#### Atlanta Regional Commission 200 Northcreek, Suite 300 3715 Northside Parkway Atlanta, Georgia 30327-2809



Harry West Director

November 19, 1996

Honorable Wayne Hill, Chairman Gwinnett County Commission 75 Langley Drive Lawrenceville, GA. 30245

RE: Development of Regional Impact Review--Venture I-85/Ga. 20 Office & Retail

Dear Wayne:

I am writing to let you know that the ARC staff has completed review of the proposed Venture I-85/Georgia 20 Office & Retail Development of Regional Impact (DRI). Our finding is that this DRI is in the best interest of the State. However we do want to note two concerns that need to be addressed in the final design for the development:

- (1) Extraordinary measures will be necessary to prevent erosion and sedimentation and to manage stormwater runoff. This is because almost the entire site will be graded and then covered with structures and parking, because of the sensitivity of the Suwanee Creek watershed to flooding, and because Ivy Creek is a tributary to the Chattahoochee Corridor.
- (2) We understand that some re-orientation of the project may be needed to better conform to the County Future Land Use Plan. From a planning perspective we would encourage re-design. Locating the development on one long road with access only to Georgia 20 does not appear to be workable for this amount of development.

Enclosed is our detailed report. Also enclosed is a a copy of comments we received from the City of Suwanee as a part of our review.

We appreciate the opportunity to review this DRI and ask that you call us if you have any questions concerning this matter or if we can provide any further information.

Sincerely,

c Mr. Michael Williams, Gwinnett County

Mr. Mitch Peevy, Precision Planning

Mr. Rick Brooks, GDCA

Mr. Wayne Shackelford, GDOT

Mr. Harold Reheis, GEPD

Hon. Richard Trice, Mayor of Suwanee

Harry West Director

**Enclosures** 

Facility: <u>I-85/Ga. 20 Venture Retail-Office Complex</u>

Preliminary Report: October 29, 1996 Final Report: November 18, 1996

#### **DEVELOPMENTS OF REGIONAL IMPACT**

# REVIEW REPORT

## **GENERAL**

According to information on the review form or comments received from potentially affected governments:

Is the proposed project consistent with the host-local government's comprehensive plan? If not, identify inconsistencies.

The Gwinnett 2002 Land Use Plan recommends commercial uses directly at the I-85/Ga. 20 interchange and light industrial away from the interchange as a transition to residential uses. The proposed development would expand the commercial area beyond what the LUP recommends. However, according to the County, modifications to locate the commercial uses more toward I-85 and office uses toward the southern portion of the property could be considered consistent with the LUP.

Is the proposed project consistent with any potentially affected local government's comprehensive plan? If not, identify inconsistencies.

No inconsistencies were determined in the review process.

Will the proposed project impact the implementation of any local government's short-term work program? If so, how?

No significant impact on Gwinnett's. None determined on others.

Will the proposed project generate population and/or employment increases in the Region? If yes, what would be the major infrastructure and facilities improvements needed to support the increase?

The project could accommodate 1,799 jobs by regional averages. The applicant estimates 200-300 will be short-term jobs and 1,500-1,600 will be long-term jobs.

What other major development projects are planned in the vicinity of the proposed project?

ARC has reviewed numerous major developments and DRI's in this area of Gwinnett County with the closest being the proposed North Advanced Water Pollution Control Facility across I-85 from this location.

Will the proposed project displace housing units or community facilities? If yes, identify and give number of units, facilities, etc.

No.

Will the development cause a loss in jobs? If yes, how many.

No.

# **LOCATION**

Where is the proposed project located within the host-local government's boundaries?

The site proposed for development is near the I-85/Georgia 20 SE intersection. 34'03"/83'59"

Will the proposed project be located close to the host-local government's boundary with another local government? If yes, identify the other local government.

No.

Will the proposed project be located close to land uses in other jurisdictions that would benefit or be negatively impacted by the project? Identify those land uses which would benefit and those which would be negatively affected and describe impacts.

No.

# **ECONOMY OF THE REGION**

According to information on the review form or comments received from potentially affected governments:

What new taxes will be generated by the proposed project?

According to information submitted with the review, \$2,516,500 in annual property taxes at build-out.

How many short-term jobs will the development generate in the Region?

200-300.

