OUTLINE SPECIFICATION

GENERAL

ALL OPERATIONS WILL BE CARRIED OUT BY A COMPETENT AND QUALIFIED LANDSCAPE CONTRACTOR IN LINE WITH BEST PRACTICE METHODS SUITABLE FOR THE WORKS AS OUTLINED BELOW:

IN ADDITIONAL TO THOSE STANDARDS LISTED WITHIN THE SPECIFICATION, ALL WORKS TO CONFORM TO THE FOLLOWING BRITISH STANDARDS:-
BS 3882 - SPECIFICATION FOR TOPSOIL
BS 3969 - RECOMMENDATIONS FOR TURF FOR GENERAL PURPOSES
BS 3998 - RECOMMENDATIONS FOR TREE WORK
BS 4428:1989 - GENERAL LANDSCAPE OPERATIONS EXCLUDING HARD SURFACES
BS 5837 - TREES IN RELATION TO CONSTRUCTION - RECOMMENDATIONS

VEGETATION PROTECTION
ALL EXISTING VEGETATION TO BE RETAINED IN LINE WITH THE RECOMMENDATIONS OF BS 5837. THE POSITION OF THE FENCING WILL BE AS SET OUT WITH SUBMITTED ARBORICULTURAL ASSESSMENT AND METHOD STATEMENT AND REMAIN IN PLACE UNTIL ALL SITE WORKS ARE COMPLETE.

SITE PREPARATION
SOILS
EXISTING SOIL TO BE UTILISED ON SITE WHERE POSSIBLE AND SHOULD BE TO THE FOLLOWING MINIMUM DEPTHS:-

TREES - 1M (400MM TOPSOIL)
SHRUBS - 600MM (300MM TOPSOIL)
GRASS AREA - 300MM (150MM TOPSOIL)
WILDFLOWER GRASSLAND MEADOW AREA- 150MM TOPSOIL/ SUBSOIL 50:50 MIXTURE TO PROVIDE A LOW FERTILITY SEED BED.

MANAGEMENT OF SOILS WITHIN THE SITE, MAINTAINING THE QUALITY OF THE DIFFERENT SOIL RESOURCE AND SUITABILITY FOR RE-USE WITHIN THE PROJECT IS COVERED WITHIN THE SOIL MANAGEMENT PLAN DOC REF:HTR-FUW-P2-RE-RM-W-0006. AS SET OUT WITH PARA 1.0.4 & 1.0.5. SOIL RE-USE REQUIREMENTS AND RESOURCE ARE COVERED IN SECTION 5 AND TABLE 2. PROCEDURES FOR STRIPPING, STORING AND REPLIACING SOILS SEE SECTION 6.

THE TOP 300MM LAYER OF COMPACTED TOPSOIL IN PLANTING AREA SHALL BE BROKEN UP PRIOR TO PLANTING. NO DIGGING OR SOIL CULTIVATION SHALL BE CARRIED OUT WITHIN THE ROOT SPREAD OF TREES AND SHRUBS TO BE RETAINED.

ALL PLANTS IN CONTAINERS WILL BE WATERED PRIOR TO PLANTING.

ALL PLANTING AREAS WILL BE HAND STONE PICKED BEFORE PLANTING COMMENCES.

STORAGE OF SOIL
SITE WON TOPSOIL WILL BE STORED IN LOCATIONS AS AGREED BY THE SITE MANAGER AND IN LINE WITH THE SOIL MANAGEMENT PLAN DOC REF: HTR-FUW-P2-RE-RM-W-0006
TREE AND SHRUB PLANTING
TIMING OF TREE PLANTING
ROOTBALLED TREES TO BE PLANTED NOVEMBER TO APRIL.
CONIFERS/ EVERGREENS/ CONTAINERISED PLANTING STOCK TO BE PLANTED SEPTEMBER/ OCTOBER OR APRIL/ MAY.

