

**GENERAL NOTES:**

- ALL WORK TO BE IN ACCORDANCE WITH ALBERTA BUILDING CODE 2008.
- READ THE CONSTRUCTION DRAWINGS IN CONJUNCTION WITH THE ARCH., MECH., AND ELECT. DRAWINGS. REPORT ANY INCONSISTENCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- DO NOT SCALE DRAWINGS.
- FOR THE PURPOSES OF THESE DRAWINGS, THE ENGINEER IS KASSIAN DYCK AND ASSOCIATES.
- THE USE OF THESE DRAWINGS IS LIMITED TO THAT IDENTIFIED IN THE REVISIONS COLUMN. DO NOT CONSTRUCT FROM THESE DRAWINGS UNLESS MARKED "ISSUED FOR CONSTRUCTION" IN THE REVISIONS COLUMN BY KASSIAN DYCK & ASSOCIATES.
- ALL EXISTING DIMENSIONS, ELEVATIONS, AND EXISTING STRUCTURAL SYSTEMS SHOWN ON THE STRUCTURAL DRAWINGS ARE TO BE VERIFIED ON SITE PRIOR TO CONSTRUCTION, AND DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER BEFORE PROCEEDING.
- ALL SECTIONS, DETAILS, AND STATEMENTS ARE TYPICAL AND APPLY TO ALL SIMILAR SITUATIONS IN THE STRUCTURE.
- DRAWINGS SHOW COMPLETED STRUCTURES ONLY. THE DRAWINGS DO NOT SHOW COMPONENTS THAT MAY BE NECESSARY FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND ABOUT THE JOB SITE DURING CONSTRUCTION. THE CONTRACTOR IS TO DESIGN AND PROVIDE ALL TEMPORARY BRACING, SHORING, AND FORMWORK FOR CONSTRUCTION LOADING CONDITIONS AND THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION. DESIGN OF SHORING AND TEMPORARY BRACING SHALL BE CARRIED OUT BY A PROFESSIONAL ENGINEER REGISTERED IN ALBERTA. CONSTRUCTION LOADS ON PERMANENT STRUCTURE SHALL NOT EXCEED DESIGN LOADS.
- ANCHOR BOLTS HAVE BEEN DESIGNED FOR LOADS OF THE COMPLETED STRUCTURE ONLY AND ARE NOT TO BE USED OR RELIED UPON FOR TEMPORARY SUPPORT OR STABILITY DURING STEEL ERECTION. CONTRACTOR TO PROVIDE AND INSTALL ALL NECESSARY TEMPORARY BRACING, SHORING AND SAFETY PROTECTION TO KEEP THE STRUCTURE SAFE, TRUE AND PLUMB. DO NOT REMOVE TEMPORARY BRACING UNTIL APPROVED IN WRITING BY KASSIAN DYCK & ASSOCIATES.
- ALL TEMPORARY SAFETY GUARDS SHALL BE THE CONTRACTORS RESPONSIBILITY.
- SUBMIT TO THE ENGINEER FOR REVIEW 4 COPIES OF THE FOLLOWING SHOP DRAWINGS:
  - CONCRETE REINFORCING
- SHOP DRAWINGS NOT STAMPED, SIGNED AND DATED WILL BE RETURNED WITHOUT BEING EXAMINED AND WILL BE CONSIDERED REJECTED.
- FULLY DETAIL SHOP DRAWINGS AND SHOW ALL INFORMATION NECESSARY FOR FABRICATION AND INSTALLATION.
- DO NOT COMMENCE FABRICATION UNTIL REVIEW OF RETURNED SHOP DRAWINGS.
- REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL STRUCTURAL DESIGN CONCEPT AND THE EXTENT OF THIS REVIEW IS AT THE SOLE DISCRETION OF THE ENGINEER. THIS REVIEW IS NOT AN APPROVAL OF THE DESIGN, DETAILS AND DIMENSIONS INHERENT IN THE SHOP DRAWINGS. THIS REVIEW DOES NOT MEAN THAT THE ENGINEER APPROVES THE DESIGN OR DETAILS INHERENT IN THE SHOP DRAWINGS, THE RESPONSIBILITY FOR WHICH REMAINS WITH THE CONTRACTOR. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITY FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND COORDINATED AT THE JOB SITE, FABRICATION PROCESSES, TECHNIQUES OF CONSTRUCTION AND INSTALLATION, AND FOR COORDINATION OF THE WORK OF ALL SUBTRADES.
- THE CONTRACTOR SHALL EXAMINE THE SITE AND THE SUBSURFACE INVESTIGATION REPORT AND ACCEPT ALL CHARACTERISTICS AND IRREGULARITIES OF THIS SITE.
- DESIGN LOADS
 

**SPECIFIED UNIFORM LOADS:**  
SUPERIMPOSED DEAD LOAD (SD) - EXCLUDES SELF WEIGHT OF ROOF/FLOOR STRUCTURE  
LIVE LOAD (LL)  
SNOW LOAD(SL)

MAIN FLOOR: SDL = 0.72 KPa; LL = 4.8 KPa

ROOF:  
DL = 1.65 KPa, SL = 1.8 kPa (38 PSF) + DRIFT AS NOTED ON PLAN  
PONDING AS NOTED ON PLAN  
LL = 1.0 KPa (21 PSF)

**SPECIFIED CONCENTRATED LIVE LOADS:**

ROOF: 2 KN AT ANY JOIST PANEL POINT

SEISMIC: Sa(0.2) = 0.12 Sa(0.5) = 0.06 Sa(1.0) = 0.02 Sa(2.0) = 0.01  
PGA = 0.08 SITE CLASS C  
SEISMIC LOAD RESISTING SYSTEM IS A CONVENTIONAL CONSTRUCTION BRACED FRAME WITH  
WITH Rd = 1.5; Rb = 1.3

