



LAND RESOURCES OF TEXAS

BUREAU OF ECONOMIC GEOLOGY
THE UNIVERSITY OF TEXAS AT AUSTIN

Scale 1:500,000
1 inch equals approximately 8 miles
Datum is mean sea level

Contour interval 200 feet
Supplemental 100 foot contour in coastal region

Base compiled by the U. S. Geological Survey 1927 North American Datum conformal cone projection based on standard parallels 27° and 41°.
Land Resources Index by Bureau of Economic Geology Cartographic Staff.
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1977

EVALUATION OF LAND RESOURCE UNITS

UNITS	POTENTIAL RESOURCES* AND NATURAL SUITABILITY	RECOMMENDED USE CONSIDERATIONS	UNITS	POTENTIAL RESOURCES* AND NATURAL SUITABILITY	RECOMMENDED USE CONSIDERATIONS
A1	Recharge sand ground-water development, sand and gravel extraction, rangeland, recreation, satisfactory foundation conditions	use and monitor solid-waste disposal sites, widely disperse and monitor septic systems	D9	Karst limestone and gypsum terraces high-purity gypsum, crushed limestone, local ground-water development, range land, local recreation, satisfactory foundation conditions	limit solid-waste disposal, limit livestock, monitor septic systems, evaluate artificial ground-water recharge potential
A2	Fractured sand aquifers limited, shallow ground-water development, rangeland, recreation	use and monitor waste disposal sites, widely disperse and monitor septic systems, avoid damage to dunes and vegetation, design foundations to withstand storms	D10	Shallow salt domes sulfur, salt, oil and gas	evaluate radioactive-waste disposal potential
A3	Edwards recharge zone ground-water development, rangeland, recreation	land use in this area must comply with Texas Water Quality Board regulations	D11	Faiths sand, gravel, topsoil, local ground-water development, rangeland, wildlife recreation, wildlife preserve	evaluate potential for reclamation
A4	Secondary aquifers ground-water development, dimension stone, crushed stone, timber in East Texas, rangeland, recreation, satisfactory foundation conditions	evaluate aquifer potential, monitor waste disposal sites and septic systems	E1	Flood-prone areas sand, gravel, topsoil, local ground-water development, rangeland, wildlife recreation, wildlife preserve	evaluate structures above potential flood level, design foundations to withstand flooding, discuss potential for flood damage, restrict waste disposal, protect buried cables and pipelines, evaluate artificial ground-water recharge and surface-water storage potential
B1	Massive limestone dimension stone, crushed stone, high-purity limestone, lime, ground-water development, rangeland, satisfactory foundation conditions	use and monitor solid-waste disposal sites, disperse and monitor septic systems, avoid solid-waste disposal in abandoned quarry pits	E2	Lane and cross-bedded dells oil, topsoil, rangeland, recreation, wildlife preserve, protection from major floods	design structures to avoid subsidence from and to withstand floods, avoid excessive disintegration, protect buried cables and pipelines, seal and monitor solid-waste disposal sites
B2	Thin-bedded limestone crushed stone, road base material, local ground-water development, rangeland, satisfactory foundation conditions	use and monitor solid-waste disposal sites, disperse and monitor septic systems, avoid solid-waste disposal in abandoned quarry pits	E3	Aluvial fans potential local ground-water development	high flood potential
B3	Potential cement material cement material, rangeland, crop, satisfactory foundation conditions	use and monitor solid-waste disposal sites, disperse and monitor septic systems, avoid solid-waste disposal in abandoned quarry pits	E4	Playas cropland, natural water ponding	avoid construction, monitor solid-waste disposal sites and fixtures, protect buried cables and pipelines
B4	Caliche with soil cover road base material, crop, satisfactory foundation conditions		E5	Aluvial fans avoid construction, restrict waste disposal	
B5	Caliche road base material, satisfactory foundation conditions		E6	Bowls recreational uses not requiring permanent structures	control waste disposal, avoid construction, limit excavation; subject to intense wind-aided activity and flooding in coastal zone
B6	Clay mud and sandstone coal and lignite, sand, clay, crushed stone (in limestone beds), rangeland, local recreation, solid-waste disposal*	reclaim mine areas	E7	Windblown sand rangeland, wildlife habitat	use and monitor solid-waste disposal sites, widely disperse and monitor septic systems