PREPARATION OF TREE PITS
APPROXIMATELY 1.0M X 1.0M X 1.0M DEEP, OR SUFFICIENT TO ALLOW 500MM CLEARANCE AROUND THE ROOTS. THE SOIL AT THE BASE OF THE PIT TO BE BROKEN UP BEFORE THE ROOTBALL IS POSITIONED.
ALL TREE PITS SHALL BE BACKFILLED WITH A PREVIOUSLY PREPARED MIXTURE OF TOPSOIL EXCAVATED FROM THE PIT AND ADDITIONAL TOPSOIL AS REQUIRED.

COMPOST
50 LITRES OF TREE PLANTING COMPOST TO BE SUPPLIED TO EACH PIT BEFORE SOIL IS BACKFILLED AND FIRMED AT A RATE OF ONE PART TREE PLANTING COMPOST TO THREE PARTS SOIL.

STAKES TO STANDARD TREES
STAKES TO BE SUPPLIED, MACHINE ROUNDED, POINTED AND TANALISED, 1.75M LONG WITH 1M BELOW GROUND. STAKES TO BE FIXED USING A BUCKLE, TREE TIE AND SPACER.

UNDERGROUND GUYING TO HEAVY STANDARD TREES
ALL PROPOSED TREES SHALL BE SECURED WITH LARGE ANCHOR STRAP SYSTEM WITH DRIVE IN LARGE HEAVY-DUTY ANCHORS, INCORPORATING A SUITABLE ROOT IRRIGATION/ AERATION SYSTEM, TO BE INSTALLED TO MANUFACTURER'S SPECIFICATION.

NATIVE PLANTING
TIMING OF PLANTING
DECIDUOUS SHRUBS TO BE PLANTED LATE OCTOBER TO MARCH/ APRIL.
EVERGREEN SHRUBS TO BE PLANTED SEPTEMBER / OCTOBER OR MARCH / MAY

SHRUB PLANTING PITS
SIZE OF PIT WIDE ENOUGH TO ACCOMMODATE ROOTS WHEN FULLY SPREAD AND 75MM DEEPER THAN ROOT SYSTEM.
BREAK UP BASE OF PIT TO A DEPTH OF 150MM, INCORPORATING 25G SLOW-RELEASE FERTILISER PER PLANTS PIT.
BACKFILLING MATERIAL: RE-USE EXCAVATED MATERIAL.

MARGINALS-AQUATIC PLANTING
POSITION MARGINAL PLANTING/ SEEDING ALONG THE BOUNDARY OF THE WETLAND AT WATERS EDGE (BETWEEN 38.5 AND THE 39.5 CONTOUR LEVEL).
PLANTS SHOULD BE PLANTED TO THE SAME DEPTH AS IN THE ORIGINAL CONTAINER.

WATERING
ALL PLANTED AREAS WILL BE WATERED AS APPROPRIATE AFTER PLANTING.

PLANT PROTECTION
CONTRACTOR TO REVIEW THE SITE AND CONTEXT TO INFORM PLANT PROTECTION STRATEGY. TREE / SHRUB SHELTERS OR PROTECTIVE FENCING.
CARE SHALL BE TAKEN TO AVOID COVERING LOW GROWING SPECIES.

SEEDING
TIMING OF SEEDING
SEEDING WORK WILL BE CARRIED OUT IN THE APPROPRIATE GROWING SEASON AND WHEN WEATHER CONDITIONS ARE SUITABLE.
SEED MIX IN ACCORDANCE WITH SUPPLIER'S RECOMMENDATION.

