ORIGINAL

BELLSOUTH TELECOMMUNICATIONS, INC.

DIRECT TESTIMONY OF MIGUEL F. RODRIGUEZ,

LOUIS A. CABAN, ROBERT COOK, AND GUY REAM

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NOS. 980946-TL, 980947-TL, 980948-TL, 981011-TL,

981012-TL, AND 981250-TL

APRIL 9, 1999

Q. PLEASE STATE YOUR NAME, COMPANY NAME, AND ADDRESS.

A. MIGUEL F. RODRIGUEZ (North Dade Golden Glades and Miami Palmetto)

My name is Miguel F. Rodriguez. I am employed by BellSouth Telecommunications, Inc. as a Common Systems Capacity Manager - Network Operations. My business address is 18560 N.W. 27th Avenue, Miami, Florida 33056.

LOUIS A. CABAN (Boca Raton Boca Teeca)

My name is Louis A. Caban. I am employed by BellSouth Telecommunications, Inc. as a Common Systems Capacity Manager - Network Operations. My business address is

6451 North Federal Highway, Ft. Lauderdale, Florida 33308.

ROBERT COOK (Daytona Beach Port Orange and Lake Mary)

My name is Robert Cook. I am employed by BellSouth Telecommunications, Inc. as a Common Systems Capacity Manager - Network Operations. My business address is 301 W. Bay Street Jacksonville, Florida 32202.

GUY REAM (West Palm Beach Gardens)

My name is Guy Ream. I am employed by BellSouth Telecommunications, Inc. as a Common Systems Capacity Manager - Network Operations. My business address is 6451 North Federal Highway, Ft. Lauderdale, Florida 33308.

Q. HAVE YOU TESTIFIED PREVIOUSLY? IF SO, BRIEFLY DESCRIBE THE SUBJECT OF YOUR TESTIMONY.

A. MIGUEL F. RODRIGUEZ (North Dade Golden Glades and Miami Palmetto), LOUIS A. CABAN (Boca Raton Boca Teeca), and ROBERT COOK (Daytona Beach Port Orange and Lake Mary)

No, we have not testified previously in any proceedings.

GUY REAM (West Palm Beach Gardens)

Yes. I testified in Docket No. 980800-TP concerning Supra Telecommunications Inc.'s request for collocation in the West Palm Beach Gardens Central Office.

Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.

A. MIGUEL F. RODRIGUEZ (North Dade Golden Glades and Miami Palmetto)

I graduated from Fordham University in New York City in 1979 with a BS in Psychology. I began employment with Southern Bell in 1980 as a Customer Service Representative. In 1983, I accepted a position as a Special Services Technician working in the downtown Miami area. In 1986, I transferred to the Switching Control Center located in the Miami Shores area and worked as an Electronic Technician responsible for trunk translations in several 1AESS Central Offices and both North Dade Golden Glades Tandem switches

(01T & 04T). In 1988, I was promoted to Central Office Supervisor of the Miami Grande Central Office in downtown Miami where I performed my duties until 1996. At that time, I was again promoted to the Capacity Management organization. I performed circuit capacity management for a period of three months before changing over to the switching capacity management group. I remained in switching capacity management until December 31, 1997, at which time I resigned from BellSouth to pursue other career interests. In October 1998, I rejoined BellSouth Capacity Management as a Common Systems Capacity Manager.

LOUIS A. CABAN (Boca Raton Boca Teeca)

I graduated from The City College of New York in 1973 with a Bachelor of Electrical Engineering degree. I have a Masters Degree in Business from Nova Southeast University. I also have a Masters Certificate in Project Management from George Washington University. I am a member of the Institute of Electrical and Electronics Inc. and Project Management Institute. I have an Engineering Intern License from the State of Florida.

I began my Telephone career as a Detail Toll Equipment Engineer with Design Services in 1966. I also worked for Western Electric as an Equipment Engineer and for GTE in their materials laboratory. In 1971, I began working for New York Telephone Company as a Switch Equipment Engineer, and transferred to BellSouth in 1973. I have worked for BellSouth in various positions (Circuit Design, Equipment Engineering, Facility Planning) for the last two years I have been a Common Systems Capacity Manager. I monitor and coordinate plans for equipment additions or removals in 12 central offices.

ROBERT COOK (Daytona Beach Port Orange and Lake Mary)

I began my Telecommunications employment with Michigan Bell in 1970 as a Technical Assistant in Network Engineering and was promoted to Engineer in 1974. In 1978 I transferred to BellSouth Telecommunications, Inc., Florida. I have held various positions in switch, circuit, power, and common systems planning and engineering. Currently I'm the Common Systems Capacity Manager for the 21

Central Offices in the south Daytona and Orlando area.

GUY REAM (West Palm Beach Gardens)

I began employment with Bell Telephone Laboratories in 1966 as a technician. I relocated to Florida and began working for BellSouth in 1972 as central office craft employee. In 1984 I was promoted to management in the Network department. I have held various positions in circuit design, equipment planning and ordering and for the last four years I have been a Common Systems Capacity Manager. I monitor and coordinate plans for equipment additions or removals in 12 central offices.

Q. WHAT IS THE PURPOSE OF THE PANEL TESTIMONY?

The purpose of our testimony is to provide specific information concerning the placement of equipment within the Daytona Beach Port Orange, Boca Raton Boca Teeca, Miami Palmetto, West Palm Beach Gardens, North Dade Golden Glades and Lake Mary central offices. This testimony will also discuss what factors should be considered by the Commission in making its

determination of BellSouth's requirement to provide physical collocation in these six offices.

ISSUE 2: WHAT FACTORS SHOULD BE CONSIDERED BY THE COMMISSION IN MAKING ITS DETERMINATION ON BELLSOUTH'S PETITIONS FOR WAIVER AND TEMPORARY WAIVER OF THE REQUIREMENT TO PROVIDE PHYSICAL COLLOCATION FOR THE FOLLOWING CENTRAL OFFICES:

a) Daytona Beach Port Orange

b) Boca Raton Boca Teeca

c) Miami Palmetto

d) West Palm Beach Gardens

e) North Dade Golden Glades

f) Lake Mary

Q. PLEASE EXPLAIN THE RESPONSIBILITIES OF A COMMON SYSTEMS CAPACITY MANAGER?

A. The Common Systems Capacity Manager (CSCM) maintains the building study plans that define growth strategy for all classes of central office equipment. He also maintains the central office profile, which in general terms, describes the building study plan. Both documents reflect a snapshot in time and are

continually changing. Additionally, the CSCM works closely with Property and Services Management (P&SM) in the layout of Central Office space for physical collocation.

Q. WHAT INFORMATION DOES COMMON SYSTEMS CAPACITY MANAGER USE TO PERFORM HIS DUTIES?

A. Common Systems Capacity Managers receive requests for space in numbers of "bays" of equipment or miscellaneous equipment that fit into existing bays. He also receives applications requesting space for physical collocation.

Q. FROM WHERE DOES THE COMMON SYSTEM CAPACITY MANAGER RECEIVE INFORMATION TO PERFORM HIS DUTIES?

A. The Common Systems Capacity Manager receives information from Switch, Circuit and Power Capacity Managers, the Regional Planning & Engineering Center (RPEC), among other BST organizations, as well as the Interconnection Sales group.

Q. PLEASE EXPLAIN HOW A COMMON SYSTEMS CAPACITY MANAGER USES THE INFORMATION HE RECEIVES TO PERFORM HIS DUTIES?

A. Once the Common Systems Capacity Manager receives equipment demands or projections from the parties noted above, he then updates the office study plan and office profile so the installation vendor can install the appropriate equipment in the proper place in the Central Office. This information is also used to trigger building additions, air conditioning upgrades and other miscellaneous space related concerns. The office profile contains the collocation space layout.

