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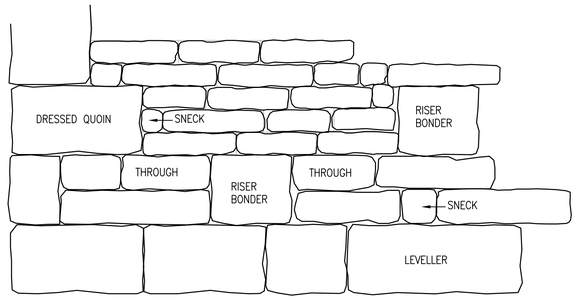

FRONT ELEVATION OF MASONRY WALL TYPICAL STONE ARRANGEMENT

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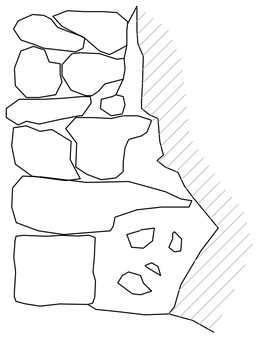

SIDE ELEVATION OF WALL FACING ROCK

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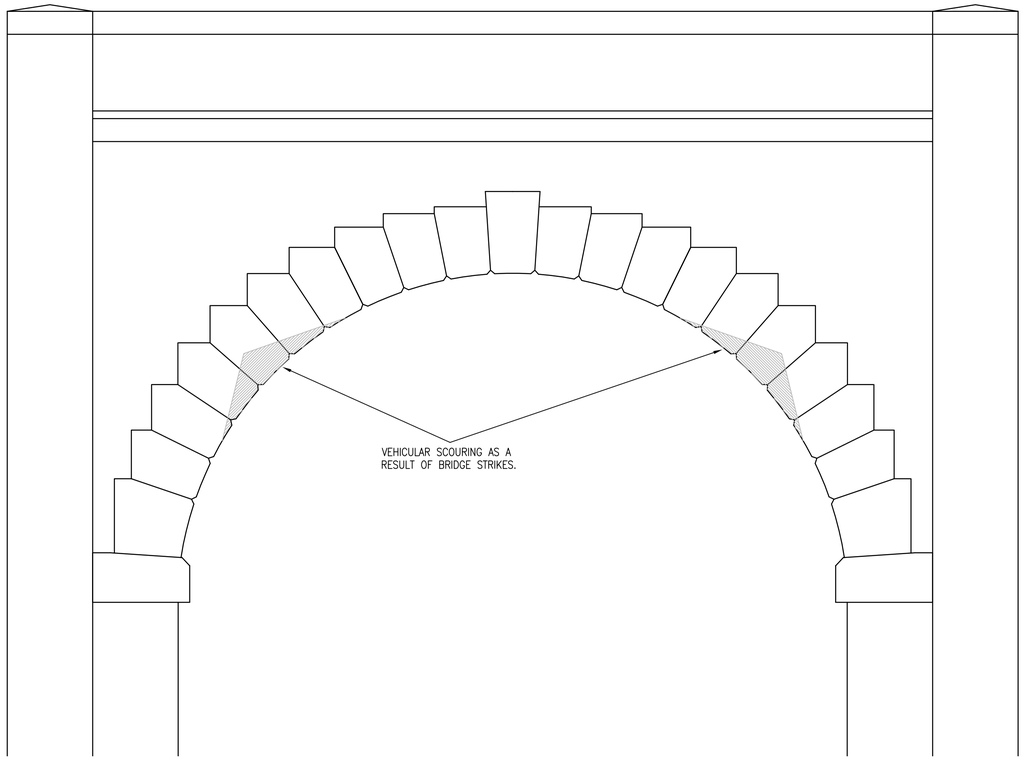
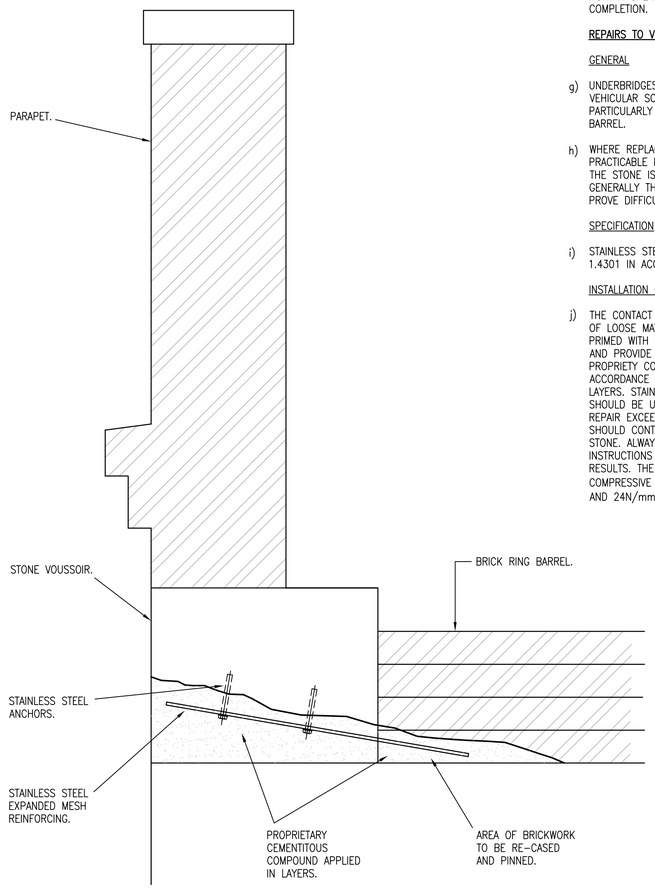