Is the regional work force sufficient to fill the demand created by the proposed project?

Yes.

In what ways could the proposed development have a positive or negative impact on existing industry or business in the Region?

The development would compete with retail and office projects in the Gwinnett Mall area.

# **NATURAL RESOURCES**

Will the proposed project be located in or near wetlands, groundwater recharge area, water supply watershed, protected river corridor or other environmentally sensitive area of the Region? If yes, identify those areas.

In what ways could the proposed project create impacts that would damage or help to preserve the resource?

The proposed development site is located at the headwaters of some tributary streams to Ivy Creek which feeds into Suwanee Creek and that into the Chattahoochee River. Consequently, it is located in the Chattahoochee Water Supply Watershed, classified as a "large" (over 100 square miles) water supply watershed by Georgia EPD. None of the EPD minimum planning criteria for watersheds would apply to the proposed site. However, Gwinnett County's Tributary Buffer Zone Ordinance may apply.

Regardless, water quality in the Chattahoochee River can be impacted without stormwater pollution controls both during and after construction. Need for extraordinary measures to prevent erosion and sedimentation measures during construction are essential. In addition, the amount of pollutants that will be produced <u>after</u> construction of the proposed Venture

I-85/Ga. 20 Office-Retail Development was estimated by ARC. These estimates are based on some simplifying assumptions for typical pollutant loading factors (lbs/ac/year). The loading factors are based on the results of regional storm water monitoring data from the Atlanta Region. The following table summarizes the results of the analysis:

#### **Estimated Pounds of Pollutants Per Year**

Land Coverage	Total Phosphorus	Total Nitrogen	TSS	BOD	Zinc	Lead
Office (28.96ac)	37.36	496.08	20,503.68	3,301.44	42.86	5.50
Retail (112.1ac)	191.69	1,950.54	110,194.3	12,106.8	137.88	24.66
Total	229.05	2,446.62	130,697.98	15,408.24	180.74	30.16

Gwinnett County should ensure that the developer takes steps to mitigate potential impacts. The proposed site's inclusion of perennial flowing streams and the basin's susceptibility to flooding highlight the need to mitigate the quantity and quality of stormwater runoff from this site. The "Interim Regional Storm Water Quality Management Guidelines," adopted by the Atlanta Region provide suggestions for addressing stormwater quality (find attached).

#### **HISTORIC RESOURCES**

Will the proposed project be located near a national register site? If yes, identify site.

No.

In what ways could the proposed project create impacts that would damage the resource?

N/A

In what ways could the proposed project have a positive influence on efforts to preserve or promote the historic resource?

N/A

#### INFRASTRUCTURE

**Transportation** 

How much traffic (both average daily and peak a.m./p.m.) will be generated by the proposed project?

•			$\mathbf{A}\mathbf{M}$	Ī	PM	
	•		Peak 1	Hour	Peak l	Hour
Land Use	<b>Square Feet</b>	Weekday	Enter	Exit	Enter	Exit
Office	195,000	2,325	285	35	50	255
Retail	574,450	21,090	285	270	1000	1000

The above trip generation figures were calculated using the Institute of Traffic Engineers <u>Trip Generation</u> (5th Edition) manual.

What are the existing traffic patterns and volumes on the local, county, state and interstate roads that serve the site?

	1995 Number	1995	1995	2010 Number	Forecast 2010	2010
Facility	of Lanes	Volume	V/C Ratio	of Lanes	Volume	V/C Ratio
I-85 from I-985 to SR 20	4	44,410	.54	4	91,691	1.11
I-85 from SR 20 to Hamilton Mill Road	4	42,000	.51	4	94,859	1.15
SR 20 from I-985 to Gravel Springs Road	2/4*	30,379	1.03	4	22,488	.38
SR 20 from Gravel Springs Road to I-85	2	17,443	.59	4	24,893	.42
SR 20 from I-85 to Azalea Road	4	20,621	.28	4	21,989	.30
Outer Loop from I-985 to I-85	_	<del></del>		4	68,246	.92
Outer Loop from I-85 to SR 124				4	79,651	1.08

<sup>\*</sup>V/C Ratio calculated using 2 lanes

The table shows that all of the facilities in the project area, except for SR 20 from I-985 to Gravel Springs Road, currently operate well within their respective carrying capacities. However, SR 20, from I-85 to the existing four-lane segment beginning between Gravel Springs Road and I-985, is scheduled for widening with construction in FY '98. This should alleviate congestion in this area. Future volume forecasts indicate that I-85 and the Outer Loop will experience congestion. SR 20 will be able to accommodate future traffic growth.

