

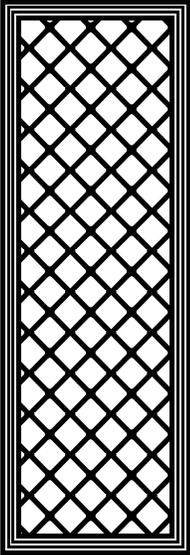
**TOWNSHIP
OF
MONTGOMERY**

**SOMERSET COUNTY
NEW JERSEY**

MASTER PLAN

**LAND USE PLAN ELEMENT
2003 Amendment No. 1**

June 30, 2003

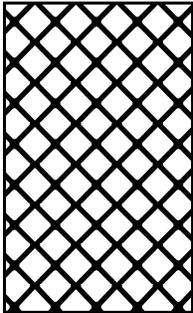


**PROPOSED LAND USE ALTERNATIVES
FOR DEVELOPMENT WITHIN THE STUDY AREA BORDERED
BY ORCHARD & MONTGOMERY ROADS TO THE NORTH,
BY CHERRY VALLEY ROAD & PRINCETON AVENUE TO THE SOUTH,
BY CHERRY HILL & OPOSSUM ROADS TO THE WEST,
AND BY ROCKY HILL BOROUGH & MONTGOMERY ROAD TO THE EAST**

**PREPARED BY: COPPOLA & COPPOLA ASSOCIATES
PRINCETON JUNCTION ~ NEW JERSEY**

TOWNSHIP OF MONTGOMERY

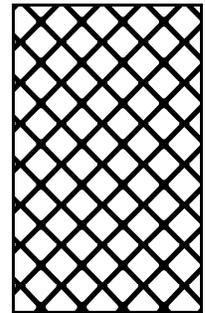
**SOMERSET COUNTY
NEW JERSEY**



MASTER PLAN

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**THE ORIGINAL OF THIS REPORT WAS SIGNED AND SEALED
IN ACCORDANCE WITH N.J.S.A. 45:14A-12**

Richard T. Coppola, P.P. # 1378

Cindy D. Coppola, P.P. # 4478

**PREPARED BY: COPPOLA & COPPOLA ASSOCIATES
PRINCETON JUNCTION ~ NEW JERSEY**

**TOWNSHIP OF MONTGOMERY
MASTER PLAN**

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**TOWNSHIP OF MONTGOMERY
MASTER PLAN**

**LAND USE PLAN ELEMENT
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INTRODUCTION

During the past approximately four (4) year time period, various developers with interest in properties along the Route 518 corridor west of the Route 518/Route 206 intersection and east of Burnt Hill Road independently submitted informal proposals to Montgomery Township for the development of their individual properties. In each instance, the informal proposals were for development not permitted by the currently adopted Land Development Ordinance provisions and, therefore, the subject properties would have to be rezoned in order to permit the proposed development or variations thereof.

The lands in Montgomery Township which have been the focal point of interest among the various developers primarily include the vacant lands situated in the southwest and northwest quadrants of the Route 206/Route 518 intersection.

In order to better understand the carrying capacity of the existing roadway system in the subject portion of the Township to support the anticipated traffic, a traffic analysis, entitled "Southern Montgomery Traffic Circulation Update" and dated June 2001, was completed by the Traffic Engineering Consultant to Montgomery Township, McDonough & Rea Associates.

As concluded by the Montgomery Township Traffic Consultant, the existing traffic volumes, with *no development* of the subject properties, currently create a very poor ("F" or worse) level of service during both the morning and afternoon peak hours of traffic volumes at the intersections of Route 206/Route 518, Route 206/Cherry Valley Road-Princeton Avenue and Route 601/Cherry Valley Road.

Additionally, the Montgomery Township Traffic Consultant concluded that if full build-out under the then existing June 2001 zoning ordinance provisions were to occur, with no new roadways provided in the subject area of Montgomery Township, very extensive improvements would be required to all of the directly affected intersections in order to create acceptable levels of traffic service during peak hour conditions.

With this information in hand, and as is the usual procedure when rezoning proposals are received by the Township, the Planning Board requested its Master Plan Committee to analyze the merits of the informal proposals relative to the existing zoning of the subject properties, the existing development within their vicinity and the goals and objectives of the Township's Master Plan.

After completing its analysis, the Master Plan Committee was requested to create a comprehensive "Traffic Circulation Plan" for the subject portion of Montgomery Township and, if necessary and/or advisable, to recommend modifications to the "Land Use Plan Element" regarding the current zoning ordinance provisions governing development on lands within the vicinity of the Route 206/Route 518 intersection.

The overall goal is to develop a land use plan and a traffic circulation plan which are compatible with each other and which safeguard the quality of life both within Montgomery Township and within its neighboring jurisdictions.

On May 12, 2003, the Planning Board adopted a "Traffic Circulation Plan Element, 2003 Amendment No. 1" document, which is dated April 30, 2003 and which specifically recommends new roadways to help alleviate traffic congestion at the Route 206/518 intersection and proposed improvements to the Route 206 intersection with Cherry Valley Road and Princeton Avenue.

In total, the existing Master Plan of the Township of Montgomery consists of the following eighteen (18) documents, which include six (6) of the principal Master Plan Elements as permitted and noted at N.J.S.A. 40:55D-28 of the Municipal Land Use Law. The current Master Plan of Montgomery Township originally was dated November 1971 and was adopted by the Planning Board on April 13, 1972. During the past thirty-one (31) years since that time, the Master Plan has been reexamined, changed, modified, refined and expanded.

- **MASTER PLAN**, dated November 1971 and adopted by the Planning Board on April 13, 1972;
- **LAND USE PLAN ELEMENT**, adopted by the Planning Board on April 15, 1985;
- **MASTER PLAN PERIODIC REEXAMINATION REPORT**, dated August 1986, which was incorporated by reference in the **MASTER PLAN PERIODIC REEXAMINATION REPORT**, dated July 1988 and adopted by the Planning Board on August 8, 1988;
- **Part I: BACKGROUND STUDIES**, dated October 1988 and adopted by the Planning Board on October 31, 1988, with updated information appearing in subsequent Master Plan documents;
- **Part II: TRAFFIC CIRCULATION PLAN ELEMENT**, dated December 15, 1986 and adopted by the Planning Board on December 15, 1986, with five (5) amendments adopted thereafter through December 13, 1993;
- **Part III: LAND USE PLAN AND HOUSING PLAN ELEMENTS**, dated November 1989 and adopted by the Planning Board on November 20, 1989;

- **Part IV: RECREATION PLAN AND CONSERVATION PLAN ELEMENTS**, dated July 1991 and adopted by the Planning Board on August 12, 1991;
- **Part V: EXISTING LAND USE UPDATE AND BUILD-OUT ANALYSIS**, dated June 1990 and adopted by the Planning Board on October 15, 1990;
- **Part VI: HISTORIC PRESERVATION PLAN ELEMENT**, dated May 1992 and adopted by the Planning Board on July 13, 1992;
- **Part VII: HOUSING PLAN ELEMENT AND FAIR SHARE PLAN**, dated February 1995 and adopted by the Planning Board on February 27, 1995, with later modifications as requested by the New Jersey Council On Affordable Housing (COAH) and "Substantive Certification" granted by COAH on March 5, 1997;
- **MASTER PLAN SUMMARY DOCUMENT**, dated June 1993 and adopted by the Planning Board on June 14, 1993, which included an updated "Land Use Plan Element";
- **MASTER PLAN ADDENDUM: GENERAL DEVELOPMENT PLAN FOR THE NORTH PRINCETON DEVELOPMENTAL CENTER PROPERTY**, dated February 1996, adopted by the Township Committee and formally adopted by the Planning Board as part of the Master Plan on May 11, 1998;
- **MASTER PLAN PART III: LAND USE PLAN PERIODIC REEXAMINATION AND UPDATE REPORT**, adopted by the Planning Board on May 13, 1996;
- **SUPPLEMENTAL MODIFICATIONS NO. 1 TO THE MONTGOMERY TOWNSHIP MASTER PLAN PART III: LAND USE PLAN PERIODIC REEXAMINATION AND UPDATE REPORT**, adopted by the Planning Board on August 8, 1997;
- **MASTER PLAN AND DEVELOPMENT REGULATIONS PERIODIC REEXAMINATION REPORT**, dated April 1998 and adopted by the Planning Board on May 11, 1998, which comprehensively reexamined and updated the various elements of the Master Plan and the implementing Land Development Ordinance regulations;

- **MASTER PLAN AND DEVELOPMENT REGULATIONS PERIODIC REEXAMINATION REPORT**, dated May 2000 and adopted by the Planning Board on June 12, 2000, which specifically recommended the rezoning of approximately 138.10 acres of land to be included in a new "ARH" Age-Restricted Housing zoning district;
- **MASTER PLAN AND DEVELOPMENT REGULATIONS PERIODIC REEXAMINATION REPORT**, dated November 2001 and adopted by the Planning Board on December 10, 2001, which specifically recommended that lands previously included within the "R-2" and "R-3" zoning districts be rezoned into a new "R-5" zoning district, requiring a minimum lot size of five (5) acres for the construction of a single-family detached dwelling, and that the zoning provisions governing development of the lands within the "MR" zoning district be changed to require a minimum lot size of ten (10) acres for the construction of a single-family detached dwelling; and
- **TRAFFIC CIRCULATION PLAN ELEMENT, 2003 AMENDMENT NO. 1**, dated April 30, 2003 and adopted by the Planning Board on May 12, 2003, which specifically recommended new roadways to help alleviate traffic congestion at the Route 206/518 intersection and proposed improvements to the Route 206 intersection with Cherry Valley Road and Princeton Avenue.

THE LAND USE PLAN STUDY AREA

As shown on the map on the following page of this report, the bounds of the current "Land Use Plan Study Area" include the lands bordered by Orchard and Montgomery Roads to the north, by Cherry Valley Road and Princeton Avenue to the south, by Cherry Hill and Opossum Roads to the west, and by Rocky Hill Borough and Montgomery Road to the east.

It should be noted that this is the identical study area which was the subject of the traffic analyses and "Traffic Circulation Plan" recommendations included within the recently adopted "Traffic Circulation Plan Element, 2003 Amendment No. 1" document.

THE PATTERN OF EXISTING LAND USES IN THE STUDY AREA

The "Existing Land Use" map photograph depicts the existing land uses throughout Montgomery Township as of October 2000; the map provides a visual picture of the prevailing pattern of development within the designated "Land Use Plan Study Area".

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TRAFFIC GENERATION AND THE PRESERVATION OF THE RURAL RESIDENTIAL CHARACTER OF MONTGOMERY TOWNSHIP

A basic goal of the traffic circulation planning in Montgomery Township is to utilize, as much as possible, the existing roadways within the Township. As a result, small-scale "doable" improvements to the existing road system are preferred and generally have the greatest probability of being accomplished. Additionally, small-scale improvements to the road system will provide the greatest possibility of preserving the rural residential character which prevails throughout most of Montgomery Township.

Since all of the existing roadways in Montgomery Township, including State Route 206 (Van Horne Road), have an effect on the prevailing rural residential character of the Township, it is important that the "Land Use Plan Element" portion of the master plan and the implementing "Land Development Ordinance" provisions appropriately limit the amount of traffic that will be generated as a result of the permitted development.

Indeed, recognition of the potential adverse repercussions of increased traffic volumes within and through Montgomery Township has led to modifications and changes to the "Land Use Plan Element" and amendments to the "Land Development Ordinance" in an effort to lessen the amount of traffic to be added to the road system.

As an example, a major modification to the "Land Use Plan Element" was adopted during 1989 when the Township lessened the amount of acreage planned for nonresidential development and also lessened the intensity of the nonresidential development permitted. More specifically, the permitted floor/area ratios (FAR) within the "REO" zoning districts were reduced, the "RD" zoning district was eliminated in its entirety, and the "LM" zoning district (i.e., the prior "MFG" zoning district) was reduced in size, and its permitted FAR also was reduced.

More recently, on December 6, 2001, the Township rezoned approximately 138.1 acres of land north of Route 518 and west of Route 206 into a new "ARH" Age-Restricted Housing zoning district. The property, owned by "Sharbell", was one of those remaining vacant land areas along the Route 518 corridor which was the subject of informal development proposals submitted to the Township by interested land developers.

Previously, almost the entirety of the subject 138.1 acre land area was zoned within the "REO-3" zoning district, which could have resulted in the construction of approximately 451,979 square feet of office space on the subject lands. Under the adopted "ARH" ordinance provisions, the subject land can be developed with 218 age-restricted dwelling units, 30,000 square feet of office space and up to 120 beds in an "Assisted Living Facility".

As quoted hereinbelow from the May 2000 "Master Plan And Development Regulations Periodic Reexamination Report", which was adopted by the Planning Board on June 12, 2000, a threshold reason for the rezoning of the subject property was a consideration of traffic impacts:

"The major problem always associated with the development of the subject "REO-3" lands has been how to handle the traffic which would be generated, particularly the traffic impact along Route 518 and at its intersection with Route 206."

(Page 9)

"Clearly, the proposed rezoning for the age-restricted housing units, plus the relatively small amount of offices (i.e., 30,000 s.f.), will generate little automobile traffic relative to the traffic volume that would result from the approximately four hundred thousand (400,000) square feet of office space which theoretically could be development under the current "REO-3" zoning provisions."

(Page 15)

THE RECENTLY ADOPTED AMENDMENT TO THE TRAFFIC CIRCULATION PLAN ELEMENT

Montgomery Township has continued to benefit from citizen participation and an outward expression of different views regarding the appropriate modification and changes which should be made to the "Traffic Circulation Plan". Most recently, the Montgomery Township Committee appointed a "Transportation Advisory Committee" which commenced meeting on June 6, 2001.

The designated Transportation Advisory Committee (TAC) has been studying locations within Montgomery Township where traffic circulation is problematic and where additional future problems are anticipated. Additionally, the TAC is exploring possible ways to improve traffic circulation within Montgomery Township which, at the same time, will help to maintain the existing rural residential character of development which prevails throughout most of the Township. The TAC is receiving ongoing technical input from the Township's Traffic Engineer, John Rea, and from the Township's Special Projects Engineer, Donald Johnson.

As part of its ongoing work effort, the Transportation Advisory Committee (TAC) recommended to the Planning Board that certain new roadways be constructed to help alleviate traffic congestion at the Route 206/518 intersection. In accordance with a long-standing goal of the traffic circulation planning in Montgomery Township, the road plan attempts to diffuse traffic among a variety of alternate routes, rather than channeling traffic to any particular route.

Based upon the recommendations of the Transportation Advisory Committee, the Planning Board adopted an amendment to the "Traffic Circulation Plan Element" portion of the Township Master Plan which recommended a number of new roadways to help alleviate traffic congestion at the Route 206/Route 518 intersection and related Route 206 corridor improvements. The proposed roadway improvements are shown on the two (2) attached aerial photograph maps. Each roadway is proposed to provide for 2-way traffic within a fifty foot (50') right-of-way.

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The following summarizes the proposed new roadways, and the descriptions are organized by the quadrant of the Route 206/Route 518 intersection within which they are located. The specifics of the recommendations, the need for the improvements and the benefits to the public which will result are discussed in an April 29, 2003 report prepared by McDonough & Rea Associates, the Township's Traffic Engineer.

The April 29, 2003 report of the Traffic Engineer is attached as an addendum to the April 30, 2003 "Traffic Circulation Plan Element, 2003 Amendment No. 1" document, which was adopted by the Planning Board on May 12, 2003.

Northwest Quadrant

In the northwest quadrant of the Route 206/518 intersection, three (3) new loop roadways are proposed, as follows:

1. An "inner loop" roadway linking Route 518 to Route 206 is proposed behind the properties in the vicinity of the "Tigers Tale" restaurant.
2. An "intermediate loop" roadway is proposed which will connect with Route 518 at the existing Research Road intersection, extend northerly via Research Road, and then turn in an easterly direction through the "Village Shopper" shopping center to an intersection with Route 206 at the traffic signal currently located at the intersection with the driveway accessing the "Montgomery Shopping Center".
3. Finally, an "outer loop" roadway is proposed from a signalized intersection at Route 518, extending northerly along the western boundary of the "Sharbell" adult community tract between Route 518 and the Bedens Brook, crossing the Bedens Brook at a proposed flood free bridge crossing, and intersecting with Orchard Road west of the Orchard Road/Route 206 intersection.

Southwest Quadrant

In the southwest quadrant of the Route 206/518 intersection, three (3) new loop roadways are proposed to connect Route 518 with Route 206, as follows:

1. An "inner loop" roadway is proposed from Route 518 along the westerly and southerly sides of the "Amboy Bank" property to a new intersection with Route 206. Additionally, an extension of the "inner loop" along the westerly side of the "Amboy Bank" property will continue southwardly along the westerly side of the former

"Z&W Mazda" car dealership to a "T" intersection with another new roadway (i.e., the "intermediate loop" discussed in the next paragraph) extending westerly from a new lighted intersection with Route 206 opposite the boulevard entrance to the "Princeton North Shopping Center".

2. An "intermediate loop" roadway is proposed to extend westerly from a new lighted intersection with Route 206 through undeveloped lands which are being considered for the development of a "shopping village", which primarily is to include an assortment of retail uses. The "intermediate loop" will turn north and intersect with Route 518 opposite Research Road.
3. An "outer loop" roadway is proposed to extend to the west from a "T" intersection with the "intermediate loop", proceed parallel and close to the northern boundary of the "Princeton Airport" in order to safeguard the continued agricultural use of the property being farmed by the John Drake family, if desired by the property owner, and then turn north to a signalized intersection with Route 518 opposite the "outer loop" roadway in the northwest quadrant of the study area.

Southeast Quadrant

In the southeast quadrant of the Route 206/518 intersection, new interconnected roadway segments are shown on the proposed "Traffic Circulation Plan". Most of these new roadway segments are located in neighboring Rocky Hill Borough, and whether or not they eventually are constructed will depend upon the results of ongoing discussions between the two (2) municipalities. The municipalities do share a proprietary interest in the currently named "Schaeffer Tract" park, and the proposed roadway segments are proposed to provide alternative vehicular access into the park. Additionally, the proposed roadway segments will further help to enhance traffic circulation along Route 518 and at the Route 518/206 intersection.

The new roadway segments include the following:

1. A north/south connector is shown to extend from Route 518 via Young Drive southwardly into the park, where it intersects with a new public roadway, which will be in place of, and an extension of, the existing boulevard driveway entrance into the "Princeton North Shopping Center" from the newly planned lighted intersection with Route 206.
2. The north/south connector is shown to extend further to the south through the park, and then turn west to an intersection with the existing loop driveway within the "Research Park" (a.k.a. "Wall Street" office complex).

Northeast Quadrant

In the northeast quadrant of the Route 206/518 intersection, vehicular and pedestrian access to the "Montgomery Shopping Center" is intended to be provided from Route 518 through a portion of the "Princeton Gamma Tech" property.

THE CURRENT "ZONE PLAN" OF MONTGOMERY TOWNSHIP

The most recent "Land Use Plan" map of Montgomery Township was adopted by the Planning Board on December 10, 2001 pursuant to the November 2001 "Master Plan And Development Regulations Periodic Reexamination Report"; the plan is remarkably similar to the Township Master Plan previously adopted thirty (30) years ago during 1972, even with the many refinements and modifications to the plan which have been adopted over the years.

