



RAMM PIT

RAMM Pickup Integration Tool



Hamish Kingsbury

- **Introduction**
- **The Problem**
- **The Solution**
- **Future**

Introduction



(Field) Collection

Administration

H&S & HR
Site visit Reports
Auditing

Spatial Data Capture

Geotech mapping
Archaeological mapping
Asset assessment

Event Logging

Slope movement
Rain gauge
Extensometer

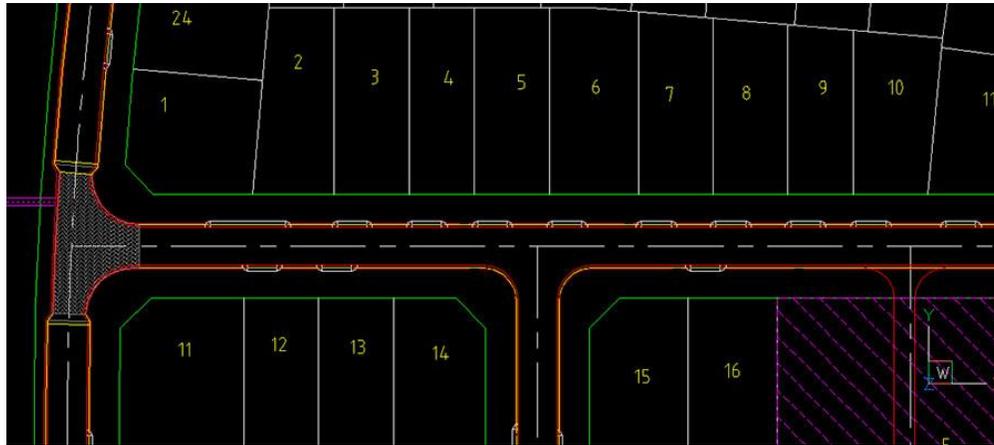
Field Collection – Mobile

Choosing the right tool for the right job

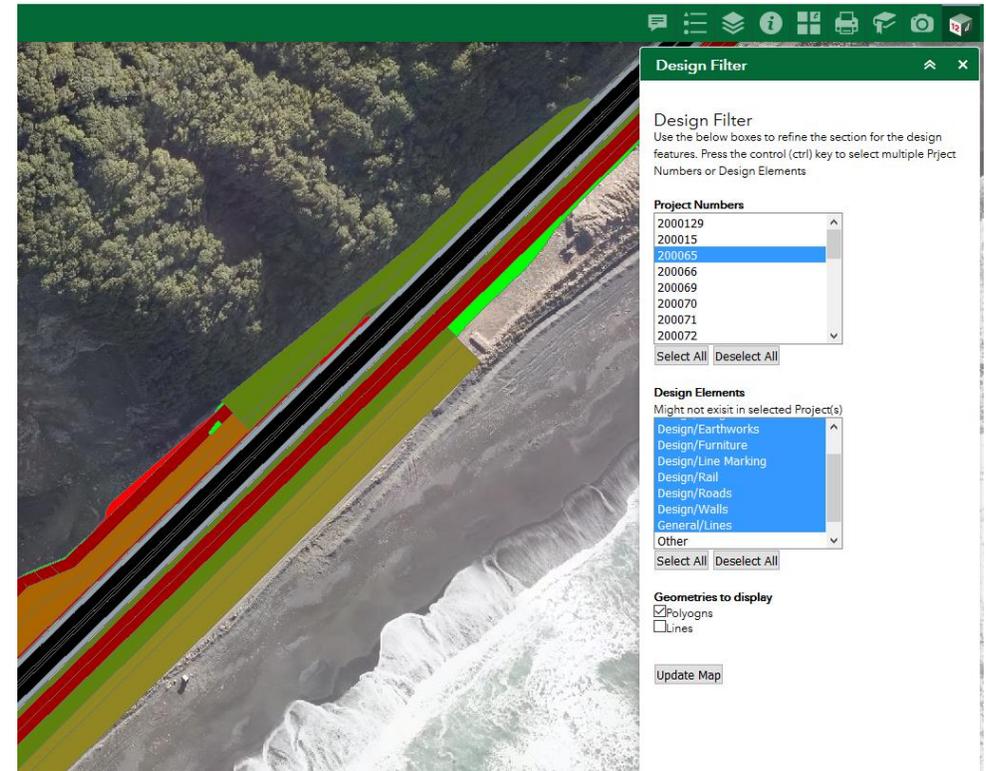


Slope Movement Observations	
Rail, Landslip/slump/mass movement / Slope Event Details /	
Volume if > 100 m3	200
Maximum block size	0.5 - 1.0 m
Average block size (typical dimension)	<0.1 m
Was rockfall witnessed?	Yes
Observer	Carl GeoTech
Is date/time known of the event?	Yes
Enter date/time if rockfall occurrence known	
Date	October 12, 2017
Time	16:15
Trigger	Rainfall
Are protection measures present?	No
Indicate furthest endpoint of debris	Landed in road/rail corridor
Debris location:	Landed northbound lane
Did rockfall impact equipment or personnel?	No
Enter other relevant info	Call from Carl GeoTech that fresh slip coming down just nth of Oaro. Found at MNL 169.207, 15m wide at base and 15m high. Debris landslide, dominantly colluvium is onto rail and a few rocks have run out onto the road (100mm max). Slip is immediately adjacent to previous slip from mid September (100mm rainfall event). Top 3m is highly weathered colluvium to sub slip, next 4m is moderately weathered rock and colluvium, lowest 8m is moderate weathered to fresh greywacke. Headscarp is still regressing with overhung tree root balls. Mostly small rocks and soil plus occasional up to 200mm blocks still falling. Relict tension cracks about 2-3m above headscarp are mossy and hasn't recently seen movement.
Actions taken	Recommended inspection
Photos	

Integration – 12d Design



Visualizing design in GIS
Providing daily updates of
design



Integration – RAMM



Damages Database Download

Latest spreadsheet of identified damages database, note download date on file name. Refer direct to RAMM for photos/inspection notes (progress notes)

Go!

