Parcel Terrain

Terrain Screening Report

7660-36-8797 · Jackson County, NC

REPORT	GENERATED	STUDY AREA	OWNER OF RECORD	ELEVATION
TR-2026-MCPPQ	September 24, 2026	77.18 acres	WAYEHUTTA LLC	State LiDAR · 3 ft

01 Summary

A single parcel of 77.18 acres in Jackson County, NC.

Measured mean slope across the study area is 40.6%, with 1,547 ft of relief. Approximately 4.79 acres — about 6% of the study area — fall under 15% slope.

3 candidate pad area(s) were identified. The largest is 15,140 sq ft at 19% mean slope, with an order-of-magnitude earthwork range of 1,770–3,287 cubic yards.

Approximately 3,758 ft of linear graded features consistent with existing roads or trails cross the study area.

02 Measurements

Study area	**77.18 acres**	1 parcel(s) · Jackson County, NC
Elevation	**2,518–4,065 ft**	1,547 ft of relief · State LiDAR · 3 ft
Slope	**40.6% mean**	median 41% · maximum 201.7%
Gentle ground	**4.79 acres**	6% of the study area under 15% slope
Candidate pad areas	**3**	largest 15,140 sq ft at 19% mean slope
Existing roads and trails	**3,758 ft**	across 10 separate stretches
Access to a building site	**9 of 9 reachable**	from the parcel boundary within 25% grade
Watercourses	**5,259 ft modelled**	459 ft published
Published soils	**5 map unit(s)**	Jackson County, North Carolina

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03 What the ground supports

Home development

BUYERS, AGENTS AND BUILDERS

Ground open to a building site under 30% slope, outside setbacks and drainage buffers	55.23 acres 71.6% of the study area
Candidate pad areas at least 2,000 sq ft, clear of a 10 ft property setback and drainage buffers	3
Largest candidate the largest square the measured slope supports	15,140 sq ft see section 04 for its dimensions and earthwork
Existing graded access at or under the 25% driveway grade	3,758 ft of the roads and trails found

Access and recreation

RECREATIONAL BUYERS, TRAIL AND CAMP USE

Ground at sustainable trail grade at or under 20% slope	7.52 acres 9.7% of the study area
Of that, easy grade at or under 10%	3.08 acres comfortable walking and general recreation
Roads and trails usable on foot mean grade at or under 20%	3,509 ft surface and condition not assessed

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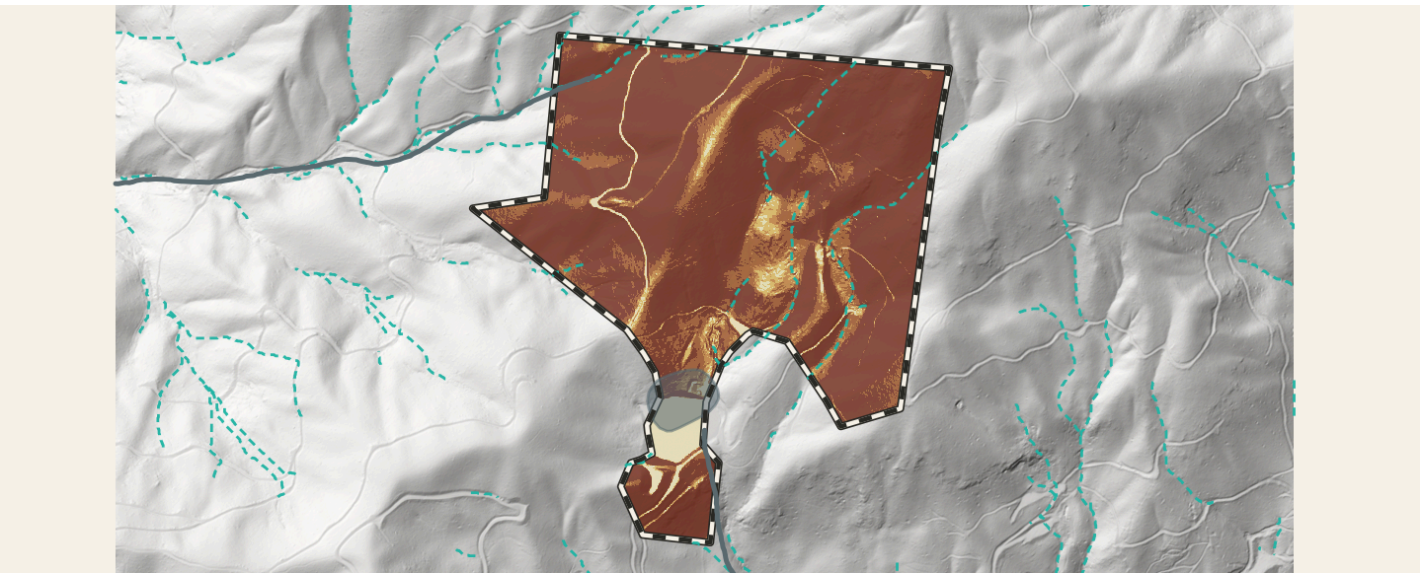
04 The ground, and what fits on it

