

## **S106 Funding: Statutory Air Quality Action Plan (AQAP)**

### **Introduction and s106 pot**

Below are three proposals for funding to be allocated in 2020/21. These are considered critical to take forward a major, required update of the AQAP/linked AQ Supplementary Planning Document and deliver validated air quality monitoring data that underpins this.

It is proposed that these are against the historic 'General' s106 AQ funding pot for Crediton and not the later, pooled/allocated funding for specific projects in either Crediton or Cullompton, which will remain unaltered by these proposals.

The General s106 fund balance is circa £250k available and is a closed pot. It was collected prior to changes to s106 pooling legislation for the more general purposes of AQAP delivery, therefore is only ring-fenced to local air quality work commonly. Some of this funding is also liable for refunding due to the age of the agreements and therefore the corporate view is that this should be utilised and spent first.

The total combined value of these proposals is **£31,935**.

These proposals build on work completed in 2019/20 around the commissioning of:

- x4 new 'MESH' portable air quality monitoring stations
- Review of current AQAP and AQ policies including the current Supplementary Planning Document (SPD)
- Crediton Traffic and Urban Realm Feasibility Study
- Cullompton LES Emission Strategy

Due to the specialist nature of this work and the need for independent technical and quality assurance to meet Defra requirements, this work was commissioned with Ricardo Energy and Environment. For these reasons including the preliminary/preparatory work already undertaken, if approved, it is proposed to further commission Ricardo to complete these follow-on projects.

Ricardo have extensive experience in preparing AQAPs and SPDs for local authorities throughout the UK, including AQAPs recognised as examples of good practice by Defra and the Devolved Administrations. The proposed Ricardo project delivery team will be comprised of specialist, all of whom have worked on the previous LAQM work packages for MDDC, and have extensive experience in supporting other local authorities across the UK in the development of AQAPs and associated LAQM work.

Defra oversee the Local Air Quality Management regime under the provisions of the Environment Act 1995. Under this MDDC have declared two air quality management areas (Crediton and Cullompton) with a number of parallel measures designed to reduce largely road transport based air pollution district-wide.

## Links to Crediton

As noted, these projects will come from the Crediton general AQ s106 funding pot. There are several legal reasons for this and it's also recognised that there are inherent parallel benefits to the Cullompton AQMA and the district generally. Nonetheless, it's important to set out how these projects will directly apply to the benefit of local air quality within Crediton and its air quality management area.

In particular, proposals provide for major update the district-wide Air Quality Action Plan and other policy work which contain general and specific measures with impact in Crediton. Examples include:

- Air quality Supplementary Planning Document setting out a mass-based emission assessment approach that will apply to major developments and schemes within Crediton and the measurement of mitigation measures/packages. It will also set out future s106 contribution formula and considerations in respect new and existing projects targeted to the town
- Development of specific project proposals in respect of the delivery of the Crediton Town Centre Traffic and Urban Realm Feasibility study and identified traffic management measures developed and tested during 19/20 – specifically these are four broad project schemes: Church Street to Charlotte Street, Union Terrace to the War Memorial, St Saviours Way to Union Terrace and Western Road to St Saviours Way
- Delivery of existing and new projects in respect of on-street EV charging infrastructure at public and taxi rank locations in the Crediton town centre
- Development of new technical licensing proposals to shift from current EURO emission standards with 'grandfather' rights to accelerate a shift ultra-low emission/EV taxi fleet as applicable to all operators but will pilot with Crediton based operators
- Commissioning of an updated detailed source apportionment of air quality as derived from home, farming, industry and transport emissions sources as specifically applied to Crediton area – this will take a combination of Crediton specific and national data to enable new targeted measures for the town to be developed. In line with the Government Clean Air Strategy (2019), there will be a new consideration around home sources and domestic solid fuel burning which has particular relevant to Crediton town centre as impacted by its valley and street canyon topography
- Management, quality assurance and verification of the x2 current MESH real-time 24/7/365 air quality monitoring stations (plus existing NOx tube network) within Crediton. This data will be publically disseminated via a dedicated UK website (note the proposal also cover the x2 monitors currently located in Cullompton but both dataset require expert management to enable mutual local validation of baseline and trend before comparison with non-local UK reference sites)

- Development of links between Crediton specific local air quality management plan measure and the emergent MDDC Climate Change Action Plan