1	DispatchID	Programme Category	AssignedTo	NCTIR Project Number	Project Phase	Programme	Road	Start_m	End_m	Side	Offset	Feature	AssetType	Length_m	Width
473	480	Earthquake Damage	DOWNERS	200126		NZTA1: Not Repaired	01S-0179	1576	1584	Right	4		Shoulders		8
474	481	Earthquake Damage	NCTIR	200073		NZTA1: Not Repaired	01S-0179	1708	1758	Right	5		Shoulders		50
475	482	Earthquake Damage	DOWNERS	200126		NZTA4: Duplicate Dispa	01S-0179	2176	2189	Right	1.3		Pavement		13
476	483	Earthquake Damage	DOWNERS	200126		NZTA4: Duplicate Dispa	01S-0179	2156	2166	Full Width	0		Pavement		10
477	484	Earthquake Damage	NCTIR	200126		NZTA1: Not Repaired	01S-0179	2434	2984	Full Width	0		Pavement		550
478	485	Earthquake Damage	NCTIR	200126		NZTA4: Duplicate Dispa	01S-0179	3180	3190	Right	3.3		Shoulders		10
479	486	Earthquake Damage	DOWNERS	200126		NZTA1: Not Repaired	01S-0179	3302	3314	Left	2.9		Surface Water Channel		12
480	487	Earthquake Damage	DOWNERS	200126		NZTA1: Not Repaired	01S-0179	3354	3356	Left	2.7		Surface Water Channel		2
481	488	Earthquake Damage	DOWNERS	200126		NZTA1: Not Repaired	01S-0179	3352	3382	Full Width	0		Pavement		30
482	489	Earthquake Damage	DOWNERS	200126		NZTA1: Not Repaired	01S-0179	3366	3381	Right	7		Shoulders		15
483	490	Earthquake Damage	NCTIR	200126		NZTA1: Not Repaired	01S-0179	3473	3593	Full Width	0		Pavement		120
484	491	Earthquake Damage	NCTIR	200126		NZTA1: Not Repaired	01S-0179	3684	3784	Right	12		Railings		100
485	492	Earthquake Damage	NCTIR	200126		NZTA1: Not Repaired	01S-0179	5195	5210	Left	1.8		Pavement		15
486	493	Earthquake Damage	DOWNERS	200126		NZTA2: Repaired	01S-0185	2086	2096	Left	2.2		Pavement		10
487	494	Earthquake Damage	NCTIR	200126		NZTA1: Not Repaired	01S-0185	2513	2518	Full Width	0		Pavement		5
488	495	Earthquake Damage	NCTIR	200126		NZTA1: Not Repaired	01S-0185	2414	2429	Full Width	0		Pavement		15
489	496	Earthquake Damage	NCTIR	200126		NZTA1: Not Repaired	01S-0185	2770	2780	Left	3.8		Surface Water Channel		10
490	497	Earthquake Damage	NCTIR	200126		NZTA2: Repaired	01S-0185	4825	4855	Right	1.5		Pavement		30
491	498	Earthquake Damage	NCTIR	200126		NZTA4: Duplicate Dispa	01S-0185	6812	6827	Right	3.4		Pavement		15
492	499	Earthquake Damage	DOWNERS	200126		NZTA2: Repaired	01S-0185	9493	9494	Full Width	0		Pavement		1
493	500	Earthquake Damage	DOWNERS	200126		NZTA2: Repaired	01S-0185	9552	9553	Full Width	0		Pavement		1
494	501	Earthquake Damage	DOWNERS	200126		NZTA4: Duplicate Dispa	01S-0195	1518	1538	Left	5		Pavement		20
495	502	Earthquake Damage	DOWNERS	200126		NZTA4: Duplicate Dispa	01S-0195	1466	1486	Left	1.2		Pavement		20
496	503	Earthquake Damage	DOWNERS	200126		NZTA2: Repaired	01S-0195	1626	1646	Right	1.5		Shoulders		20
497	504	Earthquake Damage	DOWNERS	200126		NZTA1: Not Repaired	01S-0195	1620		Left	2.9		Pavement		
498	505	Earthquake Damage	DOWNERS	200126		NZTA2: Repaired	01S-0195	3182	3212	Right	1.9		Pavement		30
499	506	Earthquake Damage	DOWNERS	200126		NZTA1: Not Repaired	01S-0195	4431	4451	Full Width	0		Pavement		20
500	507	Earthquake Damage	NCTIR	200161		NZTA2: Repaired	01S-0195	4944	4964	Full Width	0		Pavement		20
501	508	Earthquake Damage	DOWNERS	200126		NZTA1: Not Repaired	01S-0195	6094	6119	Right	4.5		Pavement		25
502	509	Earthquake Damage	DOWNERS	200126		NZTA1: Not Repaired	01S-0195	6114	6144	Right	3.4		Pavement		30
503	510	Earthquake Damage	NCTIR	200126		NZTA1: Not Repaired	01S-0195	6159	6189	Right	5		Shoulders		30
504	511	Earthquake Damage	DOWNERS	200126		NZTA1: Not Repaired	01S-0195	7929	7969	Left	8.3		Shoulders		40
505	512	Earthquake Damage	NCTIR	200130			01S-0118	5132		Left	9		Pavement		
506	513	Earthquake Damage	NCTIR	200130			01S-0118	5536		Left	2		Pavement		
507	514	Earthquake Damage	NCTIR	200130			01S-0118	5743		Left	3		Pavement		50
508	515	Earthquake Damage	NCTIR	200130			01S-0118	5863		Left	6		Pavement		
509	516	Earthquake Damage	NCTIR	200130			01S-0118	5974		Left	12		Shoulders		80
510	517	Earthquake Damage	NCTIR	200130			01S-0118	6048		Left	6		Retaining Walls		
511	518	Earthquake Damage	NCTIR	200130			01S-0118	6118		Right	3		Pavement		30
512	519	Earthquake Damage	NCTIR	200130			01S-0118	6287		Left	4		Shoulders		10

The Problem













RAMM Update
Guard Railing
(Including Sight Rails)

