



Department of Public Works  
**Engineering Division**  
Robert F. Phillips, P.E., City Engineer

City-County Building, Room 115  
210 Martin Luther King, Jr. Boulevard  
Madison, Wisconsin 53703  
Phone: (608) 266-4751  
Fax: (608) 264-9275  
[engineering@cityofmadison.com](mailto:engineering@cityofmadison.com)  
[www.cityofmadison.com/engineering](http://www.cityofmadison.com/engineering)

**Assistant City Engineer**  
Gregory T. Fries, P.E.  
**Principal Engineer 2.**  
Christopher J. Petykowski, P.E.  
**Principal Engineer 1**  
Christina M. Bachmann, P.E.  
Eric L. Dundee, P.E.  
John S. Fahrney, P.E.  
**Facilities & Sustainability**  
Jeanne E. Hoffman, Manager  
**Operations Manager**  
Kathleen M. Cryan  
**Mapping Section Manager**  
Eric T. Pederson, P.S.  
**Financial Manager**  
Steven B. Danner-Rivers

August 4, 2017

**NOTICE OF ADDENDUM**  
**ADDENDUM NO. 3**

**CONTRACT NO. 7951**  
**Capitol East District Parking Structure**

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

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

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

<http://www.bidexpress.com>

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

Sincerely,

---

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

Cc: Gregory T. Fries

**ADDENDUM NO. 3**  
**City of Madison, Engineering Department**

**CONTRACT NO. 7951**  
**Capitol East District Parking Structure**

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

**I. GENERAL QUESTIONS AND ANSWERS**

Q32: Bid Express references Section H Agreement and Section I Payment and Performance Bond as being included in the Specifications. I have not seen either in the specifications. Have I missed this or will this be issued by addendum? "

**A32: Section H Agreement and Section I Payment and Performance Bond are in the 7951\_spec book.pdf.**

Q33: The plumbing fixtures schedule says use a tank type water closet It clearly shows a wall hung type please clarify the water closet make and model

**A33: Use the floor mounted model shown in the fixture schedule.**

Q34: 15" PVC does not exist; the plan says it has a max GPM of 1615 which a 12" PVC pipe can handle a max GPM of 2,090 at an 1/8" per foot please clarify the storm size existing the building

**A34: Change reference to the 15" PVC to 16".**

Q35: Are all the ¼" galvanized pipe protectors provided by the GC see detail P-501 B4

**A35: Galvanized protectors are by GC and shown on the structural drawings.**

Q36: One of our subs was asking for a finish schedule. I saw a schedule of interior finishes in section 09 06 01, but did not see a formal finish schedule. Please advise if one will be posted.

**A36: Please see the floor and finish plan keyed notes on A-605.**

Q37: Spec 31-62-16-4 states "90 Ton Piles: ASTM A252; structural steel, oil field pipe sections, grade 3 minimum 85 ksi yield strength; sizes and lengths as required to achieve design loads." ASTM A252 grade 3 steel has a Minimum yield of 45KSI yield. What yield strength are you looking to achieve?

**A37: The minimum yield strength of the pipe piles only needs to be 45 ksi.**

Q38: If you refer to sheet E-002 as well as the boxes spec pages 5 and 6 I have attached; I am attempting to get quotes on the proper boxes for the city owned fiber optic cabling. I have contacted one of my main electrical material suppliers and Neenah Foundry and neither of them know where we can get these cast metal boxes. Can you confirm a manufacturer or a catalog number so I can get the correct boxes quoted?

**A38: The boxes for the city owned fiber are not cast metal. An acceptable box would be the Quazite 'PG' Series, 36X60 box. Quazite box will be included on E002 keynotes for Addendum 3.**

Q39: Sheet E-103 has a note 14 shown by some conduits on the plan North side of the ramp. Keyed note schedule on the sheet does not have note 14, please advise.

**A39: Note #14 will be added to Sheet E-103 in Addendum #3. "Provide (2) 3" conduit sleeves in deck for future service feeds to second floor commercial spaces. Contractor to coordinate sleeve locations with all trades."**

Q40: Sheet E-601 states that the feeder for panel PTN is above the slab. However, sheet E-100 note 12 shows that panel PTN is fed under the slab with a 3" PVC conduit, please advise.

**A40: The majority of the feeder for panel PTN will be routed under slab per E-100. Sheet E-601 will be revised in Addendum #3.**

Q41: A flashing at the base of the metal screen system in detail 5A/A-543 is called out as "SST flashing with drip edge – finish to match adjacent brick". Please confirm this is a stainless flashing which is to be painted.

**A41: Yes**

Q42: A note in detail 5B/A-543 calls out 4"X6"X3/8" SST Loose Lintel, Typical. Are these lintels required to be stainless or can they be X1 type which are galvanized per the lintel schedule?

**A42: Galvanized steel is acceptable.**

Q43: Please provide a detail perpendicular to 5B/A-543 showing the interface of the face brick and metal soffit at the plaza entry.

**A43: Included in this addendum.**

Q44: As shown in elevation on A-510, the art installation extends over the head of the plaza face brick and the note indicates "GC to ensure continuous and watertight weather barrier at interface with other building elements". Please detail how the head of face brick should be flashed behind the art installation

**A44: Would have to be done in coordination with the art installation effort.**

Q45: Please clarify whether detail 3C/A-520 applies similarly to the door head, and also to double doors 1000B.

**A45: Yes and Yes.**

Q46: Floor and Finish Plan Keyed Note FL12 on A-101 indicates expansion joint & cover at the wall to wall joints in plan. 079513.2.2.B does not list a cover for the expansion joint. If a cover is required, please list the product to be used.

**A46: The note should read expansion joint. We'll take the 'cover' part off by this addendum.**

Q47: If we use the Bid Express bid submission is utilized, is the bid bond normally sent ahead of the bid so you have the paper copy in hand? It did not appear that submitting a scanned copy is an option.

**A47: You do not have to provide a paper bid bond when using Bid Express. Please just upload a scan of the document in "Section G: Bid Bond Upload".**

Q48: “Can you confirm for me if we are able to use aluminum conductors for electrical feeders. I have looked through the specs and sheets pretty thoroughly and I see the feeder schedule on sheet E-601 is only in copper but under 2.1 (b) 1 of the wire and cable section it lists the insulation type we need to use for aluminum feeders.”

**A48: Copper conductors only for electrical feeders. Strike out the reference to aluminum and clarify in addendum #3.**

Q49: In the Spec sheet 08 33 23 - 1, Part 2 Products, section 2.2 Coiling Doors. It states that a foamed in place polyurethane insulation for a minimum R-value of 6 is required. I am unaware of any manufacturer being able to use a polyurethane insulation as it would not be able to pass the UL testing. I am also unaware of any manufacturer being able to meet the R-value of 6. The best my product can do is 4.2. I only point that out as a deficiency for our product to meet from your spec. Please advise.

**A49: The 08 33 23 specification will be reissued in the Addendum 3 and will have revised requirements for fire-rated coiling door.**

Q50: Section 10 26 01 Wall and Corner Guards- I didn't find any on the plans. Am I missing them?

**A50: Corner guards are removed from the project.**

Q51: Section 12 48 13 Entrance Mats- As indicated in Schedule of Interiors 09 06 01. I didn't find any in the schedule of plans.

**A51: Entry mats were removed from the project.**

Q52: There is a note FL 12 Expansion Joint and Cover shown at lines 2+ 3 on the upper floors starting on drawing A102. This is between two walls. I don't see where an expansion joint cover would be installed.

**A52: Outdated notes on floor plans removed in AD-03.**

Q53: Sheet E-101 and E-501 shows some conduits for copper, fiber, and security that are not clearly sized. It is very clear what the riser conduits and the conduits back to the rack are, however, the smaller conduits from the data pull boxes into the elevator lobby and into the storage and electrical rooms are not labeled with a size in the riser or on the floor plan. Please advise what size and quantity the conduits I have marked out are to be.

**A53: Sizes for the communications conduits in question have been added to sheet E-101 in Addendum 3.**

## II. ACCEPTABLE EQUIVALENTS –

A. Stonedeck FD4, Section 072500 Traffic Coating, page 1, part 2.1A

## III. SPECIAL PROVISIONS

A. None at this time

## IV. SPECIFICATIONS

A. 31 62 16 - Steel Piles, Section 2.1, B – Replace “85 ksi” with “45 ksi”

B. 26 05 19 - Building Wire and Cable (Reissued)

- C. 32 92 00 - Turf and Grasses (Reissued)
  - i. Specifications were updated to include 'Native Seed Mix: Low Growing Meadow'. See 2.2(E) and 3.6(B).
- D. 04 20 00 Unit Masonry (Reissued)
  - i. Revised section to eliminated rejected substitutions.
- E. 08 33 23 – Overhead Coiling Doors (reissued)
  - i. Revised as noted.

## **V. ARCHITECTURAL DRAWINGS**

- A. A-101 – FIRST LEVEL PARKING - FIRST FLOOR COMMERCIAL PLAN (Reissued)
  - ii. Revise as noted on reissued sheet.
- B. A-102 – SECOND LEVEL PARKING PLAN (Reissued)
  - iii. Revise as noted on reissued sheet.
- C. A-103 – THIRD LEVEL PARKING - SECOND FLOOR COMMERCIAL PLAN (Reissued)
  - iv. Revise as noted on reissued sheet.
- D. A-104 – FOURTH LEVEL PARKING - COMMERCIAL ROOF PLAN (Reissued)
  - v. Revise as noted on reissued sheet.
- E. A-105 – FIFTH LEVEL PARKING PLAN (Reissued)
  - vi. Revise as noted on reissued sheet.
- F. A-543 – WALL SECTIONS & DETAILS (Reissued)
  - i. Revise as noted on reissued sheet.

## **VI. LANDSCAPE DRAWINGS**

- A. L-100 – Landscape Plan (Reissued)
  - ii. Plant material taller than 30" was removed from within the vision triangles. See attached sheet for updated plant substitutions and quantities. The 'Tree Planting' detail was revised to call out shredded hardwood bark mulch.
- B. L-101 – Plaza Enlargement / Plant List & Landscape Calculations (Reissued)
  - iii. Plant material taller than 30" was removed from within the vision triangle. See attached sheet and plant list for updated substitutions and quantities.
- C. L-102 – Layout Plan (Reissued)
  - i. Dimensions were updated to reflect the hardscape revisions due to the bicycle racks moving. See attached sheet.

## **VII. CIVIL DRAWINGS**

- A. C-201-204 – Site Detail Plans (Reissued)
  - i. Building setback dimensions added
- B. C-900 – Construction Details (Reissued)
  - i. Clay liner added to biofiltration basin detail A5

## **VIII. STRUCTURAL DRAWINGS**

- A. S-002 – General Notes (Reissued)
  - ii. Modify property line on loading diagram.
- B. S-101 – First Level Parking – First Floor Commercial Plan (Reissued)
  - iii. Add conduit/pipe detail call out and keynote to column location.
- C. S-102 – Second Level Parking Plan (Reissued)

- iv. Add conduit/pipe detail call out and keynote to column location.
- D. S-103 – Third Level Parking – Second Floor Commercial Plan (Reissued)
  - v. Add conduit/pipe detail call out and keynote to column location.
  - vi. Add pipe bollard detail call out with keynote.
  - vii. Add fence post detail call out with keynote.
  - viii. Modify keynote 02.
  - ix. Move TOC callout.
- E. S-104 – Fourth Level Parking – Commercial Roof Plan (Reissued)
  - x. Add conduit/pipe detail call out and keynote to column location.
- F. S-502 – Foundation Details (Reissued)
  - xi. Modify note on detail C7/S502.
- G. S-512 – Structural Details (Reissued)
  - i. Modify detail A7/S512.
  - ii. Add detail A1/S512.

#### **IX. MECHANICAL DRAWINGS**

- A. M-101 – First Level Parking – First Floor Commercial Mechanical Plan
  - iii. Revise location of HPCU-2 (near 1122 Security Office) to Third Level Parking – refer to sheet M-103.
- B. M-103 – Third Level Parking – Second Floor Commercial Mechanical Plan
  - iv. Locate HPCU-2 in new fenced equipment enclosure adjacent to and south of 3121 Stair-Ramp. Extend refrigerant piping to new location as required. Refer to architectural sheet A-103 for enclosure information.

#### **X. ELECTRICAL DRAWINGS**

- A. E-002 – Electrical Site Plan (Reissued)
  - v. Revise as noted on reissued sheet.
- B. E-101- FIRST LEVEL ELECTRICAL PLAN (REISSUED)
  - i. Revise as noted on reissued sheet.
- C. E-103 – Third Level Parking - Second Floor Commercial Electrical Plan (Reissued)
  - vi. Revise as noted on reissued sheet.
- D. E-401 – Enlarged Electrical Plans (Reissued)
  - vii. Revise as noted on reissued sheet.
- E. E-601 – Electrical Schedules & Diagrams (Reissued)
  - viii. Revise as noted on reissued sheet.

#### **XI. PLUMBING AND FIRE PROTECTION DRAWINGS**

- A. FP-101 First Level Parking – First Floor Commercial Plan (Reissued)
  - ix. Revised location of standpipe at Column B/12.
- B. FP-102 Second Level Parking Plan (Reissued)
  - x. Revised location of standpipe at Column B/12.
- C. FP-103 Third Level Parking – Second Floor Commercial Plan (Reissued)
  - xi. Revised location of standpipe at Column B/12.
- D. FP-104 Fourth Level Parking – Commercial Roof Plan (Reissued)
  - xii. Revised location of standpipe at Column B/12.
- E. FP-105 Fifth Level Parking Plan (Reissued)
  - xiii. Revised location of standpipe at Column B/12.

- F. P-100 Below Slab Plumbing Plan (Reissued)
  - xiv. Revised location 15" drain line for catchment basin
  - xv. Revised location of deck drain, DD-1 at the east side of Column Line B/4
- G. P-104 Fourth Level Parking – Commercial Roof Plan (Reissued)
  - xvi. Revised location 6" Primary Storm and Overflow storm drain lines
- H. P-601 Plumbing Isometric (Reissued)
  - i. Revised location 15" drain line for catchment basin
  - ii. Revised location of deck drain, DD-1 at the east side of Column Line B/4
  - iii. Revised location 6" Primary Storm and Overflow storm drain lines

**XII. PROPOSAL** - None at this time

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

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

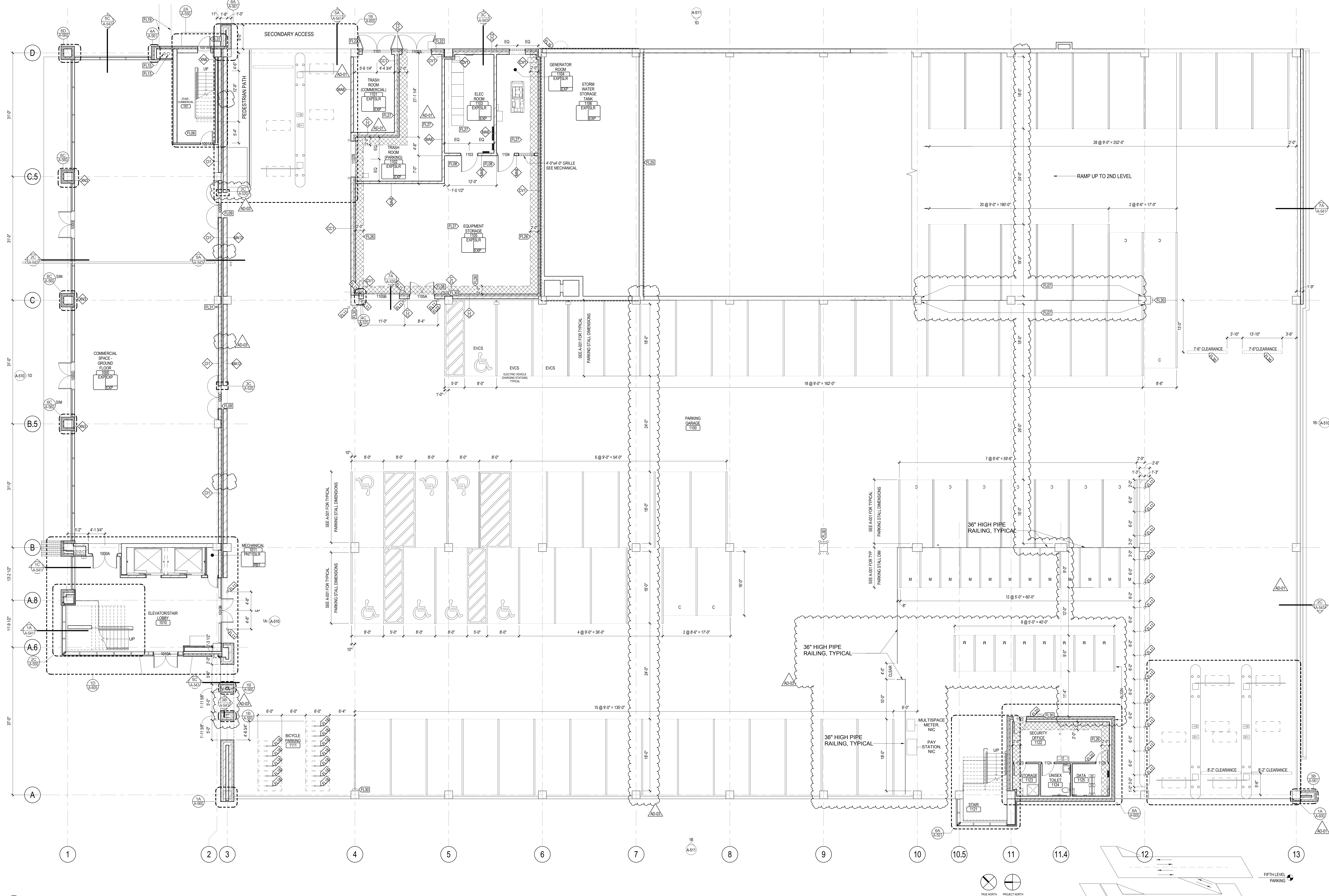
If you are unable to download plan revisions associated with the addendum, please contact the Engineering office at 608-266-4751 to receive the material by another method.

**For questions regarding this bid, contact:**

David Schaller  
City of Madison Engineering (Facilities)  
Construction Manager  
Phone: (608) 243-5891  
Email: dschaller@cityofmadison.com



NO	DATE	DESCRIPTION
1	07/19/2017	ADDENDUM#1
2	08/04/2017	ADDENDUM#3

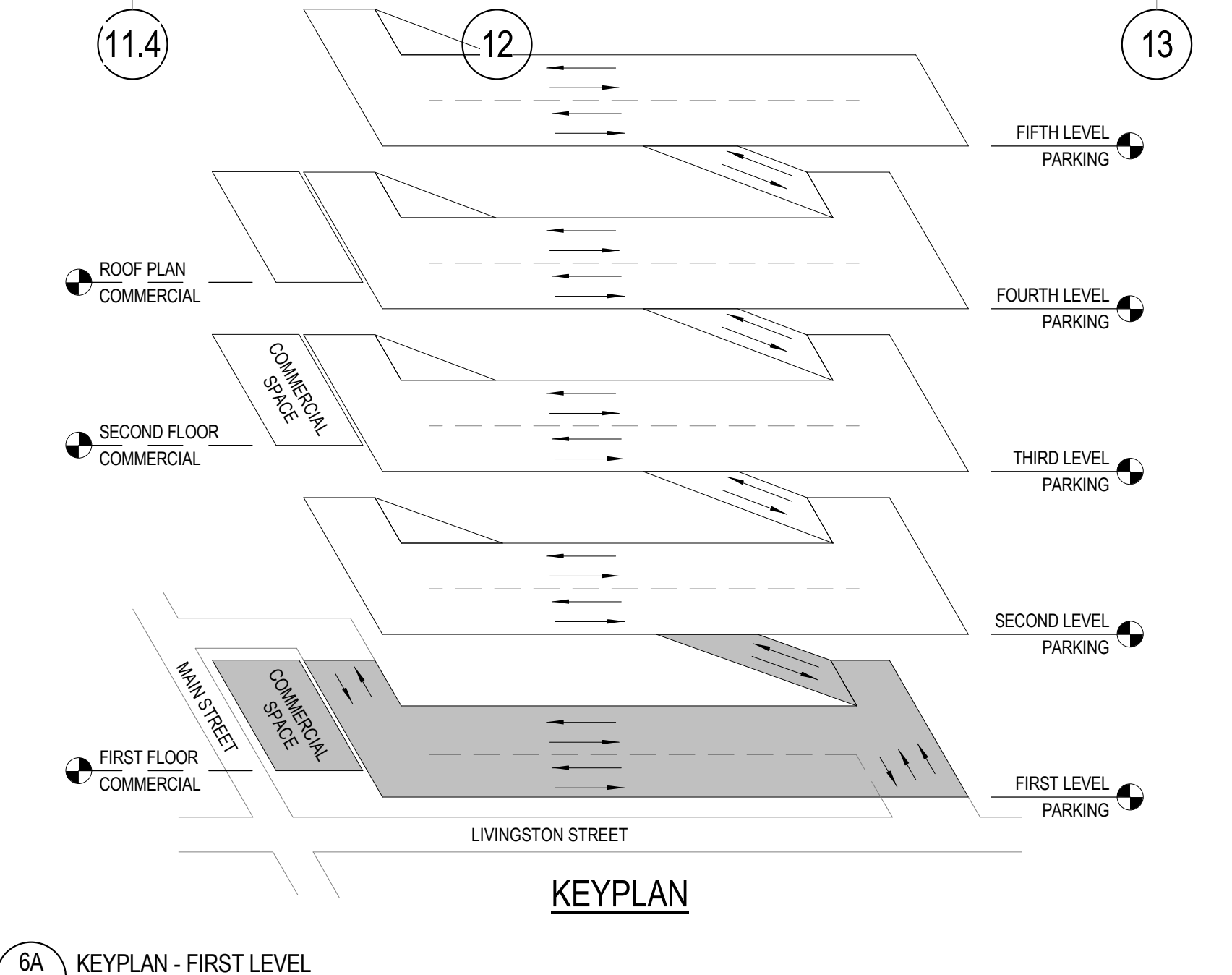


1A FLOOR PLAN - FIRST LEVEL  
1/8\"/>

PARKING COUNT PER TYPE		PARKING COUNT PER LEVEL		PARKING COUNT PER LEVEL	
STALL TYPE	COUNT	STALL TYPE	COUNT	STALL TYPE	COUNT
Accessible (8'-0\"/>					

### FLOOR AND FINISH PLAN KEYED NOTES

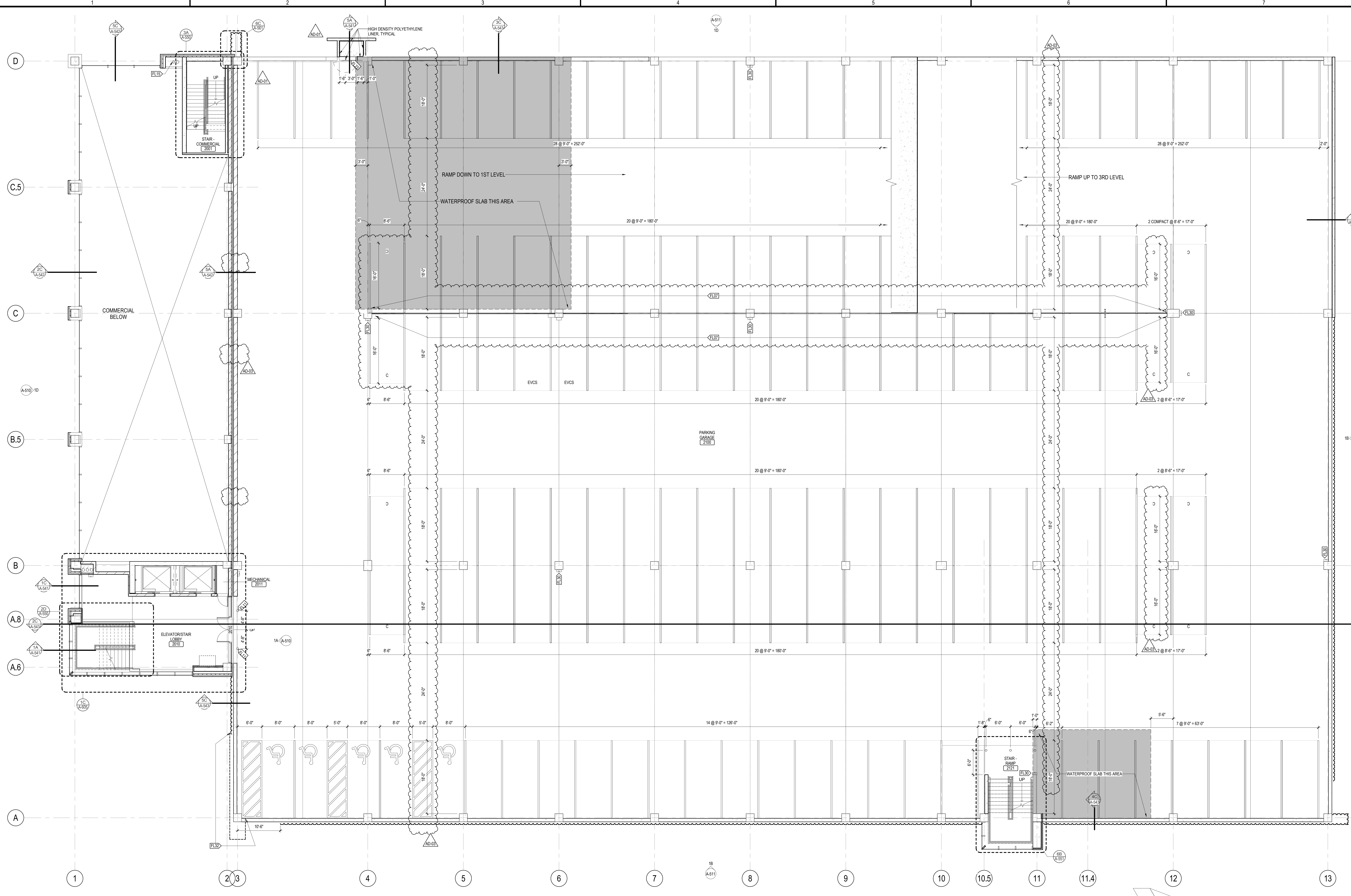
- (E.01) WALL FINISHES VARY. SEE ELEVATIONS.
- (E.02) PROVIDE STAINLESS STEEL TOILET ROOM ACCESSORIES TO INCLUDE: GRAB BARS, TOILET PAPER HOLDER, PAPER TOWEL DISPENSER, SOAP DISPENSER, SANITARY NAPKIN RECEPTACLE, ACC MIRROR, AND STAINLESS STEEL SHELF.
- (E.03) PROVIDE (2) COAT HOOKS ON BACKSIDE OF DOOR.
- (E.04) FLOORING IN ELEVATOR CAB TO BE RP1. SEE SPEC FOR ADDITIONAL FINISH INFORMATION.
- (E.05) SEE ENLARGED STAIR PLANS FOR FINISH INFORMATION.
- (E.06) STAIR TREADS, RISERS AND LANDINGS TO BE EXPOSED CONCRETE.
- (E.07) COMPACT (8'-6\"/>







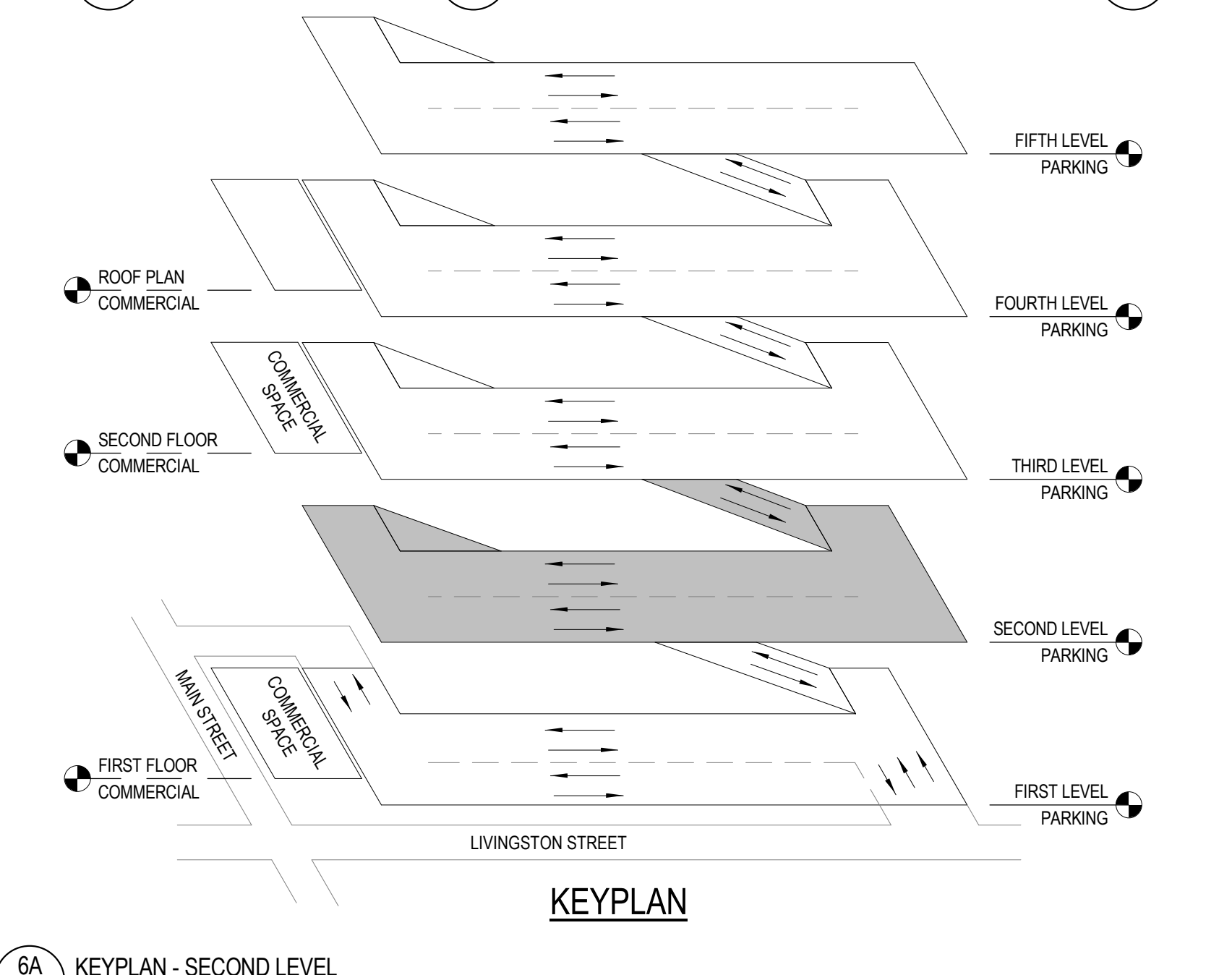
NO	DATE	DESCRIPTION
1	07/19/2017	ADDENDUM#1
2	08/04/2017	ADDENDUM#3



1A FLOOR PLAN - SECOND LEVEL  
A-102 1/8" = 1'-0"

PARKING COUNT PER TYPE		PARKING COUNT PER LEVEL		PARKING COUNT PER LEVEL	
STALL TYPE	COUNT	STALL TYPE	COUNT	STALL TYPE	COUNT
Accessibile (8'-0" X 18'-0")	6	FIRST LEVEL PARKING		FLOOR PLAN - SECOND LEVEL	149
Accessibile (8'-0" X 18'-0")	4	Accessibile (8'-0" X 19'-0")	1	Accessibile (8'-0" X 19'-0")	3
ACCESSIBLE VAN (8'-0" X 18'-0")	3	Accessibile (8'-0" X 19'-0")	4	Accessibile VAN (8'-0" X 18'-0")	3
COMPACT (8'-0" X 16'-0")	56	Accessibile VAN (8'-0" X 18'-0")	3	COMPACT (8'-0" X 16'-0")	56
EV CHARGING STATION (9'-0" X 18'-0")	4	COMPACT (8'-0" X 16'-0")	10	EV CHARGING STATION (9'-0" X 18'-0")	4
MOTORCYCLE/MOPED (8'-0" X 9'-0")	8	EV CHARGING STATION (9'-0" X 18'-0")	2	MOTORCYCLE/MOPED (8'-0" X 9'-0")	8
MOTORCYCLE/MOPED (8'-0" X 10'-0")	12	MOTORCYCLE/MOPED (8'-0" X 10'-0")	8	MOTORCYCLE/MOPED (8'-0" X 10'-0")	12
STANDARD (9'-0" X 18'-0")	382	MOTORCYCLE/MOPED (8'-0" X 12'-0")	12	STANDARD (9'-0" X 18'-0")	382
	675	STANDARD (9'-0" X 18'-0")	44		675
		FIRST LEVEL PARKING: 84	84		
		FLOOR PLAN - SECOND LEVEL	15		
		Accessibile (8'-0" X 18'-0")	3		
		COMPACT (8'-0" X 16'-0")	15		
		EV CHARGING STATION (9'-0" X 18'-0")	2		
		STANDARD (9'-0" X 18'-0")	129		
		FLOOR PLAN - FIFTH LEVEL	9		
		Accessibile (8'-0" X 18'-0")	3		
		COMPACT (8'-0" X 16'-0")	9		
		EV CHARGING STATION (9'-0" X 18'-0")	137		
		FLOOR PLAN - FIFTH LEVEL: 146	146		
		FLOOR PLAN - FOURTH LEVEL	148		
		Accessibile (8'-0" X 18'-0")	12		
		STANDARD (9'-0" X 18'-0")	136		
		FLOOR PLAN - FOURTH LEVEL: 148	148		

- ### FLOOR AND FINISH PLAN KEYED NOTES
- (K1) WALL FINISHES VARY - SEE ELEVATIONS.
  - (K2) PROVIDE STAINLESS STEEL TOILET ROOM ACCESSORIES TO INCLUDE: GRAB BARS, TOILET PAPER HOLDER, PAPER TOWEL DISPENSER, SOAP DISPENSER, SANITARY NAPKIN RECEPTACLE, ACC MIRROR, AND STAINLESS STEEL SHELF.
  - (K3) PROVIDE (2) COAT HOOKS ON BACKSIDE OF DOOR.
  - (K4) FLOORING IN ELEVATOR CAB TO BE RFI. SEE SPEC FOR ADDITIONAL FINISH INFORMATION.
  - (K5) SEE ENLARGED STAIR PLANS FOR FINISH INFORMATION.
  - (K6) STAIR TREADS, RISERS AND LANDINGS TO BE EXPOSED CONCRETE. HANDRAILS TO BE STAINLESS STEEL CABLE RAIL.
  - (K7) PAINT HM DOORS AND HM FRAMES PNTS BOTH SIDES.
  - (K8) PAINT HM DOOR AND HM FRAME PNTS BOTH SIDES.
  - (K9) PROVIDE PW1C1 FORM TOP OF BASE UP TO 4'-4" A.F.F. - EXTENTS NOTED ON PLAN. BUTT JOINT AT SEISMIC AND PROVIDE PERIOD PW1C1 TOP TRIM AT TOP OF PANELS.
  - (K10) WALL FINISHES VARY - SEE ELEVATIONS.
  - (K11) 6" DIA / 48" TALL BOLLARD
  - (K12) EXPANSION JOINT
  - (K13) RAIN WATER LEAKING AND OVERFLOW FROM THE COMMERCIAL ROOFING OFFSETS TO THIS LOCATION IN THE CEILING SPACE OF LEVEL 3
  - (K14) NOT USED
  - (K15) RAIN WATER OVERFLOW FROM THE STAIR AND ELEVATOR TOWER DAYLIGHTS THROUGH A DOWNSPOT NOZZLE (JAMES' TONGUE)
  - (K16) EXTERIOR ACCESS DOOR
  - (K17) PAY-ON-FOOT MACHINE - OCO
  - (K18) BIKE RACK
  - (K19) REMOVABLE GRATE. SEE CIVIL
  - (K20) AUTO GATE (SEE REVENUE CONTROL SUPPLIER DRAWINGS)
  - (K21) REVENUE CONTROL SYSTEM (SEE REVENUE CONTROL SUPPLIER DRAWINGS)
  - (K22) DOOR ACCESS CONTROL CARD READER
  - (K23) SNOW CHUTE 3'-0"X3'-0"X3' PANEL
  - (K24) RECESSED HOSE BIBB CABINET
  - (K25) INSULATE EXTERIOR OF FOUNDATION WALL FROM FOOTING TO GRADE - PERIMETER OF STORMWATER TANK
  - (K26) PROVIDE 3" UNLESS SLAB INSULATION AROUND THE PERIMETER OF SEMI-HEATED SPACE
  - (K27) PROVIDE 3" SPRAY ON INSULATION TO COVER ENTIRETY OF CEILING AND PROTRUDING STRUCTURE MEMBERS
  - (K28) NOT USED
  - (K29) EXPOSED BASE AT ALL MASONRY WALLS AND ALUMIN CURTAIN WALL STAINLESS STEEL BASE AS INDICATED ON PLAN
  - (K30) PROVIDE SURFACE MOUNTED CABINET (FEC) AND FIRE EXTINGUISHER
  - (K31) PROVIDE BRACKET (FEC) AND FIRE EXTINGUISHER
  - (K32) ART INSTALLATION - OWNER FURNISHED OWNER INSTALLED - GC TO ENSURE CONTINUOUS AND WATER TIGHT WEATHER BARRIER AT INTERFACE WITH OTHER BUILDING ELEMENTS
  - (K33) AUTOMATIC DOOR OPERATOR ACTUATOR - BOLLARD MOUNT
  - (K34) AUTOMATIC DOOR OPERATOR ACTUATOR - JAMB MOUNT
  - (K35) ENTRANCE CLEARANCE BAR (SEE REVENUE CONTROL SUPPLIER DRAWINGS). SEE 10A400
  - (K36) SNOW CHUTE ABOVE



6A KEYPLAN - SECOND LEVEL  
A-102 1/8" = 1'-0"



NO	DATE	DESCRIPTION
1	07/19/2017	ADDENDUM#1
2	08/04/2017	ADDENDUM#3

PROJECT NUMBER: 3.2016187.00

DATE: 06/30/2017

DRAWN BY: JM

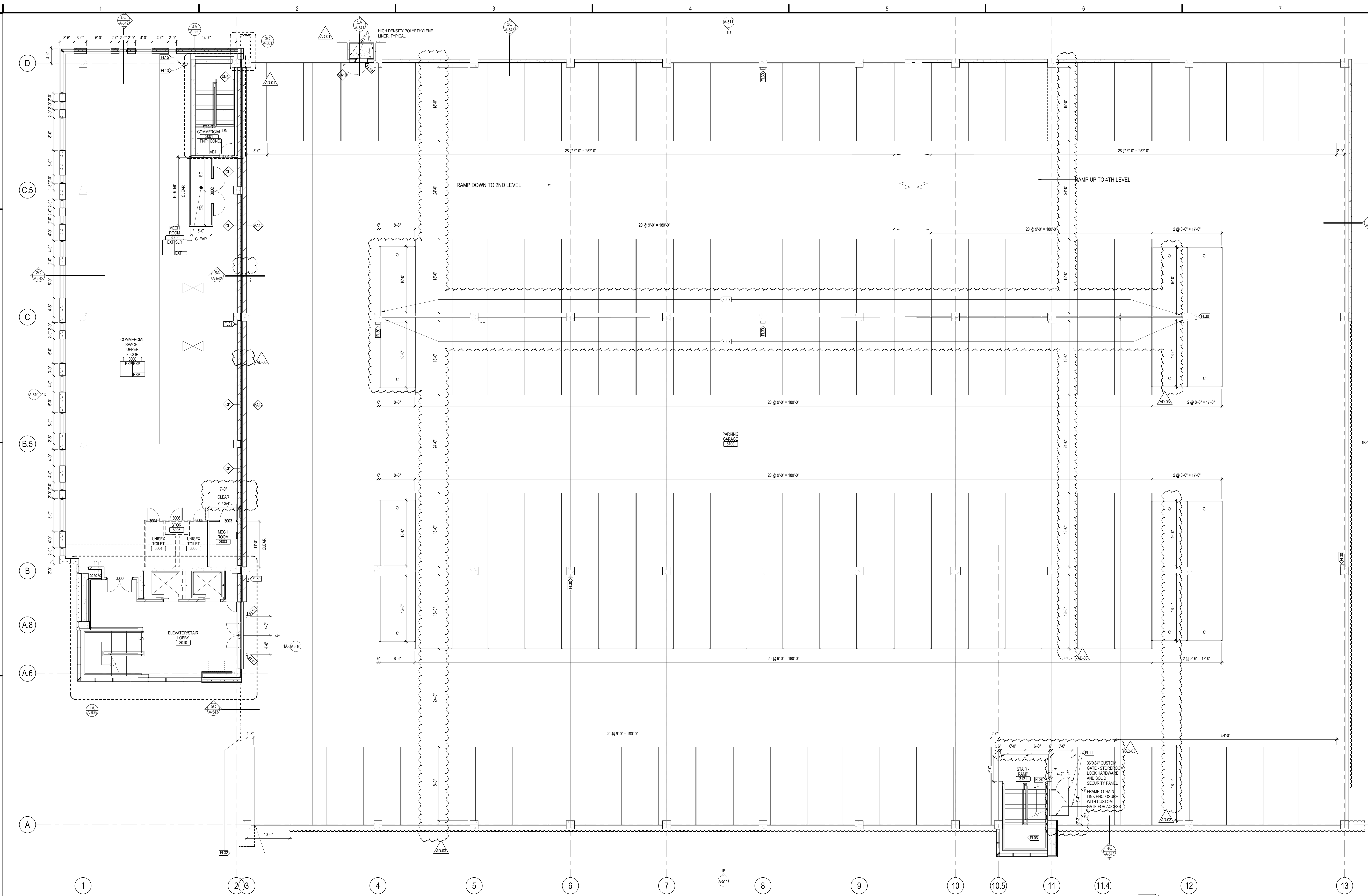
CHECKED BY: JD

APPROVED BY: RG

SCALE: AS NOTED

SET TYPE: BD

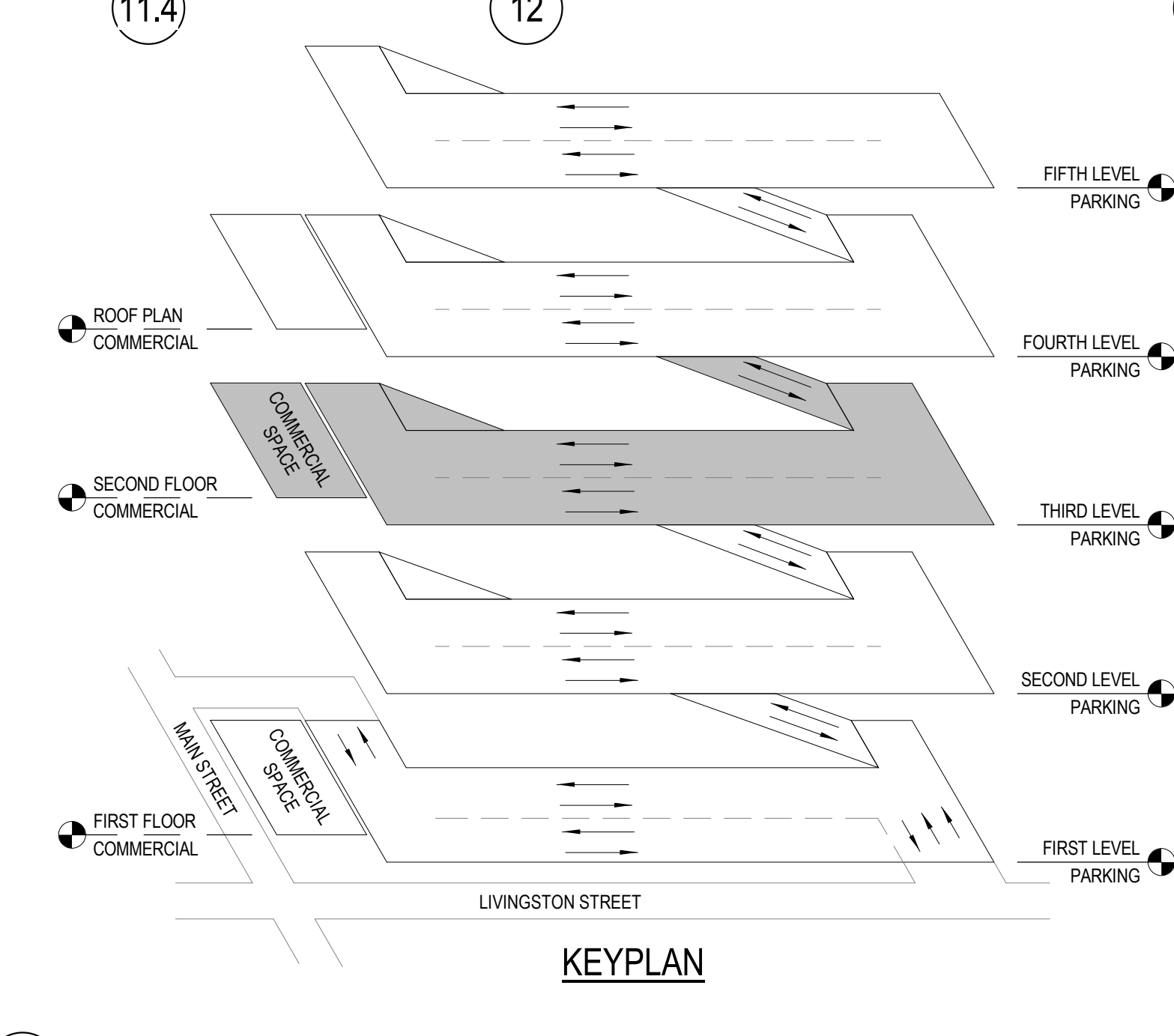
THIRD LEVEL PARKING - SECOND FLOOR COMMERCIAL PLAN



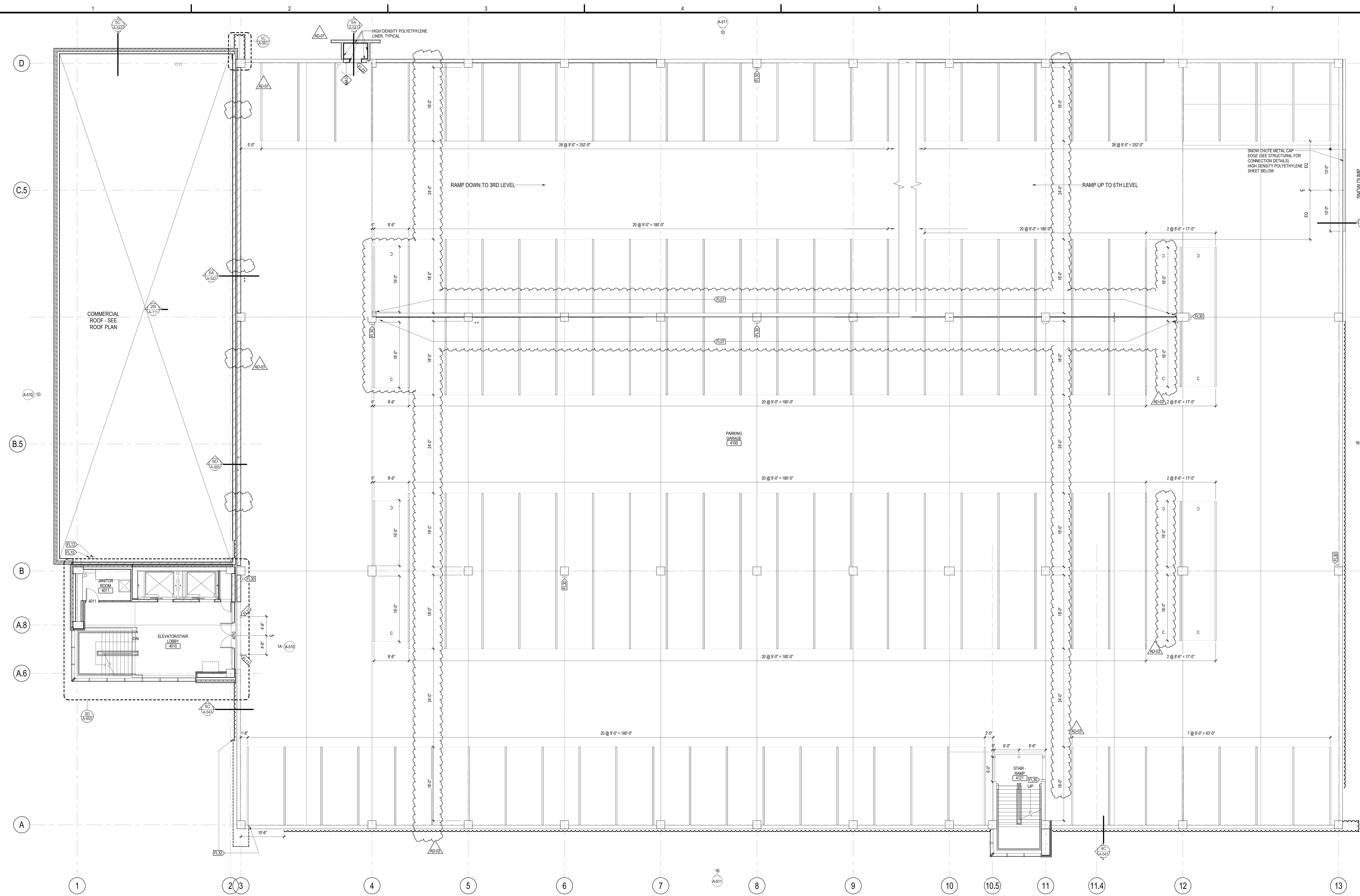
FLOOR PLAN - THIRD LEVEL PARKING & SECOND LEVEL COMMERCIAL  
1A A-103 18" x 11"

PARKING COUNT PER TYPE		PARKING COUNT PER LEVEL		PARKING COUNT PER LEVEL	
STALL TYPE	COUNT	STALL TYPE	COUNT	STALL TYPE	COUNT
Accessible (8'-0" X 12'-0")	6	FIRST LEVEL PARKING		FLOOR PLAN - SECOND LEVEL	149
Accessible (8'-0" X 15'-0")	4	Accessible (8'-0" X 12'-0")	1	Accessible (8'-0" X 12'-0")	4
Accessible VAN (8'-0" X 18'-0")	3	Accessible (8'-0" X 15'-0")	4	Accessible VAN (8'-0" X 18'-0")	3
COMPACT (8'-0" X 12'-0")	56	Accessible (8'-0" X 18'-0")	3	COMPACT (8'-0" X 12'-0")	16
EV CHARGING STATION (8'-0" X 12'-0")	4	COMPACT (8'-0" X 15'-0")	10	STANDARD (8'-0" X 12'-0")	136
MOTORCYCLE/MOPED (5'-0" X 9'-0")	8	EV CHARGING STATION (8'-0" X 12'-0")	2	THIRD LEVEL PARKING	148
MOTORCYCLE/MOPED (5'-0" X 10'-0")	12	MOTORCYCLE/MOPED (5'-0" X 9'-0")	8	THIRD LEVEL PARKING	148
STANDARD (8'-0" X 12'-0")	562	MOTORCYCLE/MOPED (5'-0" X 10'-0")	12	FLOOR PLAN - FOURTH LEVEL	
Total: 675	675	STANDARD (8'-0" X 12'-0")	44	COMPACT (8'-0" X 12'-0")	12
		FIRST LEVEL PARKING	84	STANDARD (8'-0" X 12'-0")	156
		FLOOR PLAN - SECOND LEVEL		FLOOR PLAN - FOURTH LEVEL	148
		Accessible (8'-0" X 12'-0")	5	FLOOR PLAN - FIFTH LEVEL	
		COMPACT (8'-0" X 12'-0")	13	Accessible (8'-0" X 12'-0")	9
		EV CHARGING STATION (8'-0" X 12'-0")	2	COMPACT (8'-0" X 12'-0")	137
		STANDARD (8'-0" X 12'-0")	129	FLOOR PLAN - FIFTH LEVEL	146
				STANDARD (8'-0" X 12'-0")	146
				Total: 675	675

- FLOOR AND FINISH PLAN KEYED NOTES**
- (E10) WALL FINISHES VARY. SEE ELEVATIONS.
  - (E11) PROVIDE STAINLESS STEEL TOILET ROOM ACCESSORIES TO INCLUDE: GRAB BARS, TOILET PAPER HOLDER, PAPER TOWEL DISPENSER, SOAP DISPENSER, SANITARY NAPKIN RECEPTACLE, ACC MIRROR, AND STAINLESS STEEL SHELF.
  - (E12) PROVIDE (2) COAT HOOKS ON BACKSIDE OF DOOR.
  - (E13) FLOORING IN ELEVATOR CAB TO BE RFL1. SEE SPEC FOR ADDITIONAL FINISH INFORMATION.
  - (E14) SEE ENLARGED STAIR PLANS FOR FINISH INFORMATION.
  - (E15) STAIR TREADS, RISERS AND LANDINGS TO BE EXPOSED CONCRETE. HANDRAILS TO BE STAINLESS STEEL CABLE RAIL.
  - (E16) CABLE RAILING VEHICLE BARRIER - SEE STRUCTURAL.
  - (E17) PAINT HM DOORS AND HM FRAMES PNT3 BOTH SIDES.
  - (E18) PAINT HM DOOR AND HM FRAME PNT8 BOTH SIDES.
  - (E19) PROVIDE PVC1 FORM TOP OF BASE UP TO 4" A.F.F. EXTENTS NOTED ON PLAN. BUTT JOINT AT SEAMS AND PROVIDE INRFD PVC TOP 1" MIN AT TOP OF PANELS.
  - (E20) RECESSED HOSE BIBB CABINET
  - (E21) INSULATE EXTERIOR OF FOUNDATION WALL FROM FOOTING TO GRADE - PERIMETER OF STORAGE/TANK
  - (E22) PROVIDE 2" UNDER SLAB INSULATION AROUND THE PERIMETER OF SEMI-HEATED SPACE
  - (E23) PROVIDE 1" SPRAY-ON INSULATION TO COVER ENTIRETY OF CEILING AND PROTRUDING STRUCTURE MEMBERS NOT USED.
  - (E24) EXPOSED BASE AT ALL MASONRY WALLS AND ALUMN CURTAIN WALL. STAINLESS STEEL BASE AS INDICATED ON PLAN.
  - (E25) PROVIDE SURFACE MOUNTED CABINET (FSC2) AND FIRE EXTINGUISHER
  - (E26) ART INSTALLATION - OWNER FURNISHED OWNER INSTALLED - GC TO ENSURE CONTINUOUS AND WATER/TIGHT WEATHER BARRIER AT INTERFACE WITH OTHER BUILDING ELEMENTS
  - (E27) PROVIDE BRACKET (FEC1) AND FIRE EXTINGUISHER
  - (E28) AUTOMATIC DOOR OPERATOR ACTUATOR - BOLLARD MOUNT
  - (E29) ENTRANCE CLEARANCE BAR (SEE REVENUE CONTROL SUPPLIER DRAWINGS). SEE (S148)
  - (E30) SNOW CHUTE ABOVE
  - (E31) 6" DIA / 48" TALL BOLLARD
  - (E32) EXPANSION JOINT
  - (E33) RAIN WATER LEADER AND OVERFLOW FROM THE COMMERCIAL ROOFING OFFSETS TO THIS LOCATION IN THE CEILING SPACE OF LEVEL 3
  - (E34) NOT USED
  - (E35) RAIN WATER OVERFLOW FROM THE STAIR AND ELEVATOR TOWER DAYLIGHTS THROUGH A DOWNSPOUT NOZZLE (SAMS YOUNGS)
  - (E36) EXTERIOR ACCESS DOOR
  - (E37) PAY-ON-FOOT MACHINE - OFDI
  - (E38) BIKE RACK
  - (E39) REMOVABLE GRATE. SEE CIVIL
  - (E40) AUTO GATE (SEE REVENUE CONTROL SUPPLIER DRAWINGS)
  - (E41) REVENUE CONTROL SYSTEM (SEE REVENUE CONTROL SUPPLIER DRAWINGS)
  - (E42) DOOR ACCESS CONTROL CARD READER
  - (E43) AUTOMATIC DOOR OPERATOR ACTUATOR - JAMB MOUNT
  - (E44) ENTRANCE CLEARANCE BAR (SEE REVENUE CONTROL SUPPLIER DRAWINGS). SEE (S148)
  - (E45) SNOW CHUTE ABOVE



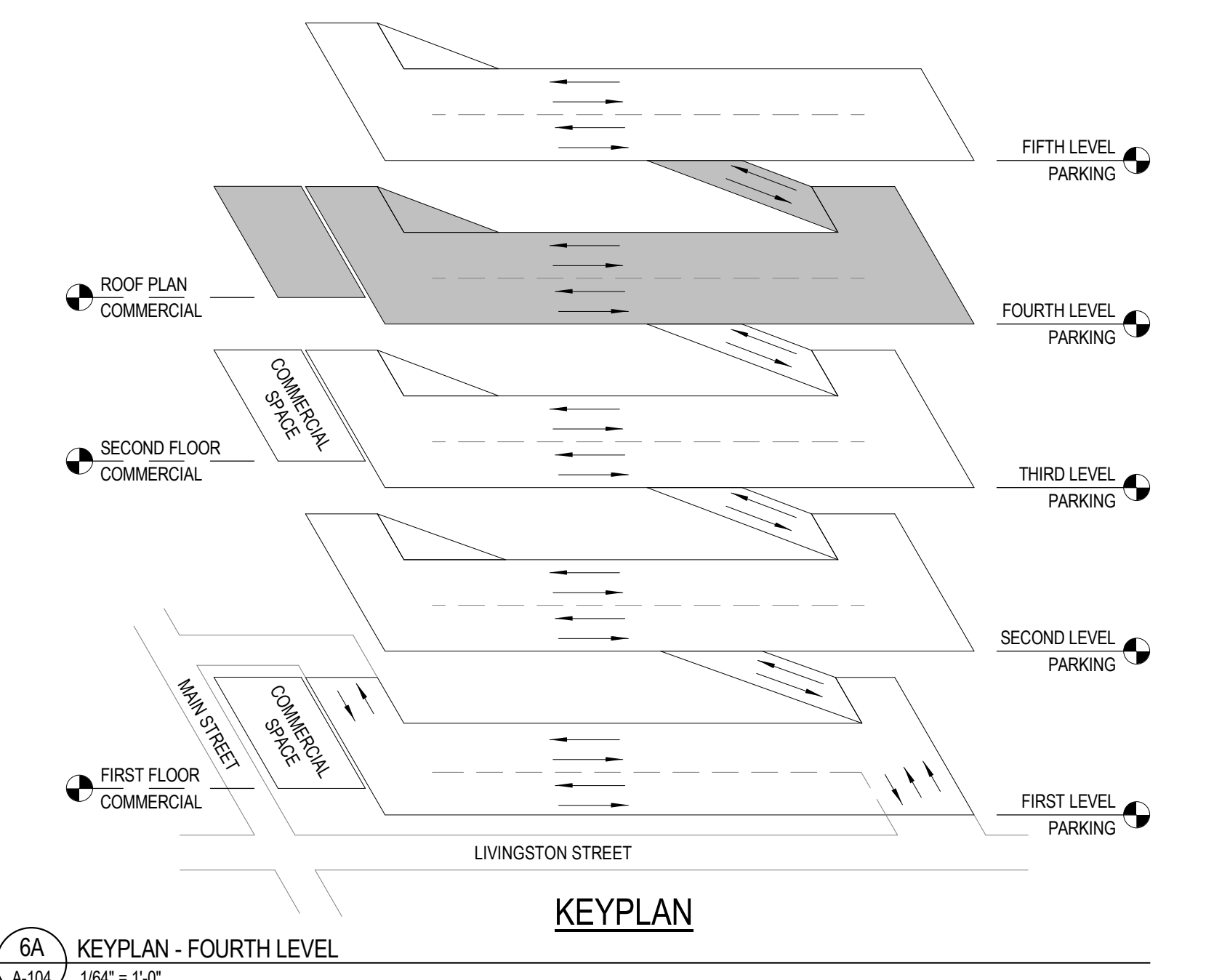
6A A-103 KEYPLAN - THIRD LEVEL 18" x 11"



1A FLOOR PLAN - FOURTH LEVEL  
1/8" = 1'-0"

PARKING COUNT PER TYPE		PARKING COUNT PER LEVEL		PARKING COUNT PER LEVEL	
STALL TYPE	COUNT	STALL TYPE	COUNT	STALL TYPE	COUNT
Accessible (8'0" X 18'0")	6	FIRST LEVEL PARKING	1	FLOOR PLAN - SECOND LEVEL	149
Accessible (8'0" X 15'0")	4	Accessible (8'0" X 15'0")	4	THIRD LEVEL PARKING	149
ACCESSIBLE VAN (8'0" X 18'0")	3	Accessible (8'0" X 18'0")	3	COMPACT (8'0" X 16'0")	12
COMPACT (8'0" X 18'0")	56	COMPACT (8'0" X 18'0")	19	STANDARD (8'0" X 18'0")	136
EV CHARGING STATION (8'0" X 18'0")	4	COMPACT (8'0" X 16'0")	19	THIRD LEVEL PARKING	148
MOTORCYCLE/MOPED (8'0" X 9'0")	8	STANDARD (8'0" X 18'0")	144	FLOOR PLAN - FOURTH LEVEL	12
MOTORCYCLE/MOPED (8'0" X 10'0")	12	FIRST LEVEL PARKING	84	COMPACT (8'0" X 16'0")	12
STANDARD (8'0" X 18'0")	582	FLOOR PLAN - SECOND LEVEL	5	FLOOR PLAN - FIFTH LEVEL	9
Total: 675	675	Accessible (8'0" X 15'0")	13	STANDARD (8'0" X 18'0")	137
		EV CHARGING STATION (8'0" X 18'0")	2	FLOOR PLAN - FIFTH LEVEL	146
		STANDARD (8'0" X 18'0")	129	Total: 675	675

- ### FLOOR AND FINISH PLAN KEYED NOTES
- (F101) WALL FINISHES VARY. SEE ELEVATIONS.
  - (F102) PROVIDE STAINLESS STEEL TOILET ROOM ACCESSORIES TO INCLUDE: GRAB BARS, TOILET PAPER HOLDER, PAPER TOWEL DISPENSER, SOAP DISPENSER, SANITARY NAPKIN RECEPTACLE, ACC MIRROR, AND STAINLESS STEEL SHELF.
  - (F103) PROVIDE (2) COAT HOOKS ON BACKSIDE OF DOOR.
  - (F104) FLOORING IN ELEVATOR CAB TO BE RFI. SEE SPEC FOR ADDITIONAL FINISH INFORMATION.
  - (F105) SEE ENLARGED STAIR PLANS FOR FINISH INFORMATION.
  - (F106) STAIR TREADS, RISERS AND HANDRAILS TO BE EXPOSED CONCRETE. HANDRAILS TO BE STAINLESS STEEL CABLE RAIL.
  - (F107) CABLE RAILING VEHICLE BARRIER - SEE STRUCTURAL.
  - (F108) PAINT HM DOORS AND HM FRAMES PNT3 BOTH SIDES.
  - (F109) PAINT HM DOORS AND HM FRAME PNT3 BOTH SIDES.
  - (F110) PROVIDE PVC1 FORM TOP OF BASE UP TO 4'-4" A.F.F. - EXTENTS NOTED ON PLAN. BUTT JOINT AT SEAMS AND PROVIDE NPRO PVC TOP TRIM AT TOP OF PANELS.
  - (F111) 6" DIA / 4" TALL BOLLARD
  - (F112) EXPANSION JOINT
  - (F113) RAIN WATER LEAK AND OVERFLOW FROM THE COMMERCIAL ROOFING OFFSETS TO THIS LOCATION IN THE CEILING SPACE OF LEVEL 3
  - (F114) NOT USED
  - (F115) RAIN WATER OVERFLOW FROM THE STAIR AND ELEVATOR TOWER DAYLIGHTS THROUGH A DOWNSPOUT NOZZLE (LAMB'S TONGUE)
  - (F116) EXTERIOR ACCESS DOOR
  - (F117) PAV-ON-FOOT MACHINE - GFOI
  - (F118) BIKE RACK
  - (F119) REMOVABLE GRATE. SEE CIVIL
  - (F120) AUTO GATE (SEE REVENUE CONTROL SUPPLIER DRAWINGS)
  - (F121) REVENUE CONTROL SYSTEM (SEE REVENUE CONTROL SUPPLIER DRAWINGS)
  - (F122) DOOR ACCESS CONTROL CARD READER
  - (F123) SNOW CHUTE 3'-0" X 2'-0" ACCESS PANEL
  - (F124) RECESSED HOSE BIBB CABINET
  - (F125) INSULATE EXTERIOR OF FOUNDATION WALL FROM FOOTING TO GRADE - PERIMETER OF STORMWATER TANK
  - (F126) PROVIDE 3" UNDER SLAB INSULATION AROUND THE PERIMETER OF SEMI-HEATED SPACE
  - (F127) PROVIDE 3" SPRAY-ON INSULATION TO COVER ENTIRETY OF CEILING AND PROTRUDING STRUCTURE MEMBERS
  - (F128) EXPOSED BASE AT ALL MASONRY WALLS AND ALUMINUM CURTAIN WALL. STAINLESS STEEL BASE AS INDICATED ON PLAN.
  - (F129) PROVIDE SURFACE MOUNTED CABINET (FEC2) AND FIRE EXTINGUISHER
  - (F130) PROVIDE BRACKET (FEC1) AND FIRE EXTINGUISHER
  - (F131) ART INSTALLATION - OWNER FURNISHED OWNER INSTALLED - GC TO ENSURE CONTINUOUS AND WATER/TIGHT WEATHER BARRIER AT INTERFACE WITH OTHER BUILDING ELEMENTS
  - (F132) AUTOMATIC DOOR OPERATOR ACTUATOR - BOLLARD MOUNT
  - (F133) ENTRANCE CLEARANCE BAR (SEE REVENUE CONTROL SUPPLIER DRAWINGS). SEE 100A-600
  - (F134) SNOW CHUTE ABOVE
- NOTE: NOT ALL KEYED NOTES MAY BE USED ON EACH PLAN.



