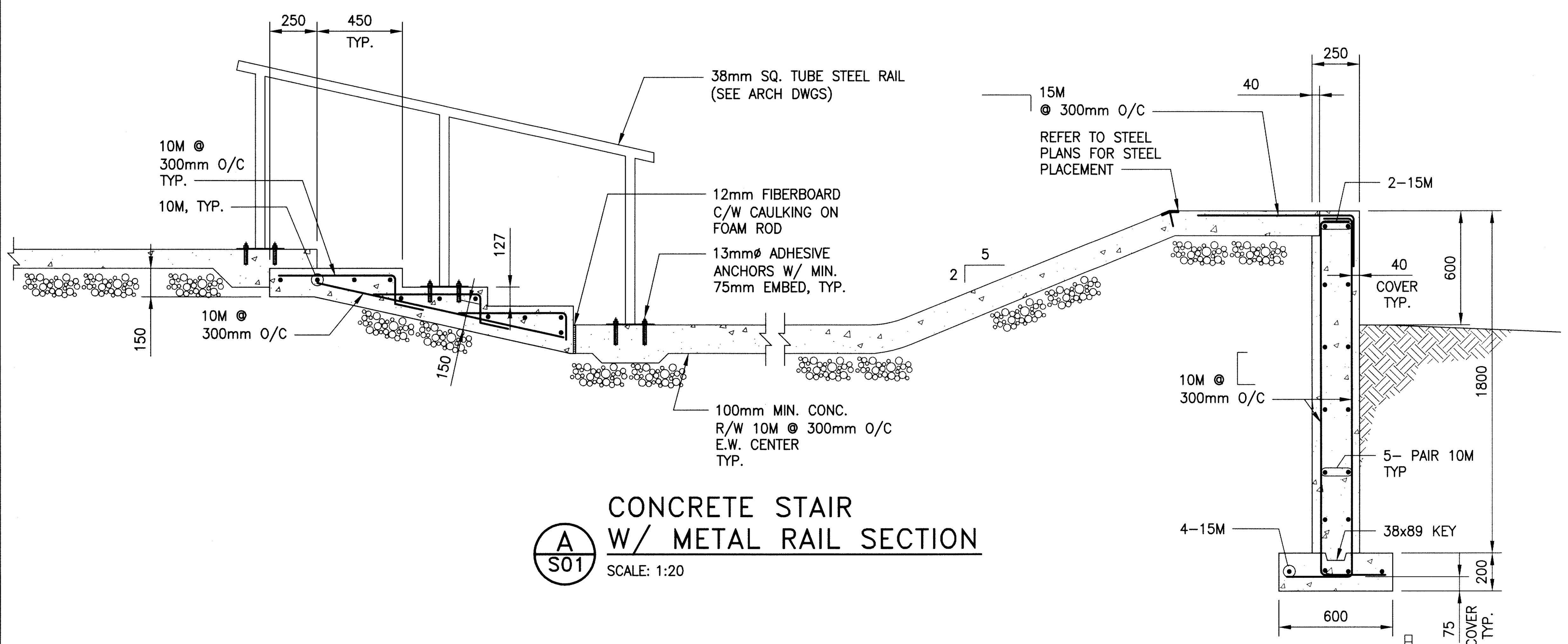
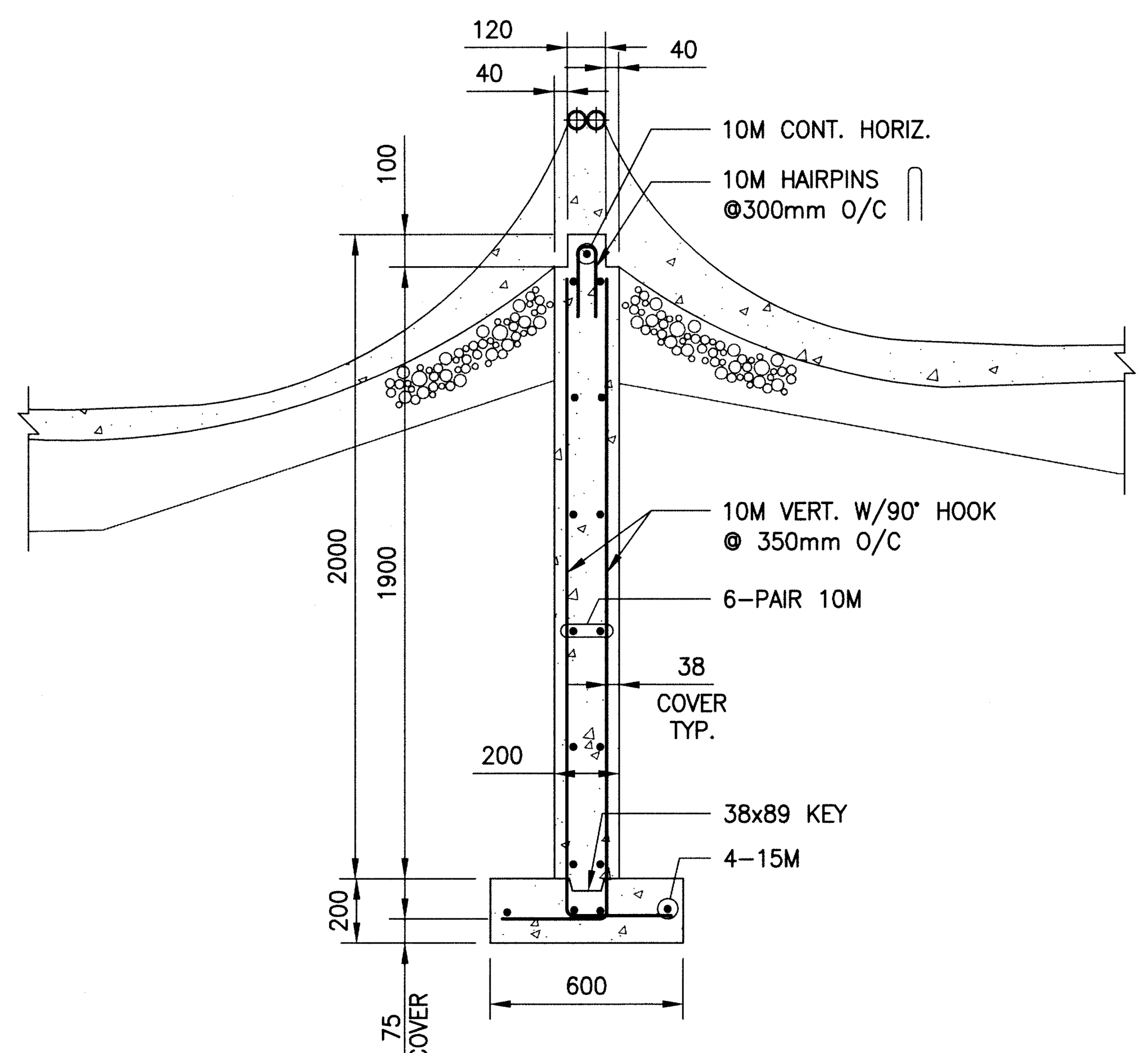


