Southwark Council and partners

Building a user-centred back-office planning system (BoPS)

Beta phase report | August 2020

















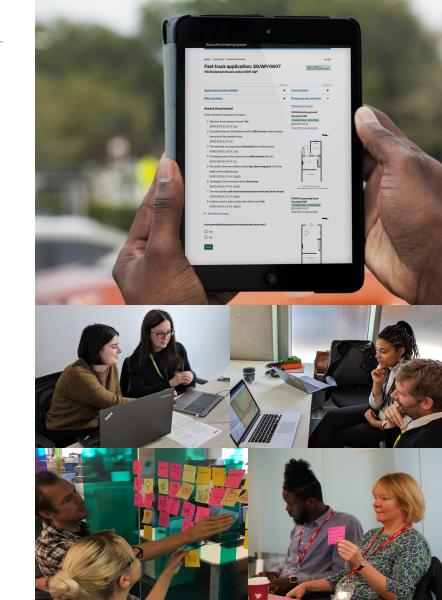


# Cross-council collaboration to build a user centred back-office planning system

Legacy back-office planning systems slow planning teams down. It is hard to find the information they need to assess applications and planners have had to develop workarounds and build their processes around these systems.

It is hard or impossible to access application data offsite, on different devices, which creates an additional admin burden after site visits.

It is often difficult to connect legacy systems with other systems, so planning teams cannot integrate newer "plan tech" products that would make their jobs easier and more enjoyable.



#### Contents

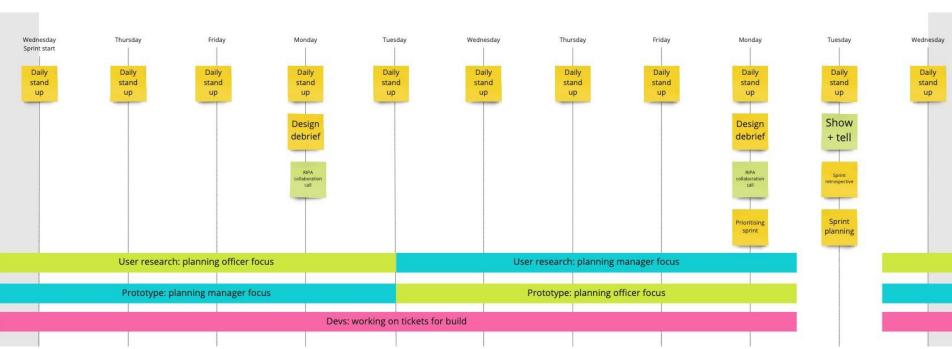
What we did	5	Artefacts
Meeting user needs  What we've built: Permitted development MVP  Beyond the MVP - how we might iterate in the future  Beta roll-out plan and potential barriers to adoption	13 16 21 25	Design, research and development artefacts Sharing our learning - show and tells and sprint notes Blog posts and webinar  Appendix
<ul> <li>Next steps</li> <li>Full householder planning permission</li> <li>Prototypes</li> <li>Work to be done - feature roadmap</li> </ul>	<b>29</b> 30 32 39	User insights and iterations: PD User insights and iterations: FH Technical investigation: Planning Portal
Minor developments  Next steps - team structure, roles and KPIs	48 52	

56
57

# What we did...

#### Sprint structure

We had a one week "sprint 0" to establish the project, followed by nine iterative design, research and development sprints across 18 weeks. Our sprints followed cross-team collaboration and a close working relationship with RIPA.



#### The beta team...

- Jack Ricketts Product Owner, Southwark Council
- Claudia Hopkins Designer & Researcher
- Dawn Turner User Researcher
- Evangelos Giataganas Developer
- Martyn Evans Project Director

- Michelle Isme Senior Product Manager
- Neil Van Beinum Technical Architect
- Rhian Lewis Developer
- **Tom Harrison** Senior Delivery Manager
- Melissa Real Developer
- Anastasia Pankina Developer

















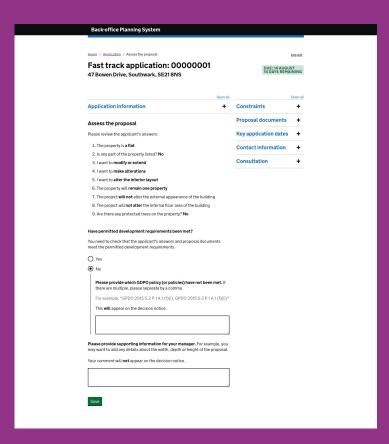


# We created prototypes using the GOV.UK prototyping kit

From discovery and alpha we had an idea about what users needed but wanted to build on the work that had happened in earlier phases, by developing clickable prototypes using the **GOV.UK prototyping kit**. This enabled us to use patterns and components that:

- were already well tested
- had been developed in an accessible way; our devs also implemented the most accessible components if there were multiple options
- were responsive useful for when planners need to access the system on different devices e.g on site visits.

This also enabled us to develop software more efficiently with the designer working closely with the development team. We also shared our learning in a blog post in <u>creating a back-office system with the prototyping kit</u>.



#### We iterated around user needs

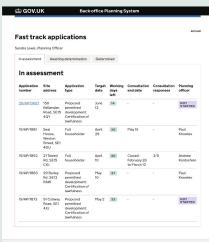
On average we tested our prototypes with three or four users per week and would focus on either managers or officers. We would then use the findings from testing to iterate the prototypes.

We had weekly design debriefs with the project team to share the key insights from user testing and to collaborate - across design and technical teams - and discuss potential solutions to problems. Our design debriefs involved:

- Weekly video call with the project team
- Miro Board we also used this board to take notes on virtual 'post its', beneath screenshots from the prototype, during user testing sessions

You can see our <u>design de-brief Miro board</u> to understand.







Users are confused about which applications to work on next

Initially thought that the applications have been allocated to them - they would look for their name

"I feel like it would just be, I click on the application number possibly, and then there might be a next screen that just says that's been allocated to me because I've clicked it." "I don't need to see what everyone else is working on. I just need to find my own applications quickly"

the application to be allocated to them when clicking on it

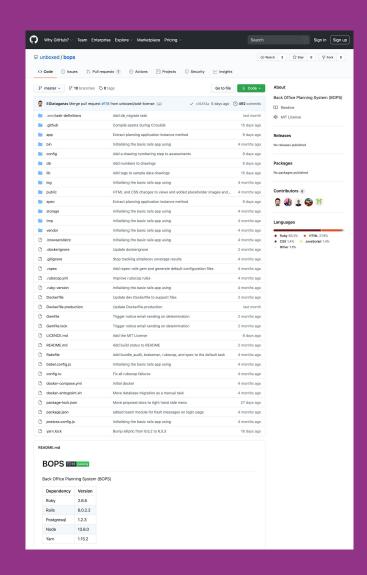
User expected

Design change: filter view so officer only sees their application and any that are 'Not started'

#### We built working software

#### Development

- Open source software <u>public code repository</u> hosted on GitHub
- Built on open source technologies such as the Ruby on Rails web framework, ensuring open sharing and application reusability across local authorities
- Virtualisation using Docker containers to have a consistent, constant environment for each developer to work within
- Continuous Integration Run helper processes on every build: inspect code syntax, find security vulnerabilities, run automated tests
- Continuous Delivery automate deployment process to AWS to deliver and test features more incrementally.



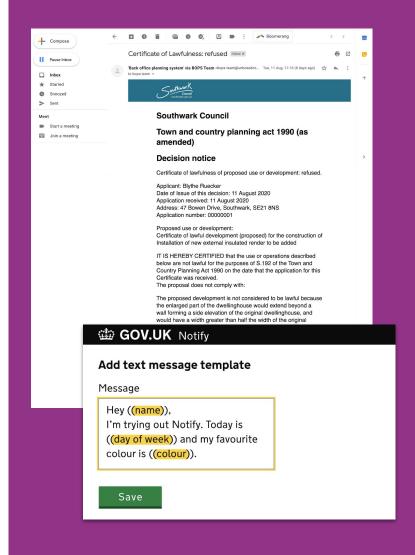
#### Continued...

#### Using common government components

- GOV.UK Design System for user interface components, which we iterated to improve suitability for internal systems
- GOV.UK Notify integration for emailing decision notices to applicants

#### Hosting

- Cloud-based hosting and infrastructure (<u>Amazon Web</u> <u>Services</u>), ensuring cost-effective and secure hosting for multiple councils
- Build scalable architecture infrastructure on AWS using Terraform
- Terraform to spin up / destroy new environments in order to rapidly and confidently scale up a production service



#### We did security and penetration testing

These are the steps we have taken to ensure BoPS is secure:

- Planning application **data is encrypted at rest** in an AWS database.
- Our Continuous Integration build process includes static code analysis tools to identify unintended vulnerabilities before they're added to the main codebase. We also have an automated process to help us keep relevant code libraries up-to-date immediately after a new security vulnerability is identified.
- At present, user authentication is done with an email and password combination. In future, we could **explore adding multi-factor** authentication or single sign-on for additional security.
- A wide-reaching penetration test was performed by an independent security company during the beta phase. The report identified 5 low and 1 minimal risk issues. Following remediation, the software will be re-submitted to the penetration testing company for validation. We may schedule another penetration test when scaling up the service to handle different types of planning applications.



#### We shared our learning and progress

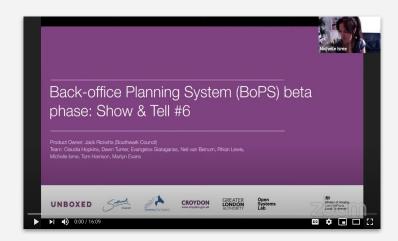
#### Fortnightly Show and Tells:

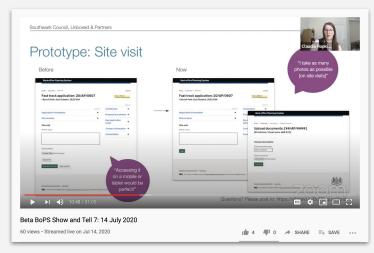
- Sharing insights, 'before and after' changes to prototypes and latest features that have been built
- <u>Live-streamed to YouTube</u> with audience questions submitted via Sli.do

#### Open ways of working:

- Weekly sprint notes published on Medium
- Project blog posts published on Medium
- Engagement with wider industry on PlanTech and LocalGov Digital Slack channels
- Speaking at Connected Places Catapult webinar
- Open source codebase repository

Links to all of the above artefacts are listed on slides 55-57





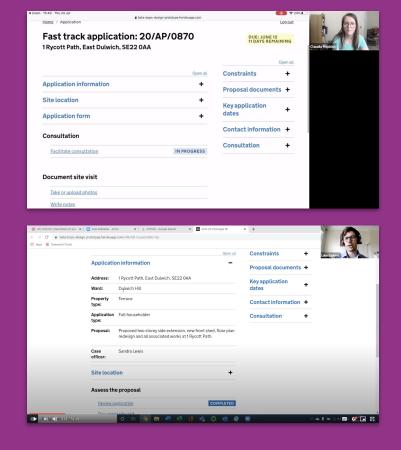
# Meeting user needs

#### User testing in beta

During beta our coded prototypes were **tested 39 times** across **ten local authorities**. We spoke with a mixture of junior and experienced planning officers as well as planning managers. As part of our research we also spoke to council ICT specialists and Enforcement Officers.

