SEISMIC PHILOSOPHY

1. DESCRIPTION OF THE ORIGINAL STRUCTURE

THE STRUCTURE WAS DESIGNED, IN 1965, BY ADJELEIAN & ASSOCIATES AS THE CITY OF OTTAWA'S FIRE HALL No. 7. THE CURRENT OCCUPANT OF THE BUILDING IS THE BOY'S & GIRL'S CLUB OF OTTAWA. ALTHOUGH THE BUILDING'S OCCUPANCY HAS CHANGED SINCE 1965, THE CURRENT STRUCTURE DOES NOT APPEAR TO HAVE BEEN ALTERED SIGNIFICANTLY IN THE PAST 52 YEARS. IT IS A SINGLE STOREY STRUCTURE WITH TWO HIGHER ROOFS OVER THE FORMER HOSE TOWER & CURRENT GYMNASIUM. THERE IS A PARTIAL BASEMENT AREA BELOW THE GROUND FLOOR LEVEL. THE ROOF IS STEEL CONSTRUCTION FEATURING SIPOREX ROOF PANELS OVER OPEN WEB STEEL JOISTS. THE STRUCTURE IS SLAB ON GRADE WITH THE EXCEPTION OF THE PARTIAL BASEMENT WHERE THERE IS A CONCRETE SLAB ON STEEL V-PAN DECK ON OPEN WEB STEEL JOISTS.

THE EXISTING STRUCTURE CONSISTS OF REINFORCED CONCRETE BEAMS SUPPORTED ON REINFORCED CONCRETE COLUMNS. INFILLING THE SPACES IN BETWEEN THE CONCRETE STRUCTURE ARE CONCRETE BLOCK MASONRY WALLS WHICH PROVIDE THE LATERAL LOAD RESISTANCE AS BOTH LOAD BEARING SHEAR WALLS. THE MASONRY WALLS ARE NOT NOTED AS BEING REINFORCED. THE FOUNDATION CONSISTS OF REINFORCED CONCRETE WALLS SUPPORTED ON UNREINFORCED CONCRETE WALL FOOTINGS WHICH BEAR A MINIMUM OF 5'-0" BELOW THE FINISHED GRADE.

HOULE CHEVRIER ENGINEERING HAVE PREPARED A GEOTECHNICAL REPORT FOR THE PROPOSED PHASE 2 ADDITION THAT IS TO BE CONSTRUCTED IMMEDIATELY ADJACENT TO THE EXISTING BUILDING. THEY HAVE INDICATED THAT THE SITE CLASSIFICATION FOR THE ADDITION IS CLASS D.

2. PROPOSED STRUCTURAL MODIFICATION

THE INTENDED MODIFICATIONS TO THE EXISTING BUILDING INCLUDES RENOVATION OF THE BUILDING INTERIOR & EXTERIOR FINISHES, REMOVAL OF EXISTING WALLS & PROVIDING ADDITIONAL NEW INTERIOR WALLS TO REVISE THE TRAFFIC FLOW & ROOM LAYOUTS. THERE WILL BE SOME CHANGE TO THE INTERIOR UNREINFORCED MASONRY WALLS TO ACCOMPLISH THE AFOREMENTIONED RENOVATIONS. THE WALLS WILL BE EITHER RE-BUILT OR REINFORCED TO MAINTAIN OR EXCEED THE ORIGINAL PERFORMANCE LEVEL. THERE WILL NOT BE A REDUCTION IN PERFORMANCE. THE EXISTING ROOF & WALL STRUCTURES IMMEDIATELY ADJACENT TO THE PROPOSED ADDITION WILL BE REMOVED IN ORDER TO PROVIDE NEW STRUCTURE WHICH WILL ACCOMMODATE THE ARCHITECTURAL REVISIONS WHILE IMPROVING THE STRUCTURE TO 2017 STANDARDS THAT WILL BE CAPABLE OF SUPPORTING THE ANTICIPATED SNOW DRIFT THAT WILL BE IMPOSED UPON THE ROOF STRUCTURE BY THE TALLER ADDITION ONCE IT IS CONSTRUCTED.

3. CONCLUSION

THE SEISMIC FORCE RESISTING SYSTEM HAS NOT UNDERGONE SIGNIFICANT CHANGE OVER ITS LIFE. THE MODIFICATIONS OF VARIOUS UNREINFORCED MASONRY WALLS WILL NOT RESULT IN A REDUCTION IN THE PERFORMANCE OF THE STRUCTURE AS THERE WILL BE NEW COMPENSATING CONSTRUCTION. IT IS OUR OPINION THAT THE OVERALL STRUCTURAL INTEGRITY WILL BE MAINTAINED AND WILL PERFORM AS WELL AS, OR BETTER THAN, THE ORIGINAL CONSTRUCTION.

DESIGN SNOW LOAD PARAMETERS
OTTAWA, ONTARIO, CANADA
S= Is [Ss(CbCwCsCa)+Sr]
Ss = 2.4 kPa
Sr = 0.4 kPa
Is = 1.0 FOR NORMAL
S= 1.0 [2.4(0.8x1.0x1.0x1.0)+0.4]
S= 2.32 kPa

G E N E R A L N O T E S

1. ANY DEVIATION FROM THE CONDITIONS SHOWN ON THESE DRAWINGS MUST BE REPORTED TO THE ENGINEER.
2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF PART 4 OF THE O.B.C. (2012 EDITION) ONTARIO REGULATION 332/12 (AS AMENDED)
3. STANDARDS
   -CSA STANDARD A23.3-04 DESIGN OF CONCRETE STRUCTURES
   -CAN/CSA-S16-09 LIMIT STATES DESIGNS OF STEEL STRUCTURES
   -CSA STANDARD S304.1-04 DESIGN OF MASONRY STRUCTURES
   -CAN/CSA-O86-09 ENGINEERING DESIGN IN WOOD
4. ANY MODIFICATIONS TO EXISTING STRUCTURES ARE TO BE LIMITED TO WORK NOTED ON THESE DRAWINGS. ANY ADDITIONAL OR PROPOSED MODIFICATIONS TO EXISTING STRUCTURES MUST BE APPROVED BY THE ENGINEER
5. FOUNDATIONS
   .1 ALL FOOTINGS ARE TO BEAR ON ENGINEERED FILL.
   .2 BEARING CAPACITY USED IN THE FOOTING DESIGN IS ASSUMED TO BE SLS= 100 kPa/ULS= 200 kPa
   .3 BEARING SURFACE IS TO BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.
   .4 FOR FURTHER INFORMATION SEE GEOTECHNICAL REPORT No. 61446.15 (MAR 23, 2017 & JUNE 2, 2017) PREPARED BY HOULE CHEVRIER ENGINEERING
   .5 STEP FOOTINGS WHERE INDICATED ON PLAN AT THE RATE OF 2 HORIZONTAL TO 1 VERTICAL.
6. SLABS ON GRADE
   .1 SLABS ON GRADE TO BE UNREINFORCED UNLESS NOTED.
   .2 FOR COMPOSITION & COMPACTION OF FILL SUPPORTING SLABS ON GRADE SEE GEOTECHNICAL REPORT.
   .3 PROVIDE 12 mm ASPHALT IMPREGNATED FIBREBOARD BETWEEN SLABS ON GRADE & FOUNDATION WALLS OR COLUMNS.
   .4 SAWCUT SLAB ON GRADE TO (1/4 x SLAB DEPTH) 8 HOURS AFTER CONCRETE PLACEMENT.
   .5 SPACE SAWCUTS ON A 4500 mm x 4500 mm MAXIMUM GRID. AVOID LONG & NARROW SAWCUT PATTERNS. LOCATE SAWCUTS ALONG COLUMN LINES WHERE POSSIBLE. CONTRACTOR IS TO PROVIDE THE ENGINEER WITH DOCUMENTATION SHOWING PROPOSED SAWCUT LOCATIONS FOR APPROVAL UNLESS SAWCUTS LOCATIONS ARE OTHEREWISE INDICATED ON THESE DRAWINGS.
7. MATERIALS
   .1 CONCRETE STRENGTH AT 28 DAYS TO BE AS NOTED ON DRAWINGS AND SPECIFICATIONS.
   .2 REINFORCING STEEL TO BE DEFORMED GRADE 400R WITH Fy= 400 MPa.
   .3 HOLLOW STRUCTURAL STEEL SECTIONS TO BE ASTM A500 GRADE C OR G40.21 350W CLASS C.
   .4 ALL 'W' SHAPE STEEL SECTIONS TO BE GRADE G40.21 350W WITH Fy= 350 MPa.
   .5 ALL OTHER STRUCTURAL STEEL TO BE GRADE G40.21 300W WITH Fy= 300 MPa UNLESS NOTED OTHERWISE.
   .6 ALL STRUCTURAL STEEL TO RECEIVE 1 SHOP APPLIED COAT OF PRIMER UNLESS NOTED.
   .7 ALL STRUCTURAL STEEL EXPOSED TO EXTERIOR IS TO BE HOT DIP GALVANIZED UNLESS NOTED.
   .8 ANCHOR BOLTS TO BE A307.
   .9 ALL OTHER BOLTS TO BE A325.
   .10 A325 BOLTS EXPOSED TO EXTERIOR ARE TO BE STAINLESS STEEL
   .11 A307 BOLTS EXPOSED TO EXTERIOR ARE TO BE GALVANIZED.
   .12 CONCRETE BLOCK TO BE H/15/A/M & IMPERIAL VERSION
   .13 CONCRETE BLOCK MASONRY MORTAR TO BE 8.5 MPa TYPE 'S' U/N.
   .14 CONCRETE BLOCK MASONRY GROUT TO BE 12 MPa "HIGH SLUMP" (200-250 mm SLUMP)
8. CONCRETE COVER