A/S01 CONCRETE STAIR W/ METAL RAIL SECTION
SCALE: 1:20



B/S01 SECTION
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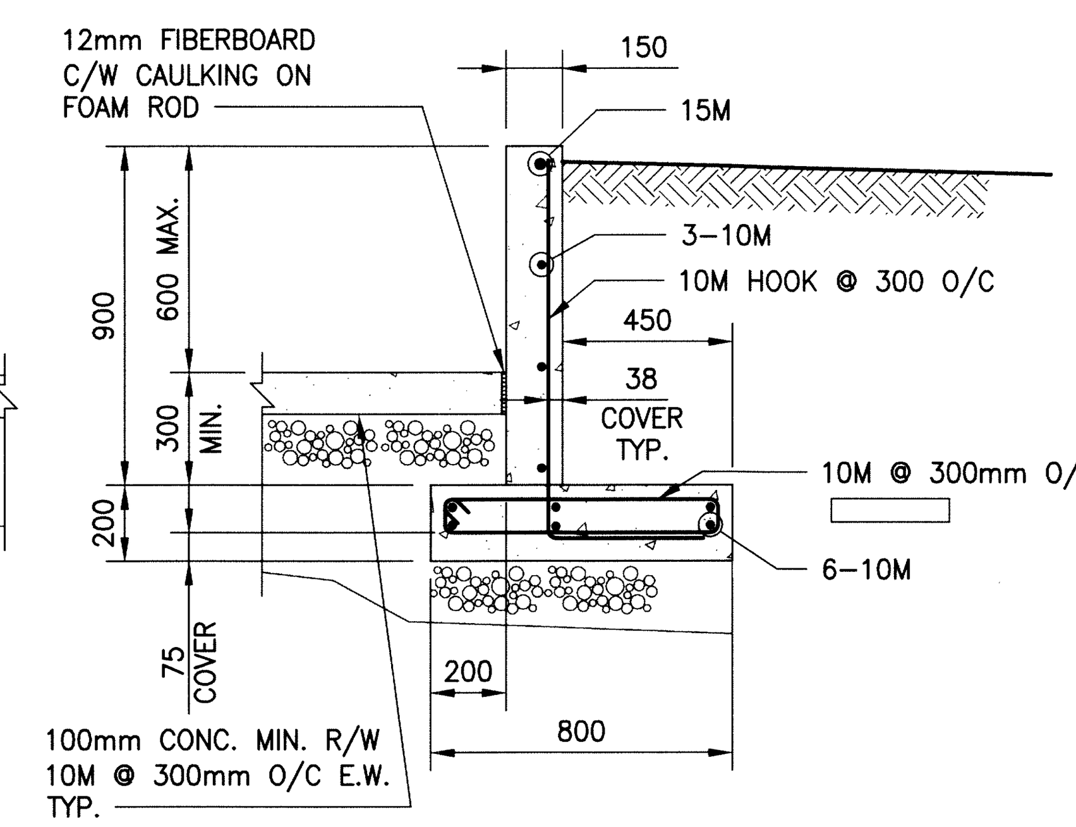