#### How we did it:

- Due to the Covid-19 lockdown all user testing took place remotely using video conferencing - participants shared their screens and sessions were recorded
- This provided an opportunity to test on different devices, as opposed to just the large dual screens most planners work on in the office: participants tested our prototypes on desktop computers, laptops and ipads
- After each round of testing we iterated our prototypes usually
   1-2 rounds of iteration per fortnightly sprint.



Details about the insights that came out of our user research and the iterations we made to our designs can be found in the appendix section starting on slide 59.

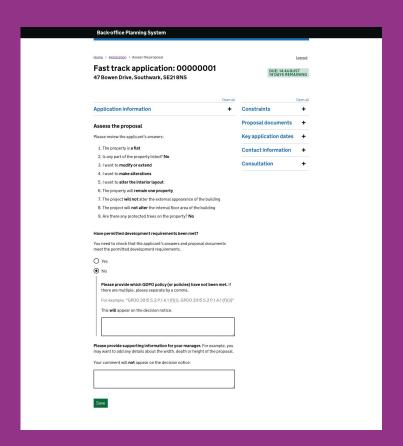
## What we've built: Permitted Development

# A back-office system for assessing householder permitted development applications

We decided to start with permitted development because:

- It sets the foundations for a back office planning system: more functionality can be added and built on top to scale up the system to handle the assessment of full householder planning permission
- The MHCLG funded 'RIPA' project aimed at reducing invalid planning applications - were also focussing on permitted development
- We were aware of major changes to permitted development on the horizon

We also blogged about our <u>decision to start with permitted</u> <u>development</u> on Medium.

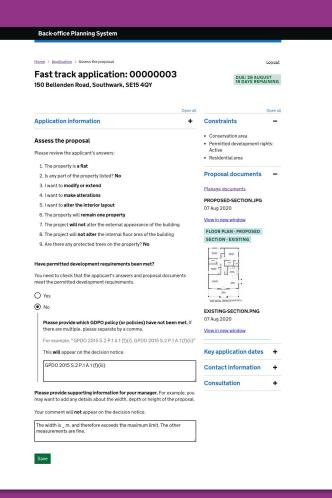


#### Permitted development MVP

We have delivered a product ready for private beta with local planning authorities to manage permitted development applications from householders.

#### Key features include:

- Data driven process (minimal PDFs)
- GOV UK Notify integration (for emailing decisions to applicants)
- An embedded document management system
- API that can be used by a planning register or reporting tools
- Scalable architecture built on AWS



#### Take a look...

You can see and try out BoPS at: <a href="https://preview.bops.services">https://preview.bops.services</a>

Try out the planning officer's journey using these credentials:

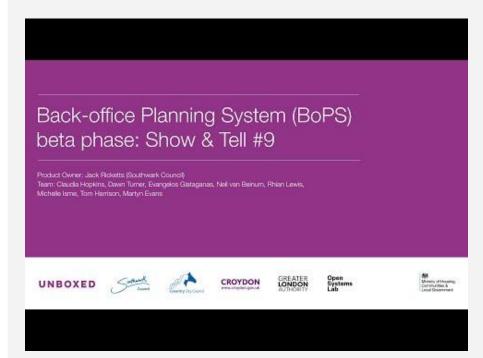
• **Username:** assessor@example.com

Password: turbinehall

Try out the planning manager's journey using these credentials:

• **Username:** reviewer@example.com

Password: turbinehall



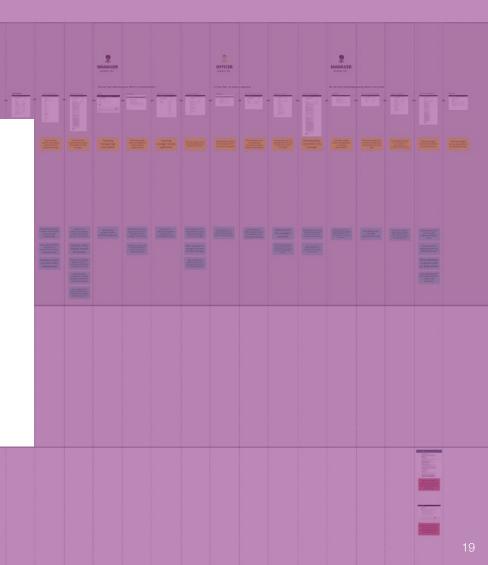
You can also see the full show and tell, including the product demonstration, here: <a href="https://voutu.be/05i\_ihcEFdk?t=253">https://voutu.be/05i\_ihcEFdk?t=253</a>

#### Take a look...

Applicant's actions

Planning team journey (BoPS physical evidence)

- BoPS user flow the screens and steps planning officers and managers see and need to complete to assess Permitted Development applications in BoPS
- Service blueprint for Householder Permitted
   <u>Development</u> we have mapped the actions of different users (planning teams and applicants) and systems involved in applying for, validating and assessing Permitted Development applications.



# Beyond the MVP: Permitted development

#### Maps

Planning officers need to refer to map, which shows the property's site boundary, as part of their assessment.

A challenge of the project was not knowing what data we would receive from RIPA, another MHCLG funded project, due to the different timelines of the two projects. Near the end of this beta we learnt that RIPA would provide the **coordinates of a polygon** which would need to be overlaid on top of a map inside BoPS.

Although we didn't have enough time to implement this in BoPS we undertook a technical exploration to identify how we might be able to do so in future e.g through **licensing a mapping system** (like MapBox).

Further along, we could also explore how to embed other tools such as **VU.CITY**. A proof of concept map, created by VU.CITY and that uses polygon coordinates, can be viewed here: <a href="http://your.vu.city/BOPS%20Mapbox/index.html">http://your.vu.city/BOPS%20Mapbox/index.html</a>

In the meantime councils will have to use their own GIS mapping system to see the property and its surrounding boundary or areas.



Screenshot from VU.City's proof of concept map based on polygon data

# Display policy guidance and additional application data

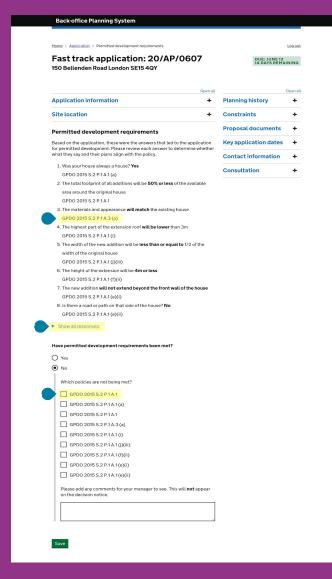
Our MVP (slide 19) enables planning officers to:

- See the main questions and answers applicants submitted as part of their application, via Plan X and RIPA
- Make a recommendation and provide a reason if they are recommending a refusal, which is shown on the decision notice that is sent to applicants.

We also tested an alternative prototype that would:

- 1. **Display the relevant policy references** beneath each question
- Provide a drop-down link to display any additional data the applicant provided with their applications
- Enable planning officers to select which policies had not been met, when they are recommending a refusal - so they don't have to type it out.

The above features tested well but we decided not to implement them now as we would like to see how the MVP is used in reality.



#### Additional breakpoints

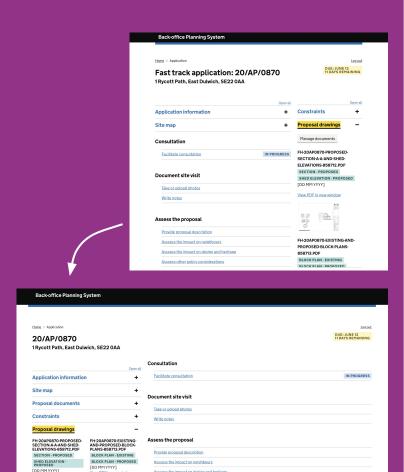
As planning teams generally work with two large screens when they're in the office, we would like to add an additional breakpoints at 1450 px. This will change the view from a widescreen to the standard laptop or desktop screens that we have been testing on during COVID-19 lockdown.

We need to adapt the system for all environments:

- Widescreen for office-use
- Laptop size for home-use
- Tablet or phone for site visits.

By creating a widescreen version, users can better compare proposal documents which will be essential as BoPS scales to full-householder and beyond.

The technical work required to add an additional breakpoint is minimal, but testing this <u>widescreen prototype</u> will ensure that this design works for users.



Prepare the report

Add conditions

FH-20AP0870-EXISTING-FIRST-FLOOR-AND-ROOF PLANS-858703

**ELEVATIONS - EXISTING** 

### Beta roll-out plan

# Councils that are interested in trying BoPS for permitted development

Once the existing API has been further developed to take data from applicant facing systems, such as RIPA, councils will be to use BoPS to assess applications for householder permitted development.

We have identified the following councils for early adoption of the BoPS MVP:

- Southwark Council
- Croydon Council
- Coventry City Council

To minimise disruption, we will start with one planning officer and one planning manager from each authority. This will ensure we are able to test and get feedback on how BoPS is being used, whilst also being able to offer the necessary support to these new users.

Further adopters include Buckinghamshire Council and Lambeth Council.

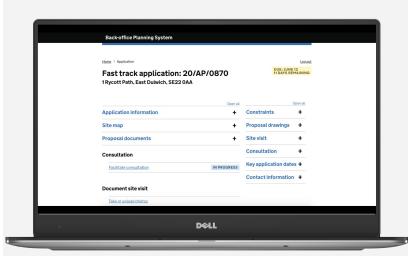












#### Councils that are interested in trying BoPS for permitted development

Council	Level of interest	Comments
Southwark	High	<ul> <li>Lead council on BoPS project</li> <li>Partner council on RIPA project</li> <li>Participated in 13 user research sessions during beta</li> <li>Demoed with the fast-track team as a whole</li> <li>"When will we be able to use this?"</li> </ul>
Croydon	High	<ul> <li>Partner council on BoPS project</li> <li>Participated in 2 user research sessions in alpha and 3 during beta</li> <li>Asked questions and had high attendance at Show and Tells</li> <li>They have given a lot of rich feedback and are very passionate about the project</li> <li>Croydon has a digital approach across the organisation</li> </ul>
Coventry	High	<ul> <li>Partner council on BoPS project</li> <li>Participated in 3 user research sessions in alpha and 7 during beta</li> <li>HIghly engaged and supportive, supplied feedback and guidance, high attendance at Show and Tells</li> </ul>
Buckinghamshire	Medium	<ul> <li>Partner council on RIPA project</li> <li>Participated in 5 user research sessions during beta</li> <li>Attended RIPA meetings</li> </ul>
Lambeth	Medium	<ul> <li>Lead council on RIPA project</li> <li>Participated in 4 user research sessions during beta</li> <li>"This is great. When can we have it?"</li> </ul>

#### Potential barriers to adoption

#### Not receiving application data

There is currently no API to take applicant data from RIPA into BoPS. Householder applications are largely submitted through Planning Portal, at present, but more work will be required to take data (which is generally not structured) from Planning Portal and display it in BoPS.

We are actively collaborating with RIPA. This risk will be resolved once RIPA is built and we can integrate with their API.