.1 FOOTINGS	75 mm	BOTTOM
	50 mm	SIDES
.2 WALLS & PIERS	40 mm	UNLESS NOTED OTHERWISE

9. REINFORCING STEEL DESIGNATION

   8-20M x 1500 T/B

   8 = NUMBER OF BARS
   20M = SIZE OF BARS
   1500 = LENGTH OF BARS
   T = BAR LOCATION - TOP
   B = BAR LOCATION - BOT
   LENGTH OF BARS DOES NOT INCLUDE HOOKS OR BENDS
10. DOWELS
    DOWELS TO FOOTINGS TO BE OF SAME DIAMETER AS THE LOWEST LIFT OF VERTICAL REINFORCING IN COLUMNS, PIERS OR WALLS.
11. REINFORCING STEEL SPLICES
    REINFORCING STEEL SPLICES TO BE AS NOTED IN REINFORCING BAR LAP LENGTH TABLE ON S01 U/N.
12. OPENINGS
    .1 AT OPENINGS IN WALLS PROVIDE 2-20M T & B OF OPENING EXTENDING 600 mm MIN. BEYOND CORNERS OF OPENINGS.
    .2 FOR ADDITIONAL OPENINGS 300 x 300 OR SMALLER SEE ARCHITECTURAL & MECHANICAL DRAWINGS.
    .3 REPORT ANY OPENINGS LARGER THAN 300 x 300 NOT SHOWN ON THESE DRAWINGS TO THE ENGINEER.
13. LOADS
    ALL LOADS & FORCES INDICATED ON THESE DRAWINGS ARE UNFACTORED WORKING LOADS UNLESS NOTED.
14. CONCRETE BLOCK MASONRY
    .1 140 mm & 6" IMPERIAL CONCRETE BLOCK:
       VERT: 1-15M @ 800 o/c
       HORIZ: SL2 @ 200 o/c OR HL2 @ 400 o/c
    .2 190 mm & 8" IMPERIAL CONCRETE BLOCK
       VERT: 1-15M @ 800 o/c
       HORIZ: HL2 @ 200 o/c
    .3 240 mm CONCRETE BLOCK
       VERT: 1-20M @ 800 o/c
       HORIZ: HL2 @ 200 o/c
    .4 290 mm CONCRETE BLOCK
       VERT: 1-20M @ 600 o/c
       HORIZ: HL2 @ 200 o/c + 1-20M HORIZ. @ 1800 o/c

    LEGEND
    S- STANDARD 9 GAUGE LONGITUDINAL & CROSS WIRES
    H- HEAVY 5 mm LONGITUDINAL WIRES
    9 GAUGE CROSS WIRES
    L- LADDER TYPE REINFORCEMENT
    T- TRUSS TYPE REINFORCEMENT
    2- 2 LONGITUDINAL WIRES
    .5 SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR TYING MASONRY TO BACK UP WALLS.
    .6 SPECIAL WALLS - SEE NOTES ON PLANS FOR ADDITIONAL REINFORCING AND GROUTING OTHER THAN INDICATED ABOVE
    .7 REINFORCE CELLS @ END OF WALLS AT INTERSECTING WALLS & BESIDE OPENINGS.
    .8 GROUT MASONRY SOLID BELOW BEARING BASE PLATES FOR 500mm MIN.
    .9 PROVIDE A CONCRETE BOND BEAM COURSE c/w 1-20M CONT. USING LOW WEB BLOCKS AT THE TOP OF WALLS AND AT EACH FLOOR LEVEL U/N. GROUT COURSE SOLID.
    .10 PROVIDE 1-20M CORNER BAR (750 BEND x 750 BEND) AT AT CONCRETE BOND BEAM COURSES @ BLOCK WALL INTERSECTIONS.
    .11 PROVIDE "CLEAN OUTS" AT BOTTOM OF CELLS TO BE GROUTED TO ENSURE PROPER LAP LENGTH AND THAT CELL IS FILLED SOLIDLY. MAXIMUM GROUT LIFT IS 3 metres. GROUT TO HAVE 250mm SLUMP
    .12 EMBEDMENT OF MASONRY DOWELS IN CONCRETE STRUCTURE BELOW CONCRETE BLOCK WALLS TO BE AS FOLLOWS:
    15M DOWELS = 600 mm EMBEDMENT - 1300 Lg. DOWEL
    20M DOWELS = 800 mm EMBEDMENT - 1700 Lg. DOWEL
    .13 BLOCK CONTROL JOINT SPACED AT 9000 mm MAXIMUM VENEER CONTROL JOINT SPACED AT 12000 mm MAXIMUM COORDINATE LOCATION OF JOINTS WITH ARCHITECT & ENGINEER
15. LEGEND

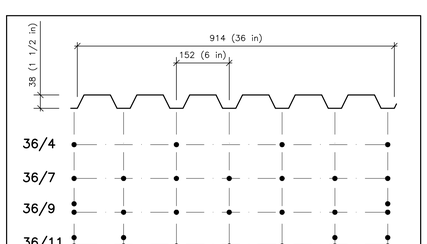
B	=	BOTTOM
B1	=	BOTTOM LOWER LAYER
B2	=	BOTTOM UPPER LAYER
BLL	=	BOTTOM LOWER LAYER
BBP1	=	BEAM (OR OWSJ) BEARING PLATE NUMBER
BP1	=	BASE PLATE NUMBER
BUL	=	BOTTOM UPPER LAYER
CONT	=	CONTINUOUS
DP	=	DEPTH
DWL	=	DOWELS
EF	=	EACH FACE
EL	=	ELEVATION
ES	=	EACH SIDE
EW	=	EACH WAY
F1	=	PAD FOOTING NUMBER
H	=	HORIZONTAL
(H)	=	HOOKED BAR
MP1	=	MASONRY PIER NUMBER
O/C	=	ON CENTER
P1	=	PIER NUMBER
SC1	=	STEEL COLUMN NUMBER
T	=	TOP
T1	=	TOP UPPER LAYER
T2	=	TOP LOWER LAYER
TLL	=	TOP LOWER LAYER
TUL	=	TOP UPPER LAYER
U/N	=	UNLESS NOTED OTHERWISE
V	=	VERTICAL
WF1	=	WALL FOOTING NUMBER

DESIGN & DETAILING CRITERIA FOR SUPPLIERS

1. STRUCTURAL STEEL CONNECTIONS
   STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO THE DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED "FOR CONNECTIONS ONLY" BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE.
2. COLD FORMED STEEL STUDS & JOISTS
   STEEL STUDS & JOISTS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL STEEL STUD & JOIST WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE STEEL STUD & JOIST DESIGN ENGINEER.
3. MISCELLANEOUS METALS & STEEL STAIRS
   MISC METALS & STEEL STAIRS ARE TO BE DESIGNED AND DETAILED BY MISC METALS & STEEL STAIRS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL MISC METAL & STEEL STAIR WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE MISC METALS & STEEL STAIRS DESIGN ENGINEER.
4. GUARDS & HANDRAILS
   GUARDS & HANDRAILS ARE TO BE DESIGNED AND DETAILED BY STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL GUARDS & HANDRAIL WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE GUARD & HANDRAIL DESIGN ENGINEER.
5. SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPING
   SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPING TO BE DETAILED BY MECH'L EQUIPMENT & PIPING SUPPLIER OR CONTRACTOR. SHOP DRAWINGS ARE TO BE SUBMITTED TO CUNLIFFE & ASSOCIATES FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL SEISMIC RESTRAINT INSTALLATIONS ARE TO BE INSPECTED DURING CONSTRUCTION BY THE DESIGN ENGINEER OF RECORD
6. CONCRETE BLOCK MASONRY WALLS-CONSTRUCTION BRACING
   ALL LOAD BEARING CONCRETE BLOCK MASONRY WALLS ARE TO BE LATERALLY BRACED DURING CONSTRUCTION UNTIL STRUCTURE AND DIAPHRAGM IS CONSTRUCTED ON WALL. ALL NON LOAD BEARING CONCRETE BLOCK MASONRY WALLS ARE TO BE LATERALLY BRACED DURING CONSTRUCTION UNTIL PERMANENT LATERAL BRACING IS INSTALLED AS PER TYPICAL DETAILS AND OR SECTIONS.

   LATERAL CONSTRUCTION BRACING DRAWINGS ARE TO BE SUBMITTED TO CUNLUFFE & ASSOCIATES FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
7. SEISMIC RESTRAINT OF SUSPENDED CEILINGS
   SEISMIC RESTRAINT OF SUSPENDED CEILINGS TO BE DETAILED BY CEILING SUPPLIER OR CONTRACTOR. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL SEISMIC RESTRAINT INSTALLATIONS ARE TO BE INSPECTED DURING CONSTRUCTION BY THE DESIGN ENGINEER OF RECORD
8. TEMPORARY SHORING (FOR DEMOLITION AND/OR CONSTRUCTION)
   TEMPORARY SHORING FOR THE PURPOSES OF DEMOLITION AND/OR CONSTRUCTION IS TO BE DESIGNED & DETAILED BY A PROFESSIONAL ENGINEER LICENSED IN ONTARIO. SHOP DRAWINGS ARE TO BE SUBMITTED TO THE DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. PERMIT REVIEW OF TEMPORARY SHORING BY CUNLIFFE & ASSOCIATES PRIOR TO COMMENCEMENT OF CONSTRUCTION AND/OR DEMOLITION AND ALSO PRIOR TO REMOVAL OF TEMPORARY SHORING.

NOTE:
INSPECTION REPORTS CREATED AS A RESULT OF THE ABOVE NOTED WORK MUST BE SUBMITTED TO THE CONSTRUCTION MANAGER. CONSTRUCTION MANAGER IS TO PROVIDE COPIES TO THE CONSULTANTS.



