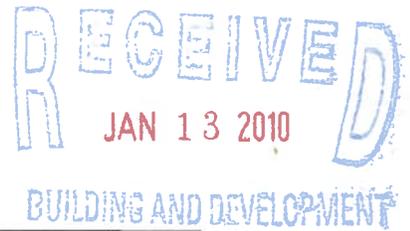


COMMONWEALTH OF VIRGINIA
COUNTY OF LOUDOUN
APPLICATION FOR APPEAL
(Please type or Print in Black Ink)



APPLICATION NO. APPL-2010-0003
(Assigned by Staff)

NAME OF THE APPELLANT: Zebra Ventures LLC

NATURE OF THE APPEAL: The Appellant disagrees with the County's December 15, 2009 determination (the "Determination") that a proffer commitment under ZMAP 1998-0003 (the "Rezoning") for a traffic signal at a potential site intersection for the Rezoning property on Waxpool Road has been triggered as a result of a signal warrant study performed by others for an off-site intersection and property unrelated to the Rezoning, and that the Appellant must now install the traffic signal.

DATE OF ORDER, REQUIREMENT, DECISION, DETERMINATION OR NOTICE OF VIOLATION WHICH IS SUBJECT TO THE APPEAL: December 15, 2009

HOW IS THE APPELLANT AN AGGRIEVED PERSON?

The Appellant is named in the Determination as the sole party required to install the traffic signal pursuant to the proffers for the Rezoning.

IF APPEAL RELATES TO A SPECIFIC PROPERTY, PROVIDE THE FOLLOWING INFORMATION:

POSTAL ADDRESS OF PROPERTY: No property identified by the Determination. Appellant's property is undeveloped.

TAX MAP DESCRIPTION: No property identified by the Determination. Appellant is the owner of Tax Map 79 ((84)) Parcel A.

MCPI # (PIN): No property identified by the Determination. Appellant is the owner of PIN: 061-36-2081.

The undersigned has or has not (circle one) the authority to allow and does or does not (circle one) authorize Loudoun County staff representatives on official business to enter on the subject property as necessary to process the application.

Type or print name of Appellant or Agent: Agent for Appellant: Antonio J. Calabrese

Signature of Appellant or Agent: AJ CALABRESE

Address: Cooley Godward Kronish LLP, 11951 Freedom Drive, Reston, VA 20190

Telephone No. Home Work: (703) 456-8650

DO NOT WRITE IN THIS SPACE

Subdivision Name: MC1/NOVA CAMPUS

Total Area (Acres/Square Feet): 71.08

Present Zoning: PDDP Applicable Ordinance: _____

Election District: Dolles

Date application received: 1/13/2010 Application Fee Paid: \$ 350.00

Date application accepted: 1/14/2010 Receipt No.: 109695422

Antonio J. Calabrese
(703) 456-8650
acalabrese@cooley.com

BY HAND DELIVERY

January 13, 2010

The Honorable Scott K. York, Chairman
Loudoun County Board of Supervisors
1 Harrison St., S.E., 5th Floor
Leesburg, Virginia 20177

Dan Schardein, Zoning Administrator
Department of Building and Development
1 Harrison St., S.E., 3rd Floor
Leesburg, Virginia 20177

**RE: Appeal of Proffer Determination
Zebra Ventures, LLC ("Appellant")**

Gentlemen:

Enclosed are two complete copies of the above-referenced Appeal application to the Board of Supervisors. The application includes an Application for Appeal signed by the Appellant's Agent, the December 15, 2009 proffer determination which is the subject of the Appeal, the Appellant's statement describing the grounds for the Appeal and how the Appellant is an aggrieved party, supporting documents to be included in the record, and the application fee check in the amount of \$350 made payable to the County of Loudoun. We reserve the right to submit additional materials in support of the Appeal.

Thank you for your attention to this matter. Please do not hesitate to contact me if you have any questions.

Very truly yours,

Cooley Godward Kronish LLP

AJ Calabrese

Antonio J. Calabrese

Enclosures

cc: Lamot J. du Pont, Zebra Ventures, LLC

428005 v1/RE



A 28

**Appeal Of The Loudoun County Proffer Auditor's Determination
Concerning Installation of Traffic Signalization
Along Route 625 (Waxpool Road)**

I. Statement of the Case

Pursuant to Section 15.2-2301 of the Virginia Code and Section 6-1209(J) of the Loudoun County Zoning Ordinance, Zebra Ventures LLC ("Zebra") submits this appeal of the December 15, 2009 determination by the Loudoun County Department of Building and Development Proffer Auditor (the "Determination," annexed hereto as Exhibit A). The Determination requires Zebra to install a traffic signal at Route 625/Waxpool Road, adjacent to the location identified as Site Entrance M on the proffer statement dated June 17, 1998 for WorldCom, ZMAP 1998-0003 (the "Proffer Statement," annexed hereto as Exhibit B).

II. Introduction

On June 17, 1998, Zebra's predecessor in interest submitted the Proffer Statement for its planned development of the WorldCom headquarters and surrounding parcels (the "Property"). At the time the then-owner of the Property did not have a clear plan as to how the entire Property would be developed, other than the core area comprising the former WorldCom headquarters. Consequently, the owner's plans identified several potential entrances to the site that the owner considered constructing in the future. The owner had no obligation to construct any of the site entrances, and it was understood that under no circumstances would all of the potential site entrances be constructed.

The Proffer Statement contained commitments to mitigate the land use impact of the development of the Property, including Zebra's agreement to install a traffic signal at some of the potential site entrances if warranted by an appropriate traffic signal study. One of these potential site entrances was denoted Site Entrance M, located on the northern edge of the Property, which is bounded by Waxpool Road. Site Entrance M has never been opened and

Zebra's property near Site Entrance M is vacant. Nonetheless, on the other (north) side of Waxpool Road sits the Waxpool Road Center, a hotel and restaurant complex that is not owned by Zebra. Amazingly, the Determination concludes that even though Site Entrance M has never been used, Zebra, as the owner of *vacant* land on the south side of Waxpool Road, must pay for a signal at the intersection of Waxpool Road and the Waxpool Center on the north side of Waxpool Road, thus forcing Zebra to bear the costs of mitigating impacts created by someone else's development. This Determination misconstrues the Proffer Statement's plain language, ignores its intended purpose, and creates troubling implications for the entire system of voluntary proffers. For these reasons and as more particularly set forth herein, the Proffer Auditor's Determination must be reversed.

III. The Appellant Is Harmed By The Zoning Auditor's Determination And Is A Party Aggrieved

Zebra is the current owner of property indentified on the Loudoun County Parcel Maps as Parcel Identification Number 061-36-2081 ("the Parcel"). The Parcel is bounded by State Route 625/Waxpool Road to the north, State Route 607/Loudoun County Parkway to the south and east, and the former WorldCom headquarters complex to the west. The Parcel is located within the Property that was subject to the zoning map amendment for WorldCom, ZMAP 1998-0003, filed by UUNet Technologies. The Board of Supervisors approved ZMAP 1998-0003 on June 17, 1998, subject to the Proffer Statement and to the concept development plan dated April 24, 1998 and revised through June 5, 1998 by Dewberry and Davis (the "Concept Development Plan," annexed hereto as Exhibit C). For purposes of this appeal and with respect to the Parcel, Zebra is the successor in interest to UUNet Technologies.

Proffers II(D)(1)-(2) and V(D) require UUNet Technologies or its successors in interest to pay for the costs of traffic signals at several potential intersections whenever such traffic

signals are warranted by VDOT criteria. The Proffer Statement and Concept Development Plan identify one such potential intersection at Route 625 and Site Entrance M, a spot along the northern border of the Property, fronting the south side of Waxpool Road. VDOT has determined that a traffic signal is warranted at the intersection of Waxpool Road Center and Waxpool Road, a location outside of the Property on the north side of Waxpool Road opposite the proposed Site Entrance M. Based on these facts, the Determination requires Zebra to install, at its own cost, a traffic signal at Waxpool Road to serve that intersection.

The Board of Supervisors has jurisdiction to hear Zebra's appeal because the Determination constitutes a decision of the Proffer Auditor, acting on behalf of the Zoning Administrator, regarding the proffered conditions associated with the zoning map amendment. Zebra is aggrieved because the Determination requires Zebra to take actions that fall outside the terms of the Proffer Statement and to mitigate traffic impacts wholly unrelated to the development of Zebra's Property. However, because this appeal will determine whether Zebra or the County must pay for the traffic signal at issue, Zebra respectfully suggests that the Board may not be sufficiently free of pecuniary bias to render a fair and impartial decision that comports with Zebra's Due Process rights under the United States Constitution. *See, e.g., Gibson v. Berryhill*, 411 U.S. 564, 579 (1973) ("It is sufficiently clear from our cases that those with substantial pecuniary interest in legal proceedings should not adjudicate these disputes."). Zebra reserves its right to raise this Due Process Claim with the Circuit Court, pursuant to Va. Code 15.2-2314.

A. Nothing in the Proffer Statement Requires the Owner to Build A Traffic Signal

1. Standard of Interpretation for Voluntary Proffers

Proffers are voluntary commitments made by landowners to ameliorate the impact of *their own development* on the local infrastructure and adjoining land. *Hale v. Board of Zoning Appeals*, 227 Va. 250, 273 (2009). Proffers are to be interpreted according the plain meaning of their language. *Hale*, 227 Va. at 274; *see also Gwinn v. Walker*, No. 182748, 2003 WL 21787530, at *3 n.13 (Fairfax County Cir. Ct. July 22, 2003) (applying dictionary definition to interpret proffer term). Once accepted, proffers have the force of law equal to zoning ordinances. As such, proffers must be strictly construed in favor of the property owner. *See Ramsey v. Board of Zoning Appeals*, No. 04-346, 2005 WL 3579040, at *2 (Warren County Cir. Ct. June 8, 2005) (zoning ordinances to be strictly construed in favor of property owner). In addition, the Proffer Statement itself requires strict interpretation of its terms: the Proffer Statement disclaims liability for any improvements “except to the extent *expressly required* by these Proffers....” Proffer Statement at 5 (emphasis added).

2. There Is No Intersection At Waxpool Road and Site Entrance M

In strictly construing the plain language of Proffer Statement, it is clear that Zebra has no obligation to pay for a traffic signal at the “intersection” of Waxpool Road and Site Entrance M because there is no “intersection” at that location. Proffer II(D) states as follows:

D. SIGNALIZATION

(1) Proffered Signals. The Owner shall install signalization at such time as warranted by VDOT criteria (i.e. the Manual on Uniform Traffic-Control Devices) *at the intersections of:*

...

(d) Route 625/Site Entrances M-N

...

(2) If at the time the necessary warrants for any of the foregoing traffic signals are met WorldCom or a wholly-owned subsidiary is the owner of all land *fronting on the intersection* where the signal

is warranted, WorldCom shall be responsible for paying for the cost of such signal. The Protective Covenants, to be established by the Owner at the time of sale of any land within the Property to an entity unrelated to WorldCom, shall provide for a procedure and formula for the collection and payment of future signalization costs from such unrelated entities.

Proffer Statement at 7-8 (emphasis added).

This Proffer requires the owner to install a traffic signal only at certain *intersections*. An intersection is “[a] place where things, as streets, intersect.” *Webster’s II New Collegiate Dictionary* 580 (1999). An intersection at Site Entrance M would consist of (1) Waxpool Road as the major approach road and (2) a minor approach road starting at Site Entrance M and leading southward into the Property. However, there is no minor approach road at Site Entrance M.¹ The Parcel is vacant, and a permanent traffic barrier stands at Site Entrance M.

As employed by the Proffer Statement, the terms and concepts “Site Entrance” and “Intersection” have distinct meanings. The Proffer Statement defines “Site Entrances” as “site access points to public roadways (Route 625, Route 640 and Route 607) adjacent to the property.” These potential Site Entrances are marked by arrowpoints on the Concept Development Plan. These arrowpoints are all located within the Property and mark the locations of *unbuilt* roads within the Property that may form *future* intersections. The Proffer Statement makes it clear that Site Entrances, alone, are not intersections: Proffer II(D)(1) calls for traffic signals “*at the intersection of*” Waxpool Road and Site Entrance M, not merely at Site Entrance M or even along Waxpool Road at Site Entrance M.

¹ This definition of “intersection” is used by the traffic signal study that VDOT relied upon to warrant the traffic signal at issue. This traffic signal study describes the intersection requiring the traffic signal as Waxpool Road forming the main approach and the Waxpool Road Center Main Entrance, which runs northward into the Waxpool Road Center property, forming the minor approach. Gorove/Slade Assocs., Inc., *Existing and Future Conditions at Waxpool Road and Waxpool Road Center Western (Main) Entrance* 15 (June 18, 2008, rev. Feb. 23, 2009) (annexed hereto as Exhibit E).

In contrast, when the Proffer Statement uses the term “intersection,” it refers to the meeting place of two actual roads. For example, the Proffer Statement includes certain improvements for the “intersection of Panorama Parkway at Route 625.” This is an actual crossing of two actual roads, Panorama Parkway and Waxpool Road; it is not, like Site Entrance M, merely a spot on a map along Waxpool Road.

Finally, the Proffer Statement addresses the possibility that there may never be an intersection at a designed Site Entrance. On page 5, the Proffer Statement explicitly states that the internal road network and Site Entrances shown on the Concept Development Plan may be modified to accommodate final site engineering and VDOT and local approval. On page 6, the Proffer Statement covenants to “open up site entrances ‘A’ and ‘B’” – that is, to build intersections at those two Site Entrances – only if certain conditions occur. If those conditions fail to occur, there will be no intersections at Site Entrances A and B, just as there is currently no intersection at Site Entrance M.

VDOT has also recognized that not every Site Entrance will become an intersection with a traffic signal. In 1998, VDOT reviewed WorldCom ZMAP 1998-0003. In a letter dated June 16, 1998, a VDOT transportation engineer wrote “It is not anticipated that all crossovers will be signalized on Loudoun Parkway and Waxpool/Farmwell Road.” See Exhibit D (letter from Kevin Nelson to Charles Yudd (June 16, 1998)).

The law requires the Board to apply a narrow reading of the plain text of the Proffer in question. Such a reading requires the existence of an intersection on the south side of Waxpool Road formed by a road starting at Site Entrance M and running southward into the Property before Zebra is obligated to pay for a traffic signal there. There is no such road or intersection. Zebra should not be forced to pay for a traffic signal at this nonexistent intersection.

B. Zebra Cannot Be Forced to Pay For Mitigation of Traffic Created By Others' Development

The lack of an intersection on the Property at Site Entrance M is enough to overturn the Determination. In a further attempt to force Zebra to pay for a traffic signal, however, the Zoning Administrator may cite the traffic entering and exiting Waxpool Road at Waxpool Road Center. This traffic, however, does not arise from the Property, does not lead into the Property, and does not fall within the contemplation of Proffer Statement. As such, the County cannot require Zebra to pay for a signal intended to address this traffic.

1. Unrelated Development by An Adjacent Landowner Has Created the Need for Traffic Signal

The Waxpool Road Center has built a road on its own property identified by VDOT as the "Waxpool Road Center Main Entrance." This entrance intersects with Waxpool Road at a point north of Site Entrance M. According to the traffic signal study VDOT relied upon to decide a signal was warranted, the need for a traffic signal arises entirely from vehicles entering and leaving Waxpool Road Center:

[T]raffic volume along Waxpool Road is not the deciding factor for the signal warrant study. The traffic volume produced by the Waxpool Road Center is the 'key' factor in triggering the need for a traffic signal.

Exhibit E at 5.

While Proffer II(D)(2) requires the owner of the property "fronting on the intersection where the signal is warranted" to pay for that signal, Zebra is *not* that owner. The intersection warranting a signal fronts the *north* side of Waxpool Road. Zebra owns the property fronting the *south* side of Waxpool Road. This is clear from a comparison of the 2009 traffic signal study at Exhibit E with a traffic report submitted with ZMAP 1998-0003, annexed hereto at Exhibit F.

Below, on the left, the intersection diagram submitted with ZMAP 1998-0003 shows the planned but unbuilt intersection at Site Entrance M and Waxpool Road. Below, on the right, the intersection diagram from 2009 shows the actual traffic flow in the area today. This later diagram highlights both the absence of any intersection at Waxpool Road and Site Entrance M and the fact that the traffic warranting a signal originates from a source wholly unrelated to the Property.

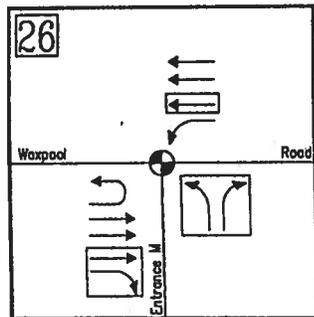


Exhibit F, Fig.3

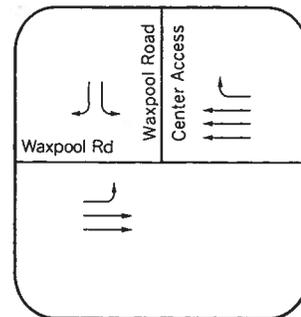


Exhibit E at 4

2. Zebra Has No Obligation to Mitigate Traffic Created by Adjacent Landowners

At two points, the Proffer Statement expressly contemplates measures related to development by third parties. Neither relate to the development at Waxpool Road Center. Because proffer statements are to be construed strictly in the landowner's favor, the County cannot read into the Proffer Statements additional obligations arising from third-party development at Waxpool Road Center. *Hale*, 277 Va. at 274.

In any case, the Proffer Statement's two provisions related to third-party development show the owner intended to pay only for mitigation of traffic directly related to its own Development.

First, and most notably, at Proffer II(D)(1)(e), the owner agreed to pay only half the cost of a traffic signal at the intersection of Waxpool Road and Site Entrance L if the landowner on

the north side of Waxpool Road constructed a street opposite from Site Entrance L. In other words, if half the traffic at an intersection consisted of vehicles entering or leaving another landowner's property, this Proffer requires the owner to pay for only half of the related traffic improvements. Under this same principle, since none of the traffic in the area of Site Entrance M and Waxpool Road is attributable to the Property, the owner should not be responsible for the cost of mitigating any of it.

Second, at Proffer II(B)(e), the owner agreed to realign Waxpool Road from Site Entrance C to Farmwell Road at Switch Road if the adjacent Islamic Saudi Academy had not already begun to do so by December 31, 2000. However, this Proffer makes clear that once the Islamic Saudi Academy made its cash in lieu contribution to Loudoun County under the conditions of its Special Exception Application, the owner expected to be reimbursed for the cost of realigning the road. Again, this Proffer shows that the owner intended to pay only for the cost of traffic improvements directly related to its own Property. For any improvements necessitated by a third party's development, the owner expected to be paid back.

Thus, in all respects the proffers and applicable law make it clear that Zebra is not obligated to bear the costs of mitigating impacts caused by development of others' property. Zebra cannot be forced to pay for the traffic signal at issue.

IV. Conclusion

For the foregoing reasons, Zebra requests that the Determination be reversed.

ZEBRA VENTURES LLC
By Counsel

COOLEY GODWARD KRONISH LLP
11951 Freedom Drive
Reston, Virginia 20190
Telephone: (703) 456-8000
Facsimile: (703) 456-8100

By: AJ CALABRESE
Antonio Calabrese

EXHIBIT INDEX

TAB

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Development Proffer Auditor (Dec. 15, 2009)A

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WorldCom ZMAP 1998-0003 Concept Development Plan
(April 24, 1998, rev. June 5, 1998) C

Letter from Kevin Nelson to Charles Yudd (June 16, 1998).....D

Gorove/Slade Assocs., Inc., *Existing and Future Conditions at Waxpool Road and Waxpool
Road Center Western (Main) Entrance* (June 18, 2008, rev. Feb. 23, 2009) E

Memorandum from Wells & Assocs., LLC to Arthur J. Smith & George R. Phillips (June 8,
1998) (Title page and Fig. 3) F



Loudoun County, Virginia
www.loudoun.gov

Department of Building and Development
Zoning Administration / MSC# 60
1 Harrison Street, S.E., P.O. Box 7000, Leesburg, VA 20177-7000
Administration: 703-777-0397 • Fax: 703-771-5215

December 15, 2009

Zebra Ventures LLC
c/o DuPont Fabros Development LLC
Attn: Ragheb Zeineddine, Director of Construction
1212 New York Avenue NW, Suite 900
Washington, DC 20005

RE: Request for Installation of Traffic Signalization; Worldcom, ZMAP 1998-0003

Dear Mr. Zeineddine:

I am writing on behalf of Loudoun County to request the installation of a traffic signal at site entrance "M" along Route 625 (Waxpool Road) as shown on the approved concept development plan. The traffic signal has been warranted by the Virginia Department of Transportation and is required to be installed by the property owner of record, pursuant to the proffer statement for Worldcom, ZMAP 1998-0003.

The zoning map amendment for Worldcom, ZMAP 1998-0003, was approved by the Board of Supervisors on June 17, 1998 subject to the proffer statement dated June 17, 1998 and the concept development plan dated April 24, 1998, revised through June 5, 1998 by Dewberry and Davis.

Proffer II.D. sets forth the requirements for installation of proffered signals. Proffer II.D.(2) requires the owner of land fronting on the intersection where the signal is warranted to pay for the cost of the warranted signal. The text of the relevant proffers is as follows:

II. TRANSPORTATION PROFFERS

D. SIGNALIZATION

(1) Proffered Signals. *The Owner shall install signalization at such time as warranted by VDOT criteria (i.e., the Manual on Uniform Traffic Control Devices) at the intersections of:*

- (a) Route 625/Site Entrance C
- (b) Route 625 Realigned/Site Entrance D
- (c) Route 607/Site Entrances E-K
- (d) Route 625/Site Entrances M-N
- (e) Route 625/Site Entrance L; provided that the Owner shall not be

obligated to contribute more than fifty percent (50%) of the cost of signalization of this intersection if the landowner on the opposite side of Waxpool Road constructs a public street from such property which connects with this entrance.



ZCOR-2009-0265

A 40

(f) Route 625/Panorama Parkway

(2) If at the time the necessary warrants for any of the foregoing traffic signals are met WorldCom or a wholly-owned subsidiary is the owner of all land fronting on the intersection where the signal is warranted, WorldCom shall be responsible for paying for the cost of such signal. The Protective Covenants, to be established by the Owner at the time of sale of any land within the Property to an entity unrelated to WorldCom, shall provide for a procedure and formula for the collection and payment of future signalization costs from such unrelated entities.

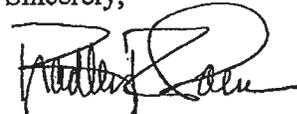
The Virginia Department of Transportation has warranted a traffic signal to be installed on Route 625 (Waxpool Road) at the Worldcom site entrance access point designated as M on the approved Concept Development Plan. Please refer to the enclosed a copy of a Memorandum from Arsalan (Alex) Faghri with VDOT Traffic Engineering dated March 10, 2009, indicating that a fully operational traffic signal is warranted. Pursuant to Worldcom Proffer II.D.1.d, Zebra Ventures LLC must commence installation of the traffic signal at Route 625 (Waxpool Road) and site entrance M. To begin this process, prepare a signal plan and submit it to VDOT Traffic Engineering for review.

This determination applies solely to the referenced property and is not binding upon the County, the Zoning Administrator or any other official with respect to any other property. No person may rely upon this determination with respect to any property other than the referenced property.

Please be advised that any person aggrieved, or any officer, department or agency of Loudoun County affected by an order, requirement, decision or determination made by an administrative officer in the administration or enforcement of the provisions of the *Zoning Ordinance* may appeal said decision within thirty days to the Board of Supervisors in strict accordance with Section 15.2-2301 of the *Code of Virginia*. This decision is final and unappealable if not appealed within 30 days.

If you have any questions concerning this correspondence, please contact me via email (Bradley.Polk@loudoun.gov) or you may call me at 703-777-0411.

