

Mitigation Area Creation, Management and Monitoring Strategy



Site:	Harbour Place, Bedhampton
Client:	Barratt David Wilson Homes
Job Number:	A108712
Survey Type(s):	Mitigation Area Creation, Management and Monitoring Strategy
File Location:	I:\Projects\Projects A108000 on\A108712 Harbour Place\REPORTS

1.0 Introduction

1.1 Background

WYG were commissioned by Barratt David Wilson Homes to prepare a detailed strategy for the establishment, management and monitoring of the proposed Winter Bird Mitigation Area as part of the approved development at Harbour Place (see WYG, 2019¹).

This is intended to fulfil the requirements of the Section 106 Agreement and discharge Condition 7 of the Outline planning consent.

The Site encompasses H04B and H04C which have been monitored for the presence of brent geese as part of the Solent Waders and Brent Goose Strategy. H04B is also listed as a SINC - Forty Acres Farm B – designated due to the historic presence of large numbers of brent geese. Using the latest data from winter bird surveys across the Solent (which incorporates spatial considerations such as movements rather than just numbers), H04B has been listed as 'low use' and H04C as a 'secondary support site'.

It is proposed that the majority of H04C is enhanced and managed in perpetuity for brent geese over the winter period. Dark-bellied brent geese are a qualifying feature of the Chichester and Langstone Harbours SPA, along with a broader assemblage of wading birds.

1.2 Baseline

The site has been monitored as part of the Solent Waders and Brent Goose Strategy and is identified as Fields H04B and H04C for the purposes of the study.

Using the latest data from winter bird surveys across the Solent (which incorporates spatial considerations such as movements rather than just numbers), H04B has been listed as 'low use' and H04C as a 'secondary support site'. These surveys recorded a peak count of 50 brent geese within H04C and none within H04B (HBIC, 2018).

Wintering bird surveys were undertaken at the site by Havant Borough Council between the years 2012-2015. The survey time was three hours around high tide for three days every month from November to March and consisted of 11 visits to Forty Acre Farm.

¹ WYG, (2019). Land at Forty Acre Farm, Havant Road, Havant: Winter Bird Mitigation Strategy.

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No brent geese were recorded utilising the survey area during this period. Two lapwing were observed in the western extent of Forty Acre Farm. These were observed in January so this does not confirm breeding at the site.

WYG wintering bird surveys undertaken between October 2015 and March 2016 recorded small number of brent geese were feeding on the southern extent of the site, west of the industrial area. Red listed curlew were noted along the south eastern extent of the site in the clover ley field, as well as two noted west of the industrial area in the clover ley. Amber listed oystercatcher were noted on two occasions feeding along the southern boundary of the site, west of the industrial area, as well as seen feeding east of the industrial area in the clover ley field.

1.3 Mitigation Summary

H04C is currently listed as a Secondary Support Area for brent geese under Policy E17 of the Draft Havant Local Plan. The mitigation strategy is to secure this area in perpetuity and enhance its foraging habitat creating a mitigation area measuring 4.85 ha.

2.0 Methodology

2.1 A – Fencing

The first action is to install exclusion fencing to protect the mitigation area during construction. This will be installed as per the fencing plan, Figure 1.

The central portion of the site will comprise a permanent close-board timber acoustic fence along the line of the final plot boundaries, and will also form the final boundary fence along the eastern edge of the mitigation area.

North and south of the permanent fence, temporary acoustic fencing will be installed comprising Heras (or similar temporary fencing) with acoustic membrane affixed.

Following the installation of the fencing, a sign-off inspection will be completed by the developer's ecologist and the HCC Ecologist and/or Natural England.

2.2 B – Decoys

To maximise the likelihood of uptake by geese following the improvement works to the mitigation area, 6 no. brent goose decoys (based on available package size) will be installed within the southern portion of the mitigation area. These will be placed by the developer's ecologist near the centre of the mitigation area with good sightlines. No maintenance requirement is anticipated but the decoys will be replaced if they are lost within the first three years following establishment.