## **Project 1 – Air Quality Action Plan (AQAP) Update**

**Value: £15,375**

The current AQAP was produced in 2018 and is formally due a major update. This was due in 2019, however due to Covid-19 has been pushed back in 2020 for completion. The reasons for the required update are:

- Cyclical update reporting into Defra
- Update the technical assessment work underpinning the development of measure to meet updated Defra requirements. The current pollution source appointment work was last completed in 2010 and underpinned by monitoring and assumptions that are now out of date (see Project 2)
- Incorporate new measures identified following the 2019 work. These are required to continue the improvement of local air quality across the district to meet Air Quality Regulations. These are set in UK legislation and will continue to post-Brexit
- Development of further measures
- Link measures and funding to an updated Supplementary Planning Document (See Project 3)
- Develop links between the AQAP and the Council's emerging Climate Change Action Plan

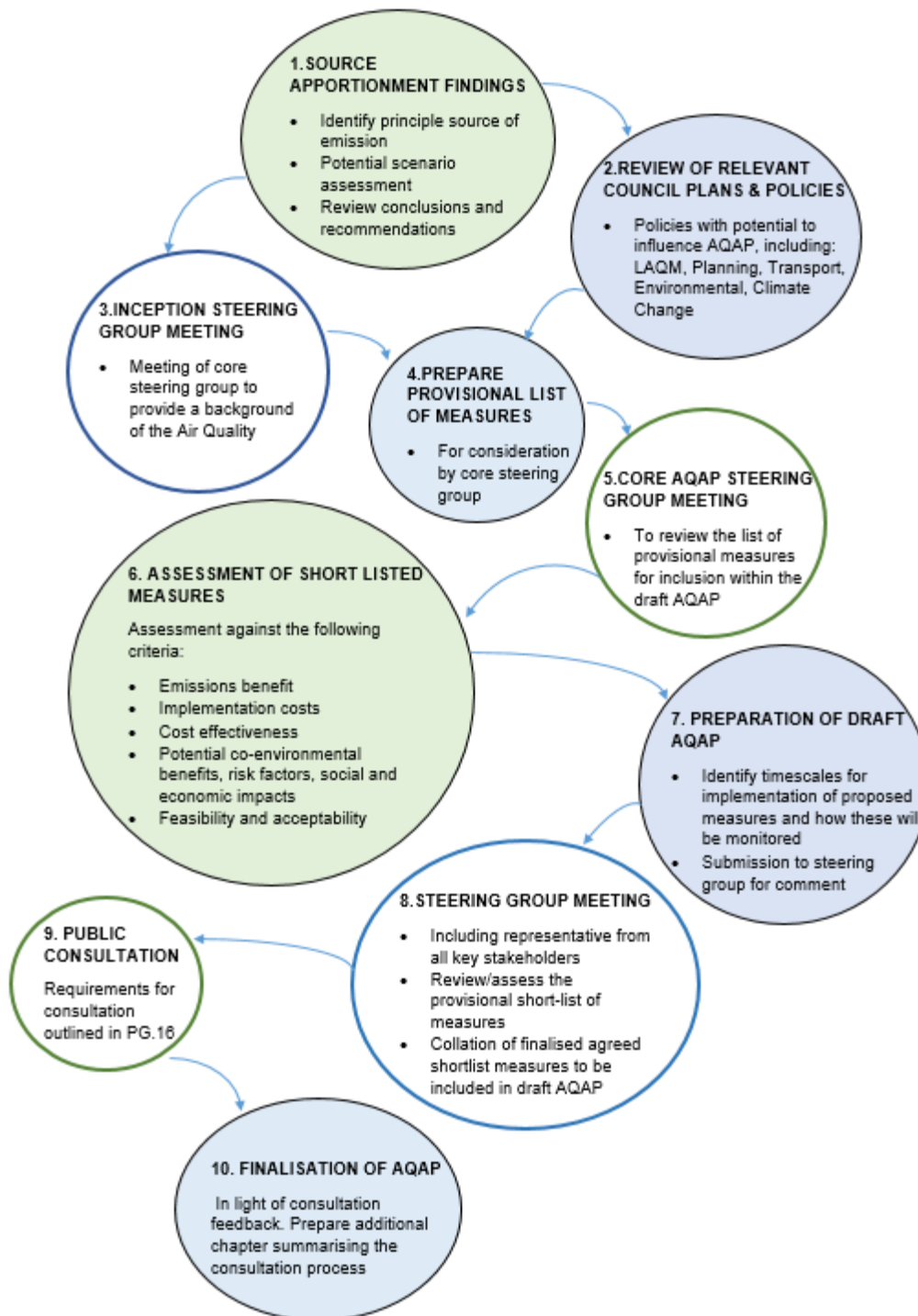
This package of work will build on Ricardo's previous work in reviewing the current MDDC Air Quality Action Plan.