6A KEYPLAN - FOURTH LEVEL  
1/8" = 1'-0"



NO	DATE	DESCRIPTION
1	07/19/2017	ADDENDUM#1
2	08/04/2017	ADDENDUM#3

PROJECT NUMBER: 3.2016187.00

DATE: 06/30/2017

DRAWN BY: JM

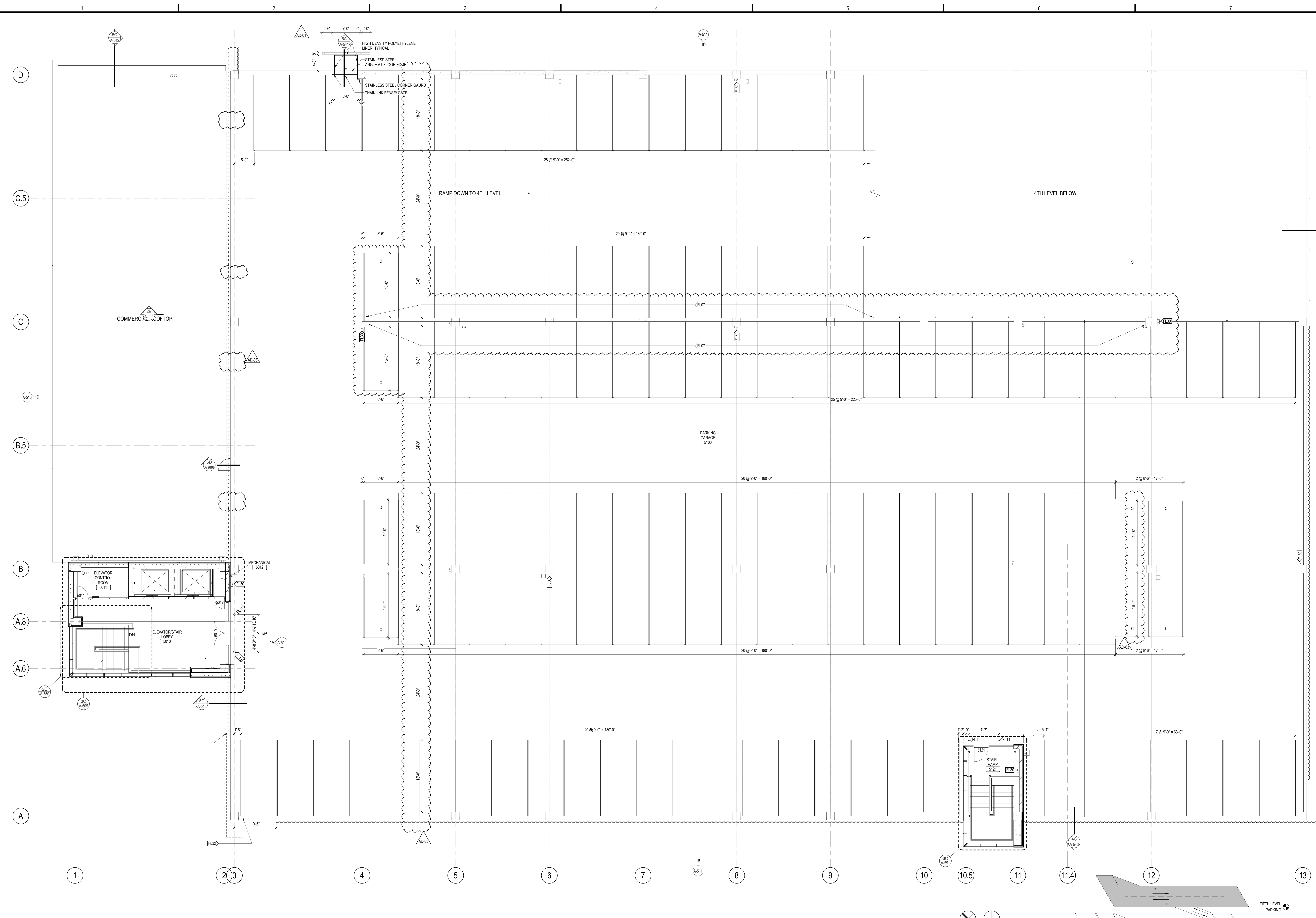
CHECKED BY: JD

APPROVED BY: RG

SCALE: AS NOTED

SET TYPE: BD

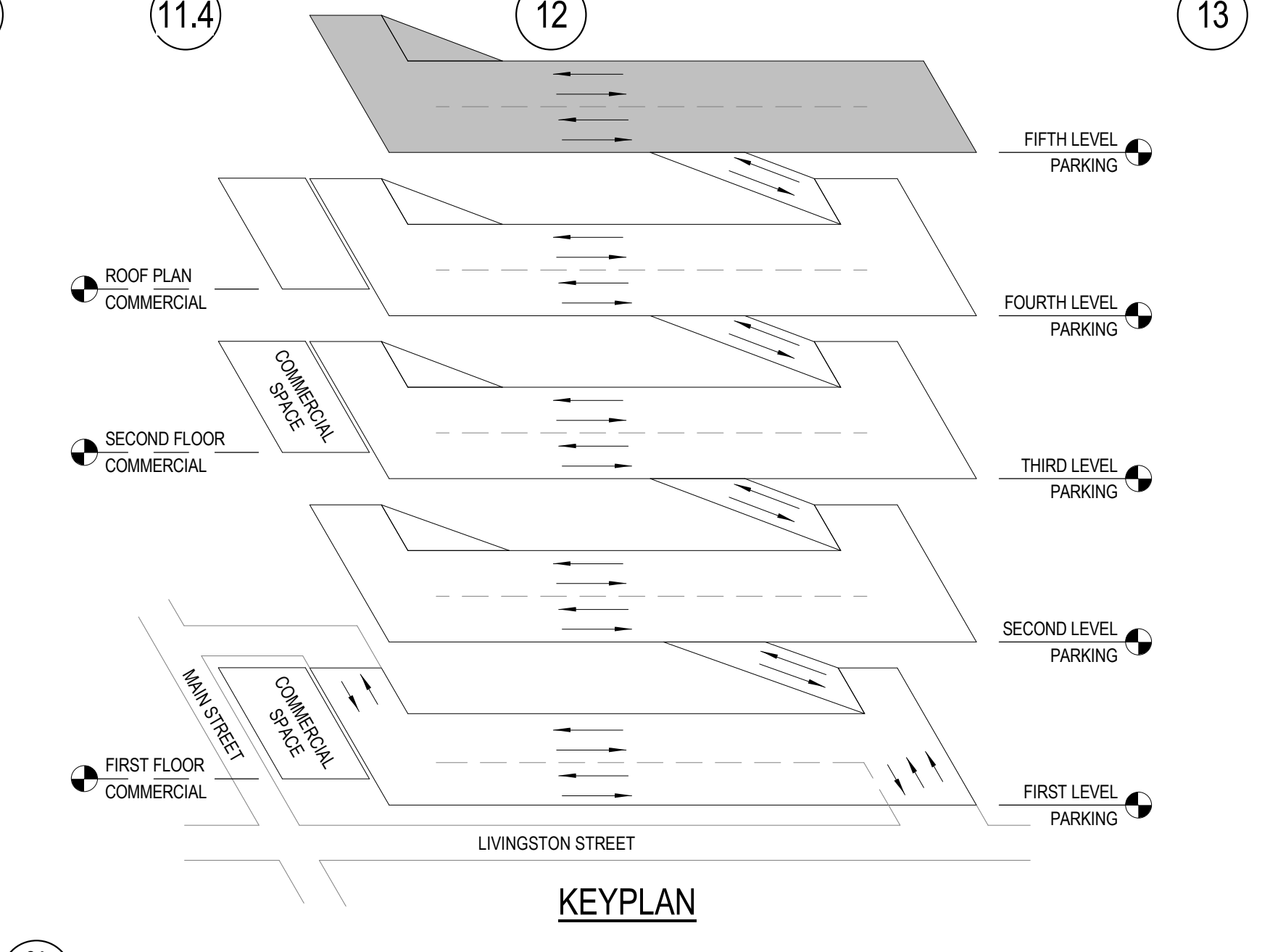
FIFTH LEVEL PARKING PLAN



1A FLOOR PLAN - FIFTH LEVEL  
1/8" = 1'-0"

PARKING COUNT PER TYPE		PARKING COUNT PER LEVEL		PARKING COUNT PER LEVEL	
STALL TYPE	COUNT	STALL TYPE	COUNT	STALL TYPE	COUNT
Accessible (8'-0" X 18'-0")	6	FIRST LEVEL PARKING		FLOOR PLAN - SECOND LEVEL	149
Accessible (8'-0" X 12'-0")	4	Accessible (8'-0" X 18'-0")	1	Accessible (8'-0" X 12'-0")	5
ACCESSIBLE VAN (8'-0" X 18'-0")	3	Accessible (8'-0" X 12'-0")	4	Accessible (8'-0" X 18'-0")	13
COMPACT (8'-0" X 18'-0")	96	ACCESSIBLE VAN (8'-0" X 18'-0")	3	COMPACT (8'-0" X 18'-0")	137
EV CHARGING STATION (8'-0" X 18'-0")	4	COMPACT (8'-0" X 12'-0")	10	EV CHARGING STATION (8'-0" X 18'-0")	2
MOTORCYCLE/MOPED (8'-0" X 18'-0")	8	EV CHARGING STATION (8'-0" X 12'-0")	2	MOTORCYCLE/MOPED (8'-0" X 18'-0")	12
MOTORCYCLE/MOPED (8'-0" X 12'-0")	12	MOTORCYCLE/MOPED (8'-0" X 12'-0")	9	STANDARD (8'-0" X 18'-0")	146
STANDARD (8'-0" X 18'-0")	582	STANDARD (8'-0" X 18'-0")	12	STANDARD (8'-0" X 12'-0")	129
Total: 675	675	FIRST LEVEL PARKING: 84	84	Total: 675	675

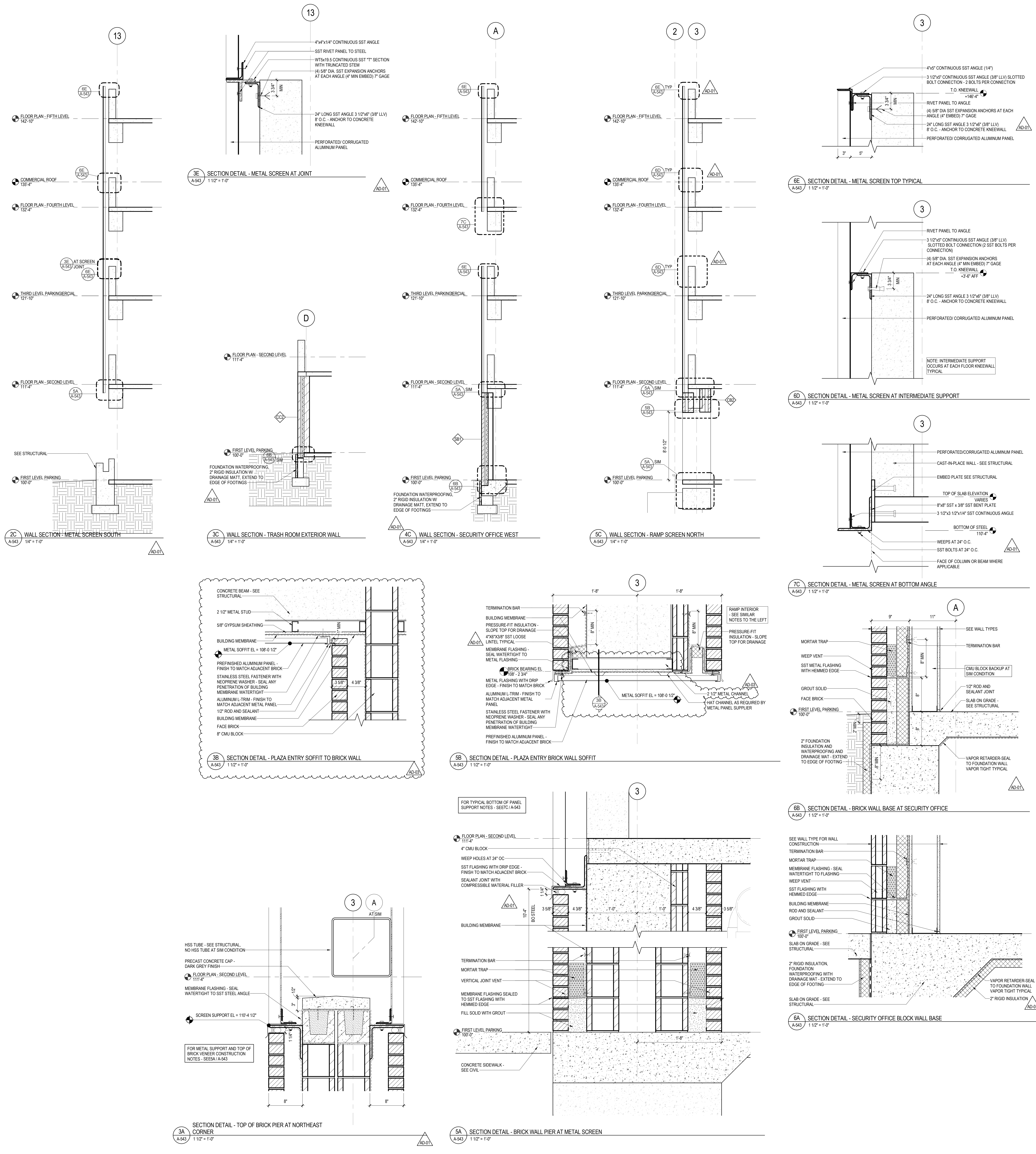
- ### FLOOR AND FINISH PLAN KEYED NOTES
- (E11) WALL FINISHES VARY. SEE ELEVATIONS.
  - (E12) PROVIDE STAINLESS STEEL TOILET ROOM ACCESSORIES TO INCLUDE: GRAB BARS, TOILET PAPER HOLDER, PAPER TOWEL DISPENSER, SOAP DISPENSER, SANITARY WIPER/RECEIPTS, ACC. MIRROR, AND STAINLESS STEEL SHELF.
  - (E13) PROVIDE (2) COAT HOOKS ON BACKSIDE OF DOOR.
  - (E14) FLOORING IN ELEVATOR CAB TO BE R.F.1. SEE SPEC FOR ADDITIONAL FINISH INFORMATION.
  - (E15) SEE ENLARGED STAIR PLANS FOR FINISH INFORMATION.
  - (E16) STAIR TREADS, RISERS AND LANDINGS TO BE EXPOSED CONCRETE. HANDRAILS TO BE STAINLESS STEEL CABLE RAIL.
  - (E17) CABLE RAILING VEHICLE BARRIER - SEE STRUCTURAL.
  - (E18) PAINT HM DOORS AND HM FRAMES PNTS BOTH SIDES.
  - (E19) PAINT HM DOORS AND HM FRAME PNTS BOTH SIDES.
  - (E20) PROVIDE PNC1 FORM TOP OF BASE UP TO 4'-4" A.F.F. EXTENTS NOTED ON PLAN. BUTT JOINT AT SEAMS AND PROVIDE INPRO PVC TOP TRIM AT TOP OF PANELS.
  - (E21) 6" DIA / 48" TALL BOLLARD EXPANSION JOINT.
  - (E22) RAIN WATER LEADER AND OVERFLOW FROM THE COMMERCIAL ROOFING OFFSETS TO THE LOCATION IN THE CEILING SPACE OF LEVEL 3.
  - (E23) NOT USED.
  - (E24) RAIN WATER OVERFLOW FROM THE STAIR AND ELEVATOR TOWER DAYLIGHTS THROUGH A DOWNSPOUT NOZZLE (LAMB'S TONGUE).
  - (E25) EXTERIOR ACCESS DOOR.
  - (E26) PAY-ON-FOOT MACHINE - GFOI.
  - (E27) BIKE RACK.
  - (E28) REMOVABLE GRATE. SEE CIVIL.
  - (E29) AUTO GATE (SEE REVENUE CONTROL SUPPLIER DRAWINGS).
  - (E30) REVENUE CONTROL SYSTEM (SEE REVENUE CONTROL SUPPLIER DRAWINGS).
  - (E31) DOOR ACCESS CONTROL CARD READER.
  - (E32) SNOW CHUTE 3'-0" X 3'-0" ACCESS PANEL.
  - (E33) RECESSED HOSE BIBB CABINET.
  - (E34) INSULATE EXTERIOR OF FOUNDATION WALL FROM FOOTING TO GRADE - PERIMETER OF STORMWATER TANK.
  - (E35) PROVIDE 3" UNDER SLAB INSULATION AROUND THE PERIMETER OF SEAM-HEATED SPACE.
  - (E36) PROVIDE 3" SPRAY-ON INSULATION TO COVER ENTIRETY OF CEILING AND PROTRUDING STRUCTURE MEMBERS. NOT USED.
  - (E37) EXPOSED BASE AT ALL MASONRY WALLS AND ALUMINUM CURTAIN WALL. STAINLESS STEEL BASE AS INDICATED ON PLAN.
  - (E38) PROVIDE SURFACE MOUNTED CABINET (FEC2) AND FIRE EXTINGUISHER.
  - (E39) ART INSTALLATION - OWNER FURNISHED OWNER INSTALLED - GC TO ENSURE CONTINUOUS AND WATERTIGHT WEATHER BARRIER AT INTERFACE WITH OTHER BUILDING ELEMENTS.
  - (E40) AUTOMATIC DOOR OPERATOR ACTUATOR - BOLLARD MOUNT.
  - (E41) AUTOMATIC DOOR OPERATOR ACTUATOR - JAMB MOUNT.
  - (E42) ENTRANCE CLEARANCE BAR (SEE REVENUE CONTROL SUPPLIER DRAWINGS). SEE 101A/B/D.
  - (E43) SNOW CHUTE ABOVE.
- NOTE: NOT ALL KEYED NOTES MAY BE USED ON EACH PLAN.



6A KEYPLAN - FIFTH LEVEL  
1/8" = 1'-0"



NO	DATE	DESCRIPTION
1	07/19/2017	ADDENDUM#1
2	08/04/2017	ADDENDUM#3



C:\Users\57630\Documents\Projects\Capitol East Parking Garage - Central\_sdu@bwbr.com.rvt  
 8/2/2017 1:54:49 PM



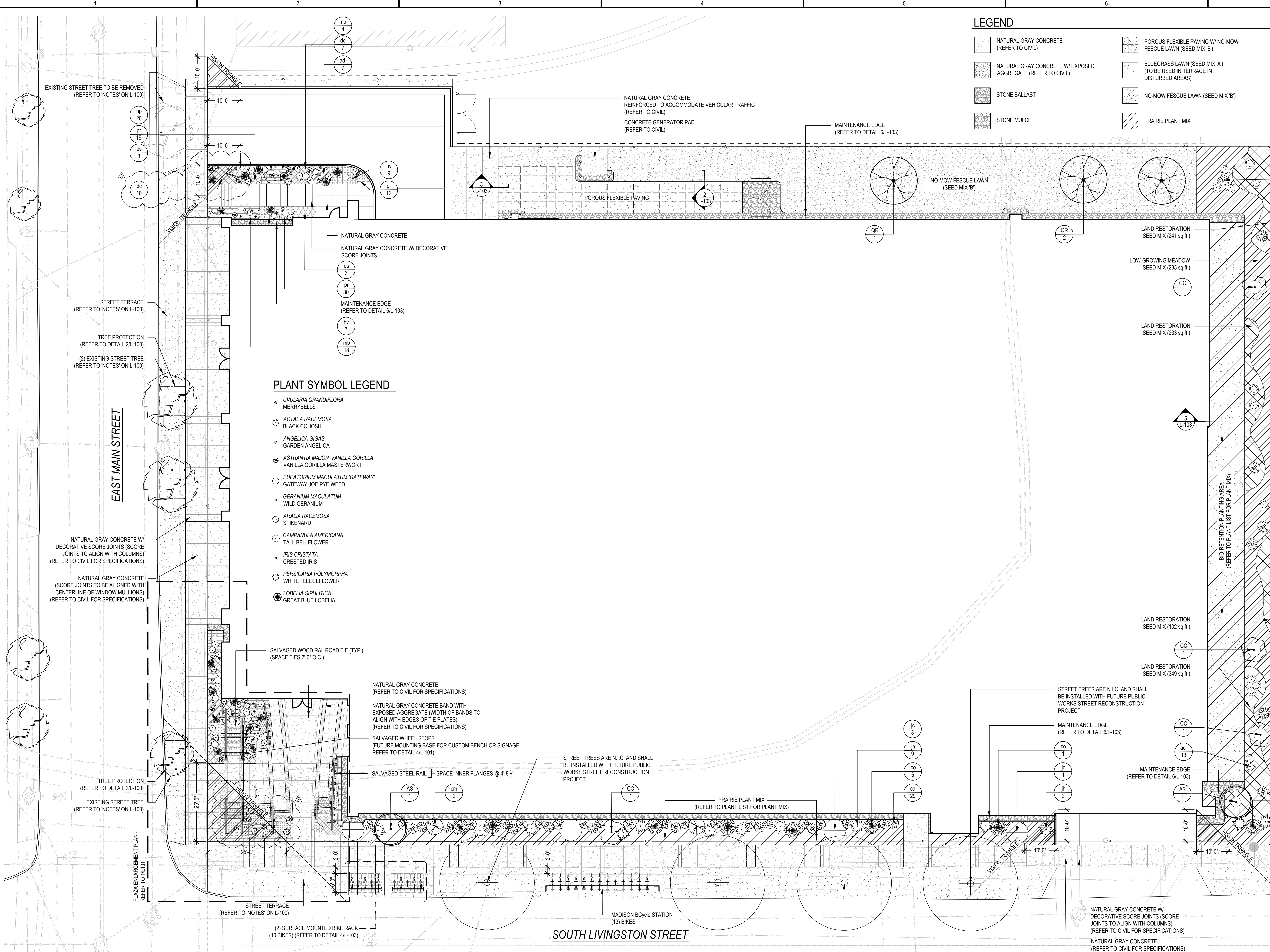
NO	DATE	DESCRIPTION
1	07/19/2017	Addendum #1
2	07/28/2017	Addendum #2
3	08/04/2017	Addendum #3

### LEGEND

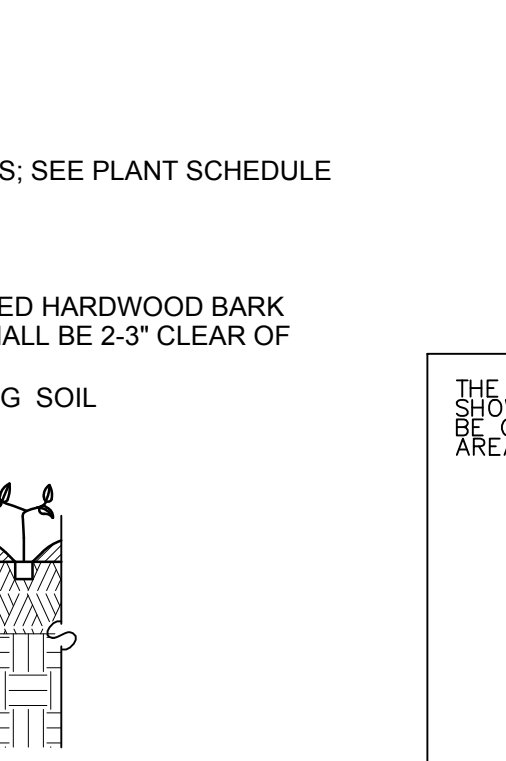
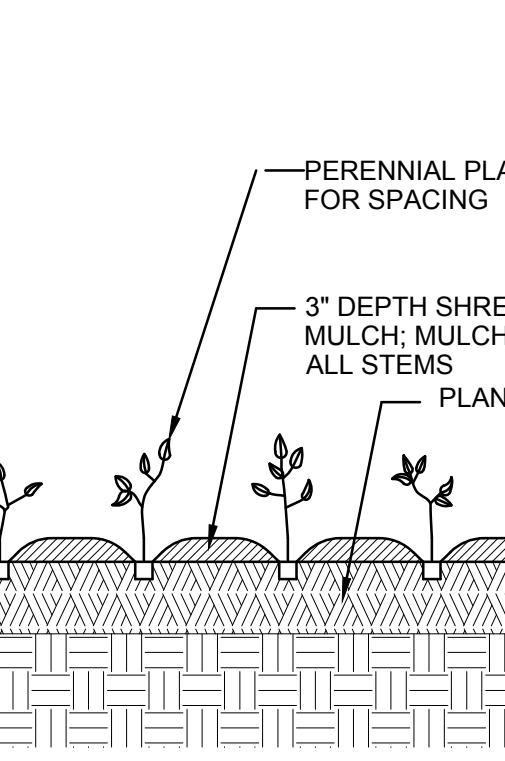
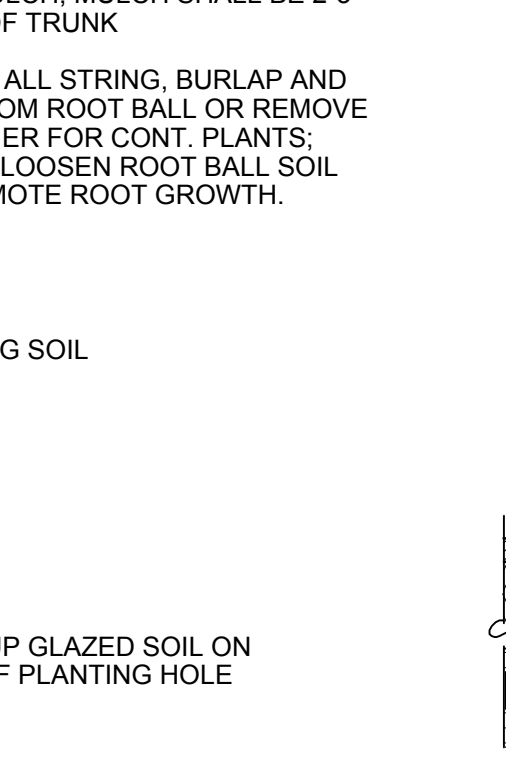
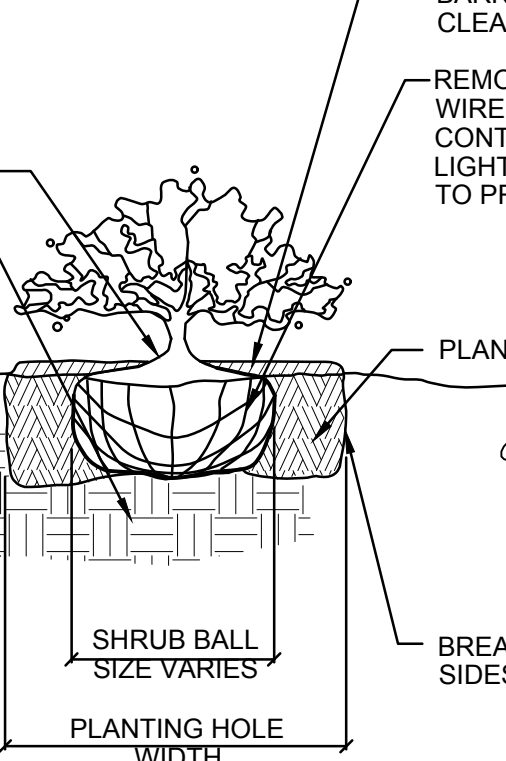
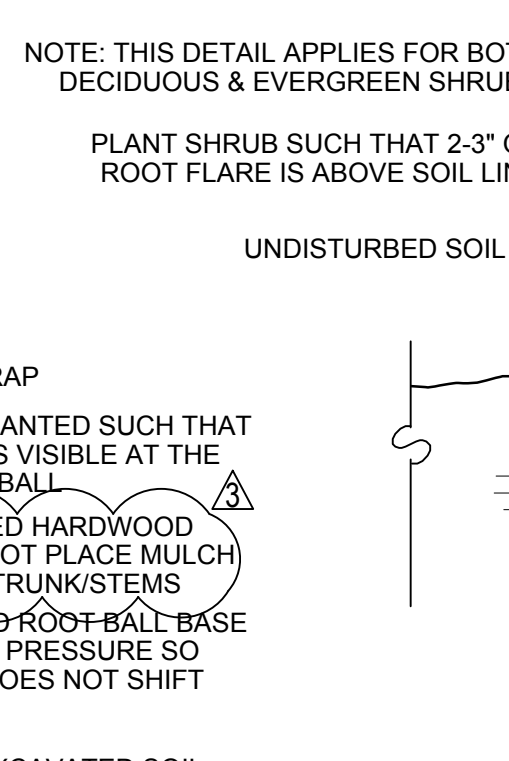
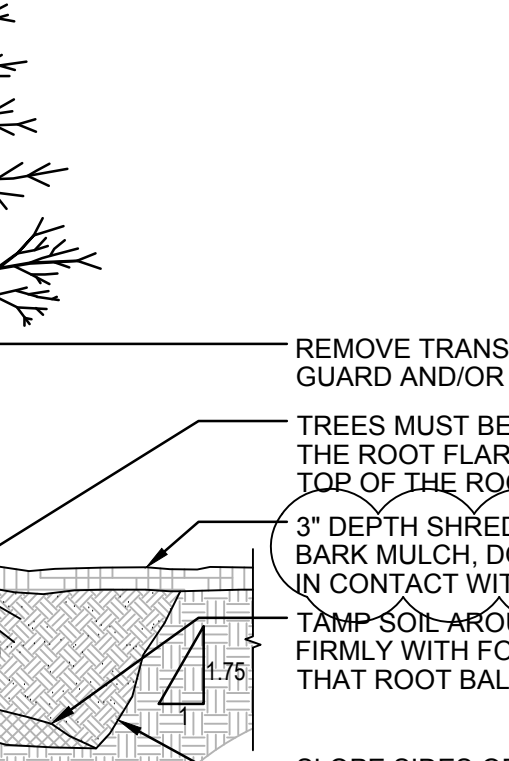
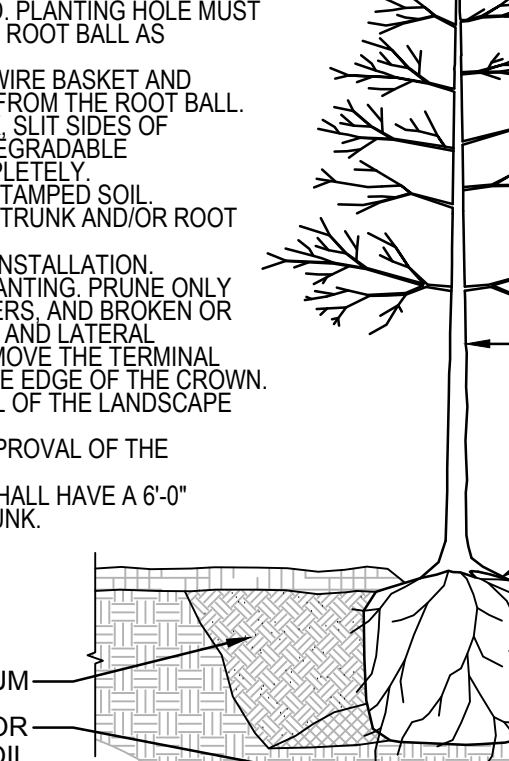
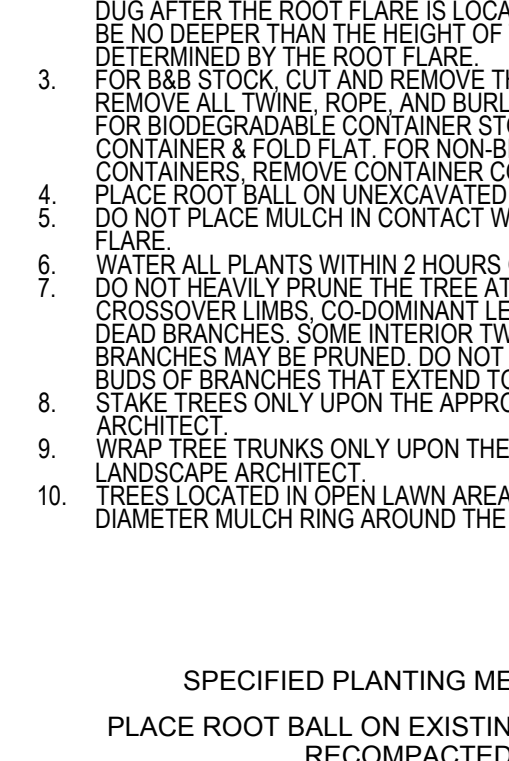
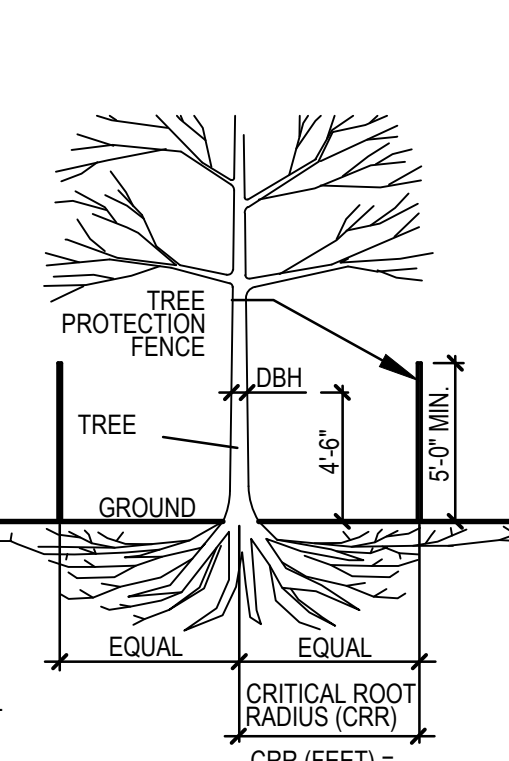
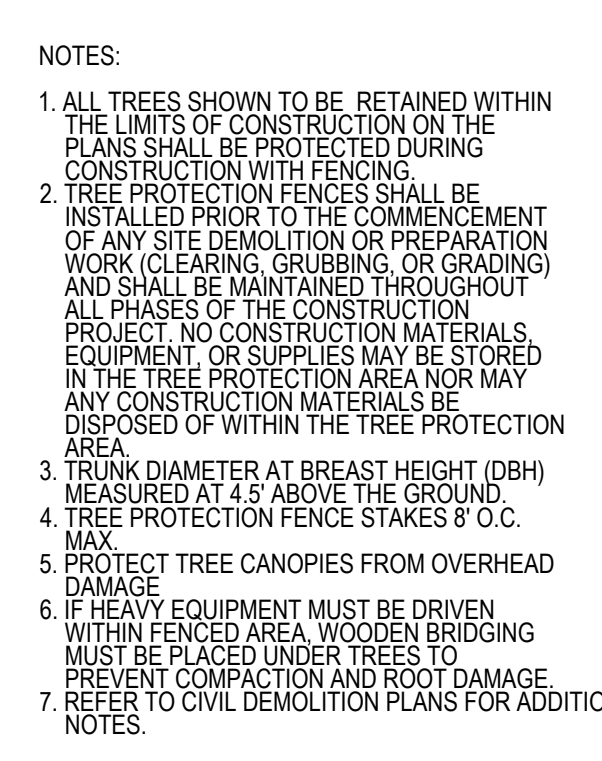
NATURAL GRAY CONCRETE (REFER TO CIVIL)	POROUS FLEXIBLE PAVING W/ NO-MOW FESCUE LAWN (SEED MIX 'B')	LAND RESTORATION SEED MIX
NATURAL GRAY CONCRETE W/ EXPOSED AGGREGATE (REFER TO CIVIL)	BLUEGRASS LAWN (SEED MIX 'A') (TO BE USED IN TERRACE IN DISTURBED AREAS)	BIO-RETENTION PLANTING
STONE BALLAST	NO-MOW FESCUE LAWN (SEED MIX 'B')	
STONE MULCH	PRAIRIE PLANT MIX	

### PLANT SYMBOL LEGEND

- UVULARIA GRANDIFLORA MERRYBELLS
- ACTAEA RACEMOSA BLACK COHOSH
- ANGELICA GIGAS GARDEN ANGELICA
- ASTRANTIA MAJOR 'VANILLA GORILLA' VANILLA GORILLA MASTERWORT
- EUPATORIUM MACULATUM 'GATEWAY' GATEWAY JOE-PYE WEED
- GERANIUM MACULATUM WILD GERANIUM
- ARALIA RACEMOSA SPIKENARD
- CAMPANULA AMERICANA TALL BELLFLOWER
- IRIS CRISTATA CRESTED IRIS
- PERSICARIA POLYMORPHA WHITE FLEECEFLOWER
- LOBELIA SIPHILITICA GREAT BLUE LOBELIA



1 LANDSCAPE PLAN  
L-100  
3/29/2017 12:16:32 PM



THE LOCATION OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE MAY BE AREAS THAT ARE NOT SHOWN.

CALL DIGGERS HOTLINE  
1-800-242-8511  
TOLL FREE

FAX A LOCATE 1-800-238-3860  
TDD (FOR HEARING IMPAIRED) 1-800-242-2289

WIS. STATUTE REG. NO. 10724  
EXPIRES APR. 30, 2024  
NORSE BEFORE YOU EXCAVATE

2 TREE PROTECTION  
L-100  
N.T.S.

3 TREE PLANTING  
L-100  
N.T.S.

4 SHRUB PLANTING  
L-100  
N.T.S.

5 PERENNIAL PLANTING  
L-100  
N.T.S.

6 TREE PROTECTION  
L-100  
N.T.S.

7 TREE PROTECTION  
L-100  
N.T.S.

8 TREE PROTECTION  
L-100  
N.T.S.

9 TREE PROTECTION  
L-100  
N.T.S.

10 TREE PROTECTION  
L-100  
N.T.S.



- NOTES:
- The Right-of-Way is the sole jurisdiction of the City of Madison and is subject to change at anytime per the recommendation/plan of Traffic Engineering and City Engineering Departments.
  - Contractor is responsible for staking site for horizontal and vertical alignment.
  - Any deviation from or modifications of layout and dimensions shown on this plan shall require prior approval by Owner's representative.
  - Contractor shall place all concrete control joints as shown on the drawings.
  - Contractor shall arrange for layout approval with Owner's representative providing a minimum of two (2) working days notice prior to any execution of work.
  - Contractor is responsible for field verification of all existing site elements. Contractor shall contact diggers hot line for underground utility locations.

5126 West Terrace Drive,  
Suite 111  
Madison, WI 53718-8346  
608 / 242 1550  
608 / 242 0787 fax

www.graef-usa.com

CONSULTANTS:

**KEN SAIKI DESIGN INC.**  
303 S. Paterson Street  
Suite 1  
Madison, WI 53703  
608 / 251 3600  
ksd-ia.com

PROJECT TITLE:

**CAPITOL EAST PARKING GARAGE**  
211 SOUTH DUNSTON STREET, MADISON, WI 53703  
WISCONSIN LICENSE NUMBER 1822  
CONTRACT NUMBER 7951

CLIENT:

**CITY OF MADISON PARKING UTILITY**  
715 MARTIN LUTHER KING, JR BLVD  
MADISON, WISCONSIN 53701-2966



ISSUE:

NO	DATE	DESCRIPTION
1	07/19/2017	Addendum #1
3	08/04/2017	Addendum #3

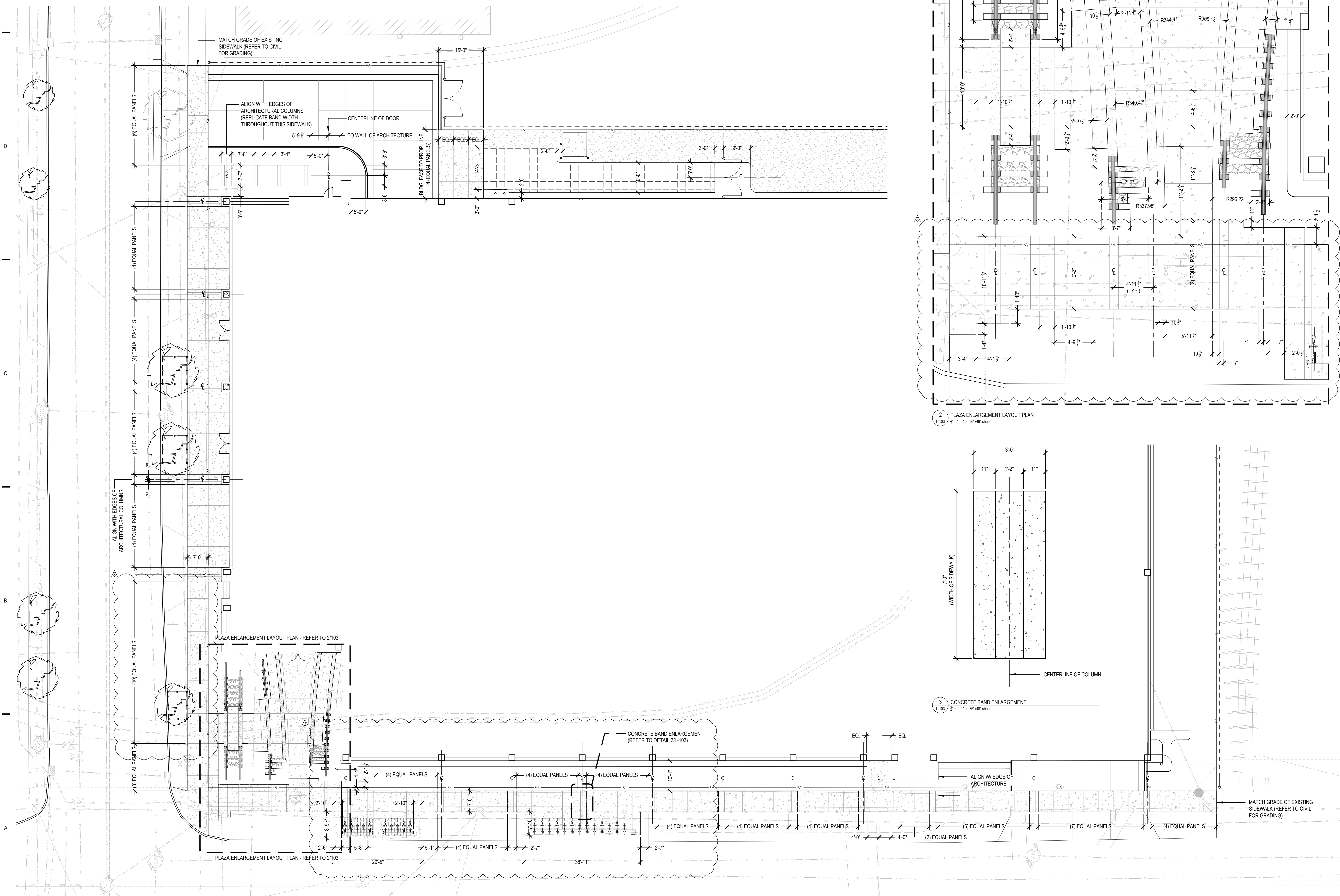
PROJECT INFORMATION:

PROJECT NUMBER:	2016-5051
DATE:	04/19/2017
DRAWN BY:	JS
CHECKED BY:	NS
APPROVED BY:	KS
SCALE:	AS NOTED
SET TYPE:	DD

SHEET TITLE:

LAYOUT PLAN

SHEET NUMBER:

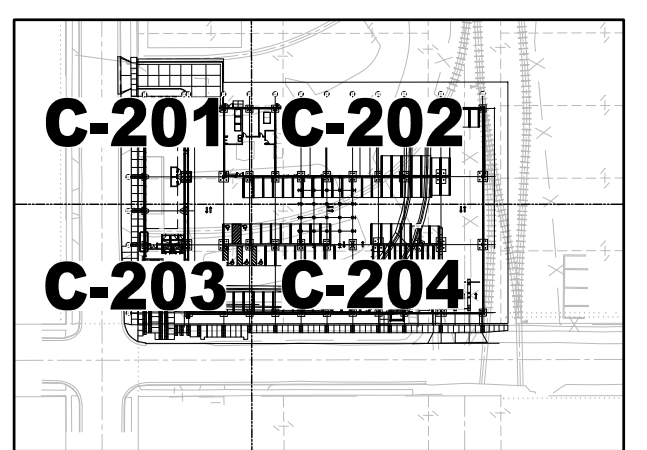


C:\Users\5752\Documents\Projects\Capitol E Main Parking Garage - Central\_istrei@wdr.com.rvt  
 3/29/2017 12:18:32 PM





NO	DATE	DESCRIPTION
1	07/10/17	SITE PLAN REVIEW APPROVAL
2	07/19/17	ADDENDUM #1
3	07/28/17	ADDENDUM #2
4	08/04/17	ADDENDUM #3



KEY PLAN

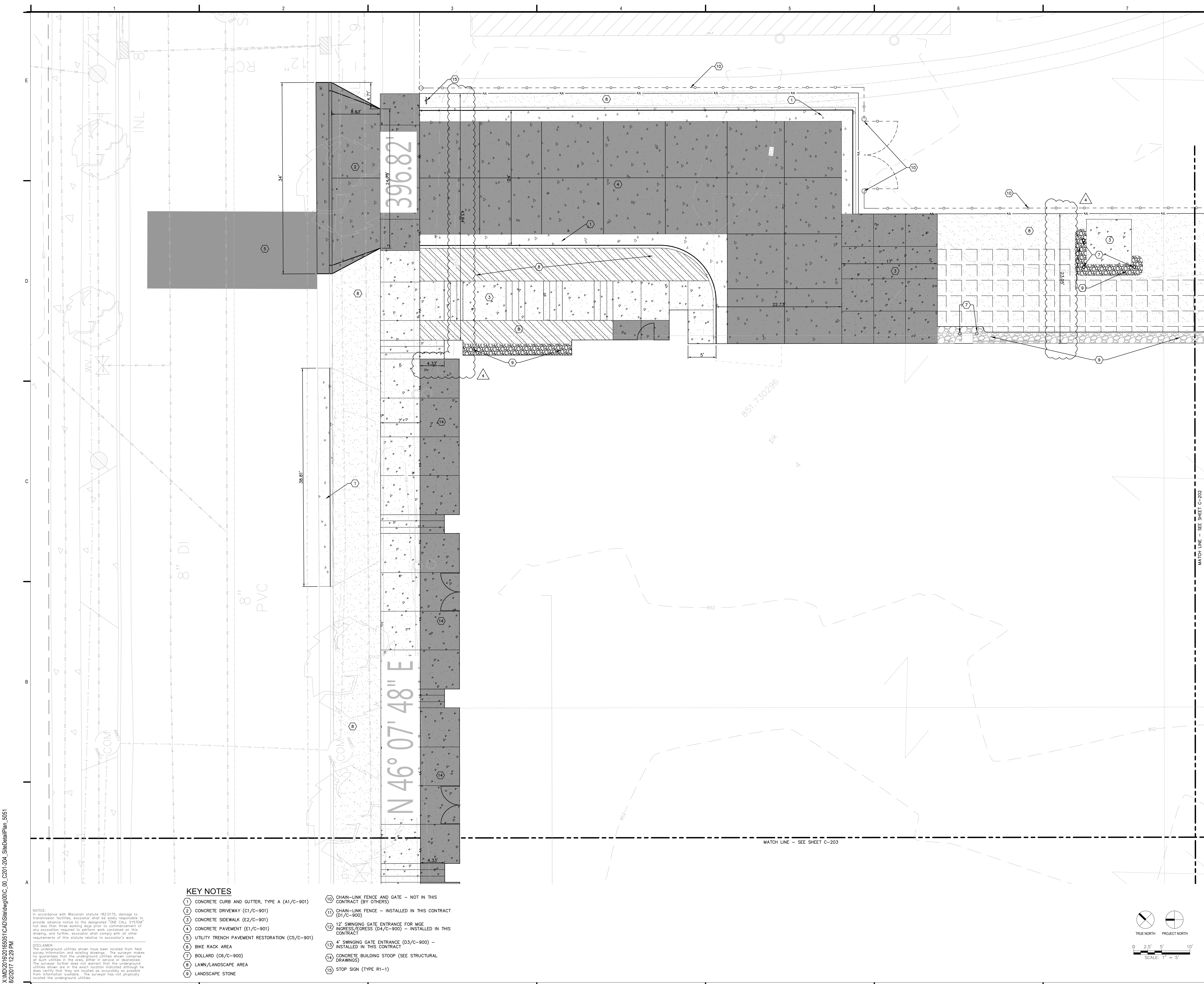
PROJECT INFORMATION:

PROJECT NUMBER: 2016-5051  
DATE: 06/30/17  
DRAWN BY: SRK  
CHECKED BY: JAL  
APPROVED BY: JAL  
SCALE: AS NOTED  
SET TYPE: BD

SHEET TITLE:

SITE DETAIL PLAN (SHEET 1 OF 4)

SHEET NUMBER:



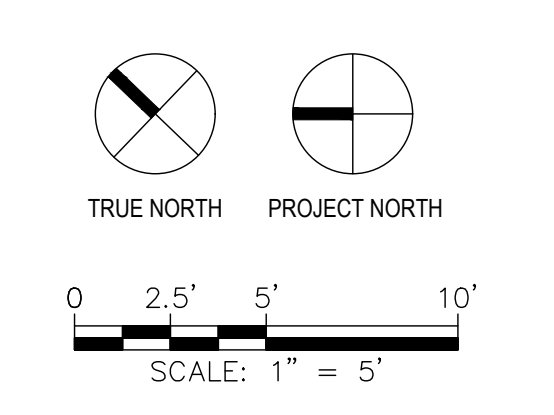
KEY NOTES

- (1) CONCRETE CURB AND GUTTER, TYPE A (A1/C-901)
- (2) CONCRETE DRIVEWAY (C1/C-901)
- (3) CONCRETE PAVEMENT (E2/C-901)
- (4) UTILITY TRENCH PAVEMENT RESTORATION (C5/C-901)
- (5) BIKE RACK AREA
- (6) BOLLARD (C6/C-900)
- (7) LAWN/LANDSCAPE AREA
- (8) LANDSCAPE STONE
- (10) CHAIN-LINK FENCE AND GATE - NOT IN THIS CONTRACT (BY OTHERS)
- (11) CHAIN-LINK FENCE - INSTALLED IN THIS CONTRACT (D1/C-900)
- (12) 12" SWINGING GATE ENTRANCE FOR MGE INGRESS/EGRESS (D4/C-900) - INSTALLED IN THIS CONTRACT
- (13) 4" SWINGING GATE ENTRANCE (D3/C-900) - INSTALLED IN THIS CONTRACT
- (14) CONCRETE BUILDING STOOP (SEE STRUCTURAL DRAWINGS)
- (15) STOP SIGN (TYPE R1-1)

X:\IND\2016\2016051\CAD\Site\dwg\00\_C\_001\_201\_204\_SiteDetailPlan\_5051.dwg 8/2/2017 12:29 PM

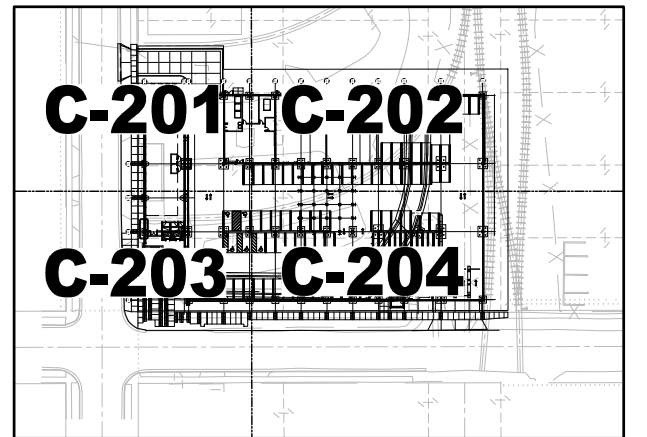
**NOTICE:**  
In accordance with Wisconsin statute 182.0175, damage to transmission facilities, excavator shall be solely responsible to provide advance notice to the designated "ONE CALL" 5-DIGIT less than three working days prior to commencement of any excavation required to perform the work shown on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.

**DISCLAIMER:**  
The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no warranty, that the underground utilities shown comprise all such utilities in the area, or that the surveyor is responsible for the accuracy of the information shown. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.

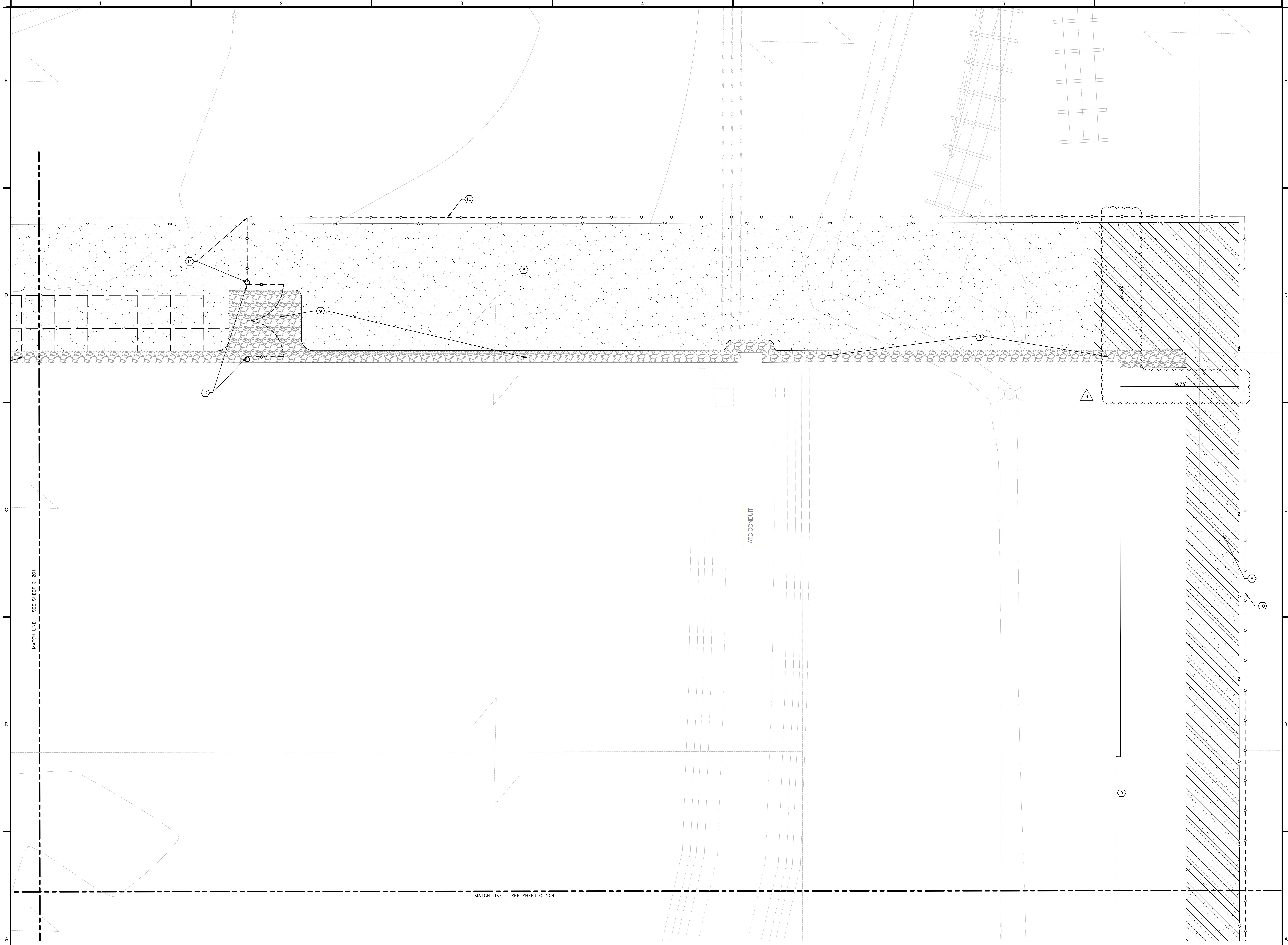




NO	DATE	DESCRIPTION
1	07/10/17	SITE PLAN REVIEW APPROVAL
2	07/28/17	ADDENDUM #2
3	08/04/17	ADDENDUM #3



PROJECT NUMBER:	2016-5051
DATE:	06/30/17
DRAWN BY:	SRK
CHECKED BY:	JAL
APPROVED BY:	JAL
SCALE:	AS NOTED
SET TYPE:	BD

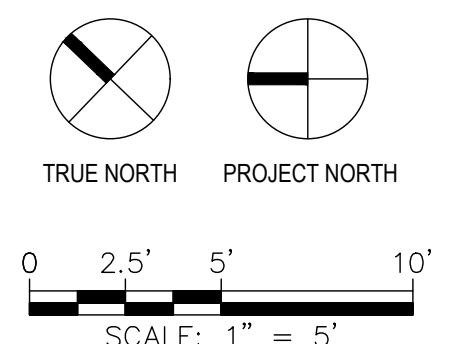


**KEY NOTES**

- 1 CONCRETE CURB AND GUTTER, TYPE A (A1/C-901)
- 2 CONCRETE DRIVEWAY (C1/C-901)
- 3 CONCRETE SIDEWALK (E2/C-901)
- 4 CONCRETE PAVEMENT (E1/C-901)
- 5 UTILITY TRENCH PAVEMENT RESTORATION (C5/C-901)
- 6 BIKE RACK AREA
- 7 BOLLARD (C6/C-900)
- 8 LAWN/LANDSCAPE AREA
- 9 LANDSCAPE STONE
- 10 CHAIN-LINK FENCE AND GATE - NOT IN THIS CONTRACT (BY OTHERS)
- 11 CHAIN-LINK FENCE - INSTALLED IN THIS CONTRACT (D1/C-900)
- 12 12' SWINGING GATE ENTRANCE FOR MGE INGRESS/EGRESS (D4/C-900) - INSTALLED IN THIS CONTRACT
- 13 4' SWINGING GATE ENTRANCE (D3/C-900) - INSTALLED IN THIS CONTRACT
- 14 CONCRETE BUILDING STOOP (SEE STRUCTURAL DRAWINGS)

**NOTICE:**  
In accordance with Wisconsin statute 182.0175, damage to transmission facilities, excavator shall be solely responsible to provide advance notice to the designated "ONE CALL" system not less than three working days prior to commencement of any excavation required to perform work contained on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.

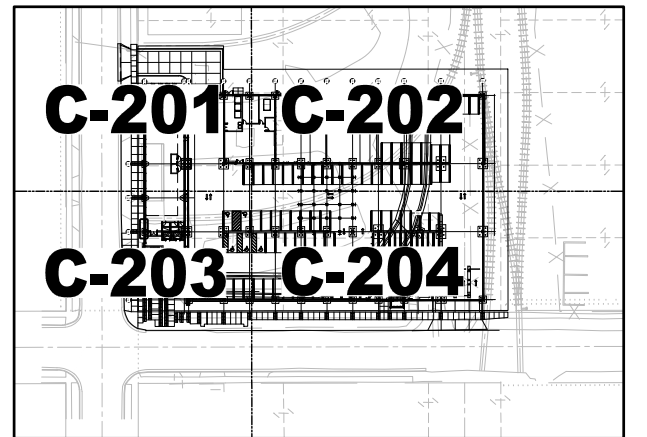
**DISCLAIMER:**  
The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.



X:\IND\2016\20160505\CAD\Site\dwg\00\_C\_00\_C201\_204\_SiteDetailPlan\_5051.dwg 8/2/2017 12:29 PM



NO	DATE	DESCRIPTION
1	07/10/17	SITE PLAN REVIEW APPROVAL
2	07/28/17	ADDENDUM #2
3	08/04/17	ADDENDUM #3



PROJECT NUMBER:	2016-5051
DATE:	06/30/17
DRAWN BY:	SRK
CHECKED BY:	JAL
APPROVED BY:	JAL
SCALE:	AS NOTED
SET TYPE:	BD

MATCH LINE - SEE SHEET C-201

MATCH LINE - SEE SHEET C-204

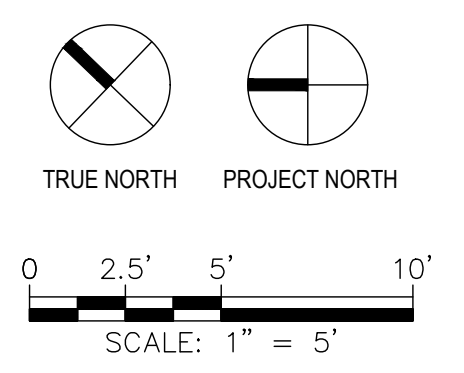
### KEY NOTES

- 1 CONCRETE CURB AND GUTTER, TYPE A (A1/C-901)
- 2 CONCRETE DRIVEWAY (C1/C-901)
- 3 CONCRETE SIDEWALK (E2/C-901)
- 4 CONCRETE PAVEMENT (E1/C-901)
- 5 UTILITY TRENCH PAVEMENT RESTORATION (C5/C-901)
- 6 BIKE RACK AREA
- 7 BOLLARD (C6/C-900)
- 8 LAWN/LANDSCAPE AREA
- 9 LANDSCAPE STONE

- 10 CHAIN-LINK FENCE AND GATE - NOT IN THIS CONTRACT (BY OTHERS)
- 11 CHAIN-LINK FENCE - INSTALLED IN THIS CONTRACT (D1/C-900)
- 12 12" SWINGING GATE ENTRANCE FOR MGE INGRESS/EGRESS (D4/C-900) - INSTALLED IN THIS CONTRACT
- 13 4" SWINGING GATE ENTRANCE (D3/C-900) - INSTALLED IN THIS CONTRACT
- 14 CONCRETE BUILDING STOOP (SEE STRUCTURAL DRAWINGS)

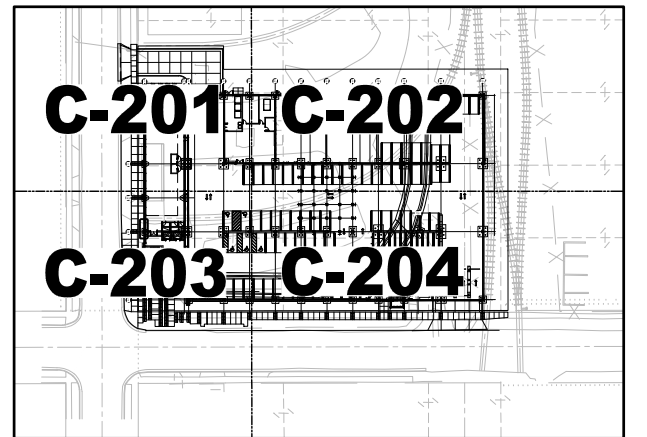
**NOTICE:**  
In accordance with Wisconsin statute 182.0175, damage to transmission facilities, excavator shall be solely responsible to provide advance notice to the designated "ONE CALL 53138" not less than three working days prior to commencement of any excavation required to perform work contained on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.

**DISCLAIMER:**  
The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the exact location indicated on this drawing. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.



