

# Environmental Factors

The following are questions to take into consideration when evaluating whether the following environmental assessment factors have an environmental impact under NEPA. Do not limit the review to only the questions provided, and address each question as applicable. Please provide details and documentation where necessary.

## Land Development:

### Conformance with Plans / Compatible Land Use and Zoning / Scale & Urban Design

#### Conformance with Plans

##### Overview

It is important that a proposed project be consistent with a community's long-range goals and policies as articulated in its comprehensive plans. Most cities and communities, and even some neighborhoods, have medium (5-year) to long-range (25-year) plans that express the community's vision for development.

Comprehensive or land use plans are intended to encompass plans and goals relating to a wide variety of areas including, but not limited to, transportation, housing improvement, recreation, adequate capacity in schools, sufficient emergency service levels, coastal zone restrictions, health, economic development, and utilities; and serve as a basis for rezoning or special use requests. These plans are prepared by a variety of agencies and boards, including municipal and county government, special districts, area-wide planning agencies and state agencies. These and potentially other municipal interests may have overlapping land use requirements; meaning, the need to comply with all appropriate land use reviews may entail approvals from more than just a single unit of government. An assessment of the degree of conflict or consistency with local and regional plans must take into account the decentralized preparation and implementation of plans, both on a geographic and an administrative or governmental basis. Some communities require that local zoning be consistent with adopted plans.

##### Experts to Contact

- Local and Regional Planning Agency
- Zoning Review Officer or Administrator
- Planning Commission/Director
- State Planning Office

##### Questions to Consider

1. Consider how the proposed project is consistent with the community's comprehensive plan. Where appropriate, provide the plan's name, date of approval, and upload the relevant page(s).
2. Will the project be unduly influenced by a planned transition of land uses?

## Compatible Land Use and Zoning

### **Overview**

The man-made environment consists of differing types of land use: commercial, industrial, residential, recreation, and open space. It also takes place in areas of differing land use density. Central city areas, particularly along the East Coast, contain higher densities of development than rural areas, small towns or newer western communities. In terms of residential uses, density is measured by number of dwelling units or people per unit per land area (people/unit/acre). In most communities density is governed by the local zoning ordinance. Issues to consider under this category are:

- Urban impact—certain types of federally assisted activities can have an adverse impact on the economic viability of a city's central business district. For example, situating a HUD-assisted shopping center at the fringe of a city could undermine the financial stability of downtown commercial establishments. Similarly, HUD-funded infrastructure improvements made at the edge of an urbanized area (e.g. sewer and water lines) could induce sprawled development in undeveloped portions of a community resulting in environmental and social costs. The impacts of induced development to achieve managed growth through the efficient use of available and publically-funded infrastructure are consistent with federal sustainability objectives. HUD-funded infrastructure improvements made in the inner city may stimulate private investment and thereby help revitalize a lagging section of a community.
- Land use compatibility—certain types of land uses may be incompatible with one another. For example, it may be incompatible to locate a new housing development in a newly industrialized area.

A community's zoning ordinance is the principal legal tool available for the implementation of its comprehensive plan and for the definition of the community's land use policies. Zoning regulates development patterns including construction, alteration, and use of buildings, structures, or land.

Land uses are single-family (1-4 unit) residential, multi-family residential, office, commercial, light industrial, heavy industrial, institutional (e.g., hospital, city hall), recreational, agricultural, or open space. Existing land uses do not always conform to the current zoning classification and may indicate the need to obtain local approval. For example, a vacant gas station (commercial use) may be currently zoned for residential use; a proposed commercial use may not be currently compatible with the existing land use.

A proposed project may not be in conformance with existing zoning but may be consistent with the community's general development plans and policies. Such projects may require either a change in the zoning or a special permit through an appeals process. The need for a change in the zoning should not, by itself, be interpreted as an adverse environmental effect. However, failure to thoroughly secure appropriate land use approval by municipal interests will prevent development from proceeding.

Certain land uses are inherently incompatible and, in some circumstances and when co-located without adequate buffering and mitigation, could cause a significant impact. HUD-funded projects must consider how the project will be adversely impacted by ill-suited land uses or, alternatively, how the project itself could impose or create adverse impacts. An example of this is - if the proposed project is an industrial use, locating it near residential uses could impose noise, odors, and other adverse impacts upon the residential uses.

### **Experts to Contact**

- Local and Regional Planning Agency
- Zoning Review Officer or Administrator
- Planning Commission/Director
- State Planning Office

### **Questions to Consider**

1. What is the current zoning classification of the project location?
2. What is the existing land use at the project location?
3. How does the project relate to the existing land uses of the adjacent and surrounding properties?

### **Scale & Urban Design**

#### **Overview**

Visual quality can be defined as the impact of the project on the visual character of its surroundings and ultimately, on the residents, users and/or visitors of the project. Visual quality derives from the way elements of the natural and built environment relate to each other to create a sense of harmony. Ideally, the overall effect of these elements is to give the viewer a sense of orientation and comprehension, and to enable the viewer to orient himself in the area. Visual impact should be examined in terms of the surrounding area of the project. Examine the project in view of how it fits in with its man-made and natural surroundings. Will the project add to the attractiveness of the area or detract from it? Where changes are required, beneficial effects should be designed into the project (e.g., landscaping).

Elements that comprise the natural environment include the natural contours of the land, bodies of water, vistas of the sky, and trees and plants. These provide contrast to the built environment and create visual interest.

Any kind of physical construction related to the project will affect the natural elements. Construction which is not adapted to the contours of the land is out of character with the site. Buildings that block views or cast shadows, cut and fill operations that ignore natural contours, the filling of wetlands, removal of trees and vegetation are other examples of site use insensitivity.

Elements of the built environment include the surrounding buildings and streets. The different styles and types of buildings and their materials, colors, shapes, sizes, facades, details and density all add to the character of the area. Their placement in relation to the street and to each other can help provide a sense of harmony or create interesting skylines and views.

Streets and streetscapes are another major component of the built environment. Variables here are the size, width, paving and curb materials, lighting fixtures, signs and street furniture such as benches. The vitality of activity strongly affects the character of an area. Projects that are closed, windowless or undifferentiated at the sidewalk level may seriously mar the public perception of safety and livability of the surrounding area.

A number of factors should be examined in determining the compatibility of a new building with the existing area. Buildings which open up views or block or degrade them or which become themselves focal points will affect the visual quality. Other factors include the size, design, materials, and siting of the building or buildings. However, buildings which do not copy their neighbors in materials or design are not necessarily incompatible.

