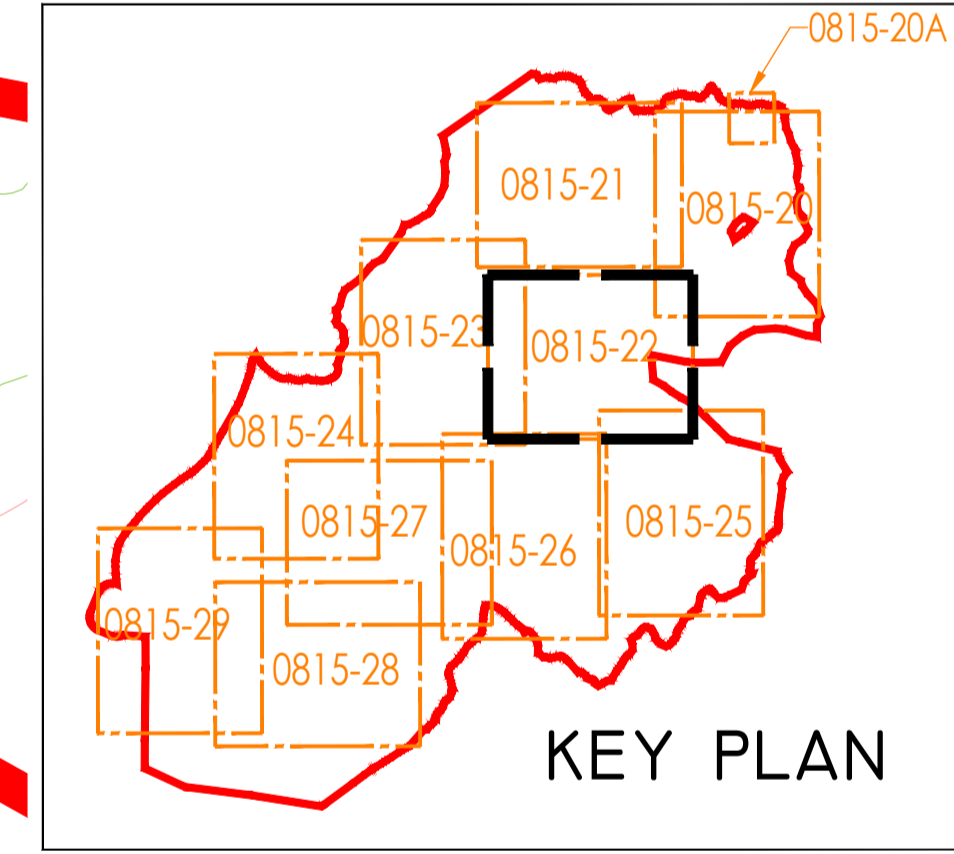


**DRAWING LEGEND :**

- RIVERS/STREAMS
- LAKES
- RIVERS/STREAMS 50M BUFFER
- LAKES 50M BUFFER
- EXISTING CULVERTS/BRIDGES
- UPSTREAM INTERCEPTOR DRAIN
- SWALES/DOWNSTREAM COLLECTOR DRAIN
- DIRECTION OF FLOW
- SILT FENCES
- DOUBLE/TRIPLE SILT FENCES
- SETTLEMENT POND - LEVEL SPREADER
- SETTLEMENT POND - VEGETATION FILTER - LEVEL SPREADER
- CHECK DAM 'TYPE A'
- CHECK DAM 'TYPE B'
- PROPOSED CULVERTS/BRIDGES
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP SETTLEMENT POND
- VS SEMI-NATURAL VEGETATION SWALE / FILTER BED / SECONDARY SP
- PUMPING SUMP
- SITE BOUNDARY
- EXISTING GROUND SURFACE MAJOR CONTOUR (10 M INTERVAL)
- EXISTING GROUND SURFACE INTERMEDIATE CONTOUR (5 M INTERVAL)
- EXISTING GROUND SURFACE MINOR CONTOUR (1 M INTERVAL)
- TURBINE AND SWEEP AREA
- TURBINE FOUNDATION
- EXISTING ROAD
- EXISTING ROAD TO BE UPGRADED
- PROPOSED ROAD
- FLOATING ROAD
- CRANE PLATFORM
- BORROW PIT
- PROPOSED CUT AREA
- PROPOSED FILL AREA

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- LAYOUT PLANS SHOW TYPICAL TURBINE ROTOR DIAMETER AS PER TURBINE DRAWING.



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Job: **ARDDERROO WF, Co. GALWAY**