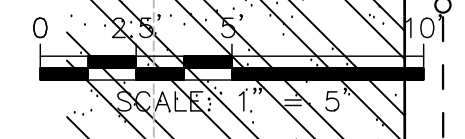


NO	DATE	DESCRIPTION
1	07/10/17	SITE PLAN REVIEW APPROVAL
2	07/28/17	ADDENDUM #2
3	08/04/17	ADDENDUM #3

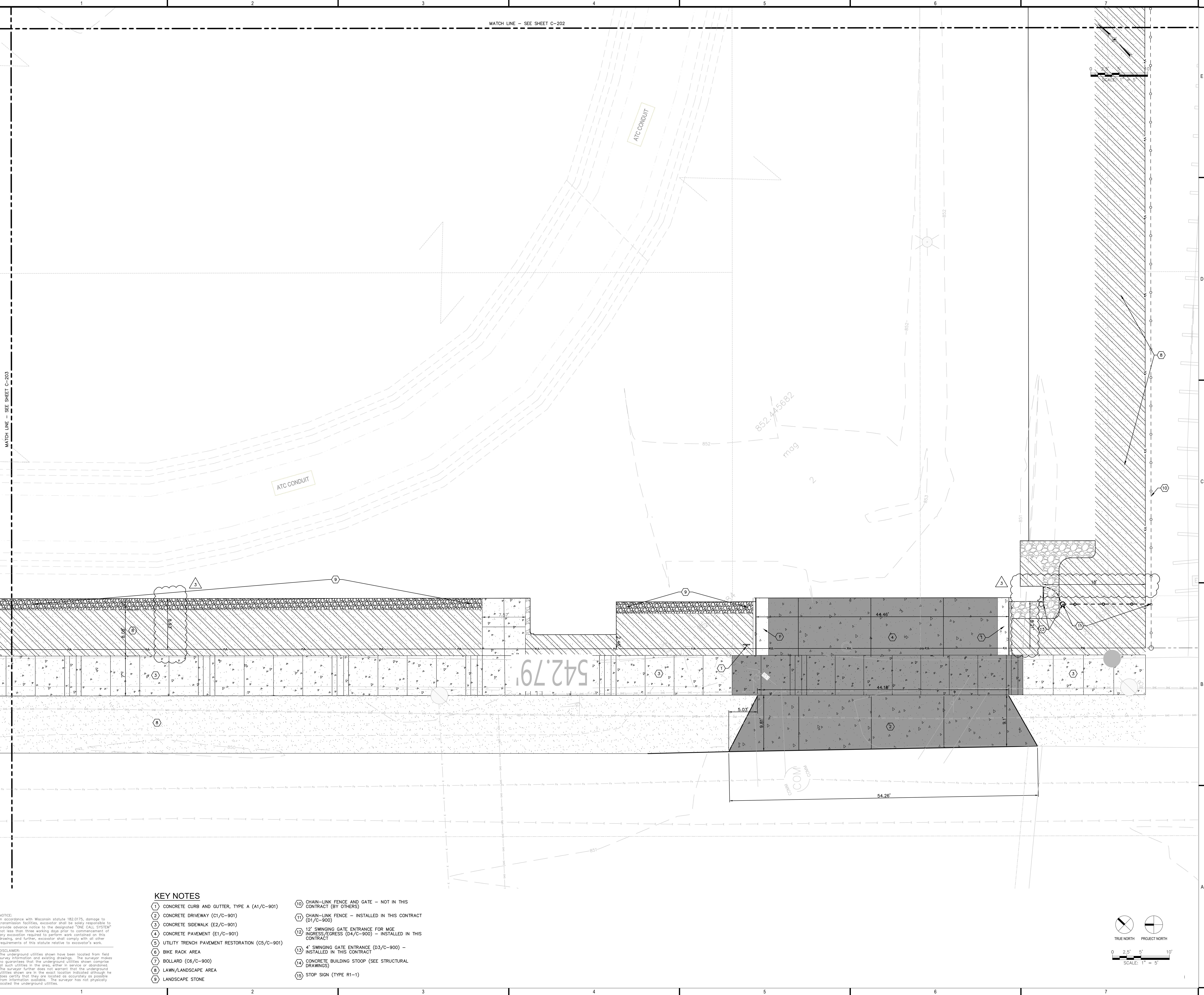


PROJECT NUMBER:	2016-5051
DATE:	06/30/17
DRAWN BY:	SRK
CHECKED BY:	JAL
APPROVED BY:	JAL
SCALE:	AS NOTED
SET TYPE:	BD

MATCH LINE - SEE SHEET C-202



MATCH LINE - SEE SHEET C-203

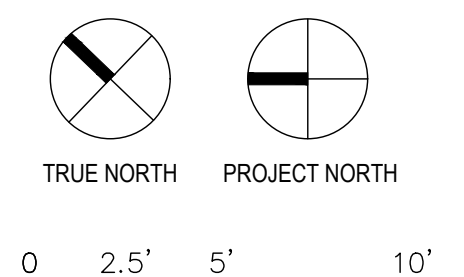


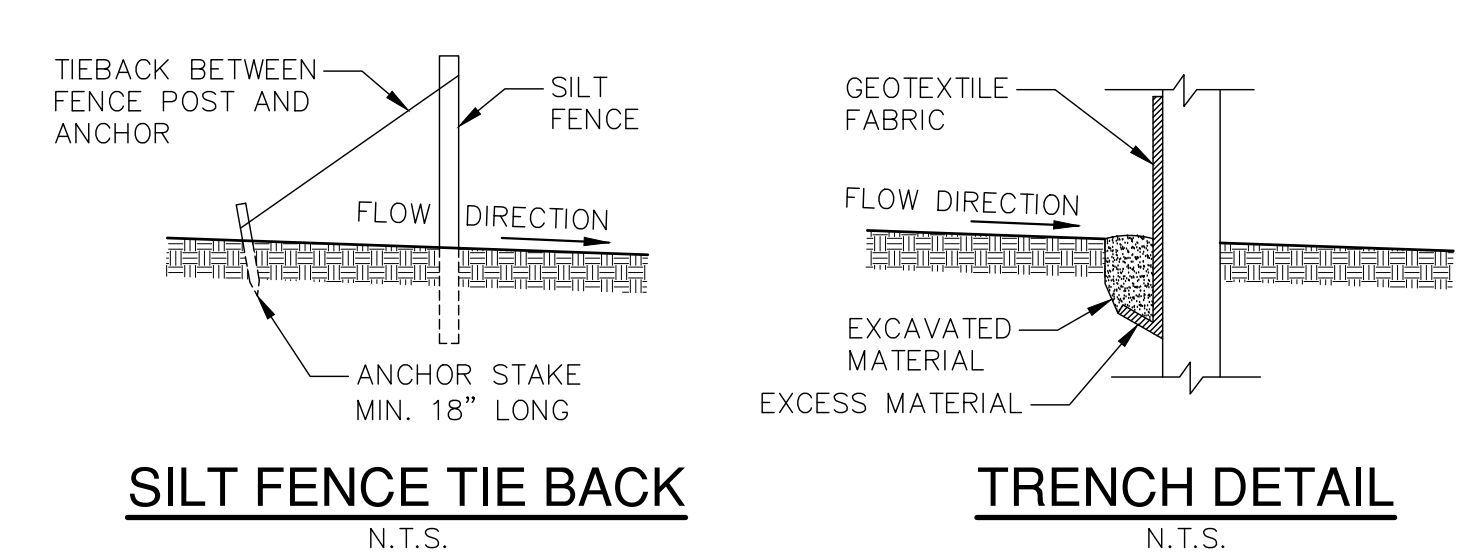
**KEY NOTES**

- 1 CONCRETE CURB AND GUTTER, TYPE A (A1/C-901)
- 2 CONCRETE DRIVEWAY (C1/C-901)
- 3 CONCRETE SIDEWALK (E2/C-901)
- 4 CONCRETE PAVEMENT (E1/C-901)
- 5 UTILITY TRENCH PAVEMENT RESTORATION (C5/C-901)
- 6 BIKE RACK AREA
- 7 BOLLARD (C6/C-900)
- 8 LAWN/LANDSCAPE AREA
- 9 LANDSCAPE STONE
- 10 CHAIN-LINK FENCE AND GATE - NOT IN THIS CONTRACT (BY OTHERS)
- 11 CHAIN-LINK FENCE - INSTALLED IN THIS CONTRACT (D1/C-900)
- 12 12" SWINGING GATE ENTRANCE FOR MGE INGRESS/EGRESS (D4/C-900) - INSTALLED IN THIS CONTRACT
- 13 4" SWINGING GATE ENTRANCE (D3/C-900) - INSTALLED IN THIS CONTRACT
- 14 CONCRETE BUILDING STOOP (SEE STRUCTURAL DRAWINGS)
- 15 STOP SIGN (TYPE R1-1)

**NOTICE:**  
In accordance with Wisconsin statute 182.0175, damage to transmission facilities, excavator shall be solely responsible to provide advance notice to the designated "DIAL CALL SERVICE" less than three working days prior to commencement of any excavation required to perform work contained on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.

**DISCLAIMER:**  
The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no warranty that the underground utilities shown comprise all such utilities in the area, either as service or common. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.

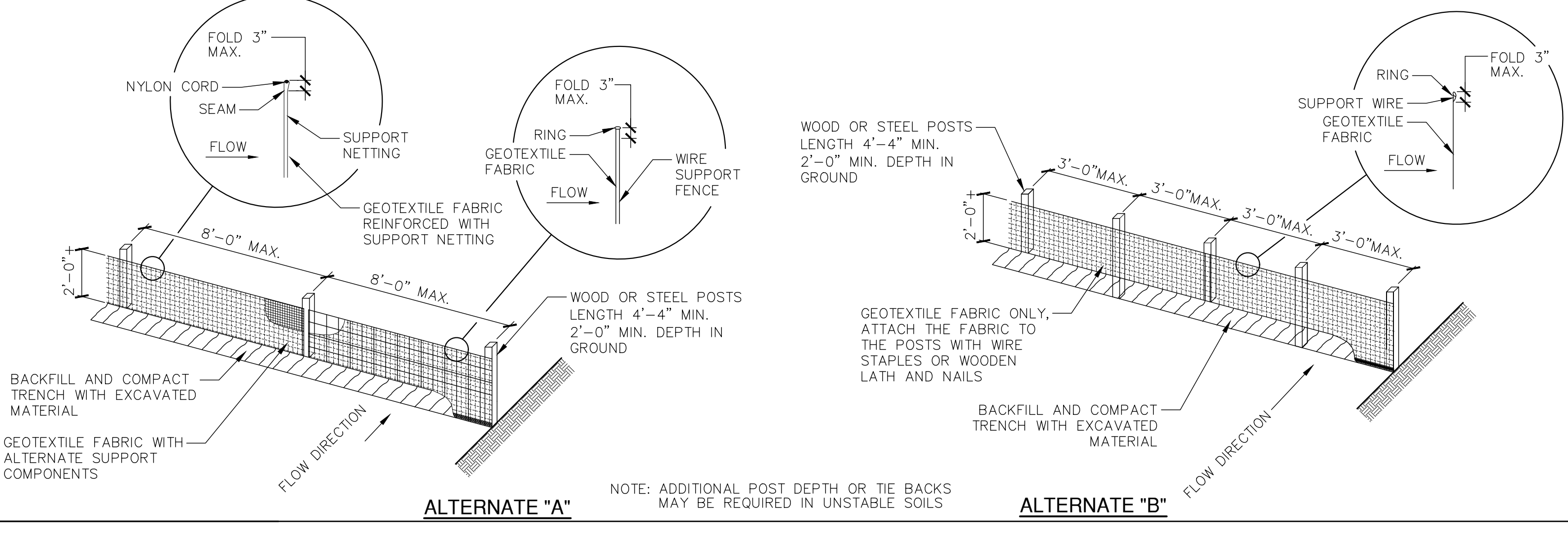




**SILT FENCE TIE BACK**  
N.T.S.

**TRENCH DETAIL**  
N.T.S.

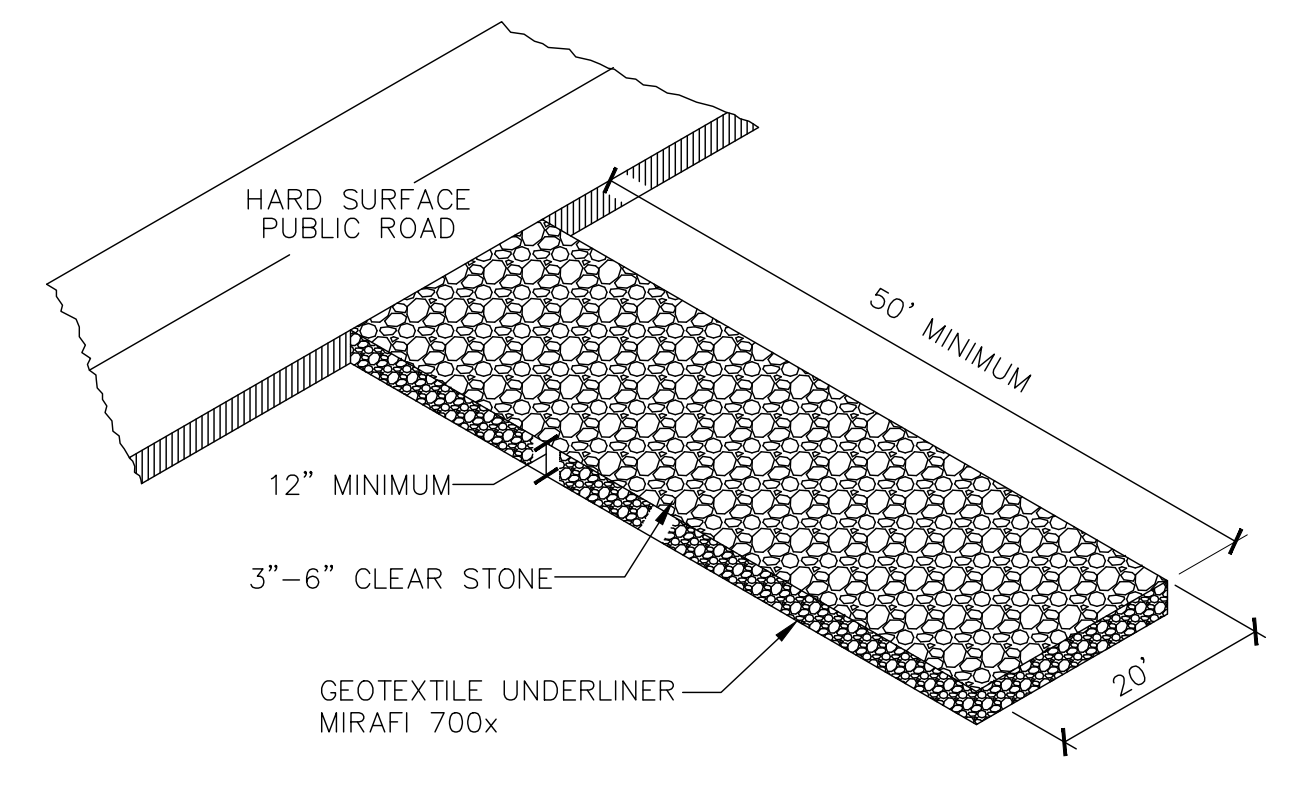
**GENERAL NOTES:**  
DETAIL OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISCONSIN DNR CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK.  
WHEN POSSIBLE THE SILT FENCE SHOULD BE CONSTRUCTED IN AN ARC OR HORSE SHOE SHAPE, WITH THE ENDS POINTING UP SLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.  
EXCAVATE A TRENCH A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.



**ALTERNATE "A"**

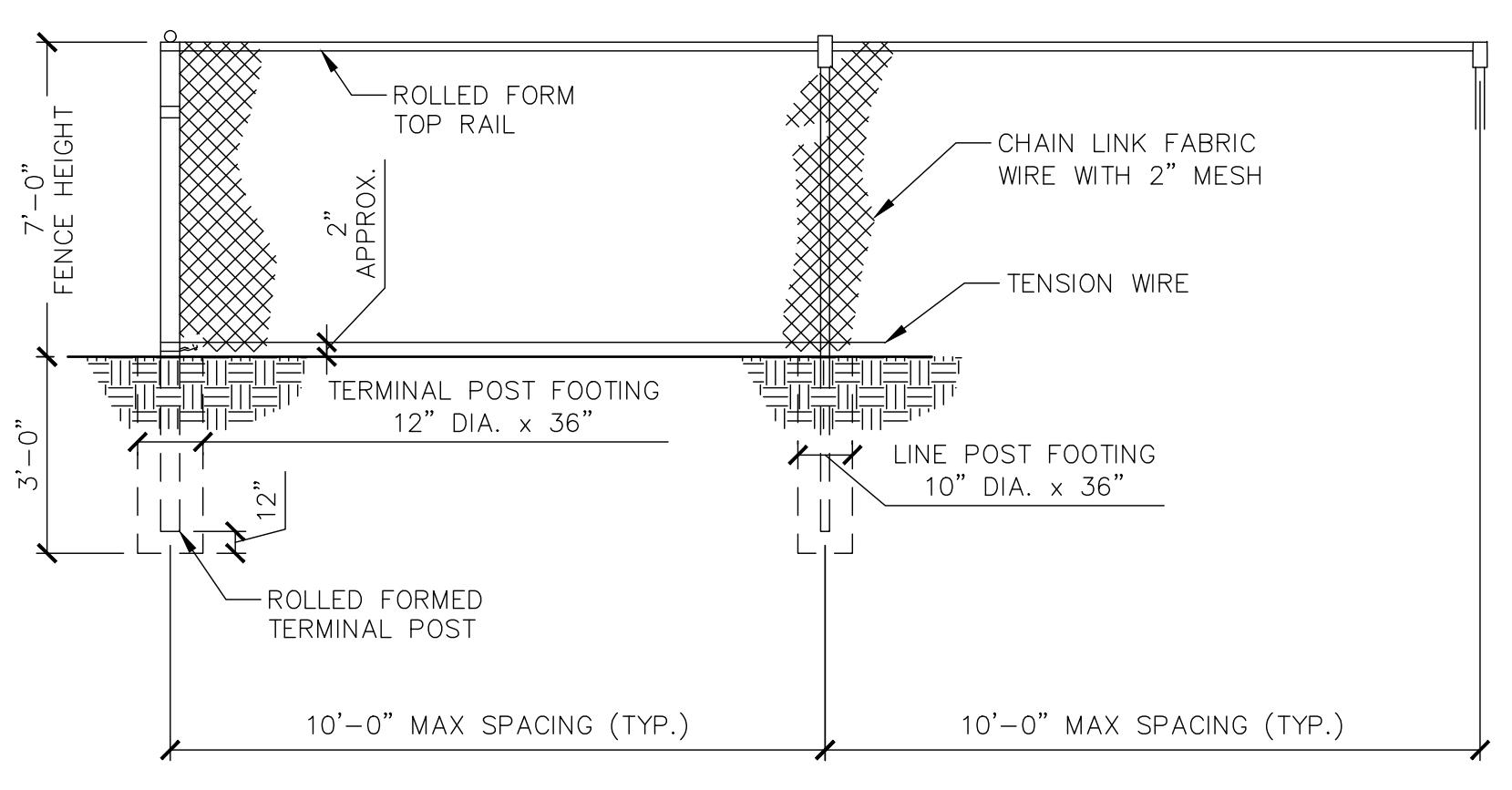
**ALTERNATE "B"**

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS



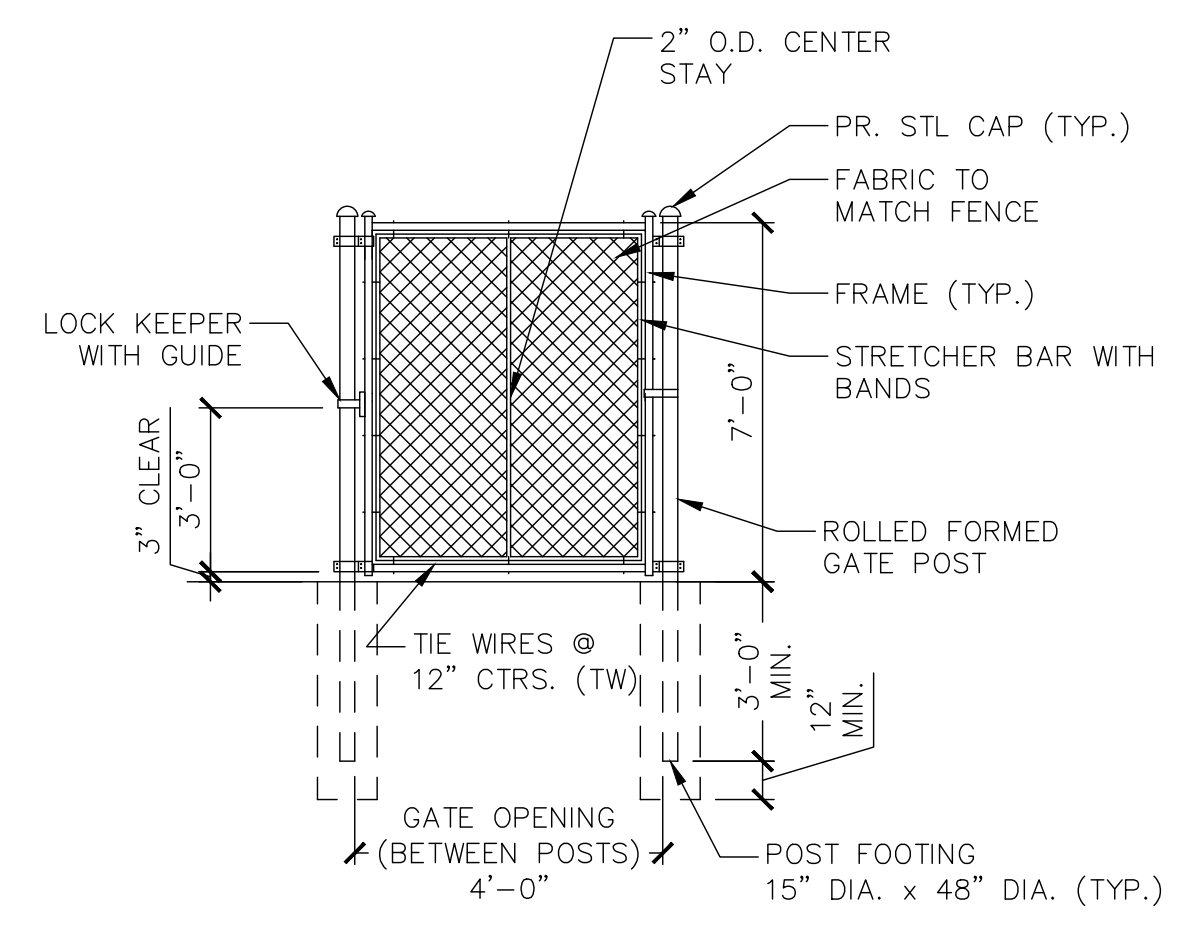
**STONE CONSTRUCTION ENTRANCE**  
N.T.S.

E6



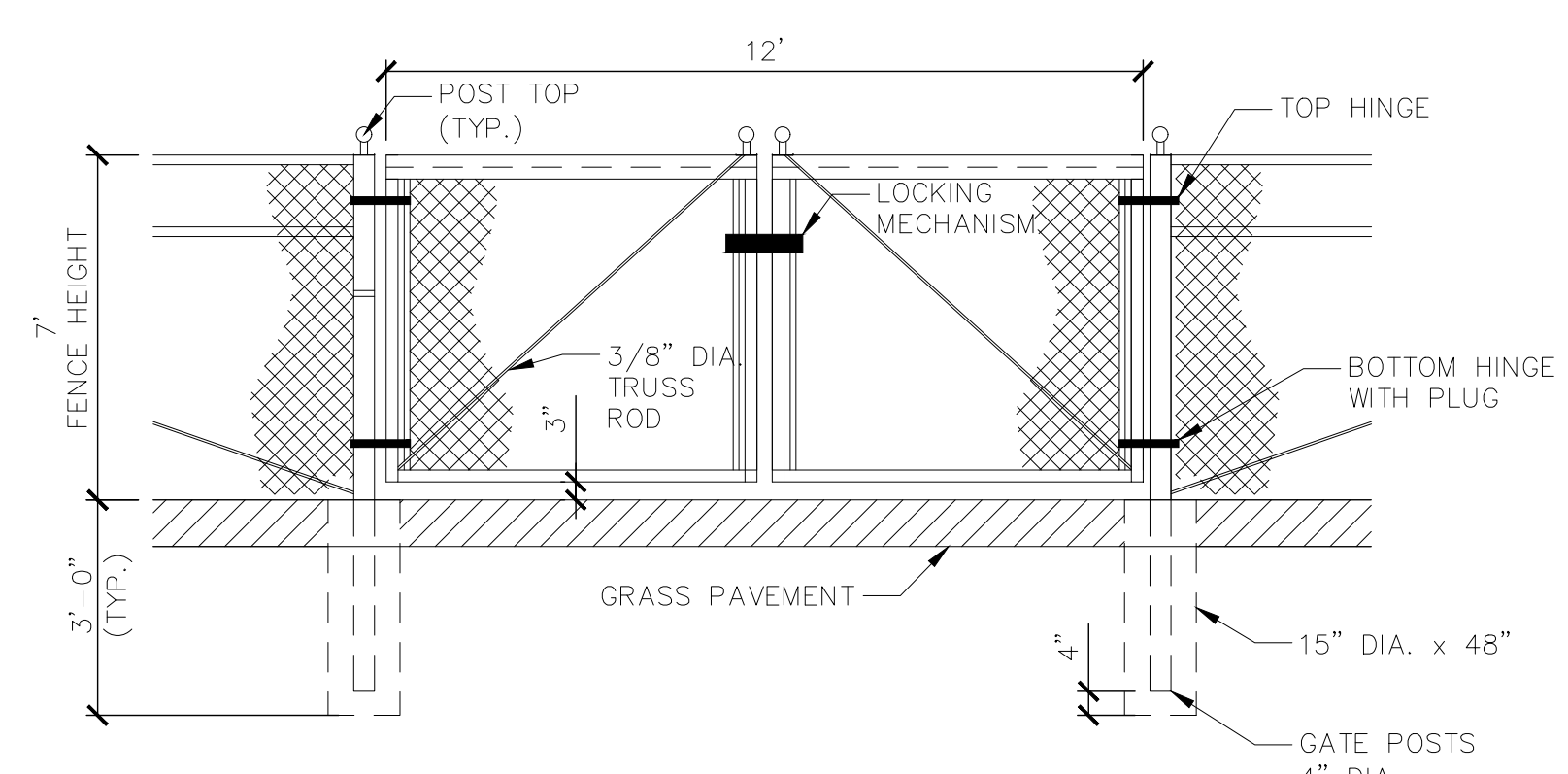
**CHAIN LINK FENCE**  
N.T.S.

D1



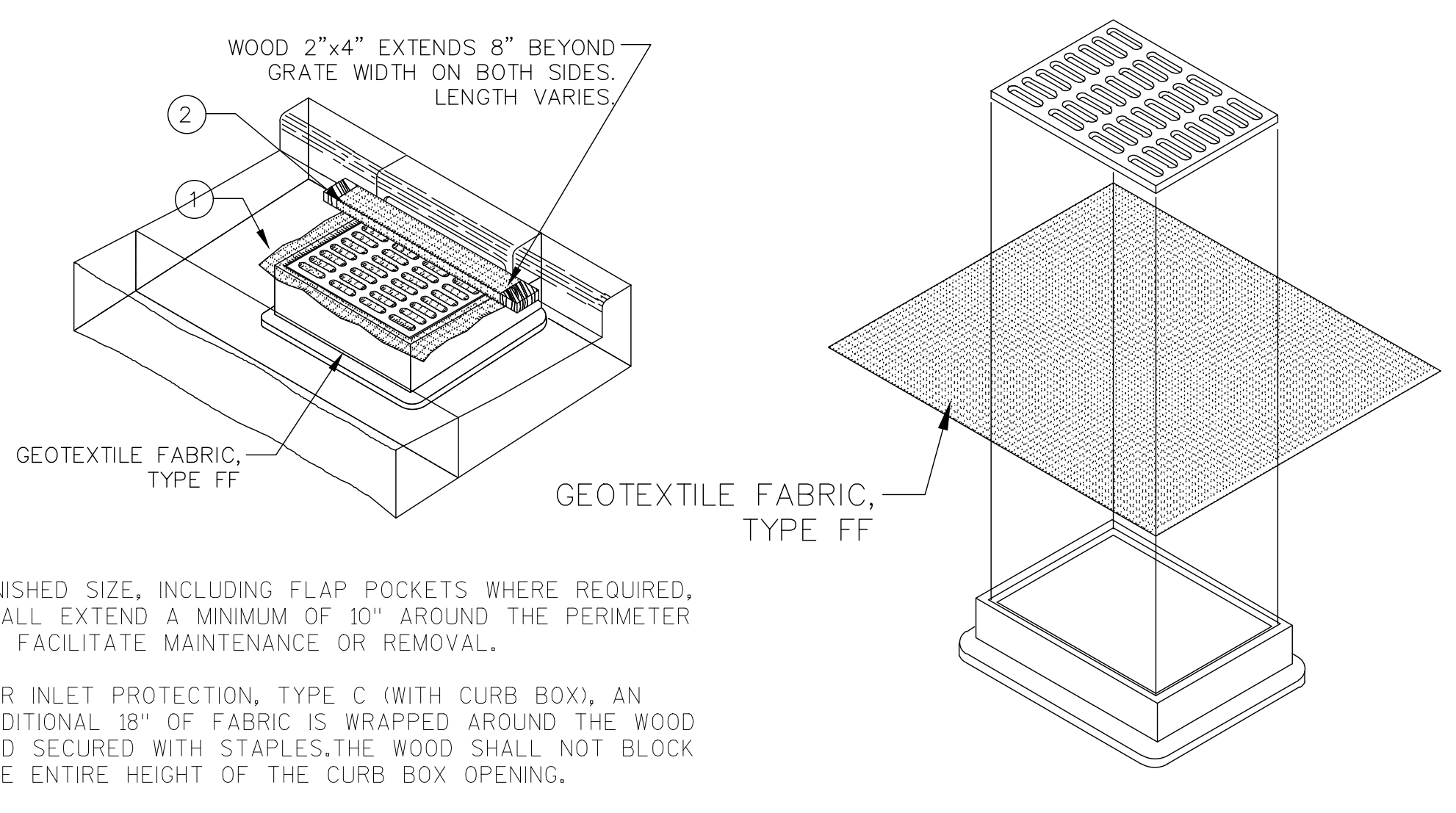
**4' SWINGING GATE ENTRANCE**  
N.T.S.

D3



**12' SWINGING GATE ENTRANCE**  
N.T.S.

D4



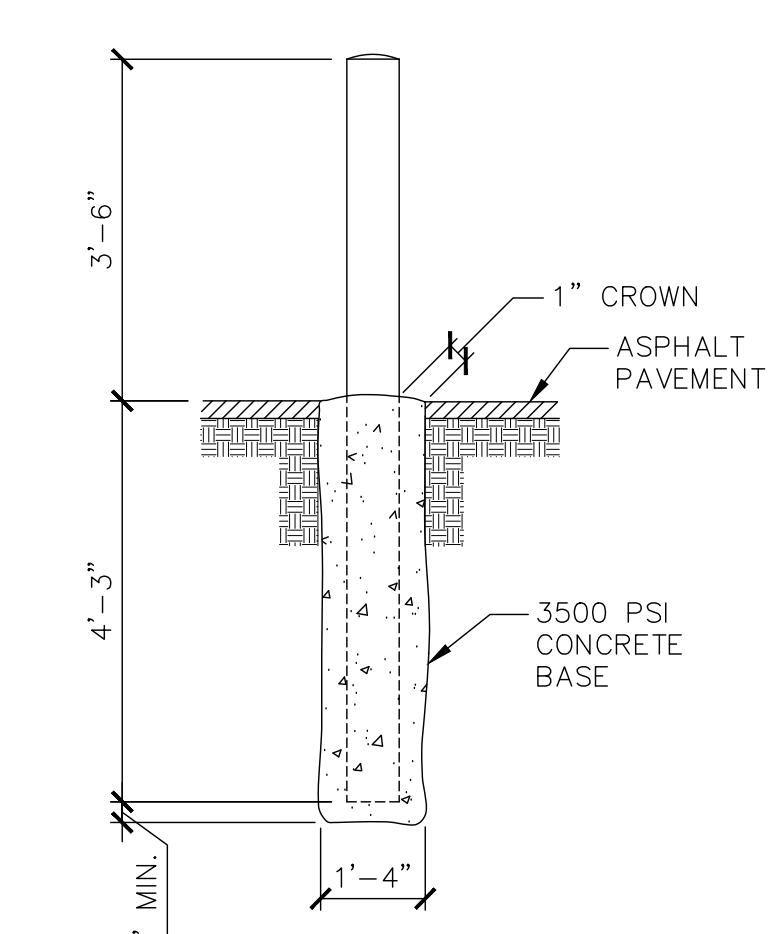
**INLET PROTECTION TYPE C**

**INLET PROTECTION TYPE B**

D6

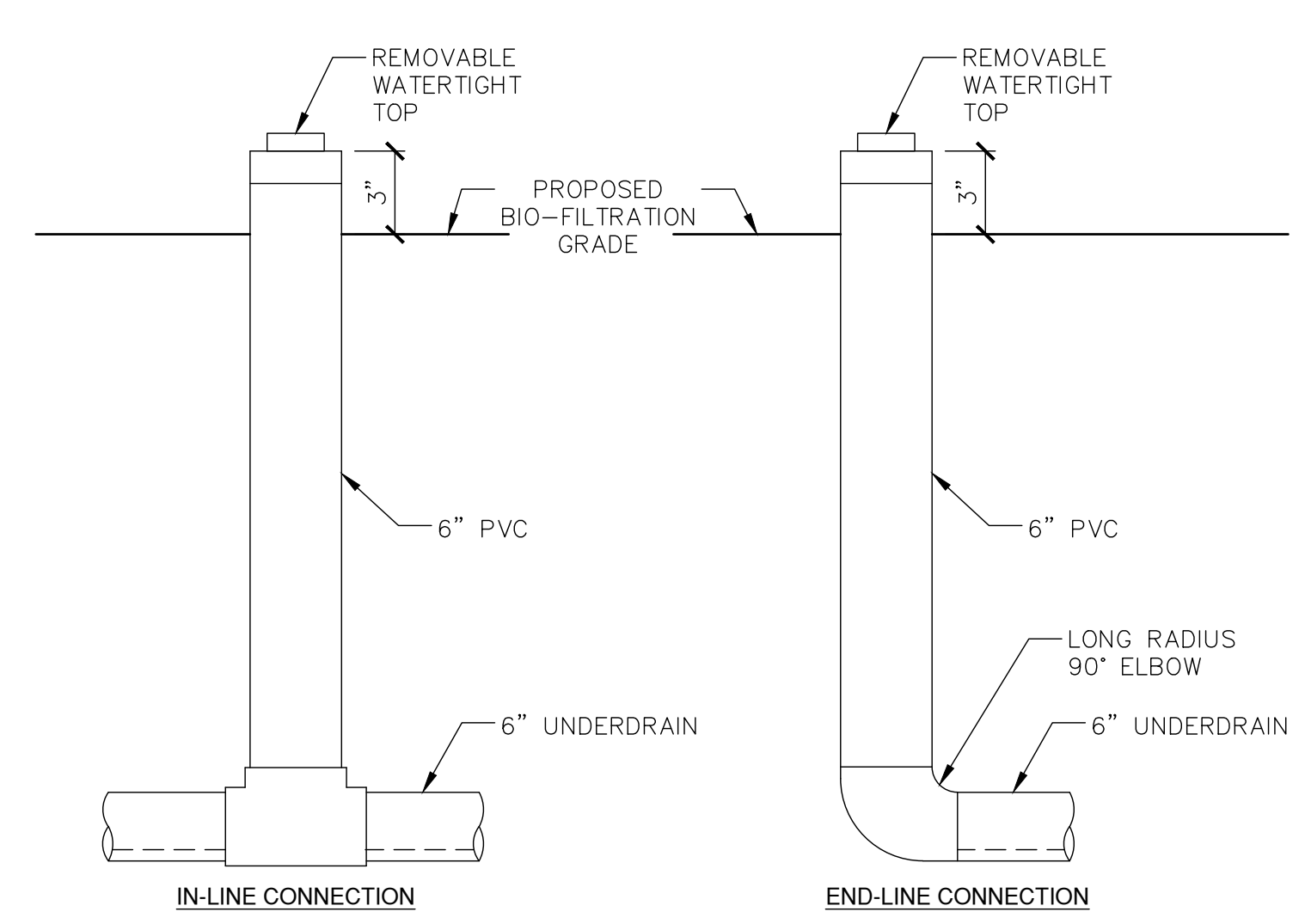
**INLET GRATE SCREEN**  
N.T.S.

D6



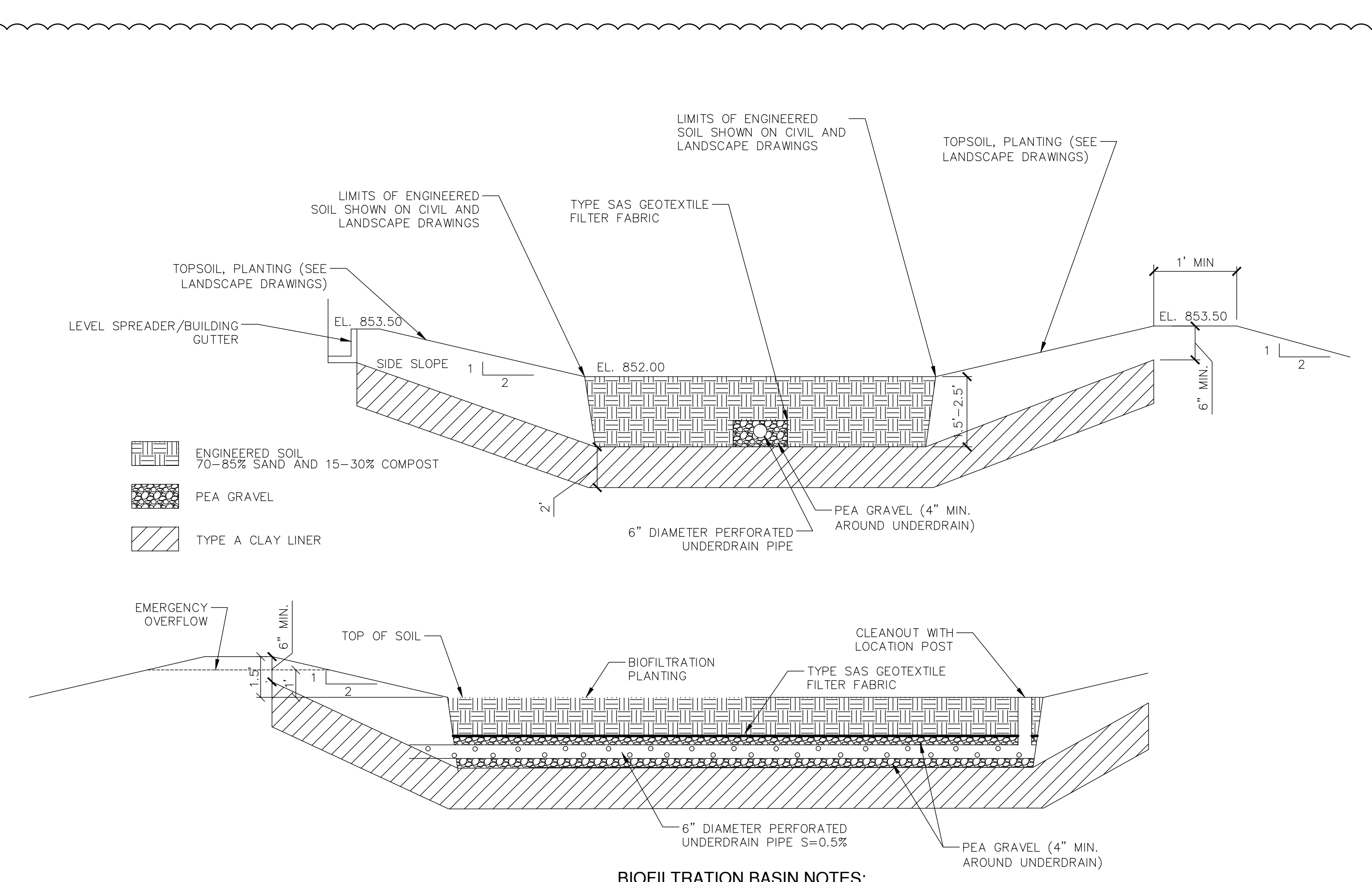
**STEEL BOLLARD**  
N.T.S.

C6



**BIOFILTRATION BASIN CLEANOUT DETAIL**  
N.T.S.

A3



**BIOFILTRATION BASIN**  
N.T.S.

A5

**BIOFILTRATION BASIN NOTES:**  
BIOFILTRATION BASIN SHALL BE CONSTRUCTED IN CONFORMANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARD 1004 BIOTENTION FOR INFILTRATION.  
ENGINEERED SOIL SHALL BE 70-85% SAND AND 15-30% COMPOST BY VOLUME.



5126 West Terrace Drive,  
Suite 111  
Madison, WI 53718-8346  
608 / 242 1550  
608 / 242 0787 fax

www.graef-usa.com

CONSULTANTS:

PROJECT TITLE:  
**CAPITOL EAST PARKING RAMP**

211 SOUTH LIVINGSTON STREET, MADISON WI 53703  
MAPS NUMBER 1927  
CONTRACT NUMBER 7961

CLIENT:

**CITY OF MADISON PARKING UTILITY**  
215 MARTIN LUTHER KING, JR BLVD  
MADISON, WISCONSIN 53701-2986



ISSUE:

NO	DATE	DESCRIPTION
1	07/10/17	SITE PLAN REVIEW APPROVAL
2	08/02/17	ADDENDUM #3

PROJECT INFORMATION:

PROJECT NUMBER: 2016-5051  
DATE: 06/30/17  
DRAWN BY: SRK  
CHECKED BY: JAL  
APPROVED BY: JAL  
SCALE: AS NOTED  
SET TYPE: BD

SHEET TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

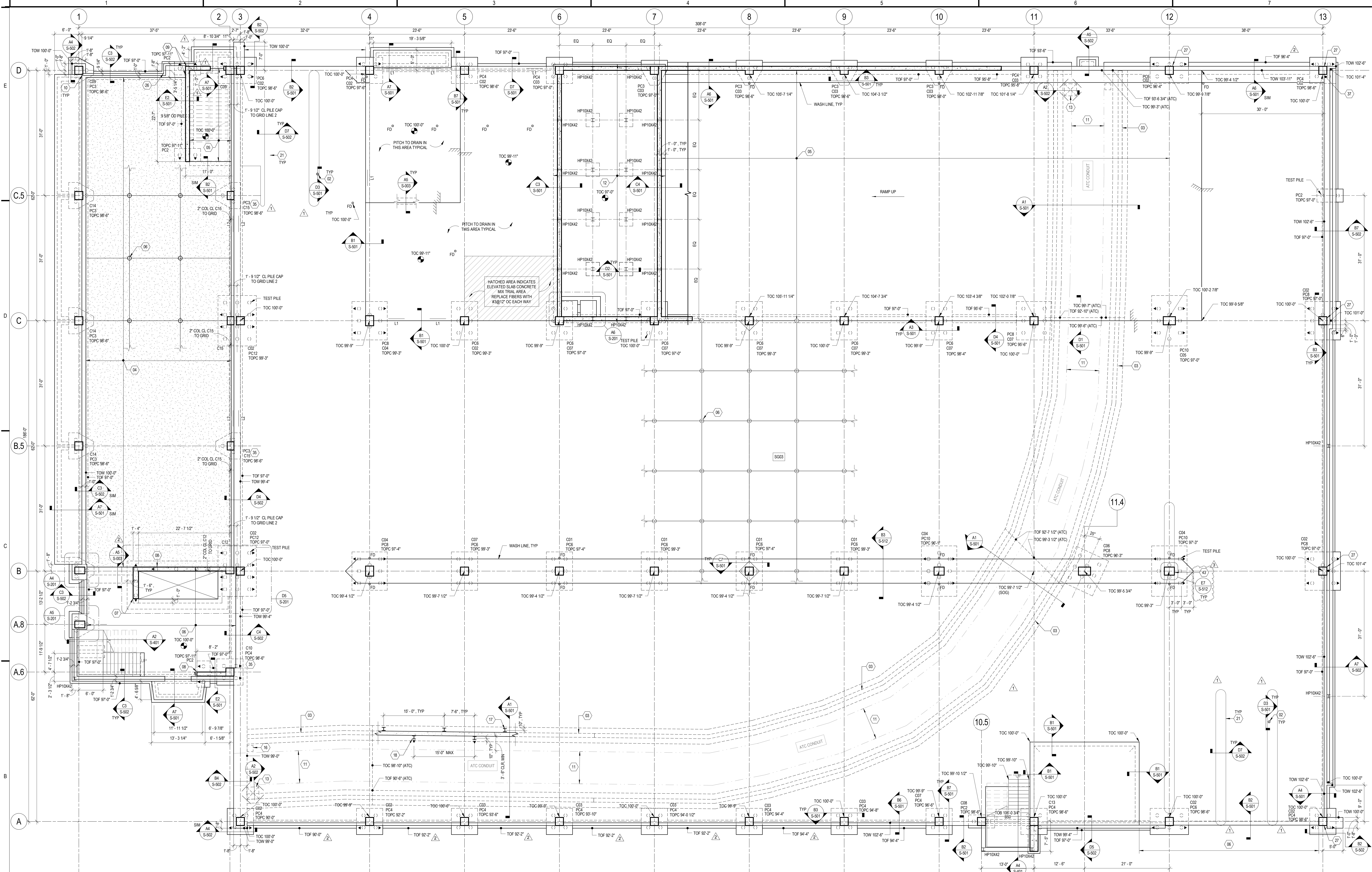
**C-900**

X:\IND\2016\20165051\CAD\Sheet\00\_C\_00\_C900\_ConstructionDetails\_5051.dwg 8/2/2017 12:29 PM





NO	DATE	DESCRIPTION
1	07/19/2017	ADDENDUM #1
2	07/28/2017	ADDENDUM #2
3	08/04/2017	ADDENDUM #3



### B1 FIRST LEVEL PARKING - FIRST FLOOR COMMERCIAL PLAN

**GENERAL SHEET NOTES**

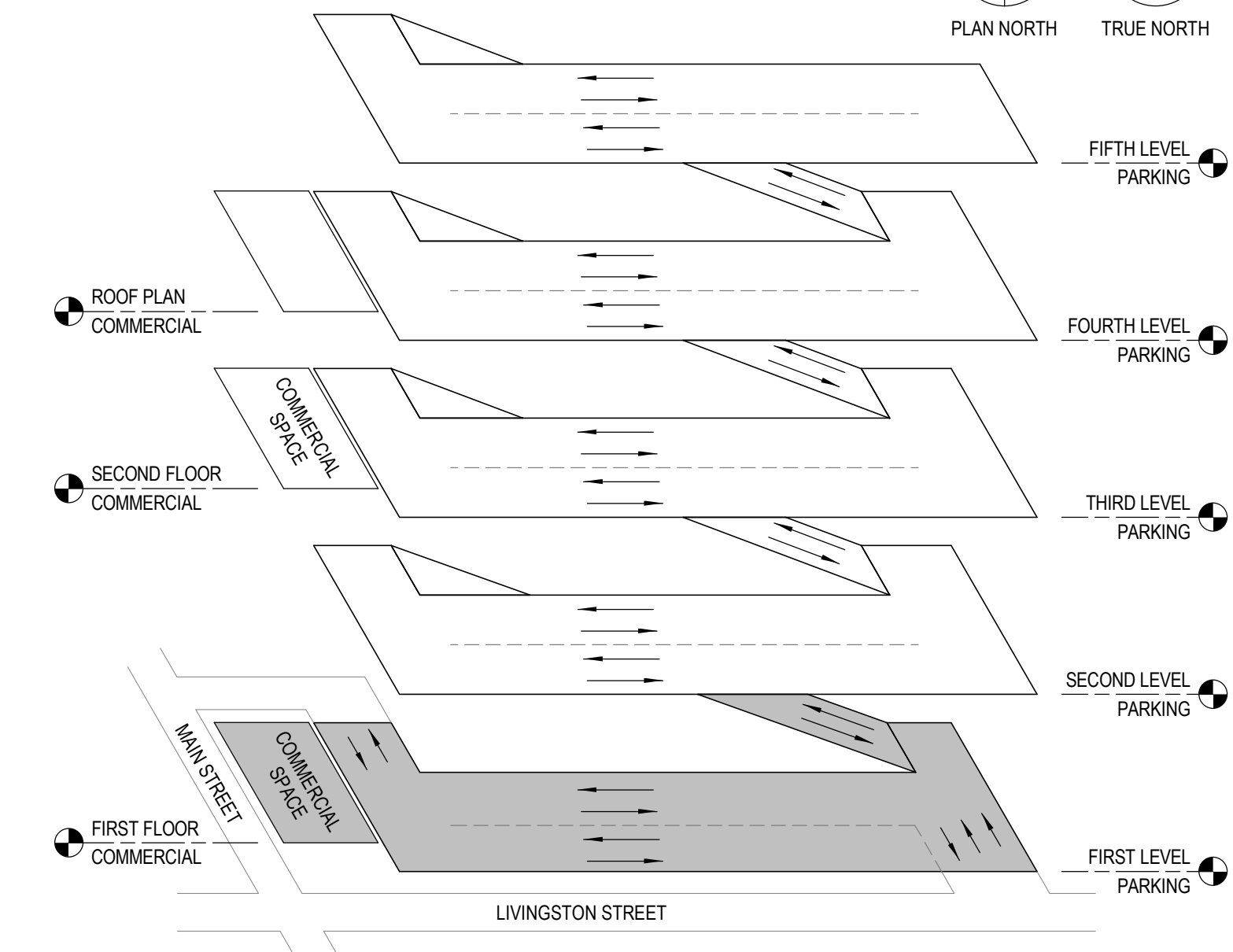
- TYPICAL FLOOR = 4" CONCRETE SLAB ON GRADE REINFORCED WITH 4#10U VAPOR BARRIER STRIP STRIP REINFORCEMENT OR AS AN ALTERNATE 6#4V@3' W/ 3" W/ 4" TOP OF CONCRETE SLAB ELEVATION VARIES. SEE PLAN.
- TYPICAL TOP OF PILE CAP ELEVATION (TOPC) TO BE NOTED ON PLAN.
- FOR FLOOR ELEVATIONS BETWEEN POINTS INDICATED USE STRAIGHT LINE INTERPOLATION.
- LEAD CONTRACTOR TO COORDINATE DRAIN TILE LATERAL CONNECTIONS THROUGH FOUNDATION WALLS. SEE PLUMBING.
- TOP OF FOUNDATION WALL/GRADE BEAM NOTED "TO W.X." ON PLAN.
- SEE "SCHEDULES" SHEETS(S) FOR PILE CAP FOOTINGS AND CONCRETE COLUMN SCHEDULES.
- SEE "GENERAL DETAILS" SHEETS(S) FOR THE FOLLOWING DETAILS:
  - OPENING REINFORCEMENT
  - SLAB ON GRADE CONTROL AND CONSTRUCTION JOINT
  - WALL CONTROL AND CONSTRUCTION JOINT
  - WALL CORNER
  - WALL INTERSECTION
  - FOOTING STEP
  - SLAB ON GRADE DEPRESSION
  - CMU WALL ON SLAB ON GRADE
  - INTERIOR COLUMN ISOLATION JOINT
  - EXTERIOR COLUMN ISOLATION JOINT
  - FLOOR DRAIN AT SLAB ON GRADE
- HOOK SHEAR WALL HORIZONTAL BARS INTO COLUMNS WHERE APPLICABLE.
- DIRECTION OF BATTERED PILE. SLOPE 1:4.

**SHEET KEYNOTES**

- BOLLARD DETAIL AT BATTERED SLAB ON STRUCTURAL DETAILS SHEET.
- ATC TUNNEL. SEE "SECTION THROUGH ATC TUNNEL" FOR ATC TUNNEL INFORMATION. EXCAVATE AND CORRECT CONDUIT PRIOR TO PILE DRIVING WITHIN 20' FEET. COORDINATE WITH SURVEYER TO DOCUMENT CONDUIT LOCATIONS. FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS RELATIVE TO THE ATC TUNNEL. INFORM ENGINEER OF ANY DIFFERENCES. CONTRACTOR TO ASSUME THE TUNNEL MAY NEED TO BE RE-ALIGNED BASED ON SURVEYED LOCATION BY 10 PERCENT OF TUNNEL VOLUME AT NO ADDITIONAL COST.
- HATCHED AREA INDICATES FUTURE SLAB ON GRADE. SUBGRADE IMPROVEMENT AND SLAB DESIGN INCLUDED IN THIS CONTRACT. SLAB ON GRADE AND VAPOR BARRIER PLACEMENT TO BE PERFORMED UNDER FUTURE CONTRACT PROVIDE 6" MINIMUM BASE COURSE BELOW FUTURE SLAB ON GRADE INCLUDED IN THIS CONTRACT.
- AT RAMPED AREA BETWEEN GRID LINES C AND D PRELOAD THIS AREA WITH COMPACTED FILL AND INSTALL SETTLEMENT MONITORING PLATES. ALLOW 3 TO 4 WEEKS FOR SETTLEMENT AND COORDINATE WITH SUBGRADE IMPROVEMENT ENGINEER PRIOR TO SLAB ON GRADE INSTALLATION.
- IMPROVE SUBGRADE BELOW SLAB ON GRADE WITH RAMMED AGGREGATE PERS. REFER TO GENERAL NOTES AND SPECIFICATIONS FOR DESIGN CRITERIA. CONTROL JOINT LAYOUT AND AGGREGATE PERS DROP DRAWINGS AND CALCULATIONS TO BE SUBMITTED PRIOR TO INSTALLATION. IMPROVE SUBGRADE BELOW ENTRY DRIVEWAYS WITH RAMMED AGGREGATE PERS. SEE CIVIL FOR DRIVEWAY LOCATIONS. REFER TO SPECIFICATIONS AND GENERAL NOTES FOR DESIGN CRITERIA.
- 18" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #5@12" OC VERTICALS AND #5@12" OC HORIZONTALS.
- 12" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #5@12" OC VERTICALS AND #4@12" OC HORIZONTALS.
- 12" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #5@12" OC VERTICALS AND #4@12" OC HORIZONTALS.
- DRILL AND EPOXY STOPP REINFORCING TO FOUNDATION WALL 6" MINIMUM EMBEDMENT.
- EXISTING ATC CONDUIT. FIELD VERIFY LOCATION. EXCAVATE AND CORRECT CONDUIT PRIOR TO PILE DRIVING WITHIN 20' FEET. COORDINATE WITH SURVEYER TO DOCUMENT CONDUIT LOCATIONS. FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS RELATIVE TO THE ATC TUNNEL. INFORM ENGINEER OF ANY DIFFERENCES.

**ELEVATION 100'-0" = 852'-0"**

- 10" THICK CONCRETE MAT SLAB REINFORCED WITH #5@12" OC EACH WAY TOP AND BOTTOM. PROVIDE CRYSTALLINE WATERPROOFING ADMIXTURE.
- ATC TUNNEL HATCH AND CASTING TO BE SET DIRECTLY ON PRECAST PLANK AND SHIM AS REQUIRED. SEE SPECIFICATIONS. PRECAST SUPPLIER TO PROVIDE HEADER AT OPENING PROVIDE 2" HA 5/8" AT CORNERS OF HATCH. TYPICAL.
- 6" SUMP PIT LOCATION FOR ATC TUNNEL.
- 40 TON UPLIFT PILE. TYPICAL.
- 40 TON BATTERED PILE. TYPICAL.
- CURB LOCATION. SEE ARCHITECTURAL DRAWINGS FOR ALL LOCATIONS AND REFERENCE STRUCTURAL DETAIL C07 ON PLAN.
- PROVIDE #4@12" OC EACH WAY AT EXTERIOR FACE OF GRADE BEAM.
- PROVIDE PVC SLEEVES WITH CAPS AT 4" OC IN COLUMN FOR FUTURE CABLE BARRIER ABOVE CAST IN PLACE WALL.
- CENTER PILE CAP ON GRID LINE 2.
- PIPE PENETRATION IN PRECAST. COORDINATE WITH PLUMBING.
- PROVIDE RESPONSIBILITY PROTECTION AT COLUMN. COORDINATE LOCATIONS WITH PLUMBING/FIRE PROTECTION/ELECTRICAL DRAWINGS. NOT ALL LOCATIONS SHOWN ON PLAN.

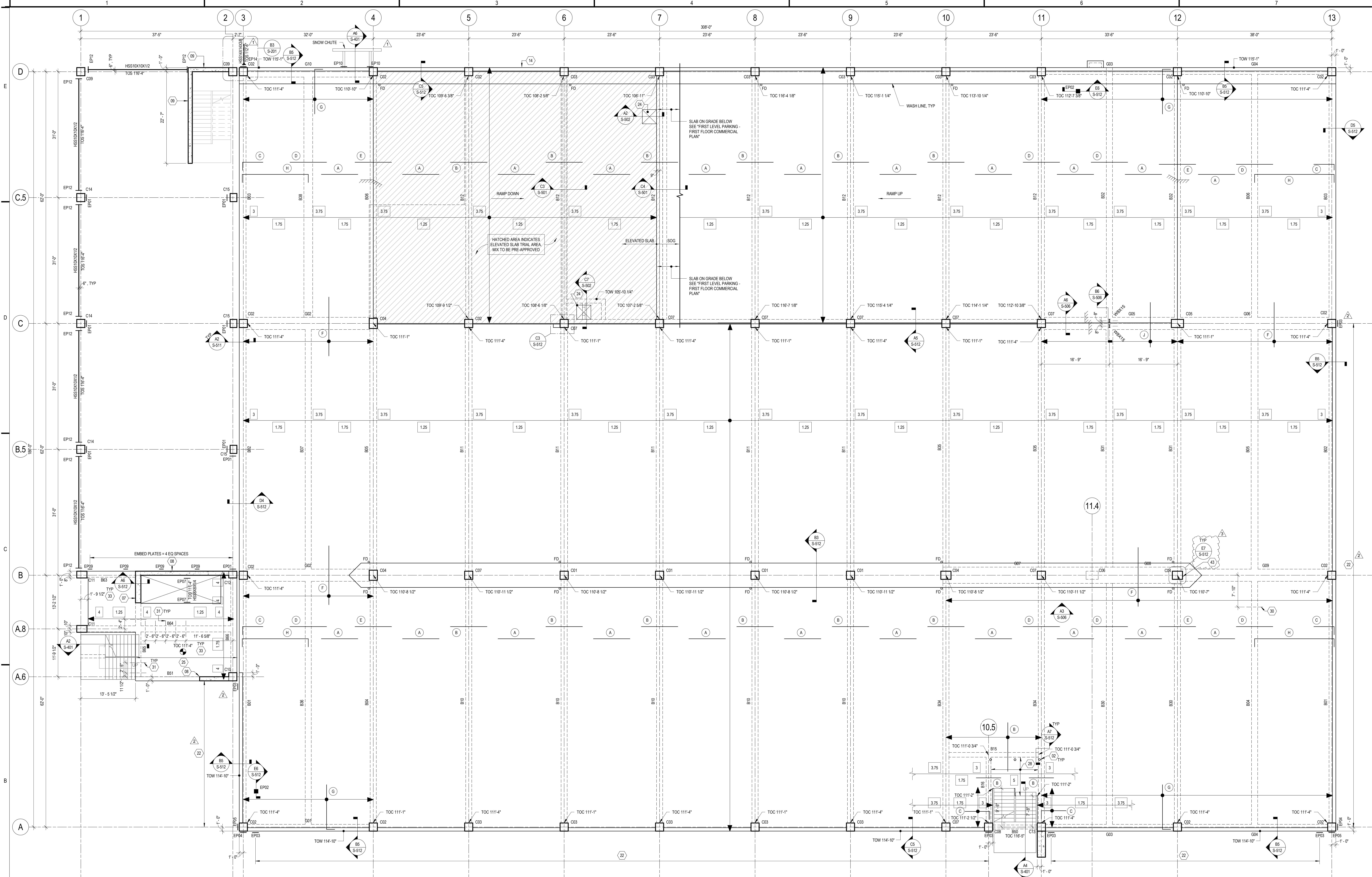


PROJECT NUMBER: 2016-5051  
DATE: 06/30/2017  
DRAWN BY: JRW  
CHECKED BY: DFW  
APPROVED BY: DFW  
SCALE: AS NOTED  
SET TYPE: BD

FIRST LEVEL PARKING - FIRST FLOOR COMMERCIAL PLAN



NO	DATE	DESCRIPTION
1	07/19/2017	ADDENDUM #1
2	07/28/2017	ADDENDUM #2
3	08/04/2017	ADDENDUM #3



**B1 SECOND LEVEL PARKING PLAN**  
1/8" = 1'-0"

**GENERAL SHEET NOTES**

- TYPICAL FLOOR - AT PARKING RAMP FLOORS PROVIDE 6" NOMINAL SLAB THICKNESS AND AT COMMERCIAL SPACE FLOORS PROVIDE 8" NOMINAL SLAB THICKNESS THROUGHOUT UNLESS NOTED OTHERWISE. ADDITIONAL THICKNESS REQUIRED AT DRAINAGE SADDLES. REQUIRED FORCE IN SLAB TENDONS EQUALS 18 KIPS PER FOOT OF SLAB WIDTH AT PARKING RAMP. REQUIRED FORCE IN SLAB TENDONS EQUALS 17 KIPS PER FOOT OF SLAB WIDTH AT COMMERCIAL SPACE. TOP OF CONCRETE SLAB NOTED TOC X'-X" ON PLAN. TOP OF BEAM IS AT TOP OF SLAB (TOC) UNLESS NOTED OTHERWISE.
- POST TENSION SEQUENCE:  
1. POST TENSION SLABS  
2. POST TENSION BEAMS  
3. POST TENSION GRIDDERS
- DO NOT RELEASE FORMS UNTIL CRASH BARRIERS ARE POURED AND HARDENED.
- FOR FLOOR ELEVATIONS BETWEEN POINTS INDICATED USE STRAIGHT LINE INTERPOLATION.
- SEE "SCHEDULES" SHEET FOR POST TENSIONED CONCRETE BEAMS.
- PROVIDE EPXY COATED REINFORCEMENT IN ACCORDANCE WITH ASTM A775 PER NOTES ON GENERAL NOTES SHEET.
- SEE "POST TENSION DETAILS" SHEETS FOR POST TENSION DETAILS.
- SEE POST TENSIONED DETAILS SHEETS AND STRUCTURAL DETAIL SHEETS FOR SEALANT DETAILS REQUIRED AND TEMPERATURE AND SHRINKAGE TENDON LAYOUT.
- SEE ELECTRICAL, PLUMBING, FIRE PROTECTION, HVAC AND ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATIONS OF SLAB OPENINGS AND PIPE SLEEVES. PROVIDE SLEEVES WITH DIAMETER 1" LARGER THAN CONDUIT. ALL SLEEVES TO BE SCHEDULE 40 STEEL PIPE.
- NO RECESSED AREAS IN SLAB ARE ALLOWED WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.
- THE GENERAL CONTRACTOR IS TO COORDINATE THE FINAL LOCATIONS OF CONSTRUCTION JOINTS WITH POST-TENSION SUPPLIER AND TO SUBMIT POURING AND STRESSING SEQUENCE TO ENGINEER DURING POST-TENSIONING SHOP DRAWING SUBMITTAL.
- HOOK SHEAR WALL HORIZONTAL BARS INTO COLUMNS WHERE APPLICABLE.