MEAN SLOPE	UNDER 15% SLOPE	RELIEF	PARCELS
40.6%	**4.79ac**	**1,547ft**	**1**
Median 41%, maximum 201.7%	of 77.16 acres measured	2,518–4,065 ft	single parcel



0–10%	10–15%	15–20%	20–30%	Over 30%

Slope distribution across the study area

CLASS	RANGE	SHARE	ACRES	PERCENT
Ideal	0–10%		3.08	4%
Moderate	10–15%		1.71	2.2%
Challenging	15–20%		2.73	3.5%
Difficult	20–30%		10.64	13.8%
Severe	Over 30%		58.99	76.5%

Ground is steep and consistently so: the median is 41%, close to the 40.6% mean, so the slope is spread across the parcel rather than concentrated in one face. 76.5% of the study area falls in the steepest class. The 6% under

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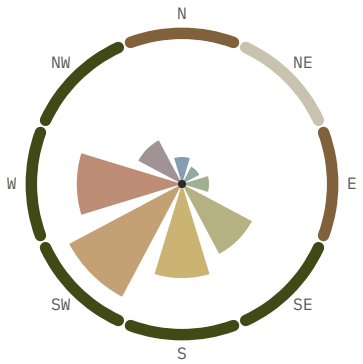
15% is where building, access and septic all compete for the same ground.