AQAPs are strategic documents in which the Council outlines measures it intends to take in pursuit of achieving the air quality objectives in the Air Quality Management Areas (AQMAs). Technical Guidance (TG16) recommends the following approach for the development of an AQAP:

1. Develop the AQAP in stages;
2. Undertake appropriate local monitoring and assessment (including modelling and source apportionment);
3. Decide what level of actions are required; what measures are already in place and what new measures could be considered;
4. Establish links to other key policy areas / strategies;
5. Establish a Steering Group with key stakeholder groups at an early stage;
6. Undertake measures selection and impact assessment;
7. Agree monitoring and evaluation of success, and annual review of progress;
8. Undertake consultation.

The proposed process for updating the Air Quality Action Plan for MDDC is presented in Figure 1.

**Figure 1: Action planning process**



**Source Apportionment Analysis**

The source apportionment analysis of air quality forms an integral part of the AQAP process and is crucial to the development of an effective and proportionate plan.

RapidAir® is unique to Ricardo and has been developed in response to their core work around air quality at local and national Government level. It has already been used to assess the impact on air quality of a proposed Traffic Management Scheme in Crediton and a Low Emission Strategy for

Cullompton. Therefore, it is proposed to provide two sets of source apportionment depending on the information available:

- Source apportionment of the Defra background maps can be used to provide source apportionment of pollutants at the 1 km x 1 km scale, at agreed locations across Mid Devon. These locations will be agreed with the client prior to commencement of the project. Example locations could include Tiverton and/or areas adjacent to the M5.
- Source apportionment at locations within the Crediton and Cullompton AQMAs can be provided, making use of the emissions modelling outputs generated in the air quality modelling studies completed by Ricardo. We propose to provide source apportionment at NO<sub>2</sub> hotspot locations within the Cullompton and Crediton AQMAs; this will include a breakdown of road sources in addition to the Defra background map source apportionment.

Following the source apportionment analysis, a summary of its conclusions with respect to source contributions will be prepared for inclusion within the draft AQAP. The conclusions of the source apportionment and the existing AQAP will be used to inform the preparation of the provisional list of measures for consideration by the AQAP Steering Group.

### **Review of relevant existing MDDC Policies**

Air Quality Action Plans should take account of related plans such as the Local Transport Plan and the Local Plan/Local Development Plan, as ongoing activities that may contribute to improving air quality within the AQMA are likely to have an influence on the development of a successful AQAP. In addition, it is important that any existing commitments of MDDC are not conflicted by measures included within the draft AQAP.

Ricardo has already undertaken an extensive review of MDDC's air quality planning policies. This review included an examination of the Mid Devon Local Plan (consisting of the Core Strategy 2006 – 2026, Allocations and Infrastructure Development Plan Document, and Development Management Policies) as well as the Mid Devon SPD on Air Quality and Development and current Mid Devon AQAP. In addition, Ricardo will revisit the recently adopted Mid Devon Local Plan 2013 – 2033 and the latest Annual Status Report (ASR).

A summary of each of the relevant identified policies, highlighting potential overlaps with the draft AQAP, will be included within the draft report. In this section we propose to provide an overview of existing MDDC policies including further information on any new or developing MDDC policies that may influence the development of the AQAP.

### **Inception Steering Group Meeting**

As shown in the flowchart, this section comprises a meeting of the core Steering Group to provide background information on the current air quality in Mid Devon. Ricardo has already undertaken the 2019 ASR for MDDC, as well as a review of MDDC's air quality monitoring programme and dispersion modelling for two villages in Mid Devon. Ricardo and the project team are therefore well informed regarding the current air quality in Mid Devon. The 2020 ASR will be reviewed to enable us to have the most up to date information.

## **Preparation of provisional list of measures for consideration by the Core AQAP Steering Group**

A wide range of potential options may be available to MDDC and other stakeholders to improve local air quality within the designated AQMAs and wider area. Therefore, at the onset of the action planning process it is appropriate to consider all potential options. This will draw on the short list of measures Ricardo has already assessed as part of the Cullompton Low Emission Strategy<sup>3</sup>, some of which were shown to have wider benefits for the District.

