

## **Matter 13 – Transport and Connectivity**

### **Clarification requested by the Inspector on which traffic forecast tables in the transport evidence show traffic levels with/without Local Plan growth [*with regards to Retford*]**

Please refer to the following document:

#### **Document BDC-25 – Retford Transport Assessment, dated May 2022**

**Table 21** (Pages 47 to 51) - presents junction capacity assessment results for the situation that will exist in 2021 and 2038 without any Local Plan development, plus the situation in 2038 with the Ordsall South allocation only, and the situation in 2038 with all Local Plan development. The 'with development' results in Table 21 reflect a development of 930 dwellings on the Ordsall South allocation.

**Table 22** (Pages 52 to 54) - presents junction capacity assessment results for the situation in 2038 with the Ordsall South allocation only, and the situation in 2038 with all Local Plan development. The 'with development' results in Table 22 reflect a development of 1,250 dwellings at Ordsall South (as per the proposed allocation).

**Table 21** and **Table 22** present results for the operation of existing junction layouts (i.e. with no improvements). In the tables the abbreviation 'Max' for maximum has been used where the RFC results reach infinity (i.e. are too large for the software to handle).

Once RFC exceeds 1.0 the level of queuing forecast by the software is less accurate and should only be used as an indication of significant queues rather than the actual length of queues.

To determine the increase in queue lengths caused by Local Plan traffic it is necessary to compare the results from the column in Table 21 titled "2038 Base + Committed Development" (this is the Reference Case situation that will exist in 2038 without the Local Plan) against the column in Table 22 titled "2038 Base + Committed + Ordsall Development + Other Local Plan Sites" (this is the situation in 2038 with the Local Plan, with 1,250 dwellings at Ordsall South).

Because the data is split across two tables it's not the easiest comparison to make so we have extracted the relevant data for the three junctions in Retford where highway improvements have not been identified to mitigate Local Plan traffic impacts due to space constraints near the junctions. This is summarised in the tables on the next page.

#### **Document BDC-31 – Retford Transport Assessment Addendum, Highway Mitigation and Sensitivity Tests dated December 2022**

We have also extracted the relevant data from Tables 4, 5 and 6 of the Retford Transport Assessment Addendum report for Sensitivity Test 2 which reflects the removal of TEMPro traffic growth to avoid the double-counting of committed development traffic. This data is presented for information on the page after the next page.

**Summary of Performance of the three junctions in Retford where Highway Improvements have not been identified to mitigate Local Plan development**

Results Extracted from Tables 21 and 22 of Document BDC-25 – Retford Transport Assessment, dated May 2022

**J8 - A620 Amcott Way / Bridgegate / Hospital Road / North Road / Hallcroft Road**

Junction	Arm	2038 Base + Committed Developments				2038 Base + Committed Developments + Local Plan Growth				Queue Increases due to Local Plan (vehicles)		% Impact	
		AM		PM		AM		PM		AM	PM	AM	PM
		RFC	MMQ	RFC	MMQ	RFC	MMQ	RFC	MMQ				
8 - A620 Amcott Way / Bridgegate / A620 Hospital Road / A638 North Road / Hallcroft Road	B - A620 Amcott Way	0.74	2.8	0.83	4.6	0.78	3.7	0.89	7.3	1	3	6.1%	5.6%
	C - Bridgegate	0.86	5.1	0.94	9.3	0.99	11.6	1.1	28.4	7	19		
	D - A620 Hospital Road	1.15	64.8	1.07	39.8	1.27	113.8	1.16	78.3	49	39		
	E - North Road	0.88	6.8	1.00	56.8	0.95	13.8	1.11	70.8	7	14		
	A - Hallcroft Road	0.86	5.1	0.84	4.4	0.96	11.5	0.93	8.5	6	4		

**J11 - A638 Arlington Way / Grove Street**

Junction	Arm	2038 Base + Committed Developments				2038 Base + Committed Developments + Local Plan Growth				Queue Increases due to Local Plan (vehicles)		% Impact	
		AM		PM		AM		PM		AM	PM	AM	PM
		Deg of Sat	MMQ	Deg of Sat	MMQ	Deg of Sat	MMQ	Deg of Sat	MMQ				
11 - A638 Arlington Way / Grove Street	Arlington Way (left/ahead/right)	88.7	21.1	98.1	32.3	92.4	24.6	98.1	29.1	4	-3	3.7%	2.8%
	Grove Street (right/left/ahead)	67.4	3.9	68.2	4	67.4	3.9	68.2	3.8	0	0		
	Arlington Way (ahead/right/left)	116.7	105.4	129	157.4	121.6	128.5	133.3	177.5	23	20		
	Grove Street (left/ahead/right)	99.7	12.5	125	58.9	103.7	16.7	134.2	71.8	4	13		
	Practical Reserve Capacity (%)	-29.7		-43.3		-35.1		-49.1		-			

