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April 9, 2004

Ms. Blanca Bayo
Director
Division of Administrative Services and Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

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COMMISSION
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RE: Docket No. 981834-TP

Dear Ms. Bayo:

Enclosed for filing on behalf of Sprint-Florida, Incorporated and Sprint Communications Limited Partnership ("Sprint") is a redacted CD ROM containing revisions to Exhibit JRD-2, Sprint's Collocation Cost Study. The CD is being provided as a supplement to Sprint's Post-hearing Statement and Brief, filed on April 1, 2004, in response to staff's request for an electronic version of the revisions to the cost study discussed on pages 9-11 of the Brief.

A nonredacted copy of the CD is being filed with the Clerk under separate cover on this same day. Copies are being served on the parties to this docket pursuant to the attached Certificate of Service (parties who have entered into a protective agreement with Sprint will receive a nonredacted copy of the CD).

Please acknowledge receipt of this filing by stamping and initialing a copy of this letter and returning same to the courier. If you have any questions, please do not hesitate to call me at 850/599-1560.

Sincerely,

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- SEC _____
- OTH _____

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**CERTIFICATE OF SERVICE
DOCKET NO. 981834-TP & 990321-TP**

I HEREBY CERTIFY that a true and correct copy of the foregoing was served by U.S. mail on April 9, 2004 to the following.

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Orlando, FL 32801

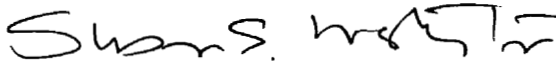
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Tallahassee, Florida 32399-0870



Susan S. Masterton

(+ Signed Protective Agreement)

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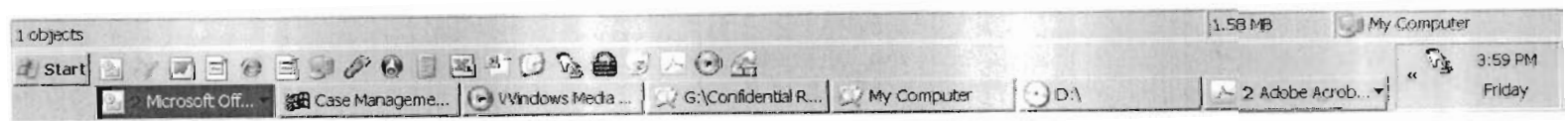
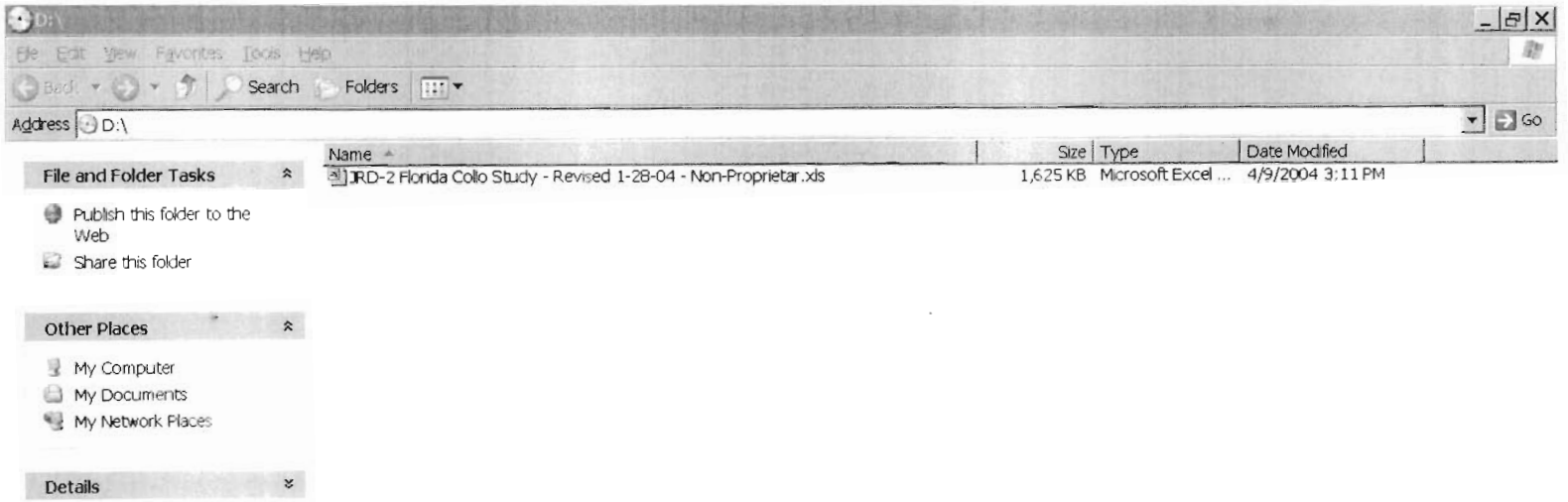
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COLLOCATION COST STUDY

Sprint – Florida, Incorporated

January 28, 2004
Revised

NON-PROPRIETARY

COLLOCATION COST STUDY

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25	Summary)																		
26																			
27	The Administrative and Project Management Fees (lines 2, 4, and 7) include a reduction in work times																		
28	for Project Management and continuing property record keeping due to the CLECs self provisioning and																		
29	owning DC power, transmission and internal cabling.																		
30																			
31	Security Cage costs (line 11) remove the cage construction NRC Cage Engineering (line 10) still																		
32	applies.																		
33																			
34	DC Power Cable Connections (lines 14 through 19) include the removal of 30A and 60A DC power																		
35	cable connection NRC's. NRCs for 100A and 200A DC power cable connections are reduced to cover																		
36	only engineering costs. MRCs have been reduced to reflect only cable racking and the amortized cost																		
37	of removal. The assumption is that the CLEC owns property and will be responsible for property tax and																		
38	maintenance.																		
39																			
40	For AC outlets and additional lighting costs (lines 20 and 21), the NRCs have been reduced to cover																		
41	only engineering costs.																		
42																			
43	Cross Connect Facilities (lines 22 through 29) have all NRC's removed (i.e. co-carrier cross connects).																		
44	MRCs have been reduced to reflect only cable racking and the amortized cost of removal. The																		
45	assumption is that the CLEC owns property and will be responsible for property tax and maintenance.																		
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50	For fiber and copper Internal Cable (lines 32 and 33) MRCs have been reduced to reflect only the																		
51	amortized cost of removal. NRC's, which are for engineering time only, are retained. The assumption																		
52	is that CLEC owns property and will be responsible for property tax and maintenance.																		
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Section I: Summary

In this study revision, it is assumed that some assets required for collocation such as security cages, AC power outlets, additional overhead lighting, power cabling, cross-connect cabling and internal cabling are self-provisioned by CLECs. For construction of those assets, the CLEC must contract with and make payment directly to a Sprint approved contractor. Under physical collocation, the CLEC is responsible for maintenance of its own equipment. For maintenance of self-provisioned assets listed above, the CLEC may either contract with a Sprint approved contractor for maintenance, or may pay Sprint (in quarter-hourly increments) to perform maintenance.

In this study revision, elements are revised to eliminate otherwise-valid Sprint costs that are not incurred in a CLEC-self-provisioned environment. Generally, cable, panel and bay materials and installation costs have been eliminated. Project Management Fees have also been modified to reflect reduced worktimes associated with CLEC provisioning of collocation assets.

Sprint costs remain for: engineering of security cages, AC power outlets, additional overhead lighting, power cabling, cross-connect cabling and internal cabling; cable rack and fiber guttering; and, the cost of removing cabling, bays and DS1, DS3 and optical patch panels.

Pro forma cabling, panel and bay investments for cross-connect, power and internal cabling have been shown in the study exhibits as a base upon which cost of removal is calculated. However, the pro forma cabling, panel and bay investments themselves are not included in Sprint costs in this study.

The following changes are included in the revised study (line number references are to the Pricing Summary):

The Administrative and Project Management Fees (lines 2,4, and 7) include a reduction in work times for Project Management and continuing property record keeping due to the CLECs self provisioning and owning DC power, transmission and internal cabling.

Security Cage costs (line 11) remove the cage construction NRC. Cage Engineering (line 10) still applies.

DC Power Cable Connections (lines 14 through 19) include the removal of 30A and 60A DC power cable connection NRC's. NRCs for 100A and 200A DC power cable connections are reduced to cover only engineering costs. MRCs have been reduced to reflect only cable racking and the amortized cost of removal. The assumption is that the CLEC owns property and will be responsible for property tax and maintenance.

For AC outlets and additional lighting costs (lines 20 and 21), the NRCs have been reduced to cover only engineering costs.

Cross Connect Facilities (lines 22 through 29) have all NRC's removed (i.e. co-carrier cross connects). MRCs have been reduced to reflect only cable racking and the amortized cost of removal. The assumption is that the CLEC owns property and will be responsible for property tax and maintenance.

For fiber and copper Internal Cable (lines 32 and 33) MRCs have been reduced to reflect only the amortized cost of removal. NRC's, which are for engineering time only, are retained. The assumption is that CLEC owns property and will be responsible for property tax and maintenance.

Line	Element	Source	NRC	MRC
Section II: Rate List - Physical and Virtual Collocation Elements				
Administrative, Engineering and Project Management Fees				
1	New Collocation - Application Fee	Pg 9, Ex 1, Ln 14	\$ 2,750.07	
2	New Collocation - Admin., Transm. Engr. & Project Management Fee	Pg 10, Ex 11, Ln 11	\$ 4,935.51	
3	Minor Augment Fee	Pg 11, Ex 12, Ln 9	\$ 801.43	
4	Minor Augment - Administrative & Project Management Fee	Pg 12, Ex 13, Ln 10	\$ 501.56	
5	Minor Augment - Transmission Engineering Fee	Pg 12, Ex 13, Ln 14	\$ 569.49	
6	Major Augment Fee	Pg 11, Ex 12, Ln 20	\$ 1,833.25	
7	Major Augment - Administrative & Project Management Fee	Pg 12, Ex 13, Ln 24	\$ 1,451.08	
8	Major Augment - Transmission Engineering Fee	Pg 12, Ex 13, Ln 28	\$ 1,672.98	
9	Space Report (per wire center)	Pg 14, Ex 2, Ln 9	\$ 957.94	
Security Cage Construction				
10	Security Cage - Engineering	Pg 15, Ex 3, Ln 4	\$ 688.54	
11	Security Cage - Construction (Cost per Linear Foot)	CLEC Provisioned		
Floor Space				
12	Floor Space (Per Square Foot)	Pg 20, Ex 4, Ln 7		\$ 7.87
DC Power				
13	Power Costs - Per Load Amps Ordered	Pg 24, Ex 5.0, Ln 10	\$ 6.14	
14	Power Costs - Connection to Power Plant up to 30 Amps	Pg 25, Ex 5.1, Ln 13	\$ 5.03	
15	Power Costs - Connection to Power Plant 35-60 Amps	Pg 26, Ex 5.2, Ln 13	\$ 9.04	
16	Power Costs - Connection to Power Plant 70-100 Amps	Pg 27, Ex 5.3, Ln 13 & Ln 18	\$ 533.90	\$ 17.10
17	Add Per Foot Over 100 Linear Feet	Pg 27, Ex 5.3, Ln 19 & Ln 18	\$ 2.42	\$ 0.24
18	Power Costs - Connection to Power Plant 125-200 Amps	Pg 28, Ex 5.4, Ln 19 & Ln 18	\$ 533.90	\$ 34.42
19	Add Per Foot Over 100 Linear Feet	Pg 28, Ex 5.4, Ln 19 & Ln 18	\$ 2.42	\$ 0.45
AC Power				
20	Cost per AC Outlet Installation (per outlet 20 amps)	Pg 31, Ex 6, Ln 4	\$ 106.76	
21	Cost per Additional Set of Overhead Lights	Pg 31, Ex 6, Ln 6	\$ 106.76	
Cross Connect Facilities				
22	DS0 Switchboard Cable Per 100 Ft	Pg 35, Ex 7, Ln 13	\$ 4.51	
23	DS0 Co-Carrier Switchboard Cable Per 100 Ft	Pg 36, Ex 7.1, Ln 13	\$ 3.80	
24	DS1 Cross-Connect (Per 28 DS's)	Pg 38, Ex 8, Ln 14	\$ 6.36	
25	DS1 Co-Carrier Cross-Connect (Per 28 DS's)	Pg 39, Ex 8.1, Ln 13	\$ 4.81	
26	DS3 Cross-Connect (Per 12 DS's)	Pg 41, Ex 9, Ln 14	\$ 18.19	
27	DS3 Co-Carrier Cross-Connect (Per 12 DS's)	Pg 42, Ex 9.1, Ln 13	\$ 7.48	
28	Optical Cross-Connect Per 4 Fibers	Pg 44, Ex 9.2, Ln 14	\$ 19.95	
29	Optical Cross-Connect Co-Carrier Per 4 Fibers	Pg 45, Ex 9.3, Ln 13	\$ 8.83	
30	Internal Cable Space - Per 48 Fiber Cable	Pg 53, Ex 10, Ln 14	\$ 31.20	
31	Internal Cable Space - Per 100 Ft Copper Sub Cable	Pg 53, Ex 10, Ln 14	\$ 20.81	

Section II: Rate List - Physical and Virtual Collocation Elements

Line	Element	Source	NRC	MRC
Administrative, Engineering and Project Management Fees				
1	New Collocation - Application Fee	Pg 9, Ex 1, Ln 14	\$ 2,758.17	
2	New Collocation - Admin., Transm. Engr. & Project Management Fee	Pg 10, Ex 1.1, Ln 11	\$ 4,935.51	
3	Minor Augment Fee	Pg 11, Ex 1.2, Ln 9	\$ 801.43	
4	Minor Augment - Administrative & Project Management Fee	Pg 12, Ex 1.3, Ln 10	\$ 581.58	
5	Minor Augment - Transmission Engineering Fee	Pg 12, Ex 1.3, Ln 14	\$ 569.49	
6	Major Augment Fee	Pg 11, Ex 1.2, Ln 20	\$ 1,613.29	
7	Major Augment - Administrative & Project Management Fee	Pg 12, Ex 1.3, Ln 24	\$ 1,451.88	
8	Major Augment - Transmission Engineering Fee	Pg 12, Ex 1.3, Ln 28	\$ 1,672.88	
9	Space Report (per wire center)	Pg 14, Ex 2 Ln 9	\$ 857.94	
Security Cage Construction				
10	Security Cage - Engineering	Pg 16, Ex 3, Ln 4	\$ 688.54	
11	Security Cage - Construction (Cost per Linear Foot)	CLEC Provisioned		
Floor Space				
12	Floor Space (Per Square Foot)	Pg 20, Ex 4, Ln 7		\$ 7.87
DC Power				
13	Power Costs - Per Load Ampere Ordered	Pg 24, Ex 5.0, Ln 10		\$ 16.14
14	Power Costs - Connection to Power Plant up to 30 Amps	Pg 25, Ex 5.1, Ln 13		\$ 5.69
15	Power Costs - Connection to Power Plant 35-60 Amps	Pg 26, Ex 5.2, Ln 13		\$ 8.04
16	Power Costs - Connection to Power Plant 70-100 Amps	Pg 27, Ex 5.3, Ln 19 & Ln 18	\$ 533.90	\$ 17.10
17	Add Per Foot Over 110 Linear Feet	Pg 27, Ex 5.3, Ln 19 & Ln 18	\$ 2.42	\$ 0.24
18	Power Costs - Connection to Power Plant 125-200 Amps	Pg 28, Ex 5.4, Ln 19 & Ln 18	\$ 533.90	\$ 34.42
19	Add Per Foot Over 110 Linear Feet	Pg 28, Ex 5.4, Ln 19 & Ln 18	\$ 2.42	\$ 0.45
AC Power				
20	Cost per AC Outlet Installation (per outlet 20 amps)	Pg 31, Ex 6, Ln 4	\$ 106.78	
21	Cost per Additional Set of Overhead Lights	Pg 31, Ex 6, Ln 8	\$ 106.78	
Cross Connect Facilities				
22	DS0 Switchboard Cable Per 100-Pr	Pg 35, Ex 7, Ln 13		\$ 4.51
23	DS0 Co-Carrier Switchboard Cable Per 100 Pr.	Pg 36, Ex 7.1, Ln 13		\$ 3.80
24	DS1 Cross Connect (Per 28 DS1s)	Pg 38, Ex 8, Ln 14		\$ 6.36
25	DS1 Co-Carrier Cross Connect (Per 28 DS1s)	Pg 39, Ex 8.1, Ln 13		\$ 4.81
26	DS3 Cross Connect (Per 12 DS3s)	Pg 41, Ex 9, Ln 14		\$ 18.19
27	DS3 Co-Carrier Cross Connect (Per 12 DS3s)	Pg 42, Ex 9.1, Ln 13		\$ 7.48
28	Optical Cross-Connect Per 4 Fibers	Pg 44, Ex 9.2, Ln 14		\$ 8.96
29	Optical Cross-Connect Co-Carrier Per 4 Fibers	Pg 45, Ex 9.3, Ln 13		\$ 8.83
30	Internal Cable Space - Per 48 Fiber Cable	Pg 53, Ex 10 Ln 34		\$ 31.30
31	Internal Cable Space - Per 100 Pr Copper Stub Cable	Pg 53, Ex 10 Ln 34		\$ 20.81
32	Internal Cable - 48 Fiber	Pg 58, Ex 13 Ln 14 and 9	\$ 1,074.69	\$ 3.25
33	Internal Cable - Per 100-Pr Copper Stub Cable	Pg 58, Ex 13 Ln 14 and 9	\$ 185.30	\$ 2.93
Security Card				
34	Security Card - Per Card	SME	\$ 15.00	
Additional Labor Charges (Virtual or Physical)				
35	Additional Labor 1/4 hour CO Technician - Regular	Pg 106, Input Sheet Ln 2 / 4	\$ 17.48	
36	Additional Labor 1/4 hour CO Technician - Overtime	Pg 106, Input Sheet Ln 2 / 4 * 1.5	\$ 26.22	
37	Additional Labor 1/4 hour CO Technician - Premium	Pg 106, Input Sheet Ln 2 / 4 * 2	\$ 34.96	
38	Additional Labor 1/4 hour CO Engineer	Pg 106, Input Sheet Ln 1 / 4	\$ 15.66	
39	Additional Labor 1/4 hour OSP Technician - Regular	Pg 106, Input Sheet Ln 19 / 4	\$ 14.55	
40	Additional Labor 1/4 hour OSP Technician - Overtime	Pg 106, Input Sheet Ln 19 / 4 * 1.5	\$ 21.83	
41	Additional Labor 1/4 hour OSP Technician - Premium	Pg 106, Input Sheet Ln 19 / 4 * 2	\$ 29.10	
42	Additional Labor 1/4 hour OSP Engineer	Pg 106, Input Sheet Ln 18 / 4	\$ 12.28	
43	Adjacent On-Site Collocation			ICB
44	Remote Terminal Collocation			ICB

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Section III: Administrative, Engineering and Project Management Fees

A. Purpose

There are three types of fees costed in this section. The first type, Application and Augment fees (Minor and Major), cover the cost to administer and evaluate initial and subsequent applications for collocation services. The second type, Administrative & Project Management Fees (New Collocation, Minor Augment and Major Augment), cover the costs of administering and project managing installations of new and augmented collocations after firm order commitment. The third type, Transmission Engineering Fee, covers the cost of engineering for cross connects and the more common (60 amps or less) power cables. For new collocations, the Administrative & Project Management Fee and the Transmission Engineering Fees are combined into one.

B. Application and Augment Fees

The Application Fee is collected each time a CLEC enters a new central office (CO) or orders space in the same central office. Augment Fees are collected each time a CLEC orders changes or additions to an existing arrangement, excluding requests for additional space. The rates cover administration of the application form, engineering evaluation of the feasibility of providing service and preparing a price quote. The following workgroups are involved in new collocation applications and augment applications.

Field Service Manager (FSM) - Business & Wholesale Markets (BWM) -Primary customer contact; sends, explains & answers questions about the application, receives application and fee from customer, communicates with the customer about obvious omissions on the application; reviews price quote before sending to customer; and receives firm order commitment (FOC).

Applications Engineer (AE) - BWM - Interface between BWM and Engineering; reviews application in detail, questions customer about application, accepts customer revisions to application; tracks progress of application process; discusses customer specifications with the Network Project Manager (NPM); and creates price quote.

Network Sales Manager (NSM) - BWM - Assists in administration of application; researches policy or

Section III: Administrative, Engineering and Project Management Fees

A. Purpose

There are three types of fees costed in this section. The first type, Application and Augment fees (Minor and Major), cover the cost to administer and evaluate initial and subsequent applications for collocation services. The second type, Administrative & Project Management Fees (New Collocation, Minor Augment and Major Augment), cover the costs of administering and project managing installations of new and augmented collocations after firm order commitment. The third type, Transmission Engineering Fee, covers the cost of engineering for cross connects and the more common (60 amps or less) power cables. For new collocations, the Administrative & Project Management Fee and the Transmission Engineering Fees are combined into one.

B. Application and Augment Fees

The Application Fee is collected each time a CLEC enters a new central office (CO) or orders space in the same central office. Augment Fees are collected each time a CLEC orders changes or additions to an existing arrangement, excluding requests for additional space. The rates cover administration of the application form, engineering evaluation of the feasibility of providing service and preparing a price quote. The following workgroups are involved in new collocation applications and augment applications.

Field Service Manager (FSM) - Business & Wholesale Markets (BWM) -Primary customer contact; sends, explains & answers questions about the application; receives application and fee from customer, communicates with the customer about obvious omissions on the application; reviews price quote before sending to customer; and receives firm order commitment (FOC).

Applications Engineer (AE) - BWM - Interface between BWM and Engineering; reviews application in detail, questions customer about application, accepts customer revisions to application; tracks progress of application process; discusses customer specifications with the Network Project Manager (NPM); and creates price quote.

Network Sales Manager (NSM) - BWM - Assists in administration of application; researches policy or regulatory questions that arise during the course of the application process.

Network Project Manager (NPM) - Network Engineering (NE) - Project manages work of all engineering personnel involved in evaluating feasibility of serving the customer; coordinates communication among engineering groups in conference calls, meetings, site visits; summarizes engineering findings to assist in making price quote.

Regional Transmission Engineer (RTE) - NE - Reviews CO drawings; locates floor space in uncrowded COs.; verifies that requested space exists on main distribution frame (MDF), DSX panels, fiber patch panels, BDFB (for power runs of 60 amps or less), cable racks; also verifies that DC power plant has adequate capacity to serve customer.

Outside Plant Engineer (OSP) - Customer Service Operations (CSO) - Responsible for evaluating entrance cable requirements; Reviews CO drawings; verifies space exists in first manhole, conduits, fiber patch panels, cable racking, fiber guttering.

Power Engineer (PE) - NE - Verifies that requested space exists on main power board (for power runs greater than 60 amps), cable racks; also verifies that DC power plant has adequate capacity to serve customer.

Land & Buildings Engineer (LB) - NE - Verifies air conditioning capacity exists to serve customer equipment, and that adequate AC electric capacity exists to serve customer.

Attorney (AT) - Legal - Writes and reviews interconnection agreement language pertaining to collocation. Participates in interconnection agreement negotiations with customer.

National Accounts Manager - RWM - Assists in writing and reviewing of interconnection agreement

National Accounts Manager - BWM - Assists in writing and reviewing of interconnection agreement language pertaining to collocation. Participates in interconnection agreement negotiations with customer.

There are two levels of augments, minor and major. Minor augments include things such as DC power fuse changes or extensions of AC electric circuits for occasional use outlets and lights where sufficient circuit capacity is available. Major augments include things such as additions or removals of cross connect cables, power cables and entrance cables.

Augment fee worktimes for the Applications Engineer and the Field Service Manager are less than those in the new collocation application because there are no floor space issues to be discussed. Also, there are fewer application errors and omissions for augment applications as opposed to new applications. No legal and contract administration time is included in the augment fees. All contract work is assumed to be finished as CLECs begin filing applications for new collocation. For augment applications, the Network Project Manager, Regional Transmission Engineer, Outside Plant Engineer, Power Engineer and Land & Buildings Engineer time is reduced vs. applications for new collocation, reflecting lesser time requirements for evaluating additions and changes to existing collocation arrangements.