#### No planning register

Councils have a legislative requirement to publish all planning applications as soon as they have been validated. This is currently done through the council's 'Planning Register', which is provided by their existing back office planning system. Building a planning register was out of scope of Beta BoPS - see blog post - but we have created an API to extract some data from BoPS and also developed a very basic proof of concept to show how our data could be displayed publicly.

Other organisations or products will need to be supported to integrate with our API.

#### No site location map

Site location maps are currently submitted as PDFs through Planning Portal. RIPA will provide polygon coordinates in future, which will then need to be displayed on a map within BoPS. Technical feasibility has been demonstrated (see slide 22) but has yet to be implemented.

Councils can use their own GIS systems but some have raised concerns that the application would be considered invalid without a map showing the property's site boundary.

#### **Limited reporting features**

London planning authorities report their activities to MHCLG on a quarterly basis e.g <u>PS1 and PS2 submissions</u>. Others need to run internal reports to monitor planning activity in their area. BoPS has a rudimentary open API to expose high-level planning data but no reporting functionality currently exists.

The BoPS team can manually extract data for early adopters. However, this is not a long-term solution that will work at scale.

#### Using multiple back-office systems

As BoPS currently only handles the assessment of householder permitted development applications, local planning authorities will still need to use their existing back-office systems for assessing other types of planning applications.

Generally the councils we have engaged understand that we cannot replace all of the functionality that legacy systems provide, straight away.

#### Unable to pull through history

Planning officers need to check the planning history of a property to see if any previous developments are related and would affect the decision for the current application. Legacy data cannot be transferred to BoPS but over time, as BoPS accumulates data, it could link it to previous applications.

Planning teams can refer to their existing back office system or planning register, as well as their GIS map (to see if PD rights removed). From a user perspective this will be slightly more laborious.

# Next steps

### Full householder planning permission

#### Scaling up BoPS

Our MVP for assessing householder permitted development applications enables planning officers to:

- view details about an application
- view, replace and archive proposal drawings (i.e when applicants send amendments);
- make a recommendation and preview the decision notice.

Planning managers are able to:

- review an officer's recommendation and send it back to them with comments (if amendments are required)
- make a final decision about an application, which is then emailed to the applicant or their agent.

All of this functionality is necessary for assessing full planning permission too, which means we can build on what we already have.

We will also need to **iterate some existing features** to ensure they meet the needs users have when assessing more complex householder applications (see slides 40-42). However, as there are more assessment steps involved for these types of applications, **we will need to build some new features** (detailed on slides 43-47).

### Why are full planning permission applications more complex?

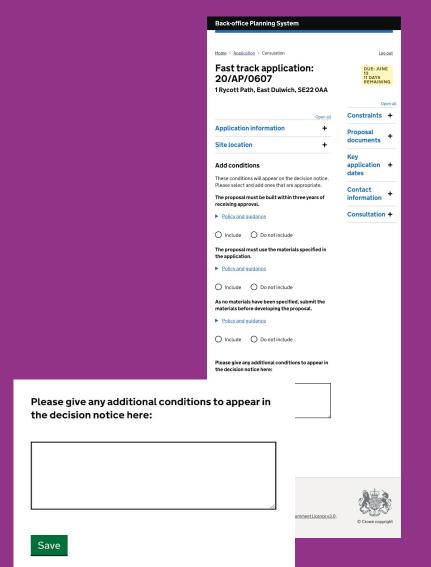
- They require site visits. This can be done by the officer that is assessing the property or by another officer.
- They require consultation with the public and statutory consultees. We need to provide a public view of applications so they can be commented on. The feedback that is collected needs to be structured and fed back into BoPS so officers can refer to it during their assessments.
- Conditions can be added where as PD is generally granted or refused, full planning permission can be granted with conditions. Some of these conditions are standard (e.g timeframe work must commence) but some are based on the proposal (e.g overlooking window must be frosted) or local constraints (e.g property is in a flood zone)

# Prototypes: assessing full planning permission applications

#### We have created two prototypes

We have created two prototypes to show how BoPS could take applications from applicant facing services that do not collect data in a structured format (as exists now) and from applicant facing services that do gather data in a structured format (the future).

- Structured data applications that have been submitted via an applicant facing service that collects data in a structured way i.e Plan X. In this scenario, some data will be auto populated by linking in with other systems, such as the council's GIS system (e.g to identify if the property in a conservation area) and applicant data will be obtained in a structured way (e.g pre-defined answer choices are selected by applicants).
- PDFs and unstructured data applications that have been submitted via a simple applicant facing service, such as Planning Portal, that does not connect with other systems to auto-populate data or use logic to display only relevant questions to applicants. In this scenario, applicants will see the same questions regardless of where they live and they will provide unstructured, free text answers. They will submit their site location map as a PDF.

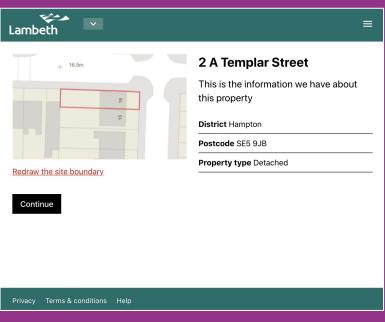


#### Using RIPA for validation

Regardless of whether applications arrive with structured or unstructured data, they will still need to be validated.

Council admin teams currently check that applications have been provided with all of the correct documents and information needed in order for a planning officer to assess them, as well as ensuring the applicant has submitted the correct payment.

Planning officers start their assessments after validation has happened so they don't waste time working on applications that might be missing crucial information. BoPS currently relies on the Reducing Invalid Planning Applications (RIPA) product to do this validation.



Screenshot taken from RIPA demo: https://demo.ripa.digital/

If applications are received without going through RIPA:

- Planning officers might start assessing applications that have missing information or payment normally, another admin team in the council validates applications before the officer starts assessing them. For example, the admin team will check that the applicant has provided the right drawings and supporting documents and that the drawings have the correct information on them e.g an indication of scale and drawing numbers (needed for referencing on decision notices). In some councils, the admin support team is also responsible for contacting neighbours for consultation (for full planning permission applications). BoPS does not currently include any screens for council validation staff as the RIPA project was being developed to tackle this.
- Planning officers will need to manually look up constraints RIPA will also link in with the council's GIS mapping system. The GIS system identifies where there are any constraints that can affect development e.g if the property is in a conservation area or if there is a protected tree on the site. These constraints will be displayed to planning officers in BoPS, so they can refer to it during their assessment. If this is not displayed inside BoPS planning officers will need to open their GIS system and enter the application's address to find out if there are any constraints and then refer to this information when they enter their assessment (this is how they currently do it with most legacy back office systems.)

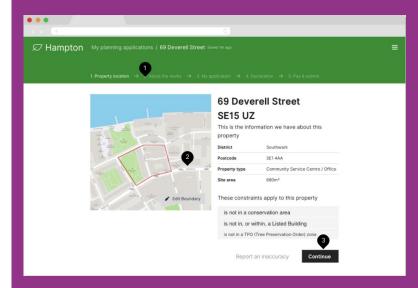
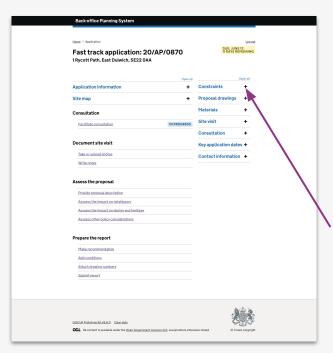


Image taken from RIPA alpha report: https://docs.google.com/presentation/d/12UMqsXUAQ17Vd7xn gqXmiJn26J5Z8mrvpjcqpA\_cAHU/edit?usp=sharing

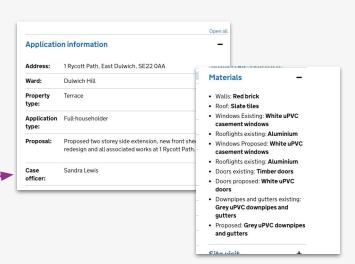
## Prototype 1: Pre-validated applications, structured data



Application information is organised better so that officers can find and use the information when it is helpful. This information would be imported from RIPA

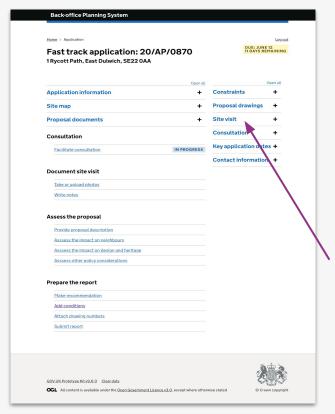
Constraints to be provided through RIPA (if applications are validated in RIPA), which connects to the council's GIS mapping system.

> Site boundary could be accessed by RIPA and displayed on embedded map instead of a PDF





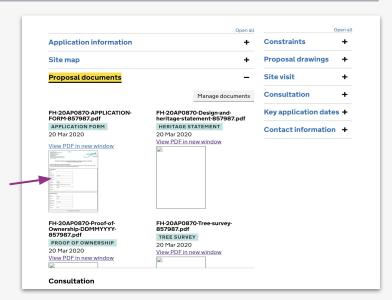
# Prototype 2: Unvalidated, unstructured application data

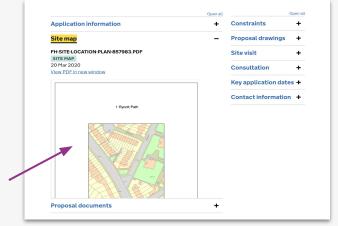


Application form submitted either as a PDF or displayed as unstructured data on a page (this depends on the availability of an api and data schema from applicant facing service e.g Planning Portal)

If applications are not validated through RIPA planning officers will have to open up their GIS system and manually enter the address the proposal relates to, to check for any constraints. This is what happens now.

Site location plan (map showing boundary of site) submitted as a PDF





## See the prototypes

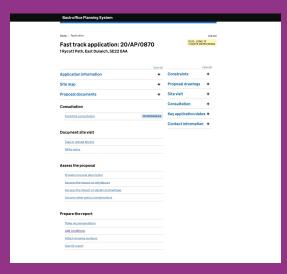
You can see the two prototypes we have designed and tested with planning officers below.

- Structured data officer assessments:
   <a href="https://beta-bops-design-prototype.herokuapp.com/v11/full-householder-hp-data-narrow">https://beta-bops-design-prototype.herokuapp.com/v11/full-householder-hp-data-narrow</a>
- PDFs & unstructured officer assessments:
   <a href="https://beta-bops-design-prototype.herokuapp.com/v11/full-househ-older-hp">https://beta-bops-design-prototype.herokuapp.com/v11/full-househ-older-hp</a>

You will need to log in with the following credentials:

Username: unboxedPassword: magic

You can also see a potential <u>user flow on our Miro board</u> with what has been prototyped and other work that is yet to come.



