

Innovation Park Medway

Environmental colour assessment
prepared by Waygood Colour

Waygood
Colour

September 2020

Innovation Park Medway

Environmental Colour Assessment (ECA)

Waygood Colour, was appointed to undertake an Environmental Colour Assessment to provide guidance on the selection and use of colour for building proposals associated with Innovation Park Medway.

Given the proximity of IPM to the Kent Downs AONB, it is important that designers understand the environmental context of the site in relation to the AONB, to ensure buildings visible from within the AONB are integrated with their surroundings.

The careful selection of colour and finish to new buildings can assist in reducing the effect of proposals on the surrounding environment. The ECA has been commissioned to identify a range of colours which will reduce the visual influence of buildings within IPM and which will provide base line data to inform future stages of design development.

Evidence of the impact of colour upon the environment can be seen in the BAE Systems building which overlooks the AONB. Widespread use of light colour on facades and roofs makes the building a very prominent feature set against the darker background of landscape. More recent development in the form of retail and warehousing has followed a trend towards darker colours but these too are clearly visible from the AONB.

The focus of the ECA is firstly to identify the tonality of the landscape against which the Park will be viewed, and then to offer a range of colours which when applied to frontages will appear to match that tonality and therefore seem much less prominent. Selected colours are 'grounded' in the landscape and will work well with the landscape provided the tonality is adhered to.

Measurement of tonality in the landscape is achieved by reference to the Natural Colour System and relies upon a visual assessment of the landscape compared to a calibrated grey scale.

An analysis of the hue (colours) in the landscape and the tonality (relative darkness) has enabled a range of colours to be identified as a developed palette. Whilst the tonality has been set for these colours, the colours themselves vary through a broad range to offer choice to future designers.

Adjustments for seasonality in landscape colours have been made with reference to the Kent Downs AONB Guidance on the Selection and Use of Colour in Development, a document which assessed colour in the character areas of the AONB during the winter months.

More information can be found about the process of ECA in that document and about the Natural Colour System.

Landscape hue and tonality survey

LANDSCAPE HUE



5020-Y20R 6020-G50Y 6020-G70Y



6020-G50Y 6020-G70Y 7020-G50Y



5020-G50Y 5020-G70Y 6020-G50Y 6020-G70Y



5005-Y20R 6020-G50Y 6020-G70Y 7020-G50Y

ANTICIPATED WINTER PALETTE



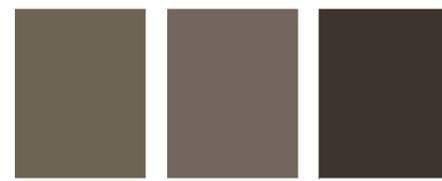
6010-Y10R 6005-Y50R



6010-Y10R 6005-Y50R

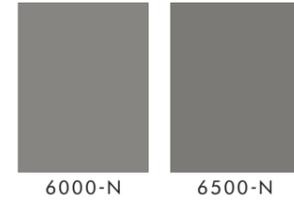


5010-Y10R 6010-Y10R



6005-Y20R 6005-Y50R 7005-Y50R

LANDSCAPE TONALITY



6000-N 6500-N



6500-N 7000-N



6000-N 6500-N



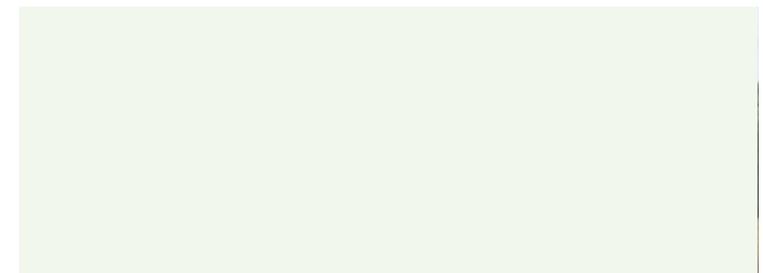
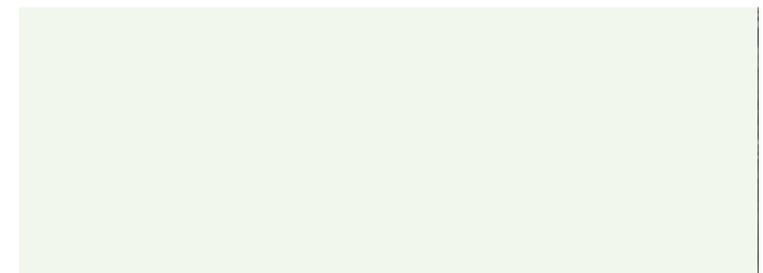
5500-N 6500-N