Sincerely,



Bradley R. Polk, CZA
Proffer Auditor

Enclosures: Memorandum dated 3/10/2009 from VDOT Traffic Engineering
Worldcom/Northern Virginia Campus Concept Development Plan

cc via email: Stevens Miller, Dulles District Supervisor
Dan Schardein, Zoning Administrator
Susan Glass, Proffer Manager
Terrie Laycock, Director, Office of Transportation Services
Chuck Acker, OTS Traffic Control Engineer
James C. Zeller, P.E., Virginia Department of Transportation
Arsalan (Alex) Faghri, VDOT Traffic Engineering

Traffic Engineering



Memorandum

To: Kevin Nelson

From: Arsalan (Alex) Faghri

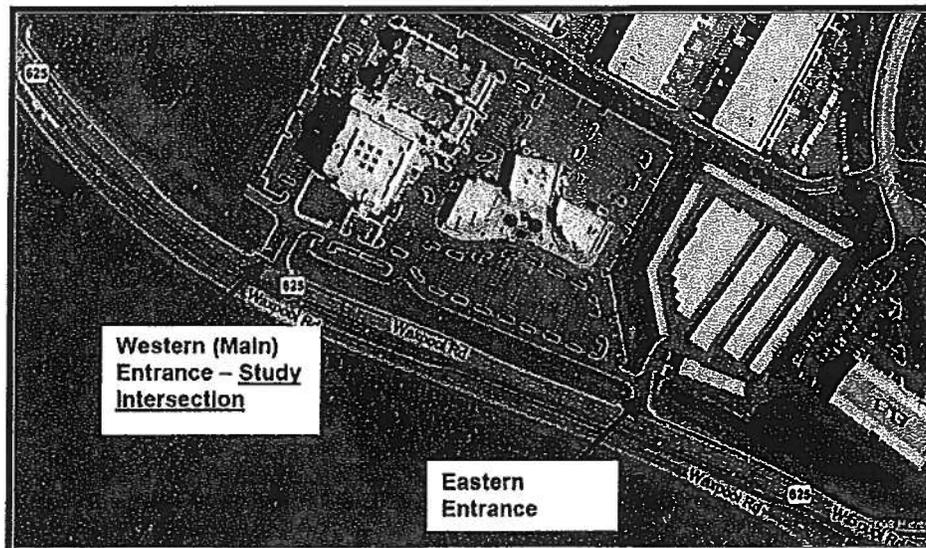
CC: Jim R. Turner, P.E.

Date: 3/10/2009

Re: RUID 10851 – Waxpool Rd and Waxpool Road Center Main Entrance

We have reviewed third submission traffic signal warrant study associated with the subject intersection. The intersection is located west of the intersection of Loudoun County Pkwy and Waxpool Road and serves as the western most entrance to Waxpool Road Center.

We agree with the results of the study that a fully operational traffic signal is currently warranted **pending** conversion of the eastern most entrance to the site to right-in right-out operation, and full closure of the median break on Waxpool Road across from the eastern entrance (see picture below).



We have considered the study as "**review complete.**" We are retaining one copy for our records and returning one copy to you via interoffice mail. Please feel free to call if you have any question.

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**WORLDCOM NORTHERN VIRGINIA CAMPUS
PROFFER STATEMENT**

Submitted By:

UUNet Technologies, a Delaware Corporation

REZONING APPLICATION (ZMAP) 1998-0003
WORLDCOM NORTHERN VIRGINIA CAMPUS
(County Initiated)

June 17, 1998



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EXHIBIT A - CONCEPT DEVELOPMENT PLAN

PROFFER STATEMENT

(ZMAP 1998-0003 WORLDCOM
NORTHERN VIRGINIA CAMPUS)

Pursuant to Section 15.2-2303, Code of Virginia, 1950, as amended, and Section 6-1209 of the Loudoun County Virginia Zoning Ordinance, WorldCom, Inc., by and through its wholly owned subsidiary, UUNet Technologies, Inc. (the "Owner"), the sole owner of those parcels of real property known as Loudoun County Tax Map Parcels 79/52; 79/38-A; 79 ((4)) 7; and 80/5 (collectively, the "Property"), which Property is the subject of a Board of Supervisors initiated rezoning in ZMAP 1998-0003, hereby voluntarily proffers that development of the Property shall be in substantial conformity with the proffers (the "Proffers") as set forth below.

All Proffers made herein are contingent upon Loudoun County Board of Supervisors (the "County") approval of the change in zoning of the Property to the PD-OP Zoning District with certain special exception uses (excluding, however, golf course, which use was subsequently withdrawn by the Owner) pursuant to the "Resolution of Intent to Amend the Zoning District Maps to Designate the WorldCom Tract PD-OP" passed by the Loudoun County Board of Supervisors on April 15, 1998.

I. CONCEPT DEVELOPMENT PLAN

A. CONFORMITY WITH CONCEPT DEVELOPMENT PLAN

The Property shall be developed in substantial conformity with the Concept Development Plan (the "CDP") attached hereto as Exhibit A, entitled "Concept Development Plan: WorldCom Northern Virginia Campus" dated April 24, 1998, with revisions through June 5, 1998, prepared by Dewberry & Davis, P.E.

B. PUBLIC WATER AND SEWER

The Owner acknowledges that all improvements on the Property shall be served by public water and sewer utilities, which shall be extended to serve the Property at no cost to the County or to the Loudoun County Sanitation Authority.

C. ISSUANCE OF PERMITS

The Owner acknowledges that the County shall be under no obligation to issue zoning permits for uses on the Property other than for WorldCom or its wholly-owned

subsidiaries, until zoning permits have been issued and construction has commenced for an at least 900,000 square foot Phase I campus currently under review by Loudoun County pursuant to a site plan, Site Plan #1998-0028, filed by the Owner with Loudoun County on April 22, 1998 (the "Phase I Campus"). In addition, the Owner acknowledges that if substantial completion of the Phase I Campus has not been achieved by December 31, 2000 (as such date may be extended due to events of *force majeure*), then the various special exceptions granted in connection with this rezoning, to the extent that such special exceptions have not yet been implemented by the issuance of zoning permits for such special exception uses, shall expire. For these purposes, an "event of *force majeure*" shall mean an act of god, act of war or public insurrection, governmentally imposed moratorium or prohibition on development, strike or labor unrest, or other circumstance or event beyond the control of Owner which delays or prevents substantial completion of the Property from occurring in a timely manner.

D. AUXILIARY USES

(a) Section 4-304(F) of the Loudoun County Zoning Ordinance (1993) allows by special exception "Uses auxiliary to permitted principal uses on a stand-alone basis such as, but not limited to, restaurants including carry-out, and drive through facilities, personal service establishments, banks and financial institutions, and automobile service stations." In its "Resolution of Intent to Amend the Zoning District Maps to Designate the WorldCom Tract PD-OP" to rezone the Property from the PD-IP zoning district to the PD-OP zoning district, the Board of Supervisors resolved to consider these uses, as well as "auxiliary retail establishments supportive of office park employees and uses listed in 4-303(F)(1 through 7)." In addition, the Board of Supervisors also resolved to consider additional special exception uses, including (i) Medical Care Facility, Outpatient Only (4-304(E)); (ii) Personal Service Establishment (4-304(N)); (iii) Restaurant (4-304(O)); (iv) Facility for lessons in dance, gymnastics, martial arts and sports training (4-304(S)); (v) Bank or financial institution including drive through facility (4-304(T)); and (vi) Gas pumps accessory to a convenience food store, pursuant to Section 5-617 (4-304(V)). All of these uses shall be referred to herein as "Auxiliary Uses," provided, that the term "Auxiliary Uses" shall not be construed to include any of the "accessory uses" in the same building as permitted principal uses pursuant to Section 4-303(F), which accessory uses are subject to certain limitations as detailed in paragraph I D (g) below. The total square footage of Auxiliary Uses allowed on the Property may not exceed five percent (5%) of the total gross floor area allowed on the Property. As depicted on the CDP, the total gross floor area of development allowed on the Property is seven million four hundred seventy-four thousand seven hundred (7,474,700) gross square feet of floor area of all types of uses. The Auxiliary Uses on the Property therefore shall not exceed a total of three hundred seventy-three thousand seven hundred thirty-five (373,735) gross square feet of improvements, and shall comply with the phasing limitations set forth in Section I.D.(e) herein.

(b) The Owner agrees that if these special exceptions are approved by the County, the Auxiliary Uses will be located in the areas depicted on the Concept Plan as "Auxiliary Use Areas." i.e., in the areas depicted on the Concept Plan in Land Bays A, B, and D/E. Auxiliary Uses in Land Bay B, other than restaurants associated with hotels, shall not face Waxpool Road (Route 625) but shall be oriented toward internal roads or Loudoun County Parkway.

Restaurants (not including fast food with drive through) may be located outside of the designated Auxiliary Use Areas, provided that the total area of restaurants outside the Auxiliary Use Areas depicted on the Concept Plan shall not exceed twenty thousand (20,000) gross square feet of floor area, and further provided that no such restaurant shall exceed ten thousand (10,000) gross square feet in size. One Automotive Facility may be located in each of Land Bays A, B, and D/E and shall be sited within the areas depicted for Auxiliary Uses, for a total maximum of three (3) Automotive Facilities. Each Automotive Facility may include automotive service station or gas pumps accessory to a convenience store, together with a car wash and, as a part of the Automotive Facility, a fast food restaurant without drive through. Restaurants may be permitted in these Auxiliary Use Areas without limitation as to number except as such restaurant uses may be limited by the total square footage of Auxiliary Uses allowed hereunder. No more than four (4) standalone fast food restaurants with drive through will be permitted within the Property and no more than two (2) standalone fast food restaurants with drive throughs may be permitted in any of the Auxiliary Use Areas depicted on the Concept Plan. One bank with drive through will be permitted in each Auxiliary Use Area, for a total of not more than three (3) banks with drive through. In addition, up to four (4) larger structures (not to exceed 20,000 square feet each in area) configured in an in-line or attached configuration and separated by smaller, in-line stores may be permitted in the Auxiliary Use Areas (i.e., a total of four (4) such larger structures on the entire Property and located within the Auxiliary Use Areas); however, no more than three (3) of these larger (up to 20,000) square feet) buildings may be used for single tenant retail sales establishments. Any number of these four (4) 20,000 square foot buildings may be used for personal service establishments or entertainment, exercise, a gourmet/prepared food store, an indoor or outdoor recreation establishment, or as a facility for exercise, dance, or martial arts. No more than two (2) of the larger (up to 20,000 square foot) structures may be located in the Auxiliary Use Area in Land Bay B.

(c) In the Auxiliary Use Area in Land Bay A, one (1) restaurant will be permitted adjacent to the hotel and next to Farmwell Road. To the south of the hotel, fronting on Route 625 Realigned within the Auxiliary Use Area, one (1) Automotive Facility including a fast food restaurant without drive through as a part of the Automotive Facility, will be permitted, or alternatively the Applicant may locate a standalone fast food restaurant with drive through in this location. These uses are a part of the total number of Automotive Facilities and fast food restaurants allowed by Section II.D.(b) above.

d) Auxiliary Use Areas will be landscaped along Loudoun County Parkway, Farmwell Road and Waxpool Road with a four-foot (4') berm and plantings equivalent to a Type Three Front Buffer Yard. In addition, the Owner will provide a tree-save area of a minimum thirty (30) feet in width for Landbay A along the Farmwell Road frontage and the frontage of re-aligned Waxpool Road. In this thirty (30) foot wide tree-save area only, the four foot berm referred to above may be supplanted by a combination of such tree-save area and an additional ten (10) foot wide area used for landscaping. The Owner may request a waiver from the Zoning Administrator of the parking lot berm requirement for Land Bay A based on the buffer provided by the tree save area. The tree save area may be used as necessary to provide the berm, if the Zoning Administrator does not approve a waiver or modification allowing the tree save area. Signage, entrances, and walkways will be permitted in and through such tree save areas. Within

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the tree save area, the Owner will have the right to conduct selective cutting and thinning of dead, diseased, or "junk" trees, and to plant understory trees.

(e) Upon issuance of zoning permits for and commencement of construction of the Phase I Campus (at least 900,000 square feet) improvements, the Owner may obtain zoning permits for up to one hundred twenty-five thousand (125,000) gross square feet of Auxiliary Uses. As and when zoning permits issued for office or research and development uses on the Property exceed one million (1,000,000) square feet, and for such development up to the second million (1,000,000) square feet of office and research and development uses on the Property (i.e., up to a total of 2,000,000), the Owner may obtain zoning permits for additional Auxiliary Uses at a ratio of one tenth (1/10) of a gross square foot of additional Auxiliary Uses for each square foot of office or research and development uses for which a zoning permit has been issued, for a total of 225,000 gross square feet of Auxiliary Uses for the 2,000,000 square feet of office and research and development uses. Zoning permits for the balance of available Auxiliary Uses (maximum of 373,735 gross square feet) may be obtained once zoning permits issued for office and research and development uses on the Property exceed a total of two million five hundred thousand (2,500,000) gross square feet of floor area.

(f) The Auxiliary Use Area depicted on Land Bay B may be moved to the "Alternate Auxiliary Use Area" depicted on Land Bay F if prior to construction of Auxiliary Uses on Land Bay B this area is to be used for corporate office/research and development uses. Alternatively, the Auxiliary Use Area depicted on Land Bay D/E may be moved to the "Alternate Auxiliary Use Area" depicted on Land Bay F if prior to construction of Auxiliary Uses on Land Bay D/E this area is to be used for corporate office/research and development uses. The "Alternate Auxiliary Use Area" depicted on Land Bay F may be used for the relocation of Auxiliary Uses from either the Auxiliary Use Area in Land Bay B or the Auxiliary Use Area in Land Bay D/E, but not for the relocation of both of such Auxiliary Use Areas.

(g) Notwithstanding the provisions of Section 4-303(F) of the Zoning Ordinance, accessory uses located in the same building as permitted principal uses shall not exceed more than twenty percent (20%) of the floor area in any individual building and shall not exceed more than five percent (5%) of the square footage within the Property developed for office and research and development uses. However, all of such accessory uses shall be in addition to Auxiliary Uses permitted pursuant Section 4-304(F) of the Zoning Ordinance and the foregoing Section I D of these Proffers.

(h) The Owner shall work with the County to provide, in its site plans for all improvements within Auxiliary Use Areas and for uses adjacent to Auxiliary Use Areas (including office, research and development, and hotels), sidewalks or other methods of convenient pedestrian access within the Auxiliary Use Areas and between the Auxiliary Use Areas and adjacent uses where use of such pedestrian access areas can be reasonably anticipated.

II. TRANSPORTATION PROFFERS

A. INTERNAL ROAD NETWORK

The internal road network serving the Property is contemplated to consist of private roads, drives, and parking areas serving a corporate office/research and development environment; however, the Owner may establish such public roads as may be proposed by the Owner and approved by the County and VDOT. Route 607 (Loudoun County Parkway) will be a dedicated public street constructed in accordance with County and VDOT standards. The median breaks and site access points to public roadways (Route 625, Route 640 and Route 607) adjacent to the Property shall be in the general locations identified on the CDP, as modified to accommodate final site plan engineering and/or to meet VDOT and County requirements.

B. RIGHT-OF-WAY DEDICATION AND CONSTRUCTION

The improvements described below shall be provided by the Owner as part of the development of the Property. Dedication of land shall include related easements outside the right-of-way, such as slope, maintenance, storm drainage and utility relocation easements, necessary to construct public roads and streets within and adjacent to the Property. The Owner shall not be obligated to dedicate land for public rights-of-way, or to construct or pay for the cost of improvements, except to the extent expressly required by these Proffers or as required by the Subdivision Ordinance or the Facilities Standards Manual.

(a) Route 607 (Loudoun County Parkway). The Owner shall dedicate to the County a one hundred twenty (120) foot wide right-of-way, increasing in width for turn lanes as required by VDOT and the County, for the construction of Route 607 (Loudoun County Parkway) through the Property in the general location shown on the CDP. The Owner shall construct Loudoun County Parkway, including median and median breaks as generally depicted on the CDP, as a six-lane divided roadway with turn lanes as required by VDOT and the County. Median breaks on Loudoun County Parkway shall be in the general location shown on the CDP, as modified to meet final site plan engineering and/or to meet VDOT and County requirements. . No occupancy permits for the Phase I Campus shall be issued until Loudoun County Parkway is under construction or bonded for construction as a six-lane median divided road between Waxpool Road and Shellhorn Road and as a four-lane median divided road between Shellhorn Road and the Dulles Greenway. Loudoun County Parkway shall be final-surfaced and open to the public by December 31, 2000, subject to events of forced majeure (as defined in Section I.C. above). If the Owner pays for the construction of Loudoun County Parkway through the adjacent Dulles-Berry property (Loudoun County Tax Map Parcel 79/54, ZMAP 1986-56), the Owner anticipates that cash in lieu contributions received by the County from the owner of the Dulles-Berry property will be used to reimburse the Owner for the actual costs incurred by the Owner in constructing Loudoun County Parkway through the Dulles-Berry property.

(b) Waxpool Road (Route 625) Frontage Improvements. Waxpool Road (Route 625), between the proposed Islamic Saudi Academy and the Regency Subdivision, is

planned as a four-lane median divided road within a ninety (90) foot right-of-way. Concurrently with the issuance of the first zoning permit for the Phase I Campus, the Owner shall dedicate right-of-way for and bond for construction frontage improvements consisting of the southern two lanes of a four-lane median divided road. Due to the topography and elevations of Waxpool Road in this area, it is not cost effective to construct this half section of Waxpool Road at this time. By bonding the half section, the Owner has ensured that the funds are available to construct the full section of Waxpool Road in this vicinity at such time as the property owner to the north (Ashburn Center, ZMAP 1988-0027) commences construction of the northern (west bound) two-lane section of Waxpool Road in this area. In addition, the Owner will not open up site entrances "A" and "B" for use unless Route 625 is constructed, either by the Owner or by others, as a four lane divided section at these entrances, with transition lanes back to the two lane section of Route 625 in front of the Regency property. In the event the Owner constructs such four lane divided section to gain the use of entrances "A" and "B", Owner shall seek reimbursement from the County for the share of said improvements proffered by others.

(c) Route 789. The CDP depicts an alignment for Route 789, in the approximate location shown on the Countywide Transportation Plan. The Owner has shown this potential alignment because Route 789 is contemplated by the Countywide Transportation Plan to provide an ultimate additional four-lane road and bridge crossing across Broad Run. However, the Owner has also suggested to the County an alternative location for an east/west crossing of Broad Run and has requested that the County initiate a Comprehensive Plan Amendment ("CPAM") process to consider the elimination of Route 789 Extended from the location depicted on the CDP. If the CPAM process results in the elimination of Route 789 Extended from the location depicted on the CDP, then the reservation of right-of-way for Route 789 shall be void and of no further force and effect, effective as of the date on which such CPAM becomes final and non-appealable. If the CPAM process does not result in the elimination of Route 789 from the location depicted on the CDP, then this reservation of right-of-way for Route 789 shall remain in effect for a period of twenty (20) years from the date of approval of ZMAP 1998-0003, and the Owner shall dedicate such right-of-way for public road improvements at such time as the County has completed construction plans and profiles for Route 789 through the Property, including a bridge across Broad Run. Any costs incurred by the Owner in constructing Route 789 as a regional road pursuant to the Countywide Transportation Plan may be credited against the regional road funds to be contributed by the Owner pursuant to Paragraph II G below.

(d) Route 625/Panorama Parkway Intersection. Concurrently with the construction of Loudoun County Parkway, the Owner shall cause the intersection of Panorama Parkway at Route 625 (primary entrance to Beaumeade Corporate Park) to be restriped so as to provide two southbound through lanes and a southbound left turn lane. Intersection improvements for this intersection shall include a right turn lane from eastbound Route 625 onto Loudoun County Parkway, and will be constructed concurrently with Loudoun County Parkway. The existing left turn lane from westbound Route 625 to Loudoun County Parkway shall be expanded into a dual left turn lane at such time as development within the Property makes this improvement necessary pursuant to VDOT standards.

(e) Realigned Route 625. If the Islamic Saudi Academy ("ISA") has not commenced construction or bonded for construction the realignment of Waxpool Road (Route 625) from site entrance "C" to Farmwell Road (Route 640) at Smith Switch Road by December 31, 2000, the Owner will promptly construct such improvements and shall install necessary signalization. In such event, the Owner would anticipate and expect that when the ISA made its cash in lieu contribution to Loudoun County under the conditions of approval for the ISA (SPEX 1997-0023), such cash in lieu would be used by the County to reimburse the Owner for constructing such realignment of Route 625.

C. ACQUISITION OF OFF-SITE RIGHT-OF-WAY/EASEMENTS

(1) In addition to dedicating right-of-way and easements on-site, the Owner shall make good faith efforts to acquire off-site right-of-way or easements necessary for the construction of Route 607 (Loudoun County Parkway) off site through the Dulles-Berry (ZMAP 1986-56) and Loudoun Parkway Center (ZMAP 1990-0015) properties, to the Dulles Greenway. The Owner anticipates that the County will assist the Owner and call for the performance of proffer obligations now due or due upon demand from the owners of these properties relating to dedication of land and construction or payment for improvements to Route 607 and Route 643. Where right-of-way and/or easements necessary for construction of improvements necessary for construction of Loudoun County Parkway cannot be obtained, despite such good faith efforts, voluntarily through donation or proffer to the County, the Owner will request that the County acquire such right-of-way and/or easements by appropriate eminent domain proceedings. The initiation of such eminent domain proceedings is solely within the discretion of the County; however, if such right-of-way is not acquired by the County, the Owner shall not be obligated to construct Loudoun County Parkway in the area where right-of-way or easements are not available. In no event shall the Owner have any responsibility to pay for the acquisition of off site right-of-way or easements, whether acquired voluntarily or through condemnation.

D. SIGNALIZATION

(1) Proffered Signals. The Owner shall install signalization at such time as warranted by VDOT criteria (i.e., the Manual on Uniform Traffic Control Devices) at the intersections of:

- (a) Route 625/Site Entrance C
- (b) Route 625 Realigned/Site Entrance D
- (c) Route 607/Site Entrances E-K
- (d) Route 625/Site Entrances M-N
- (e) Route 625/Site Entrance L; provided that the Owner shall not be obligated to contribute more than fifty percent (50%) of the cost of signalization of this intersection if the landowner on the opposite side of Waxpool Road constructs a public street from such property which connects with this entrance.
- (f) Route 625/Panorama Parkway

(2) If at the time the necessary warrants for any of the foregoing traffic signals are met WorldCom or a wholly-owned subsidiary is the owner of all land fronting on the intersection where the signal is warranted, WorldCom shall be responsible for paying for the cost of such signal. The Protective Covenants, to be established by the Owner at the time of sale of any land within the Property to an entity unrelated to WorldCom, shall provide for a procedure and formula for the collection and payment of future signalization costs from such unrelated entities.

E. INTERPARCEL ACCESS

(a) The Owner will work with the County and the owner of the adjacent Dulles/Berry property during the development of the Property to identify and establish interparcel access between the Dulles/Berry property (Loudoun County Tax Map Parcel 79/54, ZMAP 1986-56) and Loudoun County Parkway (Route 607) through the Property. This interparcel access shall consist of a four-lane undivided road within a seventy (70) foot right-of-way, so as to provide a point of access between the northern side of the Dulles/Berry Property and Route 607. If the CPAM process relating to Route 789 contemplated by II B (c) above does not result in the elimination of Route 789 as a regional road through the Property, so that the interparcel access coincides with a portion of Route 789, such interparcel access may be a four lane divided roadway within a ninety (90) foot right of way, as required by the County and VDOT. Such interparcel access shall start at the point depicted on the CDP as "Proposed Roadway (as per Dulles/Berry Route 643 Conceptual Development Plan)," and shall extend through the Property to one of the median breaks on Route 607 as determined by the Owner. The initial planned location of this interparcel access road is depicted on the CDP. The Owner shall have the right, for a period of four (4) years from the date of approval of the rezoning of the Property to PD-OP, to relocate such interparcel access road to extend from the point depicted on the CDP as "Proposed Roadway (as per Dulles/Berry Route 643 Conceptual Development Plan)" to one of the other median breaks on Loudoun County Parkway (i.e., to extend from the Dulles/Berry Property to one of site entrances E through I as depicted on the CDP). The Owner agrees that if the owner of the Dulles/Berry property wishes to establish a final alignment for the location of such interparcel access road prior to the expiration of such four (4) year period, the owner of the Dulles/Berry Property shall have the right to require that the Owner make such final determination: provided, that the owner of the Dulles/Berry Property shall not have the right to require that the Owner make such final determination unless and until the later of the date on which: (i) zoning permits shall have been issued and construction commenced and be continuing on the Dulles/Berry Property for a minimum of seven hundred and fifty thousand (750,000) gross square feet of improvements on the Dulles/Berry Property; or (ii) two years from the date of County approval of ZMAP 1998-0003. The Owner shall bear the cost of construction of such inter-parcel access road within the Property; which shall be constructed when the Owner determines that construction of such inter-parcel access road is necessary to serve development on the Property. If the owner of the Dulles/Berry Property wishes to construct such inter-parcel access road at an earlier date, the Owner of the Dulles/Berry Property shall have the right to construct such inter-parcel access road at its sole risk, cost and expense, but in such event the Owner of the Property shall reimburse the owner of the Dulles/Berry Property for the actual hard cost of construction of such interparcel access road (to include engineering, bonding and

contractor fees) plus any increases in the CPI from the date such interparcel access road is constructed to the date reimbursement is made. The Owner shall cooperate and work with the owner of the Dulles/Berry property to dedicate without consideration right of way and necessary slope, utility, storm water management and construction easements for such interparcel access, and to provide the owner of the Dulles/Berry property and its contractors and agents access to the Property for the purpose of performing such construction. In such event, reimbursement shall be made by the Owner, with notice to the County of such reimbursement, to the owner of the Dulles/Berry Property at such time as the Owner first obtains a zoning permit for a use in an adjacent land bay which utilizes such interparcel access road for access.