Back-office Planning System			
Hame > Application			Logicu
Fast track application: 20/AP/ 1Rycott Path, East Dulwich, SE22 0AA	0870	DUE: JUN 11 DAYS R	E 12 EMAINING
	Openali		Openali
Application information	+	Constraints	+
Site map	+	Proposal drawings	+
Consultation		Materials	+
Eacilitate consultation	IN PROGRESS	Site visit	+
		Consultation	+
Document site visit		Key application dat	es +
Take or unload photos		Contact informatio	n +
Write notes			
Assess the proposal			
Provide proposal description			
Assess the impact on neighbours			
Asssess the impact on design and heritage			
Assess other policy considerations			
Prepare the report			
Make recommendation			
Addiconditions			
Attach drawing numbers			
Submit report			

Roadmap: scaling up and new features for full householder planning permission

# Scaling up existing functionality

Some of the features we have built for assessing householder permitted development applications can be re-used for assessing applications for full planning permission, others will need to be iterated and scaled. More complex iterations will require more design and development time.

Existing feature	Iterations required	Complexity
List of all applications (officer and manager work lists)  As a planning officer / manager I need to see the applications I need to assess, or review, and prioritise which application I will work on first.	<b>Needs to be validated</b> - we know that the consultation status of an application impacts how officers prioritise their work so we have added this to their work list. We need to validate, through more testing, that what we have provided is sufficient and do the (small) development work to display the status in the table.	Small
Task list and overall page architecture  As a planning officer I need to understand which parts of the assessment have been completed so I can pick up where I, or a colleague, left off.  As a planning officer I need to easily find and access application information and details so I can efficiently carry out my assessment.	<b>Needs to be scaled</b> - additional assessment steps will need to be added to the task list and the additional information that comes with applications for full planning permission needs to be displayed within the page architecture e.g an extra accordion to show details about building materials.	Small
Decision notices  As a planning officer / manager I need to preview the decision notice that will be sent to applicants so I can make sure the information in it is correct.  As an applicant I need to be notified about the outcome of my application.	<b>Needs to be scaled</b> - to include additional assessment information required for full planning permission, but page design and structure will be similar.	Small

Existing feature	Iterations required	Complexity
Adding drawing numbers  As a planning officer / manager I need to ensure the applicant has been informed which drawings the outcome of their application has been based on, so the applicant knows what they have been granted permission to do.	<b>Needs to be validated</b> - research required to determine which additional documents need to be added to decision notices. In the Permitted Development MVP only the drawing numbers of proposed drawings are listed on decision notices. However, we believe that some councils also reference existing drawing numbers and, in some cases, any other documents that the applicant provided. This is important as decision notices act as a legal reference for council enforcement teams and where applicants want to appeal decisions. Making changes to the existing decision notice (MVP) is likely to require minimal work.	Small
Document management - displaying drawings with tags, opening and viewing drawings, archiving and uploading  As a planning officer I need to be able to easily identify what drawings are (existing or proposed, floor plan, roof plan etc) so I can access them when I need them during my assessment.  As a planning officer I need to be able to archive drawings and upload new drawings when applicants send amendments.	Needs to be scaled - householder applications for full planning permission generally arrive with more 'documents' so we will add simple (MVP) grouping of similar documents to make it easier for officers to find what they need. This will also be useful for minor applications in future.  Needs to be validated - it is also likely that more document 'tags' will likely be required. Documents are tagged to help planning officers quickly identify what a drawing is without having to open it. For example, a document might be tagged as, 'Floor plan - existing' or, 'Side elevation - proposed'.  Needs to be validated - we have also heard, in user testing, that officers need the ability to select which documents should not be made public. For example, which documents should not be shared via our api for use on a planning register. This may be possible with the existing functionality we have implemented for archiving documents but more user testing / research is required for clarity.	Medium

Existing feature	Iterations required	Complexity
Make recommendation and submit to manager (officer)  As a planning officer I need to be able to review my assessment so I can make a recommendation and submit it to my manager.	<b>Needs to be iterated</b> - as planning officer have more to assess for full planning permission applications (i.e such as the impact the proposal will have on neighbours), than they do for permitted development, users have told us that they need to be able to review all of their assessment answers before making a recommendation. This will require a different journey to what is in the our permitted development MVP. We have prototyped this journey but the development team will have to strategise how to scale appropriately.	Unknown
Manager reviewing officer's assessment  As a planning manager I need to be able to review all of the steps in the officer's assessment in order to understand why they have made their recommendation, so I can decide whether or not I agree with that recommendation.	Needs to be prototyped and validated - The planning officer's assessment for full householder planning permission applications will include more steps in it, which also need to be displayed to managers. As per the permitted development MVP, most of what we build for planning officers will be displayed to planning managers with a different set of actions i.e read only but with the option to add comments and send back to the officer to make amendments. This has not been prototyped yet.	Unknown
Sending decision notice emails to applicants via GOV.UK Notify  As a planning officer / manager I need to inform applicants what the outcome of their decision is so they don't have to call up.	<b>No known iterations required</b> - Notify integration already works with BoPS. Our research has focused on internal users (council planning staff) but the Planning Inspectorate are doing user research with applicants, to understand what they need, so collaboration would be beneficial.	-
Multi-council infrastructure  As a planning manager I need to ensure officers only see applications for our local planning authority and that everyone who needs access to BoPS has it.	<b>Unknown</b> - there may need to be some minor iterations. For example, to ensure planning authorities only receive applications from their area, planning authorities can add and remove users to their system.	Minimal

## **New features** and additional development

As householder applications for full planning permission are more complex than applications for certificates of lawful development, and have more legislative requirements attached to them (e.g consultation and site visits), additional development is required to enable planning teams to use BoPS to assess these types of applications.

New functionality and user need	Next steps	Complexity
Site visits  As a planning officer I need to make a site visit when assessing householder applications for full planning permission so that I meet the requirements of national planning policy.	Adding site visit notes and photos: Prototyped, tested, ready to build Displaying site visit photos to officers during assessment: needs to be tested and validated  As well as building this functionality we need a small technical 'spike' to	Medium
As a planning photo I need to take and record photos and notes whilst on a site visit so I can refer to them during my assessment.  As a planning officer I need to be able to access and make changes to applications that another officer has started assessing so I can help out on site visits or pick up work when a colleague is absent.	see how we can configure system to allow for multiple photos to be uploaded on site visits and test uploading on mobile/tablet.  In some research we also heard that other officers, who are not doing the main assessment, may go on the site visit if they are visiting other sites in the area. We need to identify the best way of handling how different officers might work on the same assessment. This will also be useful when officers leave the council, or are sick/on holiday, and other officers need to pick up their work.	Medium Unknown

New functionality and user need	Next steps	Complexity
Assessment screens - national policy requirements (impact on neighbours and local area).  As a planning officer I need to assess the impact a proposal will have on neighbouring properties and the local area so that I meet national planning policy requirements.  As a planning officer I need to consider the guidance and local policies stated in the planning authorities local plan so I can assess the proposal against those requirements.	Page - Prototyped, tested, ready to build Policy guidance - more understanding is needed about which policy data RIPA will provide e.g local policies.  The requirements for permitted development are outlined in national policy. However, for householder planning permission planning officers need to refer to and follow national, regional (i.e London wide) and local (e.g Southwark) planning policies. Local policies are outlined in the planning authorities 'Local Plan'. We need to validate which local policy RIPA will provide and where this data will come from i.e Plan X (commercial product).	Small
Assessment screens - local policy requirements. For example, if the property is in a rural area the planning officer might refer to local policies to consider the impact the proposal has on drainage.  As a planning officer I need to consider any constraints that affect a proposal (i.e the property in a conservation area) so I can assess it against any policy requirements for those constraints.	Page prototyped but untested.  Policy guidance - more understanding is needed about how RIPA will identify known constraints (as mapped on the council's GIS system) and how this will affect which questions applicants are asked to answer, and which planning officers will need to review and assess.	Medium
Proposal description  As a planning officer I need to be able to summarise the proposal (e.g after taking measurements) so I can easily refer to this throughout my assessment without having to re-check the documents the applicant has provided (i.e drawings).	Prototyped but untested.	Small

New functionality and user need	Next steps	Complexity
Adding 'standard' conditions e.g timeframe for work to commence, building materials etc (see page 41 for detail)  As a planning officer I need to inform applicants the date in which building work should commence and and which building materials (or requirements to provide building materials beforehand) the assessment has been based on, so that applicants know which under which conditions the council has granted them planning permission.	Unlike permitted development, which is generally refused or granted, householder planning permission can be granted with conditions and these conditions can be standard (when work needs to be commence, building materials and drawing numbers) and non-standard (based on constraints in the local area or specifically related to the proposal - see below).  Planning officers will consider these types of things as par tof teir assessment (	Small
Adding other conditions - based on the proposal (e.g a window must be frosted) or local policies (e.g the property is in a food zone).  As a planning officer I need to inform applicants of any other conditions they must adhere to in order for planning permission to be granted.	More prototyping and testing is required and we need to scope what is possible for the MVP.  From beta user testing we know that, ideally, each council will be able to set up their conditions so that planning officers can simply tick and add them to decision notices without having to manually type them in each time. However, this will require providing an admin interface, and any additional supporting infrastructure required for 'admin users', that we do not currently have in BoPS.  We also need to better understand what data RIPA (or Plan X) might provide with regards to the different local policies (and corresponding conditions) that each council has.	Unknown as is dependent on other projects. Likely to be medium/large.

New functionality and user need	Next steps	Complexity
Consultation	Technical spike, prototyping + research required.	Large
As a planning officer I need to share the details of householder planning permission applications, including drawings, with neighbours and any statutory consultees so they can comment on the proposal.  As a planning officer I need to easily be able to check which neighbours have been consulted so I can identify whether anybody has been missed off e.g	We are aware that MHCLG have funded another project to look at consultation so we would need to understand what the outcomes of that project will be before we can scope this piece of work.  Unlike permitted development, applications for planning permission have to go into consultation - neighbours and statutory consultees have to be given 21 days to respond to proposals and their feedback will be considered as part of	
whilst on a site visit.	the planning officer's assessment.	
As a planning officer I need to be able to add additional consultees once consultation has begun and "re-start the clock" to ensure that every consultee has at least 21 days to respond (as per legislation).		
As a planning officer I see an overview of how many consultees have responded and the breakdown of feedback (how many are objecting, supporting, neutral) so I can estimate how long will be needed to assess an application and prioritise accordingly.		

# Additional work (for all types of applications)

New functionality and user need	Next steps	Complexity
Integration with RIPA API  As a planning officer I need to see the information the applicant has provided about their proposal, including details about what they want to do and any supporting documents, so I can make an assessment.  As a planning officer I need to see the site boundary of a property so I can understand how the proposal will impact the site (e.g if there is a protected tree on site) and consider this as part of my assessment.	Throughout beta the BoPS team have worked closely with the RIPA team to understand what data will be provided by their API. As the RIPA API is in development at the time of writing, BoPS is currently using sample static data and API integration work will be required in the next phase.  We anticipate that the RIPA API will also provide site boundary data. Early technical exploration suggests we could surface this data on a map within BoPS but more work will be required to deliver this functionality.	Unknown as the api is not ready yet.

# Minor developments

## Minor developments

To date BoPS has focussed on planning applications from householders (permitted development and, next, full planning permission).

However, some of the features and functionality required for assessing householder planning permission will also be relevant for assessing **minor developments of up to nine residential units**, but will likely need to be scaled up to handle more complexity and volume.