WIND: q50 = 0.40 kPa (8 PSF)  
NET FACTORED WIND UPLIFT LOADS ON ROOFS = 1.0 kPa (21 PSF) UNLESS NOTED OTHERWISE

**GENERAL NOTES (cont.):**

- STRUCTURE WILL MOVE DUE TO IMPOSED LOADS, SHRINKAGE THERMAL EFFECTS, AND/OR FOUNDATION SETTLEMENT. THE FOLLOWING ESTIMATED MOVEMENTS ARE TO BE ACCOMMODATED BY NON-STRUCTURAL ELEMENTS ATTACHED TO STRUCTURE. DESIGN AND DETAILING OF NON-STRUCTURAL ELEMENTS TO BE BY OTHERS.
  - MOVEMENT AT EXPANSION JOINTS:
    - VERTICAL ± 25 mm
    - PERPENDICULAR TO JOINT ± 25 mm
    - PARALLEL TO JOINT ± 25 mm
  - HORIZONTAL DRIFT DURING WIND AND SEISMIC BETWEEN FLOORS:
    - ± 13 mm WITHOUT DAMAGE TO NON-STRUCTURAL ELEMENTS
    - ± 50 mm WITHOUT COLLAPSE OF NON-STRUCTURAL ELEMENTS
  - DIFFERENTIAL VERTICAL MOVEMENT OF ADJACENT COLUMNS AND WALLS: 15 mm
- CONTRACTOR'S CONSTRUCTION LOADS MUST NOT EXCEED THE ABOVE DESIGN LOADS. DESIGN LOADS MAY ONLY BE APPLIED AFTER THE CONCRETE REACHES ITS DESIGN STRENGTH.
- UNDERPIN WHERE NECESSARY ANY EXISTING STRUCTURE AND PROVIDE ALL BRACING, SHORING, ETC. TO SUPPORT ADJOINING SOIL, FLOORS, WALLS, ETC. AS REQUIRED TO RETAIN ALL WORK IN PLACE AND PREVENT ANY OVERSTRESSING OF THE STRUCTURE.
- THE CONTRACTOR SHALL CO-OPERATE WITH ALL TESTING, INSPECTION, AND QUALITY CONTROL PERSONNEL REQUIRED ON THE SITE AND WILL PROVIDE CASUAL LABOR FORCES AS REQUIRED TO ASSIST IN ALL THE FIELD REVIEW PROCEDURES. THE CONTRACTOR SHALL GIVE REASONABLE NOTICE TO THESE AGENCIES PRIOR TO REQUIRING THEIR SERVICES.
- THE ENGINEER OR HIS REPRESENTATIVE WILL PROVIDE PERIODIC SITE REVIEWS FOR WORK SHOWN ON THESE DRAWINGS TO ASCERTAIN WHETHER THE STRUCTURAL WORK IS IN GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE SITE REVIEWS ARE NOT FOR THE CONTRACTOR'S BENEFIT AND THE CONTRACTOR REMAINS FULLY RESPONSIBLE TO ENSURE THAT ALL STRUCTURAL WORK IS CARRIED OUT IN ACCORDANCE WITH THESE DRAWINGS AND ALL APPLICABLE CODES. THE WORK TO BE REVIEWED SHALL GENERALLY BE COMPLETE.
- PROVIDE 48 HOURS ADVANCE NOTICE OF EACH REQUIRED SITE REVIEW. SITE REVIEWS SHALL BE SCHEDULED TO BE CARRIED OUT DURING NORMAL BUSINESS HOURS UNLESS SPECIAL ARRANGEMENTS ARE MADE WITH KASSIAN DYCK & ASSOCIATES.
- PROVIDE 48 HRS. NOTICE PRIOR TO POURING CONCRETE. ALL REINFORCEMENT SHALL BE IN PLACE AND SECURED AT THE TIME OF THE REVIEW. REINFORCEMENT SHALL BE REVIEWED IN PLACE BY A REPRESENTATIVE OF THE ENGINEER, PRIOR TO PLACING CONCRETE.
- BEFORE CONCEALING ANY STRUCTURAL ELEMENTS, PROVIDE MINIMUM 48 HRS. NOTICE TO ENGINEER SO THE STRUCTURE CAN BE INSPECTED BY A REPRESENTATIVE OF THE ENGINEER.
- DO NOT CUT OR DRILL ANY OPENINGS INTO STRUCTURAL MEMBERS WITHOUT OBTAINING WRITTEN APPROVAL FROM KASSIAN DYCK & ASSOCIATES.
- SLAB ON GRADE WILL SHRINK AND SETTLE DUE TO BACKFILL DEPTH AND EXISTING SOIL CONDITIONS. MINOR CRACKING OF SLAB ON GRADE IS EXPECTED.

**FOUNDATION NOTES:**

- FOUNDATION DESIGN TO BE IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT
- UNLESS NOTED OTHERWISE FOUNDATION WALLS ARE NOT DESIGNED AS CANTILEVER WALLS. WALLS SHALL BE BACKFILLED EVENLY ON BOTH SIDES TO PREVENT LATERAL MOVEMENT. BACKFILL HEIGHTS SHALL NOT VARY BY MORE THAN 300 mm (12 INCH) FROM ONE SIDE TO THE OTHER.
- DO NOT LOCATE UNDERGROUND SERVICES OR PIPING ADJACENT TO OR BELOW FOOTINGS WITHIN A 45 DEGREE SLOPE LINE EXTENDING DOWN FROM THE EDGE OF ALL FOOTINGS.
- UNDERPIN WHERE NECESSARY ANY EXISTING STRUCTURE AND PROVIDE ALL BRACING AND SHORING TO SUPPORT ADJOINING SOIL, FLOORS, WALLS, ETC. AS REQUIRED TO RETAIN ALL WORK IN PLACE AND PREVENT ANY OVERSTRESSING OF THE STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL TEMPORARY UNDERPINNING, SHORING AND BRACING, AND SHALL SUBMIT 4 COPIES OF DRAWINGS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN ALBERTA.
- REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR DAMPROOFING OR WATERPROOFING REQUIREMENTS.