TYPICAL FASTENER PATTERNS @ SUPPORT
FOR 38 THK STEEL DECK

STEEL DECK NOTES: TYPICAL ROOF DECK (SEE PLAN ALSO)
1. 38 x 0.91 OVERLAPPING (CANAM OR EQUIVALENT)
2. HILTI S-SLC01M HWH FASTENERS IN SIDE LAPS @ 150 o/c
3. 36/9 FASTENER PATTERN (SEE ABOVE)
4. HILTI X-HSN24 FASTENERS TO SUPPORTING MEMBERS
5. FASTENER SPACING AROUND PERIMETER & OPENINGS TO BE 150 o/c
6. DECK BE 3 SPAN MINIMUM
7. STEEL DECK IS NOT TO BE USED FOR SUPPORT OF ARCH'L, MECH'L OR ELECT'L ITEMS. USE STEEL STRUCTURE FOR SUPPORT.
8. USE ACOUSTIC DECK WHERE NOTED ON PLAN

CONCRETE BLOCK MASONRY WALLS
REINFORCING BAR LAP LENGTH TABLE

REINFORCING BAR LAP LENGTH (mm)					
HJR	10M	15M	20M	25M	30M
300	525	750	925	1450	1725

FOR SPECIAL CONDITIONS MULTIPLY THE VALUES LISTED ABOVE BY THE FOLLOWING FACTORS:
1. EPOXY COATED REINFORCING (X 1.5)
2. HORIZONTAL REINFORCING WITH >300 mm GROUT BELOW (X 1.3)
3. FOR CONDITIONS 1 & 2 OCCURING SIMULTANEOUSLY (X 1.7)

REINFORCING BAR LAP LENGTH TABLE

CONCRETE STRENGTH (MPa)	REINFORCING BAR LAP LENGTH (mm)				
	10M	15M	20M	25M	30M
20	475	700	850	1325	1575
25	425	600	750	1200	1400
30	400	550	675	1100	1275
35	375	525	625	1000	1200

FOR SPECIAL CONDITIONS MULTIPLY THE VALUES LISTED ABOVE BY THE FOLLOWING FACTORS:
1. EPOXY COATED REINFORCING (X 1.5)
2. HORIZONTAL REINFORCING WITH >300 mm CONCRETE BELOW (X 1.3)
3. FOR CONDITIONS 1 & 2 OCCURING SIMULTANEOUSLY (X 1.7)

DRAWING LIST

S01 GENERAL NOTES
S02 TYPICAL DETAILS

SD1 BASEMENT DEMO PLAN
SD2 GROUND FLOOR DEMO PLAN
SD3 ROOF DEMO PLAN

SN1 BASEMENT PLAN-NEW WORK
SN2 GROUND FLOOR PLAN-NEW WORK
SN3 ROOF PLAN-NEW WORK

S200 BUILDING ELEVATIONS
S201 BUILDING ELEVATIONS

S300 SECTIONS & DETAILS
S301 SECTIONS & DETAILS

No.	REVISION	DATE
2	ISSUED FOR CONSTRUCTION	DEC 14/17
1	ISSUED FOR BUILDING PERMIT	OCT 6/17

1. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MATERIAL RELEVANT TO THE PROJECT.
3. ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE DRAWINGS IN THE CONTRACT DOCUMENTS.
4. DO NOT SCALE DRAWINGS.

PROJECT
BOYS & GIRLS CLUB OF OTTAWA
1463 PRINCE OF WALES DR

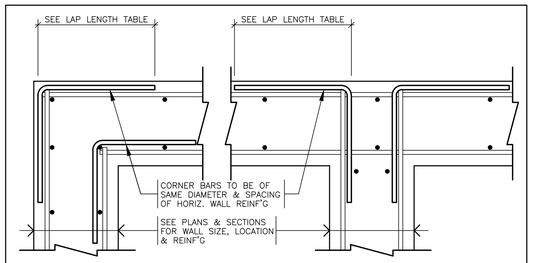
ARCHITECT
HOBIN ARCHITECTURE INC

DRAWING
GENERAL NOTES

CUNLIFFE
CUNLIFFE & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
102-1737 WOODWARD DR. OTTAWA ONT. K2C 0P9
TEL (613) 729-7242 FAX (613) 728-1461
Email <cunliffe@cunliffe.ca>

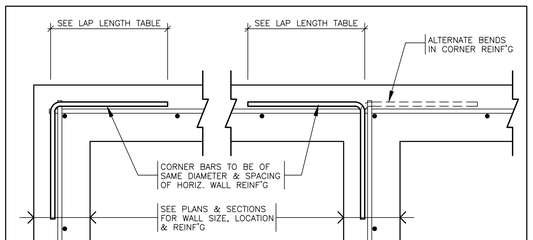
ENGINEER'S SEAL
LICENSED PROFESSIONAL ENGINEER
12/14/2017
R. I. CUNLIFFE
PROVINCE OF ONTARIO

SCALE: NOT TO SCALE
DRAWN: RW
REVIEWED: RIC
PROJECT NO.: 17-007
REVISION NO.: 2
SHEET No.: S01



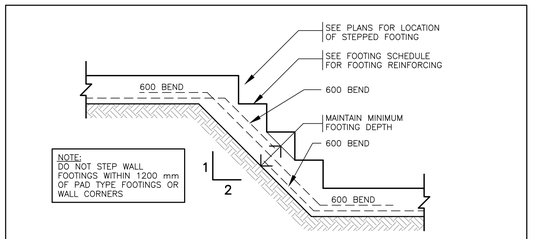
TYPICAL WALL INTERSECTION REINFORCEMENT

CONCRETE WALLS WITH 2 SHEETS OF REINFORCING (WALL THICKNESS GREATER THAN 215 mm)
NOT APPLICABLE TO SHEARWALLS. SEE SHEARWALL ELEVATION DRAWINGS

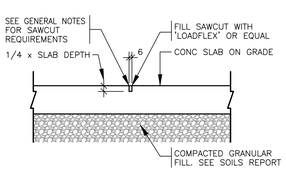


TYPICAL WALL INTERSECTION REINFORCEMENT

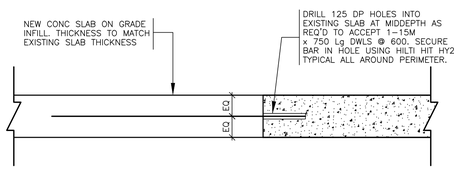
CONCRETE WALLS WITH 1 SHEET OF REINFORCING (WALL THICKNESS LESS THAN 215 mm)
NOT APPLICABLE TO SHEARWALLS. SEE SHEARWALL ELEVATION DRAWINGS



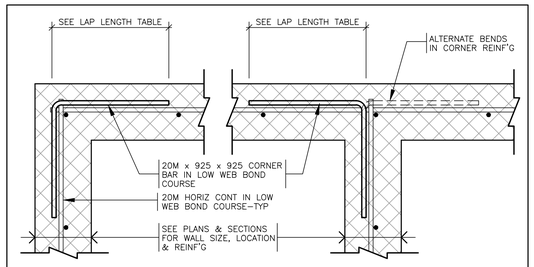
TYPICAL STEPPED WALL FOOTING DETAIL



TYPICAL SAWCUT IN SLAB ON GRADE DETAIL

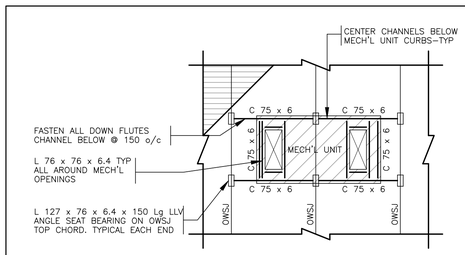


TYP. DETAIL– EXISTING SLAB ON GRADE INFILL



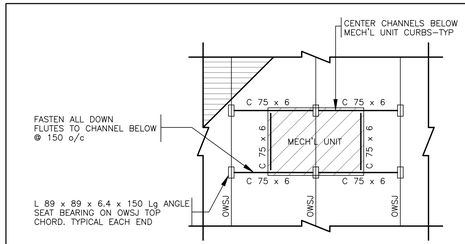
PLAN DETAIL–BLOCK WALL INTERSECTION REINFORCEMENT

NEW CONCRETE BLOCK WALLS



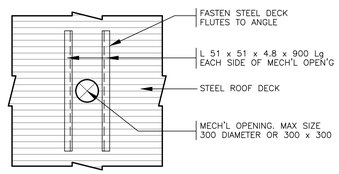
TYPICAL DETAIL– ADDITIONAL FRAMING AT ROOFTOP MECH'L UNITS

(WITH UNIT OPENINGS THROUGH ROOF)

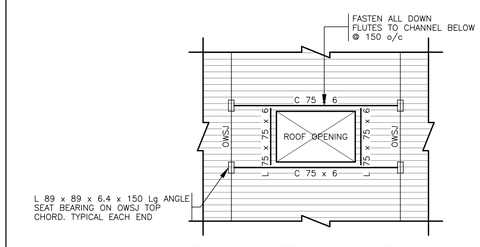


TYPICAL DETAIL– ADDITIONAL FRAMING AT ROOFTOP MECH'L UNITS

(NO UNIT OPENINGS THROUGH ROOF)



PLAN DETAIL–MECHANICAL OPENINGS



TYPICAL DETAIL– ADDITIONAL FRAMINGS AT ROOF OPENINGS

HILTI HIT INSTALLATION REQUIREMENTS:

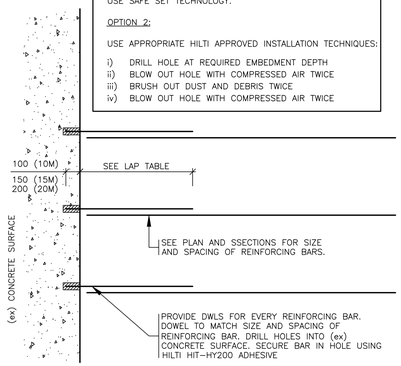
OPTION 1:

USE SAFE SET TECHNOLOGY.

