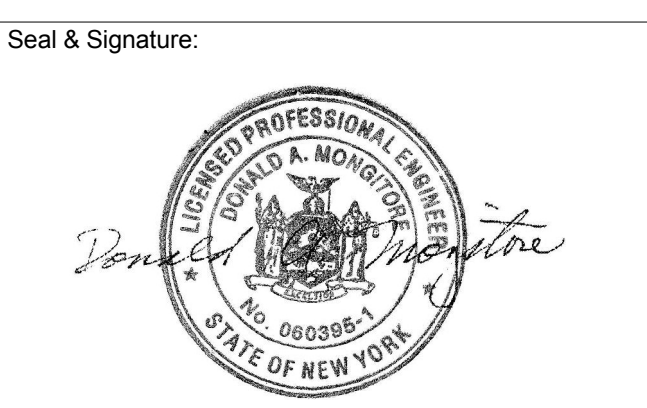
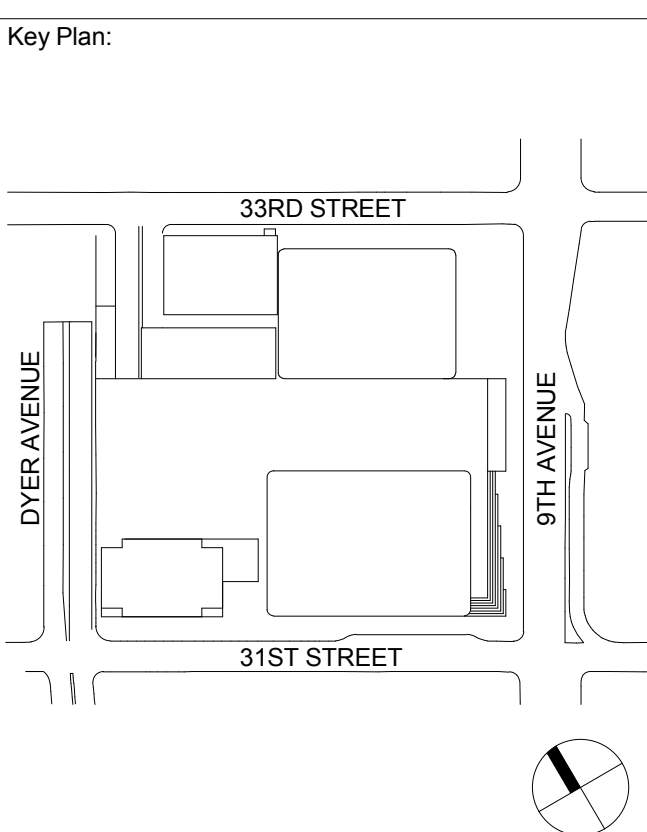
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**PLUMBING
LEVEL 36 FLOOR
PLAN - TYPICAL
MID-RISE**



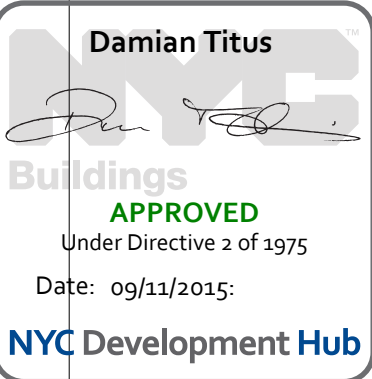
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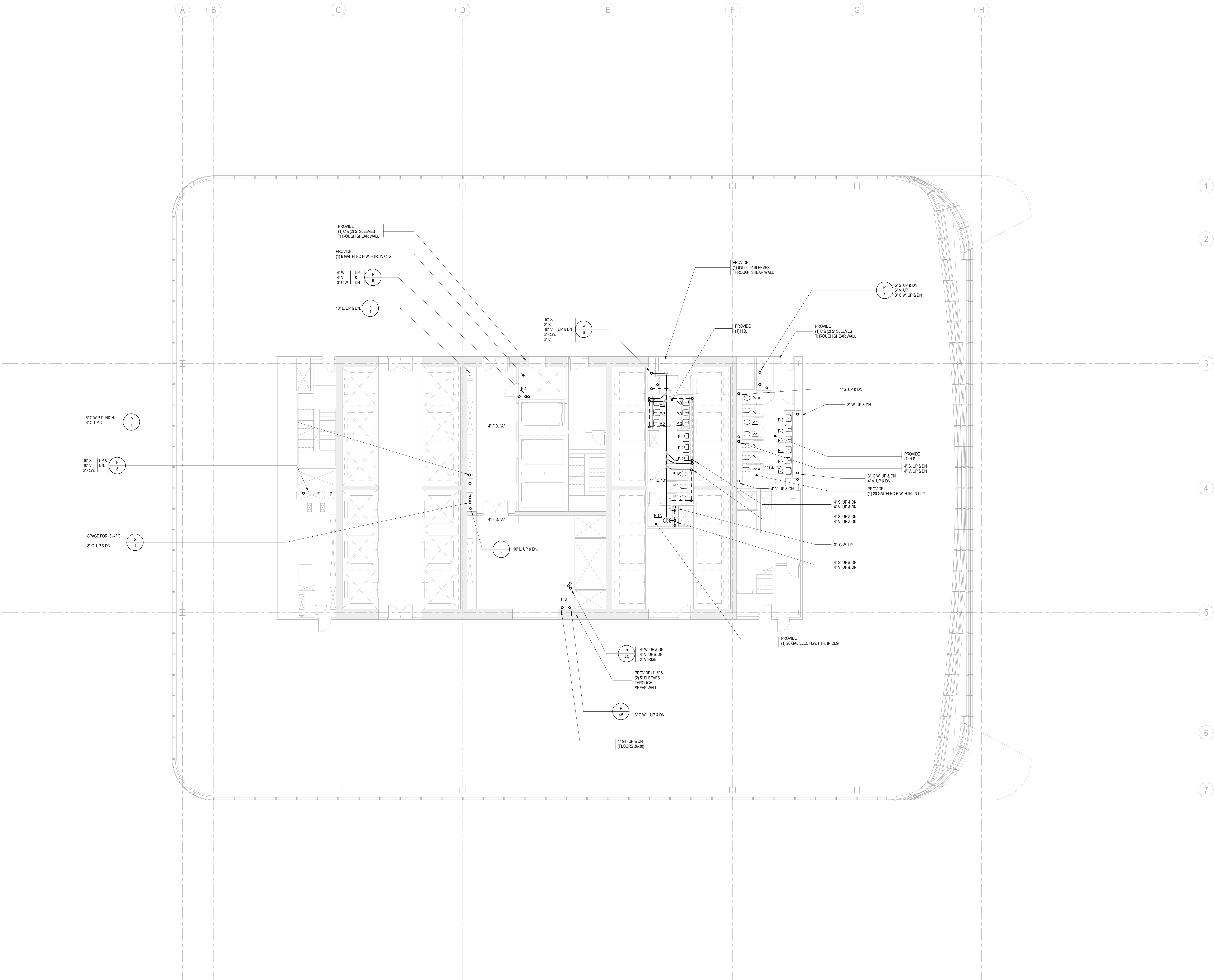
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| No. | Date | Description |
| 1 | 09/12/2015 | |

PLUMBING
LEVEL 37-38
FLOOR PLAN -
TYPICAL
MID-RISE



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Brookfield
Brookfield Place
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Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
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MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

Vertical Transportation
Edgett Williams Consulting Group, Inc.
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Sustainable Design
Viridian Energy & Environmental
50 Washington Street, Newark, CT 06854

Geo-Technical Engineering
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 22nd W. 34th Street #610,
New York, NY 10122

Landscape Consultant
Field Operations
475 10th Avenue, New York, NY 10018

Security Consultant
Ducibella, Ventor & Santore
250 State Street #F1, North Haven, CT 06473

Blasit Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

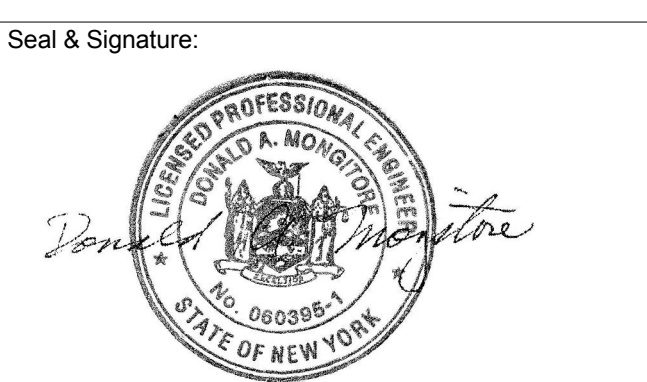
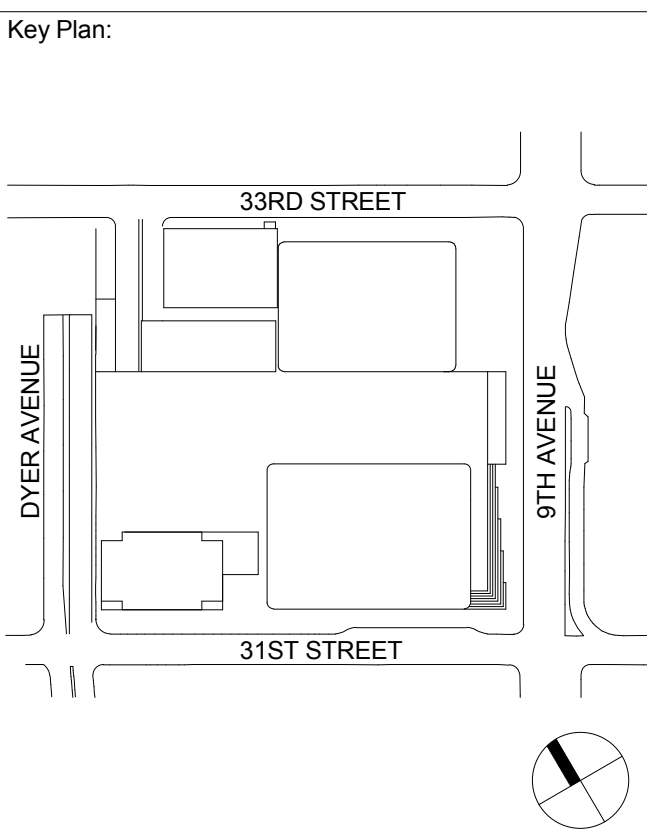
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
186 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



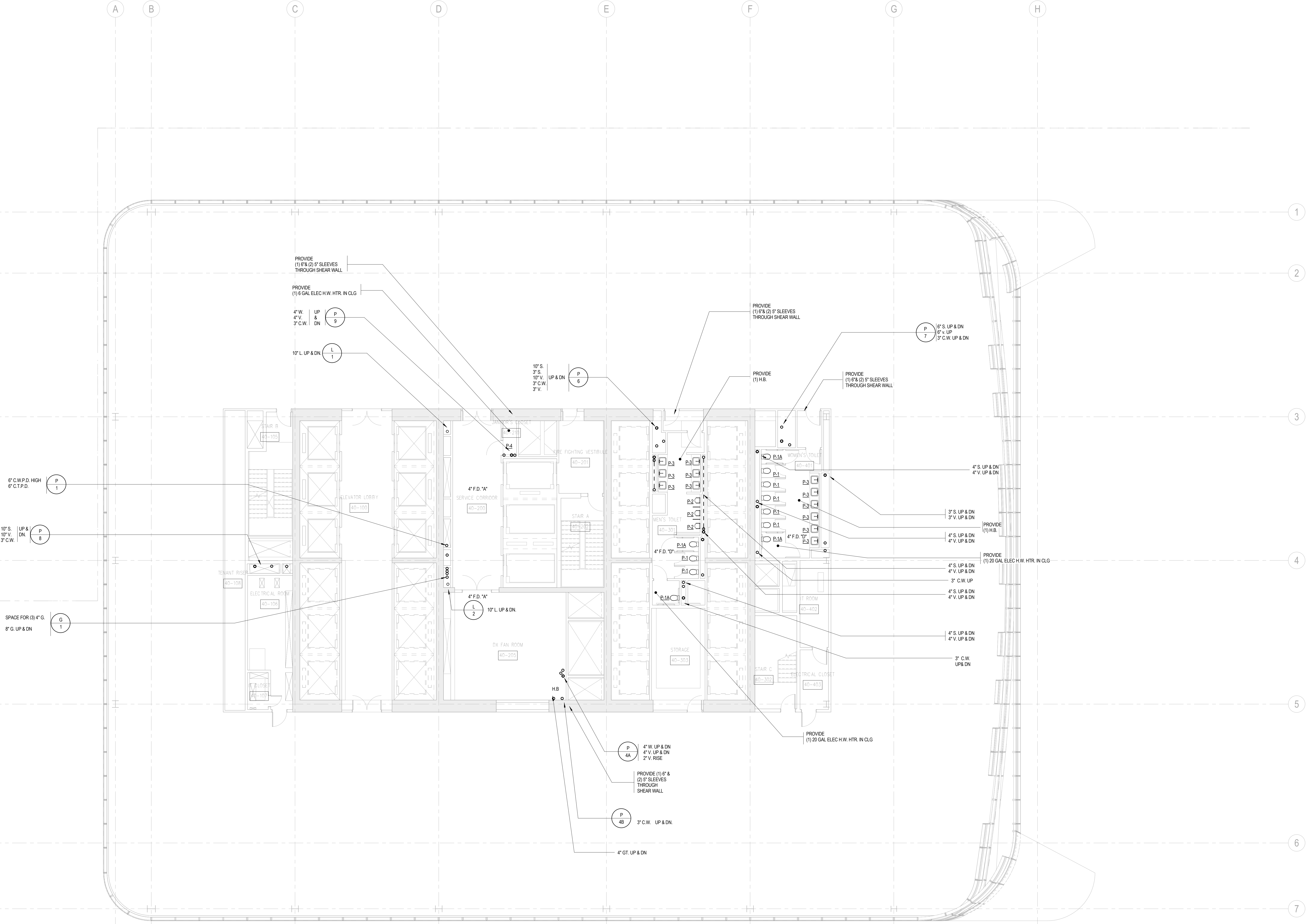
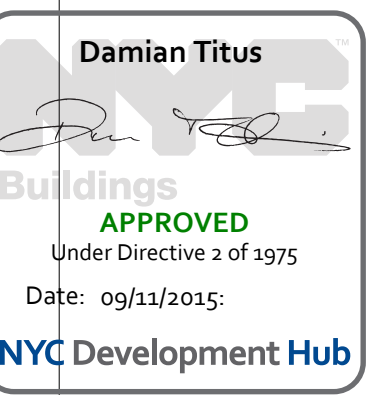
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| 1 | 19 NOV 2013 | ISSUED FOR 60 PROGRESS PRICINGS |

**PLUMBING
LEVEL 40-41
FLOOR PLAN -
MID-RISE
OVERRUN**

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: P-140

B-SCAN Sheet No.:
P-140.00
Sheet No.:
P-140
Page No.: 33 OF 6

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SHEET NOTES



Client
Brookfield
Brookfield Place
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Architecture/Structural Engineering
SOM
Skidmore, Owings & Merrill LLP
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250 State Street #1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

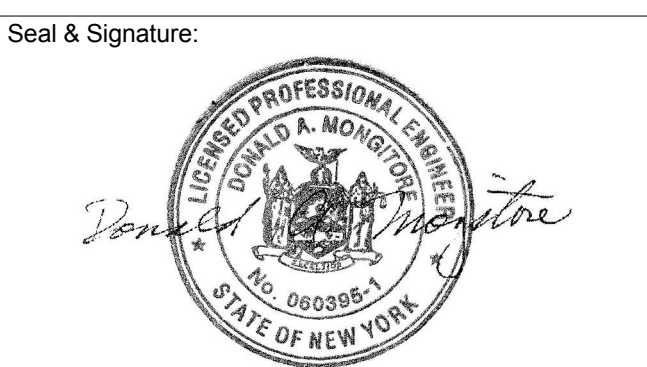
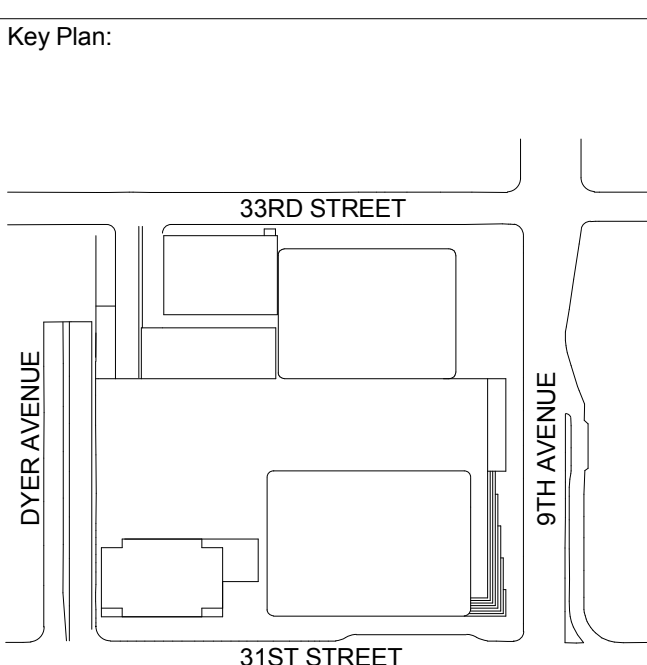
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

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186 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



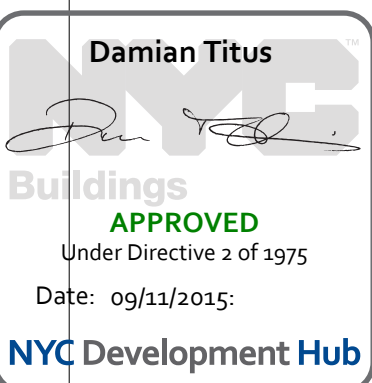
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| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 1 | 19 MAR 2013 | ISSUED FOR RECONCILIATION |

No. Date Description
Sheet Name:

**PLUMBING
LEVEL 42 FLOOR
PLAN - MID-RISE
EMR**

Project No.: 14200-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-142
B-SCAN Sheet No.:
P-142.00
Sheet No.:
P-142
Page No.: 34 OF 6

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SHEET NOTES



MANHATTAN WEST:
NORTH TOWER
375 Ninth Avenue, New York, NY 10001
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Entek Engineering LLC
186 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:

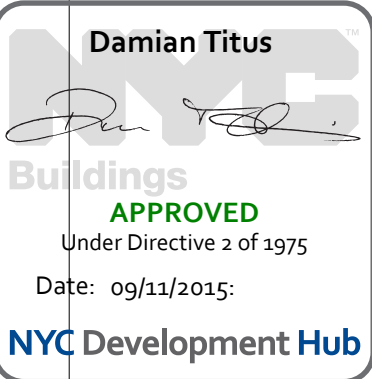


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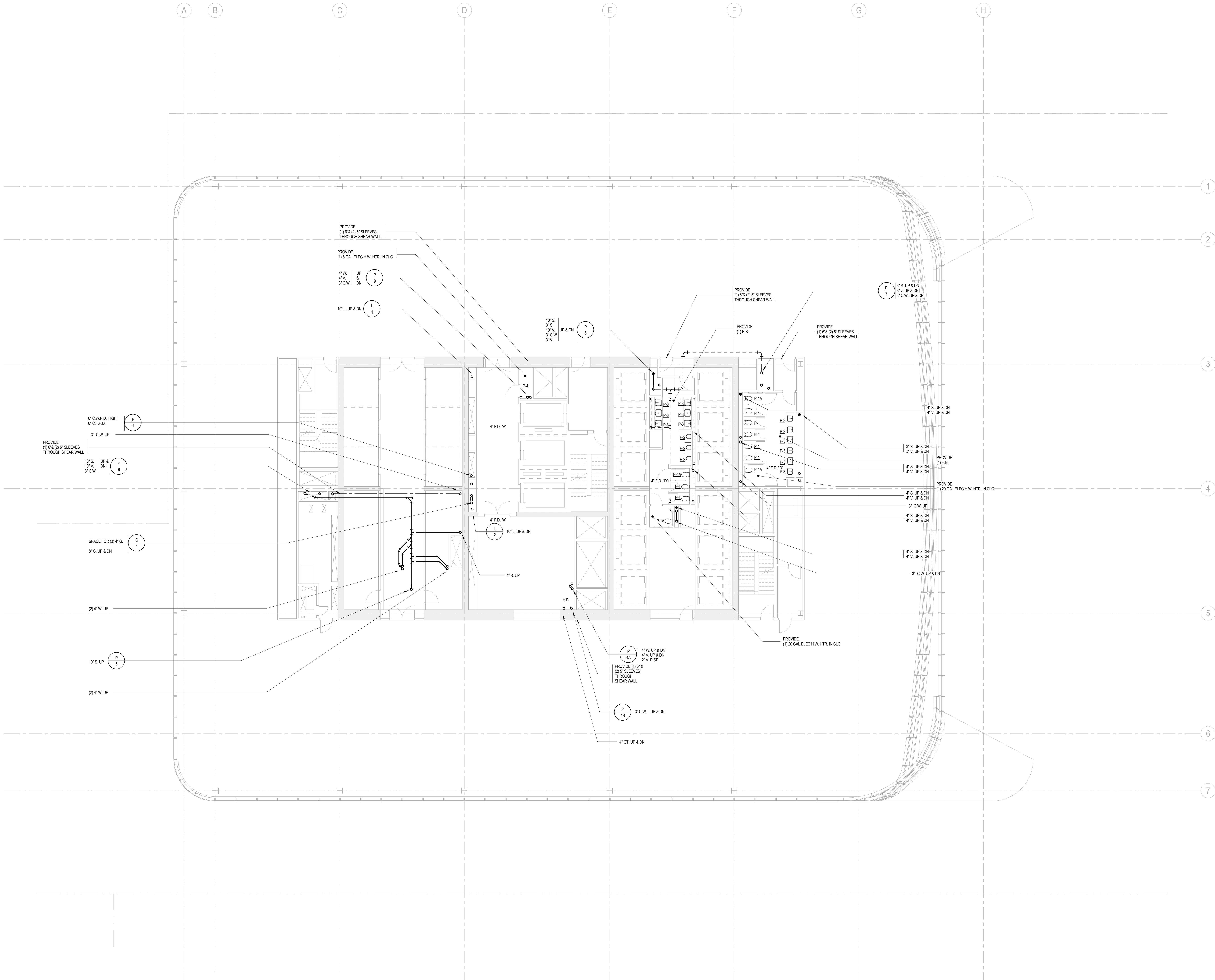
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**PLUMBING
LEVEL 47-48
FLOOR PLAN -
TYPICAL
MID-RISE**

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: P-147
B-SCAN Sheet No.:
Sheet No.: P-147
Page No.: 36 OF 6



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MANHATTAN WEST:
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MEP Engineering

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Vibration Consultant

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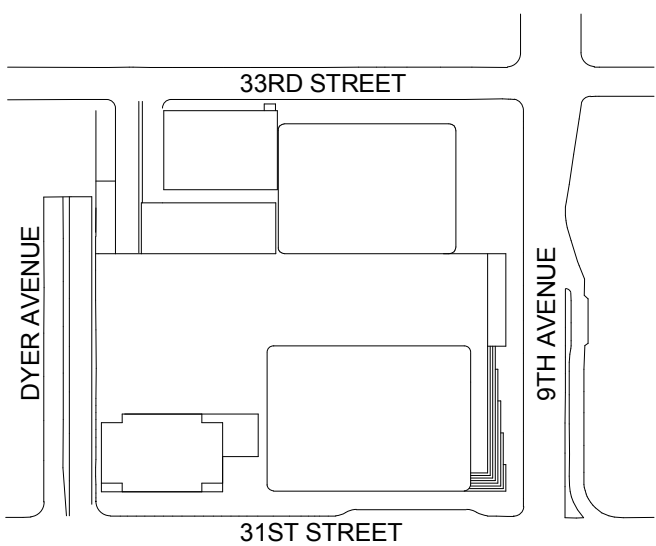
Facade Maintenance Consultant

Entek Engineering LLC
186 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



Seal & Signature:



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1 19 NOV 2013 ISSUED FOR 60 PROGRESS PRICINGS

No. Date Description

Sheet Name:

**PLUMBING
LEVEL 49 FLOOR
PLAN - MID-RISE
& HIGH-RISE**

Project No.:

14830-A-000

Date:

20 JUN 2014

Scale:

1/8" = 1'-0"

File No.:

P-149

B-SCAN Sheet No.:

P-149.00

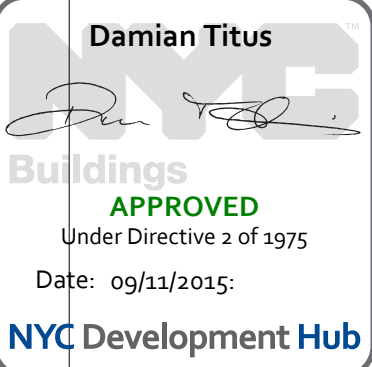
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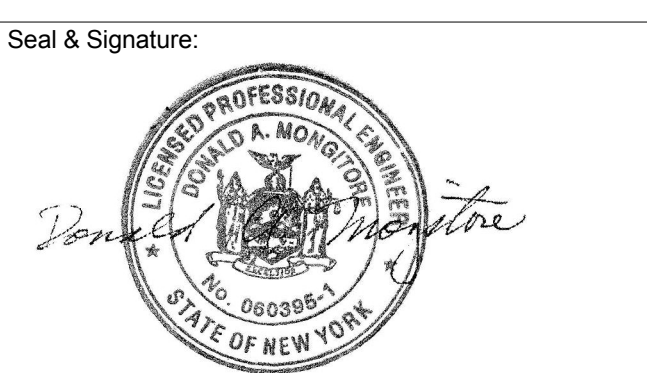
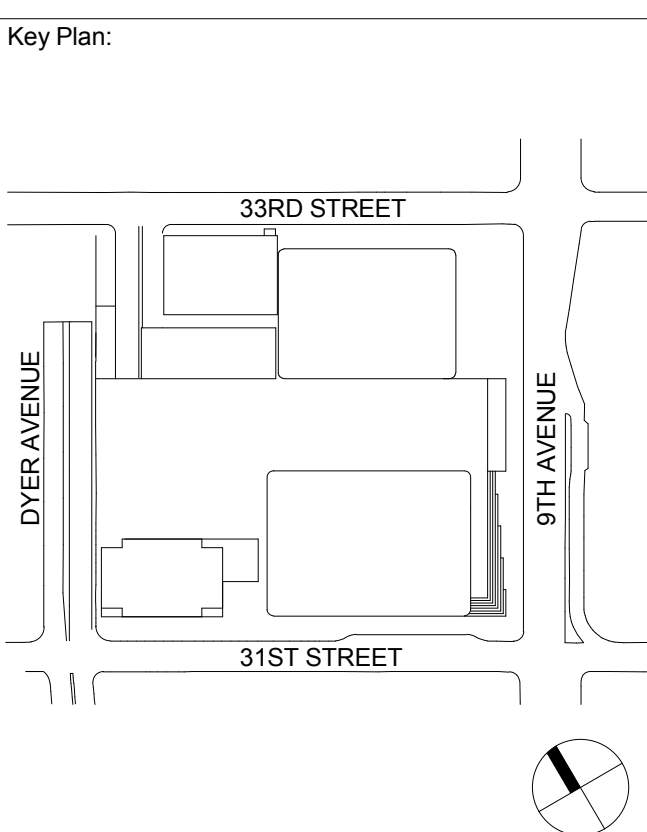
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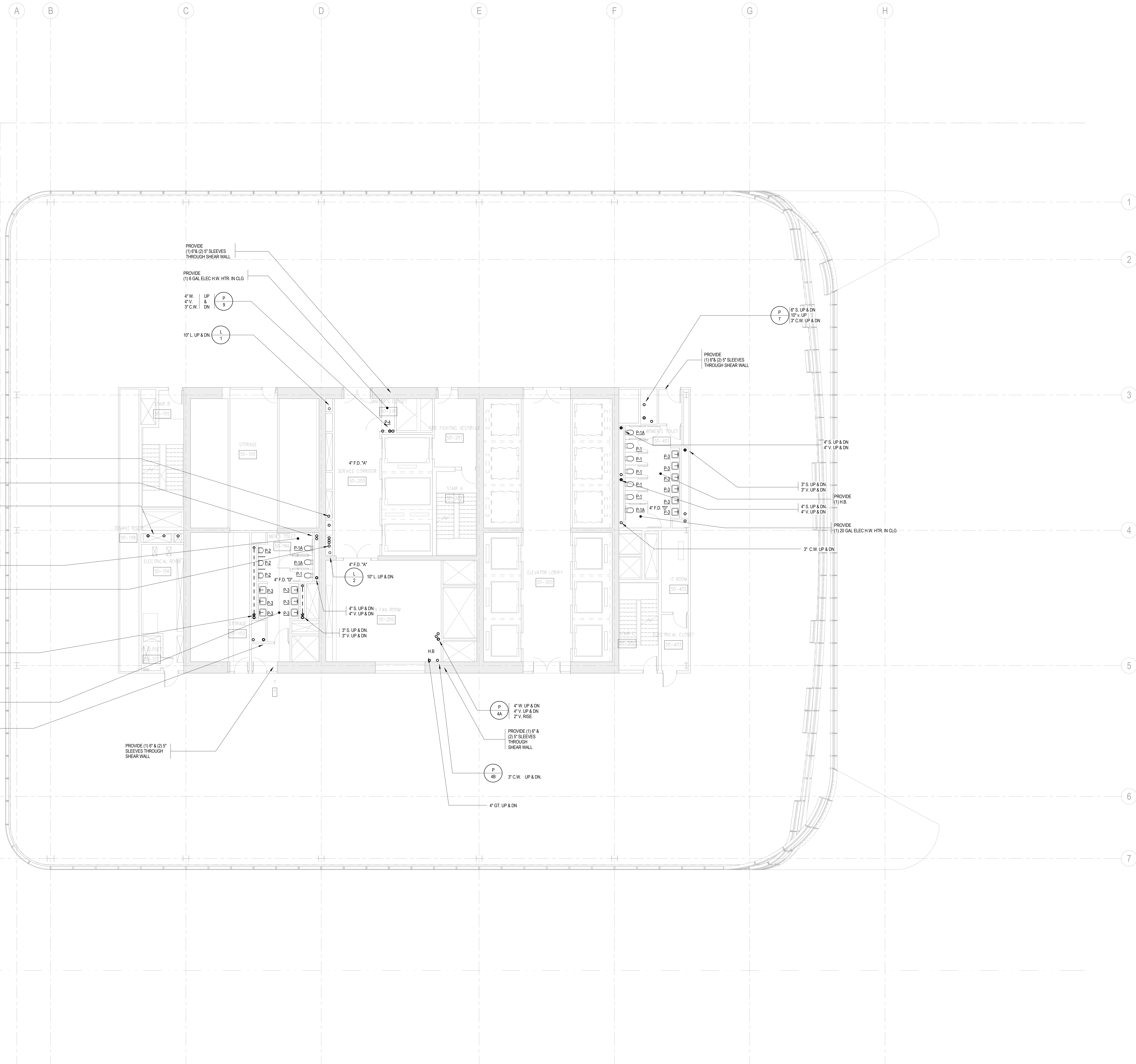
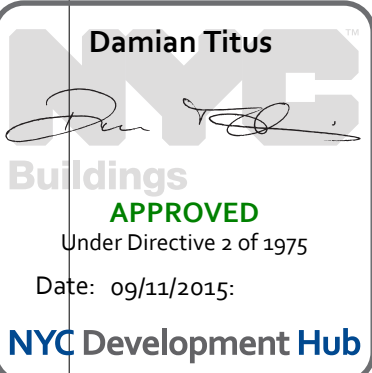
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No. Date Description
Sheet Name:

PLUMBING
LEVEL 50-51
FLOOR PLAN -
HIGH-RISE
OVERRUN

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-150
B-SCAN Sheet No.:
P-150.00
Sheet No.:
P-150
Page No.: 38 OF 6

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Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

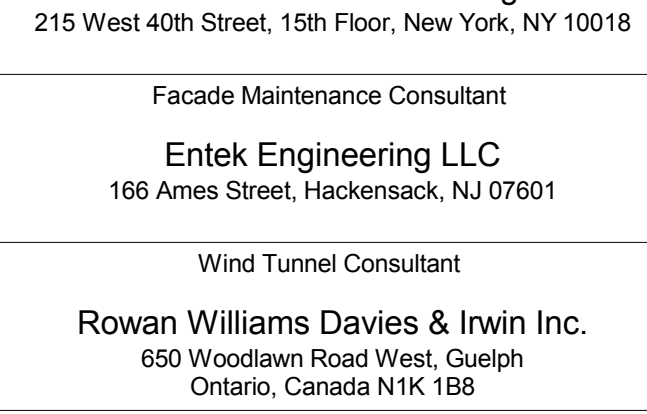
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
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Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

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650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8

Key Plan:



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Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-152

B-SCAN Sheet No.: P-152.00
Sheet No.: P-152
Page No.: 30 OF 6

PLUMBING
LEVEL 52 FLOOR
PLAN - HIGH-RISE
EMR

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-152

B-SCAN Sheet No.: P-152.00
Sheet No.: P-152
Page No.: 30 OF 6

PLUMBING
LEVEL 52 FLOOR
PLAN - HIGH-RISE
EMR

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-152

B-SCAN Sheet No.: P-152.00
Sheet No.: P-152
Page No.: 30 OF 6

PLUMBING
LEVEL 52 FLOOR
PLAN - HIGH-RISE
EMR

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-152

B-SCAN Sheet No.: P-152.00
Sheet No.: P-152
Page No.: 30 OF 6

PLUMBING
LEVEL 52 FLOOR
PLAN - HIGH-RISE
EMR

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-152

B-SCAN Sheet No.: P-152.00
Sheet No.: P-152
Page No.: 30 OF 6

PLUMBING
LEVEL 52 FLOOR
PLAN - HIGH-RISE
EMR

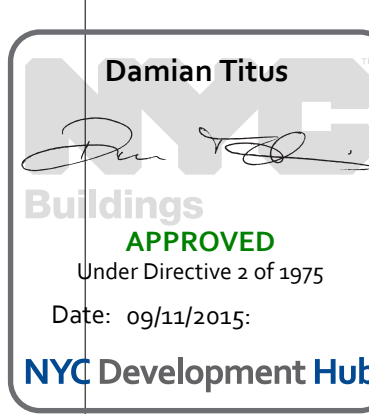
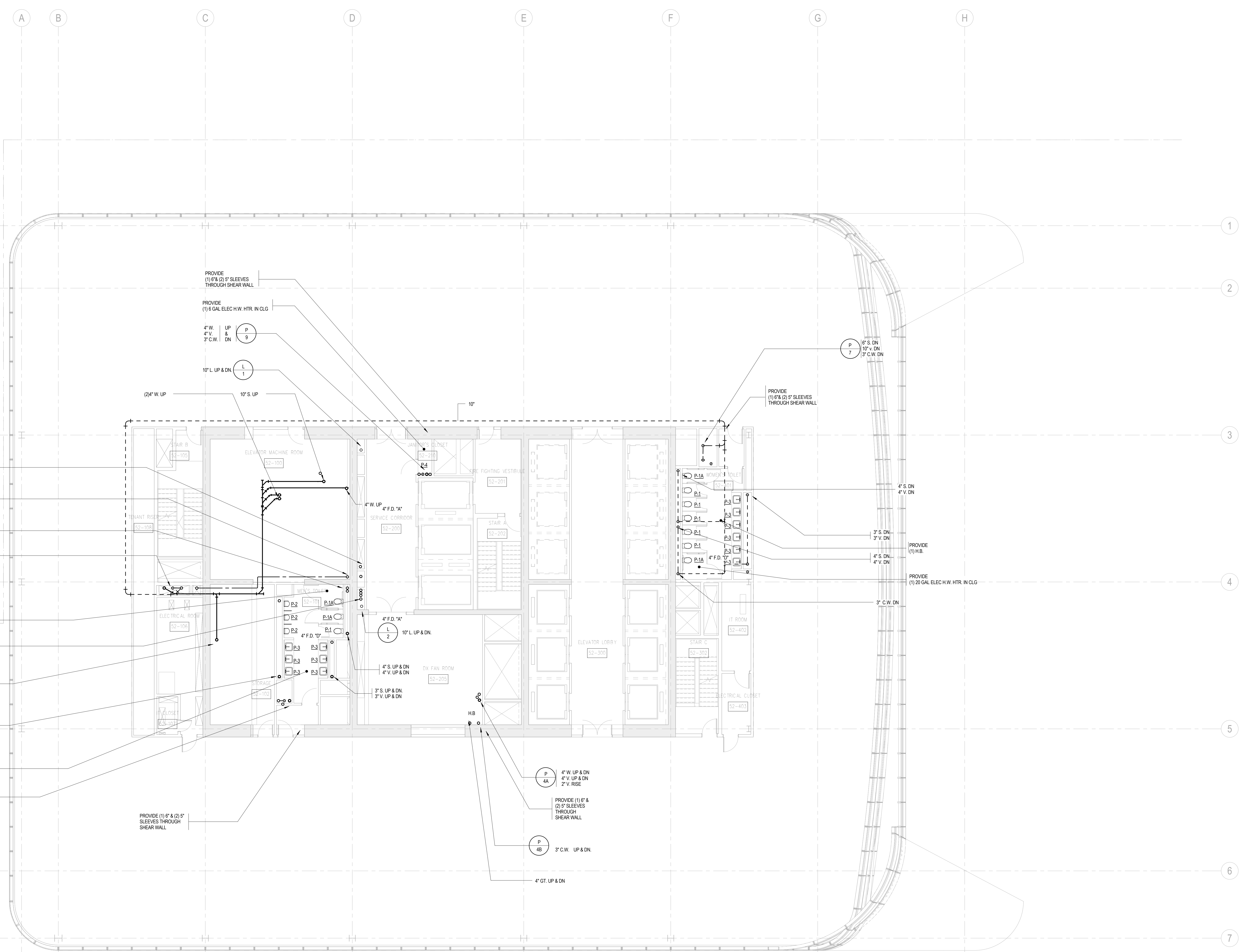
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Date: 20 JUN 2014
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File No: P-152

B-SCAN Sheet No.: P-152.00
Sheet No.: P-152
Page No.: 30 OF 6

PLUMBING
LEVEL 52 FLOOR
PLAN - HIGH-RISE
EMR

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-152

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Page No.: 30 OF 6



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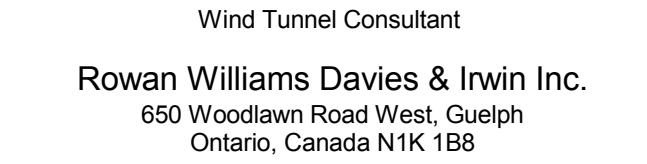
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Key Plan:



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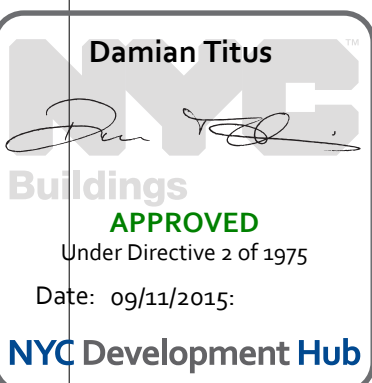
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Date: 20 JUN 2014
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Sheet No.: P-153
Page No.: 40 OF 6

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PLUMBING
LEVEL 53 FLOOR
PLAN - HIGH-RISE
PUMP ROOM



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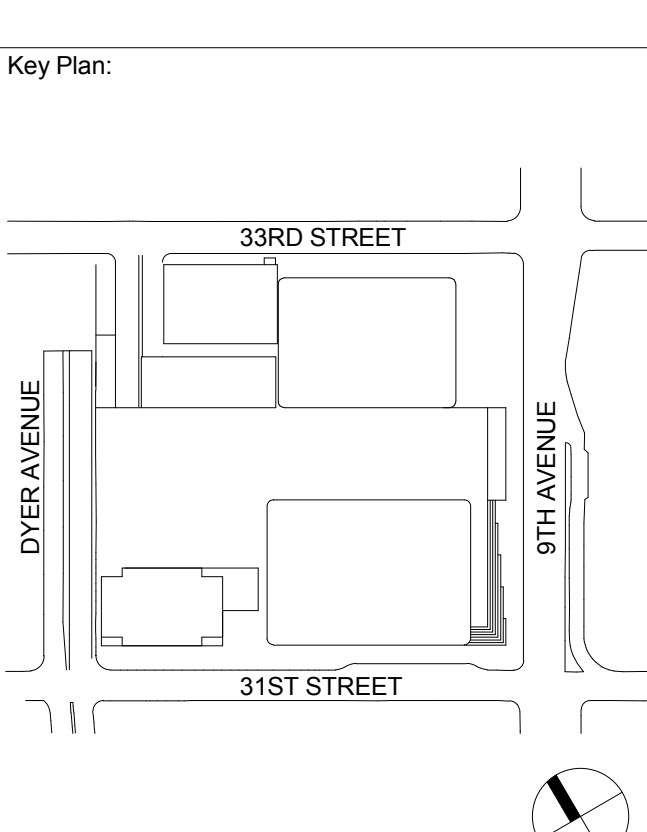
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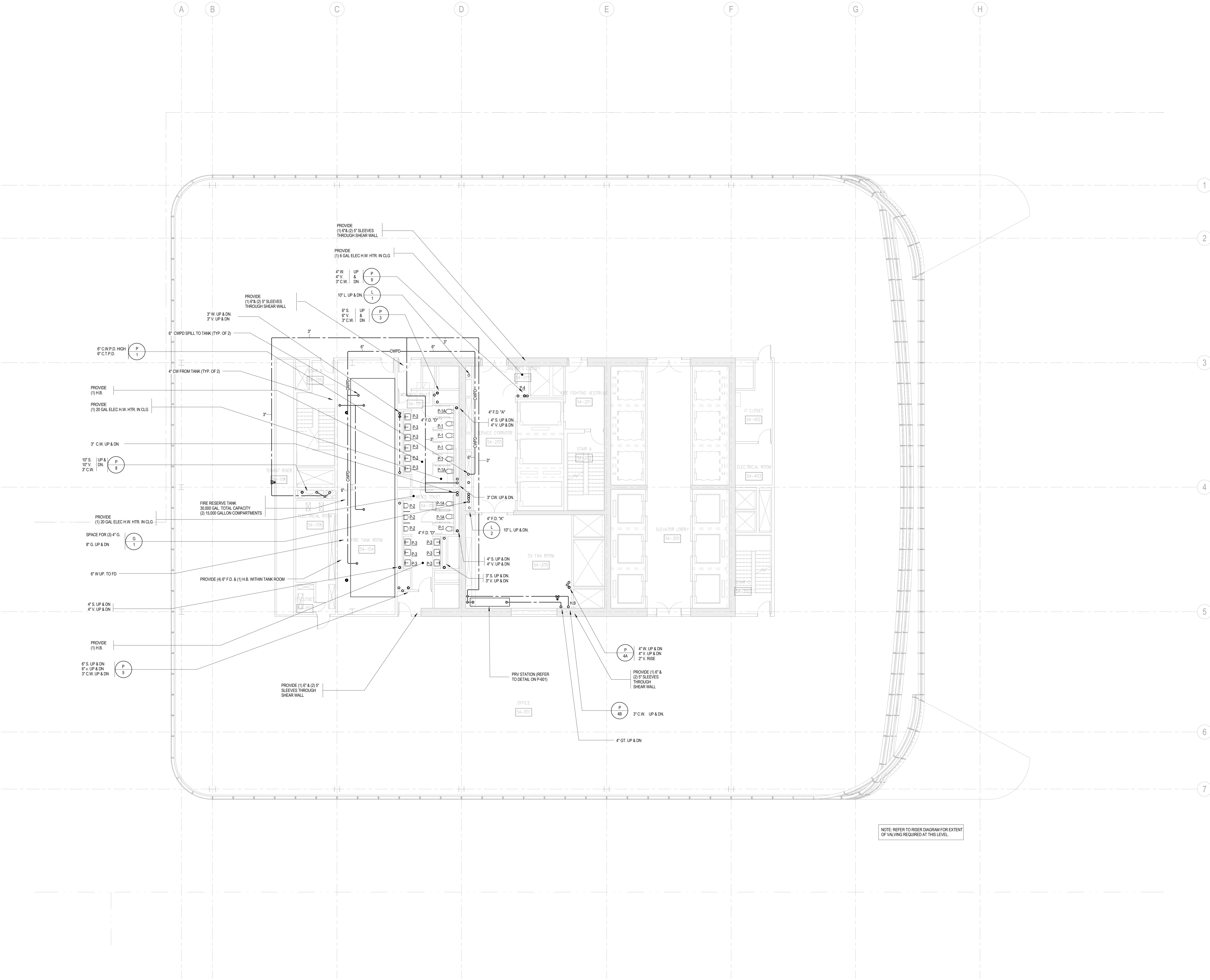


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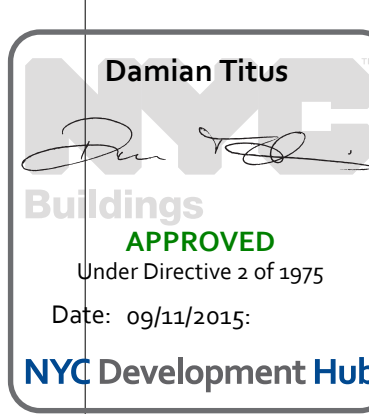
**PLUMBING
LEVEL 54 FLOOR
PLAN - HIGH-RISE
WATER TANK**

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: P-154

B-SCAN Sheet No.:
P-154.00
Sheet No.:
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NOTE: REFER TO RISER DIAGRAM FOR EXTENT OF VALVING REQUIRED AT THIS LEVEL.



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215 West 40th Street, 15th Floor, New York, NY 10018

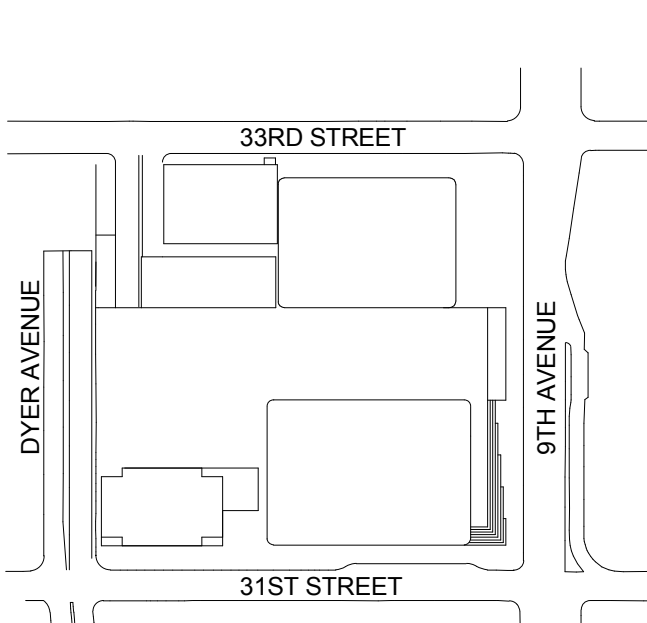
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PLUMBING
LEVEL 55 FLOOR
PLAN - HIGH-RISE

Project No.: 14830-A-000

Date: 20 JUN 2014

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

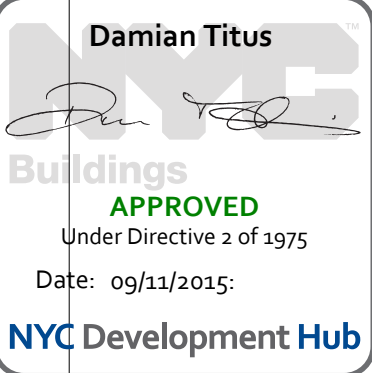
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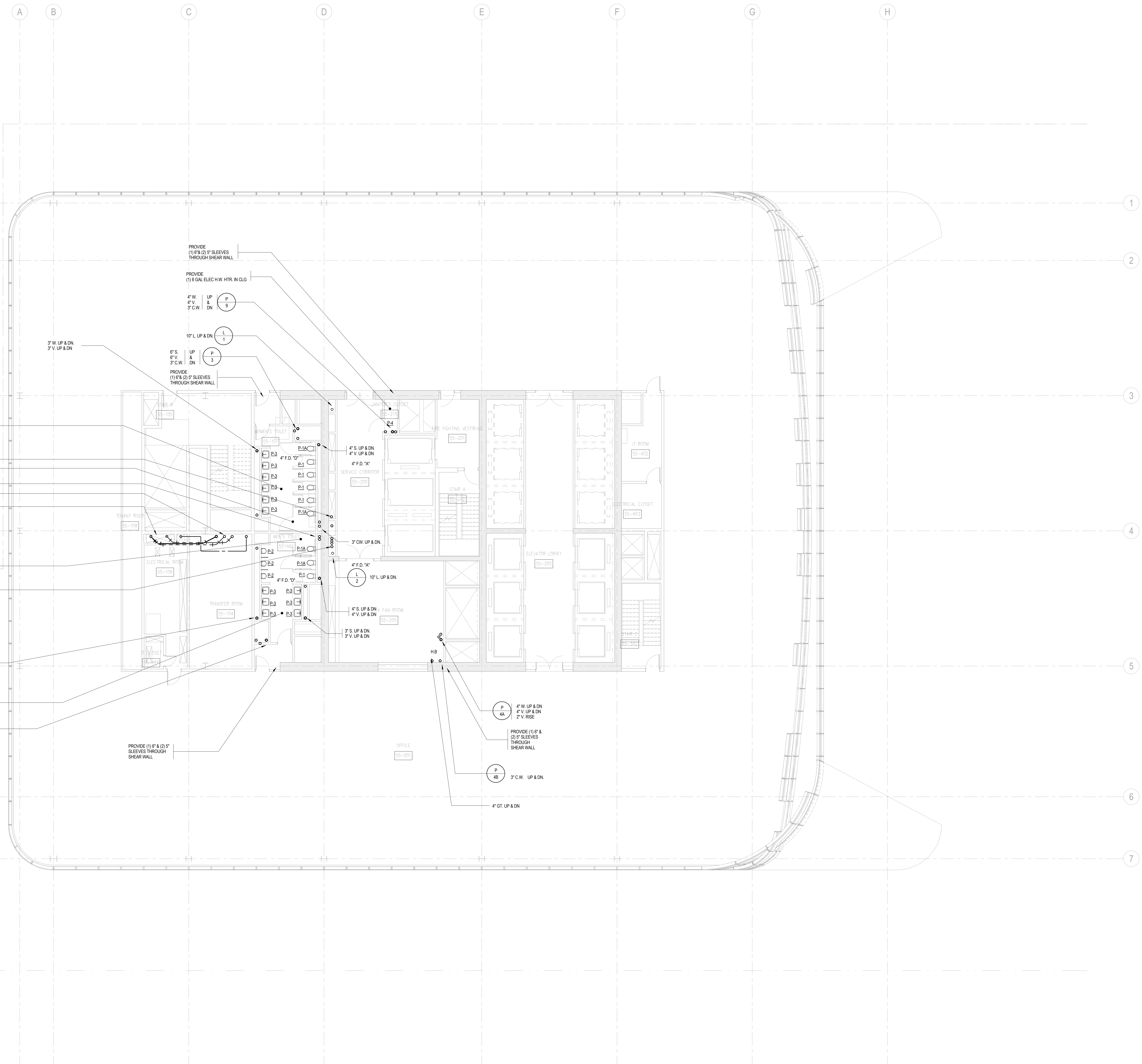
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Sheet No.: P-155