While clearly an over simplification, the basic theme of the Master Plan has been and continues to be that there are two (2) so-called "nodes" of mixed-use development along the Route 206 corridor (i.e., Rocky Hill and Belle Mead), with single-family residential development the primary land use in between. The steadfastness of Montgomery Township not to waver from this basic theme of the Master Plan has prevented the evolution of a strip commercial pattern of development along Route 206.

The implementing "Land Development Ordinance" provisions of Montgomery Township comprehensively implement the recommendations of the Township's Master Plan. For information purposes, the current "Zoning Map" of Montgomery Township, dated December 10, 2001, is attached herewith.

MONTGOMERY TOWNSHIP AND THE STATE DEVELOPMENT AND REDEVELOPMENT PLAN

On June 12, 1992, the New Jersey State Planning Commission adopted "Communities Of Place: The New Jersey State Development And Redevelopment Plan" (SDRP) which serves as a guide for municipal and county master planning. The SDRP was reexamined, with input from Montgomery Township and Somerset County as part of the "Cross Acceptance II" process, and the New Jersey State Planning Commission approved an updated and modified "State Development And Redevelopment Plan" on March 1, 2001.

The "State Development And Redevelopment Plan" has allocated all the land within New Jersey into "Planning Areas". As indicated on the attached "Resource Planning And Management Map" (RPMM), which is now referred to as the "State Plan Policy Map", the New Jersey State Planning Commission has included a majority of Montgomery Township's land area within "Planning Area 4" (the "Rural Planning Area") and "Planning Area 5" (the "Environmentally Sensitive Planning Area").

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The implementing "Land Development Ordinance" provisions of Montgomery Township comprehensively implement the recommendations of the Township's Master Plan. For information purposes, the current "Zoning Map" of Montgomery Township, dated December 10, 2001, is attached herewith.

MONTGOMERY TOWNSHIP AND THE STATE DEVELOPMENT AND REDEVELOPMENT PLAN

On June 12, 1992, the New Jersey State Planning Commission adopted "Communities Of Place: The New Jersey State Development And Redevelopment Plan" (SDRP) which serves as a guide for municipal and county master planning. The SDRP was reexamined, with input from Montgomery Township and Somerset County as part of the "Cross Acceptance II" process, and the New Jersey State Planning Commission approved an updated and modified "State Development And Redevelopment Plan" on March 1, 2001.

The "State Development And Redevelopment Plan" has allocated all the land within New Jersey into "Planning Areas". As indicated on the attached "Resource Planning And Management Map" (RPMM), which is now referred to as the "State Plan Policy Map", the New Jersey State Planning Commission has included a majority of Montgomery Township's land area within "Planning Area 4" (the "Rural Planning Area") and "Planning Area 5" (the "Environmentally Sensitive Planning Area").

Northeast Quadrant

In the northeast quadrant of the Route 206/518 intersection, vehicular and pedestrian access to the "Montgomery Shopping Center" is intended to be provided from Route 518 through a portion of the "Princeton Gamma Tech" property.

THE CURRENT "ZONE PLAN" OF MONTGOMERY TOWNSHIP

The most recent "Land Use Plan" map of Montgomery Township was adopted by the Planning Board on December 10, 2001 pursuant to the November 2001 "Master Plan And Development Regulations Periodic Reexamination Report"; the plan is remarkably similar to the Township Master Plan previously adopted thirty (30) years ago during 1972, even with the many refinements and modifications to the plan which have been adopted over the years.

While clearly an over simplification, the basic theme of the Master Plan has been and continues to be that there are two (2) so-called "nodes" of mixed-use development along the Route 206 corridor (i.e., Rocky Hill and Belle Mead), with single-family residential development the primary land use in between. The steadfastness of Montgomery Township not to waver from this basic theme of the Master Plan has prevented the evolution of a strip commercial pattern of development along Route 206.

The implementing "Land Development Ordinance" provisions of Montgomery Township comprehensively implement the recommendations of the Township's Master Plan. For information purposes, the current "Zoning Map" of Montgomery Township, dated December 10, 2001, is attached herewith.

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Additionally, the central portion of Montgomery Township, along the Route 206 corridor, has been designated within "Planning Area 3" (the "Fringe Planning Area"). Finally, the northeastern and southeastern portions of the Township are designated within "Planning Area 2" (the "Suburban Planning Area").

As noted on the "Resource Planning And Management Map", the "Suburban Planning Area" (PA2) includes the lands in the so-called Belle Mead and Rocky Hill nodes of Montgomery Township, including most of the land in the current "Land Use Plan Study Area".

The following are excerpts from the "General Description" section of the March 1, 2001 "New Jersey State Development And Redevelopment Plan" for the "Suburban Planning Area":

"The Suburban Planning Area is generally adjacent to the more densely developed Metropolitan Planning Area, but can be distinguished from it by the lack of high intensity Centers, by the availability of developable land, and by a more dispersed and fragmented pattern of predominantly low-intensity development..."

"The existing inventory of undeveloped and underdeveloped land in the Suburban Planning Area provides sufficient land area to absorb much of the marked demand for development within the State. While the less developed Fringe, Rural and Environmentally Sensitive Planning Areas can provide for modest levels of additional development, the Suburban Planning Area is a key for accommodating market forces and demand for development..."

In concert with the "State Development And Redevelopment Plan", the Belle Mead and Rocky Hill nodes have been planned by Montgomery Township to accommodate the principal commercial and higher density residential development within the Township, in a manner that recognizes the municipality's affordable housing obligations, and with a goal to prevent sprawl and maintain a development mix which is balanced between residential and non-residential construction.

IDENTIFICATION OF CERTAIN PROPERTIES IN THE STUDY AREA

As indicated on the attached "Identification Of Certain Properties Within Study Area" map, dated June 2003, seven (7) properties were identified to be the principal lands (but not the only lands) to be considered for recommended rezoning as part of the current "Land Use Plan Element" amendment.

The development potential for the seven (7) identified properties under the existing zoning controls is indicated on the two-page table entitled "Development Yield Of Identified Properties Under Current Zoning Provisions", which appears as Pages 18 [1] & 18 [2] of this report.

Additionally, the central portion of Montgomery Township, along the Route 206 corridor, has been designated within "Planning Area 3" (the "Fringe Planning Area"). Finally, the northeastern and southeastern portions of the Township are designated within "Planning Area 2" (the "Suburban Planning Area").

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**DEVELOPMENT YIELD OF IDENTIFIED PROPERTIES
UNDER CURRENT ZONING PROVISIONS
June 30, 2003**

REFERENCE NAME OF PROPERTY	MAP NO.	BLOCK & LOT NUMBERS	ACREAGE FROM TOWNSHIP GIS FILES	CURRENT ZONING & FAR OR LOT SIZE	CURRENT POTENTIAL DEVELOPMENT YIELD
SHARBELL	1	28001/ 36, 37 & 45	138.10 ac	ARH	218 Age-Restricted Units; 120 Bed Assisted Living Facility; 30,000 sf Offices
		Subtotals:			
BLOOMBERG & BLOOMBERG (Don Drake)	2	34001/38.01, 38.001 & 38.03	83.37 ac	REO-2 (.125)	453,950 sf
		34001/38.02	14.00 ac	PPE (REO-2)	76,230 sf
		34001/43 part	24.87 ac	REO-3 (.08)	86,667 sf
		34001/43 part	40.80 ac	R-2 (2 ac)	17 du
	Subtotals:				616,847 sf Offices + 17 du
JOHN DRAKE	3	34001/44 & 46, parts	30.02 ac	REO-3 (.08)	104,614 sf
		34001/44 & 46, parts	26.19 ac	R-2 (2 ac)	13 du
	Subtotals:				104,614 sf Offices + 13 du
ZIRINSKY & CASTANEDA	4	34001/56 & 77	37.19 ac	REO-3 (.08)	129,599 sf
		34001/78	10.02 ac	HC (.20)	87,294 sf
	Subtotals:				129,599 sf Offices & 87,294 sf Retail

REFERENCE NAME OF PROPERTY	MAP NO.	BLOCK & LOT NUMBERS	ACREAGE FROM TOWNSHIP GIS FILES	CURRENT ZONING & FAR OR LOT SIZE	CURRENT POTENTIAL DEVELOPMENT YIELD
HOROWITZ	5	28001/57 & 58	2.05 ac	R-1 (1 ac)	2 du
Subtotal:					
SINGLE FAMILY LOTS NO. SIDE OF ROUTE 518	6	28001/46-56	10.18 ac	R-1 (1 ac)	11 du
Subtotal:					
SINGLE FAMILY LOTS SO. SIDE OF ROUTE 518	7	34001/ 51-55, 81 & 82	7.03 ac	R-1 (1 ac)	7 du
Subtotal:					
AGGREGATE TOTALS:					218 Age-Restricted Units; 120 Bed Assisted Living Facility; 881,060 sf Offices; 87,294 sf Retail; & 50 du

Summarily, and as more particularly indicated on the table entitled "Development Yield Of Identified Properties Under Current Zoning Provisions", the development potential for the seven (7) properties under the existing zoning controls is as follows:

Map #1:	Sharbell	218 Age-Restricted Units, 120 Bed Assisted Living Facility, & 30,000 sf Offices
Map #2:	Bloomberg & Bloomberg (Don Drake)	616,874 sf Offices, & 17 du
Map #3:	John Drake	104,614 sf Offices, & 13 du
Map #4:	Zirinsky & Castaneda	129,599 sf Offices, & 87,294 sf Retail
Map #5:	Horowitz	2 du
Map #6:	Single-Family Lots No. Side Of Route 518	11 du
Map #7:	Single-Family Lots So. Side Of Route 518	7 du

Therefore, the total potential development yield of the seven (7) identified properties, if developed under the existing zoning controls, is as follows:

- 218 Age-Restricted Units;
- 120 Bed Assisted Living Facility;
- 881,060 sf Offices;
- 87,294 sf Retail; and
- 50 du

LAND USE PLAN RECOMMENDATIONS FOR OVERLAY ZONES IN THE STUDY AREA AND OTHER RECOMMENDATIONS

The Planning Board's Master Plan Committee has concluded that the overall study area should be separated into four (4) principal subareas, including the "Sharbell" properties (Map #1), the "Bloomberg" properties (Map #2), the "John Drake" properties (Map #3), and the "Castaneda" properties (Map #4).

The "Sharbell" subarea contains approximately 138.10 acres, the "Bloomberg" subarea contains approximately 149.04 acres, the "John Drake" subarea contains approximately 56.21 acres and the "Castaneda" subarea contains approximately 47.21 acres.

The overall conclusions, based on Master Plan Committee discussions, on input and feedback from the public during the public forum planning sessions and on responses to the 2002 Community Survey, are as follows:

- That the "Sharbell" subarea should be developed under the terms of the "ARH" Age-Restricted Housing zoning district, as currently adopted;
- That the "Bloomberg" subarea should be developed as a comprehensively designed and approved "planned office complex";
- That the "John Drake" subarea should be preserved as farmland; and
- That the "Castaneda" subarea should be developed as a comprehensively designed and approved "planned shopping complex", with compact mixed uses, mostly retail, and including the possibility of a small number of age-restricted residential units in proximity to the existing seven (7) homes on the south side of Route 518, provided that the homes are integrated architecturally with the overall development.

General Planning Recommendations For The "Bloomberg" And "Castaneda" Subareas

The following are the general planning recommendations for the "Bloomberg" and "Castaneda" subareas, which will apply regardless of how, and to what intensity, each of the subareas is rezoned:

- 1) Any rezoning of the "Bloomberg" subarea for a "planned office complex" and any rezoning of the "Castaneda" subarea for a "planned shopping complex" should be an optional development alternative to the existing zoning, which should remain in place.

- 2) If a developer of the "Bloomberg" subarea or a developer of the "Castaneda" subarea chooses to develop the land in accordance with the zoning provisions adopted for the applicable optional development alternative, the developer would be required to obtain a single, comprehensively designed preliminary site plan approval for the entirety of the land area so zoned, which approval would incorporate any existing buildings on the property to remain.
- 3) No portion of the land area zoned for the "planned office complex" or for the "planned shopping complex" optional development alternative would be permitted to be developed in accordance with the currently existing zoning provisions for the subject property, and any action of a developer to develop any portion of the subject property in accordance with the currently existing zoning provisions would result in the repeal of the applicable optional development alternative zoning provisions.
- 4) The ordinance provisions permitting and governing both the "planned office complex" optional development alternative and the "planned shopping complex" optional development alternative each should have a "sunset" provision that would require the applicable landowner to apply for and obtain a single, comprehensively designed preliminary site plan approval for the entirety of the land area so zoned within a fixed period of time, and the applicable optional development alternative zoning provisions would be repealed if such application and approval were not applied for and obtained within the specified period of time.
- 5) A "planned office complex" or a "planned shopping complex" shall only be approved if the overall design of the applicable development implements the recommendations of the Township's "Traffic Circulation Plan Element" including, but not limited to, the following:
 - a) Specifically regarding the "Bloomberg" subarea, and possibly with the aid of funding from State and federal grants, the developer(s) of the "Bloomberg" subarea shall be responsible for the construction of all portions of the Master Plan roads within the subarea, including the new traffic light on Route 518, plus one-half (1/2) of the east-west Master Plan road through the "John Drake" subarea.
 - b) Specifically regarding the "Castaneda" subarea, and possibly with the aid of funding from State and federal grants, the developer(s) of the "Castaneda" subarea should be responsible for the construction of all portions of the Master Plan roads within the subarea, including the new

traffic light on Route 518 and one-half (1/2) of the new traffic light on Route 206, plus one-half (1/2) of the east-west Master Plan road through the "John Drake" subarea and the portion of the connecting road to Route 518 through the northeast corner of the "John Drake" subarea.

- 6) A "planned office complex" or a "planned shopping complex" shall only be approved if the applicable development is provided the required utility services and connections and is designed in keeping with any design guidelines for nonresidential development that are adopted by the Township and are applicable to the subject development.
- 7) A "planned office complex" or a "planned shopping complex" shall only be approved if a phasing plan is submitted to the Planning Board and is approved by the Township Committee as part of a development agreement with the developer of the applicable subarea. The phasing plan shall indicate the areas and related improvements to be developed during each phase including, but not limited to, the land uses, road improvements, stormwater management facilities and utilities.
- 8) Regarding the "Bloomberg" subarea, in addition to the fourteen acre (14 ac) property at the rear of the "Bloomberg" subarea (i.e., Block 34001/Lot38.02) previously dedicated to Montgomery Township and currently zoned within the "PPE" zoning district, additional land in the rear of the portion of the "Bloomberg" subarea currently zoned "REO-2" should be dedicated to the Township by the developer of the "Bloomberg" subarea *after* its development potential under the optional development alternative zoning provisions is transferred to those portions of the tract to be developed.
- 9) Regarding the "Castaneda" subarea, it is recommended that no more than three (3) buildings within the overall "planned shopping complex" contain a relatively large single user, and that the aggregate area of the three (3) buildings not exceed approximately one hundred fifty thousand (150,000) square feet, and that none of the three (3) buildings exceeds approximately fifty-five thousand (55,000) square feet.

Specific Land Use Plan Recommendations For Properties Within The Study Area

The specific land use plan recommendation for the "Bloomberg", "John Drake" and "Castaneda" subareas, as well as additional recommendations for other properties within the "Land Use Plan Study Area" are discussed on pages 24 and 25 of this report. The proposed "Land Use Plan Map", which is dated June 30, 2003 and which appears on the following page of this report, shows the recommended changes to the "Zoning Map".

■ **"Bloomberg" subarea:**

- 1) Create new "Planned Office Complex" optional development alternative zoning provisions to allow for the development of a campus-type office park, which includes open space features and pedestrian amenities.
- 2) *Subject to verification by the Township that the proposed road network can adequately accommodate the anticipated traffic*, and assuming a development plan positively viewed by the Township, permit a floor/area ratio (FAR) of up to 0.11 on the approximately 149.04 acre tract, thereby resulting in up to 714,140 square feet of office development.
- 3) Allow the purchase of the "REO-3" development rights from the "John Drake" subarea to be transferred onto the "Bloomberg" subarea.

■ **"John Drake" subarea:**

- 1) Maintain the current zoning.
- 2) Support any desire of the landowner to have the property preserved for agricultural use.

■ **"Castaneda" subarea:**

- 1) Create new "Planned Shopping Complex" ordinance provisions to allow for the development of a pedestrian scaled retail commercial center.
- 2) *Subject to verification by the Township that the proposed road network can adequately accommodate the anticipated traffic*, and assuming a development plan positively viewed by the Township, permit a floor/area ratio (FAR) of up to 0.15 on the approximately 47.21 acre tract, thereby resulting in up to 308,470 square feet of retail commercial development.
- 3) Consider the possible inclusion of a small number of new homes in proximity to the existing seven (7) homes on the south side of Route 518.
- 4) Include an assortment of retail uses that will attract people throughout the day, including a variety of stores, a possible small hotel (i.e., 70-100 rooms) and a possible row of restaurants oriented to a view of the airport to the south.

- 5) Include design controls that will create attractive spaces and streetscapes for people.
- 6) Regarding the expected layout of the proposed "planned shopping complex" development, the prospective developer, in consultation with the Master Plan Committee and the Township's consultants, has created a concept plan for the development which appears in Addendum I to this report.
 - a) The concept plan, labeled "Montgomery Village Center", is dated June 27, 2003 and was prepared for the "CGEM Group, LLC" by Woolly Morris Architects.
 - b) The concept plan is included in this "Land Use Plan" document only to indicate the desired overall concept of how the subject property should be site planned under the terms of any optional development alternative zoning provisions for a "planned shopping complex" on the subject lands.
 - c) However, it is not intended that the concept plan be considered definitive regarding any particular aspect of the plan. As an example, comments of concern regarding the housing units indicated on the concept plan already have been voiced by residents of the single-family homes along the south side of Route 518 and this aspect of the plan, as well as others, are to be the subject of the review of a formally submitted site plan by the Planning Board during a public hearing process that may result in further refinements to the concept plan.

■ **Other properties:**

- 1) Rezone the "Horowitz" property (i.e., Map #5, Block 28001/Lots 57 & 58 = 2.05 ac) from the "R-1" zoning district into the "HC" Highway Commercial zoning district, since the proposed loop road behind the "Tiger's Tale" will pass through the eastern side of the subject lots.
- 2) Allow age-restricted housing, with an affordable housing component, to be constructed on lands owned and developed as part of a shopping center within the "HC" Highway Commercial zoning district not approved as part of a "Planned Residential Development" (i.e., "Pike Run").

DESIGN GUIDELINES STATEMENT OF OBJECTIVES FOR NONRESIDENTIAL DEVELOPMENT WITHIN MONTGOMERY TOWNSHIP

This "Statement of Objectives" for new guidelines to influence and improve the quality of the design of nonresidential development within the Township of Montgomery has been prepared by the Design Guidelines Subcommittee of the Planning Board's Master Plan Committee.