C/S01 SECTION
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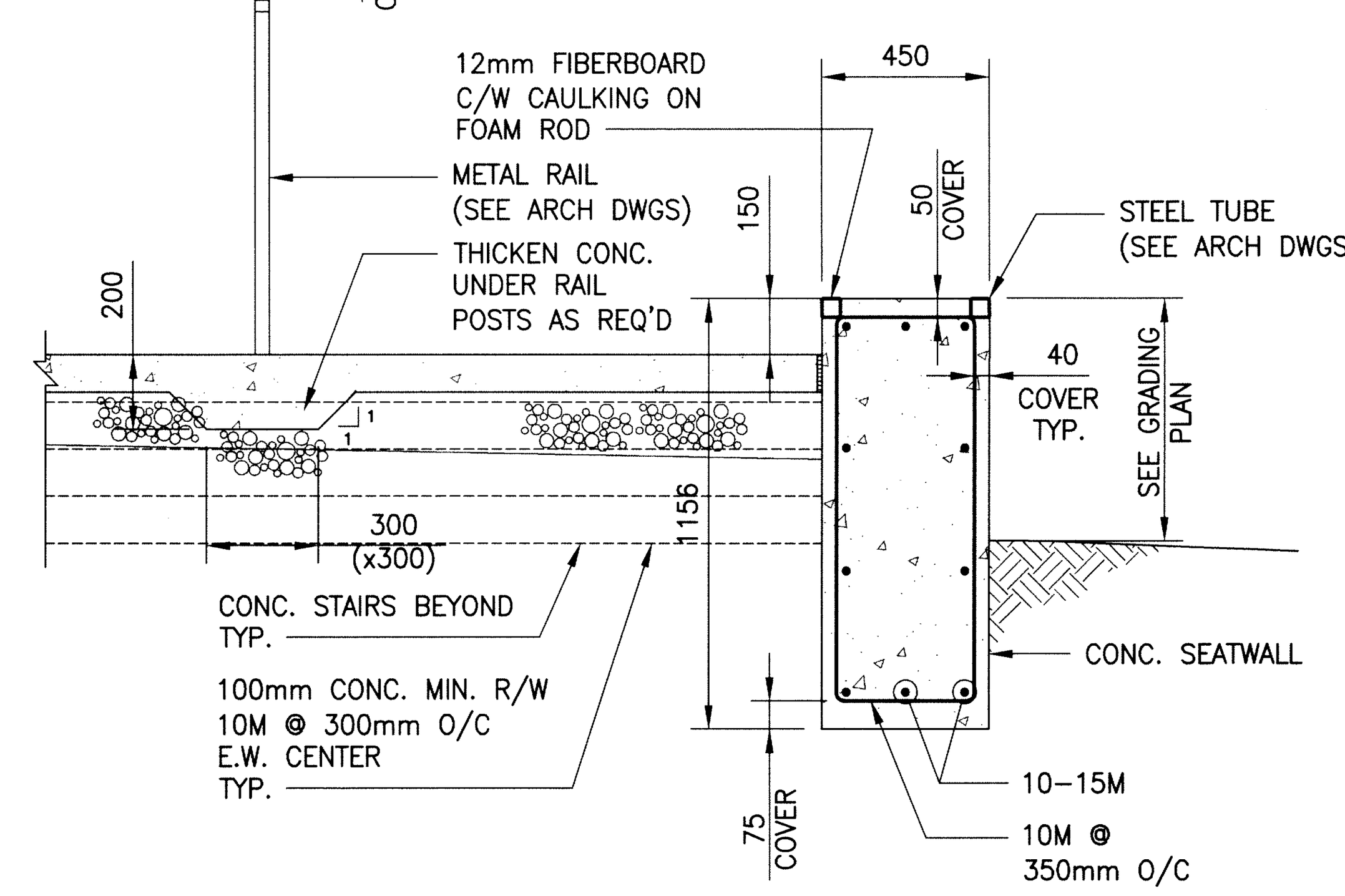
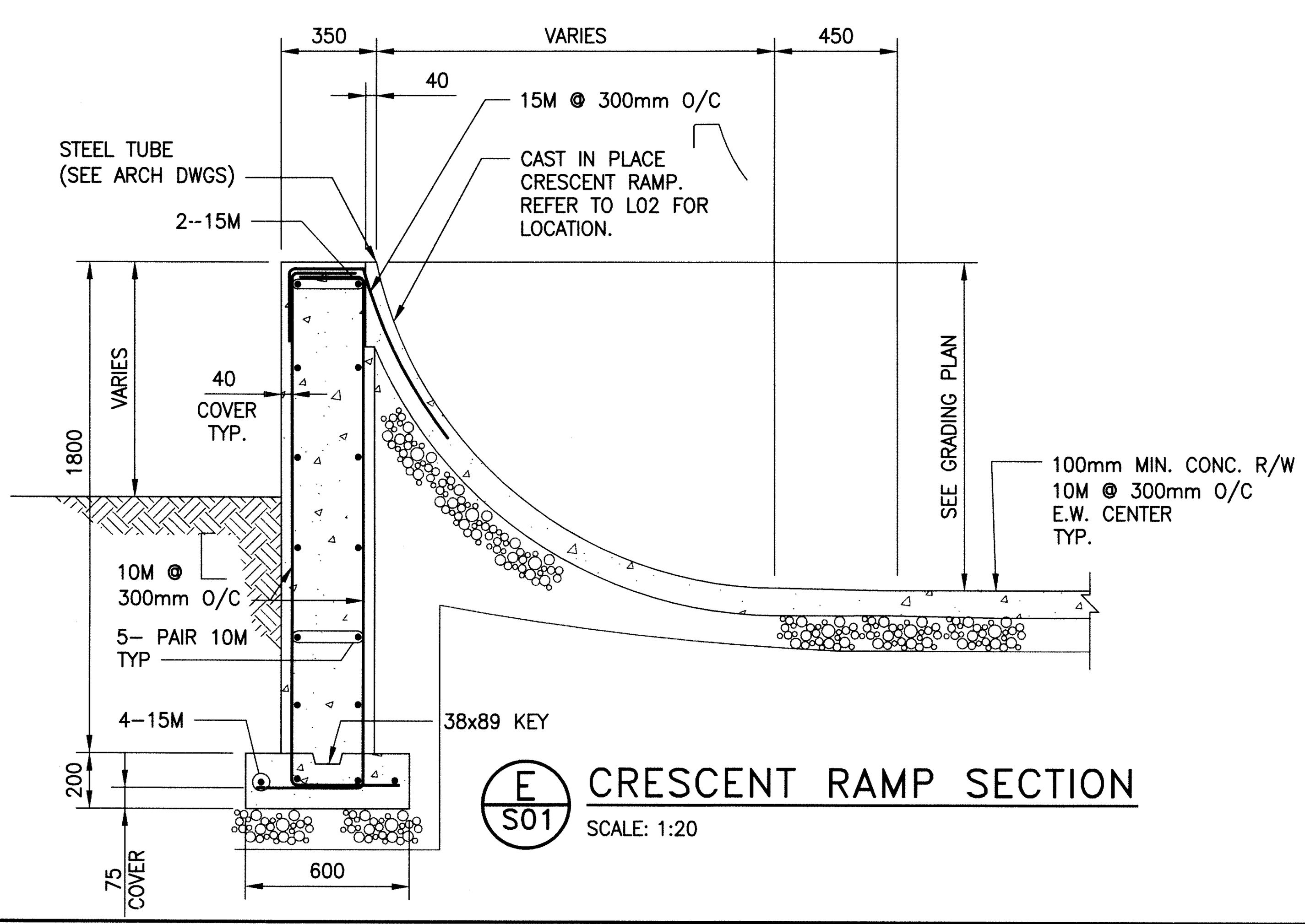