What transportation improvements are under construction or planned for the Region that would affect or be affected by the proposed project? What is the status of those improvements (long or short range or other)?

The ARC's adopted Atlanta <u>Regional Transportation Improvement Program FY 1996-FY 2001</u> (TIP) includes the following proposed transportation projects in the vicinity of this development:

GW 014 - Widening SR 20 from I-85 to existing four-lane road. Preliminary engineering has already been authorized. Right-of-way acquisition is scheduled for FY '96 and construction is scheduled for FY '98.

GW-R 068 - I-85 at SR 20/Lawrenceville Highway interchange project has preliminary engineering and right-of-way acquisition already authorized. Construction is scheduled for FY '96.

GW-R 069 - I-985 at SR 20 interchange project has preliminary engineering already authorized. Right-of-way acquisition is scheduled for FY '97 and construction is scheduled for FY '99.

Also in the project vicinity is the preliminary alignment for one segment of the proposed Outer Perimeter highway. This particular segment of the Outer Perimeter is listed in the Atlanta Regional Transportation Plan in the State Fund (100%) category and appears below.

R 023 - Construct the four-lane Outer Loop from SR 371 in Forsyth County to Alcovy Road in Gwinnett County. Preliminary engineering is ongoing; however, right-of-way and construction activities are not currently scheduled for the TIP period (FY 1996 - FY 2001).

In January of 1994, at the direction of its Board, the Atlanta Regional Commission staff began a 10-month study of the potential impacts of the proposed Outer Loop. After a review of the results of the study, the ARC Board, on November 23, 1994, adopted a four-part policy position that includes the following: "ARC staff will analyze the section from 411/I-75 on the north, easterly to SR 316 for air quality conformity. Additionally, staff will work with the Georgia Department of Transportation to develop a financial plan for that section. This work should be accomplished as part of the next comprehensive update of the Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP)."

Georgia DOT is conducting a major investment study in the Outer Loop corridor, examining environmental impacts and developing cost estimates for different alignments.

Will the proposed project be located in a rapid transit station area? If yes, how will the proposed project enhance or be enhanced by the rapid transit system?

No.

Is the site served by transit? If so, describe type and level of service.

No.

Are there plans to provide or expand transit service in the vicinity of the proposed project?

No.

What transportation demand management strategies does the developer propose (carpool, flex-time, transit subsidy, etc.)?

None.

What is the cumulative trip generation of this and other DRI's or major developments? Is the transportation system (existing and planned) capable of accommodating these trips?

Two other DRIs have been reviewed in this area. One was an apartment complex application that was withdrawn before a decision was made by the County. The other was the North Advanced Water Reclamation Facility. The trip generation for the North Advanced Water Reclamation Facility and the Venture I-85/SR 20 Office-Retail development appears below.

Number of			$\mathbf{AM}$		PM	
e e	Employees or		Peak l	Hour	Peak 1	Hour
Land Use	Square Feet	Weekday	Enter	Exit	Enter	Exit
Wastewater Utility	100 employees	106	44	5	5	35
Venture Office	195,000 sq. ft.	2,325	285	35	50	255
Venture Retail	574,450 sq. ft.	21,090	285	170	1000	1000
Total		23,521	614	210	1055	1290

The table above shows that the two developments at buildout will add approximately 23,521 daily trips to the local road network. The applicant should also be advised that although no formal DRI review has been done, a regional mall is proposed to be located on SR 20 between I-985 and I-85.

In order to ensure the integrity of the transportation system, County officials should work with the Georgia Department of Transportation to identify roadways that will ultimately become congested so that appropriate transportation projects can be formulated and programmed. County officials should also carefully consider the coordination of new growth with their ability to provide adequate transportation infrastructure to prevent congestion and poor operating conditions not only in the immediate project area but also on a county-wide basis.

# **INFRASTRUCTURE**

Wastewater and Sewage

How much wastewater and sewage will be generated by the proposed project?