Time requirements for each of the workgroups listed for new and augment applications are based on SME input. SMEs provided times for worksteps performed by each workgroup, as well as the percentage of the time worksteps would occur in the process. Worktimes for each workstep are determined by multiplying SME provided worktimes by the percent of occurrence of each workstep. Final times appearing in the application and augment cost studies were determined by summing times for all worksteps to arrive at the total time required for a workgroup. Worktimes in the studies were then multiplied by current labor rates for each workgroup. Common cost has been added to the total cost of all workgroups.

C. Administrative and Project Management Fees

Administrative and Project Management Fees apply after FOC and covers the work of the Applications Engineer, Field Service Manager, Network Sales Manager, billing group, Network Project Manager, and Regional Transmission Engineer (for new collocations only). There are three fees. First is the Administrative, Engineering and Project Management Fee-New Collocation. Second is the Administrative and Project Management Fee-Minor Augment. And, third is the Administrative and Project Management Fee-Major Augment. The following workgroups are involved in new collocation and augment provisioning.

Field Service Manager (FSM) - BWM - Receives FOC and partial payment of nonrecurring charges from the customer and notifies the AE of FOC; then coordinates security access and identification badge process. Once collocation is complete, the FSM reviews the billing advisory form (BAF), which authorizes the commencement of billing to the customer; sends the billing advisory form to the Carrier Ops billing department; and closes the project tracking system.

Applications Engineer (AE) - BWM - Notifies the NPM of FOC and creates the billing advisory form; involved in communicating with the NPM, engineers and customer when further questions arise during the buildout of the arrangement.

Network Sales Manager (NSM) - BWM - Researches policy or regulatory questions that arise after FOC.

Network Project Manager (NPM) - NE - Project manages work of all engineering personnel involved in building out the collocation arrangement; coordinates communication among engineering groups, the customer and installation supervisors in conference calls, meetings, site visits; conducts the walk-thru with the customer, arranges for changes to the arrangement pursuant to the walk-thru, and completes forms documenting the results of the walk-thru; and tracks the progress of the project.

CPR/Drafting Clerk - (CPR Drafting) - NE - Updates continuing property records and CO drawings after projects have been placed in service.

Carrier Operations Associate - (Carrier Ops Assoc) - BWM - Assigns USOCs, loads billing tables and enters the billing advisory form information into the customer record.

Carrier Operations Associate - (Carrier Ops Assoc) - BWM - Assigns USOCs, loads billing tables and enters the billing advisory form information into the customer record.

Regional Transmission Engineer (RTE) - NE - Does engineering work for cross connects, cable racks, relay racks, and power runs of 60 amps or less; communicates with NPM and installation supervisors; creates and closes transmission equipment workorder; orders materials; makes specifications and drawings for installation supervisors; updates the circuit assignment system; and, tracks the progress of the transmission equipment portion of the collocation arrangement.

All the above workgroups (except the RTE) worktimes were gathered from SMEs in the collocation provisioning process. To support the worktimes of the Regional Transmission Engineers, a sample of recent work activities for new collocations was studied. For all other workgroups, SMEs provided times for worksteps performed by each workgroup, as well as the percentage of the time worksteps would occur in the process. Worktimes for each workstep are determined by multiplying SME provided worktimes by the percent of occurrence of each workstep. Final times were determined by summing times for all worksteps to arrive at the total time required for a workgroup. Final worktimes in the studies were then multiplied by current labor rates for each workgroup. Common cost has been added to the total cost of all workgroups.

D. Transmission Engineering Fees

Transmission Engineering Fees apply to minor and major augments after FOC for any collocation order that involves cross-connects, power runs of 60-amps or less, cable racks, relay racks, DS1/DS3 panels or fiber panels. See above for a description of the types of work done by a Transmission Engineer.

To support the worktimes of the Regional Transmission Engineers, samples of collocation work activities were studied for both new and augment collocation arrangements. Average worktimes developed from those samples were used in the costing of the Transmission Engineering Fees. Regional Transmission Engineer work time for minor augments is based on SME data.

Worktimes in the studies were then multiplied by current labor rates for each workgroup. Common cost has

Line	Description	Source	Hours	Labor Rate	Cost
1	Application Engineer	SME & Input Sheet Ln 21	7.00	\$ 62.82	\$ 439.74
2	Field Service Manager	SME & Input Sheet Ln 23	1.00	\$ 70.52	\$ 70.52
3	Network Sales Manager	SME & Input Sheet Ln 22	0.35	\$ 70.52	\$ 24.68
4	Network Project Manager	SME & Input Sheet Ln 24	11.00	\$ 50.55	\$ 556.05
5	Regional Transmission Engineer	SME & Input Sheet Ln 1	14.25	\$ 62.62	\$ 892.34
6	Outside Plant Engineer	SME & Input Sheet Ln 18	3.00	\$ 49.11	\$ 147.33
7	Power Engineer	SME & Input Sheet Ln 25	0.75	\$ 56.08	\$ 42.06
8	Land & Building Engineer	SME & Input Sheet Ln 26	1.25	\$ 75.71	\$ 94.64
9	Attorney	SME & Input Sheet Ln 20	1.00	\$ 88.79	\$ 88.79
10	National Account Manager	SME & Input Sheet Ln 29	1.00	\$ 70.11	\$ 70.11
11	Total Labor	Sum (Ln 1 - Ln 10)	40.60		\$ 2,426.25
12	Common Cost Factor	Input Sheet Ln 8			13.68%
13	Common Cost	Ln 11 * Ln 12			\$ 331.91
14	Application Fee per Wire Center	Ln 11 + Ln 13			\$ 2,758.17

Rate Element: New Collocation - Application Fee
Exhibit 1: Rate Calculation

A. Investment

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Hours</u>	<u>Labor Rate</u>	<u>Cost</u>
1	Application Engineer	SME & Input Sheet Ln 21	7.00	\$ 62.82	\$ 439.74
2	Field Service Manager	SME & Input Sheet Ln 23	1.00	\$ 70.52	\$ 70.52
3	Network Sales Manager	SME & Input Sheet Ln 22	0.35	\$ 70.52	\$ 24.68
4	Network Project Manager	SME & Input Sheet Ln 24	11.00	\$ 50.55	\$ 556.05
5	Regional Transmission Engineer	SME & Input Sheet Ln 1	14.25	\$ 62.62	\$ 892.34
6	Outside Plant Engineer	SME & Input Sheet Ln 18	3.00	\$ 49.11	\$ 147.33
7	Power Engineer	SME & Input Sheet Ln 25	0.75	\$ 56.08	\$ 42.06
8	Land & Building Engineer	SME & Input Sheet Ln 26	1.25	\$ 75.71	\$ 94.64
9	Attorney	SME & Input Sheet Ln 20	1.00	\$ 88.79	\$ 88.79
10	National Account Manager	SME & Input Sheet Ln 29	1.00	\$ 70.11	\$ 70.11
			40.60		
11	Total Labor	Sum (Ln 1 - Ln 10)			\$ 2,426.25
12	Common Cost Factor	Input Sheet Ln 8			13.68%
13	Common Cost	Ln 11 * Ln 12			\$ 331.91
B. Pricing					
14	Application Fee per Wire Center	Ln 11 + Ln 13			\$ 2,758.17

**Rate Elements: New Collocation - Administrative, Engineering and Project Management Fee
Exhibit 1.1: Rate Calculation**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Hours</u>	<u>Labor Rate</u>	<u>Cost</u>
1	Application Engineer	SME & Input Sheet Ln 21	0.50	\$ 62.82	\$ 31.41
2	Field Service Manager	SME & Input Sheet Ln 23	1.25	\$ 70.52	\$ 88.15
3	Network Sales Manager	SME & Input Sheet Ln 22	0.25	\$ 70.52	\$ 17.63
4	Billing	SME & Input Sheet Ln 28	0.50	\$ 36.74	\$ 18.37
5	Network Project Manager	SME & Input Sheet Ln 24 Work Activity Study &	32.50	\$ 50.55	\$ 1,642.88
6	Regional Transmission Engineer	Input Sheet Ln 1	38.50	\$ 62.62	\$ 2,410.87
7	CPR/Drafting	SME & Input Sheet Ln 27	4.00	\$ 33.07	\$ 132.28
8	Total Labor	Sum (Ln 1 - Ln 7)			\$ 4,341.59
9	Common Cost Factor	Input Sheet Ln 8			13.68%
10	Common Cost	Ln 8 * Ln 9			\$ 593.93
11	Engineering & Project Management Fee per Wire Center	Ln 8 + Ln 10			\$ 4,935.51

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Line	Description	Source	Hours	Labor Rate	Cost
1	Application Engineer	SME & Input Sheet Ln 21	5.50	\$ 62.82	\$ 345.51
2	Field Service Manager	SME & Input Sheet Ln 23	0.75	\$ 70.52	\$ 52.89
3	Network Sales Manager	SME & Input Sheet Ln 22	0.25	\$ 70.52	\$ 17.63
4	Network Project Manager	SME & Input Sheet Ln 24	2.00	\$ 50.55	\$ 101.10
5	Regional Transmission Engineer	SME & Input Sheet Ln 1	3.00	\$ 62.62	\$ 187.86
6	Total Labor	Sum (Ln 1 - Ln 5)			\$ 704.99
7	Common Cost Factor	Input Sheet Ln 8			13.68%
8	Common Cost	Ln 6 * Ln 7			\$ 96.44
B. Pricing					
9	Minor Augment Fee per Wire Center	Ln 6 + Ln 8			\$ 801.43
Major Augment Fee					
A. Investment					
Line	Description	Source	Hours	Labor Rate	Cost
10	Application Engineer	SME & Input Sheet Ln 21	5.50	\$ 62.82	\$ 345.51
11	Field Service Manager	SME & Input Sheet Ln 23	0.75	\$ 70.52	\$ 52.89
12	Network Sales Manager	SME & Input Sheet Ln 22	0.25	\$ 70.52	\$ 17.63
13	Network Project Manager	SME & Input Sheet Ln 24	2.00	\$ 50.55	\$ 341.21
14	Regional Transmission Engineer	SME & Input Sheet Ln 1	3.00	\$ 62.62	\$ 187.86

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Rate Element: Augmentation Fees
Exhibit 1.2: Rate Calculation

Minor Augment Fee

A. Investment

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Hours</u>	<u>Labor Rate</u>	<u>Cost</u>
1	Application Engineer	SME & Input Sheet Ln 21	5.50	\$ 62.82	\$ 345.51
2	Field Service Manager	SME & Input Sheet Ln 23	0.75	\$ 70.52	\$ 52.89
3	Network Sales Manager	SME & Input Sheet Ln 22	0.25	\$ 70.52	\$ 17.63
4	Network Project Manager	SME & Input Sheet Ln 24	2.00	\$ 50.55	\$ 101.10
5	Regional Transmission Engineer	SME & Input Sheet Ln 1	3.00	\$ 62.62	\$ 187.86
6	Total Labor	Sum (Ln 1 - Ln 5)			\$ 704.99
7	Common Cost Factor	Input Sheet Ln 8			13.68%
8	Common Cost	Ln 6 * Ln 7			\$ 96.44
B. Pricing					
9	Minor Augment Fee per Wire Center	Ln 6 + Ln 8			\$ 801.43

Major Augment Fee

A. Investment

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Hours</u>	<u>Labor Rate</u>	<u>Cost</u>
10	Application Engineer	SME & Input Sheet Ln 21	5.50	\$ 62.82	\$ 345.51
11	Field Service Manager	SME & Input Sheet Ln 23	0.75	\$ 70.52	\$ 52.89
12	Network Sales Manager	SME & Input Sheet Ln 22	0.25	\$ 70.52	\$ 17.63
13	Network Project Manager	SME & Input Sheet Ln 24	6.75	\$ 50.55	\$ 341.21
14	Regional Transmission Engineer	SME & Input Sheet Ln 1	8.75	\$ 62.62	\$ 547.93
15	Outside Plant Engineer	SME & Input Sheet Ln 18	1.75	\$ 49.11	\$ 85.94
16	Power Engineer	SME & Input Sheet Ln 25	0.50	\$ 56.08	\$ 28.04
17	Total Labor	Sum (Ln 10 - Ln 16)			\$ 1,419.15
18	Common Cost Factor	Input Sheet Ln 8			13.68%
19	Common Cost	Ln 17 * Ln 18			\$ 194.14
B. Pricing					
20	Major Augment Fee per Wire Center	Ln 17 + Ln 19			\$ 1,613.29

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Line	Description	Source	Hours	Labor Rate	Cost
13	Common Cost	Ln 11 * Ln 12			\$ 68.53
14	Minor Augment - Transmission Engineering Cost	Ln 11 + Ln 13			\$ 569.49
24	Major Engineering and Project Management Augmentation Fee	Ln 21 + Ln 23			\$ 1,451.88
25	Regional Transmission Engineer	Work Activity Study & Input Sheet Ln 1	23.50	\$ 62.62	\$ 1,471.57
26	Common Cost Factor	Input Sheet Ln 8			13.68%
27	Common Cost	Ln 25 * Ln 26			\$ 201.31
28	Major Augment - Transmission Engineering Cost	Ln 25 + Ln 27			\$ 1,672.88

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Rate Element: Augments - Administrative & Project Management Fee
Exhibit 1.3: Rate Calculation

Minor Augment - Administrative & Project Management Fee

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Hours</u>	<u>Labor Rate</u>	<u>Cost</u>
1	Application Engineer	SME & Input Sheet Ln 21	0.50	\$ 62.82	\$ 31.41
2	Field Service Manager	SME & Input Sheet Ln 23	0.75	\$ 70.52	\$ 52.89
3	Network Sales Manager	SME & Input Sheet Ln 22	0.25	\$ 70.52	\$ 17.63
4	Billing	SME & Input Sheet Ln 28	0.50	\$ 36.74	\$ 18.37
5	Network Project Manager	SME & Input Sheet Ln 24	7.25	\$ 50.55	\$ 366.49
6	CPR/Drafting	SME & Input Sheet Ln 27	0.75	\$ 33.07	\$ 24.80
7	Total Labor	Sum (Ln 1 - Ln 6)			\$ 511.59
8	Common Cost Factor	Input Sheet Ln 8			13.68%
9	Common Cost	Ln 7 * Ln 8			\$ 69.99
Minor Engineering and Project Management Augmentation Cost -					
10		Ln 7 + Ln 9			\$ 581.58

Minor Augment - Transmission Engineering Fee

11	Regional Transmission Engineer	SME & Input Sheet Ln 1	8.00	\$ 62.62	\$ 500.96
12	Common Cost Factor	Input Sheet Ln 8			13.68%
13	Common Cost	Ln 11 * Ln 12			\$ 68.53
Minor Augment - Transmission Engineering Cost					
14		Ln 11 + Ln 13			\$ 569.49

Major Augment - Administrative & Project Management Fee

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Hours</u>	<u>Labor Rate</u>	<u>Cost</u>
15	Application Engineer	SME & Input Sheet Ln 21	0.50	\$ 62.82	\$ 31.41
16	Field Service Manager	SME & Input Sheet Ln 23	0.75	\$ 70.52	\$ 52.89
17	Network Sales Manager	SME & Input Sheet Ln 22	0.25	\$ 70.52	\$ 17.63
18	Billing	SME & Input Sheet Ln 28	0.50	\$ 36.74	\$ 18.37
19	Network Project Manager	SME & Input Sheet Ln 24	21.25	\$ 50.55	\$ 1,074.19
20	CPR/Drafting	SME & Input Sheet Ln 27	2.50	\$ 33.07	\$ 82.68
21	Total Labor	Sum (Ln 15 - Ln 20)			\$ 1,277.16
22	Common Cost Factor	Input Sheet Ln 8			13.68%
23	Common Cost	Ln 21 * Ln 22			\$ 174.72
Major Engineering and Project Management Augmentation Fee					
24		Ln 21 + Ln 23			\$ 1,451.88

Major Augment - Transmission Engineering Fee

25	Regional Transmission Engineer	Work Activity Study & Input Sheet Ln 1	23.50	\$ 62.62	\$ 1,471.57
26	Common Cost Factor	Input Sheet Ln 8			13.68%
27	Common Cost	Ln 25 * Ln 26			\$ 201.31
Major Augment - Transmission Engineering Cost					
28		Ln 25 + Ln 27			\$ 1,672.88

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5 Section IV: Space Report

6

7 A. Purpose

8

9 In accordance with the FCC's 4th Report & Order, 47CFR Sec 51.321 (h), upon request, an incumbent

10 LEC must submit to the requesting carrier within ten days a report describing in detail the space that is

11 available for collocation in a particular incumbent LEC premises. The purpose of the Premises Space

12 Report study is to determine Sprint's cost of providing such a report.

13

14 B. Introduction

15

16 The premises space report rate recovers the costs incurred to satisfy the regulatory requirements of

17 preparing the report describing in detail the space that is available for collocation in a particular Sprint

18 premises. This involves labor time for the Field Service Manager (FSM), Applications Engineer (AE),

19 Network Project Manager (NPM) and Drafter. The rate for the report is applied per wire center per

20 request.

21

22 Sprint will provide six items of information in its Premises Space Report:

23 1) Square footage available for collocation

24 2) Number of other collocators in the central office (CO) (company names are not provided)

25 3) Modifications in the use of space since the last space report

26 4) Measures being taken to make additional space available

27 5) Average distance to the main distribution frame (MDF)

28 6) Average distance to the power source

29

30 The FSM takes the request and the payment from the CLEC, communicates with the AE, NPM and the

31 CLEC when questions arise, and presents and discusses the final report with the CLEC.

32

33 The AE coordinates completion of the report with the NPM, and communicates with the FSM, NPM and

34 the CLEC when questions arise.

35

36 The NP views network drawings to identify the areas within the CO where CLECs are or could be

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Section IV: Space Report

A. Purpose

In accordance with the FCC's 4th Report & Order, 47CFR Sec. 51.321 (h), upon request, an incumbent LEC must submit to the requesting carrier within ten days a report describing in detail the space that is available for collocation in a particular incumbent LEC premises. The purpose of the Premises Space Report study is to determine Sprint's cost of providing such a report.

B. Introduction

The premises space report rate recovers the costs incurred to satisfy the regulatory requirements of preparing the report describing in detail the space that is available for collocation in a particular Sprint premises. This involves labor time for the Field Service Manager (FSM), Applications Engineer (AE), Network Project Manager (NPM) and Drafter. The rate for the report is applied per wire center per request.

Sprint will provide six items of information in its Premises Space Report:

- 1) Square footage available for collocation
- 2) Number of other collocators in the central office (CO) (company names are not provided)
- 3) Modifications in the use of space since the last space report
- 4) Measures being taken to make additional space available
- 5) Average distance to the main distribution frame (MDF)
- 6) Average distance to the power source

The FSM takes the request and the payment from the CLEC; communicates with the AE, NPM and the CLEC when questions arise; and presents and discusses the final report with the CLEC.

The AE coordinates completion of the report with the NPM; and communicates with the FSM, NPM and the CLEC when questions arise.

The NP views network drawings to identify the areas within the CO where CLECs are or could be located, and to identify the nearest power source; works with the Drafter to calculate square footage available for collocation, and average distances to the MDF and power source; views network drawings and other CO records to determine the number of other collocators in the office and changes in the use of space since the last report; consults with Land & Buildings Engineers to determine measures being taken to make additional space available; communicates with the FSM, AE and the CLEC when questions arise; assembles the results of their work into a report for presentation to the CLEC; and, routes the report back to the AE.

The Drafter uses the AutoCAD system to calculate square footage available for collocation, and average distances to the MDF and power source.

C. Assumptions

The worktimes were developed by SMEs based on their experience in completing space reports.

D. Methodology

The total cost for the space report was developed by multiplying the worktimes by each applicable labor rate. The sum of the labor cost was increased by the common cost factor, resulting in the total space report cost.

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Line	Description	Source	Hours	Labor Rate	Cost
1	Field Service Manager	SME & Input Sheet Ln 23	2.00	\$ 70.52	\$ 141.04
2	Applications Engineer	SME & Input Sheet Ln 21	2.00	\$ 62.82	\$ 125.64
3	Network Project Manager	SME & Input Sheet Ln 24	9.00	\$ 50.55	\$ 454.95
4	Drafter	SME & Input Sheet Ln 27	1.00	\$ 33.07	\$ 33.07
5	Total Labor	Sum of Lns. 1-4	14.00		\$ 754.70
6	Common Cost Factor	Inputs Ln 8			13.68%
7	Common Cost	Ln 5 * Ln 6			\$ 103.24
8	Total Space Report Cost	Ln 5 * Ln 7			\$ 857.94
9	Space Report Fee per Wire Center	Ln 8			\$ 857.94

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Rate Element: Space Report
Exhibit 2: Rate Calculation

A. Investment

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Hours</u>	<u>Labor Rate</u>	<u>Cost</u>
1	Field Service Manager	SME & Input Sheet Ln 23	2.00	\$ 70.52	\$ 141.04
2	Applications Engineer	SME & Input Sheet Ln 21	2.00	\$ 62.82	\$ 125.64
3	Network Project Manager	SME & Input Sheet Ln 24	9.00	\$ 50.55	\$ 454.95
4	Drafter	SME & Input Sheet Ln 27	1.00	\$ 33.07	\$ 33.07
5	Total Labor	Sum of Lns. 1-4	14.00		\$ 754.70
6	Common Cost Factor	Inputs Ln 8			13.68%
7	Common Cost	Ln 5 * Ln 6			\$ 103.24
8	Total Space Report Cost	Ln 5 + Ln 7			\$ 857.94
9	Space Report Fee per Wire Center	Ln 8			\$ 857.94

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1	Section V: Security Cage																			
2																				
3																				
4	A. Purpose																			
5	The purpose of this cost study is to determine the cost of engineering a security enclosure for a																			
6	CLEC in a caged collocation scenario																			
7																				
8	B. Introduction																			
9																				
10	The security enclosure allows the CLEC to segregate its equipment from other CLECs. The																			
11	enclosure typically consists of an 8 foot tall chain link fence with a roll gate. For safety purposes,																			
12	the cage must be grounded via a ground bar. The CLEC must contract with and make payment																			
13	directly to Sprint's approved contractor for materials and installation costs of the cage. Sprint																			
14	provides engineering for the job.																			
15	C. Methodology																			
16																				
17	An engineering charge is applied as a fixed fee. Engineering was determined from a sample of																			
18	cage construction work activities. Following is a description of the work done by engineers for cage																			
19	construction:																			
20	Land & Buildings Engineer (LB) - NE - Does engineering work for cage construction;																			
21	communicates with NPM and building contractors; creates and closes buildings workorder; makes																			
22	specifications and drawings for contractors; approves work of contractors; and, tracks the progress																			
23	of the buildings portion of the collocation arrangement																			
24																				
25	Common cost was added to the fixed engineering fee.																			
26																				
27																				
28																				
29																				
30																				

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Section V: Security Cage

A. Purpose

The purpose of this cost study is to determine the cost of engineering a security enclosure for a CLEC in a caged collocation scenario.

B. Introduction

The security enclosure allows the CLEC to segregate its equipment from other CLECs. The enclosure typically consists of an 8 foot tall chain link fence with a roll gate. For safety purposes, the cage must be grounded via a ground bar. The CLEC must contract with and make payment directly to Sprint's approved contractor for materials and installation costs of the cage. Sprint provides engineering for the job.

C. Methodology

An engineering charge is applied as a fixed fee. Engineering was determined from a sample of cage construction work activities. Following is a description of the work done by engineers for cage construction:

Land & Buildings Engineer (LB) - NE - Does engineering work for cage construction; communicates with NPM and building contractors; creates and closes buildings workorder; makes specifications and drawings for contractors; approves work of contractors; and, tracks the progress of the buildings portion of the collocation arrangement.

Common cost was added to the fixed engineering fee.

