Memorandum

TO: Planning Commission

FROM: Philip Thompson, AICP
       Director of Planning

DATE: October 29, 2020

SUBJECT: 2232 Review - AEP Substation and Transmission Lines

An application (attached) has been submitted by Appalachian Power Company and the Roanoke County Economic Development Authority to review a proposed substation and overhead transmission lines for consistency with the County’s Comprehensive Plan.

According to the application, the Glenmary Substation Project involves the construction of a new office building, substation and transmission line in Roanoke County’s Center for Research and Technology (CRT). The new office building will house equipment and approximately 50 of the company’s existing transmission employees who work in the company’s transmission organization. The substation and transmission line will improve reliability for current tenants and surrounding neighbors. It will also make CRT more marketable for future businesses and development. Construction is expected to begin Spring 2021 and is expected to conclude by the end of 2021.

The application contains drawings showing the general location of the substation (a 230-foot by 230-foot area) and the transmission line (approximately 1,500 to 1,600 feet in length). The proposed transmission line would connect with an existing power line that traverses the northwest corner of CRT. The drawings provided are for purposes of the Comprehensive Plan review. More detailed plans would be developed for state and local regulatory purposes in the future.

Section 15-2-2232 of the Code of Virginia (attached) requires that any expansion of a public facility or public utility be reviewed by the Planning Commission for consistency with the jurisdiction’s Comprehensive Plan. The Planning Commission
will make a recommendation to the Board of Supervisors regarding whether or not this project is consistent with the County’s Comprehensive Plan.

Both the substation and transmission lines are permitted uses (major utility services) under the PTD (Planned Technology Development) zoning regulations in accordance with the Center for Research and Technology Master Plan (attached). The Roanoke County Zoning Ordinance defines major utility services as “services of a regional nature which normally entail the construction of new buildings or structures such as generating plants and sources, electrical switching facilities and stations or substations, community waste water treatment plants, and similar facilities. Included in this definition are also electric, gas, and other utility transmission lines of a regional nature which are not otherwise reviewed and approved by the Virginia State Corporation Commission.”

Listed below are relevant sections of the County’s Comprehensive Plan in regards to this project.

Comprehensive Plan (2005)

The County’s Comprehensive Plan (2005) contains a Future Land Use Map and Guide which serve as a reference for all citizens on the most desirable location for future land use activities throughout the County. The properties in CRT are designated Principal Industrial on the future land use map. Principal Industrial is a future land use where a variety of industry types are encouraged to locate. Principal Industrial areas are existing and planned regional employment centers and are distributed throughout the county, convenient to major residential areas and suitable highway access. Appropriate land use types in the Principal Industrial future land use designation includes agricultural industries, small industries and custom manufacturing, mining and extraction, freestanding industrial uses, and industrial parks. This request is consistent with the future land use designation.

This proposal also meets some vision statements listed in the County’s Comprehensive Plan (2005). These include:

- Roanoke County has played a major role in developing the Roanoke Valley into a center of industrial and commercial technology by adequately funding the Industrial Development Authority, enabling them to acquire property and providing the infrastructure to encourage economic growth.

- Roanoke County encourages technological improvements/innovations in manufacturing, power transmission, communications, commerce and transportation to preserve and enhance the natural resources of the
Roanoke Valley. Roanoke County facilitates a managed technological environment that balances education, productivity, social skills, health and the ecosystem.

This proposal also meets several goals listed in the Economic Development Plan section of the County’s Comprehensive Plan (2005). These include:

- To market the County’s industrial/commercial property and attract compatible business and industry to the community, and to increase the commercial and industrial tax base and related employment opportunities.

- To encourage the retention and growth of local enterprise by creating and maintaining a positive business climate countywide.

- To create and maintain a marketable inventory of quality industrial/commercial real property sufficient to meet market demand.

