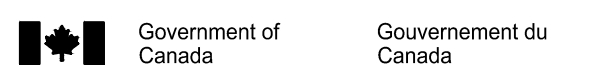
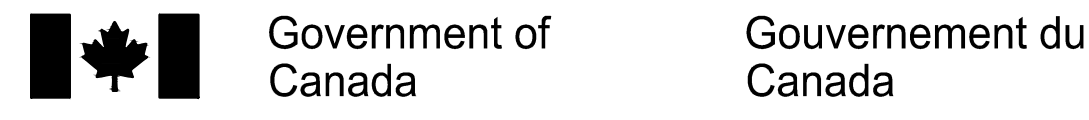


ISSUED FOR TENDER  
MAY 18, 2018

IFR UPGRADES



Canada

PETER J. KINDREE  
ARCHITECT

79 Hinton Avenue N.  
Ottawa K1Y 0Z7 (613) 860-1530

LIST OF ARCHITECTURAL DRAWINGS

- A001 COVER PAGE; DRAWING LIST
- A111 REFLECTED CEILING PLAN - DEMOLITION
- A121 REFLECTED CEILING PLAN - CONSTRUCTION
- A201 BUILDING SECTIONS
- A202 DETAILS

DRAWING LEGEND

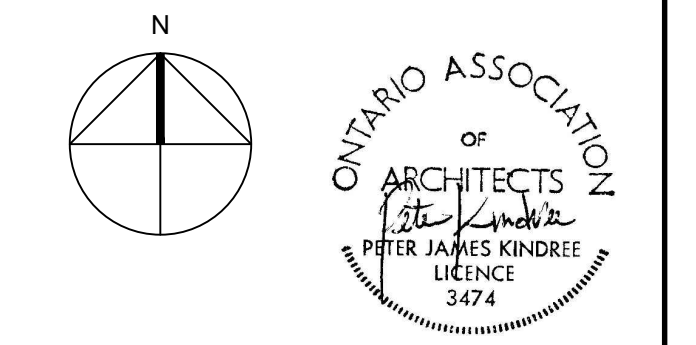
- ROOM NUMBER
- SHEET-SPECIFIC DRAWING NOTES
- STRUCTURAL GRID LINE REFERENCE - SCALE TO MATCH DRAWING SCALE
- DETAIL REFERENCE
- SECTION REFERENCE
- EXISTING CONSTRUCTION CUT BY DRAWING PLANE TO REMAIN
- EXISTING CONSTRUCTION/OBJECTS TO BE REMOVED
- LIGHT FIXTURE, REFER TO ELECTRICAL
- SPRINKLER, REFER TO MECHANICAL

LIST OF ELECTRICAL DRAWINGS

- E1 ELECTRICAL LEGENDS, DRAWING LIST, DEMOLITION WORK & SLD
- E2 ELECTRICAL NEW WORK

LIST OF MECHANICAL DRAWINGS

- M1 MECHANICAL DRAWING LIST, LEGENDS, SCHEDULES & DETAILS
- M2 MECHANICAL GROUND FLOOR FIRE PROTECTION
- M3 MECHANICAL GROUND FLOOR HVAC
- M4 MECHANICAL PENTHOUSE HVAC NEW WORK



L'ENTREPRENEUR DEVRA VÉRIFIER TOUTES LES DIMENSIONS ET LES CONDITIONS SUR LE CHANTIER ET AVISER SANS DÉLAI LE REPRÉSENTANT DU MINISTÈRE DE TOUTE ANOMALIE.  
Contractor to verify all dimensions and conditions on site and immediately notify the departmental representative of all discrepancies.

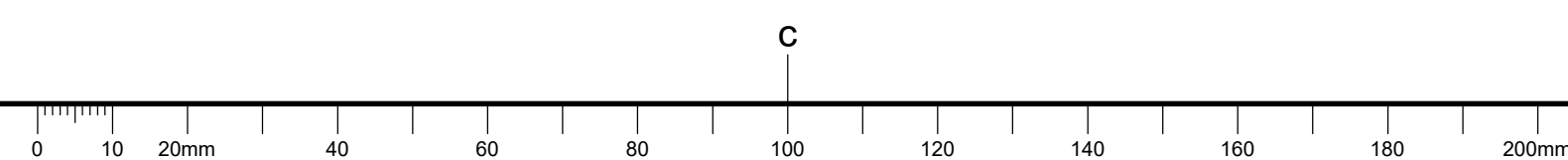
revisions	description	date
4	REISSUED FOR TENDER	2018/05/16
3	ISSUED FOR TENDER	2018/04/19
2	ISSUED FOR 66% REVIEW	2017/07/11
1	ISSUED FOR CONSULTANT COORD.	2017/06/27

A	A
C	B C

project IFR UPGRADES

drawing COVER PAGE; DRAWING LIST

Designed By	PK/RR	Conçu par
Date	April 2018	(yyyy/mm/dd)
Drawn By	RR	Dessiné par
Date	April 2018	(yyyy/mm/dd)
Reviewed By	PK	Examiné par
Date	April 2018	(yyyy/mm/dd)
Approved By	PK	Approuvé par
Date	April 2018	(yyyy/mm/dd)
Tender		Soumission
Project Manager	ANNA CHOW	Administrateur de projets
Project no.		No. du projet
	7212283	
Drawing no.		No. du dessin
	A001	



GENERAL NOTES, A111

A. EXISTING ELECTRICAL AND MECHANICAL FIXTURES AND EQUIPMENT SHOWN HERE FOR COORDINATION. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS. IN THE CASE OF DISCREPANCY BETWEEN THIS DRAWING AND MECHANICAL OR ELECTRICAL DRAWINGS REGARDING MECHANICAL OR ELECTRICAL EQUIPMENT, MECHANICAL AND ELECTRICAL DRAWINGS TAKE PRECEDENCE.

DRAWING NOTES, A111

1. REMOVE EXISTING SUSPENDED STEEL BAFFLES  
-6 mm STEEL PLATE  
-38 mm AIRSPACE  
-19 mm PLYWOOD  
-ACOUSTIC TREATMENT
2. REMOVE EXISTING RUBBER SIDE-WALL ACOUSTIC PROTECTION.
3. BULLET TRAP TO REMAIN.
4. EXISTING ACOUSTIC TILE CEILING TO REMAIN. CAREFULLY REMOVE AS REQUIRED TO FACILITATE NEW WORK. STORE COMPONENTS FOR REINSTALLATION.
5. EXISTING SIDEWALL STEEL TO BE REMOVED.



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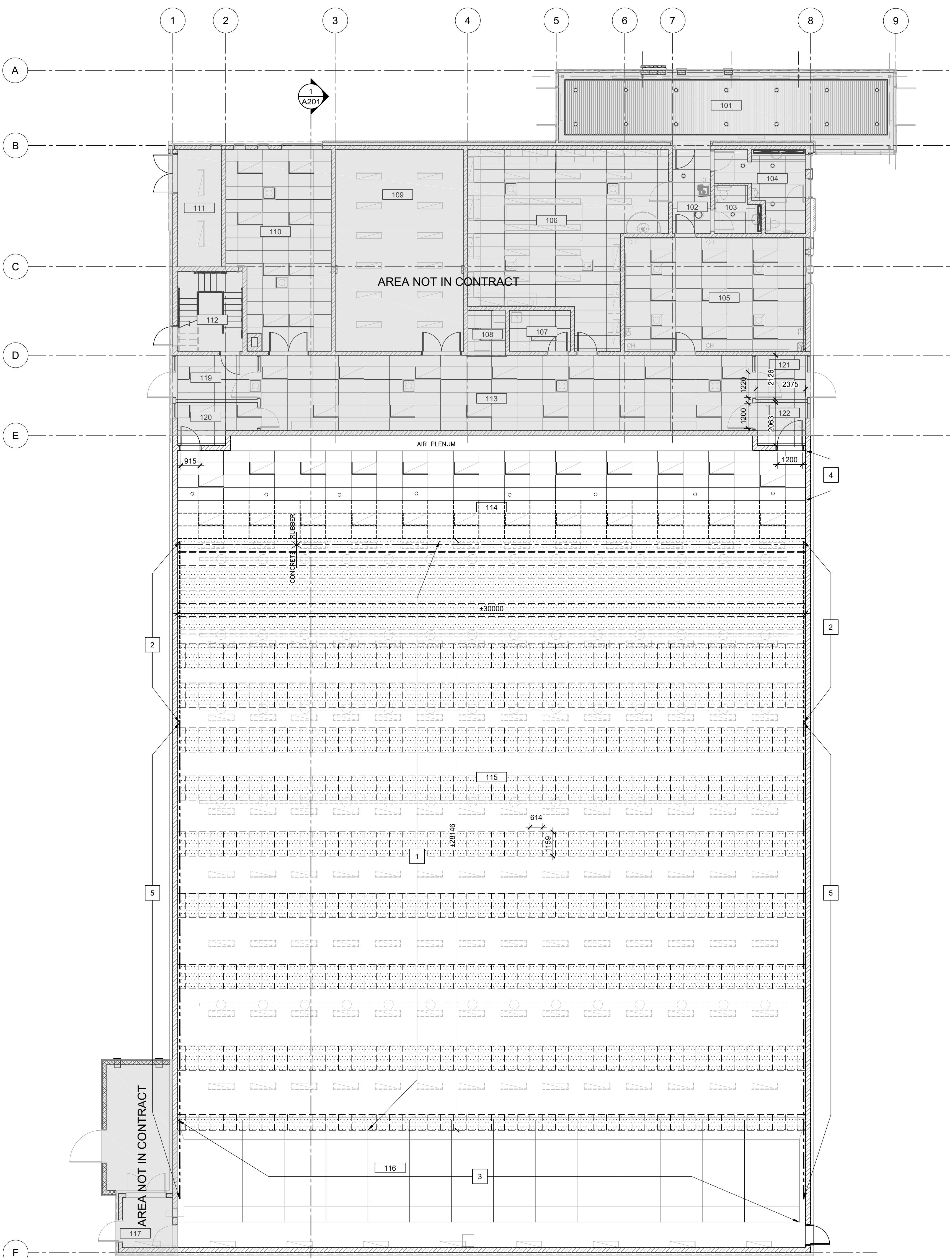
revisions	description	date
4	ISSUED FOR TENDER	2018/05/18
3	ISSUED FOR TENDER	2018/04/19
2	ISSUED FOR 66% REVIEW	2017/07/11
1	ISSUED FOR CONSULTANT COORD.	2017/06/27

A detail no. no. du détail  
B location drawing no. sur dessin no.  
C drawing no. dessin no.

project / projet  
**IFR UPGRADES**

drawing / dessin  
**REFLECTED CEILING PLAN - DEMOLITION**

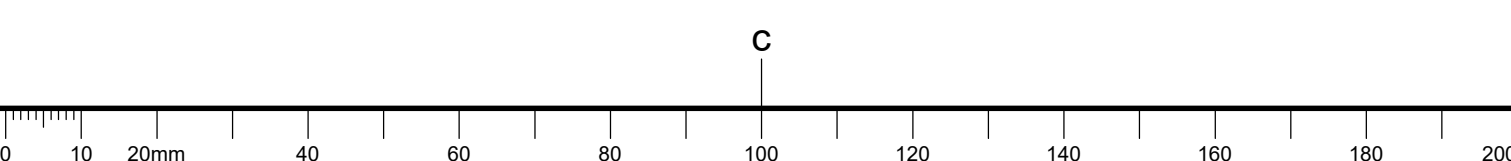
Designed By / Conçu par PK/RR April 2018 / (yyyy/mm/dd)
Drawn By / Dessiné par RR April 2018 / (yyyy/mm/dd)
Reviewed By / Examiné par PK April 2018 / (yyyy/mm/dd)
Approved By / Approuvé par PK April 2018 / (yyyy/mm/dd)
Tender / Soumission ANNA CHOW Project Manager / Administrateur de projets
Project no. / No. du projet <b>7212283</b>
Drawing no. / No. du dessin <b>A111</b>



**LEGEND**

- [Dashed line symbol] EXISTING SUSPENDED ACOUSTIC TILE CEILING TO BE REMOVED
- [Grid symbol] EXISTING SUSPENDED STEEL BAFFLES TO BE REMOVED

1 DEMOLITION PLAN  
A111  
SCALE 1:100



GENERAL NOTES, A121

- A. NOT ALL NEW ELECTRICAL AND MECHANICAL EQUIPMENT MAY BE SHOWN FOR CLARITY. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS.
- B. EXISTING SUSPENDED ACOUSTIC CEILING TO REMAIN. REINSTATE PORTIONS REMOVED FOR ABOVE CEILING ACCESS. ALL REINSTATED PORTIONS MUST MEET CURRENT SEISMIC REQUIREMENTS. PROVIDE STAMPED ENGINEER SHOP DRAWINGS AND POST INSTALLATION CERTIFICATE BY AN ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.

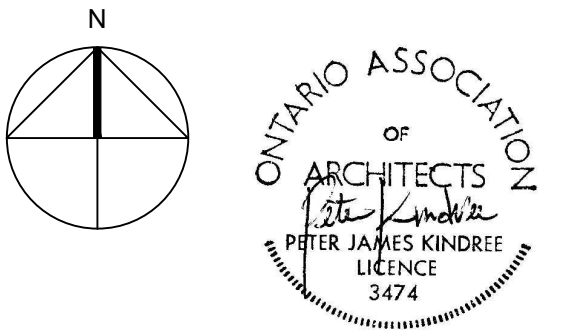
DRAWING NOTES, A121

- 1. NEW SIDEWALL BALLISTIC RUBBER BLOCK BULLET TRAP.
- 2. EXISTING FIRING LINE TO REMAIN
- 3. VESTIBULE AND STORAGE ADDITION PROVIDED UNDER SEPARATE CONTRACT
- 4. NEW SUSPENDED STEEL BAFFLES
- 5. EXISTING FLOORING TO REMAIN. PROTECT.
- 6. SIDEWALL ASSEMBLY BEHIND FIRING LINE:  
-39 X 89 FIRE RETARDANT TREATED WOOD FURRING AT 600 mm O.C.  
-19 mm FIRE RETARDANT TREATED PLYWOOD  
-50 mm ACOUSTIC BALLISTIC RUBBER PANELS
- 7. PROVIDE ACOUSTIC ENCLOSURE TO COMPLETELY COVER TRANSFER DUCT SILENCER, REFER TO MECHANICAL:  
- 92mm STUD  
- TWO LAYERS 16mm TYPE X GYPSUM BOARD  
- CW BATT INSULATION  
- TAPE ALL JOINTS AND OUTSIDE CORNERS  
- SEAL PERIMETER WITH ACOUSTIC SEALANT



**PETER J. KINDREE ARCHITECT**

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L'ENTREPRENEUR DEVRA VÉRIFIER TOUTES LES DIMENSIONS ET LES CONDITIONS SUR LE CHANTIER ET AVISER SANS DÉLAI LE REPRÉSENTANT DU MINISTÈRE DE TOUTE ANOMALIE.  
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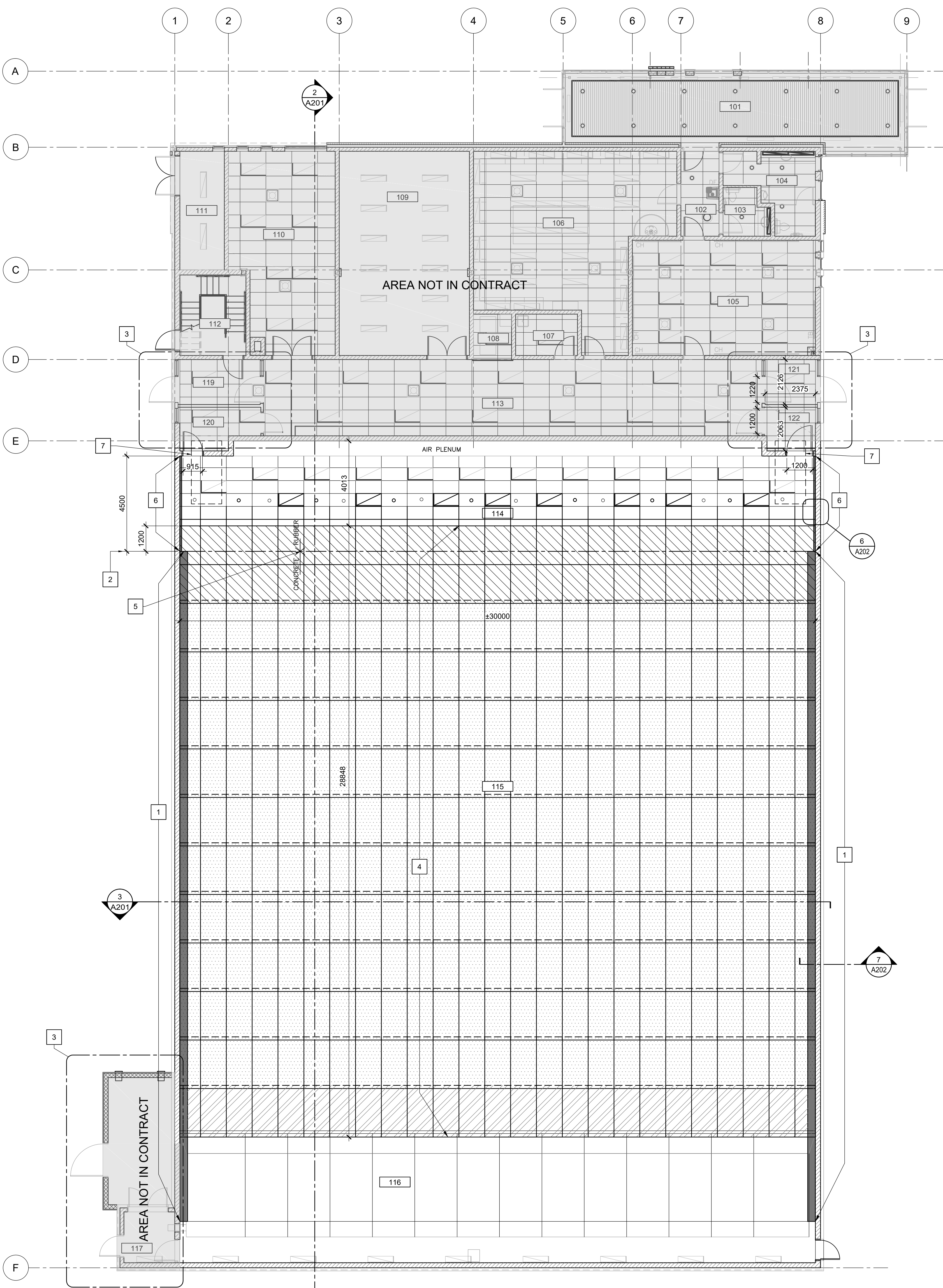
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4	ISSUED FOR TENDER	2018/05/18
3	ISSUED FOR TENDER	2018/04/19
2	ISSUED FOR 66% REVIEW	2017/07/11
1	ISSUED FOR CONSULTANT COORD.	2017/06/27