This is the first step in the process to formulate appropriate zoning and site plan review provisions to bring about a more coordinated, aesthetically pleasing and pedestrian friendly environment within the non-residentially zoned portions of the Township, particularly along the Route 206 corridor and within the "Land Use Plan Study Area" which is the subject of this Master Plan document.

It is the intent of the proposed guidelines to provide a design framework for the implementation of the goals of the Township Master Plan. The eventually adopted guidelines are intended to be sensitive to market considerations by being functional and flexible and responsive to varying tenant requirements. Therefore, it is envisioned that some of the guidelines will be requirements, whereas other guidelines will be suggested and encouraged.

The objectives of the proposed guidelines are the following:

- To provide an architectural context that will encourage interaction between the residents of Montgomery Township.
- To promote a high quality of design for buildings, signs, parking and streetscape.
- To provide a comfortable and walkable environment for pedestrians.
- To provide controlled interaction between motorized vehicles, bicycles and pedestrians.
- To preserve the quality of our natural environment.
- To encourage energy conservation and sustainable design.
- To encourage and facilitate the use of mass transit in the Route 206 corridor.

The initial guidelines, listed below, rely heavily and, in fact, freely quote and paraphrase an October 2002 document prepared by the Borough of South Bound Brook and entitled "Borough Center Design Guidelines". As such, Montgomery Township acknowledges the work efforts of Dennis W. Hudacsko, a part-time land use planner for South Bound Brook who specializes in zoning and community character.

It is the recommendation of the Design Guidelines Subcommittee that a similar document be prepared for Montgomery Township. This "Statement of Objectives" would serve as a foundation for such a document.

The proposed guidelines will address elements such as: Buildings, Streetscape Features, and other General Site Design Standards.

Buildings

- Building Elevations & Roofscapes: Finished, varied and articulated for pedestrian and vehicular visual enhancement.
- Windows: Appropriately proportioned to the individual building.
- Mechanical Equipment: Screened from public view by features integrated into the overall design of the building.
- Loading & Trash Areas: Screened from public view by building walls or extensions thereof, fencing and/or landscaping.
- Street Furniture (e.g., benches, on-street trash receptacles, pedestrian-scaled streetlights, bollards and signage): Compatible and coordinated with the building architecture.
- Entry Facades: Designed at a pedestrian scale. Long, blank, unarticulated street wall facades to be avoided. Articulation might include variations in materials and patterns as well as elements like windows, doors, canopies, awnings, balconies, columns, etc.
- Building Exteriors: Appropriate to the scale and use of the buildings. Architectural vocabulary consistent with the goal of creating a quality environment. Issues to be considered in individual design to include material selection, color, proportion, pattern, texture and durability.

Streetscape Features

Sidewalks & Crosswalks

- Sidewalks: Buildings, parking and public areas connected to the Township's pathway network. Materials to be appropriate for the area and use.
- Street Crosswalks (provided across all public streets and between parking areas and building entrances): Constructed of contrasting paving materials such as concrete or brick pavers.

- Mass Transit Connection Stops: Conveniently located for pedestrian access as part of the overall pedestrian circulation plan.
- Traffic Lights: Mounted from poles that hang over the street (versus hanging from wires) and that are green or black (versus unfinished silver). Traffic lights to have crossing signs with switches that pedestrians can activate.

Street Furniture

- Street Furniture (including benches, statuary, fountains, trash receptacles, bus stops, bicycle racks, bell and/or clock towers):
 - located within relatively wide sidewalk areas between streets and buildings and also within vest pocket park areas along the street.
 - constructed of the highest quality for ease of maintenance.
 - visually compatible with the design of the predominant architectural theme of the area.

Streetscape Landscaping

- Streetscape Landscaping (including a mix of mature and young plantings and a variety of species):
 - along sidewalks and crosswalks.
 - in parks and public areas.
 - around buildings.
 - in buffer areas.
 - in parking areas.
 - in stormwater management areas.
 - along streets and connector roads.

General Site Design Features

Lighting

- Street Lighting: Pedestrian scaled fixtures, which are decorative and compatible with the architectural theme of the buildings in the area, but which do not emit unnecessary glare or sky glow.
- Parking Lot Lighting: Higher lighting fixtures, decorative and compatible with the architectural theme of the buildings and street lighting in the area. Focus light downward, with fully recessed luminaries and with no lense extending below the lighting encasement.

Parking Lot Areas

- Parking Lots: A number of relatively small, dispersed parking lots rather large and expansive parking lots, which are discouraged.
- Screening: Three foot (3') high fencing, possibly wrought iron, at the edge of parking lots, and in combination with a hedge row and ornamental tree plantings should be considered.

Signage

- Permanent Signs:
 - coordinated with a consistent style throughout any particular development and between adjacent developments.
 - construction shall be of high quality and shall maintain a uniform color scheme, material and design.
 - temporary signs are discouraged.
- New Primary Entrance Signs Identifying A Development: monument style signs, designed and constructed of a material compatible with the buildings in the development.
- New Secondary Entrance Signs Identifying Specific Buildings Or Tenants: At key parking facility entryways. These signs also shall be monument style signs and shall be consistent with the primary entrance signs.
- Signs Serving Retail Uses: Attached flat against the building or located on an awning, canopy or marquee, or suspended from a building wall, awning, canopy or roof overhang.

- Sign Lighting: Via backlighting (e.g., "halo-effect") or by lighting external to the sign and focused directly onto the sign face; no sign shall be internally lighted.

Traffic Design Features

- Capacity: Road network designed with assurance that it can support the development.
- Speed Limits: Pedestrian friendly.
- Traffic Calming: Devices such as landscaped circles with signed pedestrian crossings should be provided in appropriate locations.

Other Design Features

- Sustainability: Use sustainable construction techniques to minimize the impact upon the environment, including energy efficient building designs, recycled materials, water conservation devices, permeable pavement, native plantings, low chemical usage to maintain the landscaping, and similar measures which are sensitive to the environment.
- Stormwater Management: Share detention basins among a number of properties and design them, where appropriate, as attractive water features.
- Site Planning: Create vistas, views, vest pocket parks, passive and active recreational areas, connections to surrounding fabric, etc. Any new development should be compatible with adjacent and nearby land uses, thereby creating an interrelated mixture of existing and proposed land uses, all in harmony with each other.

SOUTHERN MONTGOMERY TOWNSHIP MASTER PLAN TRAFFIC STUDY

McDonough & Rea Associates, in conjunction with Donald Johnson, Township Special Projects Engineer, and Richard Coppola, Township Land Use Planner, has prepared a "Southern Montgomery Township Master Plan Traffic Study" to accompany this "Land Use Plan Element 2003 Amendment No. 1" document.

In addition to analyzing the traffic impacts resulting from build-out of the principal properties within the study area under existing zoning provisions (see the table on page 18 of this report), McDonough & Rea Associates also analyzed the traffic impacts which theoretically could result from development under four (4) different development options. The four (4) development options are detailed on the four (4) tables in Addendum II to this report.

The traffic study is attached to this report as Addendum III.

- Sign Lighting: Via backlighting (e.g., "halo-effect") or by lighting external to the sign and focused directly onto the sign face; no sign shall be internally lighted.

Traffic Design Features

- Capacity: Road network designed with assurance that it can support the development.
- Speed Limits: Pedestrian friendly.
- Traffic Calming: Devices such as landscaped circles with signed pedestrian crossings should be provided in appropriate locations.

Other Design Features

- Sustainability: Use sustainable construction techniques to minimize the impact upon the environment, including energy efficient building designs, recycled materials, water conservation devices, permeable pavement, native plantings, low chemical usage to maintain the landscaping, and similar measures which are sensitive to the environment.
- Stormwater Management: Share detention basins among a number of properties and design them, where appropriate, as attractive water features.
- Site Planning: Create vistas, views, vest pocket parks, passive and active recreational areas, connections to surrounding fabric, etc. Any new development should be compatible with adjacent and nearby land uses, thereby creating an interrelated mixture of existing and proposed land uses, all in harmony with each other.

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The traffic study is attached to this report as Addendum III.

Summarily, the four (4) development options are as follows:

Development Option I:

Sharbell	218 Age-Restricted Units, 120 Bed Assisted Living Facility, & 30,000 sf Offices
Bloomberg & Bloomberg (Don Drake)	714,149 sf Offices With 158,137 sf At Current Bloomberg Traffic Generation Rate & 556,003 sf At Institute Of Traffic Engineers (ITE) Rate
John Drake	104,614 sf Offices, & 13 du
Zirinsky & Castaneda	308,470 sf Retail, & 30 Age-Restricted Units
Horowitz	17,860 sf Retail
Single-Family Lots No. & So. Sides Of Route 518	18 du

Development Option II:

Sharbell	218 Age-Restricted Units, 120 Bed Assisted Living Facility, & 30,000 sf Offices
Bloomberg & Bloomberg (Don Drake)	811,523 sf Offices With 158,137 sf At Current Bloomberg Traffic Generation Rate & 653,386 sf At Institute Of Traffic Engineers (ITE) Rate
John Drake	104,614 sf Offices, & 13 du
Zirinsky & Castaneda	308,470 sf Retail, & 30 Age-Restricted Units
Horowitz	17,860 sf Retail
Single-Family Lots No. & So. Sides Of Route 518	18 du

Development Option III:

The same as "Development Option I", except all of the "Bloomberg" traffic was projected at the current Bloomberg traffic generation rate.

Development Option IV:

The same as "Development Option II", except all of the "Bloomberg" traffic was projected at the current Bloomberg traffic generation rate.

The existing zoning option and the four (4) development options were analyzed regarding the levels of service that can be anticipated at the three (3) key signalized intersections in the "Land Use Plan Study Area" where traffic volumes and turning movements will be at their highest levels. The three (3) key intersections are as follows:

- The lighted intersection of State Route 206 and County Route 518;
- The intersection of State Rout 206 at the exit from the Princeton North Shopping Center, where a new Montgomery Township Master Plan road will form a fourth leg to the intersection, which will be lighted; and
- A new lighted intersection on County Route 518 where two (2) new Montgomery Township Master Plan roads will connect with Route 518. From the north, the Route 518/Orchard Road connector roadway will extend through the "Sharbell" property and intersect Route 518. From the south, the new Montgomery Township Master Plan "outer loop" road in the southwest quadrant of the Route 206/Route 518 intersection will intersect Route 518 across from the Route 518/Orchard Road connector roadway.

The traffic study was a "planning analysis" performed in order to determine the required geometry which will be required at each of the subject three (3) intersections under the four (4) development options in order to achieve a reasonable level of service; in this regard, a level of service "C/D" was sought as a reasonable design parameter.

Therefore, the traffic report summarizes the anticipated level of service and the required geometry of intersection improvement for each of the four (4) development options.

As indicated on pages 4 & 5 of the traffic report, the anticipated levels of service for each of the identified scenarios are as follows:

"...Development Option I will result in the best overall level of service for the 3 studied intersections with all intersections operating at level of service "C" during the AM and PM peak street hours."

"*Development Option II* and the *Existing Zoning Scenario* will be similar with all intersections operating at level of service "C" during the AM and PM peak street hours, except for the Route 518 intersection at the Orchard Road Connector/Master Plan Road which will operate at level of service "D" during the AM peak street hour for either of these 2 scenarios."

"*Development Option III* will permit the Route 206/518 intersection and the Route 206/Princeton North Shopping Center intersection to operate at level of service "C" during the AM and PM peak street hours. However, the Route 518 intersection with the Orchard Road Connector will operate at level of service "D" during the AM and PM peak street hours."

"*Development Option IV*, which is the most intense from a traffic generation standpoint, will have the Route 206 at Route 518 intersection operate at level of service "D" during the AM and PM peak street hours. The Route 206/Princeton North Shopping Center intersection will operate at level of service "C" during the AM peak street hour and level of service "D" during the PM peak street hour. The Route 518 intersection with the Orchard Road Connector will operate at level of service "F" during the AM peak street hour and level of service "E" during the PM peak street hour."

ADDENDUM I

**CONCEPT PLAN
FOR THE "MONTGOMERY VILLAGE CENTER"
SHOPPING COMPLEX
FOR THE CASTANEDA SUBAREA
PREPARED BY WOOLLEY MORRIS ARCHITECTS
AND DATED JUNE 27, 2003**



RESIDENTIAL J. 32 UNITS	PARKING 80 PRIVATE 24 PUBLIC	RATIO 3.25/UNIT
RETAIL BLK		
A 86,000	406	1/215
B 78,600	312	1/250
C 13,400	67	1/200
D 25,000	125	1/200
E 32,200	170	1/190
F 12,800	64	1/200
G 15,000	110	1/136
HOTEL 43,000	120	1.2/ROOM
TOTAL 306,000	1480	

WOOLLEY
10 NARBAU STREET
PRINCETON, NJ 08542
TEL 609 895 1818

ARCHITECTS

MORRIS
319 WILLOW STREET
SYRACUSE, N.Y. 13209
TEL 315 426 9871

MONTGOMERY VILLAGE CENTER
MONTGOMERY TOWNSHIP, NEW JERSEY

JUNE 27, 2003

© WOOLLEY MORRIS ARCHITECTS 2003

CGEM GROUP LLC.
1200 U.S. ROUTE 206
PRINCETON, NJ 08540

ADDENDUM II

**DEVELOPMENT YIELD OPTION TABLES I, II, III & IV
USED BY McDONOUGH & REA ASSOCIATES
TO CALCULATE EXPECTED TRAFFIC IMPACTS**

DEVELOPMENT OPTION I

REFERENCE NAME OF PROPERTY	MAP NO.	BLOCK & LOT NUMBERS	ACREAGE FROM TOWNSHIP GIS FILES	POSSIBLE ZONING & FAR OR LOT SIZE	POSSIBLE POTENTIAL DEVELOPMENT YIELD
SHARBELL	1	28001/ 36, 37 & 45	138.10 ac	ARH	218 Age-Restricted Units; 120 Bed Assisted Living Facility; 30,000 sf Offices
Subtotals:					
BLOOMBERG & BLOOMBERG	2	34001/38.01, 38.001, 38.03 & 43 part	149.04 ac	PLANNED OFFICE COMPLEX (.11)	714,140 sf*
		34001/38.02	14.00 ac	PPE (REO-2)	0 sf
NOTE: * 158,137 sf AT CURRENT BLOOMBERG TRAFFIC GENERATION RATE					Subtotals: 714,140 sf Offices
JOHN DRAKE	3	34001/44 & 46, parts	30.02 ac	REO-3 (.08)	104,614 sf
		34001/44 & 46, parts	26.19 ac	R-2 (2 ac)	13 du
Subtotals:					104,614 sf Offices + 13 du
ZIRINSKY & CASTANEDA	4	34001/56, 77 & 78	47.21 ac	PLANNED SHOPPING COMPLEX (.15)	308,470 sf Retail + 30 Age-Restricted Units
Subtotal:					

REFERENCE NAME OF PROPERTY	MAP NO.	BLOCK & LOT NUMBERS	ACREAGE FROM TOWNSHIP GIS FILES	POSSIBLE ZONING & FAR OR LOT SIZE	POSSIBLE POTENTIAL DEVELOPMENT YIELD
HOROWITZ	5	28001/57 & 58	2.05 ac	HC	17,860 sf Retail
Subtotal:					
SINGLE FAMILY LOTS NO. SIDE OF ROUTE 518	6	28001/46-56	10.18 ac	R-1 (1 ac)	11 du
Subtotal:					
SINGLE FAMILY LOTS SO. SIDE OF ROUTE 518	7	34001/ 51-55, 81 & 82	7.03 ac	R-1 (1 ac)	7 du
Subtotal:					
AGGREGATE TOTALS:					248 Age-Restricted Units; 120 Bed Assisted Living Facility; 848,754 sf Offices; 326,330 sf Retail; & 31 du

DEVELOPMENT OPTION II

REFERENCE NAME OF PROPERTY	MAP NO.	BLOCK & LOT NUMBERS	ACREAGE FROM TOWNSHIP GIS FILES	POSSIBLE ZONING & FAR OR LOT SIZE	POSSIBLE POTENTIAL DEVELOPMENT YIELD
SHARBELL	1	28001/ 36, 37 & 45	138.10 ac	ARH	218 Age-Restricted Units; 120 Bed Assisted Living Facility; 30,000 sf Offices
Subtotals:					
BLOOMBERG & BLOOMBERG	2	34001/38.01, 38.001, 38.03 & 43 part	149.04 ac	PLANNED OFFICE COMPLEX (.11)	811,523 sf*
		34001/38.02	14.00 ac	PPE (REO-2)	0 sf
NOTE: * 158,137 sf AT CURRENT BLOOMBERG TRAFFIC GENERATION RATE					Subtotals: 811,523 sf Offices
JOHN DRAKE	3	34001/44 & 46, parts	30.02 ac	REO-3 (.08)	104,614 sf
		34001/44 & 46, parts	26.19 ac	R-2 (2 ac)	13 du
Subtotals:					104,614 sf Offices + 13 du
ZIRINSKY & CASTANEDA	4	34001/56, 77 & 78	47.21 ac	PLANNED SHOPPING COMPLEX (.15)	308,470 sf Retail + 30 Age-Restricted Units
Subtotal:					

REFERENCE NAME OF PROPERTY	MAP NO.	BLOCK & LOT NUMBERS	ACREAGE FROM TOWNSHIP GIS FILES	POSSIBLE ZONING & FAR OR LOT SIZE	POSSIBLE POTENTIAL DEVELOPMENT YIELD
HOROWITZ	5	28001/57 & 58	2.05 ac	HC	17,860 sf Retail
Subtotal:					
SINGLE FAMILY LOTS NO. SIDE OF ROUTE 518	6	28001/46-56	10.18 ac	R-1 (1 ac)	11 du
Subtotal:					
SINGLE FAMILY LOTS SO. SIDE OF ROUTE 518	7	34001/ 51-55, 81 & 82	7.03 ac	R-1 (1 ac)	7 du
Subtotal:					
AGGREGATE TOTALS:					248 Age-Restricted Units; 120 Bed Assisted Living Facility; 946,137 sf Offices; 326,330 sf Retail; & 31 du

DEVELOPMENT OPTION III

REFERENCE NAME OF PROPERTY	MAP NO.	BLOCK & LOT NUMBERS	ACREAGE FROM TOWNSHIP GIS FILES	POSSIBLE ZONING & FAR OR LOT SIZE	POSSIBLE POTENTIAL DEVELOPMENT YIELD
SHARBELL	1	28001/ 36, 37 & 45	138.10 ac	ARH	218 Age-Restricted Units; 120 Bed Assisted Living Facility; 30,000 sf Offices
Subtotals:					
BLOOMBERG & BLOOMBERG	2	34001/38.01, 38.001, 38.03 & 43 part	149.04 ac	PLANNED OFFICE COMPLEX (.11)	714,140 sf*
		34001/38.02	14.00 ac	PPE (REO-2)	0 sf
NOTE: * 714,140 sf AT CURRENT BLOOMBERG TRAFFIC GENERATION RATE					Subtotals: 714,140 sf Offices
JOHN DRAKE	3	34001/44 & 46, parts	30.02 ac	REO-3 (.08)	104,614 sf
		34001/44 & 46, parts	26.19 ac	R-2 (2 ac)	13 du
Subtotals:					104,614 sf Offices + 13 du
ZIRINSKY & CASTANEDA	4	34001/56, 77 & 78	47.21 ac	PLANNED SHOPPING COMPLEX (.15)	308,470 sf Retail + 30 Age-Restricted Units
Subtotal:					