Q. WHAT EQUIPMENT IS LOCATED IN THE NORTH DADE GOLDEN GLADES CENTRAL OFFICE (MIGUEL RODRIGUEZ)?

A. The North Dade Golden Glades office contains two access tandem switches that support trunking for all of Dade County and parts of South Broward County. An operator services tandem switch is also located in this office, along with a local switch that provides basic local service to subscribers located in the North Dade Golden Glades exchanges. Additionally, a

Signal Transfer Point (STP) switch is located in this office. They are utilized in the routing of tandem traffic. The office also houses various circuit, transmission, and power equipment. Currently, there is one working virtual collocation arrangement in the North Dade Golden Glades central office, with seven (7) more pending as of this date.

Q. BELLSOUTH HAS RESERVED 3,403.5 SQUARE FEET IN THE NORTH DADE GOLDEN GLADES CENTRAL OFFICE FOR FUTURE GROWTH. WHAT JUSTIFICATION DO YOU HAVE FOR RESERVING THIS AMOUNT OF SPACE (MIGUEL RODRIGUEZ)?

A. The 3,403.5 square feet in the office are distributed across the North Dade Golden Glades central office in ten specific locations on two floors, ranging from as small as 114 square feet to as large as 661 square feet. The following describes each of these areas:

First Floor

(1) **276 square feet** have been reserved for the addition of a Tellabs Titan 5500 digital cross connect system (Loc. A on Exhibit CSCM Panel-1, Page 1 of 2). The initial installation will

require fourteen (14) equipment bays and five (5) DSX (Digital Signal Cross Connect) bays (installed where the existing DSX is in the office). This installation is currently in progress. This equipment utilizes the integrated ground plane.

(2) **135 square feet** have been reserved as unusable due to the ground plane restrictions required to separate integrated ground from the existing DMS switch located in this area, which utilizes an isolated ground (Loc. B on Exhibit CSCM Panel-1, Page 1 of 2).

(3) **674 square feet** have been reserved for switch growth of the 04T tandem and the 03T operator services tandem (Loc. C1 & C2 on Exhibit CSCM Panel-1, Page 1 of 2). 143 square feet (Loc. C1 on Exhibit CSCM Panel-1, Page 1 of 2) represents eight (8) equipment bays for the 04T Tandem. Five of these are to be installed in 1999 and three are planned for 2000. The remaining 531 square feet is located in the Southwest area of the office (Loc. C2 on Exhibit CSCM Panel-1, Page 1 of 2) and is reserved for eight (8) more

equipment bays for the 04T Tandem in the year 2000 and eleven (11) equipment bays in the year 2001. Two (2) additional bays of STP (Signal Transfer Point) equipment have also been forecasted for the years 1999 and 2000. The 03T Tandem has grown at a rate of two (2) equipment bays per year and space for six (6) bays has been reserved for the period 1999-2001 within this 531 square foot area. This represents a 2-3 year growth. Switch growth cannot be intermingled with circuit growth due to the ground plane restrictions noted earlier in this testimony. Therefore, this space is not suitable for physical collocation.

(4) **14 square feet** are scattered throughout the office suitable for four (4) additional switch equipment bays.

(5) **127 square feet** are located in the Southeast corner of the building (Loc. D on Exhibit CSCM Panel-1, Page 1 of 2). This space has been reserved for a future elevator shaft that will be used to deliver switching equipment to the second, or even future third floor, of this

facility, thereby eliminating the need to 'crane' everything up.

(6) **404 square feet** are located in the Southwest area of the office (Loc. E on CSCM Panel-1, Page 1 of 2). This space has been reserved for the addition of a larger 1200KW diesel engine to replace the existing 750KW engine, which is necessary to ensure emergency power for this office in the event of a commercial power failure. This item is scheduled for completion in June 2000, before the beginning of hurricane season. The existing engine is nearing exhaust capacity for the power needed to run the equipment in this office. This area was previously filled by an old air handler unit that was removed and replaced with a larger one to the North of it to meet air conditioning requirements resulting from the increased heat loads generated by the large volume of equipment added.

(7) **811.5 square feet** are scattered throughout the office in the area reserved for future toll equipment (Loc. F, G & H on Exhibit CSCM Panel-

1, Page 1 of 2). This space is reserved for future toll equipment, which requires an integrated ground. The fact that much of this space is not contiguous in nature, makes it unsuitable for physical collocation under the present guidelines.

(8) **255.5 square feet** are scattered throughout the Northwest section of the office in an area reserved for toll equipment. Some of this space is unusable due to overhead cable rack congestion.

This accounts for a total of **2,562 square feet** reserved on the first floor of the North Dade Golden Glades central office. In each of the areas identified above, the unoccupied space is adjacent to a type of technology that continues to grow and is planned to be utilized by BellSouth in the next two years.

Second Floor

On the second floor of this facility, there is a 01T Tandem and the local DS0 switch. **841.5 square feet**

of space (in three different areas: one area represents 19 scattered openings due to the LM to LCM conversion) have been reserved for the growth of these two switches.

(9) **661 square feet**, reserved for growth of the 01T Tandem, are shown in Loc. A2 on Exhibit CSCM Panel-1, Page 2 of 2. This area will probably exhaust before end of year 1999 due to unforecasted demand. **114 square feet**, also reserved for growth of the 01T Tandem, are reflected in Loc. B2 on Exhibit CSCM Panel-1, Page 2 of 2. Most of the activity on the local switch has been a Line Module (LM) to Line Controller Module (LCM) conversion to support custom calling features such as caller ID. These new equipment bays have an "intelligence" portion that the old modules did not have.

(10) **66.5 square feet** (19 bays x 3.5 sq. ft.) of empty bays are scattered throughout the local switch as a result of this conversion. These will be replaced with additional bays for the local switch, as demand and future growth requires it. In any event, these areas would be

unsuitable for any physical collocation under the present guidelines BellSouth follows for physical collocation. They are located in an isolated ground plane environment and are not contiguous. Fourteen (14) bays of growth for the year 2000 and fourteen (14) bays of growth for the year 2001 have been reserved for the 01T Tandem on the second floor. So far, this year's demand and unforecasted growth have exceeded our expectations and this proposed growth might have to be increased to meet additional demands by the end of the year.

This accounts for the total **841.5 square feet** reserved on the second floor for growth.

The **2,562 square feet** reserved on the first floor, along with the **841.5 square feet** reserved on the second floor, reflect the total space of **3,403.5 square feet** reserved in this office.

Q. WHAT EQUIPMENT IS LOCATED IN THE MIAMI PALMETTO CENTRAL OFFICE (MIGUEL RODRIGUEZ)?

A. The Miami Palmetto Central office is a single story building that contains a digital switch serving predominantly commercial traffic for this area. It also contains various types of transmission and circuit equipment, as well as power equipment. Presently, there are three physical collocation arrangements present in the Miami Palmetto central office and one working Virtual Collocator, with applications pending for four more as of this date.

Q. BELLSOUTH HAS RESERVED 3,580.5 SQUARE FEET IN THE MIAMI PALMETTO CENTRAL OFFICE FOR FUTURE GROWTH. WHAT JUSTIFICATION DO YOU HAVE FOR RESERVING THIS AMOUNT OF SPACE (MIGUEL RODRIGUEZ)?

A. The 3,580.5 square feet in the office are distributed across the central office in seven (7) separate locations, ranging from as small as 49 square feet to as large as 1,268 square feet. The following paragraphs describe each of these areas:

(1) **265 square feet** have been reserved for the addition of a Tellabs Titan 5500 digital cross connect system (Loc. A on Exhibit CSCM Panel-2). This installation is currently in progress. The

initial installation will require fourteen (14) equipment bays and five (5) DSX bays (installed where existing DSX is in the office). This equipment utilizes the integrated ground plane.

(2) **268 square feet** (Loc. B on Exhibit CSCM Panel-2) has been reserved as unusable due to the ground plane restrictions required to separate integrated ground from the existing 5ESS switch located in this area that utilizes isolated ground.

(3) **1,268 square feet** (Loc. C on Exhibit CSCM Panel-2) have been reserved for switch growth on the south end of the facility. This represents 2-3 years growth. Switch growth cannot be intermingled with circuit growth due to the afore-mentioned ground plane restrictions. Also, it cannot exceed the 200-foot distance limitation from the ESS ground window located near the center of the central office, as stated in **TR-NWT-000295** Issue 2, July 1992. This document states, "In no case, however, shall the furthest unit of equipment in the isolated

ground plane be more than 200 conductor feet from the CO GRD bus."