We have not undertaken research to understand what is required for minor applications, but on the next page we have listed where we believe there is some overlap with householder planning permission assessments.

More research is required to understand how minor developments are assessed and how this might differ between minor developments for residential and commercial (or a mixture of both) purposes.



# Minor developments: potential overlap with householder planning permission

Features and functionality	Detail	Complexity
Consultation	Consultation for minor developments are likely to require more rounds, both with with statutory public consultees. This would involve further iteration on previous consultation functionality (see slide 46)	Unknown
Constraints	More constraints can be attached to minor applications	Unknown
Document management	Greater volume of documents i.e drawings. Also likely to be more revisions	Unknown
Site visits	These are needed for minor developments?	Unknown
API	More data will likely need to be added to our API. For example, so it can be used for recording and monitoring affordable housing.	

# Minor developments: Potential future research

In addition to scaling up some of the features we will develop for full householder planning permission, for minors we will also need to research and understand which legislation needs to be met before BoPS will be practicable for assessing these types of applications (such as S106 of the TCPA 1990). For instance, for minor and major developments local planning authorities need to monitor:

- Development status Councils must report how many approved developments have been started and completed, and home many homes have been delivered. They must also ensure that they are being correctly used. A <u>live service</u> has already been developed by Southwark, for recording and monitoring all affordable housing secured by S106.
- Developer contributions Councils must publish all developer contributions, financial or otherwise, secured via legal agreement (S106). Work has already begun on this with the <u>viability project</u> led by Southwark in partnership with Tower Hamlets, the GLA and Connected Places Catapult.

#### Research is required to understand:

- if and how BoPS could interact with / provide data for these purposes
- the impact this could have on the adoption and use of BoPS
- how and where this work fits within the scope of the delivering an MVP for assessing full householder planning permission and minor applications.

# User needs identified by previous user research

#### **Development status**

- As a planning officer, I need to know when a development has started on site (been implemented).
- As a monitoring officer, I need to know when developments have been completed and delivered.
- As an enforcement officer, I need to know homes are correctly occupied.
- As a funding body (GLA), I need to know which homes have been completed.
- Central Government needs to know how many homes have been approved and when they are delivered.

#### **Developer contributions**

- As a planning officer, I need to record my negotiations with developers and lawyers.
- As a viability officer, I need to know that the development is correctly valued and the correct number of affordable homes have been negotiated.
- As a monitoring officer, I need an accurate audit trail of payments and obligations.
- Central Government needs to track the value of developer contribution across the country.

Next steps: team structure and roles

## Recommended beta continuation team structure

Role	Responsibilities
Product Owner	Providing domain expertise and overall decision-making, engaging stakeholders across all partner councils, gathering and prioritising user stories within the product backlog, defining KPIs and performance management
Product Manager	Managing product roadmap to meet product releases, MVP definition, aligning user stories to meet product vision, testing and accepting user stories as part of the QA process, coaching Product Owner
Project Director	Providing overall support to the project including writing/refining the business case, and stakeholder management
Designer	Leading on service design, user experience, user interaction and content design, applying user testing feedback to further product iterations
User Researcher	Facilitating continuous cycles of user testing with planning teams every sprint for feedback, synthesising feedback and insights into recommendations for further iterations
Technical Architect	Leading on technical direction, security (e.g. pen testing approach), DevOps, supporting the development team, delivering production-ready code
Developer (x4)	Writing, adapting, maintaining and supporting production-ready code, delivering features and functionality (based on user stories and requirements), carrying out code testing, code reviews and deployments
Delivery Manager	Facilitating the team's agile ways of working, managing scope, removing blockers to success

### **KPIs**

An issue that we have encountered throughout this project is that councils have very little in the way of structured monitoring data. BoPS will look to monitor the following. Where there are existing stats held by MHCLG and PAS, BoPS will use these to benchmark its performance against current projections.

Reporting to	Detail	Method
MHCLG	All local authorities are required to make quarterly PS1 & 2 returns to MHCLG.	API
	The PS1 form collects summary information about applications - received, withdrawn, called in or turned away, decisions and other specifics.	
	The PS2 form collects more details about the decisions made during the quarter, broken down by development and decision type and timescales.	
	This will all be made available on the BoPS API, with the potential for automated reporting.	
PAS	The planning advisory service collect a number of performance statistics to help authorities with their resourcing, performance and productivity. These are more specific than the PS returns, and look at elements such as finances and individual performance stats, but benchmark them against other authorities.  Again, these would be standardised and made available to PAS on the BoPS API.	API
In-House	Individual authorities may wish to monitor their own criteria, including employee and customer satisfaction, fee against timescales etc. Once onboarded, authorities could configure their own, in-house, monitoring schemes. These data would be standardised across, so could be comparable with other authorities.	API

# Artefacts

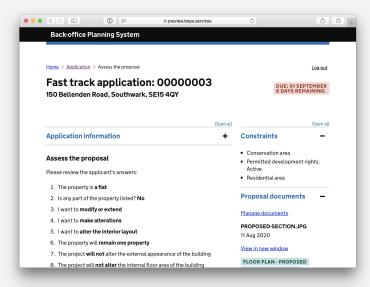
## Working in the open: Design, research and development

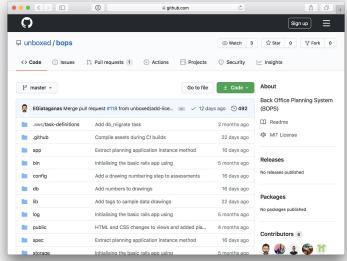
#### MVP and development resources:

- Beta MVP site
  - Planning Officer: <u>assessor@example.com</u>
  - Planning Manager: <u>reviewer@example.com</u>
  - Passwords: turbinehall
- GitHub Repo
- API Proof of Concept Endpoint

#### Design and research resources:

- <u>Design prototypes used for testing</u>
  - Username: unboxed
  - Password: magic
- GitHub Repo
- User flows on our Miro board
  - PD User flow (<u>PDF</u>)
  - o FH User flow (PDF)
  - PD Service blueprint (<u>PDF</u>)
- <u>Design debrief</u>





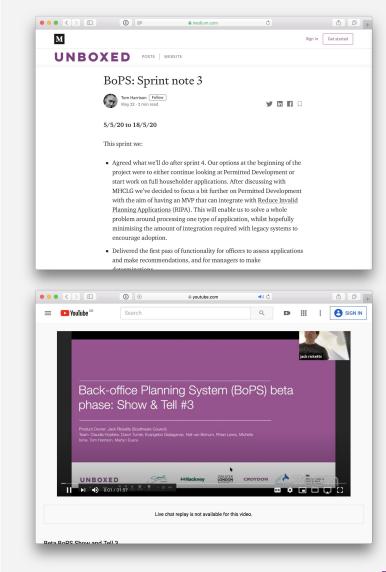
## Working in the open: Sharing our progress and learning

#### Show and Tells:

- Show and Tell 1: <u>Deck | Video</u>
- Show and Tell 2: <u>Deck | Video</u>
- Show and Tell 3: <u>Deck</u> | <u>Video</u>
- Show and Tell 4: <u>Deck | Video</u>
- Show and Tell 5: <u>Deck | Video</u>
- Show and Tell 6: <u>Deck | Video</u>
- Show and Tell 7: <u>Deck | Video</u>
- Show and Tell 8: <u>Deck | Video</u>
- Show and Tell 9: <u>Deck | Video</u>

#### Sprint notes:

- Sprint 1
- Sprint 2
- Sprint 3
- Sprint 4
- Sprint 5
- Sprint 6 & 7
- Sprint 8 & 9



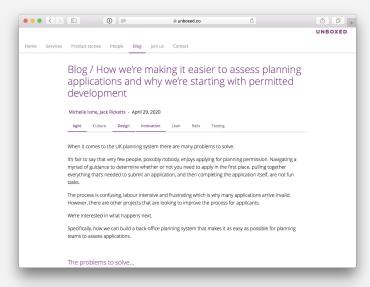
# Working in the open: Project webinars and blogs

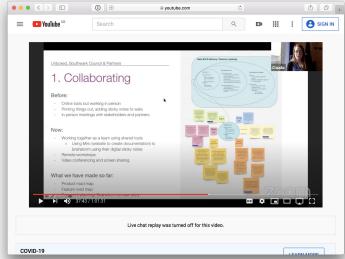
#### Blog posts:

- The future planning system for local authorities
- Why we're continuing to work on permitted development assessments
- How we're making it easier for planning teams to assess householder applications
- Is now the time to build a national planning platform?
- Some ideas for what an alternative planning register could look like
- <u>Using the GOV.UK Prototype Kit for Back Office systems</u>

#### Webinar:

Connected Places Catapult - How we're building BoPS remotely



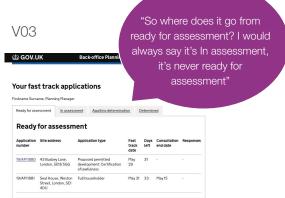


# Appendix

# User insights and iterations: Permitted development

# Application list





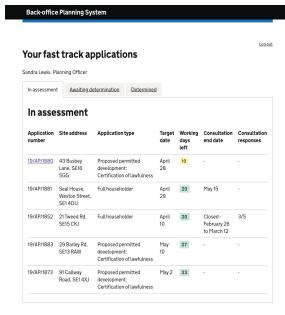
#### From testing we learnt:

- The 'Newly received' tab was confusing to users as they were unsure if these applications had been validated or allocated to them yet
- Participants were unsure how applications would get from 'Newly received' to 'In assessment'
- Officers identify applications based on site address, not application number
- Officers prioritise their workloads by decision due date - fast track not statutory

#### From testing we learnt:

- Despite the content change, 'Ready for assessment' tab was still confusing to users.
- Traffic light / rag system welcomed to create a quick visual guide as to what is urgent
- Not all teams work towards a Fast Track date, so they want a **Target Date or Statutory Date instead**

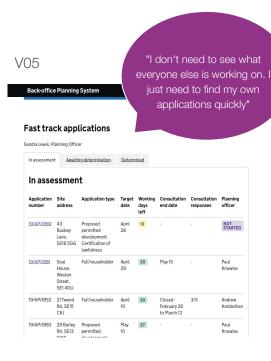
#### V04



#### V04

#### **Back-office Planning System** Logout Your fast track applications Sandra Lewis, Planning Officer In assessment Awaiting determination Determined In assessment Application Site address Application type Target Working Consultation Consultation number days end date responses left 19/AP/1880 43 Busbey Proposed permitted April 10 Lane, SE16 development: 28 5GG Certification of lawfulness 19/AP/1881 Seal House, May 15 Full householder April 20 Weston Street, 29 SF14DII 19/AP/1852 21 Tweed Rd, Full householder April 20 Closed -3/5 SE15 CKJ 10 February 26 to March 12 19/AP/1883 29 Barley Rd, Proposed permitted May 27 SE13 RAW development: 10 Certification of lawfulness 19/AP/1873 91 Callway Proposed permitted May 2 33 Road, SE1 4XJ development: Certification of lawfulness

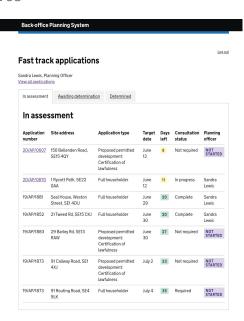
A product decision was made that for the Beta MVP, the officer would either self-allocate or choose the applications themselves. This is because we would have a small number of officers to begin with and allocation was out of scope.