Glenvar Community Plan (2012)

The Glenvar Community Plan was adopted in 2012 by the Board of Supervisors as a component of the County’s Comprehensive Plan. In the Land Use and Development chapter (Chapter 4) of this Plan, future construction at the Center for Research and Technology is discussed. The Plan states “future construction and improvement plans for the Center for Research and Technology include the continuation of the grading of sites within Phases I and II of the park, ongoing roadway and ground maintenance, utility extensions and improvements to Dow Hollow Road.”

Chapter 8 (Plan Recommendations) of the Glenvar Community Plan provides the overall vision for the Glenvar community. It states:

*The Glenvar area strives to be a visually appealing, healthy, and sustainable community that encourages a mix of land uses in a manner that is consistent with the community’s rural character.*

This chapter of the Plan also contains several goals relevant to this 2232 Review. They include:

- Ensure that public services and facilities will adequately serve the needs of residents and businesses within the Glenvar Community and that such services and facilities are adaptable to future growth.

- Provide a mix of environmentally-sensitive commercial and industrial uses at appropriate locations in the Glenvar Community that meet the needs
of current and future residents.

- Maintain a healthy, safe and sustainable community that ensures opportunities for a multi-generational community to live, work, recreate and raise a family.

Under the Future Land Use Recommendations in the Glenvar Community Plan, the Principal Industrial Future Land Use Designation states that technology-based businesses and low intensity industrial uses are most appropriate for the Principal Industrial designation in the Glenvar Planning Area. It further states that industrial development should be located in existing technology parks such as the Center for Research and Technology and Valley Tech Park.

**Staff Conclusions**
County Planning staff concludes that the proposed substation and transmission line are consistent with the Principal Industrial future land use designation in the County’s Comprehensive Plan, the vision statements and the goals in the Economic Development Plan section of the County’s Comprehensive Plan, and the vision statement and goals of the Glenvar Community Plan, a component of the County’s Comprehensive Plan. The project also is consistent with the PTD (Planned Technology Development) zoning district and the Center for Research and Technology Master Plan.

**PGT:pt**

**Attachments**
- Application
- Maps (Aerial, Zoning, Future Land Use)
- Sec. 15.2-2232 of the Code of Virginia
- CRT Master Plan
- Principal Industrial Future Land Use Designation
ALL APPLICANTS

Check type of application filed (check all that apply)

☐ Rezoning ☐ Special Use ☐ Variance ☐ Waiver ☐ Administrative Appeal ☐ Comp Plan (15.2-2232) Review

Applicants name/address w/zip
Rory Chisholm - Project Manager
American Electric Power Company dba Appalachian Power
40 Franklin Road SW, Roanoke, VA 24022

Phone: 
Work: 540-985-2969
Cell #: 540-521-9079
Fax No.: 

Owner's name/address w/zip
See attached for Multiple Owners

Phone #: 540-985-2969
Work: 540-521-9079
Fax No.: 

Property Location
5495 Corporate Circle
Salem, VA 24153

Magisterial District: Catawba
Community Planning area: Glenvar

Tax Map No.: 054.00-01-02.03-0000 and 054.00-01-02.00-0000

Existing Zoning: Planned Technology District (PTD)
Existing Land Use: Portions Vacant, Office Under Construction

Size of parcel(s): Acres: 52.956 and 344.91

REZONING, SPECIAL USE PERMIT, WAIVER AND COMP PLAN (15.2-2232) REVIEW APPLICANTS (R/S/W/CP)

Proposed Zoning: No Change
Proposed Land Use: Electric Substation

Does the parcel meet the minimum lot area, width, and frontage requirements of the requested district?
Yes ☑️ No ☐ IF NO, A VARIANCE IS REQUIRED FIRST (Rezoning).

Does the parcel meet the minimum criteria for the requested Use Type in Article IV (Special Use Permit)? Yes ☑️ No ☐

IF NO, A VARIANCE IS REQUIRED FIRST
If rezoning request, are conditions being proffered with this request? Yes ☐ No ☑️

VARIANCE, WAIVER AND ADMINISTRATIVE APPEAL APPLICANTS (V/W/AA)

Variance/Waiver of Section(s) ____________________________ of the Roanoke County Zoning Ordinance in order to:

Appeal of Zoning Administrator's decision to ____________________________.