Add record
Delete Record
Update Record



Indicate the action to take with this record

Contract Name			
Contract Number		Date	
Organisation (Contractor)			
Road ID		Road Name	
SH		RS	
Start RP (m)		Start Name	
End RP (m)		End Name	
Length (m)		Side	
Rail Height (mm)		Offset (from CL) (avg / centre)	
Offset Kerb - Start		Offset Kerb - End	
Railing Type ¹		Railing Material	
Railing Make		Colour	
Start Terminal End ²		End Terminal End ²	
start northing		end northing	
start easting		end easting	
Shape ³		Install date	
Attachments ⁴		Original Cost \$	
Rail Condition ⁷		Ground Fix ⁵	
Post Condition ⁷		Post Count	
Condition Date		Post Material	
Length Adjust (m)		Length Adjust Reason ⁶	
Notes			
Post Notes			
Collected by		Added to RAMM by	
RAMM ID		Added to RAMM on	

Guard Rail attributes from RAMM

1. Railing Type

Railing Type	Description
BARR	Barrier
BCT	Breakaway Cable Terminal unit
CABLE	Cable Barrier
FTYPE	F-type Concrete
GREAT	GREAT System Crash units
GR	Guard rail
HR	Hand rail
NJ	New Jersey barrier
OTHER	Other
SR	Sight rail
SDCC	Steel Drum Crash Cushion
SIBC	Steel Medium Barrier - IBC
STP	Steel Tube and Post barrier
SWR	Steel Wire Rope barrier
SWRA	Steel wire rope end anchor block
TBGR	THRIE Beam Steel Guard rail
TEA	Trailing End Anchor units
TRIC	TRIC Block Concrete barrier
WGR	W Section Guard rail

3. Shape

Code	Description
C	Curved
S	S Bend
T	Straight

5. Ground Fix

Railing Ground Fix	Description
GP	Ground plant
N/A	Not Applicable
NLCOR	NLCOR (see 5)
SDM	Steel Driven Post
SPM	Steel Plate Mounted
TP1M	Timber posts 1 metre intervals
TP2M	Timber posts 2 metre intervals
TP3M	Timber posts 3 metre intervals
ZBAR	Zbar

7. Condition

Condition	Description
1	Excellent
2	Good
3	Average
4	Poor
5	Very Poor
U	Unknown



2. Terminal End

End Style	Description
X350	Armorflex X 350
ATE	Armorwire Terminal End
BRK	Brakemaster/Fast Brake
BN	BCT (Bull Nose)
BCT	Break away Cable Terminal
BP	Bridge Plate/Bridge Connector
BR	Brifen Terminal
BIBS	Buried in Back Slope
CE	Cable end
CASS	Cable Safety System - CSP
CT350	CAT 350
ELT	Eccentric Loader Terminal
ET	ET2000
FB	Fishtail/Butterfly end
FL350	Fleat 350
FLMT	Fleat MT
GREAT	Great System Crash Units
MC	M23 Compliant
MELT	MELT (Similar to BCT)
NA	Not Applicable
QG	Quad Guard
RE	Regent
SAF	Safence Terminal
SK350	SKT 350
SDCC	Steel Drum Crash Cushion
SWRA	Steel Wire Rope End Anchor Block
TAU2	TAU II
TE	Terminal end
TT	Texas Twist
TRACC	TR Attenuating Crash Cushion
TEA	Trailing End Anchor Units
UN	Unknown

4. Attachments

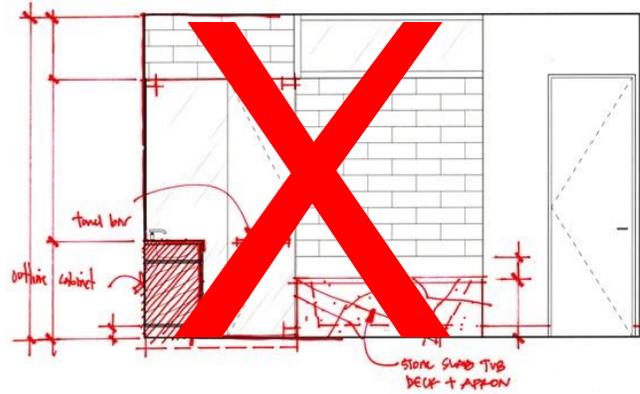
Code	Description
UN	Unknown
RD	Referenced also
NA	Not applicable