OPTION 2:

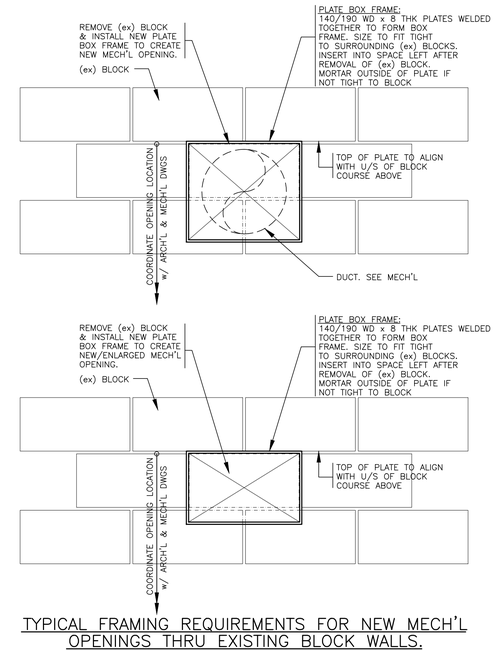
USE APPROPRIATE HILTI APPROVED INSTALLATION TECHNIQUES:

i) DRILL HOLE AT REQUIRED EMBEDMENT DEPTH
ii) BLOW OUT HOLE WITH COMPRESSED AIR TWICE
iii) BRUSH OUT DUST AND DEBRIS TWICE
iv) BLOW OUT HOLE WITH COMPRESSED AIR TWICE



TYPICAL DETAIL FOR DOWELING INTO (ex) CONCRETE FOUNDATIONS

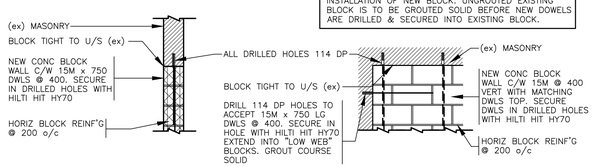
FOR OPENINGS LESS THAN 600 mm IN WIDTH. COORDINATE W/ MECH'L. OPENINGS TO BE LOCATED BETWEEN JOIST BEARING POINTS



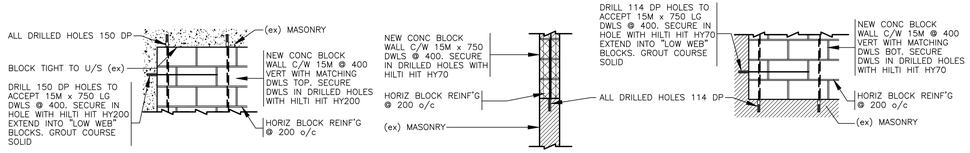
TYPICAL FRAMING REQUIREMENTS FOR NEW MECH'L OPENINGS THRU EXISTING BLOCK WALLS.

COORDINATE WITH MECHANICAL DRAWINGS AND ON–SITE. ALLOW CUNLIFFE & ASSOCIATES TO REVIEW ALL PROPOSED LOCATIONS PRIOR TO COMMENCING WORK

CUT AND NOTCH BLOCK AS REQUIRED TO FACILITATE INSTALLATION OF NEW BLOCK. UNGROUTED EXISTING BLOCK IS TO BE GROUTED SOLID BEFORE NEW DOWELS ARE DRILLED & SECURED INTO EXISTING BLOCK.

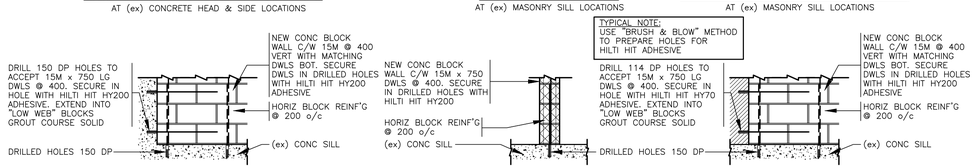


SECTION @ HEAD ELEVATION @ HEAD & SIDE



ELEVATION @ HEAD & SIDE AT (ex) CONCRETE HEAD & SIDE LOCATIONS

SECTION @ SILL ELEVATION @ SILL & SIDE AT (ex) MASONRY SILL LOCATIONS



ELEVATION @ SILL & SIDE AT (ex) CONCRETE SILL & SIDE LOCATIONS

SECTION @ SILL ELEVATION @ SILL & SIDE AT (ex) CONCRETE SILL LOCATIONS

DETAILS FOR INFILLING (ex) OPENINGS IN BLOCK & CONCRETE WALLS

SEE DWG SN1 THRU SN3 & ARCH'L DWGS FOR LOCATIONS OF OPENINGS TO BE INFILLED

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No.	REVISION	DATE

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PROJECT
BOYS & GIRLS CLUB OF OTTAWA
1463 PRINCE OF WALES DR

ARCHITECT
HOBIN ARCHITECTURE INC

DRAWING
TYPICAL DETAILS

CUNLIFFE & ASSOCIATES
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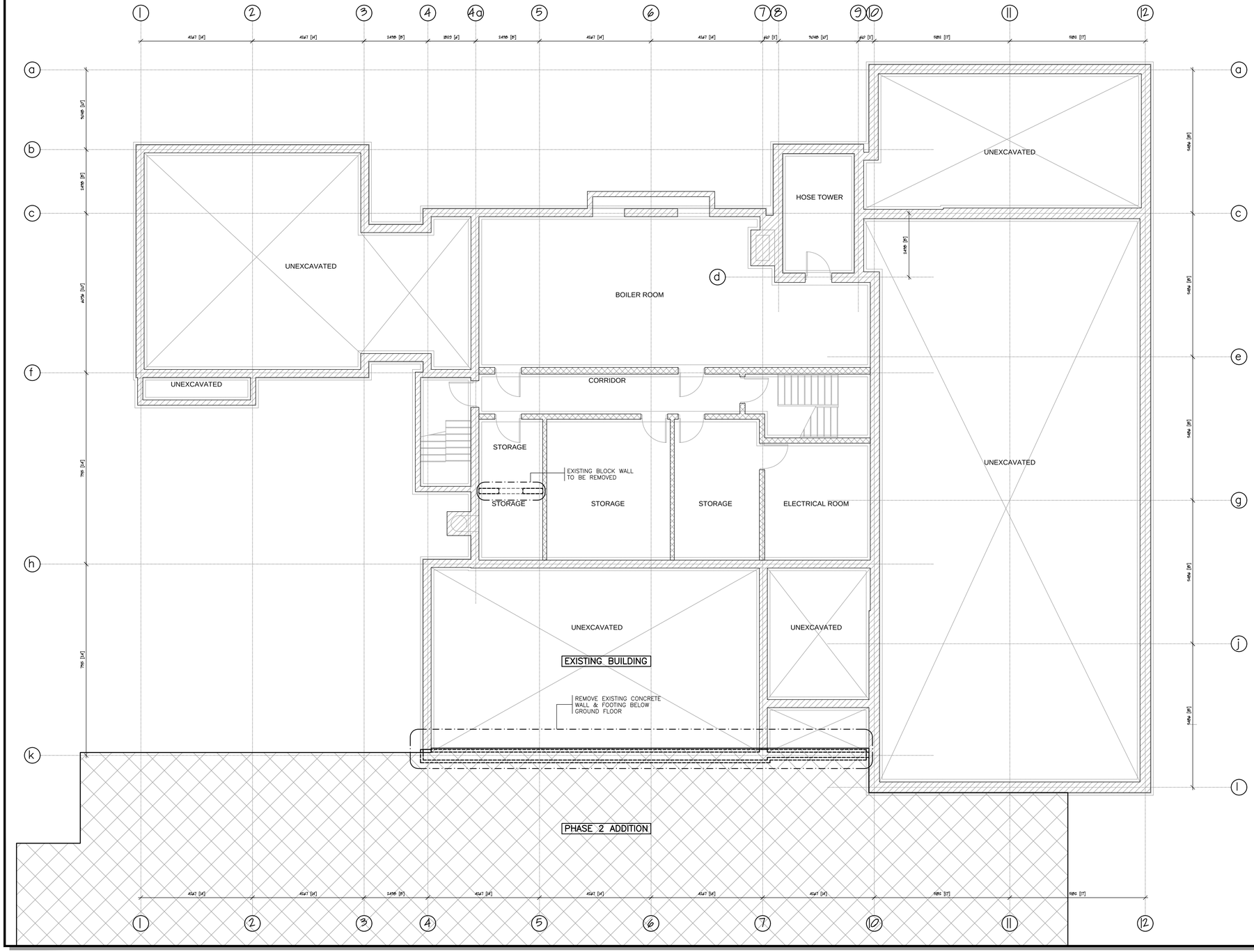
ENGINEER'S SEAL