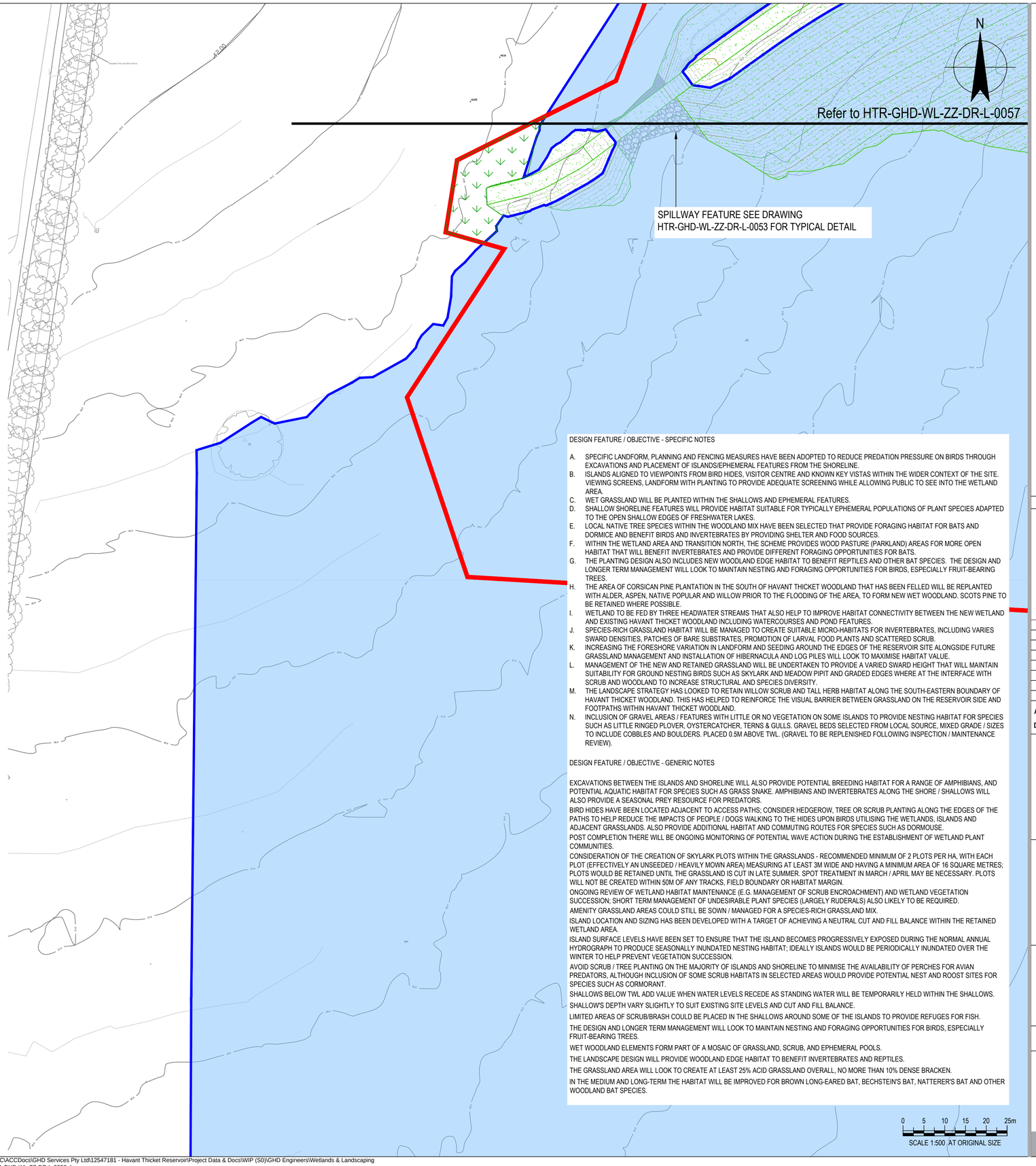
PREPARATION FOR SEEDING
THE CONTRACTOR SHALL ENSURE THAT ALL GRASS SEEDED AREAS DEVELOP INTO A HEALTHY, VIGOROUS GRASS SWARD, FREE FROM THE VISIBLE EFFECTS OF PESTS, WEEDS AND DISEASE. THEY SHALL FORM A CLOSELY KNIT, CONTINUOUS GROUND COVER OF EVEN DENSITY, HEIGHT AND COLOUR.

ALL SOILED AREAS WILL BE ROTARY CULTIVATED TO AT LEAST 300MM, STONE PICKED AND PROFILED LEVEL PRIOR TO SEEDING/ TURFING. ANY AREAS WHERE MACHINERY CANNOT GAIN ACCESS WILL BE PREPARED BY HAND. NO DIGGING OR SOIL CULTIVATION SHALL BE CARRIED OUT WITHIN THE ROOT SPREAD OF TREES AND SHRUBS TO BE RETAINED.