A	A
C	B C

project IFR UPGRADES

REFLECTED CEILING PLAN - CONSTRUCTION

Designed By	PK/RR	Conçu par	
Date	April 2018	(yyyy/mm/dd)	
Drawn By	RR	Dessiné par	
Date	April 2018	(yyyy/mm/dd)	
Reviewed By	PK	Examiné par	
Date	April 2018	(yyyy/mm/dd)	
Approved By	PK	Approuvé par	
Date	April 2018	(yyyy/mm/dd)	
Tender		Soumission	
Project Manager	ANNA CHOW	Administrateur de projets	
Project no.	7212283	No. du projet	
Drawing no.	A121	No. du dessin	

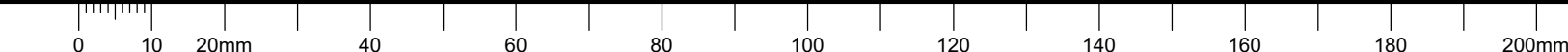


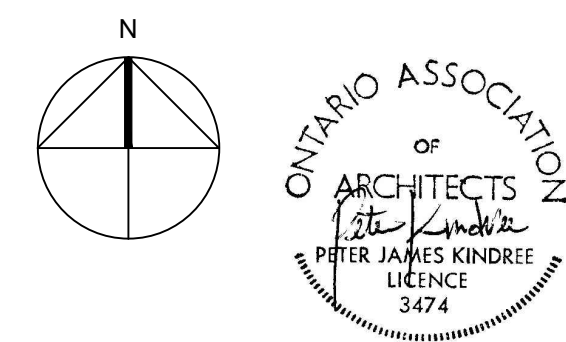
LEGEND

- NEW 2438X1219 SUSPENDED STEEL BAFFLES - SLOPED
- NEW 2438X1219 SUSPENDED STEEL BAFFLES WITH EXPOSED DEFLECTOR PANEL WITHOUT ACOUSTICAL TREATMENT
- NEW 1828 x 1219 SUSPENDED STEEL BAFFLES - HORIZONTAL

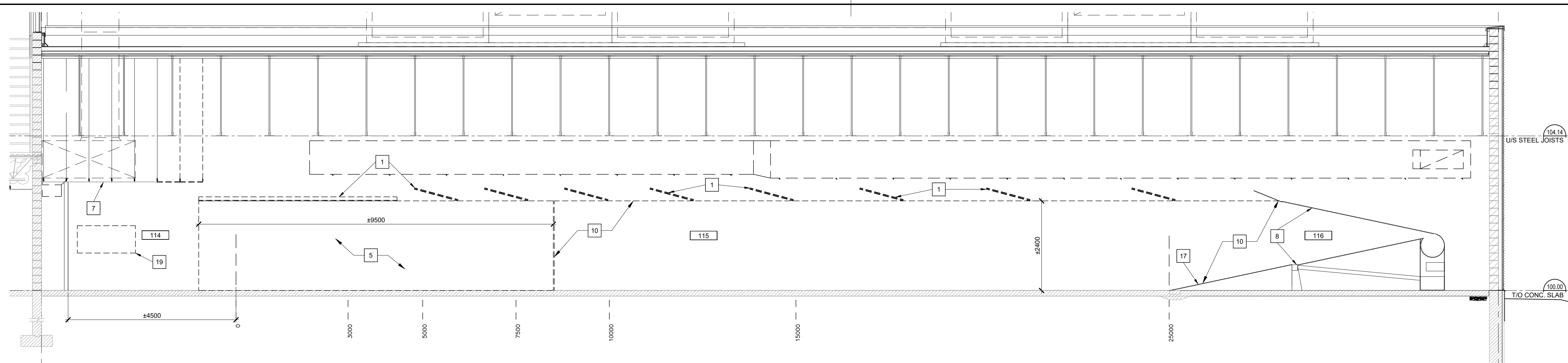
1 CONSTRUCTION PLAN  
A121

SCALE 1:100



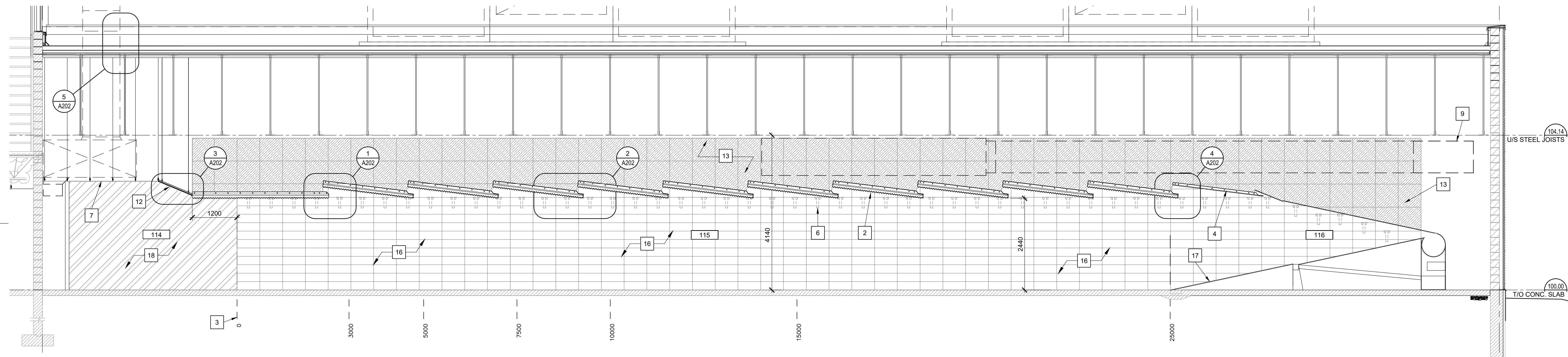


L'ENTREPRENEUR DEVRA VÉRIFIER TOUTES LES DIMENSIONS ET LES CONDITIONS SUR LE CHANTIER ET AVISER SANS DÉLAI LE REPRÉSENTANT DU MINISTÈRE DE TOUTE ANOMALIE.  
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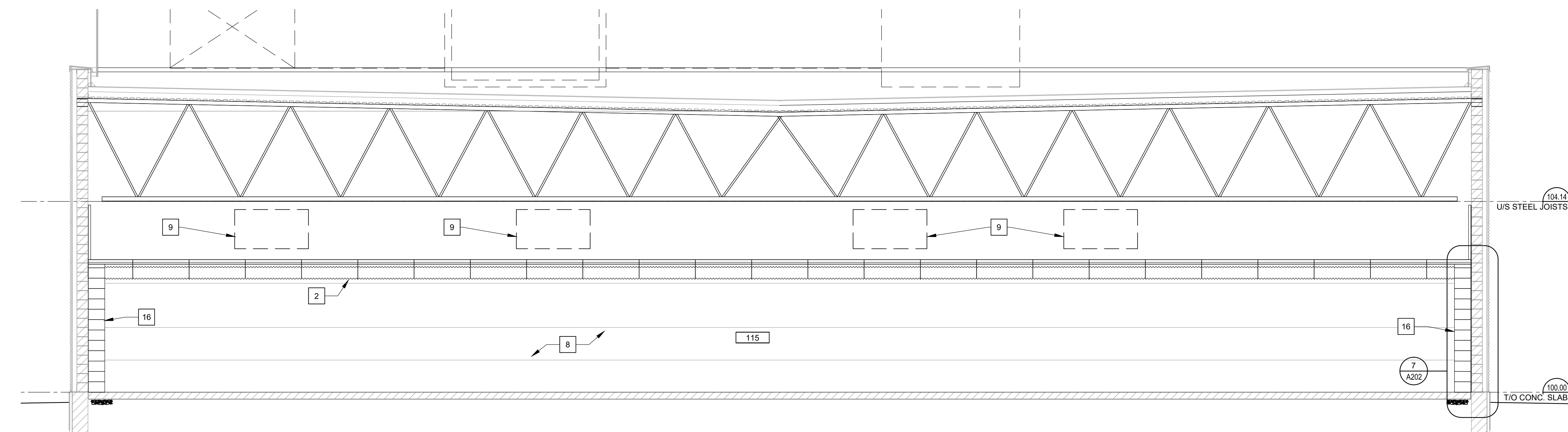
1 NORTH/SOUTH BUILDING SECTION - DEMOLITION

SCALE 1:100



2 NORTH/SOUTH BUILDING SECTION - NEW

SCALE 1:100



3 EAST/WEST BUILDING SECTION

SCALE 1:100

DRAWING NOTES, A201

1. REMOVE EXISTING STEEL BAFFLES AND SUPPORT ASSEMBLY.
2. PROVIDE NEW STEEL BAFFLES.
3. EXISTING FIRING LINE TO REMAIN.
4. EXPOSED DEFLECTOR PANEL. THIS LOCATION ONLY.
5. REMOVE EXISTING 600 X 600 RUBBER SIDEWALL ACOUSTIC PROTECTION.
6. COMPRESSION SYSTEM WITH TENSIONING DEVICE.
7. EXISTING SUSPENDED ACOUSTIC CEILING TILE TO REMAIN.
8. EXISTING BULLET TRAP TO REMAIN. PROTECT FROM NEW WORK.
9. DASHED LINE INDICATES APPROXIMATE GEOMETRY AND LOCATION OF NEW DUCTWORK, REFER TO MECHANICAL.
10. EXISTING STEEL MOUNTED TO CONCRETE BLOCK TO BE REMOVED.
11. NOTE NOT USED.
12. PROVIDE SLOPED ACOUSTIC TILE CEILING TO INTEGRATE EXISTING CEILING WITH NEW BAFFLES.
13. ACOUSTIC BALLISTIC RUBBER PANELS ON 10mm AR500 STEEL PLATE.
14. SIDEWALL PROTECTION ABOVE BAFFLES:
15. NOT USED.
16. NEW BALLISTIC RUBBER BLOCK BULLET TRAP.
17. DO NOT STAND OR DRIVE LIFT EQUIPMENT ON BULLET TAP RAMP. PROTECT FROM DAMAGE.
18. NEW ACOUSTIC SIDEWALL TREATMENT. REFER TO DETAIL 6/A202.
19. REMOVE EXISTING SIGNAGE MOUNTED TO CONCRETE BLOCK. TURN OVER TO DEPARTMENTAL REPRESENTATIVE.

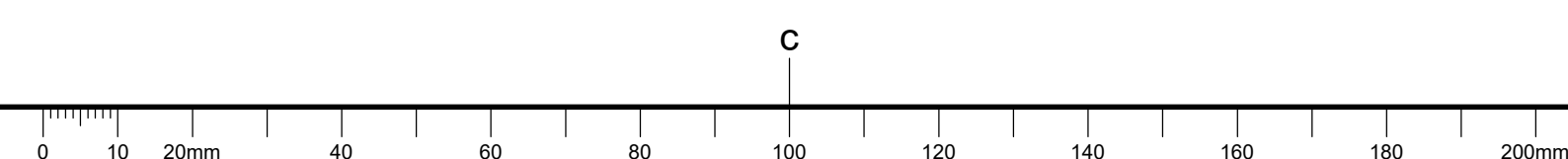
#	description	date
4	ISSUED FOR TENDER	2018/05/18
3	ISSUED FOR TENDER	2018/04/19
2	ISSUED FOR 66% REVIEW	2017/07/11
1	ISSUED FOR CONSULTANT COORD.	2017/06/27

revisions	description	date
A	A detail no. du detail	
B	B location drawing no. sur dessin no.	
C	C drawing no. dessin no.	

project IFR UPGRADES

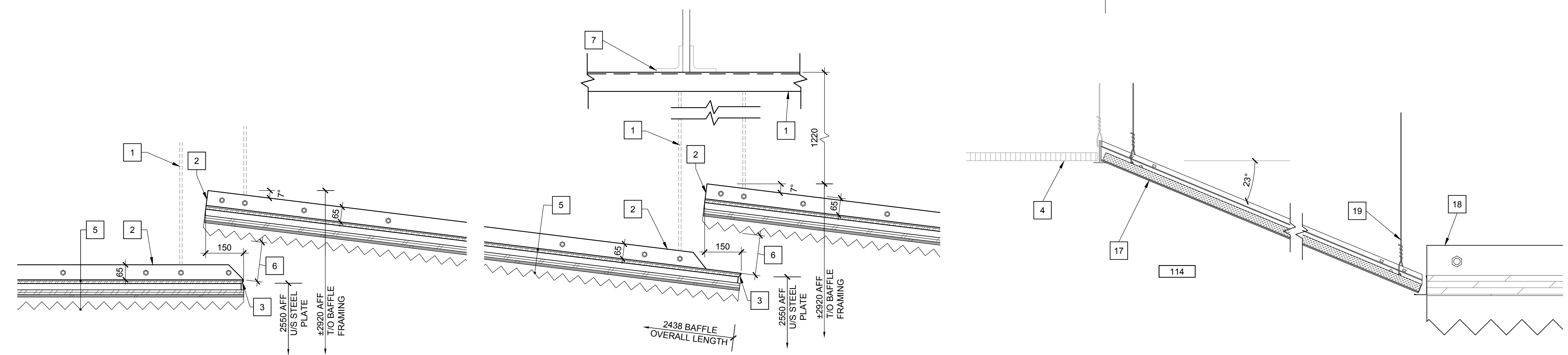
drawing BUILDING SECTIONS

Designed By	PK/RR	Conçu par	
Date	April 2018	(yyyy/mm/dd)	
Drawn By	RR	Dessiné par	
Date	April 2018	(yyyy/mm/dd)	
Reviewed By	PK	Examiné par	
Date	April 2018	(yyyy/mm/dd)	
Approved By	PK	Approuvé par	
Date	April 2018	(yyyy/mm/dd)	
Tender		Submission	
Project Manager	ANNA CHOW	Administrateur de projets	
Project no.	7212283	No. du projet	
Drawing no.	A201	No. du dessin	