SCOURING PRODUCED BY VEHICLE STRIKE

SCALE 1 : 20



MASONRY REMOULDING OF VOUSSOIR AND ARCH BARREL

SCALE 1 : 10

NOTES

MASONRY

SPECIFICATION

a) DEFECTIVE MASONRY SHALL BE CUT OUT TO SUCH WIDTHS AND DEPTHS AS DIRECTED BY THE EMPLOYERS REPRESENTATIVE AND BE GENERALLY CONFINED TO SMALL AREA OF REPAIR NO MORE THAN $0.5m^2$

b) TO MAKE GOOD A REPAIR IT SHOULD BE PROPERLY MATCHED, COURSED AND BONDED INTO EXISTING INCLUDING THE EXECUTION OF PINNING AS MAY BE REQUIRED. SEE DRAWINGS NR/CIV/SD/106 & 107.

c) CUTTING AWAY OF EXISTING MASONRY SHALL BE CARRIED OUT WITH THE MINIMUM DISTURBANCE TO ADJOINING MASONRY, WHICH SHALL BE SUPPORTED OR SHORED UP AS REQUIRED.

d) ONCE EXPOSED THE BACKING OF THE REPAIR AREA MUST BE WASHED WITH UNCONTAMINATED TAP WATER TO REMOVE ALL TRACES OF FINES OR WASHED SOIL AND TO CONTROL THE SUCTION RATE.

e) THE STONE IN WALLING SHALL BE PLACED WITH THE GRAIN, OR NATURAL BED HORIZONTAL. IN ARCH RINGS THE GRAIN SHALL BE PARALLEL TO THE BED JOINTS OF THE VOUSSOIRS.

INSTALLATION GUIDANCE

f) MORTAR TO COMPRISE ONE PART OF PORTLAND CEMENT TO FOUR AND ONE HALF PARTS CRUSHED STONE DUST FILLER, TOGETHER WITH AN AIR ENTRAINING AGENT. THE MORTAR TESTED IN ACCORDANCE WITH BS 4551.
JOINTS SHALL MATCH EXISTING AND SHALL BE CUT AND STRUCK AS DIRECTED BY THE EMPLOYERS REPRESENTATIVE.
ALL STONE SHALL BE SET IN AND SURROUNDED BY A FULL BED OF MORTAR AS THE WORK PROCEEDS. SEE ACCOMPANYING DRAWING FOR EXAMPLE OF POSITIONING AND PLACEMENT.
THE STONE SHALL BE PROPERLY CLEANED DOWN AND CASED OR OTHERWISE PROTECTED AS NECESSARY.
STONE LIABLE TO STAIN SHALL BE FACE COATED WITH A SLURRY OF LIME PUTTY, PLASTER OR STONE DUST. ALL MORTAR SPLASHES SHALL BE REMOVED UPON COMPLETION.