MOWING
REGULAR MOWING OF THE AMENITY GRASSLAND AREAS. MOWING ALL OR SOME OF THE SCRAPE / MARGINAL AREAS ANNUALLY MAY BE REQUIRED.
ANNUAL HAY / GRASSLAND CUT OF MEADOW HABITAT AREAS, ALLOWING FOR SEEDING BEFORE COLLECTING CUTTINGS.

WATERING
ALL GRASS AREAS WILL BE WATERED AS NECESSARY UNTIL ESTABLISHED.

WEED CONTROL
THE USE OF MULCH MATS AND BARK MULCH SHOULD BE CONSIDERED WITH HAND WEEDING DUE TO ECOLOGICAL SENSITIVITY. HERBICIDE USE SUBJECT TO AGREEMENT WITH LANDSCAPE ARCHITECT.




DESIGN FEATURE / OBJECTIVE - SPECIFIC NOTES

A. SPECIFIC LANDFORM, PLANNING AND FENCING MEASURES HAVE BEEN ADOPTED TO REDUCE PREDATION PRESSURE ON BIRDS THROUGH EXCAVATIONS AND PLACEMENT OF ISLANDS/EPHEMERAL FEATURES FROM THE SHORELINE.
B. ISLANDS ALIGNED TO VIEWPOINTS FROM BIRD HIDES, VISITOR CENTRE AND KNOWN KEY VISTAS WITHIN THE WIDER CONTEXT OF THE SITE. VIEWING SCREENS, LANDFORM WITH PLANTING TO PROVIDE ADEQUATE SCREENING WHILE ALLOWING PUBLIC TO SEE INTO THE WETLAND AREA.
C. WET GRASSLAND WILL BE PLANTED WITHIN THE SHALLOWS AND EPHEMERAL FEATURES.
D. SHALLOW SHORELINE FEATURES WILL PROVIDE HABITAT SUITABLE FOR TYPICALLY EPHEMERAL POPULATIONS OF PLANT SPECIES ADAPTED TO THE OPEN SHALLOW EDGES OF FRESHWATER LAKES.
E. LOCAL NATIVE TREE SPECIES WITHIN THE WOODLAND MIX HAVE BEEN SELECTED THAT PROVIDE FORAGING HABITAT FOR BATS AND DORMICE AND BENEFIT BIRDS AND INVERTEBRATES BY PROVIDING SHELTER AND FOOD SOURCES.
F. WITHIN THE WETLAND AREA AND TRANSITION NORTH, THE SCHEME PROVIDES WOOD PASTURE (PARKLAND) AREAS FOR MORE OPEN HABITAT THAT WILL BENEFIT INVERTEBRATES AND PROVIDE DIFFERENT FORAGING OPPORTUNITIES FOR BATS.
G. THE PLANTING DESIGN ALSO INCLUDES NEW WOODLAND EDGE HABITAT TO BENEFIT REPTILES AND OTHER BAT SPECIES. THE DESIGN AND LONGER TERM MANAGEMENT WILL LOOK TO MAINTAIN NESTING AND FORAGING OPPORTUNITIES FOR BIRDS, ESPECIALLY FRUIT-BEARING TREES.
H. THE AREA OF CORSICAN PINE PLANTATION IN THE SOUTH OF HAVANT THICKET WOODLAND THAT HAS BEEN FELLED WILL BE REPLANTED WITH ALDER, ASPEN, NATIVE POPULAR AND WILLOW PRIOR TO THE FLOODING OF THE AREA, TO FORM NEW WET WOODLAND. SCOTS PINE TO BE RETAINED WHERE POSSIBLE.
I. WETLAND TO BE FED BY THREE HEADWATER STREAMS THAT ALSO HELP TO IMPROVE HABITAT CONNECTIVITY BETWEEN THE NEW WETLAND AND EXISTING HAVANT THICKET WOODLAND INCLUDING WATERCOURSES AND POND FEATURES.
J. SPECIES-RICH GRASSLAND HABITAT WILL BE MANAGED TO CREATE SUITABLE MICRO-HABITATS FOR INVERTEBRATES, INCLUDING VARIES SWARD DENSITIES, PATCHES OF BARE SUBSTRATES, PROMOTION OF LARVAL FOOD PLANTS AND SCATTERED SCRUB.
K. INCREASING THE FORESHORE VARIATION IN LANDFORM AND SEEDING AROUND THE EDGES OF THE RESERVOIR SITE ALONGSIDE FUTURE GRASSLAND MANAGEMENT AND INSTALLATION OF HIBERNACULA AND LOG PILES WILL LOOK TO MAXIMISE HABITAT VALUE.
L. MANAGEMENT OF THE NEW AND RETAINED GRASSLAND WILL BE UNDERTAKEN TO PROVIDE A VARIED SWARD HEIGHT THAT WILL MAINTAIN SUITABILITY FOR GROUND NESTING BIRDS SUCH AS SKYLARK AND MEADOW PIPIT AND GRADED EDGES WHERE AT THE INTERFACE WITH SCRUB AND WOODLAND TO INCREASE STRUCTURAL AND SPECIES DIVERSITY.
M. THE LANDSCAPE STRATEGY HAS LOOKED TO RETAIN WILLOW SCRUB AND TALL HERB HABITAT ALONG THE SOUTH-EASTERN BOUNDARY OF HAVANT THICKET WOODLAND. THIS HAS HELPED TO REINFORCE THE VISUAL BARRIER BETWEEN GRASSLAND ON THE RESERVOIR SIDE AND FOOTPATHS WITHIN HAVANT THICKET WOODLAND.
N. INCLUSION OF GRAVEL AREAS / FEATURES WITH LITTLE OR NO VEGETATION ON SOME ISLANDS TO PROVIDE NESTING HABITAT FOR SPECIES SUCH AS LITTLE RINGED PLOVER, OYSTERCATCHER, TERNS & GULLS. GRAVEL BEDS SELECTED FROM LOCAL SOURCE, MIXED GRADE / SIZES TO INCLUDE COBBLES AND BOULDERS. PLACED 0.5M ABOVE TWL. (GRAVEL TO BE REPLENISHED FOLLOWING INSPECTION / MAINTENANCE REVIEW).