2.3 C – Wader Scrapes

To improve the habitat suitability for other wading birds (either qualifying species for the SPA or part of the qualifying assemblage) three wader scrapes will be created within the mitigation area. These will be of irregular shape with an average area of 50m². To create a range of conditions and support different species the scrapes will be of variable depth with shallow margins and a deeper centre of 0.5m depth. Water supply for the scrapes will come from rainfall and surface water runoff.

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The primary objective is to hold perched water during the winter, but it is anticipated that deeper areas will also hold water for part of the summer and provide an enhancement for breeding birds. The deeper central section of the scrape will occupy approximately 50% of the total area to maximise the likelihood of water retention. Scrapes will be created using an excavator with arisings piled adjacent to the margins to improve water retention and provide bare ground areas suitable for invertebrates.

Locations of scrapes will be chosen by the developers ecologist by observing ground conditions during winter monitoring surveys in 2019/20 and 2020/21. The developers ecologist will then supervise the scrape construction. If necessary following observations of water perching, the scrapes will be constructed with a compacted clay liner to aid water retention.

2.4 D – Site Preparation

Vegetation Clearance

The former arable fields within the mitigation area will be flailed to ground-level to remove existing vegetation and dead growth. This will be using a tractor-mounted flail and will take place as early as possible in 2021 once the local brent goose population has migrated.

Soil Preparation

These areas will then be prepared for seeding using a disc harrow to a maximum of 150 mm depth to prevent fertile soil being moved below root depth. If necessary, a chain harrow will be used to remove arisings from flailing and prevent smothering of seedlings (this will also help seed-to-soil contact).

Sowing

The seed mix to be sown will be a suitable grazing mix dominated by hard-wearing grasses (e.g. perennial rye grass *Lolium perenne*) and a minimum of 10% white clover *Trifolium repens*.

Seeding will take place by broadcast at a density of approximately 18 kg/ha. Seed should be sown within 10 mm of the soil surface.

Due to the inclusion of a high density of white clover in the seed mix, it is not considered necessary to include artificial fertiliser application.

Consolidation

Following sowing, the seed bed will be rolled. This will improve seed-to-soil contact, moisture retention and will minimise establishment of pest species.

Cutting

The grassland will be left to establish and prior to the winter of 2021/22 the established grassland will be cut to a height of 60 mm ready for grazing by geese.

2.5 E – Install Hedgerow

Planting of hedgerow plants will take place during the suitable planting season (typically November – February) but will be preceded by a toolbox talk given by the developer's ecologist to minimise

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disturbance of wintering birds. This will include the length of hedgerow adjacent to the proposed temporary acoustic barrier.

Hedgerow planting is set out on the Landscape Proposals plan (Covey Design drawing ref: 17745 B) and will comprise the following native species mix:

- Hawthorn *Crataegus monogyna* – 30%
- Dogwood *Cornus sanguinea* – 20%
- Bird cherry *Prunus padus* – 10%
- Elder *Sambucus nigra* – 10%
- Hornbeam *Carpinus betulus* – 30%

The completion of these works will be signed off by the developer's ecologist along with the HCC Ecologist and/or Natural England.

2.6 F – Monitoring

The mitigation area will be monitored in the winter of 2021/22 by the developer's ecologist. This will comprise twice-monthly vantage point surveys during suitable conditions between October and March by a suitably experienced ornithologist. Each visit will commence two hours before high tide and continue for four hours.

2.7 G – Tree Removal

In Spring 2022, the developers ecologist will provide monitoring survey results to the HCC Ecologist and Natural England and the potential removal of the central tree line will be reviewed. If monitoring is inconclusive then a further review will be undertaken in Spring 2022 and an update to this strategy issued reflecting the change. Tree removal will only take place if it is concluded that the tree line is limiting the use of the northern section of the mitigation area (due to perceived overlooking of foraging geese).

2.8 H – Overseeding

If bare areas are identified in Spring 2022, overseeding using the same seed mix as 2.4 will take place to fill these areas. Overseeding will be preceded by a light harrow, or chain harrow, to prepare the seedbed without causing significant damage to the established grassland.