**SLAB-ON-GRADE NOTES:**

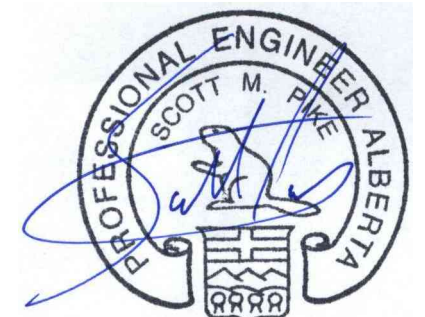
- PLACE CONCRETE TO CAN/CSA-A23.1.
- VIBRATE ALL CONCRETE.
- SAWCUT SLABS ON GRADE WITHIN 16 HOURS AFTER PLACING CONCRETE. SAW CUT NOT LESS THAN 35 mm (1 3/8 INCH) DEEP.
- SAWCUT INTERIOR SLABS ON GRADE INTO PANELS NOT EXCEEDING 21 SQUARE METRES WITH A MAXIMUM PANEL DIMENSION OF 4500 mm (15 FT).
- REMOVE ALL DEBRIS FROM SAWCUTS/CONTROL JOINTS. FILL SAWCUTS/CONTROL JOINTS SMOOTH AND LEVEL USING BACKING ROD AND JOINT SEALANT.
- PLACE EDGE JOINT FILLER AT SLAB EDGES AT WALLS AND GRADE BEAMS. LEAVE 13 mm (1/2 INCH) DEEP RECESS AND FILL JOINT WITH CONTROL JOINT SEALANT.
- CURE HORIZONTAL SURFACES BY KEEPING THEM WET FOR 7 DAYS, BY COVERING WITH A POLYETHYLENE SHEET WELL LAPPED AND EDGES WEIGHTED, OR WITH AN APPROVED CURING AGENT.

**CONCRETE NOTES:**

- ALL WORK TO BE IN ACCORDANCE WITH CSA A23.1-04, A23.2-04, AND A23.3-04.
- CEMENT: NORMAL PORTLAND CEMENT TO CAN/CSA-A5, TYPE GU OR SULPHATE RESISTANT CEMENT TO CAN/CSA-A5 TYPE HS.
- CONCRETE TO BE IN ACCORDANCE WITH FOLLOWING PERFORMANCE SCHEDULE. RESPONSIBILITIES OF OWNER, CONTRACTOR, AND SUPPLIER ARE IN ACCORDANCE WITH ALTERNATIVE 1, TABLE 5 OR CSA A23.1-04:

LOCATION	STRENGTH	EXPOSURE	AIR	MAX AGGREG.	MAX W/C
FOOTINGS, EXTERIOR	25 MPa 3600 psi	F-2	4-7%	40 mm 1 1/2 INCH	0.55
FOOTINGS, INTERIOR	25 MPa 3600 psi	N	0	40 mm 1 1/2 INCH	0.55
FOUNDATION BASEMENT WALLS	25 MPa 3600 psi	F-2	4-7%	20 mm 3/4 INCH	0.55
SLAB ON GRADE INTERIOR	25 MPa 3600 psi	N	0	20 mm 3/4 INCH	0.50
SLAB ON GRADE EXTERIOR	32 MPa 4600 psi	C-2	5-8%	20 mm 3/4 INCH	0.45