### **Experts to Contact**

- City Architect, Urban Design staff
- Local American Institute of Architects, American Society of Landscape Architects or American Planning Association
- Local Conservation and Historic Commissions

### **Questions to Consider**

1. How will the project alter the land form? Will the project demonstrably destroy or alter the natural or man-made environment? For example, will there be clearance of trees or buildings or alteration of the geomorphic form of the land?
2. How does the project “fit” or conform within the surrounding and established built environment, in terms of overall scale, density, size, and mass?
3. Will there be intrusion of elements out of character or scale with the existing physical environment?
4. Does the proposed building represent a significant change in size, scale, placement, or height in relation to neighboring structures in an inappropriate manner?
5. Does the project affect building density in the community?
6. Are the changes resulting from any induced development regarded by the community as beneficial or negative?
7. How does the project’s design relate to the context of its surroundings?
8. Are levels of activity reduced or detrimentally increased? Does the project enhance street-level activity and community interaction?
9. Is signage and street furniture in character with existing architectural styles? Does it differ in materials, color, or style from its neighbors in an inappropriate manner?
10. Does the project conform to locally adopted design guidelines?

## **Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff**

### **Soil Suitability**

#### **Overview**

Soil suitability is the physical capacity of a soil to support a particular land use. To be suitable for a building, for example, the soil must be capable of adequately supporting its foundation without settling or cracking. The soil should be well drained so that basements remain dry and septic systems can be installed in localities not served by sewers. Soil depth is an important factor and must be adequate for the excavation of basements, sewers, and underground utility trenches. Surface soils need to be capable of supporting plantings. How well a soil is able to support development is a function of several factors including its composition, texture, density, moisture content, depth, drainage, and slope. Surface and bedrock geological conditions also affect site suitability for development.

Development Issues: Some soils have poor drainage or poor permeability qualities. Some soils have high shrink-swell, frost action, or side seepage potential. Each of these characteristics may cause problems for development if appropriate mitigation measures are not included in project design. Problems for development can also arise with soil characteristics combined with other features of the site including height of the water table, slope stability, and potential of subsidence or settling of soils due to the extraction of mineral and geological deposits beneath the surface.

Soil conditions which are adverse to development can be overcome by installation of drainage, replacement with structural fill, or use of special foundations; however, these measures can significantly add to project costs or conflict with resource management goals such as preservation of floodplains or farmlands. In certain urban areas the high cost of available land may justify the high cost and potential resource impacts associated with these measures. In suburban and rural localities these factors may justify the selection of an alternative development site.

#### **Resources to Reference/Experts to Contact**

- USDA Soil Survey available at the county/parish USDA service center or online at <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
- Architect/engineer - local building department, HUD field office
- Soil conservationist - Soil Conservation Service county office
- Highway department soils engineer
- Geologist-Soils specialist

#### **Questions to Consider**

1. Is there evidence of ground subsidence, seismic activity, a high water table, or other unusual conditions on the site?
2. Is there any visible evidence of soil problems (foundation cracking or settling, basement flooding, etc.) in the neighborhood of the project site?
3. Were structural borings or a dynamic soil analysis / geotechnical study needed and conducted? If so, please discuss the findings of the report.
4. Are there visual indications of filled ground? If your answer is yes, was a 79(g) report / analysis submitted?
5. Will the project site significantly affect or be affected by unsuitable soil conditions?

6. Will the project significantly affect soils that may be better suited for natural resource management activities such as farming, forestry, unique natural area preservation, etc.?

## Slope

### **Overview**

Slope refers to changes in the physical features of the land: elevation, orientation, and topography. Such alteration is associated with construction on hillsides where changes in the visual character of the site may occur and where slope instability, erosion, and/or drainage problems may result. In some localities, hillsides are likely to house native plant communities which could be lost as a result of topographic alteration.

Improper grading will often alter the surface water flow and may cause flooding for the site and the surrounding property owners.

Excessive grading will often alter the groundwater level, which may cause the slow death of trees and ground cover and in turn destroy wildlife habitat.

Since erosion, slope stability, and drainage characteristics depend not only on the steepness of the slope but also on the material composition, soil suitability needs to be considered in any analysis of slope conditions.

### **Resources to Reference/Experts to Contact**

- USDA Soil Survey available at the county/parish USDA service center or online at <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
- USGS topographic maps available through various map providers
- Civil engineer
- Geologist
- Soils scientist

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**Slope Suitability for Urban Development**  
**Slopes Suitable for Development by Land Use Type**

<b>Limitations</b>	<b>Suitability Rating</b>	<b>Residential</b>	<b>Commercial</b>	<b>Industrial Park</b>
Slight	Optimum	0-6%	0-6%	0-2%
Moderate	Satisfactory	6-12%	6-12%	2-6%
Severe	Marginal	12-18%	12-18%	6-12%
Very Severe	Unsatisfactory	18 + %	18 + %	12 + %

Adapted from: Kiefer, Ralph W. "Terrain Analysis for Metropolitan Fringe Area Planning," Journal of the Urban Planning Division, Proceedings of the American Society of Civil Engineers, December 1967.

Moechnig, Howard, Inventory and Evaluation of Soils for Urban Development (St. Paul HRA C.P. District 6 -North End), Ramsey Soil and Water Conservation District.

### **Questions to Consider**

1. Is the site on a slope? If so please define: slight, moderate, severe, or very severe (see chart above).

2. Is there a history of slope failure in the project area?
3. Is there visual indication of previous slides or slumps in the project area, such as cracked walls, tilted trees, or fences?
4. Will the project site significantly affect or be affected by slope conditions? If so, does its design plan include measures to overcome potential slope stability problems?
5. Will slope modification activities remove micro-climatic conditions that facilitate the growth of unique natural habitats (e.g., northwest facing slopes occupied by plant communities from cooler regions)?
6. Will the slope modification activities affect social and cultural resources?

## **Erosion**

### **Overview**

Erosion, transport, and sedimentation are the processes by which the land surface is worn away (by the action of wind and water), moved, and deposited in another location. While commonly considered an agricultural problem, erosion in the urban context resulting from land clearance and construction can be equally serious. In urbanized areas, erosion can cause structural damage in buildings by undermining foundation support. It can pollute surface waters with sediment and increase the possibility of flooding by filling river or stream channels and urban storm drains.