D/S01 CONCRETE SEATWALL SECTION
SCALE: 1:20



E/S01 CRESCENT RAMP SECTION
SCALE: 1:20

CONCRETE:

1. CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH CSA A23.1–09 (R2014). SEE BELOW FOR MIX REQUIREMENTS.
2. ADMIXTURES SHALL NOT BE USED UNLESS SPECIFIED HEREIN OR APPROVED BY THE CONTRACT ADMINISTRATOR. CALCIUM CHLORIDE SHALL NOT BE USED.
3. MIX WATER SHALL BE POTABLE.
4. DESIGN, FABRICATE AND ERECT FORMWORK/SHORING IN ACCORDANCE WITH CAN/CSA–S269.3–M92 (R2013). ALLOW SUFFICIENT CONCRETE CURING TIME PRIOR TO REMOVAL.
5. CONCRETE FINISHING SHALL MEET THE REQUIREMENTS OF CSA A23.1–09 (R2014).
6. FORM RELEASE AGENT SHALL BE BIODEGRADABLE, NON–STAINING AND NON–VOLATILE.
7. PROVIDE ADEQUATE COLD/HOT WEATHER PROTECTION AS REQUIRED DURING CURING PERIOD.
8. PLACE AND SECURE ALL EMBEDDED ANCHORS, WELD PLATES, SLEEVES, BUCKS, DOWELS, INSERTS, WATERSTOPS, ETC., PRIOR TO PLACING CONCRETE. CO–ORDINATE WITH ALL TRADES FOR EMBEDDING OF ALL OTHER, CONDUIT, SERVICES, BLOCKING, ETC.
9. ALL EXPOSED CORNERS TO HAVE 25mm CHAMFER FILLET UNLESS NOTED.
10. CAST–IN–PLACE ANCHOR BOLTS SHALL MEET REQUIREMENTS OF ASTM A307–14.
11. EXPANSION ANCHORS SHALL BE HILTI KWIK–BOLTS OR APPROVED EQUAL IN ACCORDANCE WITH B7, UNLESS NOTED. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
12. ADHESIVE ANCHORS SHALL BE HILTI HY200 HAS RODS OR APPROVED EQUAL IN ACCORDANCE WITH B7, UNLESS NOTED. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.
13. GROUT REINFORCING DOWELS WITH EPOXY GROUT HILTI HIT–HY200 MAX, OR APPROVED EQUAL IN ACCORDANCE WITH B7. GROUT BASE PLATES WITH NON–SHRINK GROUT SIKA M–BED STANDARD, OR APPROVED EQUAL IN ACCORDANCE WITH B7. PLACE AND CURE ALL GROUT WITHIN TEMPERATURE RANGE RECOMMENDED BY MANUFACTURER.
14. BONDING AGENTS SHALL BE USED TO ADHERE NEW CONCRETE TO EXISTING CONCRETE OR STEEL. ACCEPTABLE PRODUCT: SIKADUR 32 HI–MOD (EPOXY), SIKA LATEX R (ACRYLIC, MIX INTO GROUT) OR APPROVED EQUAL IN ACCORDANCE WITH B7.
15. THE CONCRETE SUPPLIER SHALL BE CERTIFIED TO MEET THE REQUIREMENTS OF CSA A23.1–09 (R2014).
16. THE CONCRETE SUPPLIER SHALL SUBMIT CONCRETE MIX DATA SUBMISSION FORMS FOR EACH TYPE OF CONCRETE SPECIFIED FOR REVIEW PRIOR TO BATCHING ANY CONCRETE.