Page No.: 42 OF 6



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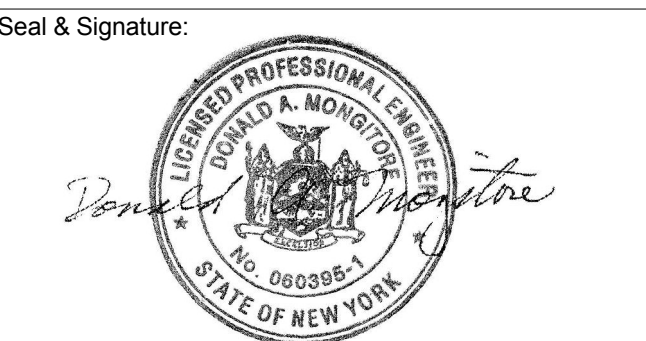
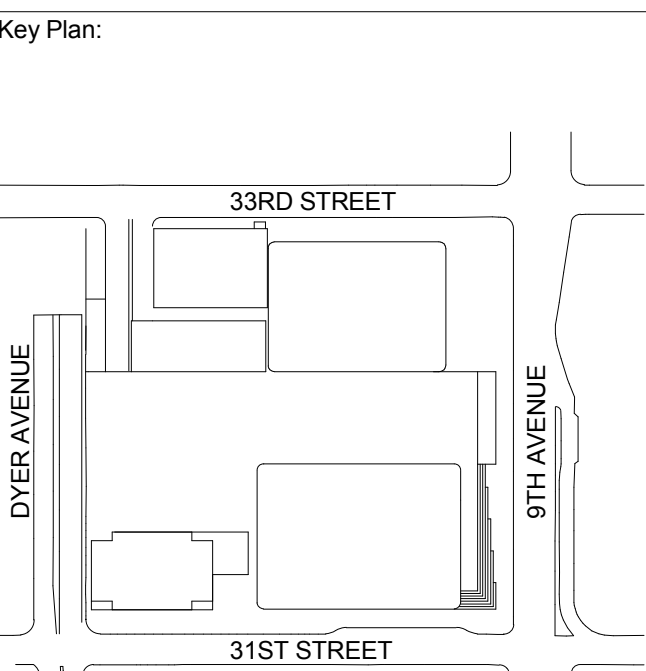
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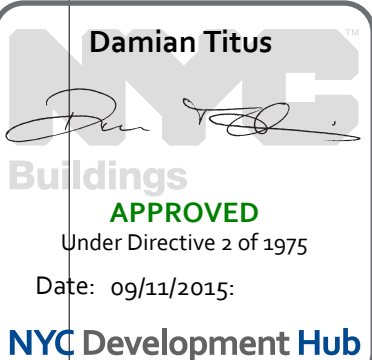


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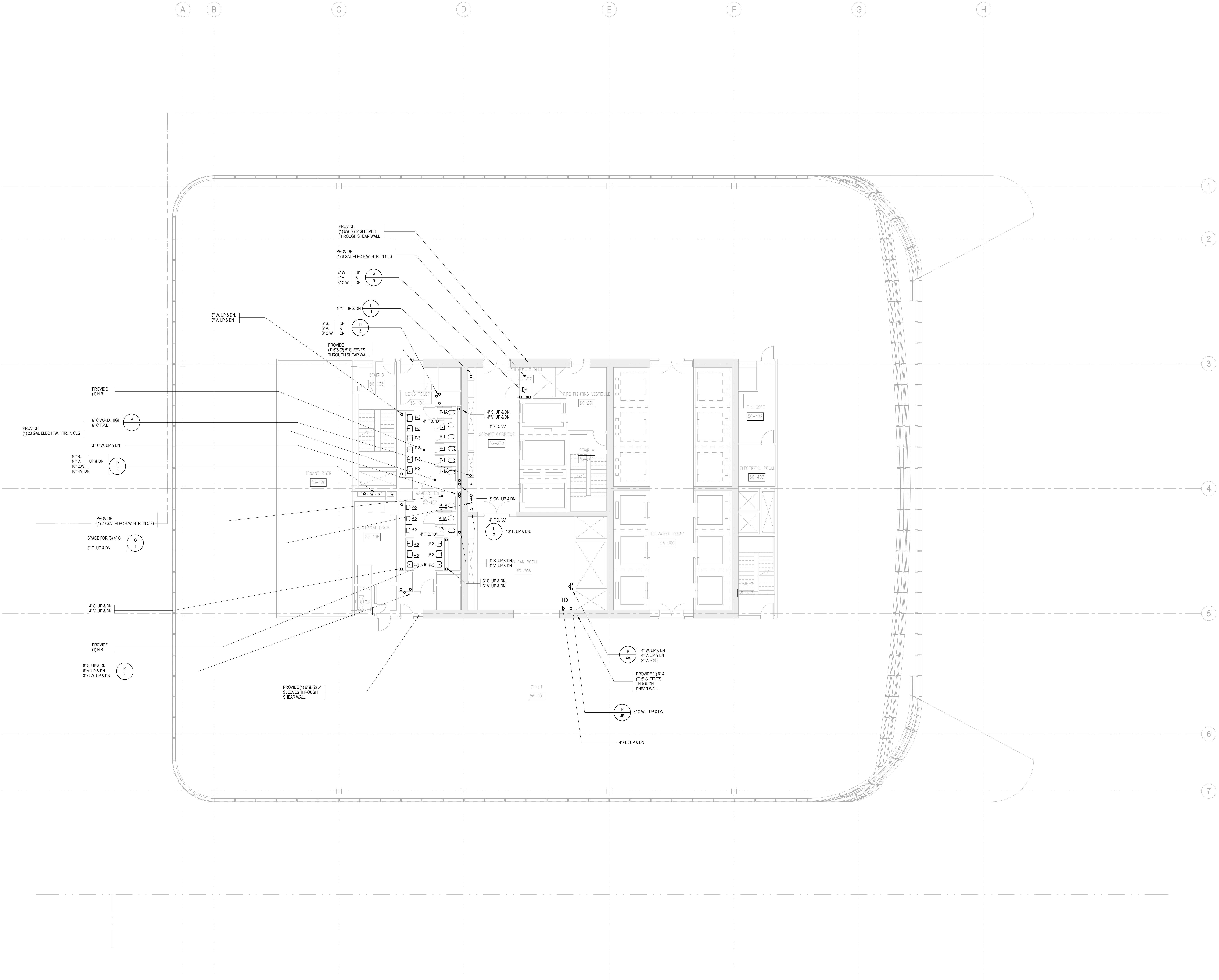
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**PLUMBING
LEVEL 56 FLOOR
PLAN - HIGH-RISE**

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No.: P-156
B-SCAN Sheet No.:
P-156.00
Sheet No.:
P-156
Page No.: 43 OF 6



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SHEET NOTES



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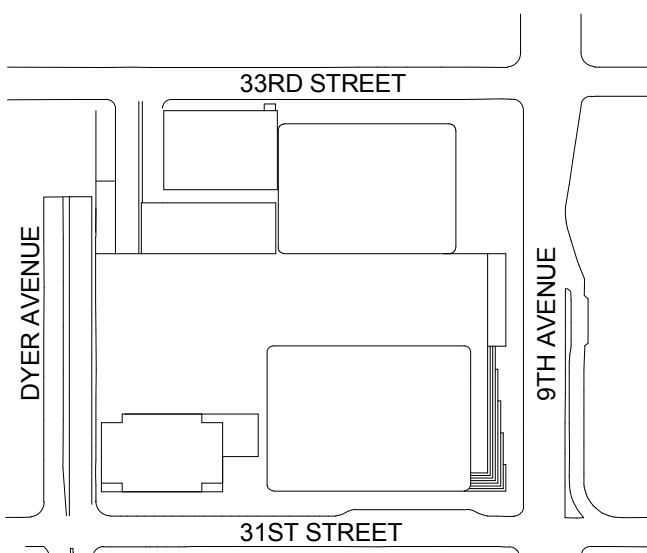
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Key Plan:



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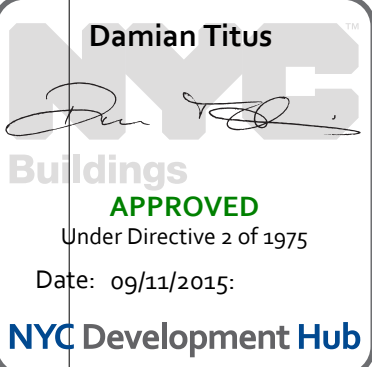
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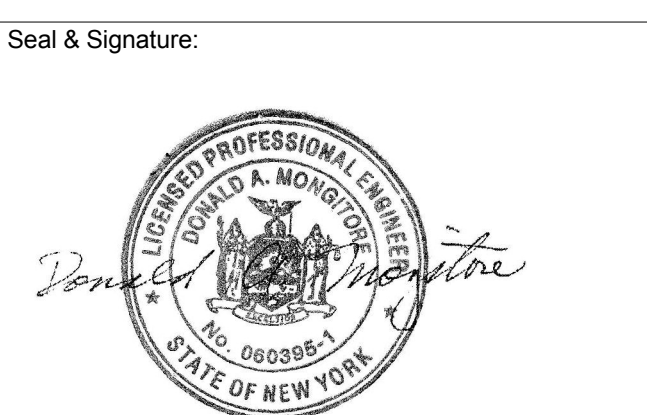
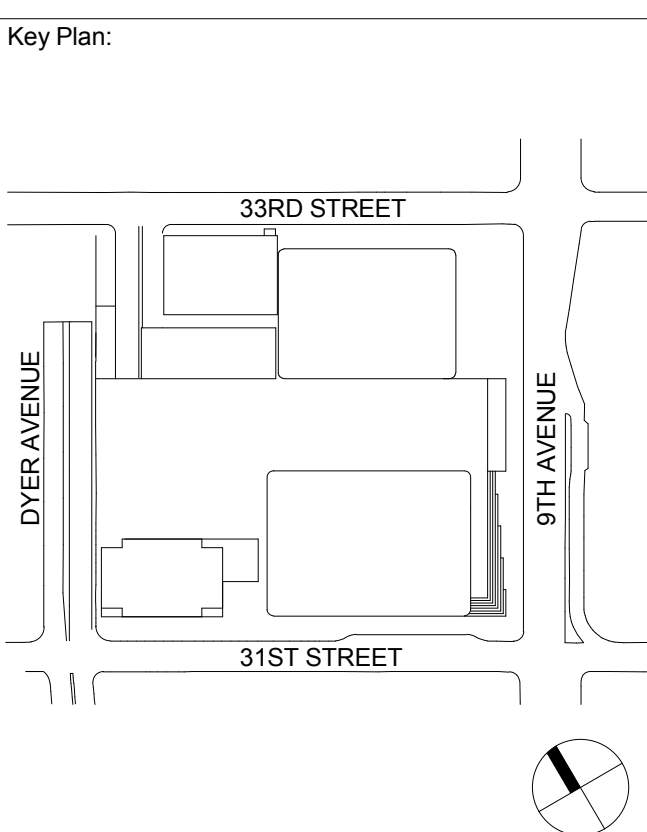
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**PLUMBING
LEVEL 57-58
FLOOR PLAN -
TYPICAL
HIGH-RISE**

Project No.: 14830-A-000
Date: 20 JUN 2014
Scale: 1/8" = 1'-0"
File No: P-157
B-SCAN Sheet No.:
Sheet No.: P-157
Page No.: 44 OF 6

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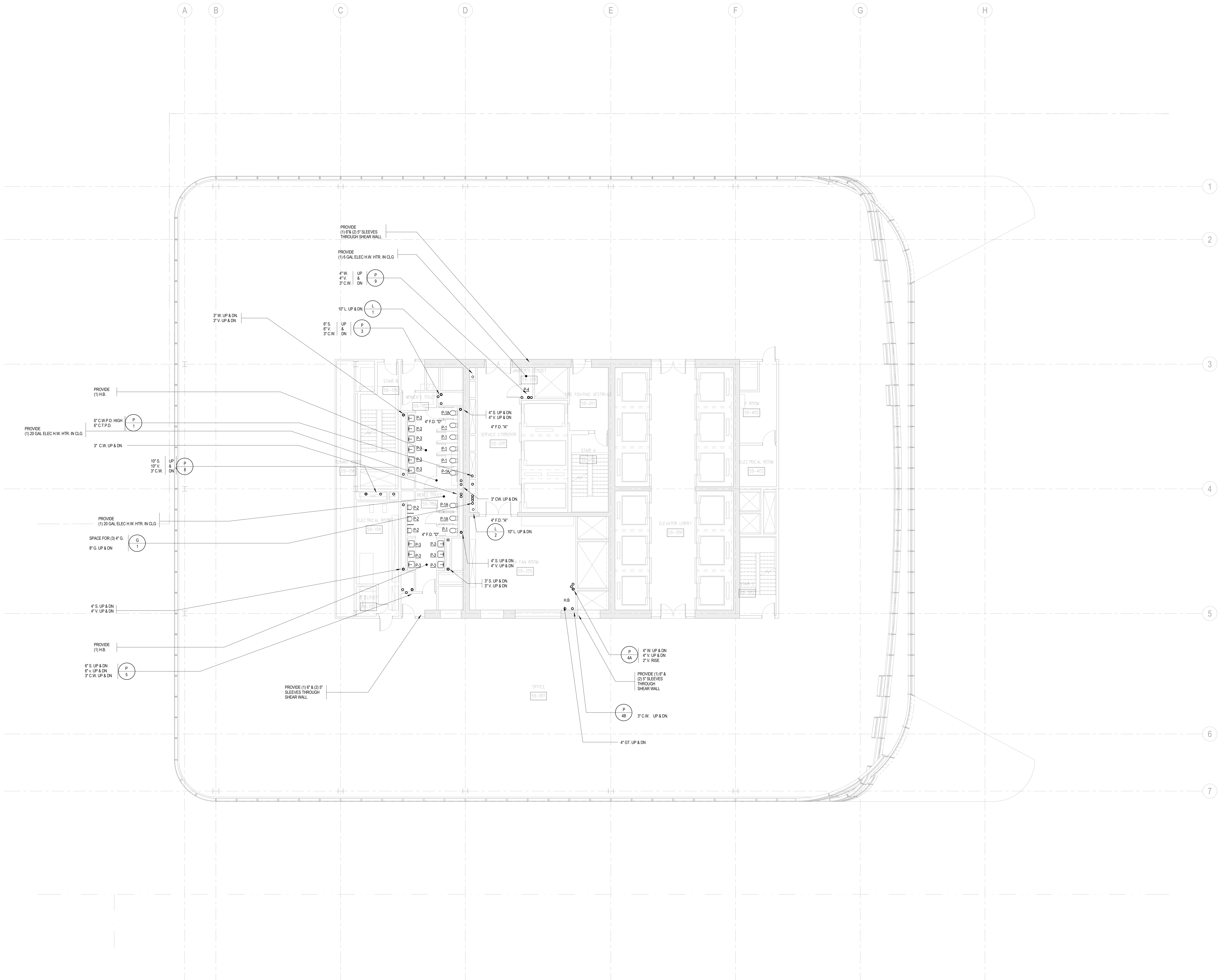
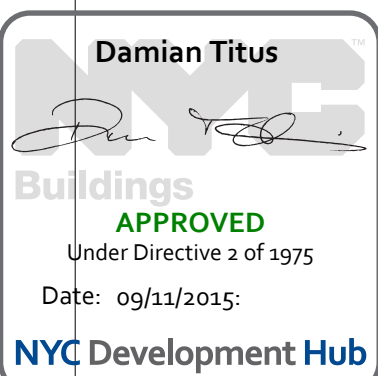




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PLUMBING
LEVEL 59 FLOOR
PLAN - HIGH-RISE

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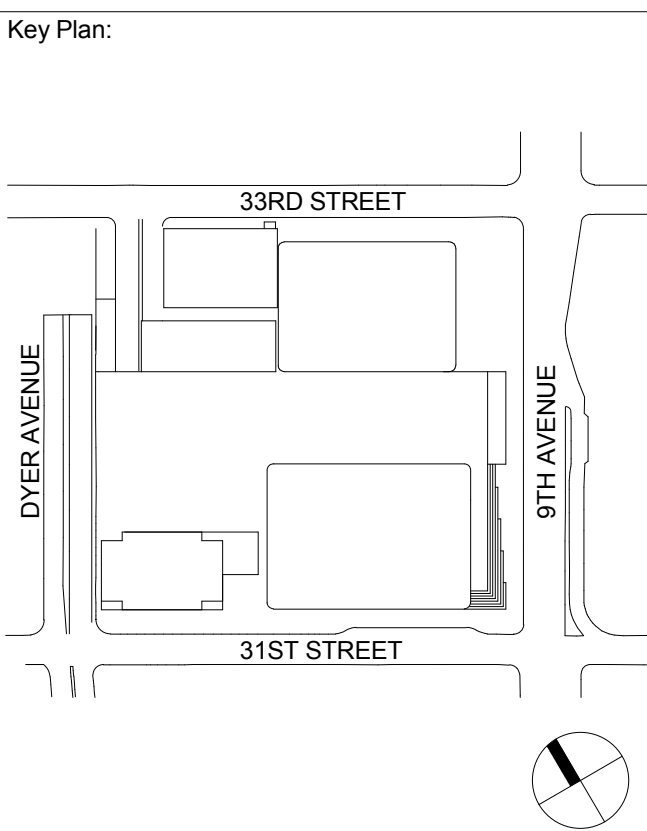
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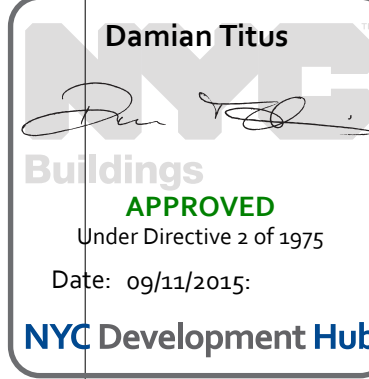


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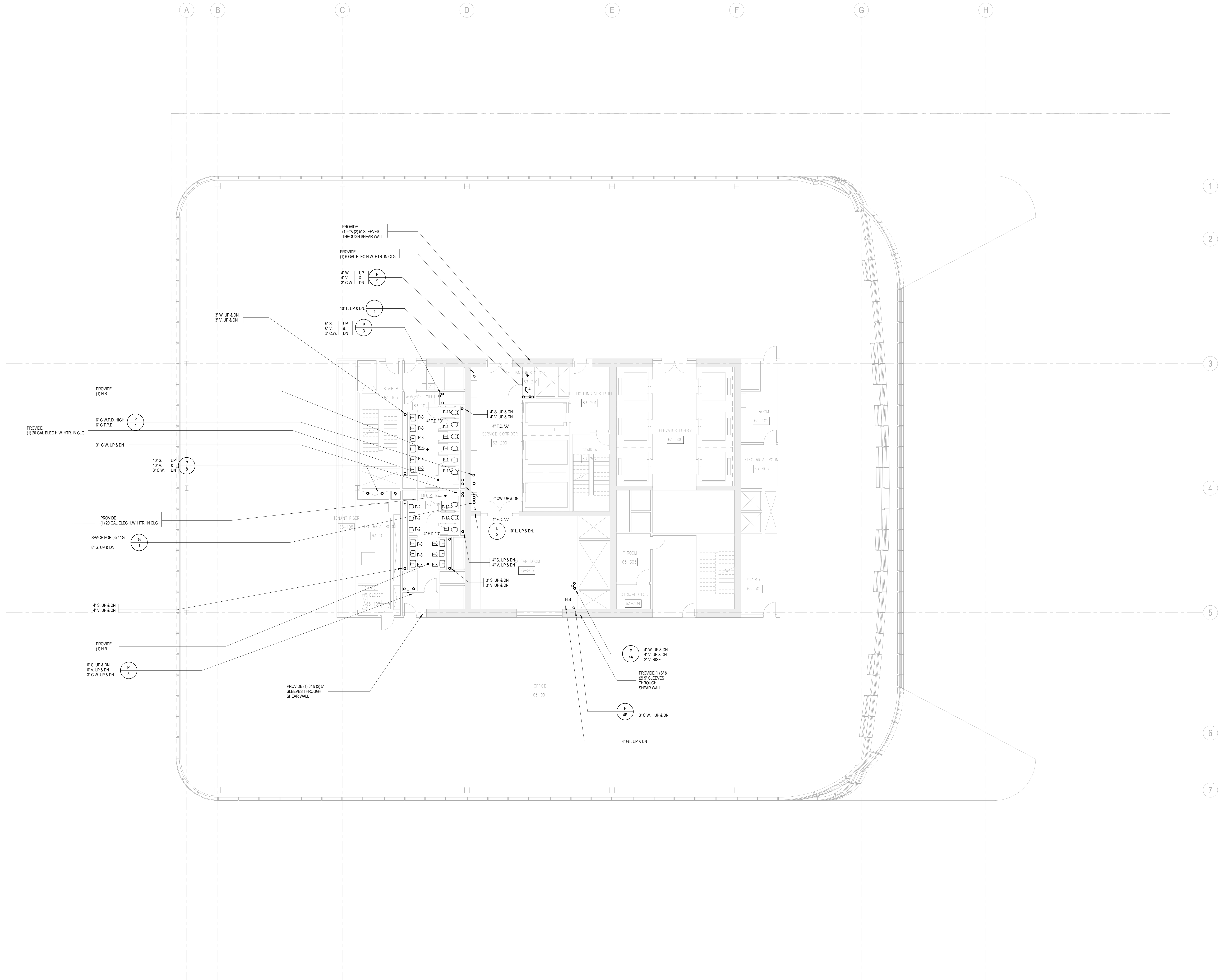
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**PLUMBING
LEVEL 63 FLOOR
PLAN - HIGH-RISE**

| | |
|--------------------------|----------------------------|
| Project No.: 14830-A-000 | B-SCAN Sheet No.: P-163.00 |
| Date: 20 JUN 2014 | Sheet No.: P-163 |
| Scale: 1/8" = 1'-0" | Page No.: 48 OF 6 |
| File No: P-163 | |



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MANHATTAN WEST:
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375 Ninth Avenue, New York, NY 10001
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Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

Civil Engineering
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102 Madison Avenue #11, New York, NY 10016

MEP Engineering
Jaros Baum & Bolles
80 Pine Street, New York, NY 10005

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Edgett Williams Consulting Group, Inc.
102 East Blithedale Ave. Suite 1, Mill Valley, California 94941

Sustainable Design
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Mueser Rutledge Consulting Engineers
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Security Consultant
Ducibella, Ventor & Santore
250 State Street #F1, North Haven, CT 06473

Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

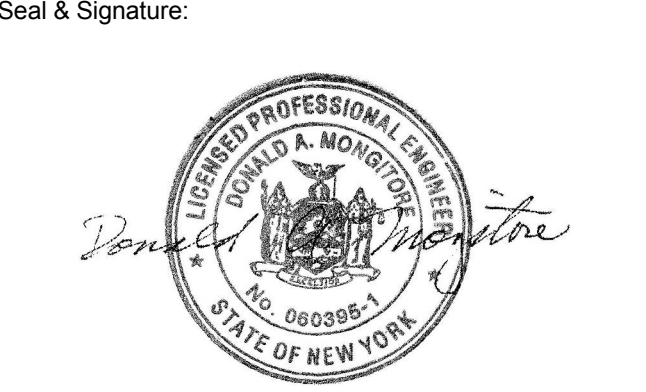
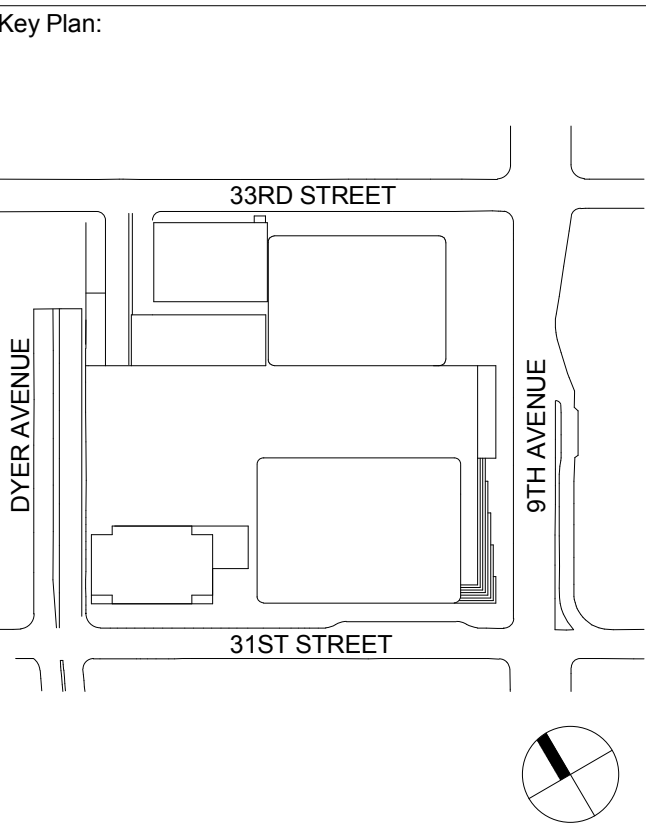
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

Facade Maintenance Consultant
Entek Engineering LLC
188 Ames Street, Hackensack, NJ 07601

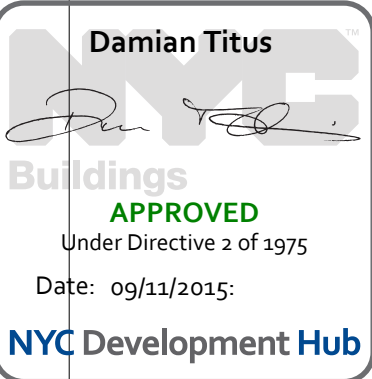
Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1B8



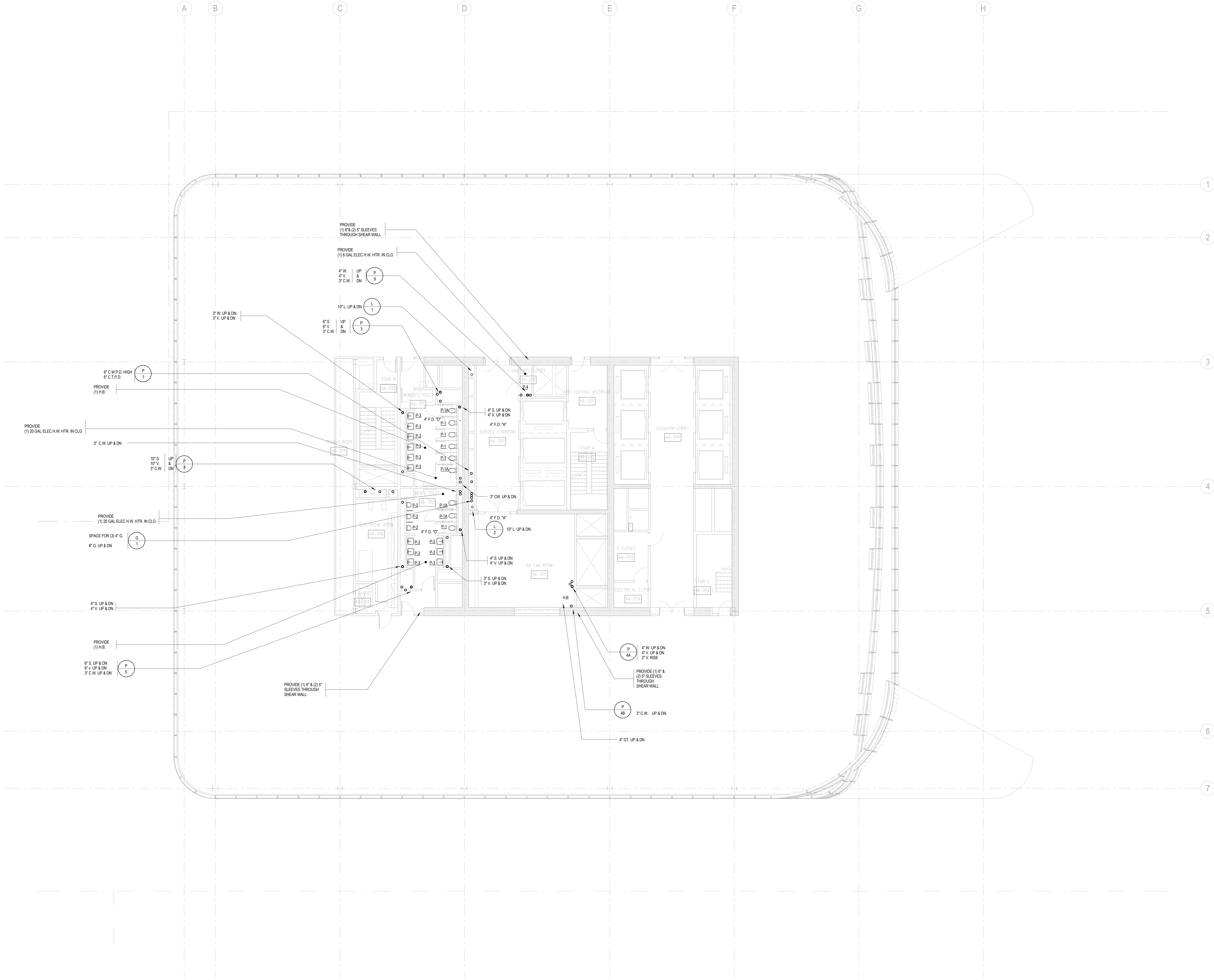
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| No. | Date | Description |
| Sheet Name: | | |