Erosion results from the interaction of physical characteristics (topography, soil type, and groundcover), wind and water action, and human use at any one site. Some soils are less stable than others and are consequently more susceptible to erosion. Loosely consolidated soils (e.g., sands) and those of small particle size (e.g., fine silts) are more susceptible to erosion. By contrast, soils with high moisture and clay content are more resistant to erosion. Wind erosion is most likely to occur in arid or semi-arid regions where the low moisture content reduces the cohesiveness of indigenous soils.

A key factor in erosion is the land cover. Undisturbed vegetated areas are less susceptible to erosion than surfaces which have been exposed. Steep slopes (often defined as 123/4 +) increase the velocity of runoff, so erosion is more likely with greater slope.

### **Resources to Reference/ Experts to Contact**

- USDA Soil Survey available at the county/parish USDA service center or online at <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
- City or county engineer
- Soil conservationist—Soil conservation service county office
- Landscape architect
- Soils engineer—State or local highway department

### **Questions to Consider**

1. Is there evidence of erosion or sedimentation?

2. If site clearance is required, explain if it includes removal of vegetation, its effects, and how erosion will be managed and controlled.
3. Is an erosion control plan included as part of construction and the construction contract?
4. Will the project site significantly affect or be affected by erosion or sedimentation conditions? If so, does the design plan include measures to overcome potential erosion problems?

### Drainage/ Storm Water Runoff

#### **Overview**

Stormwater management and its relationship to a proposed new development can be an essential determinant of whether a project is to be constructed. Stormwater is usually removed from an impermeable surface (e.g., pavement and buildings) by natural flow, storm sewers, or combined (storm and sanitary) sewers. It is discharged into a surface water body, a permeable recharge area, or temporary storage areas. In assessing impacts to stormwater service facilities, two factors must be considered: 1) the proximity of the system to the site and 2) the capacity of the system to accommodate the project.

#### **Resources to Reference/ Experts to Contact**

- USDA Soil Survey available at the county/parish USDA service center or online at <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
- USGS topographic maps available through various map providers.
- Engineer—City/county public works or engineering department or local/district stormwater management/disposal agency
- Engineer/planner—HUD field office or local planning department
- State and regional natural resource management agencies

#### **Questions to Consider**

1. Is there indication of cross-lot runoff, swales, or drainage flows on the property?
2. Are there visual indications of filled ground, active rills, or gullies on site?
3. Will existing or planned storm water disposal and treatment systems adequately service the proposed development? Will the proposed project be adversely affected by proximity to these facilities?
4. If the public storm sewer is not available, how will storm water drainage be handled?
5. Is state/regional/local permitting required to control stormwater run-off, e.g., a National Pollution Discharge Elimination System (NPDES) permit? If so, what conditions will be required by the permit?
6. Will the project itself cause or substantially contribute to off-site pollution by stormwater run-off, leaching of chemicals, or other pollutants?



7. Will the project site significantly affect or be affected by drainage and stormwater conditions? If so, does its design plan include measures to overcome potential runoff problems?

### Hazards and Nuisances/ Including Site Safety and Noise

#### **Overview**

This category is concerned with ensuring that a project is located and designed in a manner which reduces any potential risk to the public or project users from both natural and man-made risks to people or property damage. Accordingly, a number of possible hazards to health and safety have been identified below. Many of these hazards may be subject to municipal regulation. For example, standards for adequate light and air, building density, construction materials, structural integrity, maintenance, and cleanliness are contained in local zoning, building, and health codes. Their enforcement is often independent of environmental assessment procedures. The environmental assessment should particularly include those areas which are not covered by code requirements. Many can be corrected through proper siting, sound planning, and good project design.

#### **Experts to Contact**

- Seismologist
- District officers of the Army Corps of Engineers or Federal Emergency Management Agency (FEMA)
- Local fire departments

#### **Questions to Consider**

1. Will the project be affected by any of the following hazards?

Natural hazards, including, but not limited to:

- Earthquakes - faults, fracture
- Volcanoes
- Landslides
- Fire-prone areas
- Droughts
- Floods
- Cliffs, bluffs, crevices
- Wind / sand storm concerns
- Hazardous terrain
- Poisonous plants, insects, animals

Man-made site hazards, including, but not limited to:

- Recreational areas located next to freeway or other high traffic way
- Dangerous intersection
- Inadequate separation of pedestrian / vehicle traffic
- Hazardous cargo transportation routes
- Unfenced railroads or highways
- Unfenced water bodies
- Unfenced construction sites

- Shadows
- Inadequate street lighting
- Uncontrolled access to lakes and streams
- Improperly screened drains or catchment areas
- Quarries or other excavations
- Dumps/sanitary landfills or mining
- Reclaimed phosphate land (radioactive)
- Hazards in vacant lots
- Chemical tank-car terminals
- Other hazardous chemical storage
- High-pressure gas or liquid petroleum transmission lines on site
- Overhead transmission lines
- Oil or gas wells
- Industrial operations
- Gas, smoke, or fumes

Air pollution generators, including but not limited to:

- Heavy industry
- Incinerators
- Power generating plants
- Rendering plants
- Fugitive dust
- Cement plants
- Large parking facilities (1000 or more cars)
- Heavy travelled highway (6 or more lanes)
- Oil refineries

2. Will the project be affected by any of the following nuisances?

- Gas, smoke, fumes
- Odors
- Vibration
- Glare from lighting from industrial or commercial uses or parking lots
- Vacant / boarded-up buildings
- Unsightly land uses
- Front lawn parking
- Abandoned vehicles
- Vermin infestation

3. Is the project itself a noise-generating facility in a noise-sensitive area, such as a site in close proximity to schools and housing?

## Energy Consumption

### Overview

Energy is a scarce and valuable resource. It has become increasingly important to both design and to locate new facilities in a way which minimizes energy usage.

Maximizing opportunities for energy efficiency can be incorporated in nearly all phases of project planning, location selection, site planning, and building design. The location of new facilities in central areas with close proximity to mass transportation, employment, shops, schools and services can reduce energy consumed for transportation. The reuse of existing buildings can both cost less and save more energy than new construction. Site planning should take into account the role which trees and topography can play in sheltering a structure from climatic extremes (wind, heat, and cold). Southward-facing sites receive maximum solar input, an important consideration in northern climates during the colder months. The final consideration is the incorporation of energy saving measures in building design, such as the usage of extra insulation, use of efficient heating, cooling, and hot water systems (possibly solar), use of double-glazed windows which open and close, and use of fluorescent rather than incandescent lights. Other measures include the reduction in the number of parking spaces provided to encourage carpooling and/or transit usage.