CONCRETE MIX DESIGNS:

CONCRETE MIX DESIGN SHALL BE PROPORTIONED TO MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

EXTERIOR SLABS AND BEAMS:

EXPOSURE CLASS	C–2
MIN. 28 DAY COMP. STRENGTH	32 MPa
CEMENT TYPE	GU
MAX. W/C RATIO	0.45
MAX. AGGREGATE SIZE	20mm
ENTRAINED AIR CONTENT	5%–8%

REINFORCING STEEL:

1. REINFORCING STEEL TO BE NEW DEFORMED BILLET STEEL BARS CONFORMING TO CSA G30.18–09 (R2014). GRADE TO BE 400 MPa.
2. REINFORCING STEEL SHALL BE CLEAN, FREE OF RUST, DIRT, LOOSE SCALE, OIL, GREASE OR ANY OTHER MATERIAL WHICH WOULD REDUCE BOND WITH THE CONCRETE.
3. SUBMIT SHOP DRAWINGS WHICH CLEARLY INDICATE BAR SIZES, SPACINGS, LOCATIONS & QUANTITIES OF REINFORCING STEEL, BENDING & CUTTING SCHEDULES, SUPPORTING & SPACING DEVICES, ETC. FOR REVIEW PRIOR TO FABRICATION. DETAIL, FABRICATE AND PLACE REINFORCING IN ACCORDANCE WITH CSA A23.1–09 (R2014), CSA A23.3–14 AND ACI SP–66 (2004) UNLESS NOTED. LAP STEEL 36 BAR DIAMETERS (MINIMUM) UNLESS NOTED.
4. BEND ALL HORIZONTAL REINFORCING 305mm AROUND CORNERS OR PROVIDE ADDITIONAL 610mm X 610mm ANGLE BARS.
5. TIE, SUPPORT AND SPACE ALL REINFORCING STEEL WITH PROPER APPROVED DEVICES DESIGNED FOR USE IN REINFORCED CONCRETE, TO PREVENT DISPLACEMENT OF REINFORCING AND ENSURE SPECIFIED CONCRETE COVER.
6. PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:

FOUNDATION WALLS (EXTERIOR FACE)	38mm
FOUNDATION WALLS (INTERIOR FACE)	38mm
FOUNDATION WALLS (BOTTOM)	75mm
SLAB–ON–GRADE (TOP)	50mm
SLAB–ON–GRADE (BOTTOM)	50mm
FOOTING (BOTTOM)	75mm
FOOTING (SIDE)	35mm

EXCAVATION & BACKFILL:

1. REMOVE ALL FILL MATERIALS, DELETERIOUS SOILS AND ORGANICS IN AREAS REQUIRING GRANULAR BASE MATERIALS. COMPACT SUBGRADE TO 98% STANDARD PROCTOR DENSITY. SUB–EXCAVATE AND REPAIR ALL AREA EXHIBITING UNSUITABLE DEFLECTIONS.
2. GRANULAR BASE TO BE PLACED ON GRADE SHALL BE COMPACTED TO 98% STANDARD PROCTOR DENSITY IN MAXIMUM 150mm LIFTS.
3. DO NOT COMPACT FROZEN BACKFILL OR PLACE ON FROZEN SUBGRADE.
4. SUB–GRADE, SUB–BASE AND BASE COURSE MATERIALS AND CONSTRUCTION METHODS SHALL BE AS PER CITY OF WINNIPEG SPECIFICATION CW3110, SPECIFICATION UNLESS NOTED.

REVISIONS / ISSUE

NO.	YY/MM/DD	DESCRIPTION	BY
1	16/02/08	ISSUED FOR RE–TENDER	
0	15/07/10	ISSUED FOR CONSTRUCTION	RJL

CLIENT: SCATLIFF + MILLER + MURRAY Inc.

PROJECT: CHORNICK SKATE PARK
CHORNICK PARK
WINNIPEG, MB

DWG. DESCRIPTION: SECTIONS & NOTES

APEGM Certificate of Authorization
KGS Group
No. 245

AUTHENTICATION FOR CURRENT REVISION
ENG. STAMP: PROVINCE OF MANITOBA, R.J. LONG, REGISTERED PROFESSIONAL ENGINEER

KGS GROUP CONSULTING ENGINEERS

DESIGN BY:	RJL	DATE (YY/MM/DD):	15/06/09
DESIGN CHECK:	PPG	DATE:	15/07/10
DRAWN BY:	JAR	DATE:	15/06/09
DWG CHECK:	RJL	DATE:	15/07/10

DWG. NO.: 15–0109–003 S02 REV.: 1