2.9 I – Install Footpath

Installation of the boundary footpath will take place in Summer 2022. This will be carried out in accordance with the approved plans and will include the installation of fencing to prevent access into the mitigation area (timber post and rail fencing with wire stock-proof fencing attached), and the excavation a ditch between the hedgerow and footpath. Planting of a mixed native species hedgerow on the mitigation area side of the fence will take place under Stage E such that the entire hedgerow is established by occupation. Note that footpath and fencing works must be completed by October 2021.

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Included within the fence will be a single access point for maintenance (located south of Plot 299). The access gate will have a sign affixed making it clear that there is no access for residents.

The completion of these works will be signed off by the developer's ecologist along with the HCC Ecologist and/or Natural England.

2.10 J – Remove Tree Line

If it is determined that the tree line should be removed (see 2.6), this will take place in September 2022. This is as late as possible to avoid the peak nesting bird season without running into the overwintering bird season. All removal will be supervised by the developer's ecologist to check for active bird nests and carry out fingertip searches for reptiles if necessary. All chippings will be removed from the site. Suitable logs will be retained to create reptile hibernacula and/or invertebrate habitat within the informal open space south of the site.

2.11 K – Disposal of Mitigation Area

Once the mitigation area is fully established and all works to the footpath, fencing etc. are complete, it will be offered to the management body. A final sign off visit will take place by the developers ecologist, HCC Ecologist, Natural England and management body. If all are satisfied the transfer will take place in accordance with the Section 106 Agreement. If any issues are identified, an amendment will be made to this strategy and issued to all parties setting out the corrective actions required.

2.12 L – Long-term Monitoring

The long-term mitigation area monitoring will commence in the winter of 2022/23 and comprise two stages.

Stage 1 will comprise annual winter bird surveys as per Section 2.6 and continue for 10 years until the winter of 2031/32. Twice-monthly vantage point surveys during suitable conditions between October and March by a suitably experienced ornithologist. Each visit will commence two hours before high tide and continue for four hours. Results will be reported to the Owner and LPA.

Stage 2 will comprise remote camera surveys every 5 years for a further 70 years. Two cameras will be deployed for a period of five days each month from October to March, one in the north east corner of the mitigation area and one in the south west. Cameras will be set to take photographs at 30 minute intervals. These will subsequently be checked by an ornithologist to confirm the presence or absence of brent geese. Results will be reported to the Owner and LPA. Should remote camera monitoring determine that birds are no longer using the mitigation area, corrective action will be undertaken and a further period of manual monitoring may be required to monitor its effectiveness. This will be agreed with the LPA.

2.13 M – Establish Steering Group

Once the mitigation area is handed over to the management body, a Steering Group will be established to oversee and advise on the long-term management of the mitigation area and inform any amendments to the plan. Members will include (but not be limited to):

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- Management body
- Local Planning Authority
- Developer's ecologist
- Solent Wader and Brent Goose Strategy Steering Group
- Resident's association.

2.14 N – Long-term Management

Cutting

The grassland will be cut twice per year. The first cut will take place in late July / early August to a height of 150 mm with arisings left to allow nutrients to re-enter the soil. The second will take place in late September to a height of 60mm with arisings removed to leave a short sward for foraging geese.

Hedgerow Management

Hedgerows will be cut annually in early October to maintain a height of 1.5 m and width of 1.0 m. Each year only one side or the top will be cut to maintain structure and fruit production for birds and mammals.

Hedgerow Replacement

Once established, hedgerows will be monitored for gaps with replanting undertaken as necessary to fill in any gaps identified during the planting season (November – February).

Scrape Management

Scrape banks will be strimmed to ground level every three years in late September / early October to prevent scrub or ruderal species from becoming established.

During this clearance period scrapes will also be inspected for silt build-up and to make sure they still hold water. If necessary, additional excavation will be undertaken to remove material. Additional lining material will be added if necessary to aid water retention.

Overseeding

Every 10 years, the grassland will be supplemented by additional overseeding using the same seed mix as 2.4. Overseeding will be preceded by a light harrow, or chain harrow, to prepare the seedbed without causing significant damage to the established grassland. This will refresh the seed bank and make sure that perennial rye grass and white clover remain the dominant species within the sward.