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Line	Source	Investment
1	Engineering Labor	\$ 605.88
2	Common Cost Factor	13.68%
3	Common Cost	\$ 82.86
4	Total Fixed Cost - Engineering	\$ 688.54

Security Cage Narrative / Security Cage / Floor Space Narrative / Floor Space / DC Power Narrative / DC Power Per Load Amp / DC Power Connection 30 amp

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Rate Element: Security Cage
Exhibit 3: Rate Calculation

A. Fixed Cost - Engineering

<u>Line</u>		<u>Source</u>	<u>Investment</u>
1	Engineering Labor	Wp 3, Ln 1	\$ 605.68
2	Common Cost Factor	Input Sheet Ln 8	13.68%
3	Common Cost	Ln 1 * Ln 2	\$ 82.86
4	Total Fixed Cost - Engineering	Ln 1 + Ln 3	\$ 688.54

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	
3																					
4		A. Purpose																			
5																					
6		The purpose of this cost study is to determine the cost of providing central office (CO) transmission floor																			
7		space to CLECs. The floor space may either be located in an enclosure such as a wire cage, or it may be																			
8		cageless or virtual																			
9																					
10		B. Introduction																			
11																					
12		The floor space element represents the actual footprint enclosed within a cage or, for cageless or virtual																			
13		collocation, upon which the equipment is installed. The smallest increment of floor space provided is for a																			
14		single bay of equipment. There is no difference in the cost per foot of physical, cageless or virtual																			
15		collocation floor space.																			
16																					
17		The chargeable floor space footprint for cageless or virtual collocation will be determined on the basis of a																			
18		measurement of the width of the relay rack housing the equipment, and the depth of the largest piece of																			
19		equipment to be housed within that rack plus 18 inches of access space added to both the front and back of																			
20		the equipment																			
21																					
22		The floor space rate recovers the cost of the building including electrical and mechanical sub-systems and																			
23		security arrangements. The floor space rate recovers the costs to run the environmental control systems,																			
24		commonly referred to as HVAC (Heating, Ventilation and Air Conditioning). Also, the cost of the land where																			
25		the building is located is recovered in this rate. Some space in the CO is either shared support space, upon																			
26		which no switching or transmission gear rests, or space reserved for the future growth of both Sprint and																			
27		CLEC operations. Accordingly, the cost of assignable transmission space has been increased to include a																			
28		proportionate share of shared support and growth space in order that Sprint may recover its full investment																			
29		in CO land and buildings shared by CLECs. Shared support space includes areas such as stairways,																			
30		elevators, hallways, aisle space around equipment racks, restrooms, loading docks, staging areas and air																			
31		conditioning rooms. Floor space charges are recovered on a monthly basis.																			
32																					
33		Sprint's floor space rate is determined on a TELRIC basis. Building investment, including architectural and																			
34		engineering fees and construction project management fees, are determined based on recent RS Means																			
35		data for telephone exchange buildings. Investments are determined as though CO buildings that house																			
		Security Cage Narrative / Security Cage / Floor Space Narrative / Floor Space / DC Power Narrative / DC Power Per Load Amp / DC Power Connection 30 amp																			

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Section VI: Floor Space

A. Purpose

The purpose of this cost study is to determine the cost of providing central office (CO) transmission floor space to CLECs. The floor space may either be located in an enclosure such as a wire cage, or it may be cageless or virtual.

B. Introduction

The floor space element represents the actual footprint enclosed within a cage or, for cageless or virtual collocation, upon which the equipment is installed. The smallest increment of floor space provided is for a single bay of equipment. There is no difference in the cost per foot of physical, cageless or virtual collocation floor space.

The chargeable floor space footprint for cageless or virtual collocation will be determined on the basis of a measurement of the width of the relay rack housing the equipment, and the depth of the largest piece of equipment to be housed within that rack plus 18 inches of access space added to both the front and back of the equipment.

The floor space rate recovers the cost of the building including electrical and mechanical sub-systems and security arrangements. The floor space rate recovers the costs to run the environmental control systems, commonly referred to as HVAC (Heating, Ventilation and Air Conditioning). Also, the cost of the land where the building is located is recovered in this rate. Some space in the CO is either shared support space, upon which no switching or transmission gear rests, or space reserved for the future growth of both Sprint and CLEC operations. Accordingly, the cost of assignable transmission space has been increased to include a proportionate share of shared support and growth space in order that Sprint may recover its full investment in CO land and buildings shared by CLECs. Shared support space includes areas such as stairways, elevators, hallways, aisle space around equipment racks, restrooms, loading docks, staging areas and air conditioning rooms. Floor space charges are recovered on a monthly basis.

Sprint's floor space rate is determined on a TELRIC basis. Building investment, including architectural and engineering fees and construction project management fees, are determined based on recent RS Means data for telephone exchange buildings. Investments are determined as though CO buildings that house conditioned transmission space are newly constructed all at one time. For this reason, Sprint assesses no additional charges for routine site preparation.

However, this methodology does not preclude Sprint from imposing modification charges in special circumstances. In buildings where Sprint houses both a CO and administration or warehousing space and the CO is determined to be full, a CLEC may request that the non-CO (administration or warehouse) space be modified for transmission area use.

In these circumstances, Sprint is allowed to recover "make ready" costs. Make ready costs are large-scale investments in the HVAC and structural systems to allow CO equipment to be used. The environmental requirements for CO equipment are much more demanding than for example, a call center and thus, require more HVAC and structural support.

With the addition of CLECs into Sprint's COs, additional security arrangements were added. The FCC allows for the recovery of the additional security cost per the First Report and Order (FCC 99-48) as follows:

We (FCC) expect that state commissions will permit incumbent LECs to recover the costs of implementing these security measures from collocating carriers in a reasonable manner.

The additional security arrangements that Sprint is proposing vary by CO. In general, these arrangements are electronic locks and security access card readers.

C. Methodology

The first step was to develop the per square foot investment of the building. The building investment is determined by using Means Cost Works, a software product from RS Means.

About R.S. Means (www.rsmeans.com/about):

R.S. Means is North America's leading supplier of construction cost information. As a member of the Construction Market Data Group, Means provides accurate and up-to-date cost information that helps owners developers, architects, engineers, contractors and others to carefully and precisely project and control the cost of both new building construction and renovation projects. In addition to its collection of annual construction cost data books, Means also offers construction estimating and facilities management seminars, electronic cost databases and software, reference books, and consulting services. Means also has a number of product solutions for construction professionals who focus on construction in Canada, Mexico and Russia.

This software allows the user to enter the first three digits of a zip code to determine the local area specific construction investment of a building. A statewide investment per foot was calculated by weighting the investment per foot for each CO by the access lines for each CO. Architectural, engineering and construction project management fees are then added to construction investment per square foot. (RS Means construction investment per square foot does not include those items.) RS Means software expresses these fees as percentage additions to construction investment. Investment per square foot for architectural, engineering and construction project management fees was determined by applying the appropriate percentage to the statewide construction investment.

Security investment was then added to the statewide average investment per foot. A sample of security additions was studied to determine the security investment additive. Studied security additions were for access card reader systems. The security addition for each CO was divided by the square footage of that CO resulting in a security investment per foot. The average of these security additions were calculated and added to floor space investment per square foot.

The land investment is determined by taking a ratio of the land account to the buildings account per the state general ledger, times the total of construction, architect, engineering, and project management investment.

The total of land and building investment is then grossed-up to include a proportionate amount of shared support and growth space in the CO. The shared support and growth space factor was determined by analyzing floor plan drawings for five Sprint COs. The COs represent a cross section of small, medium and large sized COs. Detail measurements were taken of the CO drawings and all space was categorized as transmission, shared support and growth square footage. The sum of shared support and growth square footage was divided over the total square footage to arrive at the percentage of shared support and growth space. Shared support and growth factors were weighted by the total square footage for each of the five COs.

The remaining item included in floor space investment is the ground bar, which is used for grounding cages and equipment racks. The grounding connection investment per square foot includes the CLEC area ground bar, cabling to the CO main ground bar, installation and engineering. Ground bar investment is based on a recent contractor quote for the installed cost of a ground bar. Ground bar engineering was based on SME data. Grounding cost is added to other floor space investment to determine a total floor space investment per assignable square foot of transmission space.

Floor space investment is then multiplied by the buildings annual charge factor to arrive at an annual cost. Annual cost is divided by twelve months, and common cost is then added to arrive at the floor space rate.

Line		Source	Investment
A. Investment			
1	Building Investment per Sq. Ft.	Wp 4, Ln 16	\$ 341.70
B. Annual Cost			
2	Annual Charge Factor - Land and Buildings	Input Sheet Ln 4	24.31%
3	Direct Cost	Ln 1 * Ln 2	\$ 83.07
4	Common Cost Factor	Input Sheet Ln 8	13.68%
5	Common Cost	Ln 3 * Ln 4	\$ 11.36
6	Total Annual Cost	Ln 3 + Ln 5	\$ 94.43
C. Pricing			
7	Monthly Rate per Square Foot	Ln 6 / 12	\$ 7.87

**Rate Element: Floor Space
Exhibit 4: Rate Calculation**

A. Investment		
<u>Line</u>	<u>Source</u>	<u>Investment</u>
1	Building Investment per Sq. Ft. Wp 4, Ln 16	\$ 341.70
B. Annual Cost		
2	Annual Charge Factor - Land and Buildings Input Sheet Ln 4	24.31%
3	Direct Cost Ln 1 * Ln 2	\$ 83.07
4	Common Cost Factor Input Sheet Ln 8	13.68%
5	Common Cost Ln 3 * Ln 4	\$ 11.36
6	Total Annual Cost Ln 3 + Ln 5	\$ 94.43
C. Pricing		
7	Monthly Rate per Square Foot Ln 6 / 12	\$ 7.87

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2	Section VII: DC Power																			
3	A. Purpose																			
5	The purpose of this cost study is to determine the cost of providing direct current (DC) power to																			
6	CLECs. Studies in this section cover both DC power consumption, and the DC power connection																			
7	from the Sprint power source to the CLEC's equipment.																			
9	B. Introduction																			
11	DC power is the power supply that runs telecommunications equipment. Two components of cost																			
12	are recovered through the monthly recurring charge (MRC) for DC power consumption. The first is																			
13	the recovery of annual costs related to the DC power plant itself. The second component is the cost																			
14	of the commercial AC power consumed in the DC power plant. These items are recovered through																			
15	a MRC per load amp ordered. Costs for cabling, miscellaneous materials and installation labor to																			
16	connect the CLEC's collocation to the power supply are the responsibility of the CLEC. The CLEC																			
17	must contract with and make payment directly to a Sprint approved contractor for DC power cabling																			
18	materials and installation labor. An MRC is assessed on the pro forma installed cost of the power																			
19	cabling to recover cost of removal related to the power cable connection.																			
20	AC power comes from the commercial electric utility, or in cases of power failure, from a backup																			
21	generator. The AC power travels through a power distribution service cabinet to the rectifiers,																			
22	which convert AC power into DC power. The number of rectifiers are determined by the power																			
23	requirements of the CO with one spare for smaller offices and two spares for larger offices. The																			
24	rectifiers are constantly recharging the batteries. Batteries are used to ensure that the telephone																			
25	network stays operational even if commercial AC power is lost.																			
26	The power from either the rectifiers or the batteries then travels to the main power boards. The																			
27	main power board distributes the power to the CLEC's collocation area (in smaller offices) or battery																			
28	distribution fuse boards (BDFB) in larger offices. From the BDFB, the power is sent to the CLEC's																			
29	collocation area. From the back-up generator to the BDFB is considered DC power plant																			
	investment																			

Security Cage Narrative / Security Cage / Floor Space Narrative / Floor Space / DC Power Narrative / DC Power Per Load Amp / DC Power Connection 30 amp

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Section VII: DC Power

A. Purpose

The purpose of this cost study is to determine the cost of providing direct current (DC) power to CLECs. Studies in this section cover both DC power consumption, and the DC power connection from the Sprint power source to the CLEC's equipment.

B. Introduction

DC power is the power supply that runs telecommunications equipment. Two components of cost are recovered through the monthly recurring charge (MRC) for DC power consumption. The first is the recovery of annual costs related to the DC power plant itself. The second component is the cost of the commercial AC power consumed in the DC power plant. These items are recovered through a MRC per load amp ordered. Costs for cabling, miscellaneous materials and installation labor to connect the CLEC's collocation to the power supply are the responsibility of the CLEC. The CLEC must contract with and make payment directly to a Sprint approved contractor for DC power cabling materials and installation labor. An MRC is assessed on the pro forma installed cost of the power cabling to recover cost of removal related to the power cable connection.

AC power comes from the commercial electric utility, or in cases of power failure, from a backup generator. The AC power travels through a power distribution service cabinet to the rectifiers, which convert AC power into DC power. The number of rectifiers are determined by the power requirements of the CO with one spare for smaller offices and two spares for larger offices. The rectifiers are constantly recharging the batteries. Batteries are used to ensure that the telephone network stays operational even if commercial AC power is lost.

The power from either the rectifiers or the batteries then travels to the main power boards. The main power board distributes the power to the CLEC's collocation area (in smaller offices) or battery distribution fuse boards (BDFB) in larger offices. From the BDFB, the power is sent to the CLEC's collocation area. From the back-up generator to the BDFB is considered DC power plant investment.

The monthly rate for DC power consumption is billed on the basis of total load amps ordered.

MRCs for the CLEC connection to the power source are priced in four size increments: up to 30, 35 to 60, 70 to 100 and 125 to 200 fused amps.

C. Assumptions

Different sizes of central offices, as measured by access lines, require different sizes of power plants measured by amps. The more access lines served, the larger the power plant requirement. Sprint calculates costs for six sizes of power plants: 200, 400, 600, 1000, 2000 and 4000-amp plants.

The cost of the DC power plant is determined on a TELRIC basis. That is, it is a forward-looking cost, determined using current technology, equipment prices, installation costs and assumes that the power plant is built all at one time. This allows for economies of scale as it relates to labor charges.

Average usage of the DC power plant is approximately 80% of capacity based on design criteria.

D. Methodology

Power Plant Charges

The first step was to determine the investment in the equipment used in each of the six different power plants other than the power generator. Sprint Power Engineers provided specifications for the six DC power plant sizes. A large national vendor of turnkey DC power plant installations provided price quotes that included the following components: rectifiers, batteries, power boards, battery distribution fuse boards, power monitoring equipment, cabling and cable racking between power plant components, miscellaneous materials, grounding, freight, contractor engineering and installation. Sales tax was added to all materials charges.

Generator, transfer switch and related equipment costs were determined from price lists of another national vendor. Generator sizes were determined by examining engineering records of generators in service and correlating generator and power plant sizes. Engineering, installation labor and overheads for generators was determined from a study of recently closed generator work activities.

The installed cost of the AC power distribution service cabinet was provided by a vendor of AC power equipment.

Company engineering requirements for determining specifications, writing work activities, updating drawings and conducting acceptance testing were provided by Sprint Power Engineers. And, overhead charges for components other than generators were determined from a study of recently closed switching and power work activities.

The total power plant investment is then divided by the average power plant output to derive an investment per amp. Power plant investments per amp are then assigned to each CO based upon the access lines served from each CO. A statewide average investment per amp is then calculated based upon the access lines served from each central office.

An annual charge factor is applied to the statewide investment resulting in an annual cost per amp.

The cost of commercial AC power per DC amp are determined from the ILEC's recently paid utility bills for powering central offices, which are recorded in FCC Account 6531. The sum of the bills' total charges are divided by the bills' total kilowatt-hours (kwh) to yield an average cost per kwh. The average cost per kwh can then be converted by formula to an average commercial power cost per DC amp. The formula shows that for each DC amp used, a total of 44.728 kwh are used monthly. The 44.728 kwh is multiplied by the average cost per kwh to arrive at the AC power cost of one amp of DC power.

Total DC power consumption cost per load amp is determined by adding the per amp cost of the power plant to the per amp cost of commercial AC power. Last, the sum of power plant and commercial AC power cost is increased by an allocation of common costs.

Connection Charges

Power cable connection charges recover the costs of cable racking and cost of removal related to cabling that terminates at the CLEC's collocation arrangement. The Up to 30 and 35 to 60-amp options are sourced from the BDFB. The 70 to 100 and 125 to 200-amp options are sourced from the main power board.

Pricing for 100 and 200-amp options does not include building modification costs such as core drilling, asbestos removal or dedicated cable racking, etc. that could possibly be necessary in a cable run from the main power board to a collocation arrangement. In the event that any modifications are necessary, they would be costed and billed on an individual case basis.

A pro forma installed cost of power cabling was calculated as a base upon which cost of removal is calculated. All components of power cable connection cost were determined based on recent actual work activities and contractor quote data. A miscellaneous materials additive was also determined from a study of recent work activities for power installations. Standard power cable distances from the power source to the collocation arrangement were determined from a study of actual distances from a sample of central offices.

Because power cable runs to the main power board can be very lengthy, Sprint has provided incremental pricing for the 70 to 100-amp and 125 to 200-amp cable runs in excess of the standard lengths. Sprint power engineering developed a work activity costing based on data from power contractors for 350 foot length power cable runs for 100 and 200-amp cabling options. An incremental cost per linear foot was developed by subtracting the standard distance 100 and 200-amp costs from the corresponding 350 foot costs. The cost differences were then divided by the difference between 350 feet and the standard run length to arrive at an incremental cost per foot.

An NRC for engineering was computed for the 100 and 200-amp power cable options. (Engineering for 30 and 60-amp cables is done by Transmission Engineers.) Engineering time was determined from Sprint power engineering's development of work activity costing for 100 and 200-amp cabling options. Following is a description of the work done by engineers for power cabling:

Power Engineer (PE) - Does engineering work for power runs greater than 60 amps; communicates with NPM and power contractors; creates and closes power workorder; approves work of contractors; assigns fuse to customer; and tracks the progress of the power portion of the collocation arrangement.

The monthly recurring charge for power cabling recovers cable racking costs and cost of removal.

Common costs were added to all power cable NRCs and MRCs.

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Line	Source	Investment
A. Investment		
1	DC Power Investment Wp 4 1, Ln CC2	\$ 463.00
B. Annual Cost		
2	Annual Charge Factor - DC Power Input Sheet Ln 9	29.03%
3	Direct Cost - DC Power Plant Ln 1 * Ln 2	\$ 134.41
4	Cost per Amp for Commercial AC Power Usage Wp 5 8, Ln 3	\$ 3.00
5	Annual Cost for Commercial AC Power per Amp Ln 4 * Ln 2	\$ 36.01
6	Total Direct Cost + Commercial AC Power Ln 3 + Ln 5	\$ 170.42
7	Common Cost Factor Input Sheet Ln 8	13.68%
8	Common Cost Ln 6 * Ln 7	\$ 23.31
9	Total Annual Cost Ln 6 + Ln 8	\$ 193.74
C. Pricing		
10	Monthly Rate per Load Amp Ln 9 / Ln 2	\$ 16.14

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Rate Element: DC Power Cost - Per Load Amp Ordered
Exhibit 5.0: Rate Calculation

<u>Line</u>		<u>Source</u>	<u>Investment</u>
A. Investment			
1	DC Power Investment	Wp 4.1, Ln CC2	\$ 463.00
B. Annual Cost			
2	Annual Charge Factor - DC Power	Input Sheet Ln 9	29.03%
3	Direct Cost - DC Power Plant	Ln 1 * Ln 2	\$ 134.41
4	Cost per Amp for Commercial AC Power Usage	Wp 5.8, Ln 3	\$ 3.00
5	Annual Cost for Commercial AC Power per Amp	Ln 4 * 12	\$ 36.01
6	Total Direct Cost + Commercial AC Power	Ln 3 + Ln 5	\$ 170.42
7	Common Cost Factor	Input Sheet Ln 8	13.68%
8	Common Cost	Ln 6 * Ln 7	\$ 23.31
9	Total Annual Cost	Ln 6 + Ln 8	\$ 193.74
C. Pricing			
10	Monthly Rate per Load Amp	Ln 9 / 12	\$ 16.14

Line	Source	Investment
Rate Element: Connection to Power Plant 30 Amps (for feeds up to 30 Amps)		
Exhibit 5.1: Rate Calculation - 30 amp		
A. Investment		
1	DC Power Investment	Wp 5.9, Ln 8 \$ 1,451.55
2	Cable Racking	Wp 12, Ln 7*4 \$ 148.53
B. Annual Cost		
3	Cost of Removal Factor - Power Cable	Input Sheet Ln 34 1.17%
4	Direct Cost - DC Power Investment	Ln 1 * Ln 3 \$ 16.98
5	Common Cost Factor	Input Sheet Ln 8 13.68%
6	Common Cost	Ln 4 * Ln 5 \$ 2.32
7	Annual Cost of Removal - Power Cable	Ln 4 + Ln 6 \$ 19.30
8	DC Power Annual Charge Factor	Input Sheet Ln 9 29.03%
9	Direct Cost - Shared Cable Racking	Ln 2 * Ln 8 \$ 43.12
10	Common Cost Factor	Input Sheet Ln 8 13.68%
11	Common Cost	Ln 9 * Ln 10 \$ 5.90
12	Total Annual Cost Cable Racking	Ln 9 + Ln 11 \$ 49.02
C. Rates		
13	Monthly Recurring Charge	(Ln 7 + Ln 12) / 12 \$ 5.69

Rate Element: Connection to Power Plant 30 Amps (for feeds up to 30 Amps)
Exhibit 5.1: Rate Calculation - 30 amp

A. Investment

<u>Line</u>		<u>Source</u>	<u>Investment</u>
1	DC Power Investment	Wp 5.9, Ln 8	\$ 1,451.55
2	Cable Racking	Wp 12, Ln 7*4	\$ 148.53

B. Annual Cost

3	Cost of Removal Factor - Power Cable	Input Sheet Ln 34	1.17%
4	Direct Cost - DC Power Investment	Ln 1 * Ln 3	\$ 16.98
5	Common Cost Factor	Input Sheet Ln 8	13.68%
6	Common Cost	Ln 4 * Ln 5	\$ 2.32
7	Annual Cost of Removal - Power Cable	Ln 4 + Ln 6	\$ 19.30
8	DC Power Annual Charge Factor	Input Sheet Ln 9	29.03%
9	Direct Cost - Shared Cable Racking	Ln 2 * Ln 8	\$ 43.12
10	Common Cost Factor	Input Sheet Ln 8	13.68%
11	Common Cost	Ln 9 * Ln 10	\$ 5.90
12	Total Annual Cost Cable Racking	Ln 9 + Ln 11	\$ 49.02

C. Rates

13	Monthly Recurring Charge	(Ln 7 + Ln 12) / 12	\$ 5.69
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Line	Source	Investment
A. Investment		
1	DC Power Investment Wp 5 Ln 10, Ln 8	\$ 2,381.54
2	Cable Racking Wp 12, Ln 8*4	\$ 196.27
B. Annual Cost		
3	Cost of Removal Factor - Power Cable Input Sheet Ln 34	1.17%
4	Direct Cost - DC Power Investment Ln 1 * Ln 3	\$ 27.88
5	Common Cost Factor Input Sheet Ln 8	13.68%
6	Common Cost Ln 4 * Ln 5	\$ 3.81
7	Annual Cost of Removal - Power Cable Ln 4 + Ln 6	\$ 31.67
8	DC Power Annual Charge Factor Input Sheet Ln 9	29.03%
9	Direct Cost - Shared Cable Racking Ln 2 * Ln 8	\$ 56.98
10	Common Cost Factor Input Sheet Ln 8	13.68%
11	Common Cost Ln 9 * Ln 10	\$ 7.79
12	Total Annual Cost Cable Racking Ln 9 + Ln 11	\$ 64.77
C. Pricing		
13	Monthly Recurring Charge (Ln 7 + Ln 12) / 12	\$ 8.04

Rate Element: Connection to Power Plant 60 Amps (for feeds from 35 to 60 Amps)
Exhibit 5.2: Rate Calculation - 60 amp

A. Investment

<u>Line</u>		<u>Source</u>	<u>Investment</u>
1	DC Power Investment	Wp 5.10, Ln 8	\$ 2,381.54
2	Cable Racking	Wp 12, Ln 8*4	\$ 196.27

B. Annual Cost

3	Cost of Removal Factor - Power Cable	Input Sheet Ln 34	1.17%
4	Direct Cost - DC Power Investment	Ln 1 * Ln 3	\$ 27.86
5	Common Cost Factor	Input Sheet Ln 8	13.68%
6	Common Cost	Ln 4 * Ln 5	\$ 3.81
7	Annual Cost of Removal - Power Cable	Ln 4 + Ln 6	\$ 31.67
8	DC Power Annual Charge Factor	Input Sheet Ln 9	29.03%
9	Direct Cost - Shared Cable Racking	Ln 2 * Ln 8	\$ 56.98
10	Common Cost Factor	Input Sheet Ln 8	13.68%
11	Common Cost	Ln 9 * Ln 10	\$ 7.79
12	Total Annual Cost Cable Racking	Ln 9 + Ln 11	\$ 64.77