F. ROUTE 640/625

Along the Property's Waxpool Road (Route 625) frontage from Smith Switch Road (Route 607 adjacent to the Islamic Saudi Academy) to the eastern property line at Broad Run, the Owner shall reserve additional right-of-way to provide the Owner's half of up to a maximum of one hundred and twenty (120) feet of total right-of-way, as measured from the existing centerline of Route 625, so as to accommodate the Owner's half of right-of-way for the ultimate expansion of Route 625 in this area to a six-lane median divided road. Upon request by the County and VDOT, the Owner shall dedicate the reservation area at no cost to the County. The Owner shall also construct a third eastbound through lane from Smith Switch Road to the existing bridge over Broad Run (but the Owner shall not be responsible for the construction of additional bridge improvements over Broad Run) with right and left turn lanes into and from the Property. These improvements will be provided coincident with development in Land bays A, B and C fronting on this road. Inasmuch as the third eastbound through lane is a regional transportation improvement, hard and soft design/construction costs for this through lane (but not the turn lanes) may be credited against the \$.50 per square foot regional transportation contribution provided in Section G below.

G. CASH CONTRIBUTION FOR REGIONAL ROAD IMPROVEMENTS

No cash contribution for regional road improvements will be required in connection with construction pursuant to any zoning permit issued to WorldCom or a wholly-owned subsidiary of WorldCom (including the tenant under a synthetic lease) for construction of up to Two Million, Five Hundred Thousand (2,500,000) gross square feet of floor area of improvements to be used and occupied by WorldCom or such subsidiary. Concurrently with the issuance of each zoning permit for (i) any buildings within the Property other than office and R&D uses (i.e., expressly including hotels, Auxiliary Uses), (ii) office/R&D buildings within the Property issued to persons or entities other than WorldCom, Inc., or its wholly-owned subsidiaries, or (iii) office/R&D buildings within the Property issued to WorldCom or its wholly-owned subsidiaries in excess of Two Million, Five Hundred Thousand (2,500,000) gross square feet, the person or entity obtaining such zoning permit, shall pay to the County an amount equal to fifty cents (\$0.50) per gross square foot of such improvements. Such per square foot amount shall escalate in accordance with increases in the CPI. Funds so contributed may be utilized by the County toward regional road improvements in the vicinity of the Property,

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including improvements to Route 640/625 from Smith Switch Road east to Route 28, Route 625 west to Ashburn Village Boulevard, and signalization in the vicinity of the Property. In addition to other credits against such regional road contribution otherwise available under these Proffers, if the Owner, in advance of making such regional road contributions, expends funds for off-site transportation improvements not otherwise required to be constructed by these proffers, the Owner shall receive credit for such expenditures against regional road contributions subsequently payable pursuant to this paragraph. Credits available under the preceding sentence shall be applied against the next zoning permits issued after such credits are established, unless an alternative arrangement is established in writing between the Owner and the County.

H. TRAVEL DEMAND MANAGEMENT PLAN

Prior to the issuance of the zoning permit which puts development on the Property over two million (2,000,000) square feet of gross floor area, the Owner shall implement a Travel Demand Management (TDM) Plan consisting of voluntary management measures the goal of which is to reduce by fifteen percent (15%) the volume of peak hour trips from those set forth in the Institute of Transportation Engineers Trip Generation (6th Edition). If zoning permits for over Two Million (2,000,000) square feet of gross floor area shall not have been issued by December 31, 2000, the TDM Plan shall in any event be prepared and submitted to the County no later than December 31, 2000, for review and approval.

The TDM Plan shall include a reasonable and effective combination of some or all of the following elements which shall be appropriate to the size, scale and location of the proposed use and which are intended to produce a reduction in the traffic and related impacts of the use:

(1) Ride sharing incentive programs which may include activities to encourage and assist the formation of car, van and bus pools, such as cash payments or subsidies and preferential parking charges and parking space location, and other analogous incentive programs,

(2) Bicycle and pedestrian incentive measures which may include the provision of bicycle parking and storage facilities, the construction and extension of bicycle paths and pedestrian walkways, the provision of shower and locker facilities and similar incentive features,

(3) Variable work hour, or flex time, programs under which employees of the proposed use will stagger their work hours in order to affect a reduction in the amount of peak period traffic levels to and/or from the Property which would otherwise occur,

(4) Measures to reduce the reliance on single-occupancy vehicles by employees and others who will travel to and from the Property which may include parking fee structures tailored to encourage multiple occupancy vehicles, time and other access controls to encourage use of parking spaces in on-site parking facilities by multiple occupancy vehicles, and programs to support and encourage the utilization of alternative transportation modes,

(5) Any other technique or combination of techniques capable of reducing the traffic and related impacts of the proposed use.

I. RESERVATION/DEDICATION OF LAND FOR REGIONAL TRAIL SYSTEM

The Owner shall reserve for dedication to Loudoun County a strip of land ten (10) feet in width and running along the edge of the Property adjacent to the ultimate right-of-way of Route 640/625 from Smith Switch Road (Route 607) adjacent to the Islamic Saudi Academy, east to the eastern boundary of the Property at Broad Run, or a dedication of comparable width in a location mutually acceptable to the Owner and the County, to be used for the establishment of a bicycle/pedestrian trail along this road corridor. This land shall be dedicated upon the request of the County, if the County shall have obtained funds for and developed plans and specifications for the construction of a regional bicycle/pedestrian trail serving the Property. The Owner shall not have any liability to any persons who may use such trail. The Owner shall not be responsible for the design, construction, or maintenance of the bicycle/pedestrian trail constructed in this reserved area. Notwithstanding such reservation or any future dedication, the Owner shall be entitled to use such area in determining allowed density of development and in computing required setbacks and buffer yards. If the Owner develops private trails within the Property, the Owner shall not be obligated to provide public access to the Owner's on-site trails.

III. EMERGENCY SERVICES

A. OWNER ONE TIME CONTRIBUTION

At the time of issuance of the zoning permit for development of each square foot of floor area on the Property, the Owner shall make a one time contribution of Ten Cents (\$0.10) per gross square foot of floor area covered by such zoning permit, which shall be payable to the County for distribution by the County to the primary volunteer fire and rescue companies providing service to the Property. Such contribution shall escalate in accordance with changes to the CPI, as defined in Section V.A. herein. Contributions pursuant to this paragraph shall be divided equally between the primary servicing fire and rescue companies providing fire and rescue services to the Property. Notwithstanding the foregoing, at such time as the primary fire and/or rescue service to the Property is no longer provided by a volunteer company, the obligation to make the contributions listed within this paragraph shall cease. The intent of these provisions is to support a volunteer fire and rescue system so long as it is the primary provider of fire and rescue services to the Property.

B. ANNUAL CONTRIBUTION

In addition to the emergency services contributions paid at the time of issuance of zoning permits as set forth above, the Owner shall make, and shall provide in the Protective Covenants to be established on the Property, a provision for annual contributions to be paid by

the owner(s) of parcels within the Property, to assist in the support of the operational costs of the volunteer fire and rescue services provided by the primary servicing fire company and primary servicing rescue company. The aforementioned contributions shall be based on an annual contribution of five cents (\$0.05) per square foot of gross floor area constructed, to be split between the servicing fire and rescue companies, and shall be payable in quarterly installments. Such contribution shall escalate in accordance with changes to the CPI, as defined in Section V.A. herein. Such contributions shall commence with respect to each structure at the end of the first calendar quarter after first occupancy of such structure, and shall remain in effect thereafter. The servicing fire and rescue companies shall have the right to enforce this proffer and such enforcement right shall also be acknowledged and provided in the Protective Covenants encumbering the Property. Notwithstanding the foregoing, at such time as the primary fire and rescue service is no longer provided by an incorporated volunteer company, the obligation to make the contribution listed within this paragraph shall cease. The intent of these provisions is to support a volunteer fire and rescue system so long as it is the primary provider of fire and rescue services to the Property. Prior to the first record plat or site plan approval, whichever is first in time, the Owner shall submit to the County for review and approval Protective Covenants which address this contribution requirement.

IV. PROTECTIVE COVENANTS

The WorldCom Northern Virginia Campus is planned as an integrated corporate office/research and development environment in which all or a substantial portion of the commercial office and research and development space will be occupied by the Owner or its affiliates or subsidiaries, and in which the hotels and Auxiliary Uses established by or at the direction of Owner will provide support, services, convenience, and recreational activities to the employees and visitors occupying or visiting the Property. The Owner reserves the right, however, to convey all or any portion of the Property not being used by Owner for its corporate purposes to third parties for development for office and research and development use by others. Uses on the Property may either be (i) developed and constructed by the Owner or its agents and contractors for use by the Owner; (ii) developed and constructed by the Owner or its agents and contractors for use by others; or (iii) sold by the Owner to others for construction and occupancy by others. The Owner contemplates that development of the Property will not involve a Declaration of Protective Covenants (the "Protective Covenants") or an owners association, until such time as the Owner conveys land to an unrelated third party. Prior to the approval of a site plan for or issuance of any zoning permit to any person or entity other than WorldCom or a wholly owned subsidiary of WorldCom, Protective Covenants shall be recorded encumbering the Property, which Protective Covenants shall provide standards for the design, construction, landscaping and use of all buildings within the Property, and for the maintenance of open space and common areas, and maintenance of all stormwater management ponds and related facilities constructed within the Property. The Protective Covenants shall also provide for the collection of all annual contributions for fire and rescue purposes required by these Proffers and shall acknowledge the right of the servicing fire and rescue companies to enforce this requirement.

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The Owner shall prepare the Protective Covenants and shall have the right, but not the obligation, to incorporate an owners association. Prior to the first record plat or site plan approval for conveyance of land to a third party or for construction of a facility to be owned and occupied by a third party, whichever is first in time, the Owner shall submit the Protective Covenants to the County for review and comment.

V. MISCELLANEOUS

A. CONSUMER PRICE INDEX

Whenever these Proffers refer to the escalation of a proffered contribution or value in accordance with the CPI, unless otherwise expressly stated herein, such reference shall mean that the contribution or value shall escalate annually, beginning on January 1, 1999, and continuing each January 1 thereafter, by an amount equal to the percentage increase in the Consumer Price Index-All Urban Consumers ("CPI") over the prior year. If the U.S. Department of Labor shall ever cease publishing the CPI, the CPI shall be that index published by the Department of Labor or other U.S. government agency intended to reflect general increases in the cost of living for residents in the Washington, D.C. Standard Metropolitan Statistical Area.

B. BUILDING AND SITE DESIGN GUIDELINES

The Owner intends that the Property be developed as a high quality corporate campus of coordinated materials, colors and landscaping, with Protective Covenants to be administered by the Owner, whereby all development on the Property would be subject to architectural review by the Owner or by an Architectural Review Board established by the Owner pursuant to the Protective Covenants. The scale, proportion and setback of buildings on the Property shall be complimentary within each land bay, Auxiliary Use Area, and the campus as a whole. The Protective Covenants shall provide for landscaping for the Property which enhances the appearance of the Property to a degree consistent with a high quality corporate office and research and development environment, while at the same time providing screening that reduces the visibility of on-site parking areas, loading and service areas from adjacent public roads and properties. The Protective Covenants shall include an overall landscaping concept plan for the Property and a list of recommended plant materials, but such landscaping concept plan need not be provided until the first sale of portions of the Property to unrelated third parties.

C. ADJACENCY TO REGENCY

No building pad sites for special exception uses developed on the Property shall be located within three hundred feet (300') of the property line of the Regency Property, designated as "The Regency" on the CDP. The Owner shall provide a tree save/buffer area one hundred feet (100') in width along the Property's common boundary with the Regency Property. Preservation of this buffer yard is subject to the express condition that if the alignment of Route 789 Extended, as depicted on the CDP, is not relocated, the buffer yard may be eliminated.

D. SUCCESSORS AND ASSIGNS

These Proffers shall be binding upon the heirs, executors, administrators, assigns and successors in interest of the Owner.

E. CONSTRUCTION TRAFFIC

During construction of any improvements on the Property, the Owner shall incorporate into its construction contracts a requirement that construction traffic bringing deliveries such as concrete, gravel, asphalt, other construction materials, or heavy equipment, shall not use Ashburn Village Boulevard, Ashburn Farm Parkway, or Ashburn Road (Route 641) through the Ashburn Village or Ashburn Farm projects or the Village of Ashburn.

F. HOTEL SPECIAL EXCEPTION CONDITIONS

The Owner acknowledges that the conditions of approval of SPEX 1998-0010, approved by the Loudoun County Board of Supervisors on May 20, 1998, will remain applicable to the two hotels approved by the Board of Supervisors in the present, County-initiated rezoning of the Property from the PD-IP to the PD-OP zoning district. The Owner proffers to comply with all of the conditions of SPEX 1998-0010 applicable to the hotel uses approved therein, and to comply with the Special Exception Plat approved by the Board of Supervisors as a part of SPEX 1998-0010, to the extent such Plat is applicable to the two hotels.

G. WARRANTY OF TITLE AND AUTHORITY

The undersigned, being fully authorized to sign this document on behalf of UUNet Technologies, Inc., the entity holding legal record title to the Property, hereby warrants that all owners of a legal interest in the Property have signed this proffer statement, that all signators have full authority to bind the Property to these conditions, and that these proffers are entered into voluntarily.

UUNet Technologies, Inc.

By: P. Brooks Warren
Name: P. Brooks Warren
Title: VICE PRESIDENT

STATE OF VIRGINIA
CITY/COUNTY OF LOUDOUN, to-wit:

Before the undersigned, a notary public in and for the aforementioned jurisdiction, personally appeared P. Brooks Warren of UUNet Technologies, who acknowledged that he executed the foregoing Proffers with the full power and authority to do so, as the act of such corporation..

IN WITNESS WHEREOF, I have affixed my hand and seal this 17th day of June, 1998.

Robert M. Ham
Notary Public

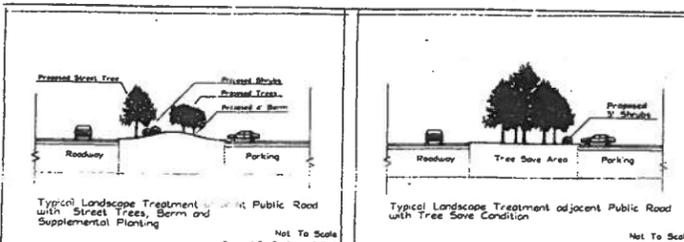
My Commission Expires: 8/99

RMG1238.SAM

TABULATION

LAND BAY	AREA (AC)	PERMITTED BUILDING AREA (SFA) AT 4 FAR	USES
A	17.4	303,100	Hotel (100,000SF)/Office/R & D/Supportive Uses
B	76.0	1,324,800	HOTEL (250,000SF)/Office/R & D/Supportive Uses
C	33.8	588,900	Office/R & D/Supportive Uses
D	83.9	1,113,400	Office/R & D/Supportive Uses
E	23.1	402,400	Office/R & D/Supportive Uses
F	1.381	24,258	Office/R & D/Supportive Uses
Total	235.5	4,036,800	

April 9, 1990
 Note: "Area" and associated "Building Area" shown are approximate and may vary with final design/subdivision.



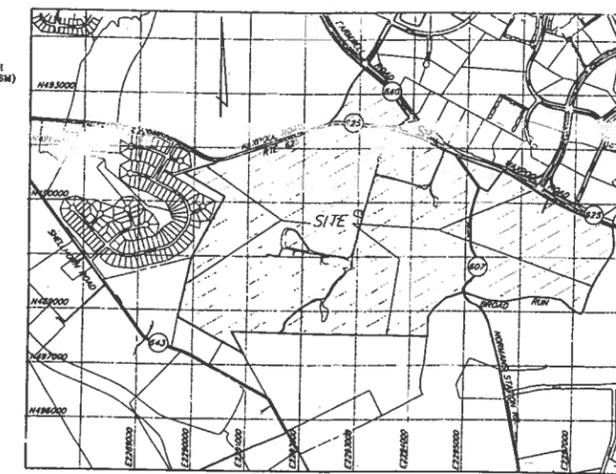
LANDSCAPE BUFFER YARD AND SCREENING TABULATION

Location	Min. Buffer Yard Width	Landscaping
(1) Adjacent to Loudoun Parkway	20'	Type 3 with 4' berm where appropriate
(2) Adjacent to Rte 641	20'	Type 3
(3) Adjacent to Rte 640	20'	Type 3
(4) Adjacent to Rte 625	20'	Type 4
(5) Adjacent to residential Agency, Georgia	20'	Type 2
(6) Adjacent to PD-OP (Miller & Smith, Delaware)	na	na
(7) Adjacent to PD-RDP (Dulles-Berry)	na	na

- Notes:
- Interior and peripheral parking lot landscaping will be provided in accordance with the Loudoun County Zoning Ordinance.
 - Tree canopy landscaping will be provided in accordance with the Loudoun County Zoning Ordinance.
 - Street trees will be provided in accordance with the Loudoun County Zoning Ordinance.
 - Buildings will comply with PD-OP zoning requirements:
 Max. Bldg. Ht. 120'
 Max. Overall FAR 0.4
 Min. Open Space 20% at each lot
 - Building setbacks (minimum):
 Loudoun County Parkway 100'
 Waxpool Rd./Farmwell Rd. 75'
 Adjacent to residential non-residential uses 15'
 - Area of auxiliary uses 0.1 Ac ±
 Area of hotel uses 19 Ac ±
 Areas shown may vary with final design/subdivision.

LEGEND :

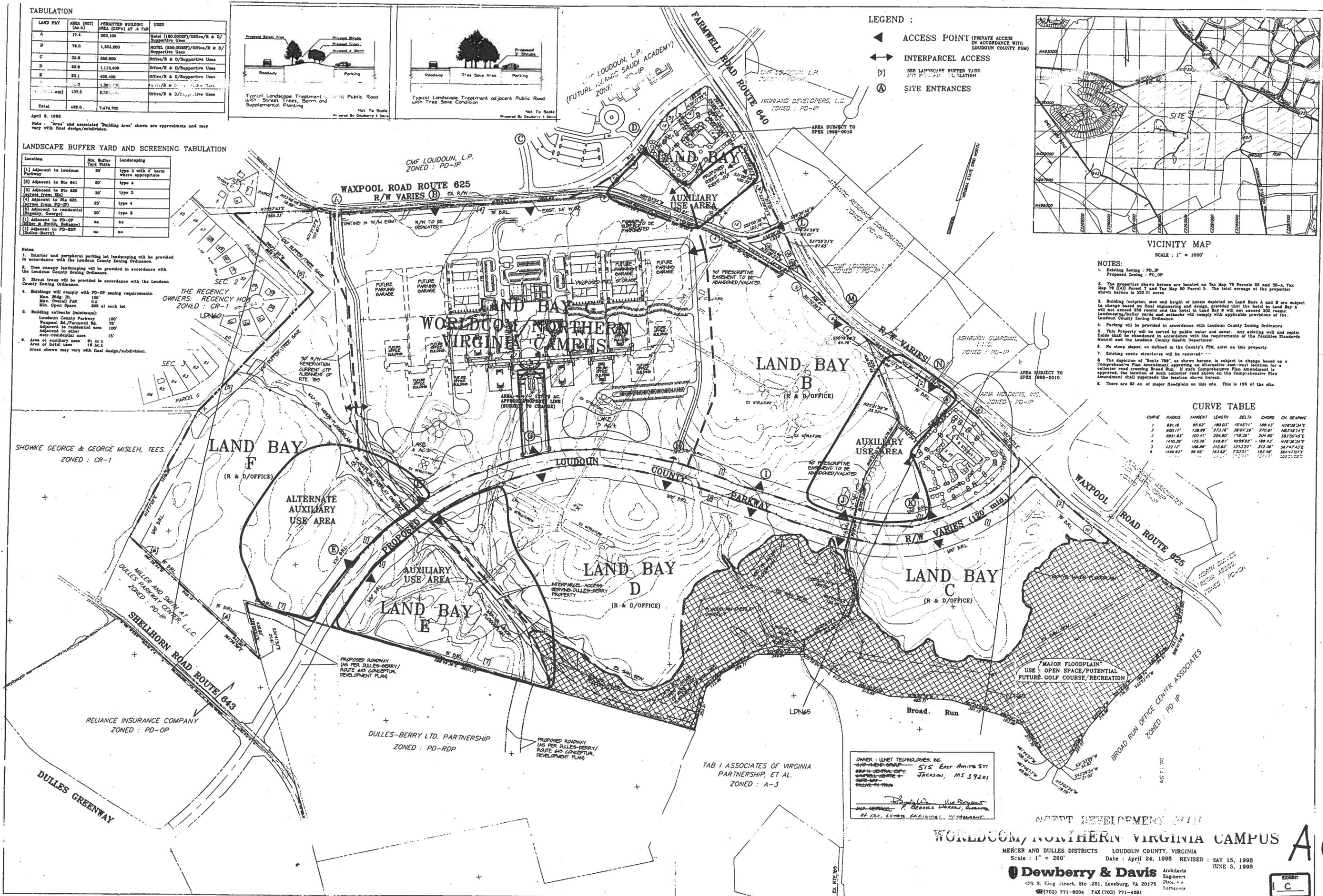
- ◀ ACCESS POINT (PRIVATE ACCESS IN ACCORDANCE WITH LOUDOUN COUNTY ZONING)
- ↔ INTERPARCEL ACCESS
- Ⓜ SEE LANDSCAPE BUFFER YARD AND SCREENING TABULATION
- Ⓐ SITE ENTRANCES



- NOTES:
- Existing zoning: PD-IP
Proposed zoning: PD-OP
 - The properties shown herein are located on Tax Map 79 Parcel 52 and 53-A, Tax Map 79 (4) Parcel 7 and Tax Map 80 Parcel 5. The total acreage of the properties shown herein is 532.31 acres.
 - Building footprint, site and height of hotels depicted on Land Bays A and B are subject to change based on final engineering and design, provided that the hotel on Land Bay A will not exceed 250 rooms and the hotel on Land Bay B will not exceed 300 rooms. Landscaping/buffer yards and setbacks will comply with applicable provisions of the Loudoun County Zoning Ordinance.
 - Parking will be provided in accordance with Loudoun County Zoning Ordinance.
 - This Property will be served by public water and sewer. Any existing well and septic fields shall be abandoned in accordance with the requirements of the Facilities Standards Manual and the Loudoun County Health Department.
 - No steep slopes, as defined in the County's FSM, exist on this property.
 - Existing onsite structures will be removed.
 - The depiction of "Route 789", as shown herein, is subject to change based on a Comprehensive Plan Amendment approving an alternative east-west location for a collector road crossing Broad Run. If such Comprehensive Plan Amendment is approved, the location of such collector road shown on the Comprehensive Plan Amendment shall supersede the location shown herein.
 - There are 82 Ac. of major floodplain on this site. This is 15% of the site.