LICENSED PROFESSIONAL ENGINEER
12/14/2017
R. I. CUNLIFFE
PROVINCE OF ONTARIO

SCALE: NOT TO SCALE

DRAWN: RW
REVIEWED: RIC
PROJECT NO.: 17–007
SHEET No.: S02
REVISION NO.: 2



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1463 PRINCE OF WALES DR

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HOBIN ARCHITECTURE INC

DRAWING
BASEMENT DEMO PLAN

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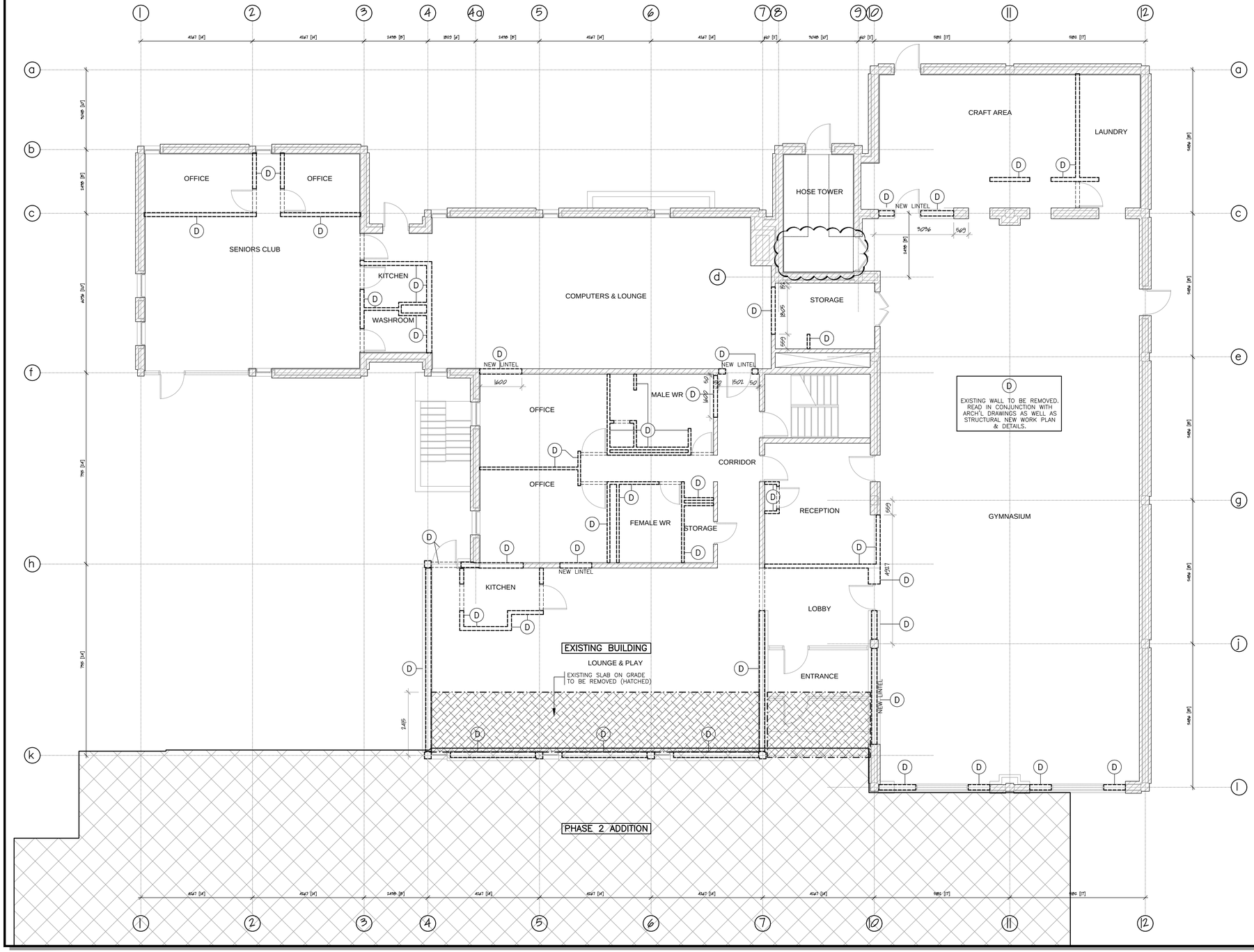
SCALE 1 : 75

DRAWN RW | REVIEWED RIC

PROJECT NO. 17-007

REVISION NO. 2

SHEET No. SD1



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1463 PRINCE OF WALES DR

ARCHITECT
HOBIN ARCHITECTURE INC

DRAWING
GROUND FLOOR DEMO PLAN

CUNLIFFE
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DRAWN RW | REVIEWED RIC

PROJECT NO. 17-007 | SHEET No. SD2

REVISION NO. 2

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ROOF DEMO PLAN

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DRAWN RW | REVIEWED RIC

PROJECT NO. 17-007 | SHEET No. SD3

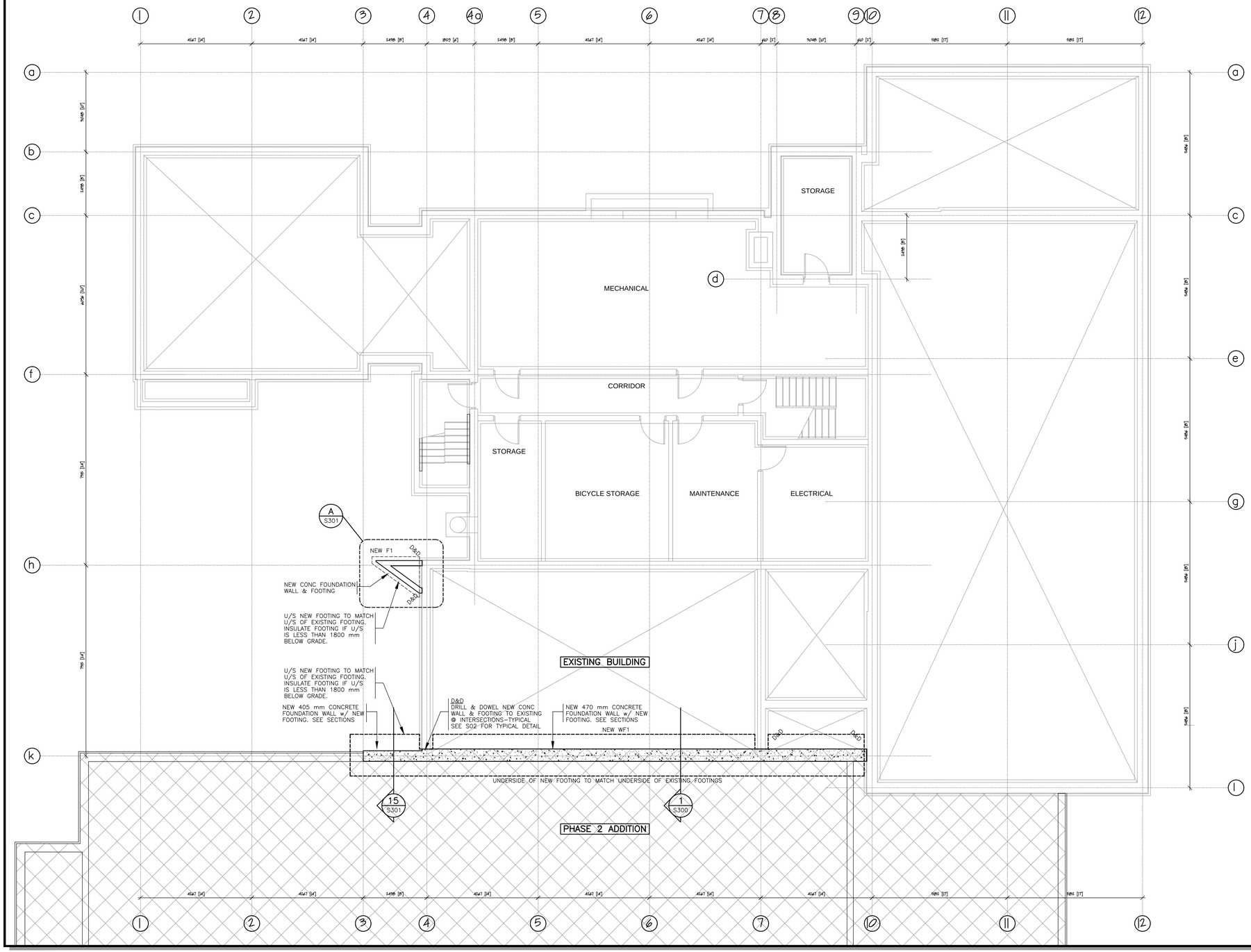
REVISION NO. 2

FOOTING SCHEDULE		
MARK	SIZE	REINF'G
F1	250 DP	SEE PLAN DETAIL
WF1	1600 x 350 DP	6-15M BOTTOM CONT

CONCRETE COVER TO REINFORCING AS FOLLOWS:
75 mm FROM BOTTOM OF FOOTING
50 mm FROM SIDE OF FOOTINGS

CONCRETE COMPRESSIVE STRENGTH

INTERIOR SLAB ON GRADE – 25 MPa TYPE N
INTERIOR FOUNDATION WALLS – 25 MPa TYPE N
EXTERIOR SLAB ON GRADE – 35 MPa CLASS C1
PERIMETER FOUNDATION WALLS – 30 MPa TYPE F1
FOOTINGS – 25 MPa TYPE N
INTERIOR PIERS – 25 MPa TYPE N
EXTERIOR PIERS WALLS – 35 MPa CLASS C1



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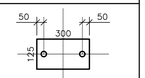
SHEET No. SN1

BASEPLATE SCHEDULE			
MARK	SIZE	ANCHORS	WASHERS
BP1	300 x 125 x 16 PL GALV'D	2–16 ø HILTI HAS HIT HY200 ADHESIVE ANCS STAINLESS STEEL 200 mm EMBEDMENT	N/A

PLAN DETAIL



BP1

1. PROVIDE 25 mm NON SHRINK GROUT OR DRYPACK BELOW BASEPLATES EXTENDING 25 mm BEYOND PERIMETER OF PLATE AND FOR FULL AREA BELOW PLATE (NOT APPLICABLE TO CAST–IN PLATES)
2. PROVIDE 50 mm ANCHOR BOLT PROJECTION ABOVE PLATE.
3. ALL ANCHOR BOLTS TO BE ASTM A325
4. ALL BASE PLATES TO BE GRADE G40.21300W
5. ALL COLUMNS TO BE CENTRED ON BASEPLATES U/N
6. USE STEEL TEMPLATES AND PRECISE SURVEYING TECHNIQUES TO ACCURATELY LOCATE BASE PLATE & ANCHOR BOLTS.