Appeal of Interpretation of Section(s) ____________________________ of the Roanoke County Zoning Ordinance

Appeal of Interpretation of Zoning Map to ____________________________.

Is the application complete? Please check if enclosed. APPLICATION WILL NOT BE ACCEPTED IF ANY OF THESE ITEMS ARE MISSING OR INCOMPLETE.

X ☑️ Consultation X ☑️ 8 1/2" x 11" concept plan X ☑️ Application fee
X ☑️ Application X ☑️ Metes and bounds description N/A ☑️ Proffers, if applicable
X ☑️ Justification X ☑️ Water and sewer application X ☑️ Adjoining property owners

I hereby certify that I am either the owner of the property or the owner's agent or contract purchaser and am acting with the knowledge and consent of the owner.

Owner's Signature

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Applicant Appalachian Power Company dba American Electric Power

The Planning Commission will study rezoning, special use permit waiver or community plan (15.2-2232) review requests to determine the need and justification for the change in terms of public health, safety, and general welfare. Please answer the following questions as thoroughly as possible. Use additional space if necessary.

Please explain how the request furthers the purposes of the Roanoke County Ordinance as well as the purpose found at the beginning of the applicable zoning district classification in the Zoning Ordinance.

The Glenmary Substation Project involves construction of a new office building, substation and transmission line in the Roanoke County Center for Research and Technology (CRT). The new Appalachian Power office building will house equipment and approximately 50 of the company's existing transmission employees who work in the company's transmission organization. The substation and transmission line will improve reliability for current tenants and surrounding neighbors. It will also make the CRT more marketable for future business and development. Construction is expected to begin Spring 2021 and is expected to conclude by the end of 2021.

Please describe the impact(s) of the request on the property itself, the adjoining properties, and the surrounding area, as well as the impacts on public services and facilities, including water/sewer, roads, schools, parks/recreation and fire and rescue.

The proposed Glenmary Substation is located off of Glenmary Road in the Roanoke County Center for Research and Technology. The new transmission line will exit the substation to the northwest, travel approximately a quarter of a mile and connect to an existing power line. Development of the new Appalachian Power office building is currently under development on the property where the proposed substation will be located. The proposed substation will be screened by natural vegetation to the North, East, and West and is located on the northernmost end of the Technology Center.

Please explain how the project conforms to the general guidelines and policies contained in the Roanoke County Community Plan.

As mentioned in the Glenvar Community Plan section 5.5.4 Electric, Electrical service within the Glenvar Planning Area is provided by Appalachian Power, a subsidiary of American Electric Power Company of Columbus, Ohio. As the proposed station is located in the Technology Park and will serve commercial and industrial businesses, in our opinion, the substation conforms to the Community Plan guidelines.
CONCEPT PLAN CHECKLIST

A concept plan of the proposed project must be submitted with the application. The concept plan shall graphically depict the land use change, development or variance that is to be considered. Further, the plan shall address any potential land use or design issues arising from the request. In such cases involving rezonings, the applicant may proffer conditions to limit the future use and development of the property and by so doing, correct any deficiencies that may not be manageable by County permitting regulations.

The concept plan should not be confused with the site plan or plot plan that is required prior to the issuance of a building permit. Site plan and building permit procedures ensure compliance with State and County development regulations and may require changes to the initial concept plan. Unless limiting conditions are proffered and accepted in a rezoning or imposed on a special use permit or variance, the concept plan may be altered to the extent permitted by the zoning district and other regulations.