- AIR ENTRAINING ADMIXTURE TO ASTM C 260.
- CALCIUM CHLORIDE SHALL NOT BE USED AS ADMIXTURE.
- CONTRACTOR TO PREPARE AND IMPLEMENT QUALITY CONTROL PLAN TO ENSURE THAT CONCRETE PERFORMANCE CRITERIA WILL BE MET, AND SUBMIT DOCUMENTATION DEMONSTRATING THAT PERFORMANCE REQUIREMENTS HAVE BEEN MET.
- PERFORM AT LEAST ONE CONCRETE TEST (3 CYLINDERS) FOR EACH 50 CUBIC METRES OF CONCRETE, OR FRACTION THEREOF, OF EACH TYPE OF CONCRETE POURED IN ANY ONE DAY.
- CONTRACTOR TO CALL FOR CONCRETE TESTING AT APPROPRIATE TIME.
- VOID FORM: EXPANDED POLYSTYRENE CONFIGURED TO SUPPORT A MAXIMUM LOAD OF 27 kPa (560 psi) AT 5% DEFORMATION AND 50 kPa AT 40% DEFORMATION. FROST CUSHION BY BEAVER PLASTICS OR APPROVED EQUAL. PROVIDE 100 mm (4 INCH) THICKNESS UNLESS NOTED OTHERWISE.
- EDGE JOINT FILLER: BITUMINOUS IMPREGNATED FBREBOARD, 2 mm (1/2 INCH) THICK, TO ASTM D1751-83.
- WATERSTOP: RX WATERSTOP AS MANUFACTURED BY AMERICAN COLLOID COMPANY, OR APPROVED EQUAL.
- DRY PACK GROUT: NON-METALLIC, NON-SHRINK, CEMENTITIOUS GROUT, WITH MINIMUM 28 DAY STRENGTH OF 25 MPa (3600 psi).
- PLACE CONCRETE AS CLOSE AS POSSIBLE TO FINAL LOCATION TO AVOID SEGREGATION. VIBRATE ALL CONCRETE.
- BRING ALL FLOORS TO AN EVEN, LEVEL, OR SLOPING SURFACE AS INDICATED ON THE DRAWINGS, READY TO RECEIVE THE SPECIFIED FINISH.
- UNLESS NOTED OTHERWISE PROVIDE THE FOLLOWING FINISHES TO CONCRETE FLOORS:
  - INTERIOR FLOORS - STEEL TROWEL
  - EXTERIOR SIDEWALKS AND SLABS - BROOM FINISH
  - INTERIOR PARKING SLABS AND RAMPS - POWER FLOAT FINISH
  - DO NOT OVERWORK SLAB SURFACE. FLOOR TO BE LEVEL WITHIN 3 mm (1/8 INCH) IN 3000 mm (10 FT).
- MINIMUM CONCRETE THICKNESS FOR SIDEWALKS AND RAMPS IS 100 mm (4 INCH) UNLESS NOTED OTHERWISE.
- PROVIDE CONTROL JOINTS IN FOUNDATION/BASEMENT WALLS AT 6 m (20 FT) O/C MAXIMUM. SEE TYPICAL DETAILS.
- PROVIDE COOLED JOINTS IN SIDEWALKS AT 1200 mm (4 FT) O/C MAXIMUM.
- SUBMIT LOCATIONS OF ALL CONSTRUCTION JOINTS TO ENGINEER FOR APPROVAL.
- PROTECT CONCRETE FROM FREEZING. DO NOT PLACE CONCRETE AGAINST FROZEN GROUND. USE WINTER CONCRETING METHODS IN ACCORDANCE WITH CSA A23.1-04.
- PROTECT CONCRETE FROM EXCESSIVE HEAT AND DRYING. USE HOT WEATHER CONCRETING METHODS IN ACCORDANCE WITH CSA A23.1-04.
- CURE CONCRETE IN ACCORDANCE WITH A23.1-04, AND FOR A MINIMUM OF 7 DAYS AT A MINIMUM TEMPERATURE OF 10 DEGREES C. OR FOR THE TIME NECESSARY TO OBTAIN 70% OF THE SPECIFIED 28 DAY COMPRESSIVE STRENGTH.
- PARGE EXPOSED FOUNDATION WALL AND REINFORCE WITH MESH. APPLY BONDING AGENT.



AUGUST 18, 2014  
PERMIT NO. P5820

A	ISSUED FOR BUILDING PERMIT	08-18-14
NO.	REVISION	DATE

PERMIT TO PRACTICE NUMBER: P 5820

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- THIS IS A COPYRIGHT DRAWING AND DESIGN, AND SHALL NOT BE USED OR REPRODUCED WITHOUT WRITTEN APPROVAL OF KASSIAN DYCK AND ASSOCIATES.  
- THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS PRIOR TO COMMENCING WORK.  
- THESE DRAWINGS ARE NOT TO BE SCALED.

**KASSIAN DYCK ASSOCIATES**  
CONSULTING ENGINEERS

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PROJECT		SHOPPING CENTRE 2119 50TH AVE, RED DEER AB		
DWG. TITLE		GENERAL NOTES		
DRAWN RB	ENG. SP	PROJ. No. 14046	DWG No. S1.0	REV.
DATE 2014-08-18	SCALE AS NOTED			

**CONCRETE REINFORCEMENT NOTES:**

- ALL WORK TO BE IN ACCORDANCE WITH CSA A23.1-04 AND A23.3-04.
- REINFORCING BARS: DEFORMED BARS, GRADE 400 CONFORMING TO CSA G30.18 UNLESS NOTED OTHERWISE.
- WELDED WIRE FABRIC: GRADE 400 CONFORMING TO CSA G30.5. PROVIDE IN FLAT SHEETS ONLY.
- SHOP DRAWINGS SHALL INCLUDE BENDING, CUTTING, AND PLACING DRAWINGS FOR ALL REINFORCING STEEL. CLEARLY INDICATE CONCRETE COVER TO REINFORCING, BAR SIZES, GRADES, SPACING, REINFORCEMENT LOCATIONS, AND BAR SUPPORTS.
- PROVIDE CLASS B SPACES FOR ALL REINFORCEMENT UNLESS SHOWN OTHERWISE (600 mm (2 FT) MIN).
- PROVIDE ADDITIONAL SUPPORT BARS AS REQUIRED TO ADEQUATELY SUPPORT AND SECURE ALL REINFORCEMENT AND PREVENT MOVEMENT WHEN PLACING CONCRETE. PROVIDE AS A MINIMUM THE FOLLOWING:
  - 10M U BAR SPACERS AT 3 m (10 FT) O/C HORIZONTALLY AND 1.5 m (5 FT) O/C VERTICALLY TO HOLD WALL REINFORCING MATS IN POSITION
  - 15M SUPPORT BARS FOR SLAB TOP REINFORCING SPACED AT A MAXIMUM OF 600 mm (2 FT) O/C FOR 10M BARS, AND 1200 mm (4 FT) O/C FOR 15M AND LARGER BARS
  - 15M SUPPORT BARS AT A MAXIMUM OF 1200 mm (4 FT) O/C SPACING IN EACH DIRECTION FOR BOTTOM REINFORCING
  - 15M SUPPORT BARS IN HOOKS AND EACH CORNER OF STIRRUPS UNLESS SHOWN OTHERWISE
  - SUPPORT PILE CAP REINFORCEMENT AT 900 mm (3 FT) MAXIMUM O/C
- LOCATE CHAIRS FOR REINFORCING AT A MAXIMUM OF 1200 mm (4 FT) CENTRES.
- PROVIDE 15M X 1500 mm LONG DOWELS TO ALL REINFORCED MASONRY WALLS OR COLUMNS. NUMBER TO MATCH COLUMN OR WALL REINFORCING.
- UNLESS OTHERWISE SHOWN, CLEAR CONCRETE COVER TO REINFORCEMENT TO BE AS FOLLOWS:
 