6. Length Adjust Reason

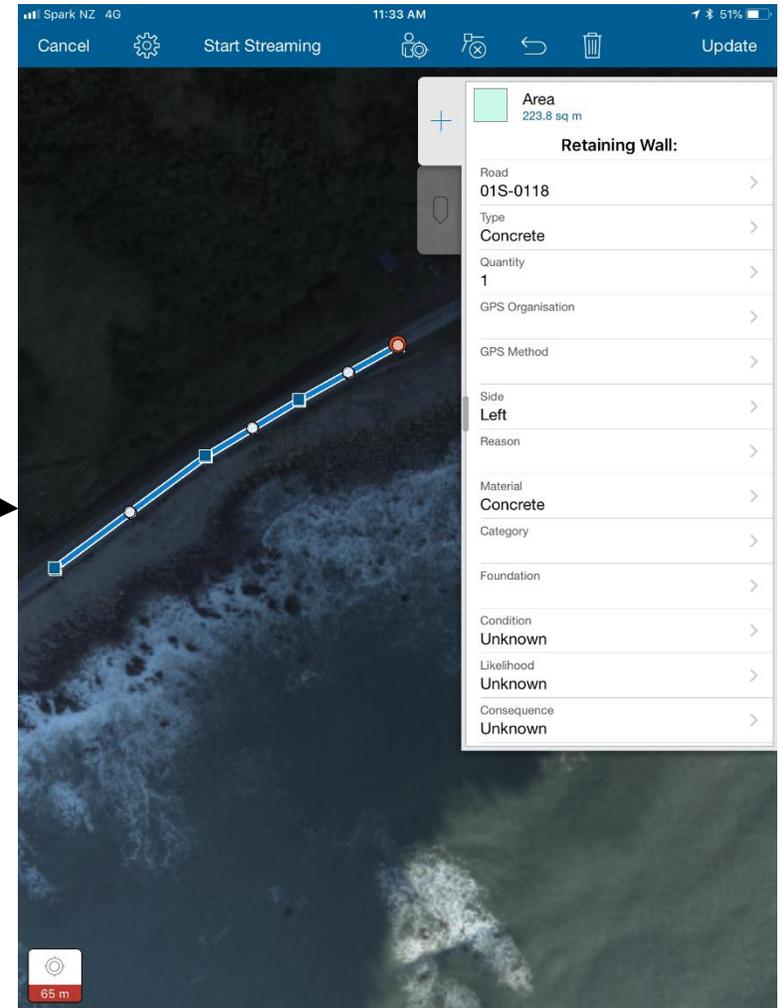
Reason	Description
NONE	No adjustments made
AWAY	Ends away from the road
BYOND	Ends beyond Road End
ISCT	Starts / Ends at Intersection
DUMMY	Dummy of No Length
CUL	Cul de sac
RAB	Roundabout
WIDEN	Widening
DOM	Common Section

The Solution





GIS



Design

Identify

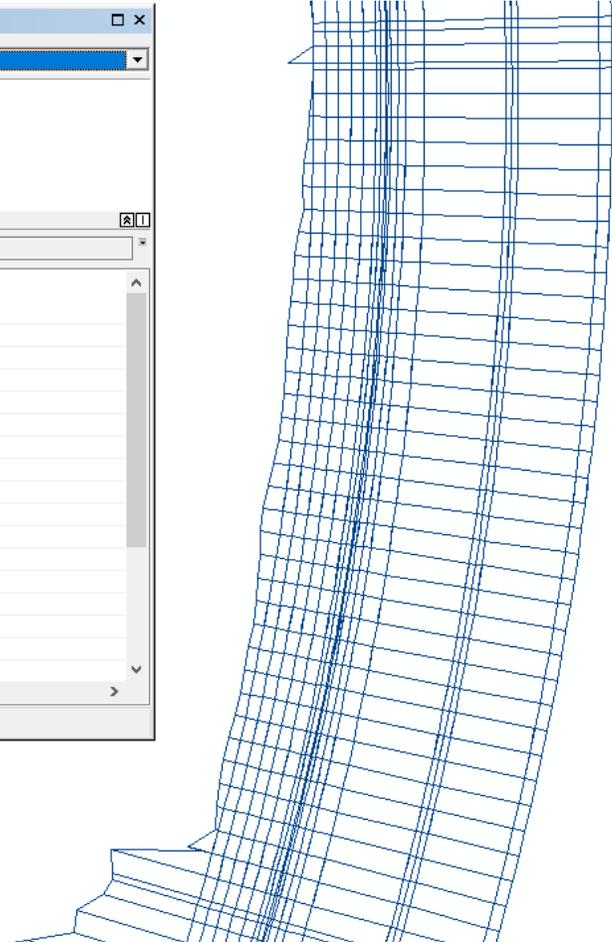
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- 200127-RD-IFC-andrellj-20180813-152652_plz
 - design 104