**J12 - A638 Arlington Way / A638 London Road / Carolgate**

Junction	Arm	2038 Base + Committed Developments				2038 Base + Committed Developments + Local Plan Growth				Queue Increases due to Local Plan (vehicles)		% Impact	
		AM		PM		AM		PM		AM	PM	AM	PM
		Deg of Sat	MMQ	Deg of Sat	MMQ	Deg of Sat	MMQ	Deg of Sat	MMQ				
12 - A638 Arlington Way / A638 London Road / Carolgate	Carolgate (left/ahead/right)	62.2	4	115.1	58.1	73.0	4.8	124.9	88.9	1	31	8.3%	6.9%
	Arlington Way (right/left/ahead)	47.2	7.5	70.8	15.9	51.2	8.5	76.4	18.6	1	3		
	London Road (ahead/right/left)	102.2	44.8	113.8	80.3	110.6	85.9	124.9	126.3	41	46		
	Albert Road (left/ahead/right)	103	19.7	113.0	32.1	107.9	28.0	126.0	45.4	8	13		
	Practical Reserve Capacity (%)	-14.5		-27.9		-22.9		-40.0		-			

**Notes:**

1. MMQ = Mean Max Queue = queue length in vehicles
2. RFC = Ratio of Flow to Capacity. An RFC value below 0.85 indicates that a junction operates within capacity.
3. 'Deg of Sat' = Degree of Saturation which is measure of performance of signal controlled junctions. A degree of saturation of 90% roughly equates to RFC of 0.85
4. Practical Reserve Capacity (PRC) is the overall 'spare' capacity available in a signal controlled junction. Queueing typically becomes noticeable at a PRC of -11%.
5. % Impact represents the increase in total 2-way vehicle trips through each junction due to Local Plan development.

**Summary of Performance of the three junctions in Retford where Highway Improvements have not been identified to mitigate Local Plan development**

**Results Extracted from Tables 4, 5 & 6 of Document BDC-31 – Retford Transport Assessment Addendum, Highway Mitigation and Sensitivity Tests, December 2022**

**The 'with' Local Plan results presented below are for Sensitivity Test 2 which represents the removal of TEMPro background Traffic Growth**

**J8 - A620 Amcott Way / Bridgegate / Hospital Road / North Road / Hallcroft Road**

Junction	Arm	2038 Base + Committed Developments				2038 Base + Committed Developments + Local Plan Growth				Queue Increases due to Local Plan (vehicles)	
		AM		PM		AM		PM		AM	PM
		RFC	MMQ	RFC	MMQ	RFC	MMQ	RFC	MMQ		
8 - A620 Amcott Way / Bridgegate / A620 Hospital Road / A638 North Road / Hallcroft Road	B - A620 Amcott Way	0.61	1.6	0.69	2.2	0.65	1.8	0.76	3	0	1
	C - Bridgegate	0.58	1.3	0.67	1.9	0.65	1.8	0.77	3.1	1	1
	D - A620 Hospital Road	0.89	6.7	0.84	5	1.02	23.9	0.95	11.7	17	7
	E - North Road	0.76	3.1	0.91	8.3	0.85	5.2	0.96	13.9	2	6
	A - Hallcroft Road	0.66	1.9	0.66	1.9	0.77	3.2	0.79	3.4	1	2

**J11 - A638 Arlington Way / Grove Street**

Junction	Arm	2038 Base + Committed Developments				2038 Base + Committed Developments + Local Plan Growth				Queue Increases due to Local Plan (vehicles)	
		AM		PM		AM		PM		AM	PM
		Deg of Sat	MMQ	Deg of Sat	MMQ	Deg of Sat	MMQ	Deg of Sat	MMQ		
11 - A638 Arlington Way / Grove Street	Arlington Way (left/ahead/right)	62.8	13.3	72.1	16	65.8	14.2	73.2	16.7	1	1
	Grove Street (right/left/ahead)	74	4.3	74.9	4.4	74	4.3	74.9	4.4	0	0
	Arlington Way (ahead/right/left)	82.8	21.2	94.9	30.1	86.8	23.9	98.8	38	3	8
	Grove Street (left/ahead/right)	79.7	6	93.8	12	83.4	6.6	97.7	14.5	1	3
	Practical Reserve Capacity (%)	8.8		-5.4		3.7		-9.8		-	