According to regional averages, the proposed development could generate 0.096 MGD of wastewater.

# Which facility will treat wastewater from the project?

The proposed North Advanced Water Pollution Control Plant which will be located across I-85 from this site. However, lines would have to be extended/upgraded and this would require developer participation.

What is the current permitted capacity and average annual flow to this facility?

Proposed capacity = 20 MGD.

What other major developments will be served by the plant serving this project?

Yet to be determined.

## **INFRASTRUCTURE**

Water Supply and Treatment

How much water will the proposed project demand?

Again, according to regional averages, 0.11 MGD.

How will the proposed project's demand for water impact the water supply or treatment facilities of the jurisdiction providing the service?

Gwinnett should have sufficient water available for the development but extensions and upgrades to lines will be required with developer participation included.

# <u>INFRASTRUCTURE</u>

Solid Waste

How much solid waste will be generated by the project? Where will this waste be disposed?

2,954 tons - The development would contract with private waste haulers for this service.

Other than adding to a serious regional solid waste disposal problem, will the project create any unusual waste handling or disposal problems?

No.

Are there any provisions for recycling this project's solid waste.

None stated.

# **INFRASTRUCTURE**

#### Other facilities

According to information gained in the review process, will there be any unusual intergovernmental impacts on:

- Levels of governmental service?
- Administrative facilities?
- Schools?
- Libraries or cultural facilities?
- Fire, police, or EMS?
- Other government facilities?
- Other community services/resources (day care, health care, low income, non-English speaking, elderly, etc.)?

No.

# **HOUSING**

Will the proposed project create a demand for additional housing?

There is already much new housing in the vicinity.

Will the proposed project provide housing opportunities close to existing employment centers?

No.

Is there housing accessible to the project in all price ranges demanded?

Yes.

Is it likely or unlikely that potential employees of the proposed project be able to find affordable\* housing?

Likely.

<sup>\*</sup> Defined as 30 percent of the income of a family making 80 percent of the median income of the Region. 1996 median family income of \$52,100 for Atlanta MSA.

# ARC Storm Water Management Task Force INTERIM STORM WATER QUALITY MANAGEMENT GUIDELINES

#### Introduction

The following are suggested interim guidelines for local governments that want to protect and improve water quality by minimizing the potential harmful impacts generated by pollution in storm water runoff from urban land uses. These guidelines are focused on practices to minimize long-term impacts of developed areas on water quality. In general, the objectives of these interim guidelines include minimizing imperviousness, providing areas to capture overland flow of storm water and allow it to infiltrate into the soil, treating other runoff that leaves a developed site and designing sites to protect water quality.

Although many pollutants in storm water runoff must be considered in storm water design, one of the primary pollutants used as a design parameter is total suspended solids, or TSS. The following table is provided as information on post-development characteristics of average annual TSS loads (pounds per acre per year) associated with various land uses and development types. The source of this information is based on storm water samples collected for the Atlanta Region Storm Water Characterization Study and is supplemented with national data for the non-urban land uses.

TSS (lbs/ac/yr.)
235
327
355
447
639
801
60 <b>5</b>
983
708
795

The Atlanta Region Storm Water Management Task Force is working to develop a detailed manual of Best Management Practices (BMPs) for reducing TSS and other pollutants in storm water runoff from urban areas. The Task Force generated the following protection measures as interim recommendations to be used until the BMP manual is completed. This guidance document includes a variety of recommended practices which are presented below as options for developers and engineers to consider in designing controls for storm water runoff quality from developed areas. These practices are options and may be used alone or in combination - selection of appropriate controls will be site-specific.

# Practice 1: Minimize Impervious Surface

This option may be most appropriately applied to larger sites. Minimizing the amount of impervious surface on a site allows for more infiltration of storm water into the ground, thereby reducing both pollutants and the runoff from the site. This approach to managing storm water runoff does not require extensive maintenance. Therefore, when possible, limiting impervious surface on a site should be encouraged. This basically involves leaving part of a site undeveloped to achieve lower percentages of impervious surface. It is recommended that impervious surface on a site be limited to the impervious surface equivalent to medium density, single family residential (approximately 1/4 - 1/2 acre average lot sizes) development. This type of development typically has 25% or less impervious surface. If a developer restricts impervious surface to these levels, construction of structural controls for water quality would probably not be necessary. Any development more dense than medium density single family residential should employ structural controls (see Practice 2 below).