VP6



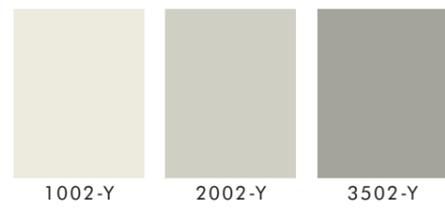
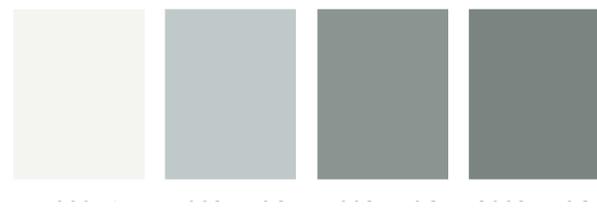
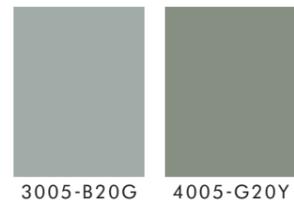
VP7



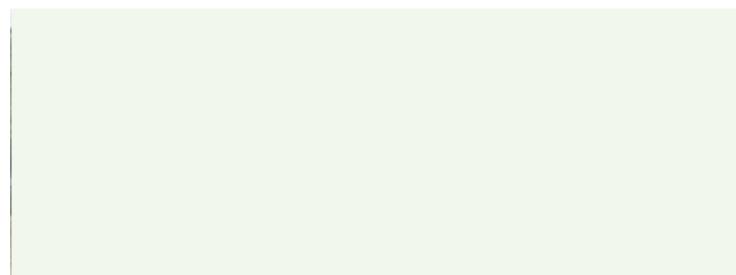
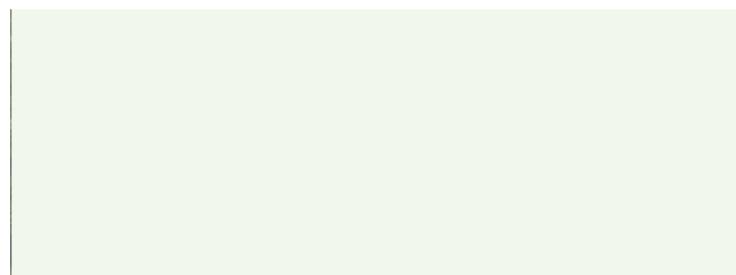
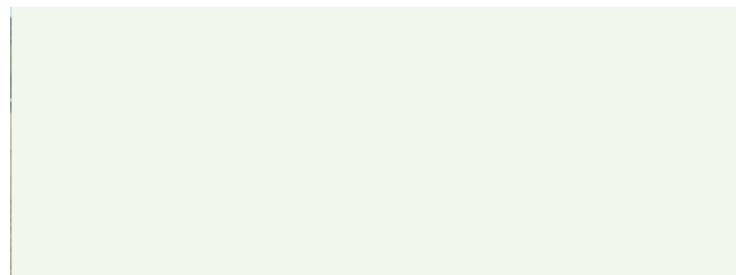
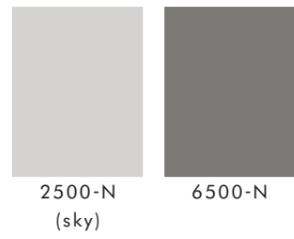
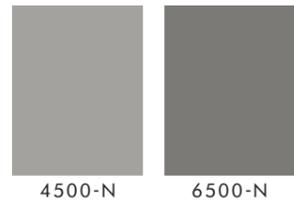
VP10

Building hue and landscape tonality survey

BUILDINGS HUE



LANDSCAPE TONALITY



Developed palette and key issues



1.0 The Developed Palette

1.1 The palette is based upon an analysis of site colours and tonality. It is designed to assist with the integration of new development into the setting of the AONB in order to minimise its visual impact when seen from key viewpoints. The palette specifies colours from the Natural Colour System, details of which can be found at the end of this report.

