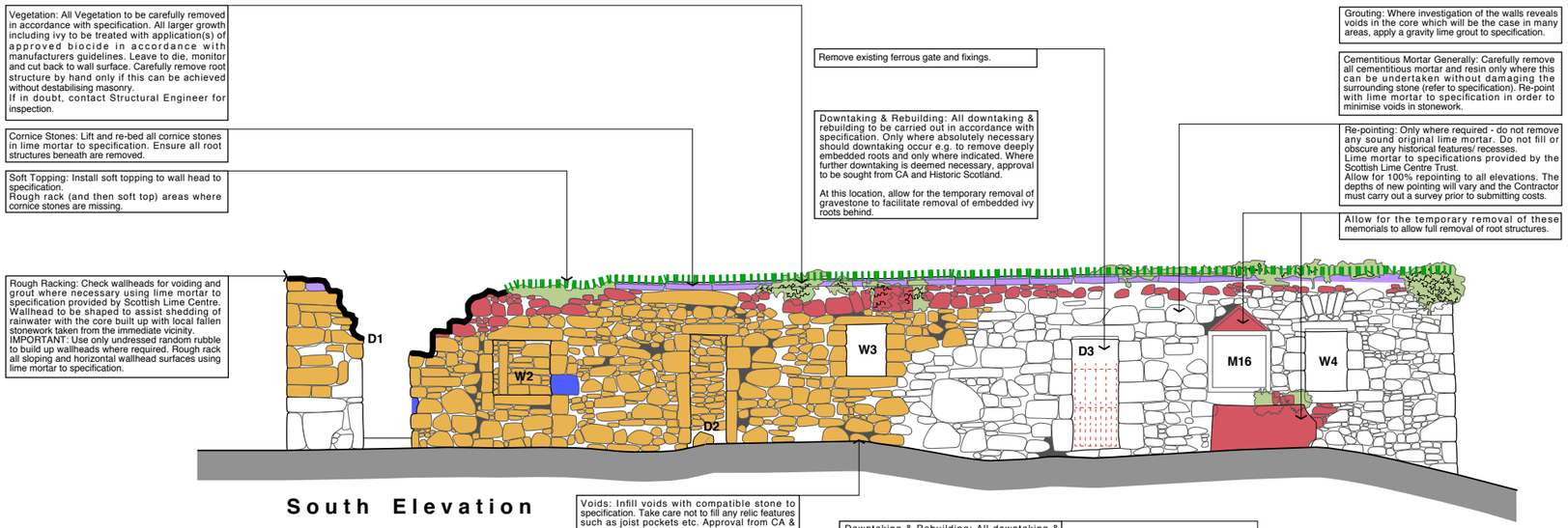

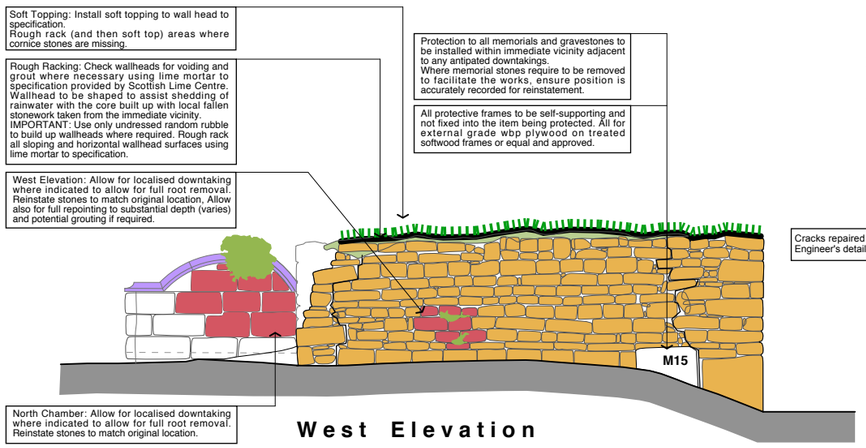

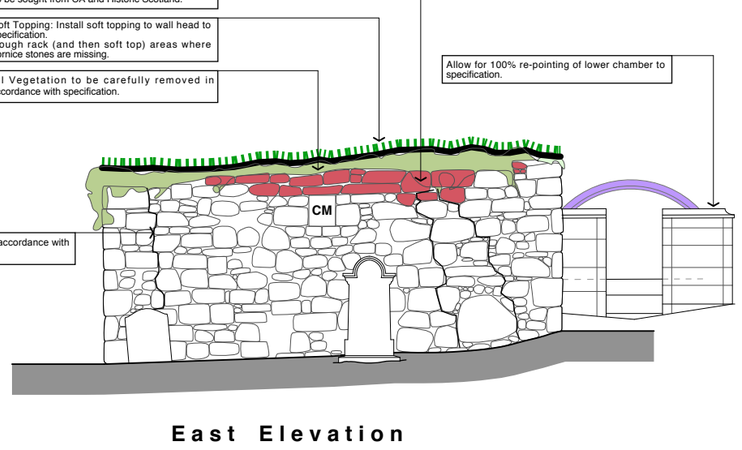

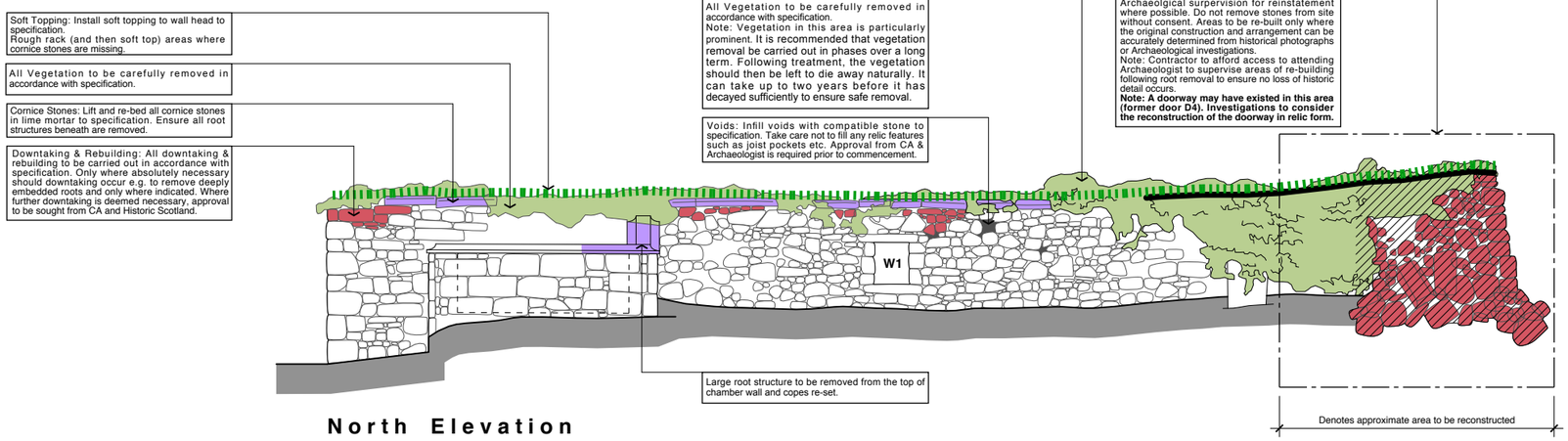

NOTE: Areas marked for downtaking are notional only and are an estimate only at the time of survey. Further downtaking may be required as the root structures continue to destabilise masonry over time. A furter review will be reguried with the Stonemason prior to works commencing and approval sought thereafter from HES.

1.00 VEGETATION REMOVAL:-

1.01 General Notes

Where possible and in order to minimise risk of collapse or damage to the historic monument, it is recommended that vegetation removal be carried out in phases over a long term. Following treatment, the vegetation should then be left to die away naturally. It can take up to two years before it has decayed sufficiently to ensure safe removal. The state of the vegetation should be periodically checked as it may require a second treatment during this time, and perhaps again a few weeks prior to removal.
The plant must never be removed from walls while still alive. Once the stems have died, they should be removed with the utmost care by hand, not with a rope or any other means, in order to avoid damage to the monument or possible collapse of loose masonry. On areas of loose masonry, ivy mattes are often keeping masonry sections in place. Therefore it is best to leave the withered ivy on the wall until the conservation work on that respective wall section is being undertaken.