Location: 382,293.265 700,522.134 Meters

Field	Value
Colour	16711680
Designer	andrellj
DesignGate	IFC
DesignZone	S
DesRvwDate	14/11/2016 12:00:00 AM
Discipline	RD
Elevation	0
FID	118
Linestyle	1
Linewidth	0
ModelName	PUB ref AM PRELIM Rd DES SECS
Name	design 104
PrjLead	marshallp
PrjLocate	D:\12dSynergy\2\200127 - Design_93\00_12d\200127 SR6 BARRIER DES
PrjName.12d	200127 SR6 BARRIER DESIGN
PrjNameSyn	200127 - Design
PrjNum	200127

Identified 1 feature



RAMM Fields

- Domains
- Formatting
- Field types

Domain Name	Description
br_bridge_alter_route	lookupValue
br_bridge_analysis_meth	lookupValue
br_bridge_asset_owner	lookupValue
br_bridge_bridge_type	lookupValue
br_bridge_collect_name	lookupValue
br_bridge_comb_func_ty	lookupValue
br_bridge_condition	lookupValue
br_bridge_culvert_sw	lookupValue

Domain Properties:

Field Type	Text
Domain Type	Coded Values
Split policy	Default Value
Merge policy	Default Value

Coded Values:

Code	Description
CRW	Con.Reinf.Wall
WCP	Con.Wall Column/Plan
CWC	Con.Wall Counterfort
CBM	Conc Culv Box Multi
CRS	Conc Culv Box Single

Design Info

- Geometries
- Chainage
- Attribution (limited)