DESIGN FEATURE / OBJECTIVE - GENERIC NOTES

EXCAVATIONS BETWEEN THE ISLANDS AND SHORELINE WILL ALSO PROVIDE POTENTIAL BREEDING HABITAT FOR A RANGE OF AMPHIBIANS, AND POTENTIAL AQUATIC HABITAT FOR SPECIES SUCH AS GRASS SNAKE. AMPHIBIANS AND INVERTEBRATES ALONG THE SHORE / SHALLOWS WILL ALSO PROVIDE A SEASONAL PREY RESOURCE FOR PREDATORS.

BIRD HIDES HAVE BEEN LOCATED ADJACENT TO ACCESS PATHS; CONSIDER HEDGEROW, TREE OR SCRUB PLANTING ALONG THE EDGES OF THE PATHS TO HELP REDUCE THE IMPACTS OF PEOPLE / DOGS WALKING TO THE HIDES UPON BIRDS UTILISING THE WETLANDS, ISLANDS AND ADJACENT GRASSLANDS. ALSO PROVIDE ADDITIONAL HABITAT AND COMMUTING ROUTES FOR SPECIES SUCH AS DORMOUSE.

POST COMPLETION THERE WILL BE ONGOING MONITORING OF POTENTIAL WAVE ACTION DURING THE ESTABLISHMENT OF WETLAND PLANT COMMUNITIES.

CONSIDERATION OF THE CREATION OF SKYLARK PLOTS WITHIN THE GRASSLANDS - RECOMMENDED MINIMUM OF 2 PLOTS PER HA, WITH EACH PLOT (EFFECTIVELY AN UNSEEDED / HEAVILY MOWN AREA) MEASURING AT LEAST 3M WIDE AND HAVING A MINIMUM AREA OF 16 SQUARE METRES; PLOTS WOULD BE RETAINED UNTIL THE GRASSLAND IS CUT IN LATE SUMMER. SPOT TREATMENT IN MARCH / APRIL MAY BE NECESSARY. PLOTS WILL NOT BE CREATED WITHIN 50M OF ANY TRACKS, FIELD BOUNDARY OR HABITAT MARGIN.