REFERENCE NAME OF PROPERTY	MAP NO.	BLOCK & LOT NUMBERS	ACREAGE FROM TOWNSHIP GIS FILES	POSSIBLE ZONING & FAR OR LOT SIZE	POSSIBLE POTENTIAL DEVELOPMENT YIELD
HOROWITZ	5	28001/57 & 58	2.05 ac	HC	17,860 sf Retail
Subtotal:					
SINGLE FAMILY LOTS NO. SIDE OF ROUTE 518	6	28001/46-56	10.18 ac	R-1 (1 ac)	11 du
Subtotal:					
SINGLE FAMILY LOTS SO. SIDE OF ROUTE 518	7	34001/ 51-55, 81 & 82	7.03 ac	R-1 (1 ac)	7 du
Subtotal:					
AGGREGATE TOTALS:					248 Age-Restricted Units; 120 Bed Assisted Living Facility; 848,754 sf Offices; 326,330 sf Retail; & 31 du

DEVELOPMENT OPTION IV

REFERENCE NAME OF PROPERTY	MAP NO.	BLOCK & LOT NUMBERS	ACREAGE FROM TOWNSHIP GIS FILES	POSSIBLE ZONING & FAR OR LOT SIZE	POSSIBLE POTENTIAL DEVELOPMENT YIELD	
SHARBELL	1	28001/ 36, 37 & 45	138.10 ac	ARH	218 Age-Restricted Units; 120 Bed Assisted Living Facility; 30,000 sf Offices	
Subtotals:						
BLOOMBERG & BLOOMBERG	2	34001/38.01, 38.001, 38.03 & 43 part	149.04 ac	PLANNED OFFICE COMPLEX (.11)	811,523 sf*	
		34001/38.02	14.00 ac	PPE (REO-2)	0 sf	
NOTE: * 811,523 sf AT CURRENT BLOOMBERG TRAFFIC GENERATION RATE					Subtotals:	811,523 sf Offices
JOHN DRAKE	3	34001/44 & 46, parts	30.02 ac	REO-3 (.08)	104,614 sf	
		34001/44 & 46, parts	26.19 ac	R-2 (2 ac)	13 du	
Subtotals:					104,614 sf Offices + 13 du	
ZIRINSKY & CASTANEDA	4	34001/56, 77 & 78	47.21 ac	PLANNED SHOPPING COMPLEX (.15)	308,470 sf Retail + 30 Age-Restricted Units	
Subtotal:						

REFERENCE NAME OF PROPERTY	MAP NO.	BLOCK & LOT NUMBERS	ACREAGE FROM TOWNSHIP GIS FILES	POSSIBLE ZONING & FAR OR LOT SIZE	POSSIBLE POTENTIAL DEVELOPMENT YIELD
HOROWITZ	5	28001/57 & 58	2.05 ac	HC	17,860 sf Retail
Subtotal:					
SINGLE FAMILY LOTS NO. SIDE OF ROUTE 518	6	28001/46-56	10.18 ac	R-1 (1 ac)	11 du
Subtotal:					
SINGLE FAMILY LOTS SO. SIDE OF ROUTE 518	7	34001/ 51-55, 81 & 82	7.03 ac	R-1 (1 ac)	7 du
Subtotal:					
AGGREGATE TOTALS:					248 Age-Restricted Units; 120 Bed Assisted Living Facility; 946,137 sf Offices; 326,330 sf Retail; & 31 du

ADDENDUM III

**SOUTHERN MONTGOMERY TOWNSHIP
MASTER PLAN TRAFFIC STUDY
PREPARED BY McDONOUGH & REA ASSOCIATES**



SOUTHERN MONTGOMERY MASTER PLAN
TRAFFIC IMPACT STUDY

NEW JERSEY

PREPARED BY:

JULY 1, 2003

MCDONOUGH & REA ASSOCIATES
2517 Highway 35
Building G, Suite 201
Manasquan, New Jersey 08736

01-158

MASTER PLAN TRAFFIC STUDY FINDINGS

McDonough & Rea Associates, in conjunction with Coppola & Coppola Associates and Donald Johnson, PE, special projects engineer, has prepared a *Southern Montgomery Township Master Plan Traffic Study* to accompany recommendations made by Coppola & Coppola Associates with respect to existing and proposed zoning in the southwest and northwest quadrants of the State Route 206/County Route 518 intersection. The *Southern Montgomery Township Master Plan Traffic Study* has analyzed the following scenarios:

1. *Development Option I:*
 - 248 Age-restricted residential units
 - 120 Bed-assisted living facility
 - 848,754 SF of office space
 - 326,330 SF of retail space
 - 31 Residential dwelling units

2. *Development Option II:*
 - 248 Age-restricted residential units
 - 120 Bed-assisted living facility
 - 946,137 SF of office space
 - 326,330 SF of retail space
 - 31 Residential dwelling units

3. *Development Option III* – Same as Development Option I, however with 714,140 SF of office space generating traffic at the current peak hour rate exhibited by occupancy of the *Route 518 Business Park* by *Bloomberg Financial Services*.

4. *Development Option IV* – Same as Development Option II, however with 811,523 SF of office space generating traffic at the current peak hour rate exhibited by occupancy of the *Route 518 Business Park* by *Bloomberg Financial Services*.

5. Traffic generation from existing zoning within the area.

The aforementioned development scenarios have been analyzed with respect to levels of service that can be anticipated at the 3 key signalized intersections in the Southern Montgomery Township study area where traffic volumes will be at their highest levels. These intersections are as follows:

1. The intersection of State Route 206 at County Route 518.
2. The intersection of State Route 206 at the exit from the *Princeton North Shopping Center* where a new Montgomery Township Master Plan Road will ultimately form a fourth leg to the intersection.
3. A new intersection on County Route 518 where 2 new Montgomery Township Master Plan Roads will intersect that roadway. From the north, the Route 518/Orchard Road Connector through the *Sharbell Tract* will intersect Route 518. From the south, the new Montgomery Township “Outer Loop” roadway in the southwest quadrant of Route 206/518 will intersect opposite the Route 518/Orchard Road Connector.

The 3 aforementioned intersections are the key intersections within the study area which will experience the highest amount of through traffic and turning traffic. This study has been performed in order to determine the required geometry at each of these intersections in order to achieve a reasonable level of service design parameter. Level of service “C/D” was sought as a reasonable design parameter.

The following report summarizes the anticipated levels of service, required geometry, etc., for each development option.

DEVELOPMENT OPTION I

For *Development Option I*, the 3 studied intersections will all operate at level of service “C” during the AM peak street hour and PM peak street hour. A *Level of Service Summary* for each development option showing overall levels of service for each intersection and for the various movements at each intersection is appended to this report along with intersection geometry sketches and projected future traffic volumes for each intersection.

DEVELOPMENT OPTION II

For *Development Option II*, the 3 studied intersections will all operate at level of service “C” during the AM or PM peak street hours, except for the Route 518 intersection at the Master Plan Road/Orchard Road Connector that will operate at level of service “D” during the AM peak street hour.

DEVELOPMENT OPTION III

For *Development Option III*, the intersections of Route 206 at Route 518 and Route 206 at the *Princeton North Shopping Center*/Master Plan Road will operate at level of service “C” during the AM or PM peak street hours. The intersection of Route 518 at the Master Plan Road/Orchard Road Connector will operate at level of service “D” during the AM and PM peak street hours.

DEVELOPMENT OPTION IV

For *Development Option IV*, the intersection of Route 206 at Route 518 will operate at level of service “D” during the AM or PM peak street hours. The intersection of Route 206 at the *Princeton North Shopping Center*/Master Plan Road will operate at level of service “C” during the AM peak street hour and level of service “D” the PM peak street hour. The intersection of Route 518 at the Orchard Road Connector/Master Plan Road will operate at level of service “F” during the AM peak street hour and level of service “E” during the PM peak street hour.

EXISTING ZONING SCENARIO

For the *Existing Zoning Scenario*, the *Sharbell Tract* in the northwest quadrant of Route 206/518 was assumed to be 248 age-restricted residential units, a 120 bed assisted living facility, and 30,000 SF of office space. The remaining lands in the southwest quadrant of Route 206/518 were assumed to generate traffic in accordance with existing zoning. Furthermore, traffic generated from within the *518 Business Park* was assumed to do so at the *Bloomberg Financial Services* rate as a substantial expansion for the *518 Business Park/Bloomberg* has been previously approved.

For the *Existing Zoning Scenario*, the intersection of Route 518 and 206 will operate at level of service “C” during the AM and PM peak street hours. The intersection of Route 206 at the *Princeton North Shopping Center/Master Plan Road* will also operate at level of service “C” during the AM and PM peak street hours. The intersection at Route 518 and the *Orchard Road Connector/Master Plan Road* will operate at level of service “D” during the AM peak street hour and level of service “C” during the PM peak street hour.

SUMMARY

In summary, *Development Option I* will result in the best overall level of service for the 3 studied intersections with all intersections operating at level of service “C” during the AM and PM peak street hours. *Development Option II* and the *Existing Zoning Scenario* will be similar with all intersections operating at level of service “C” during the AM and PM peak street hours, except for the Route 518 intersection at the *Orchard Road Connector/Master Plan Road* which will operate at level of service “D” during the AM peak street hour for either of these 2 scenarios.

Development Option III will permit the Route 206/518 intersection and the Route 206/*Princeton North Shopping Center* intersection to operate at level of service “C” during the AM and PM peak street hours. However, the Route 518 intersection with the *Orchard Road Connector* will operate at level of service “D” during the AM and PM peak street hours.

Development Option IV, which is the most intense from a traffic generation standpoint, will have the Route 206 at Route 518 intersection operate at level of service “D” during the AM and PM peak street hours. The Route 206/*Princeton North Shopping Center* intersection will operate at level of service “C” during the AM peak street hour and level of service “D” during the PM peak street hour. The Route 518 intersection with the Orchard Road Connector will operate at level of service “F” during the AM peak street hour and level of service “E” during the PM peak street hour.

The foregoing traffic analyses represent “planning analyses” which are intended to define the scope and nature of improvements that will be required in order to support different development options. It is important to note that as development applications are filed for important tracts of land in the area such as the *Castaneda (CGEM)* and the *Route 518/Bloomberg Tract*, that those Applicants be required to prepare fully detailed traffic impact studies to more precisely define peak hour impacts.

Based on the anticipated traffic impacts from development of these tracts, it is assumed that the development applications will be responsible for constructing master plan roads through these areas and for upgrading intersections as may be required. The exact “fair share” cost allocation between Developers will depend on specific development applications and the traffic impact studies prepared for those applications.



McDonough & Rea Associates, Inc.

Traffic and Transportation Consulting

2517 Highway 35, Bldg. G, Suite 201, Manasquan, NJ 08736 • (732) 528-7076 • Fax (732) 528-6673
105 Elm Street, Lower Level, Westfield, NJ 07090 • (908) 789-7180 • Fax (908) 789-7181

TRIP GENERATION COMPARISON

	<u>AM PEAK STREET HOUR</u>			<u>PM PEAK STREET HOUR</u>		
	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>
DEVELOPMENT OPTION I	1420	400	1820	770	1610	2380
DEVELOPMENT OPTION II	1560	420	1980	790	1740	2530
DEVELOPMENT OPTION III	2520	370	2890	730	2800	3530
DEVELOPMENT OPTION IV	2870	410	3280	770	3120	3890
EXISTING ZONING	2290	310	2600	450	2340	2790

DEVELOPMENT OPTION I

LEVEL OF SERVICE SUMMARY

MONTGOMERY MASTER PLAN ROADS
MONTGOMERY TOWNSHIP, SOMERSET COUNTY
MRA Job N° 01-158

2013 FUTURE FULL BUILD OUT

DEVELOPMENT OPTION 1

ROUTE 518 & ROUTE 206

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB ROUTE 518	THRU	18.8s	B	21.5s	C
WB ROUTE 518	THRU-RIGHT	23.5s	C	19.0s	B
NB ROUTE 206	THRU-RIGHT	21.5s	C	40.1s	D
SB ROUTE 206	THRU	42.3s	D	27.3s	C
INTERSECTION	OVERALL	29.0s	C	28.5s	C

MASTER PLAN ROAD / PRINCETON NORTH SHOPPING CENTER & ROUTE 206

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB MASTER PLAN ROAD	LEFT	36.2s	D	44.4s	D
	THRU	35.0s	C	26.8s	C
	RIGHT	13.1s	B	35.0s	D
	APPROACH	17.3s	B	36.9s	D
WB SHOPPING CENTER	LEFT	41.0s	D	29.4s	C
	THRU-RIGHT	39.4s	D	29.4s	C
	APPROACH	40.2s	D	29.4s	C
NB ROUTE 206	LEFT	29.4s	C	45.7s	D
	THRU-RIGHT	4.2s	A	10.0s	B
	APPROACH	14.1s	B	21.2s	C
SB ROUTE 206	LEFT	22.9s	C	27.3s	C
	THRU	39.4s	D	24.9s	C
	RIGHT	18.2s	B	20.6s	C
	APPROACH	37.8s	D	24.4s	C
INTERSECTION	OVERALL	26.1s	C	26.3s	C

ROUTE 518 & MASTER PLAN ROAD / ORCHARD ROAD CONNECTOR

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB ROUTE 518	LEFT	27.9s	C	50.4s	D
	THRU	32.1s	C	29.2s	C
	RIGHT	15.6s	B	8.1s	A
	APPROACH	29.6s	C	33.7s	C
WB ROUTE 518	LEFT	38.5s	D	40.0s	D
	THRU-RIGHT	8.8s	A	18.8s	B
	APPROACH	32.4s	C	20.6s	C
NB MASTER PLAN ROAD	LEFT	42.7s	D	45.0s	D
	THRU	20.8s	C	16.2s	B
	RIGHT	7.4s	A	9.7s	A
	APPROACH	36.2s	D	30.9s	C
SB ORCHARD ROAD CONNECTOR	LEFT	33.5s	C	50.6s	D
	THRU-RIGHT	42.9s	D	32.2s	C
	APPROACH	41.2s	D	41.7s	D
INTERSECTION	OVERALL	33.8s	C	30.0s	C

LOS = level of service
s = average control delay per vehicle in seconds

<u>LOS</u>	<u>DELAY</u>
A	≤ 10.0s
B	>10.0s and ≤ 20.0s
C	>20.0s and ≤ 35.0s
D	>35.0s and ≤ 55.0s
E	>55.0s and ≤ 80.0s
F	≥ 80.0s



McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE 001-1

JOB No:
01-158

DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & ROUTE 518

2013 FUTURE TRAFFIC



1430 (N) (H) (S) (H) (R) (O) (U) (T) (E) (U) (S) (2) (0) (6)

1430

GEORGETOWN - FRANKLIN

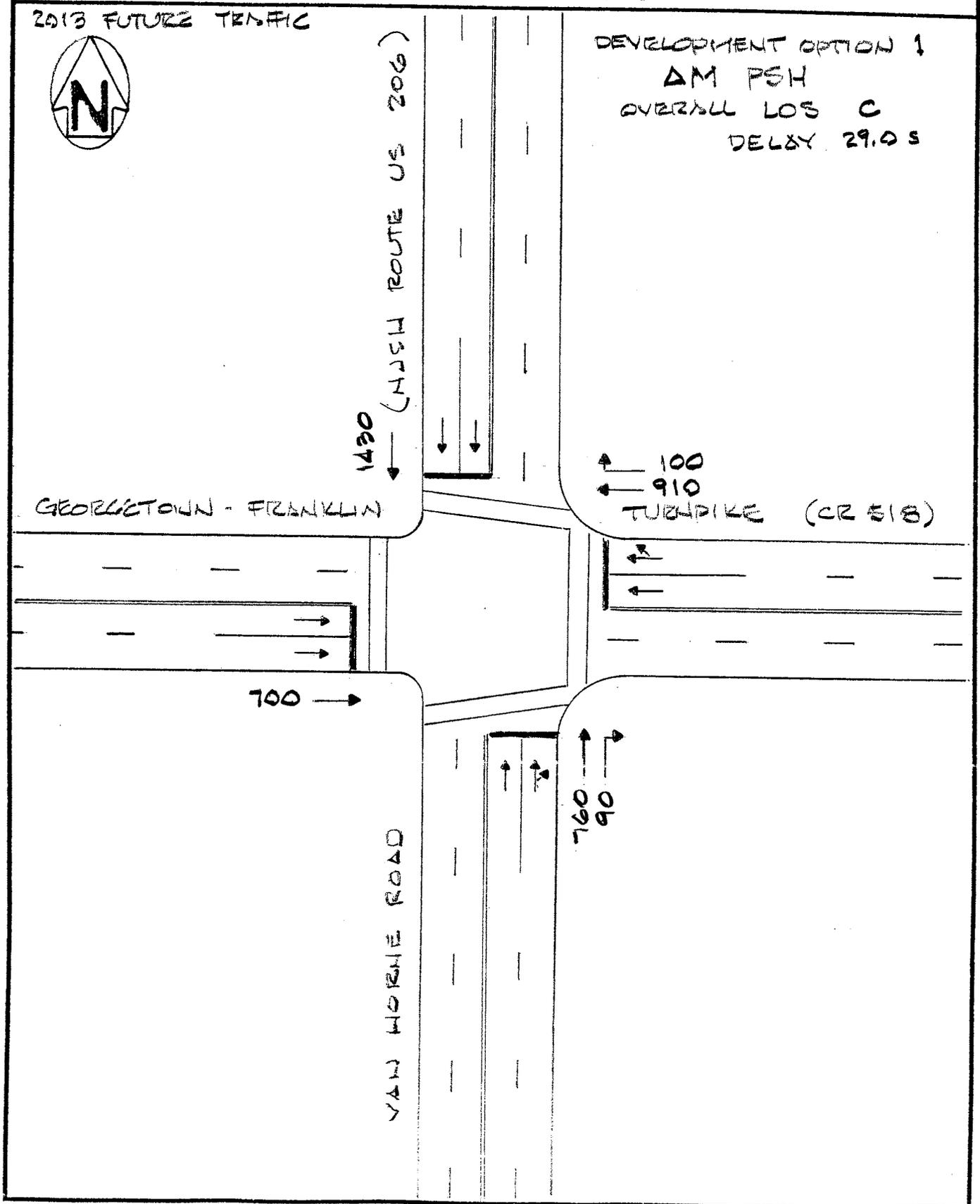
DEVELOPMENT OPTION 1
ΔM PSH
OVERALL LOS C
DELAY 29.0 S

100
910
TUBPIKE (CR 518)

700

VAN HORNE ROAD

760
90





McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE 001-2

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & ROUTE 518

2013 FUTURE TRAFFIC



(HIGH ROUTE US 206)