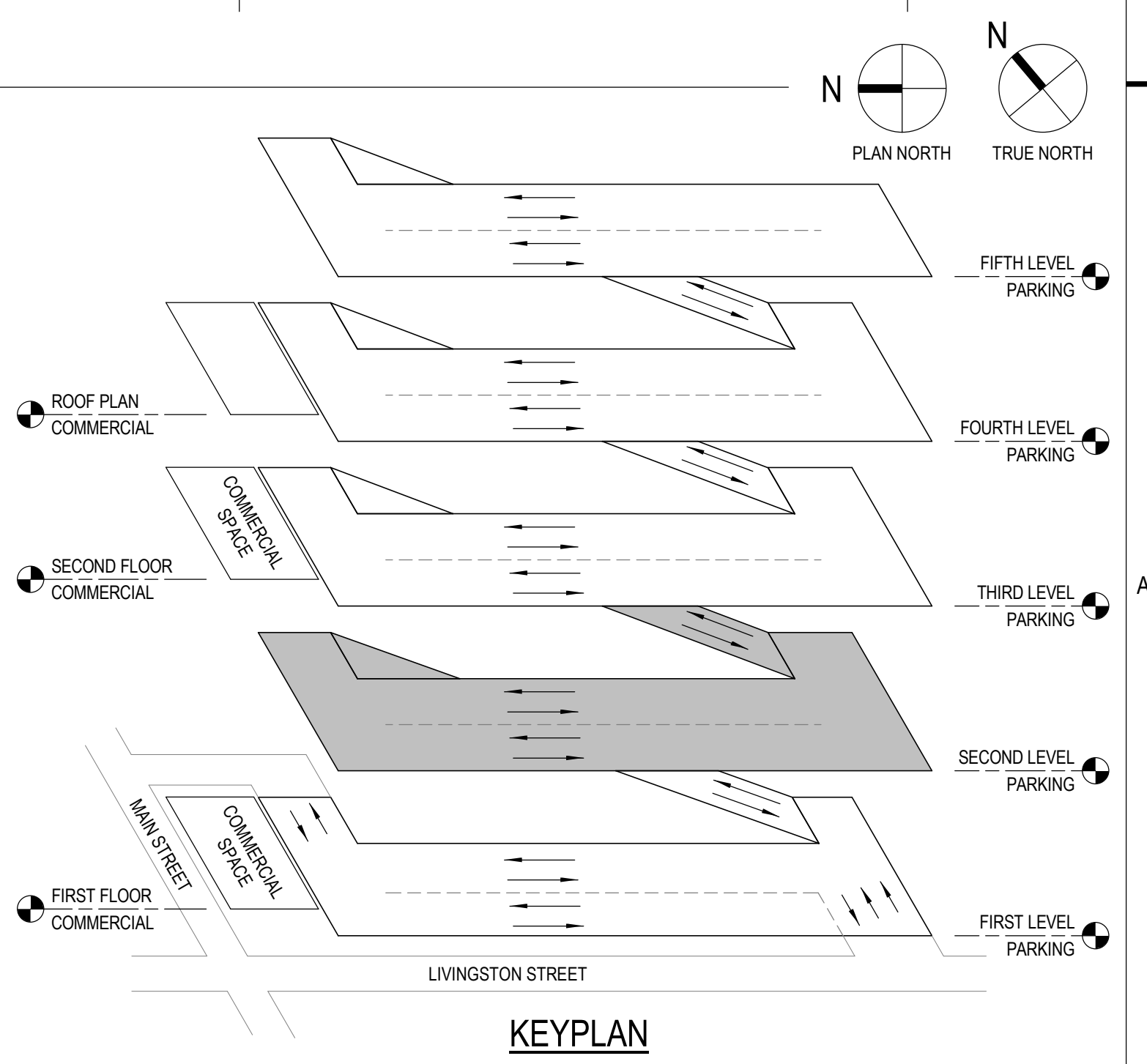
**SHEET KEYNOTES**

- BOLLARD LOCATION: SEE ARCHITECTURAL FOR ALL LOCATIONS AND REFERENCE "PIPE BOLLARD DETAIL AT ELEVATED SLABS" ON STRUCTURAL DETAILS SHEET.
- 18" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #5@12" OC VERTICALS AND #4@12" OC HORIZONTALS.
- 12" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #5@12" OC VERTICALS AND #4@12" OC HORIZONTALS.
- GROUT TEST AREA: GROUT FOUR POST TENSION LIVE ENDS. VERIFY WITH ARCHITECT AND ENGINEER GROUT COLOR MATCHES CONCRETE BECK COLOR PRIOR TO GROUTING ANY OTHER POST TENSION ENDS.
- 22 PROVIDE EMBED PLATE EP03 AT SLAB EDGE AT 3'-0" TO SUPPORT PERFORATED METAL PANELS.
- 24 2" x 4" HATCH LOCATION.
- DRAPE TEMPERATURE AND SHRINKAGE POST TENSION TENDONS AS SHOWN, THIS DAY ONLY.
- 17" SLAB AT STAIRS WITHIN THIS BAY.
- 8" DIAMETER FILING/DRILL PENETRATION, CENTER THE OPENING AT 1/4" FROM THE BOTTOM OF BEAM. SEE "BEAM PENETRATION REINFORCEMENT DETAIL" ON SCHEDULES SHEET. VERIFY PENETRATION LOCATIONS WITH PLUMBING.
- 6" OR 8" DIAMETER MECHANICAL PENETRATIONS, CENTER THE OPENING AT 1/4" FROM THE BOTTOM OF BEAM. SEE "BEAM PENETRATION REINFORCEMENT DETAIL" ON SCHEDULES SHEET. VERIFY PENETRATION SIZES AND LOCATIONS WITH MECHANICAL.
- PROVIDE #4 BARS AT 12" OC TOP AND BOTTOM EACH WAY WITH STANDARD 90 DEGREE HOOKS AT 24" ON CENTER. SLAB AT ELEVATED (TOP) AND 12" ON CENTER. SEE "CONCRETE DETAIL" ON SCHEDULES SHEET.
- PROVIDE PRECAST PROTECTION AT COLUMN. COORDINATE LOCATIONS WITH PLUMBING/FIRE PROTECTION/ELECTRICAL DRAWINGS. NOT ALL LOCATIONS SHOWN ON PLAN.

**POST-TENSIONED ONE-WAY SLAB MLD REINFORCEMENT SCHEDULE**

MARK	REINFORCING	NOTES
(A)	#4 x 11'-0" @ 16" OC BOT.	(1)
(B)	#4 x 11'-0" @ 16" OC TOP	
(C)	#4 x 9'-0" + HOOK @ 16" OC TOP	
(D)	#4 x 11'-0" @ 16" OC TOP	
(E)	#4 x 11'-0" @ 5" OC TOP	(2)
(F)	#4 x 12'-0" @ 16" OC TOP	
(G)	#4 x 6'-0" + HOOK @ 16" OC TOP	
(H)	#4 x CONT @ 16" OC BOTTOM	
(J)	#4 x 12'-0" @ 16" OC TOP	(3)

- GENERAL NOTES:**
- ALL SLAB REINFORCEMENT TO BE EPXY COATED. SEE S001.
  - EXTENT OF MLD REINFORCEMENT IS FOR FULL WIDTH OF BUILDING UNLESS OTHERWISE NOTED.
  - 3 BAR SCHEDULE CONTAINS MILD STEEL FOR SPAN CONDITIONS ONLY. REFER TO DETAILS FOR ADDITIONAL SLAB REINFORCEMENT REQUIRED.
  - A CLASS LAP MUST BE PROVIDED AT ALL SPACES IN REINFORCEMENT MARKED AS "CONT".
  - FOR ALL BAYS CONTAINING A POUR STRIP, PROVIDE #4 X CONT @ 16" OC TOP AND BOTTOM.
- EXTEND EVERY THIRD BAR FULL SPAN. EXTEND INTO SUPPORT 4"
  - BEND BARS TO MATCH SLOPE.
  - BEND BARS TO MATCH SLAB STEP MATCH SLOPE.



**PROJECT INFORMATION:**

PROJECT NUMBER: 2016-5051  
DATE: 06/30/2017  
DRAWN BY: JRW  
CHECKED BY: DFW  
APPROVED BY: DFW  
SCALE: AS NOTED  
SET TYPE: BD

**SHEET TITLE:**

SECOND LEVEL PARKING PLAN

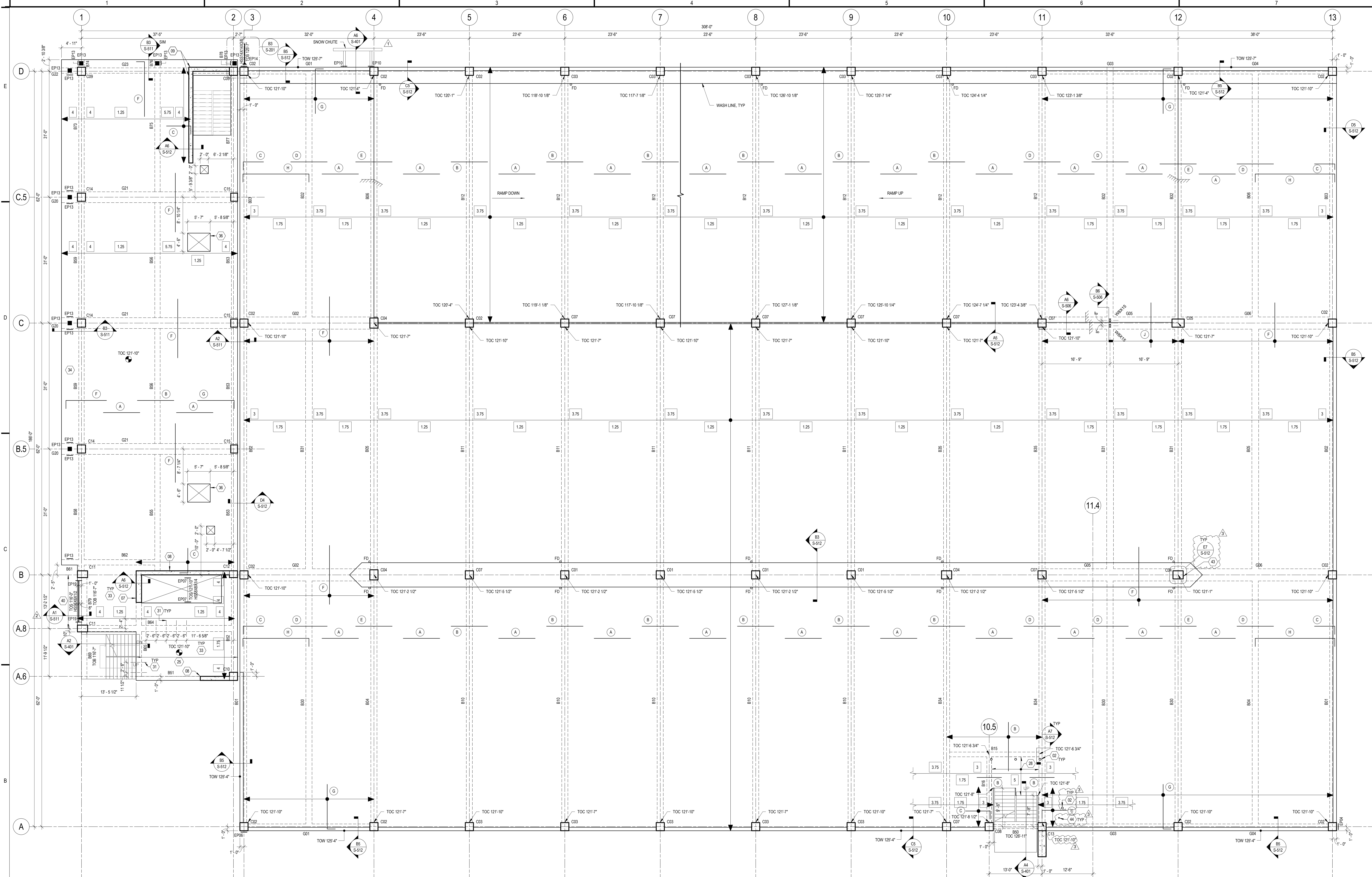
**SHEET NUMBER:**

S-102





NO	DATE	DESCRIPTION
1	07/19/2017	ADDENDUM #1
2	07/28/2017	ADDENDUM #2
3	08/04/2017	ADDENDUM #3



**B1** THIRD LEVEL PARKING - SECOND FLOOR COMMERCIAL PLAN  
1/8" = 1'-0"

**GENERAL SHEET NOTES**

- TYPICAL FLOOR - AT PARKING RAMP FLOORS PROVIDE 6" NOMINAL SLAB THICKNESS AND AT COMMERCIAL SPACE FLOORS PROVIDE 8" NOMINAL SLAB THICKNESS THROUGHOUT UNLESS NOTED OTHERWISE. ADDITIONAL THICKNESS REQUIRED AT DRAINAGE SADDLES. REQUIRED FORCE IN SLAB TENDONS EQUALS 18 KIPS PER FOOT OF SLAB WIDTH AT PARKING RAMP. REQUIRED FORCE IN SLAB TENDONS EQUALS 17 KIPS PER FOOT OF SLAB WIDTH AT COMMERCIAL SPACE. TOP OF CONCRETE SLAB NOTED TOC "X" ON PLAN. TOP OF BEAM AT TOP OF SLAB (TOC) UNLESS NOTED OTHERWISE.
- POST TENSION SEQUENCE:  
1. POST TENSION SLABS  
2. POST TENSION BEAMS  
3. POST TENSION GRIDDERS
- DO NOT RELEASE FORMS UNTIL CRASH BARRIERS ARE POURED AND HARDENED.
- FOR FLOOR ELEVATIONS BETWEEN POINTS INDICATED USE STRAIGHT LINE INTERPOLATION.
- SEE "SCHEDULES" SHEET FOR POST TENSIONED CONCRETE BEAMS.
- PROVIDE EPOXY COATED REINFORCEMENT IN ACCORDANCE WITH ASTM A775 PER NOTES ON GENERAL NOTES SHEET.
- SEE "POST TENSION DETAILS" SHEETS FOR POST TENSION DETAILS.
- SEE POST TENSIONED DETAILS SHEETS AND STRUCTURAL DETAIL SHEETS FOR SEALANT DETAILS REQUIRED AND TEMPERATURE AND SHRINKAGE TENDON LAYOUT.
- SEE ELECTRICAL, PLUMBING, FIRE PROTECTION, HVAC AND ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATIONS OF SLAB OPENINGS AND PIPE SLEEVES. PROVIDE SLEEVES WITH DIAMETER 1" LARGER THAN CONDUIT. ALL SLEEVES TO BE SCHEDULE 40 STEEL PIPE.
- NO RECESSED AREAS IN SLAB ARE ALLOWED WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.
- THE GENERAL CONTRACTOR IS TO COORDINATE THE FINAL LOCATIONS OF CONSTRUCTION JOINTS WITH POST TENSION SUPPLIER AND TO SUBMIT POURING AND STRESSING SEQUENCE TO ENGINEER DURING POST-TENSIONING SHOP DRAWING SUBMITTAL.

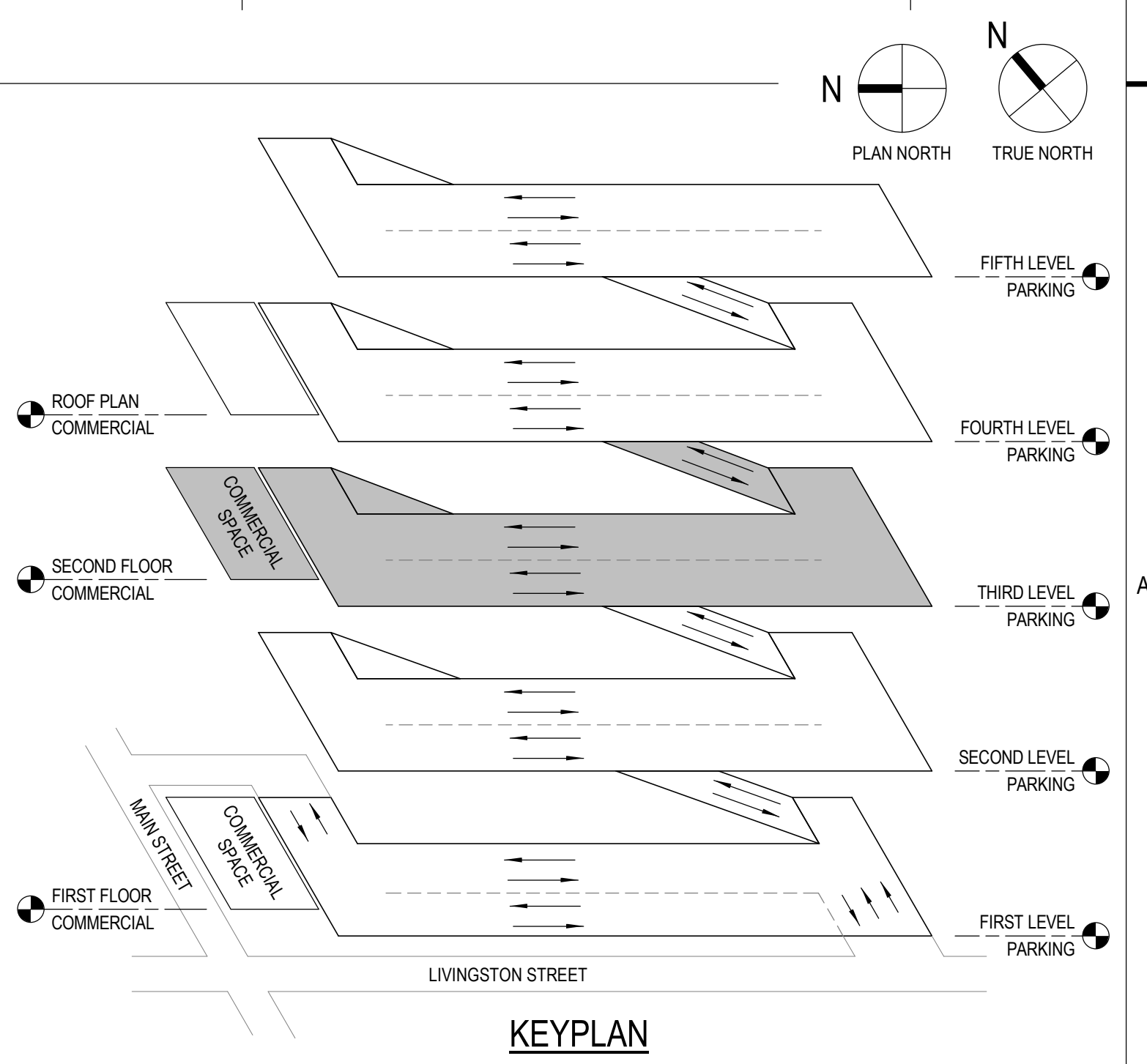
**SHEET KEYNOTES**

- 12 BOLLARD LOCATION. SEE ARCHITECTURAL FOR ALL LOCATIONS AND REFERENCE "PIPE BOLLARD" DETAIL AT "ELEVATED SLABS" ON STRUCTURAL DETAILS SHEET.
- 17 10" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #8@12" OC VERTICALS AND #8@12" OC HORIZONTALS.
- 18 12" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #8@12" OC VERTICALS AND #8@12" OC HORIZONTALS.
- 19 12" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #8@12" OC VERTICALS AND #8@12" OC HORIZONTALS.
- 25 DRAPE TEMPERATURE AND SHRINKAGE POST TENSION TENDONS AS SHOWN, THIS BAY ONLY.
- 26 10" SLAB AT STAIRS WITHIN THIS BAY.
- 31 6" DIA. MECHANICAL PENETRATIONS, CENTER THE OPENING AT 11" FROM THE BOTTOM OF BEAM. SEE "BEAM PENETRATION REINFORCEMENT DETAIL" ON SCHEDULES SHEET. VERIFY PENETRATION SIZES AND LOCATIONS WITH MECHANICAL.
- 34 PROVIDE (1) TEMPERATURE AND SHRINKAGE TENDON TENSIONED AT 26.7 KIPS, 30" FROM EDGE OF CANTILEVER.
- 36 FUTURE MECHANICAL OPENING, REINFORCE PER "TYPICAL OPENINGS IN POST-TENSION SLABS" DETAIL ON TYPICAL POST TENSION DETAILS SHEET. PROVIDE #4@12" OC BOTTOM EACH WAY THROUGHOUT FUTURE OPENING. EXTEND BARS 20" PAST EDGE OF FUTURE OPENING.
- 43 PROVIDE PIPE/CONDUIT PROTECTION AT COLUMN. COORDINATE LOCATIONS WITH PLUMBING/FIRE PROTECTION/ELECTRICAL DRAWINGS. NOT ALL LOCATIONS SHOWN ON PLAN.
- 44 FENCE POST. REFER TO ARCHITECTURAL FOR LOCATIONS. REFER TO DETAIL AT CHAIN LINK FENCE ON STRUCTURAL DETAILS SHEET FOR ADDITIONAL INFORMATION.

**POST-TENSIONED ONE-WAY SLAB MILD REINFORCEMENT SCHEDULE**

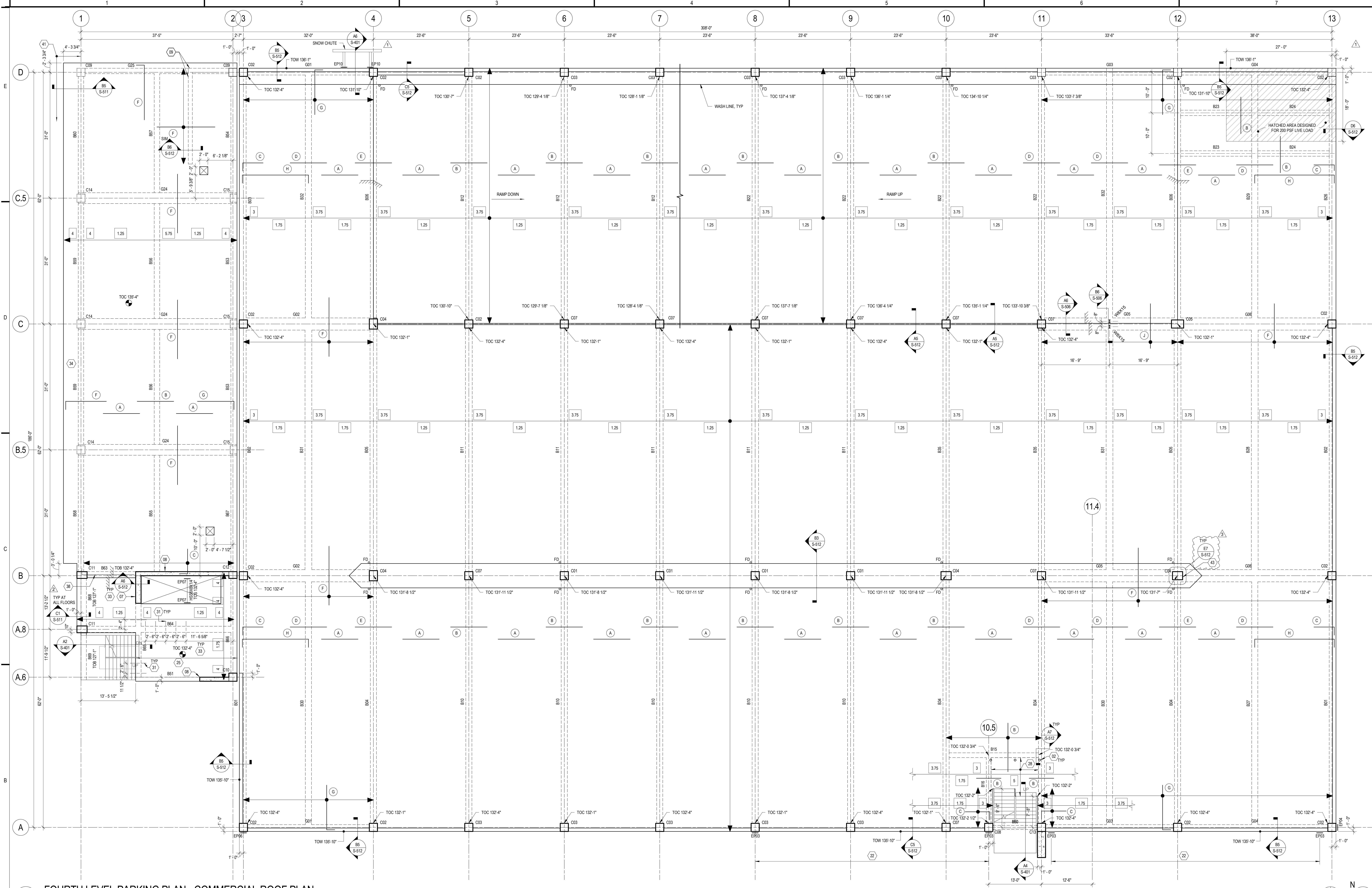
MARK	REINFORCING	NOTES
(A)	#4 x 11'-0" @ 16" OC BOT.	1
(B)	#4 x 11'-0" @ 16" OC TOP	
(C)	#4 x 9'-0" + HOOK @ 16" OC TOP	
(D)	#4 x 11'-0" @ 16" OC TOP	
(E)	#4 x 11'-0" @ 16" OC TOP	2
(F)	#4 x 12'-0" @ 16" OC TOP	
(G)	#4 x 9'-0" + HOOK @ 16" OC TOP	
(H)	#4 x CONT @ 16" OC BOTTOM	
(J)	#4 x 12'-0" @ 16" OC TOP	3

- GENERAL NOTES:**
- ALL SLAB REINFORCEMENT TO BE EPOXY COATED. SEE S001.
  - EXTENT OF MILD REINFORCEMENT IS FOR FULL WIDTH OF BUILDING UNLESS OTHERWISE NOTED.
  - BAR SCHEDULE CONTAINS MILD STEEL FOR SPAN CONDITIONS ONLY. REFER TO DETAILS FOR ADDITIONAL SLAB REINFORCEMENT REQUIRED.
  - A CLASS SLIP MUST BE PROVIDED AT ALL SPACES IN REINFORCEMENT MARKED AS "CON".
  - FOR ALL BAYS CONTAINING A POUR STRIP, PROVIDE #4 X CONT @ 10" OC TOP AND BOTTOM.
- EXTEND EVERY THIRD BAR FULL SPAN INTO SUPPORT 6"
  - BEND BARS TO MATCH SLOPE.
  - BEND BARS TO MATCH SLAB STEP MATCH SLOPE.





NO	DATE	DESCRIPTION
1	07/19/2017	ADDENDUM #1
2	07/28/2017	ADDENDUM #2
3	08/04/2017	ADDENDUM #3



**B1 FOURTH LEVEL PARKING PLAN - COMMERCIAL ROOF PLAN**  
1/8" = 1'-0"

**GENERAL SHEET NOTES**

- TYPICAL FLOOR - AT PARKING BAMP FLOORS PROVIDE 6" NOMINAL SLAB THICKNESS AND AT COMMERCIAL SPACE FLOORS PROVIDE 8" NOMINAL SLAB THICKNESS THROUGHOUT UNLESS NOTED OTHERWISE. ADDITIONAL THICKNESS REQUIRED AT DRAINAGE SADDLES. REQUIRED FORCE IN SLAB TENDONS EQUALS 18 KIPS PER FOOT OF SLAB WIDTH AT PARKING BAMP. REQUIRED FORCE IN SLAB TENDONS EQUALS 17 KIPS PER FOOT OF SLAB WIDTH AT COMMERCIAL SPACE. TOP OF CONCRETE SLAB NOTED TOC X.X" ON PLAN. TOP OF BEAM IS AT TOP OF SLAB (T.O.C.) UNLESS NOTED OTHERWISE.
- HOOK SHEAR WALL HORIZONTAL BARS INTO COLUMNS WHERE APPLICABLE.
- POST TENSION SEQUENCE:  
1. POST TENSION SLABS  
2. POST TENSION BEAMS  
3. POST TENSION GIRDERS
- DO NOT RELEASE FORMS UNTIL CRASH BARRIERS ARE POURED AND HARDENED.
- FOR FLOOR ELEVATIONS BETWEEN POINTS INDICATED USE STRAIGHT LINE INTERPOLATION.
- SEE "SCHEDULES" SHEET FOR POST TENSIONED CONCRETE BEAMS.
- PROVIDE EPOXY COATED REINFORCEMENT IN ACCORDANCE WITH ASTM A775 PER NOTES ON GENERAL NOTES SHEET.
- SEE "POST TENSION DETAILS" SHEETS FOR POST TENSION DETAILS.
- SEE POST TENSIONED DETAILS SHEETS AND STRUCTURAL DETAIL SHEETS FOR SEALANT DETAILS REQUIRED AND TEMPERATURE AND SHRINKAGE TENDON LAYOUT.
- SEE ELECTRICAL, PLUMBING, FIRE PROTECTION, HVAC AND ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATIONS OF SLAB OPENINGS AND PIPE SLEEVES. PROVIDE SLEEVES WITH DIAMETER 1" LARGER THAN CONDUIT. ALL SLEEVES TO BE SCHEDULE 40 STEEL PIPE.
- NO RECESSED AREAS IN SLAB ARE ALLOWED WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.
- THE GENERAL CONTRACTOR IS TO COORDINATE THE FINAL LOCATIONS OF CONSTRUCTION JOINTS WITH POST TENSION SUPPLIER AND TO SUBMIT POURING AND STRESSING SEQUENCE TO ENGINEER DURING POST-TENSIONING SHOP DRAWING SUBMITTAL.

**SHEET KEYNOTES**

- BOLLARD LOCATION, SEE ARCHITECTURAL FOR ALL LOCATIONS AND REFERENCE "PIPE BOLLARD DETAIL AT ELEVATED SLABS" ON STRUCTURAL DETAILS SHEET.
- 12" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #6@12" OC VERTICALS AND #6@12" OC HORIZONTALS.
- 12" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #6@12" OC VERTICALS AND #4@12" OC HORIZONTALS.
- 12" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #6@12" OC VERTICALS AND #4@12" OC HORIZONTALS.
- 12" SHEAR WALL REINFORCED WITH (2) CURTAINS OF #6@12" OC VERTICALS AND #4@12" OC HORIZONTALS.
- 22 PROVIDE EMBED PLATE EP10 AT SLAB EDGE AT 3'-0" TO SUPPORT PERFORATED METAL PANELS.
- 25 DRAPE TEMPERATURE AND SHRINKAGE POST TENSION TENDONS AS SHOWN, THIS BAY ONLY.
- 26 10" SLAB AT STAIRS WITHIN THIS BAY.
- 31 FOR 8" DIAMETER MECHANICAL PENETRATIONS, CENTER THE OPENING AT 11" FROM THE BOTTOM OF BEAM. SEE "BEAM PENETRATION REINFORCEMENT DETAIL" ON SCHEDULES SHEET. VERIFY PENETRATION SIZES AND LOCATIONS WITH MECHANICAL.
- 33 PROVIDE #4 BARS AT 12" OC TOP AND BOTTOM EACH WAY WITH STANDARD 90 DEGREE HOOKS AT ENDS FOR 8" SLAB AT ELEVATOR CORE, WEST OF GRID LINE B.
- 34 PROVIDE (1) TEMPERATURE AND SHRINKAGE TENDON TENSIONED AT 26.7 KIPS, 20" FROM EDGE OF CANTILEVER.
- (3) #6@12" OC BOTTOM.
- 41 PROVIDE EMBED PLATE EP15 AT EDGE OF SLAB AT CORNER WINDOW, 2'-0" OC MAX SPACING.
- 43 PROVIDE PIPE CONDUIT PROTECTION AT COLUMN. COORDINATE LOCATIONS WITH PLUMBING/FIRE PROTECTION/ELECTRICAL DRAWINGS. NOT ALL LOCATIONS SHOWN ON PLAN.

**POST-TENSIONED ONE-WAY SLAB MILD REINFORCEMENT SCHEDULE**

MARK	REINFORCING	NOTES
A	#4 x 11'-0" @ 18" OC BOT.	1
B	#4 x 11'-0" @ 18" OC TOP	
C	#4 x 5'-0" + HOOK @ 10" OC TOP	
D	#4 x 11'-0" @ 10" OC TOP	
E	#4 x 11'-0" @ 5" OC TOP	2
F	#4 x 12'-0" @ 10" OC TOP	
G	#4 x 6'-0" + HOOK @ 10" OC TOP	
H	#4 x CONT @ 10" OC BOTTOM	
J	#4 x 12'-0" @ 10" OC TOP	3

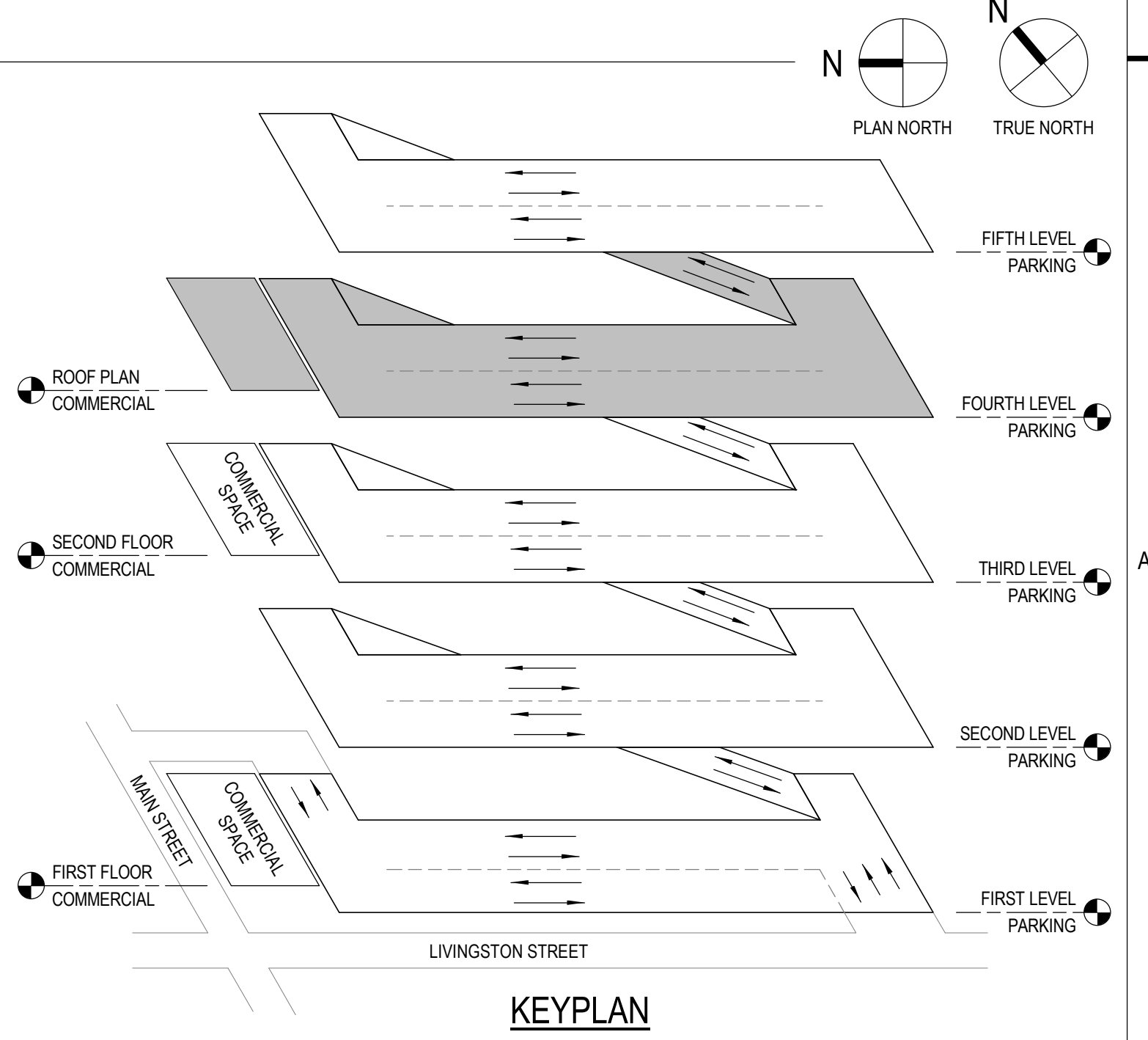
**GENERAL NOTES:**

- ALL SLAB REINFORCEMENT TO BE EPOXY-COATED. SEE S301.
- EXTENT OF MILD REINFORCEMENT IS FOR FULL WIDTH OF BUILDING UNLESS OTHERWISE NOTED.
- BAR SCHEDULE CONTAINS MILD STEEL FOR DRAW CONDITIONS ONLY. REFER TO DETAILS FOR ADDITIONAL SLAB REINFORCEMENT REQUIRED.
- A CLASS B LAP MUST BE PROVIDED AT ALL SPICES IN REINFORCEMENT MARKED AS "CONT".
- FOR ALL BAYS CONTAINING A POUR STRIP, PROVIDE #4 X CONT. @ 10" O.C. TOP AND BOTTOM.

1. EXTEND EVERY THIRD BAR FULL SPAN, EXTEND INTO SUPPORT 6"

2. BEND BARS TO MATCH SLOPE.

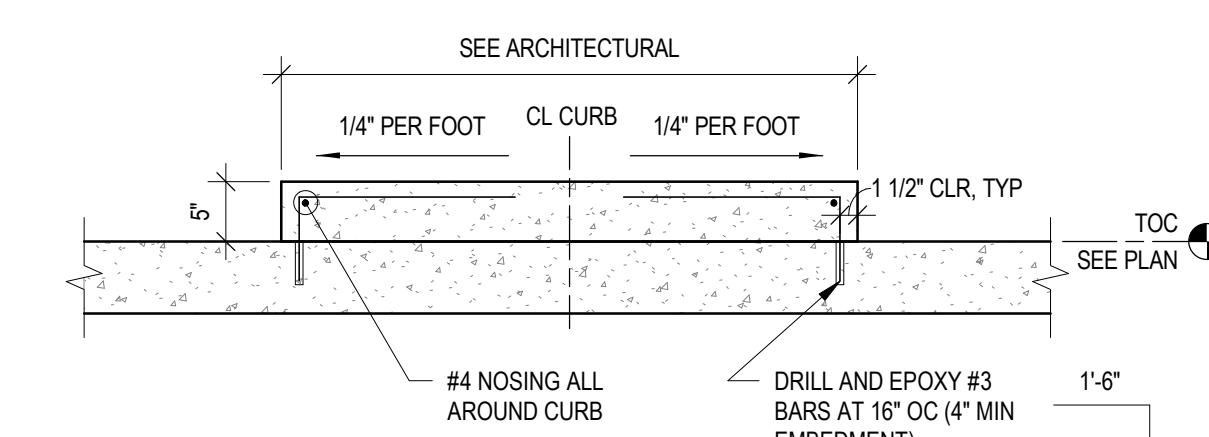
3. BEND BARS TO MATCH SLAB STEP MATCH SLOPE.



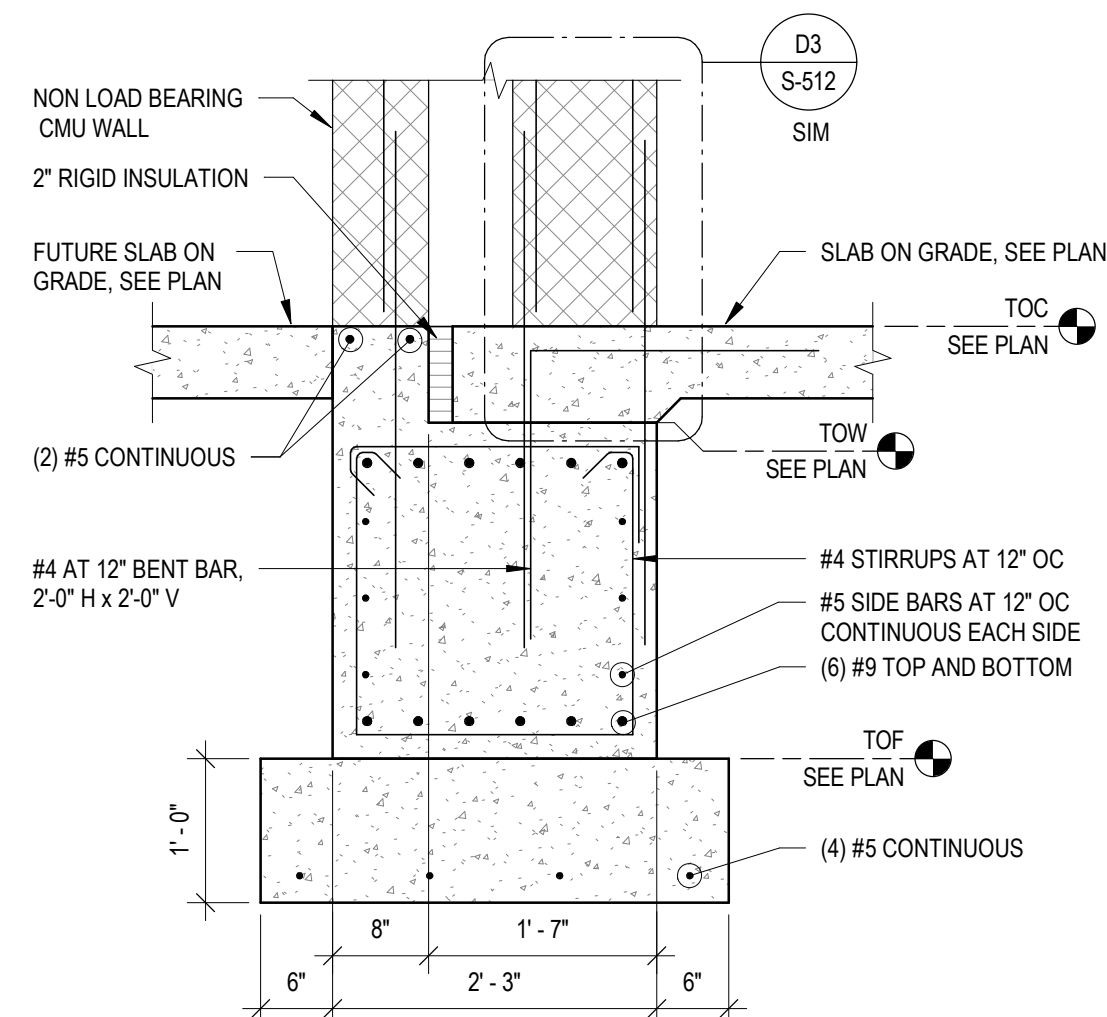
**PROJECT INFORMATION:**  
PROJECT NUMBER: 2016-5051  
DATE: 06/30/2017  
DRAWN BY: JRW  
CHECKED BY: DFW  
APPROVED BY: DFW  
SCALE: AS NOTED  
SET TYPE: BD

**SHEET TITLE:**  
FOURTH LEVEL PARKING - COMMERCIAL ROOF PLAN

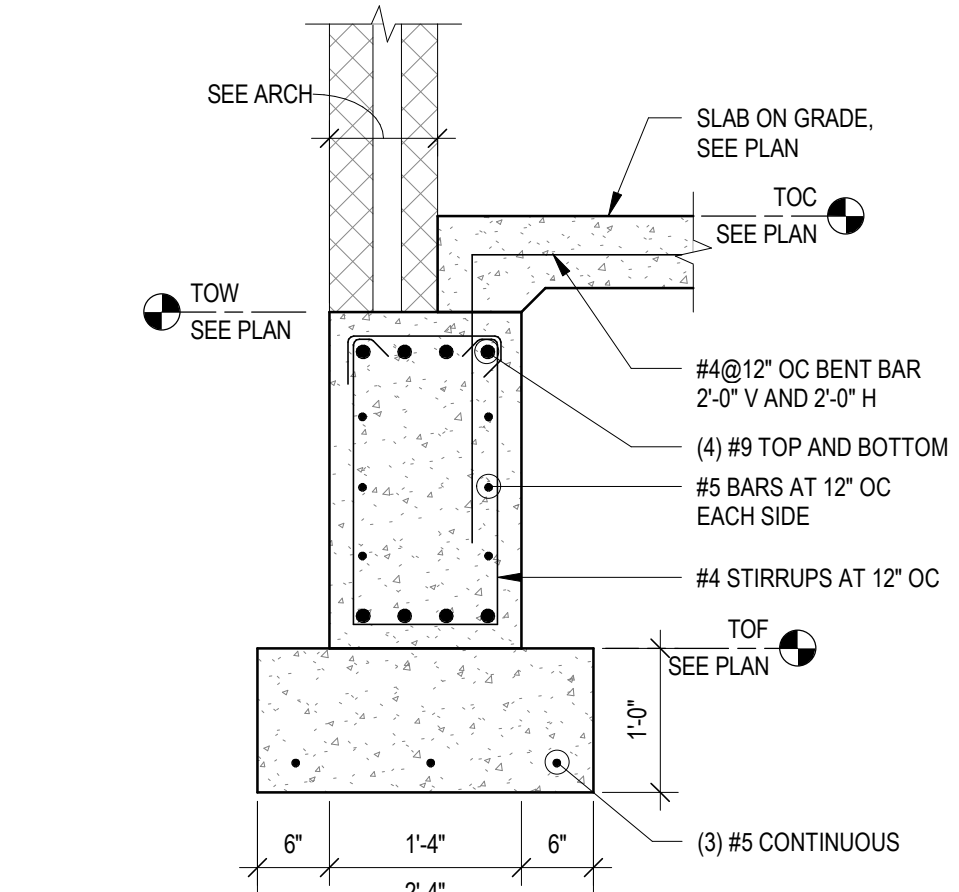
**SHEET NUMBER:**  
S-104



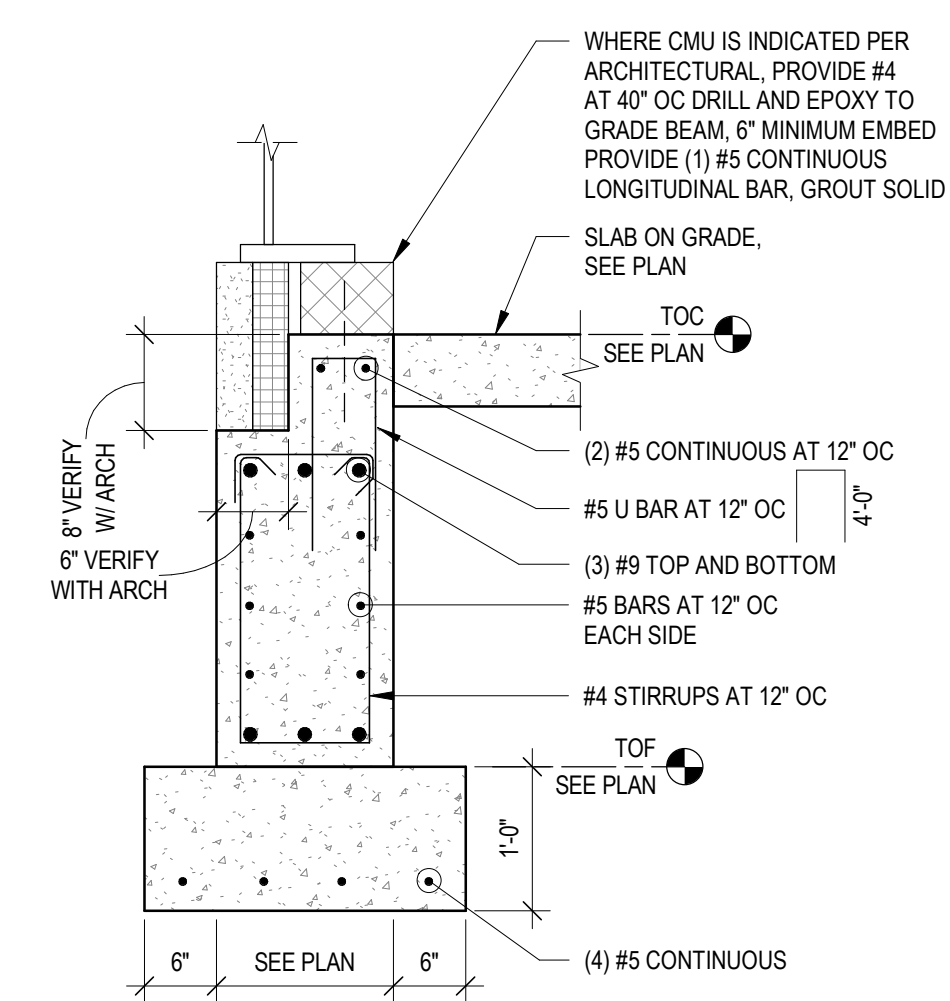
**D7** TYPICAL CURB DETAIL  
3/4" = 1'-0"



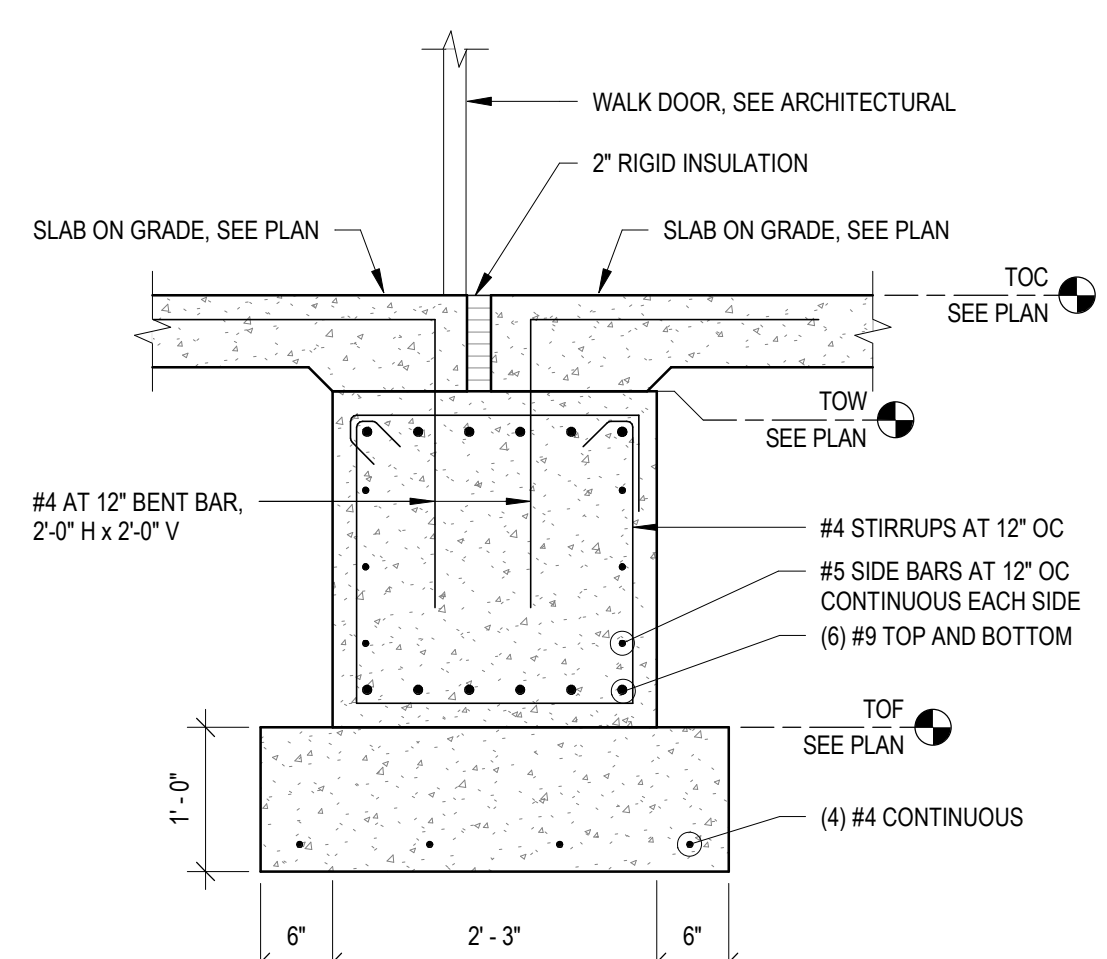
**D4** SECTION AT CRASH WALL  
3/4" = 1'-0"



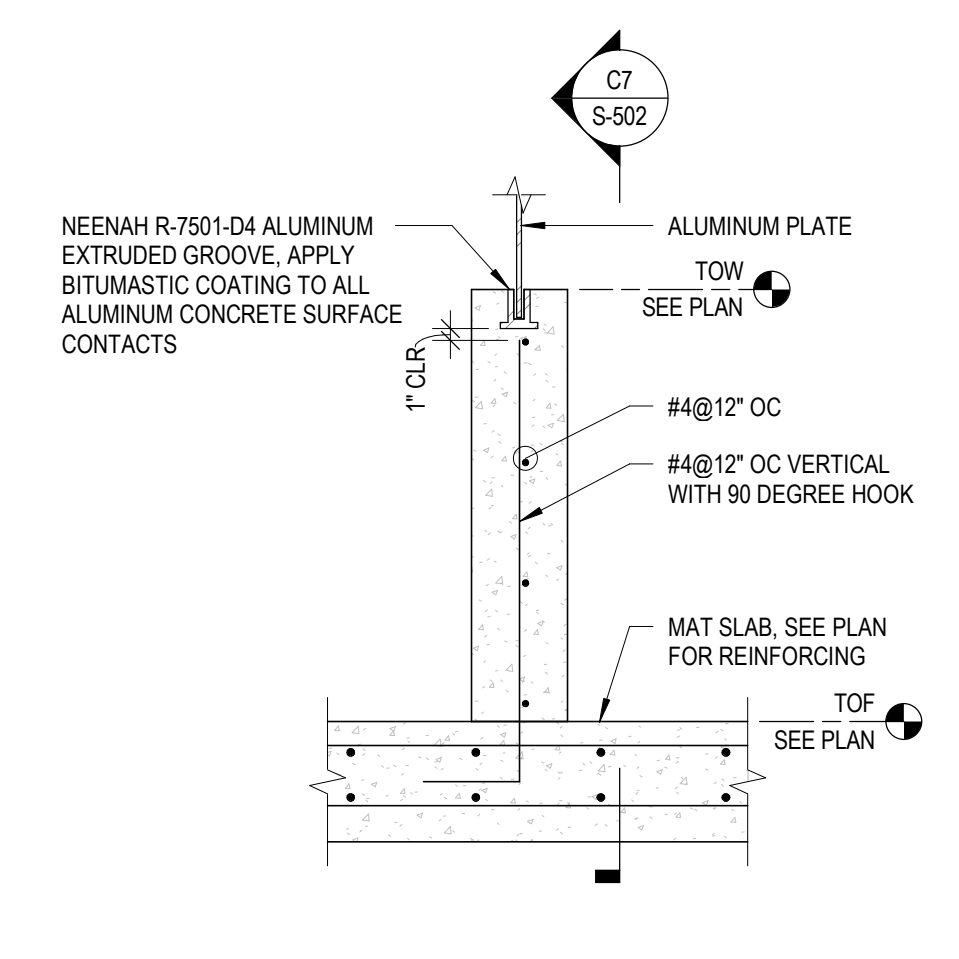
**D5** SECTION AT SECURITY OFFICE  
3/4" = 1'-0"



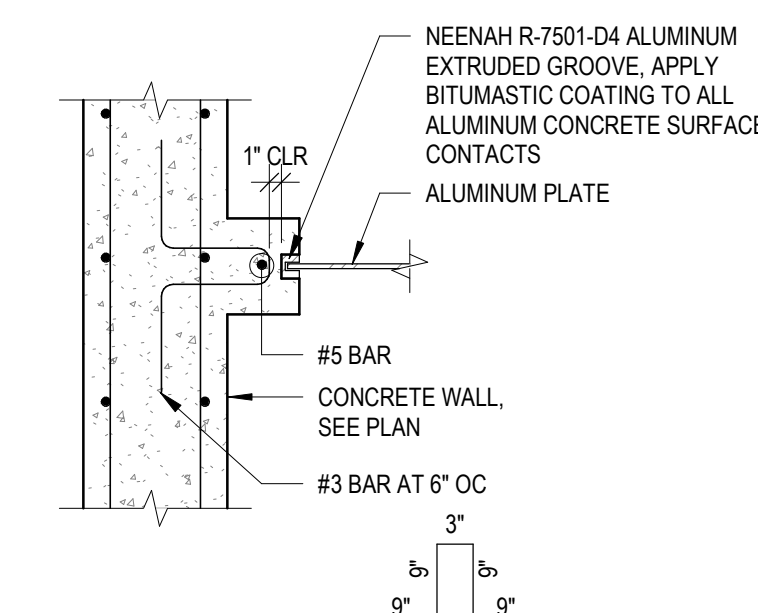
**C3** SECTION AT STOREFRONT  
3/4" = 1'-0"



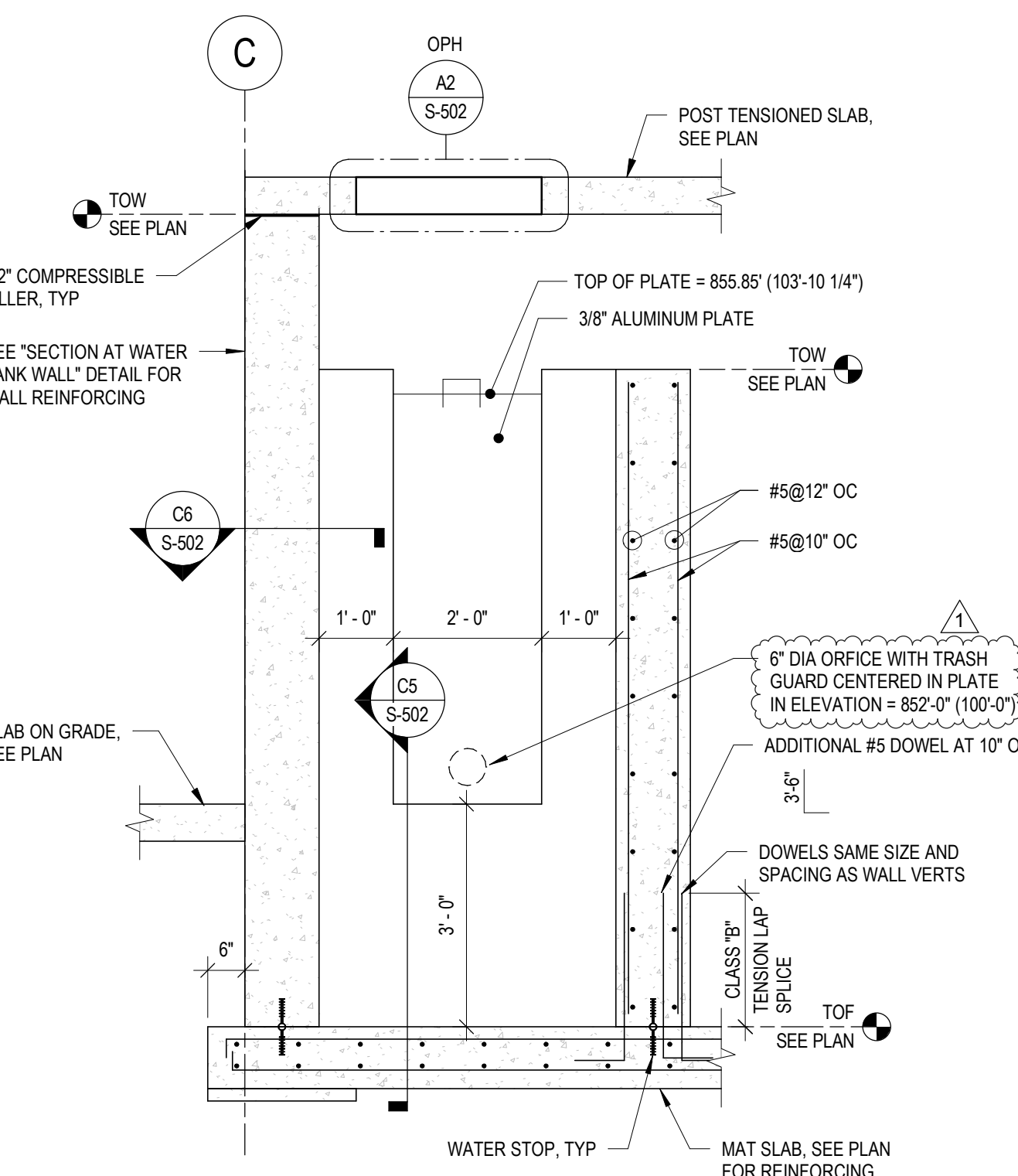
**C4** SECTION AT LOBBY WALKWAY  
3/4" = 1'-0"



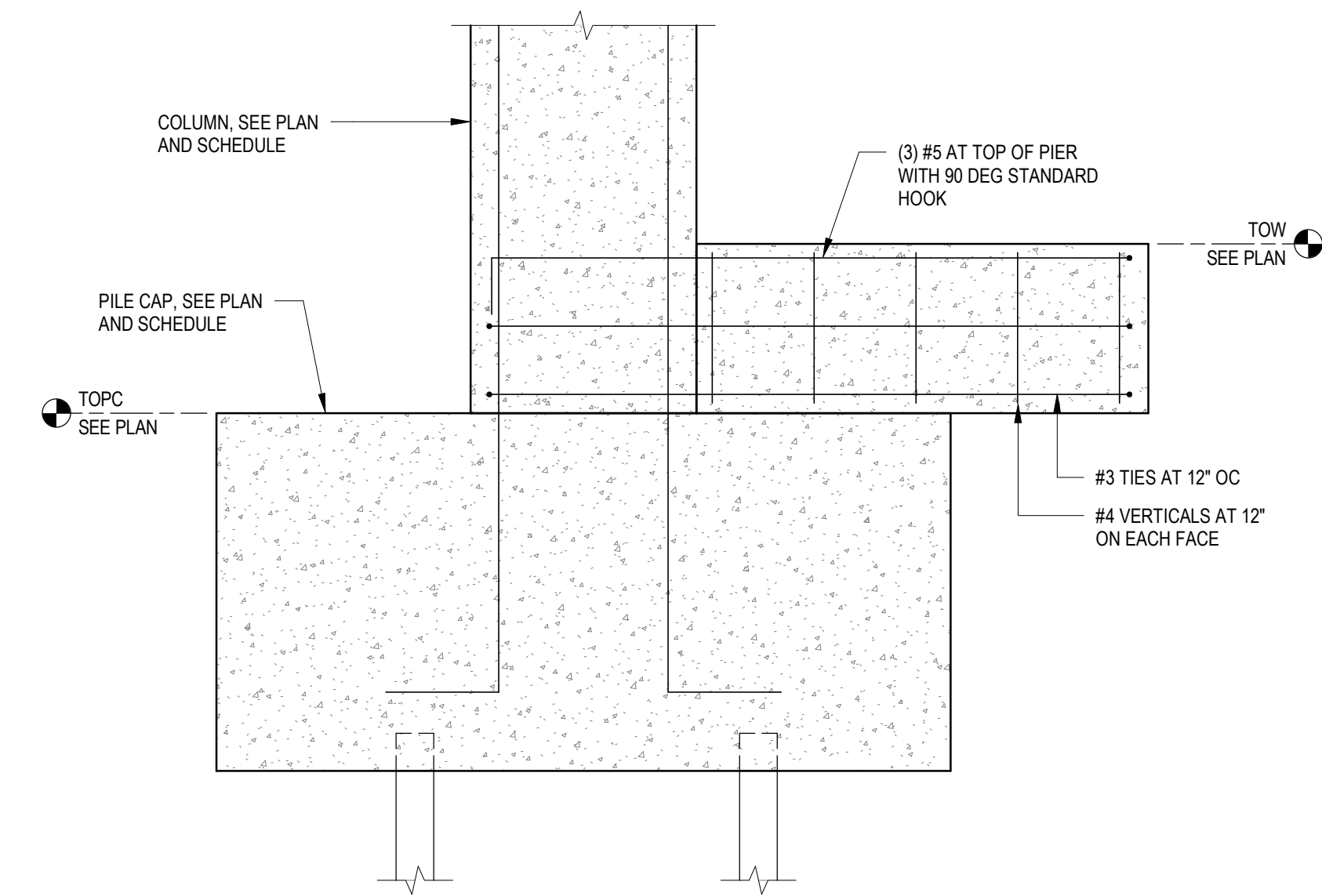
**C5** BAFFLE INNER WALL DETAIL  
3/4" = 1'-0"