**PLUMBING
LEVEL 64-66
FLOOR PLAN -
TYPICAL
HIGH-RISE**

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|-----------------------------|-------------------------------|
| Project No.: 14830-A-000 | B-SCAN Sheet No.: P-164.00 |
| Date: 20 JUN 2014 | Sheet No.: P-164 |
| Scale: 1/8" = 1'-0" | Page No.: 49 OF 6 |
| File No.: P-164 | |



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Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

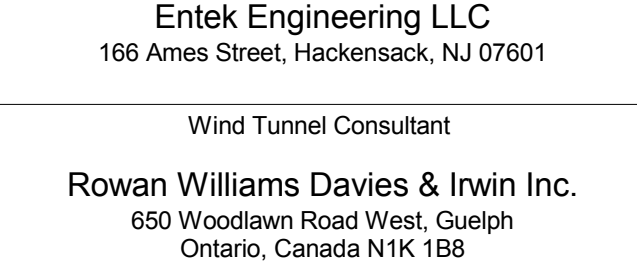
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

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Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
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Key Plan:



Seal & Signature:



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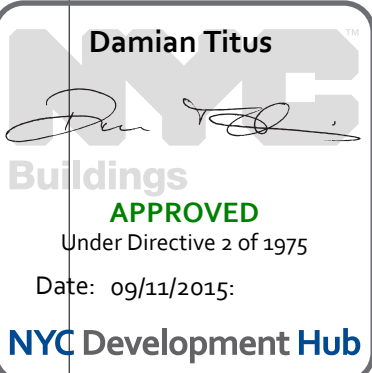
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**PLUMBING
LEVEL 67 FLOOR
PLAN - TYPICAL
HIGH-RISE**

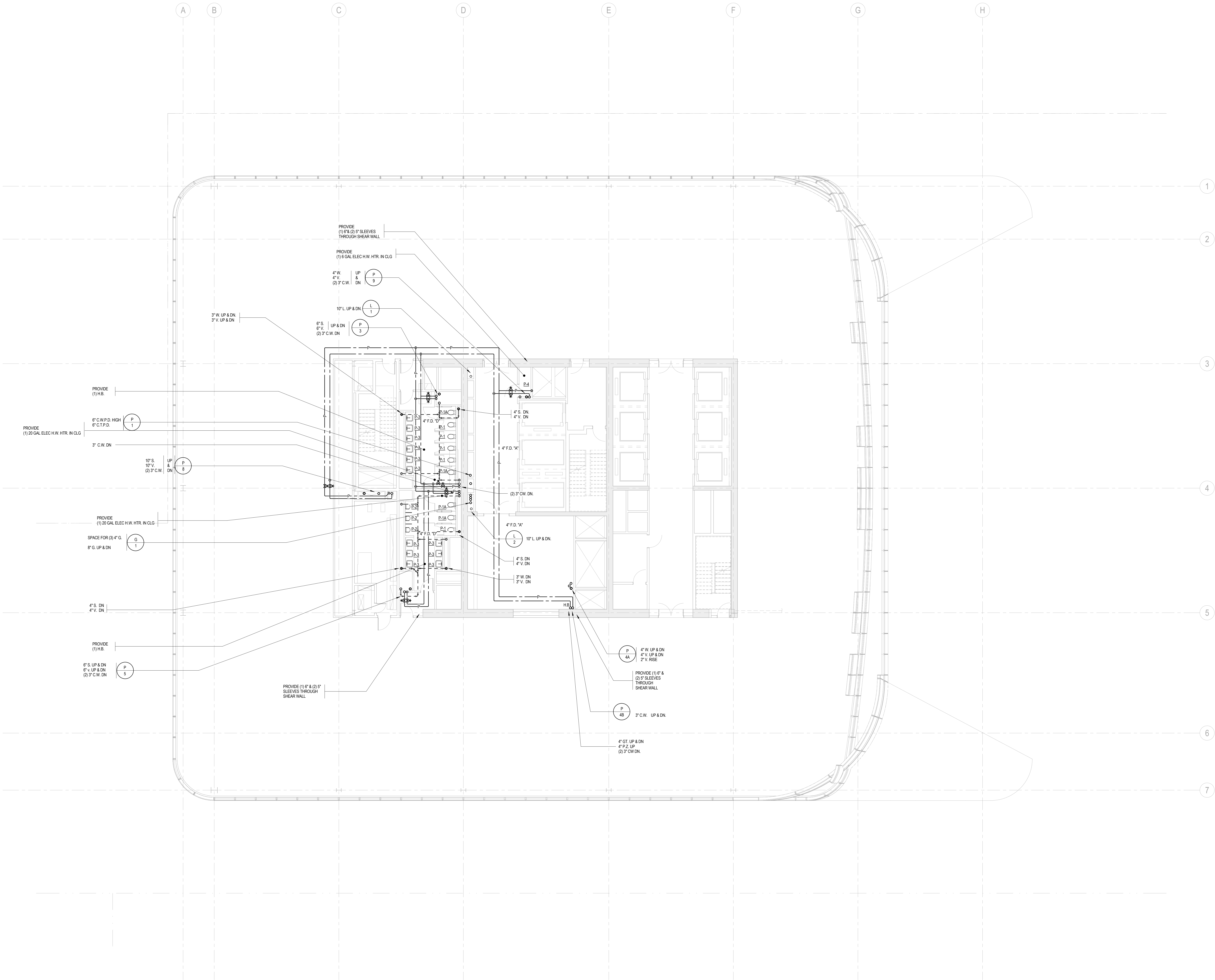
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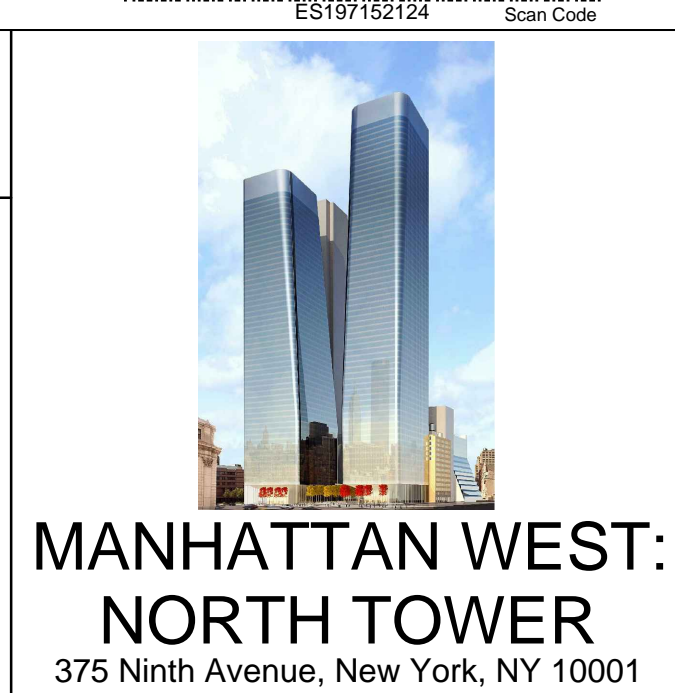
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Page No.: 50 OF 6

P-167.00
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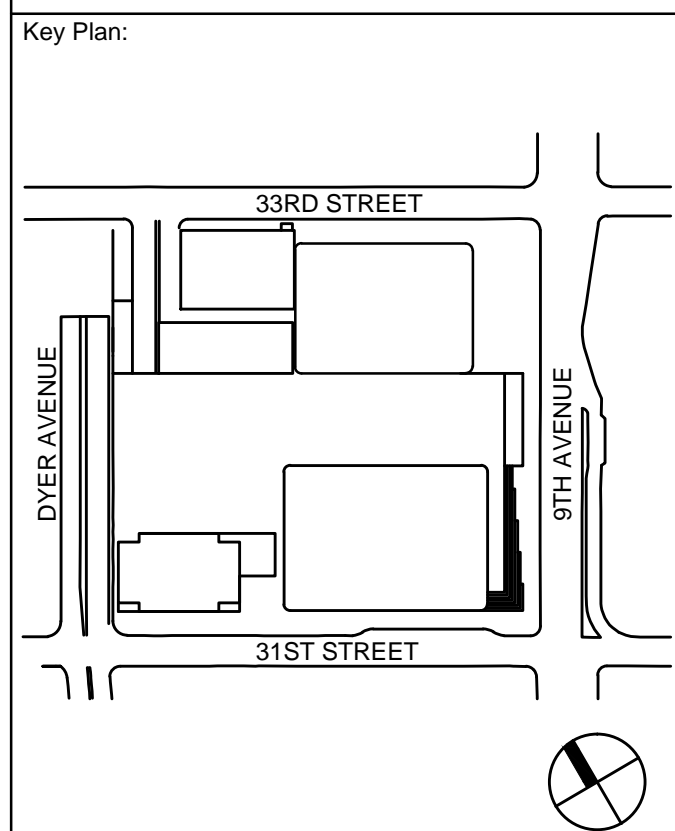
Acoustical Consultant
Cerami & Associates
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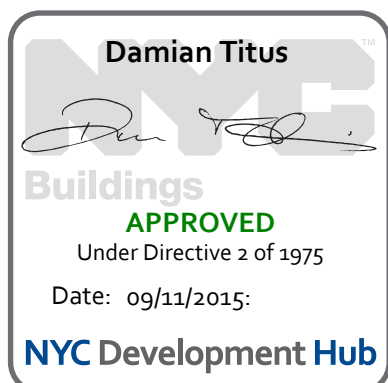
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| 5 | 13 MAR 2013 | ISSUED FOR RECONCILIATION |

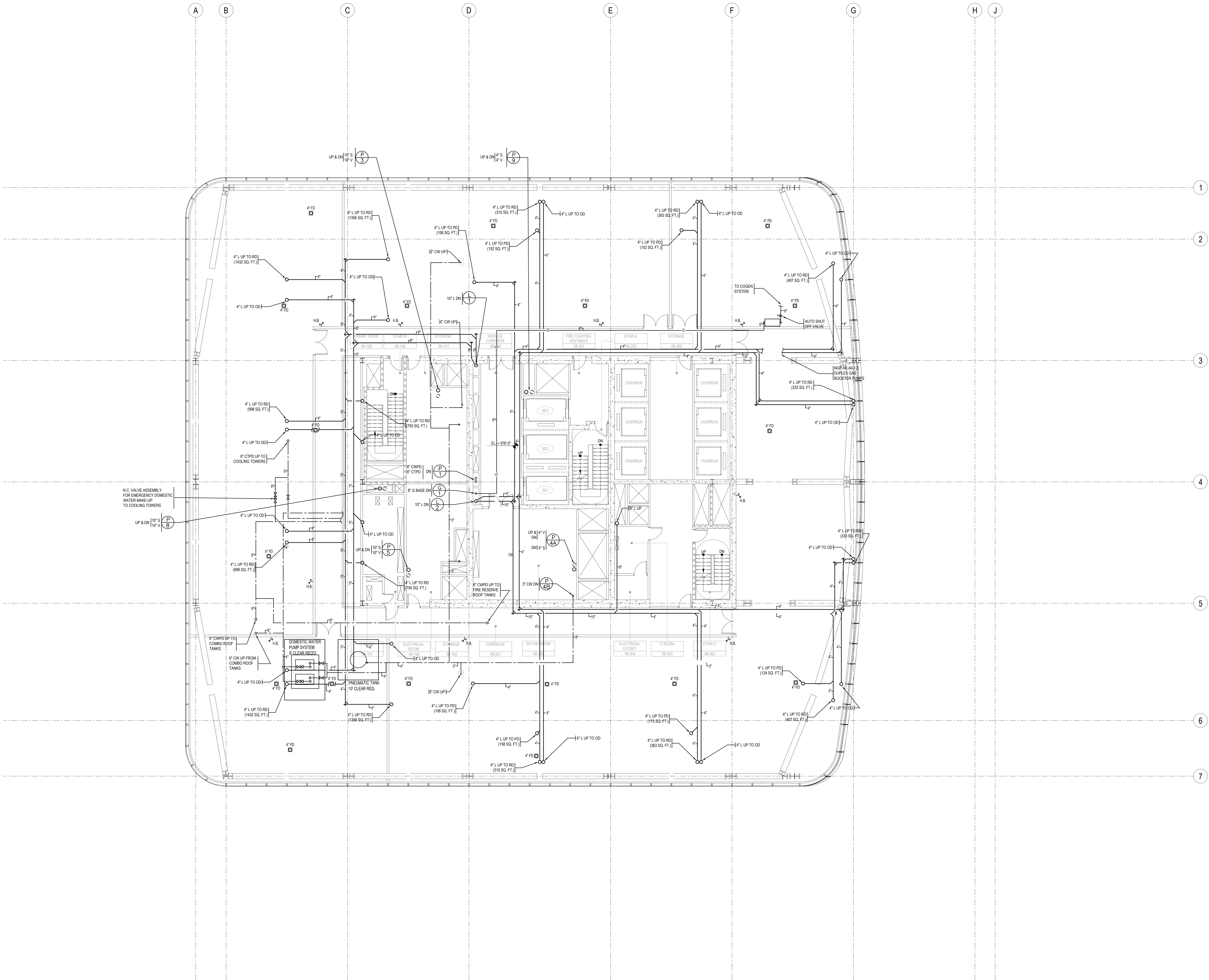
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PLUMBING
LEVEL 68 FLOOR
PLAN -
MECHANICAL

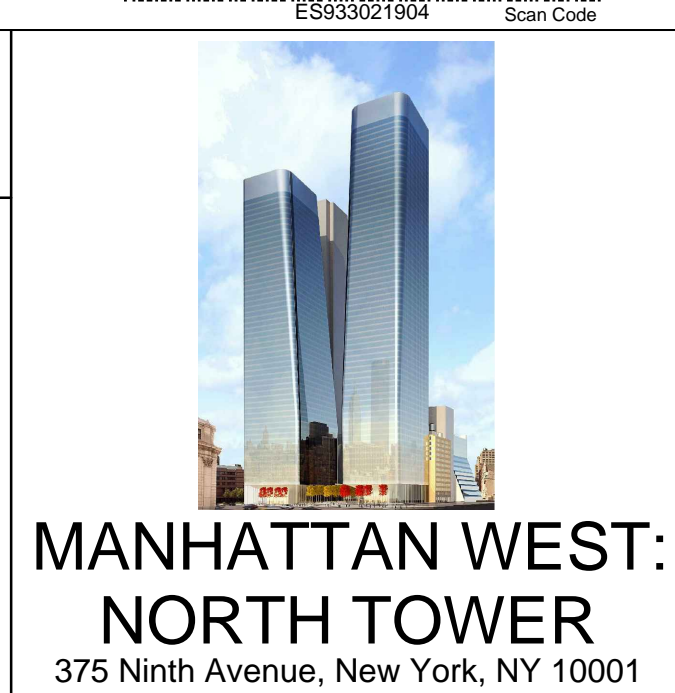
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B-SCAN Sheet No.: P-168.00
Date: 20 DEC 2013
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File No.: P-168
Page No.: 52 OF 62



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SHEET NOTES



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Blast Consultant
Weidinger Associates, Inc.
40 Wall Street, New York, NY 10005

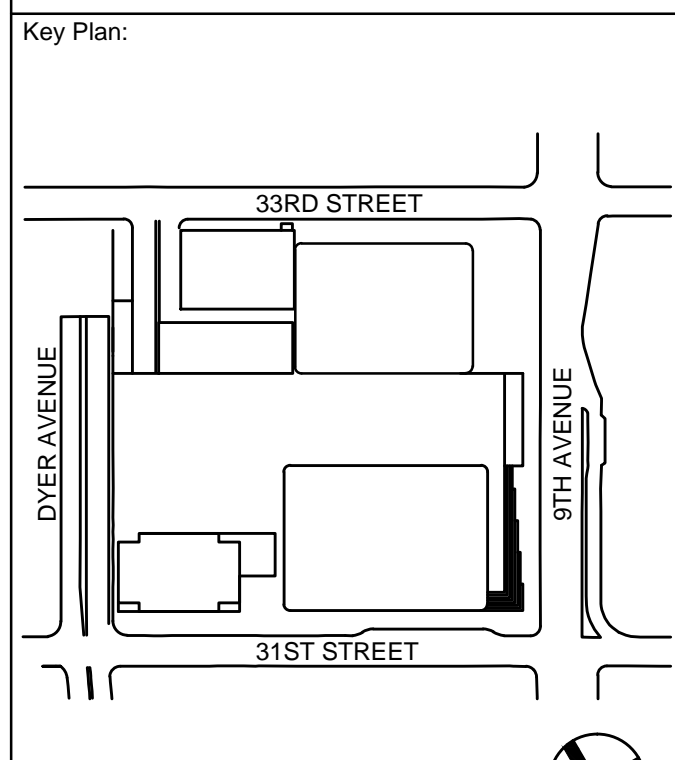
Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

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Rowan Williams Davies & Irwin Inc.
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Seal & Signature:

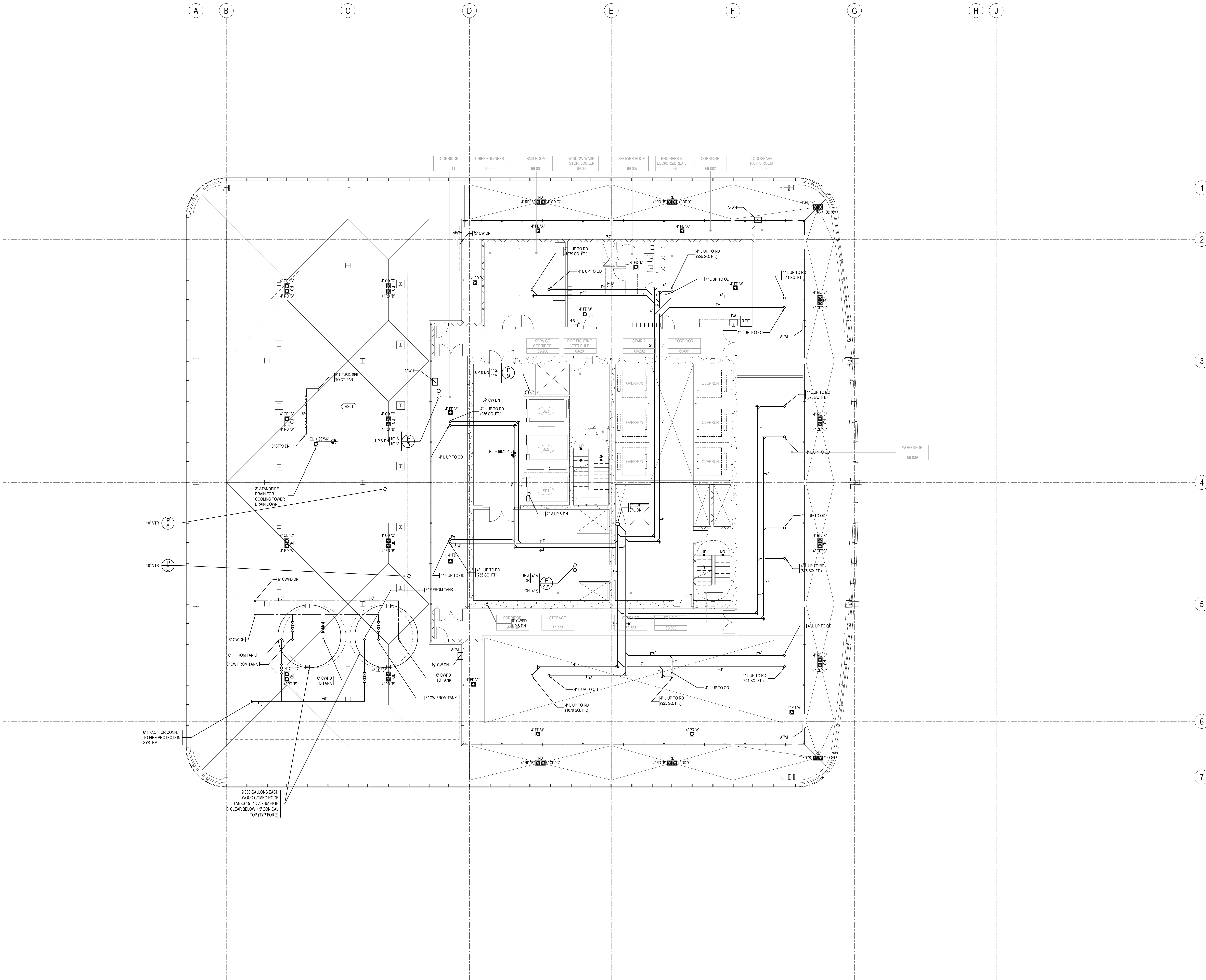
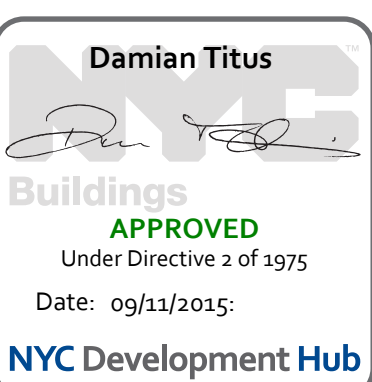
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**PLUMBING
LEVEL 69 FLOOR
PLAN -
MECHANICAL
MEZZANINE**

Project No.: 14630.A
B-SCAN Sheet No.:
P-169.00
Date: 20 DEC 2013
Sheet No.:
P-169
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SHEET NOTES



MANHATTAN WEST:
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Blast Consultant
Weidinger Associates, Inc.
40 West Street, New York, NY 10005

Acoustical Consultant
Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

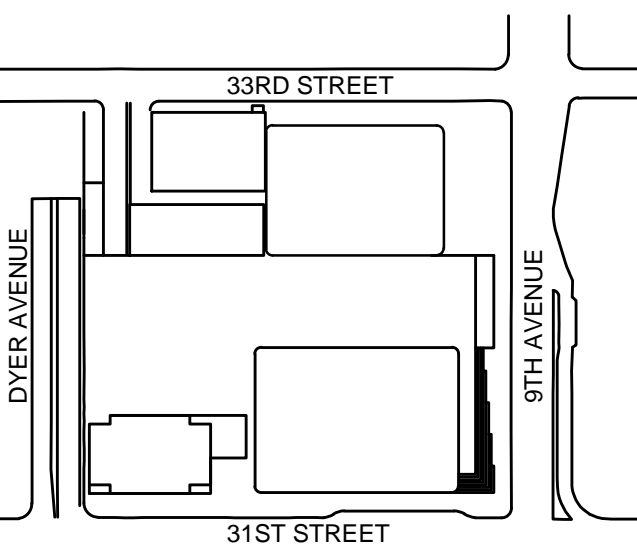
Vibration Consultant
Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultant
Code Consultants Professional Engineers PC
215 West 40th Street, 16th Floor, New York, NY 10018

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166 Ames Street, Hackensack, NJ 07601

Wind Tunnel Consultant
Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph
Ontario, Canada N1K 1S8

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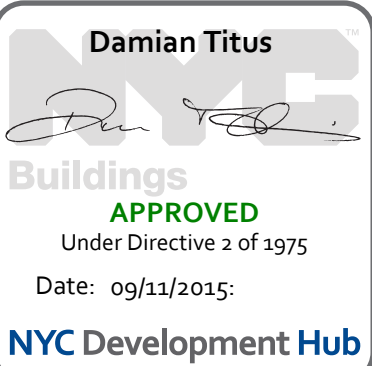


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| 3 | 13 NOV 2013 | ISSUED FOR CD PROGRESS PRICING |
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| 1 | 18 MAR 2013 | ISSUED FOR RECONCILIATION |