STEEL COLUMN SCHEDULE	
MARK	SIZE
SC1	HSS 102 x 102 x 8 GALV'D

NOTES:
1. ALL HSS SECTIONS TO BE ASTM A500 (GRADE C) OR G40.21M350W (CLASS C).
2. SEE ALSO GENERAL NOTES ON S01.

CONCRETE COMPRESSIVE STRENGTH

INTERIOR SLAB ON GRADE – 25 MPa TYPE N
INTERIOR FOUNDATION WALLS – 25 MPa TYPE N
EXTERIOR SLAB ON GRADE – 35 MPa CLASS C1
PERIMETER FOUNDATION WALLS – 30 MPa TYPE F1
FOOTINGS – 25 MPa TYPE N
INTERIOR PIERS – 25 MPa TYPE N
EXTERIOR PIERS WALLS – 35 MPa CLASS C1

MASONRY LINTEL SCHEDULE		
MARK	SIZE	REINF'G
ML1	8" x 16" DP. SEE ELEVATION ML1/S301	1–20M BOTTOM 15M @ 800 VERT
ML2	8" x 24" DP	1–15M TOP 1–20M BOTTOM 15M @ 800 VERT
ML3	190 x 790 DP	1–15M TOP 1–20M BOTTOM 15M @ 800 VERT
ML4	290 x 990 DP	1–20M TOP 1–15M MID–HEIGHT 1–20M BOTTOM 20M @ 600 VERT
ML5	8" x 54" ± DP SEE SECTION R4 & ELEVATION R4A/S301	1–20M TOP 1–20M BOTTOM UPPER 1–20M BOTTOM LOWER 15M @ 800 VERT

NOTE:
1. ALL LINTELS ARE TO BE GROUTED SOLID
2. LINTELS TO BEAR ON WALL EACH END 200 mm U/N.
3. GROUT WALL ENDS SOLID BELOW LINTEL FOR WIDTH OF BEARING INDICATED ABOVE.
4. SEE DRAWING S01 FOR MASONRY REINFORCEMENT. PROVIDE 20M VERT IN EACH GROUTED CORE AT WALL ENDS E.S. OF OPENING UNLESS NOTED OTHERWISE ON PLANS.
5. USE SPECIAL LINTEL BLOCKS FOR LOWEST LINTEL COURSE & LOW WEB BLOCKS FOR ALL OTHER LINTEL COURSES.
6. DO NOT INTERRUPT TYPICAL WALL REINFORCING AT LINTELS.

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1463 PRINCE OF WALES DR

ARCHITECT
HOBIN ARCHITECTURE INC

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DRAWN RW | REVIEWED RIC

PROJECT NO. 17–007

REVISION NO. 2

SHEET No. SN2

MAIN ROOF NOTES:

1. SEE DRAWING S01 FOR GENERAL NOTES
2. SEE DRAWING S02 FOR TYPICAL DETAILS

3. DESIGN LOADS:

TYPICAL STEEL ROOF AREAS		
ROOF'G & INSUL.	0.60 kPa	
BOARD	0.10	
STEEL DECK	0.15	
STRUCTURE	0.25	
CEILING	0.15	
MECH. & MISC.	0.25	
DEAD LOAD	1.50 kPa	
SNOW LOAD	2.32 kPa	(OR CONCENTRATION)
TOTAL LOAD	3.82 kPa	(OR DL + CONCEN)

ROOF ACCESS FLOOR	
64 CONC ON DECK	1.90 kPa
STEEL DECK	0.10
STRUCTURE	0.20
MECH. & MISC.	0.25
DEAD LOAD	2.45 kPa
SNOW LOAD	4.80 kPa
TOTAL LOAD	7.25 kPa

4. T.O.S = TOP OF STEEL ELEV. = TOP OF OWSJ'S SEE PLAN FOR ELEVATIONS
5. REFER TO PLANS FOR ADDITIONAL DEFLECTION LIMITATIONS.
6. O W S J ' S
   - .1 U/N, THE ROOF OWSJ'S ARE TO BE DESIGNED SUCH THAT THE MAX DEFLECTION DUE TO SNOW LOADS DOES NOT EXCEED L/360 OR 25mm.
   - .2 OWSJ SUPPLIER TO DESIGN OWSJ'S FOR DESIGN LOADS INDICATED AND ADDITIONAL EQUIPMENT LOADS & LOADS NOTED ON OTHER DWGS
   - .3 NOTE THAT THE SNOW LOADS INDICATED MAY BE REDUCED BY THE RATIO 0.9/1.00 IN ACCORDANCE WITH OBC 4.1.6.2
   - .4 OWSJ SHOE DEPTH 100 mm UNLESS NOTED

     OWSJ DESIGNER TO ENSURE THE SHOE AND TOP CHORD ARE SUFFICIENT TO TRANSFER THE STEEL DECK IN-PLANE SHEAR CAPACITY (ROLL OVER RESISTANCE) TO THE BEARING BASE PLATE.
7. PROVIDE 2-12 mm THK STIFFENER PLATES EACH SIDE OF ALL BEAM WEBS WHICH ARE CONTINUOUS OVER SUPPORTS (ie. COLUMNS) SEE TYPICAL DETAIL S02.
8. OWSJ TOP & BOTTOM CHORD BRIDGING
   - .1 OWSJ MANUFACTURER IS RESPONSIBLE FOR BRIDGING DESIGN & DETAILING UNLESS NOTED OTHERWISE.
   - .2 OWSJ MANUFACTURER TO REVIEW BRIDGING REQUIREMENTS WITH RESPECT TO ERECTION AND WIND SUCTION ON THE ROOF AND ADD BRIDGING AS REQUIRED.
   - .3 BRIDGING IS TO BE NEATLY ERECTED IN ROOMS WITHOUT CEILINGS.
   - .4 PROVIDE DIAGONAL BRIDGING AT BEAMS & AT END SPACES. CONNECT BRIDGING TO BLOCK WALLS AS INDICATED.
   - .5 MINIMUM BRIDGING ANGLE SIZE TO BE L 35 x 35 x 3
9. SEE DRAWING S02 FOR TYPICAL DETAILS FOR MECH'L UNIT SUPPORT & MECH'L OPENING FRAMING UNLESS NOTED
10. ENSURE THAT WELDING PROCEDURES DO NOT DAMAGE OWSJ'S
11. REFER TO ARCHITECTURAL DRAWINGS FOR SUPPLEMENTARY INFORMATION AND ALLOW FOR ARCHITECTURAL REVIEW PRIOR TO FABRICATION.
12. MECHANICAL OPENINGS SHOWN ON THIS PLAN ARE 300 x 300 mm IN SIZE OR LARGER. SEE MECH'L, ELECT'L & ARCH'L DWGS FOR SMALLER OPENINGS. CONFIRM SIZE OF OPENINGS WITH MECH'L DWGS. SEE TYPICAL DETAIL ON DWG S02 FOR ADDITIONAL OPENING FRAMING UNLESS NOTED
13. MECHANICAL PIPING MUST BE SUPPORTED FROM OWSJ TOP CHORD ONLY. DO NOT SUPPORT FROM OWSJ BOTTOM CHORD OR WEB MEMBERS OR STEEL DECK. SUPPORT AT OR NEAR OWSJ TOP CHORD PANEL POINT IS PREFERRED. IF NECESSARY, OWSJ MANUFACTURER IS TO COMMENT ON PERMISSIBILITY OF LOCATING PIPING SUPPORTS BETWEEN TOP CHORD PANEL POINTS.

CONCRETE COMPRESSIVE STRENGTH
INTERIOR SLAB ON DECK – 25 MPa TYPE N

BEAM BEARING PLATE SCHEDULE

MARK	SIZE	ANCHORS
BBP1	350 x 180 x 19 THK PLATE	2-15M WELDABLE REINFORCING BARS x 400 Lg

NOTES:
1. BEAMS SUPPORTED ON BEAM BEARING BASE PLATES TO EXTEND ONTO PLATE A MINIMUM OF 80% OF LENGTH OF PLATE, IN DIRECTION OF BEAM UNLESS NOTED OTHERWISE ON PLAN.
2. ANCHORS ARE TO BE CENTERED ON PLATE & SPACED AT 200 o/c TO ALIGN WITH CORE VOIDS IN BLOCK UNLESS OTHERWISE NOTED
3. ENSURE BEAM AND JOIST POCKETS IN MASONRY WALLS ARE BUILT-IN WITH MASONRY OR GROUTED SOLID.
4. GROUT BLOCK CORES SOLID 600 mm MINIMUM BELOW BEAM BEARING PLATES

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R. I. CUNLIFFE
PROVINCE OF ONTARIO