SLABS, WALLS, JOISTS, 20M & SMALLER, EXPOSED	40 mm (1-5/8 INCH)
SLABS, WALLS, JOISTS, 20M & SMALLER, NOT EXPOSED, UP TO 2 HRS FIRE RATING	25 mm (1 INCH)
SLABS, WALLS, JOISTS, 20M & SMALLER, NOT EXPOSED, UP TO 3 HRS FIRE RATING	35 mm (1-3/8 INCH)
PARKING SLABS, TOP	40 mm (1-5/8 INCH)
PARKING SLABS, BOTTOM	30 mm (1-1/4 INCH)
CONCRETE POURED AGAINST EARTH	75 mm (3 INCH)
SLABS POURED AGAINST VOID FORM	50 mm (2 INCH)
COLUMN TIES, BEAM STIRRUPS	40 mm (1-5/8 INCH)
BEAMS & COLUMNS, PRINCIPAL REINF., 35M & SMALLER, EXPOSED	50 mm (2 INCH)
BEAMS & COLUMNS, PRINCIPAL REINF., 35M & SMALLER, NOT EXPOSED	40 mm (1-5/8 INCH)
BARs LARGER THAN THOSE LISTED ABOVE, EXPOSED	1.5 x DIAM.
BARs LARGER THAN THOSE LISTED ABOVE, NOT EXPOSED	1.0 x DIAM.

EXPOSED MEANS EXPOSURE TO EARTH AND/OR WEATHER
- ENSURE REINFORCING IS CLEAN, FREE OF LOOSE SCALE, OIL, DIRT, RUST, AND ANY OTHER FOREIGN COATINGS THAT AFFECT BONDING CAPACITY BEFORE PLACING REBAR.
- UNLESS NOTED OTHERWISE, ALL REBAR EMBEDMENT AND LAP SPlice LENGTHS TO BE AS SHOWN IN FOLLOWING TABLE. ALL TENSION LAP SPICES ARE CLASS B. WHERE NO EMBEDMENT TYPE IS INDICATED, PROVIDE TENSION EMBEDMENT. WHERE NO LAP SPICE TYPE IS INDICATED, PROVIDE TENSION LAP SPICE.

**TENSION DEVELOPMENT (EMBEDMENT) LENGTHS / LAP SPICE LENGTHS (mm)**

BAR SIZE	CONCRETE STRENGTH							
	20 MPa		25 MPa		30 MPa		35 MPa	
	EMBED.	LAP	EMBED.	LAP	EMBED.	LAP	EMBED.	LAP
10M	320	420	300	390	300	390	300	390
15M	480	630	430	560	390	510	370	480
20M	640	840	580	750	530	680	490	630
25M	1010	1310	900	1170	820	1070	760	990
30M	1210	1570	1080	1400	990	1280	910	1190
35M	1410	1830	1200	1640	1150	1500	1070	1380

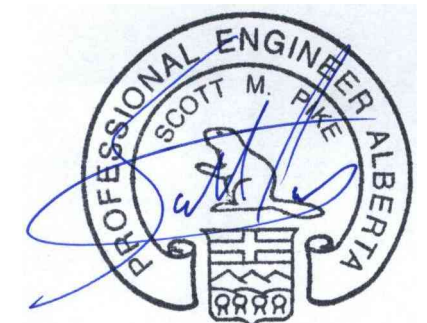
- NOTES: - ALL TOP BAR SPICES AND EMBEDMENT LENGTHS TO BE 1.3 TIMES LONGER THAN VALUES SHOWN ABOVE.  
 - TOP BARS ARE THOSE WHICH ARE CAST WITH 300 mm OR MORE CONCRETE BELOW BAR.  
 - STIRRUP SPICES NOT ALLOWED EXCEPT WHEN APPROVED BY ENGINEER  
 - SPICES FOR EPOXY COATED REINFORCEMENT TO BE INCREASED AS PER ENGINEERS INSTRUCTIONS.