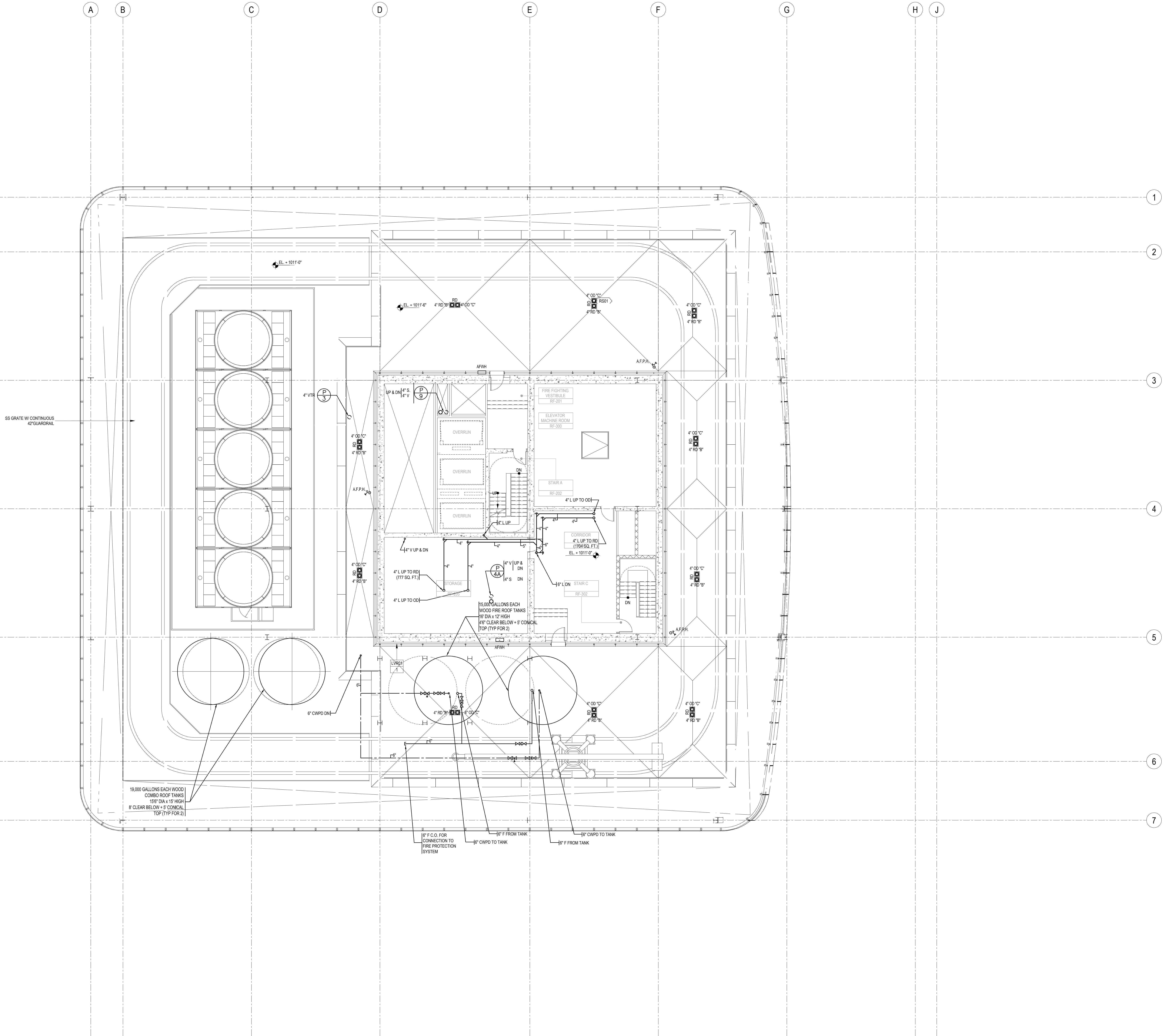
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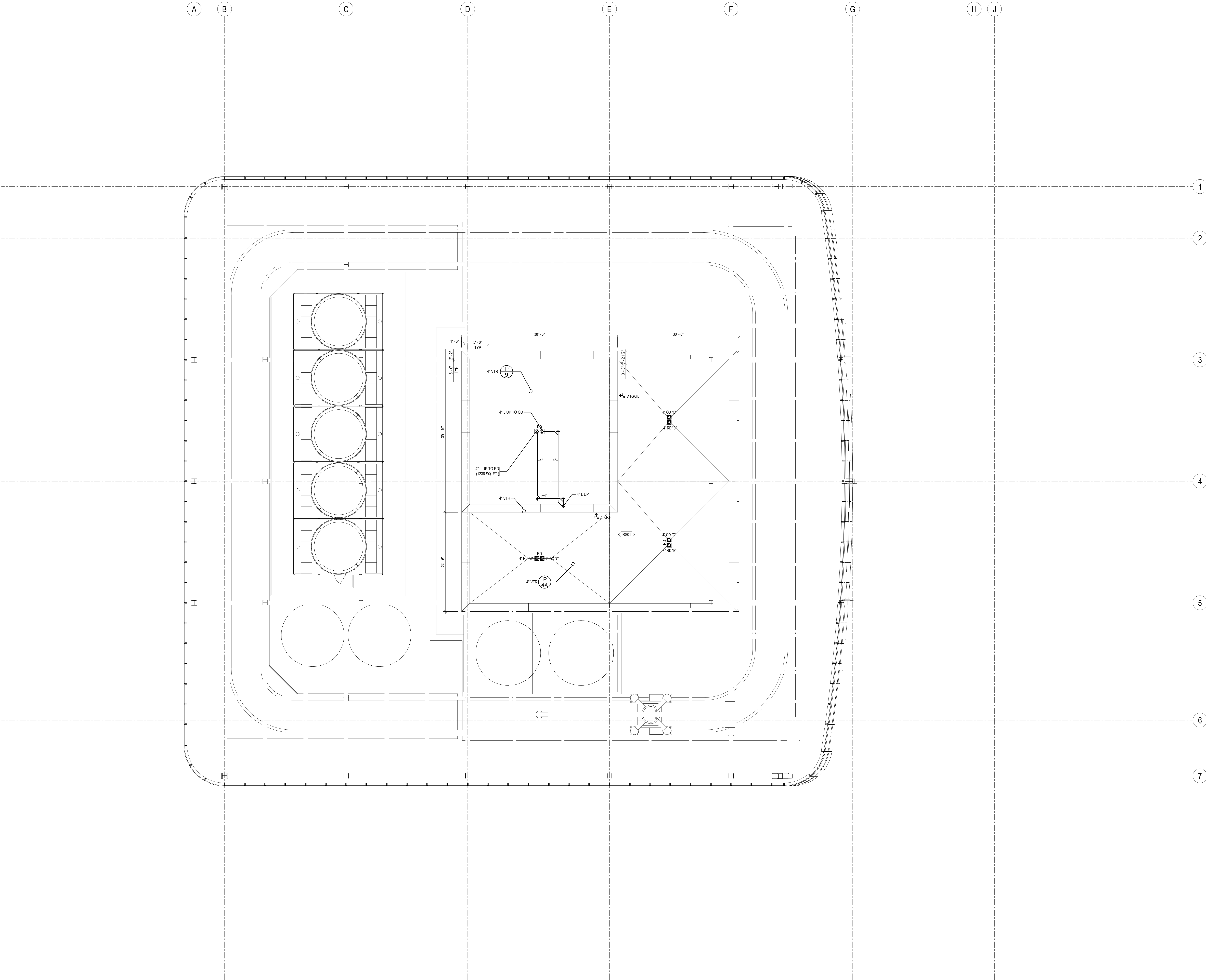


PLUMBING
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MECHANICAL
PENTHOUSE

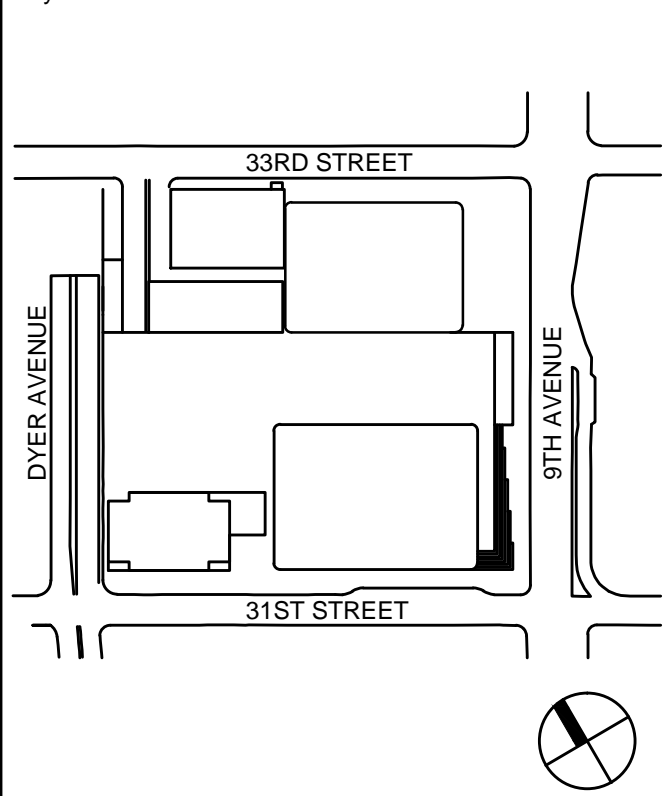
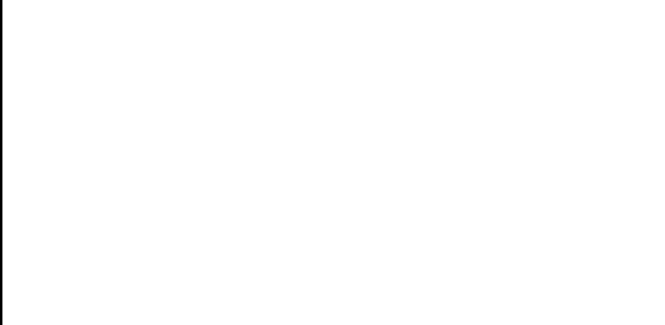
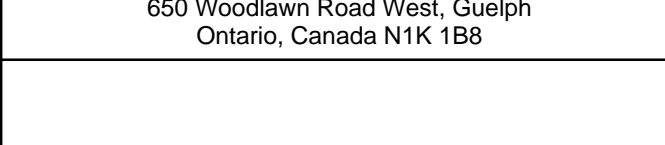
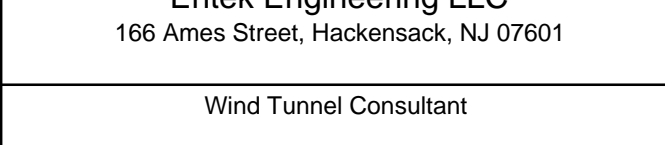
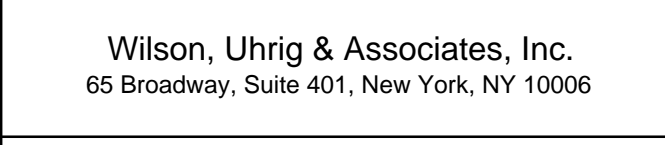
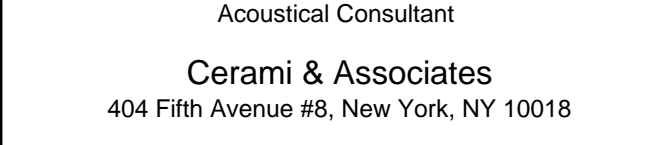
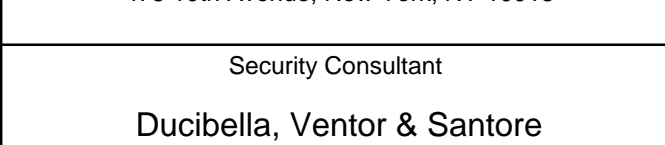
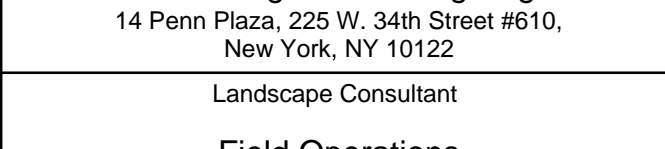
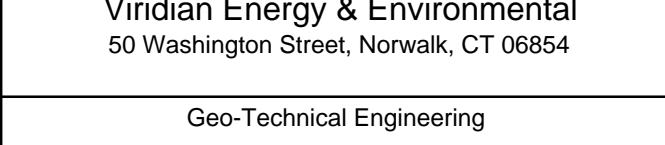
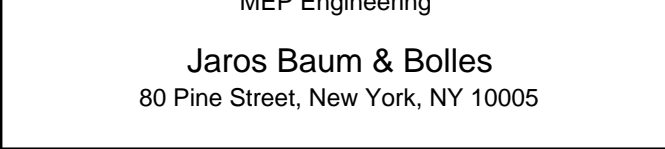
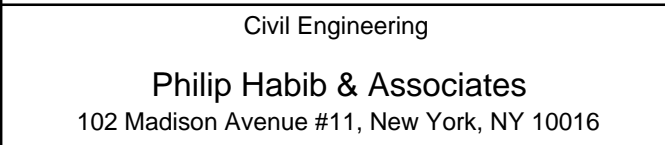
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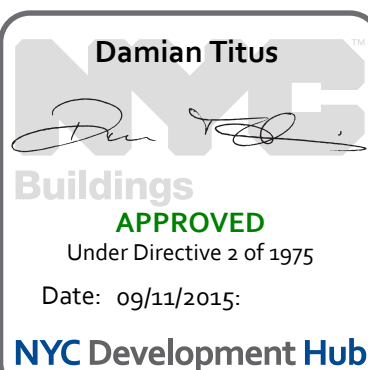
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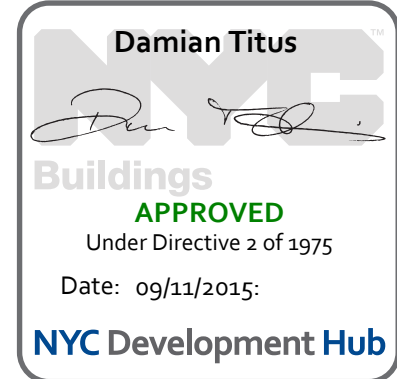
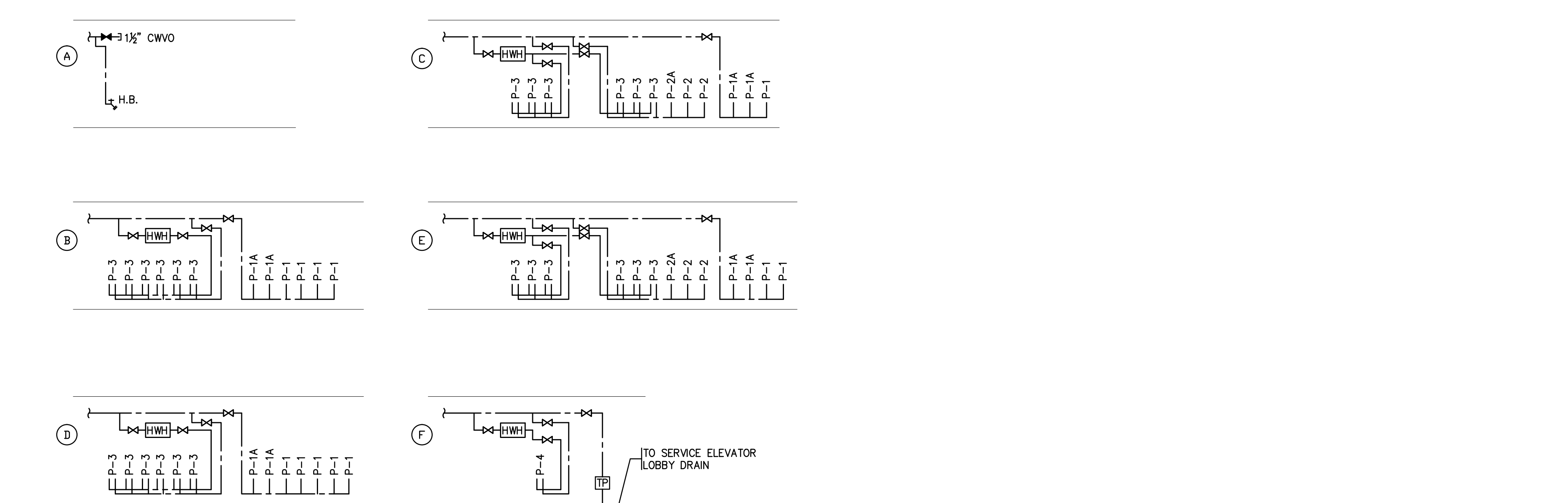
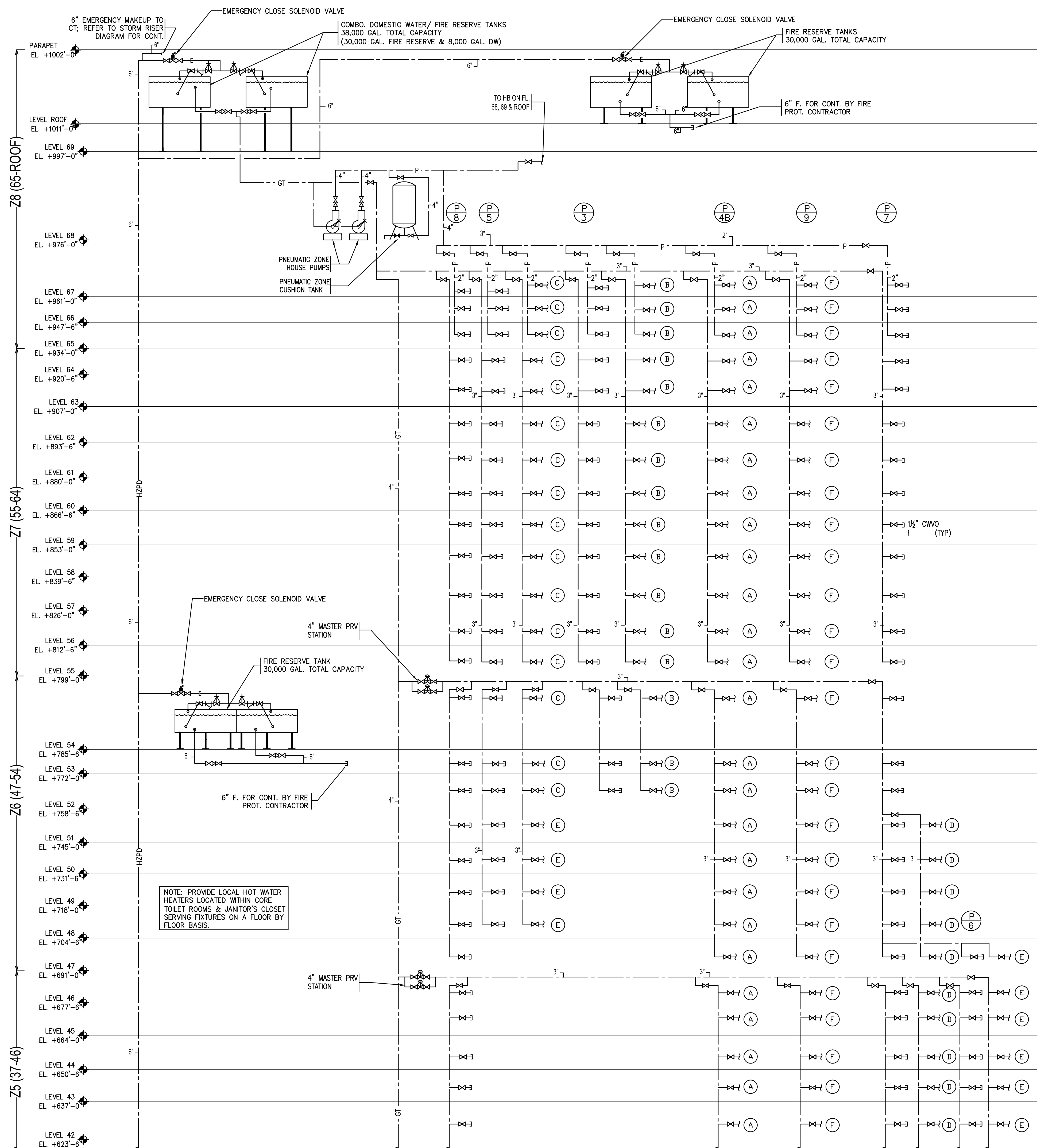
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Date: 15 NOV 2013
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Page No.: 55 OF 62

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B-SCAN Sheet No.: P-171
Date: 15 NOV 2013
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Blast Consultant

Weidlinger Associates, Inc.
40 Wall Street, New York, NY 10005

Acoustical Consults

Cerami & Associates
404 Fifth Avenue #8, New York, NY 10018

Vibration Consulta

Wilson, Uhrig & Associates, Inc.
65 Broadway, Suite 401, New York, NY 10006

Code Consultants

Code Consultants Professional Engineers PC
215 West 40th Street, 15th Floor, New York, NY 10018

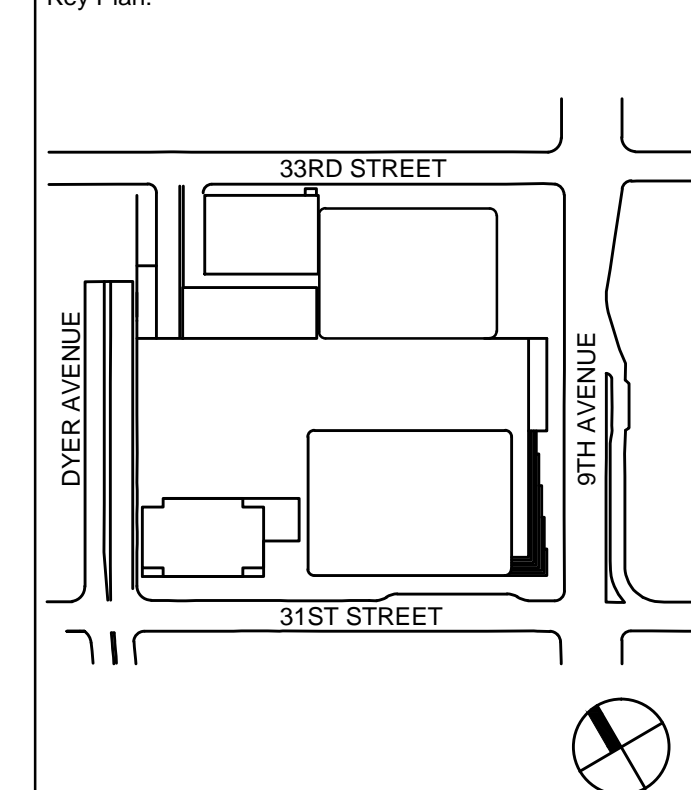
ode Maintenance Co.

Entek Engineering LLC
166 Arden Street, Hooksett, NH 03801

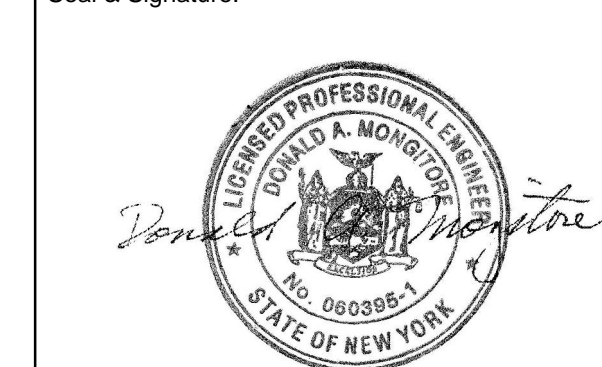
Used Tunnel Count:

Rowan Williams Davies & Irwin Inc.
850 Woodlawn Road West, Guelph

Key Plan



Seal & Signature



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| | | |
| 5 | 20 JUN 2014 | ISSUED FOR FOUNDATION PERMIT |
| 4 | 20 DEC 2013 | ISSUED FOR FOUNDATION PERMIT |
| 3 | 15 NOV 2013 | ISSUED FOR DD PROGRESS PRICING |
| 2 | 12 JUL 2013 | ISSUED FOR 50% DESIGN DEVELOPMENT |
| 1 | 15 MAR 2013 | ISSUED FOR RECONCILIATION |
| No. | Date | Description |
| Sheet Name: | | |