(4) **49 square feet** are scattered within the footprint of the existing switch on the North end of the building. This space is not contiguous and would not be suited for collocation.

(5) **646 square feet** (Loc. D on Exhibit CSCM Panel-2) have been reserved for circuit growth. It has been forecasted by Circuit Capacity Management that fourteen (14) additional Titan DACS (Digital Access and Cross Connect Systems) equipment bays will be required by year end 1999 to meet forecasted growth needs of the year 2000. The addition of the above fourteen bays will generate the need to add five additional DSX (Digital Signal Cross Connect) bays to terminate the equipment. This equipment utilizes integrated ground.

(6) **249 square feet** is reserved for DSX-1 growth towards the western side of the office next to the Main Distributing Frame (MDF) (Loc. E on

Exhibit CSCM Panel-2). A new DSX-1 lineup will be established in this area to create one long contiguous lineup, thereby eliminating the need for additional tie pairs between existing DSX-1 lineups scattered throughout the office. This tie pair cabling contributes to cable rack congestion. This growth will occur before end of year 1999.

(7) **869 square feet** have been reserved throughout the center of the office for all other circuit growth requirements (Loc. F & G on Exhibit CSCM Panel-2).

(8) **234.5 square feet** are scattered throughout the middle of the office for miscellaneous circuit growth. These spaces are not contiguous and would not be suitable for collocation.

This accounts for the total of **3,580.5 square feet** reserved in the Miami Palmetto central office. In each of the areas identified above, the unoccupied space is adjacent to a type of technology that continues to grow and is planned to be utilized by BellSouth in the next two years.

Q. WHAT EQUIPMENT IS LOCATED IN THE BOCA RATON BOCA TEECA CENTRAL OFFICE (LOU CABAN)?

A. The Boca Raton Boca Teeca central office is a two story building that houses a local switch, a remote Siemens DLU, an ACD for the Business Office (611), and various Transmission Circuit and Power Equipment.

Q. BELLSOUTH HAS RESERVED 1,283.5 SQUARE FEET IN THE BOCA RATON BOCA TEECA CENTRAL OFFICE FOR FUTURE GROWTH. WHAT JUSTIFICATION DO YOU HAVE FOR RESERVING THIS AMOUNT OF SPACE (LOU CABAN)?

The 1,283.5 square feet in the office are distributed across the central office in three (3) separate locations, ranging from as small as 52 square feet to as large as 1,172 square feet. The following paragraphs describe each of these areas:

(1) **1,172 square feet** have been reserved for the Local Switch for growth (Loc. A on Exhibit CSCM Panel-3). This is in the isolated ground plane area of the existing switch equipment. This area can accommodate approximately forty-six (46) switch bays. Two (2) switch bays will be

added in 1999, which will consume 24 square feet. Additional space will be needed in the year 2001 for fourteen (14) switch bays that will take up approximately 126 square feet. The Toll forecast indicates that the existing Toll area will exhaust by the year 2000, making it necessary to grow the Toll equipment in a 200 square foot space presently occupied by the local switch maintenance center. This will force the relocation of the local switch maintenance center to a section of the planned future switch area. This will further reduce the 1,172 square feet by 200 square feet. This will then leave only 822 square feet for physical collocation. With the county requirements of an exit aisle running through this area (as stated in Mr. Bloomers testimony) and an aisle separating the collocator and the switch equipment (so that there is enough room to perform maintenance), the remaining area would have a dimension of 8.5 by 40 feet. Additionally, Circuit (Toll) equipment is on an integrated ground plane. To maintain the standard 7 foot grounding rule between isolated and integrated ground planes, a further

reduction of the switch area will be necessary. See Attachment 1 to the Audit Report, Docket #980947-TL, AFQA #98-334-4-2, for a more technical discussion of integrated and isolated ground. The remaining space is unsuitable for physical collocation under the present guidelines.

(2) **52 square fee**t are reserved in the power area (Loc. C on Exhibit CSCM Panel-3). A new 48-volt battery string is takes up approximately 32 square feet and is being added in 1999. After this addition, the remaining space will not be suitable for physical collocation under the present guidelines. These additions are planned by our power vendor to ensure that the office has sufficient power reserves in case of a commercial power failure.

(3) **59.5 square feet** are reserved for miscellaneous toll equipment (Loc. B on Exhibit CSCM Panel-3). This area is not contiguous and therefore, is impractical for collocation. The Toll forecast indicates this area will not be sufficient to house BellSouth's planned circuit growth through

the year 2000. This will cause a migration of Toll equipment into the switch maintenance area, as previously discussed.

In each of the preceding areas, the unoccupied space is adjacent to a type of technology that continues to grow and is planned to be utilized by BellSouth in the next two years.

Q. WHAT EQUIPMENT IS LOCATED IN THE DAYTONA BEACH PORT ORANGE CENTRAL OFFICE (ROBERT COOK)?

The Port Orange Central Office is a single story building that has a local/tandem DMS switch, toll and circuit equipment, a DC power plant, a standby generator set, and a main distributing frame complex.

Q. BELLSOUTH HAS RESERVED 2,071 SQUARE FEET IN THE DAYTONA BEACH PORT ORANGE CENTRAL OFFICE FOR FUTURE GROWTH. WHAT JUSTIFICATION DO YOU HAVE FOR RESERVING THIS AMOUNT OF SPACE (ROBERT COOK)?

The 2,071 square feet in the office are distributed across the central office in three (3) separate

locations. The following paragraphs describe each of these areas:

(1) **653 square feet** are reserved in the power room. (Loc. A on Exhibit CSCM Panel-4). This power room serves the entire office and is sized to serve the maximum building size possible at this site. Reallocating space makes this room unable to serve any requirements for BellSouth or physical collocators past 2002.

(2) **430.5 square feet** are reserved for the toll/circuit growth (Loc. B on Exhibit CSCM Panel-4). 143.5 square feet are in the space that is conditioned for installation now. It is projected that twelve (12) equipment bays will be added in the 1999-2000 time frame. Additionally, eight (8) equipment bay spaces are allocated for future growth of the fiber distributing frame (3 bays), DSX3 (1 bay), DSX1 (2 bays), and DACS (2 bays). This equipment must be installed to be contiguous, because of cross-connect or processor requirements. Two (2) equipment bay locations cannot be used because of power cable congestion on the cable

rack. The remaining 66.5 square feet in this space is not suitable to meet the minimum physical collocation requirements. 287 additional square feet have been allocated for circuit/toll growth adjacent to the existing circuit/toll area. Physical collocation in this area will impede orderly growth of circuit/toll equipment and cause premature building exhaust.

(3) **987.5 square feet** are reserved for the growth of the local/tandem DMS 100/200 switch (Loc. C on Exhibit CSCM Panel-4). 732.5 square feet are in the space that is conditioned for switching equipment now. It is projected that fifteen (15) switching equipment bays will be added in the 1999-2000 timeframe. The remaining 502 square feet are scattered areas or space that cannot be configured for the minimum physical collocation requirements. 255 additional square feet have been allocated for switch growth adjacent to the existing switch area. Physical collocation in this area will impede orderly growth of

circuit/toll equipment and cause premature building exhaust.

Q. WHAT EQUIPMENT IS LOCATED IN THE LAKE MARY CENTRAL OFFICE (ROBERT COOK)?

The Lake Mary Central Office is a single story building that contains a local DMS switch, toll and circuit equipment, a DC power plant, a standby generator set, and a distributing frame complex consisting of a main distributing frame and a fiber distributing frame.

Q. BELLSOUTH HAS RESERVED 1,035 SQUARE FEET IN THE LAKE MARY CENTRAL OFFICE FOR FUTURE GROWTH. WHAT JUSTIFICATION DO YOU HAVE FOR RESERVING THIS AMOUNT OF SPACE (ROBERT COOK)?