**COMPRESSION LAP SPICE LENGTHS (mm)**

BAR SIZE	LAP
10M	300
15M	440
20M	580
25M	730
30M	880
35M	1020

**EXCAVATION AND BACKFILL NOTES:**

- ALL EARTHWORK INCLUDING EXCAVATION AND BACKFILL TO BE DONE IN ACCORDANCE WITH SOILS REPORT
- LOCATE ALL UNDERGROUND SERVICES PRIOR TO EXCAVATING OR DRILLING.
- STRIP ALL TOPSOIL, FILL, FROZEN SOIL, WET AND/OR WEAK SOILS, AND DEBRIS FROM THE BUILDING AREA.
- EXCAVATE TO ELEVATIONS SHOWN.
- TEMPORARY SLOPES FOR EXCAVATIONS NOT TO EXCEED 1 HORIZ. TO 1 VERT. IN CLAY, OR 2 HORIZ. TO 1 VERT. IN SAND. PROVIDE SHALLOWER SLOPES AS REQUIRED BY SOIL CONDITIONS.
- PRIOR TO PLACING FILL BELOW SLABS ON GRADE OR ASPHALT PAVING, PROOF ROLL THE SUBGRADE, REMOVE ANY SOFT AREAS AND REPLACE WITH COMPACTED PIT RUN GRAVEL, AND COMPACT EXISTING SUBGRADE TO OBTAIN THE SAME COMPACTION AS SPECIFIED FOR THE FILL.
- PIT RUN GRAVEL TO BE WELL GRADED, 100 mm (4 INCH) MINUS.
- CRUSHED GRAVEL TO BE 20 mm (3/4 INCH) ROAD CRUSH.
- BACKFILL AND FILL TO BE AS FOLLOWS:
  - CRUSHED GRAVEL BELOW SLAB ON GRADE
  - APPROVED NATIVE SOIL BELOW LANDSCAPED AREAS
- COMPACT ALL BACKFILL BELOW SLABS ON GRADE, ASPHALT PAVING, AND STRUCTURAL SLABS TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY. COMPACT ALL BACKFILL BELOW LANDSCAPED AREAS TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY. COMPACT IN MAXIMUM 150 mm (6 INCH) LIFTS.
- UNLESS NOTED OTHERWISE, FOUNDATIONS AND WALLS SHALL BE BACKFILLED EVENLY ON BOTH SIDES TO PREVENT LATERAL MOVEMENT. BACKFILL HEIGHTS SHALL NOT VARY BY MORE THAN 300 mm (12 INCH) FROM ONE SIDE TO THE OTHER. EXERCISE EXTREME CAUTION DURING BACKFILL OPERATIONS TO PREVENT DAMAGE TO THE CONCRETE. DO NOT BACKFILL BASEMENT WALLS UNTIL BASEMENT SLAB ON GRADE AND MAIN FLOOR FRAMING (C/W BLOCKING) IS IN PLACE AND IS PROVIDING PROPER HORIZONTAL SUPPORT FOR BASEMENT WALL.
- ALL SURFACE GRADING ADJACENT TO THE BUILDING SHALL BE SLOPED AWAY FROM THE STRUCTURE (ALLOW EXTRA SOIL TO ACCOUNT FOR SEASONAL SETTLEMENT).
- DO NOT ENCRUST A 45-DEGREE ANGLE OF BEARING FROM ADJACENT FOOTING BOTTOMS U.N.O.
- KEEP EXCAVATION DRAINED AND FREE OF WATER AT ALL TIMES.
- TAKE ALL NECESSARY MEASURES AND PRECAUTIONS TO PREVENT FREEZING OF SOILS BELOW FOOTINGS AND INTERIOR SLABS ON GRADE.
- REMOVE FROM SITE AND DISPOSE OF ANY SURPLUS MATERIAL.



AUGUST 18, 2014  
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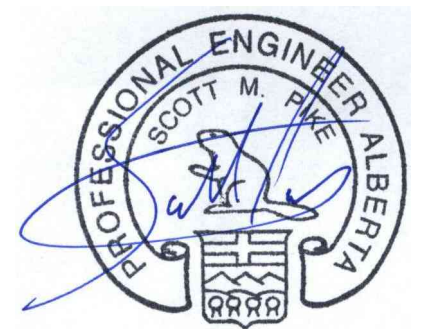
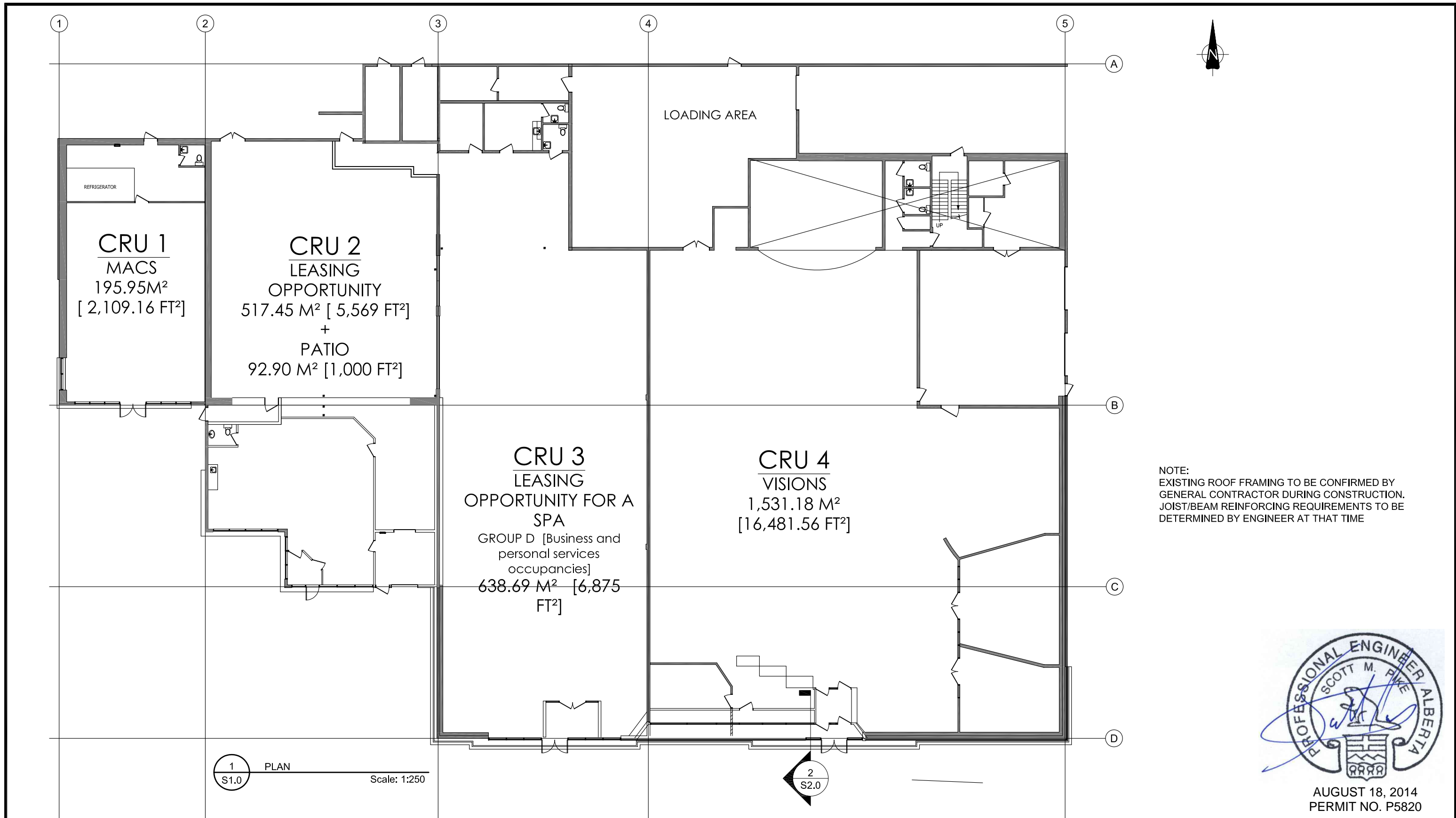
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PROJECT		SHOPPING CENTRE 2119 50TH AVE, RED DEER AB			
DWG. TITLE		GENERAL NOTES			
DRAWN	RB	ENG.	SP	PROJ. No.	DWG No.
DATE	2014-08-18	SCALE	AS NOTED	14046	S0.2
REV.					