ONGOING REVIEW OF WETLAND HABITAT MAINTENANCE (E.G. MANAGEMENT OF SCRUB ENCROACHMENT) AND WETLAND VEGETATION SUCCESSION; SHORT TERM MANAGEMENT OF UNDESIRABLE PLANT SPECIES (LARGELY RUDERALS) ALSO LIKELY TO BE REQUIRED.

AMENITY GRASSLAND AREAS COULD STILL BE SOWN / MANAGED FOR A SPECIES-RICH GRASSLAND MIX.

ISLAND LOCATION AND SIZING HAS BEEN DEVELOPED WITH A TARGET OF ACHIEVING A NEUTRAL CUT AND FILL BALANCE WITHIN THE RETAINED WETLAND AREA.

ISLAND SURFACE LEVELS HAVE BEEN SET TO ENSURE THAT THE ISLAND BECOMES PROGRESSIVELY EXPOSED DURING THE NORMAL ANNUAL HYDROGRAPH TO PRODUCE SEASONALLY INUNDATED NESTING HABITAT; IDEALLY ISLANDS WOULD BE PERIODICALLY INUNDATED OVER THE WINTER TO HELP PREVENT VEGETATION SUCCESSION.

AVOID SCRUB / TREE PLANTING ON THE MAJORITY OF ISLANDS AND SHORELINE TO MINIMISE THE AVAILABILITY OF PERCHES FOR AVIAN PREDATORS, ALTHOUGH INCLUSION OF SOME SCRUB HABITATS IN SELECTED AREAS WOULD PROVIDE POTENTIAL NEST AND ROOST SITES FOR SPECIES SUCH AS CORMORANT.

SHALLOWS BELOW TWL ADD VALUE WHEN WATER LEVELS RECEDE AS STANDING WATER WILL BE TEMPORARILY HELD WITHIN THE SHALLOWS.

SHALLOW'S DEPTH VARY SLIGHTLY TO SUIT EXISTING SITE LEVELS AND CUT AND FILL BALANCE.

LIMITED AREAS OF SCRUB/BRASH COULD BE PLACED IN THE SHALLOWS AROUND SOME OF THE ISLANDS TO PROVIDE REFUGES FOR FISH.

THE DESIGN AND LONGER TERM MANAGEMENT WILL LOOK TO MAINTAIN NESTING AND FORAGING OPPORTUNITIES FOR BIRDS, ESPECIALLY FRUIT-BEARING TREES.

WET WOODLAND ELEMENTS FORM PART OF A MOSAIC OF GRASSLAND, SCRUB, AND EPHEMERAL POOLS.

THE LANDSCAPE DESIGN WILL PROVIDE WOODLAND EDGE HABITAT TO BENEFIT INVERTEBRATES AND REPTILES.

THE GRASSLAND AREA WILL LOOK TO CREATE AT LEAST 25% ACID GRASSLAND OVERALL, NO MORE THAN 10% DENSE BRACKEN.

IN THE MEDIUM AND LONG-TERM THE HABITAT WILL BE IMPROVED FOR BROWN LONG-EARED BAT, BECHSTEIN'S BAT, NATTERER'S BAT AND OTHER WOODLAND BAT SPECIES.