REPAIRS TO VEHICLE DAMAGED STONE

GENERAL

g) UNDERBRIDGES OVER HIGHWAYS ARE LIABLE TO VEHICULAR SCOURING AS A RESULT OF BRIDGE STRIKES. PARTICULARLY THE VOUSSOIRS AND ADJACENT ARCH BARREL.

h) WHERE REPLACEMENT OF STONES IS NEITHER PRACTICABLE NOR COST EFFECTIVE, REMOULDING OF THE STONE IS AN ACCEPTABLE ALTERNATIVE SOLUTION. GENERALLY THE REPAIR WILL BE OVERHEAD AND WILL PROVE DIFFICULT TO CARRY OUT.

SPECIFICATION

i) STAINLESS STEEL MESH AND ANCHORS SHALL BE GRADE 1.4301 IN ACCORDANCE WITH BS EN 10088-1.

INSTALLATION GUIDANCE

j) THE CONTACT SURFACE SHOULD BE CLEAN AND FREE OF LOOSE MATERIAL. THE SURFACE SHOULD THEN BE PRIMED WITH CEMENT TO REDUCE THE SUCTION RATE AND PROVIDE GOOD ADHESION. AN APPROPRIATE PROPRIETY COMPOUND CAN BE APPLIED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS IN LAYERS. STAINLESS STEEL MESH PINNED TO THE STONE SHOULD BE USED WHERE THE THICKNESS OF THE REPAIR EXCEEDS 50mm. THE FINAL FINISHING LAYER SHOULD CONTAIN COLOURING TO MATCH EXISTING STONE. ALWAYS REFER TO THE MANUFACTURERS INSTRUCTIONS FOR APPLICATION AND THE BEST RESULTS. THE FINISHED REPAIR SHALL HAVE A TYPICAL COMPRESSIVE STRENGTH OF 7.5N/mm^2 AFTER 1 DAY AND 24N/mm^2 AFTER 28 DAYS.

GENERAL

1. WHEN SELECTING MASONRY, SUITABILITY FOR STRUCTURAL PURPOSES DEPENDS ON AVAILABILITY AND WORKABILITY. IT SHOULD PREFERABLY BE LOCAL STONE AND IDEALLY HAVE HIGH COMPRESSIVE STRENGTH WITH LOW POROSITY.
2. CARE MUST BE TAKEN WHEN STORING AND HANDLING STONE TO PREVENT DAMAGE.
3. WHEREVER POSSIBLE SOUND STONE SHALL BE RE-USED. STONE SHALL BE ACCURATELY CUT AND DRESSED TO THE DIMENSIONS AND STYLE OF FINISH REQUIRED. IT SHALL BE DEVOID OF FLAWS.

DESIGN ASSUMPTIONS

NONE.

RISK ASSESSMENT

REFER TO DRAWING NR/CIV/SD/101.

Rev	Date	Description of revision	Design'd	C'kd
A	22.06.06	FIRST ISSUE -NR APPROVED	RMA	NGAY
P3	17.03.06	REVISED FORM B.	RMA	NGAY
P2	31.01.06	FORM B ISSUE.	RMA	NGAY
P1	13.01.06	PRELIMINARY DRAFT	RMA	NGAY

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BRICK AND MASONRY REPAIR STANDARD DRAWINGS

MASONRY REFURBISHMENT

Scale	AS SHOWN	
Drawing Number	NR/CIV/SD/115	REV. A

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