DRAWING NOTES, A201

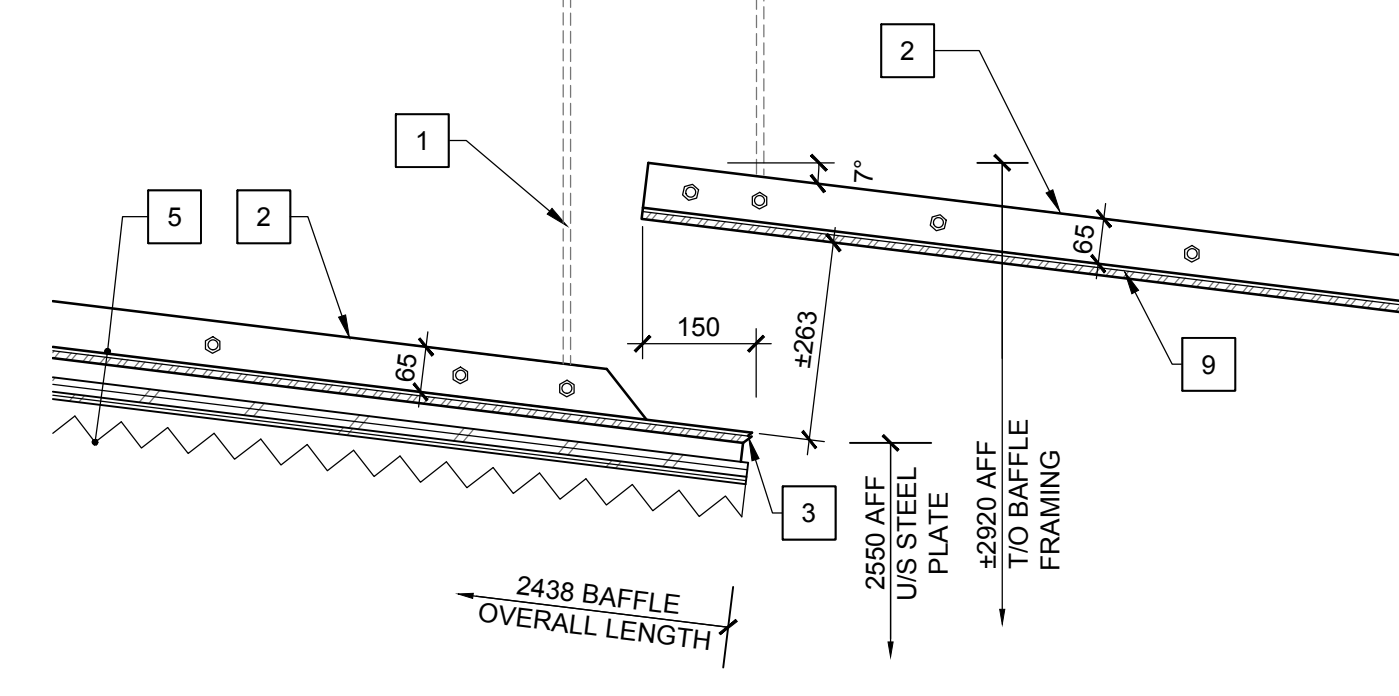
1. BAFFLE SUPPORT & SUSPENSION SYSTEM, NOT NECESSARILY AS SHOWN. DESIGN AND ENGINEER REQUIRED SUPPORT SYSTEM IN COORDINATION WITH EXISTING BUILDING STRUCTURE AND OTHER BUILDING SYSTEMS INCLUDING HVAC AND PROVIDE STAMPED ENGINEERED SHOP DRAWINGS.
2. STEEL ANGLE EDGE OF EACH PANEL WELDED TO STEEL DEFLECTOR PANEL.
3. 42° CHAMFER AT TRAILING EDGE OF PLATES
4. EXISTING SUSPENDED ACOUSTIC TILE CEILING TO REMAIN.
5. BAFFLE ASSEMBLY
  - PL. 2438 10' x 1219 AR500 STEEL DEFLECTOR PANEL
  - 25 STEEL FURRING CHANNELS
  - 19 FIRE RETARDANT PL. WOOD
  - 9.5 FIRE RETARDANT PL. WOOD
  - 50 ACOUSTICAL TREATMENT
6. ±160 TYP. CLEARANCE BETWEEN BAFFLES
7. EXISTING STEEL STRUCTURE TO REMAIN.
8. NEW DUCT SILENCER, REFER TO MECHANICAL.
9. AR500 EXPANDED DEFLECTOR PANEL
10. ANGLE WELDED TO AR500.
11. ADJUSTMENT OF EXISTING STRUCTURE AT ROOF OPENING MAY BE REQUIRED TO SUIT SILENCER. IN WHICH CASE STRUCTURAL DESIGN SHOP DRAWINGS STAMPED BY AN ENGINEER LICENSED IN ONTARIO, AND POST-INSTALLATION CERTIFICATION WILL BE REQUIRED.
12. ENSURE INTEGRITY OF EXISTING ROOF SYSTEM IS MAINTAINED.
13. 13 mm G-PSUM BOARD
14. METAL FLASHING CW DRAIN EDGE. 2% MIN. SLOPE.
15. TWO LAYERS 16mm TYP. G-PSUM BOARD CUT AROUND DUCTWORK TO FIT.
16. VAPOUR BARRIER
17. PROVIDE SLOPED ACOUSTIC TILE CEILING TO INTEGRATE EXISTING CEILING WITH NEW BAFFLES.
18. NEW HORIZONTAL STEEL BAFFLE.
19. DO NOT USE BAFFLE TO SUPPORT SLOPED CEILING.
20. BALLISTIC RUBBER BLOCK BULLET TRAP
  - 368mm DEEP BALLISTIC RUBBER BLOCKS
  - STEEL PLATES WITH SEAM PLATES.
21. BALLISTIC RUBBER BLOCKS TIGHT TO UNDERSIDE OF PL. WOOD. CUT TO FIT.
22. ACOUSTIC BALLISTIC RUBBER PANELS INSTALLED ABOVE BAFFLES (CUT TO FIT).
23. EXISTING FLOOR TO REMAIN, PROTECT.
24. 10mm AR500 STEEL WALL SEAM PLATE.
25. 10mm AR500 STEEL PLATE.
26. EXISTING CONCRETE BLOCK TO REMAIN.
27. SIDEWALL PROTECTION BEHIND FIRING LINE
  - 50mm THICK ACOUSTIC BALLISTIC RUBBER PANELS
  - 19mm FIRE RETARDANT TREATED PL. WOOD
  - 38mm 89mm FURRING
28. COMPRESSION SYSTEM.



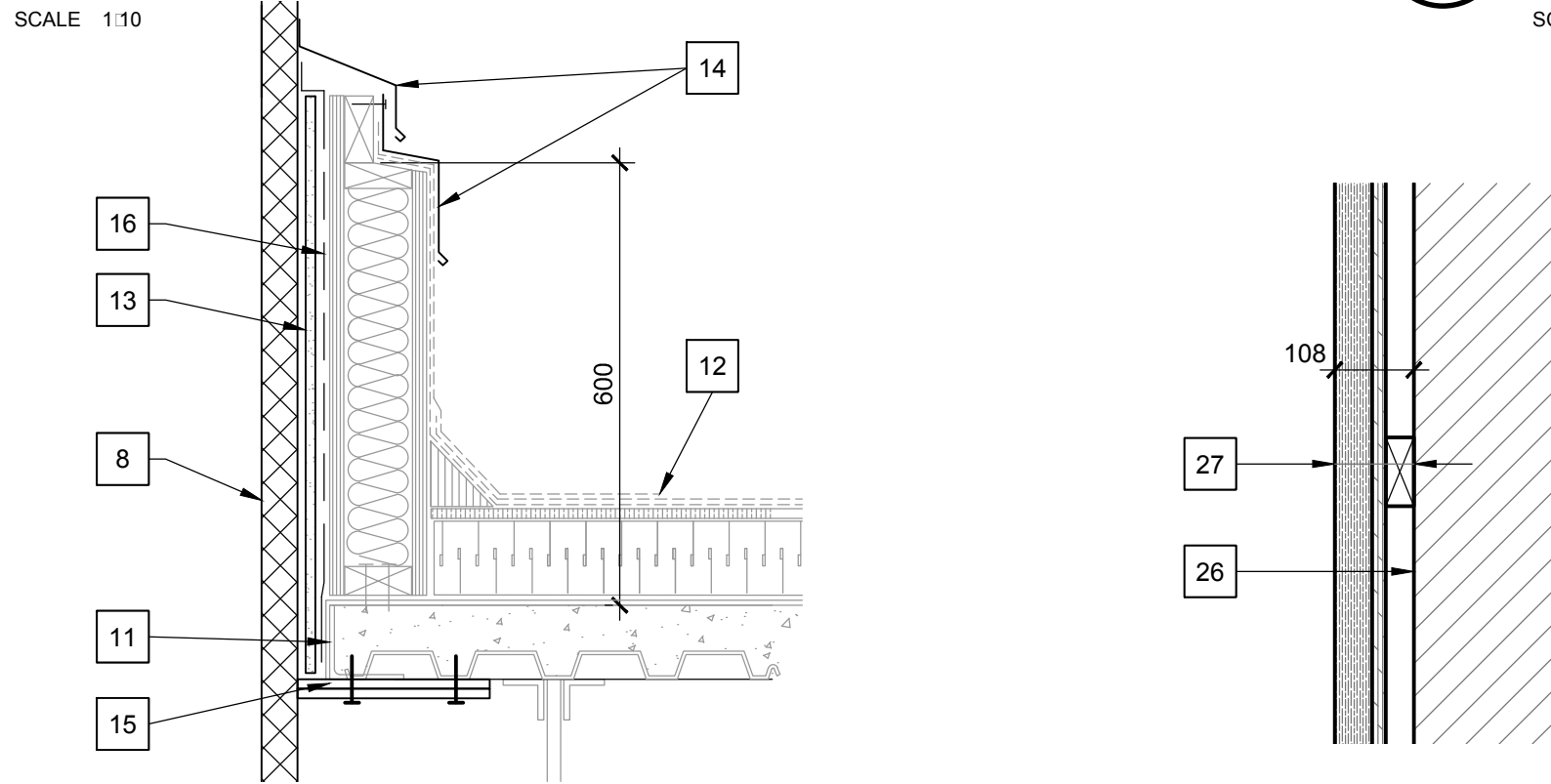
1 SECTION DETAIL ANGLED BAFFLE AT FLAT BAFFLE  
SCALE: 1:10

2 SECTION DETAIL ANGLED BAFFLE OVERLAP  
SCALE: 1:10

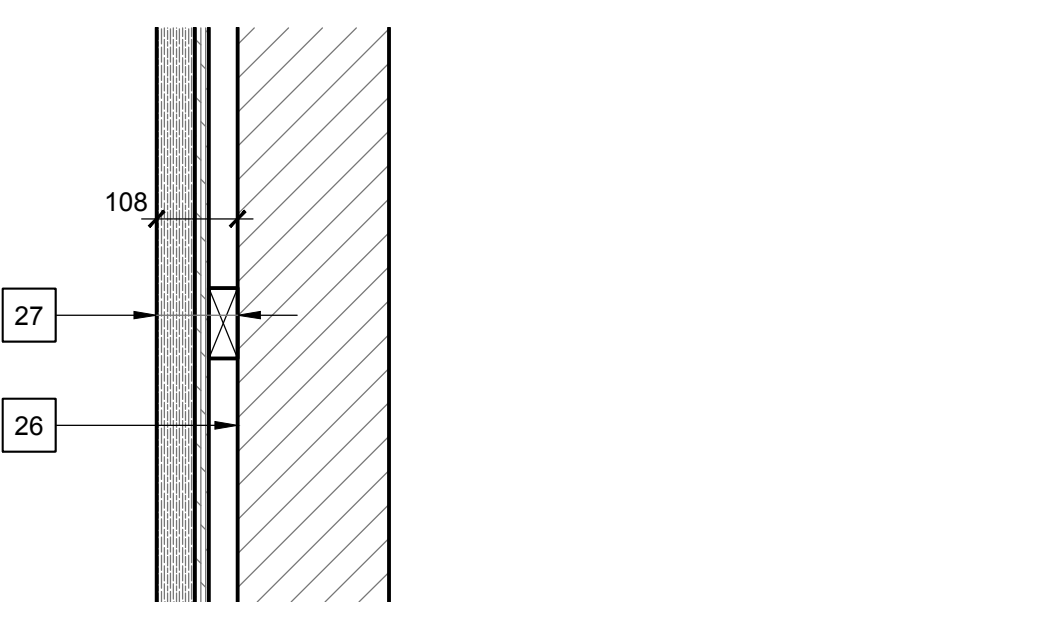
3 SECTION DETAIL ANGLED ATC AT FLAT BAFFLE  
SCALE: 1:5



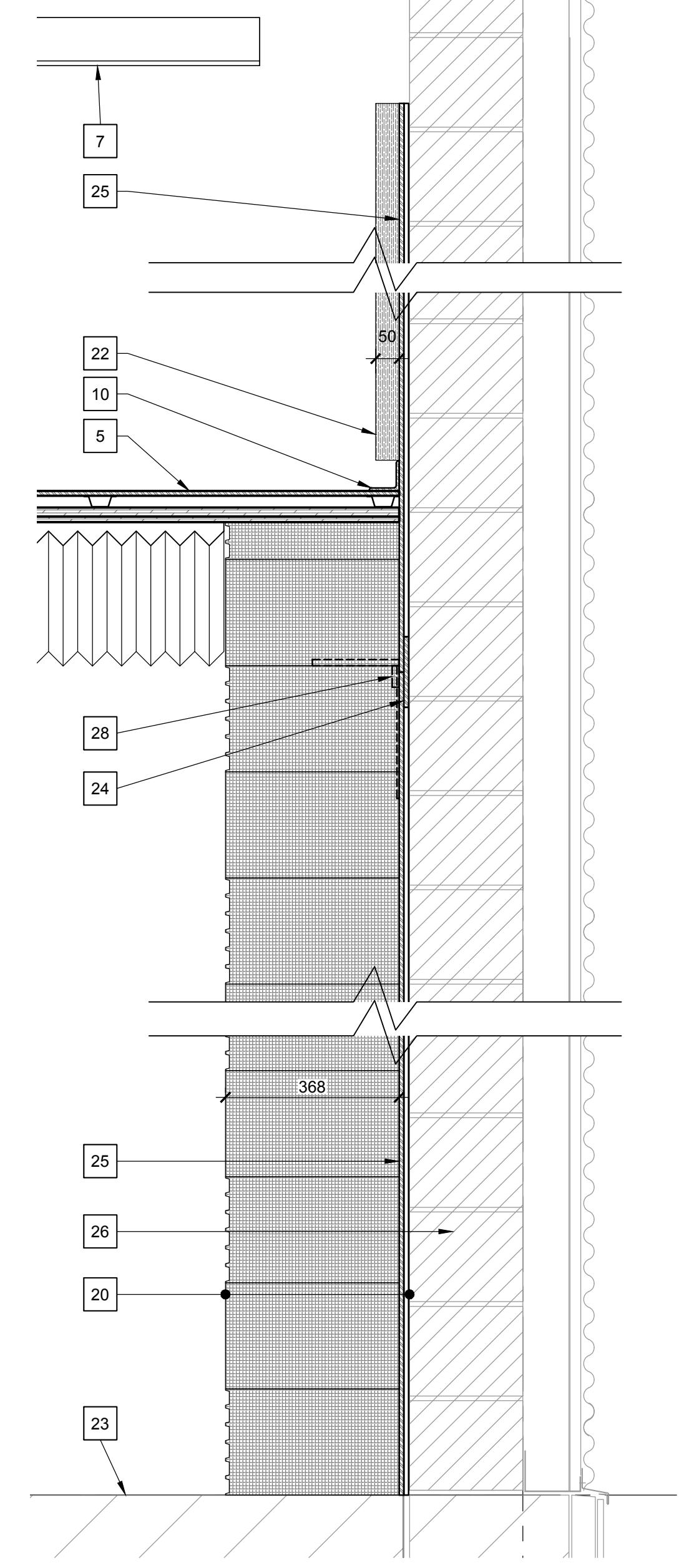
4 SECTION DETAIL - ANGLED BAFFLE AT EXPANDED DEFLECTOR  
SCALE: 1:10



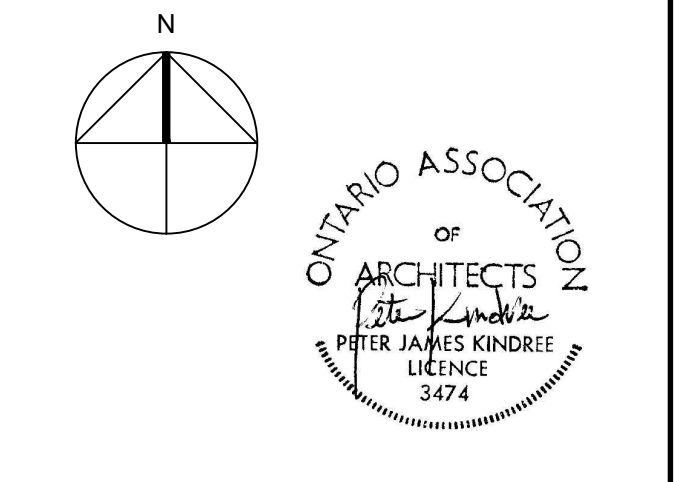
5 SECTION DETAIL - ROOF CURB AT NEW DUCT SILENCER  
SCALE: 1:10



6 PLAN DETAIL - SIDEWALL PROTECTION BEHIND FIRING LINE  
SCALE: 1:10



7 SECTION DETAIL - BALLISTIC RUBBER BLOCK BULLET TRAP  
SCALE: 1:10



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revisions	description	date
2	ISSUED FOR TENDER	2018/05/18
1	ISSUED FOR TENDER	2018/04/19

A detail no. / no. du détail  
B location drawing no. / sur dessin no.  
C drawing no. / dessin no.

project / projet  
**IFR UPGRADES**

drawing / dessin  
**DETAILS**

Designed By / Conçu par PK/RR	Date / (yyyy/mm/dd) April 2018
Drawn By / Dessiné par RR	Date / (yyyy/mm/dd) April 2018
Reviewed By / Examiné par PK	Date / (yyyy/mm/dd) April 2018
Approved By / Approuvé par PK	Date / (yyyy/mm/dd) April 2018
Tender / Soumission	

Project Manager / Administrateur de projets  
ANNA CHOW  
Project no. / No. du projet  
**7212283**