The 1,035 square feet in the office are distributed across the central office in three (3) separate locations. The following paragraphs describe each of these areas:

(1) **93 square feet** are reserved for the frame complex growth (Loc. A on Exhibit CSCM Panel-5).

It is projected that three (3) fiber distributing frame bays will be added in the 1999-2001 timeframe using the entire allocated 59 square feet. The remaining 34 square feet is allocated for growth of the main distributing frame. It is projected that eleven (11) square feet will be used in the 1999-2000 timeframe. Growth space for the Main Distributing Frame (MDF) must be contiguous to the existing MDF equipment and the remaining 23 square feet is reserved for future MDF growth. It is not adequate for physical collocation of any type.

(2) **281.5 square feet** are reserved for switching growth (Loc. B on Exhibit CSCM Panel-5). 243 square feet are in the middle of the isolated ground plane of the existing switch equipment. To date, growth has not been identified into this area. However, the office trend indicates that this space will be required in the 2001 timeframe. This is the only contiguous switch space to grow the switch. This space is not a candidate for physical collocation. The remaining 38.5 square feet is in eleven (11)

vacant bay spaces in the existing switch infrastructure.

(3) **660.5 square feet** are reserved for circuit/toll equipment growth (Loc. C on Exhibit CSCM Panel-5). It is projected that thirty-six (36) additional equipment bays will be added in this area in the 1999-2000 timeframe. The space remaining after these additions will not be suitable to meet the minimum physical collocation requirements.

Q. WHAT EQUIPMENT IS LOCATED IN THE WEST PALM BEACH GARDENS CENTRAL OFFICE (GUY REAM)?

A. The West Palm Beach Central Office is a single story building that houses a local switch, a tandem switch, an operator services switch (TOPS), a Signal Transfer Point (STP) switch, 5 Switching Control Point (SCP) switches, and various transmission and power equipment. The office also houses two virtual collocation arrangements.

Q. BELLSOUTH HAS RESERVED 2,644 SQUARE FEET IN THE WEST PALM BEACH GARDENS CENTRAL OFFICE FOR FUTURE GROWTH.

WHAT JUSTIFICATION DO YOU HAVE FOR RESERVING THIS AMOUNT OF SPACE (GUY REAM)?

The 2,644 square feet in the office are distributed across the central office in eleven (11) separate locations, ranging from as small as 38.5 square feet to as large as 617 square feet. The following paragraphs describe each of these areas:

(1) **617 square feet** are reserved for Tandem switch growth (Loc. A on Exhibit CSCM Panel-6). This is in the middle of the isolated ground plane of the existing switch equipment. It is projected that twelve (12) to sixteen (16) bays will be added in this area in the 1999-2000 timeframe. That, along with an existing exit aisle would only leave space for nine (9) frames of equipment or 81 square feet of space. This area is too small for physical collocation for the reasons that Mr. Bloomer has discussed in his testimony.

(2) **338 square feet** are reserved in the power area (Loc. B on Exhibit CSCM Panel-6). Two new 48-volt battery strings are presently being added.

Due to the presence of walkways and maintenance aisles, when this addition is complete, there will be no room left for future equipment. These additions are planned by our power vendor to ensure that the office has sufficient reserves in case of a commercial power failure.

(3) **329 square feet** are reserved for a TOPS DMS switch, which is used for Operator Services (Loc. C on Exhibit CSCM Panel-6). This space is next to the existing switch and is required for growth. This area is also used as a temporary vendor staging area for new equipment additions to the office. This area is too small for physical collocation for the reasons that Mr. Bloomer has discussed in his testimony.

(4) **38.5 square feet** are reserved for Signal Transfer Point (STP) and Signal Control Point (SCP) switch growth (Loc. D on Exhibit CSCM Panel-6). Equipment additions are planned to augment the existing equipment in 1999 and 2000, which will exhaust this space.

(5) **193 square feet** are reserved for toll growth (Loc. E on Exhibit CSCM Panel-6). This area is occupied by the Central Office Supervisor at present, but is planned for transmission equipment growth in 2000 and 2001. The existing low overhead racking would prevent physical collocation from being established in this location.

(6) **179 square feet** are reserved for a DXS1 growth in 2000 and 2001 (Loc. F on Exhibit CSCM Panel-6). This area was reserved because it is next to the same family of equipment (DSX1). The most efficient and economical way to use DSX1 equipment in a central office is to place it adjacent to existing DSX1. This area is too small for physical collocation for the reasons that Mr. Bloomer has discussed in his testimony.

(7) **143 square feet** are reserved for fiber optic frame growth (Loc. G on Exhibit CSCM Panel-6). Four (4) bays of equipment are presently being added, which will reduce the usable space to 87 square feet. This area is too small for

physical collocation for the reasons that Mr. Bloomer has discussed in his testimony.

(8) **70 square feet** are reserved for miscellaneous toll equipment (Loc. H on Exhibit CSCM Panel-6) that does not have to be placed next to each other or in close proximity to existing families of toll equipment. Removing obsolete equipment created this space. Nine (9) frames have been added back in this area, thereby reducing the available square footage to 38.5. This area is too small for physical collocation for the reasons that Mr. Bloomer has discussed in his testimony.

(9) **102 square feet** are reserved for the 1/0 digital access cross connect machine and miscellaneous test equipment bays (Loc. I on Exhibit CSCM Panel-6). Four (4) equipment bays have been placed and have reduced the available space to 50 square feet. This area is too small for physical collocation for the reasons that Mr. Bloomer has discussed in his testimony.

(10) **561 square feet** have been reserved for the local DMS switch (Loc. J on Exhibit CSCM Panel-6). This area is in two sections adjacent to the existing switch. The growth of the local switch is projected to be about twelve (12) frames per year, or a reduction of 110 square feet per year. Four (4) frames, or 36 square feet, of equipment is being placed at this time. This space is temporarily being used for central office administration and as an installation vendor staging area, until such time as the space is required for needed switch growth.

(11) **73.5 square feet** of space have been created within the local DMS switch from equipment upgrades (Loc. K on Exhibit CSCM Panel-6). Presently, 18 square feet are being reclaimed by a new equipment addition. This is not contiguous space. Therefore, it is not suitable for physical collocation.

In each of the areas identified above, the unoccupied space is adjacent to a type of technology that continues to grow or space that is unsuitable for physical collocation due to its size or location.

Q. ARE THERE OTHER FACTORS IN THESE SIX CENTRAL OFFICES THAT LIMIT THE SPACE AVAILABLE?

A. It should be understood that not every square foot of space can hold a piece of equipment and that space must be provided in front of and behind the equipment for access by installation and service personnel. Wider cross aisles are required in certain parts of the office. These aisles are required by local fire codes for emergency egress of the office personnel. These wider aisles are also required so installation vendors can move large equipment bays in the office without causing service outage by bumping or disturbing working equipment. Also, it must be pointed out that certain types of equipment cannot be placed next to dissimilar types of technology (i.e., batteries in toll equipment lineups or transport equipment in switch equipment lineups). In the North Dade Golden Glades central office, there are several areas of cable rack congestion that prohibit the new installation of any additional equipment. The effort to identify and mine out any unused cable would be lengthy and burdensome and could result in potential subscriber outages.