Aspect and views

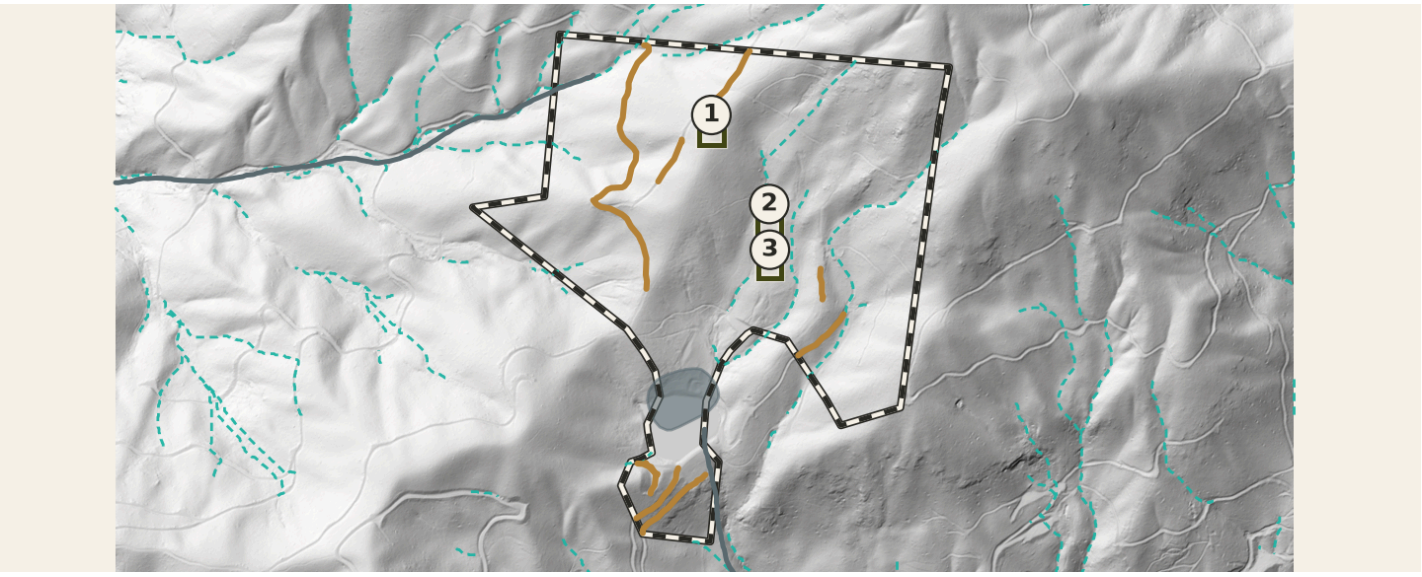


Petal length: share of ground facing that way. Outer ring: measured view range — long, mid, short.

The ground faces mostly SW (29%) and W (23%). The gentle ground faces predominantly S (30%). From the strongest candidate area, nothing in the modeled terrain rises to block the line of sight to the SE, S, SW, W (horizon at 0° or barely above it) — consistent with long-range views that way; ridgelines close in to the NE (17.1° at the steepest), holding those views short-range.

> Steepness is spread across the whole study area rather than concentrated in one face — the median (41%) sits close to the mean (40.6%).
>
> Most of the study area — 76.5% — falls in the steepest class.
>
> 4.79 acres (6%) sit under 15% slope. Building, access and septic all compete for that ground.

Candidate pad areas



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Ordered by achievable size. Criteria: at least 2,000 sq ft under 30% slope, clear of a 10 ft property-line setback and drainage buffers.

AREA	SIZE, SQ FT	MEAN SLOPE	CUT, YD³	FILL, YD³	EARTHWORK, YD³
Area 1 123.0 ft square	15,140	19%	1,264	1,264	1,770–3,287
Area 2 123.0 ft square	15,140	14.3%	1,119	1,119	1,566–2,909
Area 3 117.0 ft square	13,699	16.5%	1,093	1,093	1,530–2,841

> The largest candidate is 15,140 sq ft — comfortably above the 2,000 sq ft minimum searched for, so size is not the binding constraint here.

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05 Solar exposure

TREE CANOPY	OPEN GROUND	WOODED GROUND
89%	**1.78ac**	**73.84ac**
parcel mean, as published	under 50% canopy	at or above that canopy

DAY	MEAN DIRECT SUN	POSSIBLE DAYLIGHT
Winter solstice	8.2 h	9.6 h
Equinox (spring and fall)	10.2 h	12 h
Summer solstice	11.9 h	14.4 h
Sunniest candidate pad, winter solstice	9.5 h	–
Canopy over candidate area 1	89%	–

Screening assumptions and per-kW estimate *A clear-sky screening ceiling for comparing ground, not a production forecast — assumptions: NREL PVWatts loss factor 0.86, clear-sky irradiance 846 W/m². Indicative estimate: on the order of 1,600 kWh per year for each 1 kW of panels on open ground here.*

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06 Access

9 of 9 candidate pad area(s) can be reached by a route holding 25% or less. Where more than one way onto the parcel exists, each is shown separately — which entrance is the practical one is often knowledge the ground holds and elevation data does not.