Following a review of the source apportionment, current AQAP and relevant existing MDDC policies, a provisional list of potential measures for consideration by the Steering Group will be prepared. Whilst MDDC may not have the necessary powers to implement all such options we would expect them to work with, or encourage other organisations and agencies that have the capacity to take such options forward.

Upon completion, the provisional list of potential measures will be submitted to the Project Officer at MDDC prior to the proposed Steering Group meeting.

## **Core AQAP Steering Group Meeting to assess provisional list of measures for further inclusion within the draft AQAP**

Following the preparation of the provisional list of potential measures for inclusion within the draft AQAP, we recommend that a meeting of the Core AQAP Steering Group is held at the earliest opportunity in order to undertake an initial appraisal of the measures. The main aim of this meeting would be to present the provisional list of measures for the consideration of the group and undertake an initial appraisal of each proposed measure.

We propose this meeting is hosted online via teleconference. Ricardo will be happy to provide support at this meeting and minute any comments of the measures to provide a summary of comments for inclusion in the draft Plan.

## **Assessment of short-listed measures**

The shortlist of measures will be assessed against a wide range of criteria in order to assess their suitability for inclusion in the Plan. The proposed criteria against which options will be assessed are:

- Potential air quality impact;
- Implementation costs;
- Cost-effectiveness;
- Potential co-environmental benefits, risk factors, social impacts and economic impacts; and
- Feasibility and Acceptability.

The assessment of the potential air quality impact of the measures is a key aspect in that the AQAP must focus on prioritising options that improve air quality most effectively. The assessment is complex in that the detailed assessment of any given option could normally be subject to a study of its own requiring significant resources. This aspect of the Action Plan will incorporate the findings of the source apportionment. For measures where this is not applicable, a semi-quantitative assessment relying on a level of judgement will be adopted.

## **Preparation of draft Air Quality Action Plan**

The next stage in the process is the preparation of the draft AQAP document including the short-list of proposed measures agreed at the previous steering group meetings. It will be the responsibility of MDDC to collate all feedback from steering group and stakeholders on the proposed list of measures.

There is also a need to demonstrate a clear project management approach to the implementation of the AQAP (and its associated measures) and hence targets and indicators, with associated timescales, should be developed for each measure adopted. To do this effectively, further discussion will be required with representatives from services/organisations responsible for the implementation of each of the proposed measures. These additional discussions will focus on the timescales for implementing different aspects of the proposed measures, and where possible, the identification of indicators to enable MDDC to demonstrate progress on the implementation of the AQAP in future years.

### **Public Consultation**

The public consultation process primarily relates to the wider consultation process, including statutory consultees, the public and local businesses. Under the statutory guidance, local authorities are required to consult on the preparation of their AQAP. The aim of the consultation process is to provide consultees with the opportunity to provide opinions on what the Plan should include. It is recommended that consultation should be undertaken following development of the draft Plan.

The guidance states that authorities should decide on the timescale for consultation but recommends that no consultation exercise should last for fewer than six weeks. In addition, it notes that the consultation on the draft plan should include:

- Details of which pollutants the authority will look at and an indication of where they come from;
- The timescales for implementing each proposed measure; and
- Details of other organisations or agencies whose involvement is needed to meet the plan's objectives and what the authority is doing to get their co-operation.

Local authorities across the UK have adopted a range of different approaches when undertaking consultation on their draft AQAPs. These have included the submission of the draft Plan to statutory consultees and relevant organisations, the preparation of draft Plan summary leaflets/questionnaires, and the hosting of public meetings or workshops. As part of this process we would also support MDDC in identifying a comprehensive list of consultees for the consultation process. Ricardo will work with MDDC to identify a comprehensive list of attendees following completion of the draft plan.

### **Finalisation of Air Quality Action Plan**

Upon completion of statutory public consultation on the draft AQAP, it is feasible that some changes or modifications of the draft plan will be required. At this point, we propose to liaise with the coordinating officer at MDDC to confirm the required changes prior to amending the plan.