### **Experts to Contact**

It may be necessary to consult with an engineer, architect and/or energy auditor/rater to determine if the design fully exploits potential energy saving measures. Qualified energy efficiency consultants may include those certified under the Home Energy Rating System (HERS) training and certification program. Direct contact with utility companies is suggested to determine the availability of rebates and incentives. Local utility companies and, in some cases, public works staff can assist in determining adequacy of available power service to meet the need of the proposal.

### **Questions to Consider**

1. If the project entails residential new construction or substantial rehabilitation of single-family housing or multi-family buildings up to three-stories, is the project being designed and constructed to meet the current version of the Energy Star performance standard?
2. Have the architectural plans and building orientation taken full advantage of potential energy saving measures related to climate, sun and wind? Are Energy Star appliances, lighting heating, cooling and hot water systems to be installed? Does the project include programmable thermostats, occupancy sensors in common areas, water filters, insulated hot water pipes, and/or point-of-use/tankless hot water heaters?
3. Is the proposal being rated under LEED, Enterprise Green Communities, or other green standard or sustainability program?
4. Is the location of the project in close proximity to transit, shopping, services and employment locations?
5. Are state and federal rebates, tax incentives for energy efficiency strategies, and renewable energy components being considered?
6. For multi-family projects, is there individual metering for utilities or a tenant energy efficiency education program?

7. Is there an opportunity to enter into an energy performance contract?
8. What is the estimated energy consumption of the proposal, and are the energy resources of the utility provider sufficient to support the proposal?
9. Are renewable energy strategies being implemented in this project? If this is a rural project, was on-site energy generation considered (wind, fuel cell, or solar) in lieu of or in addition to a grid connection?
10. What are the projected greenhouse gas (GHG) emissions of the project upon full occupancy? Are they significant?
11. Does the estimated energy consumption of the proposal require a significant increase in energy production for the energy provider?

## **Socioeconomic:**

### **Employment and Income Patterns**

#### **Overview**

Employment-related impacts of a project can be grouped into three broad categories: temporary jobs created in construction, permanent jobs created and the job requirements of new residents.

Employment and income patterns can be measured by identifying the occupations and income levels characteristic of an area's resident population or by identifying major employers within the area. Some of the measures commonly used include resident income, resident occupational distribution, unemployment levels, and job types of major employers.

#### **Experts to Contact**

- Local industrial development authority
- Economist at state employment service
- Planner/administrator at local planning or employment agency
- Chamber of Commerce

#### **Questions to Consider**

1. Will the project either significantly increase or decrease temporary and/or permanent employment opportunities?
2. What is the profile of new jobs created by the project? What is the distribution across the skills and income scale? How do these relate to the skills and income profile of project area residents?
3. Will the new jobs likely go to area residents, low-income, unemployed, and minority group members?
4. If the jobs don't go to area residents, where are the new employees likely to come from (i.e., inner city, suburbs)?

## Demographic Character Changes, Displacement

### Demographic Character Changes

#### **Overview**

Community is a term which commonly refers to people living within a defined geographic area such as a neighborhood or a small town. Communities can be highly diverse or highly homogeneous places, they can be strictly residential or characterized by mixed land uses. HUD programs are primarily intended to benefit low- and moderate-income households with the objective of increasing housing opportunities for low-income/minority households.

Central to the definition of community is both the presence of a residential population and a sense of common bond and collective identity which defines the community as distinct from other neighborhoods or communities. Community is often a difficult term to define because it carries a physical, social, and a psychological dimension. The physical dimensions are the quality and type of housing units and commercial, public, and social services. The social dimensions include demographic characteristics such as the population size, density, age, ethnic and minority composition, household size and composition, and income and employment characteristics. Much of this data is found in the U.S. Census.

Another dimension of community is the residents' sense of community—their perceived relationship with their surroundings. It can be measured from resident attitudes, and the strength of organizational ties, both formal and informal. It should be observed, however, that change per se is not a negative or positive thing. In doing this assessment, it is important to be aware of the social networks and institutions which characterize a neighborhood. In many cities neighborhoods exist where residents have strong ties to the area, each other, local stores, and institutions. Often these are ethnic areas where residents share a common cultural and religious heritage. It is important that HUD activities not destroy the social networks and institutional ties in these areas.

#### **Experts to Contact**

- Neighborhood planner at local planning department
- Director of local neighborhood organizations
- Housing code compliance office/local health or building department
- Local community action agencies
- Local advocacy groups and/or organizations

#### **Questions to Consider**

1. What is/are the identifiable community(ies) within the sphere of likely impact of the proposed project? What are the factors which contribute to the character of the community(ies)?
2. Does the proposed project contribute to reducing or significantly altering the racial, ethnic, or income segregation of the area's housing?
3. Will the proposed project result in physical barriers or difficult access which will isolate a particular neighborhood or population group, making access to local services, facilities, and institutions or other parts of the city more difficult?

4. Does the proposed project at this site create a concentration of low income or disadvantaged people, in violation of HUD site and neighborhood standards and HUD Environmental Justice policies?

## **Displacement**

### **Overview**

Displacement refers to the dislocation of people, businesses, institutions, or community facilities as a result of a project. Direct displacement is involuntary displacement of a person who occupies property that is acquired, rehabilitated, or demolished for a HUD-funded activity, vacated to comply with HUD-assisted code enforcement, or specifically identified in a grant application as the site of a leveraged activity. Only displacement as a result of acquisition by a public agency is covered by the Uniform Relocation Act. Indirect displacement is involuntary displacement caused by an activity or event that is not HUD-assisted but which is supported by concentrated HUD activities. For example, this would include displacement caused by rapidly increasing rents made possible by revitalization of an area in which HUD-funded rehabilitation or street improvements are taking place.

### **Experts to Contact**

- Relocation specialist at local community development agency
- Relocation specialist at HUD Field Office

### **Questions to Consider**

1. Will the project directly displace individuals or families? How many persons? Is the displacement covered by the Uniform Relocation Act and are funds available for payment?
2. Will the project destroy or relocate existing jobs, community facilities, or any business establishments? Is the displacement covered by the Uniform Relocation Act, and are funds available for payments?
3. Are replacement facilities or housing units available within the community or in a nearby neighborhood? What will be the effect of the relocation on these neighborhoods?
4. Will the project result in probable indirect displacement? If so, have measures been planned to alleviate the hardship on those affected whose displacement is not covered under the Act?

## **Community Facilities and Services:**

### **Educational and Cultural Facilities**

#### **Overview**

There are two fundamental considerations regarding a HUD activity's relationship to and/or impact on elementary, junior, and senior high schools: adequate capacity for children in the school(s) and safe access.