The development site should be planned so that open space areas act as a pollutant filter and buffer for storm water flow from the site. Environmentally sensitive portions of a development site such as river and stream corridors and wetlands should be targeted for the undeveloped, "open space" or "greenbelt" areas. Local governments can encourage the concept of "cluster development," which allows higher levels of impervious (over 25%, for example) on portions of a site if sensitive areas are left undeveloped and maintained as undisturbed open space and they function to reduce the pollutant load in storm water runoff. Provisions should be made so that any open space areas are maintained in their natural state. If any development in these areas occurs in the future, the site would have to be re-reviewed, for storm water quality purposes, by the local government.

As a general guideline to local governments, several studies indicate that watershed-wide impervious surface amounts should not exceed 10-25% of the total land area in a water supply watershed.

# **Practice 2: Structural Controls**

If the developer selects storm water management options which involve structural controls, it is important for local governments to require that the developer submit a Storm Water Management Plan as a key component of the Plan of Development. The storm water plan should include the location, construction and design details and all engineering calculations for all storm water quality control measures.

#### Wet Ponds

This practice recommends that structural controls be designed to control water quality in addition to the quantity controls typically required by local governments. At this time, the preferred approach to achieve water quality goals is construction of wet ponds. However, wet ponds may be more appropriately suited for larger developments or a group of developments. To develop an appropriate wet pond, additional storage provided above the permanent pool, combined with an appropriately designed outlet control structure, could give the necessary control for both storm water quality and quantity. Other structural control methods such as constructed wetlands could be explored as long as they were shown to achieve the desired pollutant removal.

As an example, the following design guidelines typically achieve a TSS reduction of 65%.

- Keep pond shape simple for good circulation.
- Inlets should be widely spaced from the outlets to avoid short-circuiting.
- Length should be three to five times the width.
- At least three, and preferably six to seven feet of permanent pool depth is needed for the majority of the pond.
- An underwater shelf (approximately 6"-12" deep and at least 3' wide) around the perimeter of the pond should be planted with rooted aquatic plant species.
- The pond should be designed with a sediment forebay which is easily accessible for maintenance and periodic cleaning. The forebay should be designed so as to minimize the resuspension of previously deposited sediments. The forebay storage capacity should be about 10% of the permanent pool storage to accommodate sediment accumulations over a 10- to 20-year period.
- The pond surface area should correspond to approximately 1% of the total drainage area. The minimum drainage area is 20-25 acres; the maximum is 100-300 acres depending on the level of imperviousness in the drainage basin.
- For water quality benefits, the pond should provide storage for runoff depths as listed below. The pond volume above the normal pool required for water quality may be calculated by multiplying the runoff depth by the contributing drainage area.

	Inches of Runoff			
Land Use	Sandy Soil	Clayey Soil		
Freeways	0.35	0.40		
Totally Paved Area	1.10	1.10		
Industrial	0.85	0.90		
Commercial	0.75	0.85		
Schools	0.20	0.40		
Low Density Res.	0.10	0.30		
Medium Density Res.	0.15	0.35		
High Density Res.	0.20	0.40		
Developed Parks	0.50	0.60		

- Storage for flood control should be provided above the level of storage provided for water quality benefits.
- The ratio of outlet flow rate to pond surface area for each stage value needs to be at the most 0.002 cfs/ft<sup>2</sup> for the water quality portion.

# **Extended Detention with Wetland Plantings**

For smaller sites, with a drainage area less than 20-25 acres, it may be appropriate for the developer to use the option of a detention facility system established to provide water quality improvement through much longer detention times in contact with wetland plantings. Research has shown that storm water impounding areas which capture the first flush of runoff in a wetland setting for several days, in concert with an outlet control system for extending the detention times of larger storms, demonstrate measurable improvements in water quality. As an example, the following general design guidelines typically achieve a TSS reduction of between 45 and 80%.