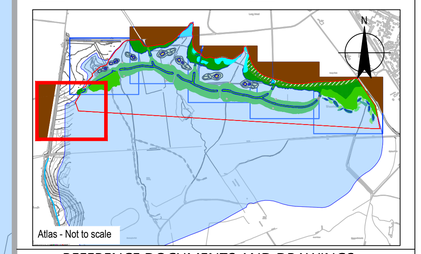
## NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE (UNO).
2. ALL LEVELS ARE IN METRES TO ORDINANCE DATUM UNO.
3. BIRD HIDE / INTERPRETATION BUILDING LOCATIONS SHOWN INDICATIVELY. DETAILS OF BIRD HIDE / INTERPRETATION BUILDINGS TO BE SUBJECT TO SEPARATE RESERVED MATTERS APPLICATION AS PART OF THE VISITOR CENTRE PHASE TO ENSURE CONSISTENCY OF DESIGN.
4. THE DETAILS OF HARD AND SOFT LANDSCAPING AS SHOWN ON THIS PLAN ARE SUBMITTED FOR RESERVED MATTERS APPROVAL. THE DETAILED PLANTING MIX, HARD LANDSCAPING MATERIALS SPECIFICATION AND THE DETAILED MANAGEMENT AND MAINTENANCE PROPOSALS FOR THE HARD AND SOFT LANDSCAPING WILL BE SUBMITTED SUBSEQUENTLY FOR THE DISCHARGE OF CONDITION 28. WHERE THOSE DETAILS ARE DESCRIBED ON THESE PLANS THIS IS TO AID THE UNDERSTANDING OF THE RESERVED MATTERS PROPOSALS. THE DETAILS TO BE SUBMITTED UNDER CONDITION 28 WILL ACCORD WITH THAT SHOWN ON THESE PLANS UNLESS OTHERWISE AGREED BY THE LPAS.

Key
- 39.5 contour - top water level for main reservoir
- RMA Application Boundary

Existing
- Vegetation to be retained
- Vehicle access / permissive path

Proposed
- Woodland
- Islands
- Wet woodland
- Raised landform
- Scrub mix
- Ephemeral shallow
- Wildflower seeding - EM5
- Gate
- Wet and Water Edge Mix - Barenbrug
- Stockproof fence
- A Design feature / objective (refer to sheet 1)
- Bird hide




## REFERENCE DOCUMENTS AND DRAWINGS

HTR-GHD-WL-ZZ-DR-L-0012 - WETLANDS RETAINING STRUCTURE, OVERALL DESIGN STRATEGY
HTR-GHD-WL-ZZ-DR-L-0050 - WETLANDS RETAINING STRUCTURE, LANDSCAPE AND ECOLOGY PROPOSALS
HTR-GHD-WL-ZZ-DR-L-0051 - WETLANDS RETAINING STRUCTURE, ACTIVE WATER CONTROL FEATURE - PENSTOCK DETAIL
HTR-GHD-WL-ZZ-DR-L-0052-55 - WETLANDS RETAINING STRUCTURE, SPILLWAY ARRANGEMENTS
HTR-GHD-WL-ZZ-DR-L-0056-61 - WETLANDS RETAINING STRUCTURE, LANDSCAPE GENERAL ARRANGEMENT PLANS 1-6.
HTR-GHD-WL-ZZ-DR-S-0062-65 - WETLANDS RETAINING STRUCTURE, ACTIVE WATER CONTROL PENSTOCK CHAMBER DETAILS.

| Rev | Description | Checked | Approved | Date |
|---|---|---|---|---|
| P07 | CLIENT COMMENTS | SWG | SWG | 06/03/2024 |
| P06 | CLIENT COMMENTS | SWG | SWG | 06/12/2023 |
| P05 | FOR APPROVAL | SWG | SWG | 29/11/2023 |
| P04 | FOR COMMENTS | SWG | SWG | 29/11/2023 |
| P03 | FOR COMMENTS | SWG | SWG | 23/11/2023 |
| P02 | CLIENT AMENDMENTS | SWG | SWG | 07/11/2023 |
| P01 | INITIAL ISSUE | SWG | SWG | 30/08/2023 |

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GHD

Project No. 12547181

Client PORTSMOUTH WATER

Project HAVANT THICKET RESERVOIR

Status FOR APPROVAL  Status Code S4

Drawing Title WETLANDS RETAINING STRUCTURE - LANDSCAPE GENERAL ARRANGEMENT SHEET 1 0F 6

Size A1

Drawing No. HTR-GHD-WL-ZZ-DR-L-0056  Rev P07