Drawing no. / No. du dessin  
**A202**

# IFR - UPGRADES - ELECTRICAL



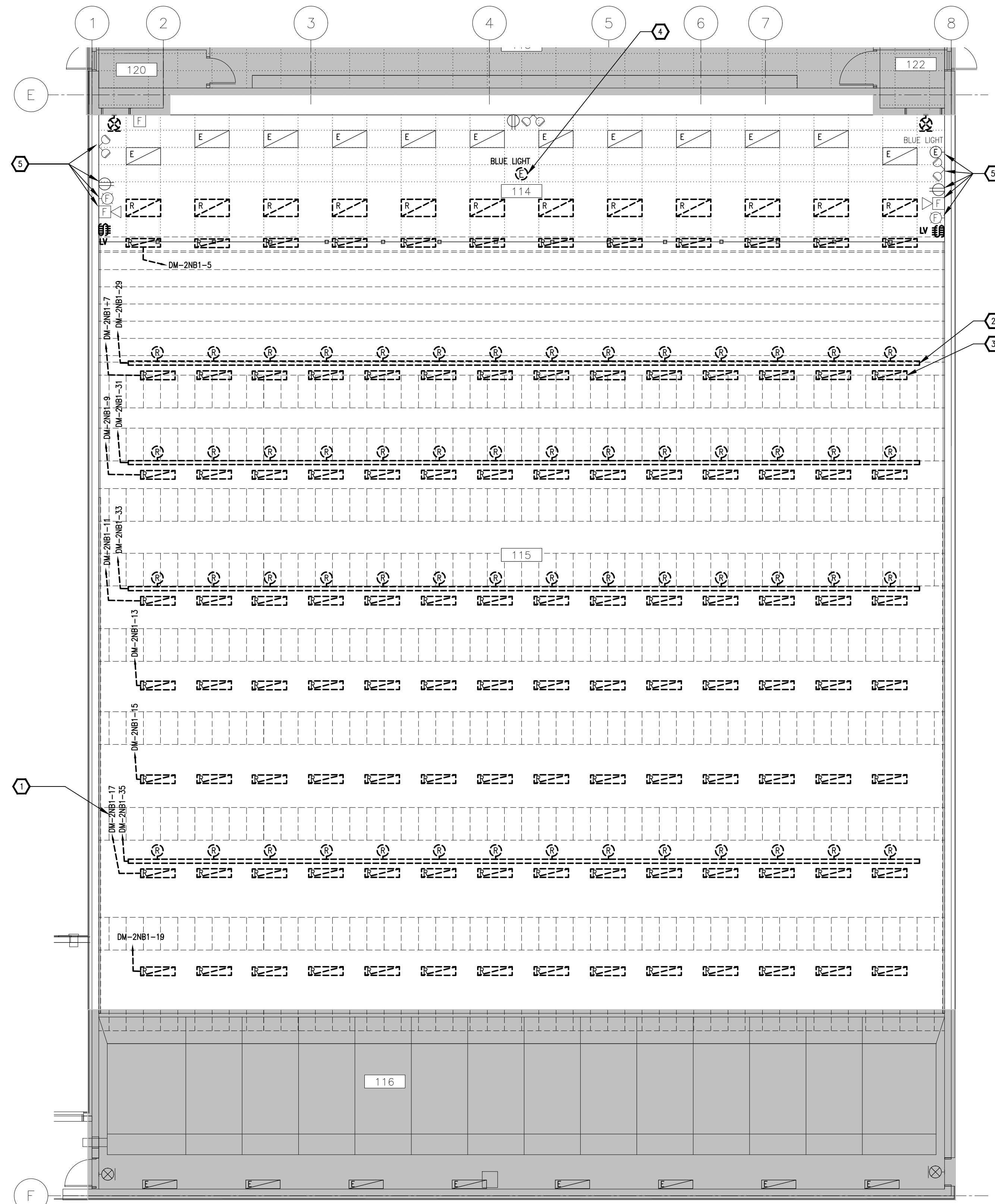
DRAWING NOTES	
1	TYPICAL: EXISTING LIGHTING CIRCUITS FROM DMZNE1 TO BE REMOVED.
2	TYPICAL: EXISTING TRACK LIGHTING TO BE REMOVED.
3	TYPICAL: EXISTING FLUORESCENT LIGHT FIXTURES TO BE REMOVED.
4	TEMPORARILY DISCONNECT AND REMOVE EXISTING BLUE LIGHT AND RETAIN FOR NEW LAYOUT.
5	TYPICAL: REMOVE AND RE-INSTALL EXISTING WALL DEVICES TO ACCOMMODATE NEW WALL PROTECTIVE WALL BOARDS. PROVIDE EXTENSION RINGS ON ALL ROUGH-IN BOXES TO ACCOMMODATE WALL FURRING.

ABBREVIATION LEGEND	
E	EXISTING
R	EXISTING TO BE REMOVED
N.I.C.	NOT IN CONTRACT

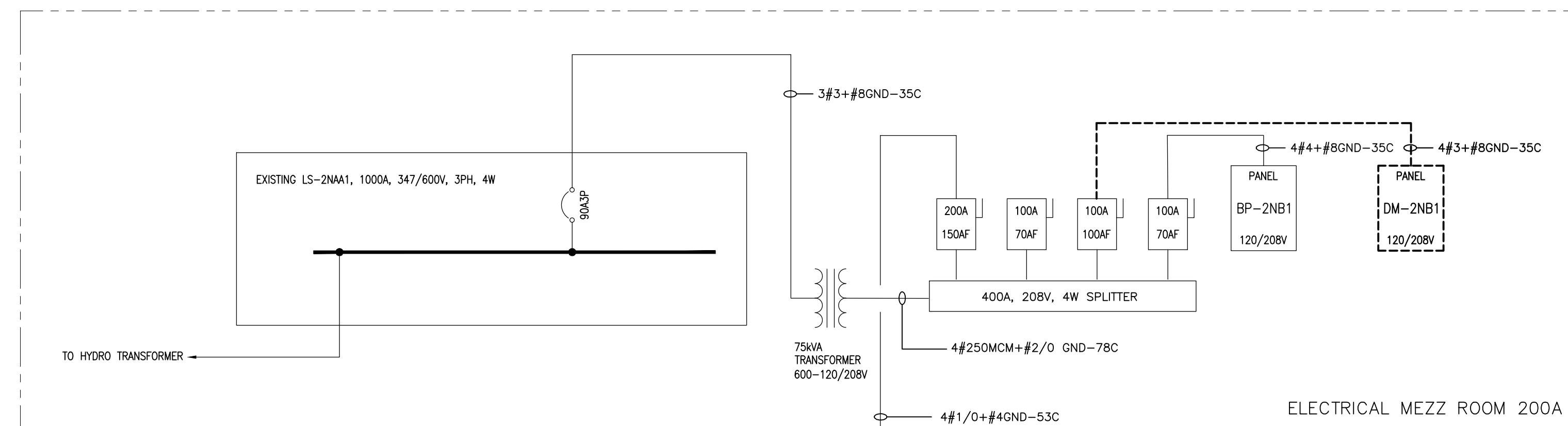
SYMBOLS LEGEND	
1	1254mm LED STRIP LIGHT FIXTURE
[Symbol]	610x1219mm LIGHT FIXTURE
[Symbol]	TRACK LIGHTING C/W HEADS
[Symbol]	305x1219mm LIGHT FIXTURE
[Symbol]	WALL MOUNTED EXIT SIGN
[Symbol]	FOUR-GANG LOW VOLTAGE SWITCH

DRAWING LIST	
DRAWING	DESCRIPTION
E1	ELECTRICAL LEGENDS, DRAWING LIST, DEMOLITION WORK, & SLD
E2	ELECTRICAL NEW WORK

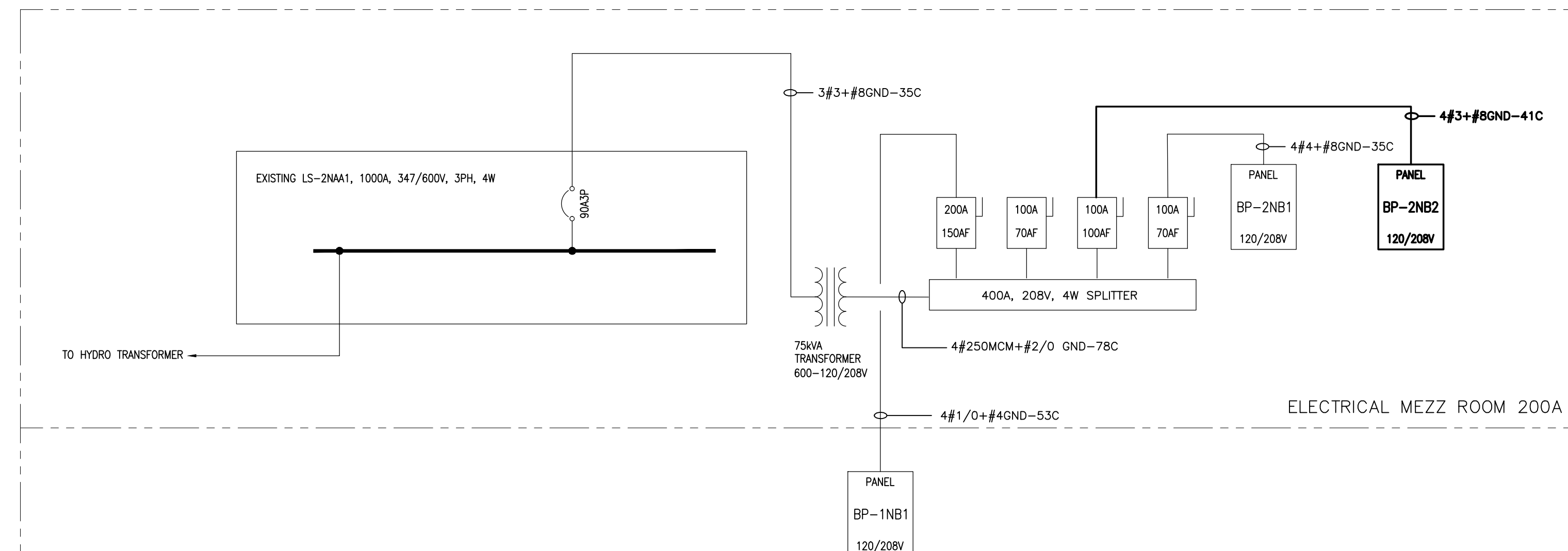
LINE TYPE LEGEND	
LINE TYPE	DESCRIPTION
[Solid Line]	EXISTING TO REMAIN
[Dashed Line]	EXISTING TO BE REMOVED
[Dash-dot Line]	NEW WORK TO BE COMPLETED
[Dotted Line]	COLUMN GRID LINES
[Dotted Line]	CEILING GRID LINES



1  
E1  
GROUND FLOOR  
ELECTRICAL DEMOLITION WORK  
1:100



2  
E1  
PART SINGLE LINE DIAGRAM  
DEMOLITION WORK  
N.T.S.



3  
E1  
PART SINGLE LINE DIAGRAM  
NEW WORK  
N.T.S.

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rev	description	date
3	RE-ISSUED FOR TENDER	2018/05/18
2	ISSUED FOR TENDER	2018/04/19
1	ISSUED FOR COORDINATION	2018/03/23
0	ISSUED FOR 66% REVIEW	2017/07/11

A	A detail no. du détail	A
B	B location drawing no. sur dessin no.	B
C	C drawing no. dessin no.	C

project IFR UPGRADES

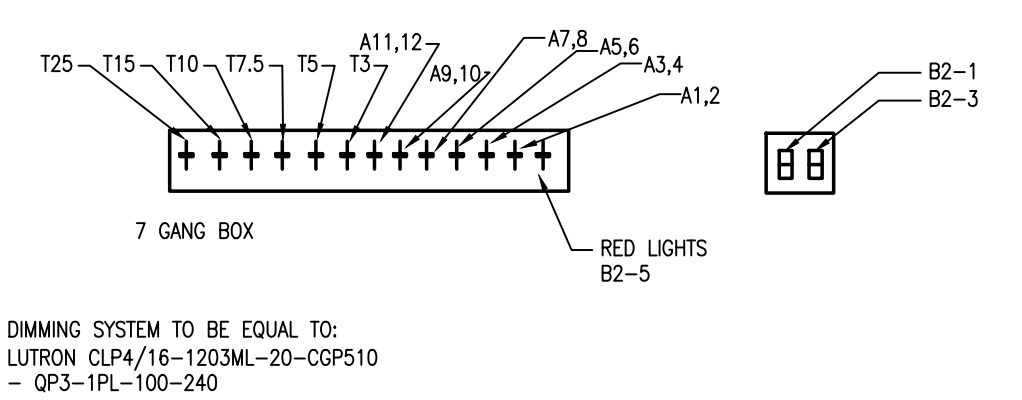
designed by E.H. Conçu par  
Date: UNE 11, 2017 (yyyy/mm/dd)  
Drawn by E.H. Dessiné par  
Date: UNE 11, 2017 (yyyy/mm/dd)  
Reviewed by W.NEEDHAM Examiné par  
Date: UNE 11, 2017 (yyyy/mm/dd)  
Approved by - Approuvé par  
Date: - (yyyy/mm/dd)  
Tender Soumission

Project Manager ANNA CHOW Administrateur de projets  
Project no. 7212283 No. du projet  
Drawing no. E1 OF 2 No. du dessin

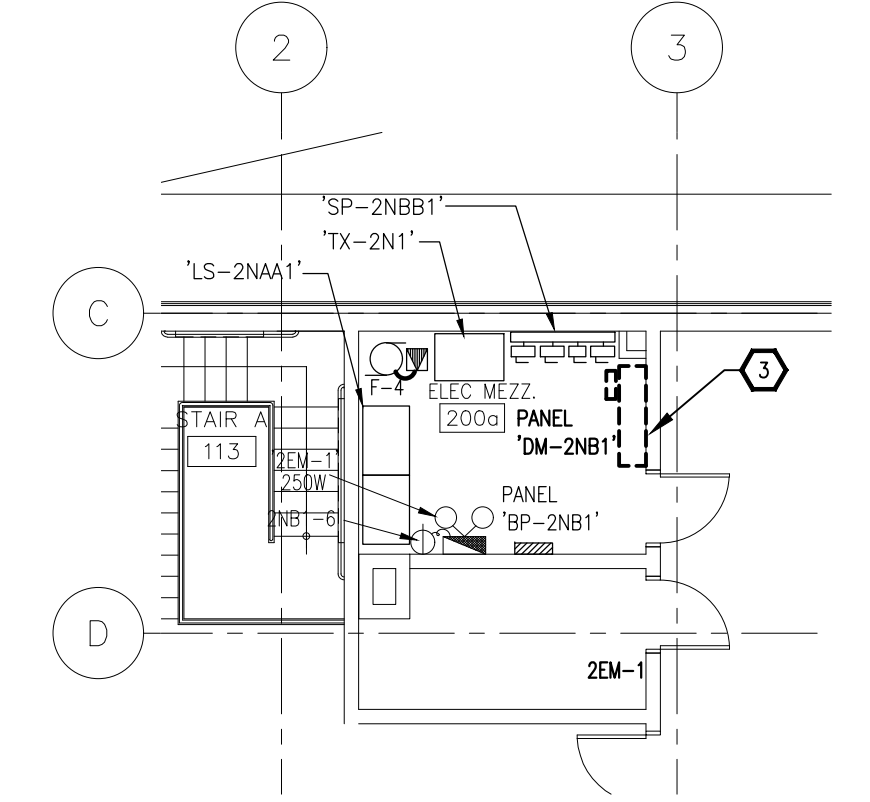


**DRAWING NOTES**

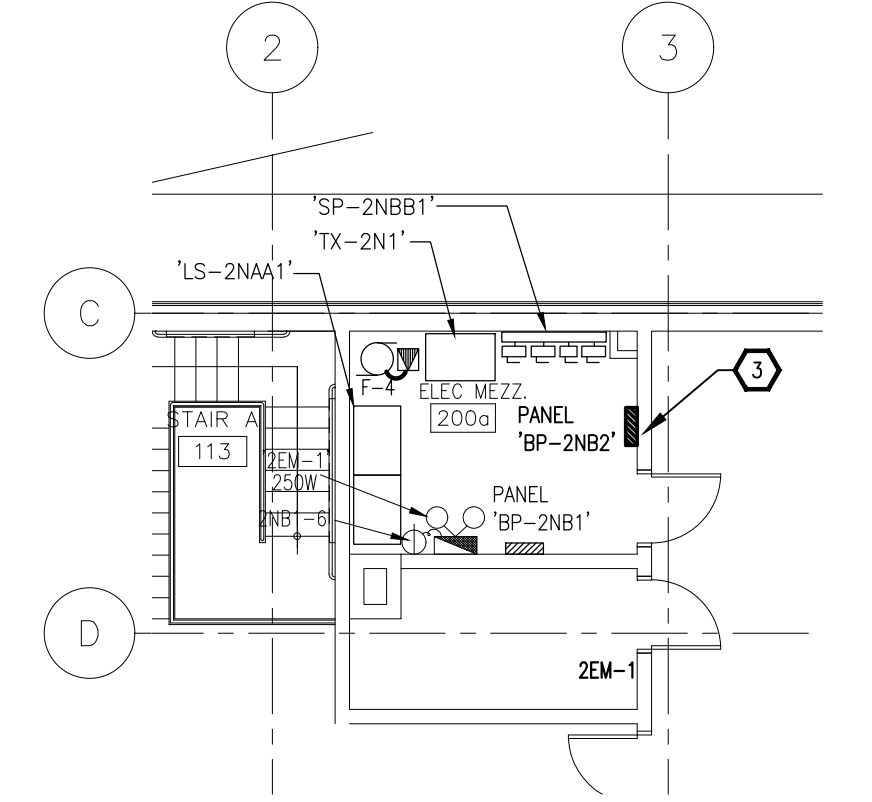
- PROVIDE LIGHTING DIMMING CONTROLS. SEE DETAIL 7/E2.
- TYPE 1 AND 2 LIGHTING MOUNTED ON UNDERSIDE OF HORIZONTAL BAFFLE.
- REPLACE EXISTING DIMMING, PANEL AND FEEDERS WITH NEW. REFER TO SINGLE LINE FOR ADDITIONAL INFORMATION.