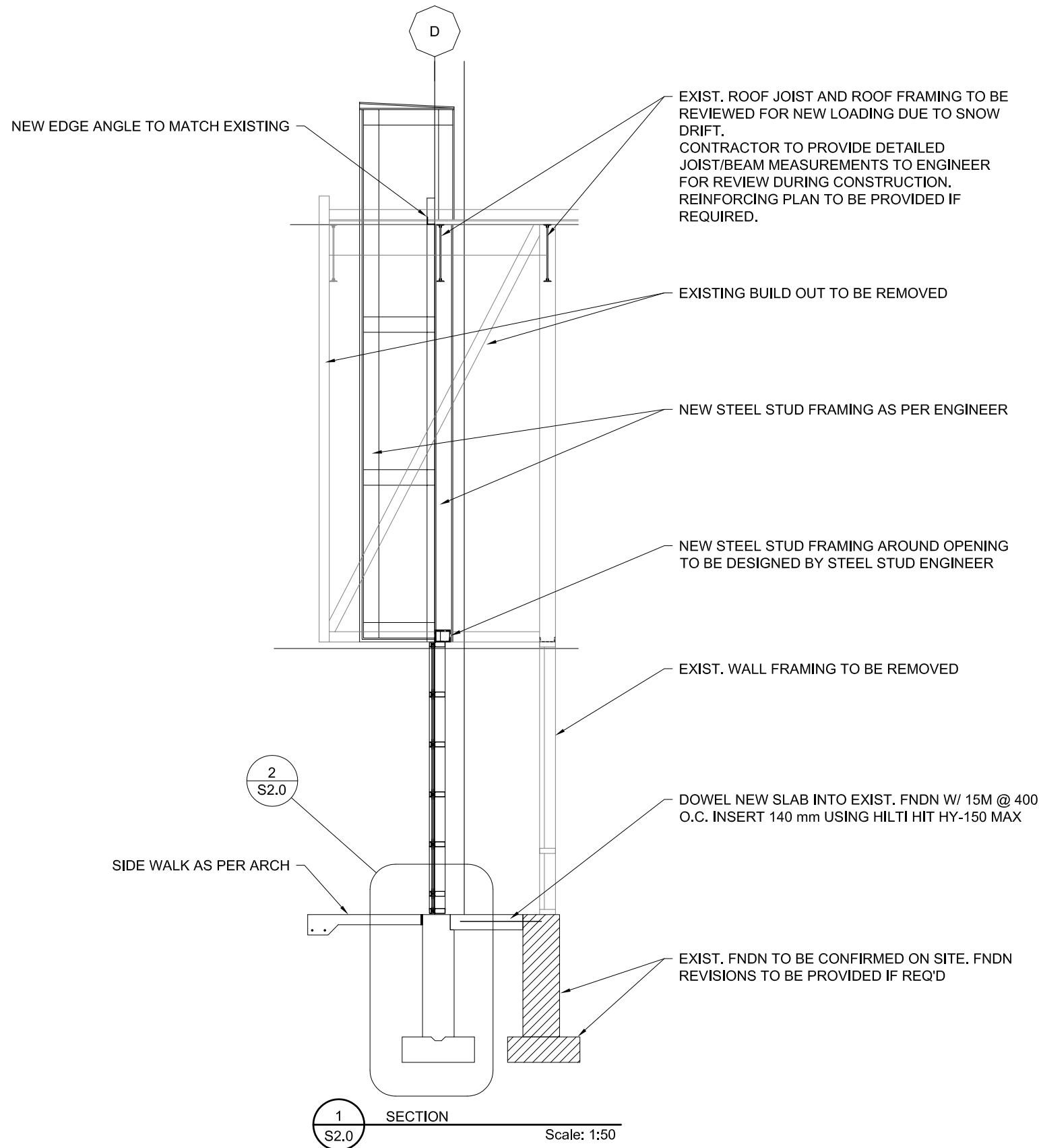
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			PROJECT <b>SHOPPING CENTRE</b> 2119 50TH AVE, RED DEER AB		
			DWG. TITLE FLOOR PLAN		
A	ISSUED FOR BUILDING PERMIT	08-18-14	DRAWN RB ENG. SP DATE 2014-08-18	PROJ. No. 14046 DWG No. S1.0 SCALE AS NOTED	REV.
NO.	REVISION	DATE	PERMIT TO PRACTICE NUMBER: P 5820		