Temporary masonry supports should be installed to affected areas prior to removing vegetation. Do not fix into masonry or mortar and ensure that propping does not come into direct contact with masonry - use timber packers or equal and approved.

Vegetation removal should not commence without attendant consolidation by an experienced stonemason.

It is anticipated that some dismantling of masonry around large roots will be required and this will involve the removal of the root and resetting the original stonework. Prior to any works commencing, the Contractor must carry out a detailed photographic and dimensional survey. Any areas that require to be taken down and re-built should be recorded in detail with the stones numbered in French chalk or lime. It is recommended that no downtaking proceed without the attendance and supervision of an Archaeologist. See section 2.01 'Downtaking' below for further details.

1.02 Ivy & Trees

Cut away or trim any vegetation that can be easily removed from, and around, the monument, including trees, shrubs etc. Ivy should be cut back as close to the face of the masonry as possible, without endangering the structural integrity.

The trimmed face should be sprayed immediately with an appropriate herbicide such as 'Roundup Pro Biactive 360' or equal and approved. Ivy roots and shoots can seal themselves within an hour once damaged, and so must be sprayed as soon as possible.

The main ivy stem(s) should be cut at the base of the root, removing a piece at least 300mm in length. This effectively cuts off the water supply to the plant. The use of power tools including chain saws is not permitted. A handsaw is appropriate, taking care not to let the saw strike the vulnerable masonry. If the root is small, it should then be painted or sprayed immediately after cutting with the chosen herbicide. If the root is of reasonable size, up to 200mm in diameter, drill a hole into the stump 80mm long and fill with the herbicide solution, then plug. Should the root be wider than 200mm, a series of holes can be drilled into the stump, making sure the holes are at least 30mm in from the cambium (the formative layer of cellular tissue that lies between the young wood and the outer surface layer). The herbicide solution should then be poured in and the holes plugged. Once the main root has been cut, secondary roots may attempt to burrow invasively into the weaker areas of wall fabric to access moisture naturally present in the walls. Immediate spraying will prevent this damage occurring.

2.00 MASONRY REPAIRS:-

2.01 Downtaking

Note: Only where absolutely necessary should downtaking occur e.g. to remove deeply embedded roots and only where approved.

Once the vegetation has been allowed to die back the Contractor must photograph and record all areas that may have to be taken down (in agreement with the Structural Engineer) in order to extract the remaining roots. Carefully number all stones using French chalk or lime to facilitate accurate re-building. Remove existing root structures by hand taking care not to destabilise walling as far as possible. Take care not to disrupt or lose any historic features or details such as joist pockets, joints, harling remains, carved stones, window relics etc.

Allow for the careful dismantling of the later built brick chamber within the west end of the Chapel. The existing concrete slab is to be broken up and removed under archaeological supervision. Note: all subject to approval by Historic Scotland.

Note: Contractor to allow for affording access to attending Archaeologist to supervise any areas of downtaking.

2.02 Re-building

All masonry is to be reconstructed to match the original arrangement following removal of all root systems. Re-built sections to match the original in terms of stone type, size, location, pattern of jointing, use of pinnings and mortar type and detail.

Re-building mortar to be to the Scottish Lime Centre Specification:

Note: All mortar mixes are subject to approval by Historic Environment Scotland & the Scottish Lime Centre Trust. Sample panels of each mix must be provided for approval.

1 part St. Astier NHL 3.5 lime: 2 parts sharp concrete sand (Newbigging Quarry)

Sand has been matched by the Scottish Lime Centre (refer to SLC report)

Re-building mortar to be kept back 40mm from the face of the wall.

Note: Contractor to afford access to attending Archaeologist to supervise areas of re-building following root removal to ensure no loss of historic detail occurs.