If this type of system is desired, the pond area should follow the 1% of drainage basin rule presented above. The first flush capture should be at least 1/2 inch runoff from all impervious surfaces. The bottom of the pond should be cultivated with plantings indigenous to local wetlands. The first flush should be held so as to prevent its complete release in less than a 48 hour period. Each pond should provide the forebay sediment storage area already presented, as well as layout to prevent short circuit. Water velocity through the pond should be kept as low as possible with a maximum goal of 1/2 fps. Where possible, the outlet control system should be located adjacent to a public street to allow maximum access.

# Maintenance of Structural Controls

If structural storm water controls are not maintained properly, they will provide no benefit. The developer's Storm Water Management Plan should require the developer to submit a detailed, long-term schedule for inspection and maintenance of any structural storm water facilities included. This schedule should be consistent with the maintenance policy of the local government and should describe all maintenance and inspection requirements and persons responsible for performing maintenance and inspection activities. Provisions should be made for the local government to inspect the facilities during and after construction.

#### Practice 3: Other Controls

Many of the following suggested controls are applicable to all developments. In general, the objectives of the following storm water runoff controls include minimizing imperviousness, providing areas to capture overland flow of storm water and allow it to infiltrate into the soil, reducing sediment flows, and avoiding directly connected impervious surface areas.

Building/Site Design

- Direct roof downspouts away from direct connection with impervious surfaces.
- Use grassed swales/vegetative filter strips whenever feasible for the drainage collection system (eliminate curb and gutter). Because of decreased storm water runoff, a reduction in pollutant loads will also be realized.
- Landscape with terraces rather than aggressive slopes.
- Encourage the use of bioengineering practices to rehabilitate unstable stream channels resulting from impacts of urbanization.
- Protect and maintain natural, undisturbed buffers adjacent to streams.
- Keep development out of wetland and floodplain areas. Encourage incorporating wetlands into landscaping, upgrading wetlands where possible.
- Design and locate buildings, roads, parking and landscaping to conform with the natural terrain and to retain natural features.
- Minimize impervious surface in river and stream corridors.

# Erosion and Sediment Controls

- Leave generous buffers or natural areas between bare land areas.
- Regrass/landscape bare soil.
- Check for volume transfer and velocities of water downstream of project to protect downstream areas from increased erosion and to prevent streambank and natural area destruction.
- For controls during construction, refer to the State Erosion and Sediment Control Act and pending State construction permit.

# Recommended References

- United States Environmental Protection Agency, January 1993. Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters.
- Schueler, Thomas R., Department of Environmental Programs, Metropolitan Washington Council of Governments, July 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs.
- Georgia Soil & Water Conservation Commission, Metro Atlanta Association of Conservation Districts, USDA Soil Conservation Service and Georgia Environmental Protection Division, 1994. Guidelines for Streambank Restoration.
- Pitt, Dr. Robert E. Excerpts from Detention Pond Design to Control Quality and Quantity, University of Alabama, Birmingham Continuing Education Workshop. For more information, contact David Eckhoff, Director of Engineering Professional Development, (205)934-8268.
- Camp Dresser & McKee, prepared for the Atlanta Region Storm Water Task Force, Atlanta Region Storm Water Characterization Study, 1993.

FROM

# DEVELOPMENTS OF REGIONAL IMPACT Comments from Affected Parties Form

Project I.D: I-85/ba 20 Venture (From Request for Commerce Form)
Name of Commenting Organization: City of Suwavee
Address: Box. 58
Suwanes UA. 30174
Contact Person: Richard Trice Mayor Telephone Number: 945-8996
Do you believe your jurisdiction will be affected by the proposed development?YesNo
Please describe the effects (positive and/or negative) the proposed project could have on your jurisdiction:
The main concern of the City of Suwanee would be
increased water flow into the Summee Craek Basin,
The Sumanee Creek Basin as well as Ivy Creek are very"
sensitive to run-off from heavy rains due to the development
We are concorned about initial siltation control and
in the long form a great need for retention of water
from the extreme amount of impervious surface which
This development will create,
This is our main concern. Traffic other than increasing
the vehicles on I-85 should not greatly affect the City,
Thank you for letting the City comment.
(Attach Additional Pages if Necessary)
Form Completed By: Richard A. Trice Title: Mayor
Signature: 7 Date: 11/7/96

RETURN TO:

ATLANTA REGIONAL COMMISSION 3715 Northside Parkway

200 Northcreek, Suite 300

FAX NO. 404-364-2599

DCA/OCP 10/7/91