In order to accurately establish the extent to which these two criteria should apply, an initial calculation must be made detailing the projected increase in student population to be created by the proposed development. This calculation can be accomplished by contacting the developer or sponsor for mix of unit types (i.e., 1-bedroom, 2-bedroom dwellings), and contacting the school administrator or superintendent for an estimated average number of school-age children per unit type.

If the proposed project will overcrowd the schools consider such alternative options as:

- Building additions to existing schools
- Locating classroom space in nearby buildings (i.e., community centers or other commercial facilities, possibly owned by the developer)
- Providing transportation to other schools

Safe access takes into account the possible need for transportation to school and attention to potential traffic hazards. Specific issues include:

- Existence of all-weather walking paths and proximity to bus stop(s), schools, and crosswalks
- Crossing guards (especially for elementary school children)
- Clearly marked intersections near school or bus stop(s)

#### **Experts to Contact**

- School superintendent
- Developer or sponsor of proposed HUD project
- Traffic department

#### **Questions to Consider**

1. What is the projected increase in student population to be created by the proposed development?
2. Will the additional school age children exceed the capacity of the existing or planned school facilities? If so, what measures will be taken to resolve potential problems/conflicts?
3. Does the potentially affected school(s) have adequate and safe access facilities (i.e. walking paths, bus routes, crosswalks and guards) given any calculations done for projected population increase? Are these adequate both in terms of safety and access?
4. Will additional or alternative facilities have to be provided to ensure safety and suitable access?

### **Commercial Facilities**

#### **Overview**

There are two key considerations in assessing commercial facilities. The first is an evaluation of the adequacy of existing commercial facilities to service the development. Are these facilities located conveniently to the proposed development? Are the available retail goods within the income capacity of the proposed project users or residents? Are there serious gaps in range of available goods and services?

The second analysis involves the impact which a proposed development will likely have on surrounding commercial establishments. For example, a new commercial development might displace existing small scale retail establishments which become uncompetitive when compared to new and larger enterprises.

There are generally three types of retail areas which are recognized by type and function. Any of these might be affected by the proposed project.

Neighborhood—consists of small businesses usually within 5-10 minutes travel time which include food, drug, cleaners, and convenience stores. The neighborhood shopping site is usually organized around a supermarket.

Community (or central business district)—contains multi-functional economic and service enterprises (banks, specialty stores, etc.) with access provided either by auto or public transit. In larger metropolitan areas, a food store is often not included.

Regional—may be either the central business district of a metropolitan area or may be a regional shopping center, usually with two or more department stores and various specialty stores.

#### **Experts to Contact**

- Local chamber of commerce
- Commercial realtor
- Commercial development specialist
- Local planning agency

#### **Questions to Consider**

1. Do local retail services meet the needs of project occupants/users? Are they affordable, and is the range of services adequate?
2. Is there adequate and convenient access to retail services? In the case of elderly, this means that shopping for essential items as food and medicine is within three blocks and banks and other convenience shopping are within walking distance.
3. In areas not readily serviced by retail services, is public transportation that can carry commuters to retail services within one-half hour available? If public transportation is not available will readily available transportation services be provided?
4. Will existing retail and commercial services be adversely impacted or displaced by the proposed project?

### **Health Care and Social Services**

#### **Health Care**

##### **Overview**

Relevant issues to be considered regarding a proposed project's impact on health care services are:

- Adequate access to hospitals, emergency facilities, clinics, and physician services
- Potential effect of the proposed development on existing health care services' capacity and



- ability to accommodate an increase in use
- Adequate health services to accommodate the special needs of a potentially diverse population, i.e., families, elderly, and handicapped.

Health care services can be defined as those regular and emergency dental and medical care services provided for by private doctors, dentists, and other trained medical staff at a hospital, outpatient clinic, public, private or community health facility, home-care medical programs, or an emergency treatment facility (trauma unit, special cardiac pulmonary resuscitation [CPR] unit).

#### **Experts to Contact**

- Area health systems agency—can provide the area-wide health system plan which is an inventory of institutional health services and projected demand within the area.
- Local public health department—can provide information on local demand for, and quality of healthcare.
- Council on aging—can provide information on size and location of the local elderly population.
- Local Red Cross—can be valuable resource for medical needs of the area.

#### **Questions to Consider**

1. Will the increase in population from the proposed development increase the need for area health care services beyond current capacities?
2. Are non-emergency health care services located within a reasonable proximity to the proposed project (less than a half-hour drive or commute away)?
3. Are emergency health services available within approximately three to five minutes? Such services can often be provided by police and fire personnel as well as by ambulance staff.
4. Is the number of doctors, dentist, nurses, and other trained medical staff realistic in proportion to an increase in residents/users? If not, can provisions be made for additional skilled staff?
5. Will project residents/users require special medical services or skills such as geriatric clinics?

### **Social Services**

#### **Overview**

Social services can be defined as those services provided by governmental social service agencies or public or private groups, including but not limited to programs for drug addiction, alcoholism, and mental disorders; halfway houses and drop-in centers, family counseling centers, day care centers; services for senior citizens and the handicapped; nutrition centers, Meals on Wheels; income maintenance, and manpower programs, etc.

Social services by definition must cater to, and be easily accessible to, those who need them. Therefore, access and adequacy are important considerations. Factors to consider regarding a proposed project's impact on an area's social services include:

- Availability and accessibility of day care, elderly centers, and neighborhood centers to accommodate existing and future residents.
- If appropriate social services centers are not located within a reasonable proximity to the proposed development, alternate space and services may need to be developed to accommodate new residents/users.

#### **Experts to Contact**

- Planner—local planning department
- Administrator/planner—social services department
- Administrator/planner—public welfare office
- Administrator/planner—council on aging
- Administrator/planner—Social Security Office
- Administrator/planner—half-way house(s) in area
- Administrator/planner—drop-in center(s) in area
- Administrator—child care or daycare center
- Administrator/planner—Local Council of Voluntary Human Service Agencies

#### **Questions to Consider**

1. Are the social services located onsite or within a convenient and reasonable distance to residents of the proposed project? Or, is adequate public transportation available from the project to these services?
2. Will social services be overtaxed or negatively impacted by the proposed project?
3. Will the provision of additional social services at this site create a concentration of the disadvantaged in violation of HUD site and neighborhood standards?