1.2 Colour applied to finished façades always appears brighter and lighter than small scale samples would seem to suggest, in other words inherent colours are perceived as brighter and lighter when applied at scale and viewed from a distance. The developed palette has taken as its starting point the perceived tonality of the contextual landscape viewed from the edge of the AONB and then darkened the integration colours by one step to compensate for this phenomenon. Final decisions about façade treatments should follow testing meaningful sized samples on site.

1.3 The colours are arranged vertically following the NCS colour wheel – yellow, red, blue and green and horizontally as follows:

1.4 Moving from left to right the first three colours are integration colours for the treatment of main elevations. These colours are tonally related to the landscape as set out in 1.2 above and will result in the development visually receding into that landscape.

1.5 The next pair of colours are greys, the first a tinted grey which corresponds to the hue of the row and the second a pure grey which corresponds to the dominant tone of the landscape. These greys may be used in combination with any of the colours within the same row to articulate form. The darker grey may be useful for visible roofs as pitched roofs always appear lighter than façades and therefore some compensation of tone is required.

1.6 The final pair of colours are related to the integration colours in each row. The first colour is one stop lighter and the second colour is one stop darker than the integration colours, this greater contrast between colours may be used to provide accent and form to a development, helping to influence the perceived scale, mass and height of a building. The use of lighter colours should be used sparingly in relationship to sensitive elevations.

2.0 The Selection of Colour and Materials for IPM

Key considerations:

2.1 The purpose of this colour study has been to assess the site's existing palette of tonality and hue when viewed from the AONB, in order to find a range of colours which will minimise the visual impact of new development. Some of this development will be seen in silhouette against the sky which means it will always to some degree appear darker than the sky emphasising its angularity. Therefore the developed palette comprises colours which 'ground' the development within the tree lined scarp landscape, rather than the subtle and ever changing skyscape.

2.2 Whilst hue changes with distance, tonality remains largely consistent. Objects are recognised in the landscape in terms of the difference in lightness between the object and its surroundings. If this difference is minimised then the object becomes to a greater extent, part of the landscape. This can be clearly seen in the photographs featuring the BAE Systems buildings compared with some of the more recent developments. The tonality of the landscape assessed during August has been compared with that during December recorded in the Kent Downs AONB Guidance on the Selection and Use of Colour in Development, and whilst the hue of landscape elements varies substantially the tonality varies very little. This may be seen in the palette of existing colours. The developed palette therefore will be applicable during any season, in offering colours with close tonal resemblance to the landscape, whilst still offering choice in the range of hues.

2.3 The review of existing buildings within and adjacent to the site points out many of the issues this colour study seeks to address. Light coloured roofs and inappropriate hues make buildings visually prominent. More recent retail and warehouse development appears to be adopting darker colours but based more upon current trends in building fashion rather than landscape analysis.

2.4 The development should be viewed as a whole with colour selection supporting other strategies to reduce massing, scale and height. The developed palette offers colours from all the quadrants of the colour wheel and therefore offers scope to articulate building frontages and townscape alike.

