

# Importing Top Soil to new developments

A Local Authority Perspective



*... leading the way*

# Importing Top Soil to new developments

## Aims

- Source of the soil
- Design of capping layer
- Validation of soil



# Importing Top Soil to new developments

- Who am I?
- Will this talk cover all of the Norfolk councils?
- What is the NEPG?



# The Story so far...

- A brownfield site has permission for redevelopment
- All the necessary site assessments have been carried out
- Remediation undertaken
- Development is nearly complete
- The developers thoughts turn to the final stages of the project and this includes **IMPORTING SOIL!!**



# Where do you get top soil from?

- Three primary types of soil:
  - Natural soil
  - Manufactured soil
  - Skip waste



# Natural soil

- ❑ Possibly released as part of a greenfield development
- ❑ A project on an area of undisturbed land
- ❑ However:
  - It is illegal to remove top soil (other than for turf cutting) from agricultural or forestry land with out planning consent.

# Key point

- *Make sure you know where the soil is from.*
- *Get proof of the source as it will help with the validation process*
- *The developer is responsible for the safe development of the site*



# Manufactured Soil

- ❑ Soil that is produced by physically mixing a clean mineral source (such as sand) with a clean organic source (e.g. top soil or compost)
- ❑ Acceptable for open space areas (e.g. playing field)
- ❑ Not generally considered appropriate for domestic gardens



# Key points

- If manufactured soil is to be used:
  - Know the source of all of the material and get proof of its suitability for your site.
  - Include all this information in the validation report.

# Skip waste derived soil

- A cheap alternative to natural soil
- Comes from unspecified sources
- It is not possible to determine or verify the source
- It may have come from a brownfield site
- It may contain a large amount of unusable material (rubble)
- It maybe more contaminated than the soil that was taken off in the first place!



# Key Points

- Know the source – if you don't know the source of the soil you are taking a potentially expensive risk!
- If in doubt don't buy it!
- Your liability!



# Importing Top Soil to new developments

- Capping Layers
- A quick summary
- Not always an option
- Depends on ground conditions
- Seek guidance from your consultant
- LA will want proof of the design
- Needs to be suitable for use
- Saying 'add XX mm of soil' is not enough

# Importing Top Soil to new developments

- Your consultants should refer to the BRE 465 document to design the capping layer
- Include details of the design of the capping in the validation report (it will also be needed in the remediation method statement to be approved in the first place).

# Key Points

- Choosing the right soil and validation.
- Give details of the sources of soil as above.
- Know where you want the soil for.
- Know what you want the soil for.
- If in doubt get advice.  
E.G. British Sugar Top soils different soils for different situations

# Key Points (continued)

- Is a capping layer appropriate?
- Is the design good practise and suitable for the development – give details of the design to the LA.
- Give the reasoning for the design of the capping layer in the validation report (and in the Remediation Method Statement).
- Is a soil mixing barrier membrane required?

# Barrier Layers

- Can be used to prevent soil mixing
- In cases of more significant contamination is an anti dig barrier required?
- consultants need to advise whether any protection is required and if so what.
- If a barrier is used sufficient soil must be added to allow future users to use their gardens properly.



# Validation sampling of soil

- ❑ Important to know and show that the soil is fit for use.
- ❑ Assessed independently
- ❑ Not just contamination (BS 3882)
- ❑ Sampling strategies
  - Top soil still in situ (before removal)
  - Sample to full depth of soil to be removed
  - Sample from each soil area
  - Sample from areas of different land use

# Validation of on site top soil

- ❑ Verification sampling for On Site Top Soil
- ❑ To be representative take several samples and mix to make a single sample for analysis.
- ❑ More than one sample may need to be analysed to represent the soil to be used depending on the volume of soil to be used.
- ❑ Single samples can also be taken for analysis rather than a mixed sample.
- ❑ The method of validation needs to be agreed with the LA before being carried out.



# Validation of on site top soil

- Analysis should demonstrate the soils properties and condition.
- This helps evaluate if the soil is right for the job.
- Testing should also include contamination analysis (e.g. heavy metals, hydrocarbons, cyanide and phenols).
- Show that the samples relate to the soil used on the site in the validation report.



# Validation of off site top soil

- ❑ This is very similar to the on site soil verification in terms of what to sample for.
- ❑ Also need to demonstrate the source is suitable
  - a basic desk study of the source location
  - Validation sampling for the soil to be used on the site. Not generic sample results.
  - If not, sampling of imported soil required
  - Analysis parameters as above

# Validation of off site top soil

- The number of samples depends on the size of the development.
- Very small plots 1 sample per garden, more on larger plots.
- Sampling of communal areas also required.
- If sampling a stockpile 2 samples per 300m<sup>3</sup>.
- Accept single samples or several samples collected and mixed.
- Sampling must be representative of the imported soil.



# Validation report

- Include all relevant details for the remediation work as a whole. E.G. all validation sample results, pictures and consignment notes.
- Details of soil removed and soil imported.
- Details of the analysis of the soil samples.
- Plan showing location of soil samples.
- Details of the source of the soil and proof of its suitability.



# Conclusion

- Ensure the soil is right for the use
- Validation and completion of the RMS
- Reduces risk of buying the wrong material
- Peace of mind that the job is done properly



# Thanks



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