### **Solid Waste Disposal/Recycling**

#### **Overview**

Solid waste disposal is regarded as an essential service in urban areas. Its availability for supporting a newly proposed development can be an essential determinant of whether a project can be constructed. Solid waste materials are generally transported by trucks to a common, usually remote site for either recycling, incineration (where allowed), or burial/disposal in a sanitary landfill.

For proposed demolition projects, the ability of the solid waste centers to contain the demolition material should be considered. In some cases the material from the demolition activity may overwhelm the existing solid waste capacity and the need to obtain additional solid waste capacity may justify the cost of rehabilitating the structure, particularly if the structure serves as an important historic or cultural resources.

For all projects, proper disposal of hazardous material should be considered. This may include solid porous materials, such as cement, that may have absorbed hazardous materials.

### **Experts to Contact**

- Engineer—Local solid waste disposal agency, or city/county engineering department
- Engineer/planner—HUD field office or local planning department
- Engineer, planner/environmental specialist—Regional EPA office

### **Questions to Consider**

#### **Construction Period**

1. What types and amounts of waste are to be generated as construction debris?
2. What solid waste disposal system or company will handle the construction debris? Does it have the capacity to handle the amount of debris?

#### **Solid Waste Disposal/Recycling**

3. What types of solid waste (including hazardous waste, if any) will be generated by the completed project?
4. What is the name of the solid waste servicing company or landfill and what is the distance from the proposed project site?
5. Is solid waste permitting required for the project, and/or will the completed project require solid waste permitting and when?
6. If hazardous waste, does the servicing company/landfill accept hazardous waste? If yes, attach documentation.
7. What organization will handle garbage collection, composting, and recycling?
8. Does this organization have the capacity to handle the garbage, composting and recycling, and is the service affordable?
9. Will the waste from the proposal exceed the capacity of the waste system or landfill?

#### **Waste Water/Sanitary Sewers**

##### **Overview**

Wastewater treatment and disposal is an essential service for all new development. The availability of adequate wastewater disposal service can be a determinant of whether or not a project is constructed. Wastewater is usually collected in urban areas through a system of sanitary sewers which convey the waste to a treatment facility located "downstream" from the city. After treatment the effluent is either recycled (rarely) or is discharged into surface water or a permeable recharge area for an underground aquifer. In less developed areas, on-site septic systems or package treatment plants are used. Generally, 80 gallons of sewage is generated per capita per day.

##### **Resources to Reference/ Experts to Contact**

- For areas where septic systems may be required the USDA Soil Survey available at the county/parish USDA service center or online at

<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm> can be used to identify areas that are likely to be unsuited for septic systems.

- Engineer—local sanitary district/agency, city/county engineering department, 208 planning agency
- Engineer/planner—local planning department
- Soils scientist—U.S. Soil Conservation Service
- Engineer—state health and/or environmental quality agency

### **Questions to Consider**

1. What kind of wastewater/sewer system will provide satisfactory service to the proposal?
2. Does the existing or proposed sewer system have the capacity to adequately service the proposed development?

### **On-site septic systems**

3. If the sanitary sewers and wastewater disposal systems are non-municipal, has an acceptable system been approved or permitted by appropriate authorities and agencies?
4. Has a report of the soil conditions suitable for on-site septic systems been submitted?
5. Are soil conditions suitable for on-site septic systems? Is there a large variance in the water table elevation? (A high seasonal water table can prevent proper functioning of septic tanks drain fields).
6. Have septic disposal systems been properly designed, installed, and maintained, as appropriate, to prevent effluent from contaminating soil or groundwater, including sole source aquifers?

## **Water Supply**

### **Overview**

Adequate water supply refers to the delivery to a project site of sufficient quantities of potable water under adequate pressure at affordable cost. Approximately 100 gallons per day is the average urban domestic per capita water consumption rate.

### **Experts to Contact**

- Municipal or private utility water supply planners and engineers
- Local public health agency staff

### **Questions to Consider**

1. What private company or public organization or system will provide sufficient quantity of clean water needed for the proposal?

2. Will either the municipal or private water utility or on-site water supply be adequate to serve the proposed project?
3. In the water supply quality safe from a chemical and bacteriological standpoint?
4. If the water supply is non-municipal, has an acceptable system been approved by appropriate authorities and agencies?
5. Will the project water requirements of the proposal result in a significant consumption of the community's available water supply or result in a significant deterioration of water quality?

### **Public Safety - Police, Fire and Emergency Medical**

#### **Overview**

Fire, police, and ambulance services are concerns that should be considered in terms of the adequacy of existing services for the project site. Although many communities have sophisticated protective services, the consistency of adequate service is different from place to place. Within communities, one site may be better served than another.

Factors in the variability of protective services include the availability of funds for additional coverage and the degree to which building and growth are coordinated with provision of new municipal services. Key variables within each city are emergency equipment, emergency service personnel, response time, and access. These factors influence the availability and adequacy of emergency services that may be required at a proposed project.

#### **Experts to Contact**

- Chief of local fire department
- Local chapter or national Office of the National Fire Protection Association (NFPA)
- Chief of local police department
- Administrator of local emergency medical agency such as the ambulance corps in the Department of Health or the local rescue squad
- Local medical society

#### **Questions to Consider**

1. What police services are located within reasonable proximity to the proposed project?  
What is the approximate response time?
2. What fire fighting protection located within reasonable proximity to the proposed project?  
What is the approximate response time?
3. Is the fire fighting protection service adequate and equipped to service the project?
4. What emergency health care providers are located within reasonable proximity to the proposed project?  
What is the approximate response time?

5. Will the project create a significant burden on police, fire or health care providers in terms of manpower and/or equipment?

## **Parks, Open Space and Recreation**

### **Overview**

The development of community services such as open space and recreational and cultural resources has become a necessary component of community development. These facilities can be operated by government, such as public parks and libraries, or they can be operated by private entities such as YMCAs and privately owned museums.

Recreation and open space resources include active recreation such as ballfields, passive recreation such as nature trails, and gardens.

Cultural resources include art galleries, libraries, dance facilities, museums, theatres, community centers and other facilities for artistic and cultural purposes. These usually receive both public and private support.

Demand and supply for both specific recreation and cultural facilities is a function of factors which include the size of the community, density of development, income, and demography. Wealthier communities have these services and facilities more often than poorer communities. Communities with a large percentage of children have greater needs for active recreational facilities than communities with a large number of elderly or handicapped persons who may prefer passive recreation. High density communities with little private open space have a greater need for access to public parks and recreation areas than small towns with ample open spaces or suburban areas where the homes have large yards.