TO	ENTERING BY	LENGTH	MEAN GRADE	STEEPEST	ON EXISTING ROAD	STREAM CROSSINGS
Area 1	NW road	2,001 ft	12.3%	24.8%	72%	0
Area 1	SW road	3,300 ft	12.2%	24.8%	42%	0
Area 1	Watson Br Rd	2,204 ft	14.1%	24.8%	42%	0
Area 2	NW road	2,129 ft	7.8%	24.8%	69%	0
Area 2	SW road	2,055 ft	11.6%	24.7%	24%	0
Area 2	Watson Br Rd	798 ft	14.7%	22.8%	0%	0
Area 3	NW road	2,094 ft	7.8%	24.8%	71%	0
Area 3	SW road	1,769 ft	10.8%	24.7%	28%	0
Area 3	Watson Br Rd	513 ft	13.9%	22.8%	0%	0

What is already cut in

EXISTING ROADS AND TRAILS

3,758ft

across 10 separate stretches

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Existing graded features, longest first

FEATURE	LENGTH	MEAN GRADE	STEEPEST
Feature 1	994 ft	3.3%	10.7%
Feature 2	586 ft	2.9%	6.5%
Feature 3	446 ft	7%	15.7%
Feature 4	352 ft	7.9%	13.5%
Feature 5	347 ft	6.6%	10.1%
Feature 6	318 ft	9.2%	12%
Feature 7	248 ft	21%	24.5%
Feature 8	197 ft	3.7%	11.2%
Feature 9	159 ft	6.9%	11.1%
Feature 10	112 ft	5.3%	12.1%

> From the NW road: reaches areas 1, 2 and 3. Routes run 2,001–2,129 ft, steepest 24.8%. Holding grade needs up to 1 switchback(s).
>
> From the SW road: reaches areas 1, 2 and 3. Routes run 1,769–3,300 ft, steepest 24.8%. Holding grade needs up to 1 switchback(s).
>
> From the Watson Br Rd: reaches areas 1, 2 and 3. Routes run 513–2,204 ft, steepest 24.8%. Holding grade needs up to 1 switchback(s).

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07 Water

Published streams within the study area	459 ft
Modeled drainage concentration from elevation	5,259 ft
Area within the 50 ft setback applied to both	15.64 ac

Wells on record

No groundwater well is on record with the USGS within 1 mile(s) of the study area. An empty record is not absence of wells or of water — most private wells predate reporting and never enter this inventory.

> 15.64 acres fall inside the 50 ft setback applied to watercourses and are held out of the pad search.
>
> 3 mapped wetland feature(s) intersect the study area. Confirm with a wetland professional before disturbing ground.

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08 Water in the landscape

SWALE-BAND CONTOUR
268ft
across 3 segment(s) — shorter benches; none met the standard run

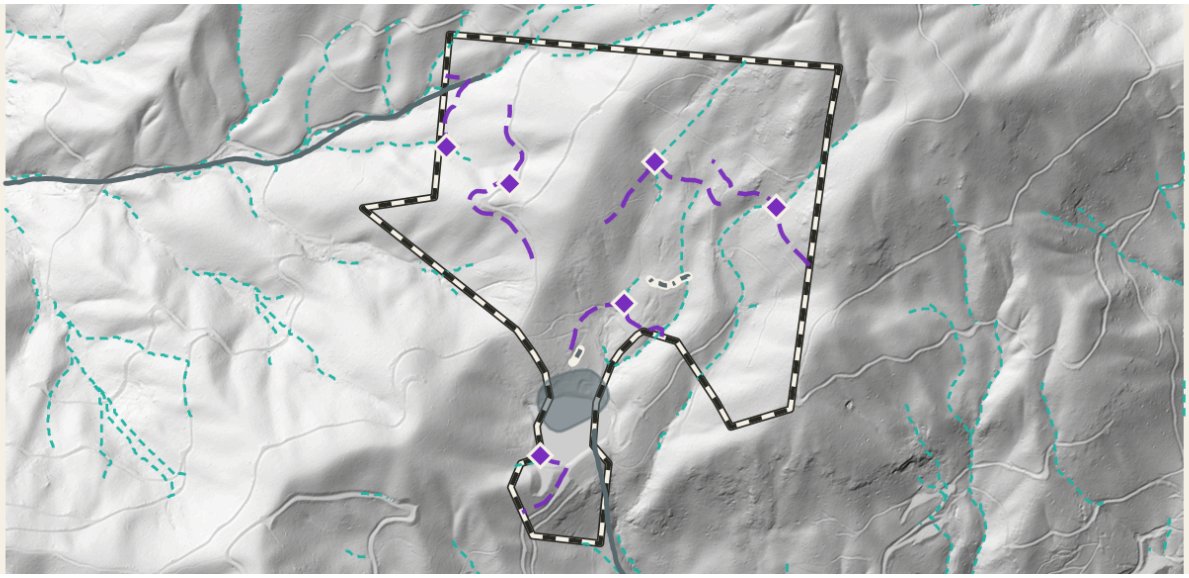
CANDIDATE POND AREAS
0
on modeled drainage off mapped streams