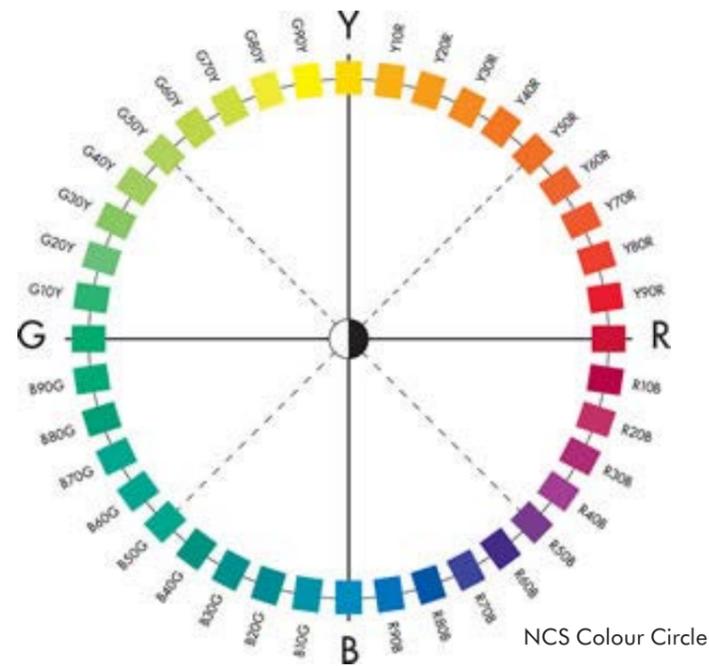
2.5 Green is a colour often selected for rural areas without consideration of how it performs. There is a tendency for hues to 'blue' with distance, especially green, so if the requirement is for a green building then it is necessary to select a green that is based in yellow. All natural greens contain some yellow and the effects of sunlight on moving canopies for example produces a seemingly endless layering of colours. By contrast the greens available as standard commercial products seem flat and unresponsive and frequently of a hue lacking in yellow. If the correct hue cannot be found then leave green to nature. Many of the newer developments visible from the AONB are perceived as grey and grey green. In general this works better in the summer months with a full canopy but less well in winter when the natural greys of bare branches are much 'yellower', and the buildings much 'bluer' by comparison. Correct tonality of façades can offer some compensation for inaccuracies in hue selection.

2.6 Finishes to all materials should be matt or semi matt, as highly gloss finishes will reflect light and make colours appear lighter than their inherent colour. Orientation will play a part in this with all but north elevations subject to direct or oblique sunlight. Roofs in particular are subject to increased light reflection due to the incline of pitch and therefore light coloured materials should be avoided. Roof lights within a pitched roof will always appear lighter than the surrounding material and should therefore be located away from sensitive elevations, or screened behind parapets or louvers. Green roofs should be planted with indigenous species which follow the general evolution of seasonal colour found in the receiving landscape.

2.7 Elevations with little scalable detail such as fenestration make less demand on the eyes and therefore tend to blend better with the landscape. However, some detailing of the surface with design breaks creating shadows helps to invest the façade with texture which in turn can respond to the tonal variations in the landscape.

Introduction to NCS

In order to accurately communicate the colours we see, we need a reference or notation system with the ability to pinpoint precise colour.