CURVE TABLE

CURVE	RADIUS	TANGENT	LENGTH	DELTA	CHORD	CH BEARING
1	881.16	85.82'	180.03'	154.571°	188.43'	N78°36'34"E
2	600.17'	138.89'	273.18'	260°4'39"	270.81'	N83°48'14"E
3	893.83'	100.41'	204.80'	178°23'	204.90'	S83°30'45"E
4	1418.28'	125.26'	249.87'	109°09'23"	188.83'	N78°36'34"E
5	922.12'	106.89'	219.83'	137°32'27"	218.26'	S87°47'43"E
6	1448.82'	86.85'	183.82'	152°57'17"	183.48'	S82°22'22"E



OWNER: UNET TECHNOLOGIES, INC.
 515 EAST AMITE ST.
 JACKSON, MS 39201
 ARCHITECTS: Dewberry & Davis
 602 S. KING STREET, SUITE 201, LEESBURG, VA 20175
 (703) 771-8004 FAX (703) 771-4081

WORLD COM, NORTHERN VIRGINIA CAMPUS
 MERCER AND DULLES DISTRICTS LOUDOUN COUNTY, VIRGINIA
 Date: April 24, 1990 REVISED: MAY 15, 1990
Dewberry & Davis Architects Engineers Planners Surveyors
 602 S. King Street, Suite 201, Leesburg, VA 20175
 (703) 771-8004 FAX (703) 771-4081

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COMMONWEALTH of VIRGINIA

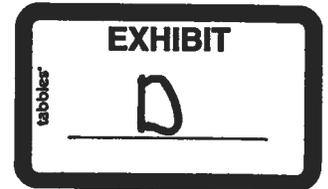
DEPARTMENT OF TRANSPORTATION

3975 FAIR RIDGE DRIVE
FAIRFAX, VA 22033
(703) 383-VDOT (8368)
June 16, 1998

DAVID R. GEHR
COMMISSIONER

THOMAS F. FARLEY
DISTRICT ADMINISTRATOR

Mr. Charles Yudd
County of Loudoun
Department of Planning
1 Harrison Street, S.E.
Leesburg, Virginia 20177-7000



Re: ZMAP 1998-0003 WorldCom Nova Campus
Loudoun County

Dear Mr. Yudd:

I have reviewed the above plan as requested in your original submittal dated May 26, 1998, including subsequent faxes. The following responses to the previous comments are indicated in italics as follows:

1. It is not anticipated all crossovers will be signalized on Loudoun Parkway and Waxpool/Farmwell Road. Internal site designs should keep this in mind.

This is a note to the applicant.

2. Entrance "E" should be moved south or made into a right in/right out only entrance. Spacing needs to be provided to allow the adjoining landowners to the south access to Loudoun Parkway. Alternatively; entrance "E" could be moved northward and entrance "F" could be made right in/right out only.

I have discussed this with the applicant's engineer and the engineer and I feel this issue can be addressed. My concern is to provide adequate and safe Loudoun Parkway access to the landowners to the south, while still providing adequate length for storage of the left turn movements.

3. The two crossover points "I" and "J" indicated on the concept plan for Land Bay B should be combined into one, with possible right in/right out access points allowed as each land bay develops. One option is to keep entrance "J" in the current location as a right in/right out only entrance. Entrance "I" could then be moved ~200' east to provide full movements.

3. Better spacing of the median crossovers will allow for more flexibility in approving right in/right out entrances. Every entrance should not be full access since this compromises the nature and use of Loudoun Parkway.

The developer's engineer has indicated they would comply with this item on the construction plans. This modification allows VDOT and the applicant more flexibility in permitting right in/right out entrances onto Loudoun Parkway, while providing adequate length for left turn storage.

4. The concept plan should indicate the possibility of a park and ride lot on this site.

This is a recommendation to the County. The need for additional park and ride lots in the eastern Loudoun area will be necessary as residential and business square footage increases. This recommendation is intended to remind of the future needs of this area of the County. This becomes especially critical prior to the future crossing of Broad Run and this additional access point to the regional park and ride lot. With the current boom in Loudoun development, the VDOT park and ride lot will require supplemental park and ride lots near residential neighborhoods.

5. Access to the W&OD regional trail should be considered in following with the concept of providing recreational access and facilities (multi-purpose trails) to the site for the employees to walk, bike, rollerblade, etc.

This item is addressed per Proffer II.I.

6. Entrance "N" on Rt. 625 MAY be relocated 50' +/- east. Negotiations are currently underway between the landowners on the north side of the roadway. If the necessary right of way can not be secured for a shared entrance on the north side, the crossover centerline will be relocated ~50' east of the current centerline of the crossover. This information is provided to assist in planning the entrances to landbay "B".

This is a note to the designer concerning a pending review.

7. The eastbound third lane on Rt. 625 between Smith Switch Road (Rt. 607) and the Broad Run bridge should be constructed with this development. This becomes especially crucial if the Loudoun Parkway connection south to the Greenway is not made in a timely manner. It also conforms with improvements proposed to the west.

This is agreed to by the applicant in proffer II.F.

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8. Proffer II.C.(1) should include construction of Loudoun Parkway to the southern property line of this development, whether or not the segment south of this property is constructed.

This item is addressed in the revised proffer.

9. Proffer II.C.(1) should include additional measures to mitigate traffic impacts if the Loudoun Parkway connection south to the Greenway is not constructed.

This item is addressed in Proffer II.B.(a).

10. Consideration of additional right in/right out entrances will be reviewed with individual site or landbay plans.

This is a note to the applicant.

If you have any questions, please call me at (703)383-2424.

Sincerely,



Kevin Nelson
Transportation Engineer

cc: Mr. T. F. Butler, Jr., P.E.
Attn: Mr. Steve Tyrrell, P.E.

zmap98-003zm2WorldComNovaCampus6-16-98CY

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Traffic Control Signal Needs Study

Existing and Future Conditions at Waxpool Road and Waxpool Road Center Western (Main) Entrance

Loudoun County, Virginia

June 18, 2008

Revised February 03, 2009

Revised February 23, 2009

Prepared For:

DuPont Fabros
1212 New York Avenue, NW
Suite 900
Washington, DC 20005

Prepared By:

Grove/Slade
Associates, Inc.



A65

EXHIBIT

E

tabbles



GOROVE/SLADE ASSOCIATES, INC.
Transportation, Traffic and Parking

PREPARED BY:

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www.goroveslade.com

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INTRODUCTION

The following report presents the findings of a traffic control signal needs study, traditionally referred to as a signal warrant analysis, for the Existing (2008) and Future (2010) Conditions at the intersection of Waxpool Road and the Waxpool Road Center Main Entrance located in Loudoun County, Virginia. The intersection is located approximately 800 feet west of the Loudoun County Parkway and Waxpool Road intersection. Traffic conditions and physical characteristics of this location were considered to determine if the installation of a traffic control signal would be justified under the existing conditions. A regional map showing the site location is included in **Figure 1**.

Scope of Study

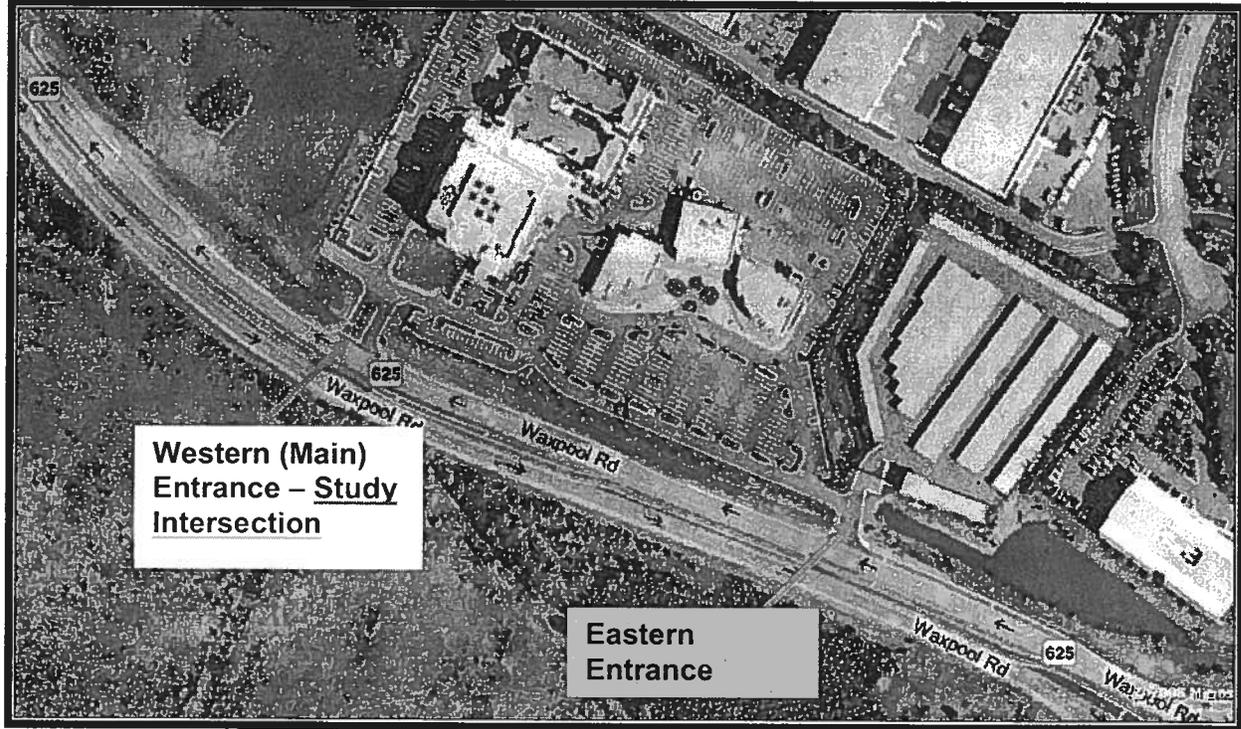
The following intersection was identified for inclusion in this study:

- 1) Waxpool Road and the Waxpool Road Center Main Entrance

The results of the signal warrant analysis associated with this intersection are presented in the Conclusion section of this report.



Figure 1B: Entrance Locations for Waxpool Road Center



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Methodology

The following section presents the detailed evaluation of the traffic signal control warrants for the intersection of Waxpool Road and the Waxpool Road Center Main Entrance located approximately 800 feet west of the Loudoun County Parkway intersection under existing conditions. The signal warrant analyses were performed following the procedures outlined in the Federal Highway Administration (FHWA) 2003 Edition of the Manual on Uniform Traffic Control Devices (MUTCD). Traffic signal warrant studies recommend 16-hour traffic volume counts classified by vehicle type, pedestrian volume counts classified by age, 85-percentile speed of vehicles, and collision diagrams showing accidents. The criterion of each warrant was evaluated using the information obtained for the existing intersection.

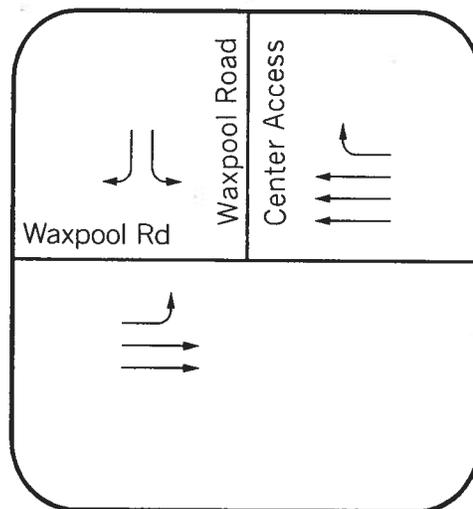
Existing Conditions (2008)

Existing Roadway Network

A description of the existing roadways within the study area is presented below:

- Waxpool Road is a four-lane, east-west, median divided roadway with turn lanes and a posted speed limit of 45 mph.

The existing lane configuration at the study intersection is illustrated below:





Existing Traffic Volumes

In order to determine the weekday peak hour traffic volumes, 24-hour counts were conducted on Waxpool Road and the Main Entrance from Tuesday May 27, 2008 until Sunday May 31, 2008 and on Tuesday May 6, 2008 through Friday May 9, 2008. Waxpool Road is a major east-west corridor. Hence, traffic volume along Waxpool Road is not the deciding factor for the signal warrant study. The traffic volume produced by the Waxpool Road Center is the 'key' factor in triggering the need for a traffic signal. Based on the outbound traffic volume along Waxpool Road Center driveway, the peak hours were reevaluated. The revised peak hours based on the traffic volume along Waxpool Road Center driveway are given below:

- AM Peak Hour – 7:30 AM to 8:30 AM
- Midday Peak Hour – 12:45 PM to 1:45 PM
- PM Peak Hour – 5:30 PM to 6:30 PM

The existing eight heaviest hourly traffic volumes at the intersection of Waxpool Road and Waxpool Road Center Main Entrance are shown in **Table 1** with the existing AM and PM peak hour volumes at this location shown in **Table 2**. The detailed traffic counts are included in the Technical Appendix.

Table 1: Existing Conditions – Eight Heaviest Hourly Traffic Volumes for an Average Day

Hour	Traffic Volumes (vehicles per hour)			Waxpool Road Center Main Entrance (Higher approach)-OB
	Waxpool Road		Both Approaches	
	EB	WB		
7:30 to 8:30 AM	2015	952	2967	87
11:45 to 12:45 AM	1346	1355	2701	113
12:45 to 1:45 PM	1416	1382	2798	140
1:45 to 2:45 PM	1346	1495	2841	120
5:30 to 6:30 PM	1386	2556	3942	121
6:30 to 7:30 PM	1082	2220	3302	98
7:30 to 8:30 PM	944	1559	2503	108
8:30 to 9:30 PM	765	1020	1785	99

*OB – Outbound traffic only

Table 2: Existing Conditions – AM, Midday and PM Peak Hour Traffic Volumes for an Average Day

Hour	Traffic Volumes (vehicles per hour)	
	Waxpool Road	Waxpool Road Center Main Entrance
7:30 AM – 8:30 AM	2967	87
12:45 PM – 1:45 PM	2798	140
5:30 PM – 6:30 PM	3942	121



Right Turn Volume and 12-hour Turning Movement Counts

The comments received from VDOT via email on the traffic signal warrant study dated June 18, 2008, outlined that:

12-hour turning movement counts should be conducted at the study intersection, and

The right turn traffic should be appropriately accounted for

After reviewing the February 03, 2009 signal warrant study, VDOT has principally agreed that a signal is warranted at the study intersection, however it will be conditionally approved, only if the median break at the eastern entrance is closed.

The signal warrant has been subsequently revised based on VDOT's condition and recommendation.

The 12-hour turning movement counts were conducted at the study intersection on January 29, 2009. The traffic distribution for the outbound traffic was evaluated for the 12-hour counts. The counts revealed that for the outbound traffic has a 50%-50% split between the traffic turning left and right. The 50-50 split was applied to the outbound traffic counts shown in table 1. The 12-hour turning movement counts conducted on January 29, 2009 were not used in this analysis due to the reasons cited in the 'Appendix A: Traffic Counts Analysis' section presented in the appendix. Table 3 below shows the traffic volumes for the minor approach split by movement.

Table 3: Existing Conditions – Eight Heaviest Hourly Traffic Volumes for an Average Day

Hour	Traffic Volumes (vehicles per hour)					
	Waxpool Road			Waxpool Road Center Main Entrance		
	EB	WB	Both Approaches	Left (OB)	Right (OB)	Total (OB)
7:30 to 8:30 AM	2015	952	2967	43	44	87
11:45 AM to 12:45 AM	1346	1355	2701	56	57	113
12:45 to 1:45 PM	1416	1382	2798	70	70	140
1:45 to 2:45 PM	1346	1495	2841	60	60	120
5:30 to 6:30 PM	1386	2556	3942	60	61	121
6:30 to 7:30 PM	1082	2220	3302	49	49	98
7:30 to 8:30 PM	944	1559	2503	54	54	108
8:30 to 9:30 PM	765	1020	1785	49	50	99

*OB – Outbound traffic only

The revised alternative to this analysis will assume that the eastern entrance to the site will operate as a right-in-right-out intersection. Therefore, the existing left turning volumes at this intersection have been rerouted in order to utilize the main entrance, turning left at Waxpool Road Center Main Entrance. The following Table 4 below shows how the left turning volumes have been derived:

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Table 4: Existing Conditions – Rerouted Left Turning Movements

<u>Waxpool Road Center Main Entrance+ SB* left turn traffic from Eastern Entrance</u>						
Time	Left-A	Factor-B	Peak Hour Volumes at Eastern Entrance -C	Rerouted Left Turn Volumes-(D=B*C)	Existing + Rerouted Left Turn Volumes- (A+D)	
7:30-8:30 AM	43	1.000	3	3	46	
11:45-12:45 PM	56	1.302	3	4	60	
12:45-1:45 PM	70	1.167	13	15	85	
1:45-2:45 PM	60	1.000	13	13	73	
5:30-6:30 PM	60	1.000	13	13	73	
6:30-7:30 PM	49	0.817	13	11	60	
7:30-8:30 PM	54	0.900	13	12	66	
8:30-9:30 PM	49	0.817	13	11	60	

*OB – Outbound traffic only

Table 5: Existing Conditions – Revised Eight Heaviest Hourly Traffic Volumes for an Average Day

Hour	Traffic Volumes (vehicles per hour)					
	Waxpool Road			Waxpool Road Center Main Entrance		
	EB	WB	Both Approaches	Left (OB)	Right (OB)	Total (OB)
7:30 to 8:30 AM	2015	952	2967	46	44	90
11:45 AM to 12:45 AM	1346	1355	2701	60	57	117
12:45 to 1:45 PM	1416	1382	2798	85	70	155
1:45 to 2:45 PM	1346	1495	2841	73	60	133
5:30 to 6:30 PM	1386	2556	3942	73	61	134
6:30 to 7:30 PM	1082	2220	3302	60	49	109
7:30 to 8:30 PM	944	1559	2503	66	54	120
8:30 to 9:30 PM	765	1020	1785	60	50	110

*OB – Outbound traffic only

The MUTCD Manual states that ‘The right turn volume should not be included in the minor street volume if the movement enters the major street with minimal conflict’. Waxpool Road is heavy volume corridor carrying more than 2,000 vehicles per hour for almost eight peak hours of the day. It also has a posted speed limit of 45 mph. Under such a situation, the right turn traffic is not able to enter the main line with minimal conflict. Hence, the original warrant study did not remove the right turn traffic out. It is anticipated that at least 75%, if not 100%, of the right turn traffic will be benefitted from the signal. However, to be conservative, and based on VDOT’s comment, 25% of the right turning traffic was removed from the total outbound traffic. The revised existing conditions traffic volumes are presented in Table 6.

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Table 6: Existing Conditions – Eight Heaviest Hourly Traffic Volumes for an Average Day

Hour	Traffic Volumes (vehicles per hour)			Waxpool Road Center Main Entrance		Total (OB)
	Waxpool Road EB	WB	Both Approaches	Left (OB)	Right (OB)	
7:30 to 8:30 AM	2015	952	2967	46	33	79
11:45 to 12:45 AM	1346	1355	2701	60	43	103
12:45 to 1:45 PM	1416	1382	2798	85	53	138
1:45 to 2:45 PM	1346	1495	2841	73	45	118
5:30 to 6:30 PM	1386	2556	3942	73	46	119
6:30 to 7:30 PM	1082	2220	3302	60	37	97
7:30 to 8:30 PM	944	1559	2503	66	41	107
8:30 to 9:30 PM	765	1020	1785	60	38	98

*OB – Outbound traffic only

WARRANT ANALYSIS RESULTS

Warrant 1: Eight-Hour Vehicular Volume

Warrant 1 is satisfied when for each of any 8 hours of an average day, the traffic volumes given in the tables shown below exist on the major-street and on the higher-volume minor-street approaches to the intersection. If the vehicles per hour given in both of the 100% columns in the MUTCD Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection and satisfy either Condition A or Condition B for any eight hours of an average weekday, then Warrant 1 is satisfied. It should be noted that the 80% columns may be used in place of the 100% columns when street volumes for both the major-street and minor-street approaches meet or exceed the 80% values set forth in the MUTCD and satisfy both Conditions A and B for each of any 8 hours of an average day.

The specific volumes used in this study for Conditions A and B were taken from the MUTCD Table 4C-1 considering two or more lanes for moving traffic on the major approach and one lane on the minor approach under both the existing and future conditions as shown in **Tables 7A and 7B**. The MUTCD Table 4C-1 is included in the Technical Appendix.



Table 7A: Condition A – Minimum Vehicular Volume Requirements

Warrant 1A Requirements	Major Street (vehicles per hour)		Higher volume Minor Street (vehicles per hour)	
		600 (100%)	480 (80%)	150 (100%)

Table 7B: Condition B – Interruption of Continuous Traffic Requirements

Warrant 1B Requirements	Major Street (vehicles per hour)		Higher volume Minor Street (vehicles per hour)	
		900 (100%)	720 (80%)	75 (100%)

Condition A – Minimum Vehicular Volume: The vehicles per hour given in both of the 100% columns in the MUTCD Table 4C-1 must exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Condition B – Interruption of Continuous Traffic: The vehicles per hour given in both of the 100% columns in the MUTCD Table 4C-1 must exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Existing Conditions (2008)

Table 8: Existing Conditions – Volumes and Thresholds

Hour	Waxpool Road			Waxpool Road Center Main Entrance		
	Volumes	100% Threshold Conditions A/B	80% Threshold Conditions A/B	Volumes	100% Threshold Conditions A/B	80% Threshold Conditions A/B
7:30 AM	2967	600/900	480/720	79	150/75	120/60
11:45 AM	2701	600/900	480/720	103	150/75	120/60
12:45 PM	2798	600/900	480/720	138	150/75	120/60
1:45 PM	2841	600/900	480/720	118	150/75	120/60
5:30 PM	3820	600/900	480/720	119	150/75	120/60
6:30 PM	3021	600/900	480/720	97	150/75	120/60
7:30 PM	2317	600/900	480/720	107	150/75	120/60
8:30 PM	1767	600/900	480/720	98	150/75	120/60

Based on **Table 8**, all existing hourly volumes on the major-street and higher-volume minor approach meet the minimum requirements under Condition B for the 80% and 100% columns.

Warrant 1 is satisfied.

Warrant 2: Four-Hour Vehicular Volume

Warrant 2 is satisfied when the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for each of any 4 hours of an average day all fall above the applicable figure shown in the MUTCD for the existing and future combination of approach lanes.

AM



The existing traffic volumes for four hours of an average day were determined to evaluate Warrant 2, and are shown in Table 9. These 4 hours of an average day were based on the peak minor street volumes within the heaviest peak eight-hour traffic volumes.

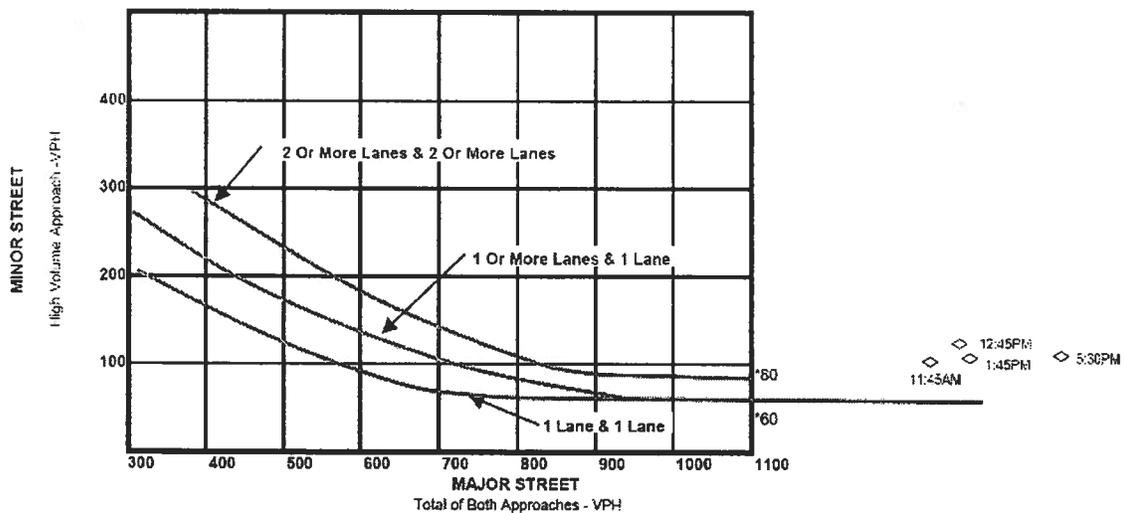
Table 9: Existing Conditions – Four Hourly Traffic Volumes for an Average Day

Hour	Traffic Volumes (vehicles per hour)	
	Waxpool Road	Waxpool Road Center Main Entrance
11:45 AM	2701	103
12:45 PM	2798	138
1:45 PM	2841	118
5:30 PM	3820	119

Figure 4C-2 utilizes the 70% Factor when the surrounding community is less than 10,000 in population or the major street speed is above 40mph. The major street is Waxpool Road which has a current speed limit posted at 45 mph in the vicinity of the study intersection, therefore the 70% Factor is applicable. Any four hourly traffic volumes of an average day are plotted on the MUTCD Figure 4C-2 and, if all points are above the appropriate curve, the warrant criterion is met. As noted in this figure, 80 vehicles per hour apply as the lower threshold volume for a minor-street approach with two or more lanes and 60 vehicles per hour apply as the lower threshold volume for a minor-street approach with one lane. All minor street volumes are 80 vph or higher and all major street volumes are greater than 1,100 vph and are therefore above the appropriate curve. Therefore, **Signal Warrant 2 is satisfied** based on Figure 4C-2.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(Community less than 10,000 Population or Above 70 km/h (40mph) on Major Street)



*NOTE: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.