KEYPOINTS
6
keyline contour drawn through each

TERRACE-PRACTICE GROUND
13.37ac
where terrace practice applies instead

AVERAGE RAINFALL
54.8in/yr
NASA POWER climatology

MICRO-HYDRO SCREENING
427–853W
399 ft head · 12.8–25.7 gpm average



Candidate swale segments, highest ground first

ELEVATION	LENGTH	GROUND SLOPE	BAND	EST. CUT
3,382 ft	93 ft	15.6%	upper	10 yd³
3,382 ft	96 ft	11.8%	ideal	11 yd³
3,310 ft	79 ft	13.9%	ideal	9 yd³

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Keypoints, highest ground first

ELEVATION	UPSLOPE CATCHMENT	RAIN ON CATCHMENT
3,535 ft	9.7 ac	44.3 ac·ft/yr
3,496 ft	2.8 ac	12.8 ac·ft/yr
3,416 ft	1.1 ac	5 ac·ft/yr
3,323 ft	4.2 ac	19.2 ac·ft/yr
3,299 ft	5 ac	22.8 ac·ft/yr
3,271 ft	2.8 ac	12.8 ac·ft/yr

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09 What the published record says

Soils

Which soils are mapped across this parcel, how much of it each covers, how each drains, and what USDA publishes about septic tank absorption fields on each.

MAP UNIT	ON PARCEL	SLOPE	DRAINAGE	SEPTIC TANK ABSORPTION FIELDS
Evard-Cowee complex EvE Evard-Cowee complex, 30 to 50 percent slopes — major component Evard (50%)	56 ac 73% of parcel	30–50%	Well drained	Very limited Slope; Depth to bedrock; Slow water movement
Evard-Cowee complex EvD Evard-Cowee complex, 15 to 30 percent slopes — major component Evard (50%)	12.4 ac 16% of parcel	15–30%	Well drained	Very limited Slope; Slow water movement; Depth to bedrock
Trimont gravelly loam TrF Trimont gravelly loam, 50 to 95 percent slopes, stony — major component Trimont (80%)	4.1 ac 5% of parcel	50–95%	Well drained	Very limited Slope; Slow water movement
Saunook gravelly loam SaD Saunook gravelly loam, 15 to 30 percent slopes — major component Saunook (75%)	3.1 ac 4% of parcel	15–30%	Well drained	Very limited Slope; Seepage, bottom layer; Slow water movement
Open water (pond or lake) W Water — open water, the pond or lake on the parcel, outlined by the soil survey. Not a soil; no drainage or septic data is published for it.	1.8 ac 2% of parcel	—		

Survey source and scale

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> 5 published soil map units cross the study area, so published conditions are not uniform — where test pits are placed will matter.

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10 Hazards

Flood

Zone X — Area Of Minimal Flood Hazard — as published by FEMA, DFIRM 37099C.

Wetland mapping

3 mapped wetland feature(s) intersect the study area in the National Wetlands Inventory.

TYPE AS PUBLISHED	CODE	MAPPED ACRES	LOCATION
Freshwater Pond	PUBHh	2.05	On the study area
Riverine	R5UBH	14.35	On the study area
Riverine	R5UBH	35.91	On the study area

Mapping scale and limits *Compiled from aerial imagery at survey scale: mapped positions are approximate and may sit offset from current imagery, and neither a mapped feature nor its absence is a finding about this ground. Forested wetlands under closed canopy are what this mapping most often misses.*

Landslide

No mapped landslide feature intersects this study area, and none is mapped within 1 mile of it.