C. Pricing

13	Monthly Recurring Charge	(Ln 7 + Ln 12) / 12	\$ 8.04
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Line	Source	Base Charge	Incremental Per Foot > 110 Feet
A. Investment			
1	DC Power Cable Investment	Wp 5, 11, Ln 7 & Ln 17	\$ 7,727.65 \$ 148.74
2	Cable Racking	Wp 12, Ln 9*4, & Ln 11*4	\$ 310.53 \$ 2.82
3	Engineering Investment	Wp 5, 11, Ln 4 & Ln 18	\$ 469.65 \$ 2.13
B. Annual Cost			
4	Cost of Removal Factor - Power Cable	Input Sheet Ln 34	1.17% 1.17%
5	Direct Cost - DC Power Cable	Ln 1 * Ln 4	\$ 90.41 \$ 1.74
6	Common Cost Factor	Input Sheet Ln 8	13.68% 13.68%
7	Common Cost	Ln 5 * Ln 6	\$ 12.37 \$ 0.24
8	Annual Cost of Removal - Power Cable	Ln 5 + Ln 7	\$ 102.78 \$ 1.98
9	DC Power Annual Charge Factor	Input Sheet Ln 9	29.03% 29.03%
10	Direct Cost - Shared Cable Racking	Ln 2 * Ln 9	\$ 90.15 \$ 0.82
11	Common Cost Factor	Input Sheet Ln 8	13.68% 13.68%
12	Common Cost	Ln 10 * Ln 11	\$ 12.33 \$ 0.11
13	Total Annual Cost Cable Racking	Ln 10 + Ln 12	\$ 102.48 \$ 0.93
14	Engineering Investment	Ln 3	\$ 469.65 \$ 2.13
15	Common Cost Factor	Input Sheet Ln 8	13.68% 13.68%
16	Common Cost	Ln 14 * Ln 15	\$ 64.25 \$ 0.29
17	Total Engineering Cost	Ln 14 + Ln 16	\$ 533.90 \$ 2.42
C. Pricing			
18	Monthly Recurring Charge	(Ln 8 + Ln 13) / 12	\$ 17.10 \$ 0.24

DC Power Connection 30 amp / DC Power Connection 60 amp / DC Power Connection 100 amp / DC Power Connection 200 amp / DC Power.ppt / Outlet & Lk

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Rate Element: Connection to Power Plant 100 Amps (for feeds from 70 to 100 Amps)
Exhibit 5.3: Rate Calculation - 100 amp

A. Investment

Line	Source	Incremental Per Foot >		
		Base Charge	110 Feet	
1	DC Power Cable Investment	Wp 5.11, Ln 7 & Ln 17	\$ 7,727.65	\$ 148.74
2	Cable Racking	Wp 12, Ln 9*4, & Ln 11*4	\$ 310.53	\$ 2.82
3	Engineering Investment	Wp 5.11, Ln 4 & Ln 18	\$ 469.65	\$ 2.13

B. Annual Cost

4	Cost of Removal Factor - Power Cable	Input Sheet Ln 34	1.17%	1.17%
5	Direct Cost - DC Power Cable	Ln 1 * Ln 4	\$ 90.41	\$ 1.74
6	Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
7	Common Cost	Ln 5 * Ln 6	\$ 12.37	\$ 0.24
8	Annual Cost of Removal - Power Cable	Ln 5 + Ln 7	\$ 102.78	\$ 1.98
9	DC Power Annual Charge Factor	Input Sheet Ln 9	29.03%	29.03%
10	Direct Cost - Shared Cable Racking	Ln 2 * Ln 9	\$ 90.15	\$ 0.82
11	Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
12	Common Cost	Ln 10 * Ln 11	\$ 12.33	\$ 0.11
13	Total Annual Cost Cable Racking	Ln 10 + Ln 12	\$ 102.48	\$ 0.93
14	Engineering Investment	Ln 3	\$ 469.65	\$ 2.13
15	Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
16	Common Cost	Ln 14 * Ln 15	\$ 64.25	\$ 0.29
17	Total Engineering Cost	Ln 14 + Ln 16	\$ 533.90	\$ 2.42

C. Pricing

18	Monthly Recurring Charge	(Ln 8 + Ln 13) / 12	\$ 17.10	\$ 0.24
19	Non-Recurring Rate for Engineering	Ln 17	\$ 533.90	\$ 2.42

Line	Source	Base Charge	Incremental Per Foot >
Rate Element: Connection to Power Plant 200 Amps (for feeds from 125 to 200 Amps)			
Exhibit 5.4: Rate Calculation			
A. Investment			
1	DC Power Investment	Wp 5.12, Ln 7 & 17	\$ 16,995.65 \$ 281.08
2	Cable Racking	Wp 12, Ln 10*4, Ln 11*4	\$ 566.72 \$ 5.15
3	Engineering Investment	Wp 5.12, Ln 4 & Ln 18	\$ 469.65 \$ 2.13
B. Annual Cost			
4	Cost of Removal Factor - Power Cable	Input Sheet Ln 34	1.17% 1.17%
5	Direct Cost - DC Power Cable	Ln 1 * Ln 4	\$ 198.85 \$ 3.29
6	Common Cost Factor	Input Sheet Ln 8	13.68% 13.68%
7	Common Cost	Ln 5 * Ln 6	\$ 27.20 \$ 0.45
8	Annual Cost of Removal - Power Cable	Ln 5 + Ln 7	\$ 226.05 \$ 3.74
9	DC Power Annual Charge Factor	Input Sheet Ln 9	29.03% 29.03%
10	Direct Cost - Shared Cable Racking	Ln 2 * Ln 9	\$ 164.52 \$ 1.50
11	Common Cost Factor	Input Sheet Ln 8	13.68% 13.68%
12	Common Cost	Ln 10 * Ln 11	\$ 22.51 \$ 0.20
13	Total Annual Cost Cable Racking	Ln 10 + Ln 12	\$ 187.03 \$ 1.70
14	Engineering Investment	Ln 3	\$ 469.65 \$ 2.13
15	Common Cost Factor	Input Sheet Ln 8	13.68% 13.68%
16	Common Cost	Ln 14 * Ln 15	\$ 64.25 \$ 0.29
17	Total Engineering Cost	Ln 14 + Ln 16	\$ 533.90 \$ 2.42
C. Pricing			
18	Monthly Recurring Charge	(Ln 8 + Ln 13) / 12	\$ 34.42 \$ 0.45

Rate Element: Connection to Power Plant 200 Amps (for feeds from 125 to 200 Amps)
Exhibit 5.4: Rate Calculation

A. Investment

<u>Line</u>	<u>Source</u>	<u>Base Charge</u>	<u>Incremental Per Foot > 110 Feet</u>
1	DC Power Investment	Wp 5.12, Ln 7 & 17	\$ 16,995.65 \$ 281.08
2	Cable Racking	Wp 12, Ln 10*4, Ln 11*4	\$ 566.72 \$ 5.15
3	Engineering Investment	Wp 5.12, Ln 4 & Ln 18	\$ 469.65 \$ 2.13

B. Annual Cost

4	Cost of Removal Factor - Power Cable	Input Sheet Ln 34	1.17%	1.17%
5	Direct Cost - DC Power Cable	Ln 1 * Ln 4	\$ 198.85	\$ 3.29
6	Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
7	Common Cost	Ln 5 * Ln 6	\$ 27.20	\$ 0.45
8	Annual Cost of Removal - Power Cable	Ln 5 + Ln 7	\$ 226.05	\$ 3.74
9	DC Power Annual Charge Factor	Input Sheet Ln 9	29.03%	29.03%
10	Direct Cost - Shared Cable Racking	Ln 2 * Ln 9	\$ 164.52	\$ 1.50
11	Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
12	Common Cost	Ln 10 * Ln 11	\$ 22.51	\$ 0.20
13	Total Annual Cost Cable Racking	Ln 10 + Ln 12	\$ 187.03	\$ 1.70
14	Engineering Investment	Ln 3	\$ 469.65	\$ 2.13
15	Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
16	Common Cost	Ln 14 * Ln 15	\$ 64.25	\$ 0.29
17	Total Engineering Cost	Ln 14 + Ln 16	\$ 533.90	\$ 2.42

C. Pricing

18	Monthly Recurring Charge	(Ln 8 + Ln 13) / 12	\$ 34.42	\$ 0.45
19	Non-Recurring Rate for Engineering	Ln 17	\$ 533.90	\$ 2.42

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Power Cost Study
Drawing

DC Power

(2,000 amp office shown)

The diagram illustrates a DC power system architecture. On the left, a Diesel Generator provides AC power to an AC Switch Gear. This AC power is then distributed to a Power Distribution Service Cabinet, which feeds seven individual Rectifiers (#1 through #7). The outputs of these rectifiers are connected to a central Battery String. From the Battery String, power is distributed to a Power Board and a Sup Power Board. These boards are connected to the 'A' and 'B' sides of a Battery Distribution Fuse Board (BDFB). Finally, the BDFB supplies power to CLEC Equipment. A legend at the bottom right of the diagram states: BDFB = Battery Distribution Fuse Board.

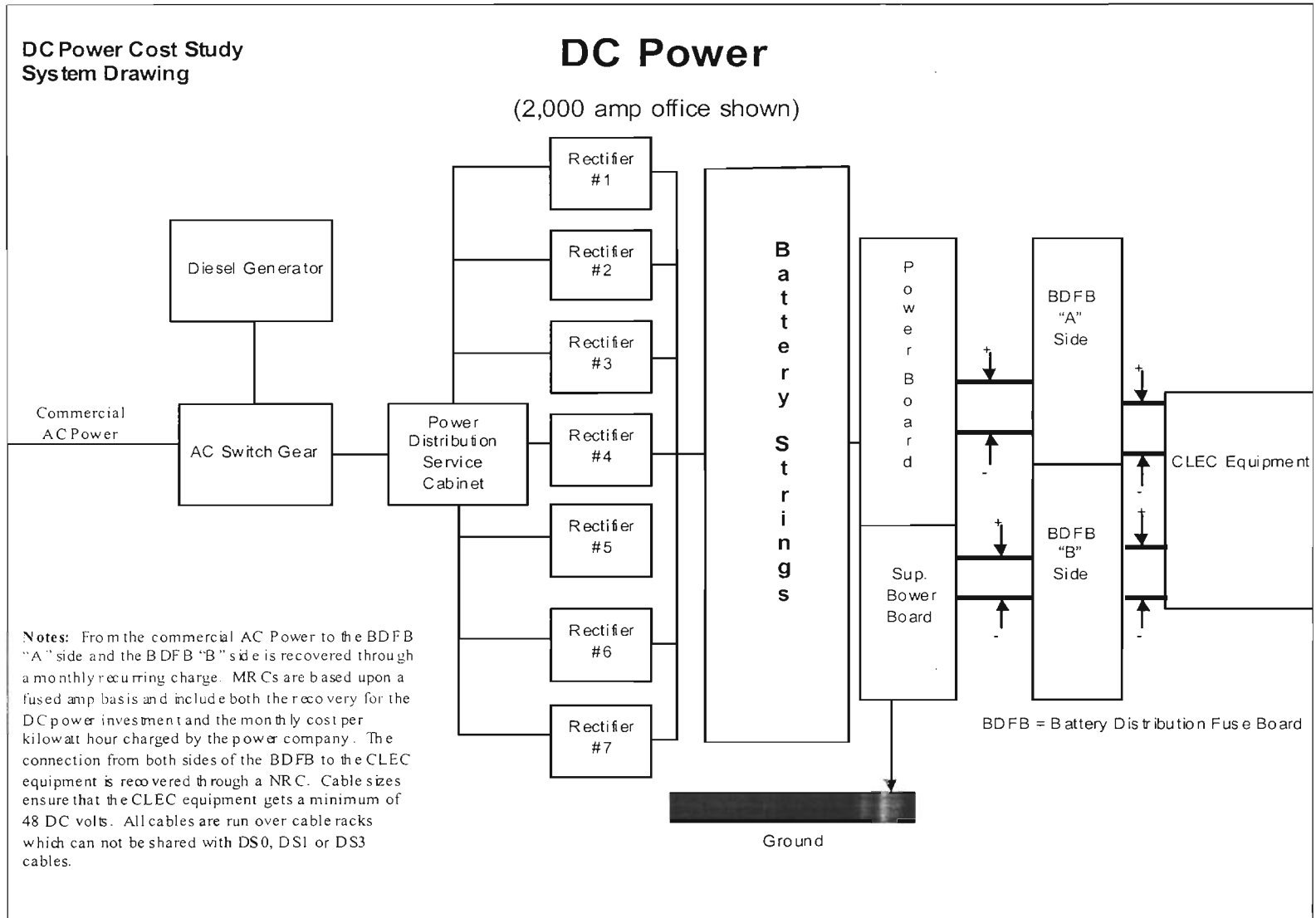
DC Power Connection 30 amp / DC Power Connection 60 amp / DC Power Connection 100 amp / DC Power Connection 200 amp / DC Power.ppt / Outlet & Lk

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Section VIII: AC Power - Outlets and Additional Overhead Lighting

A. Purpose

The purpose of this cost study is to determine the engineering cost associated with the installation of AC electric outlets and overhead lighting. The AC electric outlet is for occasional use by CLEC technicians for testing and repair of CLEC equipment. AC electric outlets costed in this study are not for powering of CLEC telecommunications equipment.

Sprint provides NRC rate elements for engineering AC electric outlets and overhead lights. The CLEC must contract with and make payment directly to Sprint's approved contractor for materials and installation costs of outlets and lights. Engineering for each outlet and light installed is billed at rates calculated in this study. If pre-existing lighting at the CLECs collocation arrangement is deemed adequate by the CLEC at the time of making the application, and no additional lighting is installed, then no charge is assessed for engineering of lighting.

B. Methodology

Sprint engineering was determined from recent work activity data. Following is a description of work performed by engineers:

Land & Buildings Engineer - Does engineering work for AC electric requirements; communicates with NPM and building contractors; creates and closes buildings workorder; makes specifications and drawings for contractors; approves work of contractors; and, tracks the progress of the buildings portion of the collocation arrangement.

Common cost was added to both AC electric outlet and overhead lighting engineering elements.

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Line		Source	Investment
1	Engineering of an Outlet	Wp 6, Ln 2	\$ 93.93
2	Common Cost Factor	Input Sheet Ln 8	13.68%
3	Common Cost	Ln 1 * Ln 2	\$ 12.85
4	Cost per AC Outlet	Ln 1 + Ln 3	\$ 106.78
5	Engineering of Overhead Lighting	Wp 6, Ln 5	\$ 93.93
6	Common Cost Factor	Input Sheet Ln 8	13.68%
7	Common Cost	Ln 5 * Ln 6	\$ 12.85
8	Cost per Additional Set of Overhead Lights	Ln 5 + Ln 7	\$ 106.78

Rate Element: AC Power - Outlets & Overhead Lights
Exhibit 6: Rate Calculation

A. Non-Recurring Charge

<u>Line</u>		<u>Source</u>	<u>Investment</u>
1	Engineering of an Outlet	Wp 6, Ln 2	\$ 93.93
2	Common Cost Factor	Input Sheet Ln 8	13.68%
3	Common Cost	Ln 1 * Ln 2	\$ 12.85
4	Cost per AC Outlet	Ln 1 + Ln 3	\$ 106.78
5	Engineering of Overhead Lighting	Wp 6, Ln 5	\$ 93.93
6	Common Cost Factor	Input Sheet Ln 8	13.68%
7	Common Cost	Ln 5 * Ln 6	\$ 12.85
8	Cost per Additional Set of Overhead Lights	Ln 5 + Ln 7	\$ 106.78

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AC Outlet Cost Study System Drawing