A concept plan is required with all rezoning, special use permit, waiver, community plan (15.2-2232) review and variance applications. The plan should be prepared by a professional site planner. The level of detail may vary, depending on the nature of the request. The County Planning Division staff may exempt some of the items or suggest the addition of extra items, but the following are considered minimum:

ALL APPLICANTS

X a. Applicant name and name of development
X b. Date, scale and north arrow
X c. Lot size in acres or square feet and dimensions
X d. Location, names of owners and Roanoke County tax map numbers of adjoining properties
X e. Physical features such as ground cover, natural watercourses, floodplain, etc.
X f. The zoning and land use of all adjacent properties
X g. All property lines and easements
X h. All buildings, existing and proposed, and dimensions, floor area and heights
X i. Location, widths and names of all existing or platted streets or other public ways within or adjacent to the development
X j. Dimensions and locations of all driveways, parking spaces and loading spaces

Additional information required for REZONING and SPECIAL USE PERMIT APPLICANTS

___ k. Existing utilities (water, sewer, storm drains) and connections at the site
___ l. Any driveways, entrances/exits, curb openings and crossovers
___ m. Topography map in a suitable scale and contour intervals
___ n. Approximate street grades and site distances at intersections
___ o. Locations of all adjacent fire hydrants
___ p. Any proffered conditions at the site and how they are addressed
___ q. If project is to be phased, please show phase schedule

I certify that all items required in the checklist above are complete.

[Signature]

Date: 9/15/2020

Signature of applicant
Owner's Name/Address w/zip

Rory Chisholm - Project Manager
American Electric Power Company dba Appalachian Power
40 Franklin Road SW,
Roanoke, VA 24022
Work: 540-985-2969
Cell: 540-521-9079

Steve Muss - Chairman
Jill Loope – Secretary-Treasurer
Economic Development Authority of Roanoke County
P.O. Box 29800
Roanoke, VA 24018-0798
Work: 540-772-2006
NOTES:

1. TRANSPORTATION LOCATION: 37°15'58.20" N, 80°10'28.72" W
2. EXISTING GROUND CONTOURS BASED ON LIDAR SURVEY PROVIDED BY AEP. CONTOUR INTERVAL IS 2'.
3. DESIGN CONTOUR INTERVAL IS 2'.
4. EARTHWORK QUANTITIES
   CUT  - 21,276 CY
   FILL - 12,712 CY
5. 24' WIDE ACCESS ROADS
6. APPROXIMATE LIMITS OF DISTURBANCE: 7.67 AC

CONCEPT PLAN IS FOR PURPOSES OF ROANOKE COUNTY COMPREHENSIVE PLAN REVIEW. FURTHER PLANS TO BE DEVELOPED FOR STATE AND LOCAL REGULATORY PURPOSES. PLAN IS SUBJECT TO CHANGE.
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APPROXIMATE TRANSMISSION LINE TIE-IN LOCATION
APPROXIMATE PROPOSED TRANSMISSION LINE STRUCTURE
APPROXIMATE PROPOSED TRANSMISSION LINE STRUCTURE
APPROXIMATE PROPOSED TRANSMISSION LINE STRUCTURE

PROPERTY LINE (TYP)
GLENMARY ROAD
INTERSTATE 81
GLENMARY ROAD
CORPORATE CIRCLE
PRUNTY DRIVE
Typical AEP Substation Example

Typical AEP Transmission Line Tower Example
Disclaimer: It is understood that the data displayed through this application is subject to constant change and that its accuracy cannot be guaranteed. The maps have been created from information provided by various government and private sources at various levels of accuracy. The data is provided to you as is; with no warranty, representation or guaranty as to the content, sequence, accuracy, timeliness or completeness of any of the information provided herein. It is the responsibility of the user of the data to be aware of the data's limitations and to utilize the data in an appropriate manner.
§ 15.2-2232. Legal status of plan