B7	Onion clay and lignitic shales onion clay, lignitic shales, local ground-water development, satisfactory foundation conditions, solid-waste disposal*	use and monitor solid-waste disposal sites, monitor septic systems, reclaim mine areas	E8	Sand dunes fore-land dunes provide a natural barrier to hurricane storm surge	avoid construction, restrict waste disposal, protect buried cables and pipelines, avoid excavation, avoid denigration, prohibit vehicles
B8	Granite sandstone iron ore extraction in northeast Texas, soil conditioner, road base material, rangeland, crop, satisfactory foundation conditions	use and monitor solid-waste disposal sites	E9	City dunes wildlife habitat	avoid construction, restrict waste disposal, avoid denigration
B9	Gypsum and siltstone gypsum, rangeland	concrete structures require special design, protect buried cables and pipelines	E10	Tidal flats and subaqueous tidal flats recreation, fishing, navigation, maintaining natural circulation between Gulf and bay, other uses of fish and shrimp to nursery and feeding grounds in bays	design construction to maintain natural circulation, dredging of inlets will require permanent structures, prohibit waste disposal
B10	Conglomerate sand, gravel, crushed stone, rangeland, satisfactory foundation conditions		E11	Windward flaps and tidal flats recreational uses not requiring permanent structures	restrict waste disposal, avoid construction, limit excavation, protect buried cables and pipelines; subject to rapid and sudden inundation and to moderate wave erosion
B11	Siltstone sand and gravel sand, gravel, local ground-water development, rangeland, crop, satisfactory foundation conditions	use and monitor solid-waste disposal sites, widely disperse and monitor septic systems	E12	Bay-margin sand and shoals recreation, fishing	design piers or platforms to avoid disturbance of natural water flow and avoid placement of structures; subject to rapid and sudden inundation and to moderate wave erosion
B12	Limestone sand and gravel sand, gravel, local ground-water development, rangeland, crop, satisfactory foundation conditions	use and monitor solid-waste disposal sites, widely disperse and monitor septic systems	E13	Maintained beaches recreation	restrict waste disposal, designate traffic corridors, design piers and jetties to avoid disturbance of natural beach equilibrium, avoid construction
B13	Tuffaceous sand and mud tuffaceous, full's earth, volcanic ash, local uranium extraction, timber in East Texas, rangeland, solid-waste disposal*, local impoundment of water	protect buried cables and pipelines, design foundations and septic systems for expansion and corrosion soils, design septic systems for adequate drainage	E14	Potential hurricane surge dunes avoid construction, restrict waste disposal, protect and deeply bury cables and pipelines, avoid permanent structures	evaluate artificial habitat, sport fishing, hunting, nature study, high biological productivity
B14	Sand and mud with lignite and bentonite lignite, bentonite, local ground-water development, timber in East Texas, rangeland, solid-waste disposal*, water impoundment	protect buried cables and pipelines, design foundations for expansion and corrosion soils, design septic systems for adequate drainage, reclaim mine areas	F1	Fresh-water marsh suitable wildlife habitat, sport fishing, hunting, nature study, high biological productivity	preserve natural state, limit draining, flooding, or filling, restrict waste disposal, restrict use of backhoes or near machines, avoid construction
C1	Expansive clay mud and expanded aggregate rangeland, crop, satisfactory foundation conditions, solid-waste disposal*, impounding water*	avoid construction on clay slopes, protect buried cables and pipelines, avoid construction on flood, design septic systems for adequate drainage	F2	Swamp suitable wildlife habitat, sport fishing, hunting, nature study, limited logging, high biological productivity	preserve natural state, limit draining, flooding, or filling, restrict waste disposal, restrict use of backhoes or near machines, avoid construction
C2	Expansive clay mud and hard limestone rangeland, crop, satisfactory foundation conditions, solid-waste disposal*	avoid construction on clay slopes, protect buried cables and pipelines, avoid construction on flood, design septic systems for adequate drainage	F3	Beach to salt-water marsh sport fishing, hunting, nature study, spawning grounds for shrimp and fish, very high biological productivity	preserve natural state, limit draining, flooding, or filling, restrict waste disposal, restrict use of backhoes or near machines, avoid construction
C3	Lime mud cement material, road base material, rangeland		F4	Marine grasslands hunting, fishing, crabbing, shell oyster boating, spawning and nursery grounds for fish, very high biological productivity	restrict waste disposal, avoid construction, restrict dredging or filling which may decrease or limit biological productivity