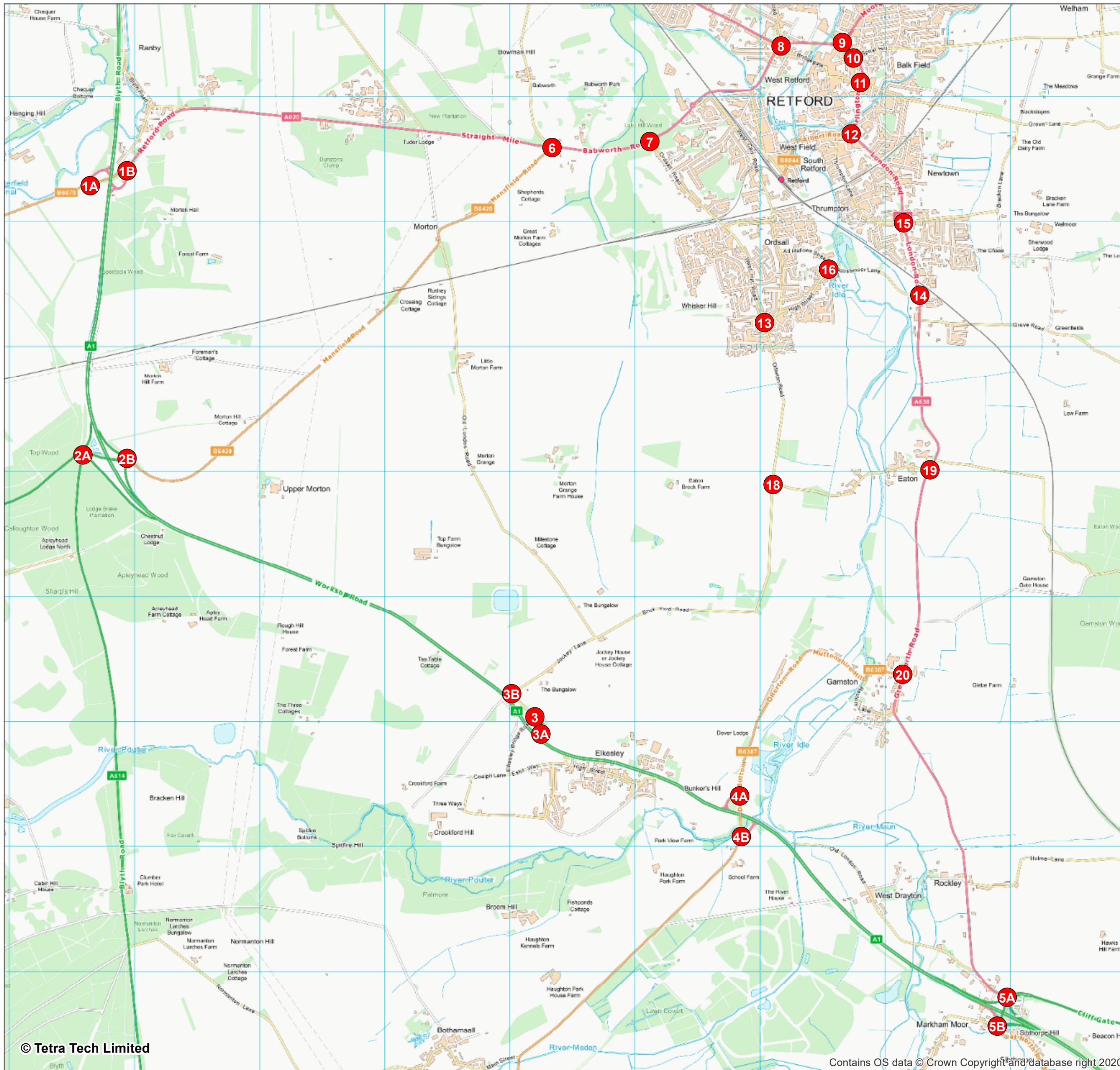
**J12 - A638 Arlington Way / A638 London Road / Carolgate**