PLUMBING
SANITARY RISER
DIAGRAM -
SHEET 2

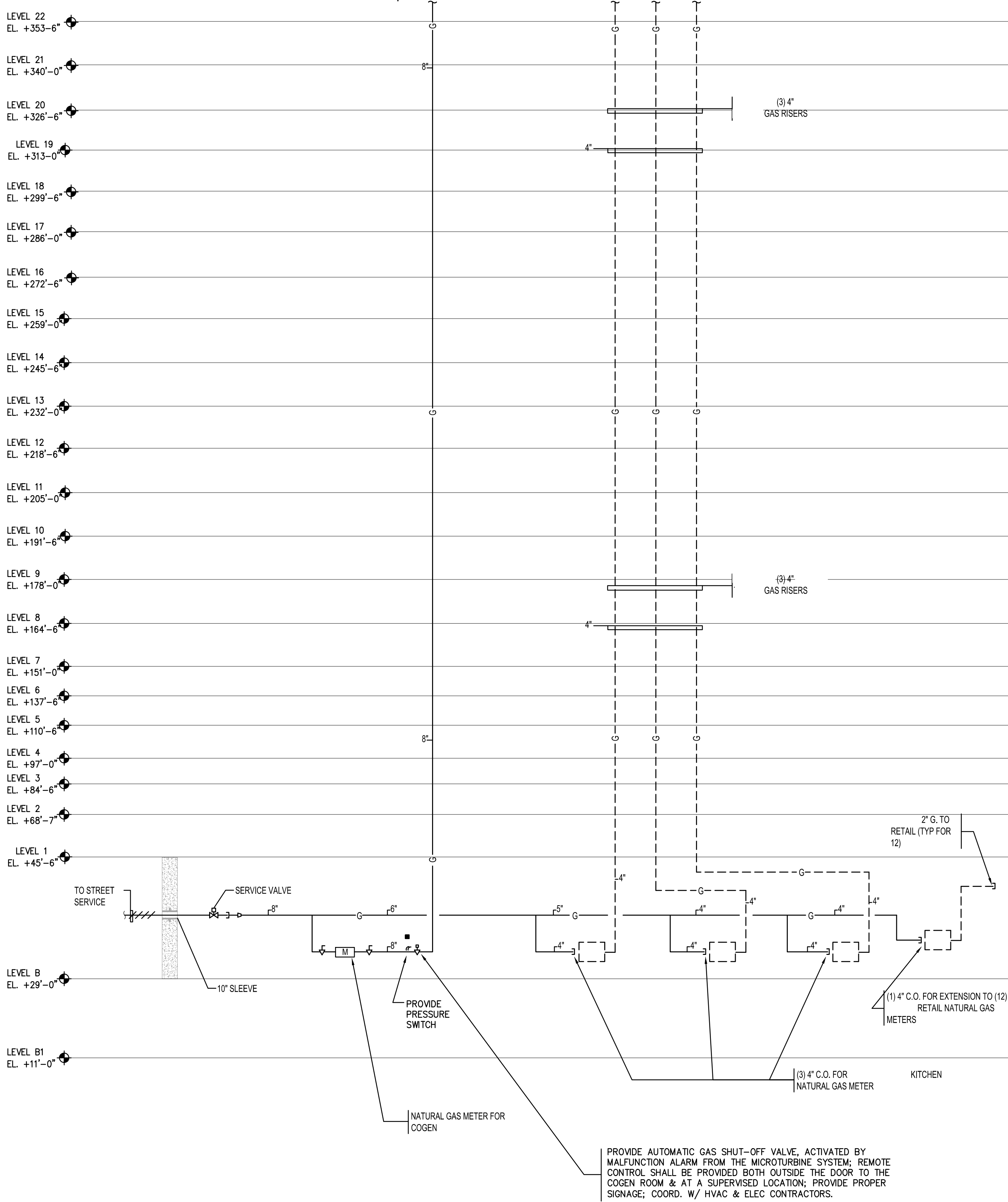
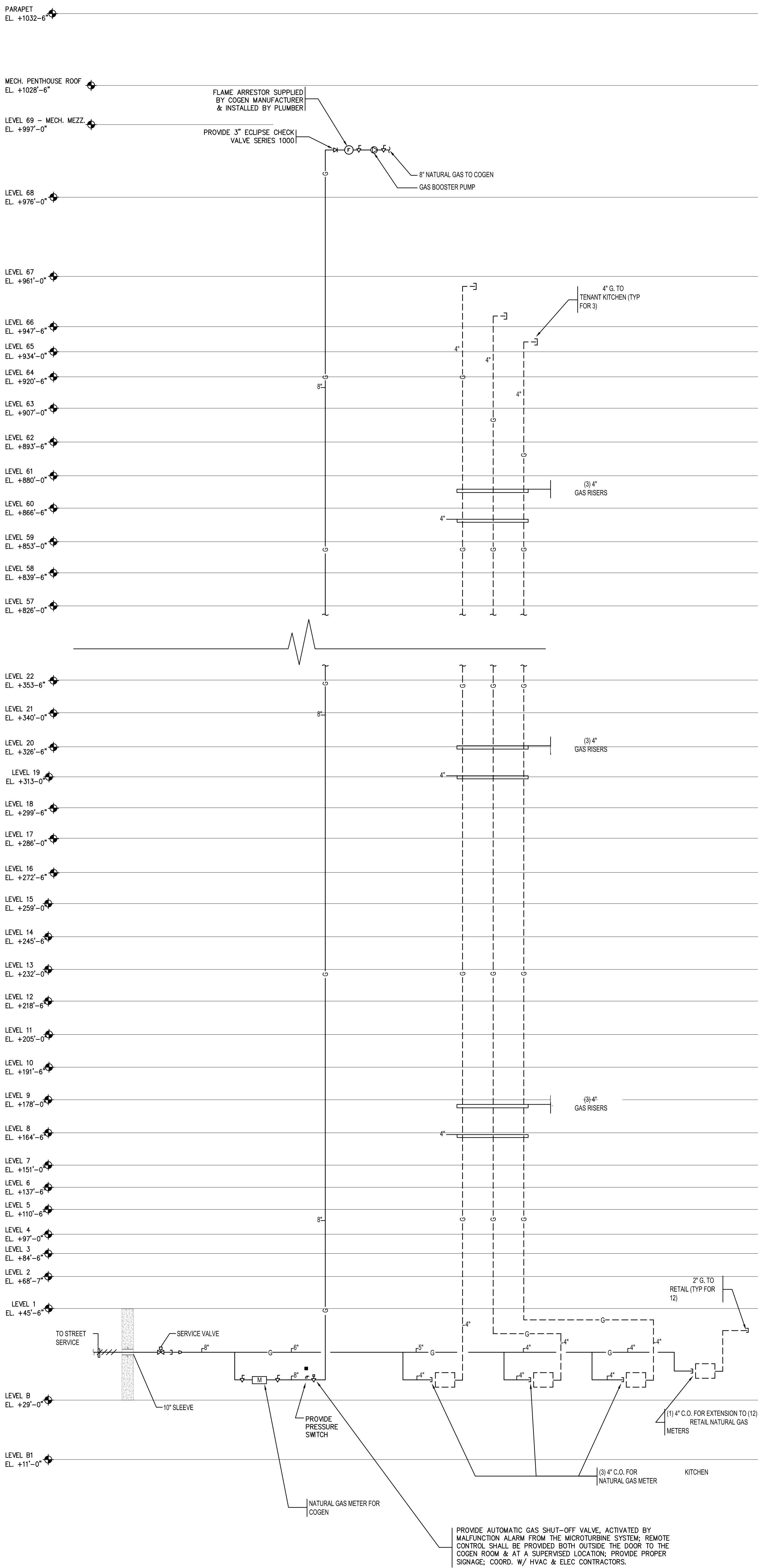
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| Date: 20 DEC 2013 | |
| Scale: NTS | |
| File No.: | |
| | Sheet No.: <div style="font-size: 1.5em; font-weight: bold; text-align: center;">P-402</div> |
| | Page No.: |

BUILDING DEPARTMENT NOTES:

THIS PLAN IS APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.