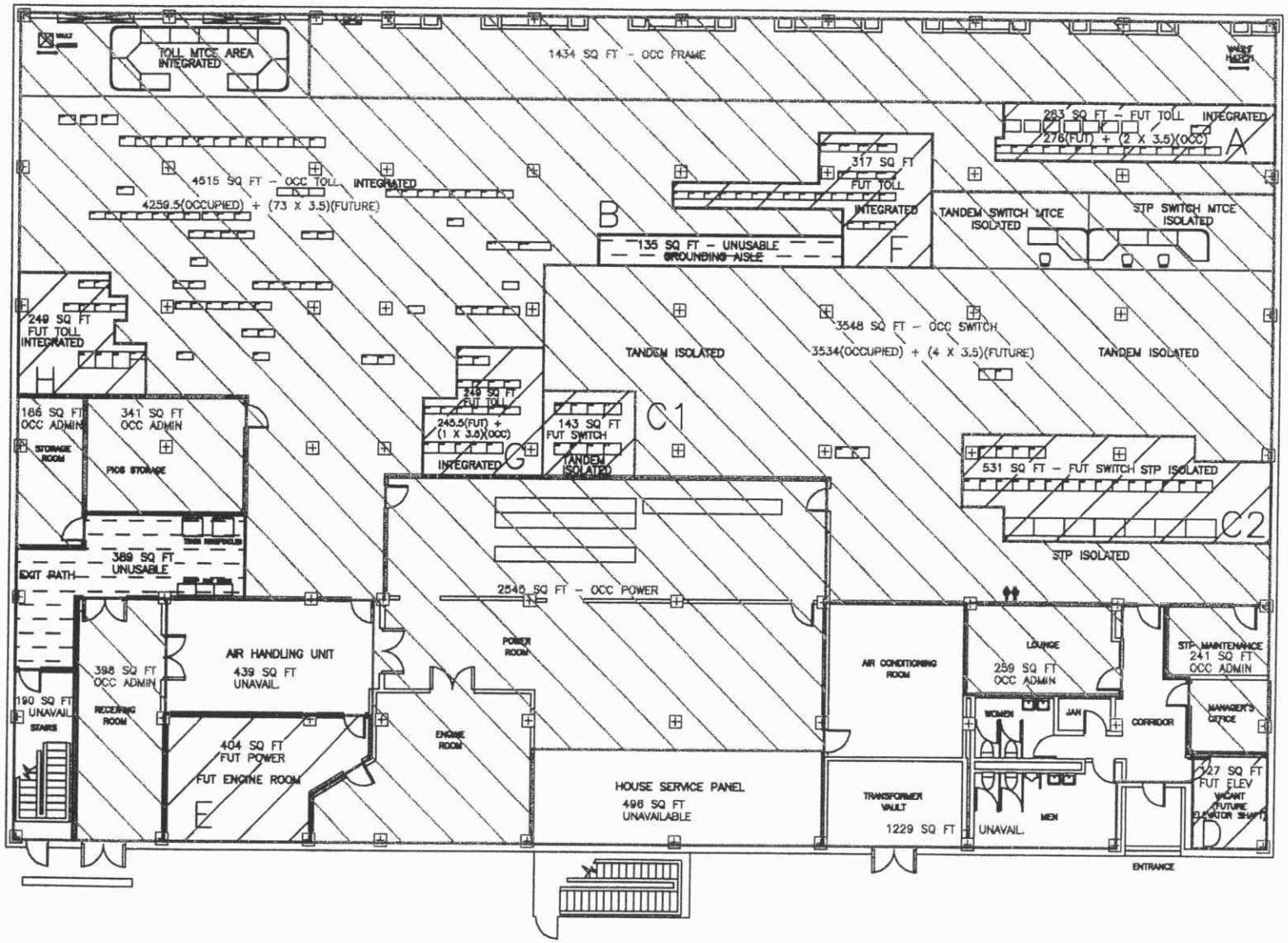
Q. HOW DOES A COMMON SYSTEMS CAPACITY MANAGER DETERMINE THE AMOUNT OF FLOOR SPACE NEEDED TO BE RESERVED FOR EQUIPMENT GROWTH?

A. The Common Systems Capacity Manager receives input from the Switch Capacity Managers, Power Capacity Managers and the Circuit Capacity Managers, as well as other BellSouth organizations, for space requirements of equipment bays. The Common Systems Capacity Manager then translates frame requirements to square footage.

Q. DOES THIS CONCLUDE THE PANEL TESTIMONY?

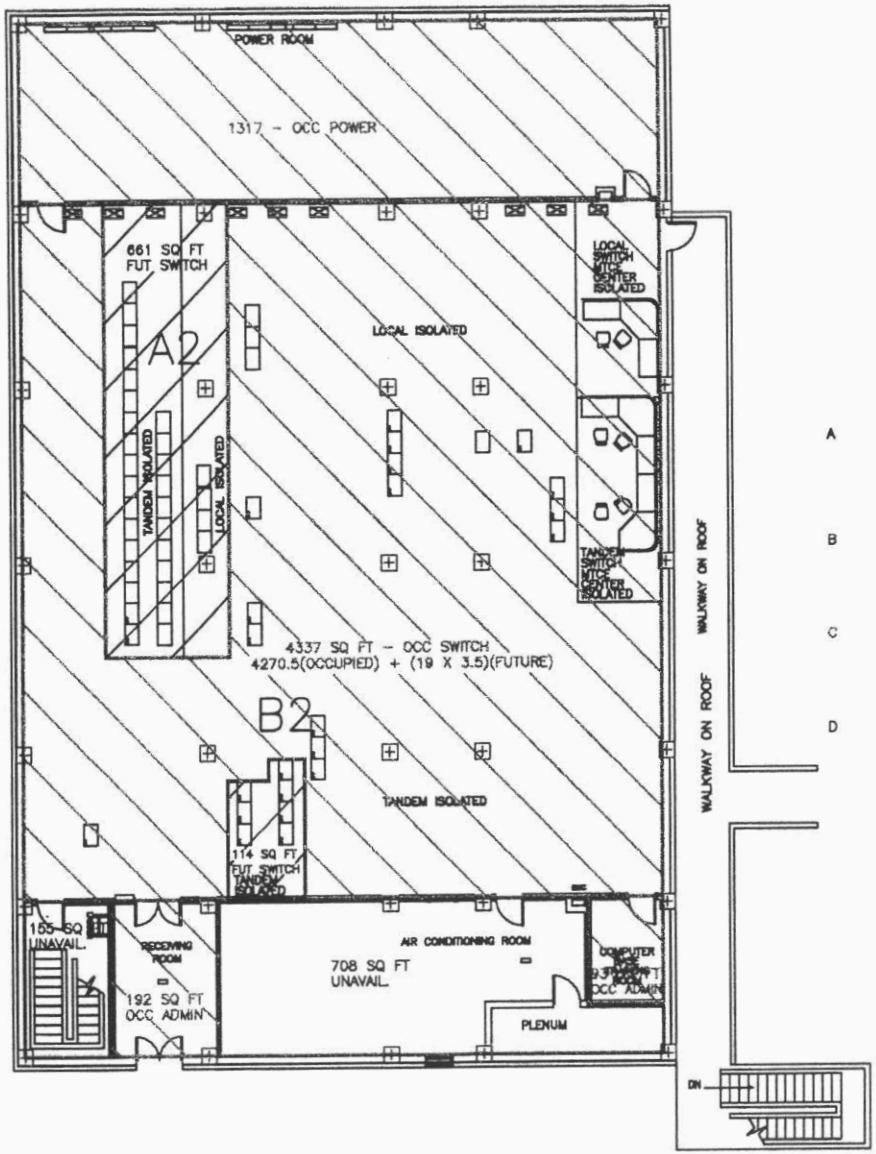
A. Yes.