#### From testing we learnt:

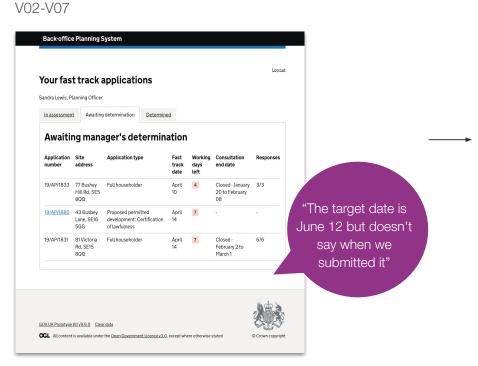
- Participants were unsure how they claimed an application
- Participants worried that when there were a lot of applications in the system, finding and managing theirs may be challenging
- Changes were made on V08 next due to the priorities of design work

V08



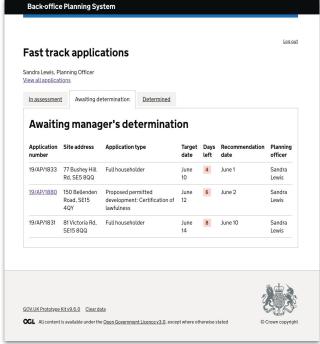
Now only the officer's applications are showing, but they can click on 'View all applications' to see more. This is helpful in case another officer goes on leave, and another planning officer needs to take over on an application.

# Application list (custom tabs)



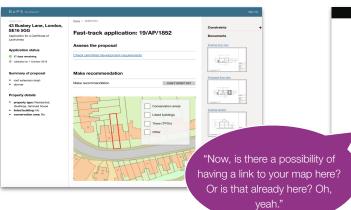
From version 2 to 7, although the columns changed, each tab always had the same content. Over time we received feedback that really the information in the 'Awaiting determination' and 'Determined' tab was not necessary. For example, when the application is awaiting determination, the consultation will have closed. Therefore for V08 we made custom tabs for each stage of the application.

V08



# Application information (accordions)

V01 - Alpha phase (clickable)

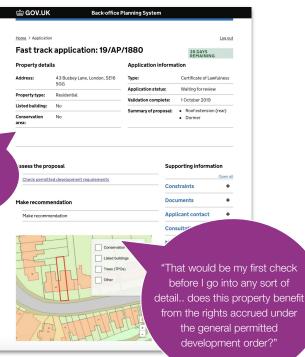


V01: The Alpha Phase prototype was made into the GOV.UK design system.

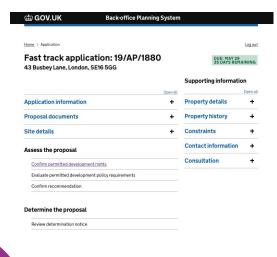
For V02, we learnt:

- Hierarchy needs to change to reflect the planning officer's initial actions
- Call to action links for officers may need to sound more actionable to separate them from application information
- Officers want and need information at different times, and were doing a lot of scrolling
- Checking for PD rights was a worry

V02 - GOV.UK coded prototype



V03



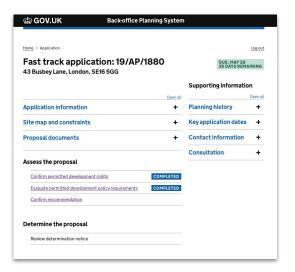
V03 was an improvement, but we felt like a lot of information was overlapping. In the next session, we did card sorting for categories and updated the prototype based on this information for V04. See next slide for activity.



#### Participants were:

- Presented with a list of different elements from a Certificate of Lawfulness application
- Asked to group the elements into categories that made sense to them and add any that thought could be missing
- Asked to give the categories titles that best summarise the different elements

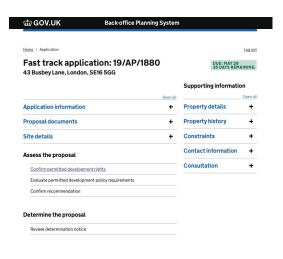
#### V04 - changes made based on research



#### Changes made:

- Incorporate some property details into application information
- Move the site map further up the page and combine it with constraints
- Create a group for key application dates
- Change property history to planning history

#### V06



When testing this application overview:

To enable officers to look at documents while assessing the application, proposal documents was added in the sidebar. From observation, they had to scroll up a lot during testing which seemed inefficient.

#### V06



#### V11

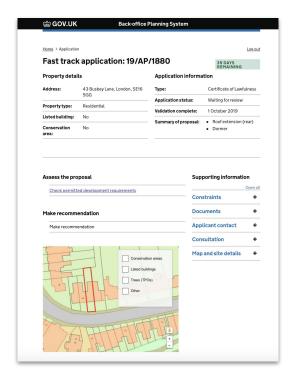


#### Changes made:

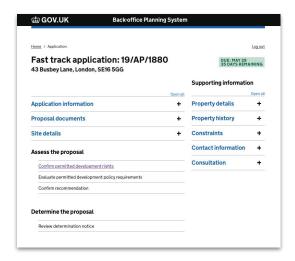
- Proposal documents now has a scroll bar and it is easily used by participants.
- The map was removed due to time limit

# Task list

#### V02 - GOV.UK coded prototype



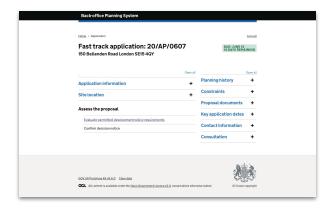
#### V03



#### Changes made:

 Based on feedback, we added a step to check permitted development rights. Since this, we understood that only valid applications will be sent to us which have PD rights. We have now made this clearer to officers and managers

#### V06



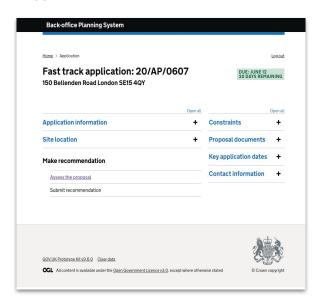
We then simplified the application list by separating the manager and officer tasks.

Although no-one commented on the naming of tasks outright, through observation we found that first time users would get lost in the application information and not be able to find the task list easily to proceed to the assessment. Therefore, we did a content design crit (see next slide) with members from our multidisciplinary team (Product Owner, Product Manager, Developer and Designer) and members from Unboxed's design team to make the tasks more action focused and concise.

#### Content design crit changes

#### Planning officer Make recommendation Assess the proposal Assess the proposal Evaluate permitted development policy requirements Confirm decision notice Submit recommendation Planning manager Determine the proposal Determine the proposal Review the recommendation Review permitted development policy requirements Publish and send decision notice Publish the recommendation Planning officer Make corrections Reassess the proposal Reassess the proposal Review manager's comment and re-assess application Resubmit recommendation Confirm decision notice Planning manager Determine the proposal Determine the proposal Review the corrections Review permitted development policy requirements Publish the recommendation Publish and send decision notice

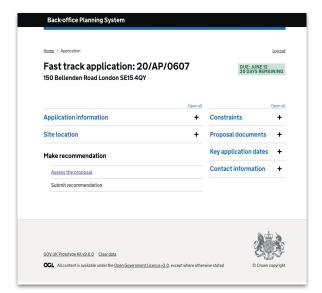
#### V08



Since making these changes, we have noticed that officers find the task list a lot easier.

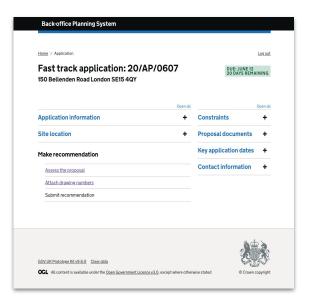
We also changed the content design to match best practices by ensuring that the tasks match and their associated page have the same headers and breadcrumb.

#### V08



To accommodate the need for Drawing numbers to be embedded within decision notices, we then added that step.

#### V09

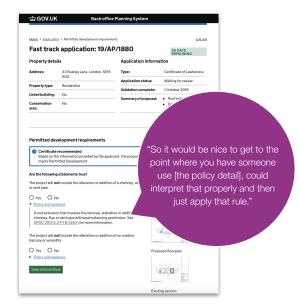


#### From testing we learnt:

- Planning officers will complete this step before or after the assessment. Therefore, we are allowing them to complete this in whichever order they would like
- This task is not in their role now, so doing it came with mixed opinions. We will see how this works in practice and use feedback to move forward.

# Assessment page

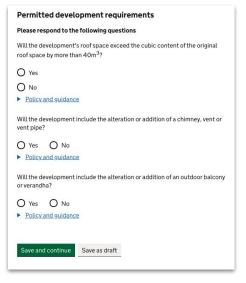
#### V02



#### From testing we learnt:

- The information box at the top appears to be generated from the planner's actions, not the application being submitted and validated automatically
- Policy referenced would be helpful for junior officers
- Having application information at this point is helpful, but the confirmation pages do not require it

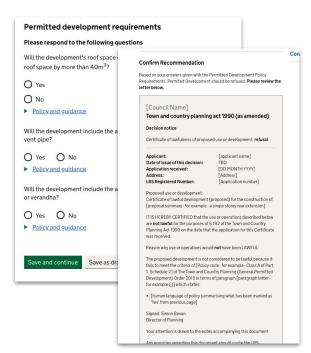
#### V03



#### From testing we learnt:

- The process had too many steps and their recommendation can be generated based on their responses to these questions.
- Some participants also felt like even though they knew their tasks were done, they also felt a lack of closure. They weren't sure what their manager would receive

#### V04



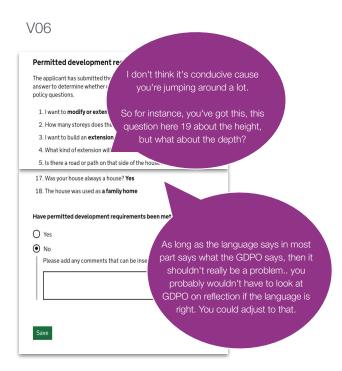
Based on the feedback, the next iteration had an automated decision notice that was created based on the answers. This gave the officers closure and removed the redundant step.

#### V04

#### Permitted development requirements Please respond to the following questions Will the development's roof space exceed the cubic content of the original roof space by more than 40m<sup>3</sup>? O Yes O No ► Policy and guidance Will the development include the alteration or addition of a chimney, vent or vent pipe? O Yes O No ► Policy and guidance Will the development include the alteration or addition of an outdoor balcony or verandha? O Yes O No ► Policy and guidance Save and continue Save as draft

Although this iteration was testing well, we found out what data we would be getting from RIPA and had to adjust accordingly.

RIPA will provide the applicants answers which helped validate their application.