A. Whenever a local planning commission recommends a comprehensive plan or part thereof for the locality and such plan has been approved and adopted by the governing body, it shall control the general or approximate location, character and extent of each feature shown on the plan. Thereafter, unless a feature is already shown on the adopted master plan or part thereof or is deemed so under subsection D, no street or connection to an existing street, park or other public area, public building or public structure, public utility facility or public service corporation facility other than a railroad facility or an underground natural gas or underground electric distribution facility of a public utility as defined in subdivision (b) of § 56-265.1 within its certificated service territory, whether publicly or privately owned, shall be constructed, established or authorized, unless and until the general location or approximate location, character, and extent thereof has been submitted to and approved by the commission as being substantially in accord with the adopted comprehensive plan or part thereof. In connection with any such determination, the commission may, and at the direction of the governing body shall, hold a public hearing, after notice as required by § 15.2-2204. Following the adoption of the Statewide Transportation Plan by the Commonwealth Transportation Board pursuant to § 33.2-353 and written notification to the affected local governments, each local government through which one or more of the designated corridors of statewide significance traverses, shall, at a minimum, note such corridor or corridors on the transportation plan map included in its comprehensive plan for information purposes at the next regular update of the transportation plan map. Prior to the next regular update of the transportation plan map, the local government shall acknowledge the existence of corridors of statewide significance within its boundaries.

B. The commission shall communicate its findings to the governing body, indicating its approval or disapproval with written reasons therefor. The governing body may overrule the action of the commission by a vote of a majority of its membership. Failure of the commission to act within 60 days of a submission, unless the time is extended by the governing body, shall be deemed approval. The owner or owners or their agents may appeal the decision of the commission to the governing body within 10 days after the decision of the commission. The appeal shall be by written petition to the governing body setting forth the reasons for the appeal. The appeal shall be heard and determined within 60 days from its filing. A majority vote of the governing body shall overrule the commission.

C. Widening, narrowing, extension, enlargement, vacation or change of use of streets or public areas shall likewise be submitted for approval, but paving, repair, reconstruction, improvement, drainage or similar work and normal service extensions of public utilities or public service corporations shall not require approval unless such work involves a change in location or extent of a street or public area.

D. Any public area, facility or use as set forth in subsection A which is identified within, but not the entire subject of, a submission under either § 15.2-2258 for subdivision or subdivision A 8 of § 15.2-2286 for development or both may be deemed a feature already shown on the adopted master plan, and, therefore, excepted from the requirement for submittal to and approval by the commission or the governing body; provided, that the governing body has by ordinance or
resolution defined standards governing the construction, establishment or authorization of such public area, facility or use or has approved it through acceptance of a proffer made pursuant to § 15.2-2303.

E. Approval and funding of a public telecommunications facility on or before July 1, 2012, by the Virginia Public Broadcasting Board pursuant to Article 12 (§ 2.2-2426 et seq.) of Chapter 24 of Title 2.2 or after July 1, 2012, by the Board of Education pursuant to § 22.1-20.1 shall be deemed to satisfy the requirements of this section and local zoning ordinances with respect to such facility with the exception of television and radio towers and structures not necessary to house electronic apparatus. The exemption provided for in this subsection shall not apply to facilities existing or approved by the Virginia Public Telecommunications Board prior to July 1, 1990. The Board of Education shall notify the governing body of the locality in advance of any meeting where approval of any such facility shall be acted upon.

F. On any application for a telecommunications facility, the commission’s decision shall comply with the requirements of the Federal Telecommunications Act of 1996. Failure of the commission to act on any such application for a telecommunications facility under subsection A submitted on or after July 1, 1998, within 90 days of such submission shall be deemed approval of the application by the commission unless the governing body has authorized an extension of time for consideration or the applicant has agreed to an extension of time. The governing body may extend the time required for action by the local commission by no more than 60 additional days. If the commission has not acted on the application by the end of the extension, or by the end of such longer period as may be agreed to by the applicant, the application is deemed approved by the commission.

G. A proposed telecommunications tower or a facility constructed by an entity organized pursuant to Chapter 9.1 (§ 56-231.15 et seq.) of Title 56 shall be deemed to be substantially in accord with the comprehensive plan and commission approval shall not be required if the proposed telecommunications tower or facility is located in a zoning district that allows such telecommunications towers or facilities by right.