AC Outlet

```
graph LR; Entrance[AC Power Entrance] --- Fuse[20 AMP Fuse]; Fuse --- Conduit[Electrical Metallic Conduit]; Conduit --- Receptacle[20 Amp 120 duplex receptacle]
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DC Power.ppt / Outlet & Light Narrative / Outlet & Light \ Outlet.ppt / Cross Connect Narrative / Switchboard Cable / Co-Carrier Switchboard Cable / Swbd Ca

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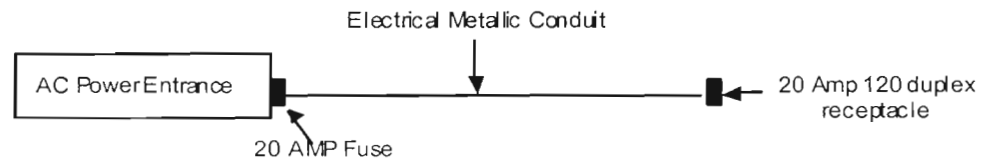
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AC Outlet Cost Study
System Drawing

AC Outlet



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1																				
2	Section IX: Cross-Connect																			
3																				
4	A. Purpose																			
5																				
6	The purpose of this cost study is to determine the cost of providing Electronic Cross-Connects																			
7	(ECC) and Optical Cross-Connects (OCC) between Sprint equipment and the CLEC collocation																			
8	arrangement. In the case of CLEC-CLEC cross-connects (CCXC), the cross-connects run																			
9	between two CLEC collocation arrangements.																			
10																				
11	B. Introduction																			
12																				
13	The CLEC must contract with and make payment directly to Sprint's approved contractor for																			
14	materials and labor associated with the placement of cross-connect cabling, DS1 panels, DS3																			
15	panels, optical patch panels and main distribution frame (MDF) blocks. Sprint provides shared																			
16	cable racking. ECCs come in six offerings: DS0, DS0 CCXC, DS1, DS1 CCXC, DS3 and DS3																			
17	CCXC. A DS0 cross connect is a connection from the MDF to the collocation arrangement and is																			
18	priced in 100 pair increments. A DS1 cross connect is a connection from a DSX-1 patch panel to																			
19	the collocation arrangement and is priced per 28 DS1s. A DS3 cross connect is a connection																			
20	from a DSX-3 patch panel to the collocation arrangement and is priced per 12 DS3s. OCC is a																			
21	four fiber connection from the fiber patch panel to the collocation arrangement and is priced																			
22	individually. DS0, DS1, DS3 and OCC CCXC's run direct from one CLEC collocation																			
23	arrangement to another non-contiguous CLEC collocation arrangement with no panel in between.																			
24	Cross-connect MRCs include only the cost of the cable racking and cost of removal.																			
25																				
26																				
27	C. Assumptions																			
28																				
29	Cross-connects will be self-provisioned by the CLECs. For new collocations, engineering for																			
30	cross-connects is included in the New Collocation - Admin., Transm Engr & Project Management																			
31	Fee. For major augments, engineering for cross-connects is included in the Major Augment -																			
32	Transmission Engineering Fee.																			
33																				

DC Power.ppt / Outlet & Light Narrative / Outlet & Light / Outlet.ppt / Cross Connect Narrative / Switchboard Cable / Co-Carrier Switchboard Cable / Swbd Ca

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Section IX: Cross-Connect

A. Purpose

The purpose of this cost study is to determine the cost of providing Electronic Cross-Connects (ECC) and Optical Cross-Connects (OCC) between Sprint equipment and the CLEC collocation arrangement. In the case of CLEC-CLEC cross-connects (CCXC), the cross-connects run between two CLEC collocation arrangements.

B. Introduction

The CLEC must contract with and make payment directly to Sprint's approved contractor for materials and labor associated with the placement of cross-connect cabling, DS1 panels, DS3 panels, optical patch panels and main distribution frame (MDF) blocks. Sprint provides shared cable racking. ECCs come in six offerings: DS0, DS0 CCXC, DS1, DS1 CCXC, DS3 and DS3 CCXC. A DS0 cross connect is a connection from the MDF to the collocation arrangement and is priced in 100 pair increments. A DS1 cross connect is a connection from a DSX-1 patch panel to the collocation arrangement and is priced per 28 DS1s. A DS3 cross connect is a connection from a DSX-3 patch panel to the collocation arrangement and is priced per 12 DS3s. OCC is a four fiber connection from the fiber patch panel to the collocation arrangement and is priced individually. DS0, DS1, DS3 and OCC CCXC's run direct from one CLEC collocation arrangement to another non-contiguous CLEC collocation arrangement with no panel in between. Cross-connect MRCs include only the cost of the cable racking and cost of removal.

C. Assumptions

Cross-connects will be self-provisioned by the CLECs. For new collocations, engineering for cross-connects is included in the New Collocation - Admin., Transm. Engr. & Project Management Fee. For major augments, engineering for cross-connects is included in the Major Augment - Transmission Engineering Fee.

D. Methodology

A pro forma installed cost of cross-connect cabling was calculated as a base upon which cost of removal is calculated. Components required for each of the three ECCs options and the OCC (except for fiber jumpers) were determined from examination of recent actual work activities. Fiber jumper materials were determined by Sprint Engineering. Cable run distances for each type of cross-connect were taken from a study of actual collocation cable distances existing in Sprint COs. Once equipment requirements were determined, a vendor price was obtained for each piece of equipment. Sales tax and freight was added to material prices. Installation time required for each ECC was also obtained from recent work activities. Installation time for OCCs were determined by Sprint engineers. Usage factors were applied to DS1, DS3 and the 4-fiber OCC to reflect unused capacity typically provisioned in cable, panels and relay racks. The material cost, labor cost, freight and taxes were added together to determine the investment for each ECC / OCC.

Cable racking investment was then allocated to each cable type. Sprint uses a 12 inch wide cable rack in its cost studies. This rack has usable space of 10.5 inches wide and 10 inches deep. DS0 cable used in the study is 0.67 inches in diameter indicating that a total of 156 cables (10" *10.5"/0.67") can fit on one rack. Racks leading back to the CLEC's collocation area are assumed to be 50% full. Cable carrying capacity for the other types of cross-connect cabling was similarly calculated. Cable rack distance was computed based on the linear distance of each cable run.

Optical cross-connects require fiber guttering rather than cable racks. Sprint engineers determined components and installation time for fiber guttering. Fiber guttering runs from the Optical Patch Panel to the CLEC bay normally under the cable racks.

The allocated cable rack and the installed cost of the cable and patch panels were added together to determine total investment.

The digital circuit cost of removal factor was applied to pro forma investment to determine the annual provision for cost of removal.

The common factor is also applied. Cross-connect charges are priced as MRCs.

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Line		Source	
A. Investment			
1	Total Investment - Cable & Connection	Wp 7, Ln 18	\$ 1,003.98
2	Cable Rack Investment	Wp 7, Ln 1	\$ 99.08
B. Annual Cost			
3	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35	1.94%
4	Direct Cost - DS0	Ln 1 * Ln 3	\$ 19.48
5	Common Cost Factor	Input Sheet Ln 8	13.68%
6	Common Cost	Ln 4 * Ln 5	\$ 2.66
7	Total Annual Cost of Removal - DS0	Ln 4 + Ln 6	\$ 22.14
8	Digital Circuit ACF	Input Sheet Ln 5	28.44%
9	Annual Cost of Cable Rack before Common	Ln 2 * Ln 8	\$ 28.18
10	Common Cost Factor	Input Sheet Ln 8	13.68%
11	Common Cost	Ln 9 * Ln 10	\$ 3.85
12	Total Annual Cost - Cable Rack	Ln 9 + Ln 11	\$ 32.03
C. Pricing			
13	Total Monthly Rate per 100 Pair	(Ln 7 + Ln 12) / 12	\$ 4.51

DC Power.ppt / Outlet & Light Narrative / Outlet & Light / Outlet.ppt / Cross Connect Narrative / Switchboard Cable / Co-Carrier Switchboard Cable / Swbd Cz

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Rate Element: DS0 Switchboard Cable per 100 Pr.
Exhibit 7: Rate Calculation

A. Investment		Source	
Line			
1	Total Investment - Cable & Connection	Wp 7, Ln 18	\$ 1,003.98
2	Cable Rack Investment	Wp 7, Ln 1	\$ 99.08
B. Annual Cost			
3	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35	1.94%
4	Direct Cost - DS0	Ln 1 * Ln 3	\$ 19.48
5	Common Cost Factor	Input Sheet Ln 8	13.68%
6	Common Cost	Ln 4 * Ln 5	\$ 2.66
7	Total Annual Cost of Removal - DS0	Ln 4 + Ln 6	\$ 22.14
8	Digital Circuit ACF	Input Sheet Ln 5	28.44%
9	Annual Cost of Cable Rack before Common	Ln 2 * Ln 8	\$ 28.18
10	Common Cost Factor	Input Sheet Ln 8	13.68%
11	Common Cost	Ln 9 * Ln 10	\$ 3.85
12	Total Annual Cost - Cable Rack	Ln 9 + Ln 11	\$ 32.03
C. Pricing			
13	Total Monthly Rate per 100 Pair	(Ln 7 + Ln 12) / 12	\$ 4.51

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Line	Source	Investment
A. Investment		
1	Switchboard Cable Investment	Wp 7.1, Ln 6 \$ 613.49
2	Cable Rack Investment	Wp 7.1, Ln 1 \$ 99.08
B. Annual Cost		
3	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35 1.94%
4	Direct Cost	Ln 1 * Ln 3 \$ 11.90
5	Common Cost Factor	Input Sheet Ln 8 13.68%
6	Common Cost	Ln 4 * Ln 5 \$ 1.63
7	Total Annual Cost of Removal - Cabling	Ln 4 + Ln 6 \$ 13.53
8	Digital Circuit Annual Charge Factor	Input Sheet Ln 5 28.44%
9	Direct Cost	Ln 2 * Ln 8 \$ 28.18
10	Common Cost Factor	Input Sheet Ln 8 13.68%
11	Common Cost	Ln 9 * Ln 10 \$ 3.85
12	Total Annual Cost Cable Racking	Ln 9 + Ln 11 \$ 32.03
C. Pricing		
13	Monthly Recurring Charge for Co-Carrier Switchboard Cable	(Ln 7 + Ln 12) / 12 \$ 3.80

DC Power.ppt / Outlet & Light Narrative / Outlet & Light / Outlet.ppt / Cross Connect Narrative / Switchboard Cable / Co-Carrier Switchboard Cable / Swbd Cz

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Rate Element: DS0 Co-Carrier Switchboard Cable 100 Pr.
Exhibit 7.1: Rate Calculation

A. Investment		
<u>Line</u>	<u>Source</u>	<u>Investment</u>
1	Switchboard Cable Investment	Wp 7.1, Ln 6
		\$ 613.49
2	Cable Rack Investment	Wp 7.1, Ln 1
		\$ 99.08
B. Annual Cost		
3	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35
		1.94%
4	Direct Cost	Ln 1 * Ln 3
		\$ 11.90
5	Common Cost Factor	Input Sheet Ln 8
		13.68%
6	Common Cost	Ln 4 * Ln 5
		\$ 1.63
7	Total Annual Cost of Removal - Cabling	Ln 4 + Ln 6
		\$ 13.53
8	Digital Circuit Annual Charge Factor	Input Sheet Ln 5
		28.44%
9	Direct Cost	Ln 2 * Ln 8
		\$ 28.18
10	Common Cost Factor	Input Sheet Ln 8
		13.68%
11	Common Cost	Ln 9 * Ln 10
		\$ 3.85
12	Total Annual Cost Cable Racking	Ln 9 + Ln 11
		\$ 32.03
C. Pricing		
13	Monthly Recurring Charge for Co-Carrier Switchboard Cable	(Ln 7 + Ln 12) / 12
		\$ 3.80

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Cross Connect Cost Study
System Drawing

DS0 Cross Connect (To Sprint MDF)

The diagram illustrates a DS0 cross-connect system. On the left, a Main Distribution Frame (MDF) is shown with a vertical section containing a Protection Block and a horizontal section containing DSP Cable Pairs. A CLEC Block is connected to the DSP Cable Pairs. A cable rack, labeled 'Cable Racking', contains a series of 100 Pair Cables. A note indicates '8 by 25 connectorized block' at the connection point between the CLEC Block and the cable rack. The cables are terminated on CLEC equipment located in a CLEC Collocation Area, which is enclosed in a dashed box. A note states 'Terminated on CLEC equipment by CLEC'.

8 by 25 connectorized block

MDF

CLEC Block

100 Pair Cable

Cable Racking

Terminated on CLEC equipment by CLEC

CLEC Collocation Area

Protection Block

DSP Cable Pairs

Vertical

Horizontal

Co-Carrier Switchboard Cable \ Swbd Cable.ppt / DS1 Cross Connect / Co-Carrier DS1 Cross Connect / DS1.ppt / DS3 Cross Connect / Co-Carrier DS3 Cross Coni

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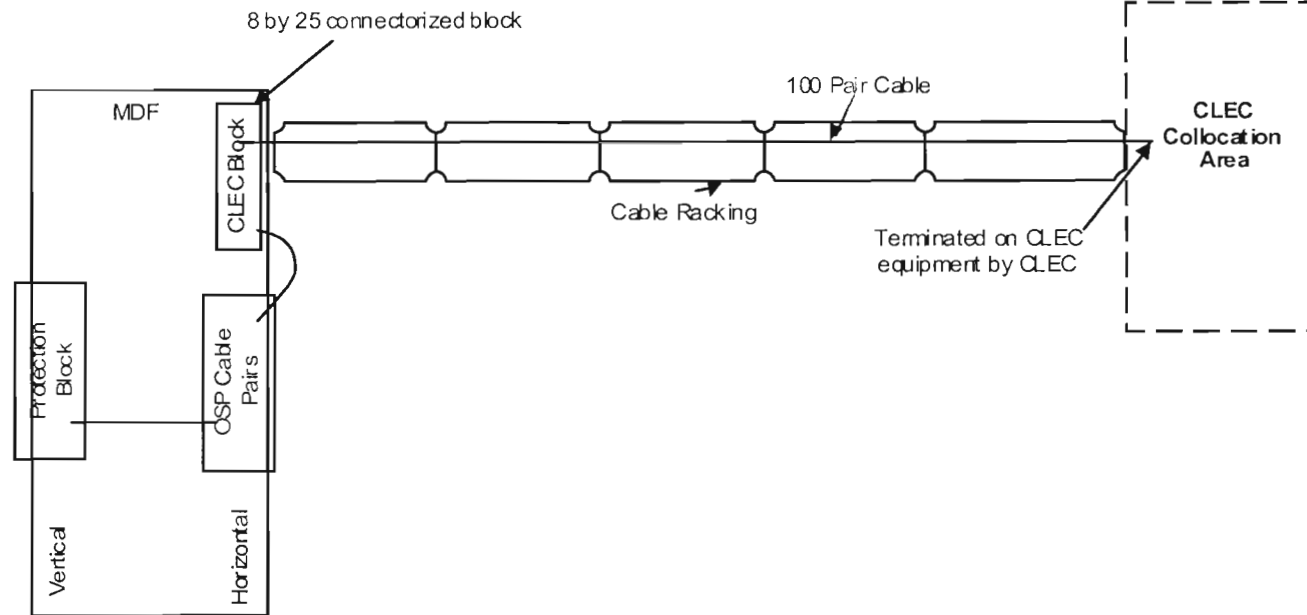
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Cross Connect Cost Study
System Drawing

DS0 Cross Connect (To Sprint MDF)



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Line	Source	
Rate Element: DS1 Cross Connect (Per 28 DS1s)		
Exhibit 8: Rate Calculation		
A. Investment		
1	Cable Investment - per 28 DS1s	Wp 8, Ln 21 \$ 748.06
2	Panel & Bay Investment - per 28 DS1s	Wp 8, Ln 12 \$ 652.73
3	Cable Rack Investment - per 28 DS1s	Wp 8, Ln 2 \$ 140.51
B. Annual Cost		
4	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35 1.94%
5	Direct Cost - Cable, Panel & Bay	(Ln 1 + Ln 2) * Ln 4 \$ 27.14
6	Common Cost Factor	Input Sheet Ln 8 13.68%
7	Common Cost	Ln 5 * Ln 6 \$ 3.71
8	Annual Cable Cost of Removal - DS1 - per 28 DS1s	Ln 5 + Ln 7 \$ 30.85
9	Digital Circuit ACF	Input Sheet Ln 5 28.44%
10	Annual Cost of Investment before Common	Ln 3 * Ln 9 \$ 39.96
11	Common Cost Factor	Input Sheet Ln 8 13.68%
12	Common Cost	Ln 10 * Ln 11 \$ 5.47
13	Total Annual Cost Cable Rack - per 28 DS1s	Ln 10 + Ln 12 \$ 45.43
C. Pricing		
14	Total Monthly Rate per 28 DS1s	(Ln 8 + Ln 13) / 12 \$ 6.36

Co-Carrier Switchboard Cable / Swbd Cable.ppt \ DS1 Cross Connect / Co-Carrier DS1 Cross Connect / DS1.ppt / DS3 Cross Connect / Co-Carrier DS3 Cross Coni

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Rate Element: DS1 Cross Connect (Per 28 DS1s)
Exhibit 8: Rate Calculation

A. Investment

<u>Line</u>		<u>Source</u>		
1	Cable Investment - per 28 DS1s	Wp 8, Ln 21	\$	746.06
2	Panel & Bay Investment - per 28 DS1s	Wp 8, Ln 12	\$	652.73
3	Cable Rack Investment - per 28 DS1s	Wp 8, Ln 2	\$	140.51

B. Annual Cost

4	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35		1.94%
5	Direct Cost - Cable, Panel & Bay	(Ln 1 + Ln 2) * Ln 4	\$	27.14
6	Common Cost Factor	Input Sheet Ln 8		13.68%
7	Common Cost	Ln 5 * Ln 6	\$	3.71
8	Annual Cable Cost of Removal - DS1 - per 28 DS1s	Ln 5 + Ln 7	\$	30.85
9	Digital Circuit ACF	Input Sheet Ln 5		28.44%
10	Annual Cost of Investment before Common	Ln 3 * Ln 9	\$	39.96
11	Common Cost Factor	Input Sheet Ln 8		13.68%
12	Common Cost	Ln 10 * Ln 11	\$	5.47
13	Total Annual Cost Cable Rack - per 28 DS1s	Ln 10 + Ln 12	\$	45.43

C. Pricing

14	Total Monthly Rate per 28 DS1s	(Ln 8 + Ln 13) / 12	\$	6.36
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Line	Source	Investment
A. Investment		
1	DS1 Cable Investment	Wp 8.1, Ln 8 \$ 554.76
2	Cable Rack Investment	Wp 8.1, Ln 2 \$ 140.51
B. Annual Cost		
3	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35 1.94%
4	Direct Cost	Ln 1 * Ln 3 \$ 10.76
5	Common Cost Factor	Input Sheet Ln 8 13.68%
6	Common Cost	Ln 4 * Ln 5 \$ 1.47
7	Annual Cost of Removal - DS1 Cabling	Ln 4 + Ln 6 \$ 12.23
8	Digital Circuit Annual Charge Factor	Input Sheet Ln 5 28.44%
9	Direct Cost	Ln 2 * Ln 8 \$ 39.96
10	Common Cost Factor	Input Sheet Ln 8 13.68%
11	Common Cost	Ln 9 * Ln 10 \$ 5.47
12	Total Annual Cost Cable Racking	Ln 9 + Ln 11 \$ 45.43
C. Pricing		
13	Monthly Recurring Charge for Co-Carrier Cable per 28 DS1s	(Ln 7 + Ln 12) / 12 \$ 4.81

Rate Element: DS1 Co-Carrier Cross Connect (Per 28 DS1s)
Exhibit 8.1: Rate Calculation

A. Investment		
<u>Line</u>	<u>Source</u>	<u>Investment</u>
1	DS1 Cable Investment	Wp 8.1, Ln 8
		\$ 554.76
2	Cable Rack Investment	Wp 8.1, Ln 2
		\$ 140.51
B. Annual Cost		
3	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35
		1.94%
4	Direct Cost	Ln 1 * Ln 3
		\$ 10.76
5	Common Cost Factor	Input Sheet Ln 8
		13.68%
6	Common Cost	Ln 4 * Ln 5
		\$ 1.47
7	Annual Cost of Removal - DS1 Cabling	Ln 4 + Ln 6
		\$ 12.23
8	Digital Circuit Annual Charge Factor	Input Sheet Ln 5
		28.44%
9	Direct Cost	Ln 2 * Ln 8
		\$ 39.96
10	Common Cost Factor	Input Sheet Ln 8
		13.68%
11	Common Cost	Ln 9 * Ln 10
		\$ 5.47
12	Total Annual Cost Cable Racking	Ln 9 + Ln 11
		\$ 45.43
C. Pricing		
13	Monthly Recurring Charge for Co-Carrier Cable per 28 DS1s	(Ln 7 + Ln 12) / 12
		\$ 4.81

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Cross Connect Cost Study
System Drawing

DSX-1 Cross Connect (To Sprint Facilities)

CLEC Collocation Area

Terminated on CLEC equipment by CLEC

Cable Racking

30 pair ABAM cable

DSX-1

Co-Carrier Switchboard Cable / Swbd Cable.ppt / DS1 Cross Connect / Co-Carrier DS1 Cross Connect / DS1.ppt / DS3 Cross Connect / Co-Carrier DS3 Cross Coni

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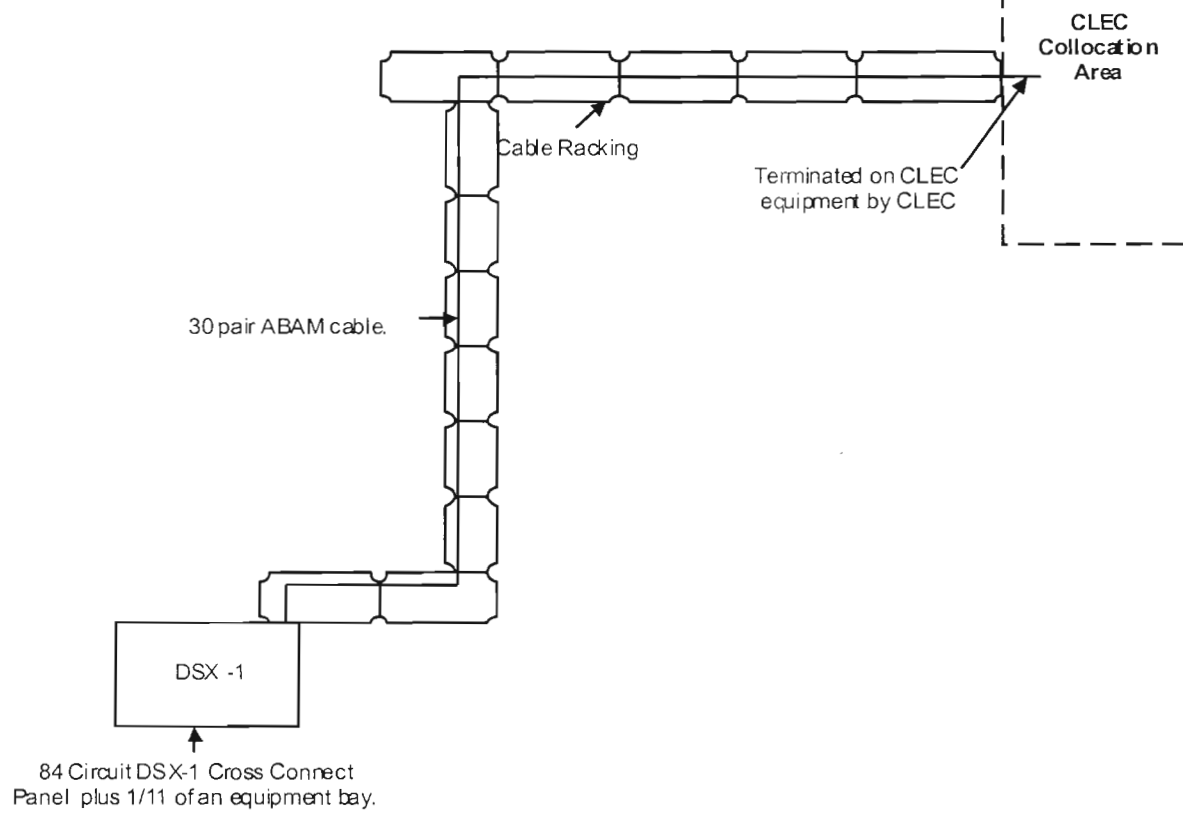
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Cross Connect Cost Study
System Drawing

DSX-1 Cross Connect (To Sprint Facilities)



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Line	Source	
Rate Element: DS3 Cross Connect (Per 12 DS3s)		
Exhibit 9: Rate Calculation		
A. Investment		
1	Cable Investment per 12 DS3s	Wp 9, Ln 23 \$ 1,853.47
2	Panel & Bay Investment - per 12 DS3s	Wp 9, Ln 15 \$ 5,701.48
3	Cable Rack Investment - per 12 DS3s	Wp 8, Ln 2 \$ 159.64
B. Annual Cost		
4	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35 1.94%
5	Direct Cost - Cable, Panel & Bay	(Ln 1 + Ln 2) * Ln 4 \$ 146.57
6	Common Cost Factor	Input Sheet Ln 8 13.68%
7	Common Cost	Ln 5 * Ln 6 \$ 20.05
8	Annual Cable Cost of Removal - per 12 DS3s	Ln 5 * Ln 7 \$ 166.62
9	Digital Circuit ACF	Input Sheet Ln 5 28.44%
10	Annual Cost of Investment before Common	Ln 3 * Ln 9 \$ 45.40
11	Common Cost Factor	Input Sheet Ln 8 13.68%
12	Common Cost	Ln 10 * Ln 11 \$ 6.21
13	Total Annual Cost Cable Rack - per 12 DS3s	Ln 10 + Ln 12 \$ 51.61
C. Pricing		
14	Total Monthly Rate per 12 DS3s	(Ln 8 + Ln 13) / 12 \$ 18.19

Co-Carrier Switchboard Cable / Swbd Cable.ppt / DS1 Cross Connect / Co-Carrier DS1 Cross Connect / DS1.ppt / DS3 Cross Connect / Co-Carrier DS3 Cross Coni

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Rate Element: DS3 Cross Connect (Per 12 DS3s)
Exhibit 9: Rate Calculation

A. Investment

<u>Line</u>		<u>Source</u>	
1	Cable Investment per 12 DS3s	Wp 9, Ln 23	\$ 1,853.47
2	Panel & Bay Investment - per 12 DS3s	Wp 9, Ln 15	\$ 5,701.48
3	Cable Rack Investment - per 12 DS3s	Wp 9, Ln 2	\$ 159.64

B. Annual Cost

4	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35	1.94%
5	Direct Cost - Cable, Panel & Bay	(Ln 1 + Ln 2) * Ln 4	\$ 146.57
6	Common Cost Factor	Input Sheet Ln 8	13.68%
7	Common Cost	Ln 5 * Ln 6	\$ 20.05
8	Annual Cable Cost of Removal - per 12 DS3s	Ln 5 + Ln 7	\$ 166.62
9	Digital Circuit ACF	Input Sheet Ln 5	28.44%