Title: **Drainage Layout Sheet 3 of 10**

Figure No: **0815-22**

Drawing No: **P1227-8-1118-A1-0815-22-00A**

Sheet Size: **A1** Project No.: **P1227-8**

Scale: **1:2,000 (A1)** Drawn By: **GD**

Date: **21/11/2018** Checked By: **MG**

**DRAINAGE DESIGN NOTES**

- ALL DRAINAGE SUBJECT TO MICRO-SITING AND OPTIMISATION ON SITE.
- THE LOCATIONS OF THE INTERCEPTOR DRAINS, CHECK DAMS, CULVERTS, SWALES, STILLING PONDS AND LEVEL SPREADERS ARE SHOWN AS INDICATIVE, AND MAY BE CHANGED TO SUIT THE REQUIREMENTS OF THE LOCAL TOPOGRAPHY.
- SUPERVISING HYDROLOGIST OR ENVIRONMENTAL CLERK OF WORKS (ENVIRONMENTAL SCIENTIST) TO OVERSEE INSTALLATION OF DRAINAGE FEATURES FOLLOWING DETAILED DRAINAGE DESIGN.
- DRAINAGE MEASURES TO BE INSTALLED PRIOR TO, OR AT THE SAME TIME AS THE WORKS AREAS THEY ARE INTENDED TO DRAIN.
- DESIGN ELEVATION OF THE WATER SURFACE ALONG THE ROUTE OF THE INTERCEPTOR DRAINS OR SWALES WILL NOT BE LOWER THAN THE DESIGN ELEVATION OF THE WATER SURFACE IN THE OUTLET AT THE LEVEL SPREADER OR STILLING POND.
- THE SPACING AND FREQUENCY OF THE CHECK DAMS WILL BE DEPENDANT ON THE GRADIENT OF THE INTERCEPTOR DRAIN OR SWALE IN WHICH THEY ARE BEING INSTALLED.
- CHECK DAM DESIGN TO BE SELECTED BEST TO SUIT PARTICULAR TOPOGRAPHY AND HYDROLOGICAL ENVIRONMENT.
- DOWN GRADIENT SLOPE BELOW LEVEL SPREADER ONTO WHICH THE WATER WILL DISSIPATE TO HAVE A GRADE LESS THE 0.6%.
- NO DIRECT DISCHARGE OR PUMPING TO WATERCOURSES WILL BE PERMITTED. ALL DISCHARGES FROM LEVEL SPREADERS OR STILLING PONDS TO BE VIA VEGETATED FILTERS. SELECTION OF SUITABLE AREAS TO USE AS VEGETATION FILTERS WILL BE DETERMINED BY THE SIZE OF THE CONTRIBUTING CATCHMENT, SLOPE AND GROUND CONDITIONS.
- STILLING PONDS TO BE SIZED ACCORDING TO THE AREA THEY WILL BE RECEIVING WATER FROM.
- DIVERSION OF DRAINAGE DITCHES WILL ONLY TAKE PLACE WHEN ALTERNATIVE DRAINAGE DITCH HAS BEEN INSTALLED TO HANDLE THE SAME WATER.
- EXISTING DRAINS/DITCHES TO BE INCORPORATED OR REMOVED DURING WINDY FAIR CONSTRUCTION.
- ALL DRAINAGE SYSTEM FEATURES TO BE SUBJECT OF INSPECTION AND MAINTENANCE PLAN.
- THE LAYOUT SHOWN IS SLIGHTLY OFFSET FOR SCALE PURPOSES, AND ALL DRAINAGE WOULD BE INSTALLED AS CLOSE TO THE ROAD AS POSSIBLE.
- DRAINAGE ASSIGNED TO FLOATING ROAD SECTIONS OF THE LAYOUT WILL BE SUBJECT TO FURTHER OPTIMISATION IN PARALLEL WITH DETAILED GEOTECHNICAL DESIGN.

**MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE**

Management Type	Description of SUDS Drainage Control Methods
Avoidance Controls	1) APPLICATION OF 50M BUFFER ZONES TO NATURAL WATERCOURSES WHERE POSSIBLE 2) APPLICATION OF 50M BUFFER ZONES TO ARTIFICIAL DRAINAGE DITCHES WHERE POSSIBLE 3) USING SMALL WORKING AREAS 4) WORKING IN APPROPRIATE WEATHER AND SCHEDULING CERTAIN WORK ACTIVITIES IN ADVANCE OF FORECASTED WET WEATHER
SOURCE CONTROLS	1) USE OF UPSTREAM INTERCEPTOR DRAINS AND DOWNSTREAM COLLECTOR DRAINS / OVERSIZED SWALES, VEE-DRAINS, OVERFLOW DRAINS, FLUMES AND CULVERT PIPES 2) EROSION AND VELOCITY CONTROL MEASURES SUCH AS: a) SAND BAGS b) OYSTER BAGS FILLED WITH GRAVEL c) FILTER FABRICS d) OTHER SIMILAR EQUIVALENT OR APPROPRIATE SYSTEMS 3) USING SMALL WORKING AREAS 4) COVERING STOCKPILES 5) WEATHERING OFF / SEALING HEAT STOCKPILES
IN-LINE CONTROLS	1) INTERCEPTOR DRAIN, VEE-DRAIN, OVERSIZED SWALES/COLLECTOR DRAINS 2) EROSION AND VELOCITY CONTROL MEASURES SUCH AS: a) SAND BAGS b) OYSTER BAGS FILLED WITH GRAVEL c) FILTER FABRICS d) STRAW BALES e) FLOW LIMITERS f) WEIR OR BARRIERS g) AND/OR OTHER SIMILAR EQUIVALENT OR APPROPRIATE SYSTEMS 3) SILT FENCES, FILTER FABRICS 4) VEGETATION STRIPS 5) COLLECTION SUMP, TEMPORARY PUMPING SYSTEMS 6) ATTENUATION LAGOONS 7) SEDIMENT TRAPS, STILLING / SETTLEMENT POND
WATER TREATMENT CONTROLS	1) TEMPORARY SUMP 2) ATTENUATION POND 3) TEMPORARY STORAGE LAGOON 4) SEDIMENT TRAP, STILLING / SETTLEMENT POND 5) PROPRIETARY SETTLEMENT SYSTEMS SUCH AS SILTTRAP, AND/OR OTHER SIMILAR EQUIVALENT OR APPROPRIATE SYSTEMS 6) SILT DEWATERING BAGS
OUTFALL CONTROLS	1) LEVELHEADERS 2) SUPPLIED OUTFALLS 3) VEGETATION FILTERS 4) SILT DEWATERING BAGS 5) FLOW LIMITERS AND WEIRS