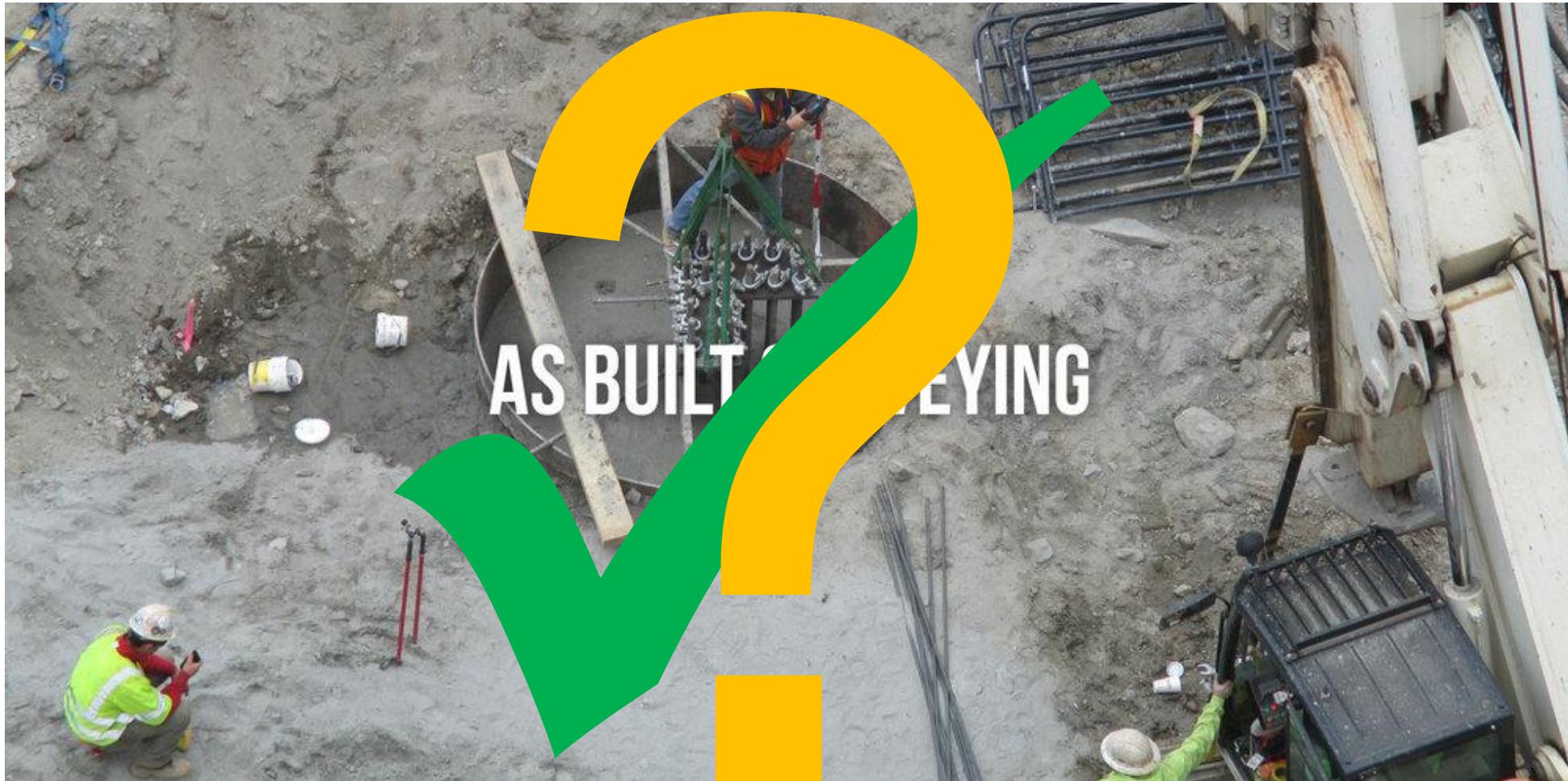
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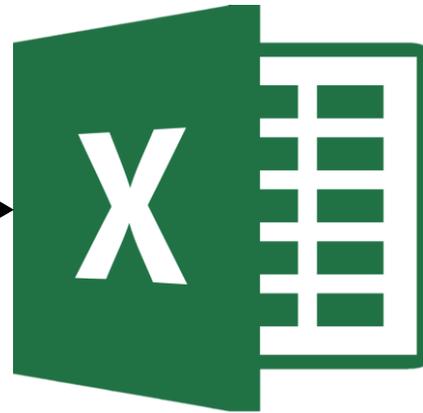
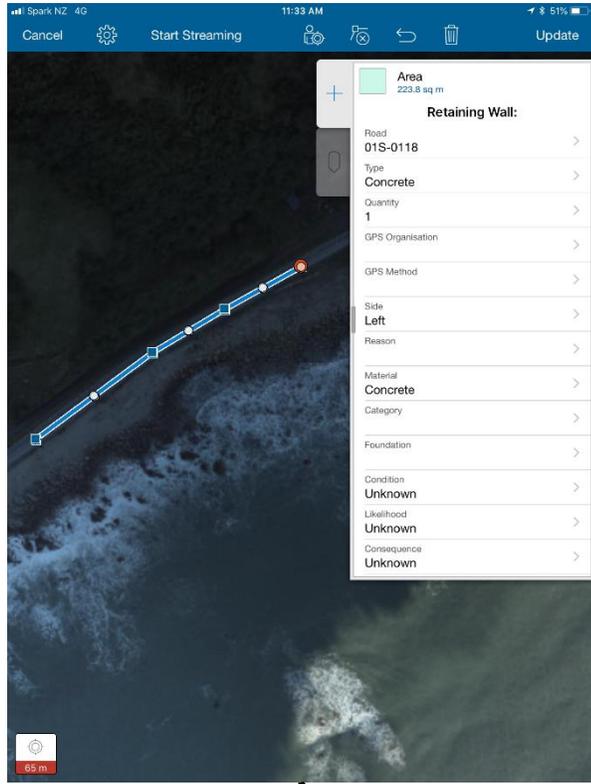
Suppliers

- Material types

Future







excellence in asset management

Summary

- Old ‘paper’ based procedure
- Health and Safety improvements
- Spatial based process
- Improved efficiency, collection → validation

Questions?



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