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11 Neighboring parcels

9 parcel(s) adjoin the study area: 6 under individual names, 1 under companies, 1 in trusts, and 1 publicly held — this parcel adjoins public land.

Adjoining parcels, largest first

OWNER OF RECORD	TYPE	ACRES
U.S. FOREST SERVICE	public	2,050.23
MCGUIRE, FRED P TRUSTEE	trust	114.37
MCGUIRE, DAVID S	individual	114
MCGUIRE, F PATRICK	individual	96.4
SWEAT MCGUIRE ENTERPRISES LTD	company	63.67
MCGUIRE, DAVID S	individual	30.98
WOOD, CURTIS W JR	individual	22.16
SAUNDERS, MICHAEL S II	individual	6.71
MCGUIRE, DANA H	individual	2.07

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12 What to ask next

Licensed Soil Scientist	USDA rates every rated map unit here 'Very limited' for septic tank absorption fields, naming slope; slow water movement; depth to bedrock, Ask which candidate areas can be evaluated on the ground. Only this professional may evaluate the parcel for a septic system.
Excavation contractor	Area 1 carries an order-of-magnitude range of 1,770–3,287 cubic yards. Ask what that implies for machine access, haul and rock, and whether cut and fill can balance on site. The NW road route already follows existing grading for 72% of its length — ask what re-using that grading would take, versus cutting new.
Licensed engineer	The strongest candidate area averages 19% slope — a moderate cross-slope. Ask about foundation approach at that grade, cut and fill batter, retaining structures, and stormwater.
Licensed geologist or geotechnical engineer	No landslide feature is mapped here — and absence is not a finding. On ground averaging 40.6% slope, ask whether the inventory covers this county and what the measured slopes call for. This report evaluates none of it.
Surveyor	Published (77.19 ac) and measured (77.18 ac) acreage agree closely, but both rest on the same approximate GIS boundary — ask for a survey before money depends on where a line runs.
Wetland professional	3 mapped wetland feature(s) intersect this study area — the Hazards section shows where. Ask whether an on-the-ground determination is warranted; disturbance is regulated by the U.S. Army Corps of Engineers.
Well driller or hydrogeologist	No groundwater well is on record with the USGS within 1 mile(s) of this study area — and an empty record is not absence of wells or of water; most private wells never enter it. Ask who has drilled nearby and what they found.
Title professional	About 3,758 ft of existing roads and trails cross this study area — whose are they, and may you use them? Right of access is a title question elevation data cannot answer. The strongest access options enter along an existing road — confirming the right to use it comes first.
NRCS district conservationist or earthworks contractor	Walk the candidate swale lines and pond areas in the water section with the county's NRCS district conservationist before moving any dirt — conservation practice standards, cost-share programs, and the permits a pond needs all start there.

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Parcels in this study area

PARCEL	OWNER OF RECORD	ADDRESS	PUBLISHED	ACRES
7660-36-8797	WAYEHUTTA LLC	1111 SI KNOB RD Cullowhee		77.19

Published record

PARCEL	7660-36-8797
LEGAL DESCRIPTION	TR 1-4 WATSON BRANCH RD
DEED REFERENCE	Book 1777, Page 167 Take this to an attorney or surveyor for title and boundary questions.
COUNTY ASSESSMENT	$335,348 Assessed value for tax purposes as published by the county. This is not an appraisal and not a market value.
LAST RECORDED TRANSFER	2008-12-12 No price published for this transfer, which is common.
STRUCTURES ON RECORD	1 Total footprint 1,650 sq ft
ZONING	No zoning published for this parcel Common in rural areas; local ordinance may still apply — confirm with the county planning office.

The county's published record, which may lag recent transactions.