1100

GEORGETOWN - FRANKLIN

DEVELOPMENT OPTION 1
PM PSH
OVERALL LOS C
DELAY 28.5 s

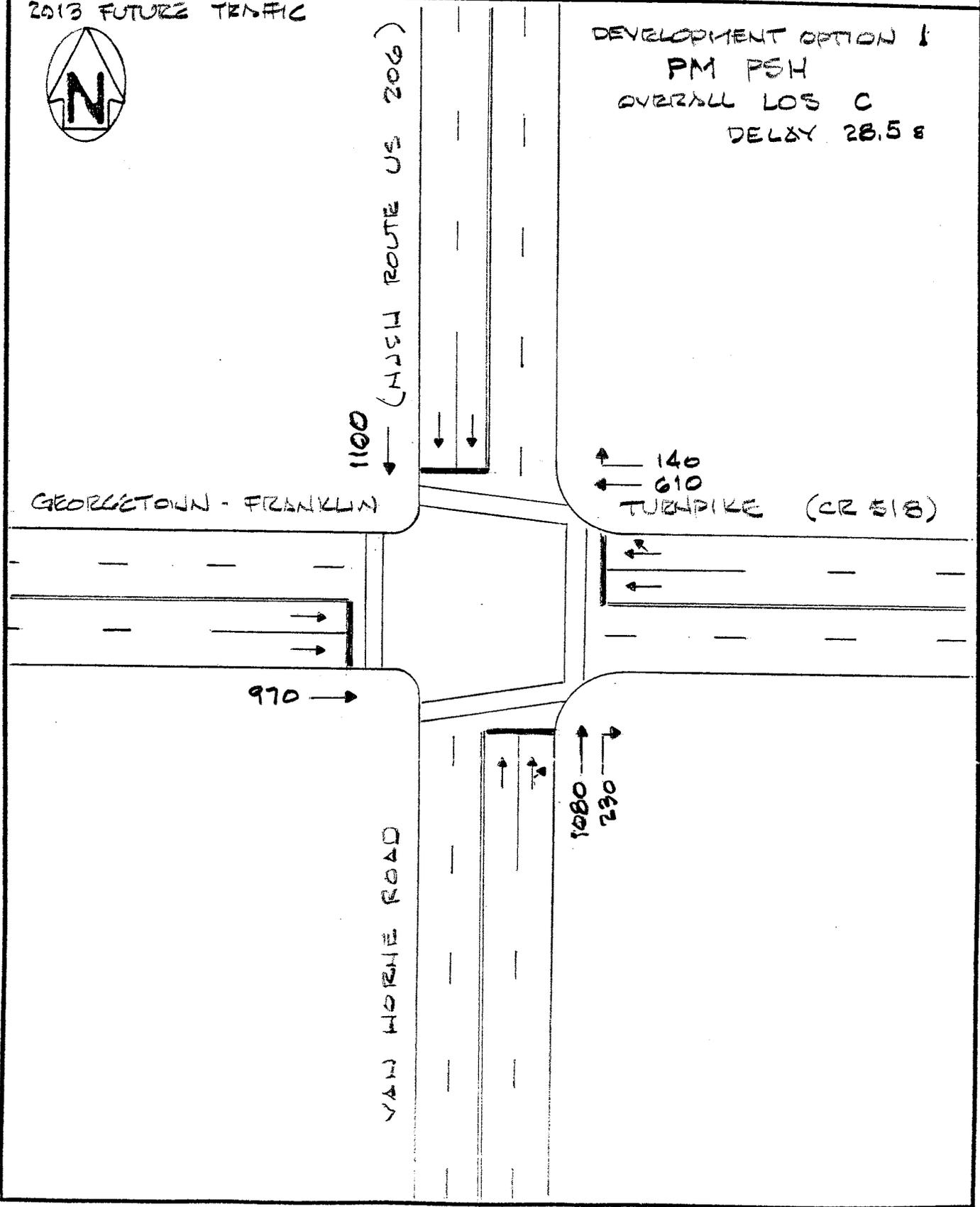
140
610

TURNDPIKE (CR 518)

970

YAN HORRIG ROAD

1080
230





McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE 001-3

JOB No:
01 - 158

DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & PRINCETON NORTH S.C. / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



40
1080
60

DEVELOPMENT OPTION 1
Δ11 PSH
OVERALL LOS C
DELAY 25.1s

NJSH ROUTE US 206

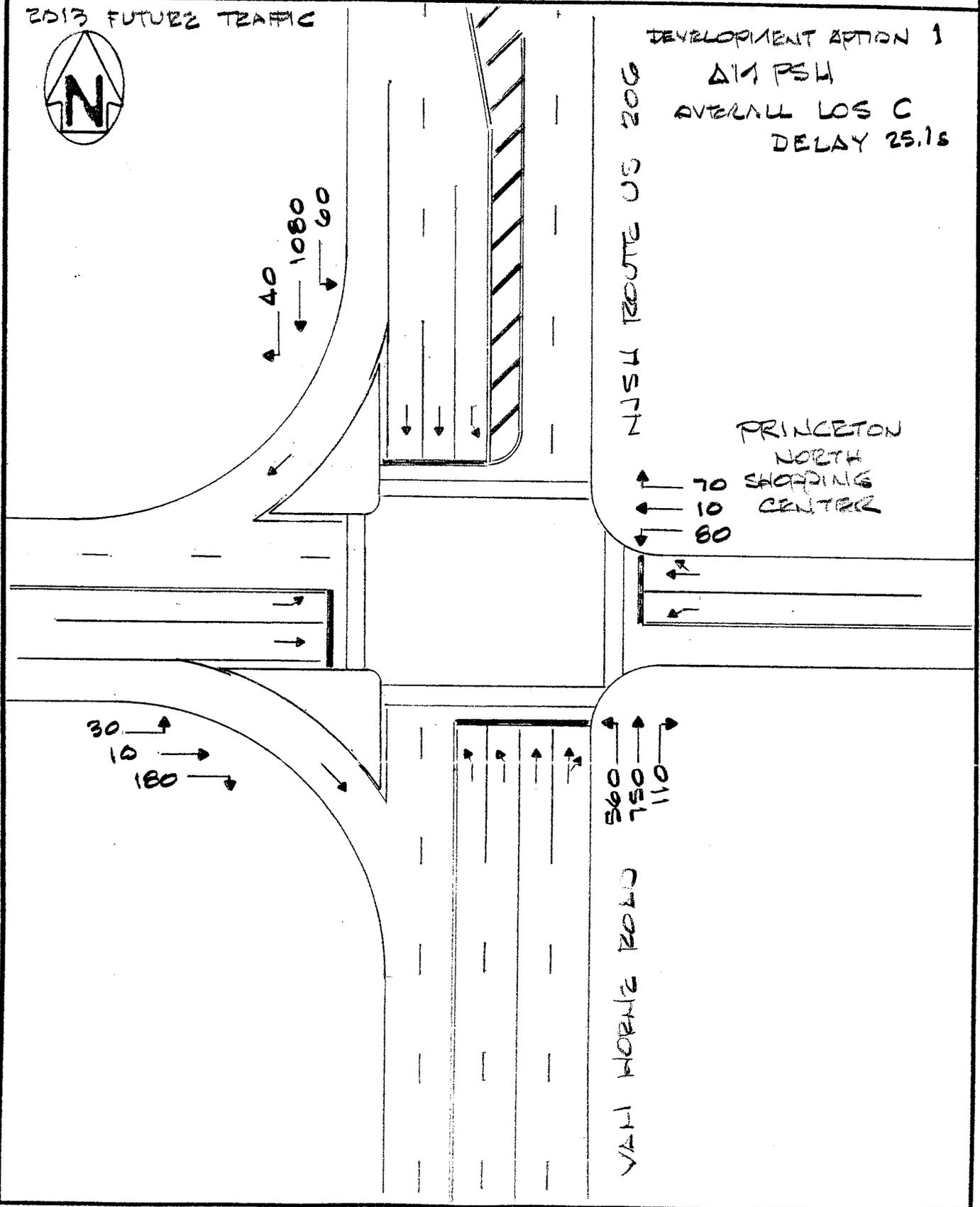
PRINCETON
NORTH
SHOPPING
CENTER

70
10
80

30
10
180

560
750
110

VAN HORN ROAD





McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE DD 1.4

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & PRINCETON NORTH S.C. / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



130
680
60

DEVELOPMENT OPTION 1
P14 PSH
OVERALL LOS C
DELAY 26.3s

NJSH ROUTE US 206

PRINCETON
NORTH
100 SHOPPING
10 CENTER
90

200
20
690

520
1010
130

VAN HORNE ROAD



McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE D01-5

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 518 + ORCHARD ROAD CONNECTOR / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



ORCHARD ROAD CONNECTOR

160
240
90

DEVELOPMENT OPTION 1

AM PSH

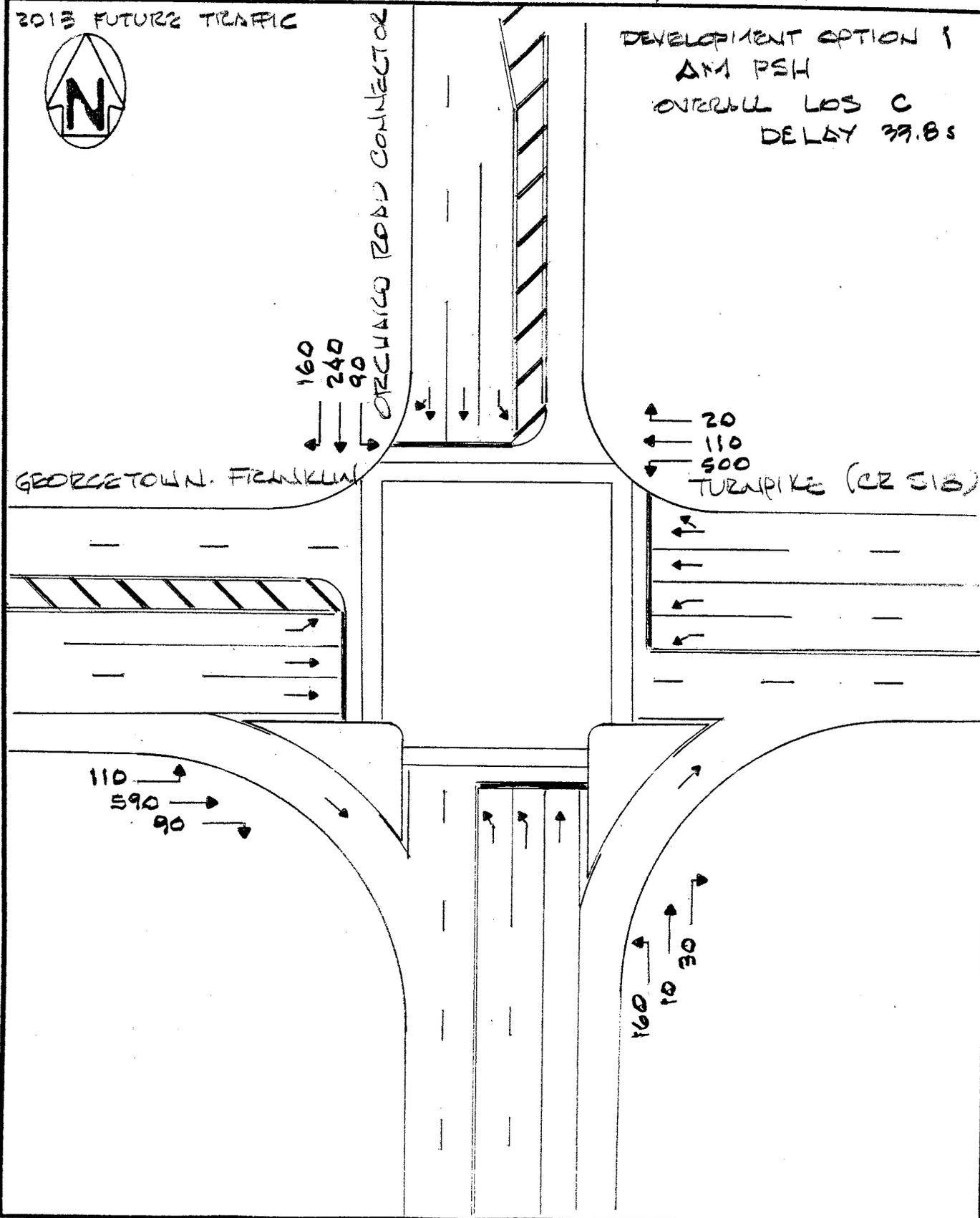
OVERALL LOS C

DELAY 39.8s

GEORGETOWN FRANKLIN

20
110
500

TURNPIKE (CR 518)





McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE D01-6

JOB No:
01-158

DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 513 + DECHAUD ROAD CONNECTOR / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



DECHAUD ROAD CONNECTOR

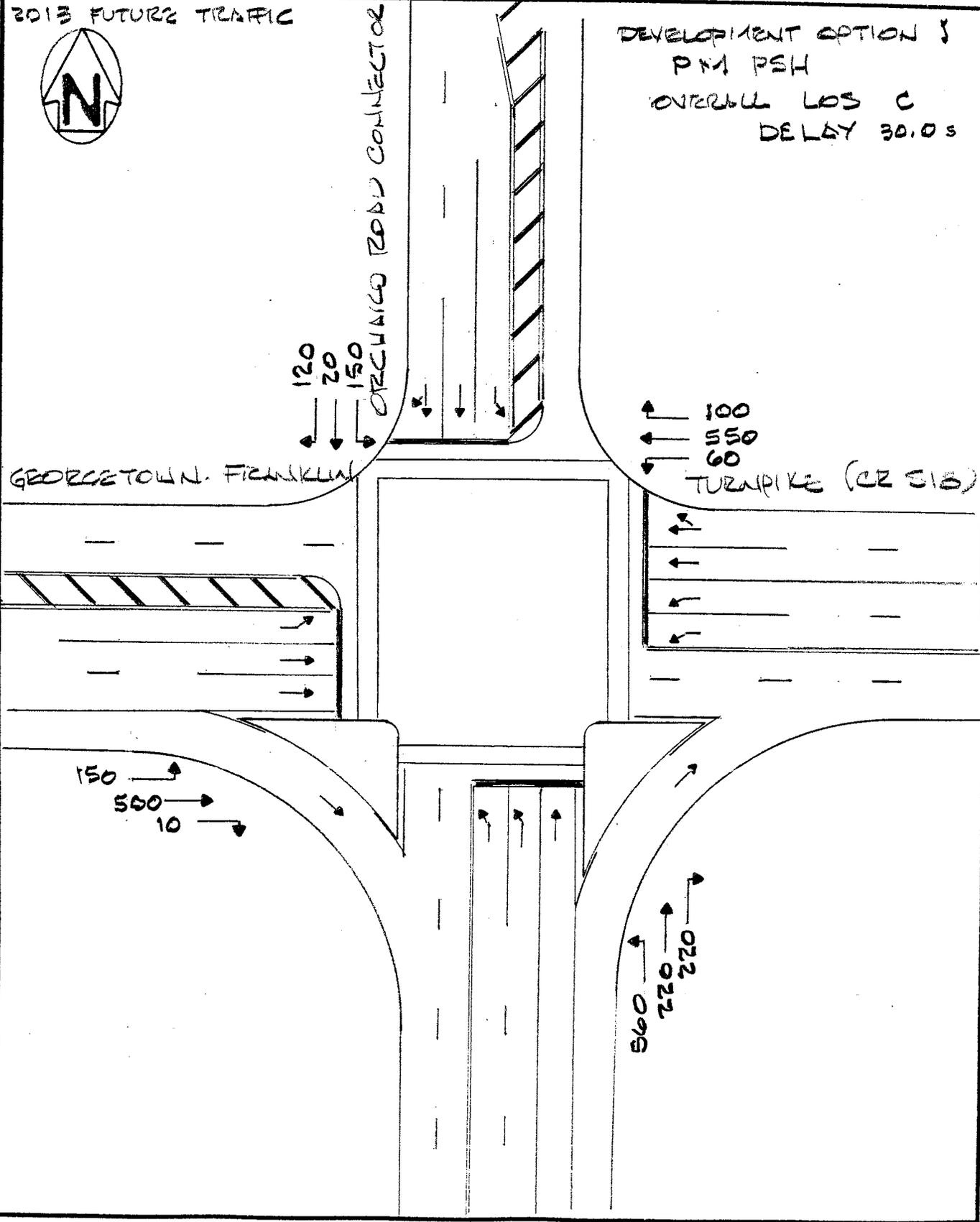
120
20
150

DEVELOPMENT OPTION 3
PM 1 PSH
OVERALL LOS C
DELAY 30.0 s

100
550
60

TURNPIKE (CR 513)

GEORGETOWN FRANKLIN



DEVELOPMENT OPTION II

LEVEL OF SERVICE SUMMARY

MONTGOMERY MASTER PLAN ROADS
MONTGOMERY TOWNSHIP, SOMERSET COUNTY
MRA Job N° 01-158

2013 FUTURE FULL BUILD OUT

DEVELOPMENT OPTION 2

ROUTE 518 & ROUTE 206

			AM PSH		PM PSH	
			<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB ROUTE 518	THRU		18.9s	B	22.2s	C
WB ROUTE 518	THRU-RIGHT		24.5s	C	19.2s	B
NB ROUTE 206	THRU-RIGHT		21.5s	C	40.1s	D
SB ROUTE 206	THRU		42.3s	D	27.3s	C
INTERSECTION	OVERALL		29.2s	C	28.5s	C

MASTER PLAN ROAD / PRINCETON NORTH SHOPPING CENTER & ROUTE 206

			AM PSH		PM PSH	
			<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB MASTER PLAN ROAD	LEFT		36.2s	D	44.4s	D
	THRU		35.0s	C	26.8s	C
	RIGHT		13.1s	B	41.4s	D
	APPROACH		17.3s	B	41.8s	D
WB SHOPPING CENTER	LEFT		41.0s	D	29.4s	C
	THRU-RIGHT		39.4s	D	29.4s	C
	APPROACH		40.2s	C	29.4s	C
NB ROUTE 206	LEFT		30.3s	C	45.7s	D
	THRU-RIGHT		4.2s	A	10.0s	B
	APPROACH		14.9s	B	21.2s	C
SB ROUTE 206	LEFT		22.9s	C	27.3s	C
	THRU		39.4s	D	24.9s	C
	RIGHT		18.2s	B	20.6s	C
	APPROACH		37.8s	D	24.4s	C
INTERSECTION	OVERALL		25.4s	C	27.7s	C

ROUTE 518 & MASTER PLAN ROAD / ORCHARD ROAD CONNECTOR

			AM PSH		PM PSH	
			<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB ROUTE 518	LEFT		27.9s	C	50.4s	D
	THRU		32.4s	C	29.6s	C
	RIGHT		15.8s	B	8.1s	A
	APPROACH		29.7s	C	33.9s	C
WB ROUTE 518	LEFT		42.4s	D	40.5s	D
	THRU-RIGHT		8.8s	A	18.8s	B
	APPROACH		36.1s	D	21.1s	C
NB MASTER PLAN ROAD	LEFT		42.7s	D	48.0s	D
	THRU		20.8s	C	16.4s	B
	RIGHT		7.4s	A	10.0s	A/B
	APPROACH		36.2s	D	32.2s	C
SB ORCHARD ROAD CONNECTOR	LEFT		33.5s	C	52.7s	D
	THRU-RIGHT		44.5s	D	32.2s	C
	APPROACH		42.6s	D	42.8s	D
INTERSECTION	OVERALL		35.3s	D	30.8s	C