7 DIMMING CONTROLS  
E2 N.T.S.



5 PENTHOUSE FLOOR - ELECTRICAL ROOM 200A  
E2 1:100  
ELECTRICAL DEMOLITION WORK

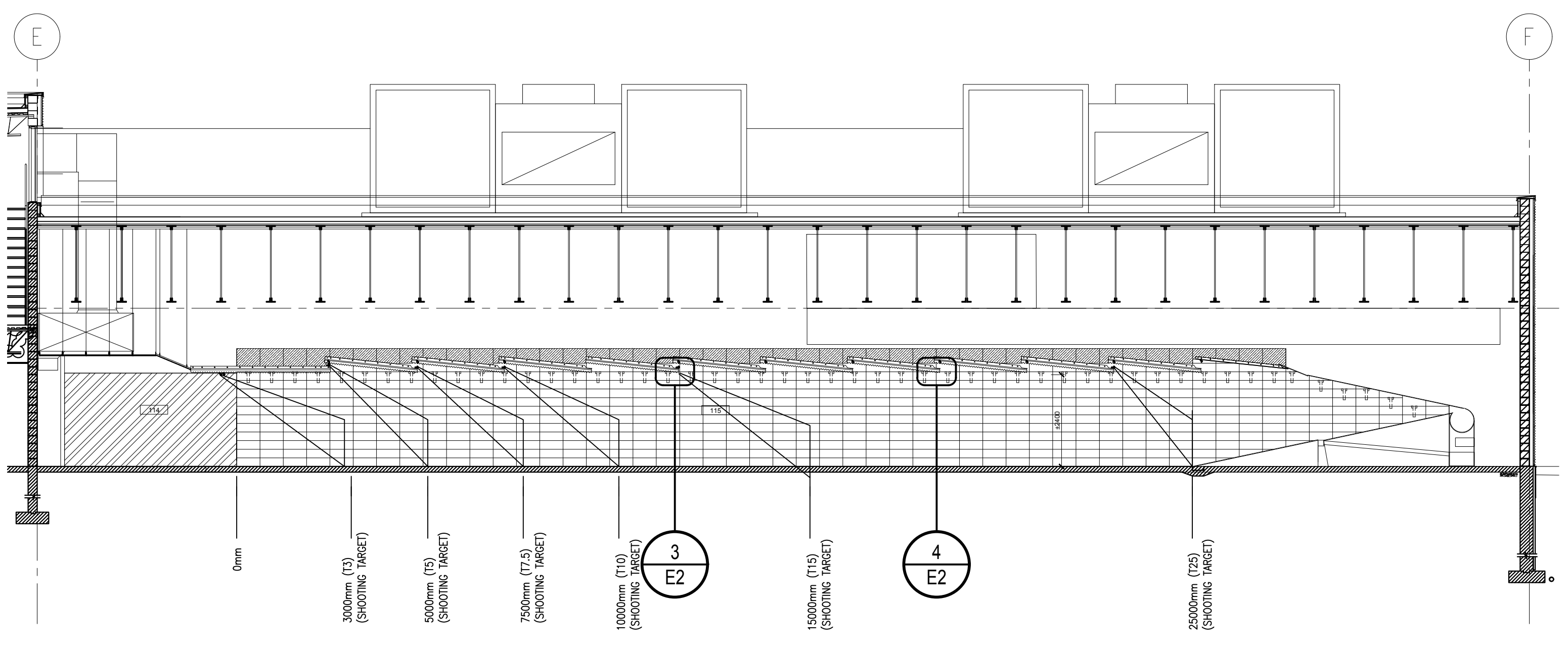


6 PENTHOUSE FLOOR - ELECTRICAL ROOM 200A  
E2 1:100  
ELECTRICAL NEW WORK

**NEW PANEL 'BP-2NB2'**

VOLTAGE 120/208V  
PHASE 3ø  
WIRE 4W  
RATING AMPS 225A  
TRIM SURFACE  
INTERRUPTING CAPACITY 10KAC

SPARE	1	20	AMBIENT LIGHTING A12
SPARE	3	20	TARGET LIGHTING T25
SPARE	5	20	AMBIENT LIGHTING A11
SPARE	7	20	AMBIENT LIGHTING A10
SPARE	9	20	AMBIENT LIGHTING A9
SPARE	11	20	AMBIENT LIGHTING A8
SPARE	13	20	AMBIENT LIGHTING A7
SPARE	15	20	AMBIENT LIGHTING A6
SPARE	17	20	TARGET LIGHTING T15
SPARE	19	20	AMBIENT LIGHTING A5
SPACE	21	20	TARGET LIGHTING T10
SPACE	23	20	AMBIENT LIGHTING A4
SPACE	25	20	TARGET LIGHTING T7.5
SPACE	27	20	AMBIENT LIGHTING A3
SPACE	29	20	TARGET LIGHTING T5
SPACE	31	20	AMBIENT LIGHTING A2
SPACE	33	20	TARGET LIGHTING T3
SPACE	35	20	AMBIENT LIGHTING A1
SPACE	37	20	SPACE
SPACE	39	20	SPACE
SPACE	41	20	SPACE

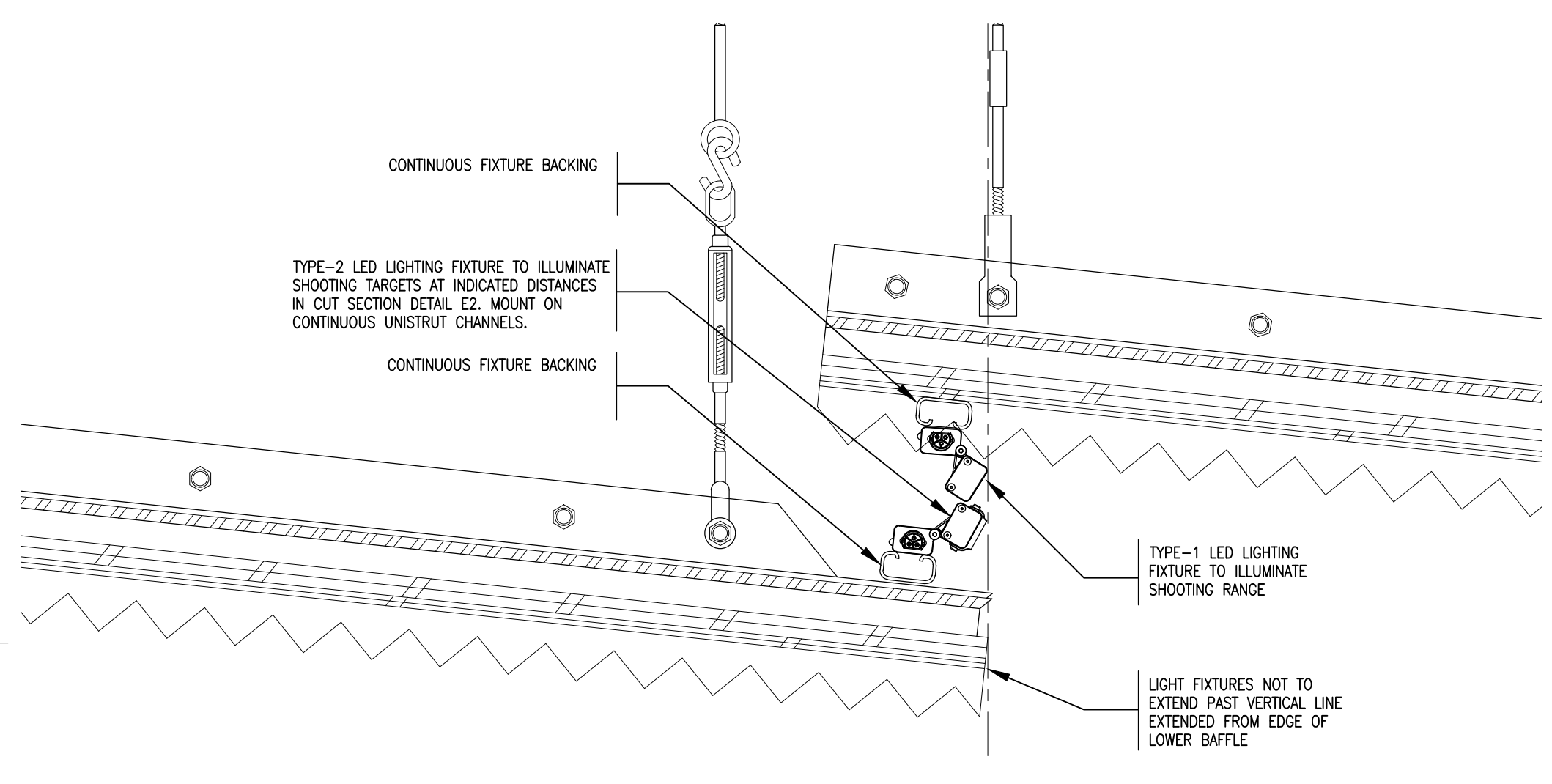


2 NORTH/SOUTH BUILDING SECTION  
E2 1:100

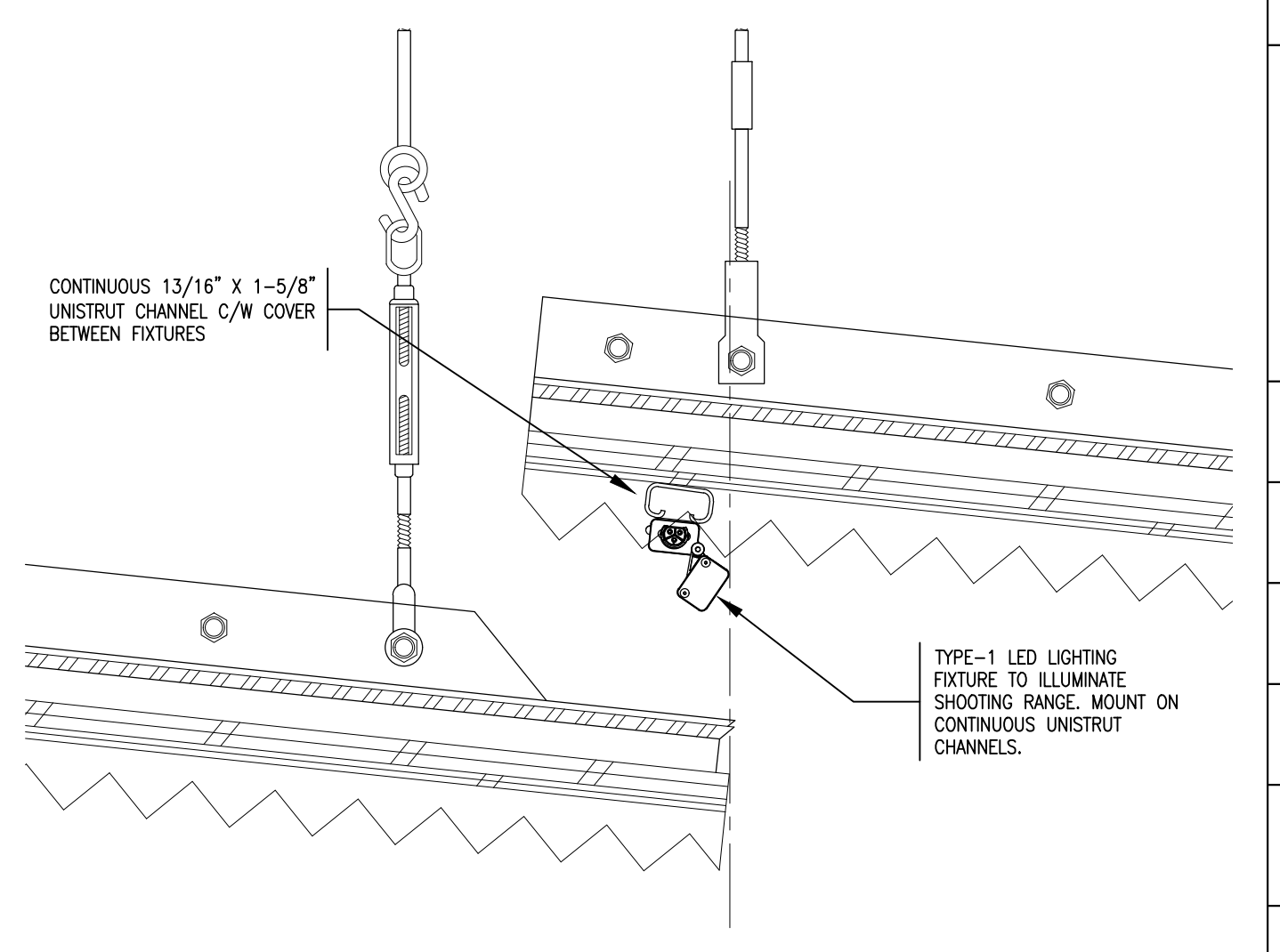
**LIGHTING FIXTURE SCHEDULE**

TYPE	DESCRIPTION	CATALOG NUMBER	LAMPS PER FIXTURE			VOLT	MOUNTING	REMARKS
			QTY	TYPE	WATTS			
1	UPPER STRIP LIGHT LED FIXTURE	ECOSENSE LIGHTING L50-1-48-10-35-80-MULT-40x60 FLIP TO FLAT ADJUSTABILITY L70 is >150,000	1	LED	40	3500K	120	REFER TO MOUNTING DETAIL C/W LOCKING CLIP
2	UPPER STRIP LIGHT LED FIXTURE	ECOSENSE LIGHTING L50-1-48-08-35-80-MULT-25x75 FLIP TO FLAT ADJUSTABILITY L70 is >150,000	1	LED	32	3500K	120	REFER TO MOUNTING DETAIL C/W LOCKING CLIP
3	RED LIGHT LED FIXTURE	ECOSENSE LIGHTING L50-1-12-08-RD-80-MULT-L0L	1	LED	8		120	RECESSED
4	2 x 4 TROFFER LED FIXTURE	EXISTING TO BE RE-USED	1	LED	28		120	RECESSED EXISTING TO BE RE-USED, RELAMP AND ENSURE PROPER OPERATION
E	EXISTING TO BE PROTECTED							RECESSED CLEAN AND RE-LAMP

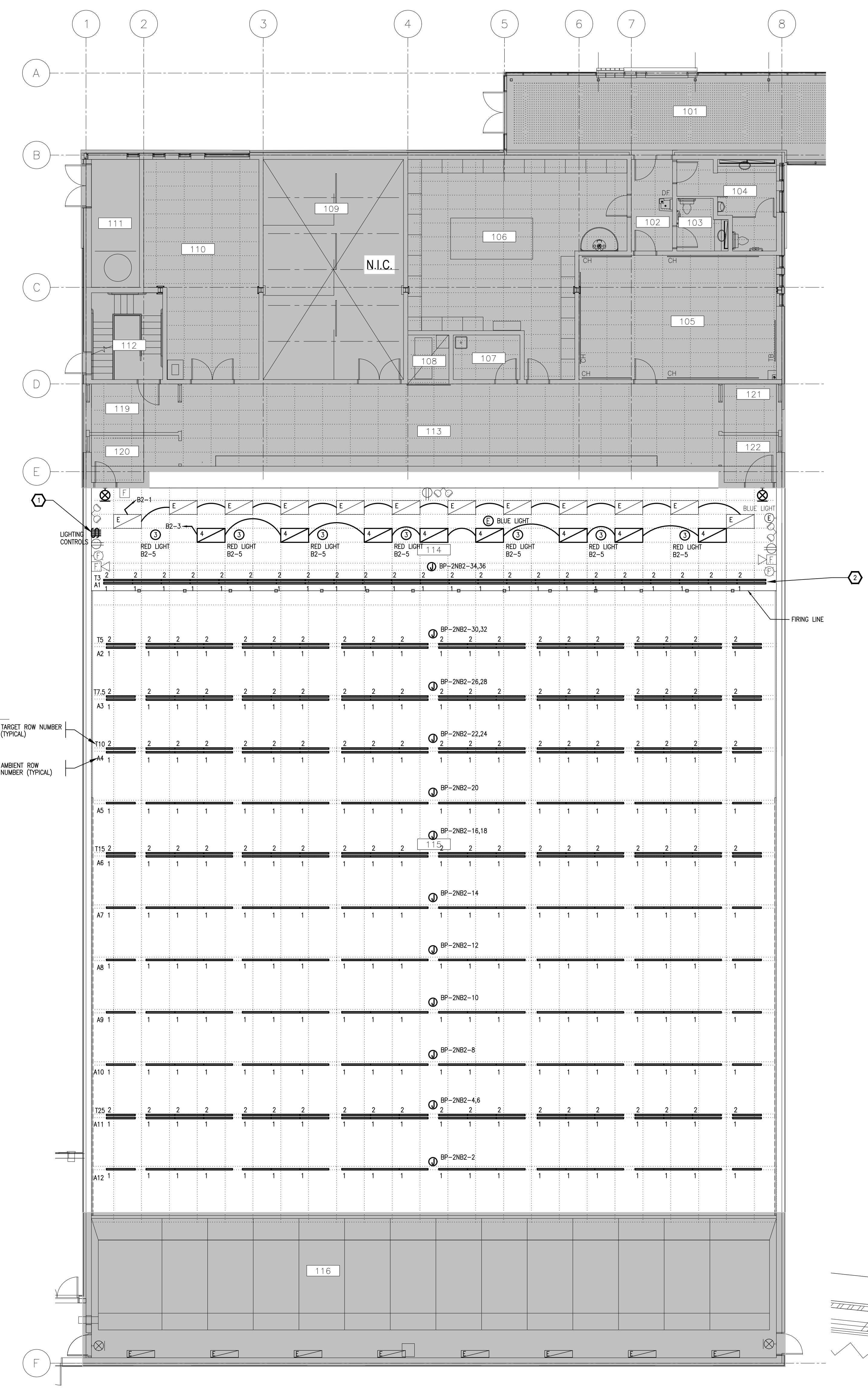
NOTES:  
1. COORDINATE AMING OF ADJUSTABLE FIXTURES WITH DEPARTMENT REPRESENTATIVE