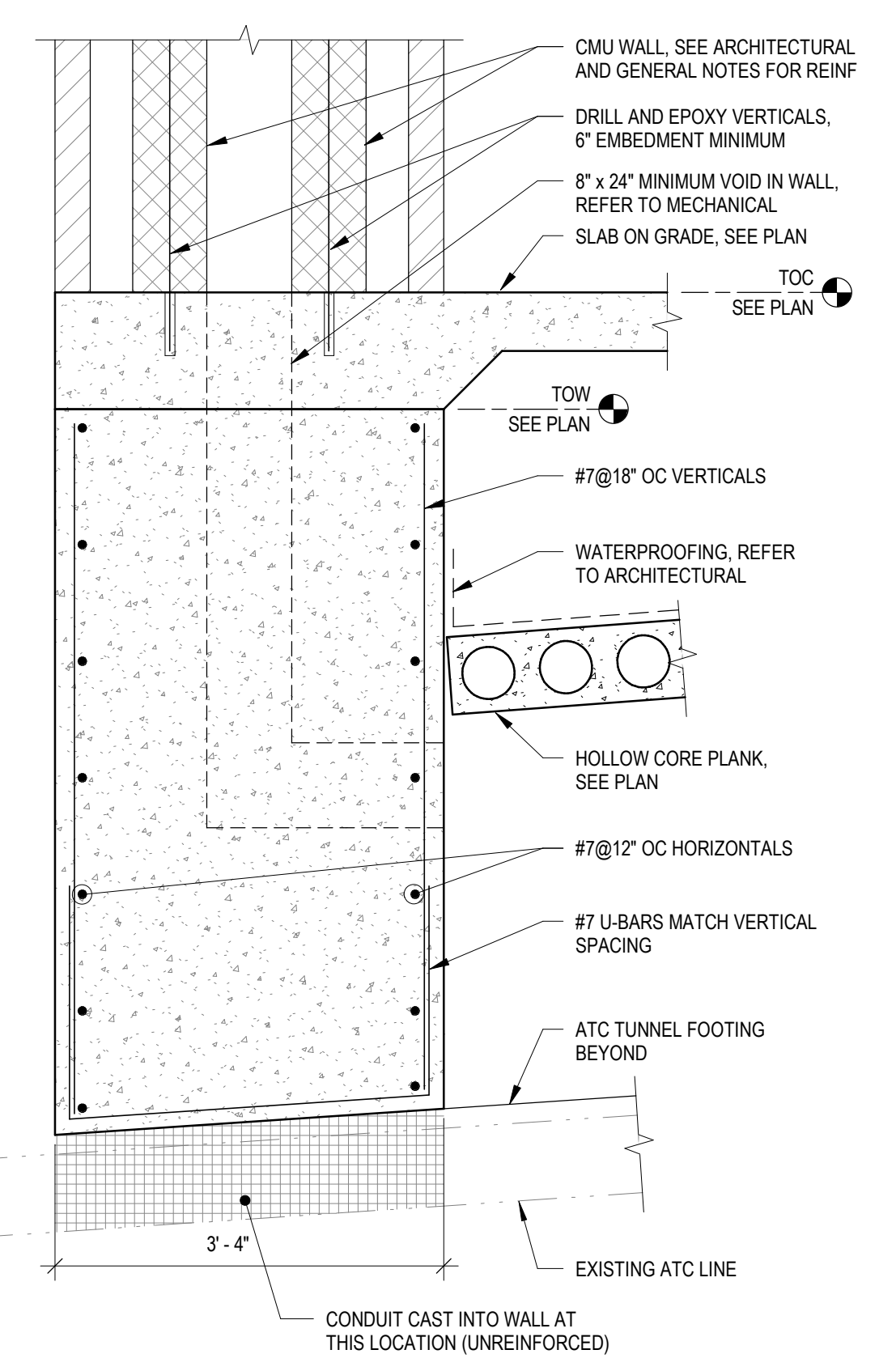
**C6** INNER WALL AT PLATE  
3/4" = 1'-0"



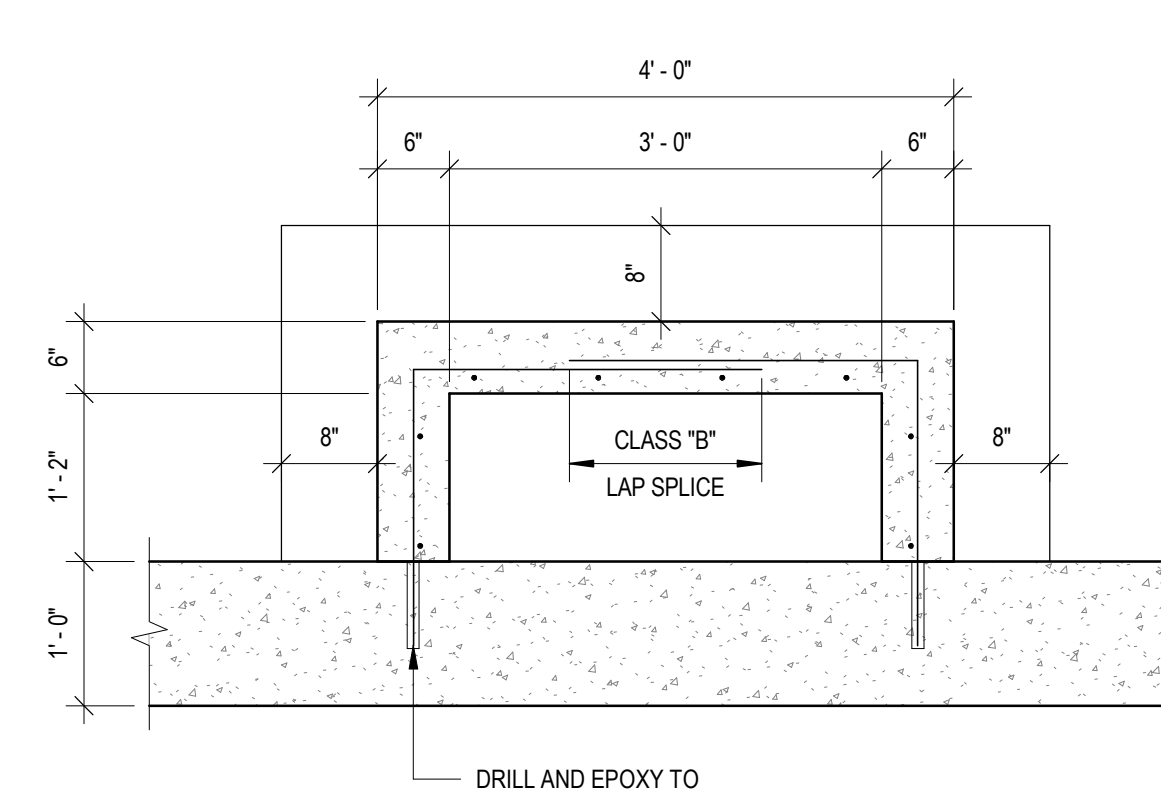
**C7** WATER TANK BAFFLE WALL  
1/2" = 1'-0"



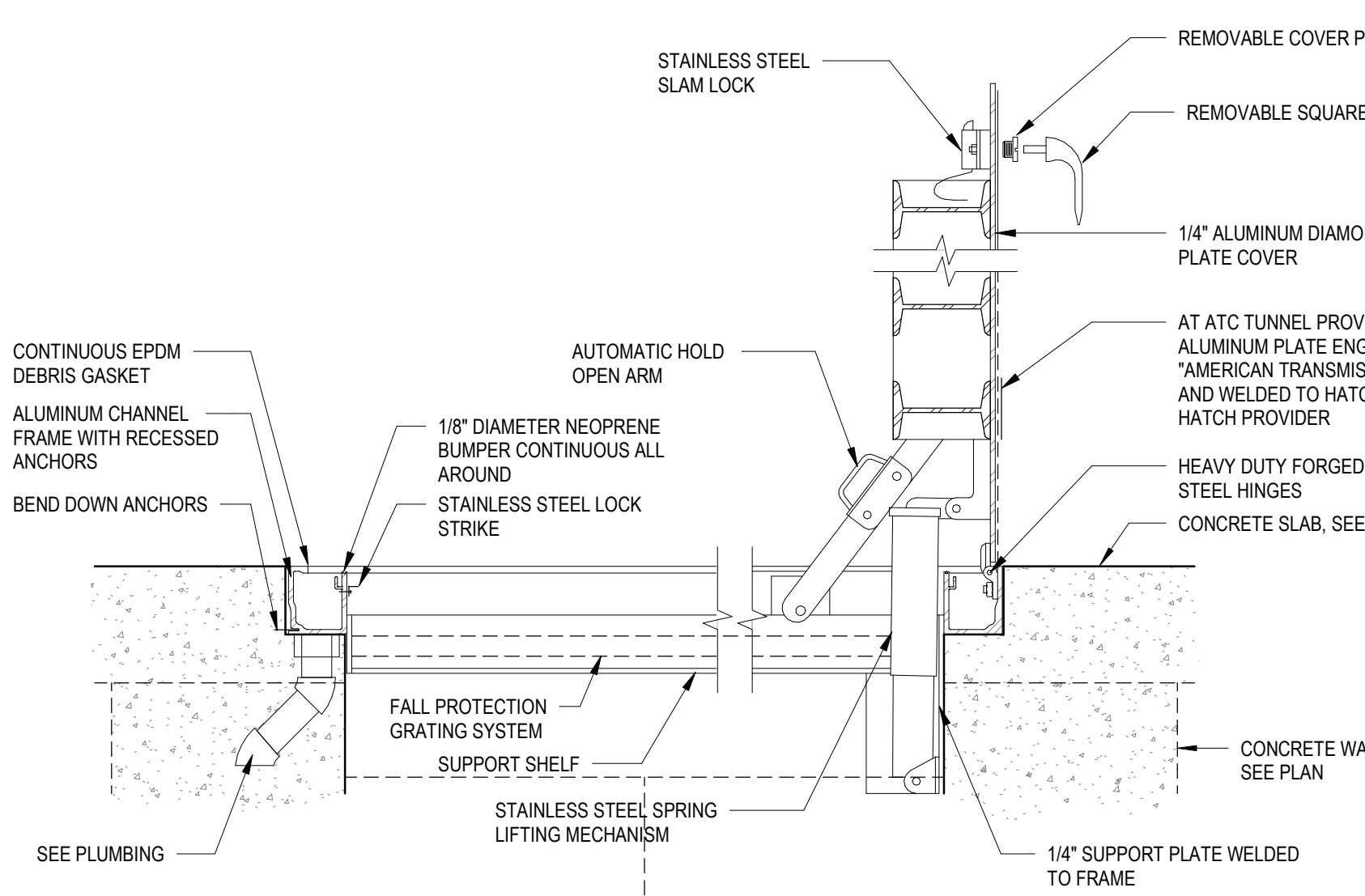
**B2** OVERHANGING CONCRETE WALL DETAIL  
3/4" = 1'-0"



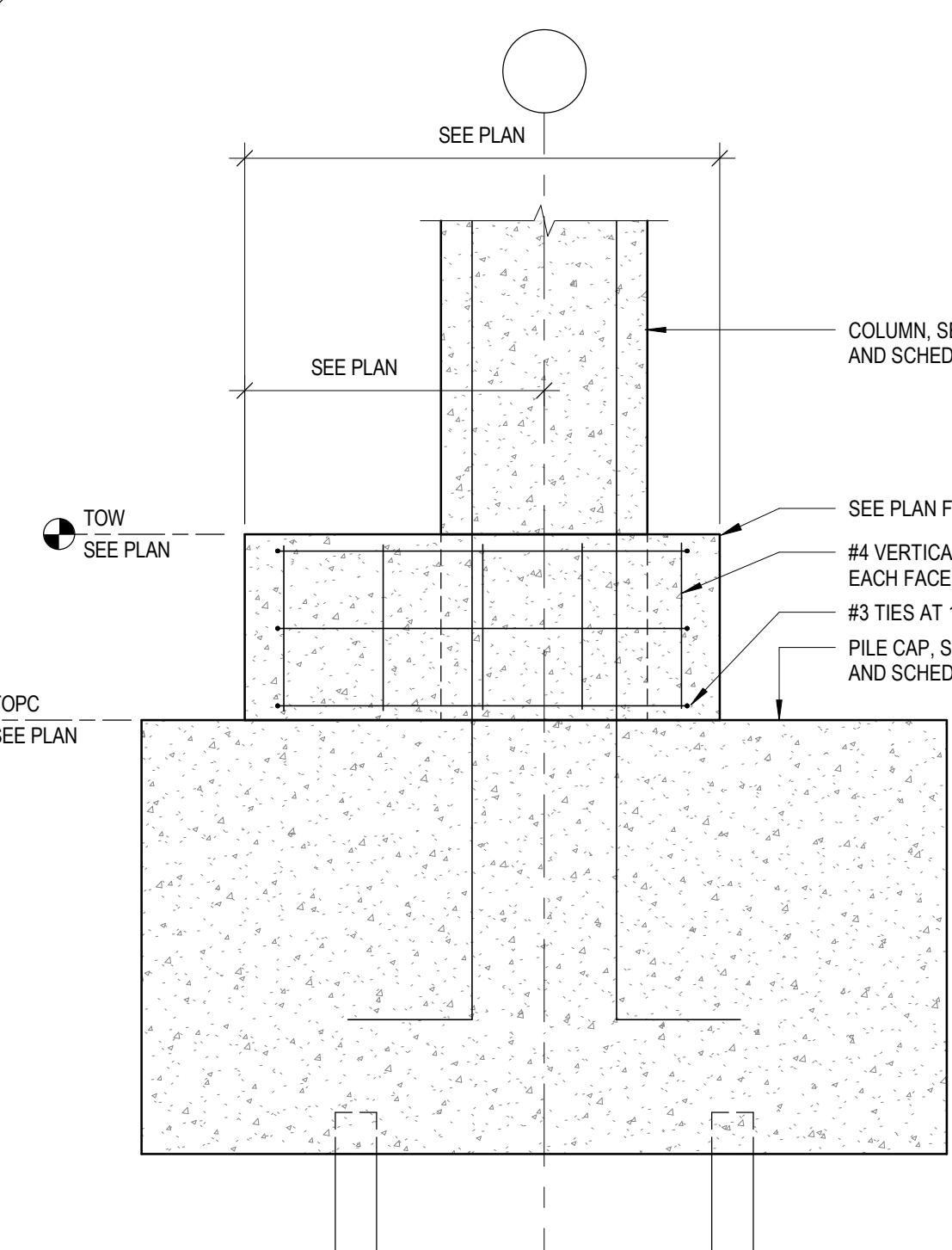
**B4** SECTION AT NORTH ATC TUNNEL  
3/4" = 1'-0"



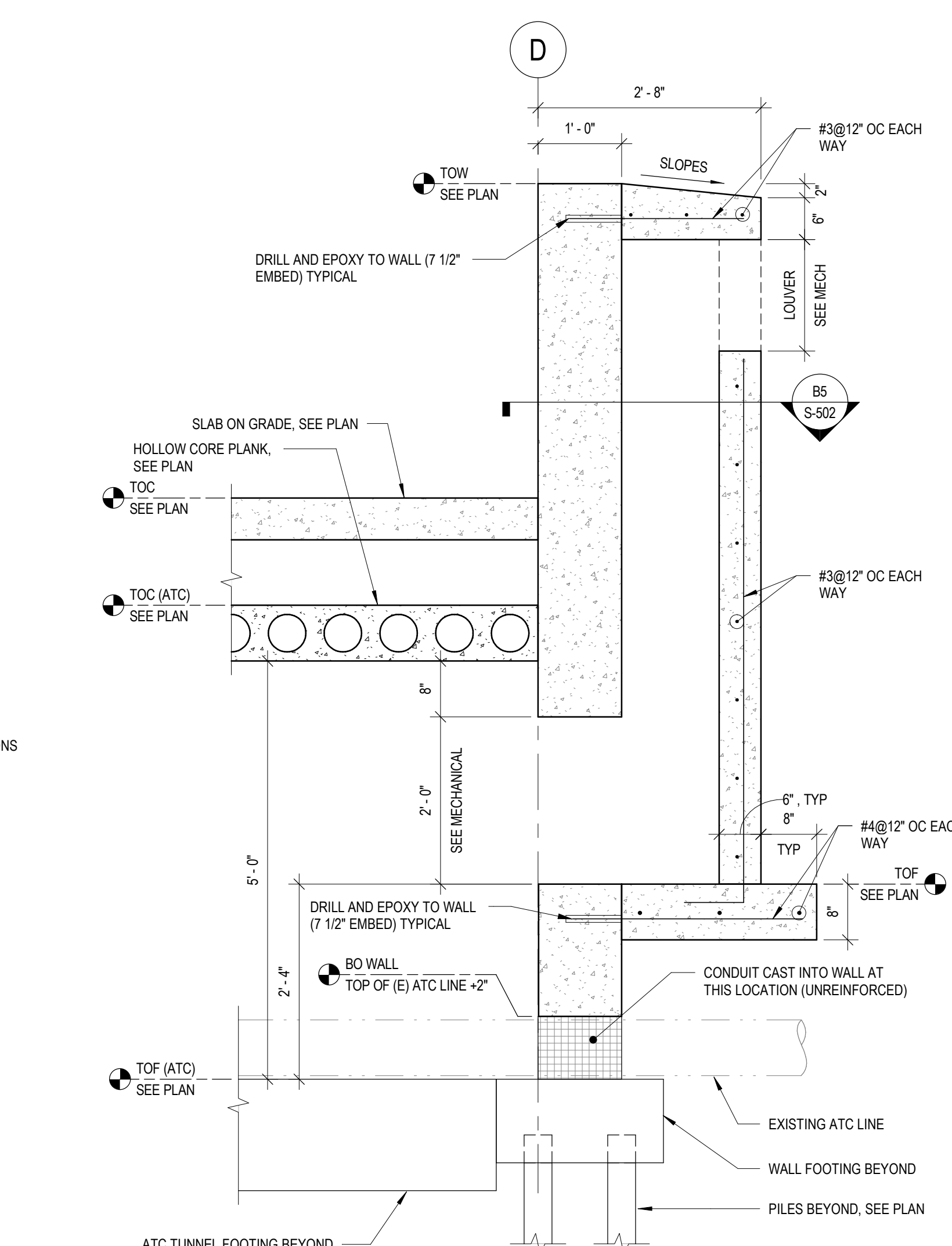
**B5** AREA WELL PLAN  
3/4" = 1'-0"



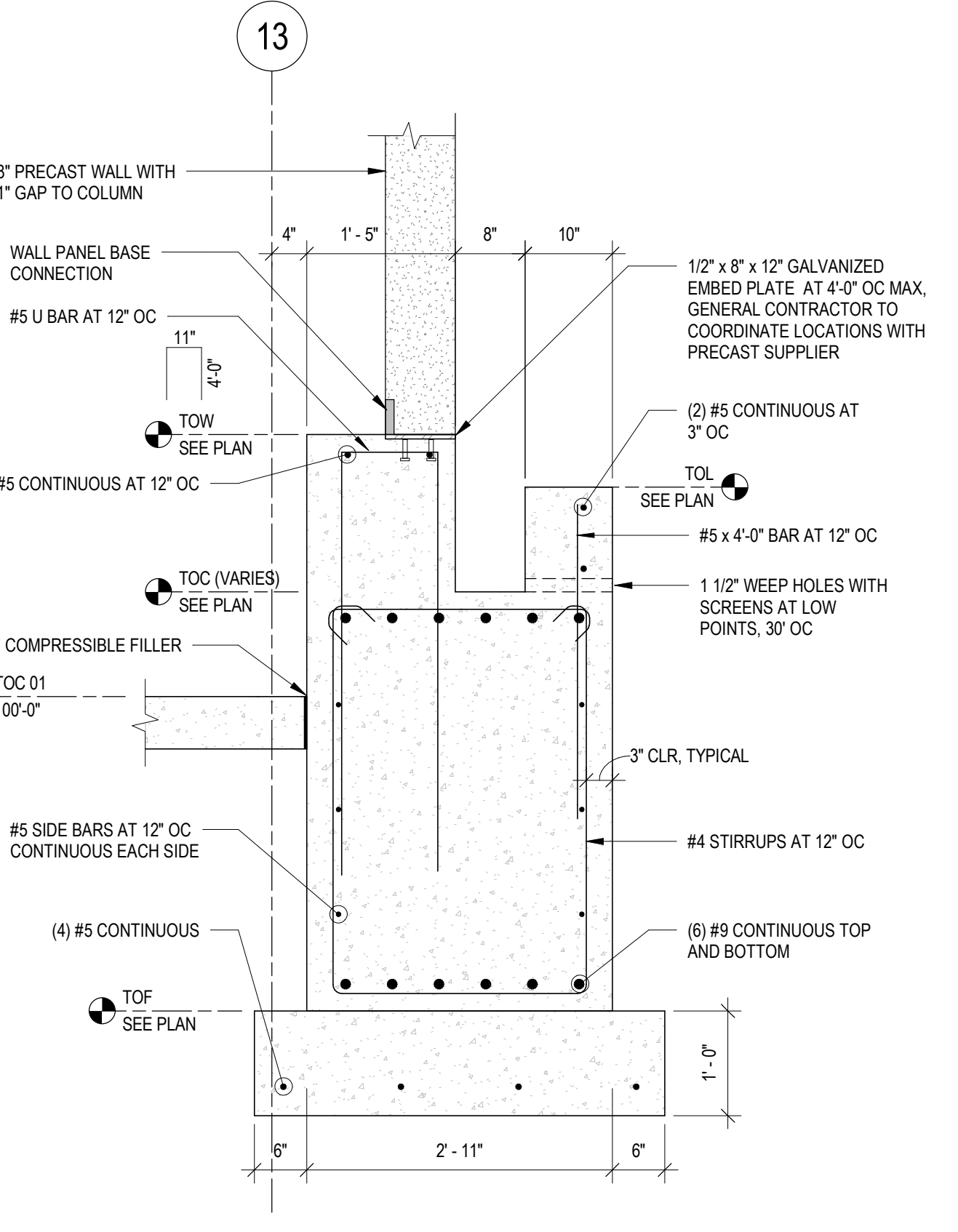
**A2** SECTION AT HATCH  
1 1/2" = 1'-0"



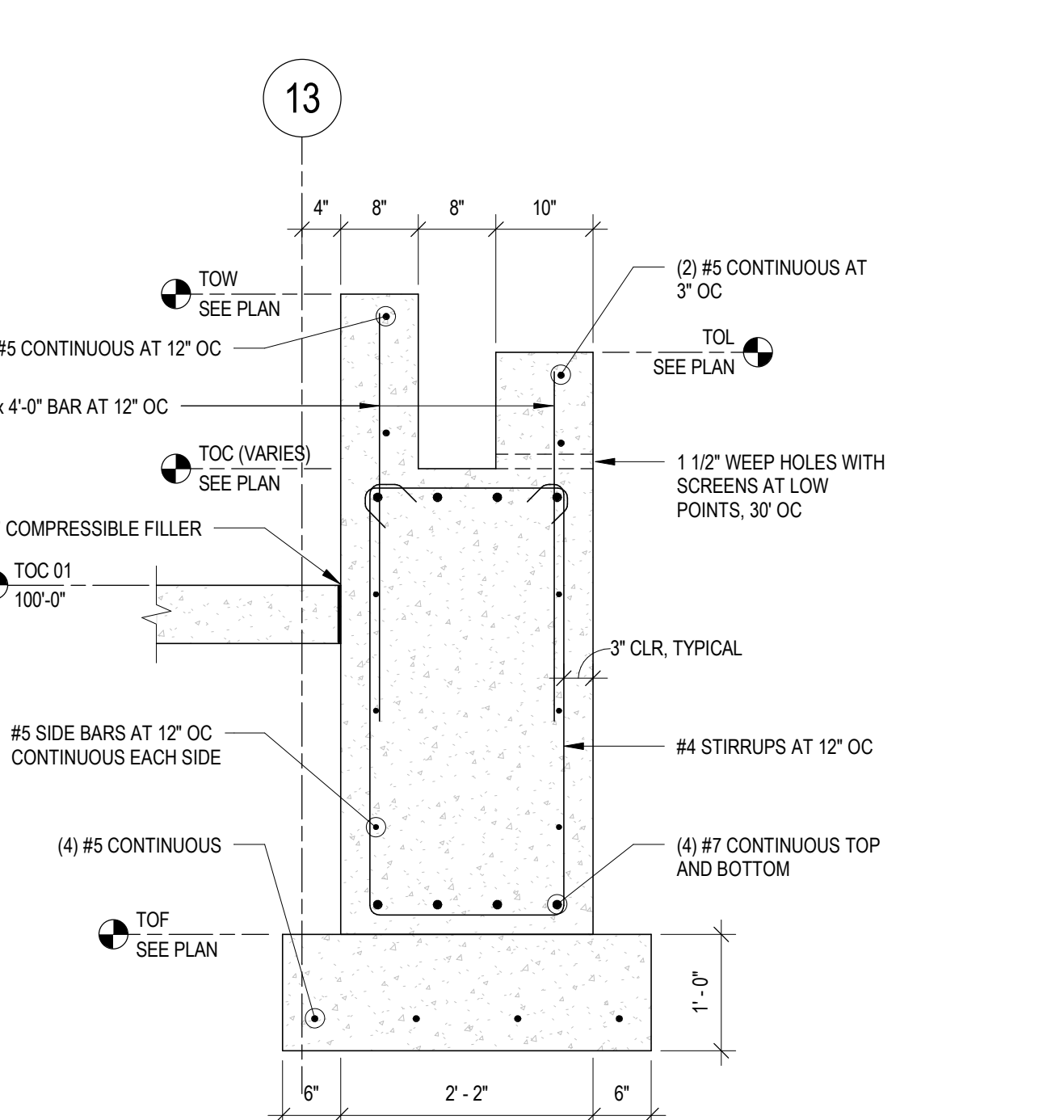
**A4** CONCRETE WALL AT COLUMN DETAIL  
3/4" = 1'-0"



**A5** SECTION AT ATC TUNNEL AREA WELL  
3/4" = 1'-0"



**B7** GUTTER DETAIL  
3/4" = 1'-0"

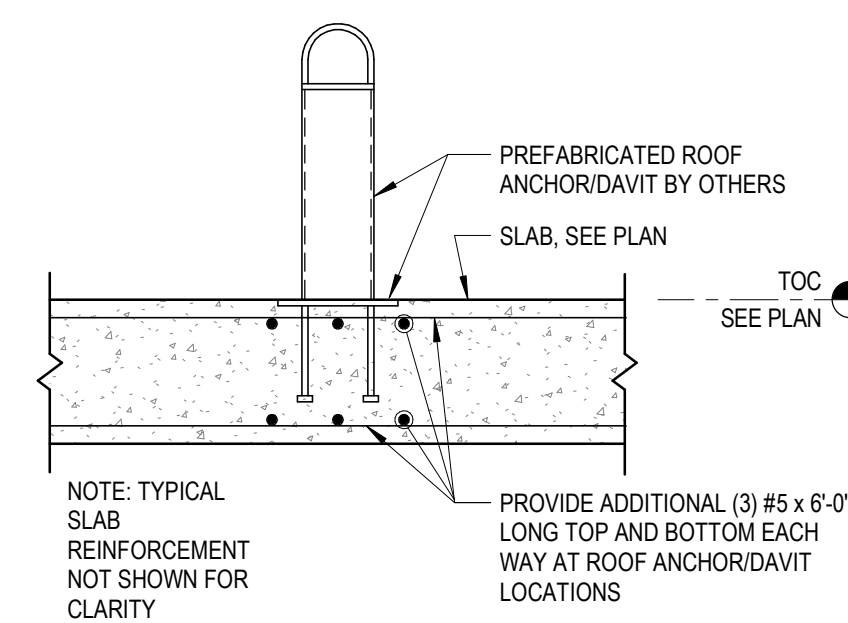


**A7** GUTTER DETAIL  
3/4" = 1'-0"

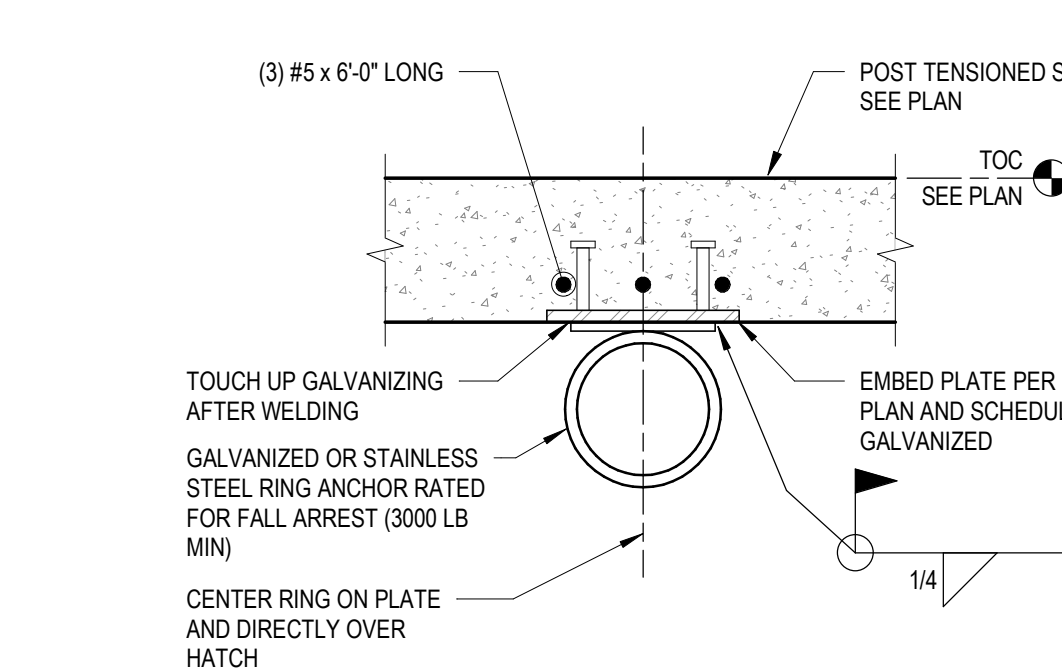


NO	DATE	DESCRIPTION
1	08/04/2017	ADDENDUM #3

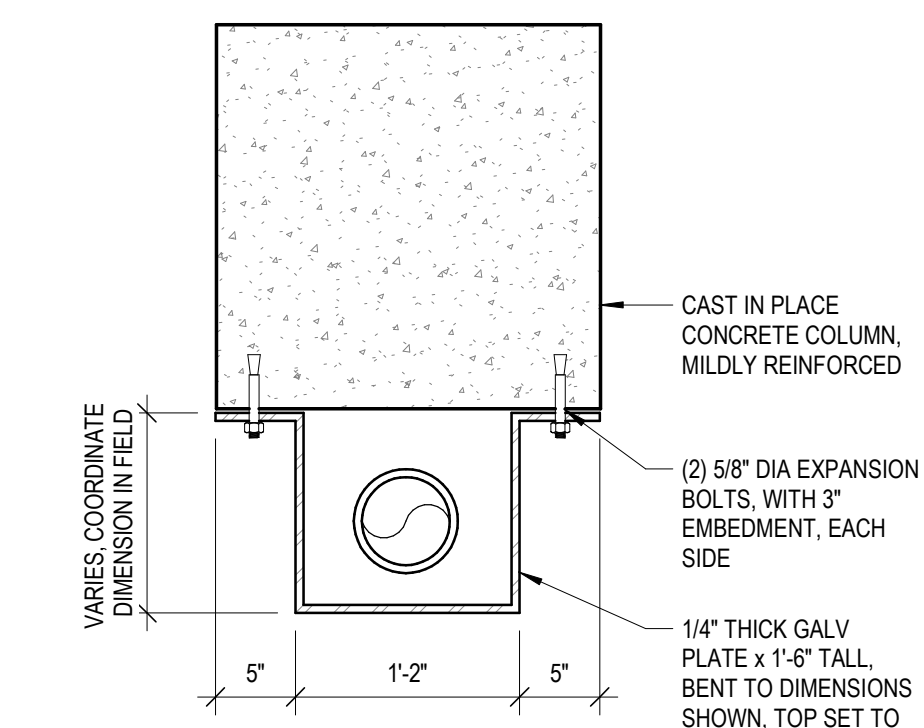
PROJECT NUMBER:	2016-5051
DATE:	06/30/2017
DRAWN BY:	JRW
CHECKED BY:	DFW
APPROVED BY:	DFW
SCALE:	AS NOTED
SET TYPE:	BD



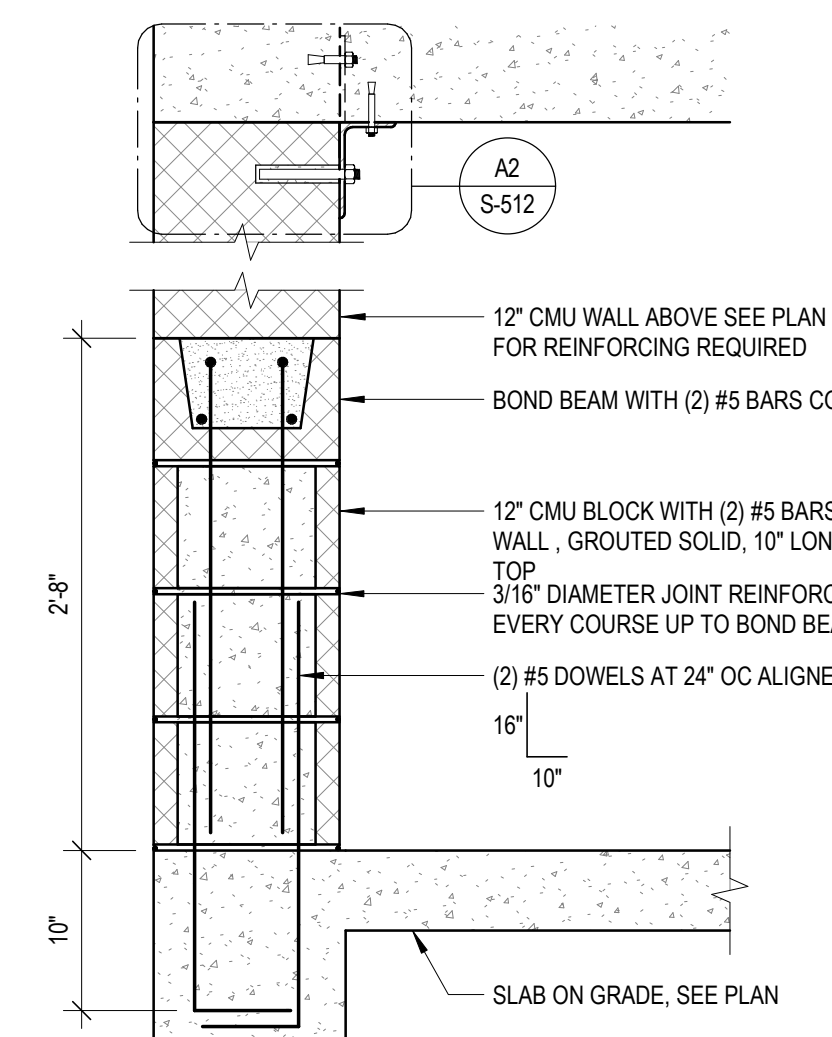
**E5 SECTION AT ROOF ANCHOR**  
3/4" = 1'-0"



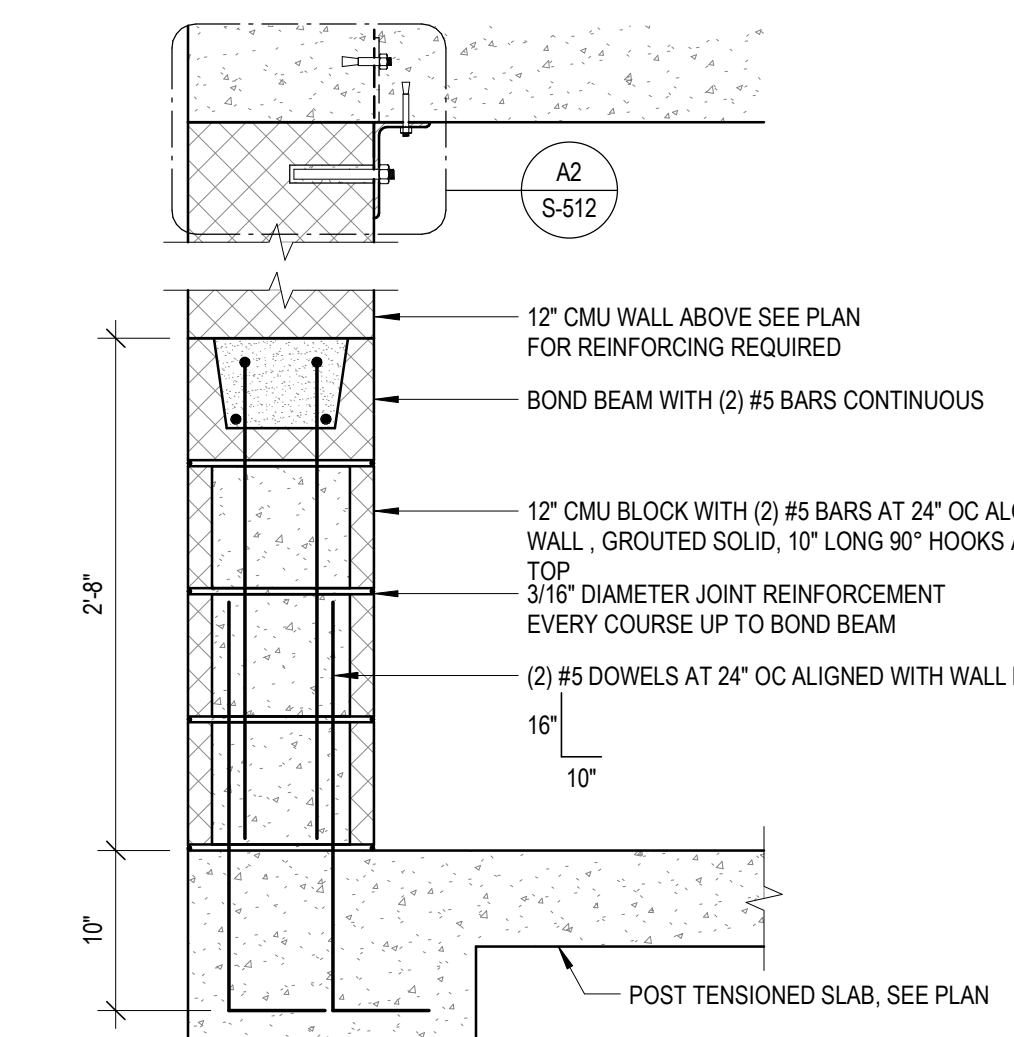
**E6 TUNNEL ENTRANCE ANCHOR**  
1 1/2" = 1'-0"



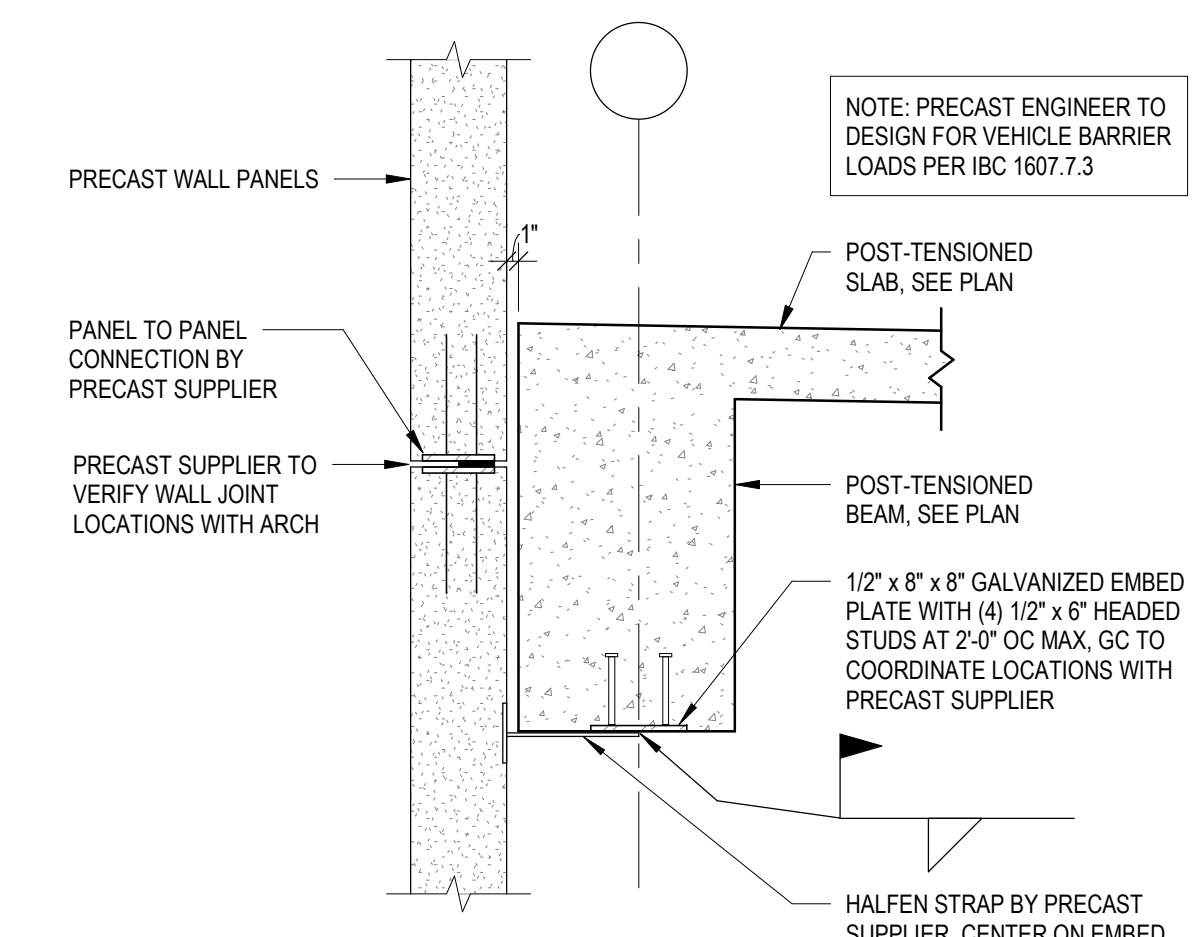
**E7 PIPE/CONDUIT PROTECTION**  
1" = 1'-0"



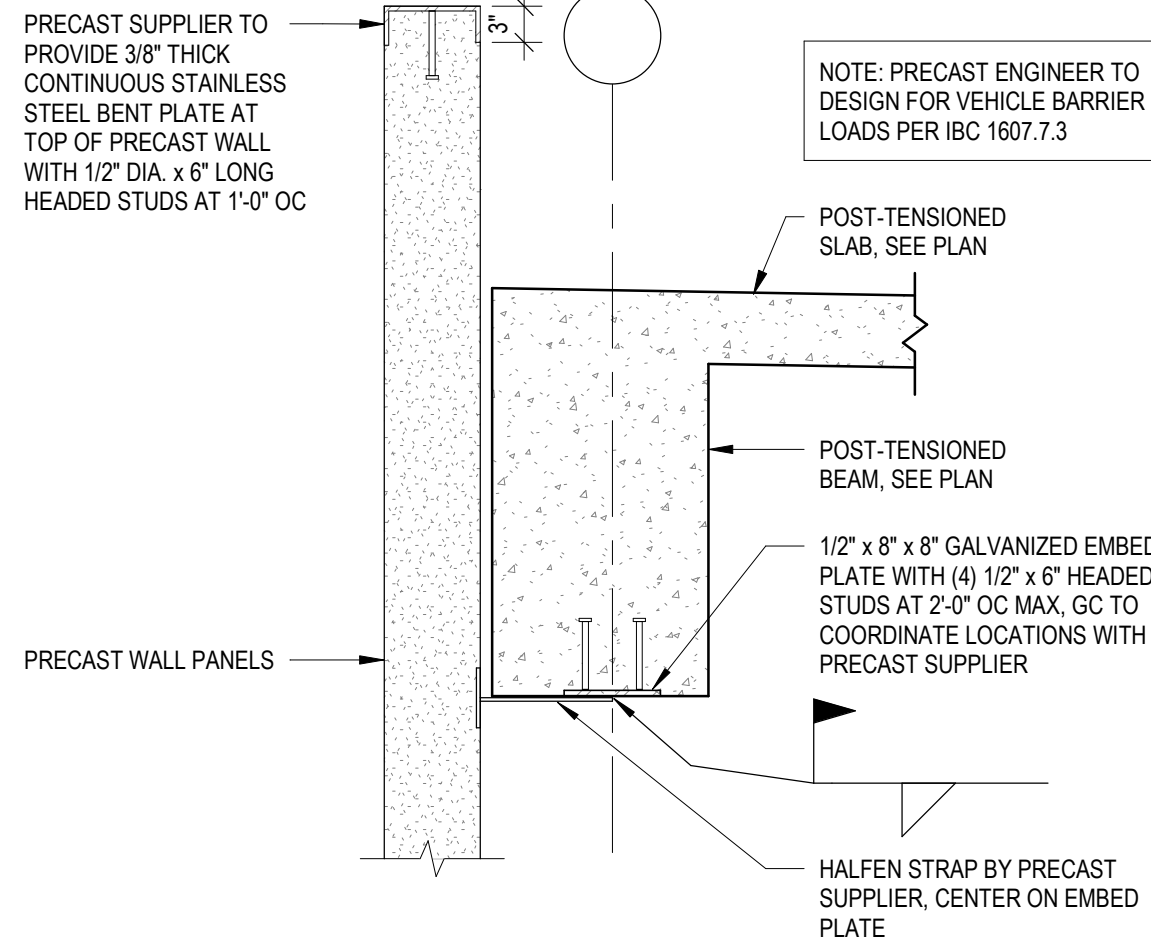
**D3 MASONRY WALL FOR CRASH FORCE**  
1" = 1'-0"



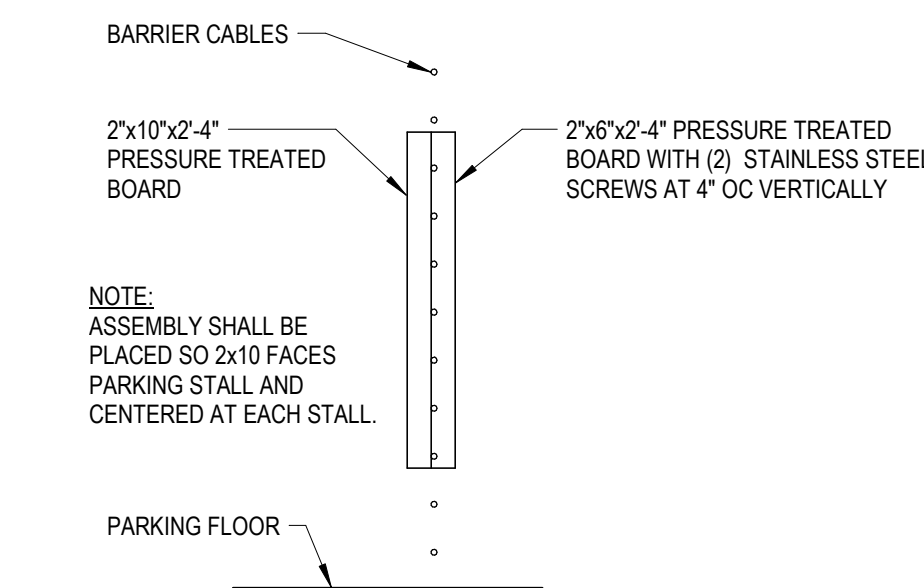
**D4 MASONRY WALL FOR CRASH FORCE**  
1" = 1'-0"



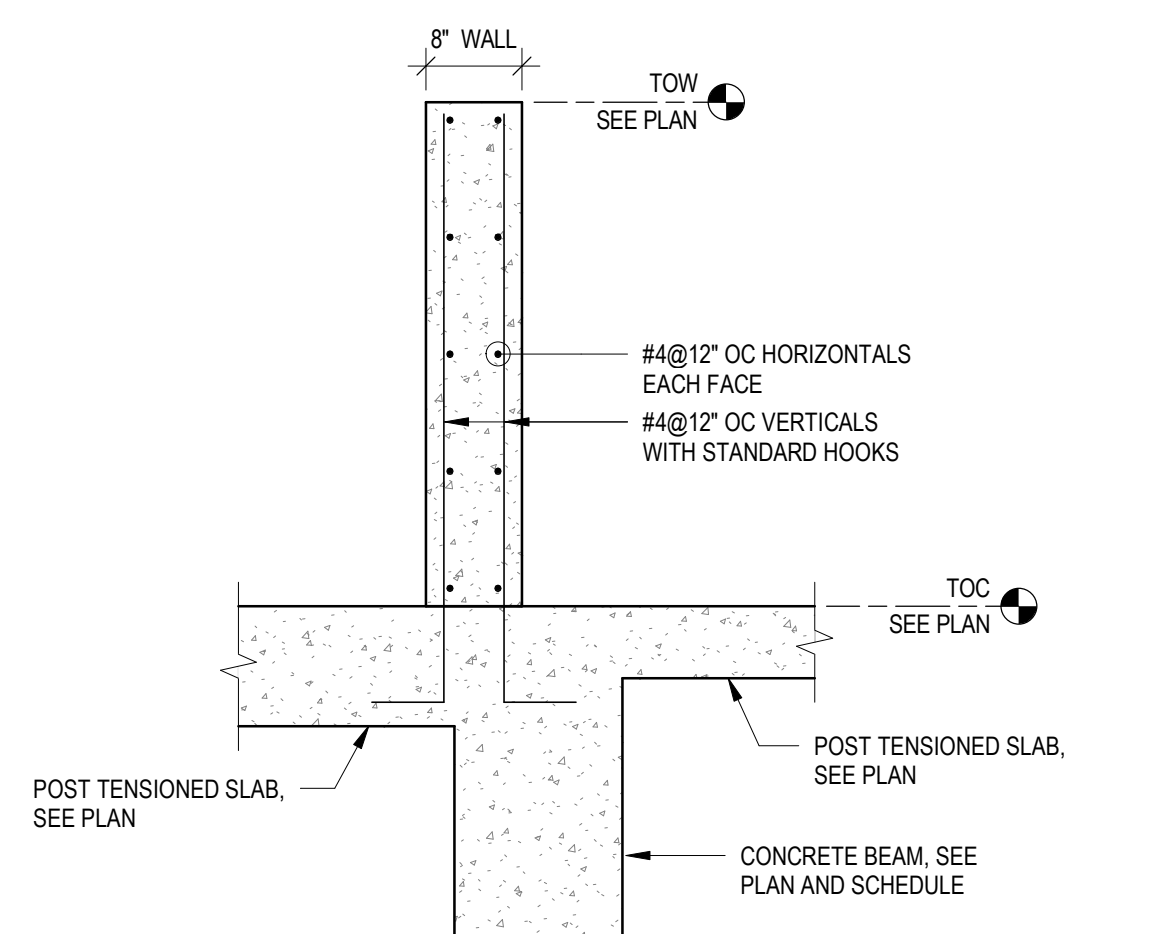
**D5 VEHICLE BARRIER AT PRECAST**  
3/4" = 1'-0"



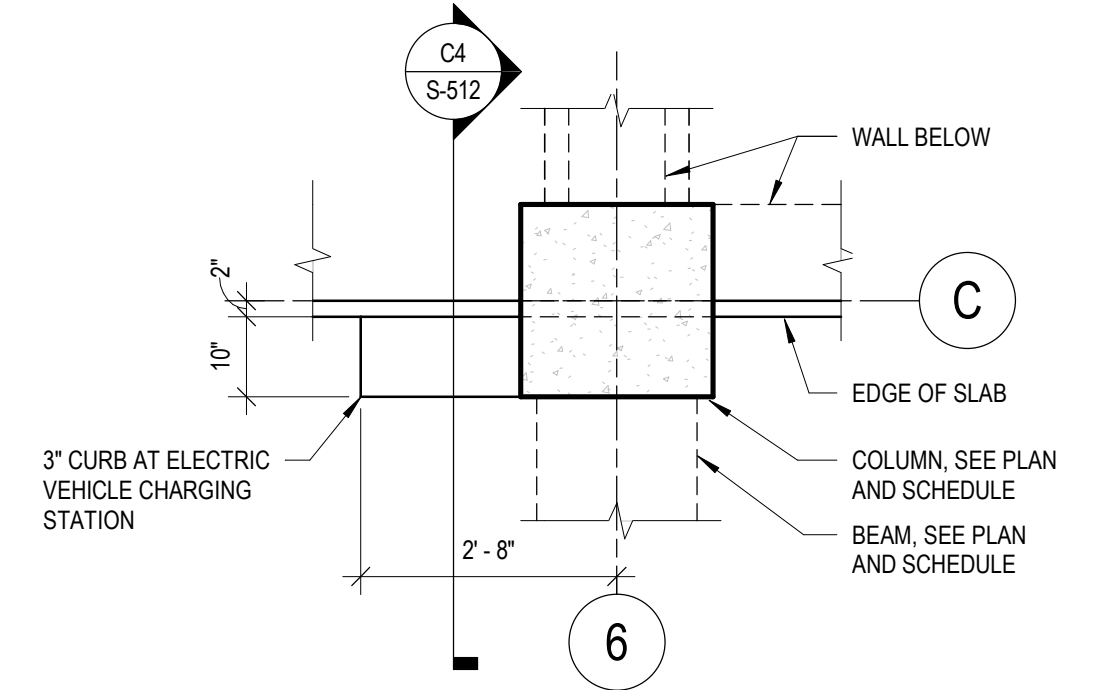
**D6 VEHICLE BARRIER AT PRECAST**  
3/4" = 1'-0"



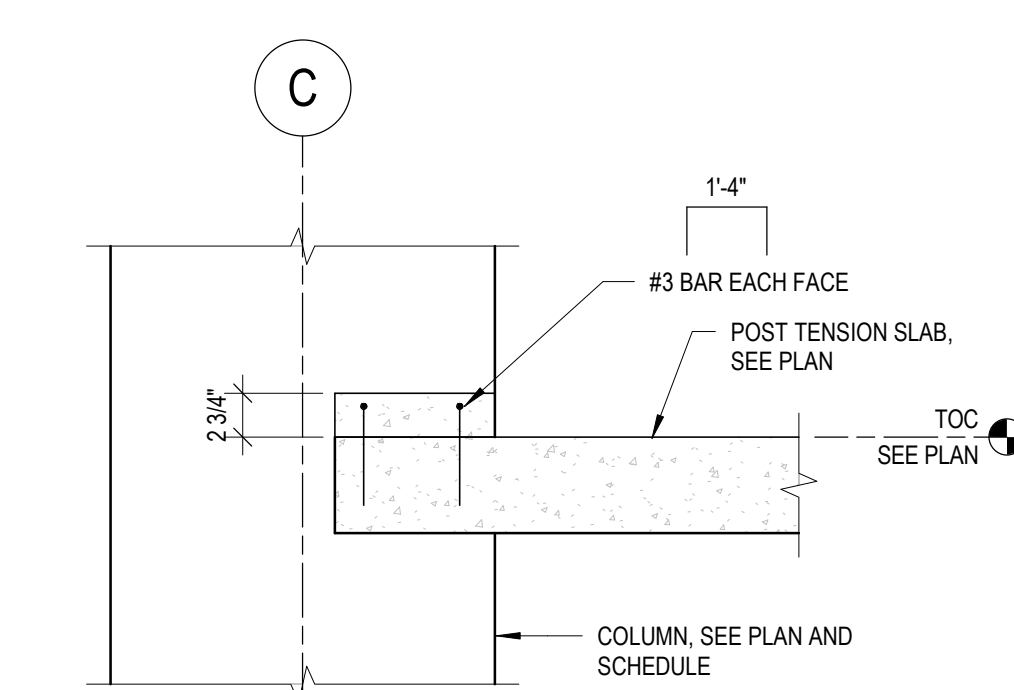
**D7 BARRIER CABLE ASSEMBLY**  
3/4" = 1'-0"



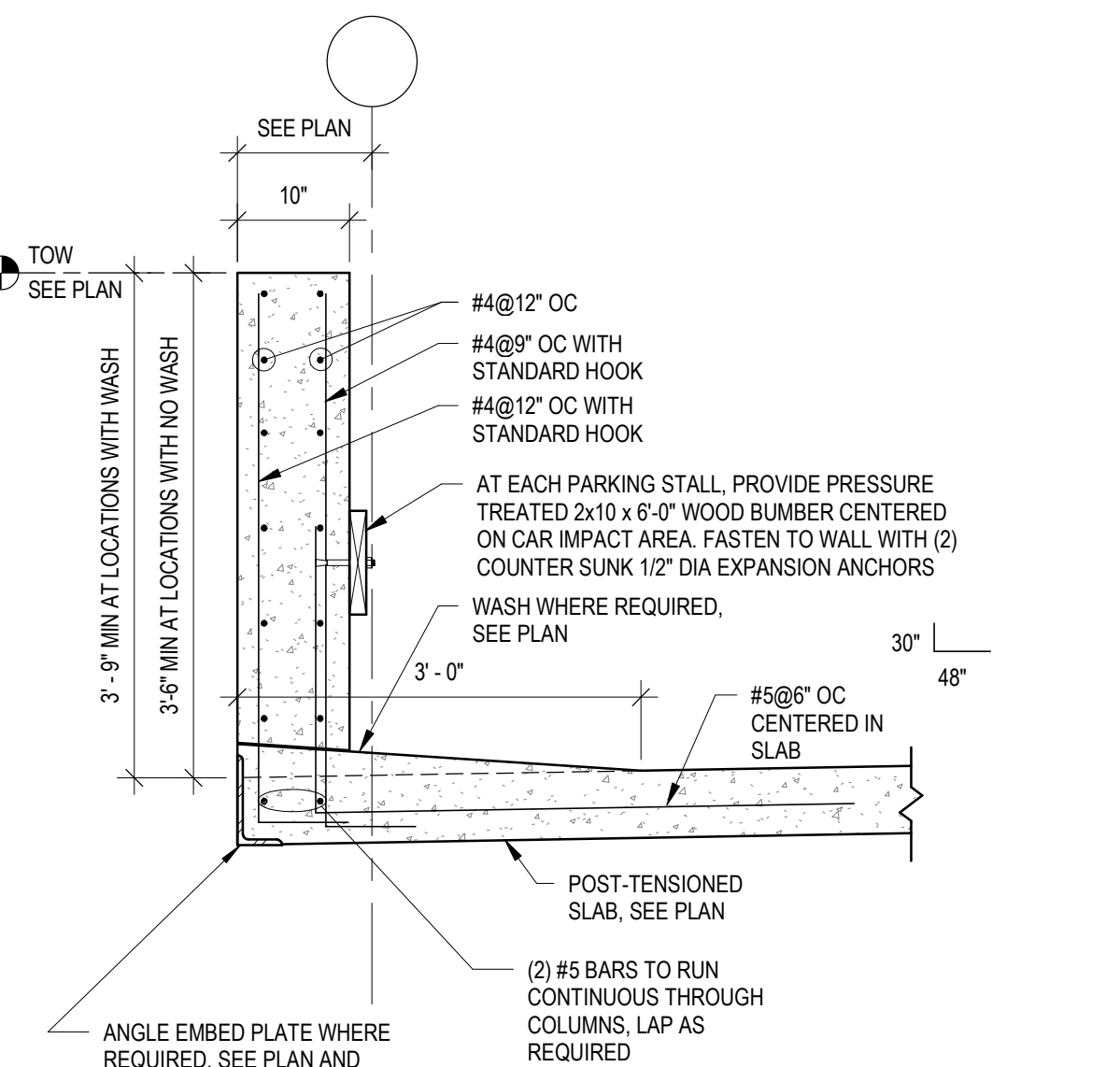
**C2 SECTION AT STAIR WALL**  
3/4" = 1'-0"



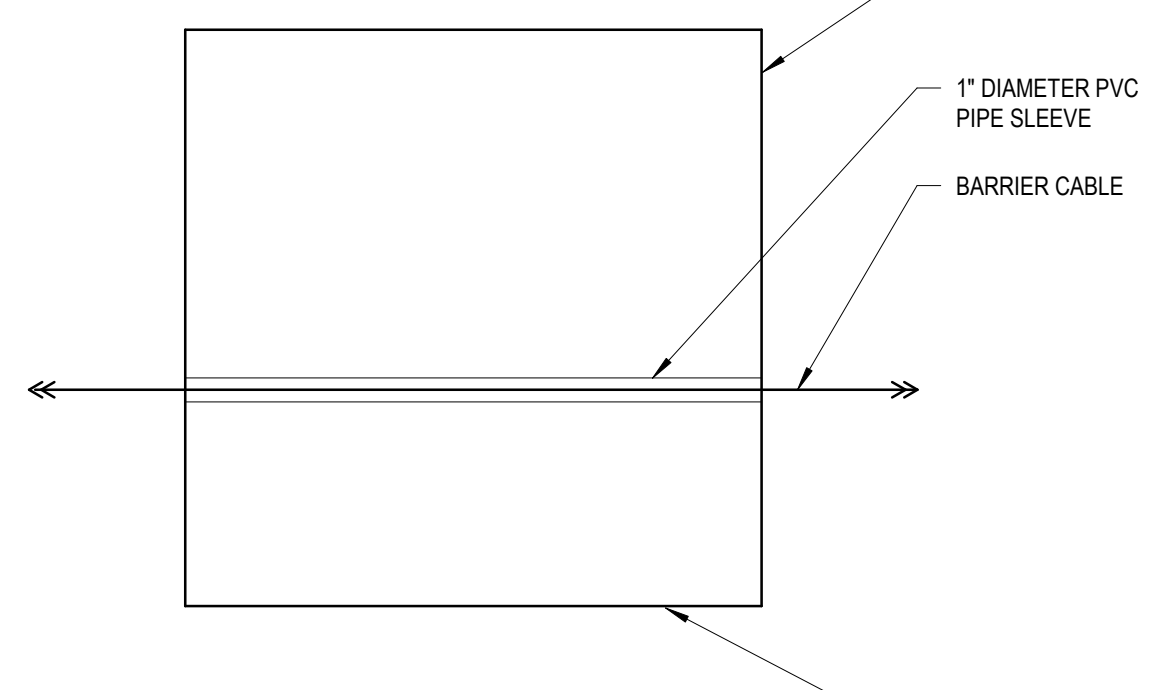
**C3 PLAN AT ELECTRIC CAR STATION**  
1/2" = 1'-0"



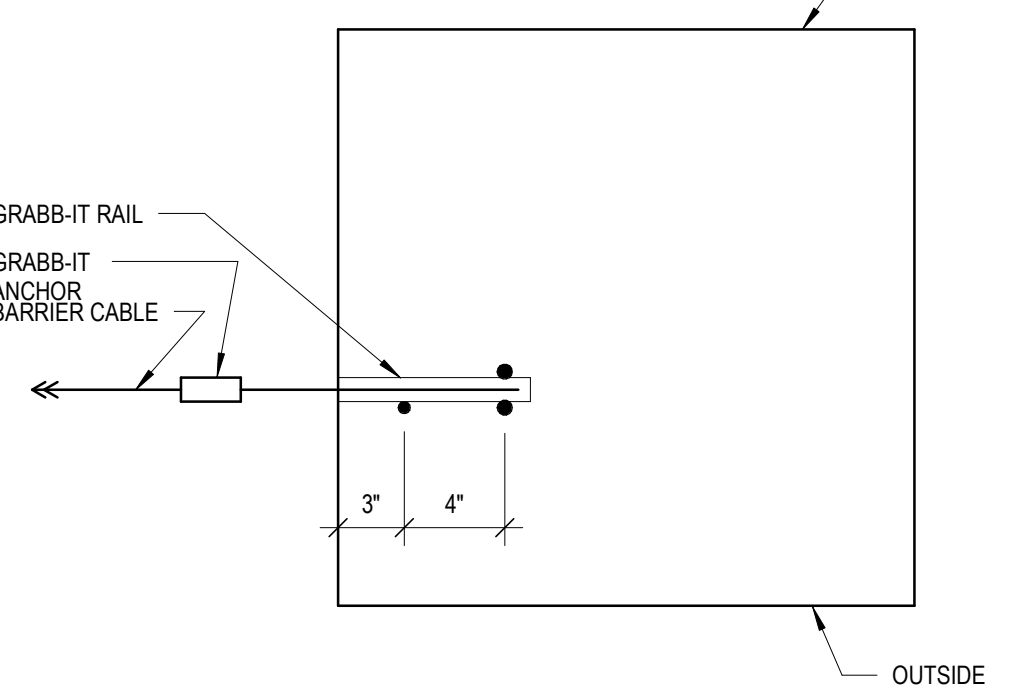
**C4 SECTION AT CURB**  
1" = 1'-0"