LOS = level of service
s = average control delay per vehicle in seconds

<u>LOS</u>	<u>DELAY</u>
A	≤ 10.0s
B	>10.0s and ≤ 20.0s
C	>20.0s and ≤ 35.0s
D	>35.0s and ≤ 55.0s
E	>55.0s and ≤ 80.0s
F	≥ 80.0s



McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE 00 2-1

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 + ROUTE 518

2013 FUTURE TRAFFIC



1430 (HIGH ROUTE US 206)
↓

DEVELOPMENT OPTION 2
AM PSH
OVERALL LOS C
DELAY 29.2 s

GEORGETOWN - FRANKLIN

↑ 100
← 970
TURBPIKE (CR 518)

710 →

YAN HORRIG ROAD

↑ 760
↓ 90



McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE D02-2

JOB No:
01 - 158

DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 + ROUTE 518

2013 FUTURE TRAFFIC



(HIGH ROUTE US 206)

1100

GEORGETOWN - FRANKLIN

DEVELOPMENT OPTION

PM PSH

OVERALL LOS C

DELAY 28.5 s

140
630

TURNDPIKE (CR 518)

1020

VAN HORNE ROAD

1980
230



McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE 002-3

JOB No:
01 - 158

DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & PRINCETON NORTH S.C. / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



40
1080
60

DEVELOPMENT OPTION 2
Δ14 PSH
OVERALL LOS C
DELAY 25.4s

NJSH ROUTE US 206

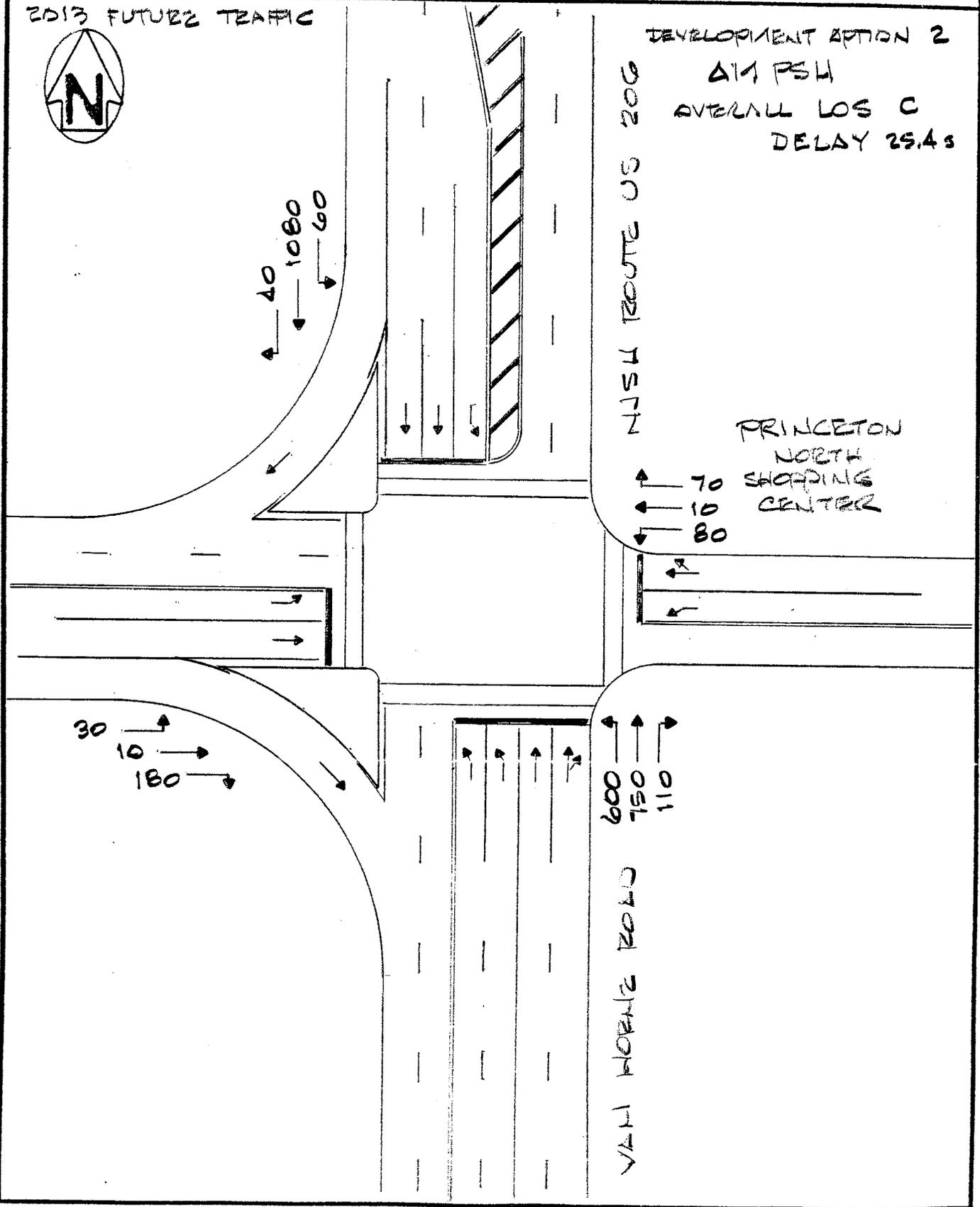
PRINCETON
NORTH
SHOPPING
CENTER

70
10
80

30
10
180

600
750
110

VAN HORN'S ROAD





McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE 002-4

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & PRINCETON NORTH S.C./ MASTER PLAN ROAD

2013 FUTURE TRAFFIC



130
680
60

DEVELOPMENT OPTION 2

PI1 PSH

OVERALL LOS C

DELAY 27.7s

NJSH ROUTE US 206

PRINCETON
NORTH

100 SHOPPING
10 CENTER
90

200
20
720

520
1010
130

VAN HORN ROAD



McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE D02-5

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 513 + ORCHARD ROAD CONNECTOR / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



ORCHARD ROAD CONNECTOR

160
260
90

DEVELOPMENT OPTION 2

AM PSH

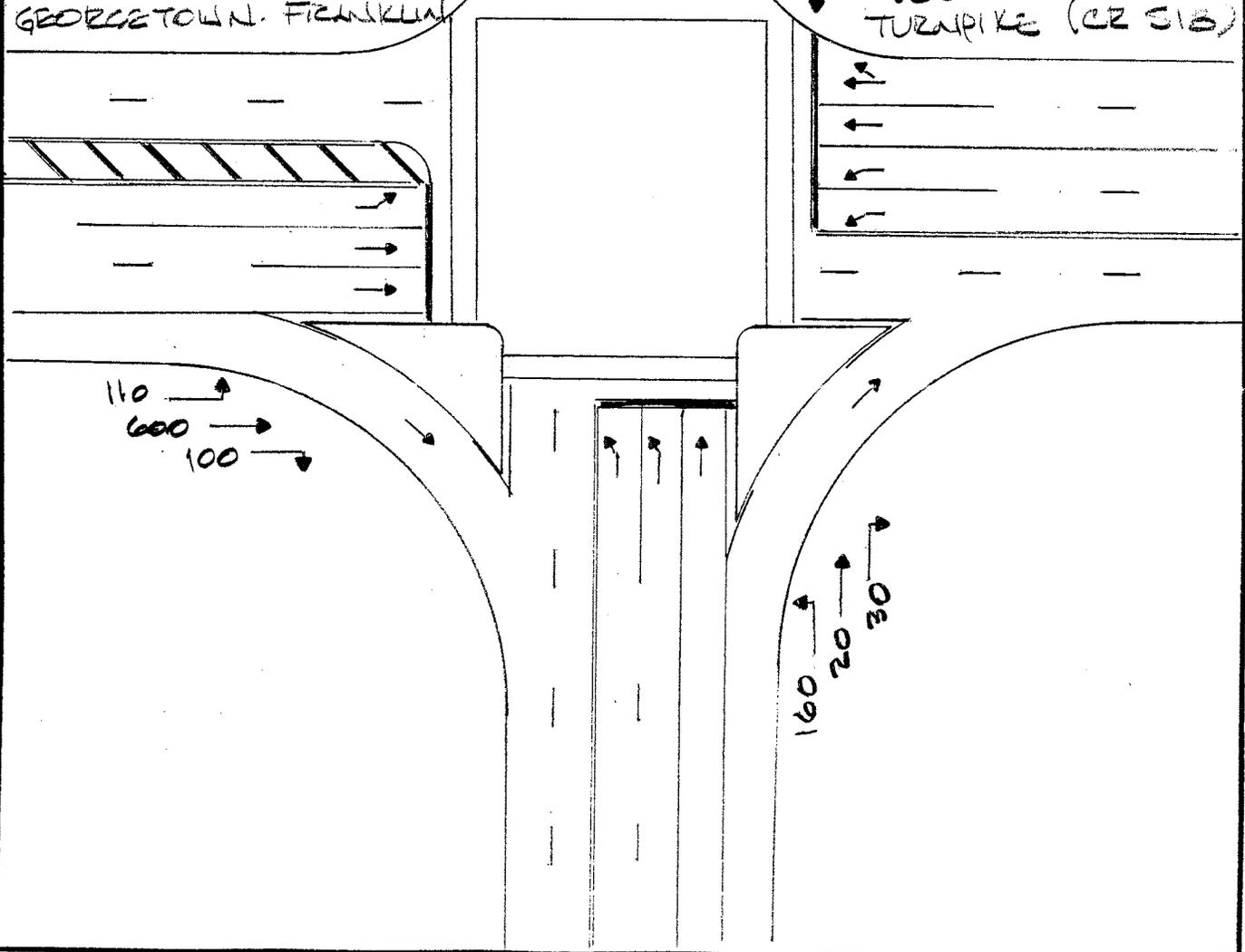
OVERALL LOS D

DELAY 35.3s

GEORGETOWN FRANKLIN

20
110
560

TURNPIKE (CR 513)





McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE DD 2-6

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 518 + DECHARD ROAD CONNECTOR / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



DECHARD ROAD CONNECTOR

120
20
150

DEVELOPMENT OPTION 2

P.M. PSH

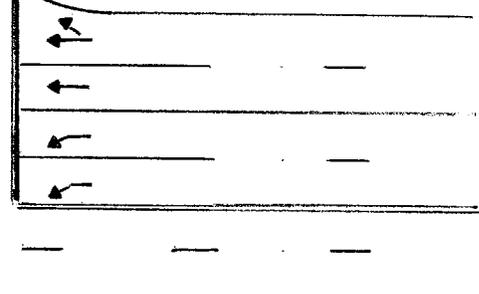
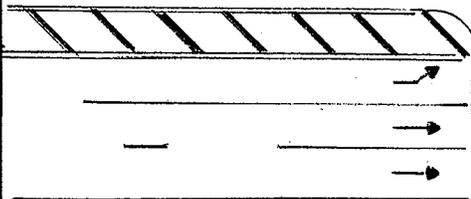
OVERALL LOS C

DELAY 30.8 s

100
550
80

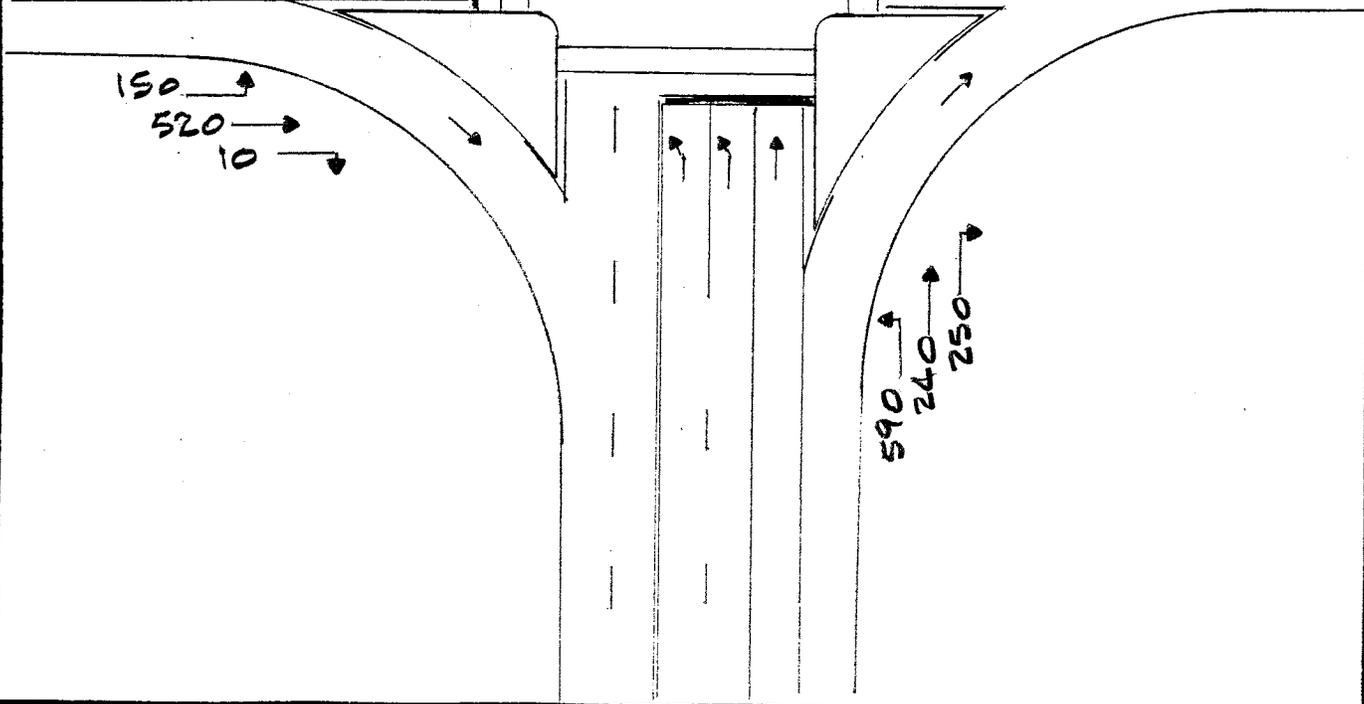
TURNPIKE (CR 518)

GEORGETOWN FRANKLIN



150
520
10

590
240
250



DEVELOPMENT OPTION III

LEVEL OF SERVICE SUMMARY

MONTGOMERY MASTER PLAN ROADS
MONTGOMERY TOWNSHIP, SOMERSET COUNTY
MRA Job N° 01-158

2013 FUTURE FULL BUILD OUT

DEVELOPMENT OPTION 3

ROUTE 518 & ROUTE 206

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB ROUTE 518	THRU	18.7s	B	33.2s	C
WB ROUTE 518	THRU-RIGHT	41.8s	D	18.9s	B
NB ROUTE 206	THRU-RIGHT	21.5s	C	40.1s	D
SB ROUTE 206	THRU	42.3s	D	27.3s	C
INTERSECTION	OVERALL	34.4s	C	31.4s	C

MASTER PLAN ROAD / PRINCETON NORTH SHOPPING CENTER & ROUTE 206

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB MASTER PLAN ROAD	LEFT	36.2s	D	38.0s	D
	THRU	35.0s	C	25.3s	C
	RIGHT	13.1s	B	65.2s	E
	APPROACH	17.4s	B	60.1s	E
WB SHOPPING CENTER	LEFT	41.0s	D	27.6s	C
	THRU-RIGHT	39.4s	D	27.6s	C
	APPROACH	40.2s	D	27.6s	C
NB ROUTE 206	LEFT	40.2s	D	38.3s	D
	THRU-RIGHT	4.2s	A	11.3s	B
	APPROACH	22.0s	C	19.6s	B
SB ROUTE 206	LEFT	22.9s	C	32.7s	C
	THRU	39.4s	D	29.5s	C
	RIGHT	18.2s	B	23.9s	C
	APPROACH	37.8s	D	28.8s	C
INTERSECTION	OVERALL	28.3s	C	34.5s	C

ROUTE 518 & MASTER PLAN ROAD / ORCHARD ROAD CONNECTOR

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB ROUTE 518	LEFT	35.3s	D	75.7s	E
	THRU	45.9s	D	39.2s	D
	RIGHT	21.8s	C	8.1s	A
	APPROACH	39.0s	D	45.8s	D
WB ROUTE 518	LEFT	62.0s	E	39.8s	D
	THRU-RIGHT	8.8s	A	21.9s	C
	APPROACH	55.3s	E	23.2s	C
NB MASTER PLAN ROAD	LEFT	42.0s	D	74.7s	E
	THRU	20.8s	C	15.5s	B
	RIGHT	5.1s	A	10.6s	B
	APPROACH	36.7s	D	42.8s	D
SB ORCHARD ROAD CONNECTOR	LEFT	33.5s	C	76.4s	E
	THRU-RIGHT	81.6s	F	32.1s	C
	APPROACH	74.8s	E	55.8s	E
INTERSECTION	OVERALL	53.3s	D	40.6s	D

LOS = level of service
s = average control delay per vehicle in seconds

<u>LOS</u>	<u>DELAY</u>
A	≤ 10.0s
B	>10.0s and ≤ 20.0s
C	>20.0s and ≤ 35.0s
D	>35.0s and ≤ 55.0s
E	>55.0s and ≤ 80.0s
F	≥ 80.0s



McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE 003.1

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & ROUTE 518

2013 FUTURE TRAFFIC



1430 (HASH ROUTE US 206)
↓

GEORGETOWN - FRANKLIN

DEVELOPMENT OPTION 3
ΔM PSH
OVERALL LOS C
DELAY 34.4 s

↑ 100

← 1320

TURBPIKE (CR 518)