3 TYPICAL - TARGET LIGHTING DETAIL - ANGLED BAFFLE OVERLAP  
E2 1:5



4 TYPICAL - FIRING RANGE LIGHTING DETAIL - ANGLED BAFFLE OVERLAP  
E2 1:5



1 GROUND FLOOR NEW LIGHTING LAYOUT  
E2 1:100

L'ENTREPRENEUR DEVRA VÉRIFIER TOUTES LES DIMENSIONS ET LES CONDITIONS SUR LE CHANTIER ET AVISER SANS DÉLAI LE REPRESENTANT DU MINISTÈRE DE TOUTE ANOMALIE.  
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2	ISSUED FOR TENDER	2018/04/19
1	ISSUED FOR COORDINATION	2018/03/23
0	ISSUED FOR 66% REVIEW	2017/07/11

rev	description	date
A	A detail no. no. du detail	
B	B location drawing no. sur dessin no.	
C	C drawing no. dessin no.	

project description date  
**IFR UPGRADES**

drawing description  
**ELECTRICAL NEW WORK**

Designed By	E..EH	Conçu par	
Date	UNE 11, 2017	(yyyy/mm/dd)	
Drawn By	E..EH	Dessiné par	
Date	UNE 11, 2017	(yyyy/mm/dd)	
Reviewed By	W.NEEDHAM	Examiné par	
Date	UNE 11, 2017	(yyyy/mm/dd)	
Approved By		Approuvé par	
Date		(yyyy/mm/dd)	
Tender		Soumission	
Project Manager	ANNA CHOW	Administrateur de projets	
Project no.		No. du projet	
	7212283		
Drawing no.		No. du dessin	
	E2	OF 2	

# IFR - UPGRADES

## MECHANICAL



L'ENTREPRENEUR DEVRA VÉRIFIER TOUTES LES DIMENSIONS ET LES CONDITIONS SUR LE CHANTIER ET AVISER SANS DÉLAI LE REPRÉSENTANT DU MINISTÈRE DE TOUTE ANOMALIE.  
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rev	description	date
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1	ISSUED FOR COORDINATION	2018/03/23
0	ISSUED FOR 66% REVIEW	2017/07/11

A	B	C
A	B	C

project / projet

### IFR UPGRADES

drawing / dessin

### MECHANICAL DRAWING LIST, LEGENDS, SCHEDULES & DETAILS

Designed By	RL	Conçu par	Conçu par
Date	APR/17		(yyyy/mm/dd)
Drawn By	LD	Dessiné par	Dessiné par
Date	APR/17		(yyyy/mm/dd)
Reviewed By	RL	Examiné par	Examiné par
Date	APR/17		(yyyy/mm/dd)
Approved By	RL	Approuvé par	Approuvé par
Date	APR/17		(yyyy/mm/dd)
Tender		Soumission	Soumission
Project Manager	ANNA CHOW	Administrateur de projets	Administrateur de projets
Project no.		No. du projet	No. du projet
	7212283		
Drawing no.		No. du dessin	No. du dessin
	M1		

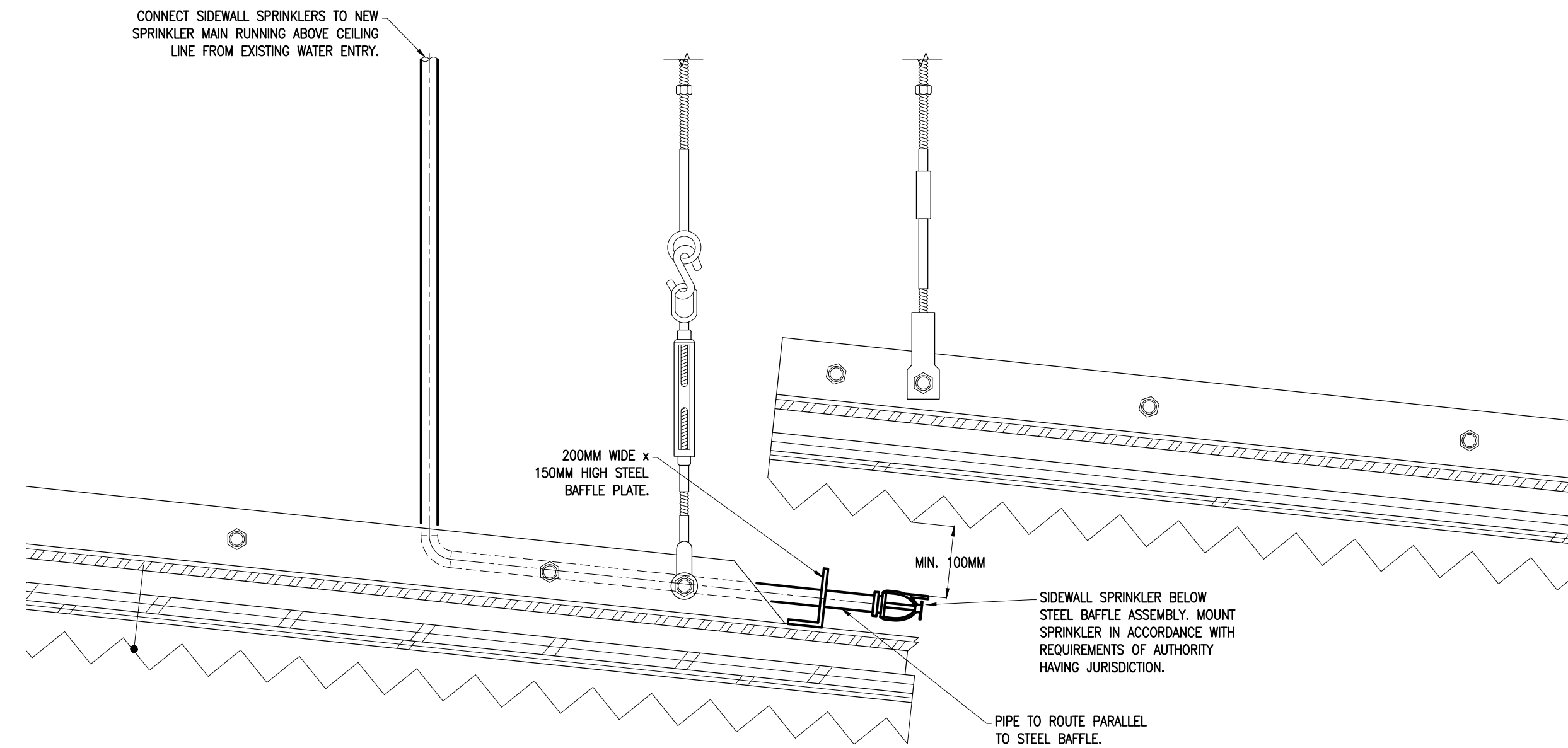
GENERAL LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING PIPING/DUCTWORK/EQUIPMENT
---	EXISTING PIPING/DUCTWORK/EQUIPMENT TO BE REMOVED/RELOCATED
---	NEW/RELOCATED PIPING/DUCTWORK/EQUIPMENT
---	EXISTING PIPING/DUCTWORK/EQUIPMENT BELOW SLAB
---	NEW PIPING/DUCTWORK/EQUIPMENT BELOW SLAB
(E)	DENOTES EXISTING EQUIPMENT
(R)	DENOTES RELOCATED EQUIPMENT
(N)	DENOTES NEW EQUIPMENT
(X)	DENOTES EQUIPMENT TO BE REMOVED

DRAWING LIST	
SYMBOL	DESCRIPTION
M1	MECHANICAL DRAWING LIST, LEGENDS, SCHEDULES & DETAILS
M2	MECHANICAL GROUND FLOOR FIRE PROTECTION
M3	MECHANICAL GROUND FLOOR HVAC
M4	MECHANICAL PENTHOUSE HVAC

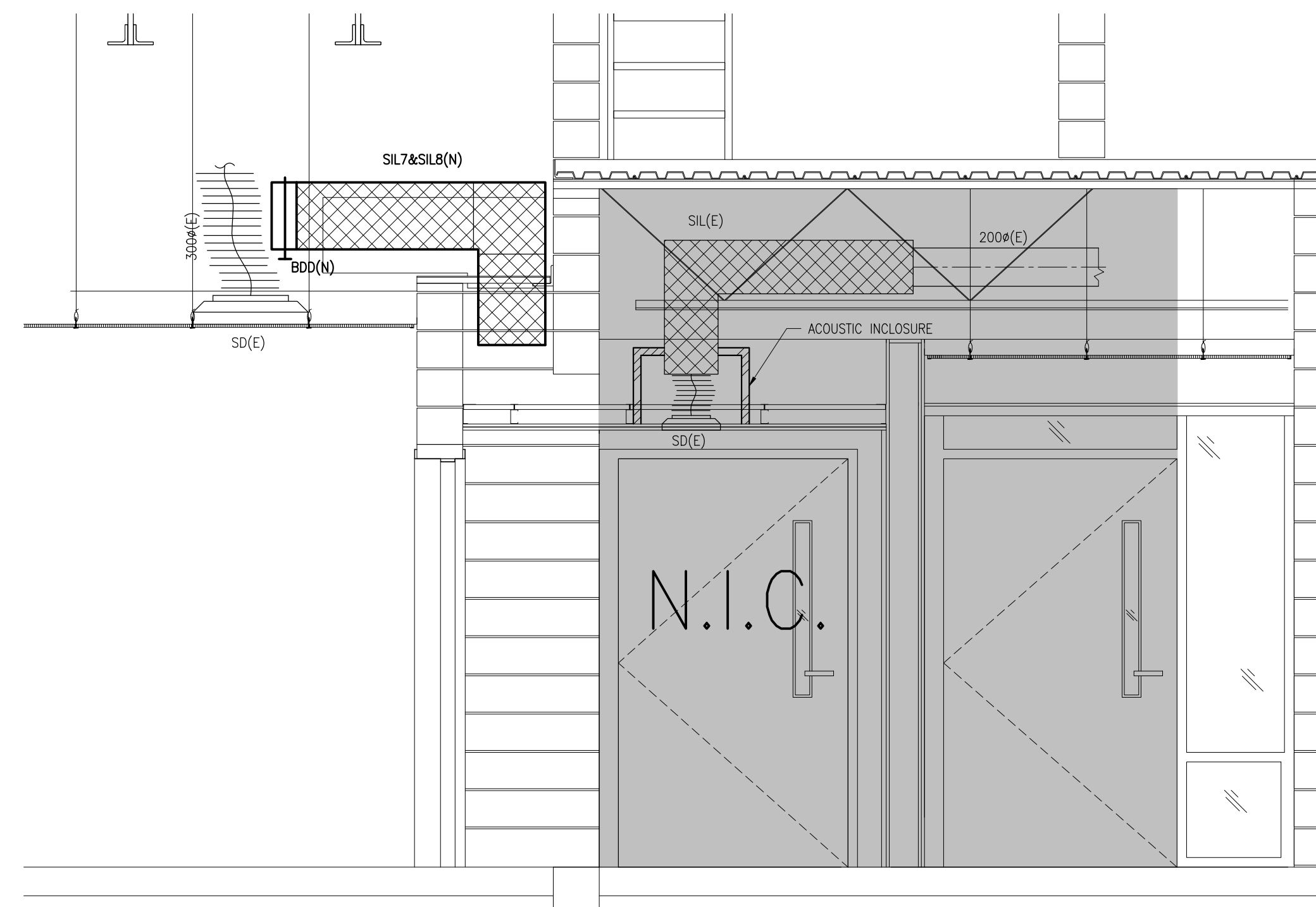
FIRE PROTECTION LEGEND	
SYMBOL	DESCRIPTION
⊙	UPRIGHT SPRINKLER
○	PENDANT SPRINKLER
○ C	CONCEALED SPRINKLER
⊙	PENDANT SPRINKLER UNDER OBSTRUCTION
⊙	PENDANT SPRINKLER C/W HEAT SHIELD
K	SIDEWALL SPRINKLER
⊙ FE1	FIRE EXTINGUISHER C/W MOUNTING BRACKET
⊙ FE2	RECESSED FIRE EXTINGUISHER
Y	PIPE BREAK
SP	SPRINKLER PIPE
IV	ISOLATION VALVES

CONTROLS LEGEND	
SYMBOL	DESCRIPTION
---	LOW VOLTAGE CONTROL WIRING
⊙	TEMPERATURE SENSOR
⊙	HUMIDISTAT
⊙	PRESSURE SENSOR

HVAC LEGEND	
SYMBOL	DESCRIPTION
---	RECTANGULAR DUCTWORK
---	ROUND DUCTWORK
---	ACOUSTICALLY LINED DUCTWORK (RETURN OR SUPPLY)
---	THERMALLY INSULATED DUCTWORK (RETURN OR SUPPLY)
---	SILENCER (SL)
---	ROUND DUCTWORK OFFSET
---	RECTANGULAR DUCTWORK OFFSET
---	DUCTWORK UP
---	DUCTWORK DOWN
---	RECTANGULAR TO ROUND TRANSITION
---	ECCENTRIC RECTANGULAR TO ROUND TRANSITION
---	ECCENTRIC TRANSITION
---	TAKE-OFF C/W BALANCING DAMPER
---	TAKE-OFF
---	SQUARE SUPPLY DIFFUSER (TYPE)
---	LINEAR SUPPLY DIFFUSER (TYPE)
---	RETURN GRILLE (RG)
---	EXHAUST GRILLE (EG)
---	WALL GRILLE (TYPE)
---	TRANSFER OPENING (TO)
---	ACOUSTICALLY LINED TRANSFER DUCT (TD)
---	FIRE DAMPER (FD)
---	BALANCING DAMPER (BD)
---	BACK DRAFT DAMPER (BDD)
---	FLEXIBLE CONNECTION
---	TURNING VANES
---	ACCESS DOOR
---	MOTORIZED DAMPER
---	BYPASS BOX (BBB)
---	INLINE CABINET FAN (TYPE)
---	VAV TAG
---	ROOF IDENTIFIER
---	MAX AIRFLOW (L/S)
---	MIN AIRFLOW (L/S)
---	DIFFUSER TAG
---	DIFFUSER TYPE
---	AIRFLOW (L/S)
---	SIZE (mm)
---	GRILLE TAG
---	GRILLE TYPE
---	AIRFLOW (L/S)
---	DIMENSIONS (mm)



1 PENDANT SPRINKLER UNDER OBSTRUCTION DETAIL  
M1 N.T.S.

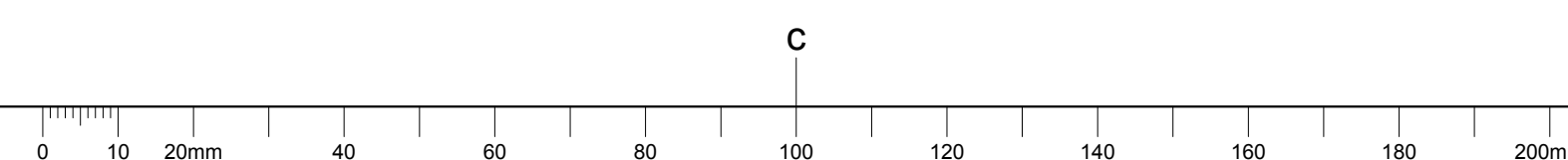


2 TRANSFER DUCT DETAIL  
M1 N.T.S.

TAG	SYSTEM	TYPE (NOTE 1)	DIMENSIONS (mm)			AIR FLOW (L/s)	VELOCITY (m/s)	PD (Pa)	MINIMUM DYNAMIC INSERTION LOSS, dB								REMARKS								
			WIDTH	HEIGHT	LENGTH				OCTAVE BAND CENTRE FREQUENCY, Hz				MINIMUM AIRFLOW GENERATED NOISE, dB												
									63	125	250	500	1000	2000	4000	8000		63	125	250	500	1000	2000	4000	8000
SIL1, SIL2, SIL3, SIL4	EXHAUST	RD	1600	800	3650	7882	-6	70	15	27	39	50	49	35	27	21	63	59	57	59	62	62	59	56	-CASING THICKNESS 16 GAUGE
SIL5, SIL6	SUPPLY	RD	1200	2400	3100	14975	5	57	15	27	41	48	50	43	24	19	67	62	55	53	54	55	53	51	-CASING THICKNESS 16 GAUGE
SIL7, SIL8	TRANSFER DUCT	RED	600	350	2000	470	-2.23	15	9	15	33	51	55	56	46	28	47	34	30	31	33	33	30	29	-CASING THICKNESS 16 GAUGE