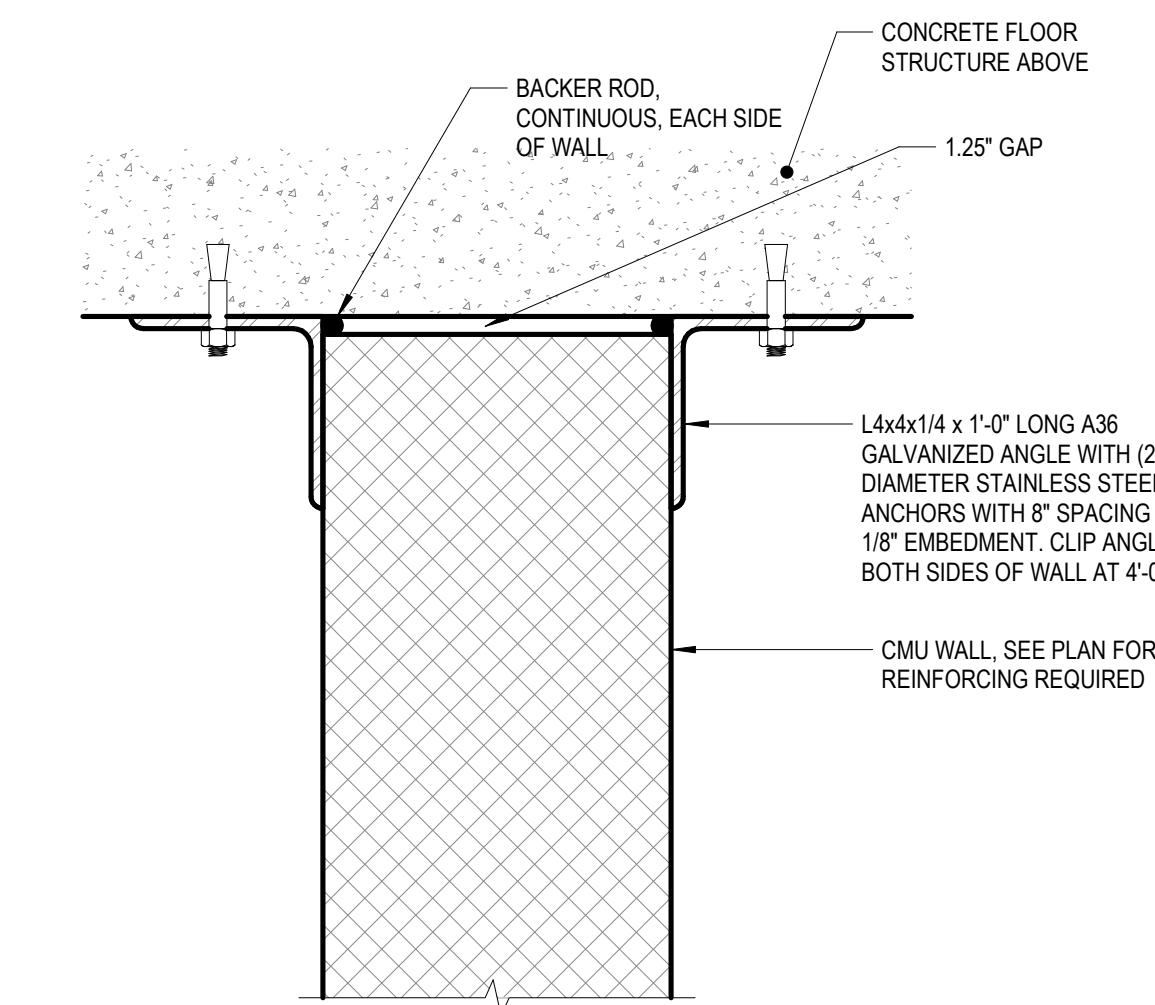
**C5 VEHICLE BARRIER**  
3/4" = 1'-0"



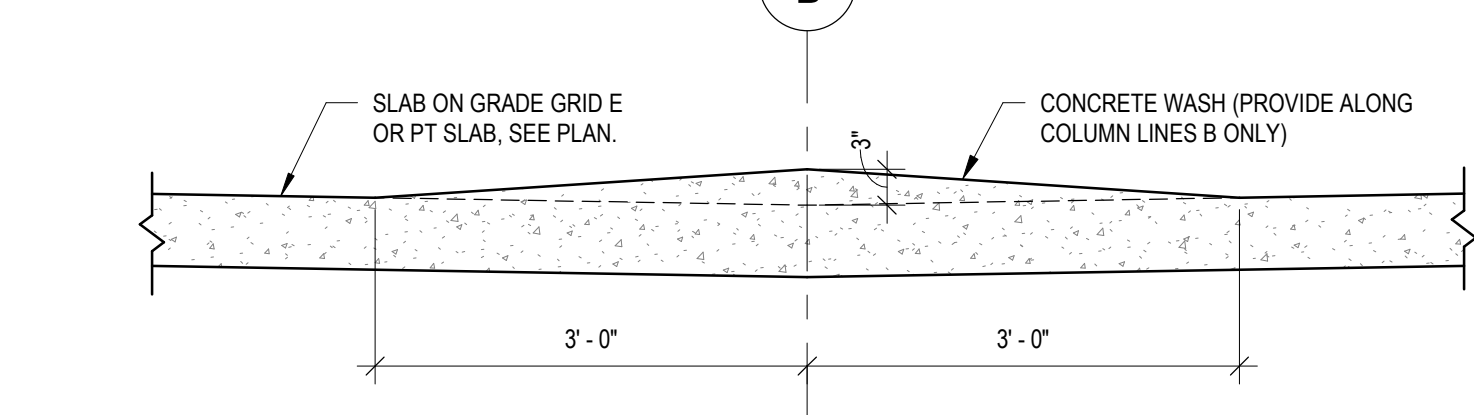
**C6 CABLE RAIL THRU COLUMN**  
1 1/2" = 1'-0"



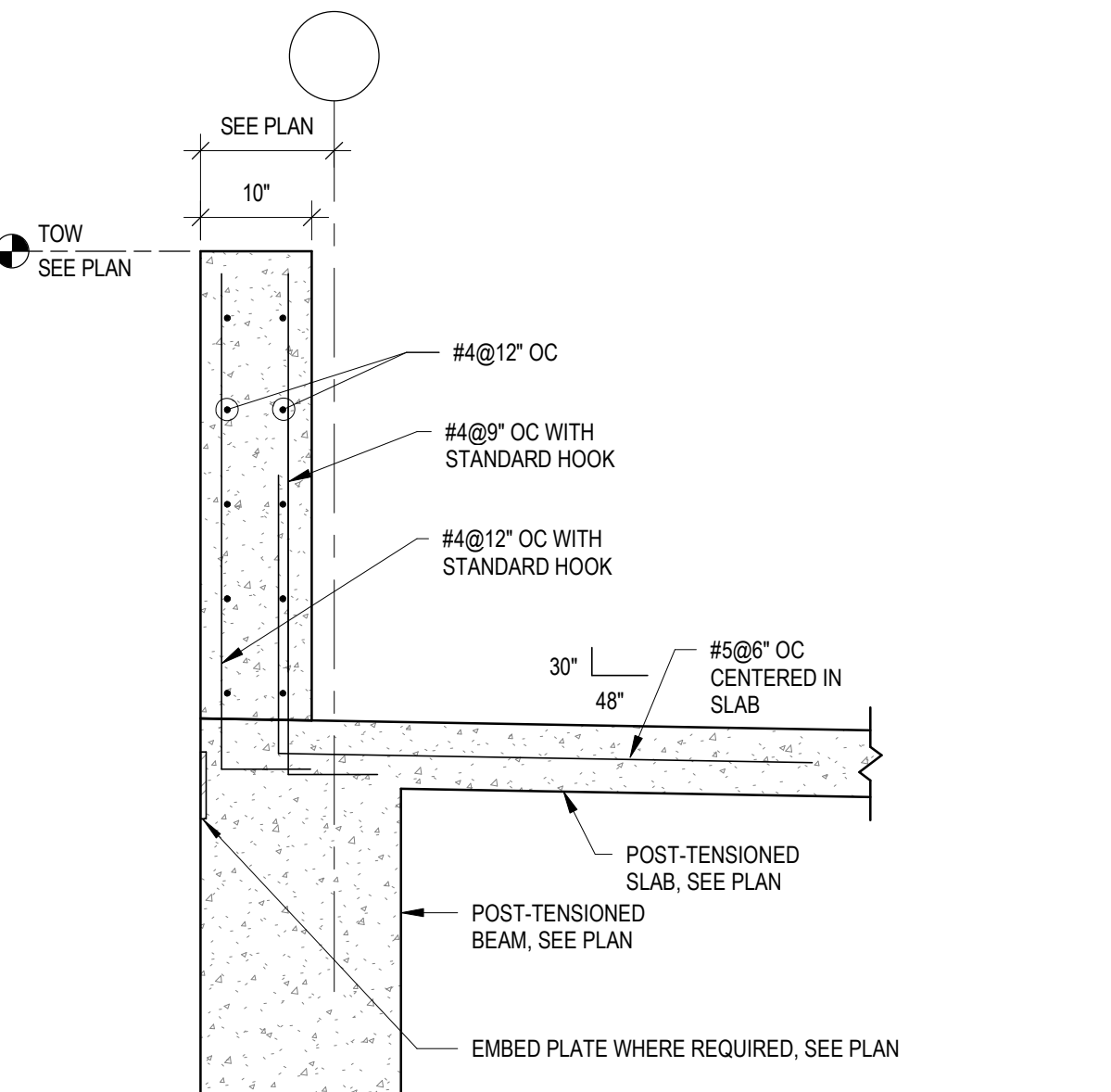
**C7 CABLE RAIL ANCHORAGE AT ENDS**  
1 1/2" = 1'-0"



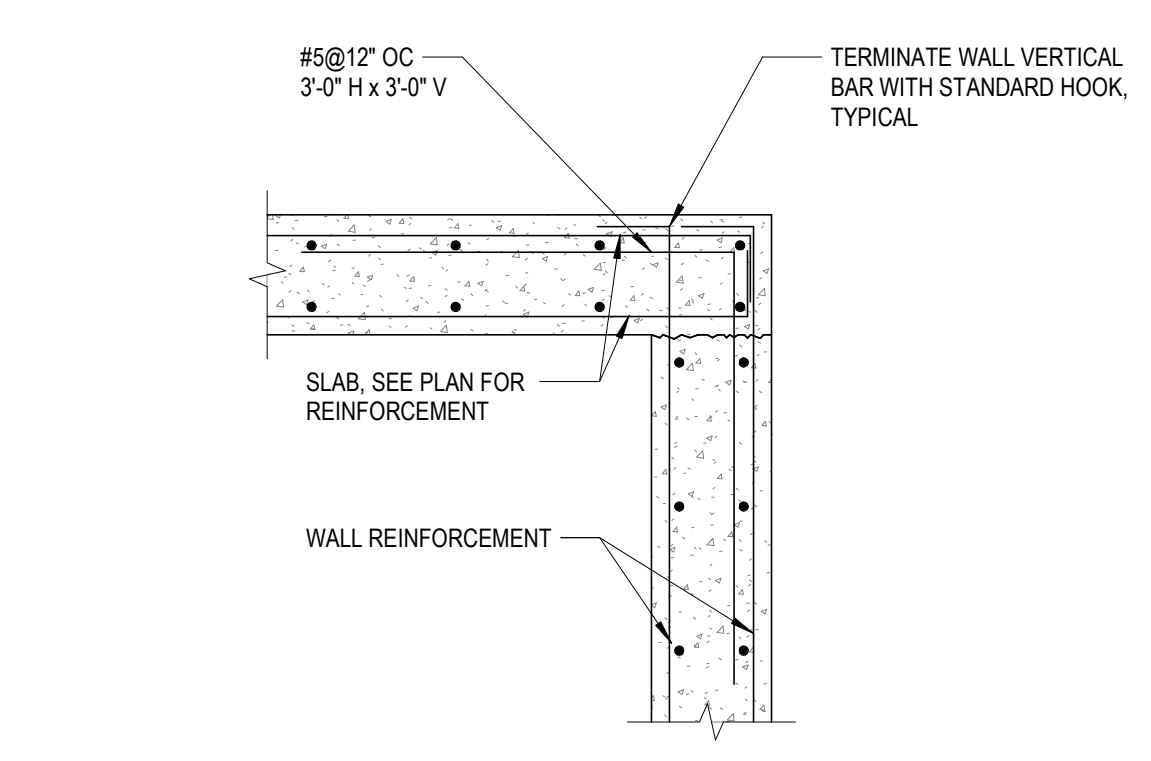
**B2 MASONRY WALL BRACING TWO SIDES AVAILABLE**  
3" = 1'-0"



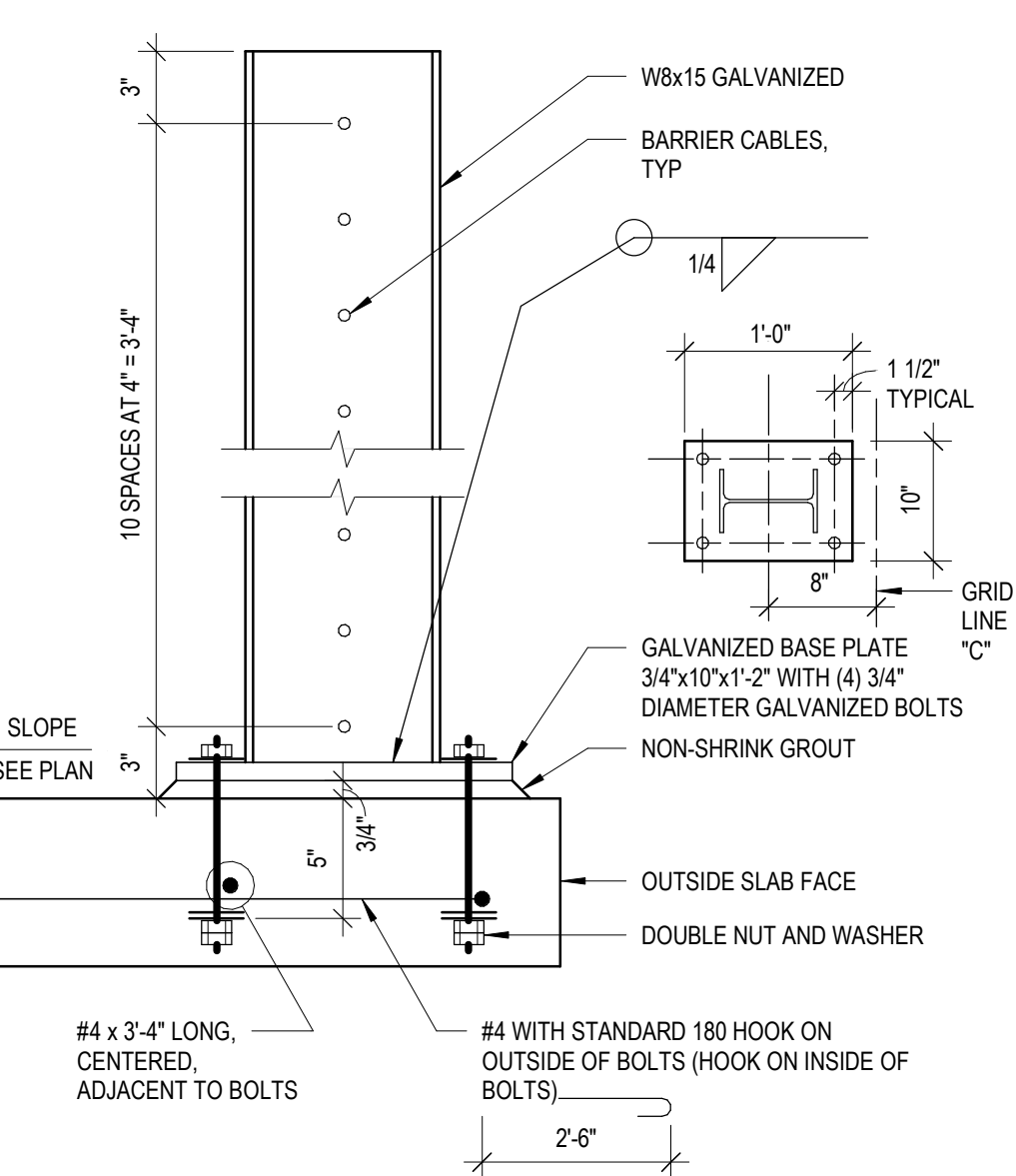
**B3 CONCRETE WASH DETAIL**  
3/4" = 1'-0"



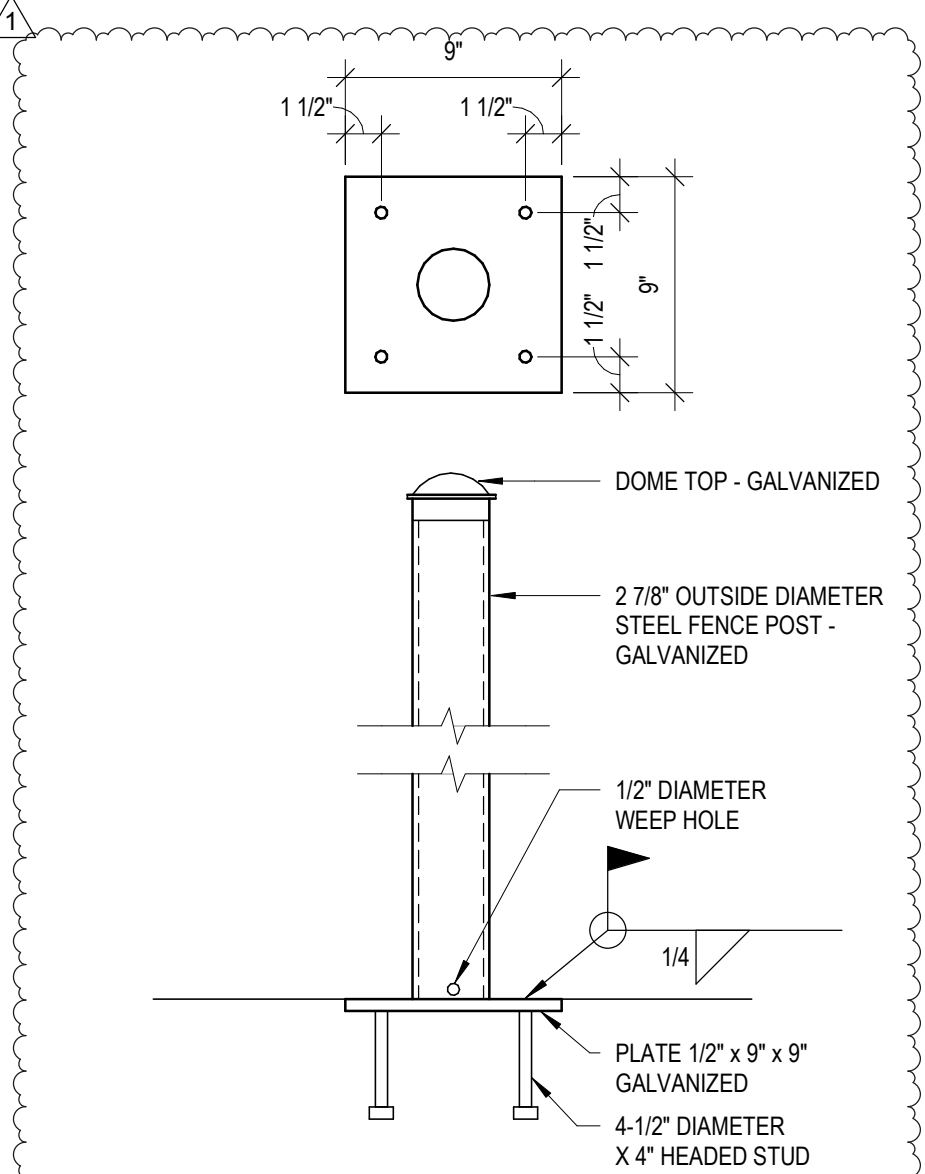
**B5 VEHICLE BARRIER AT BEAM**  
3/4" = 1'-0"



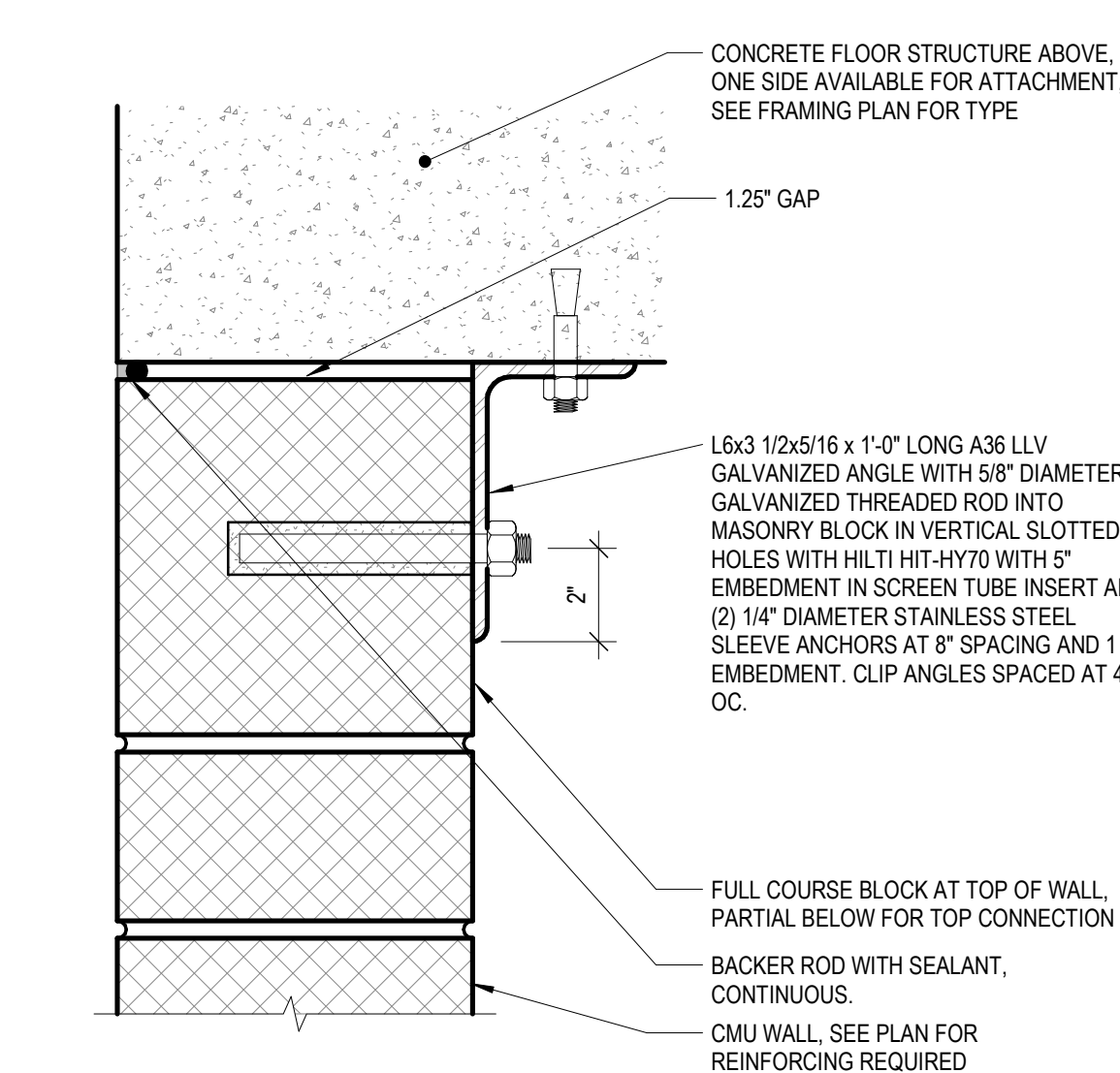
**B6 SLAB EDGE AT TOP OF WALL**  
3/4" = 1'-0"



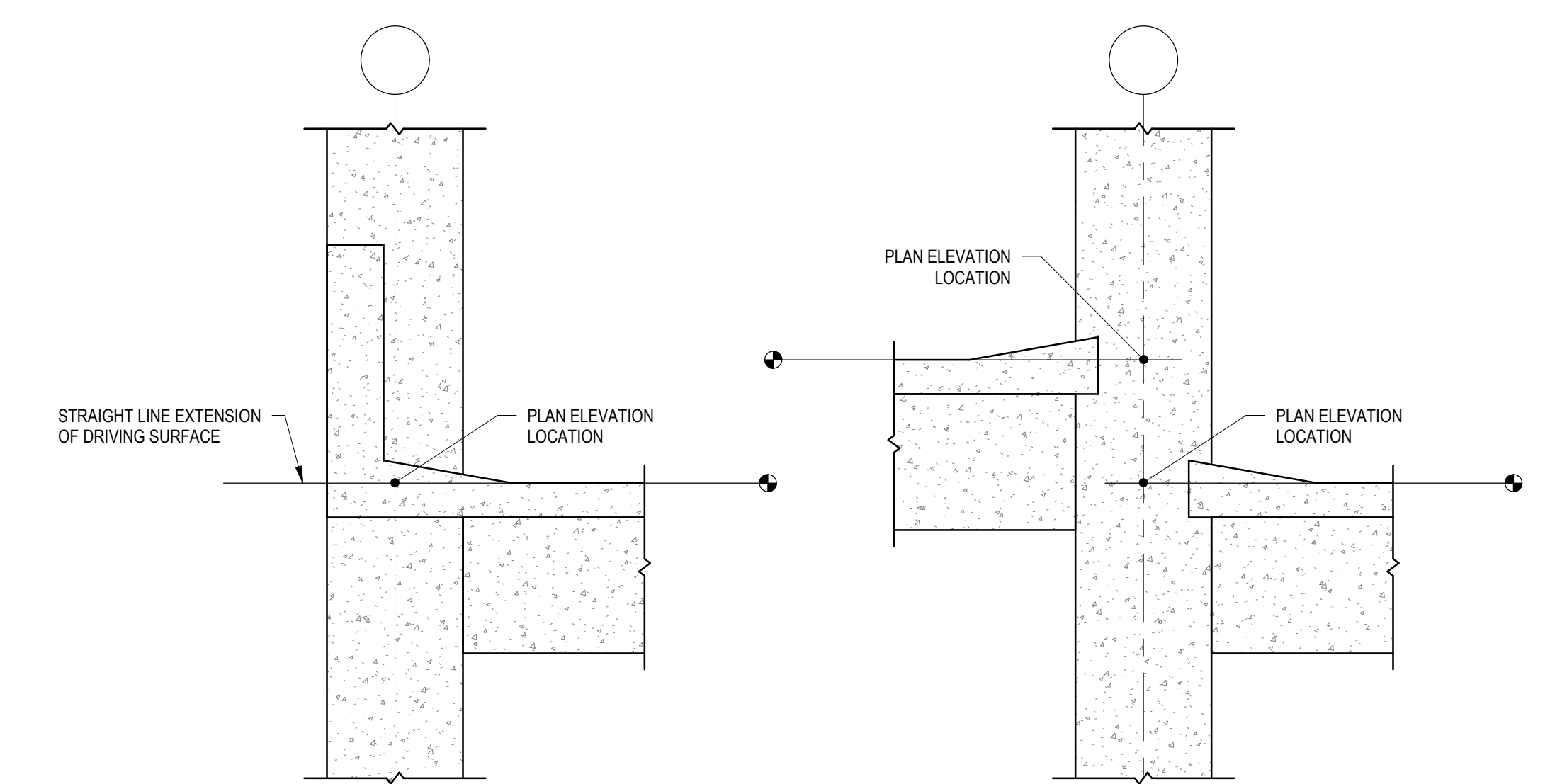
**B7 CABLE RAIL INTERMEDIATE POST**  
1 1/2" = 1'-0"



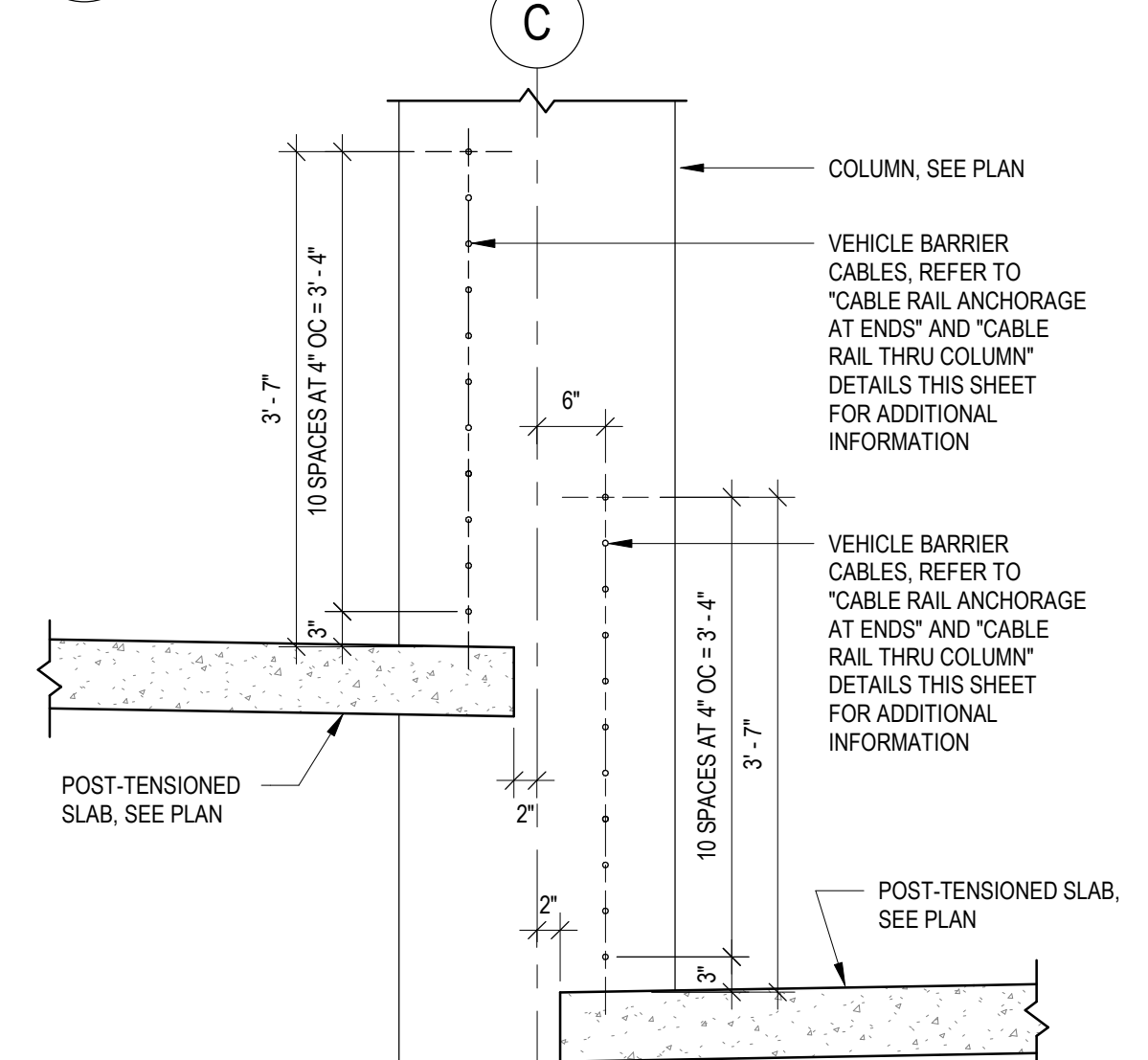
**A1 DETAIL AT CHAIN LINK FENCE**  
1 1/2" = 1'-0"



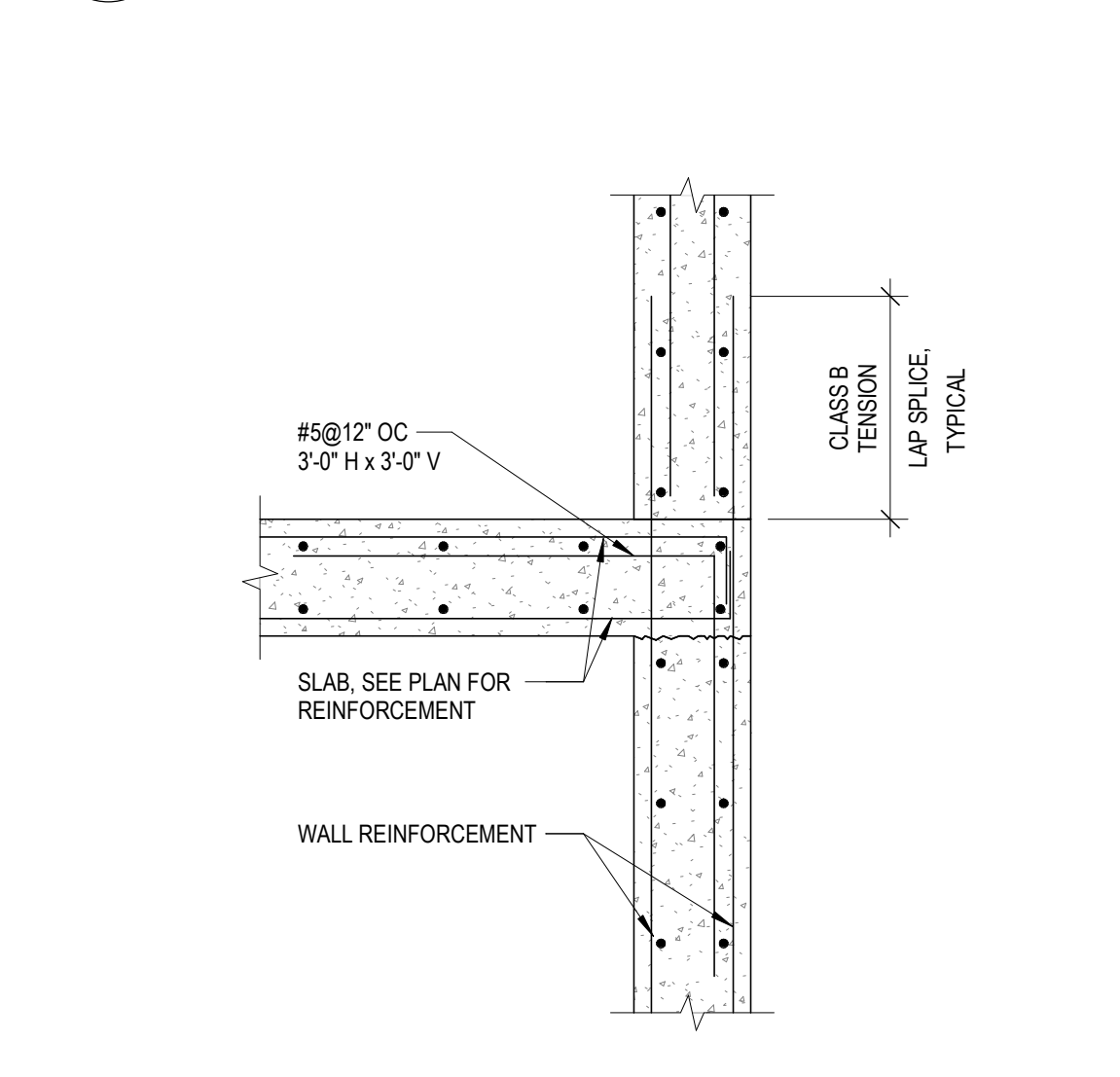
**A2 MASONRY WALL BRACING ONE SIDE AVAILABLE**  
3" = 1'-0"



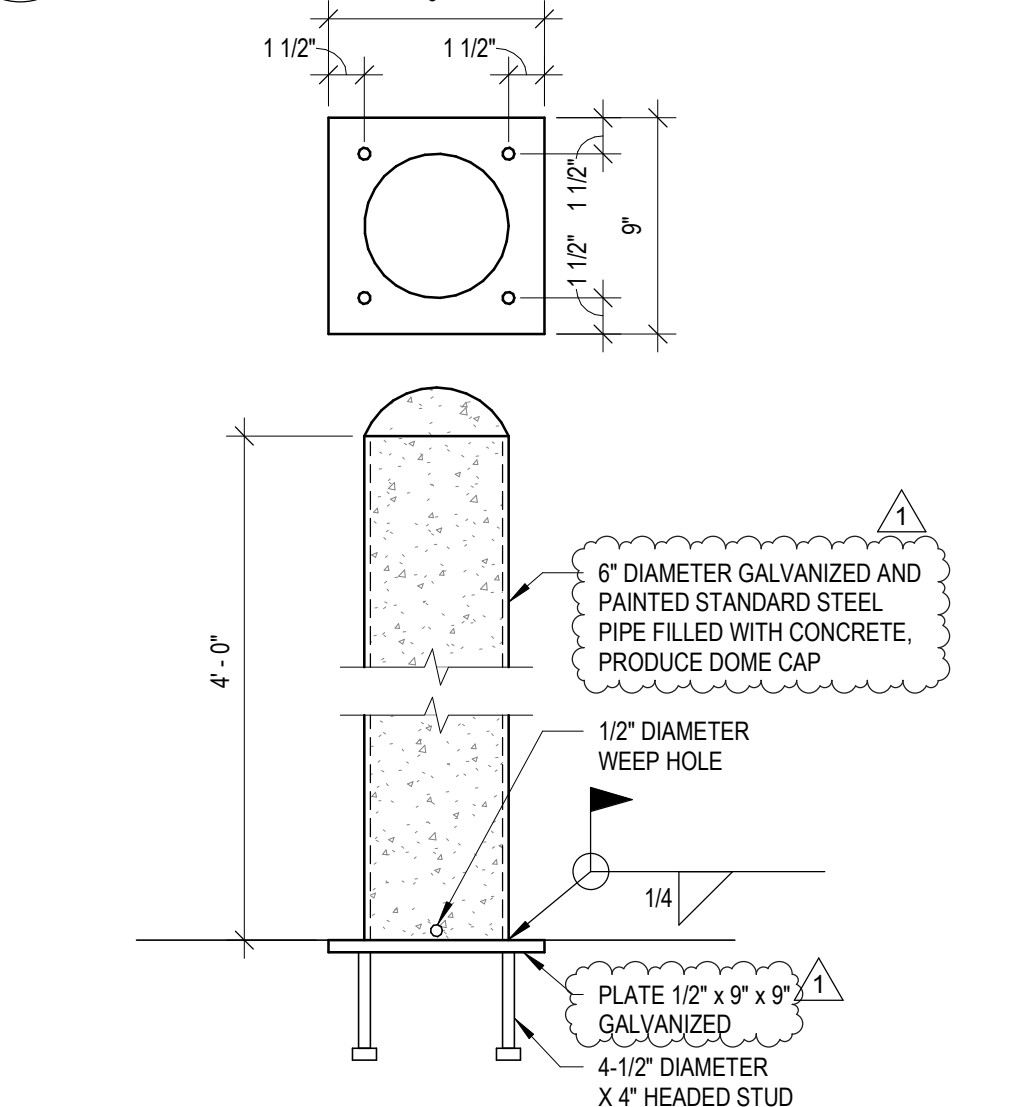
**A3 ELEVATION KEY**  
1/2" = 1'-0"



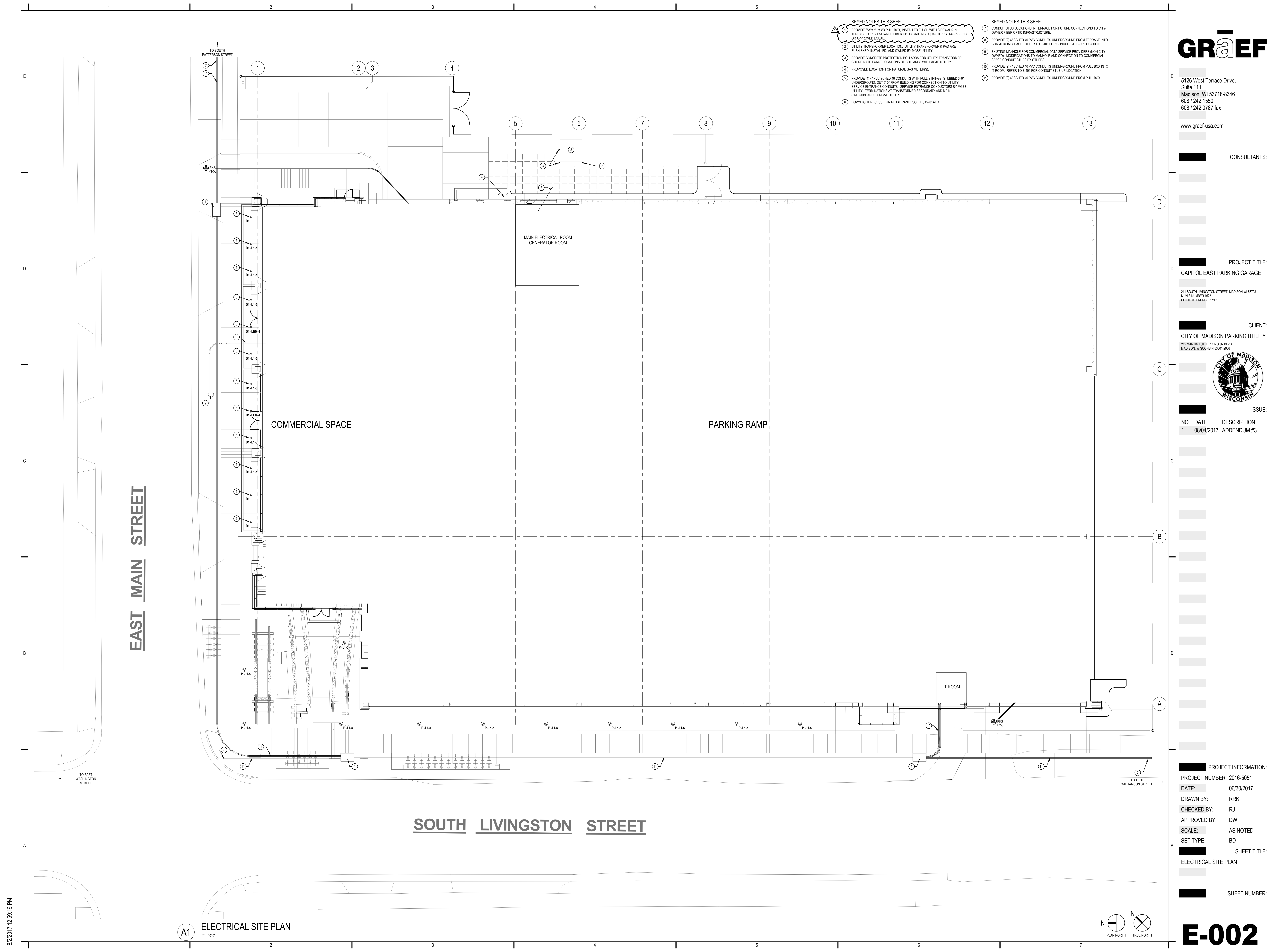
**A5 VEHICLE BARRIER AT RAMP**  
3/4" = 1'-0"



**A6 SLAB EDGE AT WALL DETAIL**  
3/4" = 1'-0"



**A7 PIPE BOLLARD DETAIL AT ELEVATED SLAB**  
1 1/2" = 1'-0"



- KEYED NOTES THIS SHEET**
- ① PROVIDE 3" x 8" x 4" PULL BOX, INSTALLED FLUSH WITH SIDEWALK IN TERRACE FOR CITY-OWNED FIBER OPTIC CABLING. QUANTE PG 30000 SERIES (OR APPROVED EQUAL).
  - ② UTILITY TRANSFORMER LOCATION. UTILITY TRANSFORMER & PAD ARE FURNISHED, INSTALLED, AND OWNED BY M&E UTILITY.
  - ③ PROVIDE CONCRETE PROTECTION BOLLARDS FOR UTILITY TRANSFORMER. COORDINATE EXACT LOCATION OF BOLLARDS WITH M&E UTILITY.
  - ④ PROPOSED LOCATION FOR NATURAL GAS METERS.
  - ⑤ PROVIDE 1/2" PVC SCHED 40 CONDUITS WITH PULL STRINGS, STUBBED 3'-0" UNDERGROUND, OUT 5'-0" FROM BUILDING FOR CONNECTION TO UTILITY SERVICE ENTRANCE CONDUITS. SERVICE ENTRANCE CONDUITORS BY M&E UTILITY. TERMINATIONS AT TRANSFORMER SECONDARY AND MAIN SWITCHBOARD BY M&E UTILITY.
  - ⑥ DOWNLIGHT RECESSED IN METAL PANEL SOFFIT, 15'-0" AFD.

- KEYED NOTES THIS SHEET**
- ⑦ CONDUIT STUB LOCATIONS IN TERRACE FOR FUTURE CONNECTIONS TO CITY-OWNER FIBER OPTIC INFRASTRUCTURE.
  - ⑧ PROVIDE (2) 4" SCHED 40 PVC CONDUITS UNDERGROUND FROM TERRACE INTO COMMERCIAL SPACE. REFER TO E-101 FOR CONDUIT STUB-UP LOCATION.
  - ⑨ EXISTING MANHOLE FOR COMMERCIAL DATA SERVICE PROVIDERS (NON-CITY-OWNED). MODIFICATIONS TO MANHOLE AND CONNECTION TO COMMERCIAL SPACE CONDUIT STUBS BY OTHERS.
  - ⑩ PROVIDE (2) 4" SCHED 40 PVC CONDUITS UNDERGROUND FROM PULL BOX INTO IT ROOM. REFER TO E-401 FOR CONDUIT STUB-UP LOCATION.
  - ⑪ PROVIDE (2) 4" SCHED 40 PVC CONDUITS UNDERGROUND FROM PULL BOX.

**GRÄEF**

5126 West Terrace Drive,  
Suite 111  
Madison, WI 53718-8346  
608 / 242 1550  
608 / 242 0787 fax

www.graef-usa.com

CONSULTANTS:

PROJECT TITLE:  
CAPITOL EAST PARKING GARAGE

211 SOUTH LIVINGSTON STREET, MADISON WI 53703  
PLANS NUMBER 1827  
CONTRACT NUMBER 7951

CLIENT:  
CITY OF MADISON PARKING UTILITY  
215 MARTIN LUTHER KING, JR. BLVD  
MADISON, WISCONSIN 53701-2986



ISSUE:

NO	DATE	DESCRIPTION
1	08/04/2017	ADDENDUM #3

PROJECT INFORMATION:  
PROJECT NUMBER: 2016-5051  
DATE: 06/30/2017  
DRAWN BY: RRK  
CHECKED BY: RJ  
APPROVED BY: DW  
SCALE: AS NOTED  
SET TYPE: BD

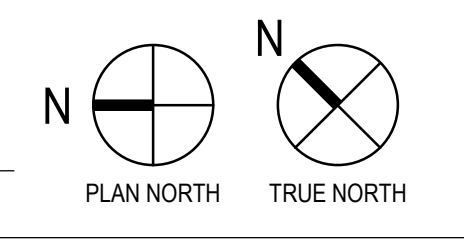
SHEET TITLE:  
ELECTRICAL SITE PLAN

SHEET NUMBER:

**E-002**

8/2/2017 12:59:16 PM

**A1** ELECTRICAL SITE PLAN  
1" = 10' 0"

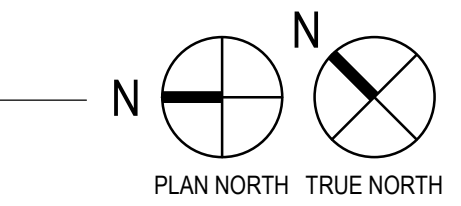




NO	DATE	DESCRIPTION
1	07/28/2017	ADDENDUM #2
2	08/04/2017	ADDENDUM #3

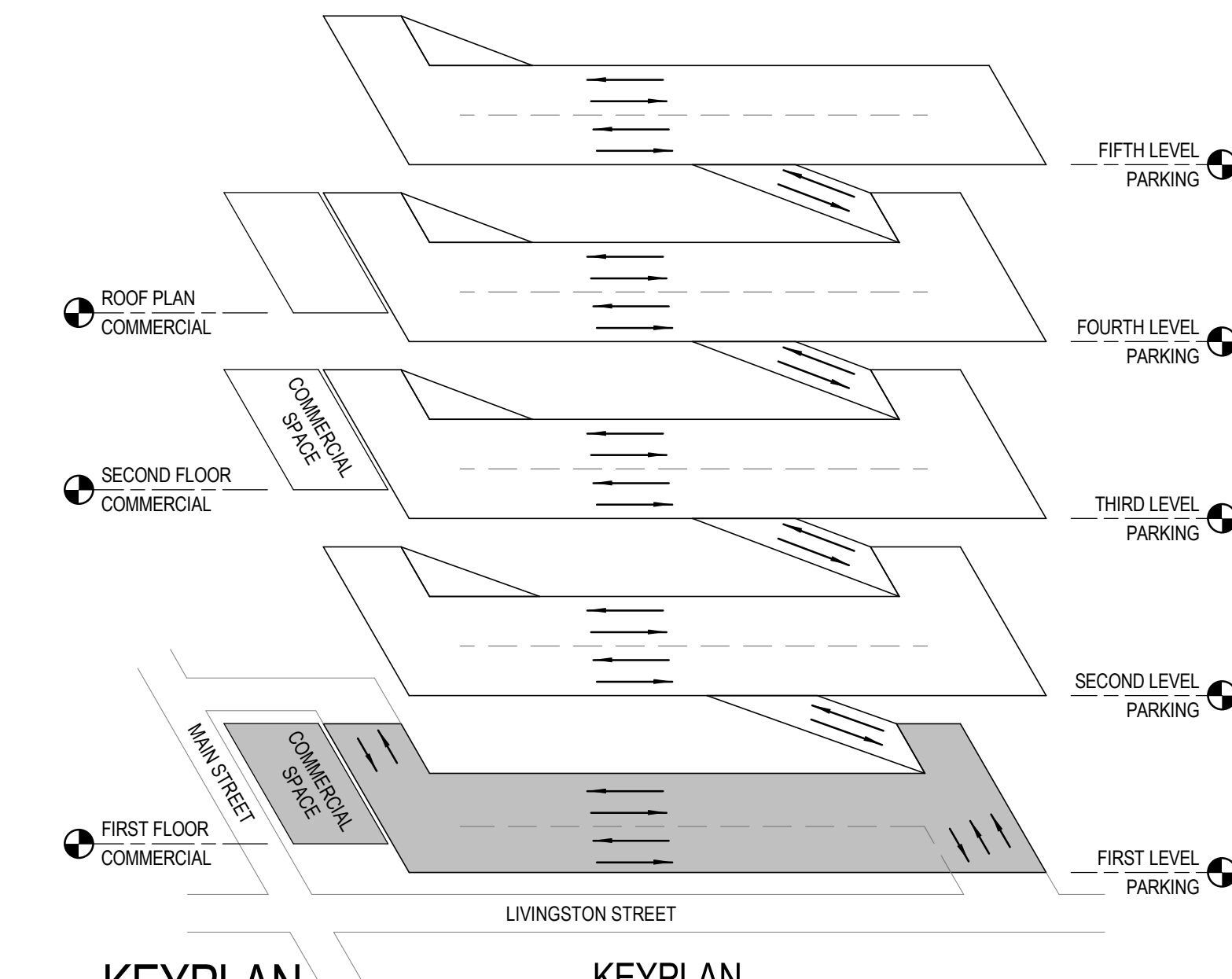


**B1** FIRST LEVEL PARKING - ELECTRICAL PLAN  
1/8" = 1'-0"



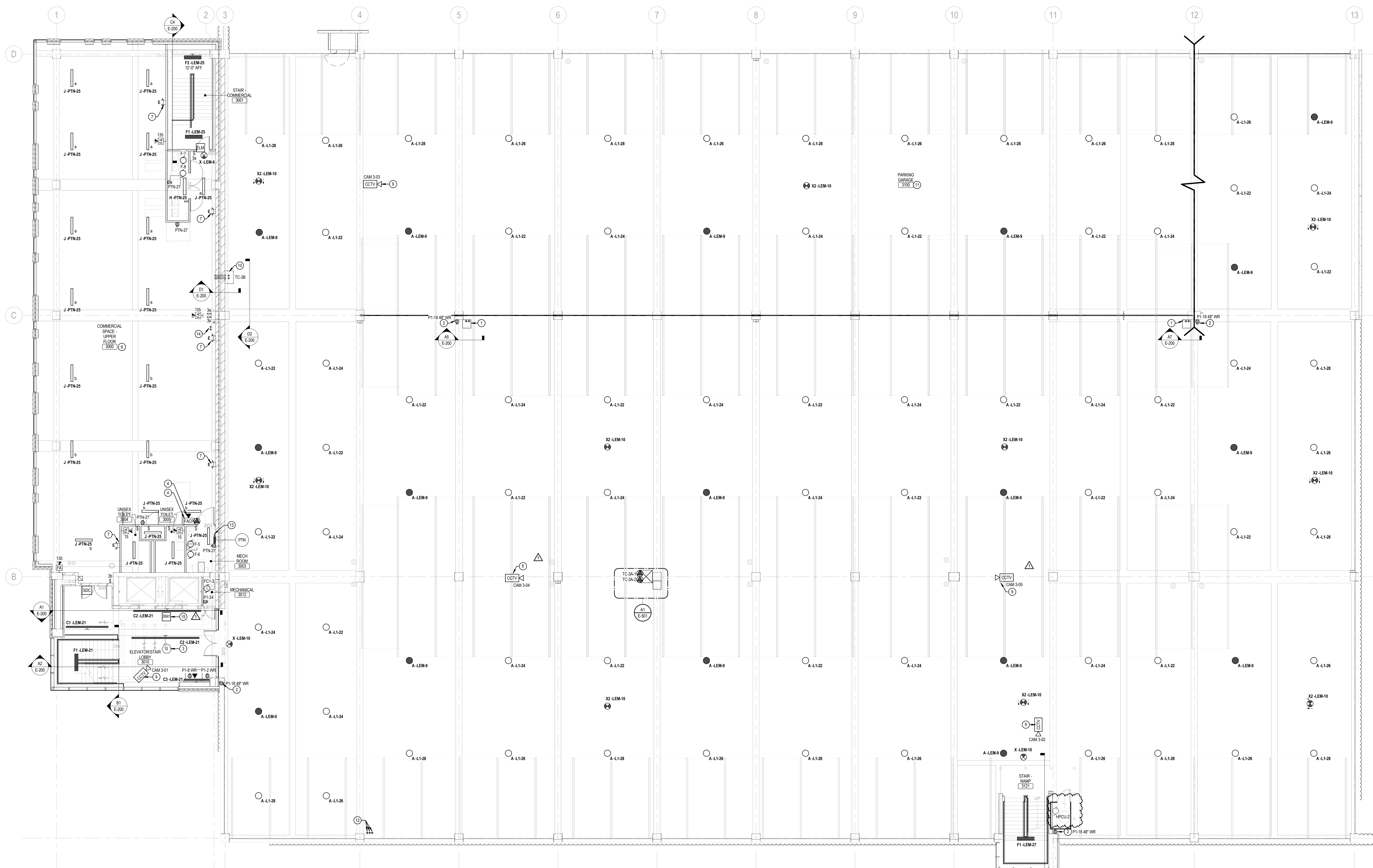
- KEYED NOTES THIS SHEET**
- PROVIDE PULL BOX FOR POWER CONDUITS ROUTED OVERHEAD, MOUNTED TO DECK CEILING.
  - PROVIDE PULL BOX FOR DATA CONDUITS ROUTED OVERHEAD, MOUNTED TO DECK CEILING.
  - PROVIDE PULL BOX FOR POWER CONDUITS ROUTED OVERHEAD, MOUNTED TO DECK CEILING. PROVIDE CONDUIT STUDS THROUGH CEILING FOR BRANCH CIRCUITS SUPPLYING PARKING DECK LEVEL(S) ABOVE.
  - PROVIDE 1/4" RAC CONDUIT, FROM MAIN ELECTRICAL ROOM TO DATA ROOM FOR DATA ROOM BRANCH CIRCUIT PANEL.
  - SURFACE MOUNT LIGHT FIXTURES IN THIS SPACE TO EXPOSED STRUCTURAL CEILING. PROVIDE SURFACE MOUNT BOX & CONDUIT INSTALLATIONS IN THIS SPACE.
  - PENDANT MOUNT LIGHT FIXTURES IN THIS SPACE TO EXPOSED STRUCTURAL CEILING, 12" AFF.
  - CIRCUIT EMERGENCY BATTERY UNIT TO UNSWITCHED LIGHTING BRANCH CIRCUIT SUPPLYING THIS SPACE.
  - PROVIDE DUPLEX RECEPTACLE WITH WEATHER-RESISTANT, GASKETED COVER. RECEPTACLE SUPPLIED VIA CIRCUIT BREAKER WITH INTEGRAL GROUND FAULT PROTECTION.
  - SYSTEM SMOKE DETECTOR UTILIZED FOR ELEVATOR RECALL OPERATION. PROVIDE FIRE ALARM SYSTEM INTERFACE.
  - COORDINATE EXACT LOCATION OF FIRE ALARM SYSTEM ANNUNCIATOR PANEL WITH CITY OF MADISON FIRE DEPARTMENT.
  - PROVIDE FLOW SWITCHES, TAMPER SWITCHES, MONITOR MODULES, AND SYSTEM CONNECTIONS TO FIRE ALARM SYSTEM AT FIRE PROTECTION RISER. REFER TO APPROVED FIRE PROTECTION DESIGN DRAWINGS FOR REQUIRED DEVICE QUANTITIES.
  - POWER-OVER-ETHERNET (POE) SECURITY CAMERA LOCATION. SECURITY CAMERAS FURNISHED BY ELECTRICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR.
  - POWER-OVER-ETHERNET (POE) SECURITY CAMERA LOCATED IN ELEVATOR CAB. SECURITY CAMERAS FURNISHED BY ELECTRICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR.

- KEYED NOTES THIS SHEET**
- PROVIDE WEATHERPROOF NOTIFICATION DEVICE FOR OUTSIDE ANNUNCIATION OF FIRE ALARM SYSTEM.
  - PROVIDE 1" SURFACE MOUNTED CONDUIT TO 4"X4" CEILING-MOUNT WEATHERPROOF BOX FOR FUTURE AVI READER AT PARKING GATE EQUIPMENT. PROVIDE SYSTEMS PATHWAY BACK TO PARKING EQUIPMENT IN ISLANDS.
  - PROVIDE (3) 4" CONDUIT SLEEVES IN DECK FOR FUTURE POWER/SYSTEM PATHWAYS ASSOCIATED WITH FUTURE PHOTOVOLTAIC ARRAY INSTALLATION AT ROOF. COORDINATE SLEEVE LOCATIONS WITH OTHER TRADES.
  - PROVIDE (1) 3" CONDUIT THIRD FLOOR FOR SUPPLY FEED TO BRANCH PANEL 97N.
  - PROVIDE 4-ZONE CALL SYSTEM ANNUNCIATOR PANEL FOR TWO-WAY COMMUNICATION SYSTEM. CORNELL 4200 SERIES OR APPROVED EQUAL. POWER SUPPLY SHALL BE LOCATED IN MECHANICAL CLOSET 011. PROVIDE 2#12 & #10G IN 3/4" C BETWEEN POWER SUPPLY AND PANEL 97N. PROVIDE 3#8 AWG IN 1/2" C BETWEEN POWER SUPPLY AND ANNUNCIATOR PANEL. PROVIDE CORNELL CB-200 CABLE (OR EQUAL) IN 1/2" C BETWEEN ANNUNCIATOR PANEL AND CALL STATIONS LOCATED ON ELEVATOR LANDINGS ABOVE.
  - PROVIDE (1) 3" CONDUIT FOR COMMUNICATIONS CABLING.
  - PROVIDE (1) 3" CONDUIT FOR COMMUNICATIONS CABLING.





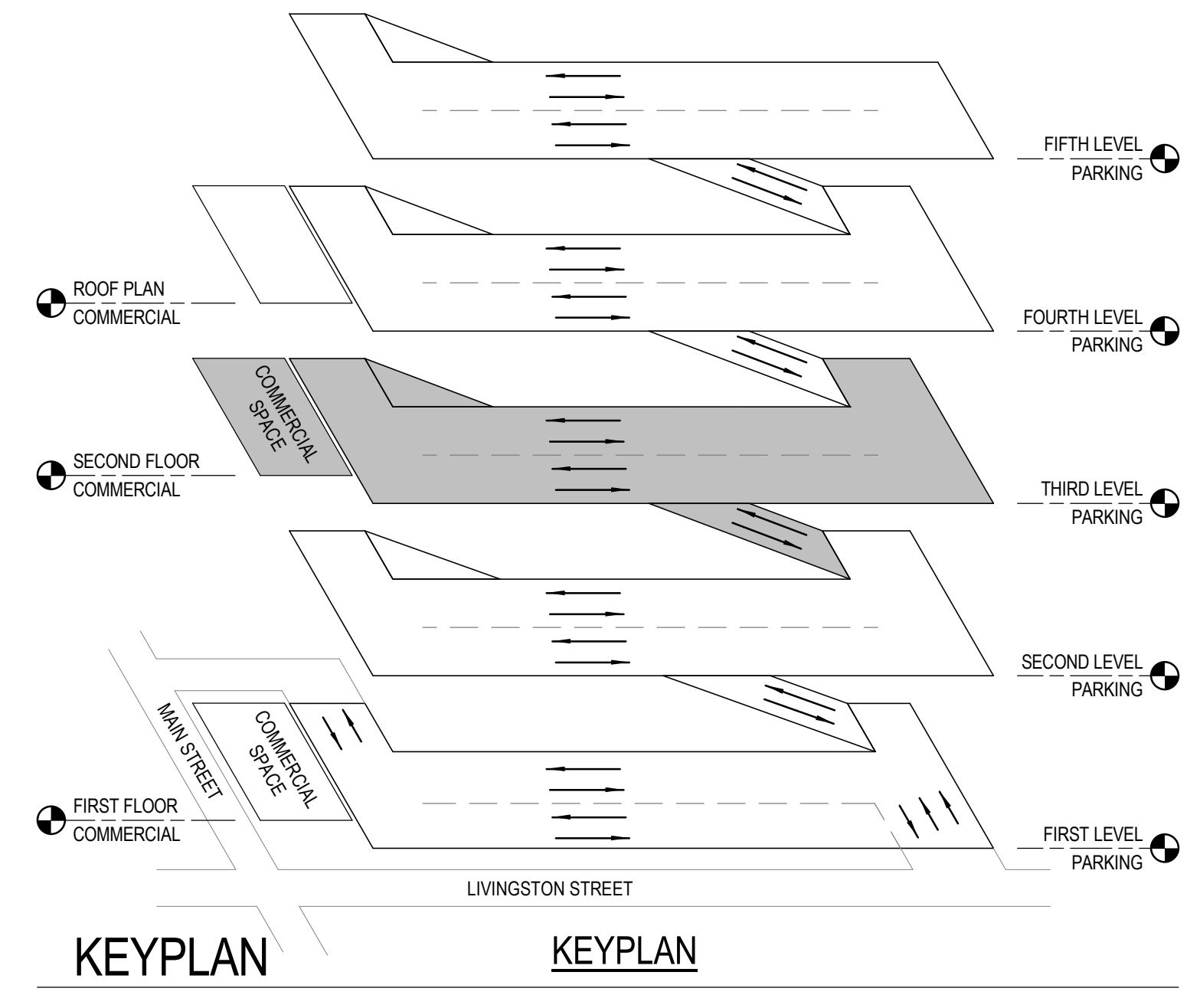
NO	DATE	DESCRIPTION
1	07/28/2017	ADDENDUM #2
2	08/04/2017	ADDENDUM #3



**B1** THIRD LEVEL PARKING - ELECTRICAL PLAN  
1/8" = 1'-0"

- KEYED NOTES THIS SHEET**
- PROVIDE FULL BOX FOR POWER CONDUITS ROUTED OVERHEAD, MOUNTED TO BECK CEILING. PROVIDE CONDUIT STUDS THRU CEILING FOR BRANCH CIRCUITS SUPPLYING PARKING DECK LEVEL(S) ABOVE.
  - PROVIDE DUPLEX RECEPTACLE WITH WEATHER-RESISTANT, GASKETED COVER MOUNTED TO STRUCTURAL COLUMN. RECEPTACLE SUPPLIED VIA CIRCUIT BREAKER WITH INTEGRAL GROUND FAULT PROTECTION.
  - SYSTEM SMOKE DETECTOR UTILIZED FOR ELEVATOR RECALL OPERATION. PROVIDE FIRE ALARM SYSTEM INTERFACE.
  - PROVIDE DIGITAL, ADDRESSABLE FIRE ALARM SYSTEM FOR COMMERCIAL SPACE. FIRE ALARM CONTROL PANEL (FACP) LOCATED IN PARKING RAMP HAN ELECTRICAL ROOM. PROVIDE REQUIRED DEVICES FOR ELEVATOR RECALL, FIRE PROTECTION SYSTEM SUPERVISION, AND COMMERCIAL SPACE DETECTION, NOTIFICATION, AND PULL STATION DEVICES. REFER TO DETAIL CAE501.
  - PROVIDE TELEPHONE LINE CONNECTION TO FIRE ALARM CONTROL PANEL.
  - PENDANT MOUNT LIGHT FIXTURES IN THIS SPACE TO EXPOSED STRUCTURAL CEILING, 12'-0" ABS.
  - CIRCUIT EMERGENCY BATTERY UNIT TO UNSWITCHED LIGHTING BRANCH CIRCUIT SUPPLYING THIS SPACE.
  - PROVIDE FULL BOX FOR DATA CONDUITS ROUTED OVERHEAD, MOUNTED TO BECK CEILING.
  - POWER OVER ETHERNET (POE) SECURITY CAMERA LOCATION. SECURITY CAMERAS FURNISHED BY ELECTRICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR 9'-0" AFF.
  - PROVIDE 36"x24"x2" NEMA 4X DOUBLE HINGED STEEL BOX FOR HOUSING DATA SERVICE PROVIDER (DSAP) AND FUTURE FIRST FLOOR COMMERCIAL TENANT EQUIPMENT. PENTAIR/HOFFMAN PART # PTH32624242.
  - SURFACE MOUNT LIGHT FIXTURES IN THIS SPACE TO EXPOSED STRUCTURAL CEILING. PROVIDE SURFACE-MOUNT BOX & CONDUIT INSTALLATIONS IN THIS SPACE.