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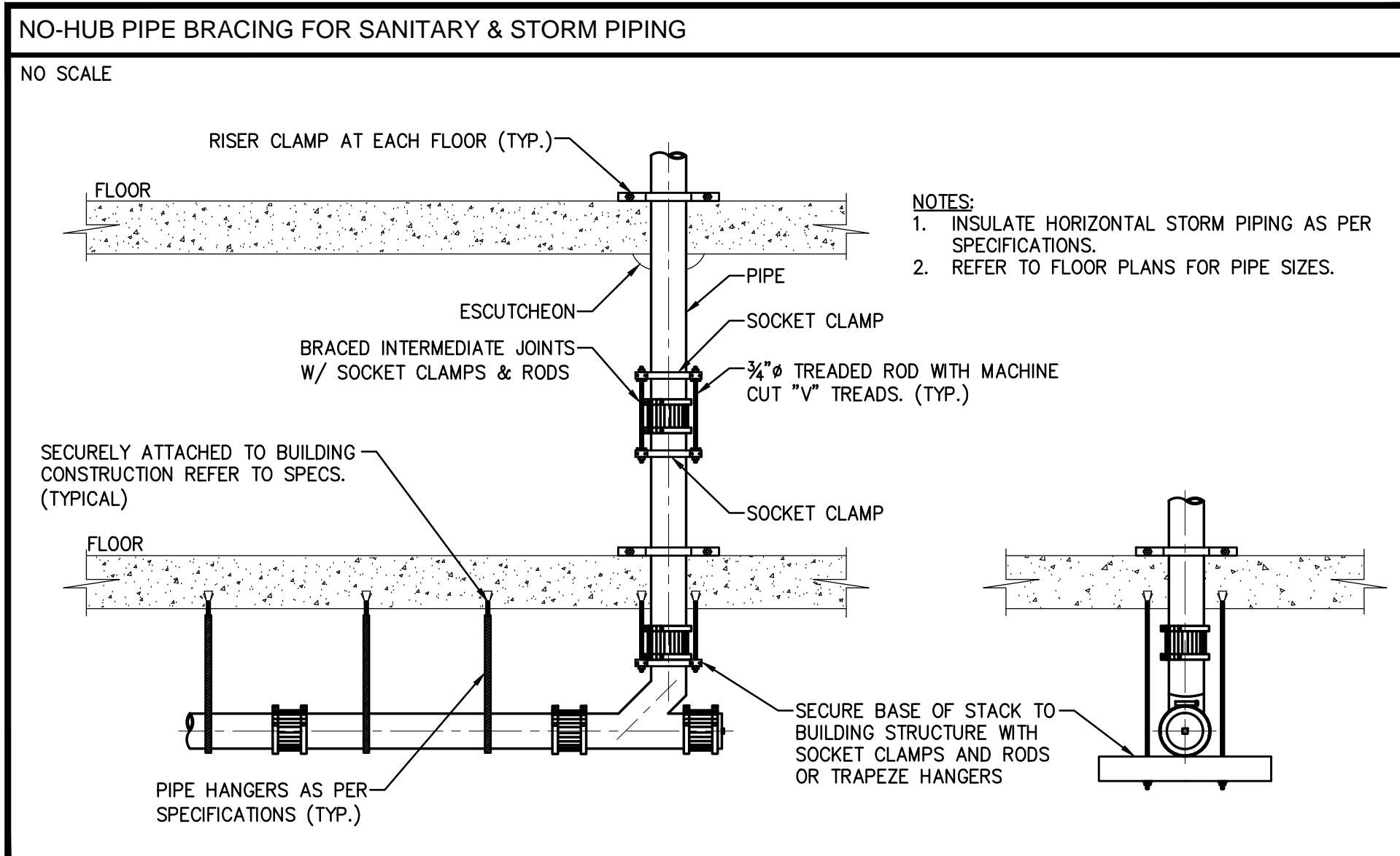
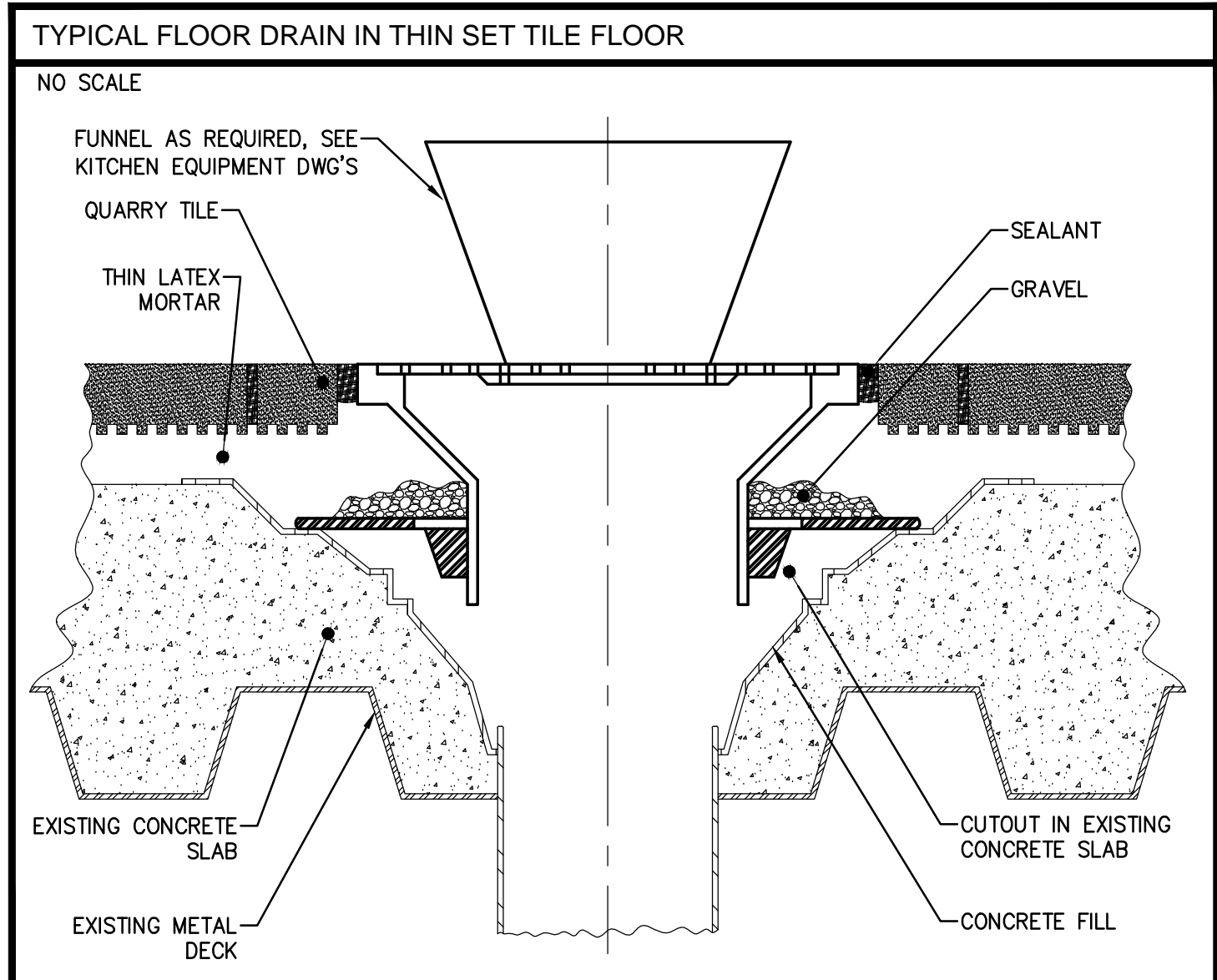
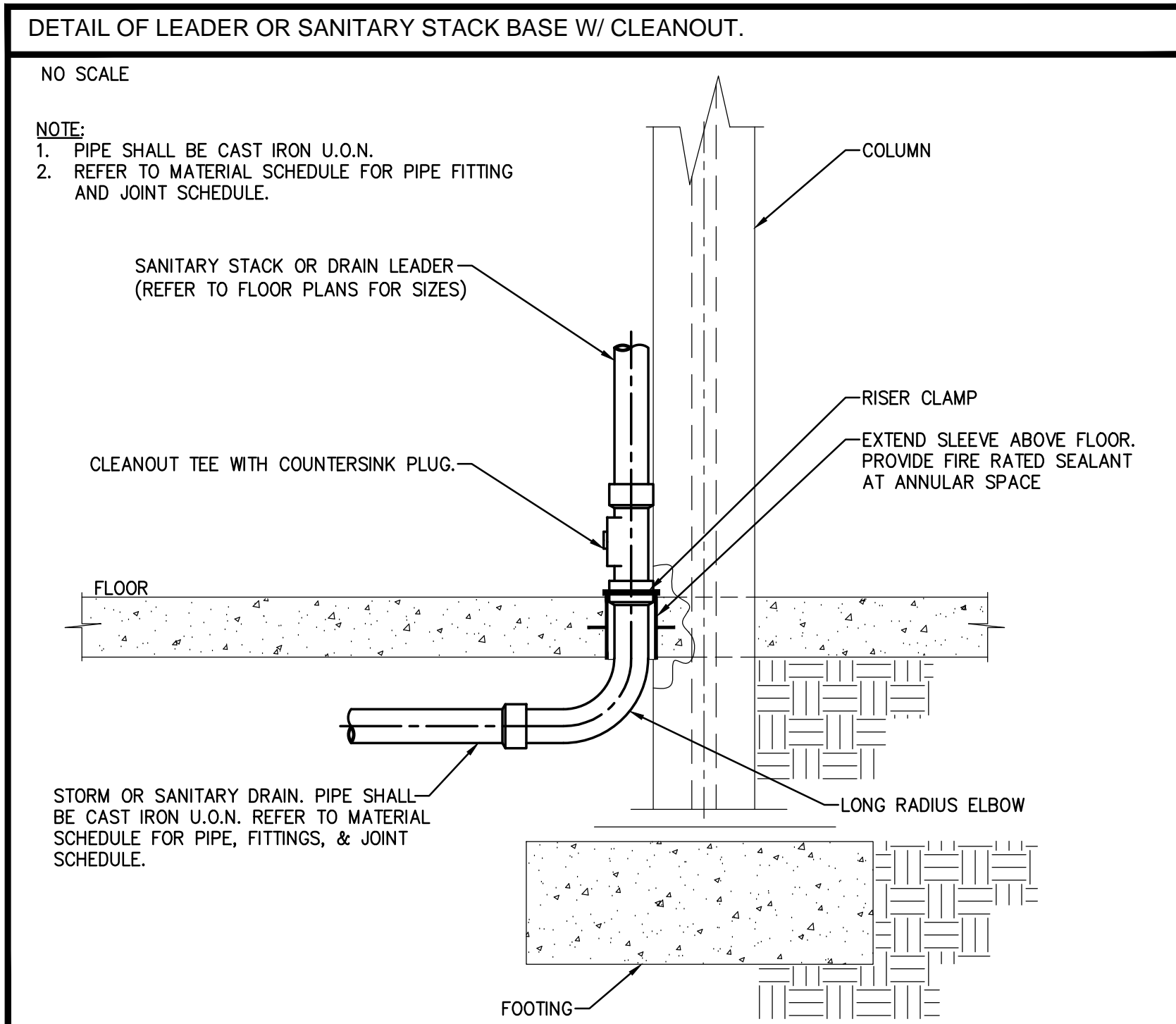
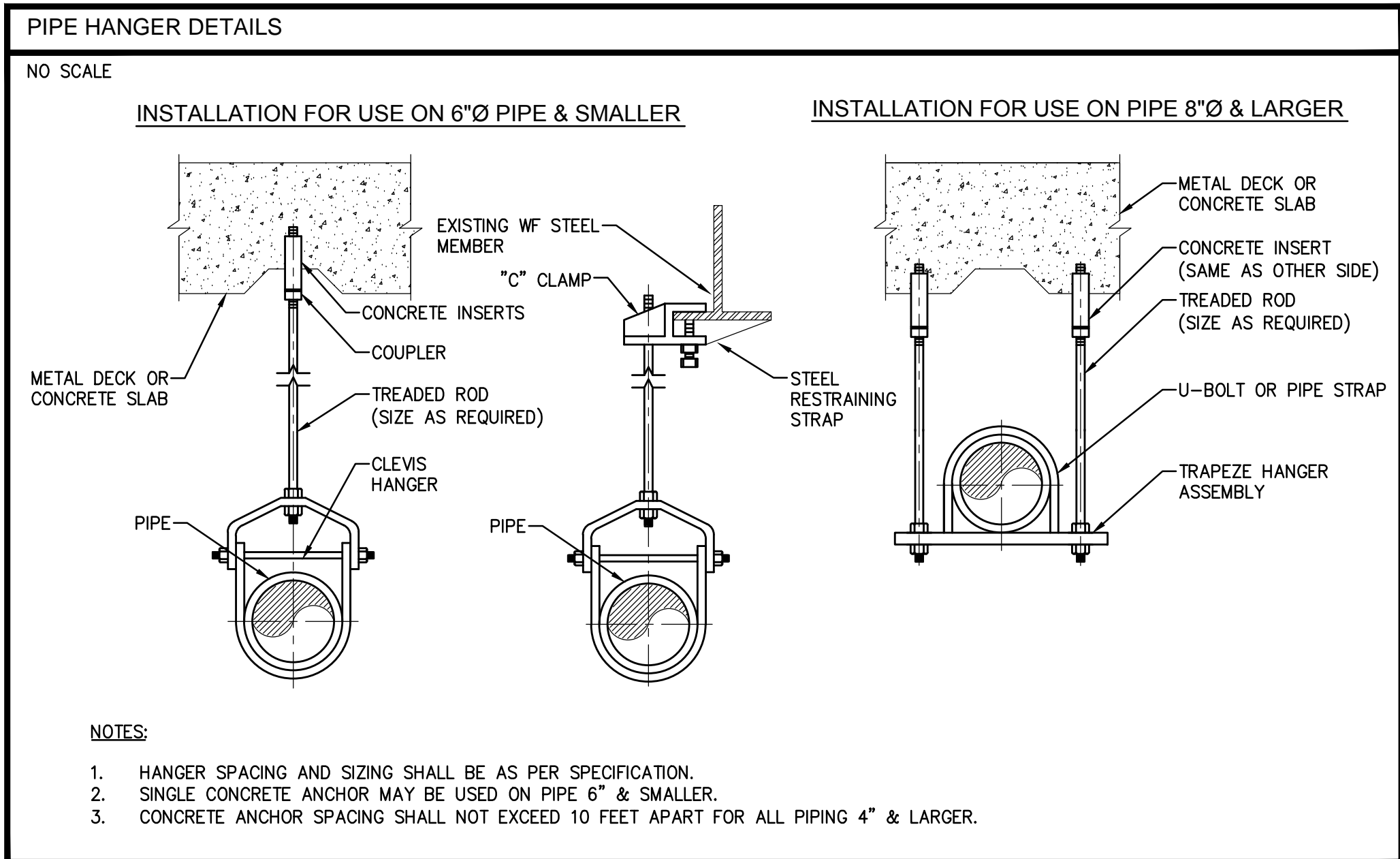
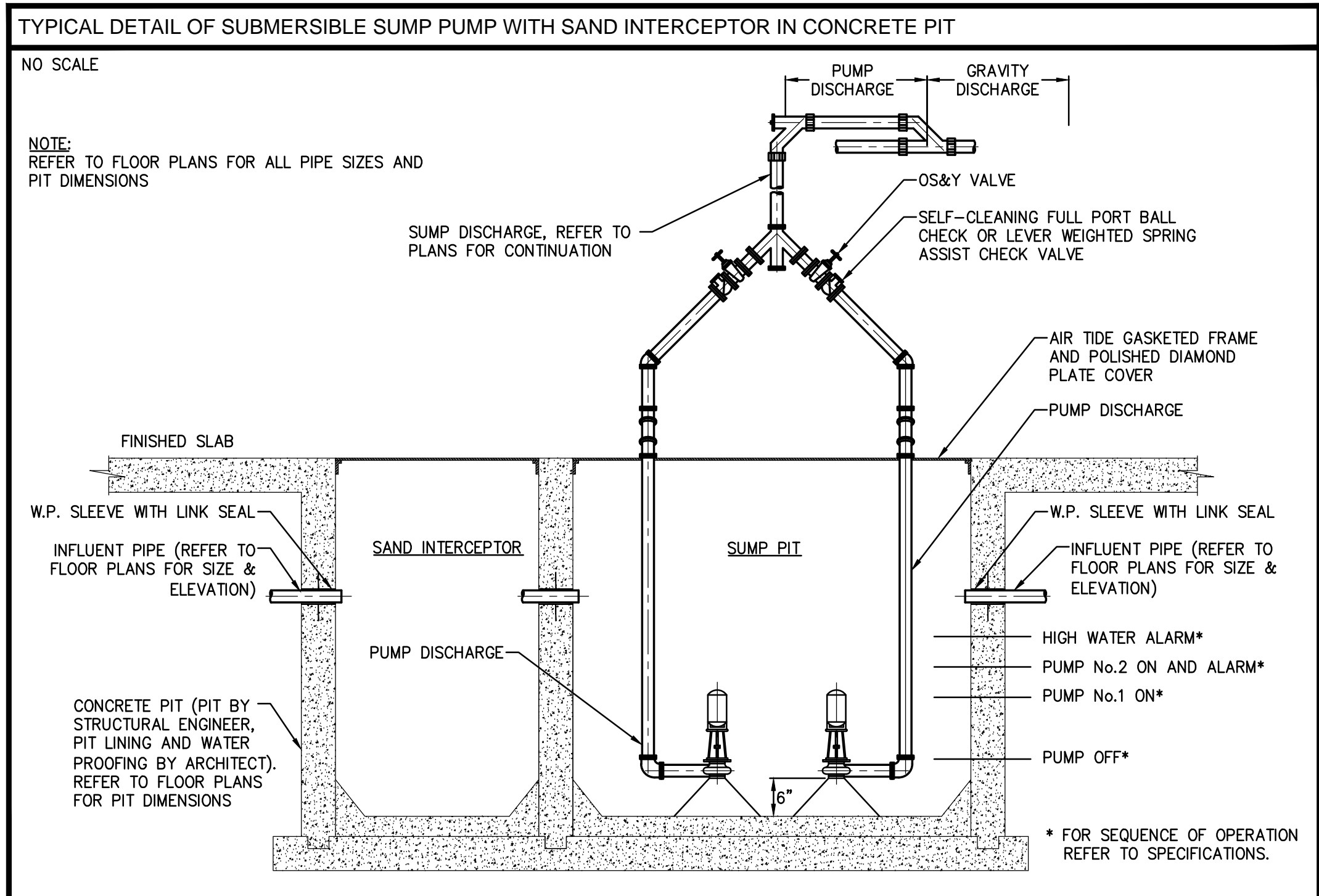
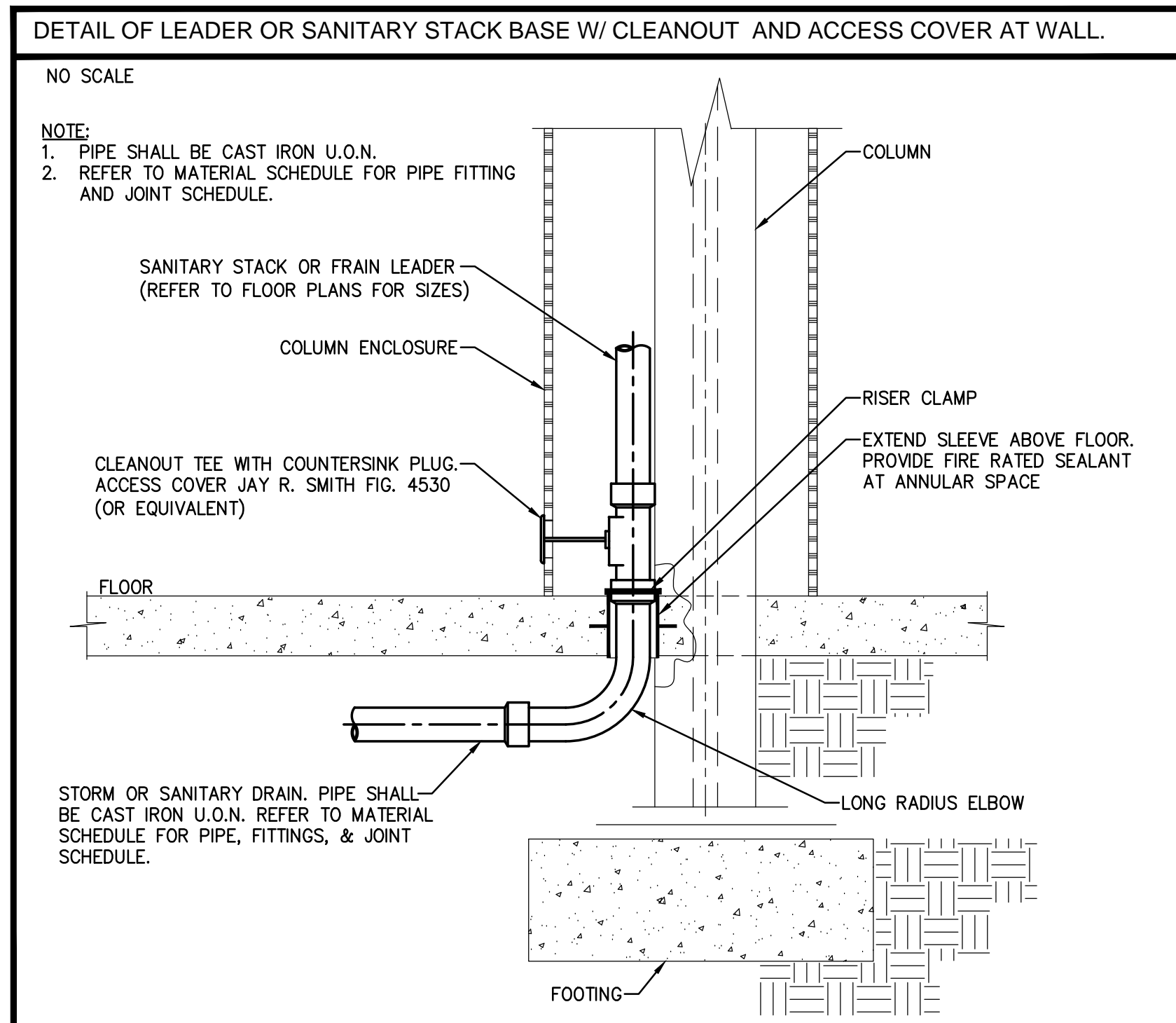
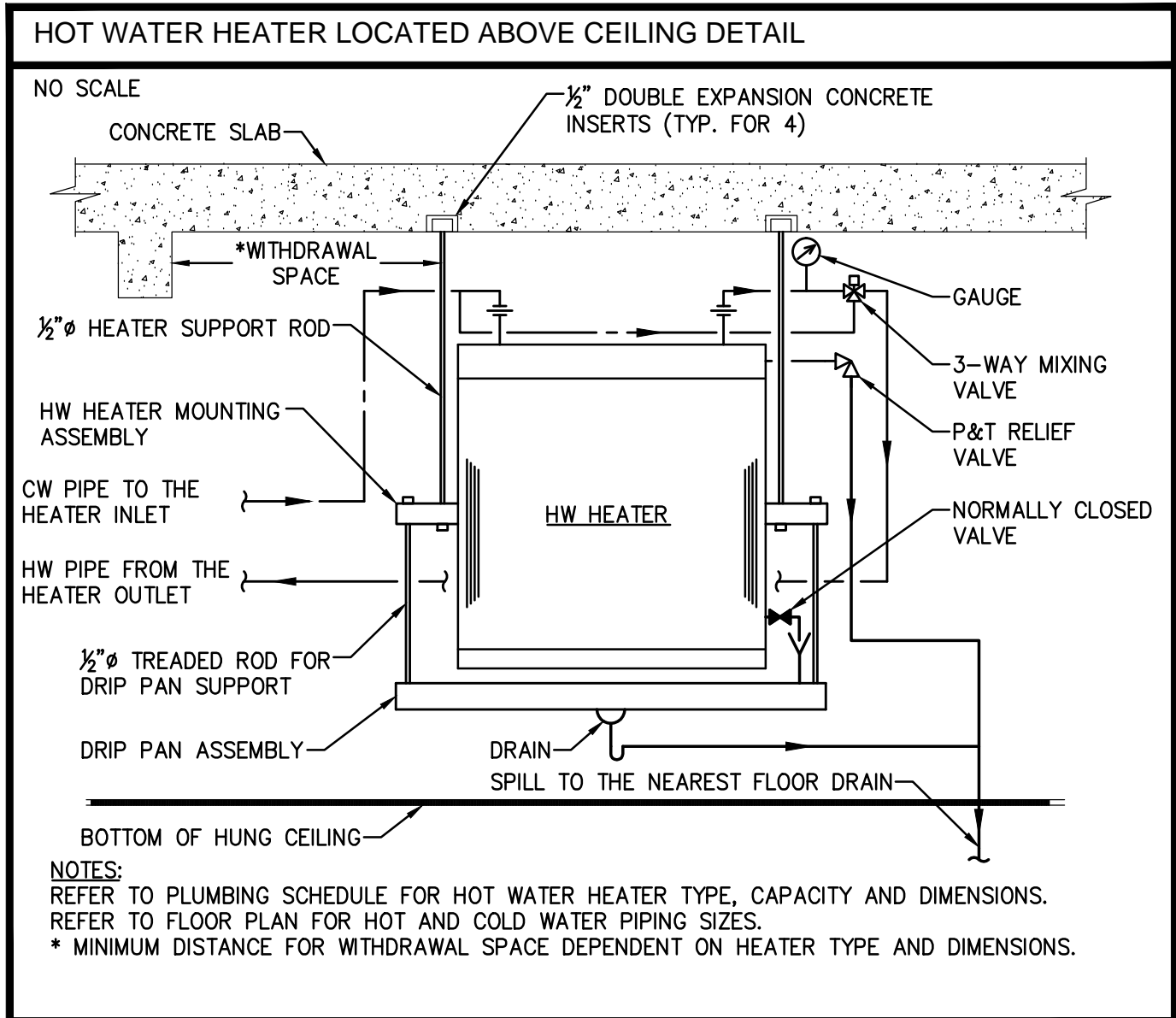
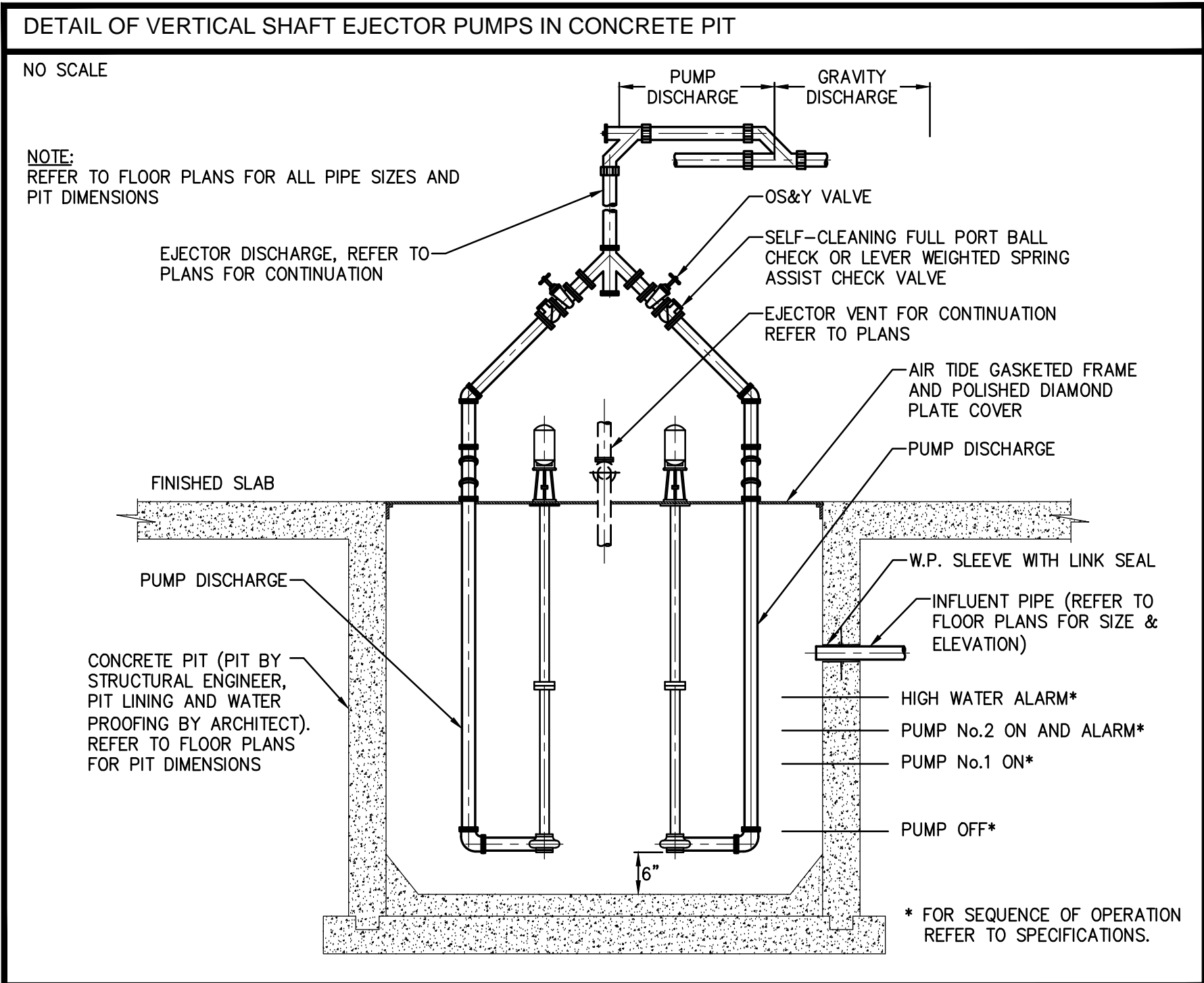
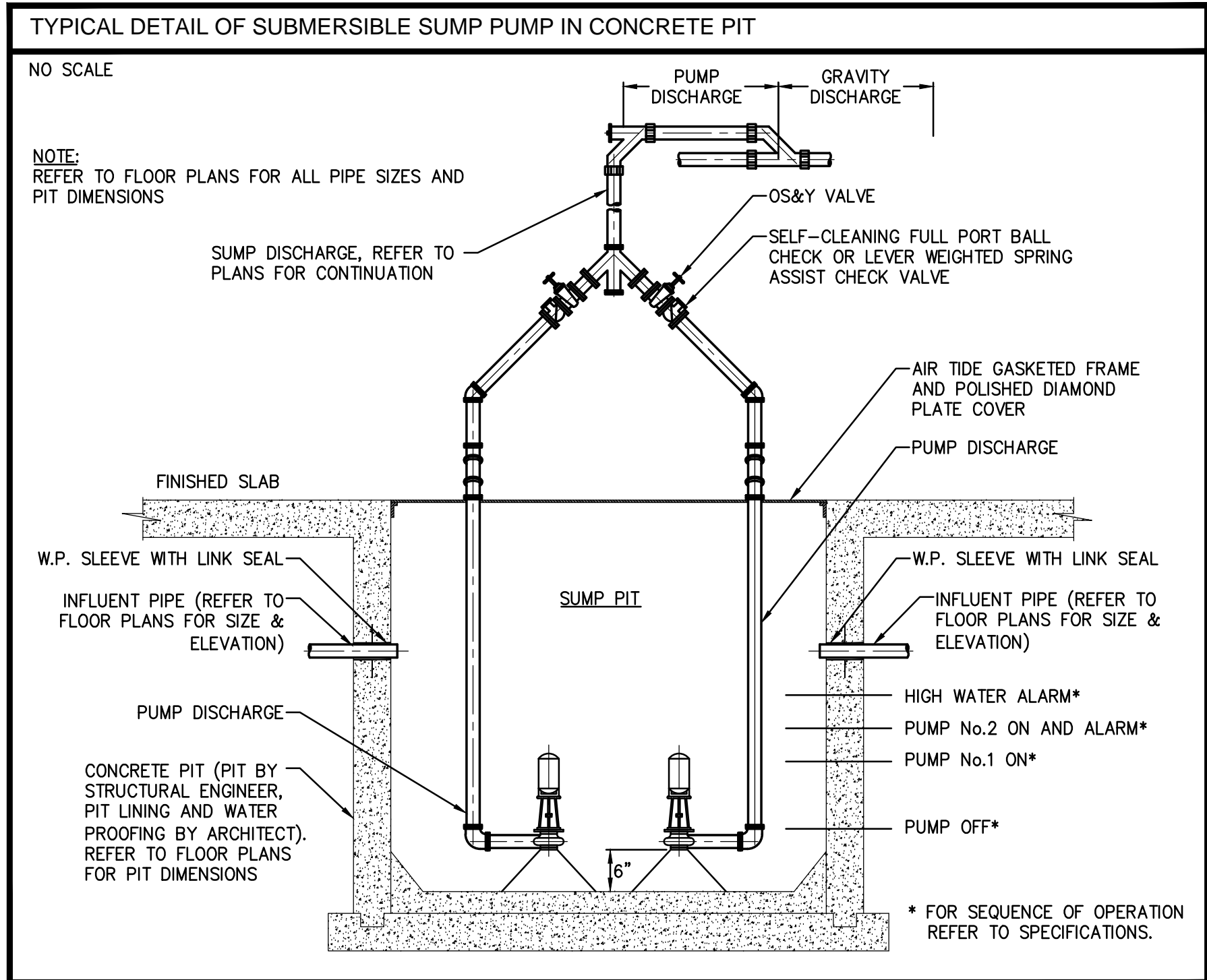
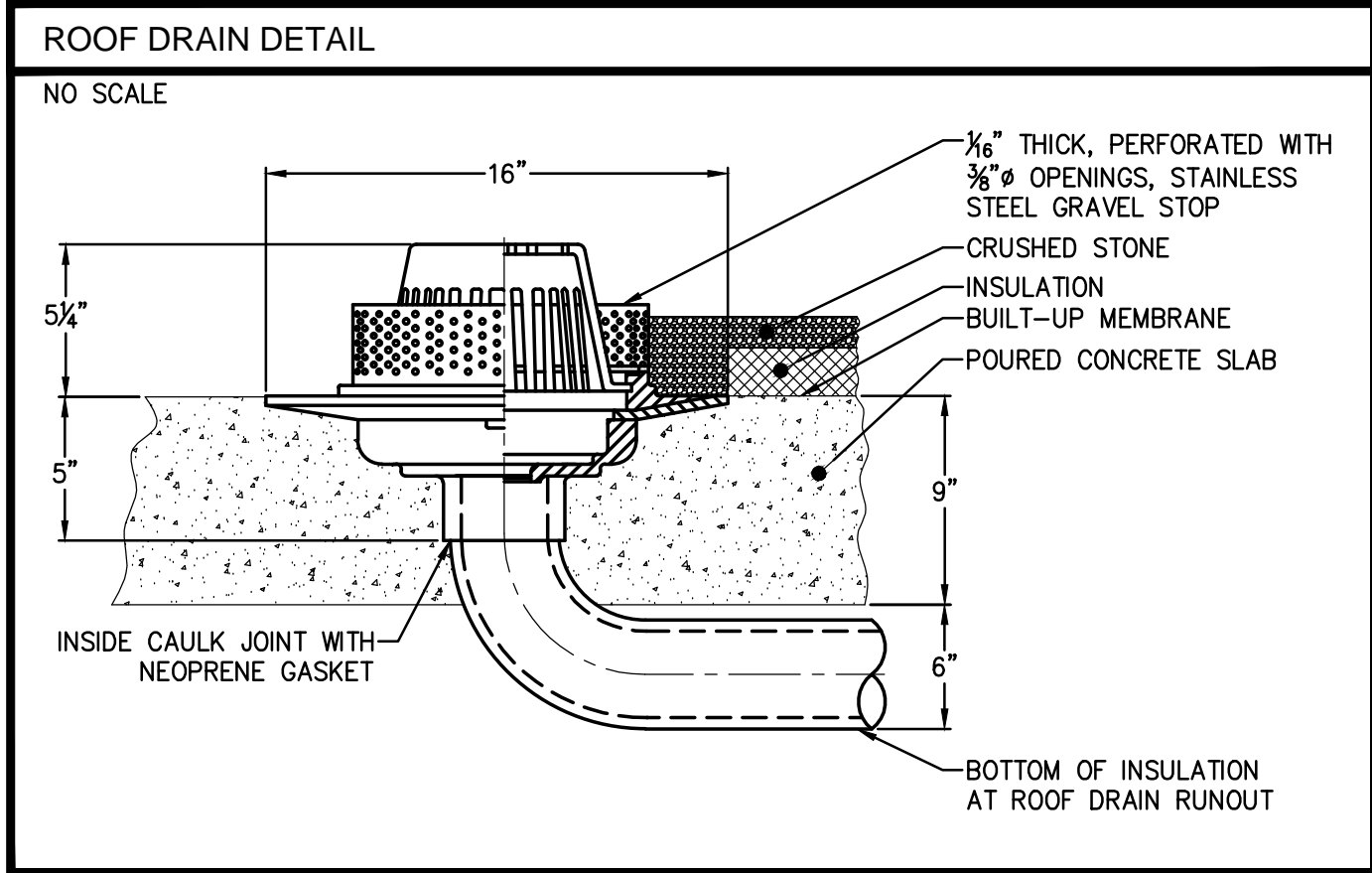
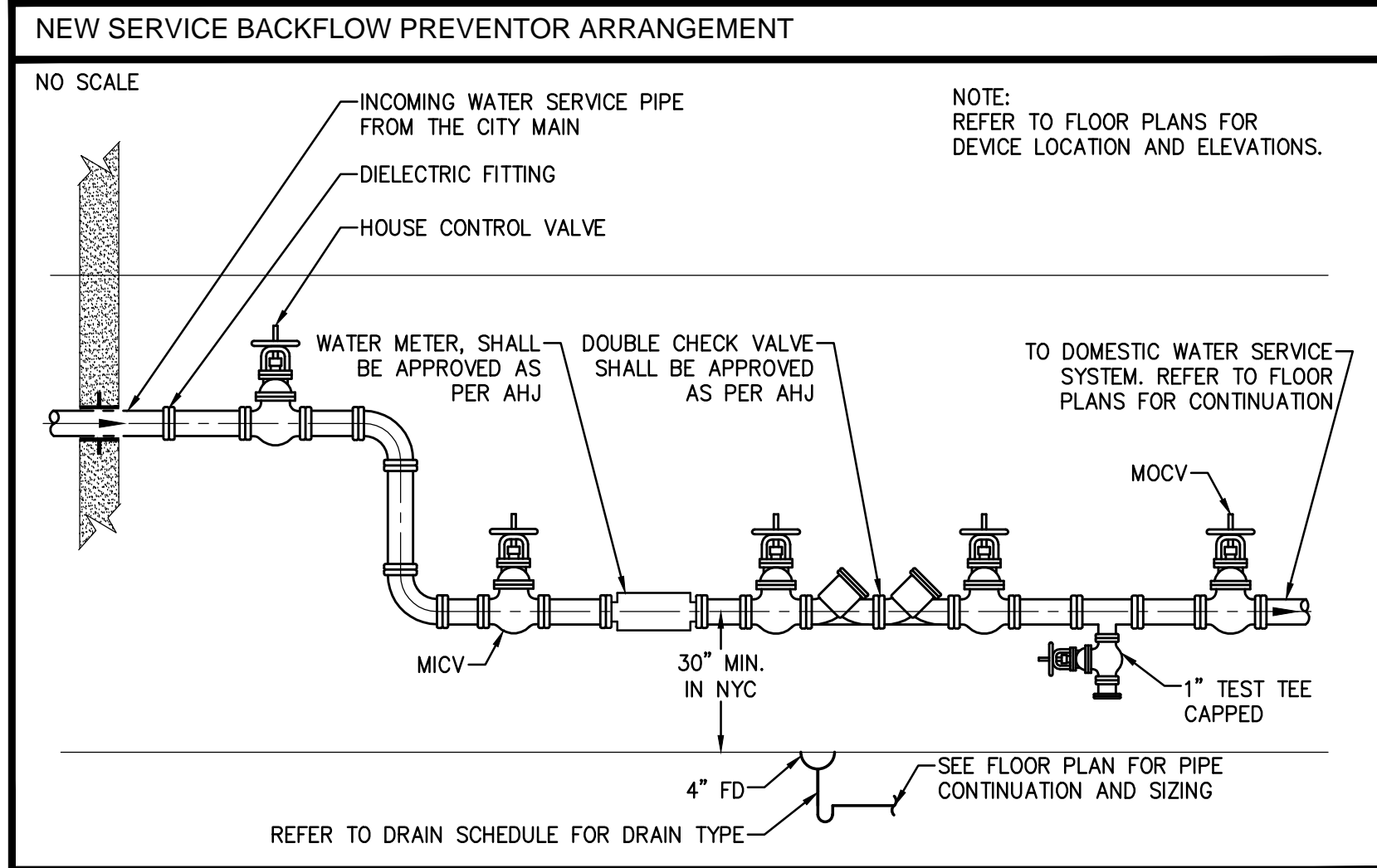
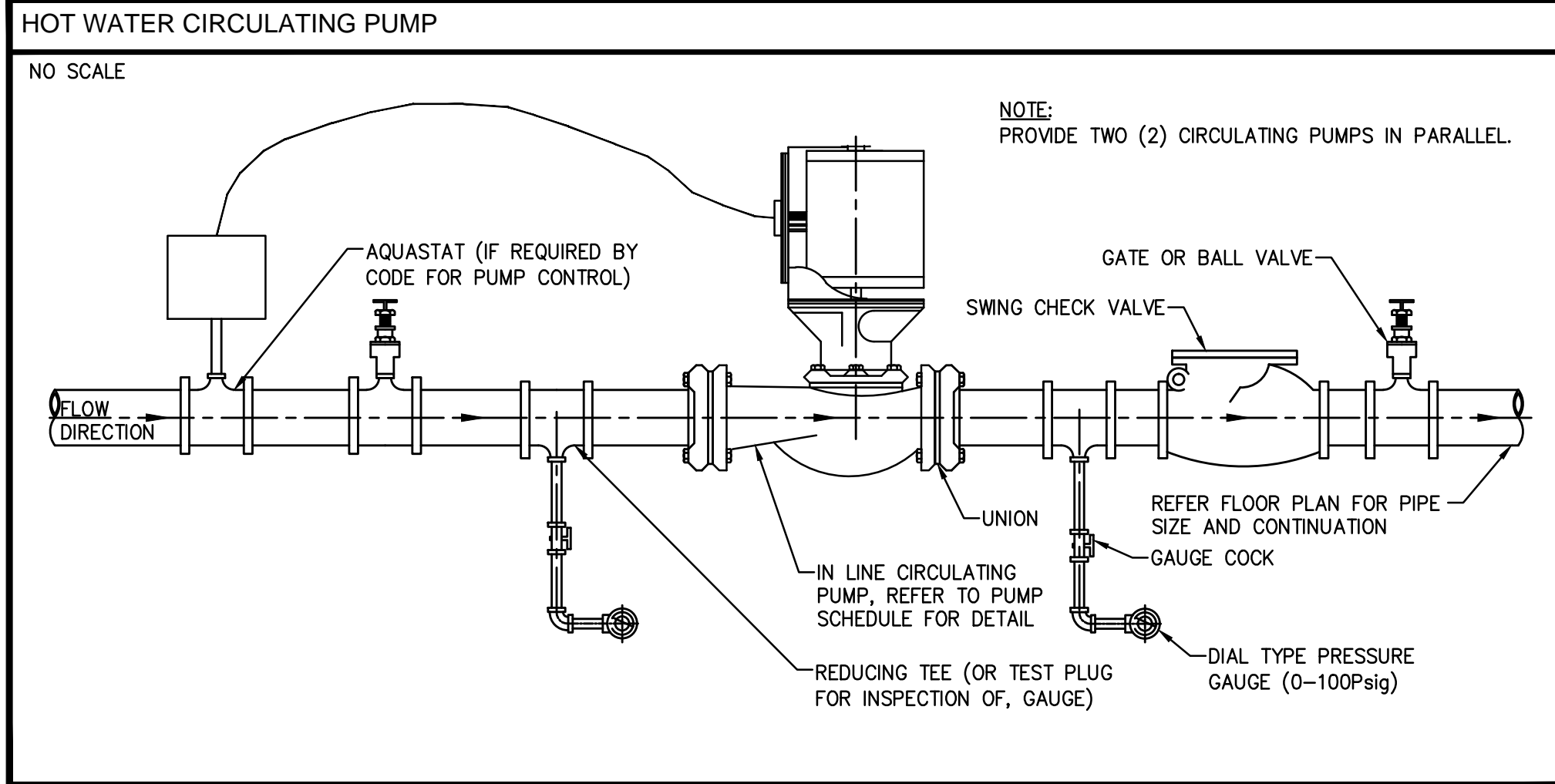
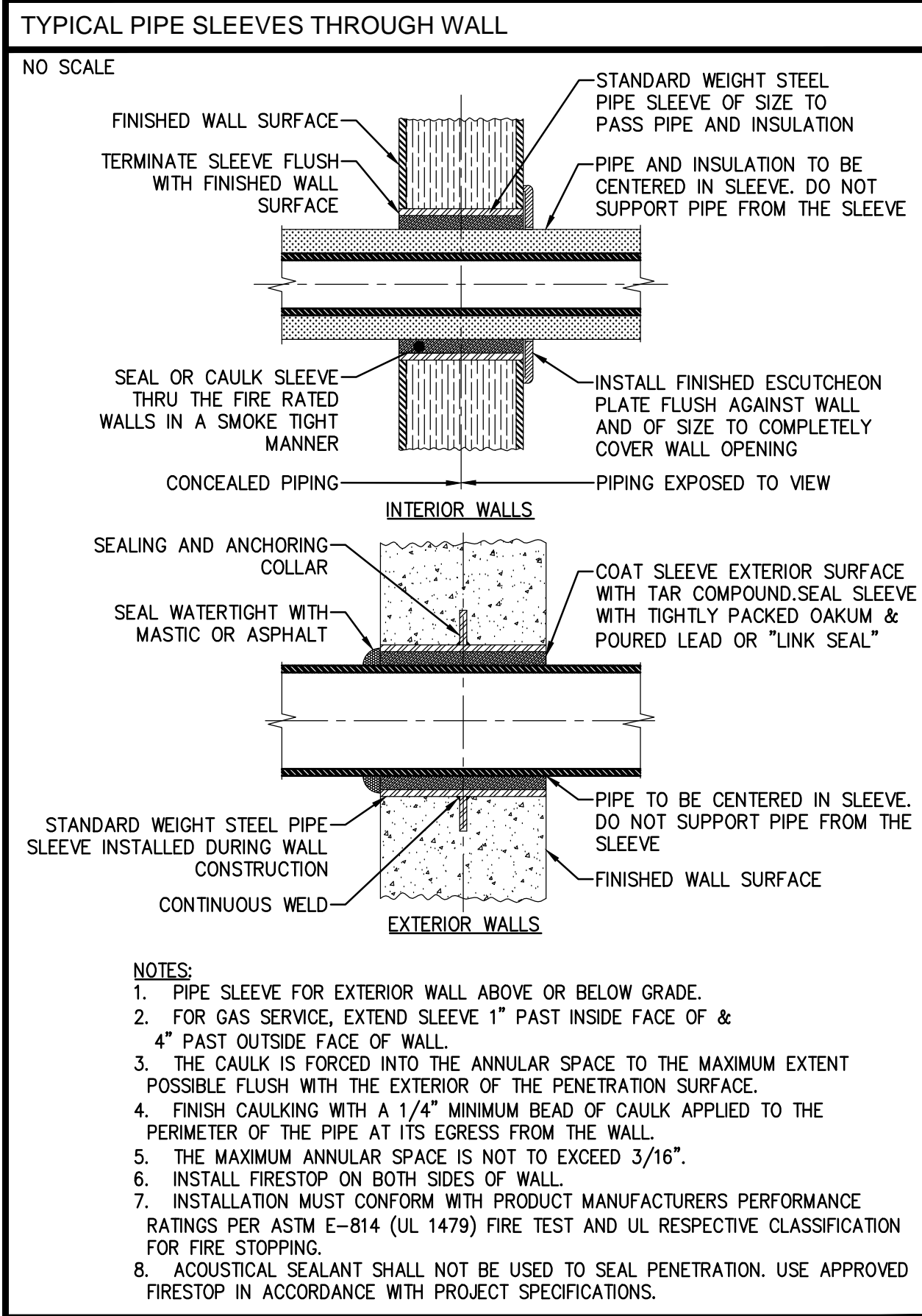
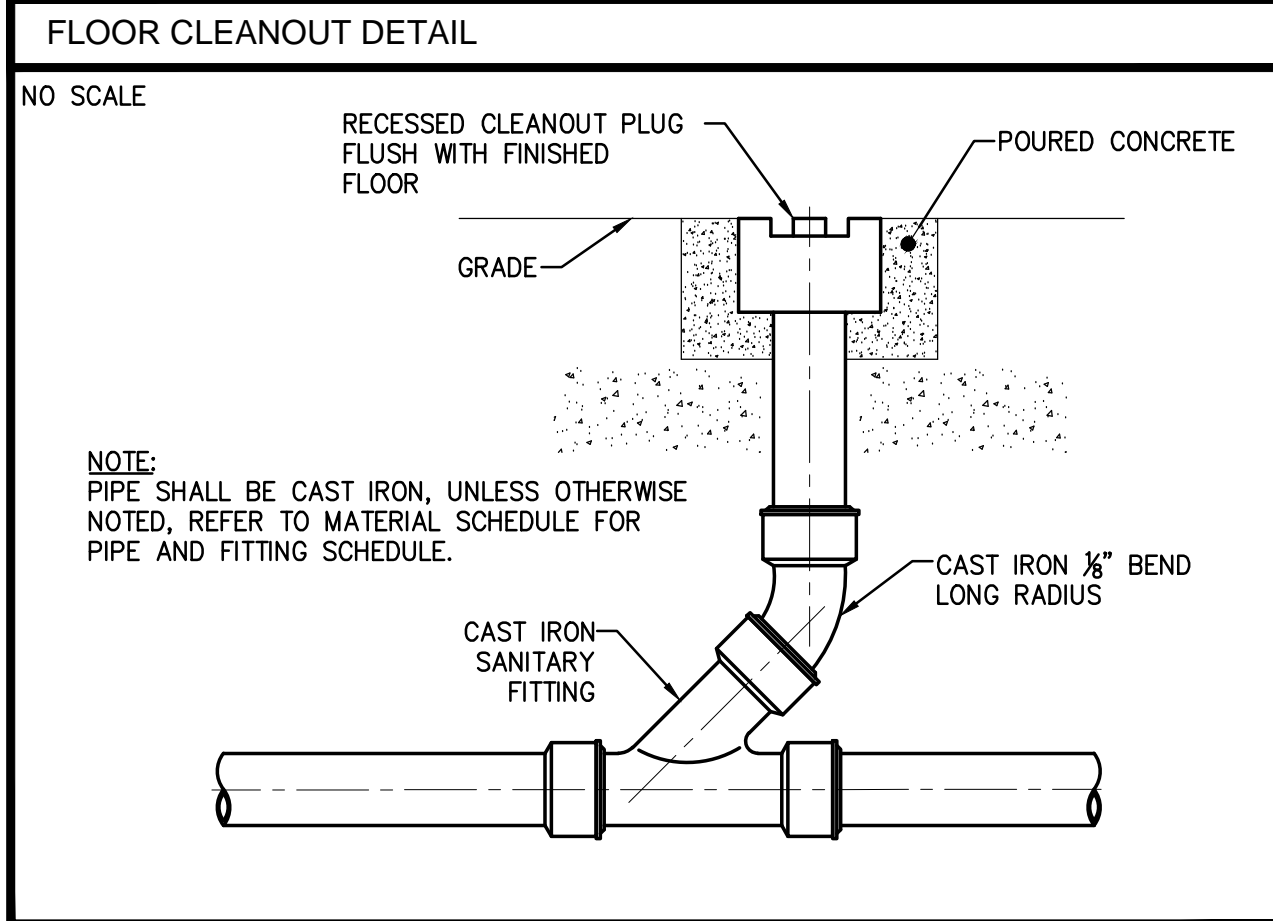
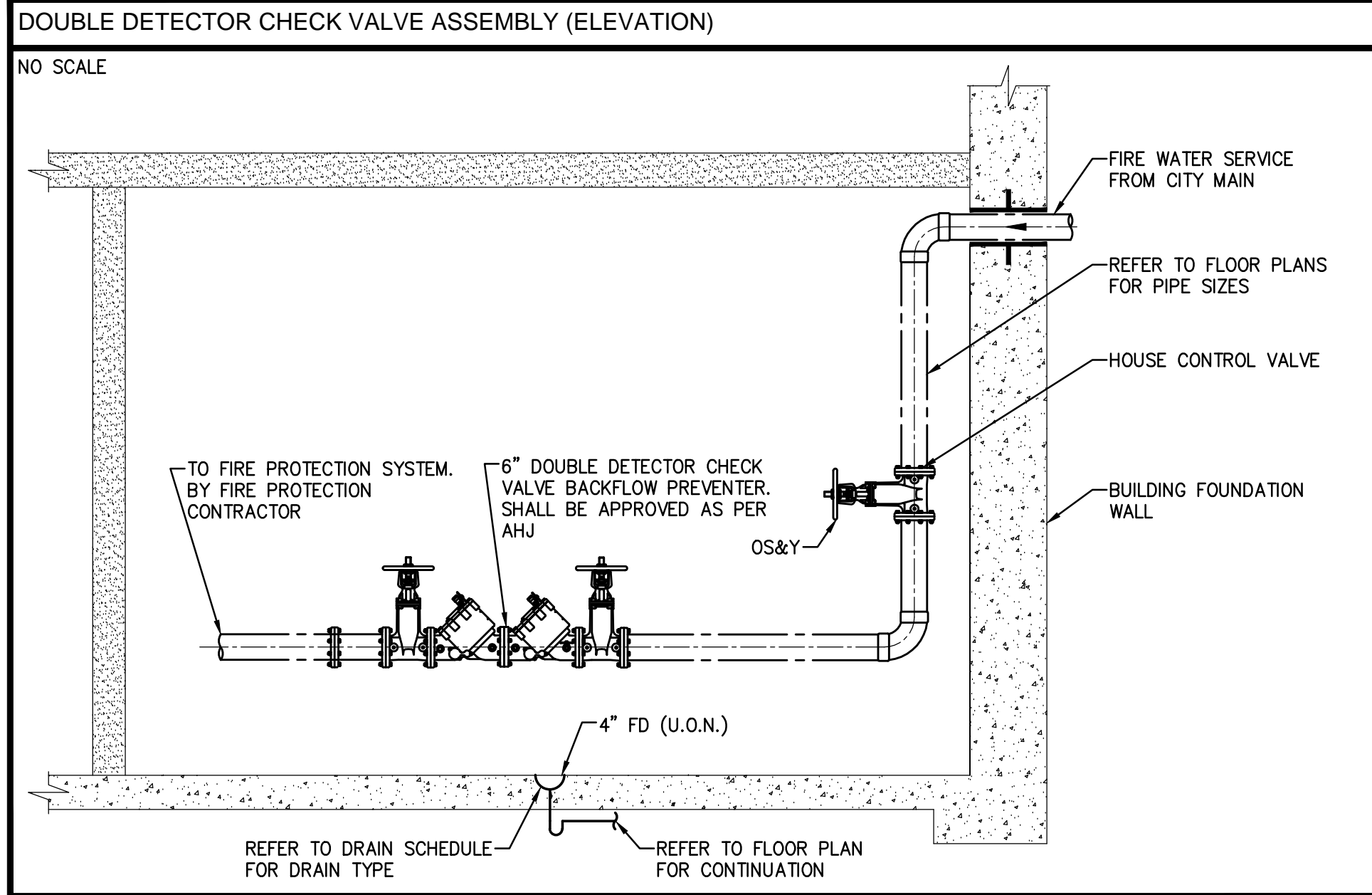
| DRAIN SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-----------|-------------|------------|-----------------|---------------|---------------|------------|-----------------|-----------------|------------------|-----------------|---------------------|-----------------------|---------|-----------|---------------|------------|-----------------|--------------------|--------|---------------|-----------------|-----------------|
| BODY | | | | | | | | | | STRAINER | | | | | | | | | | REMARKS | | | | |
| DESIGNATION | TURN SERIES NO. (UNLESS OTHERWISE NOTED) | CAST IRON | DURA-COATED | GALVANIZED | STAINLESS STEEL | NICKEL BRONZE | BOTTOM OUTLET | 45° OUTLET | CLAMPING DEVICE | UNDERDESK CLAMP | BACK WATER VALVE | THREADED OUTLET | R.D. RECEIVER PLATE | ACID RESISTANT COATED | CAULKED | CAST IRON | LAQUER COATED | GALVANIZED | SEDIMENT BUCKET | SECONDARY STRAINER | BRONZE | CHROME PLATED | STAINLESS STEEL | POLISHED FINISH |
| A | Z-508-DG-Y | | | | | | | | | | | | | | | | | | | | | | | |
| B | ZC-100-C-EA-R | | | | | | | | | | | | | | | | | | | | | | | |
| C | ZC-100-C-EA-R-W2 | | | | | | | | | | | | | | | | | | | | | | | |
| D | Z-415 | | | | | | | | | | | | | | | | | | | | | | | |
| E | ZC-100-C-EA-R | | | | | | | | | | | | | | | | | | | | | | | |
| F | ZB6-125-C-EA-B5 | | | | | | | | | | | | | | | | | | | | | | | |
| G | Z-533 | | | | | | | | | | | | | | | | | | | | | | | |
| H | Z-122 | | | | | | | | | | | | | | | | | | | | | | | |
| J | ZB82-U4-NS | | | | | | | | | | | | | | | | | | | | | | | |
| K | Z520-P-Y W/ Z328 | | | | | | | | | | | | | | | | | | | | | | | |
| NOTE: THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DRAIN TYPES & OPTIONS WITH CONSTRUCTION MANAGER AND CONFIRMING THE CONSTRUCTION MATERIALS. THICKNESS, LENGTHS (FOR LINEARY TRENCH DRAINS) AND FINISHED FLOOR ELEVATIONS (I.E. EXTENSION HEIGHTS, GRAVEL STOP HEIGHTS, WATERPROOFING MATERIALS, ETC.) PRIOR TO PURCHASING EQUIPMENT. | | | | | | | | | | | | | | | | | | | | | | | | |