NOTES: - LENGTH SHOWN FOR ELBOW SILENCERS IS CENTRELINE LENGTH  
- VELOCITY SHOWN IS A/FORWARD FLOW OR -/REVERSE FLOW AS DEFINED BY ASTM E477-06A  
- PRESSURE DROP, DYNAMIC INSERTION LOSS AND SELF GENERATED NOISE PER ASTM E477-06A  
- MAXIMUM PRESSURE DROP WITH SYSTEM EFFECTS = SILENCER PRESSURE DROP PER ASTM E477-06A + SYSTEM EFFECTS FOR NEARBY DUCT ELEMENTS

1. RD = RECTANGULAR DISSIPATIVE  
RED = RECTANGULAR ELBOW DISSIPATIVE  
2. GALVANIZED CONSTRUCTION  
3. HTL CASING







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1	ISSUED FOR COORDINATION	2018/03/23
0	ISSUED FOR 66% REVIEW	2017/07/11

rev	description	date
A	A detail no. du detail	
C	B location drawing no. sur dessin no.	
	C drawing no. dessin no.	

project / projet

IFR UPGRADES

drawing / dessin

MECHANICAL GROUND FLOOR FIRE PROTECTION

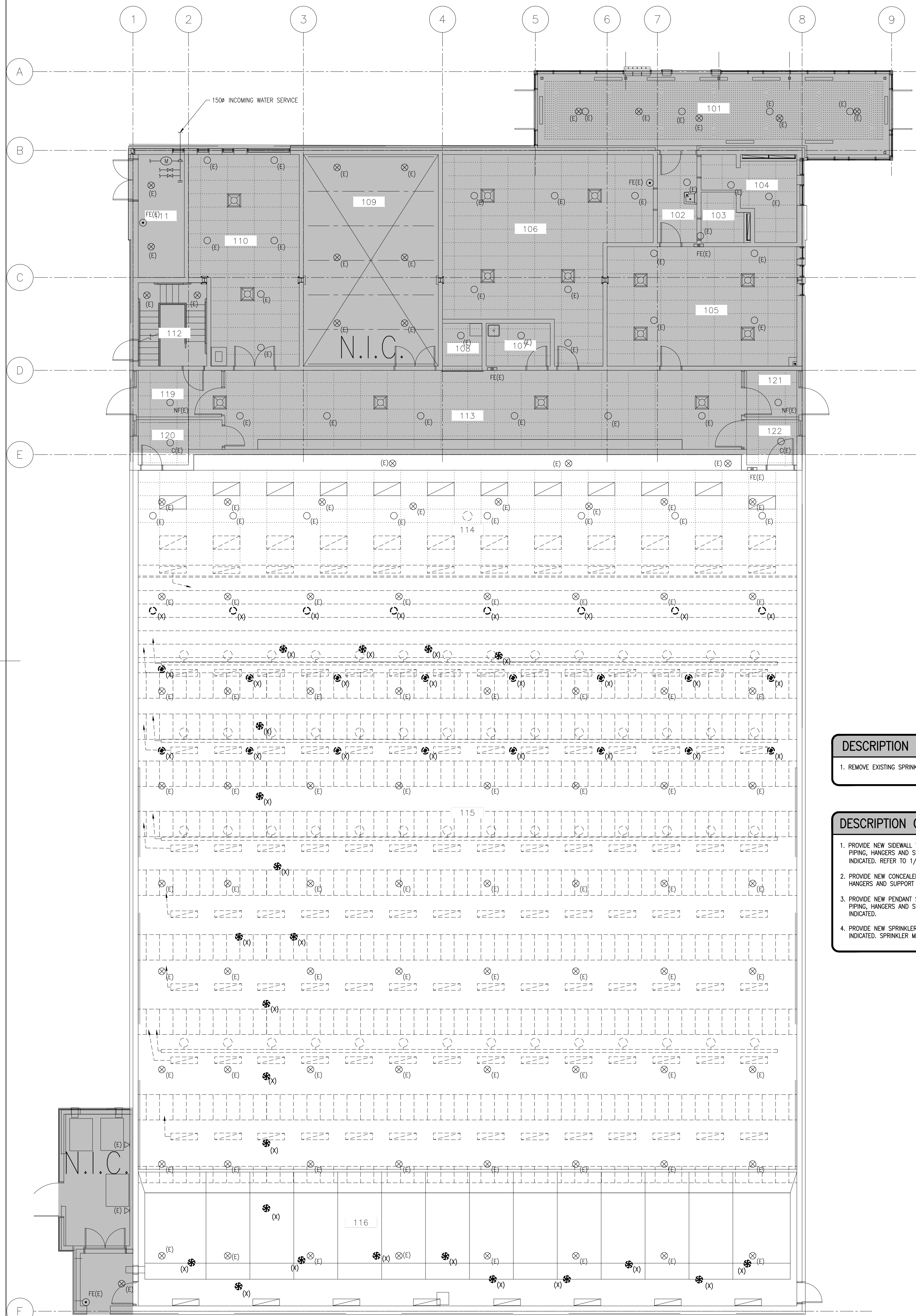
Designed By	Conçu par
Date	Apr. 17
Drawn By	Dessiné par
Date	Apr. 17
Reviewed By	Examiné par
Date	Apr. 17
Approved By	Approuvé par
Date	Apr. 17
Tender	Submission

Project Manager / Administrateur de projets  
Project no. / No. du projet

7212283

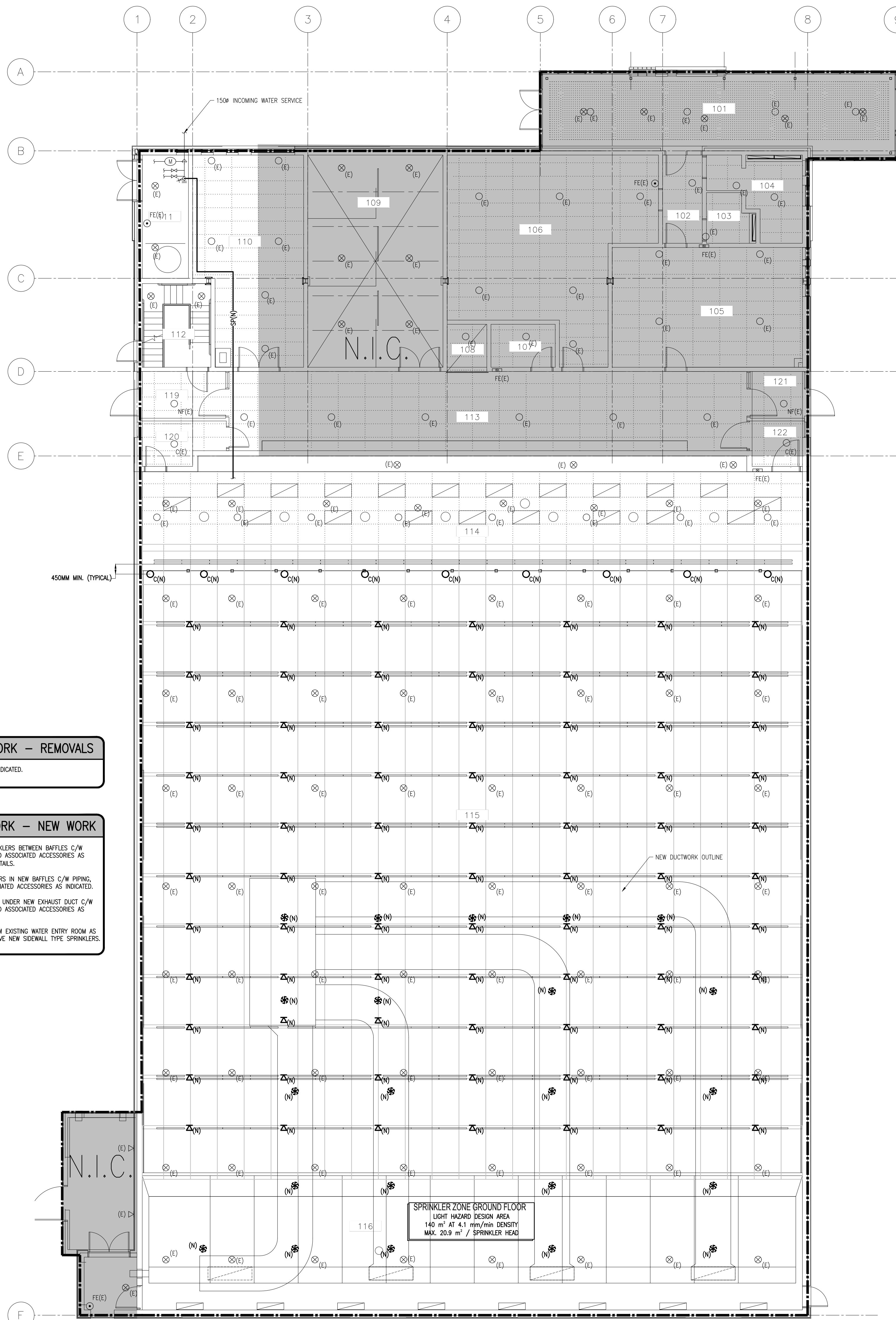
Drawing no. / No. du dessin

M2



GROUND FLOOR FIRE PROTECTION REMOVALS

1 M2 1:100



GROUND FLOOR FIRE PROTECTION NEW WORK

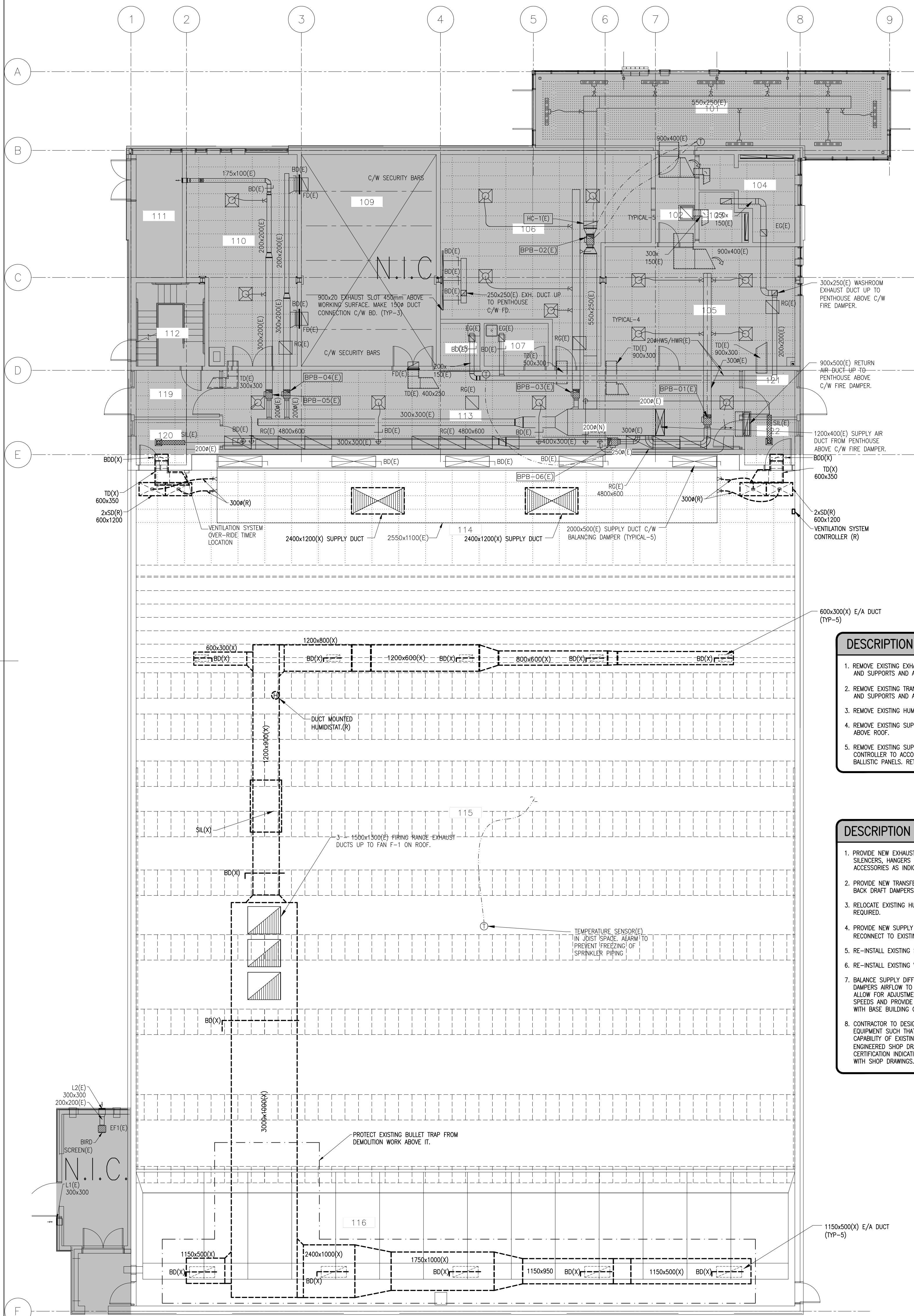
2 M2 1:100

DESCRIPTION OF WORK - REMOVALS

1. REMOVE EXISTING SPRINKLERS AS INDICATED.

DESCRIPTION OF WORK - NEW WORK

1. PROVIDE NEW SIDEWALL TYPE SPRINKLERS BETWEEN BAFFLES C/W PIPING, HANGERS AND SUPPORT AND ASSOCIATED ACCESSORIES AS INDICATED. REFER TO 1/M1 FOR DETAILS.
2. PROVIDE NEW CONCEALED SPRINKLERS IN NEW BAFFLES C/W PIPING, HANGERS AND SUPPORT AND ASSOCIATED ACCESSORIES AS INDICATED.
3. PROVIDE NEW PENDANT SPRINKLERS UNDER NEW EXHAUST DUCT C/W PIPING, HANGERS AND SUPPORT AND ASSOCIATED ACCESSORIES AS INDICATED.
4. PROVIDE NEW SPRINKLER MAIN FROM EXISTING WATER ENTRY ROOM AS INDICATED. SPRINKLER MAIN TO SERVE NEW SIDEWALL TYPE SPRINKLERS.

