

## MetroWest Phase 1

### Utilities Interface – Schedule of Risks

Updated 23/07/2020

Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
Bristol Water	Cattle Creep, disused line, west of M5	Water main beneath bridge. Depth: 1000mm Diameter: 450mm Wash-out valve adjacent to bridge.	Cattle creep railway bridge to be strengthened.	Works in proximity to asset, risk of damage to main and valve resulting from work. This is a key water main so repairs would be costly.	Protection	Works method statement to be provided to Bristol Water for approval by their asset manager.  Assets to be protected during works as agreed with Bristol Water.	Contractor does not follow agreed methodology and damages asset, causing expensive repairs and potential delays to MetroWest programme as Bristol  Water contractors would need to use a key MetroWest Phase 1 haul road (via Marsh Lane).	1% to 10% = score of 2	£1M to £2M cost, low reputation, low safety = score of 2	Score 4 - Green
	Quays Avenue, Portishead	Water main in alignment of Quays Avenue. Diameter: 300mm.	Quays Avenue to be realigned, requiring diversion of water main.	Works in proximity to asset, risk of damage to main.	Diversion - C3 stage complete	Bristol Water to divert their asset.  Agreed approach with Bristol Water on location, timing and design of diversion through 'C- form' process.	Due to the extensive works to Quays Avenue, there is a low risk that the contractor damages the existing and new assets.	1% to 10% = score of 2	£1M to £2M cost, low reputation, low safety = score of 2	Score 4 - Green
	Portishead Station main car park	Abandoned pipe beneath disused line.	Main station car park to be constructed over pipe.	Damage to abandoned pipe during construction.	No protection or diversion required.	Bristol Water advised they do not require the pipe to be protected.	As pipe is abandoned, there are no consequences to Bristol Water if the pipe is damaged during construction.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Portishead Station	New connection to Station	Water supply for Portishead Station	Car park / forecourt finishing works in proximity to asset.	New connection	Connection to be installed after main construction works to build Portishead Station.  Depth of asset to be provided to suitable depth for protection against finishing works and operational activities.	Very low risk that works and operational activities over the asset will cause damage to this asset.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Disused line near Marsh Lane, Pill	Water main beneath disused line. Depth: 2300mm Diameter: 200mm	Work to replace track and ballast along disused line above water main.	Works directly above the water main; risk of damage.	No protection or diversion required.	Depth of pipe considerably lower than level of track and ballast to be excavated.  Bristol Water does not require protection measures.	Due to depth of asset, there is a very low risk that works over the asset will cause damage to this asset.	<1% = score of 1	£1M to £2M cost, low reputation, low safety = score of 2	Score 2 - Green
	Avon Rd, beneath railway bridge, Pill	Water main and water valve in road beneath	Railway bridge to be replaced and works to widen abutments / embankments	Works in proximity to the water main; risk of damage.	No protection or diversion required.	Works method statement to be provided to Bristol Water for approval by their asset manager.	Risk that vibration from works damages water main. This could lead to costly repairs.	10% to 50% - score of 3	<£1M = score of 1	Score 3 - Green

Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
		railway bridge. Diameter: 100mm				Location and depth of pipe to be surveyed prior to construction.		Pending location / depth survey		
	Station Road, Pill	Water main under footway. Depth: 950mm Diameter: 76mm	Footway to be lowered to provide vehicular access to Pill Station forecourt	Works directly above the water main; risk of damage.	Protection.	Pipe has been surveyed. Protection to be installed above pipe (concrete slab).	As pipe location has been surveyed and will be protected, there is a very low risk of damage to this asset from the relatively minor highway works at this location.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Clanage Road, Bristol	Two water pipes under footway. Diameter: 760mm & 200mm	Footway to be lowered to provide vehicular access to permanent compound.	Works directly above the water main; risk of damage.	Protection.	Protection to be installed above pipe (road plates).  Location and depth of pipe to be surveyed prior to construction.	Pipe to be protected which will minimise the risk of damage arising from the highway works.  This risk will be reduced further following location / depth survey.	10% to 50% - score of 3  Pending location / depth survey	£1M to £2M cost, low reputation, low safety = score of 2	Score 6 - Amber
	Winterstoke Rd, Bristol	Water main in road alignment. Diameter: 250mm	Carriageway to be widened to provide additional lane.	Works in proximity to the water main; risk of damage.	No protection or diversion required.	Bristol Water require no diversion or protection.  Location and depth of pipe to be surveyed prior to construction.	The survey will lead to a low risk that the pipe is damaged during construction.	10% to 50% - score of 3  Pending location / depth survey	£1M to £2M cost, low reputation, low safety = score of 2	Score 6 - Amber
Openreach	Quays Avenue, Portishead	Fibreoptic cable in road alignment.	Quays Avenue to be realigned.	Works in proximity to cable; risk of damage.	Diversion - C3 stage complete	Signed statement of common ground setting out agreed approach.  Openreach to divert their asset  Agreed approach with Openreach on timing and design of diversion through 'C- form' process.	Due to the extensive works to Quays Avenue, there is a low risk that the contractor damages the existing and new assets.	1% to 10% = score of 2	£1M to £2M cost, low reputation, low safety = score of 2	Score 4 - Green
	Portishead Station	New connection to Station	Telecommunications supply for Portishead Station	Car park / forecourt finishing works in proximity to asset.	New connection	Connection to be installed after main construction works to build Portishead Station.  Depth of asset to be provided to suitable depth for protection against finishing works and operational activities.	Very low risk that works and operational activities over the asset will cause damage to this asset.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Between Royal Portbury	Strategic fibreoptic cables in	Disused line to be reopened.	Cable in route of disused line, risk	Diversion - C3 stage complete	Signed statement of common ground setting out agreed approach.	The cable is of strategic importance; serving Portishead and after diversion	10% to 50% -	£2M to £5M cost,	Score 9 - Amber

Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
	Dock Rd & M5	railway alignment, main cable providing services to Portishead.		of damage during works.		Openreach to divert their asset. However, MetroWest P1 to provide civils work for new cable.  Agreed approach with Openreach on timing and design of diversion through 'C- form' process.	will still be in close proximity to the works to the disused line.	score of 3	medium reputation, low safety = score of 3	
	Sheepway	Fibreoptic cable in road crossing entrance to permanent railway compound.	Temporary and permanent compound at this location will require lowering of cables.	Access to the temporary and permanent compound will be above the fibre cable.	Diversion - C3 stage complete	National Grid temporary access road in same location, may lower cable.  If not, Openreach to lower their asset to acceptable depth.  Agreed approach with Openreach on timing and design of diversion through 'C- form' process.  Signed statement of common ground setting out agreed approach.	Once diverted, the risk of the cable being damaged is very low.	<1% = score of 1 1% to 10% = score of 2	£1M to £2M cost, low reputation, low safety = score of 2	Score 4 - Green
	Station Rd, Pill	Fibreoptic cable in footway. Depth 350mm.	Footway to be lowered to provide vehicular access to Pill Station forecourt	Works directly above the fibreoptic cable; risk of damage.	Diversion - C3 stage complete	Signed statement of common ground setting out agreed approach.  Openreach to divert their asset  Agreed approach with Openreach on timing and design of diversion through 'C- form' process.  Cable depth has been surveyed.	As cable location has surveyed and will be diverted, there is a very low risk of damage to this asset from the relatively minor highway works at this location.	1% to 10% = score of 2	£1M to £2M cost, low reputation, low safety = score of 2	Score 4 - Green
	Pill Station	New connection to Station	Telecommunications supply for Pill Station	Car park / forecourt finishing works in proximity to asset.	New connection	Connection to be installed after main construction works to build Pill Station.  Depth of asset to be provided to suitable depth for protection against finishing works and operational activities.	Very low risk that works and operational activities over the asset will cause damage to this asset.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	South of Avon Gorge	Cable crossing railway	Renewal works to existing railway over cable crossing	Works directly above the fibreoptic cable; risk of damage.	No protection or diversion likely.	Signed statement of common ground setting out agreed approach.  Cable is beneath operational railway so is likely to meet NR requirements for cable depth.  NR to survey depth and location of asset prior to works.	Very low risk that works and operational activities over the asset will cause damage to this asset.	1% to 10% = score of 2	£1M to £2M cost, low reputation, low safety = score of 2	Score 4 - Green

Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
	Winterstoke Rd, Bristol	Fibreoptic cable in footway.	Carriageway to be widened to provide additional lane.	Works directly above the fibreoptic cable; risk of damage.	Diversion - C3 stage complete	Signed statement of common ground setting out agreed approach.  Openreach to divert their asset  Agreed approach with Openreach on timing and design of diversion through 'C- form' process.	Low risk of cable being damaged, however extensive highway works in close proximity to cable.	1% to 10% = score of 2	£1M to £2M cost, low reputation, low safety = score of 2	Score 4 - Green
CLH	Sheepway	Oil pipeline Depth: 2100mm, concrete protection at 800mm depth.	Located in corner of proposed construction compound and beneath disused line.	Works directly above oil pipe; risk of damage.	Protection.	Pipe has been surveyed to establish location and depth.  Works method statement to be provided to CLH for approval by their asset manager.  Construction compound area above pipeline to have protective measures in place as agreed with CLH.	Very low risk of damage to oil pipe, as working method agreed with CLH and protection measures if necessary. No deep excavation planned at this location.	<1% = score of 1	>£10M cost, high reputation, high safety risk = score of 5	Score 5 - Green
	Area beneath M5 Bridge, Pill	Oil pipeline	Located beneath an area of hard standing under the M5 bridge. This hard standing to be used a temporary construction compound.	Construction vehicles and materials above pipeline.	Protection.	Works method statement to be provided to CLH for approval by their asset manager.  Construction compound area above pipeline to have protective measures in place as agreed with CLH.	Almost no risk of damage to oil pipe, as working method agreed with CLH and protection measures if necessary. No works planned at this location. The area already has hardstanding.	<1% = score of 1	>£10M cost, high reputation, high safety risk = score of 5	Score 5 - Green
GTC	Quays Avenue, Portishead	Gas pipeline Diameter 250mm	Quays Avenue to be realigned.	Works in close proximity to gas pipeline; risk of damage.	Diversion - C3 stage complete	GTC to divert their asset  Agreed approach with GTC on timing and design of diversion through 'C- form' process.	Due to the extensive works to Quays Avenue, there is a low risk that the contractor damages the existing and new assets.	1% to 10% = score of 2	£2M to £5M cost, medium reputation, medium safety = score of 3	Score 6 - Green
Virgin Media	Winterstoke Road, Bristol	Telecom cable	Carriageway to be widened to provide additional lane.	Works in close proximity / over telecom cable, risk of damage.	No protection or diversion required.	Written confirmation from Virgin Media that cable can remain in situ.	Due to the works to Winterstoke Road, there is a low risk that the contractor damages the asset.	1% to 10% = score of 2	£1M to £2M cost, low reputation, low safety = score of 2	Score 4 - Green

Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
Vodafone	Disused line, Sheepway	Telecom cable	Work to replace track and ballast along disused line above Vodafone cables.	Works directly above the cable.	Diversion - C3 stage complete	Vodafone to divert their asset – lowering and slewing the cable to the depth required by Network Rail.  Agreed approach with Vodafone on timing and design of diversion through 'C- form' process.	Once diverted to Network Rail requirements, the risk of the cable being damaged during construction is very low.	<1% = score of 1	£1M to £2M cost, low reputation, low safety = score of 2	Score 2 - Green
Wales and West Utilities	Harbour Road, Portishead	Gas PE pipe Diameter: 63mm Depth: 700mm	New access from Harbour road to main carpark (Portishead Station)	Works in close proximity to gas pipeline; risk of damage.	No protection or diversion required.	Asset to be surveyed prior to construction works to check location and depth.	Low risk of damage during construction of highway access.	1% to 10% = score of 2  Pending location / depth survey	£2M to £5M cost, medium reputation, I medium safety = score of 3	Score 6 - Green
	Portishead Station	Possible new connection to Station (not yet agreed)	Gas supply for Portishead Station	Car park / forecourt finishing works in proximity to asset.	New connection	Connection to be installed after main construction works to build Portishead Station.  Depth of asset to be provided to suitable depth for protection against finishing works and operational activities.	Very low risk that works and operational activities over the asset will cause damage to this asset.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Cattle Creep, disused line, west of M5	Gas high pressure pipe Diameter: 500mm Depth: 1100mm	Cattle creep railway bridge to be strengthened	Works in close proximity to gas pipeline; risk of damage.	No protection or diversion required.	WWU has confirmed no diversion is required. When carrying out works someone from WWU will need to be present as NR will be working within 3m of the main.	Very low risk of damage to asset as asset owner will be present during works.	<1% = score of 1	£2M to £5M cost, medium reputation, I medium safety = score of 3	Score 3 - Green
	Station Road, Pill	Gas pipe Diameter: 125mm Depth: 900mm  Gas PE pipe Diameter: 63mm Depth: 800mm	Footway to be lowered to provide vehicular access to Pill Station forecourt	Works in close proximity to gas pipeline; risk of damage.	No protection or diversion required.	Asset has been surveyed and are sufficiently deep so no works to protect or divert them required, as agree with WWU.	As pipe location and depth has been surveyed, there is a very low risk of damage to this asset from the relatively minor highway works at this location.	<1% = score of 1	£2M to £5M cost, medium reputation, I medium safety = score of 3	Score 3 - Green

Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
	Clanage Road, Bristol	Gas low pressure PE pipe Diameter: 250mm Depth: 750mm	Footway to be lowered to provide vehicular access to permanent compound.	Works directly above the pipe; risk of damage.	Diversion may be required - C3 stage complete	Asset has been surveyed prior to construction works to check location and depth.  Works methodology to be provided to WWU asset manager for their approval prior to works. Pipe may need to be lowered (by WWU).	Low risk of damage during construction of highway access as location and depth of asset known, and if necessary pipe will be lowered by asset owner.	1% to 10% = score of 2	£2M to £5M cost, medium reputation, medium safety = score of 3	Score 6 - Green
	Winterstoke Road, Bristol	2 x Gas low pressure PE pipe Diameter: 63mm Diameter: 90mm Depth: 1000mm	Carriageway to be widened to provide additional lane.	Works in proximity to the pipes; risk of damage.	Diversion - C3 stage complete	Agreed approach with asset owner on timing and design of diversion through 'C- form' process.  Asset owner to divert asset.	Due to the works to Winterstoke Road, there is a low risk that the contractor damages the asset.	1% to 10% = score of 2	£2M to £5M cost, medium reputation, medium safety = score of 3	Score 6 - Green
Wessex Water	Quays Avenue, Portishead	Gravity sewer Diameter: 900mm Depth: 6590mm	Construction of Portishead Station platform	Works directly above the sewer and piling in proximity to sewer.	No protection or diversion required.	Platform design modified to accommodate sewer and agreed with Wessex Water. Assessment of potential vibration from piling shared with Wessex Water and they agree vibration levels are acceptable.  Location and depth to be surveyed prior to construction works.	Low risk of damage as design and working methodology to be agreed with Wessex Water. Survey will identify exact location and depth.	1% to 10% = score of 2  Pending location / depth survey	£2M to £5M cost, medium reputation, medium safety = score of 3	Score 6 - Amber
	Portishead Station	New connection to Station	Foul sewer and surface water drainage for Portishead Station	Car park / forecourt finishing works in proximity to asset.	New connection	Connection to be installed after main construction works to build Portishead Station.  Depth of asset to be provided to suitable depth for protection against finishing works and operational activities.	Very low risk that works and operational activities over the asset will cause damage to this asset.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Tansy Lane, Portishead	Rising water main Diameter: 700mm Depth: 2100mm	Works to replace track and ballast on the disused line and construction of Trinity School bridge.	Works adjacent to pipe, including piling. A temporary compound will be situated above the pipe during	No protection or diversion required.	Pipe location surveyed, which shows apx 6m from construction work at the closest point.  The depth of the pipe provides protection from use of the land above as a temporary compound.	Due to distance between asset and the works and the depth of the asset, there is a very low risk of damage.	<1% = score of 1	£1M to £2M cost, low reputation, low safety = score of 2	Score 2 - Green

Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
				construction of the bridge.						
	Harbour Road, Portishead	Culvert Dimensions: 1.0mx2.25m Depth: 6180mm	New access from Harbour road to main carpark (Portishead Station)	Highway works over pipe.	No protection or diversion required.	Pipe is at a sufficient depth as to be unaffected by the highway works.	Very low risk of damage to asset due to depth.	<1% = score of 1	£1M to £2M cost, low reputation, low safety = score of 2	Score 2 - Green
	Marsh Lane, Pill	Foul sewer Diameter: 375mm Depth: 2800mm	Works to replace track and ballast on the disused line	Works directly above the sewer, risk of damage.	No protection or diversion required.	Depth has been checked and is sufficiently deep to be unaffected by works.	Very low risk of damage to asset due to depth.	<1% = score of 1	£1M to £2M cost, low reputation, low safety = score of 2	Score 2 - Green
	Avon Rd, beneath railway bridge, Pill	Foul sewer Diameter: 225mm Depth: 2370mm	Railway bridge to be replaced and works to widen abutments / embankments	Works in proximity to the water main; risk of damage.	No protection or diversion required.	Pipe location and depth has been surveyed and is sufficiently deep to be unaffected by works.	Very low risk of damage to asset due to depth.	<1% = score of 1	£1M to £2M cost, low reputation, low safety = score of 2	Score 2 - Green
	Clanage Road	Vitrified clay sewer and inspection chamber Diameter: 225mm Depth: 2360mm	Footway to be lowered to provide vehicular access to permanent compound.	Works directly above the pipe and compound constructed around location of inspection chamber, risk of damage.	No protection or diversion of pipe required. Inspection chamber to be modified.	Pipe depth is sufficient to be unaffected by the works.  Agreed approach with asset owner. Inspection chamber to be modified by MetroWest P1 to Wessex Water specifications so that it remains at ground level and accessible following construction of the compound. Wessex Water to inspect works and approve them.	Very low risk of damage to asset due to depth.  Low risk of damage to inspection chamber.	1% to 10% = score of 2	£1M to £2M cost, low reputation, low safety = score of 2	Score 4 - Green
Western Power Distribution	Near Galingale Way, Portishead	33kV and pilot cables	Construction of new bridge north of Galingale Way within several meters of the cables.	Works adjacent to asset, including piling.	No protection or diversion required.	Asset location surveyed, which shows several meters from construction work at the closest point.	Due to distance between asset and the works, there is a very low risk of damage.	<1% = score of 1	£2M to £5M cost, medium reputation, low safety = score of 3	Score 3 - Green

Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
	Near Tansy Lane, Portishead	11KV cables Depth: 1100mm	Construction of new bridge south of Tansy Lane within several meters of the cables.	Works adjacent to asset, including piling. A temporary compound will be situated above the asset during construction of the bridge.	No protection or diversion required.	Asset location surveyed, which shows apx 2-3m from construction work at the closest point.  The depth of the asset provides protection from use of the land above as a temporary compound.	Due to distance between asset and the works and the depth of the asset, there is a very low risk of damage.	<1% = score of 1	£2M to £5M cost, medium reputation, medium safety = score of 3	Score 3 - Green
	Harbour Road, Portishead	11kV and low voltage cable Depth: 700mm	New access from Harbour road to main carpark (Portishead Station).	Highway works directly above asset, risk of damage.	Diversion required.	Approach to be agreed with asset owner on timing and design of diversion through 'C- form' process.  Asset owner to divert asset.	Very low risk of damage to asset as this will be diverted by WPD prior to highway works.	<1% = score of 1	£2M to £5M cost, medium reputation, medium safety = score of 3	Score 3 - Green
	Portishead Station	New connection to Station	Electricity connection for Portishead Station	Car park / forecourt finishing works in proximity to asset.	New connection	Connection to be installed after main construction works to build Portishead Station.  Depth of asset to be provided to suitable depth for protection against finishing works and operational activities.	Very low risk that works and operational activities over the asset will cause damage to this asset.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Trinity School Bridge, Portishead	New electricity connection to bridge	Electricity connection for lighting on bridge.	Possible finishing works in proximity to the asset (footway construction).	New connection	Connection to be installed after main construction works to build Trinity School Bridge  Depth of asset to be provided to suitable depth for protection against finishing works and operational activities.	Very low risk that works and operational activities over the asset will cause damage to this asset.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Sheepway	33kV cables Depth: 1000mm (to be replaced as part of hinkley connection project prior to construction)	Work to replace track and ballast along disused line above electricity cables.	Works over electricity cables, risk of damage.	No protection or diversion required.	Statement of Common Ground with National Grid (who are commissioning the replacement of the cables) and regular interface meetings.  New underground cables (beneath railway) to meet Network Rail requirements to be at least 1200mm deep.	Very low risk of damage as asset depth will meet NR requirements.	<1% = score of 1	£2M to £5M cost, medium reputation, medium safety = score of 3	Score 3 - Green



Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
						As-built location and height details to be requested from WPD/National Grid.				
	Sheepway	132kV cables (overhead) (to be replaced as part of hinkley connection c project prior to construction)	Work to replace track and ballast along disused line below electricity cables.	Works over asset, risk of damage.	No protection or diversion required.	Statement of Common Ground with National Grid (who are commission the replacement of the cables) and regular interface meetings.  New overhead cables (above railway) to meet Network Rail requirements.  As-built location and height details to be requested from WPD/National Grid.	Very low risk of damage as asset height will meet NR requirements.	<1% = score of 1	£2M to £5M cost, medium reputation, I medium safety = score of 3	Score 3 - Green
	Portbury Hundred, Near Station Rd bridge	Pilot and 33kV cables Depth: 1200mm	Work to replace track and ballast along disused line above electricity cables.	Works over asset, risk of damage.	Protection may be required.	Pipe location and depth has been surveyed.  Standard protective provisions apply, WPD will advise how to protect.	Very low risk of damage as asset surveyed and will be protected as agreed with WPD prior to works.	<1% = score of 1	£2M to £5M cost, medium reputation, I medium safety = score of 3	Score 3 - Green
	Station Rd bridge, Portbury Hundred.	LV cable (overhead)	Work to increase height of parapets on bridge, asset located alongside bridge.	Works adjacent to asset, risk of damage.	Protection may be required.	Cables may require 'shrouding' to protect them from works. Works methodology to be provided to WPD and WPD to deliver protection if required.	Very low risk of damage as asset will be protected by WPD prior to works, if required.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Portbury Dock	11kV cable WPD recently undergrounded these cables to NR specifications	Work to replace track and ballast along disused line below electricity cables.	Works over asset, risk of damage.	No protection or diversion required.	WPD have recently undergrounded the cables to NR specifications, ensuring that they are at a depth that will protect them from the works.  As-built location and depth information to be requested from WPD	Very low risk of damage as asset depth meets NR requirements.	<1% = score of 1	£2M to £5M cost, medium reputation, I medium safety = score of 3	Score 3 - Green
	Avon Road, Pill	11KV cable Depth: 750mm	Construction of temporary compound for crane to replace Avon Road railway bridge	Temporary compound to be located above asset, risk of damage.	Diversion - C3 stage complete	Agreed approach with asset owner on timing and design of diversion through 'C- form' process.  Asset owner to divert asset.	Very low risk of damage as asset will be diverted prior to works.	<1% = score of 1	£2M to £5M cost, medium reputation, I medium safety =	Score 3 - Green

Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
									score of 3	
	Monmouth Court, Pill	Low voltage cable (overhead)	Construction of Pill Station main car park adjacent to electricity pole.	Work requires electricity pole to be moved, risk of damage.	Diversion - C3 stage complete	Agreed approach with asset owner on timing and design of diversion through 'C- form' process.  Asset owner to divert asset.	Very low risk of damage as asset will be diverted prior to works.	<1% = score of 1	£2M to £5M cost, medium reputation, I medium safety = score of 3	Score 3 - Green
	Station Road, Pill	Low voltage cable and pole (overhead)	Station house to be demolished and Station forecourt to be constructed adjacent to electricity pole.	Work requires electricity pole to be moved, risk of damage.	Diversion - C3 stage complete	Agreed approach with asset owner on timing and design of diversion through 'C- form' process.  Asset owner to divert asset.	Very low risk of damage as asset will be diverted prior to works.	<1% = score of 1	£2M to £5M cost, medium reputation, I medium safety = score of 3	Score 3 - Green
	Pill Station	New connection to Station	Electricity connection for Pill Station	Car park / forecourt finishing works in proximity to asset.	New connection	Connection to be installed after main construction works to build Pill Station.  Depth of asset to be provided to suitable depth for protection against finishing works and operational activities.	Very low risk that works and operational activities over the asset will cause damage to this asset.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Pill viaduct	New connection to viaduct	Electricity connection for railway.	Works to repair viaduct and install new drainage in highway	New connection	Connection to be installed after main construction works.  Depth of asset to be provided to suitable depth for protection.	Very low risk that works and operational activities over the asset will cause damage to this asset.	<1% = score of 1	<£1M = score of 1	Score 1 - Green
	Lodway Close, Pill	Low voltage cable (overhead)	Railway bridge to be replaced and works to widen abutments / embankments adjacent to electricity pole.	Work requires electricity pole to be moved, risk of damage.	Diversion – Parish Council supply to lighting column – NSC street lighting team	Agreed approach with asset owner on timing and design of diversion through 'C- form' process.  Asset owner to divert asset.	Very low risk of damage as asset will be diverted prior to works.	<1% = score of 1	£2M to £5M cost, medium reputation, I medium safety = score of 3	Score 3 - Green

Utility	Location	Asset description	Interface description	Risk	Diversion/ Protection/ New connection	Mitigation	Residual Risks	Likelihood of Residual Risk Score*	Impact of Residual Risk Score*	Residual Risk RAG Rating*
	Clanage Road	33KV cable Depth: 1000mm	Footway to be lowered to provide vehicular access to permanent compound.	Works directly above asset; risk of damage.	Diversion or protection.	Agreed approach with asset owner on timing and design of diversion through 'C- form' process.  Asset owner to divert asset.	Very low risk of damage as asset will be diverted prior to works.	<1% = score of 1	£2M to £5M cost, medium reputation, 1 medium safety = score of 3	Score 3 - Green
	Winterstoke Road	Low voltage & 11Kv cable	Carriageway to be widened to provide additional lane.	Works in proximity to the asset; risk of damage.	Diversion - C3 stage complete	Agreed approach with asset owner on timing and design of diversion through 'C- form' process.  Asset owner to divert asset.	Due to the works to Winterstoke Road, there is a low risk that the contractor damages the asset.	1% to 10% = score of 2	£2M to £5M cost, medium reputation, 1 medium safety = score of 3	Score 6 - Green

\*The risk assessment columns in the above table are subject to completion of a validation process.

#### Risk Assessment Table

Impact on Project				Likelihood				
Impact	Cost £M	Reputation	Safety	Less than 1% - Very Low (1)	1% to 10% - Low (2)	10% to 50% - Medium (3)	50% to 80% - High	Greater than 80% - Very High
<b>Very High (5)</b>	>£10M	International media coverage	One or more fatalities	5	10	15	20	25
<b>High (4)</b>	£5M to £10M	National media coverage	Serious personal injury	4	8	12	16	20
<b>Medium (3)</b>	£2M to £5M	Regional media coverage	Injury to personnel not resulting in permanent disability	3	6	9	12	15
<b>Low (2)</b>	£1M to £2M	Local media coverage	Medial treatment of person, resulting in some loss of productivity	2	4	6	8	10
<b>Very Low (1)</b>	<£1M	Slight media attention	Minor impact first aid only, no loss of productivity	1	2	3	4	5

#### RAG Rating

RAG Rating	Score
Red	15 or above
Amber / Red	10 to 14
Amber	6 to 9
Green	1 to 5