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SOURCES AND METHODOLOGY

Parcel boundaries and attributes	Jackson County, NC GIS parcel records
Elevation	NC OneMap Statewide QL2 LiDAR DEM — 3 ft native, analysed on a 3.0 ft grid. DTM (bare earth).
Published hydrography	USGS National Hydrography Dataset
Modeled drainage threshold	2.0 acre contributing area — indicative, not locally calibrated
Published soils	USDA NRCS SSURGO — Jackson County, North Carolina
Published flood	FEMA National Flood Hazard Layer
Rainfall climatology	NASA POWER (public domain), study-centroid annual mean
Tree canopy	USFS NLCD Tree Canopy, as published
Water-management practice basis	The keyline system (P.A. Yeomans); permaculture water-harvesting practice (B. Mollison; B. Lancaster; G. Lawton; popularized for homesteaders by The Survival Podcast). Engineering standard of care: USDA NRCS Conservation Practice Standard — Pond. Screening thresholds are practitioner guidance, indicative and not locally calibrated.
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Slope is calculated from bare-earth elevation using Horn's method and reported as rise over run. Elevation is a terrain model, not a surface model: it describes the ground, not vegetation or structures. Class boundaries are indicative starting values, not locally calibrated. Published datasets are displayed as published, without modification. Approximate boundary from public GIS — not a survey.

NOTES AND LIMITATIONS

- Approximate boundary from public GIS — not a survey. Parcel geometry is approximate public GIS and has not been located on the ground. Elevation is a bare-earth terrain model — the ground, not vegetation or structures — and slope is measured from it as rise over run, reported as a percentage, not degrees.
- Candidate pad areas, candidate corridors and use screens are screening results measured from elevation data against stated thresholds. The thresholds are indicative starting values, not locally calibrated; the results have not been located on the ground and do not establish that anything may be built. Septic permitting, soils, title and local ordinance also decide each use and are not evaluated here. Earthwork ranges are order-of-magnitude planning figures balancing cut against fill, and exclude clearing, rock, access, drainage and retaining structures.
- Solar figures are estimated direct-sun hours from the parcel's slope, aspect and surrounding terrain horizon on representative days; a clear-sky screening ceiling, not a production forecast. Candidate pad areas are drawn at true footprint size and numbered by rank, with existing graded features and drainage excluded from the search. View range classes are terrain-horizon measurements over bare earth; standing timber can screen any line of sight.
- Published datasets — soils, flood, hydrography, wetland and landslide inventories — are displayed as published by their agencies, without modification, and carry those agencies' own vintages and limitations. Neither a mapped feature nor its absence is a finding about this ground; much of the region has never been systematically mapped. Where a septic tank absorption fields interpretation is shown, it is USDA

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NRCS's own published rating for the soil map unit, reproduced as published; it is not a determination about this parcel and cannot replace a soil and site investigation by a Licensed Soil Scientist.

- Candidate water-management areas — swale segments, pond areas and keypoints — are screening patterns read from measured slope and drainage modeled from elevation, in the tradition of the keyline system and permaculture water harvesting. They are not construction specifications, hydrologic studies, or statements that a structure will hold water. Swale volumes assume a modest hand-buildable cross-section and are order-of-magnitude figures. Pond construction is regulated: impounding a stream generally requires federal permits, most states regulate dams, and USDA NRCS publishes the applicable practice standard. Mapped wetlands and flood zones are excluded from every suggestion. On this parcel, ground that would otherwise qualify overlapped mapped wetland or flood areas and was excluded rather than suggested.
- Existing graded features are found where measured slope is markedly gentler than the surrounding hillside; detection is fragmentary under dense canopy and some benches are natural rather than cut, so the total is a floor rather than an inventory. Trail grades are sustained-grade guidance, not a construction specification — legal right of access, surface condition and maintenance cannot be established from elevation data.
- This report is informational screening only: it aggregates and visualizes publicly available data. It is NOT a soil evaluation, geologic assessment, land survey, or engineering design, and must not be relied upon as such. Nor is it a geotechnical investigation or a soil suitability determination.
- Consult appropriately licensed professionals before making development or purchase decisions. A soil and site evaluation by a Licensed Soil Scientist is required to determine septic feasibility. This report does not evaluate it. Published landslide mapping records past events and deposits. Interpreting what any of it means for building on this land is the work of a licensed geologist or geotechnical engineer. This report does not evaluate it.