10	Annual Cost of Investment before Common	Ln 3 * Ln 9	\$ 45.40
11	Common Cost Factor	Input Sheet Ln 8	13.68%
12	Common Cost	Ln 10 * Ln 11	\$ 6.21
13	Total Annual Cost Cable Rack - per 12 DS3s	Ln 10 + Ln 12	\$ 51.61

C. Pricing

14	Total Monthly Rate per 12 DS3s	(Ln 8 + Ln 13) / 12	\$ 18.19
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	B	C	D	E	F	G	H	I	J	K	
1	Rate Element: DS3 Co-Carrier Cross Connect (Per 12 DS3s)										
2	Exhibit 9.1: Rate Calculation										
3											
4	A. Investment										
5		Source	Investment								
6	DS3 Cable Investment	Wp 9.1, Ln 9	\$ 1,731.11								
7	Cable Rack Investment	Wp 9.1, Ln 2	\$ 159.64								
8											
9	B. Annual Cost										
10											
11	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35	1.94%								
12	Direct Cost	Ln 1 * Ln 3	\$ 33.58								
13											
14	Common Cost Factor	Input Sheet Ln 8	13.68%								
15	Common Cost	Ln 4 * Ln 5	\$ 4.59								
16											
17	Annual Cost of Removal - DS3 Cabling	Ln 4 + Ln 6	\$ 38.17								
18											
19	Digital Circuit Annual Charge Factor	Input Sheet Ln 5	28.44%								
20	Direct Cost	Ln 2 * Ln 8	\$ 45.40								
21											
22	Common Cost Factor	Input Sheet Ln 8	13.68%								
23	Common Cost	Ln 9 * Ln 10	\$ 6.21								
24											
25	Total Annual Cost Cable Racking	Ln 9 + Ln 11	\$ 51.61								
26											
27	C. Pricing										
28											
29	Monthly Recurring Charge for Co-Carrier Cable per 12 DS3s	(Ln 7 + Ln 12) / 12	\$ 7.48								
30											
31											
32											

Swbd Cable.ppt / DS1 Cross Connect / Co-Carrier DS1 Cross Connect / DS1.ppt / DS3 Cross Connect / Co-Carrier DS3 Cross Connect / DS3 CC.ppt / OCC per 4 F

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Rate Element: DS3 Co-Carrier Cross Connect (Per 12 DS3s)
Exhibit 9.1: Rate Calculation

A. Investment

<u>Line</u>		<u>Source</u>	<u>Investment</u>
1	DS3 Cable Investment	Wp 9.1, Ln 9	\$ 1,731.11
2	Cable Rack Investment	Wp 9.1, Ln 2	\$ 159.64

B. Annual Cost

3	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35	1.94%
4	Direct Cost	Ln 1 * Ln 3	\$ 33.58
5	Common Cost Factor	Input Sheet Ln 8	13.68%
6	Common Cost	Ln 4 * Ln 5	\$ 4.59
7	Annual Cost of Removal - DS3 Cabling	Ln 4 + Ln 6	\$ 38.17
8	Digital Circuit Annual Charge Factor	Input Sheet Ln 5	28.44%
9	Direct Cost	Ln 2 * Ln 8	\$ 45.40
10	Common Cost Factor	Input Sheet Ln 8	13.68%
11	Common Cost	Ln 9 * Ln 10	\$ 6.21
12	Total Annual Cost Cable Racking	Ln 9 + Ln 11	\$ 51.61

C. Pricing

13	Monthly Recurring Charge for Co-Carrier Cable per 12 DS3s	(Ln 7 + Ln 12) / 12	\$ 7.48
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Cross Connect Cost Study
System Drawing

DSX-3 Cross Connect (To Sprint Panel)

The diagram illustrates a DSX-3 cross connect system. It features a vertical stack of components labeled "735 Coax cable" at the bottom, which is connected to a horizontal "Cable Racking" structure. The cable racking is terminated on "CLEC equipment by CLEC" within a "CLEC Collocation Area" indicated by a dashed box. The entire system is labeled "DSX-3" at the base of the vertical stack.

Co-Carrier DS3 Cross Connect \ DS3 CC.ppt / OCC per 4 Fibers / Co-Carrier OCC per 4 Fibers / OCC.ppt / Internal Cable Space Narrative / Internal Cable Space

Draw AutoShapes

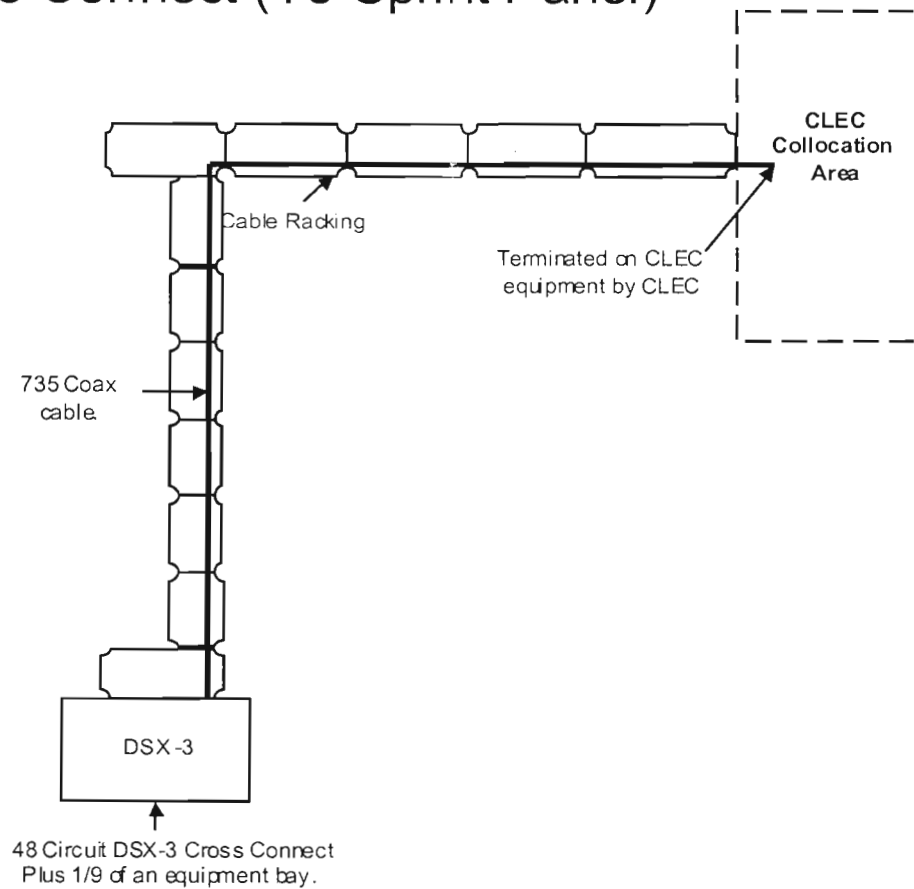
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Cross Connect Cost Study
System Drawing

DSX-3 Cross Connect (To Sprint Panel)



Line		Source	
Rate Element: Optical Cross Connect Per 4 Fibers			
Exhibit 9.2: Rate Calculation			
A. Investment			
1	Cable Investment per 4 fibers	Wp 10, Ln 20	\$ 227.50
2	Panel & Bay Investment - per 4 fibers	Wp 10, Ln 12	\$ 52.00
3	Guttering Investment - per 4 fibers	Wp 10, Ln 13	\$ 313.48
B. Annual Cost			
4	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35	1.94%
5	Direct Cost - Cable, Panel & Bay	(Ln 1 + Ln 2) * Ln 4	\$ 5.42
6	Common Cost Factor	Input Sheet Ln 8	13.68%
7	Common Cost	Ln 5 * Ln 6	\$ 0.74
8	Annual Cable Cost of Removal - per 4 Fibers	Ln 5 + Ln 7	\$ 6.16
9	Digital Circuit ACF	Input Sheet Ln 5	28.44%
10	Annual Cost of Investment before Common	Ln 3 * Ln 9	\$ 89.15
11	Common Cost Factor	Input Sheet Ln 8	13.68%
12	Common Cost	Ln 10 * Ln 11	\$ 12.20
13	Total Annual Cost Fiber Guttering - per 4 Fibers	Ln 10 + Ln 12	\$ 101.35
C. Pricing			
14	Total Monthly Rate per 4 Fibers	(Ln 8 + Ln 13) / 12	\$ 8.96

Rate Element: Optical Cross Connect Per 4 Fibers
Exhibit 9.2: Rate Calculation

A. Investment

<u>Line</u>		<u>Source</u>		
1	Cable Investment per 4 fibers	Wp 10, Ln 20	\$	227.50
2	Panel & Bay Investment - per 4 fibers	Wp 10, Ln 12	\$	52.00
3	Guttering Investment - per 4 fibers	Wp 10, Ln 13	\$	313.48

B. Annual Cost

4	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35		1.94%
5	Direct Cost - Cable, Panel & Bay	(Ln 1 + Ln 2) * Ln 4	\$	5.42
6	Common Cost Factor	Input Sheet Ln 8		13.68%
7	Common Cost	Ln 5 * Ln 6	\$	0.74
8	Annual Cable Cost of Removal - per 4 Fibers	Ln 5 + Ln 7	\$	6.16
9	Digital Circuit ACF	Input Sheet Ln 5		28.44%
10	Annual Cost of Investment before Common	Ln 3 * Ln 9	\$	89.15
11	Common Cost Factor	Input Sheet Ln 8		13.68%
12	Common Cost	Ln 10 * Ln 11	\$	12.20
13	Total Annual Cost Fiber Guttering - per 4 Fibers	Ln 10 + Ln 12	\$	101.35

C. Pricing

14	Total Monthly Rate per 4 Fibers	(Ln 8 + Ln 13) / 12	\$	8.96
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	B	C	D	E	F	G	H	I	J	K	L
1	Rate Element: Optical Cross Connect Co-Carrier Per 4 Fibers										
2	Exhibit 9.3: Rate Calculation										
3											
4	A. Investment										
5		Source	Investment								
6	OCC 4-Fiber Jumper Investment	Wp 10.1, Ln 9	\$ 210.02								
7	Fiber Gutter Investment	Wp 10.1, Ln 4	\$ 313.48								
8											
9	B. Annual Cost										
10											
11	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35	1.94%								
12	Direct Cost - 4 Fiber Jumpers	Ln 1 * Ln 3	\$ 4.07								
13											
14	Common Cost Factor	Input Sheet Ln 8	13.68%								
15	Common Cost	Ln 4 * Ln 5	\$ 0.56								
16											
17	Annual Cost of Removal - 4 Fiber Jumpers	Ln 4 + Ln 6	\$ 4.63								
18											
19	Digital Circuit Annual Charge Factor	Input Sheet Ln 5	28.44%								
20	Direct Cost	Ln 2 * Ln 8	\$ 89.15								
21											
22	Common Cost Factor	Input Sheet Ln 8	13.68%								
23	Common Cost	Ln 9 * Ln 10	\$ 12.20								
24											
25	Total Annual Cost Fiber Gutter	Ln 9 + Ln 11	\$ 101.35								
26											
27	C. Pricing										
28											
29	Monthly Recurring Charge for Co-Carrier OCC 4-Fibers	(Ln 7 + Ln 12) / 12	\$ 8.83								
30											
31											
32											

Rate Element: Optical Cross Connect Co-Carrier Per 4 Fibers
Exhibit 9.3: Rate Calculation

A. Investment

<u>Line</u>		<u>Source</u>	<u>Investment</u>
1	OCC 4-Fiber Jumper Investment	Wp 10.1, Ln 9	\$ 210.02
2	Fiber Gutter Investment	Wp 10.1, Ln 4	\$ 313.48

B. Annual Cost

3	Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35	1.94%
4	Direct Cost - 4 Fiber Jumpers	Ln 1 * Ln 3	\$ 4.07
5	Common Cost Factor	Input Sheet Ln 8	13.68%
6	Common Cost	Ln 4 * Ln 5	\$ 0.56
7	Annual Cost of Removal - 4-Fiber Jumpers	Ln 4 + Ln 6	\$ 4.63
8	Digital Circuit Annual Charge Factor	Input Sheet Ln 5	28.44%
9	Direct Cost	Ln 2 * Ln 8	\$ 89.15
10	Common Cost Factor	Input Sheet Ln 8	13.68%
11	Common Cost	Ln 9 * Ln 10	\$ 12.20
12	Total Annual Cost Fiber Gutter	Ln 9 + Ln 11	\$ 101.35

C. Pricing

13	Monthly Recurring Charge for Co-Carrier OCC 4-Fibers	(Ln 7 + Ln 12) / 12	\$ 8.83
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Cross Connect Cost Study
System Drawing

Optical Cross Connect (To Sprint Facilities)

The diagram illustrates an optical cross-connect system. It features a central vertical 'Cable Racking' structure. A horizontal 'Fiber Optic Cable' runs across the top, terminating at a 'CLEC Collocation Area' on the right. A label indicates 'Terminated on CLEC equipment by CLEC'. At the bottom, a '144 Fiber Cross Connect Panel Plus 1/5 of an Equipment Bay' is connected to the racking. The system is labeled 'OCC' (Optical Cross Connect).

Co-Carrier D53 Cross Connect / DS3 CC.ppt / OCC per 4 Fibers / Co-Carrier OCC per 4 Fibers / OCC.ppt / Internal Cable Space Narrative / Internal Cable Space

Draw AutoShapes

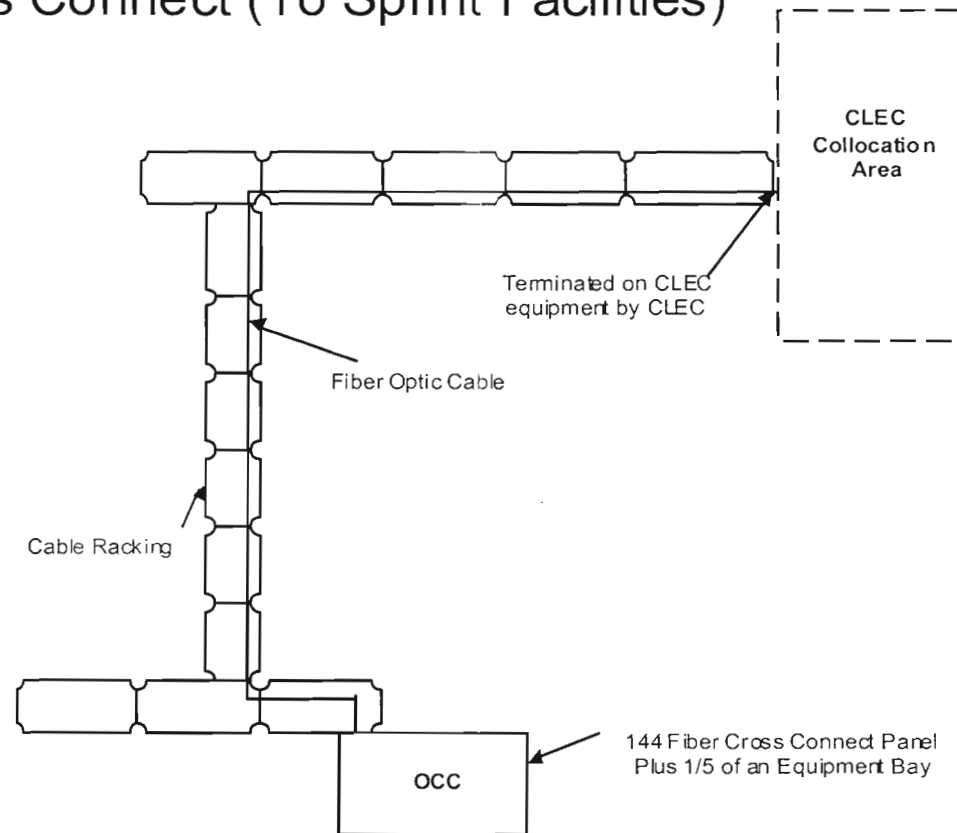
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Cross Connect Cost Study
System Drawing

Optical Cross Connect (To Sprint Facilities)



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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1																				
2																				
3	Section X: Internal Cable Space - Fiber and 100-Pair Copper																			
4	A. Purpose																			
5																				
6	This study determines the cost of providing Internal Cable Space to a CLEC collocation area																			
7	Internal Cable Space consists of the combination of riser space, vault access and conduit space to																			
8	accommodate entrance cabling.																			
9																				
10	B. Introduction																			
11																				
12	Internal cable space is applied on a per fiber cable basis or on a per 100-pair copper cable basis.																			
13	Internal cable space is necessary for a CLEC to connect to interoffice cables outside Sprint's																			
14	premises. For example, a CLEC will run a fiber cable from its switch located in another premises to																			
15	the first manhole of the ILEC central office. From the first manhole, the fiber then enters the cable																			
16	vault and then travels along the riser to the CLEC collocation area. This does not include the cost of																			
17	pulling the cable, which the CLEC would self provision by using a Sprint approved contractor.																			
18	Riser space is defined as the space on the cable racking where the entrance cable is placed and																			
19	core drilling (holes in the floor) for the cable to pass through from the cable vault to the main levels of																			
20	the CO where the collocation areas are located.																			
21																				
22	The cable vault is a transition point between the outside plant and inside cabling. The cable vault is																			
23	generally located in the basement or below ground so that the cables can enter the building under																			
24	ground. Cables enter the vault from the outside via conduit openings in the walls and exit through the																			
25	ceiling to the riser space.																			
26	The conduit space element runs from the first manhole outside of the central office to the conduit																			
27	opening in the cable vault.																			
28																				
29	C. Assumptions																			

Co-Carrier DS3 Cross Connect / DS3 CC.ppt / OCC per 4 Fibers / Co-Carrier OCC per 4 Fibers / OCC.ppt Internal Cable Space Narrative / Internal Cable Space

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Section X: Internal Cable Space - Fiber and 100-Pair Copper

A. Purpose

This study determines the cost of providing Internal Cable Space to a CLEC collocation area. Internal Cable Space consists of the combination of riser space, vault access and conduit space to accommodate entrance cabling.

B. Introduction

Internal cable space is applied on a per fiber cable basis or on a per 100-pair copper cable basis. Internal cable space is necessary for a CLEC to connect to interoffice cables outside Sprint's premises. For example, a CLEC will run a fiber cable from its switch located in another premises to the first manhole of the ILEC central office. From the first manhole, the fiber then enters the cable vault and then travels along the riser to the CLEC collocation area. This does not include the cost of pulling the cable, which the CLEC would self provision by using a Sprint approved contractor.

Riser space is defined as the space on the cable racking where the entrance cable is placed and core drilling (holes in the floor) for the cable to pass through from the cable vault to the main levels of the CO where the collocation areas are located.

The cable vault is a transition point between the outside plant and inside cabling. The cable vault is generally located in the basement or below ground so that the cables can enter the building under ground. Cables enter the vault from the outside via conduit openings in the walls and exit through the ceiling to the riser space.

The conduit space element runs from the first manhole outside of the central office to the conduit opening in the cable vault.

C. Assumptions

Based on subject matter expert observations, the study uses a distance of 95 feet from the first manhole to the cable vault and 175 feet from the vault to the collocation arrangement.

D. Methodology

Riser Space

There are two investments included in the cost of fiber riser space. The first is the cable hole and the second is the cost of the cable rack. For copper riser space, only the cost of the cable hole is included in riser investment. The cost of drilling a cable hole in the floor was determined from RS Means data. For fiber, the cost of the hole is then added to the cost of conduit and subduct which allows for three 1.25 inch cables to be installed in one core drill. For copper, no conduit or subduct is used in riser space. Because this hole reduces the amount of usable floor space by one square foot, the cost of a square foot of central office space is added (see floor space study for the development of

this cost). For fiber riser space, the total investment is divided by three to allocate the cost on a per cable basis (the maximum cable is 1.25 inches in diameter). For copper riser, the total investment is divided by 6, the number of 100-pair copper cables that can be carried in a four inch cable hole.

The second investment included in fiber riser space is cable racking from the vault to the collocation space. Cable rack cost per foot is based on an examination of actual cable rack installations. A cable rack run of 175 feet was used from the vault to the collocation space. The cable rack cost for a 175 foot run is then apportioned over the number of fiber cables carried by a rack.

The cable hole and the cable rack investments are presented on the basis of a total cost per cable. The buildings annual charge factor is then applied to the cable hole investment, and the digital circuit equipment annual charge factor is applied to the cable racking investment, resulting in an annual cost. The common factor is also applied. This results in a rate for the riser space component of the internal cable space element.

Vault Access

The vault cost was determined from a sample of 6 actual vault installations. The vaults averaged 791 square feet per location and 48 conduits per vault. The vault investment was developed by multiplying the cost of a square foot of vault space (see floor space study for the development of this cost) multiplied times the average square feet per vault location (791). For fiber vault access, this product was then divided by 48 conduits and 3 innerducts per conduit. For copper cable vault access, this product was then divided by 48 conduits and by 6 100-pair copper tip cable equivalents than can be carried in one conduit. The buildings annual charge factor is then applied to the vault access investment resulting in an annual cost. The common factor is also applied. This results in a rate for the vault access component of the internal cable space element.

Conduit Space

For fiber cable, there are 32 4-inch conduits leaving the manhole with each conduit capable of housing three 1.25 inch subducts for a total of 96 subducts. Subducts are large enough to allow the fiber cable to be pulled. For copper cable, no subducts are used. There are 95 feet between the cable vault and the first manhole.

For fiber cable, the cost of a manhole was determined from a Sprint cable structure study, which included current materials and placement costs. This investment was then divided by 96 (the number of subducts), resulting in a cost per subduct. For copper cable, the manhole investment was divided by 32, the number of ducts in the manhole.

The per foot installed cost of the conduit was also obtained from Sprint's structure study. The per foot conduit cost is multiplied by 95 feet. For fiber cable, the resulting cost is divided by 3 subducts per conduit. For fiber cable, the cost for subduct was obtained from vendor quotes, and is multiplied by 95 feet. Then, conduit, manhole and subduct investments were summed for fiber cable. For copper cable, the sum of manhole and conduit investment was divided by 6 100-pair

copper tip cable equivalents than can be carried in one conduit. The conduit annual charge factor was then applied to the total investments, resulting in an annual cost. The common factor is also applied. This results in a rate for the conduit space component of the internal cable space element.

Final Rate

To derive the final rate for the internal cable space element, the rates for the riser space, vault access and conduit components are summed.

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4	Riser Space										
5											
6	A. Investment										
7			Source	Fiber	Copper						
8	Riser Investment - Fiber	Wp 15, Ln 7		\$ 132.44							
9	Riser Investment - Copper	Wp 16, Ln 6			\$ 65.03						
10											
11	B. Annual Cost										
12											
13	Annual Charge Factor - Land and Buildings	Input Sheet Ln 4		24.31%	24.31%						
14	Direct Cost	Ln 1 * Ln 3 & Ln 2 * Ln 3		\$ 32.20	\$ 15.81						
15											
16											
17	Common Cost Factor	Input Sheet Ln 8		13.68%	13.68%						
18	Common Cost	Ln 4 * Ln 5		\$ 4.40	\$ 2.16						
19	Total Annual Cost	Ln 4 + Ln 6		\$ 36.60	\$ 17.97						
20											
21	C. Pricing										
22											
23	Rate per Fiber Cable Entrance/100 Pr - Copper	Ln 7 / 12		\$ 3.05	\$ 1.50						
24											
25	Cable Rack										
26											
27	A. Investment										
28											
29	Fiber Entrance Investment per Cable (57/rack)	Wp 15, Ln 8		\$ 107.83	N/A						
30											
31	B. Annual Cost										
32											
33	Annual Charge Factor - Digital Circuit	Input Sheet Ln 5		28.44%							
34	Direct Cost	Ln 9 * Ln 10		\$ 30.67							
35											
36	Common Cost Factor	Input Sheet Ln 8		13.68%							

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Internal Cable Space - Fiber & Copper
Exhibit 10

Riser Space

A. Investment