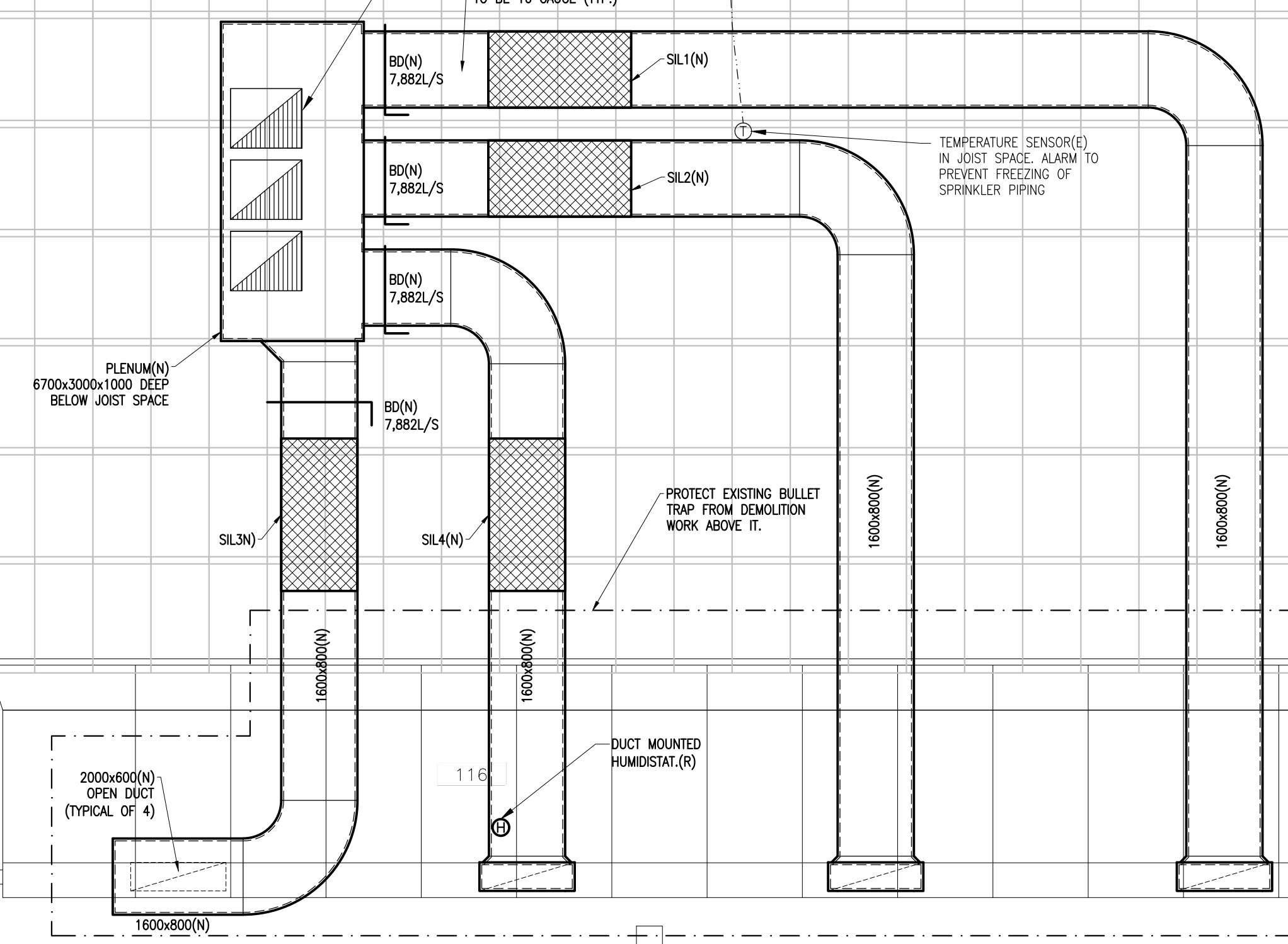
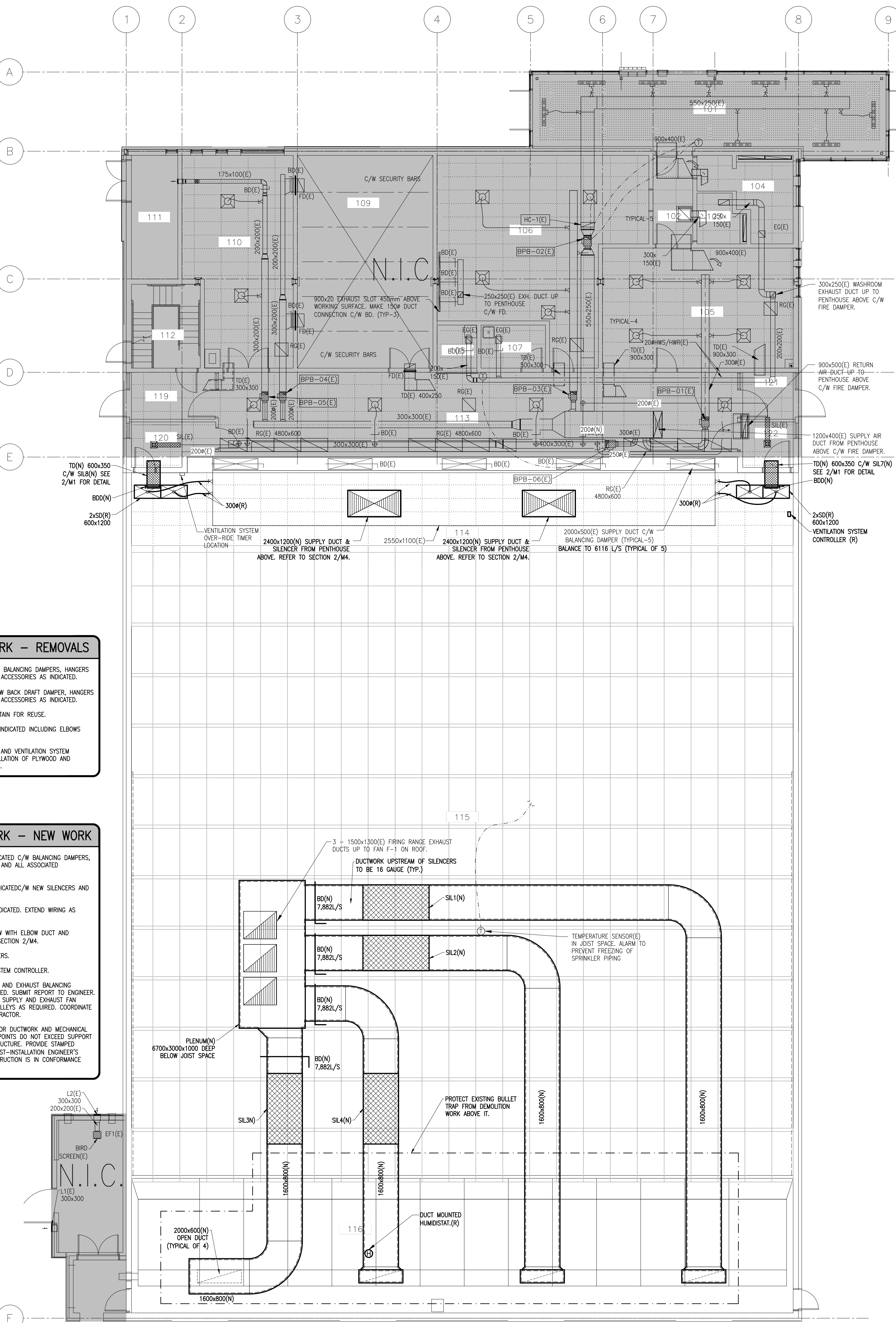


**DESCRIPTION OF WORK - REMOVALS**

1. REMOVE EXISTING EXHAUST DUCT C/W BALANCING DAMPERS, HANGERS AND SUPPORTS AND ALL ASSOCIATED ACCESSORIES AS INDICATED.
2. REMOVE EXISTING TRANSFER DUCT C/W BACK DRAFT DAMPER, HANGERS AND SUPPORTS AND ALL ASSOCIATED ACCESSORIES AS INDICATED.
3. REMOVE EXISTING HUMIDISTAT AND RETAIN FOR REUSE.
4. REMOVE EXISTING SUPPLY DUCTS AS INDICATED INCLUDING ELBOWS ABOVE ROOF.
5. REMOVE EXISTING SUPPLY DIFFUSERS AND VENTILATION SYSTEM CONTROLLER TO ACCOMMODATE INSTALLATION OF PLYWOOD AND BALLISTIC PANELS. RETAIN FOR REUSE.

**DESCRIPTION OF WORK - NEW WORK**

1. PROVIDE NEW EXHAUST DUCT AS INDICATED C/W BALANCING DAMPERS, SILENCERS, HANGERS AND SUPPORTS AND ALL ASSOCIATED ACCESSORIES AS INDICATED.
2. PROVIDE NEW TRANSFER DUCT AS INDICATED C/W NEW SILENCERS AND BACK DRAFT DAMPERS.
3. RELOCATE EXISTING HUMIDISTAT AS INDICATED. EXTEND WIRING AS REQUIRED.
4. PROVIDE NEW SUPPLY SILENCERS C/W WITH ELBOW DUCT AND RECONNECT TO EXISTING. REFER TO SECTION 2/M4.
5. RE-INSTALL EXISTING SUPPLY DIFFUSERS.
6. RE-INSTALL EXISTING VENTILATION SYSTEM CONTROLLER.
7. BALANCE SUPPLY DIFFUSERS, SUPPLY AND EXHAUST BALANCING DAMPERS AIRFLOW TO VALUES INDICATED. SUBMIT REPORT TO ENGINEER. ALLOW FOR ADJUSTMENT OF EXISTING SUPPLY AND EXHAUST FAN SPEEDS AND PROVIDE SKEWES & PULLEYS AS REQUIRED. COORDINATE WITH BASE BUILDING CONTROLS CONTRACTOR.
8. CONTRACTOR TO DESIGN SUPPORTS FOR DUCTWORK AND MECHANICAL EQUIPMENT SUCH THAT CONNECTION POINTS DO NOT EXCEED SUPPORT CAPABILITY OF EXISTING BUILDING STRUCTURE. PROVIDE STAMPED ENGINEERED SHOP DRAWINGS AND POST-INSTALLATION ENGINEER'S CERTIFICATION INDICATING THAT CONSTRUCTION IS IN CONFORMANCE WITH SHOP DRAWINGS.



GROUND FLOOR HVAC REMOVALS  
1 M3 1:100

GROUND FLOOR HVAC NEW WORK  
2 M3 1:100

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0	ISSUED FOR 66% REVIEW	2017/07/11

A	A detail no. du detail
B	B location drawing no. sur dessin no.
C	C drawing no. dessin no.

project	description	date
project	description	date
<b>IFR UPGRADES</b>		
drawing	description	date
drawing	description	date
<b>MECHANICAL GROUND FLOOR HVAC</b>		
Designed By	Conçu par	
Date	APR/17	(yyyy/mm/dd)
Drawn By	LD	Dessiné par
Date	APR/17	(yyyy/mm/dd)
Reviewed By	RL	Examiné par
Date	APR/17	(yyyy/mm/dd)
Approved By	RL	Approuvé par
Date	APR/17	(yyyy/mm/dd)
Tender		Submission
Project Manager	ANNA CHOW	Administrateur de projets
Project no.		No. du projet
		7212283
Drawing no.		No. du dessin
		M3



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rev	description	date
A	A detail no. du detail	
B	B location drawing no. sur dessin	
C	C drawing no. dessin no.	

project / projet

IFR UPGRADES

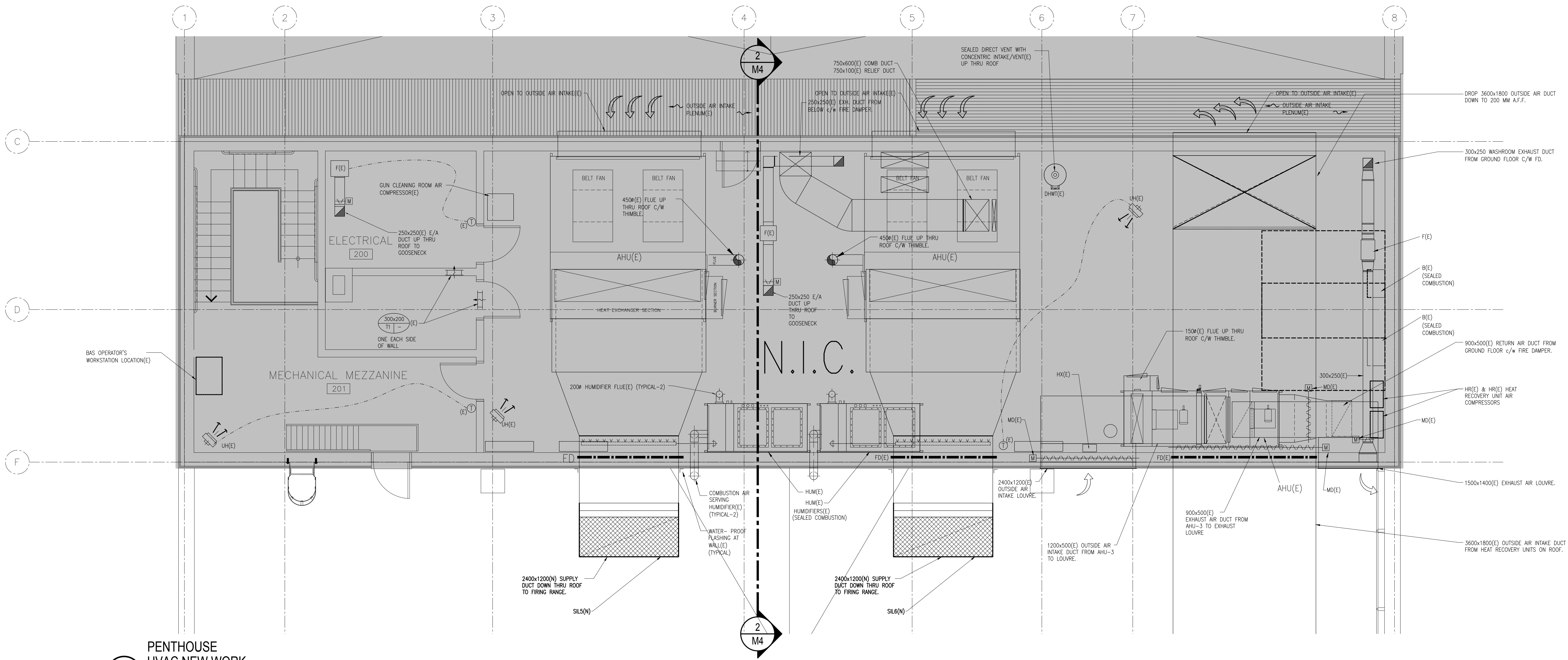
drawing / dessin

MECHANICAL PENTHOUSE HVAC NEW WORK

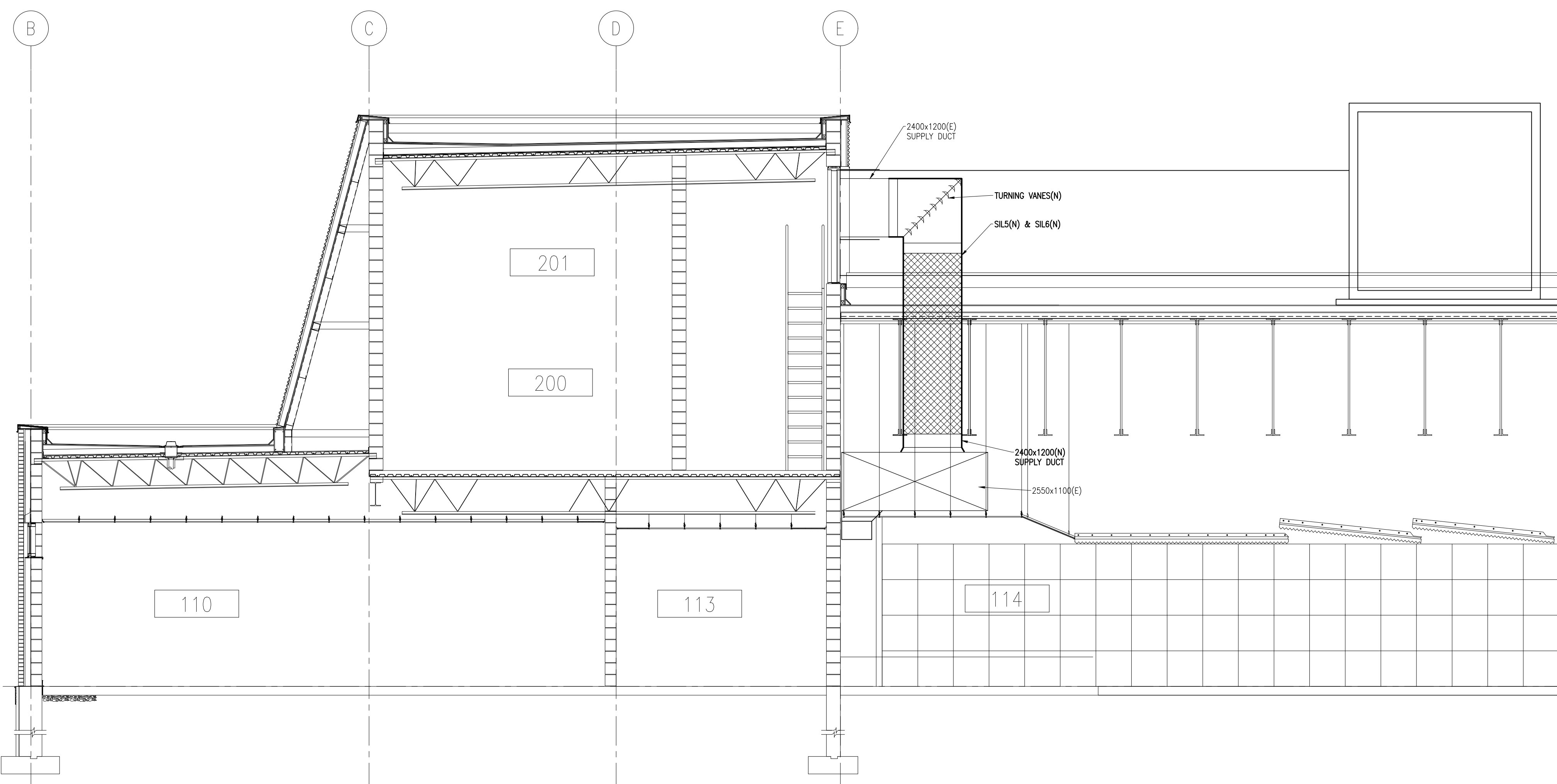
Designed By	RL	Conçu par	RL
Date	APR/17		(yyyy/mm/dd)
Drawn By	LD	Dessiné par	LD
Date	APR/17		(yyyy/mm/dd)
Reviewed By	RL	Examiné par	RL
Date	APR/17		(yyyy/mm/dd)
Approved By	RL	Approuvé par	RL
Date	APR/17		(yyyy/mm/dd)
Tender		Submission	

Project Manager / Administrateur de projets: ANNA CHOW  
Project no. / No. du projet: 7212283

Drawing no. / No. du dessin: M4



1 M4 1:50  
PENTHOUSE HVAC NEW WORK



2 M4 1:50  
SECTION VIEW HVAC NEW WORK