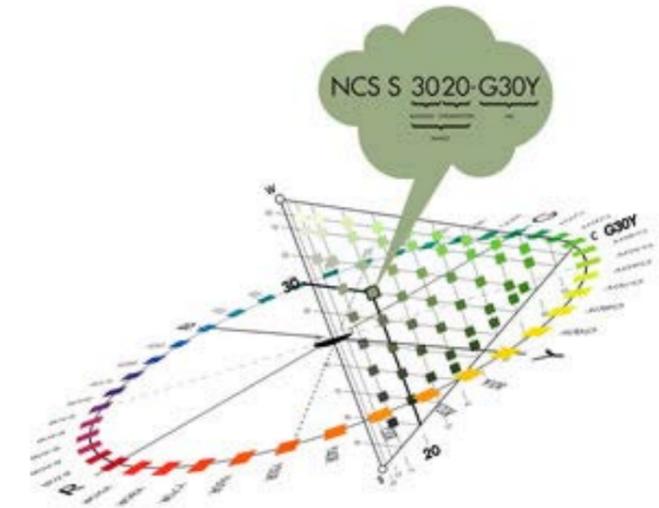
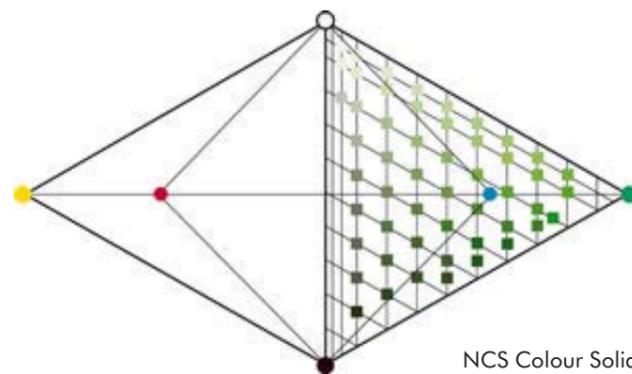
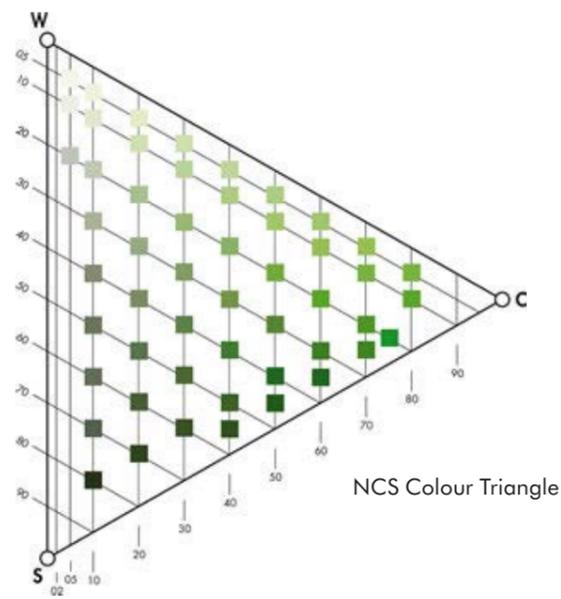


Six Elementary Colours are the basis for the Natural Colour System. These are White, Black, Yellow, Red, Blue and Green. The colours are shown below on the three dimensional model called the NCS Colour Solid. Every colour in the Natural Colour System is contained within the NCS Colour Solid, and can be described in terms of the six Elementary Colours.

In order to more easily pinpoint colours within the NCS Colour Solid, the NCS Colour Circle and NCS Colour Triangle are used.

The NCS Colour Circle is a horizontal slice through the NCS Colour Solid, and shows a progression from Yellow to Red to Blue to Green and back round to Yellow in 10% steps.

All the colours in the NCS System have a percentage of Whiteness or Blackness, and this is best illustrated using the NCS Colour Triangle. The NCS Colour Triangle is a vertical slice through the NCS Colour Solid. C stands for maximum colour intensity or Chromaticness, W stands for White and S for Black. The scales for Chromaticness, Whiteness and Blackness are each divided into one hundred parts which can be interpreted as percentages.



The NCS Colour Triangle and the NCS Colour Circle are used to pinpoint colours within the NCS System. The diagram above pinpoints a colour with 30% Blackness and 20% Chromaticness, with a location on the NCS Colour Circle of G30Y. The complete NCS Colour Notation is S3020-G30Y.

Using the NCS Colour Notation it is easy to define the appearance of a colour. In this notation (below) 3020 indicates the Nuance of the colour. The Nuance describes the relationship of the colour to Black (S) and to maximum colour intensity or Chromaticness (C). The Whiteness is determined as 50%, as the sum of the values of the three attributes (Chromaticness, Whiteness and Blackness) must always be 100%. The Hue, G30Y, describes the relationship of the colour to the Chromatic Elementary Colours, in this case G and Y. G30Y means Green with 30% Yellow. The letter S preceding the NCS notation means that the colour is from NCS Edition 2.



Achromatic colours (Black, White and Grey) lack Hue and are only given nuance notations, followed by -N for neutral. S 0500-N is White and is followed by S 1000-N, S 1500-N, S 2000-N and so on to S 9000-N, which is Black.

NCS grey scale