Warrant 3: Peak Hour

Warrant 3 “shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.” The need for a traffic control signal shall be considered if the criteria in either of the following two categories are met:

A. Warrant 3 is satisfied when, for the same 1 hour of an average day, the total delay on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; the volume on the same minor-street approach equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and the total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches; **or**

B. Warrant 3 is satisfied when the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour of an average day falls above the applicable figure shown in the MUTCD for the existing conditions of approach lanes.

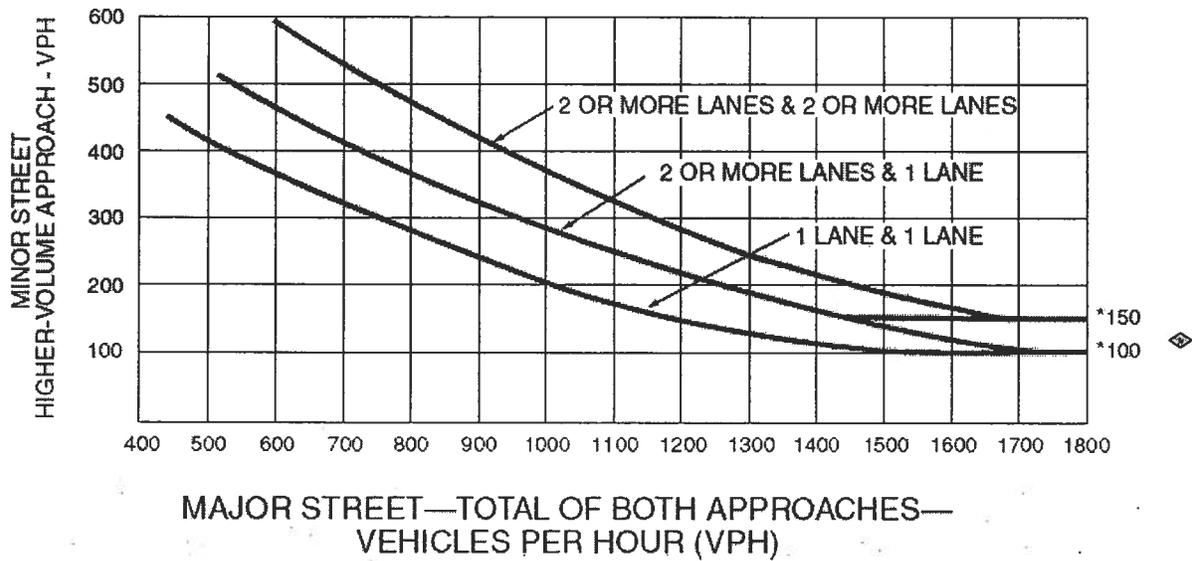
Existing Conditions (2008)

The existing highest peak hour volumes on the minor and major approach occurred from 5:30 PM to 6:30 PM, with major-street and highest minor-street peak-hour volumes of 3,820 vehicles per hour and 119 vehicles per hour, respectively. Given these volumes on the major and minor street approaches, Figure 4C-3 indicates that Warrant 3 is not satisfied under the existing condition. In addition, this study intersection is not considered as an unusual case as specified above.

Warrant 3 is not satisfied or applicable.



Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

◇ Existing Conditions

Warrant 4: Pedestrian Volume

Warrant 4 is satisfied when the pedestrian volume crossing the major street at the study intersection meets or exceeds the volumes given in the table presented below during an average day. Pedestrian counts were not completed for this intersection.

Warrant 4 is not applicable.

Warrant 5: School Crossing

Warrant 5 is applicable where school children crossing the major street are the major reason for a traffic control signal installation.

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Existing Conditions (2008)

There are no existing school crossings at the study intersection. Therefore, Warrant 5 is not applicable.

Warrant 5 is not applicable.

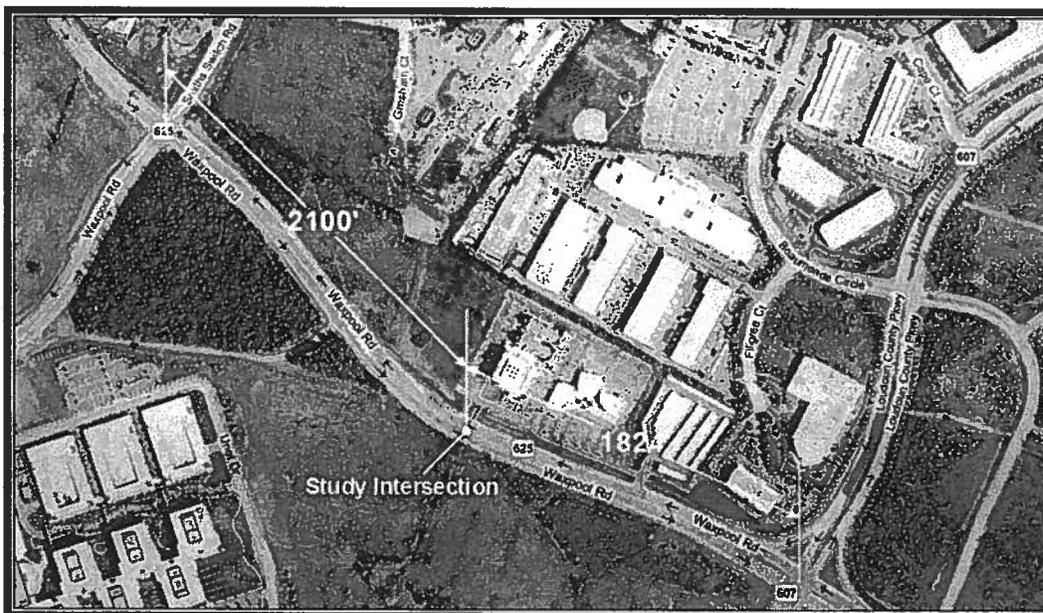
Warrant 6: Coordinated Signal System

Warrant 6 is satisfied when, “on a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.” In addition, this warrant should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.

Existing Conditions (2008)

The traffic signal at Loudoun County Parkway is located approximately 1,824 feet from this intersection and the traffic signal at Smith Switch Road is located at approximately 2,100 feet. Figure below shows the distances. The corridor study completed along Waxpool Road with a signal installed at the study intersection shows that the signal will improve the traffic flow along the Waxpool Road corridor. The adjacent traffic signal controls at Loudoun County Parkway and Smith Switch Road do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6 is satisfied.





Warrant 7: Crash Experience

Warrant 7 is applicable where the severity and frequency of crashes are the principal reasons to consider the installation of a traffic control signal. This warrant is valid when all of the following criteria are met:

- A. “Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period. Each crash should involve personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and
- C. For each of any 8 hours of an average day, the vehicles per hour given in both of the 80% columns of Condition A in the MUTCD Table 4C-1, or the vehicles per hour in both of the 80% columns of Condition B in the MUTCD Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of the pedestrian traffic is not less than 80% of the requirements specified in Warrant 4. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.”

Existing Conditions (2008)

Accident data was collected from VDOT within 500 feet of the intersection of Waxpool Road and the Waxpool Road Center Main Entrance. Table 10 summarizes the number of accidents occurring between January 2003 and January 2008.

Table 10: Accident Data

	Total	2003	2004	2005	2006	2007
Total Number of Accidents	26	2	3	11	6	4
Injury Accidents	7	1	1	5		
Property Damage Accidents	19	1	2	6	6	4
Number Injured	17	4	4	9		

Within the last 12 months there have not been five or more reported crashes, therefore, Warrant 7 is not satisfied under the existing conditions.

Warrant 7 is not satisfied.

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Warrant 8: Roadway Network

Warrant 8 is applied when a traffic control signal is considered for the intersection of two or more major routes.

Existing Conditions (2008)

The minor approach of the study intersection is a Main Entrance driveway and does not qualify under the description for a major route provided in the MUTCD. Therefore, this warrant is not satisfied and not applicable under the existing conditions.

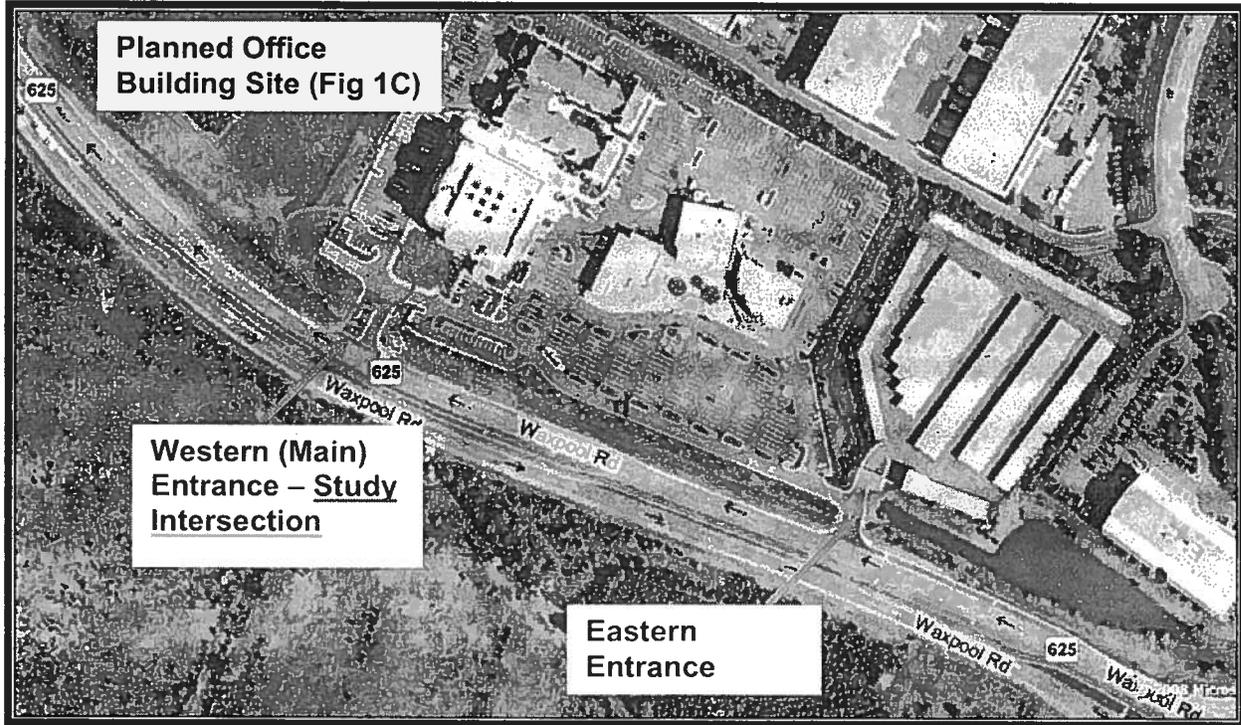
Warrant 8 is not satisfied.



FUTURE CONDITIONS WARRANT ANALYSIS (2010)

A site plan for a proposed office building adjacent to the Waxpool Road Center development has been submitted and is under review. The proposed development calls for a 130,000 square foot office building. Two access points to the office building are being proposed. There is no direct access to Waxpool Road planned for the proposed office building, however an interparcel access between the proposed office parcel and Waxpool Road Center exists and will serve the proposed development. Another access point off of future Gresham Drive is also proposed. The location of the proposed office development is shown in Figure 2A and the site plan is shown in Figure 2B.

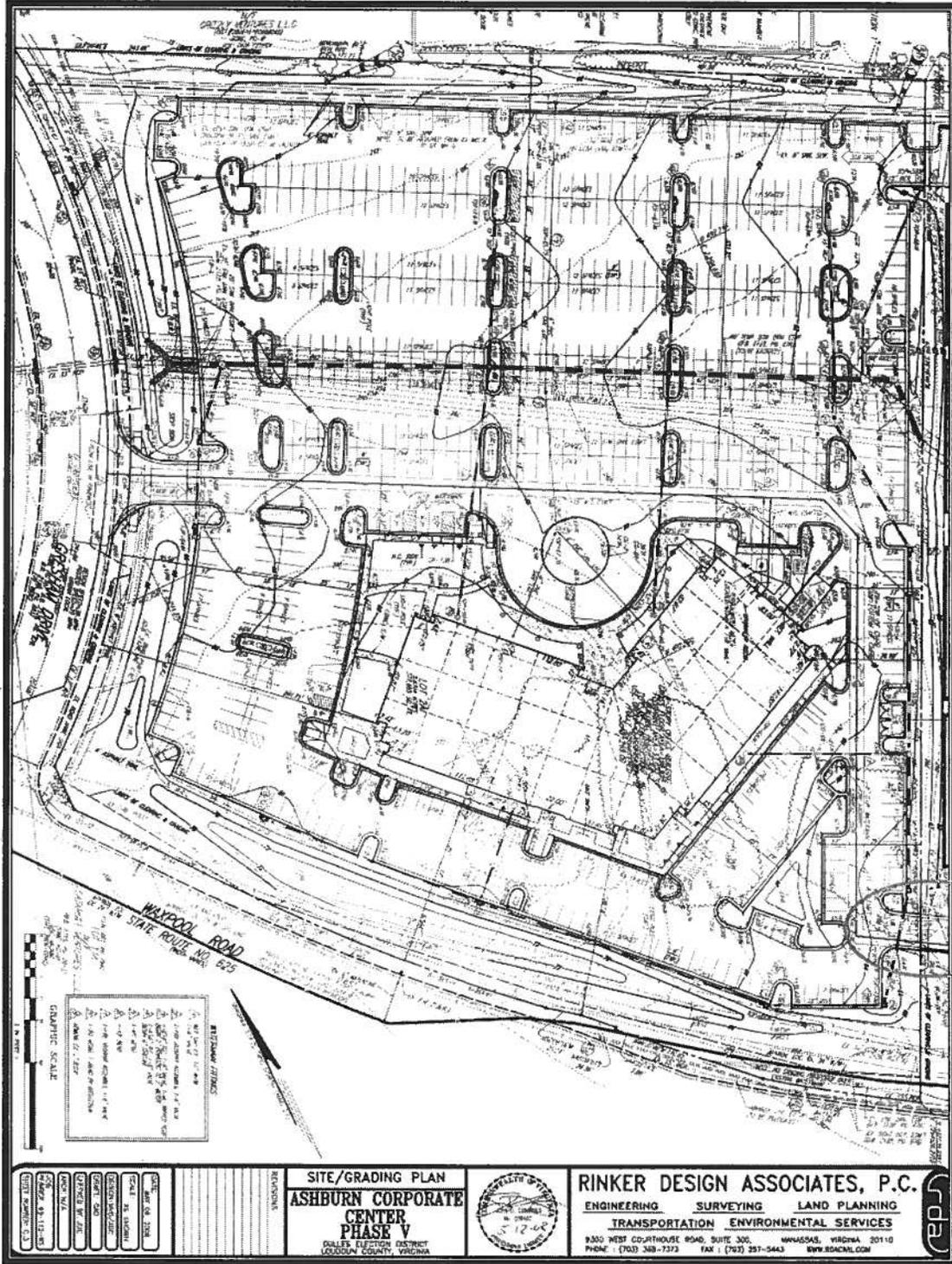
Figure 2A: Entrance Locations for Waxpool Road Center



Interparcel Access to Waxpool Road Center



Figure 2B: Future Office Development Site Plan



Interparcel Access to Waxpool Road Center

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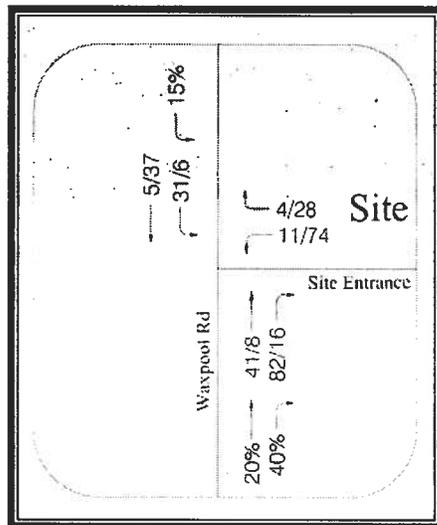
To be conservative, it was assumed that approximately 55% of the traffic will access the office development through the entrance via the existing Waxpool Road Center entrance and the remaining 45% will access the site via future Gresham Drive.

Table 11: Trip Generation

Land Use	ITE Code	Size	----- Week day -----							
			AM Peak Hour			PM Peak Hour			Daily Total	
			In	Out	Total	In	Out	Total		
Office										
General Office Building	710	130 kSF	205	27	232	39	186	225	1,633	
General Office Total			205	27	232	39	186	225	1,633	

Figure 2 below shows the traffic generated by the office development projected at the Waxpool Road Center Western Main Entrance as well as the direction of approach percentages shown in blue.

Figure 2: Traffic Generated by the Office Development



The site eight hour volumes utilizing the Waxpool Road and Waxpool Road Center Main Entrance intersection were estimated based on the peak hour volumes from Table 3 and applying hourly variation factors (calculated from existing traffic volumes). The projected volume calculations for Waxpool Road and Waxpool Road Center Main Entrance are shown in Table 12 and Table 13 respectively. To be conservative, no background growth was assumed.

The future eight heaviest hourly traffic volumes at the intersection of Waxpool Road and Waxpool Road Center Main Entrance are shown in Table 11 and the future peak hour volumes at this location are shown in Table 12.

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Table 12: Site plus Existing Volume Calculations (2010)– Waxpool Road (Two way)

Hour	Existing (A)	Factors (B)	Peak Hour Site (C)	Site Volumes (D = B*C)	Total Volumes (A+D)
7:30 to 8:30 AM	2967	1.0	174	174	3141
11:45 to 12:45 AM	2701	0.910=2701/2967	174	158	2859
12:45 to 1:45 PM	2798	0.709=2798/3942	169	120	2918
1:45 to 2:45 PM	2841	0.720=2841/3942	169	122	2963
5:30 to 6:30 PM	3942	1.0	169	169	4111
6:30 to 7:30 PM	3302	0.837=3302/3942	169	141	3443
7:30 to 8:30 PM	2503	0.634=2503/3942	169	107	2610
8:30 to 9:30 PM	1785	0.452=1785/3942	169	76	1861

Table 13: Site plus Existing Volume Calculations (2010) – Waxpool Road Center Main Entrance (One way - Outbound)

Hour	Existing (A)	Factors (B)	Peak Hour Site (C)	Site Volumes (D = B*C)	Total Volumes (A+D)
7:30 to 8:30 AM	79	0.77=79/103	11 + (4*0.75) = 14	11	90
11:45 to 12:45 AM	103	1.0	11 + (4*0.75) = 14	14	117
12:45 to 1:45 PM	138	1.0	74 + (28*0.75) = 95	95	233
1:45 to 2:45 PM	118	0.86=118/138	74 + (28*0.75) = 95	82	200
5:30 to 6:30 PM	119	0.86=119/138	74 + (28*0.75) = 95	82	201
6:30 to 7:30 PM	97	0.70=97/138	74 + (28*0.75) = 95	67	164
7:30 to 8:30 PM	107	0.78=107/138	74 + (28*0.75) = 95	74	181
8:30 to 9:30 PM	98	0.71=98/138	74 + (28*0.75) = 95	67	165

Table 14: Future Conditions – AM and PM Peak Hour Traffic Volumes for an Average Day

Hour	Traffic Volumes (vehicles per hour)	
	Waxpool Road	Site Entrance
7:30 AM – 8:30 AM	3141	90
5:30 PM – 6:30 PM	4111	201

WARRANT ANALYSIS RESULTS

Warrant 1: Eight-Hour Vehicular Volume

Warrant 1 is satisfied when for each of any 8 hours of an average day, the traffic volumes given in the tables shown below exist on the major-street and on the higher-volume minor-street approaches to the intersection. If the vehicles per hour given in both of the 100% columns in the MUTCD Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection and satisfy either Condition A or Condition B for any eight hours of an average weekday, then Warrant 1 is satisfied. It should be noted that the 80% columns may be used in place of the 100% columns when street volumes for both the major-street and minor-street approaches meet or exceed the 80% values set forth in the MUTCD and satisfy both Conditions A and B for each of any 8 hours of an average day.



The specific volumes used in this study for Conditions A and B were taken from the MUTCD Table 4C-1 considering two or more lanes for moving traffic on the major approach and one lane on the minor approach under both the existing and future conditions as shown in Tables 15A and 15B. The MUTCD Table 4C-1 is included in the Technical Appendix.

Table 15A: Condition A – Minimum Vehicular Volume Requirements

Warrant 1A Requirements	Major Street (vehicles per hour)		Higher volume Minor Street (vehicles per hour)	
		600 (100%)	480 (80%)	150 (100%)

Table 15B: Condition B – Interruption of Continuous Traffic Requirements

Warrant 1B Requirements	Major Street (vehicles per hour)		Higher volume Minor Street (vehicles per hour)	
		900 (100%)	720 (80%)	75 (100%)

Condition A – Minimum Vehicular Volume: The vehicles per hour given in both of the 100% columns in the MUTCD Table 4C-1 must exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Condition B – Interruption of Continuous Traffic: The vehicles per hour given in both of the 100% columns in the MUTCD Table 4C-1 must exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Table 16: Future Conditions – Volumes and Thresholds

Hour	Waxpool Road			Waxpool Road Center Main Entrance		
	Volumes	100% Threshold Conditions A/B	80% Threshold Conditions A/B	Volumes	100% Threshold Conditions A/B	80% Threshold Conditions A/B
7:30 to 8:30 AM	3141	600/900	480/720	90	150/75	120/60
11:45 to 12:45 AM	2859	600/900	480/720	117	150/75	120/60
12:45 to 1:45 PM	2918	600/900	480/720	233	150/75	120/60
1:45 to 2:45 PM	2963	600/900	480/720	200	150/75	120/60
5:30 to 6:30 PM	4111	600/900	480/720	201	150/75	120/60
6:30 to 7:30 PM	3443	600/900	480/720	164	150/75	120/60
7:30 to 8:30 PM	2610	600/900	480/720	181	150/75	120/60
8:30 to 9:30 PM	1861	600/900	480/720	165	150/75	120/60

Based on Table 16, all future background hourly volumes on the major-street and higher-volume minor approach meet the minimum requirements under Condition B for the 100% and 80% columns. Therefore, there is sufficient approach volume to satisfy Warrant 1 requirements.

Warrant 1 is satisfied.

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Warrant 2: Four-Hour Vehicular Volume

Warrant 2 is satisfied when the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for each of any 4 hours of an average day all fall above the applicable figure shown in the MUTCD for the existing and future combination of approach lanes.

The existing and future traffic volumes for the four heaviest hours of an average day were determined to evaluate Warrant 2, and are shown in **Tables 12 and 13**, respectively.

Table 17: Existing plus Site (2010) – Four Heaviest Hourly Traffic Volumes for an Average Day

Hour	Traffic Volumes (vehicles per hour)	
	Waxpool Road	Site Entrance
12:45 PM	2918	233
1:45 PM	2963	200
5:30 PM	4111	201
6:30 PM	3443	164

Typically, the four heaviest hourly traffic volumes of an average day are plotted on the MUTCD Figure 4C-1 and, if all points are above the appropriate curve, the warrant criterion is met. As noted in this figure, 115 vehicles per hour apply as the lower threshold volume for a minor-street approach with two or more lanes and 80 vehicles per hour apply as the lower threshold volume for a minor-street approach with one lane.

