Site Analysis (LaGro) – notes from the book

Part I

1) **Natural & cultural resources** (inventory at community level)
   a) Wetlands & buffers
   b) Floodways & floodplains
   c) Moderate & steep slopes
   d) Groundwater resources & aquifer recharge areas
   e) Woodlands
   f) Productive farmland
   g) Significant wildlife habitats
   h) Historic elements
   i) Scenic views from public roads

2) **Sustainable development**
   a) Increase use of renewable energy & resources
   b) Reduce solid waste and conserve energy & natural resources
   c) Prevent pollution and improve personal & community health

3) **Smart growth planning goals**
   a) Foster distinctive attractive communities with a strong sense of place
   b) Preserve open space, farmland, natural beauty and critical environmental areas
   c) Strengthen and direct development towards existing communities
   d) Mix land uses
   e) Foster compact building design
   f) Create a range of housing opportunities & choices
   g) Create walkable neighborhoods
   h) Provide a variety of transportation choices

4) **Smart growth process goals**
   a) Make development decisions predictable, fair and cost effective
   b) Encourage community stakeholder collaboration in development decisions
      i) LEED = Leadership in Energy and Environmental Design – a rating system and voluntary guidelines for improving sustainability in the built environment

5) **Programming** – defines the project’s objectives and functional requirements, including the proposed activities, areas allocated for each activity, and the function or spatial relationship among those activities

Part II

1) Grayfield – a previously developed site that has minor and relatively easily mitigated environmental contamination – strip malls, regional malls, low density shopping centers

2) **Programming** – is typically expressed in terms of quality and quantity of spaces needed to meet anticipated future needs (can occur over a range of spatial scales)

3) **The Programmer** – may be outside LA, Arch, Planning culture as they tend to have greater bias towards particular solutions.
   a) Communicates the proposed process to all involved
b) Does not lock in preconceived solutions
c) Reconciles subcomponent needs with overall organizational goals and resources

4) **Goal setting** – clarify quality level expectations
   a) Initiate the project
      i) Develop the project mission and objectives
      ii) Determine the project’s operational and physical requirements
      iii) Document and present the program to the client
   b) User needs and preferences
      i) Elected officials (political)
      ii) Appointed
      iii) Facility operators
      iv) Funding managers and analysts
      v) Public works and maintenance staff
      vi) Citizen groups

**Part III**

1) **Site Inventory & Analysis**
   a) Proposed site use (project program)
   b) Existing on and off site conditions (site data)
   c) Requirements for permitting & approvals
   d) Costs of data collection & analysis

2) **Site inventory – physical**
   a) Legal – property line, easements, setback, (subdivision maps)
   b) Topography – elevations, contours, high and low spots, slope, aspect
   c) Vegetation – wooded, isolated trees, species, dbh
   d) Soils/geology – geotech reports, pH, permeability, erosion
   e) Hydrology – surface water, wetlands, flood areas
   f) Utilities – type, size, facilities
   g) Structures – buildings, etc
   h) Circulation – streets, r/w, curb & gutter, parking
   i) Climate – temp, rain, humidity, wind, solar

3) **Site inventory – biological**
   a) Ecological communities – exotic & native species, wetlands, habitat fragmentation
   b) Trees
   c) Wildlife

4) **Site inventory – cultural**
   a) Prior use / current use, ownership
   b) Land use regulation
      i) Federal and State – costal, pollution, ADA
      ii) Local
         (1) housing, transportation, utilities, economic development, natural and cultural resources
         (2) zoning
            (a) land use regulation
               (i) planned unit development (PUD)
               (ii) planned development districts (PDD)
               (iii) mixed use
         (3) subdivision ordinance
            (a) minimum size for parcel
            (b) curb cuts, street access
            (c) building setbacks
         (4) legal constraints
(a) zoning classification – permitted use and densities
(b) easements, covenants, deed restrictions
(c) government agencies with jurisdiction over property (overlay)
(d) building placement requirements – setbacks
(e) building height restrictions, FAR (floor area restriction), footprint restrictions
(f) allowable building area (%)
(g) parking and driveway requirements
(h) minimum open space requirements
(i) recreation and environmental requirements
(j) stormwater and erosion control requirements
(k) landscape requirements
(l) special permits, regs, variance design review, hearings, EIR requirements