### **Experts to Contact**

- Planner at local parks and recreation department
- Administrator of social services agency
- Administrator of local cultural commission
- Local American Society of Landscape Architects
- State arts office or association
- Administrators of agencies such as YMCAs, YWCAs, museums, libraries, etc.
- State liaison officer
- Heritage Conservation & Recreation Service
- Department of Interior
- National Park Service
- Bureau of Land Management

### **Questions to Consider**

1. Are open space and recreational and cultural facilities within reasonable walking distance to the project area, or is adequate public transportation available from the project to these facilities?
2. Are there special recreational/cultural needs of certain population groups to be satisfied, such as small children, the elderly, or the handicapped?

3. If the development is family housing, has space for informal play for children been included on-site? Have areas for recreation for adults and elderly been provided including places for passive recreation?
4. Will the proposed project overload existing open space, recreational or cultural facilities?

## Transportation and Accessibility

### **Overview**

Assessing transportation impacts involves analyzing four sub-elements of transportation. These are:

*Access*—The user must be able to reach a destination within reasonable limits of time, cost and convenience.

*Balance*—A balanced transportation system offers and encourages choice of travel mode, namely, by automobile, bicycle, walking, public transit or combination thereof.

*Safety*—System design plays a strong role in safety, particularly elements such as traffic signals, turning lanes, bicycle lanes and signage, and railroad grade crossings.

*Level of Service*—LOS measures operational factors including speed, travel delay, freedom to maneuver, safety, and frequency/hours of operation.

### **Experts to Contact**

- Planner at the regional transportation planning agency
- Planner at regional transportation authority
- Planner at the state highway department
- Local transit authority
- Local traffic department
- Local parking authority
- Federal Highway Administration Division Office in each state
- Urban Mass Transportation Administration Regional Office

### **Questions to Consider**

1. Does the project require a traffic study? Has one already been performed? Are there any actions identified in the study that need to be taken?
2. Is the project served by safe and adequate public transportation services?
3. Is the project safely accessible to vehicles and is vehicle parking adequate, including parking for moving vans/trucks?
4. Does the project facilitate pedestrian movement (e.g., sidewalks, pavement markings, landscaping, pedestrian-activated signal lights or pedestrian overpasses)?
5. Is the project area served by bicycle lanes or trails and does the project provide parking for bicycles, including covered, secure parking for employees and residents?

6. Overall, will the existing and reasonably foreseeable transportation facilities and services be adequate to meet the needs of the project?
7. Will the project itself cause a significant adverse impact on the local or regional transportation system (e.g., by reducing the level of service of roadways)?
8. Are there any barriers to emergency vehicle access?
9. Is the project accessible to the elderly and disabled (e.g., wheelchair ramps, traffic light timing, handicapped parking, shuttle services)?
10. Are there special transportation issues (e.g., bridge clearances for trucks) which have not been adequately addressed?

## Unique Natural Features, Water Resources

### Unique Natural Features

#### **Overview**

Unique natural features are primarily geological features which are unique in the sense that their occurrence is infrequent or they are of special social/cultural, economic, educational, aesthetic, or scientific value. Development on or near them may render them inaccessible to investigators or visitors or otherwise limit potential future use and appreciation of these resources.

Examples of unique natural features include: sand dunes, waterfalls, unique rock outcroppings, caves with limestone or gypsum deposits, canyons, and petrified forests. Also included are unique stands of trees, such as redwoods, or unique colonies of animals, such as a prairie dog town.

The key criterion in defining a unique natural feature is the comparative rareness of the feature, a characteristic often recognized by local landmarks. Another characteristic is information content. Some unique natural features contain a great deal of information concerning natural history, such as geologic evolution.

#### **Experts to Contact**

- State and federal park service, naturalists and/or geologists
- State natural heritage programs
- State wildlife resource management agencies
- Local university natural scientists, geologists, and Sierra Club or Audubon Society Representatives
- State resource conservationist
- Natural Resources Conservation Service (NRCS) - USDA
- District conservationist, NRCS
- County planner, county planning department or conservation district

#### **Questions to Consider**



1. Will the project location, construction, or its users adversely impact unique or locally important natural features on or near the site (e.g., caves, cliffs, vistas/viewsheds, canyons, waterfalls, sand dunes, or tree stands)?
2. Will the project destroy or isolate from public or scientific access the unique natural feature?

## Water Resources

### **Overview**

Water resources can be divided into two subcategories: ground water and surface water.

**Groundwater** refers to all of the water found below the ground's surface. While most groundwater comes directly from rainwater, some results from seepage from the sides and bottoms of lakes and streams. The water usually passes down through a layer of partially saturated material to a zone of saturation in which all of the pore spaces between the soil or rock particles are filled with water. The water table is the upper level at which this saturation occurs. The area in which the groundwater is stored is called an aquifer. Aquifers vary widely in size and depth, some cover hundreds of miles and are used extensively for drinking water and irrigation, such as the Ogallala Aquifer in the Great Plains.

The supply of groundwater depends upon a balance between the amount of water entering the ground and the amount being withdrawn. Urban land development reduces recharge to aquifers by precipitation. Excessive pumping can cause wells to run dry, increased concentration of dissolved minerals, salt water intrusion if near the ocean, and land subsidence. The depth of the water table can vary tremendously from year to year and seasonally depending on the amount of rainfall. High water tables can result in basement flooding and surface puddles. Discharge from poorly designed, installed, or maintained septic systems to drinking water wells can cause health hazards.

Some areas have experienced ground subsidence due to the pumping of ground water and the dewatering of the underground strata including aquifers. In Gulf Coast communities such as New Orleans excessive pumping has lowered the ground level and has made the area more prone to coastal flooding.

In many types of surficial geological formations, groundwater quantity and quality is related to the quality and presence of surface waters. Excessive well pumping can induce infiltration from streams and ponds, causing surface water levels to drop. If these surface waters are polluted, groundwater quality will be degraded. Often, groundwater flows discharge to streams. Polluted groundwater can thus degrade the quality of otherwise unaffected surface waters.

**Surface water** plays an important role in nearly every community, as a source of drinking water, as a means of transportation, as a recreational resource, as a source of water for irrigation, and as a fishery.

Surface waters can range from very large rivers and lakes to small ponds and streams. Urban development can, however, have a serious negative impact on water quality. Surface waters, chiefly rivers and large lakes, frequently suffer from the effects of pollution generated by factories, urban sewerage systems, power plants, and agricultural runoff. Degraded surface water quality can have short-term and long-term human health implications, affect aquatic habitats and species, and have aesthetic and olfactory consequences.