SCALE 1 : 75
DRAWN RW
REVIEWED RIC
PROJECT NO. 17-007
SHEET No. SN3
REVISION NO. 2

NORTH ELEVATION

WEST ELEVATION

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REVIEWED RIC

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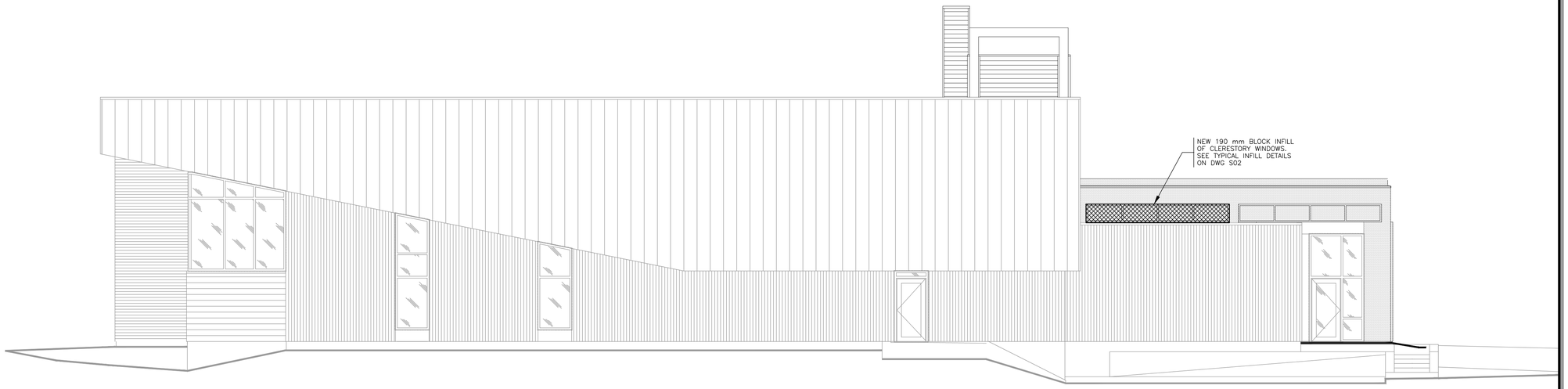
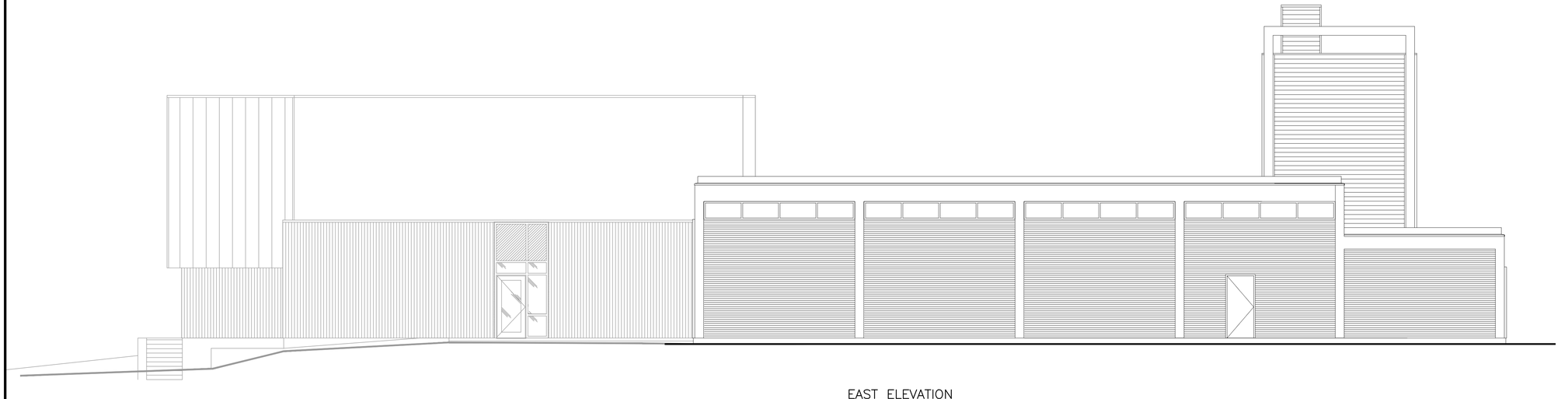
SHEET No. S200

REVISION NO. 2



SOUTH ELEVATION



EAST ELEVATION

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Email <cunliffe@cunliffe.ca>

ENGINEER'S SEAL

LICENSED PROFESSIONAL ENGINEER
12/14/2017
R. I. CUNLIFFE
PROVINCE OF ONTARIO

SCALE 1 : 75

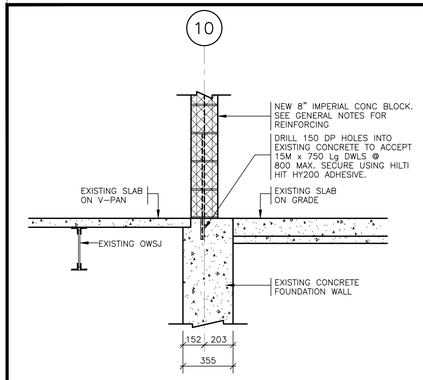
DRAWN RW

REVIEWED RIC

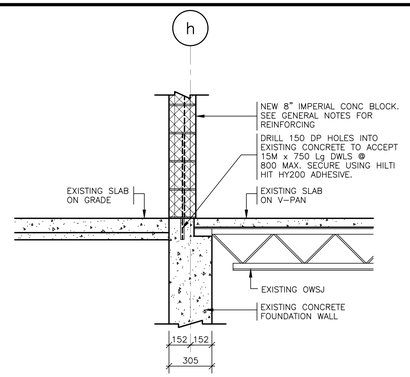
PROJECT NO. 17-007

SHEET No. S201

REVISION NO. 2



10 SN2 SECTION 1 : 20



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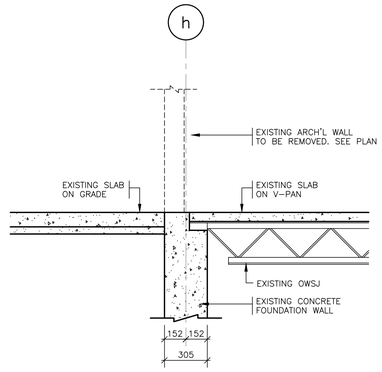
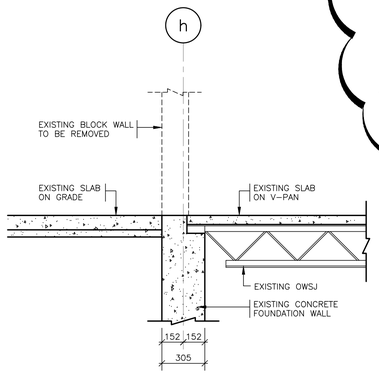


12 SN2 SECTION 1 : 20



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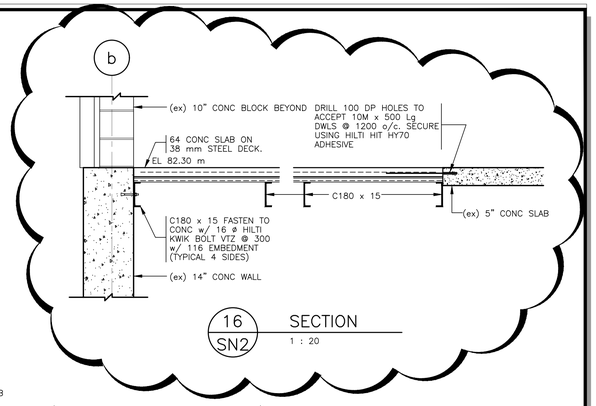

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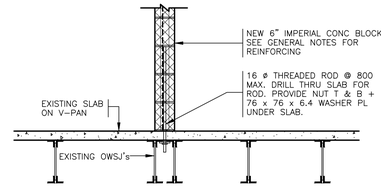

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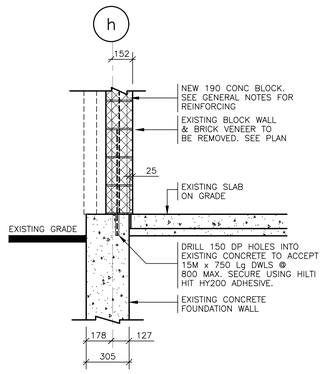

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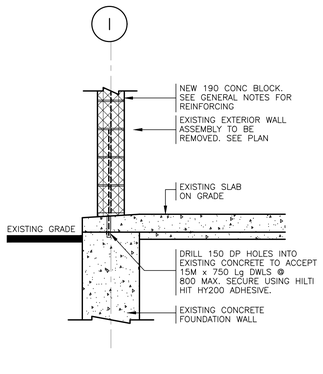

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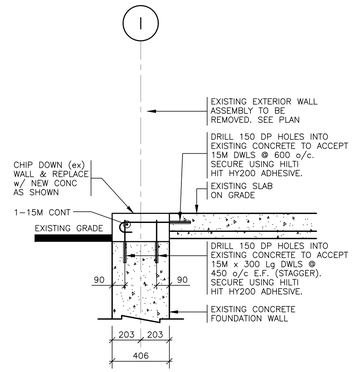

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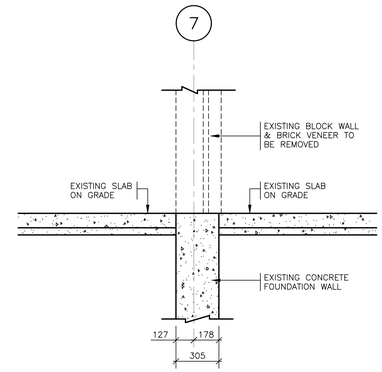

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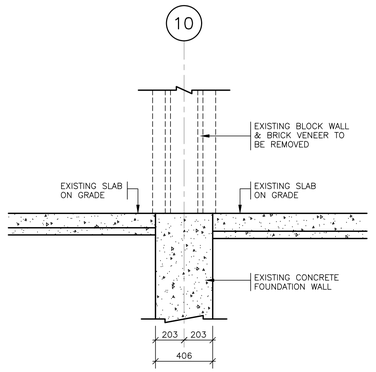