Following these discussions, Ricardo will make the agreed changes to the draft plan and also include an additional section summarising the consultation process undertaken by the Council and a brief

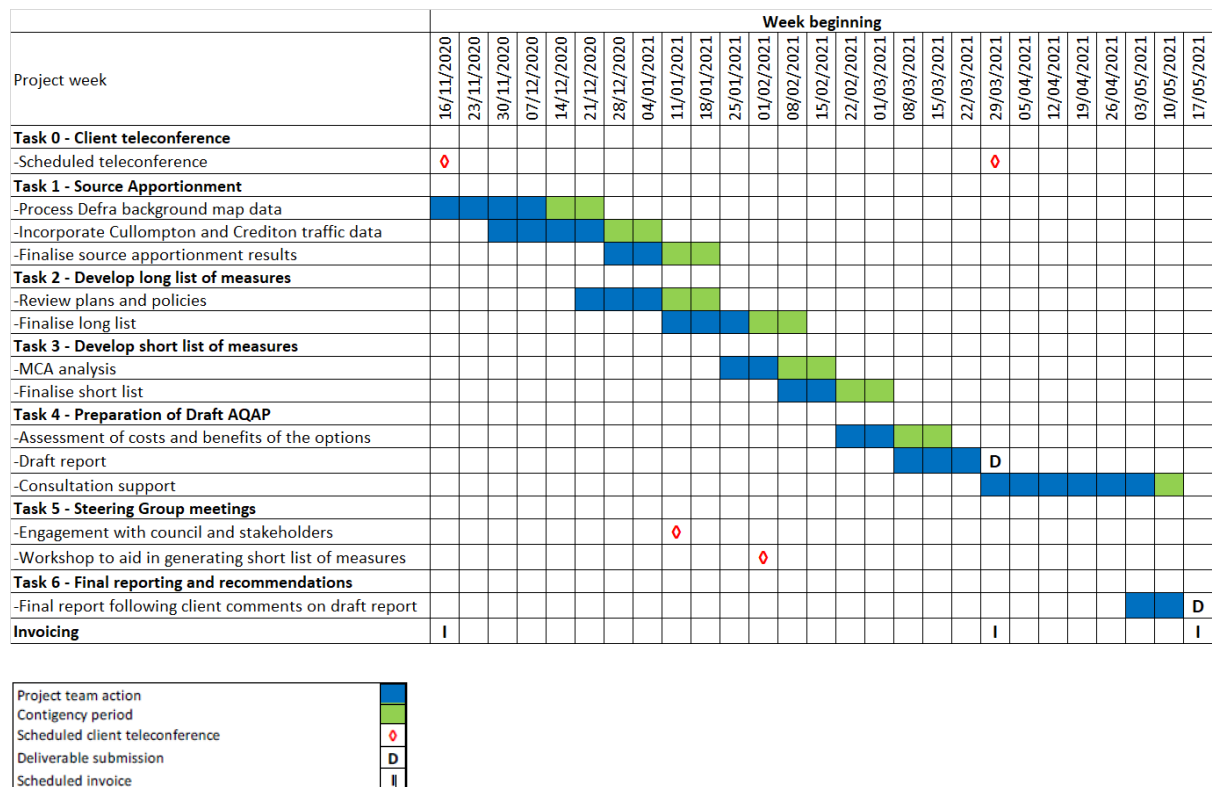
summary of feedback comments received. Following completion, an electronic copy (MS Word) of the amended plan will be submitted to MDDC for comment. It will be the responsibility of MDDC to collate all feedback from the steering group and stakeholders, and provide Ricardo with one set of corrections / amendments to finalise the Air Quality Action Plan.

### Air Quality Action Plan outline structure

The AQAP will have the following structure and content in order to meet the requirements outlined in TG16.

1. Introduction
2. Overview of Ambient Air Quality and Local Air Quality Management Process
3. Statement of the air quality issues in MDDC (including source apportionment)
4. Description of the adopted approach for developing the Air Quality Action Plan
5. Action Plan Options and Assessment (initial assessment and development of measures)
6. Methodology Utilised to Assess Shortlisted Measures
7. Action Plan - Including discussion of:
  - a. The prioritisation of measures,
  - b. Their anticipated impact on air quality within the AQMA,
  - c. How measures will be funded,
  - d. How MDDC will monitor and evaluate the effectiveness of the plan
8. List of useful references

**Figure 2: Project schedule for update to the Air Quality Action Plan**





## **Project 2 – Update to the Supplementary Planning Document on Air Quality and Development**

**Value: £6,200**

This package of work will build on Ricardo's previous work in reviewing MDDC's current air quality planning policies.