While most water quality problems are due to effluents from sewerage treatment plants, sewer system overflows, and industrial waste outfalls, new commercial and residential developments can also have an adverse effect on surface water quality. The chief source of such pollution is from urban runoff, chiefly from impervious surfaces such as streets, parking lots, and sidewalks from which oil and gasoline are carried by rain into surface water. Landscaped areas treated with insecticides and fertilizer can also introduce polluted runoff into surface water. Also, failing septic systems and other sources of polluted groundwater (landfills and waste disposal areas) can seep untreated sewage and other wastes to surface waters.

#### **Experts to Contact**

- Planner and/or engineer—"Section 208" area-wide planning agency
- Water Quality Scientist – "Section 401" water quality agency
- Hydrologist—USGS Geological Survey or State Geological Survey
- Soil scientist—U.S. Soil Conservation Service
- State wildlife resource management agency
- State natural heritage program
- Engineer—city and/or county engineering department

#### **Questions to Consider**

1. Is the site subject to rapid water withdrawal problems that change the depth or character of the water table or aquifer? Are there a large number of wells or wells that pump large quantities of water from the water table near the proposed project site?
2. Will the project use groundwater for its water supply? If so, is the groundwater safe for use for the intended purposes?
3. Will the project use a septic system? If so, is the system in proximity to sensitive natural receptors (e.g., wetlands) that could be adversely impacted by the design or location? Is there a large variance in the water table? (A high seasonal water table can prevent proper functioning of septic tank drain fields.)
4. Are there visual or other indications of water quality problems on or near the site (e.g., algae blooms or state listing as an impaired stream/waterway)? Will the riparian buffer (i.e., natural wooded buffer adjacent to a stream) be maintained in a conservation easement or, conversely, diminished, damaged or destroyed?
5. Will the project involve a substantial increase in impervious surface area? Have runoff control measures and/or permeable surfaces been included in the design?
6. Will the project substantially reduce groundwater recharge due to increase in impervious surface area? If so, are sensitive groundwater dependent features (e.g., rare wetlands) present that could be affected? If yes, have appropriate measures been included in the design to promote groundwater recharge.
7. Is the project located in a state or locally designated sensitive watershed area? If so, have appropriate run-off control measures been included in the design (e.g., the storm-year design is increased from 10-years to 25-years, buffers are placed along surface waters, etc.)

8. Is the project located in the watershed of a particularly sensitive natural area (e.g., a unique wetland). If so, have additional run-off control measures been included in the design (e.g., the storm-year design is increased from 10-years to 50-years, buffers are placed along surface waters, etc.)

## Vegetation and Wildlife

### Vegetation

#### **Overview**

The abundance and survival of both plant and animal species is dependent upon the existence of a favorable environment and their ability to adjust to conditions created by man. Urbanization has seriously altered natural ecosystems. In and near heavily urbanized areas, much of the native plant and animal species have been destroyed and have been replaced by species which are more successful in the urban environment, to the extent that it is often inappropriate to talk of native species in urban environments.

The impact of man on the environment through urbanization often results in water, air, and land pollution endangering many natural plant and animal species. Development which changes a sensitive ecosystem may adversely affect the diversity of species present, the productivity of the system, or the rate of nutrient recycling.

#### **Experts to Contact**

It is often best to consult an expert such as a biologist/ecologist from either a university or a state natural resources agency, or state natural heritage program. In more rural areas representatives of the state forestry department or the USDA Soil Conservation Service may also provide useful expert judgment.

#### **Questions to Consider**

1. Will the project create problems by introducing nuisance or non-indigenous species of vegetation that may be ecologically disruptive, be invasive, threaten survival of indigenous plant habitats, or disrupt agricultural or silvicultural activities
2. Will the project damage or destroy existing remnant or endemic plant communities, especially those containing nationally, regionally or locally rare species (e.g., prairie grasslands, ice-age disjuncts, local soil-type endemics, etc.)?
3. Will the project damage or destroy plant species that are legally protected by state or local ordinances?
4. Will the project damage or destroy trees without replacement and landscaping?

### Wildlife

## **Overview**

An animal's habitat is the environment in which it normally lives and the one which meets its basic need for food, water, cover, breeding space, and group territory. Urbanization has generally been at odds with the maintenance of natural habitats. Urban habitats are often found in neglected and unused areas such as along riverbanks and railroad alignments, in parks, institutional grounds, and in vacant tracts of land. The protection of wildlife habitats can be at odds with urban development. However, certain actions can be taken to avoid undue disruption and to protect species, particularly those of concern to local, state, tribal or the federal government. Please note that species listed as proposed, threatened or endangered by the federal government must be considered under the Endangered Species Act. However, compliance with certain federal statutes should be considered under this factor, including, for example, the Migratory Bird Treaty Act and the Bald Eagle Protection Act.

## **Experts to Contact**

Technical studies can be supplemented with field observation of the site for signs of the likely presence of particular species. Consultation with biologists/ecologists with either local, tribal, state or Federal agencies may be helpful. The Fish & Wildlife Service of the Department of Interior can also be contacted for information.

## **Questions to Consider**

The questions on animal life encompass the five following topics: disruption, habitat alteration or removal, rare species (including those that are considered threatened or endangered), pest species, and game species.

1. Will the project create special hazards for animal life? What types and numbers of animals will be affected and how?
2. Will the project impact migratory birds? (Most birds protected by the federal Migratory Bird Treaty Act are not included in the Endangered Species Act, yet are protected by similar protections against a "taking" of bird nest or eggs. Consultation with the U.S. Fish and Wildlife Service may be required. Construction activities should occur outside the migratory bird nesting season; alternatively, the site should be surveyed for migratory bird nest prior to construction.)
3. Does the project site host any species that are monitored or listed by local, state, tribal or the federal government?
4. Will the project damage or destroy existing wildlife habitats (e.g., removal or blockage of wildlife corridors, such as a riparian buffer?)
5. Will excessive grading alter the groundwater level and thus cause death of trees and ground cover which in turn diminishes animal habitat?
6. Will the project damage game fish habitat or spawning grounds? When answering this question off-site damage resulting from erosion and stormwater run-off should be considered.
7. Will the project create conditions favorable to the proliferation of pest species?

8. Will the project create conditions (e.g., generate excessive noise, introduce pesticide usage) that could harm or harass wildlife species that are nationally, regionally or locally rare or protected by state or local ordinance?