Furniture

Furniture, including fences, footpaths and interpretation boards will be inspected at minimum on an annual basis in early September, with repairs or corrective action completed prior to October.

Establishment Operations

Table 1 sets out the actions to be taken, timings and responsibilities for establishing the mitigation area.

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With reference to triggers within the Section 106 Agreement for the development, Actions A – D are pre-commencement requirements, Actions E – I are pre-occupation and J, K and M are prior to the occupation of 100 dwellings.

	Timescale	Operation	Undertaken By	Additional Supervision
A	September 20	Install acoustic barrier along western boundary of mitigation area. To remain in place until completion of development.	Developer's contractor	Sign-off by developer's ecologist, agreed by LPA / NE
B	September / October 21	Install goose decoy (x 6) within southern section of mitigation area.	Developer's contractor	Sign-off by developer's ecologist, agreed by LPA / NE
C	September / October 21 (1 week)	Create wader scrapes (x 3) within southern section of mitigation area using medium-sized excavator.	Developer's contractor	Guided by developer's ecologist.
D	September 20 (1 week)	Flail of arable areas of mitigation area to remove vegetation growth.	Developer's contractor	n/a
	September 20 (1 week)	Prepare arable areas using disc harrow (or similar) to maximum of 150 mm with chain harrow (if necessary) to remove arisings.		n/a
	September 20 (1 week)	Sow seed mix (perennial rye grass & white clover) using broadcast seeding at c.18 kg/ha.		n/a
	N/A	Fertiliser application is not considered necessary due to the inclusion of nitrate-fixing clover within the mix.		n/a
	September - October 20 (1 week)	Consolidate seed bed via rolling.		Sign-off by developer's ecologist, agreed by LPA / NE
	October 20	Cut grassland to 60 mm in height.		Sign-off by developer's ecologist, agreed by LPA / NE
E	October 20 – March 21	Install boundary hedgerow.	Developer's contractor	Sign-off by developer's ecologist, agreed by LPA / NE

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F	October 20 – March 21	Monitoring of mitigation area for use and establishment.	Developer's ecologist	In consultation with LPA / NE
G	March - April 21	Review whether removal of central tree line is necessary.	Developer's ecologist	In consultation with LPA / NE
H	April 21	Over-seed bare areas if necessary.	Developer's contractor	n/a
I	May – September 21	Install boundary footpath, fencing (post & rail with livestock fencing) and ditch.	Developer's contractor	Sign-off by developer's ecologist, agreed by LPA / NE
J	September 21	Remove tree line, if determined necessary in agreement with LPA / NE.	Developer's contractor	Supervised by developer's ecologist.
K	September 21	Dispose of mitigation area to future owner / manager – The Land Trust.	Developer / Management Body	n/a
L	October 21 – March 31	Stage 1 long-term monitoring.	Developer's ecologist	LPA
	October 31 – March 2101	Stage 2 long-term monitoring.	Management Body	LPA
M	October 21	Set up Steering Group	Management Body	LPA
N	Late July / early August 22 then Annually	Cut grassland to 150 mm in height.	Management Body	n/a
	September 22 then Annually	Cut grassland to 60 mm in height.		
	October 22 then Annually	Cut hedgerows – each year only one side or the top.		
	November 23 then Annually	Check for hedgerow gaps and replant as necessary.		
	Late September / early October 23 then	Strim scrape banks to ground level.		

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	Every 3 Years			
	April 31 then Every 10 Years	Over-seed grassland.		
	September 22 then Annually	Inspect furniture and carry out corrective action / repairs.		

Quality Control

Version:

2

FINAL

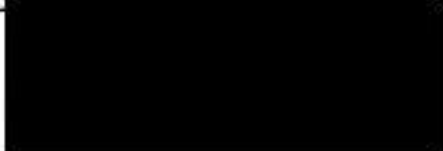
Prepared by:



Ben Cooke GradCIEEM

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Verified By:



David West CEnv MCIEEM

Associate Ecologist

Version:	Date:	Updated by:	Verified by:	Description of changes:
2	June 20	DW	DW	Amended to reflect Natural England comments.
3	August 20	DW	DW	Amended to reflect project timeline.