H. A solar facility subject to subsection A shall be deemed to be substantially in accord with the comprehensive plan if (i) such proposed solar facility is located in a zoning district that allows such solar facilities by right; (ii) such proposed solar facility is designed to serve the electricity or thermal needs of the property upon which such facility is located, or will be owned or operated by an eligible customer-generator or eligible agricultural customer-generator under § 56-594 or 56-594.01 or by a small agricultural generator under § 56-594.2; or (iii) the locality waives the requirement that solar facilities be reviewed for substantial accord with the comprehensive plan. All other solar facilities shall be reviewed for substantial accord with the comprehensive plan in accordance with this section. However, a locality may allow for a substantial accord review for such solar facilities to be advertised and approved concurrently in a public hearing process with a rezoning, special exception, or other approval process.


The chapters of the acts of assembly referenced in the historical citation at the end of this section may not constitute a comprehensive list of such chapters and may exclude chapters whose
provisions have expired.
STANDARDS:

HEIGHT: WHEN ADJOINING PROPERTY THAT IS ZONED RESIDENTIAL, THE MAXIMUM BUILDING HEIGHT SHALL BE FORTY-FIVE (45) FEET, INCLUDING ROOFTOP MECHANICAL EQUIPMENT. THE MAXIMUM HEIGHT MAY BE INCREASED, PROVIDED EACH REQUIRED YARD ADJOINING A RESIDENTIAL DISTRICT IS INCREASED TWO (2) FEET FOR EACH FOOT IN HEIGHT OVER FORTY-FIVE (45) FEET. THIS DISTANCE SHALL BE MEASURED FROM THE PORTION OF THE STRUCTURE WHICH EXCEEDS FORTY-FIVE (45) FEET. IN ALL OTHER LOCATIONS, THE HEIGHT IS UNLIMITED, SUBJECT, HOWEVER, TO THE APPROVAL OF THE ZONING ADMINISTRATOR.

LIGHTING: ALL LIGHTING IN THE DEVELOPMENT SHALL BE SHIELDED AND DIRECTED DOWNWARD TO CONTROL EXTRANEOUS LIGHT OR GLARE. WHERE DEVELOPMENT IS LOCATED ADJACENT TO BUFFERS, DARK/NIGHT SKY FRIENDLY LIGHTING USING FULL CUT-OFF LIGHTING FIXTURES IS ENCOURAGED SO THAT THERE IS NO DIRECT LIGHT UPWARD AND NO GLARE. THE INTENSITY AT ADJOINING STREET OR RESIDENTIAL PROPERTIES SHALL NOT EXCEED 0.5 FOOT CANDLES.

MINIMUM FRONT SETBACK: ALL STRUCTURES PROPOSED TO FRONT ON EXISTING PUBLIC STREETS EXTERNAL TO THE DEVELOPMENT SHALL BE LOCATED A MINIMUM OF THIRTY (30) FEET FROM THE EXISTING PUBLIC RIGHT-OF-WAY.

LOT COVERAGE: MAXIMUM LOT COVERAGE SHALL NOT EXCEED SEVENTY-FIVE (75%) PERCENT.

SUBDIVISION: SHOULD THE PARCELS WHICH COMPRISE THE PROPERTY BE COMBINED OR SUBDIVIDED, THE STANDARDS SHALL BIND EACH SUBDIVIDED OR RECOMBINED PARCELS, AS APPLICABLE.

SIGNAGE: NO MORE THAN THREE (3) PRIMARY SIGNS PER BUSINESS MAY BE ERECTED ON A PROPERTY. TWO SIGNS MAY BE ATTACHED TO THE FACE OF THE PRIMARY BUILDING AND ONE MAY BE ERECTED AS A GROUND MONUMENT SIGN. IF PLACED ON THE BUILDING, THE SIGNS SHALL NOT EXCEED 300 SQUARE FEET IN SIZE OR TEN PERCENT OF THE FRONT FAÇADE, WHICHERVER IS LESS. IF ERECTED AS A GROUND MONUMENT STRUCTURE, THE SIGN SHALL NOT EXCEED 60 SQUARE FEET IN SIZE AND SHALL NOT EXCEED TWELVE (12) FEET IN HEIGHT. GROUND MONUMENT SIGNS MAY HAVE TWO FACES. GROUND MONUMENT SIGNS SHALL BE SETBACK A MINIMUM OF 15 FEET FROM THE FRONT PROPERTY LINE.