<u>Line</u>		<u>Source</u>	<u>Fiber</u>	<u>Copper</u>
1	Riser Investment - Fiber	Wp 15, Ln 7	\$ 132.44	
2	Riser Investment - Copper	Wp 16, Ln 6		\$ 65.03

B. Annual Cost

3	Annual Charge Factor - Land and Buildings	Input Sheet Ln 4	24.31%	24.31%
4	Direct Cost	Ln 1 * Ln 3 & Ln 2 * Ln 3	\$ 32.20	\$ 15.81
5	Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
6	Common Cost	Ln 4 * Ln 5	\$ 4.40	\$ 2.16
7	Total Annual Cost	Ln 4 + Ln 6	\$ 36.60	\$ 17.97

C. Pricing

8	Rate per Fiber Cable Entrance/100 Pr. Copper	Ln 7 / 12	<u>\$ 3.05</u>	<u>\$ 1.50</u>
---	--	-----------	----------------	----------------

**Internal Cable Space - Fiber & Copper
Exhibit 10**

Cable Rack

A. Investment

9	Fiber Entrance Investment per Cable (57/rack)	Wp 15, Ln 8	\$ 107.83	N/A
---	---	-------------	-----------	-----

B. Annual Cost

10	Annual Charge Factor - Digital Circuit	Input Sheet Ln 5	28.44%	
11	Direct Cost	Ln 9 * Ln 10	<u>\$ 30.67</u>	
12	Common Cost Factor	Input Sheet Ln 8	13.68%	
13	Common Cost	Ln 11 * Ln 12	<u>\$ 4.20</u>	
14	Total Annual Cost	Ln 11 + Ln 13	<u>\$ 34.87</u>	N/A

C. Pricing

15	Rate per Fiber Cable Entrance/100 Pr. Copper	Ln 14 / 12	<u><u>\$ 2.91</u></u>	N/A
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**Internal Cable Space - Fiber & Copper
Exhibit 10**

Vault Space

A. Investment

<u>Line</u>		<u>Source</u>	<u>Fiber</u>	<u>Copper</u>
16	Vault Investment Fiber	Wp 15, Ln 13	\$ 896.43	
17	Vault Investment Copper	Wp 16, Ln 12		\$ 448.21

B. Annual Cost

18	Annual Charge Factor - Land and Buildings	Input Sheet Ln 4	24.31%	24.31%
19	Direct Cost	Ln 16*Ln 18 & Ln 17*Ln 18	<u>\$ 217.92</u>	<u>\$ 108.96</u>
20	Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
21	Common Cost	Ln 19 * Ln 20	<u>\$ 29.81</u>	<u>\$ 14.91</u>
22	Total Annual Cost	Ln 19 + Ln 21	<u>\$ 247.73</u>	<u>\$ 123.87</u>

C. Pricing

23	Rate per Fiber Cable Entrance/100 Pr. Copper	Ln 22 / 12	<u>\$ 20.64</u>	<u>\$ 10.32</u>
----	--	------------	-----------------	-----------------

**Internal Cable Space - Fiber & Copper
Exhibit 10**

Conduit Space

A. Investment

<u>Line</u>		<u>Source</u>	<u>Fiber</u>	<u>Copper</u>
24	Innerduct Investment Fiber	Wp 15, Ln 22	\$ 313.49	
25	Conduit Cost per 100 Pr. Copper	Wp 16, Ln 19		\$ 141.32

B. Annual Cost

26	Annual Charge Factor - Conduit	Input Sheet Ln 7	15.83%	15.83%
27	Direct Cost	Ln 24*Ln 26 & Ln 25*Ln 26	\$ 49.63	\$ 22.37
28	Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
29	Common Cost	Ln 27 * Ln 28	\$ 6.79	\$ 3.06
30	Total Annual Cost	Ln 27 + Ln 29	\$ 56.42	\$ 25.43

C. Pricing

31	Rate per Fiber Cable Entrance/100 Pr. Copper	Ln 30 / 12	<u>\$ 4.70</u>	<u>\$ 2.12</u>
32	Rate per Fiber Cable Entrance/100 Pr. Copper	Ln 8+Ln 15+ Ln 23+ Ln 31	\$ 31.30	\$ 13.94
33	Usage Factor - Copper			67%
34	Monthly Rate per Fiber Cable Entrance/100 Pr. Copper	Fiber Ln 32; Copper Ln 32 / Ln 33	\$ 31.30	\$ 20.81

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System Drawing

Riser Space

The diagram illustrates a vertical cable riser system. On the left, a 'Ladder Rack 10 feet from Floor to Ceiling' is shown. A '4" Core Hde' (4-inch core head) is attached to the ladder rack. A 'Cable Rack' is mounted on the ladder rack, containing 'CLEC Supplied Cable'. The cables run vertically through the riser space. On the right, a dashed box indicates the 'CLEC Collocation Area'.

Internal Cable Space \ Riser.ppt \ Vault.ppt \ Conduit.ppt \ Internal Cabling Narrative \ Internal Cabling \ Int Cblg.ppt \ Workpapers \ Security Cage WP \ Floor

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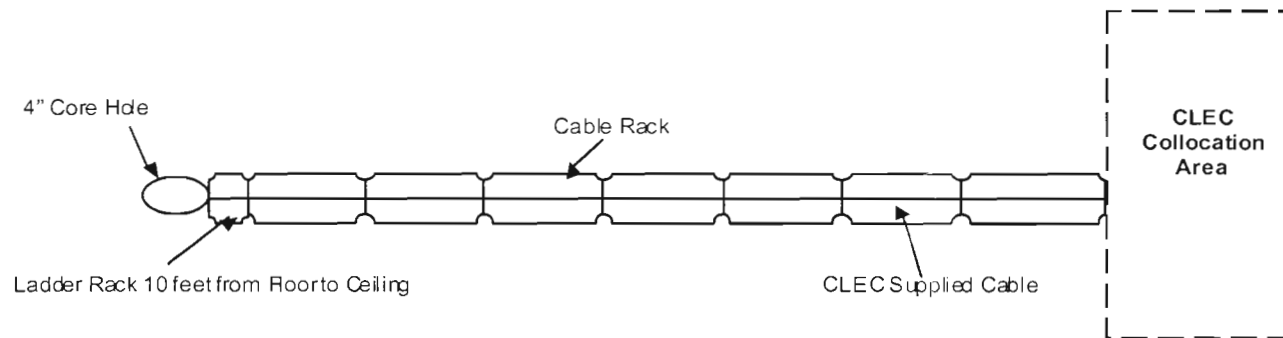
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Riser Space Cost Study
System Drawing

Riser Space



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Vault Access Cost Study
System Drawing

Vault Access

The diagram illustrates a vault access system. It features a horizontal rectangular box representing the vault. On the left side of the box, there is a label 'Conduit Entrance (to first manhole)' with an arrow pointing to a vertical line entering the box. Inside the box, there is a label 'Cable Vault' with an arrow pointing to a horizontal line. On the right side of the box, there is a label 'CLEC Supplied Cable' with an arrow pointing to a horizontal line. Above the right side of the box, there is a label '4" Core Hole (to riser space)' with an arrow pointing to a small circle on the top edge of the box.

Internal Cable Space / Riser.ppt / Vault.ppt / Conduit.ppt / Internal Cabling Narrative / Internal Cabling / Int Cblg.ppt / Workpapers / Security Cage W/P / Floor

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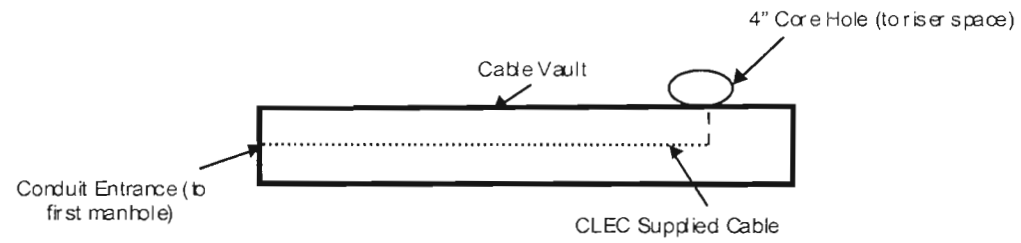
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Vault Access Cost Study
System Drawing

Vault Access



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Space Cost Study Drawing

Conduit Space

The diagram illustrates the layout of conduit space. On the left, a cross-section of a manhole is shown with a subduct and a cable. Labels include 'Manhole', 'Subduct', 'CLEC Supplied Cable', and 'Access Point to Vault'. On the right, a 'Side View' shows a 4-inch conduit containing three 1.25-inch subducts arranged in a 3x3 grid.

Manhole
Subduct
CLEC Supplied Cable
Access Point to Vault

Side View
1.25" Subduct
4" Conduit

Internal Cable Space / Riser.ppt / Vault.ppt / Conduit.ppt / Internal Cabling Narrative / Internal Cabling / Int Cblg.ppt / Workpapers / Security Cage WP / Floor

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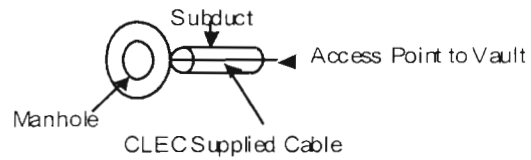
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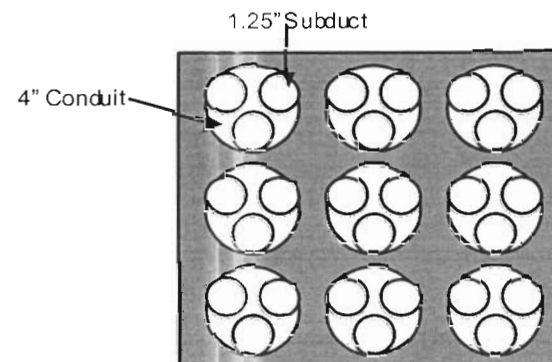
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Conduit Space Cost Study
System Drawing

Conduit Space



Side View



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1	Section XI: Internal Cable - 48 Fiber and 100-Pair Copper Stub Cable																			
2																				
3																				
4	A. Purpose																			
5																				
6	The purpose of this cost study is to determine the engineering cost and cost of removal																			
7	associated with fiber and copper internal cabling.																			
8																				
9	B. Introduction																			
10																				
11	Internal cabling is used in cases where the CLEC elects to install its own cable to the first																			
12	manhole instead of leasing transport facilities from Sprint. The CLEC must contract with and																			
13	make payment directly to a Sprint approved contractor for materials and installation labor																			
14	associated with the placement of an internal cable, bay and optical patch panel. Sprint provides																			
15	the engineering for the job and removal.																			
16																				
17	C. Assumptions																			
18																				
19	A pro forma installed cost of internal cabling, bay and optical patch panel was calculated as a																			
20	base upon which cost of removal is calculated.																			
21																				
22	For fiber cable, there is 175 feet from the optical patch panel to the vault. There is 50 feet to																			
23	transverse the vault. From the first manhole to the vault is 95 feet. The total distance is 320																			
24	feet. These costs do not include any riser space, vault or conduit costs which are included in																			
25	the Internal Cable Space element. A 48 fiber cable is installed.																			
26																				
27	For copper cable, 100 foot stub cable, protector modules and contract labor for installation and																			
28	splicing of the stub cables are included in the rate. Copper cable from the first manhole into the																			
29	vault is placed by the CLEC. The stub cable passes through a core drill in the floor of the MDF																			
30	area. The cable then terminates on the vertical side of the MDF at a protection block.																			
31																				
32	D. Methodology																			
33																				

Internal Cable Space / Riser.ppt / Vault.ppt / Conduit.ppt \ Internal Cabling Narrative / Internal Cabling / Int Cblg.ppt / Workpapers / Security Cage WP / Floor

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Section XI: Internal Cable - 48 Fiber and 100-Pair Copper Stub Cable

A. Purpose

The purpose of this cost study is to determine the engineering cost and cost of removal associated with fiber and copper internal cabling.

B. Introduction

Internal cabling is used in cases where the CLEC elects to install its own cable to the first manhole instead of leasing transport facilities from Sprint. The CLEC must contract with and make payment directly to a Sprint approved contractor for materials and installation labor associated with the placement of an internal cable, bay and optical patch panel. Sprint provides the engineering for the job and removal.

C. Assumptions

A pro forma installed cost of internal cabling, bay and optical patch panel was calculated as a base upon which cost of removal is calculated.

For fiber cable, there is 175 feet from the optical patch panel to the vault. There is 50 feet to transverse the vault. From the first manhole to the vault is 95 feet. The total distance is 320 feet. These costs do not include any riser space, vault or conduit costs which are included in the Internal Cable Space element. A 48 fiber cable is installed.

For copper cable, 100 foot stub cable, protector modules and contract labor for installation and splicing of the stub cables are included in the rate. Copper cable from the first manhole into the vault is placed by the CLEC. The stub cable passes through a core drill in the floor of the MDF area. The cable then terminates on the vertical side of the MDF at a protection block.

D. Methodology

For fiber cabling, a vendor quote was obtained for the cost of the cable. A SME then determined the time to install the cable. The optical patch panel costs were obtained from the optical cross connect study. For copper cable, material and installation requirements were determined from recent copper stub cable work activities.

Sprint engineering requirements were determined from recent internal cabling work activities. Following is a description of work done by engineers:

Outside Plant Engineer (OSP) - NE - Does engineering work for entrance cables; communicates with NPM, installation supervisors and contractors; creates and closes OSP workorder; makes specifications and drawings for installation supervisors; orders optical patch panels; updates the circuit assignment system and the customer line assignment system; and, tracks the progress of the OSP portion of the collocation arrangement.

The digital circuit equipment annual charge factor was applied to Sprint investment to determine an annual cost. The digital circuit cost of removal factor was applied to pro forma cabling investment to determine an annual provision for cost of removal. Common costs were also added. The monthly rate is applied per fiber cable or per 100-pair copper cable placed.

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	Source	Investment-Fiber	Investment-Copper
8 Investment - 48 Fiber Cable	Wp 17, Ln 5	\$ 1,353.96	
9 Investment - 48 Fiber Panel & Bay	Wp 17, Ln 10	\$ 416.16	
10 Investment - Copper Cable - 100 pair	Wp 18, Ln 5		\$ 1,596.07
12 Annual Cost			
14 Cost of Removal Factor - Digital Circuit	Input Sheet Ln 35	1.94%	1.94%
15 Annual Costs Before Common	(Ln 1*Ln2) * Ln 4 & Ln 3 * Ln 4	\$ 34.34	\$ 30.96
16 Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
17 Common Cost	Ln 5 * Ln 6	\$ 4.70	\$ 4.24
19 Annual Cost of Removal - Cabling	Ln 5 * Ln 7	\$ 39.04	\$ 35.20
21 Pricing			
23 Monthly Rate per 48 Fibers/100 Copper Pr (Tlp cables)	Ln 8 / 12	\$ 3.25	\$ 2.93
25 Nonrecurring Charge			
27 Engineering - 48 Fiber Cable	Wp 17, Ln 12	\$ 945.37	
28 Engineering - Copper Cable - 100 pair	Wp 18, Ln 6		\$ 163.00
29 Common Cost Factor	Input Sheet Ln 8	13.68%	13.68%
30 Common Cost	Ln 10 * Ln 12 & Ln 11 * 12	\$ 129.33	\$ 22.30
31 Total Nonrecurring Charge	Ln 10 * Ln 12 & Ln 11 * Ln 11	\$ 1,074.69	\$ 195.30

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Rate Element: Internal Cable - 48 Fiber & 100-Pr. Copper
Exhibit 13: Rate Calculation

Monthly Recurring Charge

<u>Line</u>	<u>Source</u>	<u>Investment- Fiber</u>	<u>Investment- Copper</u>
1	Investment - 48 Fiber Cable Wp 17, Ln 5	\$ 1,353.96	
2	Investment - 48 Fiber Panel & Bay Wp 17, Ln 10	\$ 416.16	
3	Investment - Copper Cable - 100 pair Wp 18, Ln 5		\$ 1,596.07
Annual Cost			
4	Cost of Removal Factor - Digital Circuit Input Sheet Ln 35	1.94%	1.94%
5	Annual Costs Before Common (Ln 1+Ln2) * Ln 4 & Ln 3 * Ln 4	\$ 34.34	\$ 30.96
6	Common Cost Factor Input Sheet Ln 8	13.68%	13.68%
7	Common Cost Ln 5 * Ln 6	\$ 4.70	\$ 4.24
8	Annual Cost of Removal - Cabling Ln 5 + Ln 7	\$ 39.04	\$ 35.20
Pricing			
9	Monthly Rate per 48 Fibers/100 Copper Pr (Tip cables) Ln 8 / 12	\$ 3.25	\$ 2.93
Nonrecurring Charge			
10	Engineering - 48 Fiber Cable Wp 17, Ln 12	\$ 945.37	
11	Engineering - Copper Cable - 100 pair Wp 18, Ln 6		\$ 163.00
12	Common Cost Factor Input Sheet Ln 8	13.68%	13.68%
13	Common Cost Ln 10 * Ln 12 & Ln 11 * 12	\$ 129.33	\$ 22.30
14	Total Nonrecurring Charge Ln 10 + Ln 13 & Ln 11 + Ln 13	\$ 1,074.69	\$ 185.30

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Internal Cabling Cost Study System Drawing

Internal Cabling

Notes: This does not include the cost of Riser Space, Vault Access, and Conduit Space

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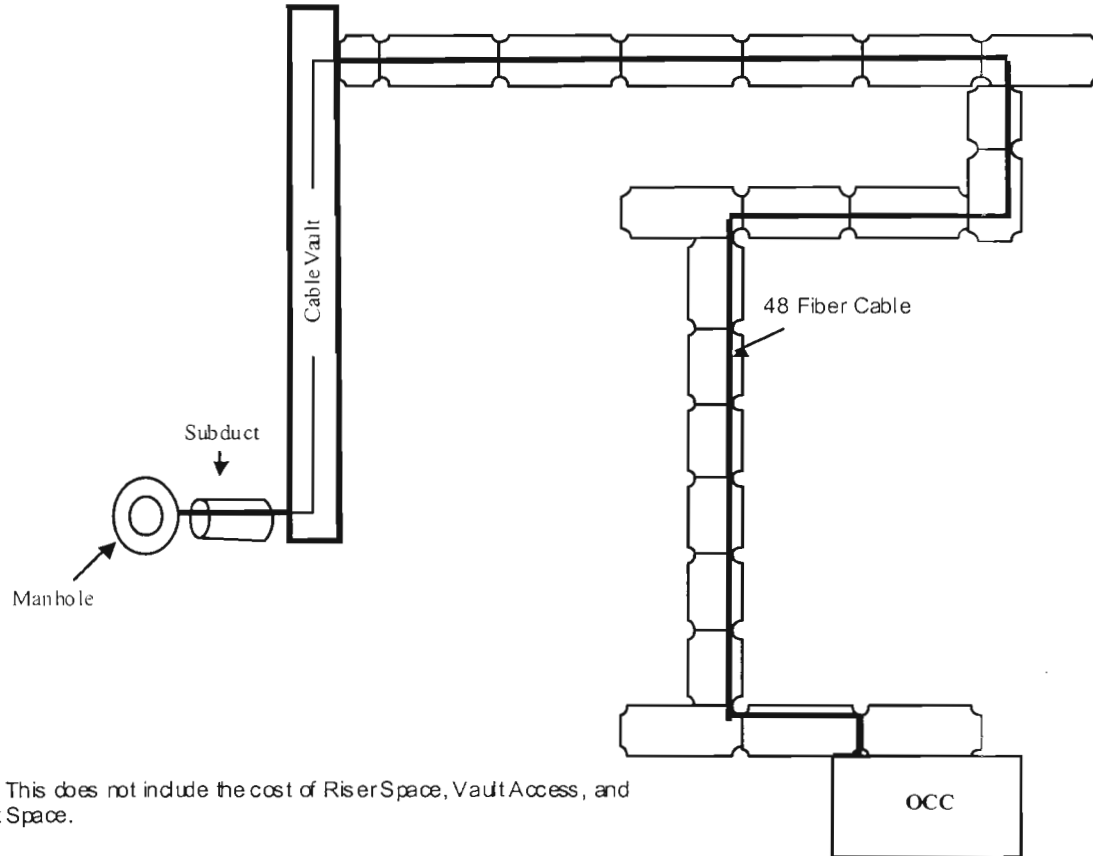
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Internal Cabling Cost Study
System Drawing

Internal Cabling



Notes: This does not include the cost of RiserSpace, Vault Access, and Conduit Space.

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COLLOCATION COST STUDY

Section XII: Workpapers

Sprint - Florida, Incorporated

January 28, 2004
Revised

COLLOCATION COST STUDY

Section XII: Workpapers

Sprint – Florida, Incorporated

**January 28, 2004
Revised**

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Source	Qty	Unit Price	Total Price
WA Study / Input Sheet Ln 26		\$ 75.71	\$ 605.68
WA Study			\$ 42.82

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Security Cage Investment
Workpaper 3

<u>Line</u>	<u>Item Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Total Price</u>
Fixed Cost - Engineering					
1	Engineering Time	WA Study / Input Sheet Ln 26	8	\$ 75.71	\$ 605.68
Variable Cost - Cage Construction					
2	Materials, Labor & Overheads	WA Study			\$ 42.82

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Line	Description	Source	Cost per Square Foot
1	Average Cost per Gross Square Foot	Wp 4 1, Ln BB2	\$ 126.00
2	Architect and Engineering Fee	Input sheet Ln 30 * Ln 1	\$ 20.16
3	Security Additive	Wp 4 2, Ln 35	\$ 2.63
4	Building subtotal	Ln 1 + Ln 2 + Ln 3	\$ 148.79
5	Land to Building Ratio	Wp 4 3, Ln 3	9.68%
6	Land Cost per Square Foot	L 4 * L 5	\$ 14.40
7	Cost per square foot for land, building and security	Ln 4 + Ln 6	\$ 163.19
8	Assignable Transmission Space to Total	Input sheet Ln 14	49.2%
9	Investment per Assignable Square Foot	Ln 7 / Ln 8	\$ 331.69
10	Ground Bar Investment Per Square Foot	Wp 4 4, Ln 8	\$ 10.00
11	Total Shared, Growth and Egress Investment Per Assignable Square Foot	Ln 9 + Ln 10	\$ 341.70

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**Floor Space Investment
Workpaper 4**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Cost per Square Foot</u>
1	Average Cost per Gross Square Feet	Wp 4.1, Ln BB2	\$ 126.00
2	Architect and Engineering Fee	Input sheet Ln 30 * Ln 1	\$ 20.16
3	Security Additive	Wp 4.2, Ln 35	\$ 2.63
4	Building subtotal	Ln 1 + Ln 2 + Ln 3	\$ 148.79
5	Land to Building Ratio	Wp 4.3, Ln 3	9.68%
6	Land Cost per Square Foot	L 4 * L 5	\$ 14.40
7	Cost per square foot for land, building and security	Ln 4 + Ln 6	\$ 163.19
8	Assignable Transmission Space to Total	Input sheet Ln 14	49.2%
9	Investment per Assignable Square Foot	Ln 7 / Ln 8	\$ 331.69
10	Ground Bar Investment Per Square Foot	Wp 4.4, Ln 8	\$ 10.00
11	Total Shared, Growth and Egress Investment Per Assignable Square Foot	Ln 9 + Ln 10	\$ 341.70

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Line	Access Lines AA	Weighted Average Cost per Foot BB	Weighted Average Cost per DC Amp CC
1	2,189,311	275,753,257	1,013,465,612
2		\$ 126	\$ 463

CLL	ZIP Code	Dec 2000 Access Lines	RS Means Cost per Foot	Weighted Average	Amps Required	Cost per Amp	Weighted Average
ALFRFLXARS0	32420	1,797	112	201,264	200	\$962	1,728,616
ALSPFLXADS0	32701	51,474	132	6,794,568	2,000	\$390	20,065,567
ALVAFFLXARS1	33820	1,766	123	217,218	200	\$962	1,698,796
APPKFLXADS1	32703	34,183	132	4,512,156	2,000	\$390	13,325,199
ARCDFLXADS0	33821	15,696	126	1,977,696	1,000	\$463	7,272,062
ASTRFLXARS0	32102	1,528	135	206,260	200	\$962	1,469,653
AVPKFLXADS0	33825	12,313	126	1,551,438	1,000	\$463	5,704,695
BAKRFLXADS0	32531	2,893	128	370,304	200	\$962	2,782,908
BCGRFLXARS0	33921	3,164	123	389,172	200	\$962	3,043,596
BLVWFLXADS0	34420	24,358	127	3,093,466	1,000	\$463	11,295,224
BNFYFLXARS0	32425	5,469	112	612,528	400	\$684	3,741,645
BNSPFLXADS1	33923	51,897	123	6,358,731	2,000	\$390	20,152,497
BSHNFLXADS0	33513	12,483	127	1,585,341	1,000	\$463	5,783,457
BVHFLXADS0	32665	15,943	127	2,024,761	1,000	\$463	7,386,498
BVMFLXADS0	33924	1,710	126	214,450	200	\$962	1,614,037

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Weighted Building and Power Plant Investment
Workpaper 4.1

Summary							
Line			Access Lines AA		Weighted Average Cost per Foot BB		Weighted Average Cost per DC Amp CC
1	Totals	<i>Sum Col C</i>	2,189,311	<i>Sum Col E</i>	275,753,257	<i>Sum Col H</i>	1,013,465,612
2	Weighted Averages			<i>BB1 / AA1</i>	\$ 126	<i>CC1 / AA1</i>	\$ 463

A	B	C	D	E	F	G	H
<u>CLLI</u>	<u>ZIP Code</u>	<u>Dec 2000 Access Lines</u>	<u>RS Means Cost per Foot</u>	<u>Weighted Average</u>	<u>Amps Required</u>	<u>Cost per Amp</u>	<u>Weighted Average</u>
ALFRFLXARS0	32420	1,797	112	201,264	200	\$962	1,728,616
ALSPFLXADS0	32701	51,474	132	6,794,568	2,000	\$390	20,065,567
ALVAFLXARS1	33920	1,766	123	217,218	200	\$962	1,698,796
APPKFLXADS1	32703	34,183	132	4,512,156	2,000	\$390	13,325,199
ARCDFLXADS0	33821	15,696	126	1,977,696	1,000	\$463	7,272,062
ASTRFLXARS0	32102	1,528	135	206,280	200	\$962	1,469,853
AVPKFLXADS0	33825	12,313	126	1,551,438	1,000	\$463	5,704,695