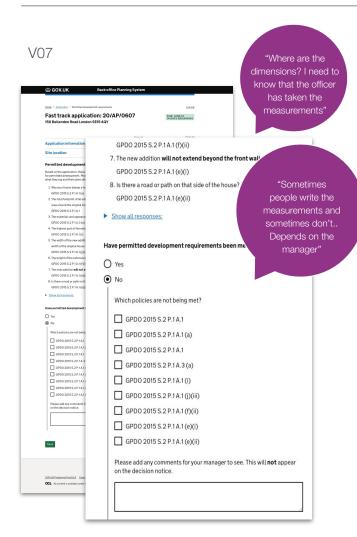


When testing we had mixed feedback:

- It took users a long time to go through all the questions and process them; the question order is not logical.
- Presenting the requirements in plain English make it easier to assess the proposal and could help more junior planners make sense of permitted development
- Even though the questions are linked to the appropriate classes, there was still an interest in seeing those classes displayed.
- There is some ambiguity around what should be written in the comments box for the decision notice.

#### V07

	re the answers that led to the application review each answer to determine whether with the policy.
1. Was your house always a house	se? Yes
GPDO 2015 S.2 P.1 A.1 (a)	
2. The total footprint of all addit	ions will be <b>50% or less</b> of the available
area around the original house	9
GPDO 2015 S.2 P.1 A.1	► Show all responses:
3. The materials and appeara	
GPDO 2015 S.2 P.1 A.3 (a)	
4. The highest part of the extension	Have permitted development requirements been met?
GPDO 2015 S.2 P.1 A.1 (i)	O Yes
5. The width of the new addit	● No
width of the original house	J 100
GPDO 2015 S.2 P.1 A.1 (j)(	Which policies are not being met?
6. The height of the extension	
GPDO 2015 S.2 P.1 A.1 (f)(	GPDO 2015 S.2 P.1 A.1
7. The new addition will not e	GPDO 2015 S.2 P.1 A.1 (a)
GPDO 2015 S.2 P.1 A.1 (e)(	GPDO 2015 S.2 P.1 A.1
8. Is there a road or path on ti	GPDO 2015 S.2 P.1 A.3 (a)
GPDO 2015 S.2 P.1 A.1 (e)(	15
► Show all responses:	GPDO 2015 S.2 P.1 A.1 (i)
	GPDO 2015 S.2 P.1 A.1 (j)(iii)
Have permitted development	GPDO 2015 S.2 P.1 A.1 (f)(ii)
O Yes	GPDO 2015 S.2 P.1 A.1 (e)(i)
● No	GPDO 2015 S.2 P.1 A.1 (e)(ii)
Which policies are not bein	Please add any comments for your manager to see. This will <b>not</b> appea
GPDO 2015 S.2 P.1 A.1	on the decision notice.
GPDO 2015 S.2 P.1 A.1	
GPDO 2015 S.2 P.1 A.1	
GPD0 2013 3.2 F.TA.1	



V10

9. The new structure wills house value of the new as with of the new as with of the new as with of the sorganithe 11. The distance he he be as 12. The new of the structure of t	Operation  Operation  Operation  Proposal documents +  Key application dates +  Contact information +
Aspelication information  Assess the proposal  Please review the applicant's answers:  1. I want to modify or extend  2. How many storego does the original house have?  3. I swent bo fault or extension  5. In there a mad of path in that side of the house. N  6. The extension will have 1 storey  1. The new addition will in  8. The height of the extens  10. The with of the new as waith of the control of the extension of the exten	Constraints + Proposal documents + Key application dates + Contact information +  termore  te
Assess the proposal Please review the applicant's answers:  1. I want to modify or extend  2. How many storego does the original house have?  3. I want to build on extension  5. In there a mod of path on that side of the house?  6. The extension will be the proposal house have?  7. The new addition will be the proposal house to store  10. The with of the new ad width of the foreign had be the house of the control of the extension of the control of the	Proposal documents +  Key application dates +  Contact information +  to  inted development requirements been met?  o check that the applicant's answers and proposal documents
I I want to modify or extend  I I want to modify or extend  I I want to modify or extend  I I want to build an extension  I The extension will have I storey  I The news addition will an  I The hadron to the to build  I The modified to the build  I The distance to the distance is a store of the extension  I The build and the noight and the original build.  I The way the propose showy  I The The build and the companion of the c	Key application dates + Contact information +  arrange  to  nitted development requirements been met?  o check that the applicant's answers and proposal documents
I I want to modify or extend  I I want to modify or extend  I I want to modify or extend  I I want to build an extension  I The extension will have I storey  I The news addition will an  I The hadron to the to build  I The modified to the build  I The distance to the distance is a store of the extension  I The build and the noight and the original build.  I The way the propose showy  I The The build and the companion of the c	Contact information +  2 or more  100  101  101  102  103  103  104  105  105  105  105  105  105  105
2. How many storage does the original house have? 2 3. I leant to half or extension. 4. What shed of extension will file be stension. 5. In there aread or path on that side of the house? No. 6. The extension will have 1 storage. 7. The one addition will also 1 storage. 9. The many addition will also 1 storage. 9. The many addition will have 1 storage. 9. The many addition of the row and will be storage. 9. The many forms and original has 12. The shighest part of the 14. The manufaction storage is 10. The will will be storage in the storage in the storage in the storage is 10. The will will be storage in the storag	nitted development requirements been met? o check that the applicant's answers and proposal documents
3.1 went to build an extension 5. In there a read or path an that side of the house? N 6. The extension will have storey 6. The extension will have storey 7. The new addition will have storey 8. The heapth of the extens 10. The wild have store will have store will have been sent and the heapth of the extension of the heapth of the extension of the heapth of the extension of the heapth of the	nitted development requirements been met? o check that the applicant's answers and proposal documents
7. The new addition will a 8. The height of the extent Wounders will Nouse 10. The extent Wounders will Nouse 11. The distance be the boy 12. The not of the extensi 13. The highest part of the 14. The materials and appo	o check that the applicant's answers and proposal documents
A The history of the cetter  O The even structure will thouse.  10. The width of the new at waith of the original has 11. The distance to the boat 12. The road of the statement of the the statement of the the statement of the s	o check that the applicant's answers and proposal documents
	e provide which GDPO policy (or policies) have not been met. If are multiple, please separate by a comma.  ample, "GPDO 2015 S.2 P.1 A.1 (f)(i), GPDO 2015 S.2 P.1 A.1 (f)(ii)  Ill appear on the decision notice.
O No	
may want to	wide supporting information for your manager. For example, you o add any details about the width, depth or height of the proposal.

#### V07:

- Now we have re-organised the questions by pulling out the most important ones, and put the GDPO under each answer. The planning team can still look at all the questions asked if they need clarification or more information but we are still testing if this is required or not
- Some concern was whether other GDPO classes needed to be taken into account. Sometimes an applicant may think it is a rear extension, but it is also a side extension and thus other policies need to be accounted for. Therefore, they wanted to be able to identify any GDPO classes; not just those identified in RIPA.

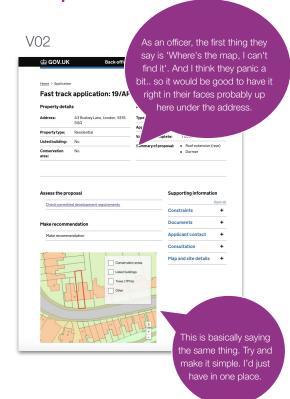
Overall, this idea tested well, but because the API from RIPA was not ready, we had to create a simpler version for our MVP. In the future, we would like to improve upon the MVP and include checkboxes for all GDPO classes and see how it is used in reality.

#### V10:

We have simplified the officers recommendation screen so that:

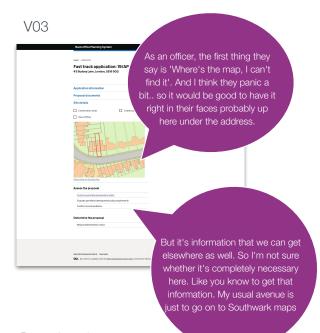
- When applications are refused there is a text box for officers to enter the GDPO classes. These will be published on the decision notice
- Independent of whether an application is refused or granted, some officers also want to be able to provide additional information to just their manager, including dimensions. They can enter this in the box that will not appear on the decision notice.

Map



#### From testing we learnt that:

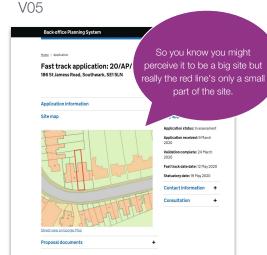
- The map is what planners look for when they begin an assessment and should be higher up on the page
- Constraints and GIS data could be combined and didn't have to be replicated



#### From testing we learnt:

- Participants were confused whether only conditions that affected the property were listed, or if layers would be applied to map
- Map is needed to contextualise the site not necessarily to understand constraints

**Tech constraints:** Based on added complexity of integrating with a GIS system, we decided to simplify the map



#### From testing we learnt:

Confirm permitted development rights

- The map works without the constraints better. Its purpose is clearer as they see it as a part of a valid application and to scope the application.
- Even with this map, planning officers would still go to Google maps to understand the area or neighbouring houses

**Tech constraints:** At this point we were unsure what data we would get from RIPA and decided to see how the MVP would be received with a PDF map.

### V06



#### From testing we learnt that:

- Overall this tested well as its something officers were used to
- However, because it is embedded on a PDF, the map itself is smaller and some found it hard to see. They needed to zoom in. The map needed to be viewable in another window.

### V09



#### From testing we learnt that:

- Overall the document management pattern being integrated on the map tested well.
- There was some confusion about the manage documents link; we updated the full householder prototype accordingly.

**Tech constraints:** We learnt that RIPA would be providing a polygon instead of a PDF. It could look similar to V05 but due to time limitations, we knew that embedding this map would not be possible. Therefore we tested a google maps link instead as an easy inbetween.

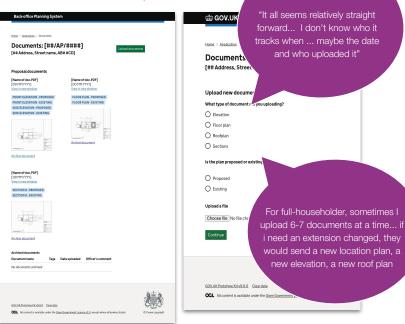


#### From testing we learnt that:

- Providing a link to Google Street View is helpful but less important than displaying the site boundary.
- Officers need to see a site location plan that includes the site boundary line around a property and this map doesn't replace that
- They also refer to other maps during assessment to:
  - Identify constraints e.g is the property next to a heritage site? Is it in a flood zone?
  - o Better understand the existing property

## Document management system (uploading)





We began designing the DMS in sprint 6. This tested well and no changes were made until we needed to scale to full householder.

- The map is what planners look for when they begin an assessment and should be higher up on the page
- Constraints and GIS data could be combined and didn't have to be replicated
   In the future, we will also look at another way to ensure some documents are public and private. And for full applications, multiple users could be uploading documents.