CABLE VAULT UNDER FLOOR 1537 SQ FT – UNAVAILABLE



M6506 NORTH DADE GOLDEN GLADES FIRST FLOOR PLAN

BellSouth Telecommunications, Inc.
FPSC Docket Nos. 980946-TL, 980947-TL,
980948-TL, 981011-TL, 981012-TL & 981250-TL
Exhibit CSCM Panel-1, Page 1 of 2



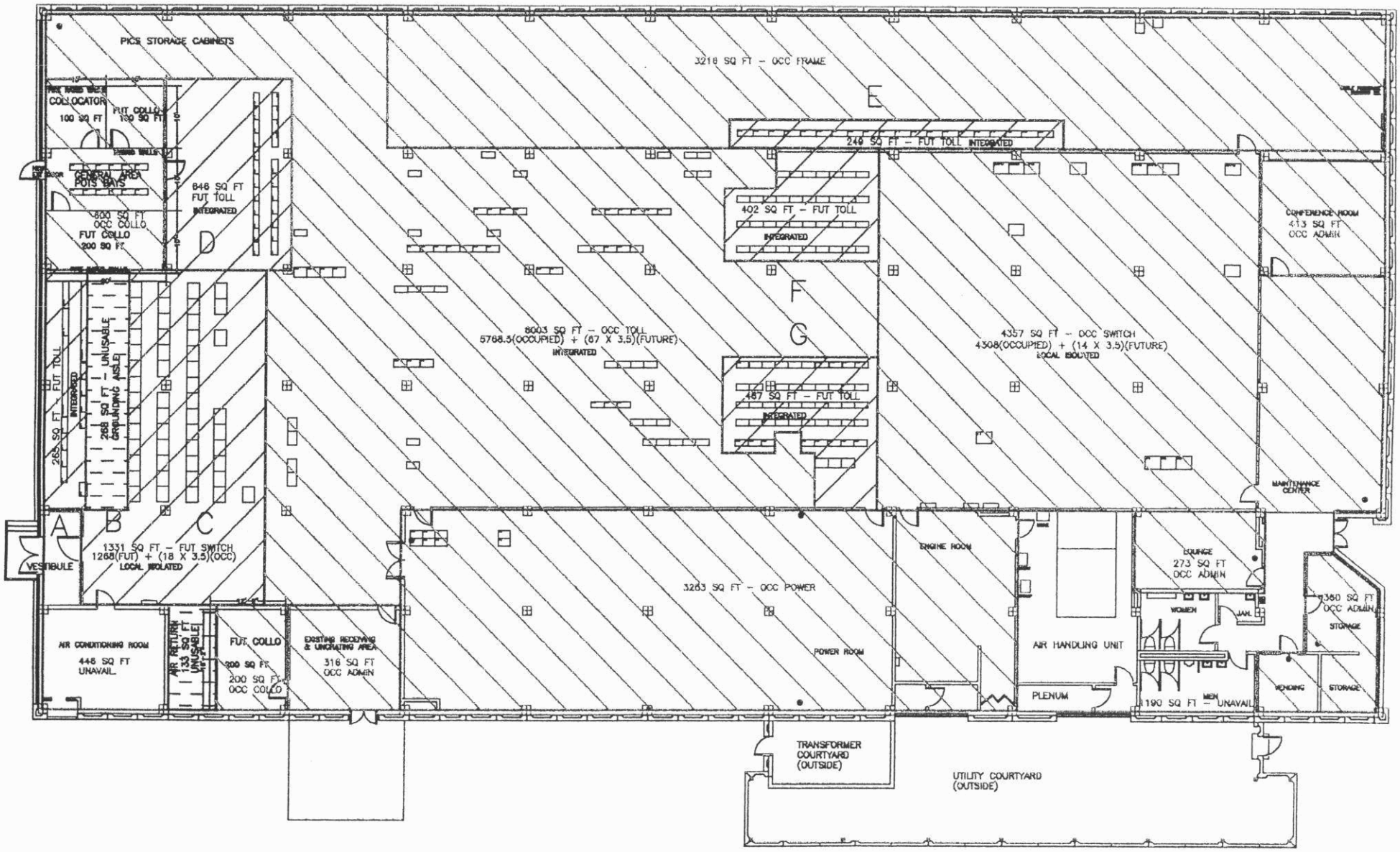
MARCH 2, 1999

A	TOTAL GROSS SQ FT	7577
B	STAIRWELL	155
	AIR CONDITIONING ROOM AND PLENUM	708
	TOTAL UNAVAILABLE SPACE	863
C	SWITCH	4270.5
	POWER	1317
	ADMIN 192 + 93 =	285
	TOTAL OCCUPIED SPACE	5872.5
D	SWITCH 661 + 114 + (19 X 3.5) =	841.5
	TOTAL RESERVED SPACE	841.5

ISOLATED - ISOLATED GROUND PLANE
INTEGRATED - INTEGRATED GROUND PLANE
OCC - OCCUPIED
FUT - FUTURE
UNAVAIL - UNAVAILABLE
⊞ - BUILDING COLUMN

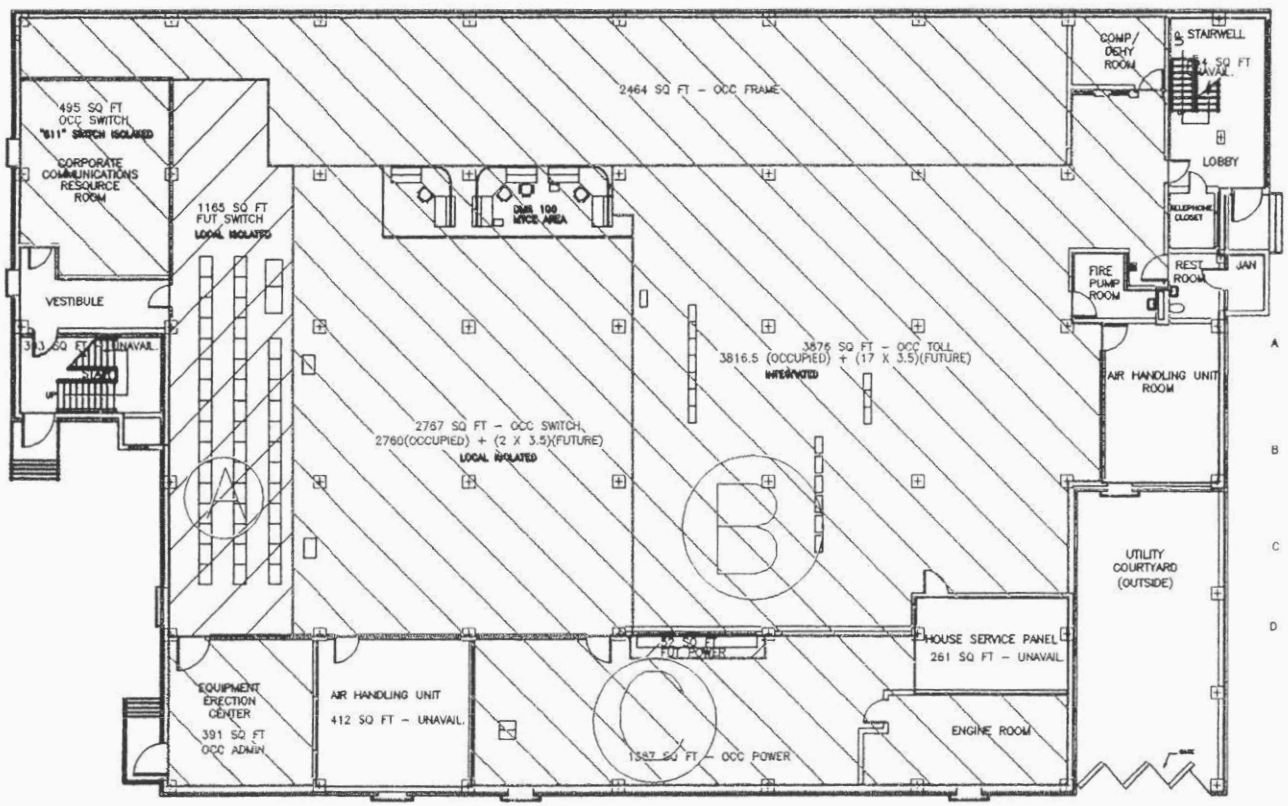
M6506 NORTH DADE GOLDEN GLADES SECOND FLOOR PLAN

BellSouth Telecommunications, Inc.
FPSC Docket Nos. 980946-TL, 980947-TL,
980948-TL, 981011-TL, 981012-TL & 981250-TL
Exhibit CSCM Panel-1, Page 2 of 2



M6121 MIAMI PALMETTO FIRST FLOOR PLAN

BellSouth Telecommunications, Inc.
FPSC Docket Nos. 980946-TL, 980947-TL,
980948-TL, 981011-TL, 981012-TL & 981250-TL
Exhibit CSCM Panel-3