KEY:-

- Extent of anticipated downtaking and reconstruction to match original arrangement.
- Areas where extensive re-pointing is required to a substantial depth (varies). (Remaining areas to be repointed only where required).
- Cornice/ cope stones to be lifted and rebedded to specification.
- Vegetation to be removed.
- Potential new stone indents to specification.
- Areas of excessive voiding to be built up to specification.
- Soft Topping
- Rough Racking

NOTES

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DO NOT SCALE DIMENSIONS FROM THIS DRAWING. ALL DIMENSIONS, INCLUDING FIGURED DIMENSIONS, TO BE CHECKED ON SITE PRIOR TO COMMENCING ANY WORKS

2.03 Re-building of Existing Collapsed Sections

Existing fallen masonry to be sorted under archaeological supervision for reinstatement where possible. Do not remove stones from site without consent. Areas to be re-built only where the original construction and arrangement can be accurately determined from historical photographs or archaeological investigations.

Note: Contractor to afford access to attending Archaeologist to supervise areas of re-building following root removal to ensure no loss of historic detail occurs.

2.04 Existing Inappropriate Cementitious Repairs

Carefully remove all cementitious mortar and resin only where this can be undertaken without damaging the surrounding stone. Re-point with lime mortar to specification in order to minimise voids in stonework.

Carefully break out the cementitious mortar on the surface and pick out as follows:

- Carefully chisel out with a small bladed chisel (take care not to damage surrounding arises)
- Carefully tap centre of hard point to invoke cracking.
- Remove pointing with a narrow bladed chisel.
- Drill a series of holes along centre of the joint, ensuring the drill bit does not damage the stone, then remove pointing with a small bladed chisel.

2.05 Re-Pointing

Allow for 100% re-pointing throughout. The depths of new pointing will vary and the Contractor must carry out a survey prior to submitting costs.

Rake out all loose, friable and defective mortar to a minimum depth of approximately twice the width of the joint or until a sound mortar face is reached. Do not remove any sound original lime mortar. Use only hand tools such as plasterers' small tools, half hacksaw blades etc to avoid damage to stone arises and widening of joints.

Thoroughly clean out all beds and joints, dampen the wall and allow excess moisture to dry off.

Re-pointing mortar to be to Scottish Lime Centres Specification. At this stage allow for the following:

Note: All mortar mixes are subject to approval by Historic Environment Scotland & the Scottish Lime Centre Trust. Sample panels of each mix must be provided for approval.

1 part St. Astier NHL 3.5 lime: 2.5 parts sharp concrete sand (Newbigging Quarry)

Sand has been matched by the Scottish Lime Centre Trust (refer to SLC report)

Ensure that all new lime mortar is suitably protected against exposure either from rapid drying or from rain and frost for the first ten days. Do not expose to freezing conditions for 6-8 weeks after the last application of mortar work has been placed. Supply and install temporary hessian protection with insulated panels to protect from frost if required.

2.06 Grouting

Note: Grouting only to proceed as a last resort to consolidation and only where agreed with CA & Historic Environment Scotland.

Where investigation of the walls reveals voids in the core which will be the case in many areas, apply a gravity lime grout to specification provided by the SLC. This should be introduced through existing voids (and not by drilling through masonry). Remove any spillage from the stone faces immediately.

Grouting mortar to be to the following Scottish Lime Centre Specification:

Note: All mortar mixes are subject to approval by Historic Environment Scotland & the Scottish Lime Centre Trust. Sample panels of each mix must be provided for approval.

Masons Mortar consolidation grout, code MM SA31 easy flow NHL

REVISIONS & ADDITIONS		DATE	BY
A	Lime specifications updated, gates removed, memorial protection notes updated. West elev updated.	12-05-16	PWM
B	Mortar mixes updated	04-07-16	PWM

PROJECT

Saving St Bride's Chapel Arran Group
Proposed Consolidation, Repairs & Restoration Work to St Bride's Chapel, Margnaheglish, Lamlash, Isle of Arran.

DRAWING TITLE

Elevations as Proposed (Sheet 1)

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SCALE	1:50 @ A1 1:100 @ A3	7690/05	
DATE	October 2015		
DRAWN BY	S.McCreadie		
CHECKED BY		REVISION	B