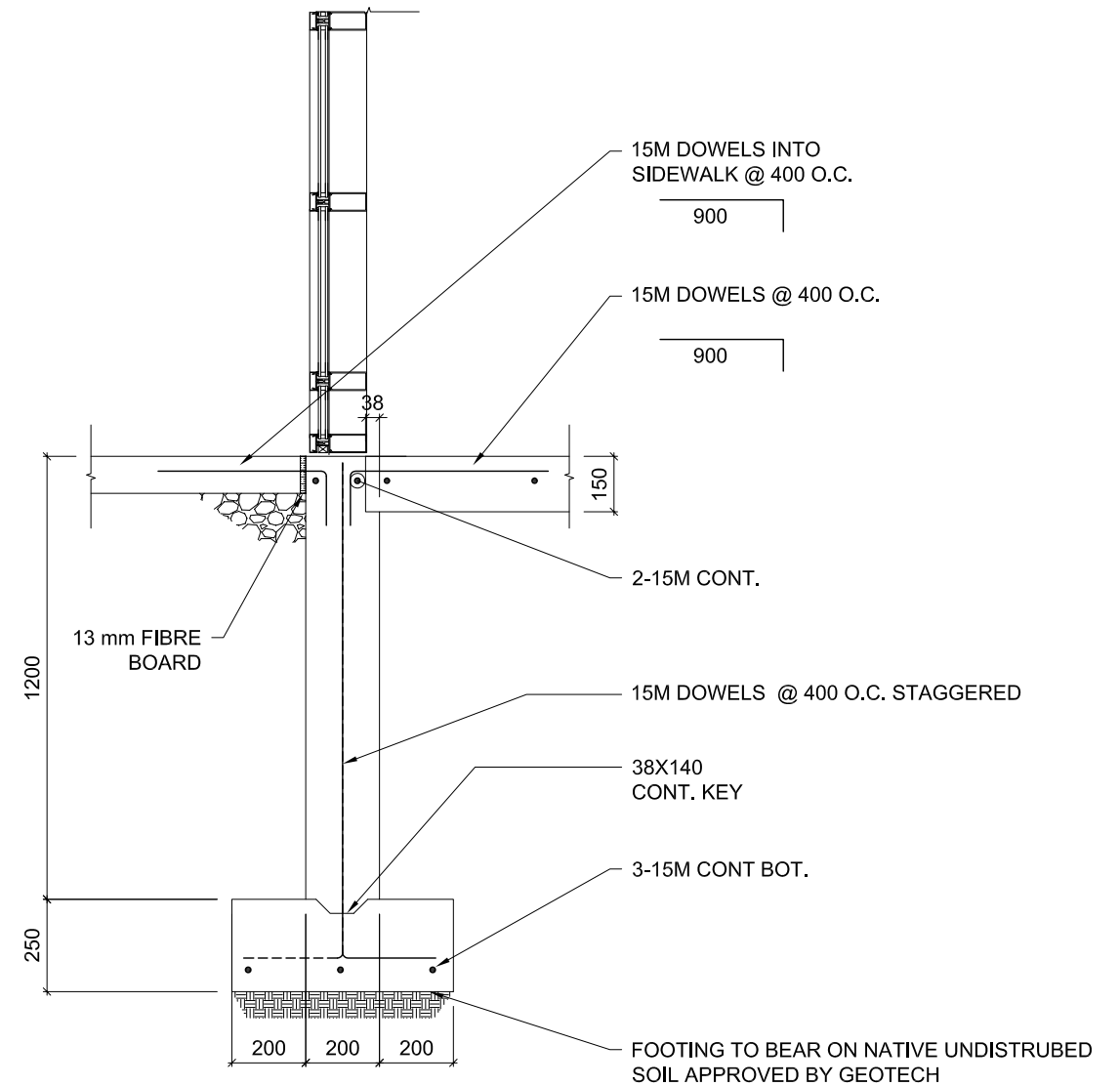
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 CONSULTING ENGINEERS

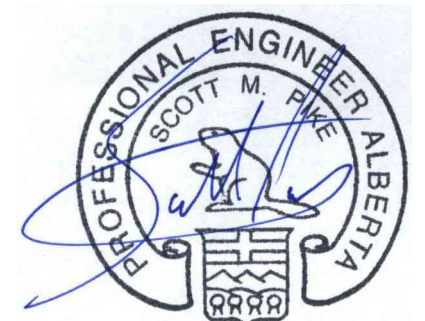
1475, 10655 SOUTHPORT ROAD S.W. CALGARY, ALBERTA, CANADA T2W 4Y1  
 PHONE (403) 255-6040 FAX (403) 255-6043  
 www.kdassociates.com



1 SECTION  
Scale: 1:50



2 DETIL  
Scale: 1:50



AUGUST 18, 2014  
PERMIT NO. P5820

NO.	REVISION	DATE
A	ISSUED FOR BUILDING PERMIT	08-18-14

PERMIT TO PRACTICE NUMBER: P 5820

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PROJECT		SHOPPING CENTRE 2119 50TH AVE, RED DEER AB		
DWG. TITLE		SECTION & DETAIL		
DRAWN	RB	ENG.	SP	PROJ. No.
DATE	2014-08-18	SCALE	AS NOTED	14046
		DWG No.	S2.0	REV.