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Figure 1 Acoustic Fencing Plan

[illegible]



Figure 2 Landscape Layout

A. SETTING OUT

1. PLANTING SHALL BE SET OUT AS INDICATED ON THE DRAWING. ALL BEDS TO BE A MINIMUM OF 1 METRE WIDE AND MEASURED FROM EXISTING FINISH POINTS.
2. IF THE BED IS BUILT WITH CONCRETE THE CONTRACTOR SHALL INFORM THE SITE MANAGER OR LANDSCAPE ARCHITECT TO DETERMINE IF FOOTINGS ARE EXCESSIVE AND CAN BE REDUCED OR REMOVED.

B. GROUND PREPARATION

1. THE FOLLOWING WORKS SHOULD BE CARRIED OUT TO EXISTING TOPSOIL TO ENSURE IT CONFORMS TO BS 2825:1994. TOPSOIL SHOULD BE FREE FROM ROCKS LARGER THAN 50MM DIAMETER, CONCRETE, WIRE, BRICK, ALL ROOTS AND LESS THAN 20% CLAY.

C. PLANTING

1. ALL PLANTING TO BE WATERED IN WITH 20 LITRES PER SQUARE METRE. TREES SHALL BE WATERED IN WITH 20 LITRES PER TREE POSITION. TREES TO INCLUDE IRRIGATION PIPES.
2. TREES TO INCLUDE 1.5M CHRISTNUT STAKE 60MM ABOVE GROUND AND 100MM BELOW THE GROUND AND 1 NO. TREE TIE AND SPACER.
3. TURF TO BE PREMIUM GRADE CULTIVATED TURF.
4. ALL CUMBERS TO INCLUDE PRESSURE TREATED SOFTWOOD TRELLIS BORDERS (150 X 150MM) FIXED TO EXISTING WALLS OR FENCES.

D. MULCH

FOLLOWING PLANTING SUPPLY & SPREAD 100MM OF ORNAMENTAL BARK MIXED CONIFER MULCH 30-50MM PARTICLE SIZE TO ALL PLANTED AREAS. FINISHED MULCH LEVELS SHALL BE NO HIGHER THAN 150MMES ON GRASS OR PAVEMENT LEVELS TO AVOID ANY SPILLAGE ONTO PAVEMENTS OR LAWNS.

GENERAL NOTES FOR THE DEVELOPER

ALL SOIL LEVELS FOR SHRUB BEDS AND GRASS AREAS SHOULD HAVE ANY COMPACTED SUB-GRADE THOROUGHLY BROKEN UP BY MACHINE BEFORE INSTRUCTING THE GROUND WORKER TO SPREAD TOPSOIL. ON THE LANDSCAPE CONTRACTOR TO COMMENCE WORK AS THE BEDS WILL BECOME WATERLOGGED IN WET WEATHER AND THE PLANTS AND TURF WILL DIE.

TOPSOIL

TOPSOIL, SPREAD FROM ON SITE SHOULD BE TO THE FOLLOWING DEPTHS: SHRUB BEDS - 100MM GRASS AREAS - 150MM TOPSOIL SHALL BE SPREAD FOR GRASS AREAS 1.5M WITH ANY AREA OF PAVING AND AFTER SETTLEMENT, THE SOIL LEVELS SHOULD BE NO GREATER THAN 100MM BELOW PAVED AREAS TO ALLOW FOR TURF.

C.D.M. REGULATIONS RISK ASSESSMENT

IT IS THE DEVELOPER'S RESPONSIBILITY TO DESIGN FOUNDATIONS TO ACCOMMODATE THE PROPOSED TREE AND SHRUB PLANTING. REFERENCE SHOULD BE MADE TO NHC STANDARDS VOLUME PARTS 4.2 AND 4.3 REGARDING TREES AND SHRUBS IN RELATION TO FOUNDATIONS.

ALL BARE ROOT PLANTS TO HAVE TARBUT GUARDS

ALL TREES IN CLOSE PROXIMITY TO HARD SURFACES SERVICES AND FOOTPATHS ETC ARE TO HAVE GREEN LEAF BROODERS ROOT BARRIERS OR SIMILAR APPROVED.