The current Supplementary Planning Document on Air Quality and Development<sup>5</sup> was created to aid developers to prevent/minimise adverse impacts on local air quality associated with their development and highlights suitable methods of mitigation expected by the Council. However, the SPD was published in 2008, prior to a number of key Council documents that supersede the referenced information in the SPD. As a result, it is understood that we must update the SPD to reflect the current plans and policies and include references to the latest technical guidance for air quality assessments.

### **Overview**

The SPD on Air Quality and Development was extensively reviewed as part of the Ricardo report "Review of Mid Devon District Council's Air Quality Planning Policies" and a number of improvements were suggested, including:

- It is recommended MDDC consider updating their system for classifying developments.
- It is recommended the SPD be updated to include references to the latest technical guidance for air quality assessments, including Technical Guidance 16 (TG16) and the Institute of Air Quality Management (IAQM)'s guidance for construction dust assessments.
- It is recommended MDDC develop a new emissions mitigation assessment, based on the latest Interdepartmental Group on Costs and Benefits (IGCB) Air Quality Damage Costs and Emissions Factor Toolkit (EFT).
- It is recommended the SPD be updated to reflect the latest IAQM Land-use and Development Control Guidance.
- It is recommended that Cumulative Impacts and Mitigation section of the SPD be updated to go further than suggesting a process for developments to provide financial contributions to AQAPs.
- Ricardo will update the SPD on Air Quality and Development to fulfil the improvements suggested above.

Proposed delivery

The proposed approach for this work is as follows:

- Arrange a kick-off call with the MDDC Project Officer (Public Health) and Forward Planning colleague to confirm the approach for completing the review. It is important a representative of the Forward Planning team join the call to ensure the relevant air quality planning requirements are reflected in the updated guidance.
- Complete a review of any additional documents not included in Ricardo's "Review of Mid Devon District Council's Air Quality Planning Policies" to identify the Council's commitments

relating to air quality for new developments. A preliminary review in support of this proposal has identified the following key additional areas that will need to be factored into the Guidance:

- Mid Devon Local Plan Review (2013 – 2033) policies S1 (Sustainable development priorities), S11 (Cullompton), S12 (Crediton) and DM3 (Transport and air quality).
  - The current AQAP 2017 – 2021, and updated AQAP once prepared.
  - The recent Cullompton Low Emission Strategy.
- Ricardo will prepare an updated SPD that reflects the policies described above, as well as those previously reviewed. The SPD will also be updated to include the latest national requirements and guidance relating to the assessment of air quality impacts, applicable to development, including:
    - Local Air Quality Management – Technical Guidance (TG16)
    - Local Air Quality Management – Policy Guidance (PG16)
    - Environmental Protection UK & Institute of Air Quality Management – Land-Use Planning & Development Control: Planning for Air Quality (2017)
    - Institute of Air Quality Management – Guidance on the assessment of dust from demolition and construction (2014)
    - Institute of Air Quality Management – Guidance on the assessment of odour for planning (2014)
- The SPD will allow developers to categorise their development as either Minor, Medium or Major, fulfilling the suggested improvement for MDDC to update their system for classifying developments. This classification will determine the approach the developer must follow, and will describe:
    - How to determine when an air quality assessment is required.
    - How to undertake an assessment, including the latest tools available to support this.
    - Requirements for undertaking an assessment of emissions during construction and demolition activities.
    - How to determine the significance of air quality impacts relating to a development.
    - Recommendations for mitigation during construction/demolition and following the completion of a development.
    - How to quantify impacts on air quality and recommendations for offsetting those impacts.
    - A series of case studies illustrating how to categorise, assess, report and mitigate against the air quality impacts resulting from development.
- Ricardo will provide MDDC with a draft document for review. It is recommended at this stage we arrange a progress meeting with key representatives of the Council, including the Environmental Protection, Planning and Public Health teams, to discuss the updated Guidance and receive feedback.

- Following the progress meeting Ricardo will provide a final draft of the Guidance.
- Ricardo can also make arrangements to attend any further meetings/consultation events to discuss the updated SPD. A separate cost can be provided for this on request.