| PUMP SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|------------------------------|---|--------|--------------|--------------------|--------------------|------------|-----------------------------|--------------|---|---|--------|------------------|------------------------|--------|-------|-------|-------|----------------|------------------|--------------|----------------------|-----------------|--------------|----------|--|
| PUMP DESIGNATIONS | SYSTEM | | | No. REQUIRED | G.P.M. / SCFH each | Max. T.D.H./P.S.I. | MECH. SEAL | MANUFACTURER | MODEL NUMBER | | | STAGES | VERT. OR H. LIFT | WORKING PRESSURE (PSI) | R.P.M. | VOLTS | PHASE | CYCLE | MANUAL CONTR'L | STARTING CONTR'L | AUTO CONTR'L | PRESSURE GAUGE RANGE | EMERGENCY POWER | CONCRETE FIT | LOCATION | |
| DBP-NE-68-1,2 | PNEUMATIC ZONE BOOSTER PUMPS | 2 | 30 | 140 | ● | ● | P.P.C. | 2TU12A-2 | | 2 | ● | ● | 350 | 7.5 | 1750 | 460 | 3 | 60 | ● | ● | ● | 0-100 | ● | ● | ● | |
| DBP-NE-B-3,4 | HIGH ZONE HOUSE PUMPS | 2 | 253 | 981 | ● | ● | P.P.C. | 3TU9A-4 | | 4 | ● | ● | 600 | 150 | 1750 | 460 | 3 | 60 | ● | ● | ● | 0-500 | ● | ● | ● | |
| DBP-NE-B-1,2 | MID ZONE HOUSE PUMPS | 2 | 100 | 449 | ● | ● | P.P.C. | 3TU13A-3 | | 3 | ● | ● | 350 | 50 | 1750 | 460 | 3 | 60 | ● | ● | ● | 0-300 | ● | ● | ● | |
| DBP-NE-B-5,6,7 | LOW ZONE HOUSE PUMPS | 3 | 35 | 123 | ● | ● | P.P.C. | 1.5TU7A-3 | | 3 | ● | ● | 350 | 5 | 1750 | 460 | 3 | 60 | ● | ● | ● | 0-100 | ● | ● | ● | |
| SP-NE-B-1,2 | SUMP PUMP SET #1 | 2 | 100 | 45 | ● | ● | FLYGT | CP3057 imp 266 | | 1 | ● | ● | 150 | 2.5 | 3600 | 460 | 3 | 60 | ● | ● | ● | 0-100 | ● | ● | ● | |
| SP-NE-B1-1,2 | SUMP PUMP SET #2 | 2 | 250 | 60 | ● | ● | FLYGT | NP3127 imp 488 | | 1 | ● | ● | 150 | 10 | 1750 | 460 | 3 | 60 | ● | ● | ● | 0-100 | ● | ● | ● | |
| SP-NE-B3-1,2 | SUMP PUMP SET #3 | 2 | 250 | 85 | ● | ● | FLYGT | NP3152 imp 464 | | 1 | ● | ● | 150 | 15 | 1750 | 460 | 3 | 60 | ● | ● | ● | 0-100 | ● | ● | ● | |
| SEJ-NE-B-1,2 | EJECTOR PUMP SET #1 | 2 | 500 | 45 | ● | ● | FLYGT | NP3127 imp 438A | | 1 | ● | ● | 150 | 10 | 1750 | 460 | 3 | 60 | ● | ● | ● | 0-100 | ● | ● | ● | |
| SEJ-NE-B3-1,2 | EJECTOR PUMP SET #2 | 2 | 125 | 85 | ● | ● | FLYGT | FP3127 imp 244 | | 1 | ● | ● | 150 | 10 | 3600 | 460 | 3 | 60 | ● | ● | ● | 0-100 | ● | ● | ● | |
| ESP-NE-B3-1,2,3 | ELEVATOR SUMP PUMP | 3 | 50 | 84 | ● | ● | STANCOR | SV750-OM | | 1 | ● | ● | 150 | 7.5 | 3600 | 460 | 1 | 60 | ● | ● | ● | 0-100 | ● | ● | ● | |
| LFP-NE-B3-1 | STORM WATER FILTER SKID | 1 | 128 | 42 | ● | ● | PEP | OPEL TC 2x4x4 BP2-PUR-V | | 4 | ● | ● | 350 | 2.5 | 3600 | 460 | 3 | 60 | ● | ● | ● | 0-300 | ● | ● | ● | |
| MUP-NE-B3-1,2 | COOLING TOWER MAKEUP PUMPS | 2 | 253 | 1109 | ● | ● | P.P.C. | 3TU9A-4 | | 2 | ● | ● | 600 | 200 | 3600 | 460 | 3 | 60 | ● | ● | ● | 0-500 | ● | ● | ● | |
| IP-NE-B3-1,2 | IRRIGATION PUMPS | 2 | 70 | 243 | ● | ● | P.P.C. | 2TU12A-2 | | 2 | ● | ● | 350 | 15 | 1750 | 460 | 3 | 60 | ● | ● | ● | 0-100 | ● | ● | ● | |
| NGP-NE-68-1,2 | NATURAL GAS BOOSTER PUMP | 2 | 20,000 | 15 | ● | ● | ECLIPSE | AE0-5-5-20-15-35-SEQ-COM-N4 | | 1 | ● | ● | 150 | 35 | 3600 | 460 | 3 | 60 | ● | ● | ● | 0-30 | ● | ● | ● | |
| HWC-NE-B-1,2 | HOT WATER CIRCULATION PUMP | 2 | 10 | 15 | ● | ● | B&G | SERIES 60 | | 1 | ● | ● | 175 | 1/2 | 1750 | 460 | 3 | 60 | ● | ● | ● | 0-100 | ● | ● | ● | |
| P.P.C. = Peerless Pump Co. (Packaged Pump Plant); B&G = BELL & GOSSETT | | | | | | | | | | | | | | | | | | | | | | | | | | |

| MATERIAL SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|-------------------------|-----------------|------------------|-------------------|-------|--------------------|-------------|-------------|-----------|---------------|--------|------------------------|-----------------|-----------------------|-----------------|--------------------|-----------------|-------------|------|------------------------|
| SYSTEMS | | | | | PIPE | | | | | FITTINGS | | | | | JOINTS | | | | | | | | | |
| NOTE: 1) FOR ALL REQUIRED PRESSURE RATES SEE REBAR DIAGRAM. 2) PROVIDE SUPPORTS AND RESTRAINTS AT BASE OF STACKS AND ALL OFFSETS. REFER TO DETAIL SHEET. 3) STARTING AT THE 4" FLOOR SLAB & BELOW & WHERE NOTED ON DRAWINGS. | | | | | C.I. CAST IRON ANKA C15 | DURON A.S.G. 11 | BLACK GALVANIZED | C.I. 1" DIA. W.P. | GLASS | POLYPROPYLENE P.P. | C.I. DRANGE | C.I. NO-HUB | C.I. SOIL | C.I. DRAINAGE | W.P. | 2X 1/2" C.I. 4-6" W.P. | DL (GROVED END) | STD. MALL-300E W.W.P. | DURON A.S.G. 11 | POLYPROPYLENE P.P. | SOLDER FITTINGS | C.I. DRANGE | W.P. | 2X 1/2" C.I. 4-6" W.P. |
| | | | | | C.I. CAST IRON ANKA C15 | DURON A.S.G. 11 | BLACK GALVANIZED | C.I. 1" DIA. W.P. | GLASS | POLYPROPYLENE P.P. | C.I. DRANGE | C.I. NO-HUB | C.I. SOIL | C.I. DRAINAGE | W.P. | 2X 1/2" C.I. 4-6" W.P. | DL (GROVED END) | STD. MALL-300E W.W.P. | DURON A.S.G. 11 | POLYPROPYLENE P.P. | SOLDER FITTINGS | C.I. DRANGE | W.P. | 2X 1/2" C.I. 4-6" W.P. |
| DRAINAGE (BURIED) | | | | | | | | | | | | | | | | | | | | | | | | |
| VENTS (BURIED) | | | | | | | | | | | | | | | | | | | | | | | | |
| SANITARY HOUSE DRAINS (SEE NOTE No. 2) | | | | | | | | | | | | | | | | | | | | | | | | |
| LEADER DRAINS (SEE NOTE No. 2) | | | | | | | | | | | | | | | | | | | | | | | | |
| SANITARY STACKS | | | | | | | | | | | | | | | | | | | | | | | | |
| SANITARY BRANCHES | | | | | | | | | | | | | | | | | | | | | | | | |
| LEADERS - STACKS | | | | | | | | | | | | | | | | | | | | | | | | |
| LEADER RUNOUTS | | | | | | | | | | | | | | | | | | | | | | | | |
| LEADER PIPING BELOW 4TH FL. SLAB | | | | | | | | | | | | | | | | | | | | | | | | |
| VENTS | | | | | | | | | | | | | | | | | | | | | | | | |
| C.W. | | | | | | | | | | | | | | | | | | | | | | | | |
| PUMP DISCHARGE (HOUSE PUMP) | | | | | | | | | | | | | | | | | | | | | | | | |
| H.W. AND H.W.C. | | | | | | | | | | | | | | | | | | | | | | | | |
| NATURAL GAS SYSTEM (3" & SMALLER) | | | | | | | | | | | | | | | | | | | | | | | | |
| EJECTOR DISCHARGE | | | | | | | | | | | | | | | | | | | | | | | | |
| SUMP DISCHARGE | | | | | | | | | | | | | | | | | | | | | | | | |
| C.W. SERVICE | | | | | | | | | | | | | | | | | | | | | | | | |
| SANITARY HOUSE DRAINS & LEADER DRAINS | | | | | | | | | | | | | | | | | | | | | | | | |
| SANITARY HOUSE DRAIN (ALTERNATE SEE NOTE # 3) | | | | | | | | | | | | | | | | | | | | | | | | |
| SANITARY STACKS (6" & SMALLER) | | | | | | | | | | | | | | | | | | | | | | | | |
| SANITARY STACKS (6" & LARGER SEE NOTE # 2) | | | | | | | | | | | | | | | | | | | | | | | | |
| STORM WATER COLLECTION SYSTEM | | | | | | | | | | | | | | | | | | | | | | | | |
| COOLING TOWER PUMP DISCHARGE | | | | | | | | | | | | | | | | | | | | | | | | |
| NATURAL GAS SYSTEM (4" & LARGER) | | | | | | | | | | | | | | | | | | | | | | | | |

| PRESSURE VESSELS AND HEATERS | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------------------|--|--------------|----------------|--------------------------|--------------|-----------|---------|---------------------|---------------------|---------------------|---------------------|-----------------|------|-----------------|---------------------|------------------------------|--|--|--|--|--|--|--|
| EQUIPMENT TAG | EQUIPMENT | | No. REQUIRED | MODEL | STORAGE WATER TEMP. (°F) | SIZE (GALS.) | SIZE | W.W.P. | TEST PRESSURE (PSI) | TEST PRESSURE (PSI) | TEST PRESSURE (PSI) | TEST PRESSURE (PSI) | BTU/HOUR/HEATER | W.W. | TEMP. RISE (°F) | PEAK FLOWRATE (GPM) | NOTES | | | | | | | |
| DWH-NE-6 TO 67-1,2 | ELECTRIC HOT WATER HEATER | | 140 | HUBBEL 20 GAL. | 140° | ---- | 3'x5' | 150 300 | | | | | - | 5 | 100° | - | (1) IN EACH CORE TOILET | | | | | | | |
| DWH-NE-6 TO 67-3 | ELECTRIC HOT WATER HEATER | | 70 | HUBBEL 6 GAL. | 140° | ---- | 15"Dx18"H | 150 300 | | | | | - | 1.5 | 100° | - | (1) IN EACH JANITOR'S CLOSET | | | | | | | |
| DWH-NE-B-1,2 | STEAM-FIRED HOT WATER HEATER | | 2 | P.K. 06 S | ---- | ---- | ---- | 150 300 | | | | | 750,000 | - | 100° | 15 | SERVING STREET PRESSURE ZONE | | | | | | | |
| PT-NE-B-1 | PNEUMATIC TANK | | 1 | AMTROL WX-457C | 60° | 528 | 48x96H | 125 225 | | | | | - | - | - | - | B LEVEL | | | | | | | |
| PT-NE-68-1 | PNEUMATIC TANK | | 1 | AMTROL WX-457C | 60° | 528 | 48x96H | 125 225 | | | | | - | - | - | - | 68TH FLOOR (MER) | | | | | | | |
| P.K.: PATTERSON KELLEY (PROVIDE A LEAK DETECTION SYSTEM FOR THE WATER HEATERS TO BE PLACED ON FLOOR BENEATH WATER HEATERS. CONNECT LEAK DETECTION SYSTEM TO BMS.) | | | | | | | | | | | | | | | | | | | | | | | | |
| NOTE: PROVIDE HOLBY TEMPERING VALVE AT EACH SET OF H.W. HEATERS | | | | | | | | | | | | | | | | | | | | | | | | |

| PLUMBING FIXTURES SCHEDULE | | | | |
|----------------------------|--|--|--|--|
|----------------------------|--|--|--|--|



SHEET NOTES

MANHATTAN WEST: NORTH TOWER
375 Ninth Avenue, New York, NY 10001
Client

Brookfield
250 Vesey Street, 15th Floor, New York, NY 10291
Architecture/Structural Engineering

SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005
Civil Engineering

Philip Habib & Associates
102 Madison Avenue #11, New York, NY 10016
MEP Engineering

Jaros Baum & Bolles
80 Pine Street, New York, NY 10005
Vertical Transportation

Edgett Williams Consulting Group, Inc.
102 East 87th Street, Suite 1, Mill Valley, California 94941
Sustainable Design

Viridian Energy & Environmental
50 Washington Street, Norwalk, CT 06854
Geo-Technical Engineering

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 22nd W, 34th Street #610, New York, NY 10122
Landscape Consultant

Field Operations
475 10th Avenue, New York, NY 10018
Security Consultant

Duchella, Ventor & Santoro
250 State Street #F1, North Haven, CT 06473
Blast Consultant

Weidinger Associates, Inc.
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Acoustical Consultant

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Vibration Consultant

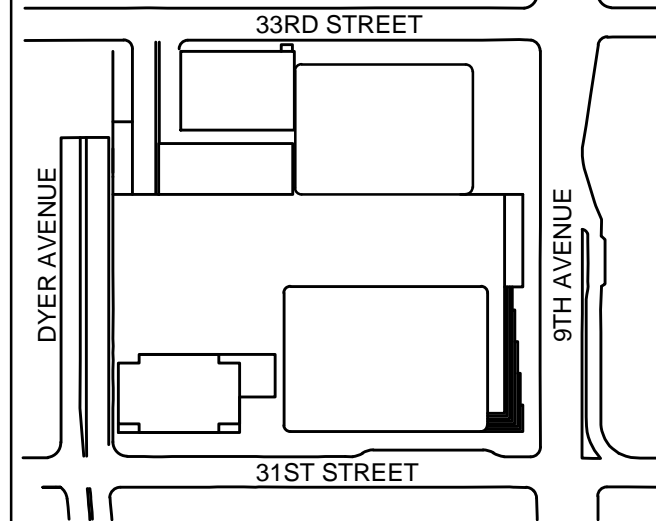
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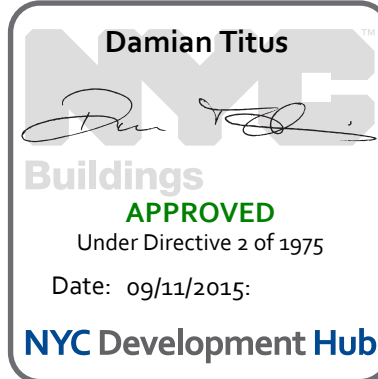
Entek Engineering LLC
166 Ames Street, Hackensack, NJ 07601
Wind Tunnel Consultant

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West, Guelph, Ontario, Canada N1K 1S8

Key Plan:



Seal & Signature:



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Project No.: 14630 A
Date: 20 DEC 2013
Scale: NTS
File No.: P-600

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