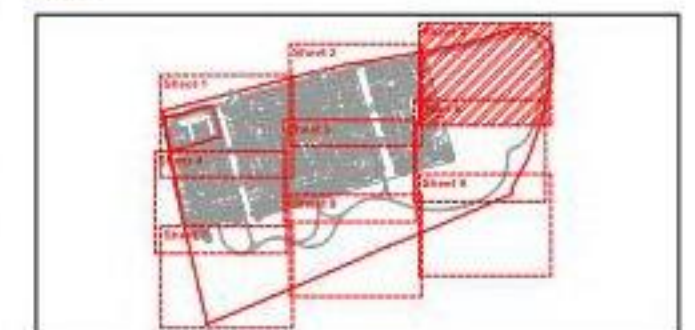
BIRD AND BAT BOXES TO BE LOCATED IN MATURE EXISTING TREES AT LEAST 5M ABOVE GROUND OR AS DIRECTED BY AN ECOLOGIST. 50% TO BE APPROVED.

NORTH IS ASSUMED

Refer to RCP Colour Works Layout for boundary treatments.

Refer to RCP Site 10 Layout for shop fronts and signage detail.

Existing trees/hedges to be retained	Grass with lawn
Existing trees/hedges to be retained	Wetland grass path
Proposed trees	Proposed lawns
Proposed trees with root barrier	Decorative gravel
Specimen shrubs	3m Broadleaf pathway, ruled in every 100mm granular sub-base, with a layer of 100mm, edged with timber
Ornamental shrubs with bark mulch	Grass/water
Hedge	Acoustic fencing
Climbers	1.2m high stock proof fencing with mesh
Premium grade turf	Compound location
Amenity grass	Vehicle maintenance gate
Willowow DM1 Baco general purpose meadow mix	Ditch (0.5m deep)
DM1 Meadow grass mix for wetlands	



Revision	Description	Date
A	Submittal adjusted to new layout	20.03.20
B	The key schedule	25.02.20
C	Submittal adjusted to client comments	15.04.20
D	Submittal adjusted to client comments	14.04.20
E	Public drawing covering valid	21.04.20
F	Submittal adjusted to client comments	21.05.20
G	Afterward space & date added	10.06.20

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3. TURF TO BE PREMIUM GRADE CULTIVATED TURF.
4. ALL CUMBERS TO INCLUDE PRESSURE TREATED SOFTWOOD TRELLIS BORDERS (15X15MM) FIXED TO EXISTING WALLS OR FENCES.

D. MULCH

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ALL SHAVE ROOT PLANTS TO HAVE TARBIT GUARDS

ALL TREES IN CLOSE PROXIMITY TO HARD SURFACES, SERVICES AND FOOTPATHS ETC ARE TO HAVE GREEN LEAF BROODING ROOT BARRIERS OR SIMILAR APPROVED.

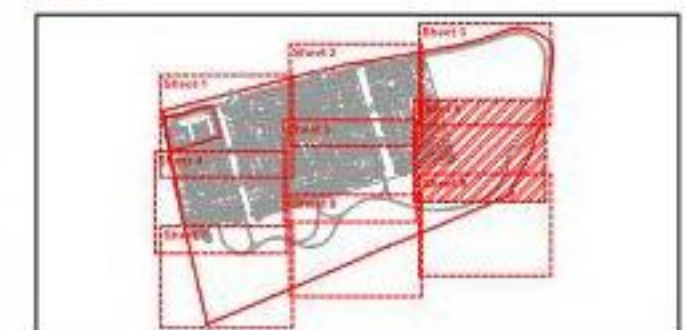
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NORTH IS ASSUMED

Refer to RCP Column Works Layout for boundary treatments.

Refer to RCP Site 10 Layout for shop fronts and signage details.

Existing trees/hedges to be retained	Grass within 10m of G.D.P.
Existing trees/hedges to be retained	Wetland grass path
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Proposed trees with root barrier	Decorative gravel
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4	Submittal adjusted to client comments	14.04.20
5	Public drawing covering submittal	21.04.20
6	Submittal adjusted to client comments	21.05.20
7	Afternoon work & client added	10.06.20