(5) property value
(a) can be restricted via the purchase of development rights coupled with conservation easements to keep land undeveloped for a limited or defined period of time
(b) conservation easements – typically held by a non-profit
(c) development of amenities

(6) public infrastructure – circulation and utilities
(7) building and neighborhood character
(a) height, width, setback, proportions of openings, horizontal rhythms, roof form, materials, color, sidewalk, signage

(8) historic resources
(9) sensory perception
(a) visibility
(b) visual quality – subjective and objective
(c) noise and odors – airports, freeways, rendering plants

Site Analysis

1) Program + existing conditions - Site suitability
   a) constraints and opportunities
2) Carrying capacity – brute force to overcome difficulties vs letting some sites remain undeveloped
   a) $ vs $, What is more valuable?
3) Suitability analysis – the process of determining the fitness or appropriateness of a given tract of land for specified use
   a) A location that is suitable for a particular land use is one that can accommodate the proposed development with the minimum amount of imports or resources
   b) Is spatially explicit and program dependent
      i) Single attribute analysis – setbacks or buffers
      ii) Multiple attribute analysis – scoring the resource
   c) May allow land to be developed in accordance with the constraints and opportunities provided by the land itself
      i) Floodplain = sports field
      ii) Landfill = botanic garden

Part IV

Design & Implementation

1) Concept = vision
2) Context sensitive - design with nature, cultural, places for people
   a) responsive to:
      i) sun/wind
ii) lot size/shape
iii) transportation systems proximity
iv) vegetation/topo/natural features
v) vistas/views/cultural landmarks
vi) building scale/character

3) **Design determinants**
   a) Program and preferences
   b) On-site form
   c) Off-site form
   d) Design theory

4) **Creativity and conceptual design**
   a) Problem solving – variables, reconcile conflicting values
   b) Maneuver around constraints

5) **Conceptual design process**
   a) Project program
   b) Community goals
   c) Site suitability
      – using KSA, design theory, graphic communication, professional ethics to create a number of concepts for the client

6) **Concept plan**
   a) Components
      i) Natural infrastructure and open space – water, forest, etc
      ii) Develop open space – parks, plazas, recreation
      iii) Building envelopes or pods – single family, apartments, townhome
      iv) Circulation systems – public, auto, bicycle, pedestrian
      v) Views
      vi) Utility easements (maybe)

7) **Design development**
   a) Sustainability and livability – smart growth
   b) Design theory – culturally influenced, unity, order, balance
   c) Open space
      i) conservation of nature
      ii) hard – plaza, promenade, courtyard
      iii) soft – lawn, garden, park
   d) Circulation
      i) Pedestrian – separation, accessibility, capacity, connectivity
      ii) Bicycle – class I, II, III
      iii) Vehicle – circulation and parking
   e) Buildings
      i) Architectural design, use, articulation, siting

8) **Project implementation** – skillful site planning and architectural design can yield significant social, economic, and environmental benefits. It is not anymore expensive to build than a poorly designed project.

9) **Quality by design**
   a) Reclaiming the built environment for pedestrians
   b) Restoration and redevelopment – urban infill
   c) Stormwater management – using pervious pavement and biofiltration to reduce runoff and improve water quality
   d) Erosion control
   e) Sediment control

10) **Construction documentation** – a legally binding agreement, drawings, specifications (ideas to reality)
11) **Contract Administration** – project management

12) **Permitting and Approvals**
   a) Development controls – public investment, regulations (zoning), incentives & disincentives (tax), land use plan
   b) Governmental (political)
   c) Sub-division ordinance, building codes, unified development codes (not building code)
   d) Review boards, hearings, EIR