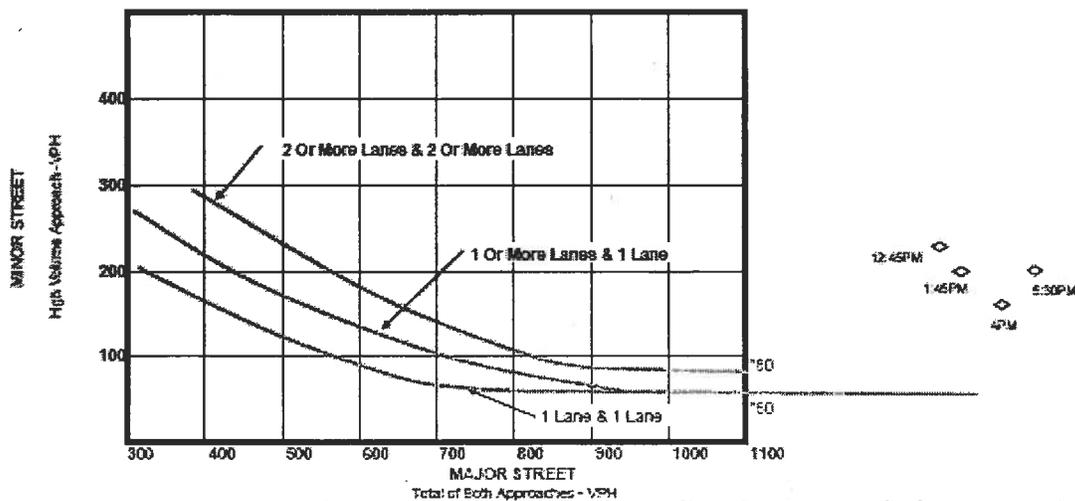
Figure 4C-2 utilizes the 70% Factor when the surrounding community is less than 10,000 in population or the major street speed is above 40mph. The major street is Waxpool Road which has a current speed limit posted at 45 mph in the vicinity of the study intersection; therefore the 70% Factor is applicable. Any four hourly traffic volumes of an average day are plotted on the MUTCD Figure 4C-2 and, if all points are above the appropriate curve, the warrant criterion is met. As noted in this figure, 80 vehicles per hour apply as the lower threshold volume for a minor-street approach with two or more lanes and 60 vehicles per hour apply as the lower threshold volume for a minor-street approach with one lane. All minor street volumes are 80 vph or higher and all major street volumes are greater than 800 vph and are therefore above the appropriate curve. Therefore, **Signal Warrant 2 is satisfied** based on Figure 4C-2.

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Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)
 (Community less than 10,000 Population or Above 70 km/h (40mph) on Major Street)

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)



*NOTE: 60 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3: Peak Hour

Warrant 3 “shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.” The need for a traffic control signal shall be considered if the criteria in either of the following two categories are met:

A. Warrant 3 is satisfied when, for the same 1 hour of an average day, the total delay on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; the volume on the same minor-street approach equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and the total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches; or

B. Warrant 3 is satisfied when the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour of an average day falls above the applicable figure shown in the MUTCD for the existing conditions of approach lanes.

A 90

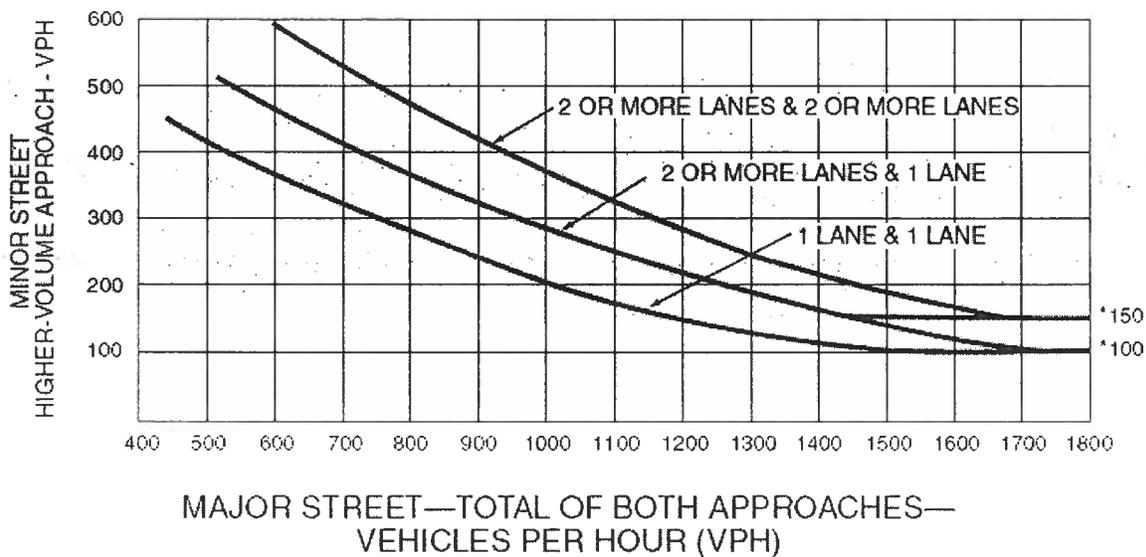


Future Conditions (2010)

The future background highest peak hour volumes on the minor and major approach occurred from 5:30 PM to 6:30 PM, with major-street and highest minor-street peak-hour volumes of 4111 vehicles per hour and 201 vehicles per hour, respectively. Given these volumes on the major and minor street approaches, Figure 4C-3 indicates that Warrant 3 is satisfied under the existing condition. However, since the development is not considered as an unusual case as specified above, warrant 3 is not applicable.

Warrant 3 is not applicable.

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Legend:

◆ Future Background Conditions

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Warrant 4: Pedestrian Volume

Warrant 4 is satisfied when the pedestrian volume crossing the major street at the study intersection meets or exceeds the volumes given in the table presented below during an average day. Pedestrian counts were not completed for this intersection.

Warrant 4 is not applicable.

Warrant 5: School Crossing

Warrant 5 is applicable where school children crossing the major street are the major reason for a traffic control signal installation.

Future Conditions (2010)

There are no existing school crossings at the study intersection. Therefore, Warrant 5 is not applicable.

Warrant 5 is not applicable.

Warrant 6: Coordinated Signal System

Warrant 6 is satisfied when, “on a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.” In addition, this warrant should not be applied where the resultant spacing of traffic control signals would be less than 1,000 feet.

Future Conditions (2010)

The traffic signal at Loudoun County Parkway is located approximately 1,824 feet from this intersection and the traffic signal at Smith Switch Road is located at approximately 2,100 feet. The corridor study completed along Waxpool Road with a signal installed at the study intersection shows that the signal will improve the traffic flow along the Waxpool Road corridor. The adjacent traffic signal controls at Loudoun County Parkway and Smith Switch Road do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 6 is satisfied.

Warrant 7: Crash Experience

Warrant 7 is not satisfied under Existing Conditions (2008). Please refer to Table 7 under the Existing Condition scenario.



Warrant 8: Roadway Network

Warrant 8 is not satisfied under Existing Conditions (2008).

CONCLUSIONS

The purpose of this analysis was to determine if the installation of a traffic control signal would be justified at the intersection of Waxpool Road and the Waxpool Road Center entrance under existing conditions. A summary of the evaluation of the warrant criteria from the Manual on Uniform Traffic Control Devices (MUTCD), 2003 Edition is presented below:

Table 18: Summary of Warrant Analysis

Warrant No.	Warrant Description	Existing Conditions (2008)	Future Conditions (2010)
1	Eight-Hour Vehicular Volume	Satisfied	Satisfied
2	Four-Hour Vehicular Volume	Satisfied	Satisfied
3	Peak Hour	Not Applicable	Not Applicable
4	Pedestrian Volume	Not Satisfied	Not Satisfied
5	School Crossing	Not Satisfied	Not Satisfied
6	Coordinated Signal System	Satisfied	Satisfied
7	Crash Experience	Not Satisfied	Not Satisfied
8	Roadway Network	Not Satisfied	Not Satisfied

According to the MUTCD, only one warrant needs to be satisfied to allow for the installation of a traffic control signal. This intersection satisfies Warrants 2 and 6 under existing conditions and Warrants 1,2 and 6 under future conditions. Based on the results presented in **Table 18**, the installation of a traffic control signal is **warranted** at the intersection of Waxpool Road and the Western Waxpool Road Center Main Entrance.

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TECHNICAL APPENDIX

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TABLE 4C-1 (MUTCD): WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME



APPENDIX A

TRAFFIC COUNTS ANALYSIS



TRAFFIC COUNTS

The existing Waxpool Road Center development has the following uses on site:

Approximately 90 room hotel

Approximately 173 room hotel

Approximately 9,917 SF of Quality Restaurant (1st pad)

Approximately 3,310 SF of 3 Quality/High Turnover Restaurants (2nd pad)

Approximately 1,962 SF of 4 Quality/High Turnover Restaurants (3rd pad)

The trip generation for the existing uses on site was evaluated using ITE trip generation manual. The trip generation table is shown below:

Land Use	ITE Code	Size	Weekday						Daily Total	
			Reduction Rate	AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out		Total
Retail										
Hotel	310	90 Rooms		29	23	52	30	21	51	433
Hotel	310	173 Rooms		51	40	91	57	40	97	1,176
Retail Total				80	63	143	87	61	148	1,609
Services										
Quality Restaurant	931	9.92 kSF		46	9	55	56	33	89	892
Quality Restaurant	931	3.31 kSF		16	2	18	19	11	30	296
Quality Restaurant	931	1.96 kSF		9	2	11	11	7	18	176
High Turnover Sit-Down Restaurant	932	3.31 kSF		24	21	45	35	28	63	421
High Turnover Sit-Down Restaurant	932	3.31 kSF		24	21	45	35	28	63	421
High Turnover Sit-Down Restaurant	932	1.96 kSF		15	12	27	21	16	37	250
High Turnover Sit-Down Restaurant	932	1.96 kSF		15	12	27	21	16	37	250
High Turnover Sit-Down Restaurant	932	1.96 kSF		15	12	27	21	16	37	250
Services Total				164	92	256	219	155	374	2,958
OVERALL TOTAL				244	155	399	306	216	522	4,567

Traffic counts using automatic traffic recorders were conducted along Waxpool Road and at the site entrance in May 2008. Per VDOT's request 12-hour turning movement counts were conducted at the study intersection on January 29, 2009. The AM and PM peak hours identified were 7:30 AM to 8:30 AM, 5:30 PM to 6:30 PM

OUTBOUND TRAFFIC (MAIN SITE ENTRANCE):

May 7th, 2008: AMPH = 87 VPH and PMPH = 121 VPH

January 29, 2008: AMPH = 63 VPH and PMPH = 52 VPH

ITE Trip Generation: AMPH = 155*75% = 116 VPH, and PMPH = 216*75% = 162

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The comparison of the peak hour outbound traffic between the field counts and ITE trip generation manual show that the ITE trips are higher than the field counts data. The results show that the existing Waxpool Road Center (Retail and Hotel development) is clearly not operating at its full potential. The counts done in May 2008 are higher than the counts done in January 2009.

Based on a field visit and conversations with the retail users and operators, one of the restaurants has been closed and was not operational in January 2009. In addition, the retail center has been losing customers on a regular basis, as they are not able to access the center with lack of adequate gaps along Waxpool Road. This coupled with the cold weather factor in January, produced lower volumes. Hence, to be conservative, the ITE numbers (highest) were not used; instead the May 2007 counts were used in the warrant study. An average of the 12-hour turning movement counts was calculated to evaluate the directional split for the outbound traffic. This directional split was then applied to the May 2007 counts as shown in Table 3 in the warrant study.

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APPENDIX B

TRAFFIC DATA SHEETS

Waxpool Road West of Hotel Driveway

Start Date: 5/26/2008

Start Time: 2:30:00 PM

Date	Time	Eastbound	Westbound	Total
5/26/2008	02:30 PM	257		
5/26/2008	02:45 PM	261		
5/26/2008	03:00 PM	261	409	2822
5/26/2008	03:15 PM	243	460	
5/26/2008	03:30 PM	249	477	
5/26/2008	03:45 PM	220	503	
5/26/2008	04:00 PM	237	565	3438
5/26/2008	04:15 PM	213	603	
5/26/2008	04:30 PM	225	647	
5/26/2008	04:45 PM	216	732	
5/26/2008	05:00 PM	227	887	3451
5/26/2008	05:15 PM	181	728	
5/26/2008	05:30 PM	164	685	
5/26/2008	05:45 PM	174	565	
5/26/2008	06:00 PM	208	598	3312
5/26/2008	06:15 PM	190	661	
5/26/2008	06:30 PM	225	646	
5/26/2008	06:45 PM	146	638	
5/26/2008	07:00 PM	172	499	2536
5/26/2008	07:15 PM	170	484	
5/26/2008	07:30 PM	186	420	
5/26/2008	07:45 PM	170	435	
5/26/2008	08:00 PM	190	367	2013
5/26/2008	08:15 PM	159	392	
5/26/2008	08:30 PM	134	312	
5/26/2008	08:45 PM	133	326	
5/26/2008	09:00 PM	142	325	1630
5/26/2008	09:15 PM	106	323	
5/26/2008	09:30 PM	132	284	
5/26/2008	09:45 PM	85	233	
5/26/2008	10:00 PM	118	211	997
5/26/2008	10:15 PM	65	171	
5/26/2008	10:30 PM	51	176	
5/26/2008	10:45 PM	64	141	
5/26/2008	11:00 PM	46	87	510
5/26/2008	11:15 PM	31	114	
5/26/2008	11:30 PM	39	96	
5/26/2008	11:45 PM	26	71	
5/27/2008	12:00 AM	35	48	297
5/27/2008	12:15 AM	27	46	
5/27/2008	12:30 AM	19	55	
5/27/2008	12:45 AM	18	47	
5/27/2008	01:00 AM	13	26	152
5/27/2008	01:15 AM	9	21	
5/27/2008	01:30 AM	23	24	
5/27/2008	01:45 AM	12	24	
5/27/2008	02:00 AM	9	23	115
5/27/2008	02:15 AM	6	14	
5/27/2008	02:30 AM	6	25	
5/27/2008	02:45 AM	12	16	
5/27/2008	03:00 AM	14	9	133
5/27/2008	03:15 AM	13	17	
5/27/2008	03:30 AM	22	12	
5/27/2008	03:45 AM	34	12	
5/27/2008	04:00 AM	23	17	320
5/27/2008	04:15 AM	59	14	
5/27/2008	04:30 AM	76	21	
5/27/2008	04:45 AM	85	25	
5/27/2008	05:00 AM	150	28	1159
5/27/2008	05:15 AM	164	52	
5/27/2008	05:30 AM	239	80	
5/27/2008	05:45 AM	313	133	
5/27/2008	06:00 AM	350	131	2589
5/27/2008	06:15 AM	439	147	
5/27/2008	06:30 AM	551	200	
5/27/2008	06:45 AM	589	182	
5/27/2008	07:00 AM	578	185	2994
5/27/2008	07:15 AM	526	228	

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Waxpool Road West of Hotel Driveway

Start Date: 5/26/2008

Start Time: 2:30:00 PM

Date	Time	Value 1	Value 2	Value 3
5/27/2008	07:30 AM	528	206	
5/27/2008	07:45 AM	515	228	
5/27/2008	08:00 AM	475	220	2959
5/27/2008	08:15 AM	490	254	
5/27/2008	08:30 AM	532	249	
5/27/2008	08:45 AM	476	263	
5/27/2008	09:00 AM	486	250	2738
5/27/2008	09:15 AM	469	299	
5/27/2008	09:30 AM	414	221	
5/27/2008	09:45 AM	358	239	
5/27/2008	10:00 AM	332	245	2135
5/27/2008	10:15 AM	293	224	
5/27/2008	10:30 AM	283	214	
5/27/2008	10:45 AM	331	213	
5/27/2008	11:00 AM	284	238	2274
5/27/2008	11:15 AM	304	273	
5/27/2008	11:30 AM	320	277	
5/27/2008	11:45 AM	282	296	
5/27/2008	12:00 PM	344	330	2801
5/27/2008	12:15 PM	345	370	
5/27/2008	12:30 PM	394	332	
5/27/2008	12:45 PM	360	326	
5/27/2008	01:00 PM	343	309	2714
5/27/2008	01:15 PM	336	360	
5/27/2008	01:30 PM	324	334	
5/27/2008	01:45 PM	325	383	
5/27/2008	02:00 PM	293	345	2800
5/27/2008	02:15 PM	367	388	
5/27/2008	02:30 PM	298	380	
5/27/2008	02:45 PM	320	409	
5/27/2008	03:00 PM	330	388	3090
5/27/2008	03:15 PM	333	425	
5/27/2008	03:30 PM	308	469	
5/27/2008	03:45 PM	311	526	
5/27/2008	04:00 PM	368	590	4042
5/27/2008	04:15 PM	333	601	
5/27/2008	04:30 PM	410	654	
5/27/2008	04:45 PM	361	725	
5/27/2008	05:00 PM	378	725	4134
5/27/2008	05:15 PM	335	716	
5/27/2008	05:30 PM	346	665	
5/27/2008	05:45 PM	311	658	
5/27/2008	06:00 PM	328	638	3715
5/27/2008	06:15 PM	321	649	
5/27/2008	06:30 PM	310	609	
5/27/2008	06:45 PM	280	580	
5/27/2008	07:00 PM	281	519	2857
5/27/2008	07:15 PM	274	459	
5/27/2008	07:30 PM	257	362	
5/27/2008	07:45 PM	233	472	
5/27/2008	08:00 PM	195	321	2212
5/27/2008	08:15 PM	195	418	
5/27/2008	08:30 PM	166	365	
5/27/2008	08:45 PM	180	372	
5/27/2008	09:00 PM	167	326	1675
5/27/2008	09:15 PM	127	309	
5/27/2008	09:30 PM	123	258	
5/27/2008	09:45 PM	110	255	
5/27/2008	10:00 PM	152	216	1062
5/27/2008	10:15 PM	83	198	
5/27/2008	10:30 PM	66	163	
5/27/2008	10:45 PM	48	136	
5/27/2008	11:00 PM	74	131	619
5/27/2008	11:15 PM	50	123	
5/27/2008	11:30 PM	41	94	
5/27/2008	11:45 PM	40	66	
5/28/2008	12:00 AM	44	65	350
5/28/2008	12:15 AM	28	73	

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Waxpool Road West of Hotel Driveway

Start Date: 5/28/2008

Start Time: 2:30:00 PM

5/28/2008 12:30 AM	29	55	
5/28/2008 12:45 AM	15	41	
5/28/2008 01:00 AM	14	34	154
5/28/2008 01:15 AM	20	30	
5/28/2008 01:30 AM	11	18	
5/28/2008 01:45 AM	10	17	
5/28/2008 02:00 AM	26	20	165
5/28/2008 02:15 AM	18	27	
5/28/2008 02:30 AM	22	22	
5/28/2008 02:45 AM	17	13	
5/28/2008 03:00 AM	6	18	120
5/28/2008 03:15 AM	11	17	
5/28/2008 03:30 AM	17	14	
5/28/2008 03:45 AM	23	14	
5/28/2008 04:00 AM	28	10	328
5/28/2008 04:15 AM	43	18	
5/28/2008 04:30 AM	87	24	
5/28/2008 04:45 AM	93	23	
5/28/2008 05:00 AM	121	20	1168
5/28/2008 05:15 AM	188	40	
5/28/2008 05:30 AM	270	82	
5/28/2008 05:45 AM	321	126	
5/28/2008 06:00 AM	324	133	2591
5/28/2008 06:15 AM	450	132	
5/28/2008 06:30 AM	576	209	
5/28/2008 06:45 AM	582	185	
5/28/2008 07:00 AM	544	179	2938
5/28/2008 07:15 AM	536	215	2968
5/28/2008 07:30 AM	510	226	2967
5/28/2008 07:45 AM	481	247	2963
5/28/2008 08:00 AM	521	232	2974
5/28/2008 08:15 AM	503	247	3001
5/28/2008 08:30 AM	480	252	2948
5/28/2008 08:45 AM	485	254	2942
5/28/2008 09:00 AM	511	269	2869
5/28/2008 09:15 AM	443	254	2869
5/28/2008 09:30 AM	423	303	2528
5/28/2008 09:45 AM	387	279	2357
5/28/2008 10:00 AM	331	249	2299
5/28/2008 10:15 AM	315	241	2273
5/28/2008 10:30 AM	307	248	2295
5/28/2008 10:45 AM	333	275	2350
5/28/2008 11:00 AM	311	243	2347
5/28/2008 11:15 AM	317	261	2472
5/28/2008 11:30 AM	331	279	2566
5/28/2008 11:45 AM	294	311	2701
5/28/2008 12:00 PM	339	340	2840
5/28/2008 12:15 PM	327	345	2860
5/28/2008 12:30 PM	386	359	2846
5/28/2008 12:45 PM	366	378	2798
5/28/2008 01:00 PM	384	315	2683
5/28/2008 01:15 PM	315	343	2700
5/28/2008 01:30 PM	351	346	2764
5/28/2008 01:45 PM	305	324	2841
5/28/2008 02:00 PM	355	361	2943
5/28/2008 02:15 PM	314	408	2973
5/28/2008 02:30 PM	372	402	3011
5/28/2008 02:45 PM	318	413	3013
5/28/2008 03:00 PM	329	417	3091
5/28/2008 03:15 PM	310	450	3263
5/28/2008 03:30 PM	305	471	3441
5/28/2008 03:45 PM	302	507	3726
5/28/2008 04:00 PM	351	567	3948
5/28/2008 04:15 PM	331	607	4117
5/28/2008 04:30 PM	391	670	4241
5/28/2008 04:45 PM	330	701	4227
5/28/2008 05:00 PM	403	684	4201
5/28/2008 05:15 PM	366	696	4075

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Waxpool Road West of Hotel Driveway

Start Date: 5/28/2008

Start Time: 2:30:00 PM

Date	Time	Count 1	Count 2	Count 3
5/28/2008	05:30 PM	377	670	3942
5/28/2008	05:45 PM	347	658	3820
5/28/2008	08:00 PM	338	623	3719
5/28/2008	06:15 PM	324	605	3526
5/28/2008	06:30 PM	333	592	3302
5/28/2008	06:45 PM	265	639	3021
5/28/2008	07:00 PM	241	527	2793
5/28/2008	07:15 PM	243	482	2837
5/28/2008	07:30 PM	252	392	2503
5/28/2008	07:45 PM	243	433	2317
5/28/2008	08:00 PM	234	378	2078
5/28/2008	08:15 PM	215	356	1863
5/28/2008	08:30 PM	219	239	1785
5/28/2008	08:45 PM	197	240	1767
5/28/2008	09:00 PM	193	204	1738
5/28/2008	09:15 PM	156	337	1679
5/28/2008	09:30 PM	131	309	1526
5/28/2008	09:45 PM	145	263	1341
5/28/2008	10:00 PM	139	199	1150
5/28/2008	10:15 PM	108	232	
5/28/2008	10:30 PM	85	170	
5/28/2008	10:45 PM	62	155	
5/28/2008	11:00 PM	68	121	619
5/28/2008	11:15 PM	54	121	
5/28/2008	11:30 PM	42	86	
5/28/2008	11:45 PM	48	79	
5/29/2008	12:00 AM	41	66	352
5/29/2008	12:15 AM	32	54	
5/29/2008	12:30 AM	34	52	
5/29/2008	12:45 AM	19	54	
5/29/2008	01:00 AM	17	28	170
5/29/2008	01:15 AM	20	32	
5/29/2008	01:30 AM	13	23	
5/29/2008	01:45 AM	12	25	
5/29/2008	02:00 AM	15	28	123
5/29/2008	02:15 AM	7	17	
5/29/2008	02:30 AM	13	18	
5/29/2008	02:45 AM	13	14	
5/29/2008	03:00 AM	17	12	153
5/29/2008	03:15 AM	15	21	
5/29/2008	03:30 AM	26	14	
5/29/2008	03:45 AM	27	21	
5/29/2008	04:00 AM	22	18	295
5/29/2008	04:15 AM	46	15	
5/29/2008	04:30 AM	65	17	
5/29/2008	04:45 AM	93	19	
5/29/2008	05:00 AM	126	21	1140
5/29/2008	05:15 AM	174	38	
5/29/2008	05:30 AM	271	72	
5/29/2008	05:45 AM	339	99	
5/29/2008	06:00 AM	352	124	2506
5/29/2008	06:15 AM	426	115	
5/29/2008	06:30 AM	587	130	
5/29/2008	06:45 AM	627	145	
5/29/2008	07:00 AM	519	171	2797
5/29/2008	07:15 AM	530	177	
5/29/2008	07:30 AM	484	172	
5/29/2008	07:45 AM	511	233	
5/29/2008	08:00 AM	491	224	2805
5/29/2008	08:15 AM	498	217	
5/29/2008	08:30 AM	435	210	
5/29/2008	08:45 AM	491	239	
5/29/2008	09:00 AM	480		
5/29/2008	09:15 AM	464		
5/29/2008	09:30 AM	403		
5/29/2008	09:45 AM	381		
5/29/2008	10:00 AM	322		
5/29/2008	10:15 AM	314		

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Waxpool Road West of Hotel Driveway