C4	Hard limestone and limy mud (landflowed) crushed stone, road base material, rangeland, suitable foundation conditions, solid-waste disposal*, impounding water*	design septic systems for adequate drainage	F5	Oyster reefs oyster shell, fishing, harvesting of oysters, boating, feeding grounds for fish, high biological productivity	avoid dredging of dead reefs to maintain natural circulation and to avoid excessive turbidity or silt disposal that may damage living reefs, restrict waste disposal, avoid construction
C5	Sand and mud (landflowed) timber in East Texas, local ground-water development, rangeland, crop, solid-waste disposal*	monitor solid-waste disposal sites	G1	River-influenced bay recreation, fishing, navigation, high biological productivity	monitor to prevent release of wastes and contaminants, plan construction or disposal of spoil to avoid alteration of natural bay circulation
C6	Hard sandstone, mud, and limestone (landflowed) road base material, rangeland, satisfactory foundation conditions		G2	Restricted bay recreation, fishing, navigation, high biological productivity	monitor to prevent release of wastes and contaminants, plan construction or disposal of spoil to avoid alteration of natural bay circulation
C7	Moderately hard sandstone crushed stone		G3	Open bay recreation, commercial and sport fishing, navigation, high biological productivity	monitor to prevent release of wastes and contaminants, plan construction or disposal of spoil to avoid alteration of natural bay circulation
C8	Hard sandstone and conglomerate (landflowed) road base material, rangeland, satisfactory foundation conditions		G4	Tidally influenced open bay recreation, commercial and sport fishing, navigation, high biological productivity	monitor to prevent release of wastes and contaminants, plan construction or disposal of spoil to avoid alteration of natural bay circulation
C9	Lower surface sand rangeland, crop, satisfactory foundation conditions	use and monitor solid-waste disposal sites, widely disperse and monitor septic systems, avoid denigration	G5	Intertidal flats recreation, fishing, spawning and feeding grounds for fish, high biological productivity	monitor natural bay circulation, monitor to prevent release of wastes and contaminants
C10	Gypiferous red bed with dolomite rangeland	avoid construction in collapse areas, protect buried cables and pipelines, design concrete structures to withstand erosion	G6	Shoreline sand recreation, fishing, boating, navigation	design piers and jetties to avoid disturbance of natural sediment movement, design structures to withstand erosion conditions, restrict waste disposal
C11	Fractured, evenly dipping rangeland rangeland		H1	Surface-water storage areas water supply, recreation, navigation, fishing, hunting	restrict waste disposal, avoid discharge of contaminants; strong liability for concentrating brooklets and other pollutants
C12	Hard crystalline rock building stone, crushed stone		H2	Wetlands, forests, and parks recreation, wildlife preserve	government regulated, use with consideration of natural resource units present
D1	Diverse mountain terrain and low-land limestone rock recreation		H3	Urban areas recreation, construction, fill material	bulkhead shoreline margins, establish vegetation where possible before construction, restrict waste disposal, protect buried cables and pipelines
D2	Desert mountain terrain and low-land limestone rock recreation		H4	Urban areas recreation, construction, fill material	bulkhead shoreline margins, establish vegetation where possible before construction, restrict waste disposal, protect buried cables and pipelines
D3	Tonnes sand, gravel, local ground-water development, rangeland, crop	may be subject to flooding; use and monitor solid-waste disposal sites, widely disperse and monitor septic systems	H5	Subaqueous spoil construction of offshore platforms and bridge abutments, fill material	special studies required, restrict waste disposal, establish marine vegetation where possible, protect buried cables and pipelines
D4	Inactive alluvial fan and deep wash deposits sand, gravel, local ground-water development				
D5	Severely eroded beds highly susceptible to flooding and erosion				
D6	Undissected red beds copper, uranium, rangeland				
D7	Dissected red beds copper, uranium, rangeland				
D8	Basemap topography road base material, rangeland	use and monitor solid-waste disposal sites, widely disperse and monitor septic systems			

*Location of commercial deposits may require extensive exploration and site evaluation and consideration of economic factors.
*Detailed on-site investigation should precede location of all waste disposal facilities.