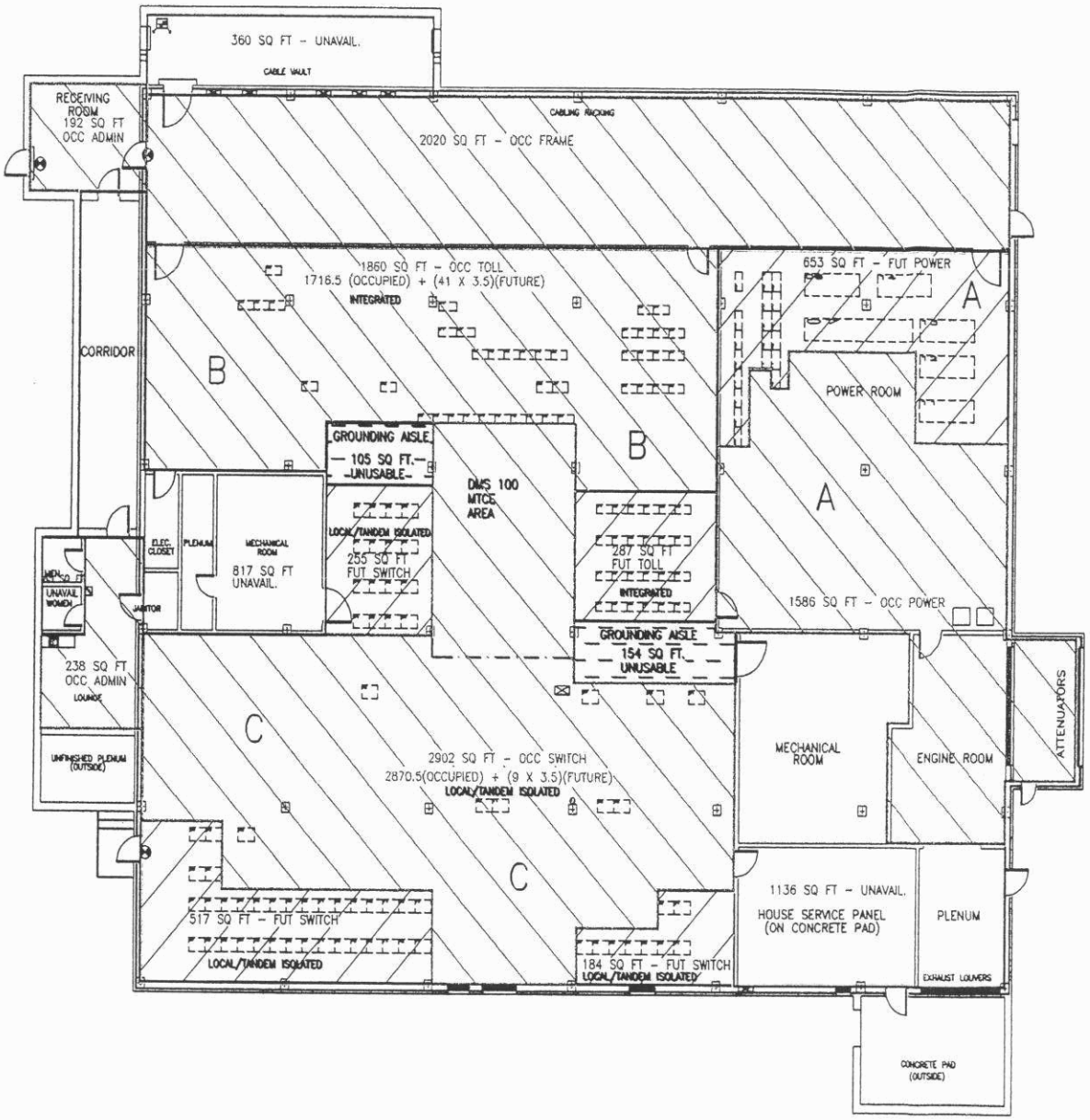


MARCH 1, 1999

A	TOTAL GROSS SQ FT		14,497
	STAIRWELL		393
	AIR HANDLING UNIT		412
	HOUSE SERVICE PANEL		261
	STAIRWELL, LOBBY, JANITOR TELEPHONE CLOSET, RESTROOM & FIRE PUMP ROOM		854
B	TOTAL UNAVAILABLE SPACE		1920
	SWITCH	2760 + 495 =	3255
	TOLL		3816.5
	FRAME		2464
	POWER AND ENGINE		1367
	ADMIN		391
C	TOTAL OCCUPIED SPACE		11,293.5
	SWITCH	1165 + (2 X 3.5) =	1172
	TOLL	17 X 3.5 =	59.5
	POWER		52
D	TOTAL RESERVED SPACE		1283.5

ISOLATED – ISOLATED GROUND PLANE
INTEGRATED – INTEGRATED GROUND PLANE
OCC – OCCUPIED
FUT – FUTURE
UNAVAIL – UNAVAILABLE
⊞ – BUILDING COLUMN

E8181 BOCA RATON – BOCA TEECA FIRST FLOOR PLAN



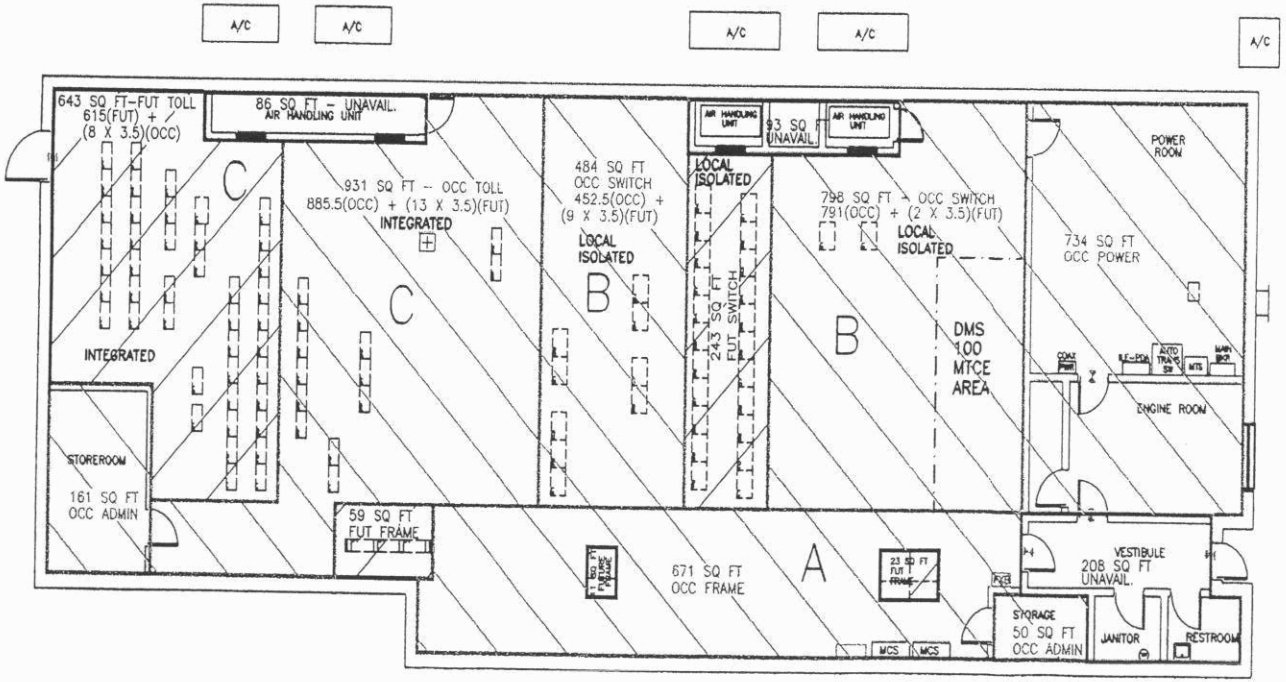
33850 DAYTONA BEACH – PORT ORANGE FIRST FLOOR PLAN