PERMITTED USES:

A. CORPORATE OFFICES AND GENERAL OFFICE USE.
B. SCIENCE, RESEARCH AND TECHNOLOGY BUSINESSES, SERVICES, OR LABORATORIES WHERE PROCESSES ARE ENVIRONMENTALLY CLEAN AND EFFICIENT.
C. GENERAL MANUFACTURING AND ASSEMBLY ESTABLISHMENTS (INDUSTRY, TYPE I USES) WHERE PROCESSES, FABRICATION AND PRODUCTS ARE ENVIRONMENTALLY CLEAN AND EFFICIENT.
D. HOTEL WHICH MAY INCLUDE CONFERENCE FACILITIES.
E. EDUCATIONAL FACILITIES, COLLEGE/UNIVERSITY.
F. MAJOR UTILITY SERVICES INCLUDING ELECTRICAL SUBSTATIONS.
G. MINOR UTILITY SERVICES INCLUDING UTILITY MAINTENANCE AND SERVICE FACILITIES.
H. RECREATIONAL FACILITIES IN ACCORDANCE WITH THE CENTER MASTER PLAN.
I. INCIDENTAL RETAIL SALE OF GOODS OR COMMERCIAL ACTIVITY ASSOCIATED WITH A PERMITTED USE, PROVIDED THE SQUARE FOOTAGE DOES NOT EXCEED TWENTY (20) PERCENT OF THE GROSS FLOOR AREA.
J. ACCESSORY USES ASSOCIATED WITH A PRIMARY PERMITTED USE IN ACCORDANCE WITH ANY ESTABLISHED COUNTY STANDARDS.
**Principal Industrial:** A future land use area where a variety of industry types are encouraged to locate. Principal Industrial areas are existing and planned regional employment centers and are distributed throughout the county, convenient to major residential areas and suitable highway access. Due to limited availability, areas designated as Principal Industrial are not appropriate for tax-exempt facilities.

**Land Use Types:**

- **Agricultural** - Industries which involve the manufacturing, storage, marketing and wholesaling of agricultural products. These industries may also be located outside of the Principal Industrial areas, within the rural designations, where agricultural skills may be found.

- **Small Industries and Custom Manufacturing** - These industries typically serve a local market and may involve the on-site production of goods by hand manufacturing.

- **Mining and Extraction** - These facilities locate according to the availability of natural resources.

- **Industrial** - Conventional freestanding industrial uses, warehouses, wholesalers, storage yards.

- **Industrial Parks** - Large tracts of land that are subdivided, developed and designed according to a unified plan. These parks are employment centers and may include mixed land uses including supporting retail services. These types of industries are encouraged to develop in Principal Industrial areas. Planned industrial parks should incorporate greenways, bike and pedestrian paths into their designs and link these features to surrounding neighborhoods where appropriate.

**Land Use Determinants:**

- **EXISTING LAND USE PATTERN** - Locations where industry has historically developed.

- **EXISTING ZONING** - Locations zoned industrial.

- **ECONOMIC OPPORTUNITY AREAS** - Locations identified by Roanoke County as an economic opportunity area.

- **EMPLOYMENT CENTERS** - Locations where labor-intensive industries exist.

- **TOPOGRAPHY** - Locations that can be developed in an environmentally sensitive manner and that are outside of the designated floodplain.

- **RESOURCE PROTECTION** - Locations that can be developed in such a way as not to threaten valuable natural resources.
WATER AND SEWER SERVICE AND SUPPLY - Locations where water and sewer service exist or can be provided in the near future.

ACCESS - Locations served by an adequate public street system that does not direct traffic through existing residential neighborhoods.

TRANSPORTATION CENTERS - Locations within close proximity to rail, airport and major street systems.

URBAN SECTOR - Locations served by, or in close proximity to urban services.