Junction	Arm	2038 Base + Committed Developments				2038 Base + Committed Developments + Local Plan Growth				Queue Increases due to Local Plan (vehicles)	
		AM		PM		AM		PM		AM	PM
		Deg of Sat	MMQ	Deg of Sat	MMQ	Deg of Sat	MMQ	Deg of Sat	MMQ		
12 - A638 Arlington Way / A638 London Road / Carolgate	Carolgate (left/ahead/right)	56.6	3.2	94.4	15.2	68.1	4.2	104.6	33.6	1	18
	Arlington Way (right/left/ahead)	39.7	6.1	62.1	12	43.5	7	67.5	13.6	1	2
	London Road (ahead/right/left)	83.4	17.3	95.4	22.3	90.6	23	105.8	51.3	6	29
	Albert Road (left/ahead/right)	82.7	8.4	92.8	10.4	90.5	10.2	102.1	15.9	2	6
	Practical Reserve Capacity (%)	7.9		-6		-0.7		-17.6		-	

**Notes:**

1. MMQ = Mean Max Queue = queue length in vehicles
2. RFC = Ratio of Flow to Capacity. An RFC value below 0.85 indicates that a junction operates within capacity.
3. 'Deg of Sat' = Degree of Saturation which is measure of performance of signal controlled junctions. A degree of saturation of 90% roughly equates to RFC of 0.85
4. Practical Reserve Capacity (PRC) is the overall 'spare' capacity available in a signal controlled junction. Queueing typically becomes noticeable at a PRC of -11%.
5. % Impact represents the increase in total 2-way vehicle trips through each junction due to Local Plan development.

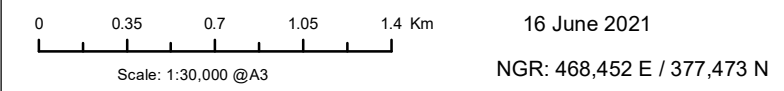




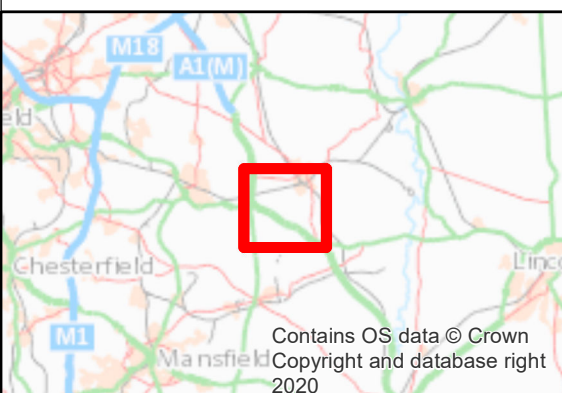
Reference	Description
1A/1B	A1/A620 Retford Road/B6079 Retford Road
2A/2B	A1/B6420 Mansfield Road/A614 Blyth Road/A57
3/3A/3B	A1/Elkesley Bridge Road/Jockey Lane/Esfil Way
4A/4B	A1/B6387 Dover Bottom
5A/5B	A1 Markham Moor Junction
6	A620 Babworth Road/B6420 Mansfield Road/A620 Straight Mile/Sutton Lane
7	A620 Babworth Road/Ordsall Road
8	A620 Amcott Way/Bridlegate/A620 Hospital Road/A638 North Road/Hallcroft Road
9	A620 Amcott Way/A620 Moorgate/A638 Arlington Way
10	A638 Arlington Way/Spital Hill/Chapelgate
11	A638 Arlington Way/Grove Street
12	A638 Arlington Way/A638 London Road/Carolgate
13	Ollerton Road/West Hill Road
14	A638 London Road/Whitehouses Road
15	A638 London Road / Whinney Moor Lane / Bracken Lane
16	All Hollows Street / High Street / Goosemoor Lane
18	Ollerton Road / Brick Yard Lane
19	A638 / Main Road
20	A638 / B6387 Rectory Lane

**Notes:**

Drawn by: \_\_\_\_\_ Drawing No. - \_\_\_\_\_  
 Checked by: \_\_\_\_\_ Revision No. - \_\_\_\_\_  
 Approved by: \_\_\_\_\_



© Crown Copyright All rights reserved. Licence number: \_\_\_\_\_



**TETRA TECH**

Executive Park  
 Avalon Way  
 Anstey  
 Leicester  
 Leicestershire  
 LE7 7GR

Contains OS data © Crown  
 Copyright and database right  
 2020

TEL: 0116 234 8000  
 Email: europe@tetratech.com