### V11 - scaling to full housholder





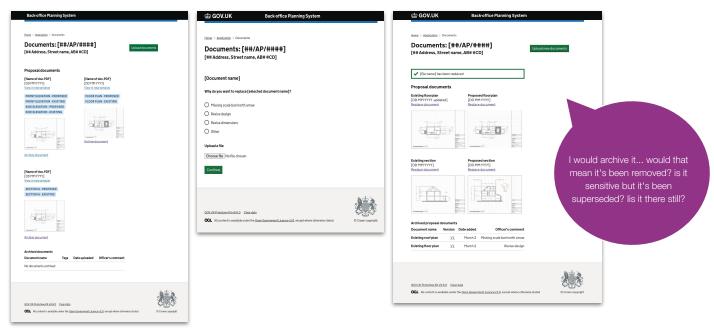


The Document Management screen now includes other types of documents than plans alone. We also have added a step in the upload document path that chooses which document needs to be uploaded.

This has not been tested yet.

# Document management system (archiving)

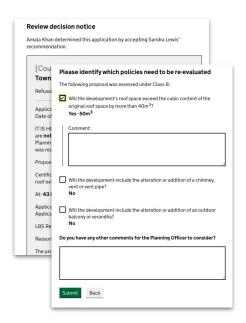
### V06 - Permitted development



This tested well and no changes had to be made to the Archive process. In the future, we will have to better ensure that planning officers understand when documents are archived, they will not be published on registers.

### Manager requesting corrections

#### V04 - review decision notice



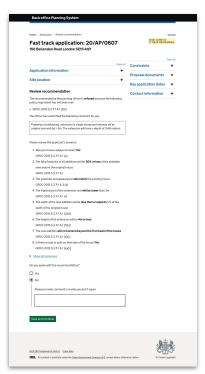
Prototype: 2 step process where manager makes a decision. If they don't agree, they then go to another page. From testing we learnt that:

- Managers welcomed functionality that allows them to ask for specific amendments/updated calculations
- Managers may need to ask for amendments to the documents
- Officers and managers wanted a way of managing the changes in the home screen - highlighting when changes are needed and when they have been done



Prototype: Based on testing, we made the form more directed towards documents and policies. However, based on the feedback, we realised that this is over-designed and needed to be simplified and shown on the same page as the application answers and officer comments.

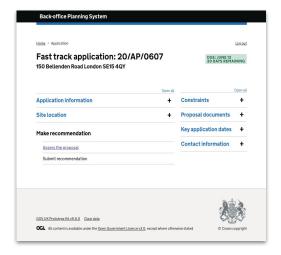
V08



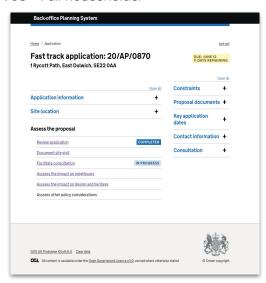
# User insights and iterations: Full householder planning permission

### Full householder: Task list

### V08 - Permitted Development



### V08 - Full householder

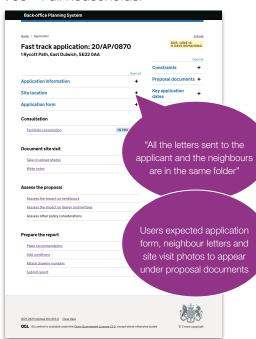


This is the permitted development task list.

We adapted the PD steps to fit Full Householder. We learnt that:

- Review application should not be a step
- Additional steps needed are to make the recommendation, and submit a report

### V09 - Full householder



In this prototype, we added tasks to scale PD appropriately by attaching drawing numbers and dividing the Site Visit into two tasks. We learnt that:

- Proposal document categories were misleading.
   They expected to find application form with the drawings
- Multiple manage document links within the accordions was confusing
- Another step is required to edit the proposal summary and add dimensions

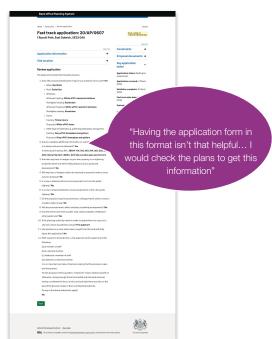
### V11

Fast track application: 20/AP/0870 1Rycott Path, East Dulwich, SE22 0AA		DUE: JUNE 12 11 DAYS REMAINING	
Application information	Open all	Constraints	pen all
Site map	+	Proposal drawings	+
Proposal documents	+	Site visit	+
Consultation		Consultation	+
Facilitate consultation	IN PROGRESS	Key application dates	+
Document site visit		Contact information	+
Take or upload photos			
Write notes			
Assess the proposal			
Provide proposal description			
Asssess the impact on neighbours			
Asssess the impact on design and heritage			
Asssess other policy considerations			
Prepare the report			
Make recommendation			
Add conditions			
Attach drawing numbers			
Submit report			

This prototype is ready to test and see how the proposal description step works.

### Full householder: Application form

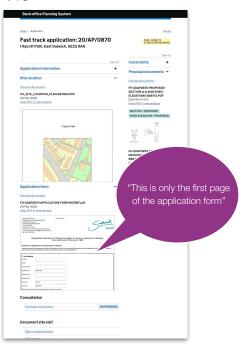
### V08



Prototype: Application form questions were to view for the first task in the process. We found out that:

- Planning officers rely on the plans to understand the proposal as a first step. They look at the form to reference
- The applicant sometimes does not give materials at this stage and the officer's priority is not to look at this information now
- They want to be able to correct the application form based on the plans

V10



Prototype: Application form moved into an accordion so it can be referenced at any time and was not a formal step. We also did this as a way to see how we could integrate with Planning Portal's current outputs. We found out that:

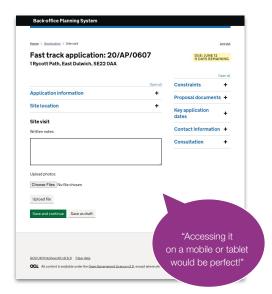
 Planning officers thought that only the first page of the document could be viewed. No user saw the link to open the PDF in a new window. V11

Fast track application: 20/AP/0870   Rycott Path, East Dulwich, SE22 0AA		DUR- JUNE 12 11 DEPS REPA	Listout	
		Cyenal		Open all
Application inform	mation	+	Proposal drawings	
Proposal docume	nts	-	Site visit	+
FH-SITE-LOCATION- PLAN-857983-PDF	FH-20AP0870- APPLICATION-FORM-	Manage documents	Consultation Key application	
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Write notes  Assess the propor	sal			
Assess the impact	onneighbours			
Assess the impact	on design and heritage y considerations			
Prepare the repor				
Addicarditions				
Attach drawing num	sbers			
Submitment				

Prototype: Application form has been made into a smaller thumbnail and is organised with other Proposal documents. This has not been tested yet, and is one option within other two depending on how we receive other data.

### Full householder: site visit

V08



Prototype: We added all the functionality needed on one step to get initial feedback. We focused on adding notes and taking or uploading photos. Most officers did not realise you could upload it from mobile, but once we discussed it, we got great feedback. We learnt that:

 Planning officers would like to reference this information later on during the assessment V09



V11

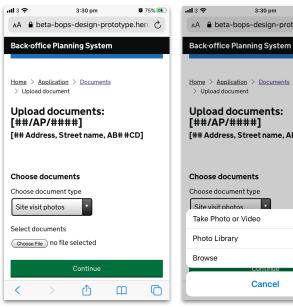


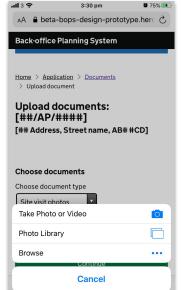
Prototype: To fit the design system better, we separated these into two steps. The upload is now an extension of what we have built for PD. We found out that:

- Planning officers take multiple photos
- Not all planning officers take notes, so this should not be a mandatory step
- Sometimes another planning officer may do a site visit than the person assessing it based on location

Prototype: No changes were made to the site visit pages, but now once site photos are uploaded, the prototype displays this information into an accordion.

We also need to do a technical spike to see how we can configure the system to upload or take multiple photos.





We also need to do testing on mobile to ensure this process works well for on site visits.

We will need to test on various devices (iOS, android, etc.)

# Full householder: making recommendation



Prototype: Here we have the make recommendation page and was positioned after the officer has done the assessment. We learnt that:

- making a recommendation is not as simple as Permitted Development and officers need to see their whole assessment
- They are also balancing their recommendation with constraints. More work needs to be done to see how these two should be more integrated.

V11



Prototype: The assessment has been added above so that officers can reflect on the whole assessment.

More research and prototyping to think about constraints in relation to this process.

### Full householder: conditions



We had a group session with two councils to ask about their condition process. We found out that there are three main types of conditions for householder planning permission:

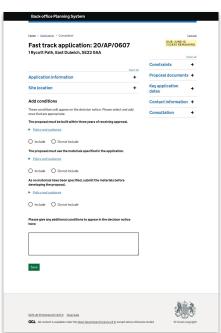
- The timeframe for when work needs to begin
- Building materials often applicants will provide these after they are granted permission.
- Drawing numbers having these on decision notices makes it easier for enforcement officers.

There may also be local considerations that need to be factored in e.g a rural area might have problems with drainage so might add a condition about that to decision notices.

Informatives might also be added to decision notices:

- Informatives are not enforceable under planning policy
- They are guidance about other things the applicant should consider e.g if they remove a tree they may need to look at environmental policies.

V09



Prototype: We integrated the most common constraints as options, and had places for people to add local risks. From testing, we learnt that:

- There might be other common conditions users might need to regularly add. Currently this is a downgrade from their current process.
- Need an additional condition for materials.
- Better organisation needed as two material constraints would not be added necessarily

V11



Prototype: This has not been tested yet. We added the recommendation and assessment above.

More work needs to be done to understand how local conditions can be codified or automated based on constraints.

### Full householder: starting consultations



#### We learnt:

 Officers need to be able to identify neighbouring properties and contact them for consultation early in the process, to allow for the 3 week consultation period.

We are exploring where we can take address data from, such as the  $\ensuremath{\mathsf{LLPG}}$ 

#### Unknown:

 Public consultation is currently done via the council's planning register - how can BoPS enable council's to publish applications so that the public can comment on them?

No prototype made yet

# Full householder: reviewing consultation feedback



#### We learnt:

- Officers need to be able to filter consultation feedback so they can prioritise objections.
- Officers need to be able to easily identify consultation feedback that is from the public and any feedback that is from statutory consultees.

No prototype made yet

# Planning Portal: Technical investigation

### Integrating with Planning Portal

Planning Portal (<a href="https://www.planningportal.co.uk/">https://www.planningportal.co.uk/</a>) currently processes the vast majority of planning applications across the country. As such it represents a significant opportunity for BoPS. We conducted a technical exploration to understand what would be needed to integrate with the current service. Its current outputs to back-office systems are largely contained in PDFs, but structured data is available. We looked at their data schema to understand more.

#### We found that:

According to their documentation Planning Portal webservice use **SOAP** as the message protocol and operates 24hrs a day. Their webservice provides three different endpoints/ methods.

The **getProposalList**, response a list of applications that have been submitted to them electronically through the Planning Portal.

The **getProposal**, requests details of a specific application and returns the application form data as XML including, four PDFs (the Application Form, the Application Form with some personal data redacted, an overview of the supporting documentation attached to the application, and overview of the applications calculated fee. In addition, any supporting document files the applicant has attached to their application.

The **setProposalReceived**, sends acknowledgement of receipt of a specified application and changes the planning application status from 'Submitted' to 'Transferred'.

## Thank you



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