A	TOTAL GROSS SQ FT		13,331
	CABLE VAULT		360
	RESTROOMS		65
	JAN, ELEC CLOSET, MECH RM, PLENUM & CORRIDOR		817
	HOUSE SERVICE PANEL, MECH RM & PLENUM		1136
B	TOTAL UNAVAILABLE SPACE		2378
	SWITCH		2870.5
	TOLL		1716.5
	FRAME		2020
	POWER AND ENGINE		1586
	ADMINISTRATIVE	238 + 192 =	430
C	TOTAL OCCUPIED SPACE		8623
	SWITCH	184 + 517 + 255 + (9 X 3.5) =	987.5
	TOLL	287 + (41 X 3.5) =	430.5
	POWER		653
D	TOTAL RESERVED SPACE		2071
E	TOTAL UNUSABLE SPACE	105 + 154 =	259

ISOLATED – ISOLATED GROUND PLANE
INTEGRATED – INTEGRATED GROUND PLANE
OCC – OCCUPIED
FUT – FUTURE
UNAVAIL – UNAVAILABLE
⊞ – BUILDING COLUMN

BellSouth Telecommunications, Inc.
FPSC Docket Nos. 980946-TL, 980947-TL,
980948-TL, 981011-TL, 981012-TL & 981250-TL
Exhibit CSCM Panel-4

BellSouth Telecommunications, Inc.
FPSC Docket Nos. 980946-TL, 980947-TL,
980948-TL, 981011-TL, 981012-TL & 981250-TL
Exhibit CSCM Panel-5

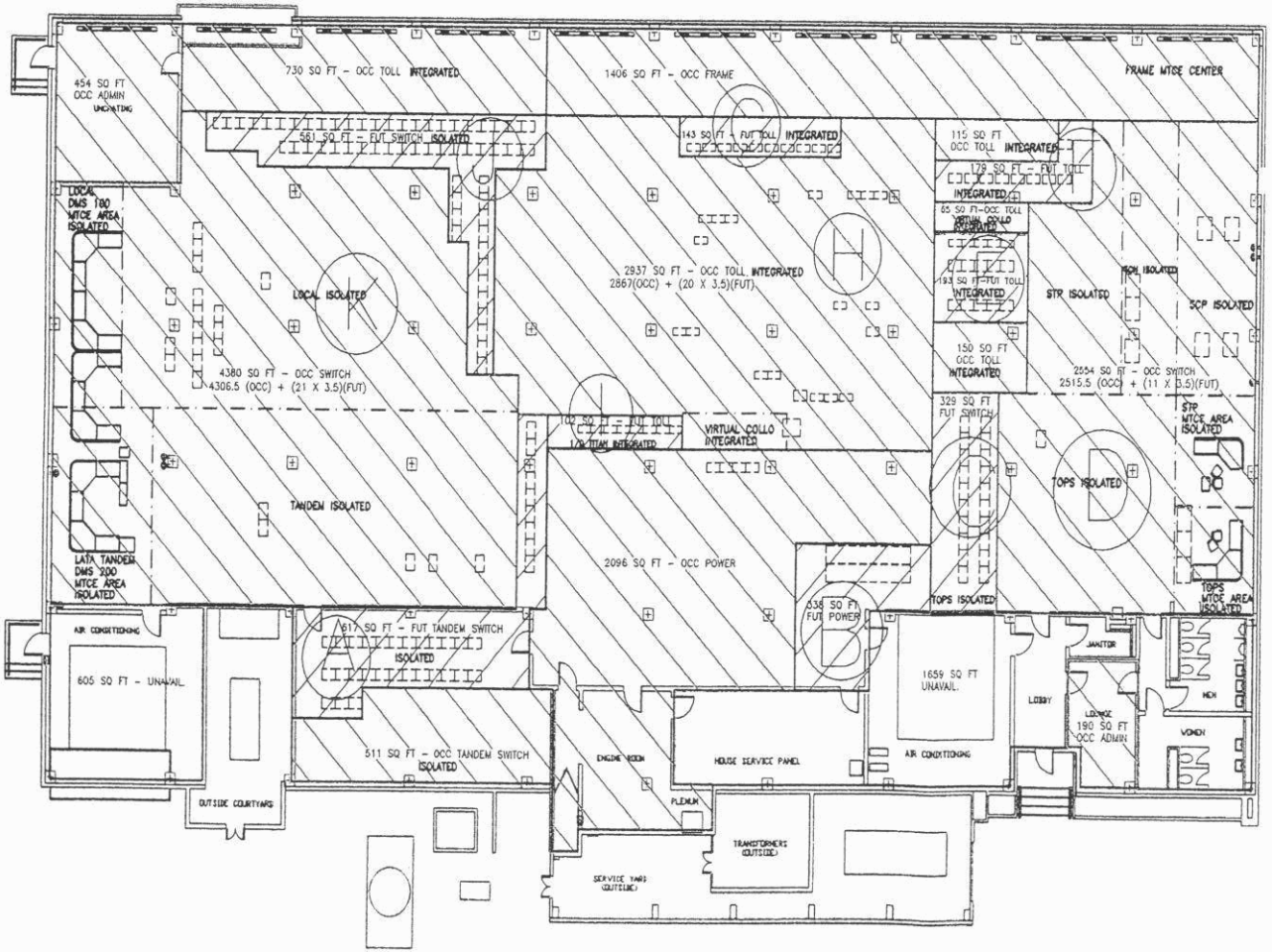


39280 LAKE MARY FIRST FLOOR PLAN

A	TOTAL GROSS SQ FT	5195
	AIR HANDLING UNIT	86
	AIR HANDLING UNITS	93
	VESTIBULE, JANITOR & RESTROOMS	208
B	TOTAL UNAVAILABLE SPACE	387
	SWITCH	452.5 + 791 = 1243.5
	TOLL	885.5 + (8 X 3.5) = 913.5
	FRAME	671
	POWER & ENGINE	734
	ADMIN	161 + 50 = 211
C	TOTAL OCCUPIED SPACE	3773
	SWITCH	243 + (11 X 3.5) = 281.5
	TOLL	615 + (13 X 3.5) = 660.5
	FRAME	11 + 23 + 59 = 93
D	TOTAL RESERVED SPACE	1035

ISOLATED – ISOLATED GROUND PLANE
INTEGRATED – INTEGRATED GROUND PLANE
OCC – OCCUPIED
FUT – FUTURE
UNAVAIL – UNAVAILABLE

⊞ – BUILDING COLUMN



E8519 WEST PALM BEACH GARDENS FIRST FLOOR PLAN

FEBRUARY 25, 1999

A	TOTAL GROSS SQ FT		20,314
	AIR CONDITIONING ROOM	605	
	HOUSE SERVICE PANEL, AIR CONDITIONING ROOM, LOBBY, JANITOR AND RESTROOMS	1659	
B	TOTAL UNAVAILABLE SPACE		2264
	SWITCH	4306.5 + 511 + 2515.5 = 7333	
	TOLL	730 + 2667 + 115 + 65 + 150 = 3927	
	FRAME	1406	
	POWER AND ENGINE	2096	
	ADMIN	454 + 190 = 644	
C	TOTAL OCCUPIED SPACE		15,406
	SWITCH	561 + 617 + 329 + (32 X 3.5) = 1619	
	TOLL	143 + 102 + 179 + 193 + (20 X 3.5) = 687	
	POWER	338	
D	TOTAL RESERVED SPACE		2644

TOPS – TELEPHONE OPERATOR POSITION SYSTEM
STP – SIGNAL TRANSFER POINT
SCN – SUBSCRIBER CUSTOMER NETWORK
SCP – SIGNAL CONTROL POINT
ISOLATED – ISOLATED GROUND PLANE
INTEGRATED – INTEGRATED GROUND PLANE
OCC – OCCUPIED SPACE
FUT – FUTURE/GROWTH SPACE
UNAVAIL – UNAVAILABLE SPACE
COLLO – COLLOCATION

⊞ – BUILDING COLUMN

BellSouth Telecommunications, Inc.
FPSC Docket Nos. 980946-TL, 980947-TL,
980948-TL, 981011-TL, 981012-TL & 981250-TL
Exhibit CSCM Panel-6