680 →

VAN HORNE ROAD

↑ 760
→ 90



McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE D0 3.2

JOB No:
01 - 158

DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & ROUTE 518

2013 FUTURE TRAFFIC



(9025 SOUTH HIGHWAY)
1100

DEVELOPMENT OPTION 3
PM PSH
OVERALL LOS C
DELAY 31.4 s

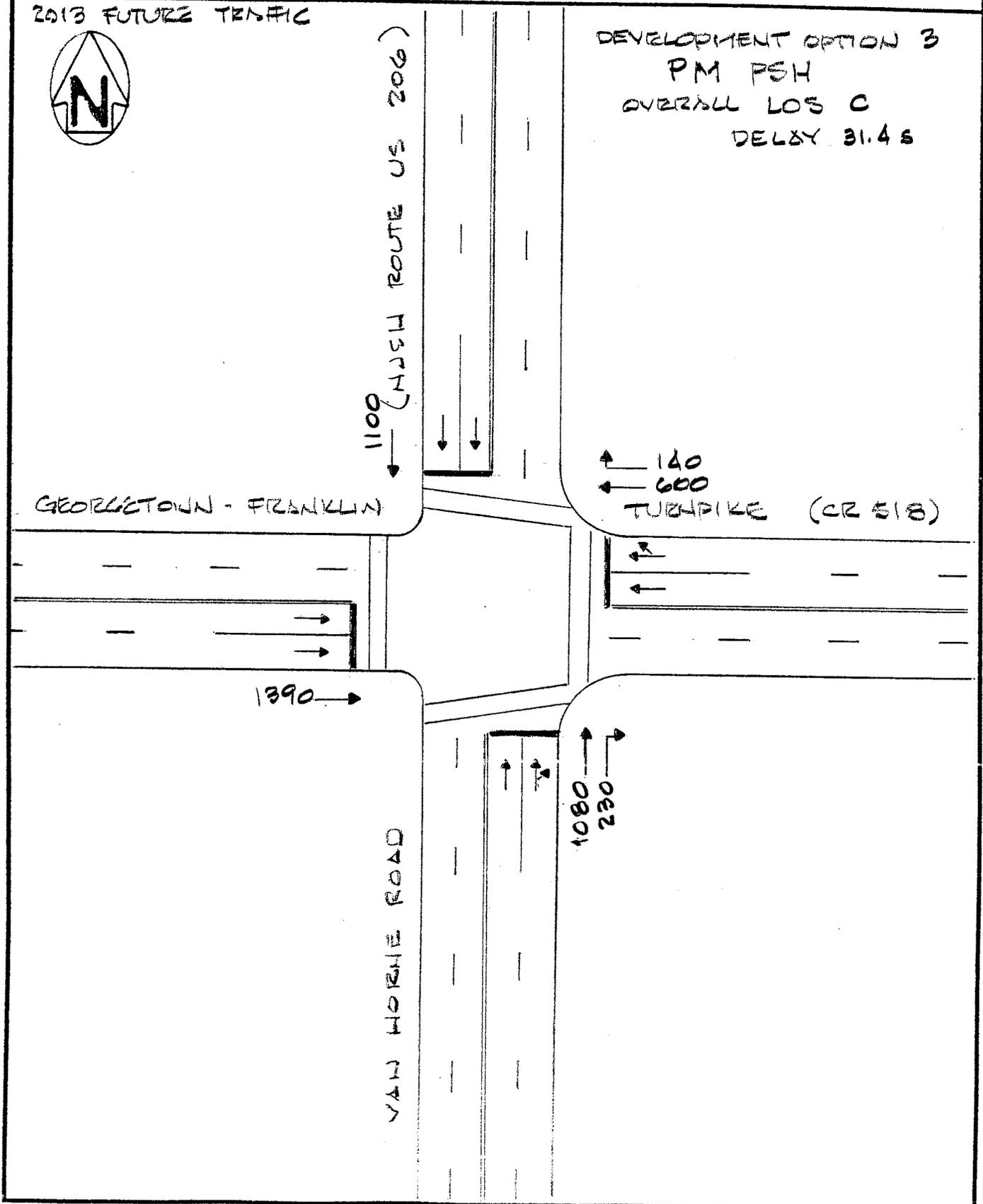
GEORGETOWN - FRANKLIN

140
600
TURNPIKE (CR 518)

1390

YAN HORNE ROAD

1080
230





McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE D03.3

JOB No:
01 - 158

DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & PRINCETON NORTH S.C./ MASTER PLAN ROAD

2013 FUTURE TRAFFIC



40
1080
60

DEVELOPMENT OPTION 3
Δ11 PSH
AVERAGE LOS C
DELAY 28.35

NJ SH ROUTE US 206

PRINCETON
NORTH
SHOPPING
CENTER

70
10
80

30
10
170

640
750
110

VAN HORN ROAD



McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE DD 3.4

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 + PRINCETON NORTH S.C. / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



130
680
60

DEVELOPMENT OPTION 3
P11 PSH
OVERALL LOS C
DELAY 34.5s

NJSH ROUTE US 206

PRINCETON
NORTH
100 SHOPPING
CENTER

100
10
90

200
20
990

510
1010
130

VAH HORNE ROAD



McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE 003-5

JOB No:

01-158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 513 + DECHAUD ROAD CONNECTOR / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



DECHAUD ROAD CONNECTOR

160
390
90

DEVELOPMENT OPTION 3

ΔM PSH

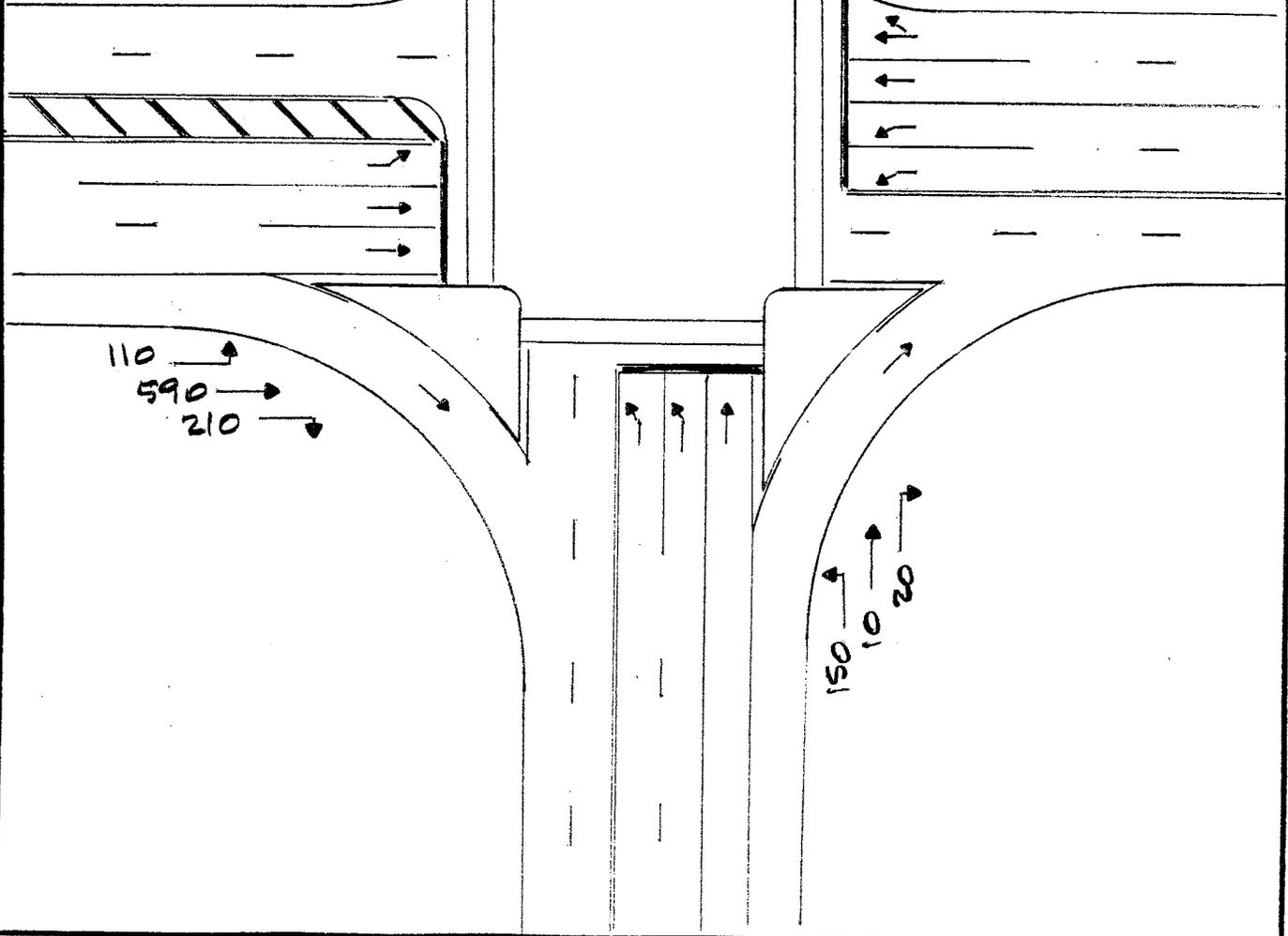
OVERALL LOS D

DELAY 99.36

GEORGETOWN FRANKLIN

20
110
910

TURNPIKE (CR 513)



110
590
210

150
10
20



McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE DD3.6

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 513 + DECHAUD ROAD CONNECTOR / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



DECHAUD ROAD CONNECTOR

120
10
150

DEVELOPMENT OPTION 3

P.M. PSH

OVERALL LOS D

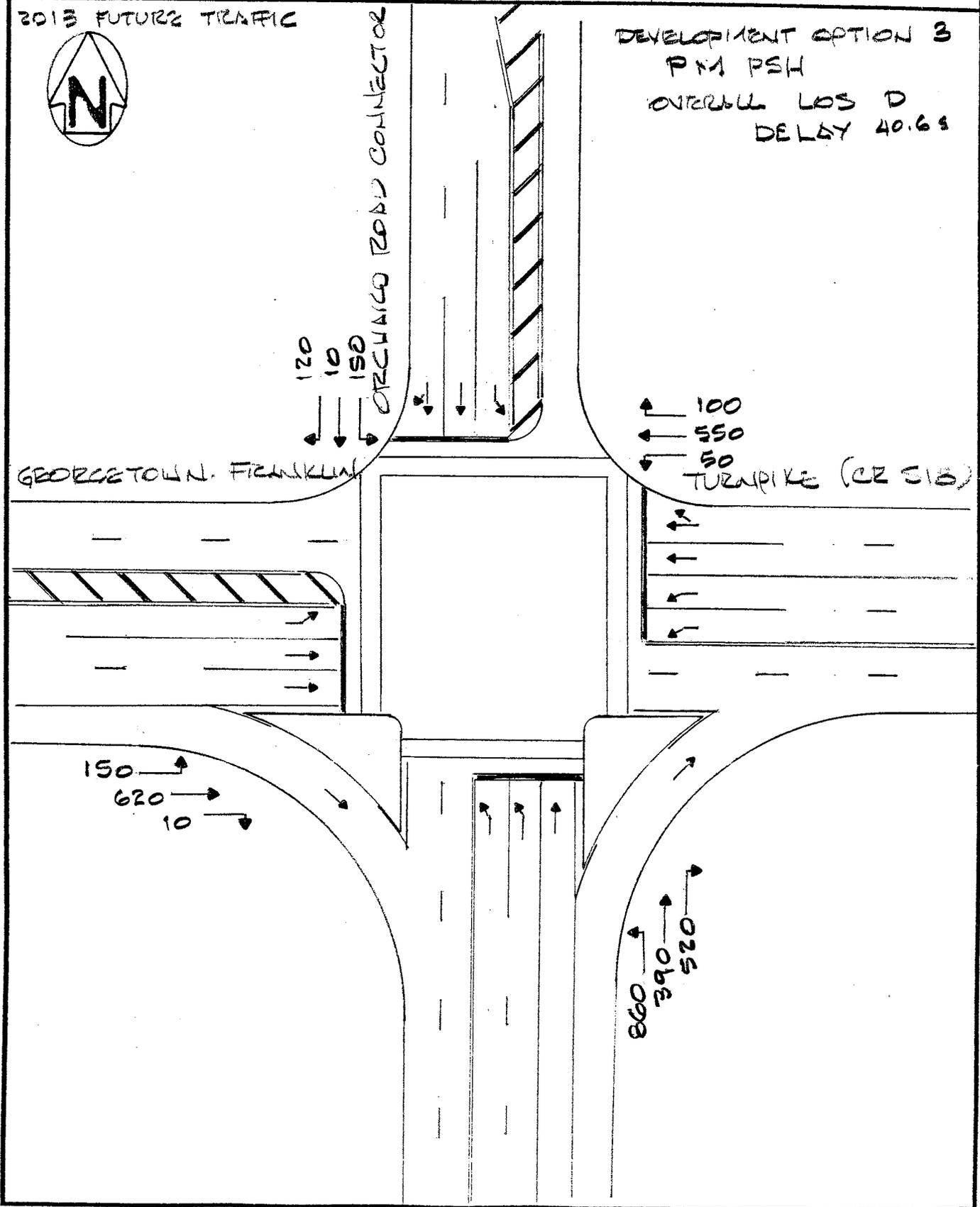
DELAY 40.6s

GEORGETOWN FRANKLIN

100
550
50
TURNPIKE (CR 513)

150
620
10

860
390
520



DEVELOPMENT OPTION IV

LEVEL OF SERVICE SUMMARY

MONTGOMERY MASTER PLAN ROADS
MONTGOMERY TOWNSHIP, SOMERSET COUNTY
MRA Job N° 01-158

2013 FUTURE FULL BUILD OUT

DEVELOPMENT OPTION 4

ROUTE 518 & ROUTE 206

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB ROUTE 518	THRU	18.7s	B	45.1s	D
WB ROUTE 518	THRU-RIGHT	69.4s	E	19.0s	B
NB ROUTE 206	THRU-RIGHT	21.5s	C	40.1s	D
SB ROUTE 206	THRU	42.3s	D	27.3s	C
INTERSECTION	OVERALL	44.0s	D	35.3s	D

MASTER PLAN ROAD / PRINCETON NORTH SHOPPING CENTER & ROUTE 206

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB MASTER PLAN ROAD	LEFT	36.2s	D	38.0s	D
	THRU	35.0s	C	25.3s	C
	RIGHT	13.1s	B	93.9s	F
	APPROACH	17.3s	B	84.2s	F
WB SHOPPING CENTER	LEFT	41.0s	D	27.6s	C
	THRU-RIGHT	39.4s	D	27.6s	C
	APPROACH	40.2s	D	27.6s	C
NB ROUTE 206	LEFT	52.0s	D	38.8s	D
	THRU-RIGHT	4.2s	A	11.3s	B
	APPROACH	29.0s	C	19.9s	B
SB ROUTE 206	LEFT	22.9s	C	32.7s	C
	THRU	39.4s	D	29.5s	C
	RIGHT	18.2s	B	23.9s	C
	APPROACH	37.8s	D	28.8s	C
INTERSECTION	OVERALL	31.9s	C	42.9s	D

ROUTE 518 & MASTER PLAN ROAD / ORCHARD ROAD CONNECTOR

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB ROUTE 518	LEFT	35.3s	D	50.4s	D
	THRU	45.9s	D	32.6s	C
	RIGHT	23.1s	C	8.1	A
	APPROACH	38.2s	D	35.6	D
WB ROUTE 518	LEFT	110.0s	F	40.0s	D
	THRU-RIGHT	8.8s	A	18.8s	B
	APPROACH	98.5s	F	20.6s	C
NB MASTER PLAN ROAD	LEFT	42.7s	D	213.5	F
	THRU	20.9s	C	19.4	B
	RIGHT	5.1s	A	15.6	B
	APPROACH	35.2s	D	110.4	F
SB ORCHARD ROAD CONNECTOR	LEFT	33.6s	C	88.7	F
	THRU-RIGHT	135.8s	F	32.2	C
	APPROACH	122.8s	F	61.4	E
INTERSECTION	OVERALL	80.3s	F	73.8	E

LOS = level of service
s = average control delay per vehicle in seconds

<u>LOS</u>	<u>DELAY</u>
A	≤ 10.0s
B	>10.0s and ≤ 20.0s
C	>20.0s and ≤ 35.0s
D	>35.0s and ≤ 55.0s
E	>55.0s and ≤ 80.0s
F	≥ 80.0s



McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE D04-1

JOB No:

01-158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & ROUTE 518

2013 FUTURE TRAFFIC



1430
↑ (HIGH ROUTE US 206)
↓

GEORGETOWN - FRANKLIN

DEVELOPMENT OPTION A
ΔM PSH
OVERALL LOS D
DELAY 44.0 S

↑ 100
↓ 1420

TURNDPIKE (CR 518)

680 →

VAN HORNE ROAD

↑ 760
↓ 90



McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE 004-2

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & ROUTE 518

2013 FUTURE TRAFFIC



1100
(HIGH ROUTE US 206)

GEORGETOWN - FRANKLIN

DEVELOPMENT OPTION 4
PM PSH
OVERALL LOS D
DELAY 79.3 s

140
610

TURNDPIKE (CR 518)

1500

VAN HORNE ROAD

1080
290



McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE 004-3

JOB No:
01 - 158

DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & PRINCETON NORTH S.C./ MASTER PLAN ROAD

2013 FUTURE TRAFFIC



40
1080
60

DEVELOPMENT OPTION 4
A11 PSH
OVERALL LOS C
DELAY 31.9s

NJSH ROUTE US 206

PRINCETON
NORTH
SHOPPING
CENTER

70
10
80

30
10
180

930
750
110

VAN HORNE ROAD



McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE D04-4

JOB No:

01 - 158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & PRINCETON NORTH S.C./ MASTER PLAN ROAD

2013 FUTURE TRAFFIC



130
680
60

DEVELOPMENT OPTION 4

PM PSH

AVERAGE LOS 0

DELAY 42.96

NJSH ROUTE US 206

PRINCETON
NORTH

100 SHOPPING
10 CENTER
90

200
20
1070

520
1010
130

VAN HORN ROAD



McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE D04.5

JOB No:

01-158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 518 + DECHAUD ROAD CONNECTOR / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



DECHAUD ROAD CONNECTOR

160
460
90

DEVELOPMENT OPTION 4

AM PSH

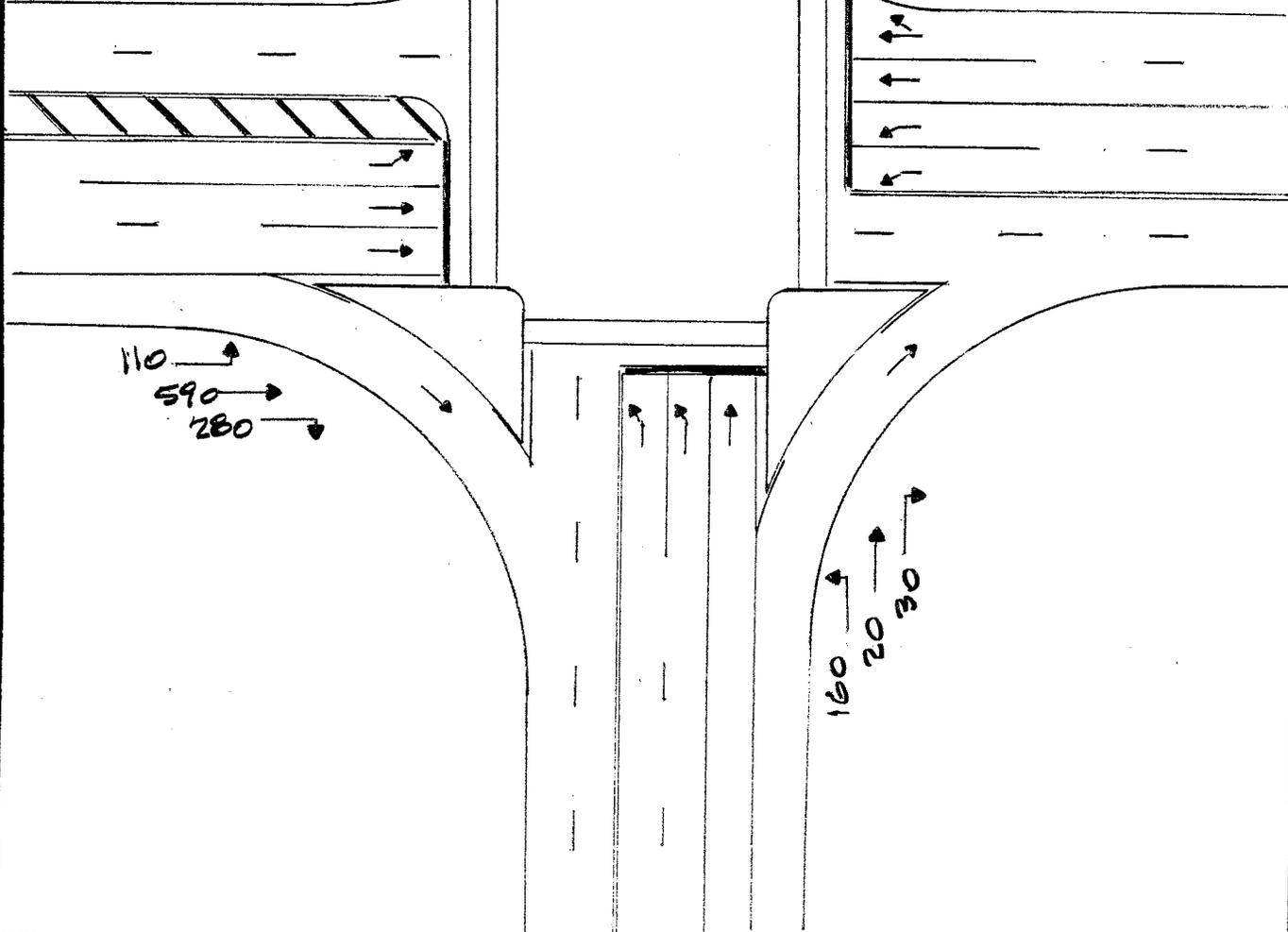
OVERALL LOS F

DELAY 80.3s

GEORGETOWN FRANKLIN

20
110
1010

TURNPIKE (CR 518)





McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

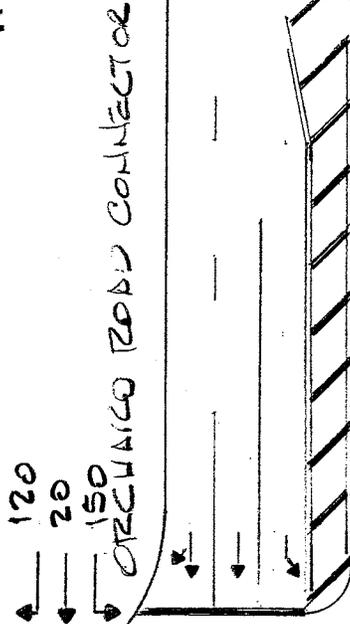
FIGURE D04.6

JOB No:
01-158

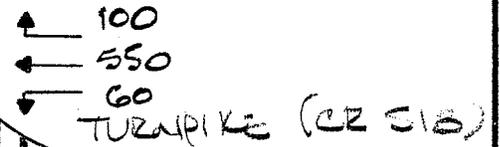
DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 518 + DEERHARD ROAD CONNECTOR / MASTER PLAN ROAD

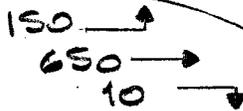
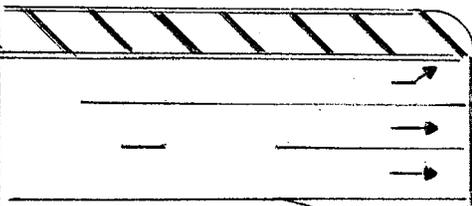
2013 FUTURE TRAFFIC



DEVELOPMENT OPTION A
P.M. PSH
OVERALL LOS E
DELAY 73.8s



GEORGETOWN FRANKLIN



EXISTING ZONING

LEVEL OF SERVICE SUMMARY

MONTGOMERY MASTER PLAN ROADS
MONTGOMERY TOWNSHIP, SOMERSET COUNTY
MRA Job N° 01-158

2013 FUTURE FULL BUILD OUT

EXISTING ZONING

ROUTE 518 & ROUTE 206

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB ROUTE 518	THRU	18.7s	B	27.4s	C
WB ROUTE 518	THRU-RIGHT	33.5s	C	18.3s	B
NB ROUTE 206	THRU-RIGHT	21.5s	C	40.1s	D
SB ROUTE 206	THRU	46.9s	D	27.8s	C
INTERSECTION	OVERALL	33.3s	C	29.9s	C

MASTER PLAN ROAD / PRINCETON NORTH SHOPPING CENTER & ROUTE 206

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB MASTER PLAN ROAD	LEFT	35.6s	D	32.9s	C
	THRU	35.0s	C	25.3s	C
	RIGHT	12.8s	B	48.6s	D
	APPROACH	16.6s	B	45.6s	D
WB SHOPPING CENTER	LEFT	41.0s	D	27.6s	C
	THRU-RIGHT	39.4s	D	27.6s	C
	APPROACH	40.2s	D	27.3s	C
NB ROUTE 206	LEFT	36.4s	D	33.7s	C
	THRU-RIGHT	4.2s	A	11.6s	B
	APPROACH	19.5s	B	17.0s	B
SB ROUTE 206	LEFT	22.9s	C	34.0s	C
	THRU	39.4s	D	30.4s	C
	RIGHT	18.8s	B	23.3s	C
	APPROACH	37.4s	D	29.7s	C
INTERSECTION	OVERALL	27.1s	C	28.5s	C

ROUTE 518 & MASTER PLAN ROAD / ORCHARD ROAD CONNECTOR

		AM PSH		PM PSH	
		<u>DELAY</u>	<u>LOS</u>	<u>DELAY</u>	<u>LOS</u>
EB ROUTE 518	LEFT	35.0s	C	67.7s	E
	THRU	49.3s	D	36.2s	D
	RIGHT	20.7s	C	8.1s	A
	APPROACH	42.4s	D	42.4s	D
WB ROUTE 518	LEFT	38.3s	D	39.8s	D
	THRU-RIGHT	8.8s	A	21.5s	C
	APPROACH	34.6s	C	22.9s	C
NB MASTER PLAN ROAD	LEFT	42.0s	D	48.4s	D
	THRU	20.8s	C	15.0s	B
	RIGHT	5.1s	A	9.5s	A
	APPROACH	36.7s	D	30.1s	C
SB ORCHARD ROAD CONNECTOR	LEFT	33.9s	C	50.7s	D
	THRU-RIGHT	63.7s	E	32.1s	C
	APPROACH	58.9s	E	41.4s	D
INTERSECTION	OVERALL	43.3s	D	32.3s	C

	<u>LOS</u>	<u>DELAY</u>
LOS = level of service	A	≤ 10.0s
s = average control delay per vehicle in seconds	B	>10.0s and ≤ 20.0s
	C	>20.0s and ≤ 35.0s
	D	>35.0s and ≤ 55.0s
	E	>55.0s and ≤ 80.0s
	F	≥ 80.0s



McDONOUGH & REA ASSOCIATES
 TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE E2 - 1

JOB No:
 01 - 158

DATE:
 JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
 ROUTE 206 & ROUTE 518

2013 FUTURE TRAFFIC



1460
 (HIGH ROUTE US 206)
 ↓

GEOGETOWN - FRANKLIN

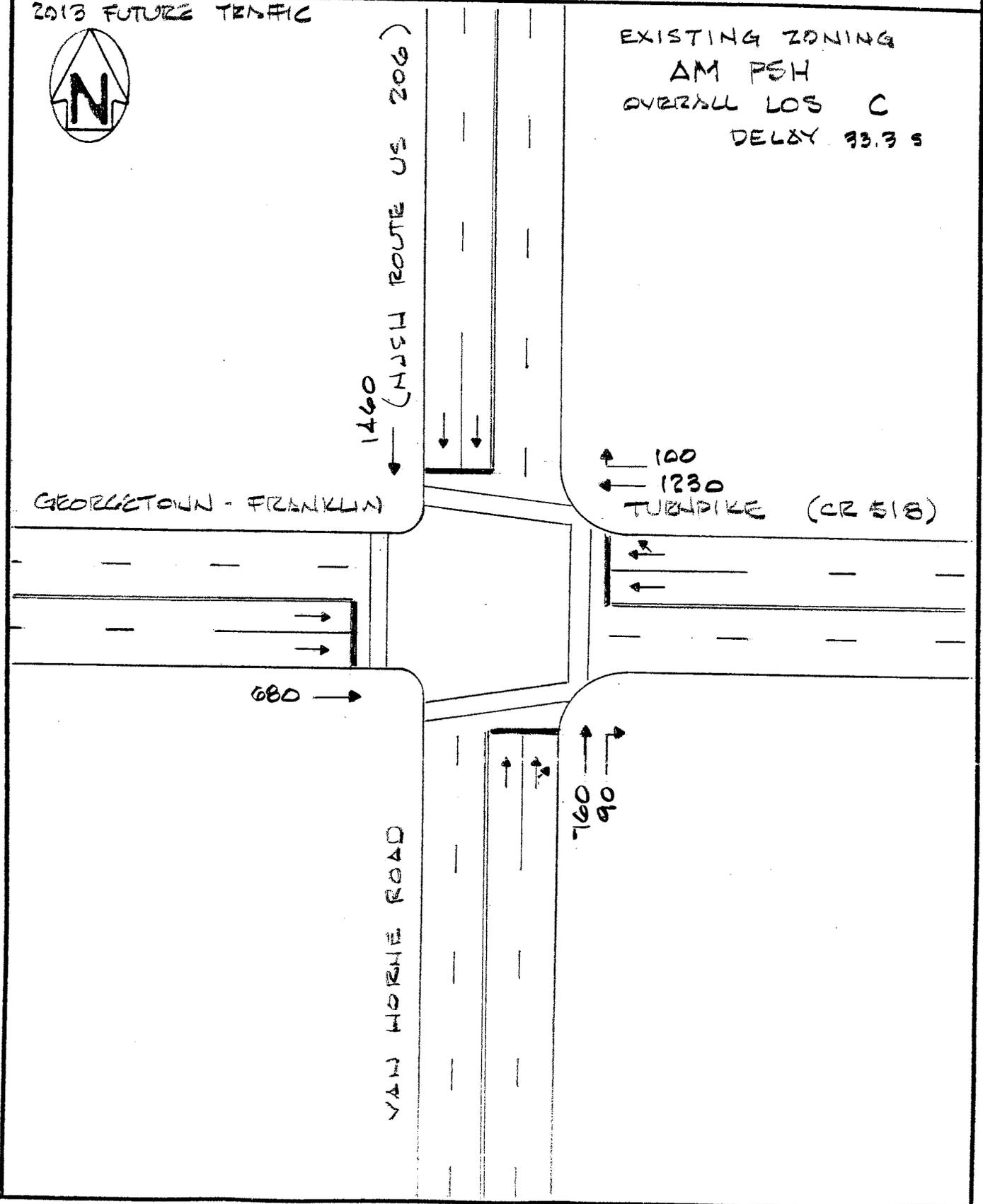
EXISTING ZONING
 AM PSH
 OVERALL LOS C
 DELAY 93.3 s

100
 1230
 TURNPIKE (CR 518)

680 →

VAN HORNE ROAD

160
 90





McDONOUGH & REA ASSOCIATES

TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE EZ-2

JOB No:

01-158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 206 & ROUTE 518

2013 FUTURE TRAFFIC



1120
↑ (HIGH ROUTE US 206)
↓

GEORGETOWN - FRANKLIN

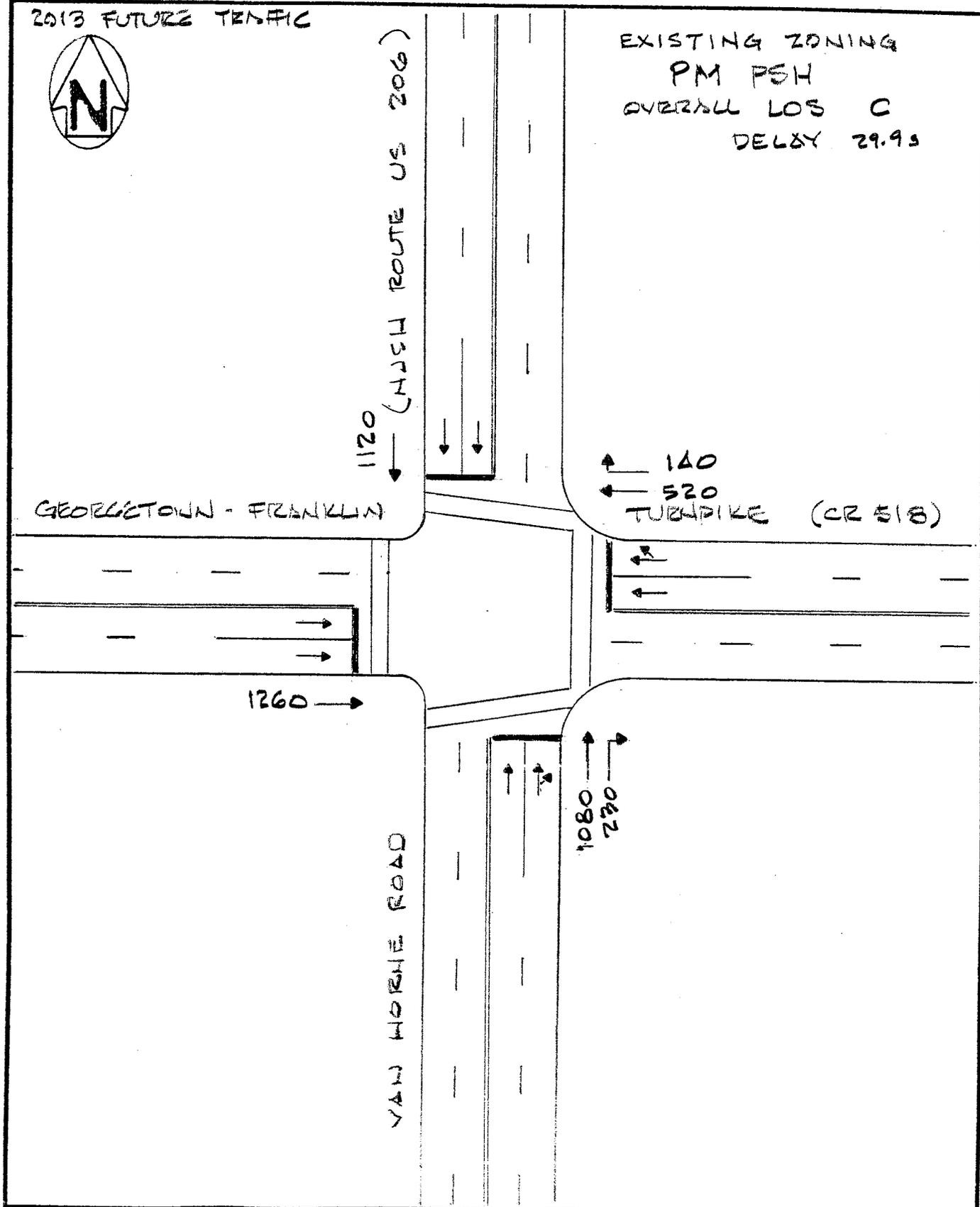
EXISTING ZONING
PM PSH
OVERALL LOS C
DELAY 29.9s

↑ 140
← 520
TURBPIKE (CR 518)

1260 →

YAN HORNE ROAD

↑ 1080
↓ 730





McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE EZ-3

JOB No:
01-158

DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 200 & PRINCETON NORTH S.C./ MASTER PLAN ROAD

2013 FUTURE TRAFFIC



70
1080
60

EXISTING ZONING
Δ14 PSH
OVERALL LOS C
DELAY 27.1s

NORTH ROUTE US 200

PRINCETON
NORTH

70 SHOPPING
10 CENTER
80

20
10
150

780
750
110

VAN HORN ROAD



McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE EZ-4

JOB No:
01-158

DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 200 & PRINCETON NORTH S.C./ MASTER PLAN ROAD

2013 FUTURE TRAFFIC



110
720
60

EXISTING ZONING
P14 PSH
OVERALL LOS C
DELAY 28.5s

NJSH ROUTE US 200

PRINCETON

NORTH

100 SHOPPING
10
90
CENTER

160
20
820

380
1050
130

VAN HORN ROAD



McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

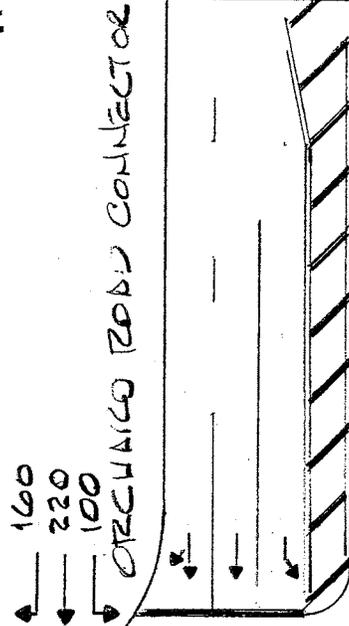
FIGURE E2-5

JOB No:
01 - 158

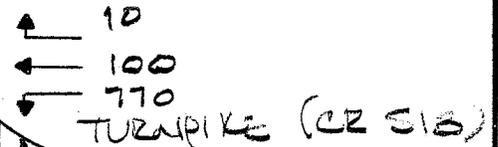
DATE:
JUNE 2003

SUBJECT: MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 513 + ORCHARD ROAD CONNECTOR / MASTER PLAN ROAD

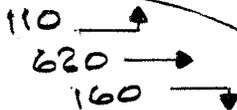
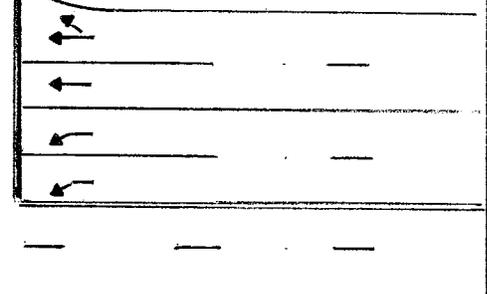
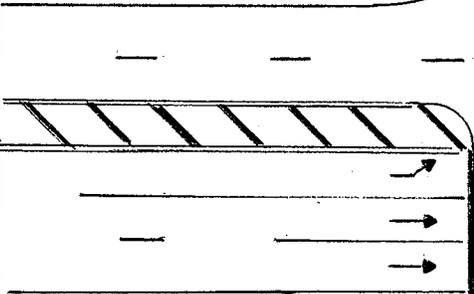
2013 FUTURE TRAFFIC



EXISTING ZONING
AM PEH
OVERALL LOS D
DELAY 43.3s



GEORGETOWN FRANKLIN





McDONOUGH & REA ASSOCIATES
TRAFFIC AND TRANSPORTATION CONSULTING

FIGURE E-6

JOB No:

01-158

DATE:

JUNE 2003

SUBJECT:

MASTER PLAN ROADS - MONTGOMERY TOWNSHIP
ROUTE 518 + DECHAUD ROAD CONNECTOR / MASTER PLAN ROAD

2013 FUTURE TRAFFIC



DECHAUD ROAD CONNECTOR

120
10
130

EXISTING ZONING
PK1 PSH
OVERALL LOS C
DELAY 32.3s

GEORGETOWN FRANKLIN

60
550
50
TURPIKE (OR 518)

150
550
10

770
350
480