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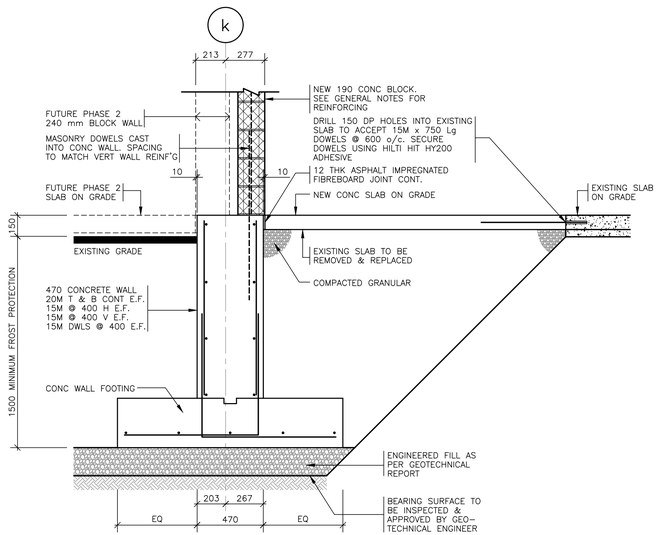
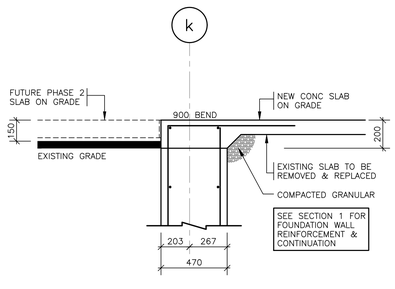


1 SN1 SECTION 1 : 20



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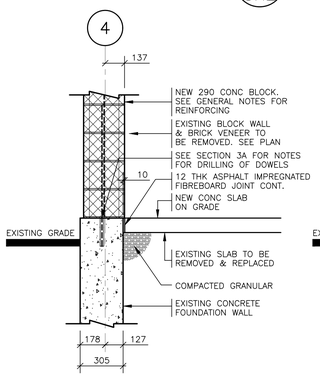

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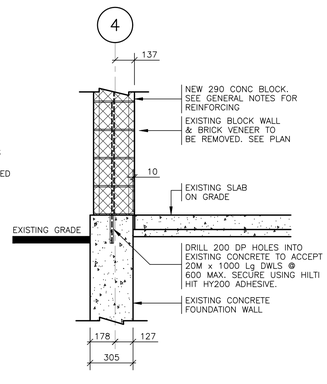
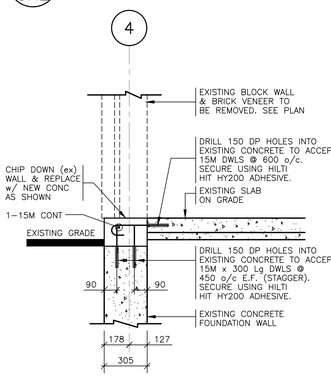


3A SN2 SECTION 1 : 20



4 SN2 SECTION 1 : 20

2	ISSUED FOR CONSTRUCTION	DEC 14/17
1	ISSUED FOR BUILDING PERMIT	OCT 6/17

No.	REVISION	DATE

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4. DO NOT SCALE DRAWINGS.

PROJECT
BOYS & GIRLS CLUB OF OTTAWA
1463 PRINCE OF WALES DR

ARCHITECT
HOBIN ARCHITECTURE INC

DRAWING
SECTIONS & DETAILS

CUNLIFFE
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12/14/2017
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PROVINCE OF ONTARIO

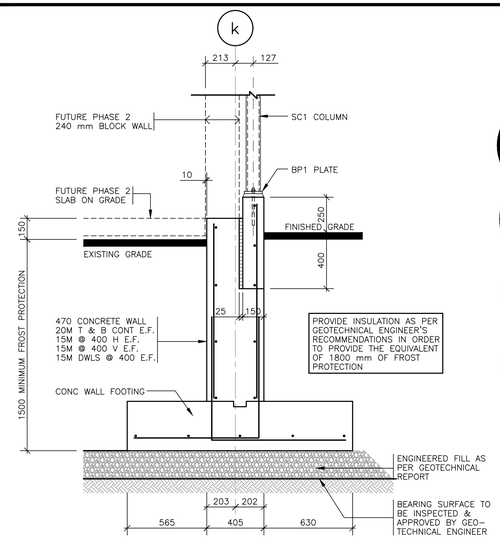
SCALE 1 : 20 U/N

DRAWN RW | REVIEWED RIC

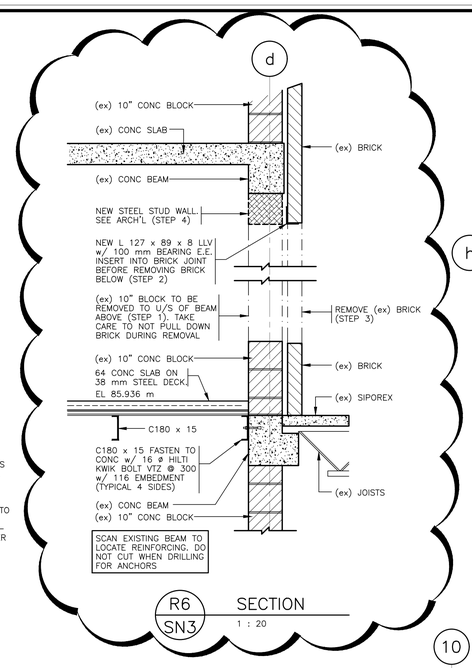
PROJECT NO. 17-007

REVISION NO. 2

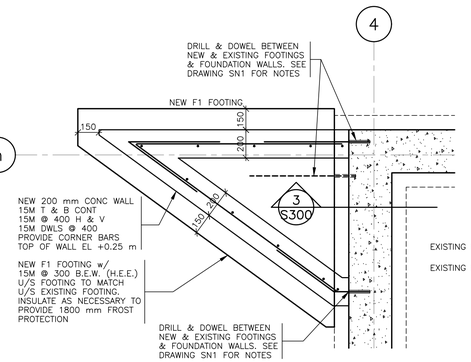
SHEET No. S300



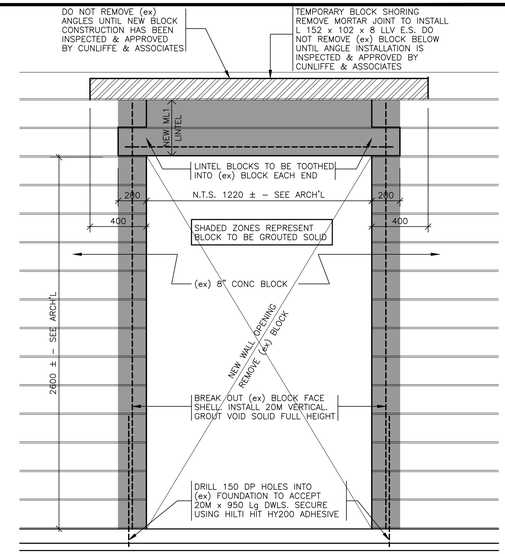
15 / SN1 SECTION
1 : 20



R6 / SN3 SECTION
1 : 20



A / SN1 PLAN DETAIL
1 : 20



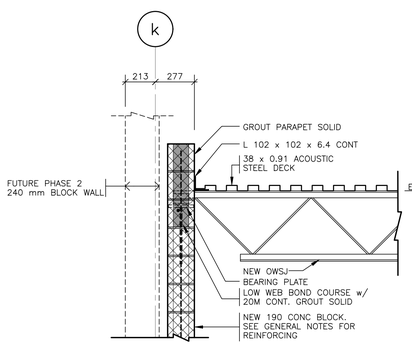
ML1 / SN2 ELEVATION
1 : 20

R3 / SN3 SECTION
1 : 20

R4 / SN3 SECTION
1 : 20

R4A / S301 ELEVATION
1 : 20

R5 / SN3 SECTION
1 : 20



R1 / SN3 SECTION
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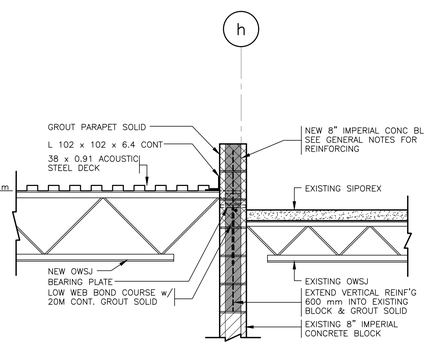

R2 / SN3 SECTION
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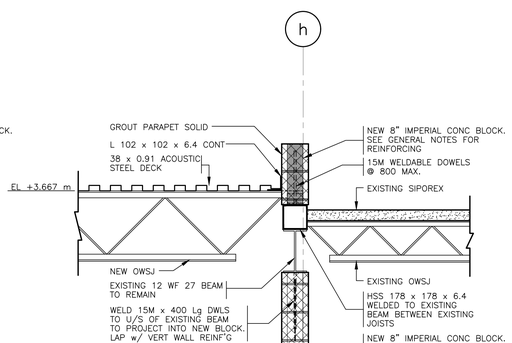

R2A / SN3 SECTION
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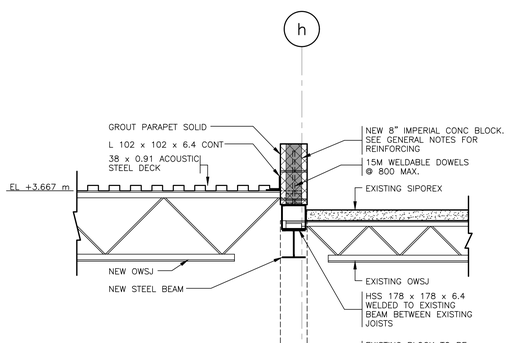

R2B / SN3 SECTION
1 : 20

No.	REVISION	DATE
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DRAWN RW
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PROJECT NO. 17-007
SHEET No. S301
REVISION NO. 2