

	A	B	C	D	E	F	G	H	I	J	K
1	Value Engineering Opportunities For Tram Project Structures										
2	ACTION PLAN										
3	week beginning 17th September 2007										
4											
5	SDS Ref	tie VE Ref	Structure	Proposal	CEC Position	Value Est	Depot VE	Phase 1A	Phase 1B	Assumption	Action Plan (L Murphy Lead)
6	5B	1	Edinburgh Park Viaduct	Cor-Ten, no walkways, side OLE, simple parapet Note – concerns over recent escalation of steel prices may impact this item.	This is a Planning issue (as distinct from a Policy or Maintenance issue/concern). Form and appearance will be the principle issues given that competent solutions for maintenance are adopted.	£0.25M		£1M		Highly dependent on steel costs and NEL agreement. Bidder cost statements at odds with budgeted position so saving in doubt. Prudent to reduce to £0.25M	SDS to be instructed to use sympathetic but the agreement relating to Earth retention on North at 100k saving Edinburgh Park work sheet to be arranged to engage help of their architect to find a VE solution. Ed Park warned up to take a last meeting discussions commented with I Spence Master Programme impact to be assessed for any change considered.
7	5C	2	A8 retaining wall – adjacent Depot	Simplify/abolish by Northwards depot move	No issue	£2M	£2M			Depot move north and rotate.	SDS Redesign Depot Order issued Change estimate CN067
8	1D	3	Tower Place Bridge (docks)	No walkways - Walkers and cyclists to use existing adjacent bridge!!!!	As Victoria Dock Bridge below.	£2M		£2M		Funding to be provided from non-Tram sources as these are not budget items, i.e. this is cost avoidance rather than a saving on a budgeted item.	SDS Redesign Order issued EC Leading negotiations with FP and QT agreed with FP to pay
9	1D	4	Victoria Dock Bridge (docks)	No walkways - Walkers and cyclists not anticipated until	TP and VD Bridges are to be transferred from Forth Ports, and	£0.5M		£0.5M		Funding to be provided from non-	SDS Redesign Order issued EC Leading Negotiations with
10		5	Eight maintenance walkway structures	No walkways Total cost of structures – per average Bidders figs:	This solution is only supportable if the proposed design fits within the powers already granted, if continuity of existing footways is maintained, and if existing access is maintained.	£0.99M		£0.99M		The proposed design fits within the powers already granted, continuity of existing footways is maintained, and existing access is maintained.	1) Talk CEC through original proposal to demonstrate assumptions are correct 1st week in October. 2) In parallel assess impact on whole project cost prepare change to SDS design
11			Crewe Rd gardens bridge £2M2								
12			Russell Rd bridge £1M2								
13			Russell Rd Retaining Walls £2M5								
14			Roseburn St Bridge £3M								
15			Murrayfield Stadium retaining wall £1M5								
16			Murrayfield Training pitches retaining wall £0M7								
17			Water of Leith Bridge £1M5								
18			Baird Drive retaining wall £1M								
19		6	Depot Access bridge	Simplify as a result of Northwards depot move	No issue					Depot move north and rotate.	Reduction requires 2 smaller structures in place of 1 big difficult one SDS estimate increase. Still beneficial as will help reduce other Depot VE savings Change estimate CN067
20		7	Lindsay Rd retaining wall	Simplify/abolish through FP agreement to area works	No issue	£1M		£1M		Agreement of Forth Ports	Barry Cross Leading Negotiation
21		8	Carrick Knowe bridge	Simple parapet	No issue	£0.085M		£0.085M		Ensure that appropriate safety standards are provided.	Discuss with I Spence and R McAfferty w/b 1 October
22		9	A8 underpass	Reduce headroom from 5m to 4.4m	Not yet addressed by CEC as more detail required to confirm key points – not content with reduction in headroom unless tramway only.	£2M		£2M		Major cost element is construction – traffic diversion arrangements likely to be key and dependent on which bidder is appointed. Choose least cost option – but may be most disruption option for short time.	Discuss with I Spence and R McAfferty w/b 1 October - further consultation through design process to give comfort
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24		10	Haymarket Viaduct	Reduce deck length from 5 spans to 2 and replace those 3 spans with retaining wall	This is a CEC Planning issue. The arrangement is very exposed to public view and the resulting design must be 'crisp'.	£0.25M		£0.25M		The design can be produced to satisfy CEC Planning	SDS to prepare Architectural representation to give I spence comfort will present w/b 1st Oct
25		11	Russell Rd. Bridge	Adopt "Roley" suggestion for piling changes.		£0.1M		£0.1M		Larger excavated footprint during construction will prove acceptable.	Discuss with I spence and R McAfferty w/b 1 October - further consultation through design process to give comfort rrequires instruction
26		12	Crewe Rd Gardens Bridge	Move Tram alignment Eastwards and adopt shared running over approx 1km. Allows deletion of bridge and reduction of adjacent retaining walls.	Not yet addressed by CEC since a Phase 1b structure.	£3M			£3M	No impact on CEC Planning, Policy or Maintenance issues	Lower priority. Discuss with I spence and R McAfferty w/b 1 October - further consultation through detailed design process to give comfort
27		13	Golbridge Viaduct	Interface tracks over viaduct to eliminate need for structural change	Not yet addressed by CEC since a Phase 1b structure.	£0.8M			£0.8M	No impact on CEC Planning, Policy or Maintenance issues	Requires operational assessment and approval by TEL. Runtime assessment by SDS. Requires SDS instruction. Likely to be favoured by CEC planning and historic Scotland.
28		14	Gogar Burn Bridge, South Gyle Access Road Bridge, Roseburn Terrace Bridge	5% of cost of structures to reduce their cost through VE – details yet to be specified		£0.12M		£0.12M			Further assessment through detailed design process to give comfort