Start Date: 5/26/2008

Start Time: 2:30:00 PM

Date	Time	Count
5/29/2008	10:30 AM	325
5/29/2008	10:45 AM	338
5/29/2008	11:00 AM	318
5/29/2008	11:15 AM	336
5/29/2008	11:30 AM	358
5/29/2008	11:45 AM	356
5/29/2008	12:00 PM	337
5/29/2008	12:15 PM	364
5/29/2008	12:30 PM	382
5/29/2008	12:45 PM	396
5/29/2008	01:00 PM	382
5/29/2008	01:15 PM	358
5/29/2008	01:30 PM	338
5/29/2008	01:45 PM	292
5/29/2008	02:00 PM	332
5/29/2008	02:15 PM	294
5/29/2008	02:30 PM	353
5/29/2008	02:45 PM	349
5/29/2008	03:00 PM	360
5/29/2008	03:15 PM	299
5/29/2008	03:30 PM	323
5/29/2008	03:45 PM	321
5/29/2008	04:00 PM	342
5/29/2008	04:15 PM	338
5/29/2008	04:30 PM	398
5/29/2008	04:45 PM	349
5/29/2008	05:00 PM	365
5/29/2008	05:15 PM	384
5/29/2008	05:30 PM	357
5/29/2008	05:45 PM	351
5/29/2008	06:00 PM	338
5/29/2008	06:15 PM	340
5/29/2008	06:30 PM	345
5/29/2008	06:45 PM	329
5/29/2008	07:00 PM	324
5/29/2008	07:15 PM	277
5/29/2008	07:30 PM	279
5/29/2008	07:45 PM	238
5/29/2008	08:00 PM	245
5/29/2008	08:15 PM	204
5/29/2008	08:30 PM	184
5/29/2008	08:45 PM	164
5/29/2008	09:00 PM	183
5/29/2008	09:15 PM	169
5/29/2008	09:30 PM	154
5/29/2008	09:45 PM	135
5/29/2008	10:00 PM	144
5/29/2008	10:15 PM	105
5/29/2008	10:30 PM	97
5/29/2008	10:45 PM	74
5/29/2008	11:00 PM	84
5/29/2008	11:15 PM	49
5/29/2008	11:30 PM	56
5/29/2008	11:45 PM	44
5/30/2008	12:00 AM	39
5/30/2008	12:15 AM	30
5/30/2008	12:30 AM	24
5/30/2008	12:45 AM	25
5/30/2008	01:00 AM	20
5/30/2008	01:15 AM	12
5/30/2008	01:30 AM	28
5/30/2008	01:45 AM	21
5/30/2008	02:00 AM	11
5/30/2008	02:15 AM	13
5/30/2008	02:30 AM	14
5/30/2008	02:45 AM	12
5/30/2008	03:00 AM	13
5/30/2008	03:15 AM	13

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Waxpool Road West of Hotel Driveway

Start Date: 5/26/2008

Start Time: 2:30:00 PM

5/30/2008 03:30 AM	18
5/30/2008 03:45 AM	28
5/30/2008 04:00 AM	26
5/30/2008 04:15 AM	46
5/30/2008 04:30 AM	70
5/30/2008 04:45 AM	83
5/30/2008 05:00 AM	103
5/30/2008 05:15 AM	172
5/30/2008 05:30 AM	240
5/30/2008 05:45 AM	272
5/30/2008 06:00 AM	333
5/30/2008 06:15 AM	428
5/30/2008 06:30 AM	496
5/30/2008 06:45 AM	521
5/30/2008 07:00 AM	587
5/30/2008 07:15 AM	507
5/30/2008 07:30 AM	476
5/30/2008 07:45 AM	534
5/30/2008 08:00 AM	508
5/30/2008 08:15 AM	477
5/30/2008 08:30 AM	476
5/30/2008 08:45 AM	523
5/30/2008 09:00 AM	441
5/30/2008 09:15 AM	405
5/30/2008 09:30 AM	397
5/30/2008 09:45 AM	363
5/30/2008 10:00 AM	355
5/30/2008 10:15 AM	300
5/30/2008 10:30 AM	313
5/30/2008 10:45 AM	334
5/30/2008 11:00 AM	312
5/30/2008 11:15 AM	332
5/30/2008 11:30 AM	406
5/30/2008 11:45 AM	347
5/30/2008 12:00 PM	347
5/30/2008 12:15 PM	387
5/30/2008 12:30 PM	390
5/30/2008 12:45 PM	401
5/30/2008 01:00 PM	404
5/30/2008 01:15 PM	389
5/30/2008 01:30 PM	358
5/30/2008 01:45 PM	356
5/30/2008 02:00 PM	349
5/30/2008 02:15 PM	343
5/30/2008 02:30 PM	391
5/30/2008 02:45 PM	330
5/30/2008 03:00 PM	343
5/30/2008 03:15 PM	314
5/30/2008 03:30 PM	326
5/30/2008 03:45 PM	359
5/30/2008 04:00 PM	344
5/30/2008 04:15 PM	389
5/30/2008 04:30 PM	378
5/30/2008 04:45 PM	337
5/30/2008 05:00 PM	404
5/30/2008 05:15 PM	353
5/30/2008 05:30 PM	364
5/30/2008 05:45 PM	339
5/30/2008 06:00 PM	352
5/30/2008 06:15 PM	365
5/30/2008 06:30 PM	352
5/30/2008 06:45 PM	351
5/30/2008 07:00 PM	296
5/30/2008 07:15 PM	334
5/30/2008 07:30 PM	291
5/30/2008 07:45 PM	271
5/30/2008 08:00 PM	268
5/30/2008 08:15 PM	248

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Waxpool Road West of Hotel Driveway

Start Date: 5/28/2008

Start Time: 2:30:00 PM



5/30/2008 08:30 PM	209
5/30/2008 08:45 PM	174
5/30/2008 09:00 PM	183
5/30/2008 09:15 PM	153
5/30/2008 09:30 PM	134
5/30/2008 09:45 PM	167
5/30/2008 10:00 PM	131
5/30/2008 10:15 PM	120
5/30/2008 10:30 PM	140
5/30/2008 10:45 PM	119
5/30/2008 11:00 PM	115
5/30/2008 11:15 PM	101
5/30/2008 11:30 PM	104
5/30/2008 11:45 PM	78
5/31/2008 12:00 AM	58
5/31/2008 12:15 AM	56
5/31/2008 12:30 AM	40
5/31/2008 12:45 AM	37
5/31/2008 01:00 AM	38
5/31/2008 01:15 AM	32
5/31/2008 01:30 AM	31
5/31/2008 01:45 AM	32
5/31/2008 02:00 AM	34
5/31/2008 02:15 AM	24
5/31/2008 02:30 AM	26
5/31/2008 02:45 AM	15
5/31/2008 03:00 AM	14
5/31/2008 03:15 AM	12
5/31/2008 03:30 AM	21
5/31/2008 03:45 AM	25
5/31/2008 04:00 AM	19
5/31/2008 04:15 AM	20
5/31/2008 04:30 AM	49
5/31/2008 04:45 AM	33
5/31/2008 05:00 AM	34
5/31/2008 05:15 AM	41
5/31/2008 05:30 AM	81
5/31/2008 05:45 AM	82
5/31/2008 06:00 AM	75
5/31/2008 06:15 AM	73
5/31/2008 06:30 AM	105
5/31/2008 06:45 AM	111
5/31/2008 07:00 AM	131
5/31/2008 07:15 AM	148
5/31/2008 07:30 AM	196
5/31/2008 07:45 AM	195
5/31/2008 08:00 AM	232
5/31/2008 08:15 AM	268
5/31/2008 08:30 AM	322
5/31/2008 08:45 AM	278
5/31/2008 09:00 AM	298
5/31/2008 09:15 AM	336
5/31/2008 09:30 AM	387
5/31/2008 09:45 AM	410
5/31/2008 10:00 AM	363
5/31/2008 10:15 AM	358
5/31/2008 10:30 AM	396
5/31/2008 10:45 AM	432
5/31/2008 11:00 AM	414
5/31/2008 11:15 AM	431
5/31/2008 11:30 AM	445
5/31/2008 11:45 AM	402
5/31/2008 12:00 PM	399
5/31/2008 12:15 PM	439
5/31/2008 12:30 PM	387
5/31/2008 12:45 PM	409
5/31/2008 01:00 PM	450
5/31/2008 01:15 PM	422

A 105

Waxpool Road West of Hotel Driveway

Start Date: 5/28/2008

Start Time: 2:30:00 PM



5/31/2008 01:30 PM	405
5/31/2008 01:45 PM	372
5/31/2008 02:00 PM	324
5/31/2008 02:15 PM	360
5/31/2008 02:30 PM	364
5/31/2008 02:45 PM	326
5/31/2008 03:00 PM	345
5/31/2008 03:15 PM	324
5/31/2008 03:30 PM	329
5/31/2008 03:45 PM	289
5/31/2008 04:00 PM	339
5/31/2008 04:15 PM	302
5/31/2008 04:30 PM	325
5/31/2008 04:45 PM	339
5/31/2008 05:00 PM	290
5/31/2008 05:15 PM	304
5/31/2008 05:30 PM	301
5/31/2008 05:45 PM	282
5/31/2008 06:00 PM	254
5/31/2008 06:15 PM	276
5/31/2008 06:30 PM	274
5/31/2008 06:45 PM	259
5/31/2008 07:00 PM	277
5/31/2008 07:15 PM	232
5/31/2008 07:30 PM	242
5/31/2008 07:45 PM	218
5/31/2008 08:00 PM	199
5/31/2008 08:15 PM	220
5/31/2008 08:30 PM	182
5/31/2008 08:45 PM	207
5/31/2008 09:00 PM	172
5/31/2008 09:15 PM	154
5/31/2008 09:30 PM	144
5/31/2008 09:45 PM	161
5/31/2008 10:00 PM	157
5/31/2008 10:15 PM	126
5/31/2008 10:30 PM	120
5/31/2008 10:45 PM	117
5/31/2008 11:00 PM	114
5/31/2008 11:15 PM	84
5/31/2008 11:30 PM	72
5/31/2008 11:45 PM	80
6/1/2008 12:00 AM	89
6/1/2008 12:15 AM	54
6/1/2008 12:30 AM	54
6/1/2008 12:45 AM	41
6/1/2008 01:00 AM	49
6/1/2008 01:15 AM	29
6/1/2008 01:30 AM	26
6/1/2008 01:45 AM	35
6/1/2008 02:00 AM	35
6/1/2008 02:15 AM	27
6/1/2008 02:30 AM	18
6/1/2008 02:45 AM	17
6/1/2008 03:00 AM	19
6/1/2008 03:15 AM	19
6/1/2008 03:30 AM	23
6/1/2008 03:45 AM	19
6/1/2008 04:00 AM	18
6/1/2008 04:15 AM	23
6/1/2008 04:30 AM	34
6/1/2008 04:45 AM	22
6/1/2008 05:00 AM	21
6/1/2008 05:15 AM	28
6/1/2008 05:30 AM	58
6/1/2008 05:45 AM	38
6/1/2008 06:00 AM	44
6/1/2008 06:15 AM	58

A 106

Waxpool Road West of Hotel Driveway

Start Date: 5/28/2008

Start Time: 2:30:00 PM

Date	Time	Count
6/1/2008	06:30 AM	71
6/1/2008	06:45 AM	83
6/1/2008	07:00 AM	69
6/1/2008	07:15 AM	74
6/1/2008	07:30 AM	98
6/1/2008	07:45 AM	115
6/1/2008	08:00 AM	124
6/1/2008	08:15 AM	161
6/1/2008	08:30 AM	196
6/1/2008	08:45 AM	191
6/1/2008	09:00 AM	233
6/1/2008	09:15 AM	268
6/1/2008	09:30 AM	296
6/1/2008	09:45 AM	278
6/1/2008	10:00 AM	285
6/1/2008	10:15 AM	329
6/1/2008	10:30 AM	363
6/1/2008	10:45 AM	365
6/1/2008	11:00 AM	343
6/1/2008	11:15 AM	321
6/1/2008	11:30 AM	359
6/1/2008	11:45 AM	357
6/1/2008	12:00 PM	378
6/1/2008	12:15 PM	404
6/1/2008	12:30 PM	399
6/1/2008	12:45 PM	357
6/1/2008	01:00 PM	352
6/1/2008	01:15 PM	347
6/1/2008	01:30 PM	336
6/1/2008	01:45 PM	316

A 107

DRIVEWAY

Start Date: 5/6/2008

Start Time: 3:15:00 PM

Date	Time	1	2	3	4	5
5/6/2008	03:15 PM	8	22	36	81	
5/6/2008	03:30 PM	12	33	36	70	
5/6/2008	03:45 PM	9	14	37	62	
5/6/2008	04:00 PM	7	12	46	69	
5/6/2008	04:15 PM	8	11	54	74	
5/6/2008	04:30 PM	13	25	59	74	
5/6/2008	04:45 PM	18	21	62	78	
5/6/2008	05:00 PM	15	17	57	85	
5/6/2008	05:15 PM	13	11	49	87	
5/6/2008	05:30 PM	16	27	51	96	
5/6/2008	05:45 PM	13	30	56	97	
5/6/2008	06:00 PM	7	19	55	104	
5/6/2008	06:15 PM	15	20	65	115	
5/6/2008	06:30 PM	21	28	61	111	
5/6/2008	06:45 PM	12	37	47	105	
5/6/2008	07:00 PM	17	30	50	78	
5/6/2008	07:15 PM	11	16	43	76	
5/6/2008	07:30 PM	7	22	40	83	
5/6/2008	07:45 PM	15	10	41	81	
5/6/2008	08:00 PM	10	28	35	90	
5/6/2008	08:15 PM	8	23	42	74	
5/6/2008	08:30 PM	8	20	42	58	
5/6/2008	08:45 PM	9	19	42	47	
5/6/2008	09:00 PM	17	12	40	31	
5/6/2008	09:15 PM	8	7	33	33	
5/6/2008	09:30 PM	8	9	32	32	
5/6/2008	09:45 PM	7	3	35	25	
5/6/2008	10:00 PM	10	14	28	35	
5/6/2008	10:15 PM	7	6	24	28	
5/6/2008	10:30 PM	11	2	19	28	
5/6/2008	10:45 PM	0	13	10	25	
5/6/2008	11:00 PM	6	7	11	18	
5/6/2008	11:15 PM	2	4	6	11	
5/6/2008	11:30 PM	2	1	4	8	
5/6/2008	11:45 PM	1	6	4	7	
5/7/2008	12:00 AM	1	0	4	1	1
5/7/2008	12:15 AM	0	1	4	1	1
5/7/2008	12:30 AM	2	0	4	0	0
5/7/2008	12:45 AM	1	0	3	1	1
5/7/2008	01:00 AM	1	0	3	1	1
5/7/2008	01:15 AM	0	0	2	1	1
5/7/2008	01:30 AM	1	1	3	1	1
5/7/2008	01:45 AM	1	0	2	0	0
5/7/2008	02:00 AM	0	0	2	0	0
5/7/2008	02:15 AM	1	0	2	0	0
5/7/2008	02:30 AM	0	0	1	2	2
5/7/2008	02:45 AM	1	0	1	2	2
5/7/2008	03:00 AM	0	0	0	2	2
5/7/2008	03:15 AM	0	2	1	4	4
5/7/2008	03:30 AM	0	0	1	2	2
5/7/2008	03:45 AM	0	0	2	2	2
5/7/2008	04:00 AM	1	2	11	6	6
5/7/2008	04:15 AM	0	0	11	5	5
5/7/2008	04:30 AM	1	0	14	10	10
5/7/2008	04:45 AM	9	4	28	20	20
5/7/2008	05:00 AM	1	1	35	19	19
5/7/2008	05:15 AM	3	5	41	22	22
5/7/2008	05:30 AM	15	10	42	19	19
5/7/2008	05:45 AM	16	3	30	14	14
5/7/2008	06:00 AM	7	4	20	21	21
5/7/2008	06:15 AM	4	2	21	30	30
5/7/2008	06:30 AM	3	5	19	41	41
5/7/2008	06:45 AM	6	10	31	59	59
5/7/2008	07:00 AM	8	13	35	79	79
5/7/2008	07:15 AM	2	13	28	82	82
5/7/2008	07:30 AM	15	23	31	87	87
5/7/2008	07:45 AM	10	30	22	87	87
5/7/2008	08:00 AM	1	16	17	83	83

A 108

DRIVEWAY

Start Date: 5/6/2008

Start Time: 3:15:00 PM

Date	Time	Net	Prep	Time	Prep	Net	Prep
5/7/2008	08:15 AM	5	18	29	81	81	
5/7/2008	08:30 AM	6	23	34	72	72	
5/7/2008	08:45 AM	5	26	31	56	56	
5/7/2008	09:00 AM	13	14	36	39	39	
5/7/2008	09:15 AM	10	9	33	46	46	
5/7/2008	09:30 AM	3	7	32	47	47	
5/7/2008	09:45 AM	10	9	35	45	45	
5/7/2008	10:00 AM	10	21	29	42	42	
5/7/2008	10:15 AM	9	10	24	26	26	
5/7/2008	10:30 AM	6	5	22	28	28	
5/7/2008	10:45 AM	4	6	28	30	30	
5/7/2008	11:00 AM	5	5	34	41	41	
5/7/2008	11:15 AM	7	12	51	66	66	
5/7/2008	11:30 AM	12	7	59	81	81	
5/7/2008	11:45 AM	10	17	68	113	113	2
5/7/2008	12:00 PM	22	30	72	128	128	
5/7/2008	12:15 PM	15	27	68	138	138	
5/7/2008	12:30 PM	21	39	67	142	142	
5/7/2008	12:45 PM	14	32	55	140	140	3
5/7/2008	01:00 PM	18	40	51	144	144	
5/7/2008	01:15 PM	14	31	45	116	116	
5/7/2008	01:30 PM	9	37	40	122	122	
5/7/2008	01:45 PM	10	36	37	120	120	4
5/7/2008	02:00 PM	12	12	34	105	105	
5/7/2008	02:15 PM	9	37	31	110	110	
5/7/2008	02:30 PM	6	35	28	97	97	
5/7/2008	02:45 PM	7	21	24	80	80	
5/7/2008	03:00 PM	9	17	21	70	70	
5/7/2008	03:15 PM	6	24	23	81	81	
5/7/2008	03:30 PM	2	18	23	73	73	
5/7/2008	03:45 PM	4	11	40	83	83	
5/7/2008	04:00 PM	11	28	45	80	80	
5/7/2008	04:15 PM	6	16	40	63	63	
5/7/2008	04:30 PM	19	28	47	64	64	
5/7/2008	04:45 PM	9	8	34	53	53	
5/7/2008	05:00 PM	6	11	41	70	70	
5/7/2008	05:15 PM	13	17	48	97	97	
5/7/2008	05:30 PM	6	17	51	121	121	5
5/7/2008	05:45 PM	16	25	60	136	136	
5/7/2008	06:00 PM	13	38	61	134	134	
5/7/2008	06:15 PM	16	41	60	130	130	
5/7/2008	06:30 PM	15	32	60	98	98	6
5/7/2008	06:45 PM	17	23	65	102	102	
5/7/2008	07:00 PM	12	34	67	110	110	
5/7/2008	07:15 PM	16	9	69	98	98	
5/7/2008	07:30 PM	20	36	63	108	108	7
5/7/2008	07:45 PM	19	31	50	104	104	
5/7/2008	08:00 PM	14	22	37	102	102	
5/7/2008	08:15 PM	10	19	28	99	99	
5/7/2008	08:30 PM	7	32	28	99	99	8
5/7/2008	08:45 PM	6	29	28	76	76	
5/7/2008	09:00 PM	5	19	31	54	54	
5/7/2008	09:15 PM	10	19	32	51	51	
5/7/2008	09:30 PM	7	9	34	40	40	
5/7/2008	09:45 PM	9	7	31	35	35	
5/7/2008	10:00 PM	6	16	25	34	34	
5/7/2008	10:15 PM	12	8	25	24	24	
5/7/2008	10:30 PM	4	4	19	21	21	
5/7/2008	10:45 PM	3	6	16	18	18	
5/7/2008	11:00 PM	6	6	14	16	16	
5/7/2008	11:15 PM	6	5	13	12	12	
5/7/2008	11:30 PM	1	1	8	7	7	
5/7/2008	11:45 PM	1	4	10	6	6	
5/8/2008	12:00 AM	5	2	10	2	2	
5/8/2008	12:15 AM	1	0	5	3	3	
5/8/2008	12:30 AM	3	0	4	3	3	
5/8/2008	12:45 AM	1	0	1	5	5	
5/8/2008	01:00 AM	0	3	0	5	5	

A 109

DRIVEWAY

Start Date: 5/8/2008

Start Time: 3:15:00 PM

Date	Time	NO. OF TRUCKS	NO. OF TRUCKS	NO. OF TRUCKS	NO. OF TRUCKS
5/8/2008	01:15 AM	0	0	0	2
5/8/2008	01:30 AM	0	2	0	7
5/8/2008	01:45 AM	0	0	1	5
5/8/2008	02:00 AM	0	0	1	5
5/8/2008	02:15 AM	0	5	1	5
5/8/2008	02:30 AM	1	0	1	2
5/8/2008	02:45 AM	0	0	0	2
5/8/2008	03:00 AM	0	0	1	3
5/8/2008	03:15 AM	0	2	3	4
5/8/2008	03:30 AM	0	0	3	2
5/8/2008	03:45 AM	1	1	5	4
5/8/2008	04:00 AM	2	1	11	6
5/8/2008	04:15 AM	0	0	10	7
5/8/2008	04:30 AM	2	2	18	9
5/8/2008	04:45 AM	7	3	27	13
5/8/2008	05:00 AM	1	2	36	18
5/8/2008	05:15 AM	8	2	42	21
5/8/2008	05:30 AM	11	6	42	24
5/8/2008	05:45 AM	16	8	33	22
5/8/2008	06:00 AM	7	5	32	24
5/8/2008	06:15 AM	8	5	26	36
5/8/2008	06:30 AM	2	4	30	43
5/8/2008	06:45 AM	15	10	38	57
5/8/2008	07:00 AM	1	17	34	70
5/8/2008	07:15 AM	12	12	38	64
5/8/2008	07:30 AM	10	18	29	69
5/8/2008	07:45 AM	11	23	22	67
5/8/2008	08:00 AM	5	11	13	76
5/8/2008	08:15 AM	3	17	23	77
5/8/2008	08:30 AM	3	16	30	70
5/8/2008	08:45 AM	2	32	33	62
5/8/2008	09:00 AM	15	12	36	49
5/8/2008	09:15 AM	10	10	26	54
5/8/2008	09:30 AM	6	8	19	58
5/8/2008	09:45 AM	5	19	22	56
5/8/2008	10:00 AM	5	17	21	50
5/8/2008	10:15 AM	3	14	21	39
5/8/2008	10:30 AM	9	6	25	40
5/8/2008	10:45 AM	4	13	27	45
5/8/2008	11:00 AM	5	6	36	58
5/8/2008	11:15 AM	7	15	54	88
5/8/2008	11:30 AM	11	11	67	103
5/8/2008	11:45 AM	13	26	80	139
5/8/2008	12:00 PM	23	36	76	157
5/8/2008	12:15 PM	20	30	72	164
5/8/2008	12:30 PM	24	47	64	165
5/8/2008	12:45 PM	9	44	48	149
5/8/2008	01:00 PM	19	43	46	151
5/8/2008	01:15 PM	12	31	38	127
5/8/2008	01:30 PM	8	31	32	124
5/8/2008	01:45 PM	7	46	36	121
5/8/2008	02:00 PM	11	19	34	92
5/8/2008	02:15 PM	6	28	29	88
5/8/2008	02:30 PM	12	28	29	80
5/8/2008	02:45 PM	5	17	27	73
5/8/2008	03:00 PM	6	15	36	68
5/8/2008	03:15 PM	6	20	37	65
5/8/2008	03:30 PM	10	21	43	57
5/8/2008	03:45 PM	14	12	49	72
5/8/2008	04:00 PM	7	12	45	73
5/8/2008	04:15 PM	12	12	49	68
5/8/2008	04:30 PM	16	36	48	75
5/8/2008	04:45 PM	10	13	38	46
5/8/2008	05:00 PM	11	7	41	66
5/8/2008	05:15 PM	11	19	41	86
5/8/2008	05:30 PM	6	7	39	93
5/8/2008	05:45 PM	13	33	49	112
5/8/2008	06:00 PM	11	27	44	104

A 110

DRIVEWAY

Start Date: 5/8/2008

Start Time: 3:15:00 PM

DATE	TIME	1	2	3	4
5/8/2008	06:15 PM	9	26	48	114
5/8/2008	06:30 PM	18	28	47	117
5/8/2008	06:45 PM	8	25	44	117
5/8/2008	07:00 PM	15	37	44	112
5/8/2008	07:15 PM	8	29	49	94
5/8/2008	07:30 PM	13	26	51	96
5/8/2008	07:45 PM	8	20	50	80
5/8/2008	08:00 PM	20	19	54	81
5/8/2008	08:15 PM	10	31	45	90
5/8/2008	08:30 PM	12	10	42	69
5/8/2008	08:45 PM	12	21	43	77
5/8/2008	09:00 PM	11	28	41	66
5/8/2008	09:15 PM	7	10	35	51
5/8/2008	09:30 PM	13	18	34	50
5/8/2008	09:45 PM	10	10	25	37
5/8/2008	10:00 PM	5	13	21	29
5/8/2008	10:15 PM	6	9	19	32
5/8/2008	10:30 PM	4	5	19	29
5/8/2008	10:45 PM	6	2	17	27
5/8/2008	11:00 PM	3	16	15	25
5/8/2008	11:15 PM	6	6	16	9
5/8/2008	11:30 PM	2	3	12	7
5/8/2008	11:45 PM	4	0	10	4
5/9/2008	12:00 AM	4	0	7	6
5/9/2008	12:15 AM	2	4	3	6
5/9/2008	12:30 AM	0	0	2	3
5/9/2008	12:45 AM	1	2	4	3
5/9/2008	01:00 AM	0	0	3	1
5/9/2008	01:15 AM	1	1	3	2
5/9/2008	01:30 AM	2	0	2	1
5/9/2008	01:45 AM	0	0	1	2
5/9/2008	02:00 AM	0	1	1	2
5/9/2008	02:15 AM	0	0	1	1
5/9/2008	02:30 AM	1	1	2	1
5/9/2008	02:45 AM	0	0	1	1
5/9/2008	03:00 AM	0	0	2	4
5/9/2008	03:15 AM	1	0	2	6
5/9/2008	03:30 AM	0	1	3	11
5/9/2008	03:45 AM	1	3	5	11
5/9/2008	04:00 AM	0	2	11	9
5/9/2008	04:15 AM	2	5	15	15
5/9/2008	04:30 AM	2	1	20	13
5/9/2008	04:45 AM	7	1	28	16
5/9/2008	05:00 AM	4	8	34	19
5/9/2008	05:15 AM	7	3	36	16
5/9/2008	05:30 AM	10	4	33	19
5/9/2008	05:45 AM	13	4	27	29
5/9/2008	06:00 AM	6	5	19	32
5/9/2008	06:15 AM	4	6	17	43
5/9/2008	06:30 AM	4	14	17	55
5/9/2008	06:45 AM	5	7	18	52
5/9/2008	07:00 AM	4	16	24	65
5/9/2008	07:15 AM	4	18	20	57
5/9/2008	07:30 AM	3	11	21	55
5/9/2008	07:45 AM	13	20	22	66
5/9/2008	08:00 AM	0	8	15	58
5/9/2008	08:15 AM	5	16	25	60
5/9/2008	08:30 AM	4	22	20	45
5/9/2008	08:45 AM	8	10	18	23
5/9/2008	09:00 AM	10	12	11	14
5/9/2008	09:15 AM	0	1	1	2
5/9/2008	09:30 AM	0	0	1	1
5/9/2008	09:45 AM	1	1	1	1
5/9/2008	10:00 AM	0	0	0	0

A 111

Gorove/Slade Associates

Project Name : Waxpool Road Signal Warrant
 Project # : 2140-002
 Location : Loudoun County
 Data Source : Gorove/Slade Associates, Inc.