- KEYED NOTES THIS SHEET**
- PROVIDE (3) 2" CONDUIT SLEEVES IN DECK FOR FUTURE POWER/SYSTEM PATHWAYS ASSOCIATED WITH FUTURE PHOTOVOLTAIC ARRAY INSTALLATION AT ROOF. COORDINATE SLEEVE LOCATIONS WITH OTHER TRADES.
  - PROVIDE (1) 3" CONDUIT THRU FLOOR FOR SUPPLY FEED TO BRANCH PANEL PTN.
  - PROVIDE (2) 3" CONDUIT SLEEVES IN DECK FOR FUTURE SERVICE FEEDS TO SECOND FLOOR COMMERCIAL SPACES. COORDINATE SLEEVE LOCATIONS WITH OTHER TRADES.
  - PROVIDE TWO-WAY COMMUNICATION CALL STATION. REFER TO DRAWING E-101 FOR LOCATION AND SPECIFICATION OF CALL SYSTEM ANNUNCIATOR PANEL.





NO	DATE	DESCRIPTION
1	07/28/2017	ADDENDUM #2
2	08/04/2017	ADDENDUM #3

PROJECT NUMBER: 2016-5051

DATE: 06/30/2017

DRAWN BY: RRK

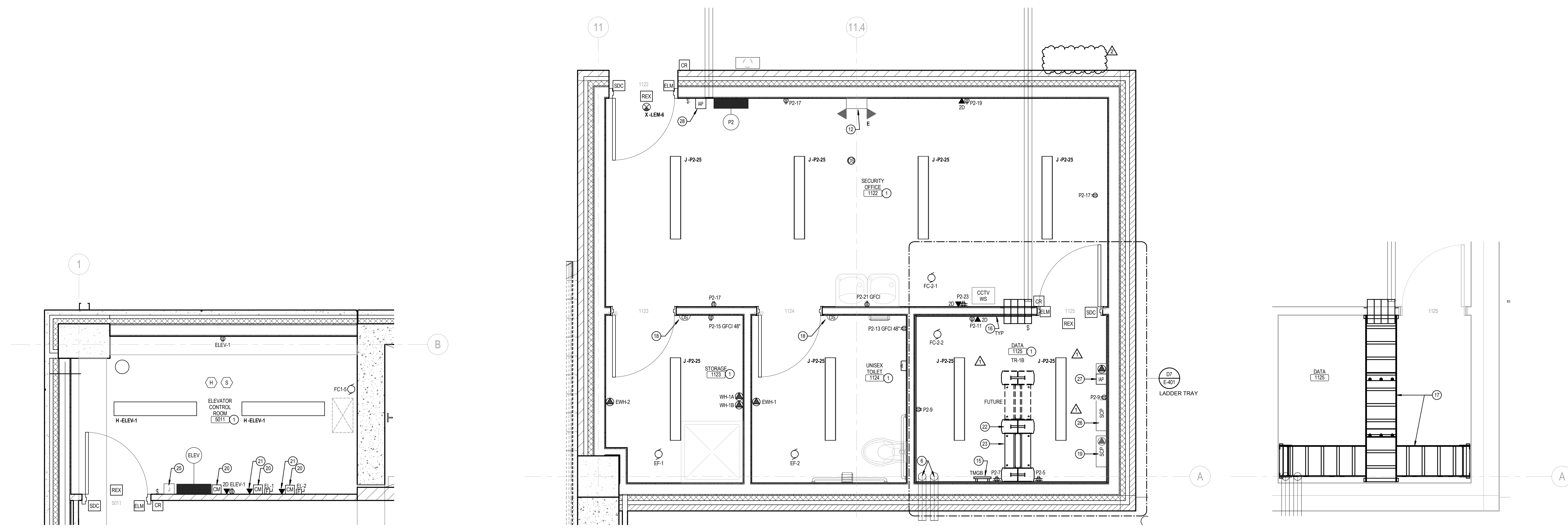
CHECKED BY: RJ

APPROVED BY: DW

SCALE: AS NOTED

SET TYPE: BD

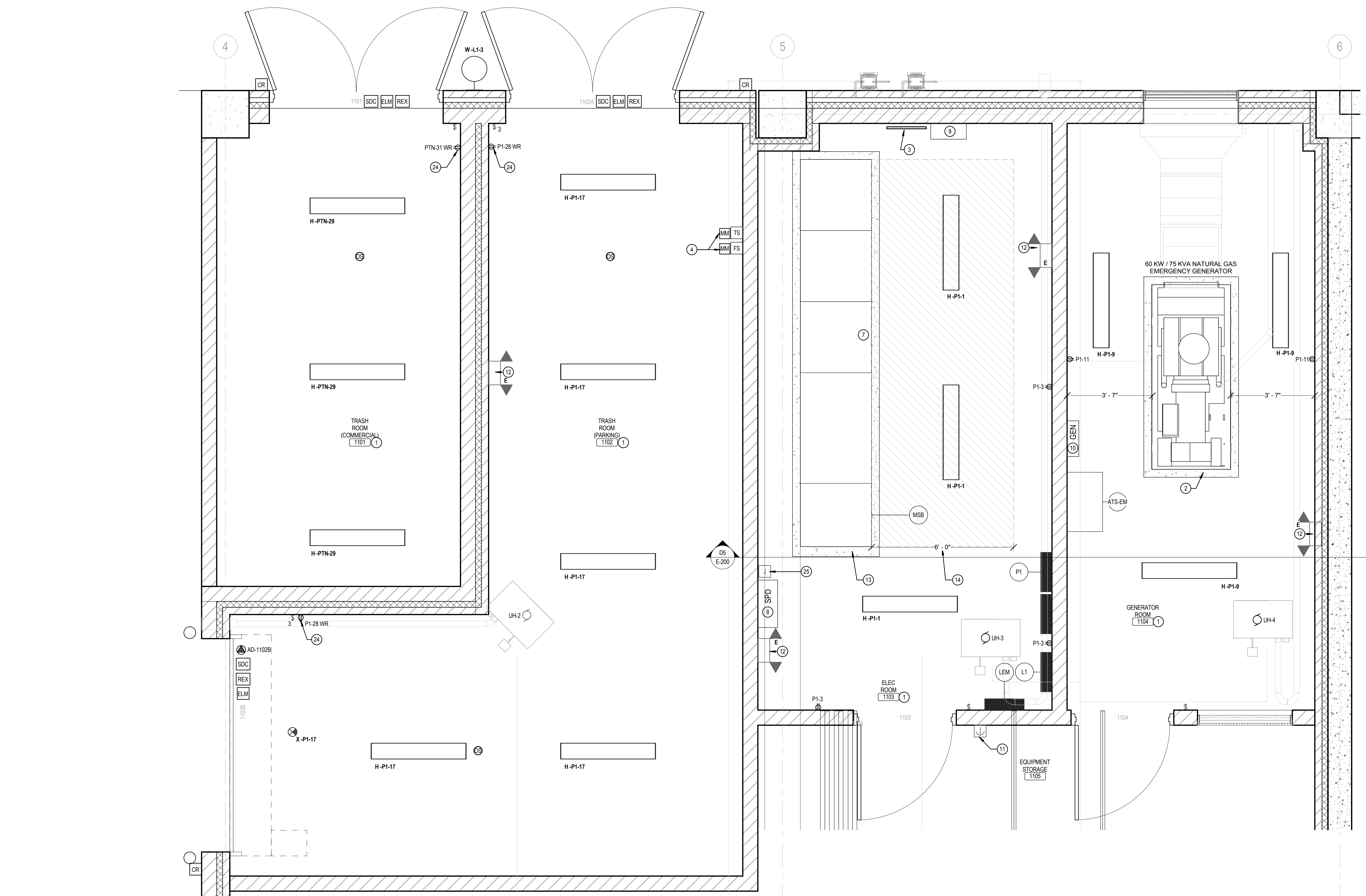
ENLARGED ELECTRICAL PLANS



**A1** ELEVATOR CONTROL ROOM 5011  
12" = 1'-0"

**D4** OFFICE ELECTRICAL PLAN  
12" = 1'-0"

**D7** DATA 1125 - LADDER TRAY  
12" = 1'-0"



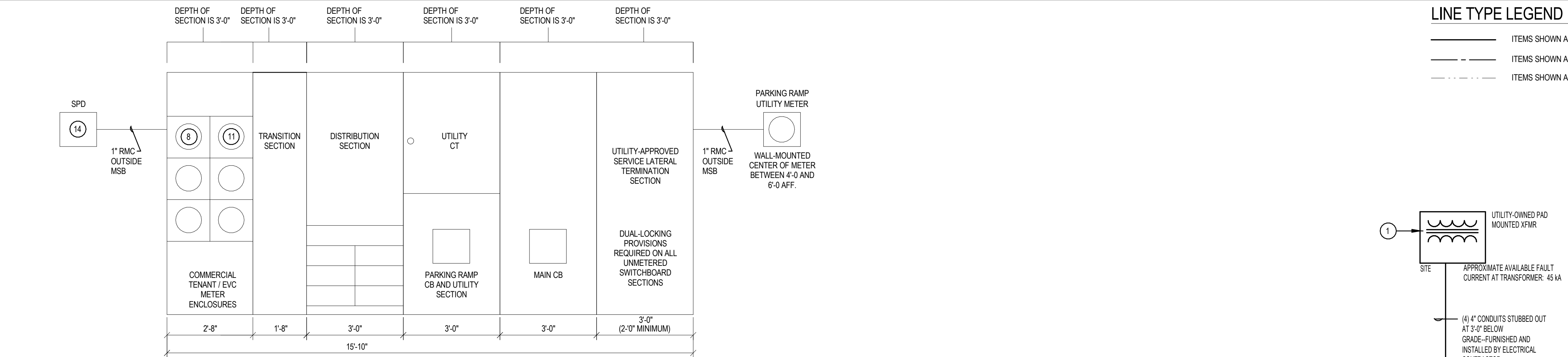
**A2** MEP SPACES / TRASH ROOMS  
12" = 1'-0"

- KEYED NOTES THIS SHEET**
- 1 SURFACE MOUNT LIGHT FIXTURES IN THIS SPACE TO EXPOSED STRUCTURAL CEILING. PROVIDE SURFACE MOUNT BOX & CONDUIT INSTALLATIONS IN THIS SPACE.
  - 2 PROVIDE 4" HOUSEKEEPING PAD FOR GENSET. EXTEND PAD 4" FROM ALL SIDES OF EQUIPMENT FOOTPRINT.
  - 3 PROVIDE GROUNDING BAR IN MAIN ELECTRICAL ROOM. GROUND MAIN SWITCHBOARD PER NEC REQUIREMENTS, INCLUDING GROUND RODS AT ELECTRICAL ROOM AND CONNECTION TO PIPING AT WATER SERVICE ROOM. REFER TO DETAIL 53501.
  - 4 PROVIDE FLOW SWITCHES, TAMPER SWITCHES, MONITOR MODULES, AND SYSTEM CONNECTIONS TO FIRE ALARM SYSTEM AT FIRE PROTECTION RISER. REFER TO APPROVED FIRE PROTECTION DESIGN DRAWINGS FOR REQUIRED DEVICE QUANTITIES.
  - 5 PROVIDE (4) 2" EMPTY CONDUITS (WITH PULL STRINGS) UNDERGROUND TO COMMERCIAL SPACE FOR FUTURE POWER FEEDERS FROM ELECTRICAL ROOM.
  - 6 PROVIDE (2) 4" ENTRANCE CONDUITS FROM CITY OF MADISON.
  - 7 PROVIDE SIGNAGE INDICATING THE PRESENCE OF AN EMERGENCY STANDBY GENERATOR. INCLUDE KEY PLAN INDICATING LOCATION OF EMERGENCY STANDBY GENERATOR WITHIN STRUCTURE.
  - 8 PROVIDE SURGE PROTECTION DEVICE (SPD) FOR MAIN SWITCHBOARD, MOUNTED EXTERNALLY.
  - 9 PROVIDE UTILITY APPROVED METER ENCLOSURE FOR PARKING RAMP ELECTRICAL SERVICE. METER FURNISHED AND INSTALLED BY UTILITY.
  - 10 PROVIDE GENERATOR ANNUNCIATOR PANEL AND ASSOCIATED CONTROL CONNECTIONS BACK TO GENSET IN GENERATOR ROOM 1105.
  - 11 PROVIDE EMERGENCY POWER OFF (EPO) AT THIS LOCATION AND CONTROL INTERFACE WITH BUILDING GENERATOR.
  - 12 CIRCUIT EMERGENCY BATTERY UNIT TO UNSWITCHED LIGHTING BRANCH CIRCUIT SUPPLYING THIS SPACE.
  - 13 PROVIDE 4" HOUSEKEEPING PAD FOR MAIN SWITCHBOARD. EXTEND PAD 4" FROM ALL SIDES OF EQUIPMENT FOOTPRINT.
  - 14 MAINTAIN "DOUBLE" WORKING CLEARANCE AT MAIN SWITCHBOARD PER NEC 110.26 C.28.
  - 15 TMGB: PROVIDE GROUNDING BUS PER DETAIL B6501.
  - 16 PLYWOOD BACKBOARD: PROVIDE 4" X 8" X 3/4" AC GRADE VOID FREE FIRE RESISTANT MARINE GRADE PLYWOOD BACKBOARD MOUNTED ON WALLS AT 6" AFF TO 102 AFF. PAINT ALL SIDES WITH ONE COAT OF PAINT PRIMER AND TWO FINISH COATS OF FIRE RETARDANT WHITE PAINT. LEAVE EXPOSED ONE FIRE RETARDANT STAMP PER SHEET OF PLYWOOD.
  - 17 PROVIDE 4" LADDER STYLE CABLE TRAYS, HORIZONTAL AND VERTICAL, WITH 4" SLUNG SPACING SUSPENDED FROM STRUCTURE PER MANUFACTURER'S MOUNTING INSTRUCTIONS. COORDINATE EXACT LOCATION AND ACCESSORIES FOR CABLE TRAY WITH OWNER'S REPRESENTATIVE PRIOR TO ORDERING. COORDINATE FINAL LOCATIONS OF ALL CEILING MOUNT DEVICES, LIGHT FIXTURES, ETC. WITH LADDER TRAY LOCATIONS PRIOR TO ROUGH-IN.
  - 18 PROVIDE WALLMOUNT OCCUPANCY SENSOR WITH INTEGRAL RELAY FOR CONTROL OF EXHAUST FAN WITHIN SPACE.
  - 19 ACCESS CONTROL PANEL POWER SUPPLY CABINET.
  - 20 PROVIDE FIRE ALARM CONTROL MODULES AS NECESSARY FOR SHUNT TRIP BREAKERS, POWER MODULES, AND CONTROLLERS. REFER TO DETAIL C4501.
  - 21 PROVIDE TELEPHONE LINE CONNECTION FOR ELEVATOR CAB.
  - 22 VERTICAL WIRE MANAGER SHALL BE CPI. PROVIDE AND INSTALL CPI DOUBLE-SIDED WIDE VERTICAL WIRE MANAGERS. CPI PART #11729-703.
  - 23 EQUIPMENT RACK SHALL BE CPI. PROVIDE AND INSTALL CPI 19" STANDARD RACK 2D PART #60553-703. GROUND RACK TO TMGB WITH #6 AWG WIRE. EQUIPMENT RACK SHALL SUPPORT THE FOLLOWING:  
CITY OF MADISON FIBER TERMINATIONS  
HORIZONTAL WIRE MANAGERS  
48 PORT PATCH PANELS FOR DATA, VOICE, CAMERAS  
CITY OF MADISON NETWORK SWITCH  
NETWORK VIDEO RECORDER  
TRIPPLITE PDU
  - 24 PROVIDE DUPLEX RECEPTACLE WITH WEATHER-RESISTANT, GASKETED COVER. RECEPTACLE SUPPLIED VIA CIRCUIT BREAKER WITH INTEGRAL GROUND FAULT PROTECTION.
  - 25 PROVIDE 120 VOLT BRANCH CIRCUIT FROM PANEL LEM AND ELECTRICAL CONNECTION TO SHUNT TRIP OPERATORS IN PANEL. ELEV. REFER TO DETAIL C45-501.
  - 26 ACCESS CONTROL SYSTEM PANEL LOCATION. REFER TO SPECIFICATION 281000. PROVIDE A COMPLETE AND FUNCTIONAL ACCESS CONTROL SYSTEM.
  - 27 INTRUSION ALARM SYSTEM CONTROL PANEL LOCATION. ALARM SYSTEM MONITORS DOOR CONTACT ON DOOR 1122. REFER TO SPECIFICATION 281000. PROVIDE A COMPLETE AND FUNCTIONAL INTRUSION ALARM SYSTEM. INTERFACED WITH ACCESS CONTROL AND FIRE ALARM SYSTEMS.
  - 28 INTRUSION ALARM SYSTEM ANNUNCIATOR LOCATION. PROVIDE CAT 6 CABLE FROM CONTROL PANEL AND ASSOCIATED TERMINATIONS.



LINE TYPE LEGEND

- ITEMS SHOWN AS SOLID BLACK LINES ARE NEW
ITEMS SHOWN AS LONG DASH SHORT DASH BLACK LINES ARE EQUIPMENT ENCLOSURES
ITEMS SHOWN AS DOTTED LINES ARE FUTURE



E3 MAIN SWITCHBOARD ELEVATION

COPPER FEEDER SCHEDULE table with columns: FEEDER AMPACITY, CONDUCTOR SIZE (4/0), CONDUIT SIZE (3), CONDUIT SIZE (4).

FEEDER DESIGNATION: SYSTEM DESIGNATION (S) 3PH, 3W + GND (4) 3PH, 4W + GND
KEYED NOTES: 1. COORDINATE TRANSFORMER INSTALLATION REQUIREMENTS WITH MASE UTILITY.



5126 West Terrace Drive, Suite 111, Madison, WI 53718-8346
608 / 242 1550, 608 / 242 0787 fax

www.graef-usa.com

CONSULTANTS:

PROJECT TITLE: CAPITOL EAST PARKING GARAGE

211 SOUTH LIVINGSTON STREET, MADISON WI 53703
MASE NUMBER 182, CONTRACT NUMBER 7951

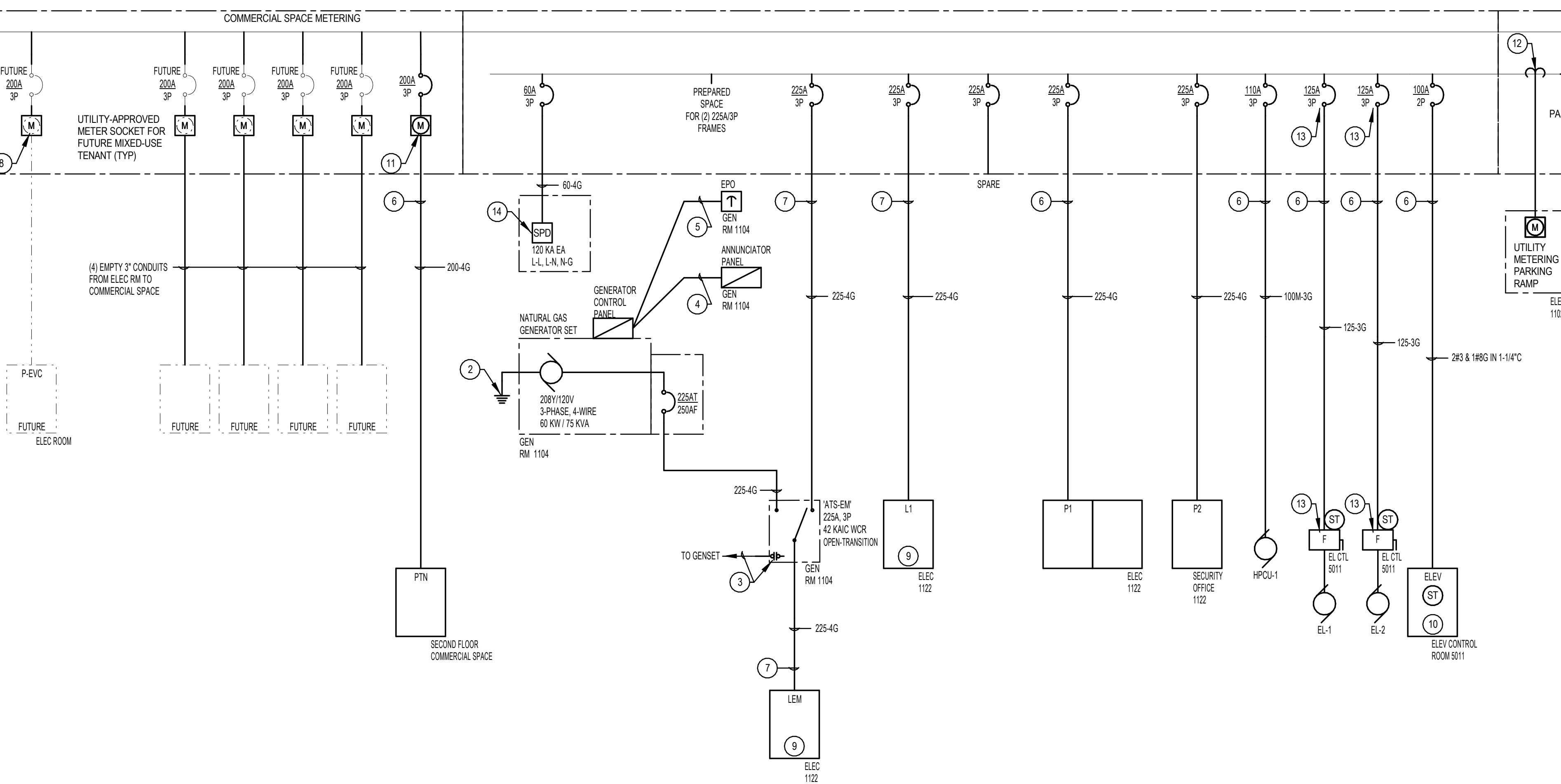
CITY OF MADISON PARKING UTILITY

215 MARTIN LUTHER KING JR. BLVD, MADISON, WISCONSIN 53703-2086



ISSUE:

Table with columns: NO, DATE, DESCRIPTION. Includes entries for 07/28/2017 ADDENDUM #2 and 08/04/2017 ADDENDUM #3.



C3 ELECTRICAL ONE-LINE DIAGRAM

SECURITY CAMERA SCHEDULE table with columns: CAMERA ID, TYPE, MFG / M/CK#, LOCATION, INDOOR/OUTDOOR, SHEET #.

SECURITY CAMERA SCHEDULE NOTES: A. ALL CAMERAS ARE CONTRACTOR FURNISHED, CONTRACTOR INSTALLED. B. ALL CAMERAS ARE TO BE FIXED.

LIGHT FIXTURE SCHEDULE table with columns: DES, TYPE, LUMENS, COLOR TEMP, SYSTEM WATTAGE, DESCRIPTION, MANUFACTURE, LIGHT FIXTURE CATALOG SERIES, VOLT, MOUNT, CEILING TYPE, DEPTH, OPTIONS / ACCESSORIES, ACCEPTABLE MANUFACTURERS, SEE NOTE.

NOTE: SEE SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION REGARDING FIXTURE AND INSTALLATION REQUIREMENTS. PROVIDE OPTIONS AND ACCESSORIES REFERENCED BY THE COLUMN TITLED 'OPTIONS / ACCESSORIES'. MANUFACTURES LISTED AS ACCEPTABLE SHALL MEET ALL REQUIREMENTS AND FEATURES INDICATED.

SPECIAL PURPOSE OUTLET SCHEDULE table with columns: #, SERVICING, LOCATION, SIZE, VOLT, PHASE, FEED FROM, PANEL, CIRCUIT, #, SIZE, G, C, SEE NOTE.

SPECIAL PURPOSE OUTLET SCHEDULE NOTES: 1. MULTIPLE INSTANCES OF THIS EQUIPMENT EXIST. REFER TO DRAWINGS FOR BRANCH CIRCUIT INFORMATION. 2. PROVIDE 1" SCHED 40 PVC CONDUIT FROM DATA JUNCTION BOX TO PARKING EQUIPMENT.

MOTOR WIRING SCHEDULE table with columns: #, DRIVING, LOCATION, SIZE, VOLT, PHASE, FEED FROM, PANEL, CIRCUIT, #, SIZE, G, C, SEE NOTE.

GENERAL NOTES: A. OBTAIN SUPPLIERS SHOP DRAWINGS/WIRING DIAGRAMS TO VERIFY LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN. B. FURNISH HURCY TYPE BREAKERS FOR ALL HVAC EQUIPMENT.

PROJECT INFORMATION:

PROJECT NUMBER: 2016-5051

DATE: 06/30/2017

DRAWN BY: RKK

CHECKED BY: RJ

APPROVED BY: DW

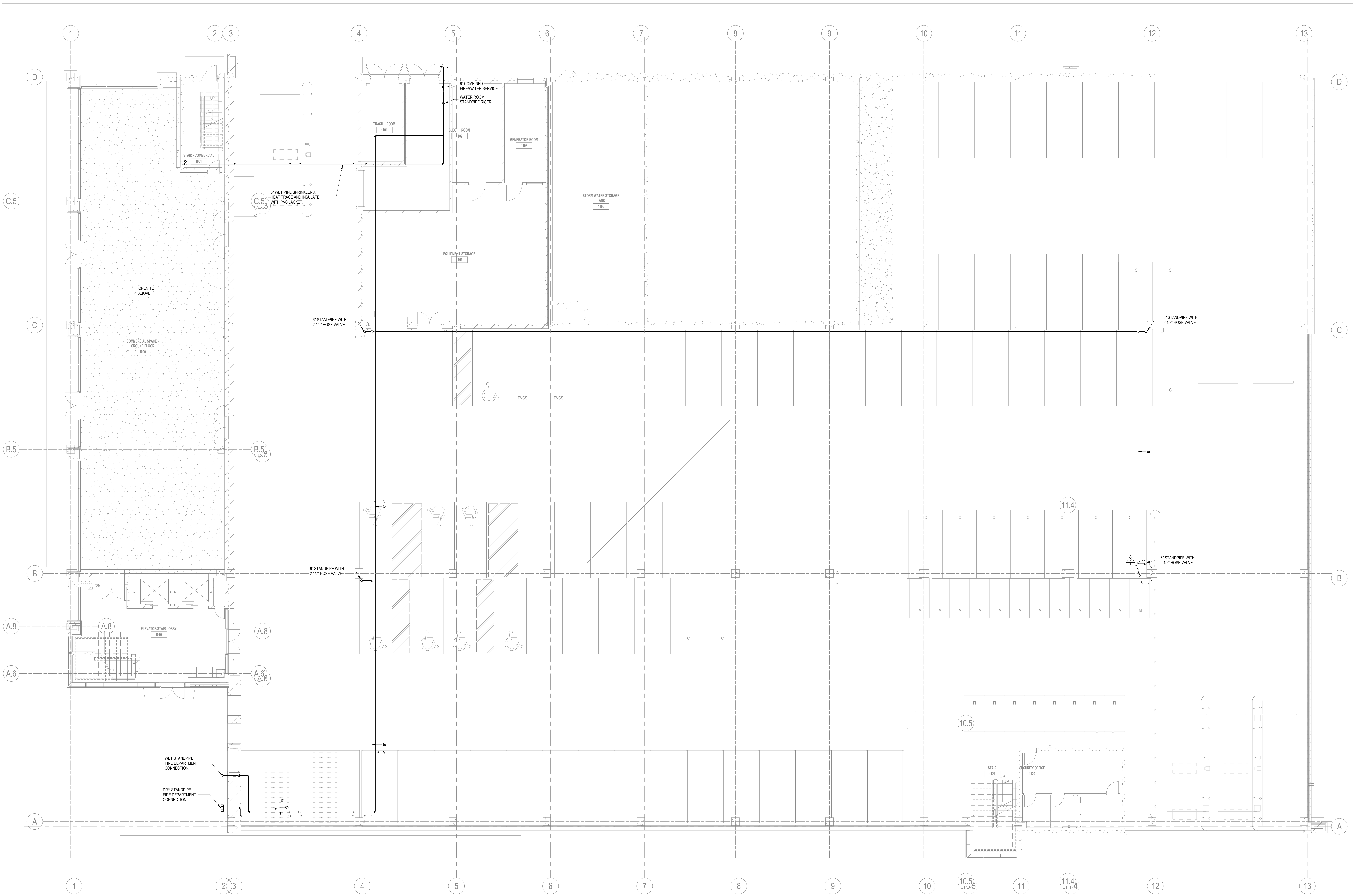
SCALE: AS NOTED

SET TYPE: BD

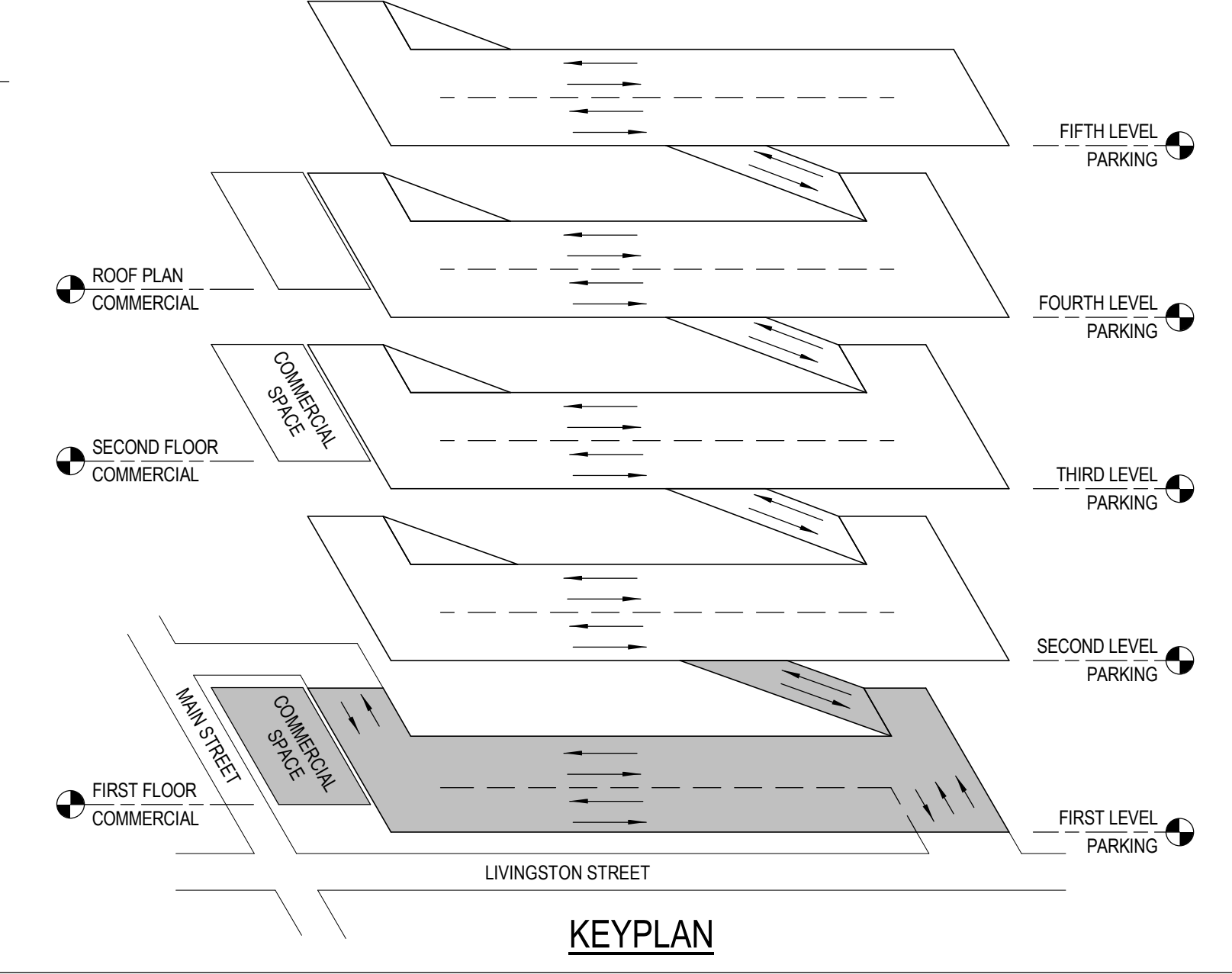
SHEET TITLE:

ELECTRICAL SCHEDULES & DIAGRAMS

SHEET NUMBER:



1 FIRST LEVEL PARKING / FIRST FLOOR COMMERCIAL PLAN  
1/8" = 1'-0"

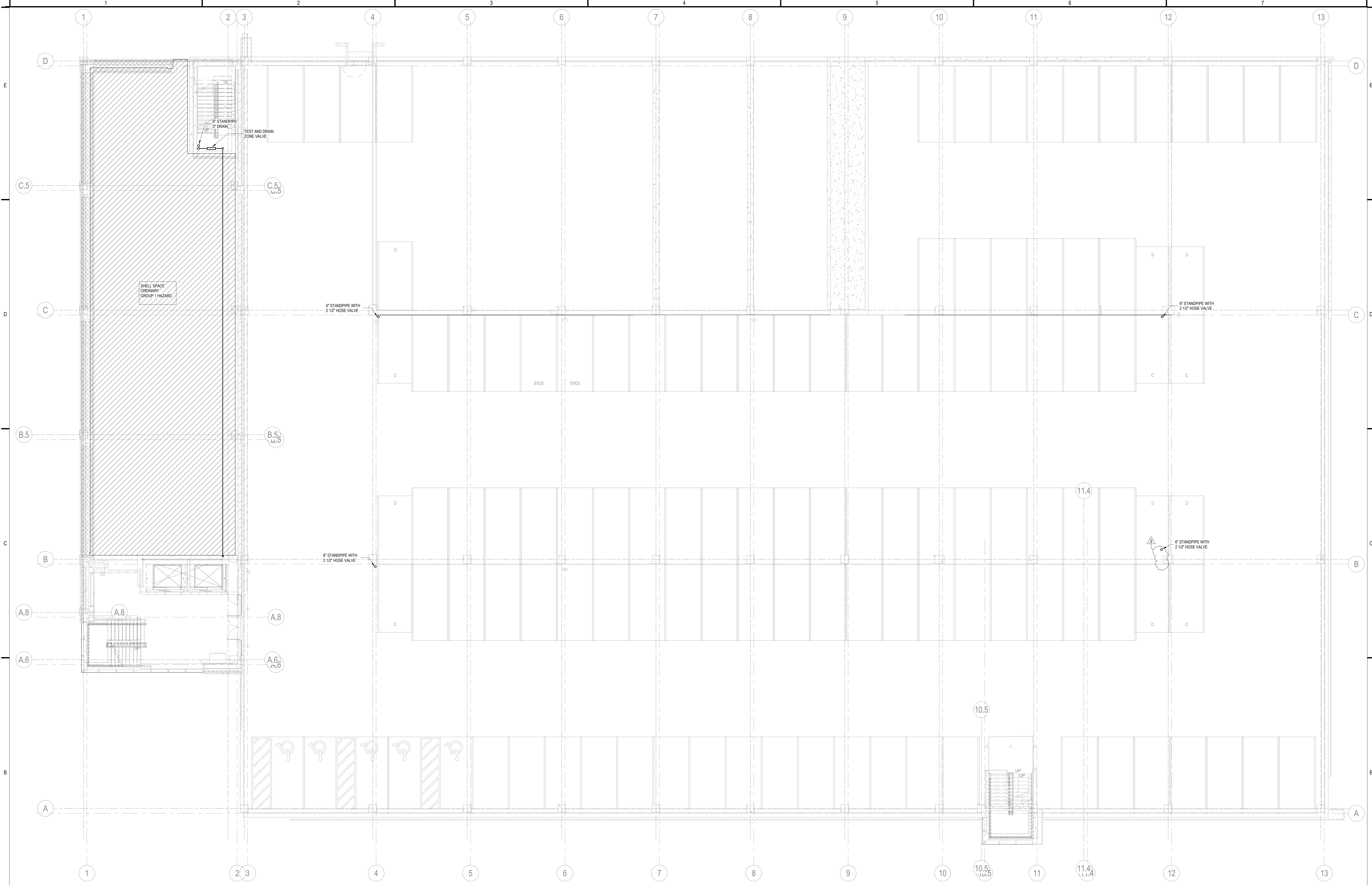




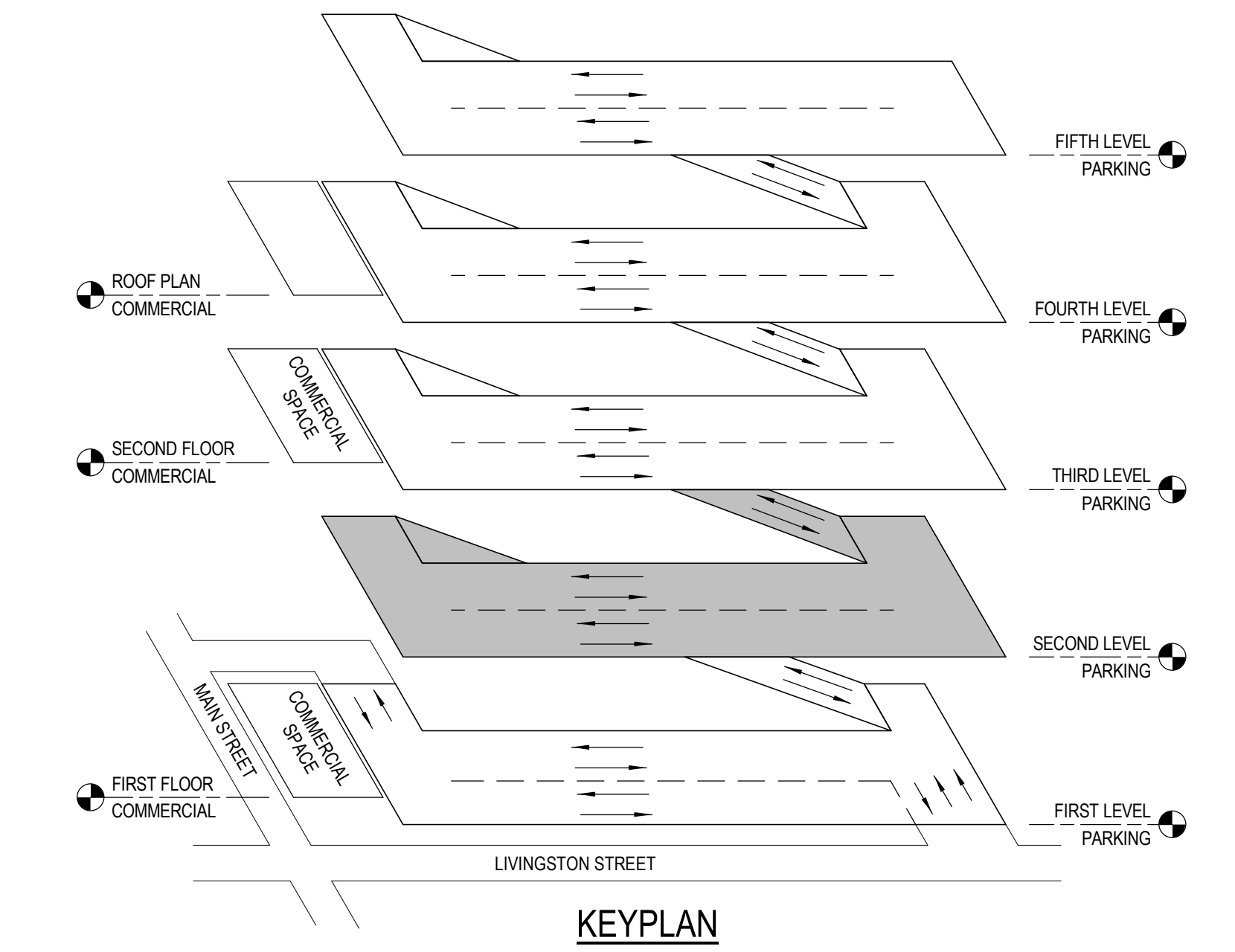
NO	DATE	DESCRIPTION
2	08/04/2017	ADDENDUM #3

PROJECT NUMBER:	2016-5051
DATE:	06/30/2017
DRAWN BY:	KRS
CHECKED BY:	RAK
APPROVED BY:	RAK
SCALE:	AS NOTED
SET TYPE:	BD

SECOND LEVEL PARKING PLAN



**1 SECOND LEVEL PARKING PLAN**  
1/8" = 1'-0"

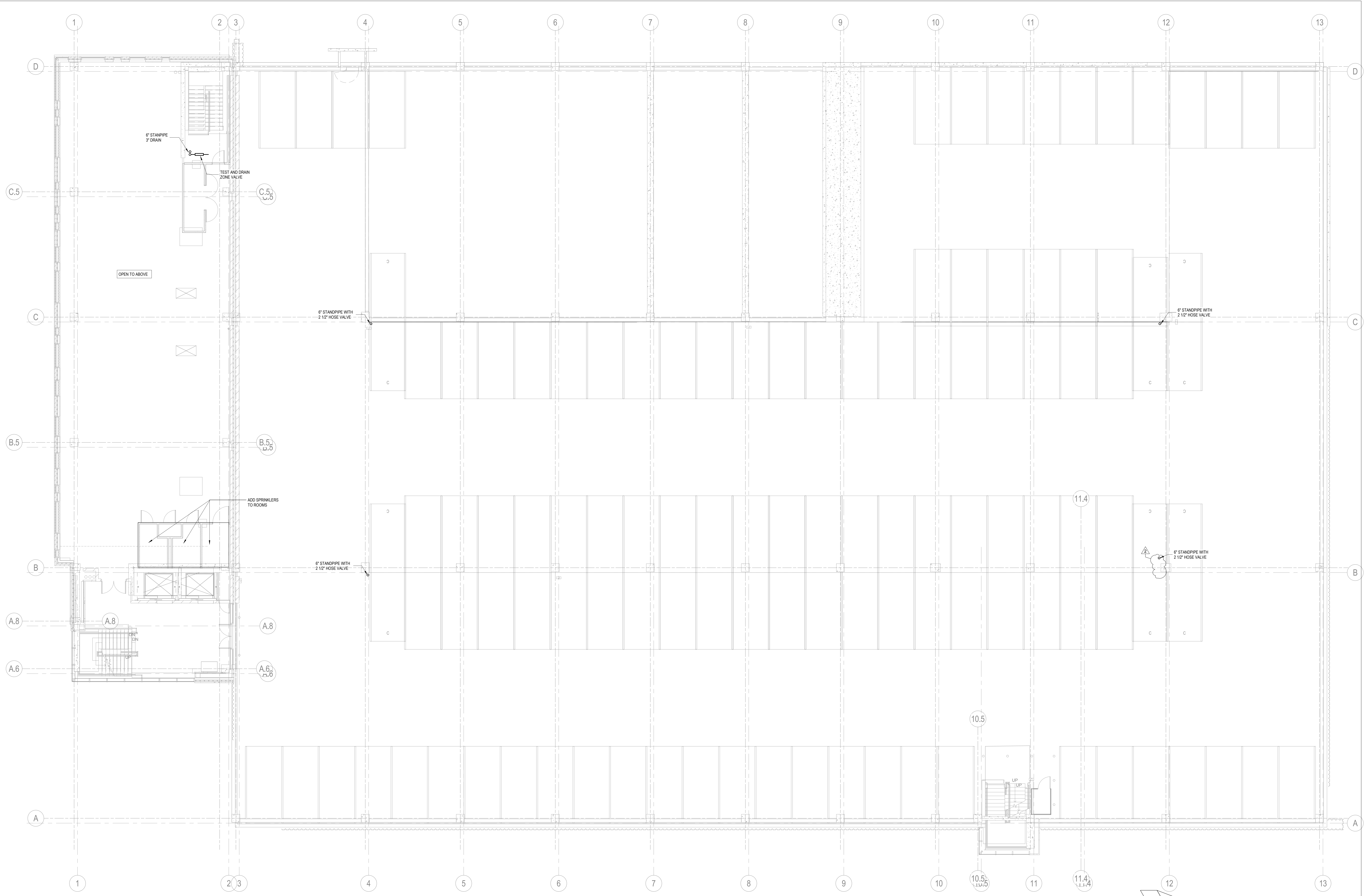


C:\Users\1688\Documents\20165051\_P17\_anna.rome@graef-usa.com.rvt 8/22/2017 2:35:32 PM

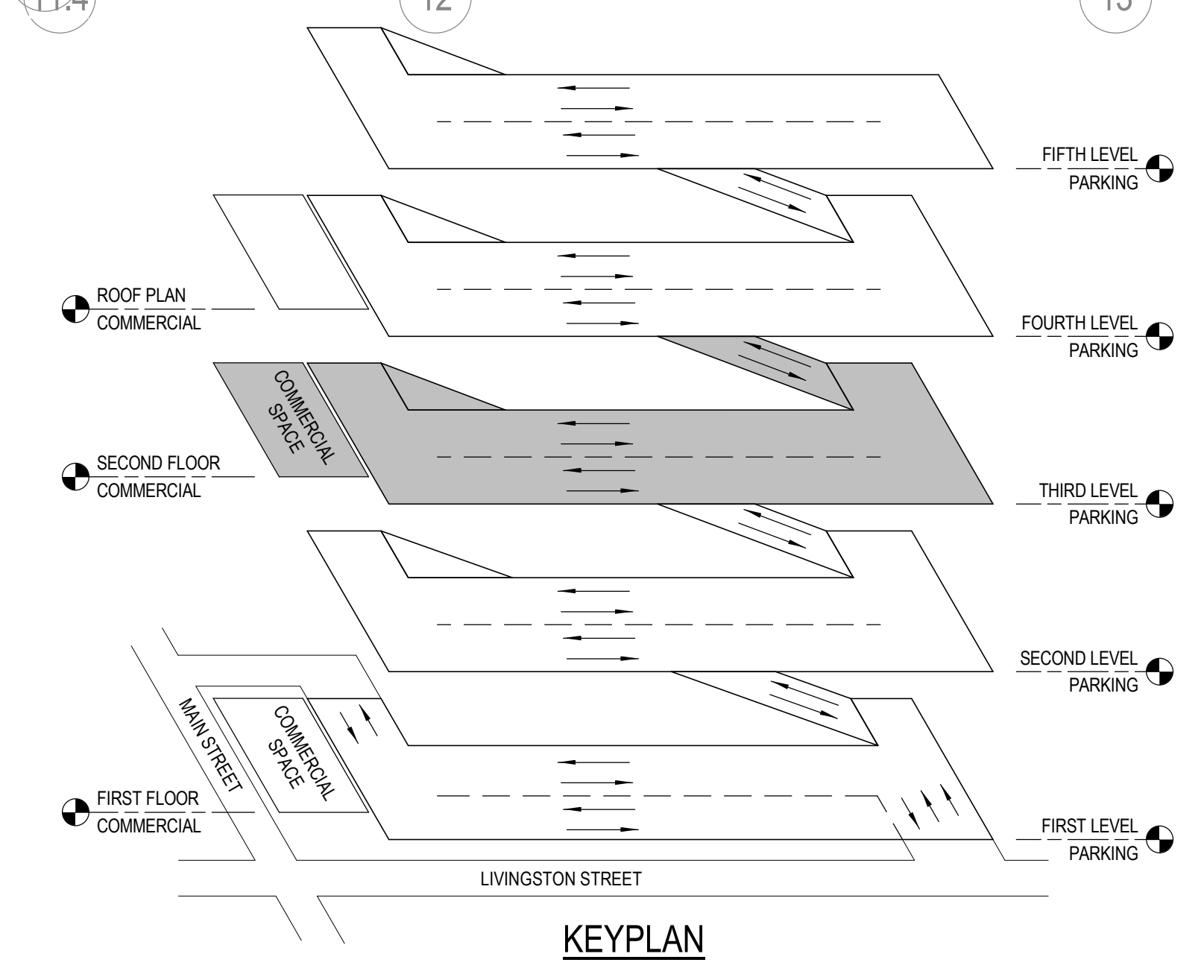


NO	DATE	DESCRIPTION
2	08/04/2017	ADDENDUM #3

PROJECT NUMBER:	2016-5051
DATE:	06/30/2017
DRAWN BY:	KRS
CHECKED BY:	RAK
APPROVED BY:	RAK
SCALE:	AS NOTED
SET TYPE:	BD



**1** THIRD PARKING LEVEL / SECOND FLOOR COMMERCIAL PLAN  
1/8" = 1'-0"

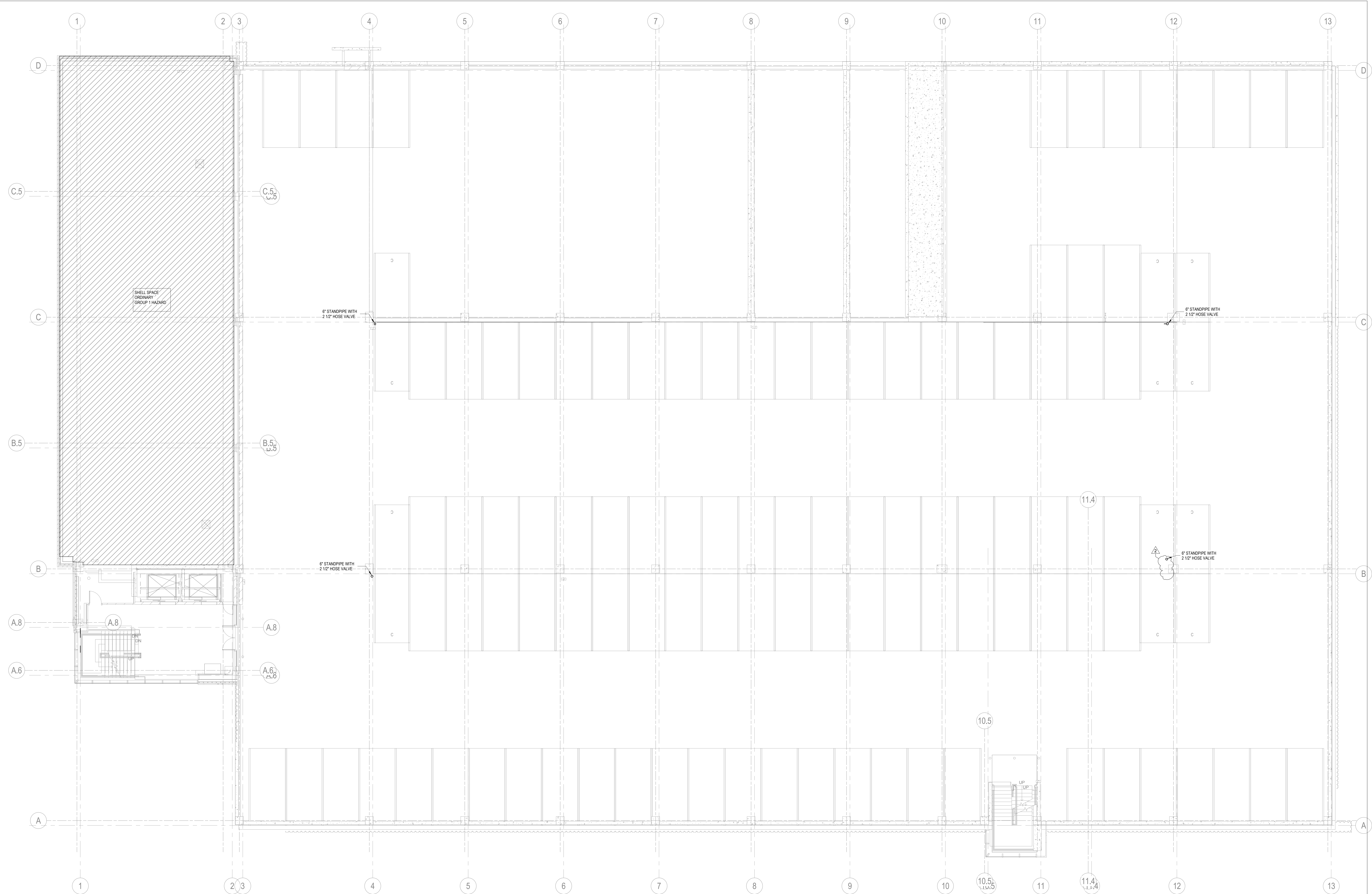




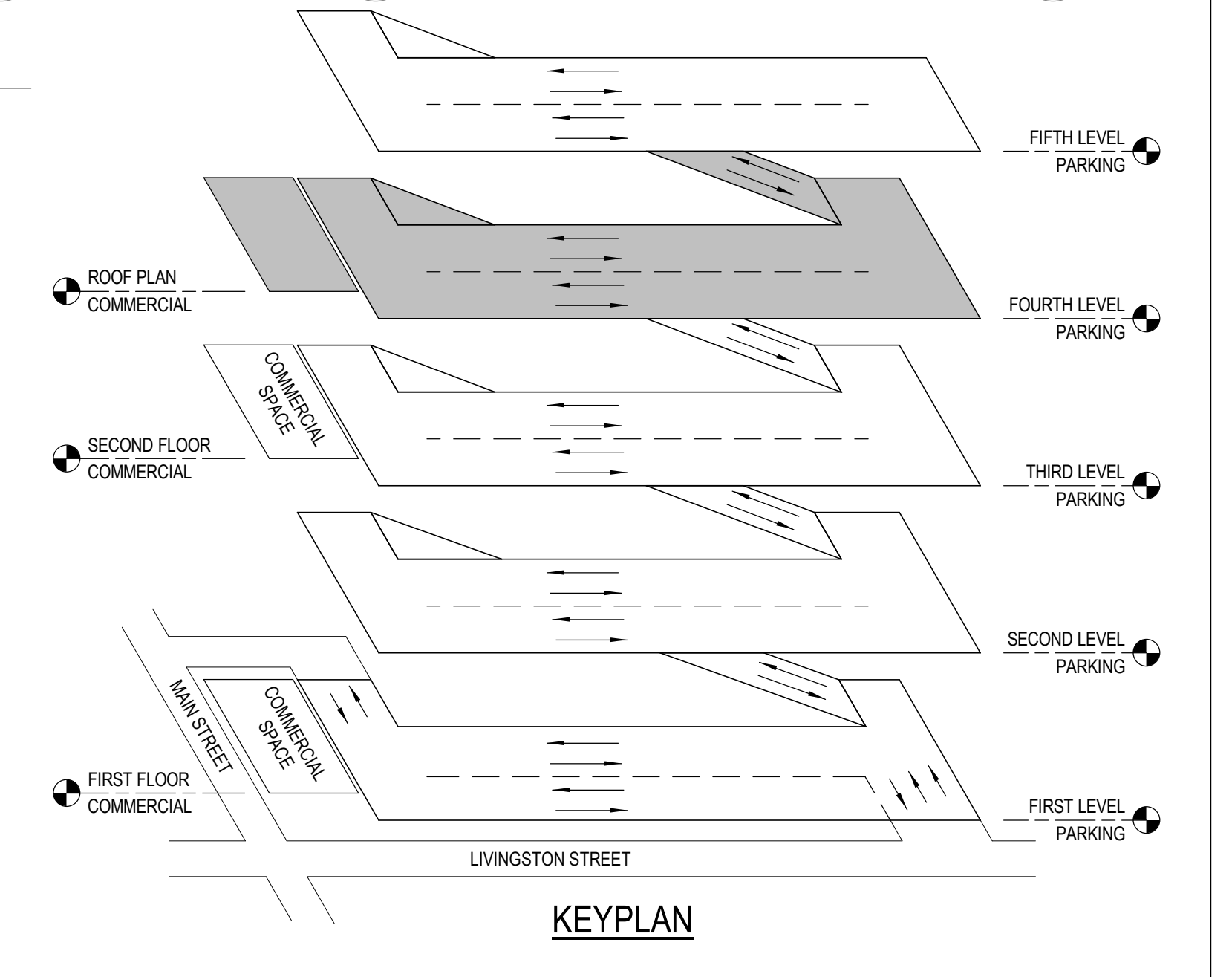
NO	DATE	DESCRIPTION
2	08/04/2017	ADDENDUM #3

PROJECT NUMBER:	2016-5051
DATE:	06/30/2017
DRAWN BY:	KRS
CHECKED BY:	RAK
APPROVED BY:	RAK
SCALE:	AS NOTED
SET TYPE:	BD

FOURTH LEVEL PARKING -  
COMMERCIAL ROOF PLAN



**1** FOURTH LEVEL PARKING / COMMERCIAL ROOF PLAN  
1/8" = 1'-0"



CONSULTANTS:

PROJECT TITLE:  
CAPITOL EAST PARKING GARAGE

211 SOUTH LIVINGSTON STREET, MADISON, WI 53703  
MUNIS NUMBER 1627  
CONTRACT NUMBER 7951

CLIENT:

CITY OF MADISON PARKING UTILITY  
215 MARTIN LUTHER KING, JR BLVD  
MADISON, WISCONSIN 53701-2986



ISSUE:

NO	DATE	DESCRIPTION
2	08/04/2017	ADDENDUM #3

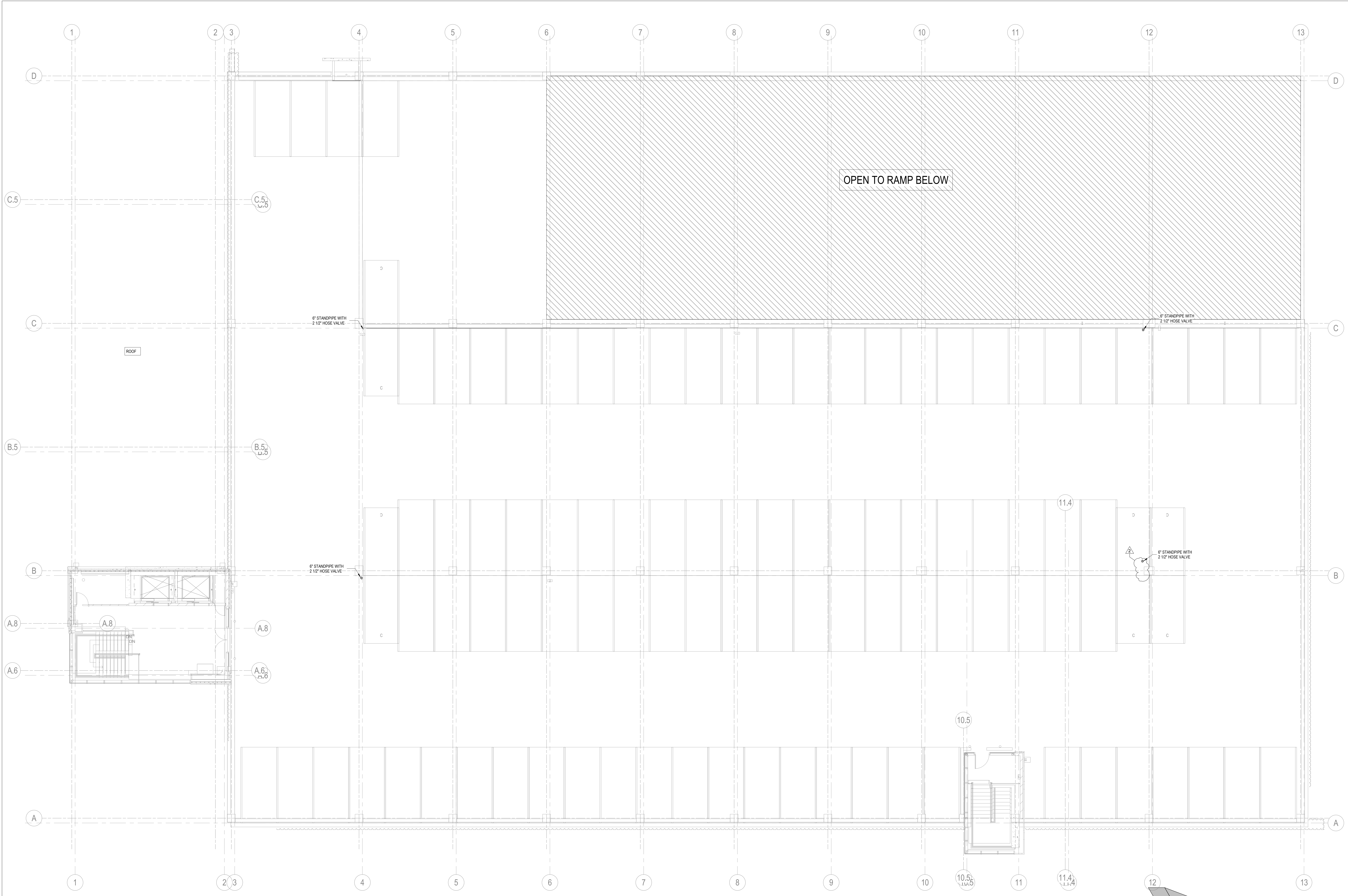
PROJECT INFORMATION:

PROJECT NUMBER: 2016-5051  
DATE: 06/30/2017  
DRAWN BY: KRS  
CHECKED BY: RAK  
APPROVED BY: RAK  
SCALE: AS NOTED  
SET TYPE: BD

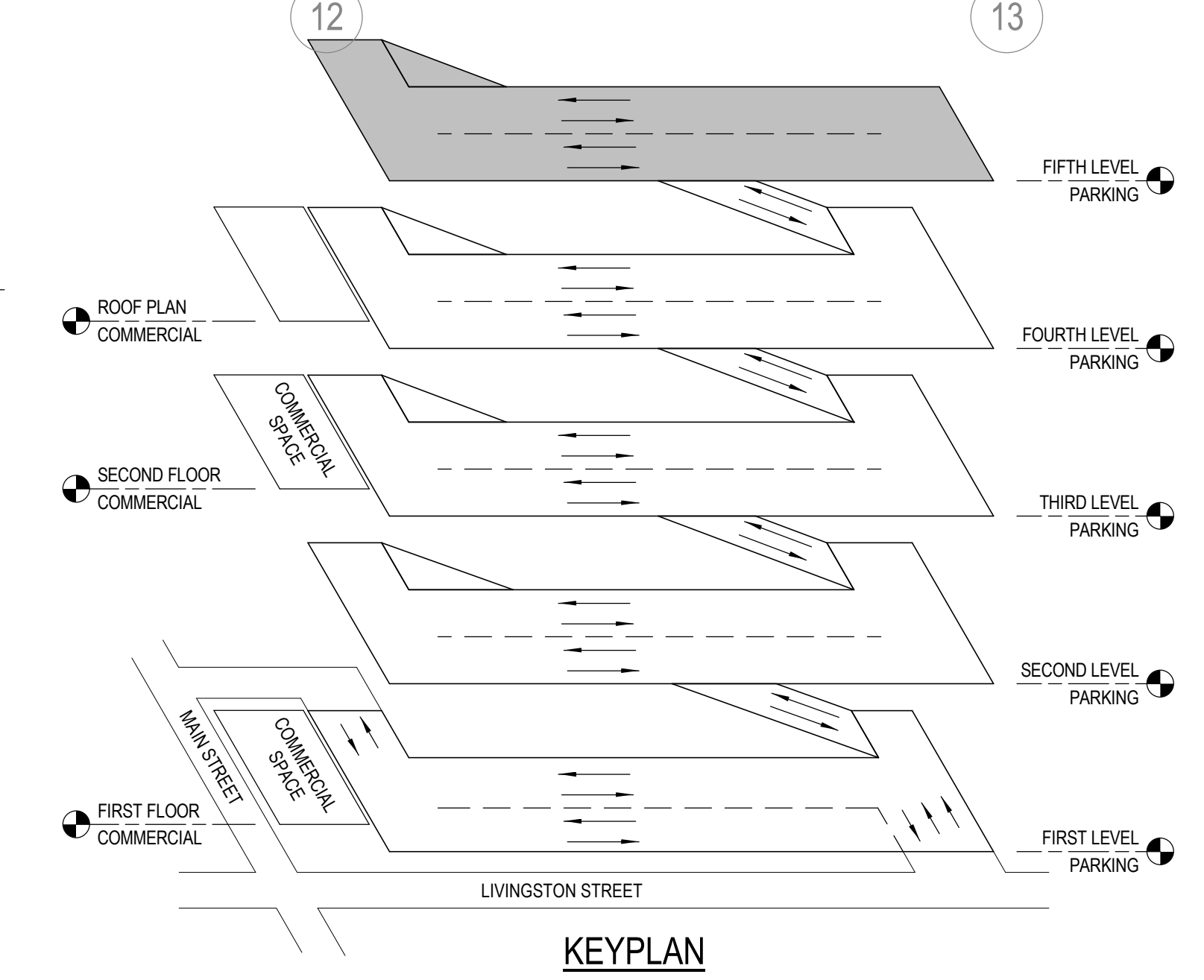
SHEET TITLE:

FIFTH LEVEL PARKING PLAN

SHEET NUMBER:



**1 FIFTH LEVEL PARKING PLAN**  
1/8" = 1'-0"

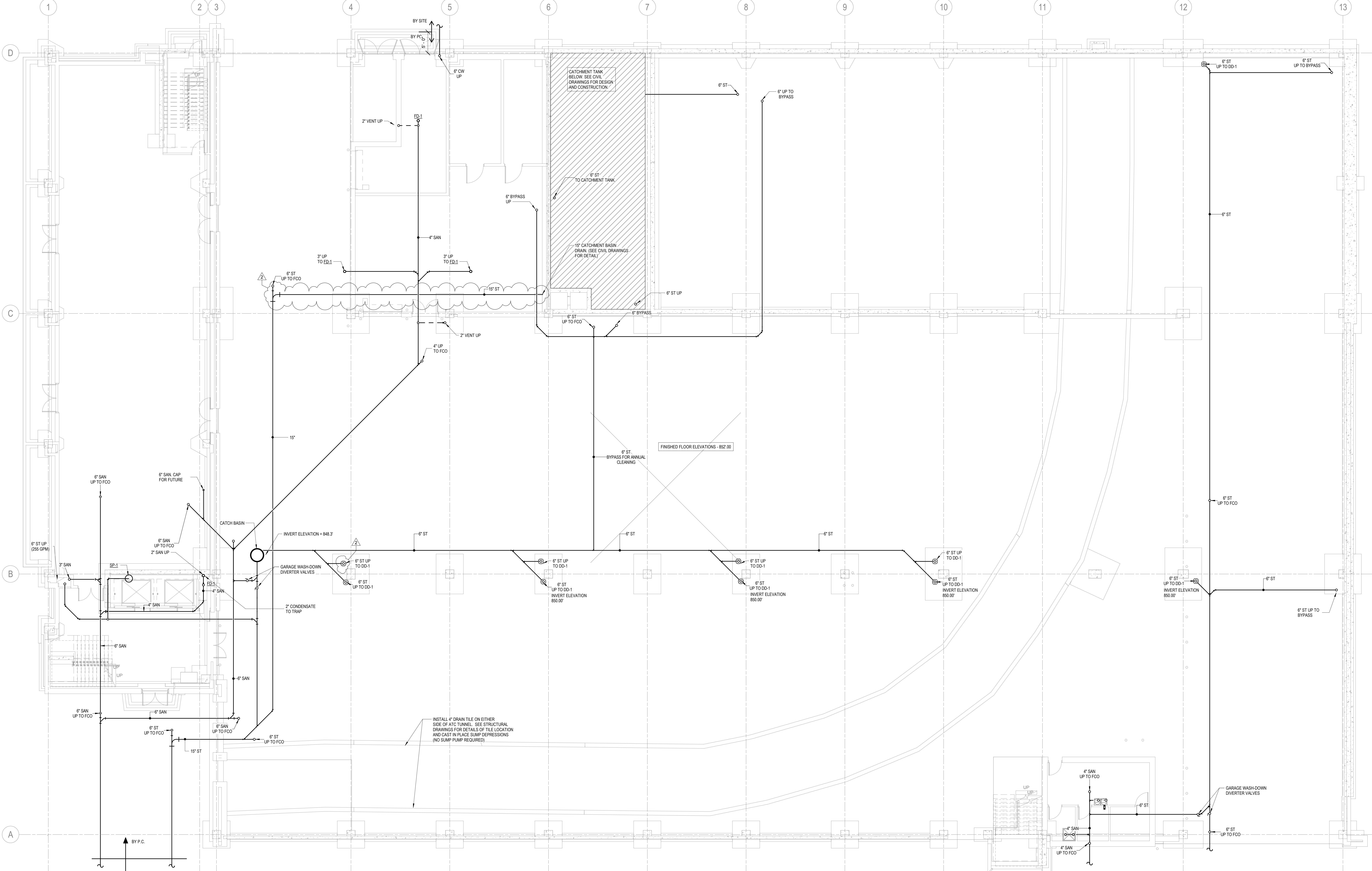




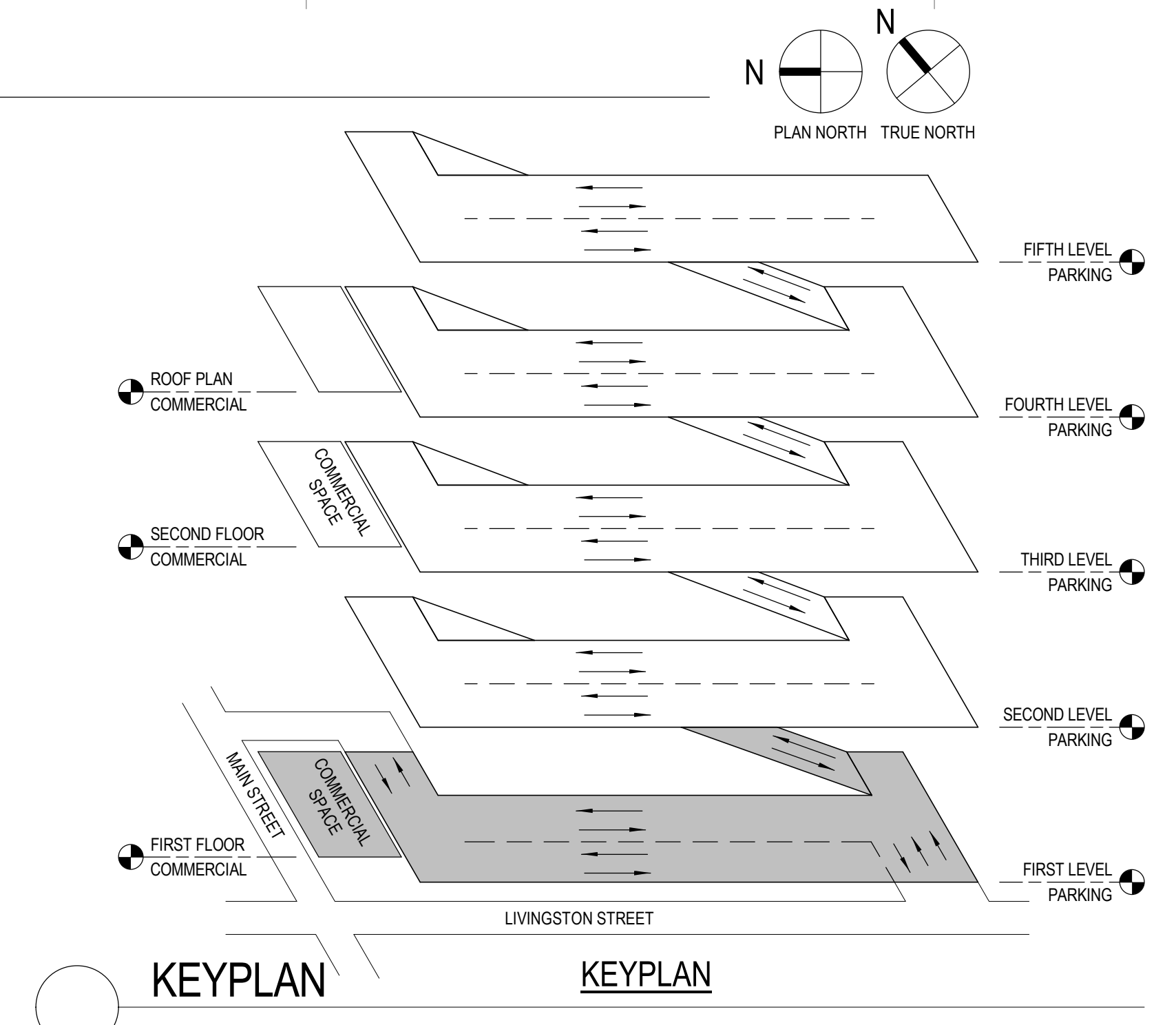
NO	DATE	DESCRIPTION
1	07/27/2017	PLAN REVIEW COMMENTS
2	08/04/2017	ADDENDUM #3

PROJECT NUMBER:	2016-5051
DATE:	06/30/2017
DRAWN BY:	MRK
CHECKED BY:	RAK
APPROVED BY:	RAK
SCALE:	AS NOTED
SET TYPE:	BD

BELOW SLAB PLUMBING PLAN

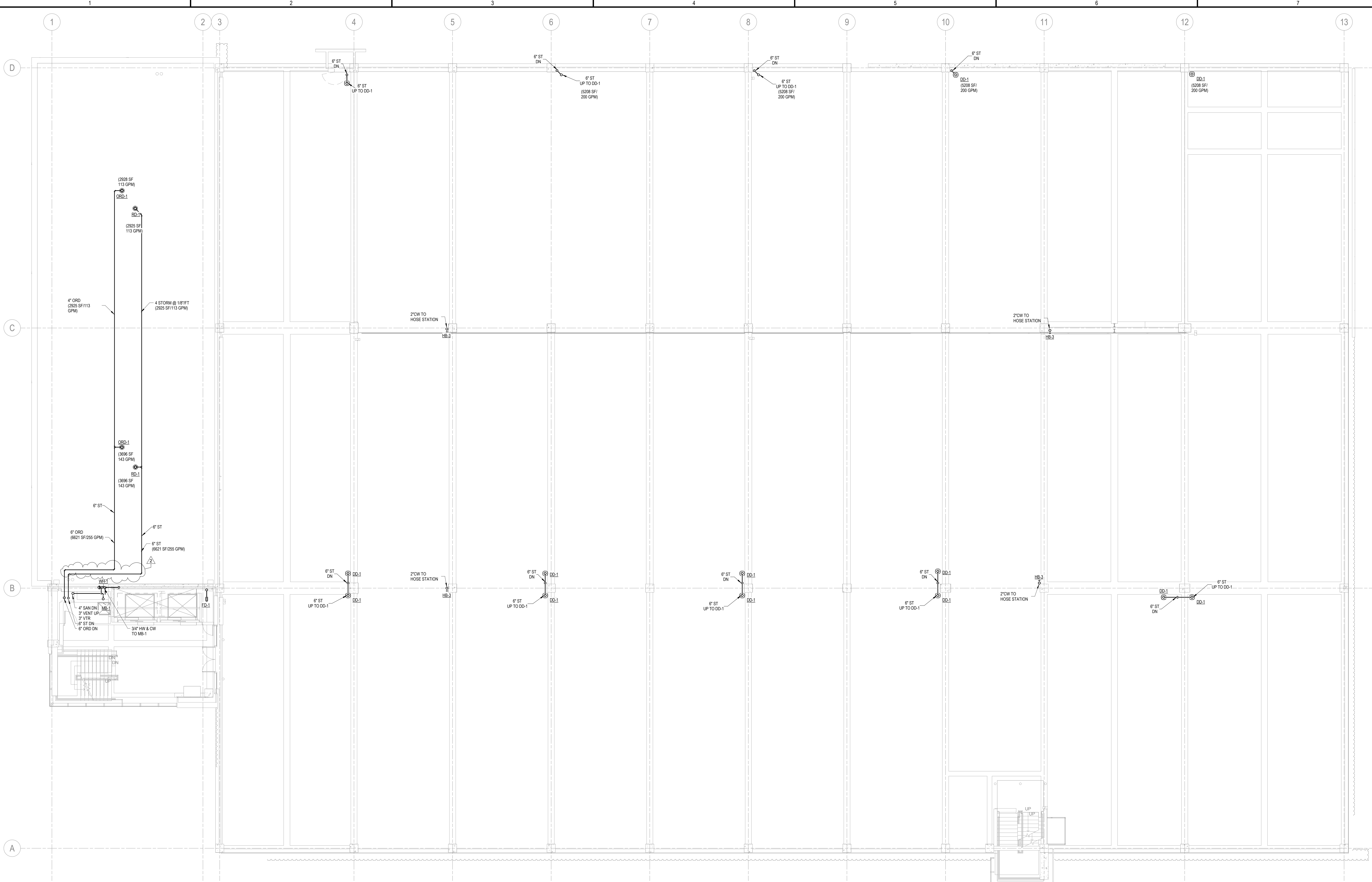


**B1** BELOW SLAB PLUMBING PLAN  
1/8" = 1'-0"

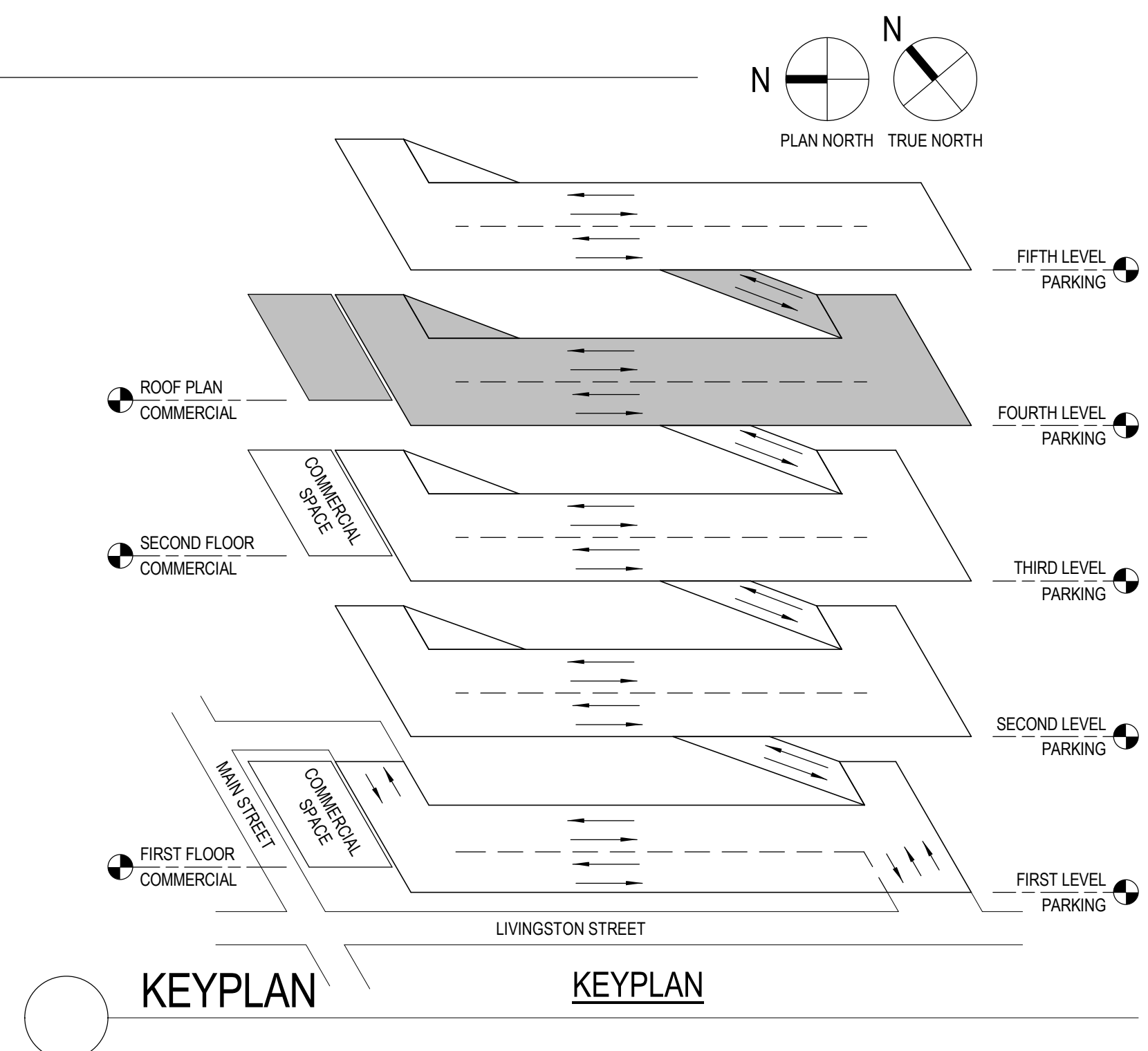




NO	DATE	DESCRIPTION
1	07/27/2017	PLAN REVIEW COMMENTS
2	08/04/2017	ADDENDUM #3



**B1** FOURTH PARKING LEVEL PLUMBING PLAN  
1/8" = 1'-0"



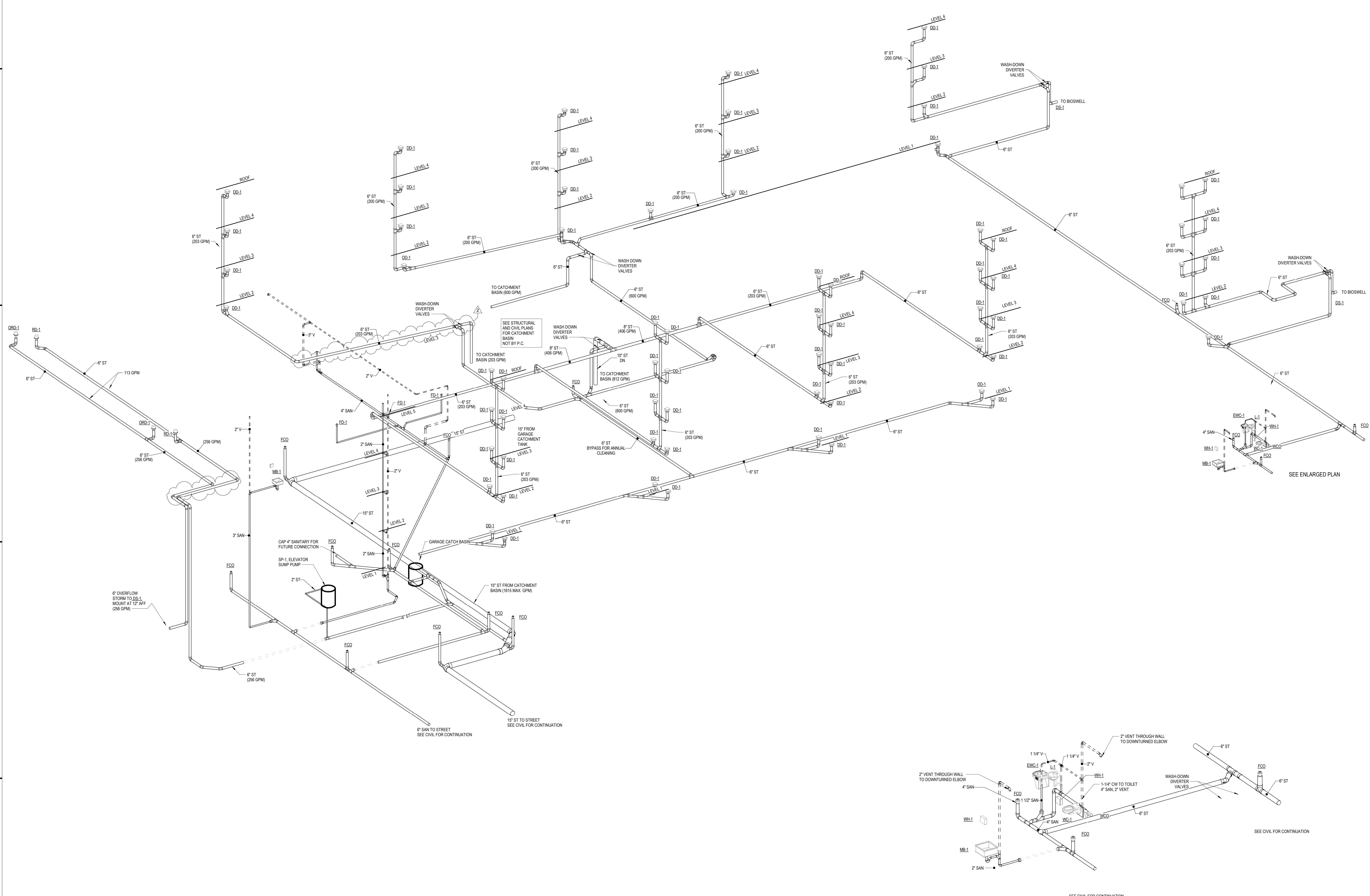
C:\Users\1689\Documents\20165051\_P17\_anna.rome@graef-usa.com.rvt  
 8/22/2017 2:35:39 PM





NO	DATE	DESCRIPTION
1	07/27/2017	PLAN REVIEW COMMENTS
2	08/04/2017	ADDENDUM #3

PROJECT NUMBER:	2016-5051
DATE:	06/30/2017
DRAWN BY:	MRK
CHECKED BY:	RAK
APPROVED BY:	RAK
SCALE:	AS NOTED
SET TYPE:	BD



2 ENLARGED PLUMBING PLAN

**SECTION 26 05 19**  
**BUILDING WIRE AND CABLE**

**PART 1 - GENERAL**

1.1 SUMMARY

- A. Section Includes:
  - 1. Building Wire.
  - 2. Building Cable.
  - 3. Wiring Connectors.
  - 4. Connections.
  
- B. Related Sections:
  - 1. Applicable provisions of Division 01 – General Requirements shall govern all work under this Section.
  - 2. Section 26 00 00 – Basic Electrical Requirements.
  - 3. Section 26 05 53 – Electrical Identification.

1.2 REFERENCES

- A. National Fire Protection Association (NFPA):
  - 1. NFPA 70 - National Electrical Code (NEC).

1.3 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years.

1.4 FIELD MEASUREMENTS

- A. Verify field measurements are as indicated on Drawings.

1.5 COORDINATION

- A. Division 01 – General Requirements: Requirements for coordination.
  
- B. When wire and cable destination is indicated and routing is not shown, determine routing and lengths required.

**PART 2 - PRODUCTS**

2.1 BUILDING WIRE

- A. Description: Single conductor insulated wire. Copper conductors for all electrical feeders and branch circuits.
  
- B. Insulation: Type THHN/THWN, XHHW-2 insulation for feeders and branch circuits.

**2.2 WIRING CONNECTORS**

- A. Conductors No. 10 AWG and Smaller: Scotch 3M - Scotch-lok compression type solderless connectors with plastic cover.
- B. Joints, Taps, and Splices in Conductors No. 8 AWG and Larger: Solderless compression type connectors, tool and die applied, of type that will not loosen under vibration or normal strains. Burndy "Hy-Dent" type or equivalent as acceptable to Engineer.
- C. Rubber insulating electrical tape: Scotch 3M model 23, 30-mil tape.
- D. Split bolt connectors are not acceptable.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Install in accordance with manufacturer's written instructions and in accordance with recognized industry practices.
- B. Run wire and cable in conduit, unless otherwise indicated on drawings.
- C. Do not draw conductors into conduits until building is enclosed and watertight and until work that may cause conductor damage has been completed.
- D. Voltage drop for branch circuits and feeder circuit combined shall not exceed requirements of NEC Article 215.
- E. Examine areas and conditions under which conductors are to be installed and notify Engineer in writing of conditions detrimental to proper and timely completion of work.
- F. Do not proceed with work until unsatisfactory conditions have been corrected.

**3.2 JOINTS, TAPS AND SPLICES**

- A. Each tap, joint, or splice in conductors No. 8 AWG and larger shall be taped with two half-lap layers of vinyl plastic electrical tape and finish wrap of color coding tape, where required by code.
- B. Cable splices shall be made only in distribution and junction boxes.

**3.3 PREPARATION**

- A. Completely and thoroughly swab raceway before installing wire.

**3.4 INSTALLATION**

- A. Route wire and cable to meet project conditions.

- B. Conductors shall not be installed at temperatures below manufacturer's minimum installation temperature.
- C. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- D. Identify and color code wire and cable under provisions of Section 26 05 53 – Electrical Identification.
- E. Identify each conductor with its panel and circuit number or other designation indicated.
- F. Special Techniques - Building Wire in Raceway:
  - 1. Pull conductors into raceway at same time.
  - 2. Install building wire 4 AWG and larger with pulling equipment.
- G. Special Techniques - Wiring Connections:
  - 1. Clean conductor surfaces before installing lugs and connectors.
  - 2. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
  - 3. Tape uninsulated conductors and connectors with electrical tape to 150 percent of insulation rating of conductor.
  - 4. Install solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.
  - 5. Install insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.
  - 6. When 10 AWG and smaller stranded conductors are used install crimp on fork terminals for device terminations. Do not place bare stranded conductors directly under screws.

### 3.5 BRANCH CIRCUIT CONDUCTORS

- A. Install branch circuits and switched circuits as required to comply with circuiting, switching, and control functions shown on drawings.
- B. Conductors shall be size 12 AWG minimum, unless otherwise noted, for branch circuit wiring, including motor circuits.
- C. Size 120V branch circuits for length of run on following basis:
  - 1. 0 to 75 ft. run from panelboard to first outlet: No. 12 AWG minimum.
  - 2. 75 to 125 ft. run: increase one wire size, No. 12 AWG becomes No. 10 AWG.
  - 3. 126 to 200 ft run: increase two wire sizes, No. 12 AWG becomes No. 8 AWG.
  - 4. 201 and above: wiring to be sized for 3 percent maximum voltage drop.
- D. Provide individual neutral conductors for all branch circuit phase conductors. Multi-wire branch circuits sharing common neutral will not be allowed.
- E. Route branch circuits and switch legs as dictated by construction, these specifications, or instruction from Engineer.
- F. Size conduit, outlet boxes, and other raceway system components in accordance with NEC requirements as minimum.

- G. Circuit numbers as shown on drawings are for Contractor to plan their wiring and for estimating purposes and are not necessarily exact circuit numbers to be used in specific panel for particular load.
- H. Exact circuit numbers for each load are to be selected by Contractor at their option.
- I. Balanced load on panelboard bus will be determining factor in arrangement of circuits. Panelboards average load shall not differ from phase to phase by plus or minus 7.5 percent.
- J. Motor and equipment branch wiring.
  - 1. Furnish and install motor circuits in accordance with schedules on drawings and code requirements, from source of supply to associated motor starter, and from starter to motor terminal box, including necessary and required intermediate connections.
  - 2. Conductor and conduit size for motor branch circuits, if shown on drawings, are sized for motor requirement only.
  - 3. Control wiring is not included in conduit sizes shown on drawings.
  - 4. Motors shall have proper conductor sizes as per NEC requirements and nameplate ratings.
  - 5. Contractor shall be responsible for verification of ratings of motors and installing proper branch circuits.
  - 6. Obtain manufacturer's wiring diagrams and shop drawings for equipment requiring electrical connections.
  - 7. Check drawings and specifications of other divisions of work for equipment and work, which shall be included in order to provide complete electrical installation.
  - 8. Motor connections shall be made by compression type connectors using proper tools and fittings to assure good electrical continuity and low resistance joint.

### 3.6 FEEDER INSTALLATION

- A. Install in accordance with manufacturer's written instructions, and in accordance with recognized industry practices.
- B. Extend feeders at full capacity from origin to termination.
- C. Feeder conduits shall contain only those conductors constituting a single feeder circuit.
- D. Where feeder conductors are run in parallel, conductors shall be of same length, same material, circular-mil area, insulation type, and terminated in same manner.
- E. Where parallel feeder conductors run in separate raceways, each raceway shall have same physical characteristics.
- F. Feeders shall follow most accessible routes, concealed in construction in finished areas, exposed to minimum temperature gradient and to minimum temperature fluctuation.
- G. Confine feeders to insulated portions of building, unless otherwise specified.
- H. Trapped feeder runs without facilities for continuous drainage are not acceptable.
- I. Feeder conduits shall not be routed in conduit floor slabs or below basement or grade level floor slabs.

- J. Feeder conductors in switchboards, panelboards, pullboxes, gutters, and other open wiring spaces shall be bundled by feeder using plastic tie wraps at intervals not greater than 3 feet on center.

**3.7 FIXTURE WIRES**

- A. Use conductor with insulation suitable for current, voltage, and temperature to which conductor will be subjected.
- B. Provide minimum No. 12 wire size for conductors supplying power to a single fixture. 600V insulation minimum.
- C. Insulation suitable for operation at 90 degrees C. minimum for lighting fixtures with integral ballast, mogul base sockets, quartz lamps, or otherwise where subject to excessive temperatures.
- D. Fixture wiring shall be continuous wiring system to lampholder or to ballast and from ballast to lampholder.

**3.8 IDENTIFICATION AND LABELLING**

- A. For materials specified in this section, see specification Section 26 05 53 for identification and labeling requirements.

**3.9 FIELD QUALITY CONTROL**

- A. Division 01 – General Requirements: Field inspecting, testing, adjusting, and balancing.

END OF SECTION

**SECTION 32 92 00**

**TURF AND GRASSES**

**PART 1 - GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Seeding for Bluegrass Lawn
2. Seeding for No-Mow Fescue Lawn
3. Native Seeding
4. Mulches and Erosion Control Material
5. Maintenance

B. Related Sections:

1. Section 31 10 00 "Site Clearing" for topsoil stripping and stockpiling.
2. Section 31 22 13 "Rough Grading" for rough grading of site.
3. Section 31 23 17 "Site Excavation, Backfill, and Compaction" for excavation and filling of site.
4. Section 31 25 13 "Erosion and Sediment Control" for products and practices to control surface water runoff, soil and sediment control.
5. Section 32 12 43 "Porous Flexible Paving" for coordination of seeding at turf reinforced porous flexible paving.
6. Section 32 91 13 "Soil Preparation" for suitable topsoil and amendments and for subgrade soil preparation and topsoil depths under lawns.
7. Section 32 93 00 "Plants" for coordination of seeding with plantings and edging methods and materials.

1.3 REFERENCES

- A. City of Madison Standard Specifications for Public Works Construction (herein referred to as MSN-SSPWC). Current edition. Article 207 "Seeding".
- B. State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, current edition.

1.4 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.

- B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- C. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- D. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See Division 32 Section "Soil Preparation".
- E. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

### 1.5 SUBMITTALS

- A. Product Data: For each type of product indicated:
  - 1. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.
- B. Certification of Seed for Bluegrass and No-Mow Fescue Lawn Mixes: From seed vendor showing seed mix composition and a guarantee of germination and the following information:
  - 1. Scientific name of genus and species (subspecies and varieties, as necessary) for each bluegrass and fescue species.
  - 2. Calendar year in which seed was collected.
  - 3. Seed origin.
  - 4. Proposed seeding rate.
- C. Certification of Seed for Native Seed Mix: From seed vendor showing seed mix composition and a guarantee of germination and the following information and/or guarantees:
  - 1. Scientific name of genus and species (subspecies and varieties, as necessary) and guarantee that seeds are true to species.
  - 2. Bulk weight of seed.
  - 3. Pure Live Seed (PLS)
  - 4. Supplier lot identification.
  - 5. Calendar year in which seed was collected.
  - 6. Seed origin (geographical location).
  - 7. Seed supplier contact information including company name, address, phone number, contact person's name and e-mail address.
- D. Qualification Data: For qualified Landscape Installer whose work has resulted in successful short and long-term establishment and maintenance of lawns and native vegetation.
- E. Product Certificates: For fertilizers, from manufacturer.



1.6 QUALITY ASSURANCE

- A. Additional Installer Qualifications: A qualified landscape installer whose work has resulted in successful turf grass, no-mow fescue, and native seed establishments from seed on large-scale commercial or municipal projects and with a minimum of five (5) years' experience in turf grass, no-mow fescue, and native seed installation.
  - 1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
  - 2. Pesticide Applicator: State licensed, commercial.

1.7 SUBSTITUTIONS

- A. Product substitutions may be considered as an equivalent only if proposed substitution meets all areas of this specification without exception. Manufacturers seeking consideration as an equivalent product must submit product data, records, test results, samples, certifications and any additional documentation deemed necessary by Owners project representative to prove equivalency. Owners project representative must review and approve proposed substitutions prior to their ordering and use.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable. Store any seed delivered prior to use in a manner safe from damage from heat, moisture, rodents, or other causes of degradation.
- B. Bulk Materials:
  - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
  - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
  - 3. Accompany each delivery of bulk materials with appropriate certificates.

1.9 FIELD CONDITIONS

- A. Seeding Restrictions for Bluegrass and No-Mow Fescue Lawn Seeding: Seed during one of the following periods. Coordinate seeding with initial maintenance periods to provide required maintenance from date of seeding completion:
  - 1. Spring Seeding: April 15 – June 15
  - 2. Fall Seeding: September 1 – October 15
- B. Seeding Restrictions for Native Seeding: Seed during one of the following periods. Coordinate seeding with initial maintenance periods to provide required maintenance from date of seeding completion:
  - 1. Regular Seeding Season: May 1 – June 15
  - 2. Dormant (fall) Seeding: October 30 to snowfall

- C. Weather Limitations: Proceed with seeding only when existing and forecasted weather conditions permit seeding to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.
- D. No seeding shall occur on frozen ground or at temperatures lower than 32 deg. F.

1.10 MAINTENANCE SERVICE

- A. Provide full maintenance by skilled employees of Landscape Installer. Maintain each grass type as required in Part 3, this Section. Begin maintenance immediately after each area is seeded.
- B. Maintenance and Warranty Period: The start date for the maintenance and warranty period for all seeded areas is the date (month, day, and year) that all turf grass and native seeding areas are considered substantially complete by the Owners project representative. The maintenance and warranty period shall be for 1 year from the date of substantial completion.

1.11 GUARANTEE

- A. The contractor shall guarantee the germination of seed installed during the regular seeding seasons.
- B. If seeding occurs late in the season and germination cannot be guaranteed, Contractor shall work to provide erosion control and prevention coverage for any and all bare soil areas over winter and shall re-seed in the spring in accordance with the erosion control permits and requirements for the project.

**PART 2 - PRODUCTS**

2.1 TURF GRASS SEED

- A. Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Mixes:
  - a. Bluegrass Lawn (Seed Mix A): "Sun Terrace Mix" in accordance with City of Madison Standard Specifications, Article 207 for material quality and mix composition.
  - b. No-Mow Fescue Lawn (Seed Mix B) is an equal 50%/50% blend of the following:
    - 1) "Bruiser Tall Fescue Blend" by Heritage Seed Company, 1-855-248-3237, <http://www.heritage-seed.com/> or approved equal.
    - 2) "Meadow Fine Fescue Blend" by Heritage Seed Company, 1-855-248-3237, <http://www.heritage-seed.com/> or approved equal.

2.2 NATIVE SEED

- A. Provide seed of species and varieties, proportions by seed count, and minimum percentages of purity, germination and maximum percentage of weed seed as indicated below.

- B. Species composed of pure live seed (PLS) shall contain no named or improved varieties. PLS shall be from Iowa, Wisconsin, Northern Illinois, or Western Minnesota nurseries specializing in growing native species from Illinois genotypes.
- C. All seed shall be cold, dry stratified; legumes shall be scarified and inoculated with proper rhizobia immediately prior to planting (three hours or less). Legumes shall be kept out of the forbs mixture until after inoculation. Seed mixture shall be blended by the vendor and ratios of various species shall be guaranteed by the seed vendor in writing as specified. Minimum percent purity for native species is 96 percent. Any substitutions of species due to availability must be approved by Landscape Architect.
- D. Native Seed Mix: "Land Restoration for Medium Soils" #50047 by Prairie Nursery, 1-800-476-9453, [www.prairienursery.com](http://www.prairienursery.com) or approved equal.
- E. Native Seed Mix: "Low Growing Meadow for Medium Soils" #50010 by Prairie Nursery, 1-800-476-9453, [www.prairienursery.com](http://www.prairienursery.com) or approved equal.

2.3 WATER

- A. Water free of wastewater effluent or other hazardous chemicals.

2.4 TOPSOIL

- A. Provide topsoil for seeded areas in accordance with Section 32 91 13, "Soil Preparation".

2.5 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium.
  - 1. Provide fertilizer of blend recommended by soil tests for establishing lawns from seed in accordance with all State Statutes and Article 207 of the MSN-SSPWC.

2.6 MULCHES & STABILIZERS

- A. Provide mulch and soil stabilizer materials in accordance with Articles 207.2(c) and 207.2(d) of the MSN-SSPWC.

2.7 EROSION CONTROL MATERIALS

- A. Provide erosion control materials in accordance with Section 31 25 13, "Erosion and Sediment Controls"

2.8 PESTICIDES

- A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

- B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine areas to be seeded for compliance with requirements and other conditions affecting installation and performance of the Work.
  - 1. Verify that sufficient Topsoil has been provided both in terms of quality and quantity (depths) as indicated in Section 32 91 13 "Soil Preparation". If insufficiencies in topsoil occur, Landscape Contractor shall notify Owners project representative immediately and shall not begin any seeding operations until any and all unsatisfactory conditions have been corrected.
  - 2. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within any seeding areas.
  - 3. Uniformly moisten excessively dry soil that is not workable or which is dusty.
- B. If contamination by foreign or deleterious material or liquid is present in soil within a seeding area, remove the soil and contamination as directed by Engineer and replace with new topsoil meeting the requirements of Section 32 91 13 "Soil Preparation".
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Suspend seeding operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.

#### **3.2 PREPARATION**

- A. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by seeding operations.
- B. Examine in place erosion-control measures and install any additional measures necessary to ensure there will be no erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

#### **3.3 PREPARATION FOR SEEDING BLUEGRASS AND NO-MOW FESCUE LAWNS**

- A. Limit preparation to areas to be seeded. Remove any and all undesirable vegetation that has germinated in the areas to be seeded. Contractor shall evaluate in consultation with the Owners project representative the use of a broad spectrum, non-persistent glyphosate-based herbicide based on site conditions including the presence of specific broadleaf weed species for the optimum control of invasives. The use of methods other than glyphosate is preferred. If

determined that glyphosate treatment should be part of initial preparation based on specific site conditions, the following conditions shall be met, at a minimum:

1. Herbicide should be applied when plants are green and actively growing. Do not apply before or after growing season.
  2. Do not apply seed until five to seven days after last herbicide treatment.
- B. Confirm topsoil has been provided per Specification Section 32 9113 "Soil Preparation" in the areas and depths indicated by the written specifications. If unsuitable topsoil conditions or depths exist, notify General Contractor immediately and do not proceed with seeding operations until any and all unsatisfactory conditions have been corrected.
- C. Finish Grading: Grade areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus ½-inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be seeded in the immediate future. Apply additional topsoil if necessary to achieve uniform, smooth surfaces.
- D. Moisten prepared area before seeding if soil is dry. Water thoroughly and allow surface to dry before seeding. Do not create muddy soil.
- E. Before seeding, obtain Owners acceptance of finish grading; restore seeding areas if eroded or otherwise disturbed after finish grading.
- F. No seeding shall occur on frozen ground or at temperatures lower than 32 deg. F.

### 3.4 SEEDING BLUEGRASS AND FESCUE LAWNS

- A. Seed bluegrass lawn (Seed Mix A) at rates and methods in accordance with Article 207.3(a) of the MSN-SSPWC. Include cover crop for late fall seed applications if necessary.
- B. Seed no-mow fescue lawn (Seed Mix B) at seed supplier recommended rates and methods.
1. Preferred sowing method at porous flexible paving area: Method B, Hydroseeding/hydro-mulching per seed supplier's recommendations.

### 3.5 PREPARTION FOR NATIVE SEEDING

- A. For spring planting, mow any undesirable vegetation to 4 inches or less in height 2-4 weeks before seeding. Contractor shall evaluate in consultation with the Owners project representative the use of a broad spectrum, non-persistent glyphosate-based herbicide based on site conditions including the presence of specific broadleaf weed species for the optimum control of invasives. The use of methods other than glyphosate is preferred. If determined that glyphosate treatment should be part of initial preparation based on specific site conditions, the following conditions shall be met, at a minimum:
1. Herbicide should be applied when plants are green and actively growing. Do not apply before or after growing season.
  2. Do not apply seed until five to seven days after last herbicide treatment.
  3. Ensure that any herbicides used are compatible with and approved for use in the specific application area.

- B. For dormant (fall) planting, mow vegetation to 4 inches or less in height 4-6 weeks before seeding. Contractor shall evaluate in consultation with the Owners project representative the use of a broad spectrum, non-persistent glyphosate-based herbicide based on site conditions including the presence of specific broadleaf weed species for the optimum control of invasives. The use of methods other than glyphosate is preferred. If determined that glyphosate treatment should be part of initial preparation based on specific site conditions, the following conditions shall be met, at a minimum:
  - 1. Herbicide should be applied when plants are green and actively growing. Do not apply before or after growing season.
  - 2. Do not apply seed until five to seven days after last herbicide treatment.
  - 3. Ensure that any herbicides used are compatible with and approved for use in the specific application area.
- C. Limit preparation to areas to be immediately seeded.
- D. Confirm topsoil has been provided per Specification Section 32 9113 "Soil Preparation" in the areas and depths indicated by the written specifications. If unsuitable topsoil conditions or depths exist, notify General Contractor immediately and do not proceed with seeding operations until any and all unsatisfactory conditions have been corrected.
- E. Finish Grading: Grade areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus ½-inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be seeded in the immediate future. Apply additional topsoil if necessary to achieve uniform, smooth surfaces.
- F. Moisten prepared area before seeding if soil is dry. Water thoroughly and allow surface to dry before seeding. Do not create muddy soil.
- G. Before seeding, obtain Owners acceptance of finish grading; restore seeding areas if eroded or otherwise disturbed after finish grading.

### 3.6 NATIVE SEEDING

- A. Seed native seed mix (Land Restoration for Medium Soils Seed Mix) at seed supplier recommended rates and methods. Include cover crop for late fall seed applications if necessary.
  - 1. Do not hydroseed native seed mix.
- B. Seed native seed mix (Low Growing Meadow for Medium Soils Seed Mix) at seed supplier recommended rates and methods. Include cover crop for late fall seed applications if necessary.
  - 1. Do not hydroseed native seed mix.

### 3.7 EROSION CONTROL AND MULCHING

- A. Mulch and stabilize all seeded areas in accordance with Articles 207.3(d) and 207.3(f) of the MSN-SSPWC.
- B. Water seeded areas immediately after seeding with a fine spray to evenly moisten mulch and top ½" of soil. Do not overwater or create muddy conditions or standing water. Contractor may have to water in increments to reduce chances of ponding and/or erosion.

- C. Install erosion control materials as indicated on the Working Drawings in accordance with Section 31 23 17, "Erosion and Sediment Controls".

3.8 BLUEGRASS LAWN MAINTENANCE

- A. Maintain and establish bluegrass lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and re-mulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
  - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
  - 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
  - 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.
  - 1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly seeded areas.
  - 2. Initial watering to be conducted daily for no less than 30 days following seeding to maintain adequate soil surface moisture for proper seed germination.
  - 3. Water turf with fine spray at a minimum rate of 1/2" inch of water twice weekly, unless rainfall precipitation is adequate, until final acceptance.
- C. Mowing: Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Mowing operations include trimming around obstacles and raking of excess grass clippings. String trimmers shall not be used around trees or shrubs. Any plant material damaged at any time during turfgrass maintenance shall be replaced at the original size and species at no cost to the Owner. Schedule initial and subsequent mowings to maintain the following grass heights:
  - 1. Mow lawn to a height of 2-1/2 inches before June 1 and after September 1 and no less than 3-1/2 inches from June through September.

3.9 NO-MOW FESCUE LAWN MAINTENANCE

- A. Maintain and establish fescue lawn by watering, weeding, mowing, trimming, re-seeding, and performing other operations as required to establish a healthy, viable stand of fescue. Roll, regrade, and re-seed bare or eroded areas and re-mulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
  - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
  - 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
  - 3. Utilize integrated pest management best management practices to keep turf and soil free of pests and pathogens or disease.

4. Contractor shall maintain a fescue lawn free of broadleaf or grass-like weeds by hand-pulling or treating any weeds that germinate during the maintenance period.
- B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.
    1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly seeded areas.
    2. Initial watering to be conducted daily for no less than 30 days following seeding to maintain adequate soil surface moisture for proper seed germination.
    3. Water turf with fine spray at a minimum rate of 1/2" inch of water twice weekly, unless rainfall precipitation is adequate, until final acceptance.
  - C. Mowing: No-Mow Fescue lawns shall not be mowed shorter than four (4) inches at any mowing. The first mowing shall correspond to the time when the fescue has become fully established, vigorous, and robust. Monitor fescue growth and mow approximately 2 times per growing season, once in the late spring and once in the fall, but only if the fescue reaches more than 12 inches in height and has fully established. Premature mowing of fescue lawns can damage the seed bed.
  - D. Fertilizer: Do not fertilize fescue lawns unless specifically directed to do so by seed supplier.
  - E. The contractor will be held fully responsible for evaluating the health and vigor of the fescue lawn during all maintenance activities and shall adjust maintenance practices, in consultation with Owners project representative, to produce a healthy, vigorous and fully-established fescue lawn by the end of the maintenance period.

### 3.10 NATIVE SEED AREA MAINTENANCE

- A. Maintain and establish native seed areas by watering, weeding, mowing, trimming, re-seeding, and performing other operations as required to establish a healthy, viable native seed area. Roll, re-grade, fill and re-seed bare or eroded areas and re-mulch. Provide materials and installation the same as those used in the original installation.
  1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and native seed damaged or lost in areas of subsidence.
  2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
  3. Utilize integrated pest management best management practices to keep native seed areas and soil free of pests and pathogens or disease.
- B. Weeding: Monitor the establishment of the native seeding and for the presence of weeds. Eradicate any perennial weeds by spot mowing with a string trimmer or by hand applying post-emergent herbicide in accordance with 632.2.12 of the WISDOT State Standard Specifications for Highway and Structures Construction. Treat only on cool windless days using gloved hand wiping method. Do not broadcast herbicide. Do not hand pull weeds.
- C. Mowing: Mow all vegetation to a height of 6 inches using a flail type mower once vegetation has reached 10-12 inches in height. If vegetation has reached a height greater than 12 inches prior to mowing, all vegetation cuttings must be raked and removed from the site. Carefully bag and



remove all cuttings of seed-bearing weeds from the site to prevent dispersal of weed seeds. Mow approximately 5 times through duration of maintenance and warranty period.

- D. Watering: Water native seeding regularly during first 8 weeks after seeding. Following the initial 8 weeks after seeding water only if it does not rain for a week.
  - 1. Monitor native seeding areas for adequate soil moisture. Water native seeding areas with fine spray just enough to keep soil moist. Water twice weekly, unless rainfall precipitation is adequate.
  - 2. Water in early morning only, afternoon and evening watering can encourage fungal growth that can kill seedlings.
  - 3. Do not overwater.
- E. Fertilizer: Do not fertilize native seed areas unless specifically directed to do so by seed supplier.
- F. The contractor will be held fully responsible for evaluating the health and vigor of the native seed areas during all maintenance activities and shall adjust maintenance practices, in consultation with Owners project representative, to produce a healthy, vigorous and fully-established native seed areas by the end of the maintenance period.

### 3.11 SATISFACTORY TURF GRASS AND NATIVE SEED INSTALLATIONS

- A. Turf grass and native seed installations shall meet the requirements in accordance with Article 207.4(a) of the MSN-SSPWC.
- B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory as set forth in the guidelines above and reviewed by the Owners project representative.

### 3.12 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents according to requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owners operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

### 3.13 CLEANUP, REPAIR AND PROTECTION

- A. Promptly remove soil and debris created by any turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owners property.
- C. Repair any additional existing lawn areas disturbed by construction activities with like materials at direction of Owners project representative.

- D. Erect temporary fencing or barricades and warning signs as required to protect newly seeded areas from traffic. Maintain fencing and barricades from initial seeding operations throughout the maintenance period and remove after turf areas are established.
- E. Remove nondegradable erosion-control measures at the end of the maintenance and warranty period.

END OF SECTION

**SECTION 04 20 00**  
**UNIT MASONRY**

**PART 1 GENERAL**

1.1 SECTION INCLUDES

- A. Concrete Block.
- B. Clay Facing Brick.
- C. Mortar and Grout.
- D. Reinforcement and Anchorage.
- E. Flashings.
- F. Accessories.

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all relevant installers.

1.3 SUBMITTALS

- A. Product Data: Provide data for masonry units, reinforcing steel bars, fabricated wire reinforcement, mortar, and masonry accessories.
- B. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

- A. Comply with provisions of ACI 530/530.1/ERTA, except where exceeded by requirements of the contract documents.

1.5 MOCK-UP

- A. See integrated exterior mock up under Section 01 43 43 Mock-Ups.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

**PART 2 PRODUCTS**

2.1 CONCRETE MASONRY UNITS

- A. Concrete Block: Comply with referenced standards and as follows:
  - 1. Size: Standard units with nominal face dimensions of 16 x 8 inches and nominal depths as indicated on the drawings for specific locations.
  - 2. Special Shapes: Provide U-block bond beam lintels, corners, jambs, sash, control joint headers, bonding, starter blocks, and other special conditions.
  - 3. Load-Bearing Units: ASTM C90, normal weight.

## 2.2 BRICK UNITS

- A. Facing Brick: ASTM C216, Type FBS, Grade SW.
  - 1. Color and texture – acceptable products:
    - a. Face Brick: Endicott Clay Products Co; Manganese Ironspot, Velour.
    - b. Others as approved.
    - ~~b. Face Brick: Cloud Ceramics; Midnight IS, Velour.~~
    - ~~e. Face Brick: Sioux City Brick; Ebonite, Velour.~~
  - 2. Size: Norman, 2 1/4 inch x 3 5/8 inch x 11 5/8 inch.
  - 3. Special shapes: Molded units as required by conditions indicated, unless standard units can be sawn to produce equivalent effect.

## 2.3 MORTAR AND GROUT AND GROUT MATERIALS

- A. Masonry Cement: ASTM C91/C91M, Type S.
  - 1. Colored Mortar: Premixed cement as required to match Architect's color sample.
  - 2. Manufacturers:
    - a. Holcim (US) Inc; Mortamix Rainbow Custom Color Mortar Cement
    - b. Lafarge NA; Custom Color Masonry
- B. Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample.
- C. Hydrated Lime: ASTM C207, Type S.
- D. Mortar Aggregate: ASTM C144.
- E. Water: Clean and potable.

## 2.4 REINFORCEMENT AND ANCHORAGE

- A. Manufacturers of Joint Reinforcement and Anchors:
  - 1. Hohmann & Barnard, Inc (including Dur-O-Wal brand): [www.h-b.com](http://www.h-b.com)
  - 2. WIRE-BOND: [www.wirebond.com](http://www.wirebond.com)
- B. Single Wythe Joint Reinforcement: Truss or ladder type; ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M, Class 3; 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage on each exposure.
- C. Strap Anchors: Bent steel shapes configured as required for specific situations, 1-1/4 in width, 0.105 in thick, lengths as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from masonry face, corrugated for embedment in masonry joint, hot dip galvanized to ASTM A 153/A 153M, Class B.
- D. Flexible Anchors: 2-piece anchors that permit differential movement between masonry and building frame, sized to provide not more than 1 inch and not less than 1/2 inch of mortar coverage from masonry face.
- E. Masonry Veneer Anchors: 2-piece anchors that permit differential movement between masonry veneer and structural backup, hot dip galvanized to ASTM A 153/A 153M, Class B.

1. Anchor plates: Not less than 0.075 inch thick, designed for fastening to structural backup through sheathing by two fasteners; provide design with legs that penetrate sheathing and insulation to provide positive anchorage.
  2. Wire ties: Manufacturer's standard shape, 0.1875 inch thick.
  3. Vertical adjustment: Not less than 3-1/2 inches.
- F. Reinforcing Steel: ASTM A615, 60 ksi yield grade, deformed, epoxy coated at parking, uncoated at commercial.

## 2.5 FLASHINGS

- A. Rubberized Asphalt Flashing: Self-adhering polymer modified asphalt sheet; 40 mils (0.040 inch) minimum total thickness; with cross laminated polyethylene top and bottom surfaces.
1. Manufacturers:
    - a. York Manufacturing, Inc; York Seal: [www.yorkmfg.com](http://www.yorkmfg.com)
    - b. Hohmann & Barnard, Inc; Textroflash Flashing: [www.h-b.com](http://www.h-b.com)
    - c. Wire-Bond; Aqua Flash 500: [www.wirebond.com](http://www.wirebond.com)
- B. Drip Plate: Stainless Steel Type 304, ASTM A240, ASTM A666, ASTM A480 and ASTM A167. Provide manufacturer's mastic/sealant for installation of drip plate.
1. Manufacturers:
    - a. Hohmann & Barnard, Inc; DP - Standard Drip Plate: [www.h-b.com](http://www.h-b.com)
    - b. Wire-Bond; #4165 Drip Edge Flashing: [www.wirebond.com](http://www.wirebond.com)
- C. Factory-Fabricated Flashing Corners and Ends: Stainless steel corners and end dams.
1. Manufacturers:
    - a. Hohmann & Barnard, Inc; Stainless Steel Corners and End Dams: [www.h-b.com](http://www.h-b.com)
    - b. Wire-Bond; Corners & End Dams (Stainless Steel): [www.wirebond.com](http://www.wirebond.com)
- D. Termination Bar: Stainless Steel Type 304. 1/8 inch thick x 1 inch wide x 8 foot long with 1/4 inch diameter holes at 8 inches on center. Seal with manufacturer's recommended mastic.
1. Manufacturers:
    - a. Hohmann & Barnard, Inc
    - b. Wire-Bond
- E. Flashing Sealant/Adhesives: Silicone, polyurethane, or silyl-terminated polyether/polyurethane or other type required or recommended by flashing manufacturer; type capable of adhering to type of flashing used.

## 2.6 ACCESSORIES

- A. Preformed Control Joints: Rubber or neoprene material. Provide with corner and tee accessories, fused joints.
1. Manufacturers:
    - a. Hohmann & Barnard, Inc (including Dur-O-Wal brand): [www.h-b.com](http://www.h-b.com)
    - b. WIRE-BOND: [www.wirebond.com](http://www.wirebond.com)
- B. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage.

1. Mortar Diverter: Semi-rigid mesh designed for installation at flashing locations.
  - a. Manufacturers:
    - 1) Advanced Building Products Inc; Mortar Maze 315: [www.advancedflashing.com](http://www.advancedflashing.com).
    - 2) Sandell Construction Solutions; Mortar Web: [www.h-b.com](http://www.h-b.com).
- C. Building Paper: ASTM D226/D226M, Type I ("No.15") asphalt felt.
- D. Termination Bars: Stainless steel; compatible with membrane and adhesives.
- E. Weeps and Cavity Vents: Polyethylene tubing.
  1. Manufacturers:
    - a. Hohmann & Barnard, Inc; Quadro-Vent: [www.h-b.com](http://www.h-b.com)
    - b. WIRE-BOND; Cell Vent: [www.wirebond.com](http://www.wirebond.com)
- F. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

## 2.7 MORTAR AND GROUT MIXES

- A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
  1. Masonry below grade and in contact with earth: Type M.
  2. Exterior, loadbearing masonry: Type S.
  3. Exterior, non-loadbearing masonry: Type S.
  4. Interior, loadbearing masonry: Type S.
  5. Interior, non-loadbearing masonry: Type O.
- B. Colored Mortar: Proportion selected pigments and other ingredients to match Architect's sample, without exceeding manufacturer's recommended pigment-to-cement ratio.
- C. Mixing: Use mechanical batch mixer and comply with referenced standards.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Direct and coordinate placement of metal anchors supplied for installation under other sections.
- B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

### 3.2 COLD AND HOT WEATHER REQUIREMENTS

- A. Comply with requirements of ACI 530/530.1/ERTA or applicable building code, whichever is more stringent.

### 3.3 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Concrete Masonry Units:
  1. Bond: Running.
  2. Coursing: One unit and one mortar joint to equal 8 inches.
  3. Mortar Joints: Concave.

- D. Brick Units:
  - 1. Bond: Running.
  - 2. Coursing: Three units and three mortar joints to equal 8 inches.
  - 3. Mortar Joints: Concave.

**3.4 PLACING AND BONDING**

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Lay hollow masonry units with face shell bedding on head and bed joints.
- C. Remove excess mortar and mortar smears as work progresses.
- D. Interlock intersections and external corners, except for units laid in stack bond.
- E. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
- F. Cut mortar joints flush where wall tile is scheduled or resilient base is scheduled.
- G. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.

**3.5 WEEPS/CAVITY VENTS**

- A. Install weeps in veneer and cavity walls at 24 inches on center horizontally above through-wall flashing, above shelf angles and lintels, and at bottom of walls.
- B. Install cavity vents in veneer and cavity walls at 32 inches on center horizontally below shelf angles and lintels and near top of walls.

**3.6 CAVITY MORTAR CONTROL**

- A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.
- B. Install cavity mortar diverter at base of cavity and at other flashing locations as recommended by manufacturer to prevent mortar droppings from blocking weep/cavity vents.

**3.7 REINFORCEMENT AND ANCHORAGE - GENERAL**

- A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- C. Lap joint reinforcement ends minimum 6 inches.
- D. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Unless otherwise indicated on drawings or closer spacing is indicated under specific wall type, space anchors at maximum of 36 inches horizontally and 24 inches vertically.

**3.8 REINFORCEMENT AND ANCHORAGE - SINGLE WYTHE MASONRY**

- A. Install horizontal joint reinforcement 16 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- C. Lap joint reinforcement ends minimum 6 inches.

3.9 REINFORCEMENT AND ANCHORAGE - MASONRY VENEER

- A. Install horizontal joint reinforcement 16 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- C. Lap joint reinforcement ends minimum 6 inches.
- D. Stud Back-Up: Secure veneer anchors to stud framed back-up and embed into masonry veneer at maximum 16 inches on center vertically and 24 inches on center horizontally. Place additional anchors at perimeter of openings and ends of panels, so maximum spacing of anchors is 8 inches on center.

3.10 MASONRY FLASHINGS

- A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
  - 1. Extend flashings full width at such interruptions and at least 6 inches into adjacent masonry or turn up at least 8 inches to form watertight pan at non-masonry construction.
  - 2. Remove or cover protrusions or sharp edges that could puncture flashings.
  - 3. Seal lapped ends and penetrations of flashing before covering with mortar.
  - 4. Provide termination bar at top of through wall flashings. Embed termination bar in manufacturer's recommended mastic/sealant and fasten to stud back up at 16 inches on center. Seal top edge of termination bar with sealant recommended by manufacturer.
  - 5. Hold through wall flashing, 1/2 inch from face of brick and terminate onto drip edge. Lay drip edge in continuous bead of mastic/sealant.
  - 6. Provide prefabricated inside and outside corners and end dams. Place and provide through wall flashing over prefabricated corners and end dams.
- B. Lap end joints of flashings at least 6 inches and seal watertight with flashing sealant/adhesive.

3.11 LINTELS

- A. Install loose steel lintels over openings where indicated.
- B. Install reinforced unit masonry lintels over openings where steel or precast concrete lintels are not scheduled.
  - 1. See Lintel Schedule on Structural Drawings, Schedule and Schedule Details Sheet.

3.12 CONTROL AND EXPANSION JOINTS

- A. Do not continue horizontal joint reinforcement through control or expansion joints.
- B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.
- C. Construct control joints in above-grade masonry where indicated on the Drawings. Do not construct control joints below grade. If not indicated:
  - 1. Locate exterior vertical control joints at 20 feet on center, maximum. Locate interior vertical control joints at 30 feet on center, maximum. Provide vertical control joints at one side of each lintel, and 4 feet maximum from each corner.
  - 2. Locate exterior horizontal control joints at 20 feet on center, maximum, with soft joints at each shelf angle at top of wall.



- D. Form control joints in concrete masonry units with a sheet building paper bond breaker, fitted to one side of the hollow contour end units. Fill the resultant elliptical core with grout fill. Rake joint at exposed unit faces for placement of backer rod and sealant.
- E. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.

**3.13 BUILT-IN WORK**

- A. As work progresses, install built-in metal door frames and other items to be built into the work and furnished under other sections.
- B. Install built-in items plumb, level, and true to line.
- C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.

**3.14 TOLERANCES**

- A. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.
- B. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.

**3.15 FIELD QUALITY CONTROL**

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.

**3.16 CLEANING**

- A. Remove excess mortar and mortar droppings.
- B. Clean soiled surfaces with cleaning solution.

**END OF SECTION**

**SECTION 08 33 23**  
**OVERHEAD COILING DOORS**

**PART 1 GENERAL**

1.1 SECTION INCLUDES

- A. Overhead coiling doors, operating hardware, fire-rated and exterior, manual operation.
- B. Wiring from electric circuit disconnect to operator to control station.

1.2 SUBMITTALS

- A. Product Data: Provide general construction and component connections and details.
- B. Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details.
- C. Test Reports: Accredited testing lab report indicating maximum opening size (width and height) and resultant maximum allowable Design Pressure Rating for coiling door assembly. Report shall be stamped and signed by a licensed Engineer.
- D. Maintenance Data: Indicate lubrication requirements and frequency and periodic adjustments required.

1.3 WARRANTY

- A. Manufacturer's Material and Workmanship Warranty for coiling door assembly for Design Pressure Rating indicated: 2 years from date of Substantial Completion.

**PART 2 PRODUCTS**

2.1 MANUFACTURERS

- A. Overhead Coiling Doors:
  - 1. Raynor Door; FireCoil: [www.raynor.com](http://www.raynor.com)
  - 2. Cornell Iron Works, Inc: [www.cornelliron.com](http://www.cornelliron.com)

2.2 COILING DOORS

- A. Exterior Coiling Doors: Steel slat curtain.
  - 1. Capable of withstanding positive and negative wind loads of 20 psf, without undue deflection or damage to components.
  - 2. Sandwich slat construction with insulated core of foamed-in-place polyurethane insulation; minimum R-value of 6.
  - 3. Nominal Slat Size: 2 inches wide x required length.
  - 4. Finish: galvanized with powder coat finish.
  - 5. Color: Custom color, as selected by Architect.
  - 6. Guides: Angles; galvanized steel.
  - 7. Hood Enclosure: Manufacturer's standard; primed steel.
  - 8. Manual hand chain lift operation.

9. Mounting: Surface mounted.
10. Locking Devices: Lock and latch handle on outside.
- B. Fire-Rated Coiling Doors: Steel slat curtain; conform to NFPA 80.
  1. Rating: As indicated on Drawings.
  2. Provide products listed and labeled by ITS (DIR) or UL (DIR) as suitable for the purpose specified and indicated.
  3. Oversized Openings: Provide certificate of compliance from authorities having jurisdiction indicating approval of fire rated units and operating hardware assembly.
  4. Sandwich slat construction with insulated core of ~~foamed-in-place polyurethane~~ mineral wool insulation; minimum R-value of ~~6~~ 4.
  5. Nominal Slat Size: 2 inches wide by required length.
  6. Finish: Powder coat, color as selected from full range of RAL colors.
  7. Guides: Angles; primed steel.
  8. Hood Enclosure: Manufacturer's standard; primed steel.
  9. Release Mechanism: Fusible link activated with automatically governed closing speed.
  10. Manual hand chain lift operation.
  11. Mounting: Surface mounted.
  12. Locking Devices: Lock and latch handle on outside.

### 2.3 MATERIALS

- A. Curtain Construction: Interlocking slats.
  1. Slat Ends: Alternate slats fitted with end locks to act as wearing surface in guides and to prevent lateral movement.
  2. Curtain Bottom: Fitted with angles to provide reinforcement and positive contact in closed position.
  3. Weatherstripping: Moisture and rot proof, resilient type, located at jamb edges, bottom of curtain, and where curtain enters hood enclosure of exterior doors.
- B. Steel Slats: Minimum thickness, 24 gage; ASTM A653 galvanized steel sheet.
  1. Galvanizing: Minimum G90/Z275 coating.
- C. Steel Guides: ASTM A36/A36M steel angles, size as indicated, hot-dip galvanized per ASTM A 123/A 123M.
- D. Hood Enclosure: Internally reinforced to maintain rigidity and shape.
  1. Prime paint.
- E. Lock Hardware:
  1. Lock: Cylinder type. Coordinate keying with Section 08-7100.
  2. Latch Handle: Manufacturer's standard.
- F. Roller Shaft Counterbalance: Steel pipe and helical steel spring system, capable of producing torque sufficient to ensure smooth operation of curtain from any position and capable of holding position at mid-travel; with adjustable spring tension; requiring 25 lb nominal force to operate.

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- A. Install units in accordance with manufacturer's instructions.
- B. Install fire-rated doors in accordance with NFPA 80.
- C. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.
- D. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.
- E. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

**3.2 TOLERANCES**

- A. Maintain dimensional tolerances and alignment with adjacent work.
- B. Maximum Variation From Plumb: 1/16 inch.
- C. Maximum Variation From Level: 1/16 inch.
- D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10 ft straight edge.

**3.3 ADJUSTING**

- A. Adjust operating assemblies for smooth and noiseless operation.

**END OF SECTION**