**Figure 3: Project schedule for update to the Supplementary Planning Document**

Project week	Week beginning									
	29/03/2021	05/04/2021	12/04/2021	19/04/2021	26/04/2021	03/05/2021	10/05/2021	17/05/2021	24/05/2021	31/05/2021
<b>Task 0 - Client teleconference</b>										
-Scheduled teleconference	◊							◊		
<b>Task 1 - Review of additional documentation</b>										
-Review updated Local Plan and any additional documentation										
<b>Task 2 - Preparation of Draft SPD</b>										
-Preparation of draft report										
<b>Task 3 - Final reporting</b>										
-Final report following client comments on draft report										
<b>Invoicing</b>	I									I

Project team action	■
Contingency period	■
Scheduled client teleconference	◊
Deliverable submission	D
Scheduled invoice	I

## Project 3 – Mid Devon AQ Sensor Data and Public Reporting

**Value: £10,360**

This package of work will build project the necessary local air quality monitoring sensor data for Project 1 and 2 above. It also builds on Ricardo’s previous work in reviewing the air quality monitoring network across Mid Devon and providing key public reporting data via the Air Quality England website <https://www.airqualityengland.co.uk/> (itself a current AQAP measure/commitment). This project will run from December 2020-21.

This is a highly technical and resource intensive process which is essential in order to satisfy Defra technical and MCERT accreditation data requirements. Valid, quality assured air quality data must be used to underpin other AQAP and Local Air Quality Management work, otherwise false assumptions may be made and measures to improve air quality are at risk of being poorly targeted/ineffective. Furthermore, as the approved national air quality data resource for England, only robust datasets meeting quality assurance criteria can be published on the AQ England website.

This will provide for external, assured sensor monitoring services for the four AQ-Mesh monitoring located in Crediton and Cullompton. To maintain a key balance between data quality and value this will include:

### Data Correction

Why do we need to correct the data? Sensor responses are indicative and are known to vary widely, even across the same make, model and pollutant batch. For example, when installed and

run side by side PM10 measurements from one Sensor may record +45% and another may record -35% compared to the MCERTS analysers – therefore these inconsistencies need to be accounted for in the data management process.

### **Co-location Correction**

To account for the inconsistencies we advise each sensor is installed at a pre-existing 'Reference' monitoring station, to undertake characterisation and a quality control co-location study. The aims of these QC tasks is to assess and quantify how each sensor responds to ambient pollutants. The sensors will be co-located at the sample inlet of a monitoring station where approved MCERTS accredited instruments with full QA/QC and data management processing is applied. We have used several monitoring stations for this purpose, and so have established resources, with similar datasets having been recorded, which are available for QA/QC cross checks. The characterisation and co-location measurements obtained from this phase of the work programme will be used to establish correction factors for each pollutant for input to the quality control of each individual sensor for the measurement phase datasets. The co-location study is crucial to establish that the sensor responses for each pollutant track the reference instrument measurements

### **Hourly/daily data collection and checking**

All incoming data from the Sensors will be automatically screened and checked prior to being released as validated provisional datasets. The data are screened and checked using specifically developed software algorithms that identify and report suspect data and equipment faults. The datasets are processed in near real time by applying the co-location scaling factor and is then screened for signs of equipment malfunctions and unusual events.

Both raw and scaled data are stored as separate database files (original raw data are retained at all times). Ricardo policy on data validation (adopted and proven within the national network) is that all data are assumed to be correct unless there is sound evidence to suggest otherwise. This prevents the validation process from erroneously removing important air pollution episode data. The automatic screening procedures, and the experience of our expert data management staff, will ensure that the highest quality data will be appended to each sites' database and be released for reporting as validated data. Post automated checking and scaling the datasets are dissemination on the **Air Quality England website**, this enables reasonably robust datasets to be published

### **Manual Daily Checking**

The data checking team carry out manual daily data quality checks to ensure successful data acquisition and to investigate instances of suspect data. The daily checking log will be used during the ratification process for each pollutant. Any faults will be reported immediately to MDDC Public Health. Measurements across the Crediton and Cullompton sites will cross-compared for anomaly identification and local trend analysis recognising local network inter-relationships

### **Data Ratification**

This is the compilation and checking of all site measurement datasets and information, and undertake pre-defined quality checks. In brief the main stages are as follows:

- Post ratification of the MCERTSs data, so 3-months in arrears, we use the ratified MCERTS data to re-process and QA/QC the Sensor data. As part of this process we re-assess the correction factor for each pollutant and rescale the datasets as required, this is a time consuming process as each pollutant species from each Sensor unit will have a different scaling factors, there is considerable expertise involved in determining where the base line sits (this can change results by +/- 25% if not applied correctly). We then compare the measurements to other similar datasets to evaluate and address any inconsistencies.
- The datasets are then checked by a third party, and assuming all is as expected are then locked as ratified