Intersection : Waxpool Road at Hotel and Plaza shared Access

AM PEAK Direction Reason Movement	Southbound			Westbound			Northbound			Eastbound		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
7:00 AM to 7:15 AM	2	0	3	0	0	0	0	0	0	0	0	0
7:15 AM to 7:30 AM	2	0	3	0	0	0	0	0	0	0	0	0
7:30 AM to 7:45 AM	5	0	14	0	0	0	0	0	0	0	0	0
7:45 AM to 8:00 AM	3	0	18	0	0	0	0	0	0	0	0	0
8:00 AM to 8:15 AM	3	0	12	0	0	0	0	0	0	0	0	0
8:15 AM to 8:30 AM	4	0	4	0	0	0	0	0	0	0	0	0
8:30 AM to 8:45 AM	5	0	2	0	0	0	0	0	0	0	0	0
8:45 AM to 9:00 AM	0	0	6	0	0	0	0	0	0	0	0	0
9:00 AM to 9:15 AM	3	0	8	0	0	0	0	0	0	0	0	0
9:15 AM to 9:30 AM	2	0	4	0	0	0	0	0	0	0	0	0
9:30 AM to 9:45 AM	5	0	4	0	0	0	0	0	0	0	0	0
9:45 AM to 10:00 AM	3	0	3	0	0	0	0	0	0	0	0	0
10:00 AM to 10:15 AM	3	0	3	0	0	0	0	0	0	0	0	0
10:15 AM to 10:30 AM	3	0	5	0	0	0	0	0	0	0	0	0
10:30 AM to 10:45 AM	6	0	2	0	0	0	0	0	0	0	0	0
10:45 AM to 11:00 AM	2	0	2	0	0	0	0	0	0	0	0	0
11:00 AM to 11:15 AM	5	0	2	0	0	0	0	0	0	0	0	0
11:15 AM to 11:30 AM	1	0	5	0	0	0	0	0	0	0	0	0
11:30 AM to 11:45 AM	3	0	0	0	0	0	0	0	0	0	0	0
11:45 AM to 12:00 PM	6	0	7	0	0	0	0	0	0	0	0	0
12:00 PM to 12:15 PM	7	0	5	0	0	0	0	0	0	0	0	0
12:15 PM to 12:30 PM	6	0	7	0	0	0	0	0	0	0	0	0
12:30 PM to 12:45 PM	7	0	4	0	0	0	0	0	0	0	0	0
12:45 PM to 1:00 PM	4	0	7	0	0	0	0	0	0	0	0	0
1:00 PM to 1:15 PM	12	0	6	0	0	0	0	0	0	0	0	0
1:15 PM to 1:30 PM	15	0	3	0	0	0	0	0	0	0	0	0
1:30 PM to 1:45 PM	10	0	6	0	0	0	0	0	0	0	0	0
1:45 PM to 2:00 PM	5	0	3	0	0	0	0	0	0	0	0	0
2:00 PM to 2:15 PM	9	0	2	0	0	0	0	0	0	0	0	0
2:15 PM to 2:30 PM	1	0	3	0	0	0	0	0	0	0	0	0
2:30 PM to 2:45 PM	6	0	5	0	0	0	0	0	0	0	0	0
2:45 PM to 3:00 PM	1	0	1	0	0	0	0	0	0	0	0	0
3:00 PM to 3:15 PM	6	0	5	0	0	0	0	0	0	0	0	0
3:15 PM to 3:30 PM	3	0	3	0	0	0	0	0	0	0	0	0
3:30 PM to 3:45 PM	3	0	4	0	0	0	0	0	0	0	0	0
3:45 PM to 4:00 PM	2	0	4	0	0	0	0	0	0	0	0	0
4:00 PM to 4:15 PM	3	0	1	0	0	0	0	0	0	0	0	0
4:15 PM to 4:30 PM	5	0	1	0	0	0	0	0	0	0	0	0
4:30 PM to 4:45 PM	11	0	10	0	0	0	0	0	0	0	0	0
4:45 PM to 5:00 PM	7	0	5	0	0	0	0	0	0	0	0	0
5:00 PM to 5:15 PM	7	0	6	0	0	0	0	0	0	0	0	0
5:15 PM to 5:30 PM	4	0	2	0	0	0	0	0	0	0	0	0
5:30 PM to 5:45 PM	5	0	6	0	0	0	0	0	0	0	0	0
5:45 PM to 6:00 PM	7	0	1	0	0	0	0	0	0	0	0	0
6:00 PM to 6:15 PM	4	0	6	0	0	0	0	0	0	0	0	0
6:15 PM to 6:30 PM	16	0	7	0	0	0	0	0	0	0	0	0
6:30 PM to 6:45 PM	21	0	6	0	0	0	0	0	0	0	0	0
6:45 PM to 7:00 PM	10	0	0	0	0	0	0	0	0	0	0	0

Hourly Ins	Hourly Ous	Hourly Ins	Hourly Ous	Hourly Ins	Hourly Ous	Hourly Ins	Hourly Ous	Hourly Ins	Hourly Ous
32	52	16	16	6	17	8	9	19	13
23	36	6	17	6	15	18	10	12	45%
17	32	8	9	13	13	14	15	15	48%
33	22	15	18	10	12	24	24	24	51%
26	29	13	13	18	18	42	42	42	70%
36	47	22	14	23	24	17	17	17	61%
22	60	9	13	18	18	14	14	14	52%
15	28	6	9	11	11	26	26	26	60%
28	27	8	20	13	14	23	23	23	61%
39	43	14	25	17	17	51	51	51	73%
37	38	17	20	15	15	19	19	19	27%
40	70	11	29	19	19	54	54	54	47%
Average									
Left 47% Right 53%									

Interval total	Hour Beginning	Hour Ending	Hourly Ins	Hourly Ous								
9	84	97	32	52	16	16	6	17	8	9		
13	102	115	23	36	6	17	6	15	18	10		
31	182	213	17	32	8	9	19	13	33	22		
52	300	352	26	29	13	13	14	15	36	47		
76	426	502	22	60	9	13	18	18	42	60		
111	637	748	15	28	6	9	11	11	26	36		
166	1023	1189	28	27	8	20	13	14	23	24		
221	1383	1604	39	43	14	25	17	17	51	51		
299	1983	2282	37	38	17	20	15	15	37	38		
330	2313	2643	40	70	11	29	19	19	54	54		
366	2679	3045	Average									
Left 47% Right 53%												

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APPENDIX C

ACCIDENT DATA

TAN3301-01

HTRIS - ACCIDENT ANALYSIS
Accident Summary Data Requested

06/04/08 15:18:59
HWZTRIS

NOTE: 713922 53-00625/Gap Terminus/ RADIUS 500 FEET

Date Range From: 01/31/03 To 01/31/08
Hour Range From: To
Day of Week: To

- Major Factor All
- Lighting All
- Functional Class All
- Weather All
- Surface Condition All
- Vehicle Maneuver All
- Vehicle Type All
- Collision Type All
- Fixed Object All
- Traffic Controls All

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ACCIDENT RECORD LIST FOR INTERSECTION

NOTE: 713922 53-00625/Gap Terminus/ DISTANCE: 500 (RADIUS IN FEET)

DOCUMENT NUMBER	YR MO DAY HR	ROUTE ID	DIR	VEH TYPE	LIGHT TYPE	COLL TYPE	FIXED OBJ	FUNC CLASS	TRAFFIC CONTROL	SURF SEV	#FAT	#INJ	#PED INJ	\$PD	
032372624	03 08 08 1200	5300625	SE	03 01	2	03	00	4	03	01 3	0	0	4	0	10100
032372624	04 02 16 1550	5300625	SE	03 01	2	02	00	I	03	01 3	0	0	4	0	15000
040751028	04 05 18 1359	5300625	SE	03 02	2	01	00	I	03	01 4	0	0	0	0	1500
041671620	04 16 16 1620	5300625	SE	03 01	2	02	00	I	03	03 4	0	0	0	0	5500
050331679	05 01 22 930	5300625	SE	03 02	2	04	00	I	03	01 3	0	0	2	0	4500
050400913	05 01 28 950	5300625	SE	01 03	2	02	00	I	03	03 4	0	0	0	0	2000
050401223	05 01 24 952	5300625	SE	01 01	1	01	00	I	03	04 3	0	0	1	0	1500
050401223	05 02 14 1106	5300625	SE	01 22	2	02	00	I	03	01 3	0	0	4	0	45000
050591956	05 03 12 1300	5300625	SE	22 05	2	01	00	I	03	01 4	0	0	0	0	16000
050822515	05 08 25 413	5300625	SE	01 22	5	01	00	I	06	01 3	0	0	1	0	9500
052510599	05 11 10 1740	5300625	SE	01 01	2	01	00	I	03	01 4	0	0	0	0	1800
053320721	05 11 18 910	5300625	SE	22 03	2	01	00	I	03	01 4	0	0	0	0	2000
053411099	06 06 30 1720	5300625	SE	03 22	2	02	00	I	03	01 4	0	0	0	0	4000
061981552	06 09 04 1427	5300625	SE	01 01	2	04	00	I	03	01 4	0	0	0	0	2000
062561348	06 20 2103	5300625	SE	22 03	2	04	00	I	06	01 4	0	0	0	0	3800
052410864	05 08 20 2103	5300625	SE	01 03	2	01	00	I	01	01 4	0	0	0	0	5700
052410864	06 07 18 1224	5300625	SE	01 01	2	04	00	I	06	03 4	0	0	0	0	4500
062121528	06 06 06 1803	5300625	SE	01 01	2	01	00	I	06	02 4	0	0	0	0	9000
061651546	06 06 06 1803	5300625	SE	01 01	2	04	00	I	06	01 4	0	0	0	0	2200
030690163	03 02 27 900	5300625	SE	01 22	5	01	00	I	06	01 4	0	0	0	0	1350
030690163	04 06 04 1530	5300625	SE	01 01	2	04	00	I	06	01 4	0	0	0	0	2600
041771048	06 11 15 1727	5300625	SE	01 01	2	04	00	I	06	01 3	0	0	1	0	2600
063332017	07 07 21 1400	5300625	SE	01 22	5	01	00	I	06	01 4	0	0	0	0	12000
063332017	07 07 21 1400	5300625	SE	01 01	5	02	00	I	06	01 4	0	0	0	0	12000
072111709	05 11 07 1720	5300625	SE	22 01	5	02	00	I	06	01 4	0	0	0	0	12000
053250193	06 03 07 1924	5300625	SE	22 01	5	02	00	I	06	01 4	0	0	0	0	12000
060861083	06 03 07 1924	5300625	SE	22 01	5	02	00	I	06	01 4	0	0	0	0	12000

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REPORT-ID: TANG300-01
 DATE: 08-06-04 15:18:59
 USER: HWZATRLS
 PAGE: 2

VIRGINIA DEPARTMENT OF TRANSPORTATION
 HTRIS - ACCIDENT SUBSYSTEM

ACCIDENT RECORD LIST FOR INTERSECTION

NODE: 713922 53-00625/Gap Terminus/ DISTANCE: 500 (RADIUS IN FEET)

DOCUMENT NUMBER	YR	MO	DAY	HR	ROUTE ID	DIR	VEH TYPE	LIGHT TYPE	COLL TYPE	FIXED OBJ	FUNC CLASS	TRAFFIC CONTROL	SURF COND	SEV	#FAT	#PED FAT	#INJ	#PED INJ	\$PED
060861083	07	01	11	1754	5300625	SE	01	5	01	00	I	06	01	4	0	0	0	0	8000
070242047	05	10	17	1705	5300625	SE	01	2	02	00	I	06	01	4	0	0	0	0	9300
052991166	07	05	15	0	5300625	SE	01	2	01	00	I	06	01	4	0	0	0	0	3000
071430926	07	06	03	1356	5300625	SE	01	2	01	00	I	01	02	4	0	0	0	0	1500
071620356							01												
071620356							01												

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REPORT-ID: TAN300-02

VIRGINIA DEPARTMENT OF TRANSPORTATION
HTRIS - ACCIDENT SUBSYSTEM

DATE: 08-06-04 15:19:00
USER: HWZATRUS
PAGE: 1

NOTE: 713922 53-00625/Gap Terminus/ RADIUS: 500 (FEET)

DAILY ENTERING VEHICLES:	52,191.00				
FATAL ACCIDENTS:	0	PERSONS KILLED:	0	PEDESTRIANS KILLED:	0
INJURY ACCIDENTS:	7	PERSONS INJURED:	17	PEDESTRIANS INJURED:	0
PROPERTY DAMAGE ACCIDENTS:	19	AMOUNT OF PROPERTY DAMAGE:	183,350	TOTAL ACCIDENTS:	26
ACCIDENT RATE:	.27	INJURY RATE:	.18	DEATH RATE:	0.000

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NODE: 713922 53-00625/Cap Terminus/ RADIUS: 500 (FEET)

COLLISION TYPE	VEHICLE MANUEVER	WEATHER CONDITION	TOTAL
REAR END	GOING STRAIGHT AHEAD	CLEAR	20
ANGLE	MAKING RIGHT TURN	CLOUDY	3
HEAD ON	MAKING LEFT TURN	FOG	9
SIDESWIP	MAKING U TURN	MIST	2
SIDESWIP	SLOWING OR STOPPING	RAINING	1
FIXED OBJ	STARTING IN TRAFFIC	SNOWING	2
TRAIN	STARTING FROM PARKED	SLEETING	1
NON-COLLISION	STOPPED IN TRAFFIC L	SMOKE - DUST	1
FIXED OBJ	RAN OFF ROAD - RIGHT	OTHER	8
FIXED OBJ	RAN OFF ROAD - LEFT	BLOWING DIRT, SNOW	
DEER	PARKED	SEVERE CROSSWINDS	
OTHER ANIMAL	BACKING	NOT STATED	
PEDESTRIAN	PASSING	TOTAL	26
PACKED INTO	CHANGING LANES		
MISC. OR OTHER	OTHER		
TOTAL			26
VEHICLE TYPE	MAJOR FACTOR		
PASSENGER CAR	DR/PED HANDICAP		
PICK UP TRUCK	DR/PED UNDER INFLU		
VAN	DRIVER SPEEDING		
STRAIGHT TRUCK	DR/PED INATTENTION		
TRACTOR TRAILER	VEHICLE DEFECTIVE		
TRACTOR DEL TRAILER	WEATHER VISIBILITY		
MOTORHOME/RV	ROAD DEFECTIVE		
OVERSIZED VEHICLE	ROAD SLICK		
BICYCLE	NOT STATED		
MOPED	MISCELLANEOUS		
MOTORCYCLE	TOTAL		26
EMERGENCY VEHICLE	PROPERTY DAMAGE		
SCHOOL BUS	TOTAL		183350
CITY TRANSIT BUS	2003		14600
INTEGRITY BUS	2004		25500
OTHER	2005		99700
BUS COMMERCIAL+15	2006		29700
SPEC VEH-FARM	2007		13850
SPEC VEH-FRV	2008		
SPEC VEH-GOLF CART			
SPEC VEH-LOW SPEED			
TRUCK-SUV			
TRUCK-3 AXLES			
TRUCK-3 TRAILER			
TRUCK TRACTOR ONLY			
PEDESTRIAN			
NOT STATED			
TOTAL			54
TOTAL			54
TOTAL ACCIDENTS			26
FATAL ACCIDENTS			6
INJURY ACCIDENTS			14
PROP. DAMAGE ACCIDENTS			2
NUMBER KILLED			32
NUMBER INJURED			54
PEDESTRIANS KILLED			
PEDESTRIANS INJURED			
VEHICLE DIRECTION			
DAY OR DAWN & WET			
DAY OR DAWN & DRY			
NIGHT OR DUSK & WET			
NIGHT OR DUSK & DRY			
VEHICLE DIRECTION			
NORTH			
EAST			
SOUTH			
WEST			
NOT STATED			
TOTAL			

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VIRGINIA DEPARTMENT OF TRANSPORTATION
 HTLIS - ACCIDENT SUBSYSTEM

DATE: 08-06-04 15:19:00
 USER: HWZATRUS
 PAGE: 1

NOTE: 713922 53-00625/Cap Terminus/

RADIUS: 500 (FEET)

	2003	2004	2005	2006	2007	2008
TOTAL ACCIDENTS	26	3	11	6	4	
FATAL ACCIDENTS	7	1	5	6	4	
INJURY ACCIDENTS	19	2	6	6	4	
PROP. DAMAGE ACCIDENTS	17	4	9			
NUMBER INJURED						
PEDESTRIANS KILLED						
PEDESTRIANS INJURED						
LIGHTING						
DAWN	1					
DAYLIGHT	20	3	8	4	3	
DUSK						
DARKNESS (LIGHIED)	5		2	2	1	
DARKNESS (NOT LIGHIED)						
DARKNESS UNKNOWN RD LIGHTING						
UNKNOWN						
NOT STATED						
TOTAL	26	3	11	6	4	
SURFACE CONDITION						
DRY	20	2	8	6	3	
WET	2	1			1	
SNOWY	3					
ICY	1		2			
MUDDY			1			
OILY						
OTHER						
NATURAL DEBRIS						
WATER-STANDING, MOVING						
SLUSH						
SAND, DIRT, GRAVEL						
NOT STATED						
TOTAL	26	3	11	6	4	
VEHICLE DIRECTION						
DAY OR DAWN & WET	2	1	6	4	1	
DAY OR DAWN & DRY	15	2			2	
NIGHT OR DUSK & WET	5		2	2	1	
NIGHT OR DUSK & DRY						
TOTAL	26	3	11	6	4	
VEHICLE DIRECTION						
NORTH	6		2		2	
EAST	14	3	4	4	2	
SOUTH	2					
WEST	32	3	15	9	4	
NOT STATED						
TOTAL	54	6	23	13	8	

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REPORT-ID: TN2400-03

VIRGINIA DEPARTMENT OF TRANSPORTATION
HITS - ACCIDENT SUBSYSTEM
TOTAL ACCIDENTS BY DAY OF WEEK AND HOUR OF DAY

DATE: 08-06-04 15:19:00
USER: HWYATRIS
PAGE: 1

NODE: 713922 53-00625/Gap Terminus/ RADIUS: 500 (FEET)

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY	UNKNOWN
6	5	1	4	5	4	1	0
			00:00 - 00:59	0			
			01:00 - 01:59	0			
			02:00 - 02:59	0			
			03:00 - 03:59	0			
			04:00 - 04:59	1			
			05:00 - 05:59	0			
			06:00 - 06:59	0			
			07:00 - 07:59	0			
			08:00 - 08:59	0			
			09:00 - 09:59	5			
			10:00 - 10:59	0			
			11:00 - 11:59	1			
			12:00 - 12:59	2			
			13:00 - 13:59	3			
			14:00 - 14:59	2			
			15:00 - 15:59	2			
			16:00 - 16:59	0			
			17:00 - 17:59	6			
			18:00 - 18:59	1			
			19:00 - 19:59	1			
			20:00 - 20:59	0			
			21:00 - 21:59	1			
			22:00 - 22:59	0			
			23:00 - 23:59	0			
			UNKNOWN	1			

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APPENDIX D

TABLE 4C-1 (MUTCD): WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME



Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1.....	1.....	500	400	350	280	150	120	105	84
2 or more ...	1.....	600	480	420	336	150	120	105	84
2 or more ...	2 or more ...	600	480	420	336	200	160	140	112
1.....	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1.....	1.....	750	600	525	420	75	60	53	42
2 or more ...	1.....	900	720	630	504	75	60	53	42
2 or more ...	2 or more ...	900	720	630	504	100	80	70	56
1.....	2 or more	750	600	525	420	100	80	70	56

^a Basic minimum hourly volume.

^b Used for combination of Conditions A and B after adequate trial of other remedial measures.

^c May be used when the major-street speed exceeds 70 km/h or exceeds 40 mph or in an isolated community with a population of less than 10,000.

^d May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 70 km/h or exceeds 40 mph or in an isolated community with a population of less than 10,000.

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WELLS & ASSOCIATES, LLC

TRAFFIC, TRANSPORTATION, and PARKING CONSULTANTS

MEMORANDUM

TO: Arthur J. Smith
George R. Phillips

CC: Wm. Garth Hodge, Jr., AIA
Robert M. Gordon, Esq.
William E. Fissel, P.E.

FROM: Martin J. Wells, P.E.
Robin L. Antonucci
Suzy S. Stoneking

DATE: June 8, 1998

RE: ZMAP 1998-0003
WorldCom Northern Virginia Campus
Loudoun County, Virginia

INTRODUCTION

The following analysis was conducted in response to the Loudoun County Department of Planning's comments regarding the proposed WorldCom Northern Virginia Campus Traffic Impact Study (TIS) dated April 6, 1998 as revised through May 1, 1998. Specifically, the analysis addresses transportation issue one (1) as identified in the Department of Planning, Transportation Division's ZMAP 1998-0003 First Referral dated May 28, 1998. Issue one (1) addresses perceived inconsistencies in the year 2008 analysis as seen by County Staff. Of principal concern was the apparent decrease in projected average daily traffic (ADT) levels between years 2003 and 2008 on a number of key regional road links.

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