BAKRFLXADS0	32531	2,893	128	370,304	200	\$962	2,782,908
BCGRFLXARS0	33921	3,164	123	389,172	200	\$962	3,043,596
BLVWFLXADS0	34420	24,358	127	3,093,466	1,000	\$463	11,285,224
BNFYFLXARS0	32425	5,469	112	612,528	400	\$684	3,741,645
BNSPFLXADS1	33923	51,697	123	6,358,731	2,000	\$390	20,152,497
BSHNFLXADS0	33513	12,483	127	1,585,341	1,000	\$463	5,783,457
BVHLFLXADS0	32665	15,943	127	2,024,761	1,000	\$463	7,386,498
BWLGFLXARS0	33834	1,710	126	215,460	200	\$962	1,644,927
CFVLFLXADS0	32327	7,720	120	926,400	1,000	\$463	3,576,728
CHLKFLXARS0	32340	1,426	120	171,120	200	\$962	1,371,734
CHSWFLXARS0	32647	4,655	127	591,185	400	\$684	3,184,743
CLMTFLXADS0	32711	25,454	132	3,359,928	1,000	\$463	11,793,008

Weighted Building and Power Plant Investment
Workpaper 4.1

Summary							
Line			Access Lines AA		Weighted Average Cost per Foot BB		Weighted Average Cost per DC Amp CC
1	Totals	Sum Col C	2,189,311	Sum Col E	275,753,257	Sum Col H	1,013,465,612
2	Weighted Averages			BB1 / AA1	\$ 126	CC1 / AA1	\$ 463

A	B	C	D	E	F	G	H
<u>CLLI</u>	<u>ZIP Code</u>	<u>Dec 2000 Access Lines</u>	<u>RS Means Cost per Foot</u>	<u>Weighted Average</u>	<u>Amps Required</u>	<u>Cost per Amp</u>	<u>Weighted Average</u>
CLTNFLXARS0	33440	9,560	130	1,242,800	400	\$684	6,540,525
CPCRFLXADS0	33904	36,043	123	4,433,289	1,000	\$463	16,698,962
CPCRFLXBDS1	33990	31,513	123	3,876,099	1,000	\$463	14,600,183
CPHZFLXADS0	33946	12,799	123	1,574,277	1,000	\$463	5,929,862
CRRVFLXADS0	34429	16,324	127	2,073,148	1,000	\$463	7,563,018
CRVWFLXADS0	32536	18,875	128	2,416,000	1,000	\$463	8,744,913
CSLBFLXADS1	32707	20,557	132	2,713,524	1,000	\$463	9,524,195
CTDLFLXARS0	32431	1,475	112	165,200	200	\$962	1,418,870
CYLKFLXADS0	33907	44,884	123	5,520,732	2,000	\$390	17,496,657
CYLKFLXBRS0	33913	44,828	123	5,513,844	2,000	\$390	17,474,827
DDCYFLXADS1	33525	13,702	127	1,740,154	1,000	\$463	6,348,228
DESTFLXADS0	32541	25,009	128	3,201,152	1,000	\$463	11,586,837
DFSPFLXADS0	32433	9,991	112	1,118,992	1,000	\$463	4,628,897
ESTSFLXARS0	32726	19,855	132	2,620,860	2,000	\$390	7,739,865
EVRGFLXARS0	34139	1,774	123	218,202	200	\$962	1,706,491
FRPTFLXARS0	32439	3,290	112	368,480	200	\$962	3,164,801
FTMBFLXARS0	33931	12,290	123	1,511,670	1,000	\$463	5,694,039
FTMDFLXARS0	33841	3,452	126	434,952	200	\$962	3,320,636
FTMYFLXADS0	33901	24,678	123	3,035,394	4,000	\$362	8,937,830

Weighted Building and Power Plant Investment
Workpaper 4.1

Summary							
Line			Access Lines AA		Weighted Average Cost per Foot BB		Weighted Average Cost per DC Amp CC
1	Totals	<i>Sum Col C</i>	2,189,311	<i>Sum Col E</i>	275,753,257	<i>Sum Col H</i>	1,013,465,612
2	Weighted Averages			<i>BB1 / AA1</i>	\$ 126	<i>CC1 / AA1</i>	\$ 463

A	B	C	D	E	F	G	H
<u>CLLI</u>	<u>ZIP Code</u>	<u>Dec 2000 Access Lines</u>	<u>RS Means Cost per Foot</u>	<u>Weighted Average</u>	<u>Amps Required</u>	<u>Cost per Amp</u>	<u>Weighted Average</u>
FTMYFLXBRS0	33905	16,342	123	2,010,066	1,000	\$463	7,571,358
FTMYFLXCDS2	33907	38,568	123	4,743,864	2,000	\$390	15,034,557
FTWBFLXADS0	32548	24,322	128	3,113,216	2,000	\$390	9,481,189
FTWBFLXBDS0	32547	20,196	128	2,585,088	1,000	\$463	9,356,942
FTWBFLXCRS0	32569	4,494	128	575,232	200	\$962	4,322,983
GDRGFLXADS0	32442	2,434	112	272,608	200	\$962	2,341,375
GLDLFLXARS0	32433	882	112	98,784	200	\$962	848,436
GLGCFLXADS0	33999	38,336	123	4,715,328	1,000	\$463	17,761,325
GLRDFLXADS0	32733	46,528	132	6,141,696	2,000	\$390	18,137,520
GNVFLXARS0	32331	1,485	120	178,200	200	\$962	1,428,489
GNWDFLXARS0	32443	928	112	103,936	200	\$962	892,685
GVLDFLXARS0	34736	6,291	132	830,412	200	\$962	6,051,599
HMSPFLEXARS0	34448	10,597	127	1,345,819	400	\$684	7,249,994
HOWYFLXARS0	34737	1,939	132	255,948	200	\$962	1,865,212
IMKLFLXARS0	33934	7,243	123	890,889	600	\$481	3,484,841
INVRFLXADS1	32650	29,640	127	3,764,280	2,000	\$390	11,554,249
KGLKFLXARS0	32091	327	129	42,183	200	\$962	314,556
KNVLFLXARS0	32739	726	124	90,024	200	\$962	698,372
KSSMFLXADS0	34741	48,996	132	6,467,472	4,000	\$362	17,745,275

Weighted Building and Power Plant Investment
Workpaper 4.1

Summary							
Line			Access Lines AA		Weighted Average Cost per Foot BB		Weighted Average Cost per DC Amp CC
1	Totals	Sum Col C	2,189,311	Sum Col E	275,753,257	Sum Col H	1,013,465,612
2	Weighted Averages			BB1 / AA1	\$ 126	CC1 / AA1	\$ 463

A	B	C	D	E	F	G	H
CLLI	ZIP Code	Dec 2000 Access Lines	RS Means Cost per Foot	Weighted Average	Amps Required	Cost per Amp	Weighted Average
KSSMFLXBDS1	34746	25,152	132	3,320,064	1,000	\$463	11,653,089
KSSMFLXCRS1	34747	-	132	-	200	\$962	-
KSSMFLXDRS0	34744	15,049	132	1,986,468	400	\$684	10,295,853
LBLLFLXADS0	33935	9,771	123	1,201,833	600	\$481	4,701,143
LDLKFLXARS0	32159	27,326	135	3,689,010	600	\$481	13,147,420
LEE FLXARS0	32059	1,233	129	159,057	200	\$962	1,186,079
LHACFLXADS0	33936	18,297	123	2,250,531	1,000	\$463	8,477,122
LKBRFLXADS1	32714	42,998	132	5,675,736	2,000	\$390	16,761,457
LKHLFLXARS0	32744	2,114	132	279,048	200	\$962	2,033,553
LKPCFLXARS0	33852	13,965	126	1,759,590	400	\$684	9,554,229
LSBGFLXADS1	32749	36,551	132	4,824,732	2,000	\$390	14,248,291
LWTYFLXARS0	32058	1,264	129	163,056	200	\$962	1,215,899
MALNFLXARS0	32445	1,397	112	156,464	200	\$962	1,343,838
MDSNFLXADS0	32340	5,499	120	659,880	1,000	\$463	2,547,723
MNTIFLXADS0	32344	7,417	120	890,040	1,000	\$463	3,436,346
MOISFLXADS1	34145	24,315	123	2,990,745	1,000	\$463	11,265,302
MRHNFLXARS0	33471	3,070	130	399,100	200	\$962	2,953,173
MRNNFLXADS0	32446	12,418	112	1,390,816	1,000	\$463	5,753,342
MTDRFLXARS0	32757	17,118	132	2,259,576	1,000	\$463	7,930,884

Weighted Building and Power Plant Investment
Workpaper 4.1

Summary							
Line			Access Lines AA		Weighted Average Cost per Foot BB		Weighted Average Cost per DC Amp CC
1	Totals	Sum Col C	2,189,311	Sum Col E	275,753,257	Sum Col H	1,013,465,612
2	Weighted Averages			BB1 / AA1	\$ 126	CC1 / AA1	\$ 463

A	B	C	D	E	F	G	H
CLLI	ZIP Code	Dec 2000 Access Lines	RS Means Cost per Foot	Weighted Average	Amps Required	Cost per Amp	Weighted Average
MTLDFLXADS1	32751	13,891	132	1,833,612	2,000	\$390	5,414,982
MTVRFLXARS0	32756	1,925	132	254,100	200	\$962	1,851,745
NFMYFLXADS0	33903	17,549	123	2,158,527	1,000	\$463	8,130,569
NFMYFLXBDS0	33903	18,732	123	2,304,036	200	\$962	18,019,163
NNPLFLXADS1	33963	66,961	123	8,236,203	2,000	\$390	26,102,701
NPLSFLXCDS0	33962	39,159	123	4,816,557	2,000	\$390	15,264,940
NPLSFLXDDS0	33940	62,968	123	7,745,064	2,000	\$390	24,546,152
OCALFLXADS0	34471	64,532	127	8,195,564	4,000	\$362	23,372,073
OCALFLXBDS0	34474	34,020	127	4,320,540	1,000	\$463	15,761,693
OCALFLXCRS0	32671	6,226	127	790,702	400	\$684	4,259,551
OCNFFLXARS0	32688	6,073	127	771,271	400	\$684	4,154,875
OKCBFLXADS1	33472	23,786	130	3,092,180	2,000	\$390	9,272,246
OKLWFLXADS0	32679	4,431	127	562,737	400	\$684	3,031,492
ORCYFLXADS0	32763	13,807	132	1,822,524	1,000	\$463	6,396,875
ORCYFLXCRS0	32738	15,374	132	2,029,368	600	\$481	7,396,927
PANCFLXARS0	32346	1,160	120	139,200	200	\$962	1,115,857
PNGRFLXADS1	33950	28,961	123	3,562,203	2,000	\$390	11,289,562
PNISFLXADS0	33922	10,105	123	1,242,915	1,000	\$463	4,681,714
PNLNFLXARS0	32455	1,309	112	146,608	200	\$962	1,259,187

Weighted Building and Power Plant Investment
Workpaper 4.1

Summary							
Line			Access Lines AA		Weighted Average Cost per Foot BB		Weighted Average Cost per DC Amp CC
1	Totals	Sum Col C	2,189,311	Sum Col E	275,753,257	Sum Col H	1,013,465,612
2	Weighted Averages			BB1 / AA1	\$ 126	CC1 / AA1	\$ 463

A	B	C	D	E	F	G	H
CLLI	ZIP Code	Dec 2000 Access Lines	RS Means Cost per Foot	Weighted Average	Amps Required	Cost per Amp	Weighted Average
PTCTFLXADS0	33952	57,106	123	7,024,038	2,000	\$390	22,261,030
RYHLFLXARS0	32426	1,576	112	176,512	200	\$962	1,516,026
SBNGFLXADS1	33870	30,235	126	3,809,610	2,000	\$390	11,786,191
SGBHFLXARS0	32458	6,762	112	757,344	200	\$962	6,504,675
SHLMFLXADS0	32579	9,582	128	1,226,496	1,000	\$463	4,439,405
SLHLFLXARS0	33870	5,548	120	665,760	200	\$962	5,336,874
SNANFLXARS0	33576	4,397	127	558,419	200	\$962	4,229,674
SNDSFLXARS0	32460	2,051	112	229,712	200	\$962	1,972,950
SNISFLXADS0	33957	13,101	123	1,611,423	1,000	\$463	6,069,781
SNRSFLXARS0	32459	6,872	112	769,664	200	\$962	6,610,489
SPCPFLXARL0		1,158	115	133,170	200	\$962	1,113,933
SSPRFLXARS0	32134	1,736	135	234,360	200	\$962	1,669,937
STCDFLXARS0	34769	23,557	132	3,109,524	1,000	\$463	10,914,115
STMKFLXARS0	32355	781	120	93,720	200	\$962	751,279
STRKFLXADS0	32091	7,970	129	1,028,130	400	\$684	5,452,718
SVSPFLXARS0	34488	5,806	127	737,362	400	\$684	3,972,206
SVSSFLXARS0	34472	7,884	127	1,001,268	400	\$684	5,393,880
TLCHFLXARS0	33537	3,985	127	506,095	200	\$962	3,833,353
TLHSFLXADS0	32301	72,353	120	8,682,360	4,000	\$362	26,204,668

Weighted Building and Power Plant Investment
Workpaper 4.1

Summary							
Line			Access Lines AA		Weighted Average Cost per Foot BB		Weighted Average Cost per DC Amp CC
1	Totals	Sum Col C	2,189,311	Sum Col E	275,753,257	Sum Col H	1,013,465,612
2	Weighted Averages			BB1 / AA1	\$ 126	CC1 / AA1	\$ 463

A	B	C	D	E	F	G	H
CLLI	ZIP Code	Dec 2000 Access Lines	RS Means Cost per Foot	Weighted Average	Amps Required	Cost per Amp	Weighted Average
TLHSFLXBDS0	32303	25,047	120	3,005,640	2,000	\$390	9,763,808
TLHSFLXCDS0	32304	25,775	120	3,093,000	2,000	\$390	10,047,597
TLHSFLXDDS0	32301	43,102	120	5,172,240	2,000	\$390	16,801,999
TLHSFLXEDS0	32304	11,170	120	1,340,400	400	\$684	7,642,015
TLHSFLXFDS0	32312	26,682	120	3,201,840	2,000	\$390	10,401,163
TLHSFLXGDS0	32311	4,877	120	585,240	200	\$962	4,691,408
TLHSFLXHDS0	32303	11,567	120	1,388,040	1,000	\$463	5,359,068
TVRSFLXADS0	32778	16,028	132	2,115,696	1,000	\$463	7,425,879
UMTLFLXARS0	32784	8,509	132	1,123,188	400	\$684	5,821,477
VLPRFLXADS0	32580	13,399	128	1,715,072	1,000	\$463	6,207,846
VLPRFLXBRS0	32578	7,183	128	919,424	400	\$684	4,914,288
WCHLFLXADS0	33872	7,683	126	968,058	600	\$481	3,696,539
WLSTFLXARS0	32696	6,925	127	879,475	400	\$684	4,737,775
WLWDFLXARS0	34785	8,601	132	1,135,332	400	\$684	5,884,420
WNDRFLXARS0	34786	10,453	132	1,379,796	400	\$684	7,151,475
WNGRFLXADS0	32787	26,661	132	3,519,252	2,000	\$390	10,392,977
WNPFLXADS1	32789	46,775	132	6,174,300	4,000	\$362	16,940,878
WSTVFLXARS0	32464	886	112	99,232	200	\$962	852,284
ZLSPFLXARS0	33890	2,703	126	340,578	200	\$962	2,600,139

Weighted Building and Power Plant Investment
Workpaper 4.1

Summary							
Line			Access Lines AA		Weighted Average Cost per Foot BB		Weighted Average Cost per DC Amp CC
1	Totals	Sum Col C	2,189,311	Sum Col E	275,753,257	Sum Col H	1,013,465,612
2	Weighted Averages			BB1 / AA1	\$ 126	CC1 / AA1	\$ 463

A	B	C	D	E	F	G	H
<u>CLLI</u>	<u>ZIP Code</u>	<u>Dec 2000 Access Lines</u>	<u>RS Means Cost per Foot</u>	<u>Weighted Average</u>	<u>Amps Required</u>	<u>Cost per Amp</u>	<u>Weighted Average</u>
TLHSFLXBDS0	32303	25,047	120	3,005,640	2,000	\$390	9,763,808
TLHSFLXCDS0	32304	25,775	120	3,093,000	2,000	\$390	10,047,597
TLHSFLXDDS0	32301	43,102	120	5,172,240	2,000	\$390	16,801,999
TLHSFLXEDS0	32304	11,170	120	1,340,400	400	\$684	7,642,015
TLHSFLXFDS0	32312	26,682	120	3,201,840	2,000	\$390	10,401,163
TLHSFLXGDS0	32311	4,877	120	585,240	200	\$962	4,691,408
TLHSFLXHDS0	32303	11,567	120	1,388,040	1,000	\$463	5,359,068
TVRSFLXADS0	32778	16,028	132	2,115,696	1,000	\$463	7,425,879
UMTLFLXARS0	32784	8,509	132	1,123,188	400	\$684	5,821,477
VLPRFLXADS0	32580	13,399	128	1,715,072	1,000	\$463	6,207,846
VLPRFLXBRS0	32578	7,183	128	919,424	400	\$684	4,914,288
WCHLFLXADS0	33872	7,683	126	968,058	600	\$481	3,696,539
WLSTFLXARS0	32696	6,925	127	879,475	400	\$684	4,737,775
WLWDFLXARS0	34785	8,601	132	1,135,332	400	\$684	5,884,420
WNDRFLXARS0	34786	10,453	132	1,379,796	400	\$684	7,151,475
WNGRFLXADS0	32787	26,661	132	3,519,252	2,000	\$390	10,392,977
WNPFLXADS1	32789	46,775	132	6,174,300	4,000	\$362	16,940,878
WSTVFLXARS0	32464	886	112	99,232	200	\$962	852,284
ZLSPFLXARS0	33890	2,703	126	340,578	200	\$962	2,600,139

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Security Installation Bids in Sprint-Florida, Inc. Central Offices

Line	Central Office	Address	City	CLLI	C/O Sq. Ft.	Bid Amount
1	Altamonte Springs Co	450 Sanford Ave.	Altamonte Springs	ALSPFLXA	13,402	\$7,267
2	Apopka Co	200 2nd St	Apopka	APPKFLXA	4,948	\$18,700
3	Bonita Springs Co	28160 Beaumont Rd	Bonita Springs	BNSPFL	6,738	\$16,043
4	Cape Coral Co	4001 Palm Tree Blvd	Cape Coral	CPCRFLEXAH01	9,785	\$16,989
5	Casselberry Co	1510 Lake Drive	Casselberry	CSLBFLXA	5,077	\$11,644
6	Cypress Lake Co	7461 Winkler Rd	Cypress Lake	CYLKFLXA	8,591	\$17,988
7	Destin Co	575 Main St - 32541	Destin	DESTFLXAH01	3,225	\$12,337
8	Eglin Airforce Base	BLDG 75 Eglin AFB	Ft. Walton	EGLINFLAT	2,675	\$9,452
9	Ft. Walton Beach 882	630 Denton Blvd.	Ft. Walton Beach	FTWBFLXB	6,146	\$15,256
10	Ft. Walton Beach Co	212 Hollywood Blvd	Ft. Walton Beach	FTWBFLXA	12,468	\$24,100
11	Golden Gate Co	4861 Sunset Blvd	Golden Gate	GLGCFLXA	3,962	\$17,589
12	Golden Rod Co	7601 Citrus Ave	Golden Rod	GLRDFLXA	10,739	\$28,593
13	Kissimmee Co	418 E. Broadway	Kissimmee	KSSMFLXA	9,430	\$36,866
14	Lake Brantley Co	916 St. Rd. 434	Altamonte Springs	LKBRFLXA	8,585	\$14,904
15	Leesburg Co	425 N. 3rd St.	Leesburg	LSBGFLXA	11,470	\$71,131
16	Marco Island Co	401 Bald Eagle Dr.	Marco Island	MOISFLXAH04	3,327	\$16,139
17	N. Cape Coral Co	906 Country Club Rd.	N. Cape Coral	CPCRFLEXB	5,332	\$17,847
18	Naples Mooring Co	990 N. 26th Ave.	Naples	NPLSFLXD	9,468	\$17,535
19	Ocala Co	319 SE Broadway	Ocala	OCALFLXA	1,323	\$18,347
20	Port Charlotte Co	3391 S. Tamiami Dr.	Port Charlotte	PTCTFLXA	13,285	\$14,760
21	Punta Gorda Co	113 W. Olympia Ave	Punta Gorda	PNGRFLXA	10,643	\$20,511
22	Sebring Co	130 S. Ridgewood Dr	Sebring	SEBRFLXA	5,573	\$14,760
23	Shady Road Co	2463 SW College Rd	Ocala	OCALFLXBH02	3,807	\$15,775
24	South Ft. Myers	3825 Cleveland Blvd.	Fl. Myers	FTMYFLXC	9,538	\$17,009
25	Tallahassee	3988 Parkline Road	Tallahassee	TLHRFLXHH04	3,688	\$14,308

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Security Installation Bids in Sprint-Florida, Inc. Central Offices

Line	Central Office	Address	City	CLLI	CO Sq. Ft.	Bid Amount
1	Altamonte Springs Co	450 Sanford Ave.	Altamonte Springs	ALSPFLXA	13,402	\$7,267
2	Apopka Co.	200 2nd St.	Apopka	APPKFLXA	4,948	\$18,700
3	Bonita Springs Co.	28160 Beaumont Rd.	Bonita Springs	BNSPFL	6,738	\$16,043
4	Cape Coral Co.	4001 Palm Tree Blvd	Cape Coral	CPCRFLXAH01	9,785	\$16,989
5	Casselberry Co	1510 Lake Drive	Casselberry	CSLBFLXA	5,077	\$11,644
6	Cypress Lake Co.	7461 Winkler Rd.	Cypress Lake	CYLKFLXA	8,591	\$17,988
7	Destin Co.	575 Main St. - 32541	Destin	DESTFLXAH01	3,225	\$12,337
8	Eglin Airforce Base	BLDG 75 Eglin AFB	Ft. Walton	EGLINFLAT	2,675	\$9,452
9	Ft. Walton Beach 862	630 Denton Blvd.	Ft. Walton Beach	FTWBFLXB	6,146	\$15,256
10	Ft. Walton Beach Co.	212 Hollywood Blvd.	Ft. Walton Beach	FTWBFLXA	12,468	\$24,100
11	Golden Gate Co.	4661 Sunset Blvd	Golden Gate	GLGCFLXA	3,962	\$17,589
12	Golden Rod Co.	7601 Citrus Ave	Golden Rod	GLRDFLXA	10,739	\$28,593
13	Kissimmee Co.	418 E. Broadway	Kissimmee	KSSMFLXA	9,430	\$36,866
14	Lake Brantley Co.	916 St. Rd. 434	Altamonte Springs	LKBRFLXA	8,565	\$14,904
15	Leesburg Co.	425 N. 3rd St.	Leesburg	LSBGFLXA	11,470	\$71,131
16	Marco Island Co.	401 Bald Eagle Dr.	Marco Island	MOISFLXAH04	3,327	\$16,139
17	N. Cape Coral Co.	906 Country Club Rd.	N. Cape Coral	CPCRFLXB	5,332	\$17,847
18	Naples Mooring Co.	990 N. 26th Ave.	Naples	NPLSFLXD	9,468	\$17,535
19	Ocala Co.	319 SE Broadway	Ocala	OCALFLXA	1,323	\$18,347
20	Port Charlotte Co.	3391 S. Tamiami Dr.	Port Charlotte	PTCTFLXA	13,285	\$14,760
21	Punta Gorda Co.	113 W. Olympia Ave	Punta Gorda	PNGRFLXA	10,643	\$20,511
22	Sebring Co.	130 S. Ridgewood Dr.	Sebring	SBNGFLXA	5,573	\$14,760
23	Shady Road Co.	2463 SW College Rd	Ocala	OCALFLXBH02	3,807	\$15,775
24	South Ft. Myers	3825 Cleveland Blvd.	Ft. Myers	FTMYFLXC	9,538	\$17,099
25	Tallahassee	3968 Perkins Road	Tallahassee	TLHSFLXHH04	3,688	\$14,398
26	Tallahassee 222 Co	132 N. Calhoun St.	Tallahassee	TLHSFLXA	28,920	\$42,727
27	Tallahassee 385 Co	124 Willis Rd.	Tallahassee	TLHSFLXB	10,380	\$21,768
28	Tallahassee 877 Co.	1337 Blairstone Dr.	Tallahassee	TLHSFLXD	11,378	\$31,947
29	Tallahassee 893 Co.	5000 Thomasville Rd.	Tallahassee	TLHSFLXF	3,668	\$14,396
30	Tallahassee-Mabry Ofc	706 Mabry St.	Tallahassee	TLHSFLXC	6,918	\$26,487
31	W. Kissimmee Co.	3080 Vineland Rd	Kissimmee	KSSMFLXB	3,910	\$11,226
32	Winter Garden Co.	33 N. Main St.	Winter Garden	WNGRFLXA	12,528	\$65,875
33	Winter Park Local Co.	151 New York Ave.	Winter Park	WNPKFLXA	12,373	\$16,935
34	Totals				273,280	\$717,389
35	Security Investment Per Square Foot					\$2.63

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Line	Description	Source	Calculation
1	Land Investment	General Ledger	17,389,708
2	Building Investment	General Ledger	179,650,811
3	Land to Building Ratio	Ln 1 / Ln 2	9.68%

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Land To Building Ratio
Workpaper 4.3

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Calculation</u>
1	Land Investment	General Ledger	17,389,708
2	Building Investment	General Ledger	179,650,811
3	Land to Building Ratio	Ln 1 / Ln 2	9.68%

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Line	Description	Source	Qty	Unit Price	Material Price
1	Ground Bar Connection Investment (1)	Input Sheet Ln 32	1	\$ 3,000.00	\$ 3,000.00
2	Power Engineering Hours	SME / Input Sheet Ln 1	16	\$ 62.62	\$ 1,001.92
3	Total Ground Bar Connection Investment	Ln 1 + Ln 2			\$ 4,001.92
4	Ground Bar Investment per Sq. Ft.	Ln 3 / 400 Sq Ft	400		\$ 10.00

Notes
(1) Each Ground Bar is capable of serving 400 sq ft

Taskbar: Floor Space WP / Wgtd Bldg & Power Plant Inv WP / Security Investment WP / Land to Building Ratio WP / Floor Space Ground Bar WP / Ground Bar.ppt / 10:34 AM

**Grounding Connection - Floor Space
Workpaper 4.4**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Ground Bar Connection Investment (1)	Input Sheet Ln 32	1	\$ 3,000.00	\$ 3,000.00
2	Power Engineering Hours	SME / Input Sheet Ln 1	16	\$ 62.62	\$ 1,001.92
3	Total Ground Bar Connection Investment	Ln 1 + Ln 2			\$ 4,001.92
4	Ground Bar Investment per Sq. Ft.	Ln 3 / 400 Sq Ft	400		\$ 10.00

Notes:

(1) Each Ground Bar is capable of serving 400 sq. ft.

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Ground Bar Cost Study
System Drawing

Ground Bar

Ground Cable

Ground Bar

60'

8'

Designated Ground Source

Note: The ground bar is located 100' from the ground plane in the Central Office. Each ground bar is capable of serving 400 sq ft.

Floor Space WP / Wgtd Bldg & Power Plant Inv WP / Security Investment WP / Land to Building Ratio WP / Floor Space Ground Bar WP / Ground Bar.ppt

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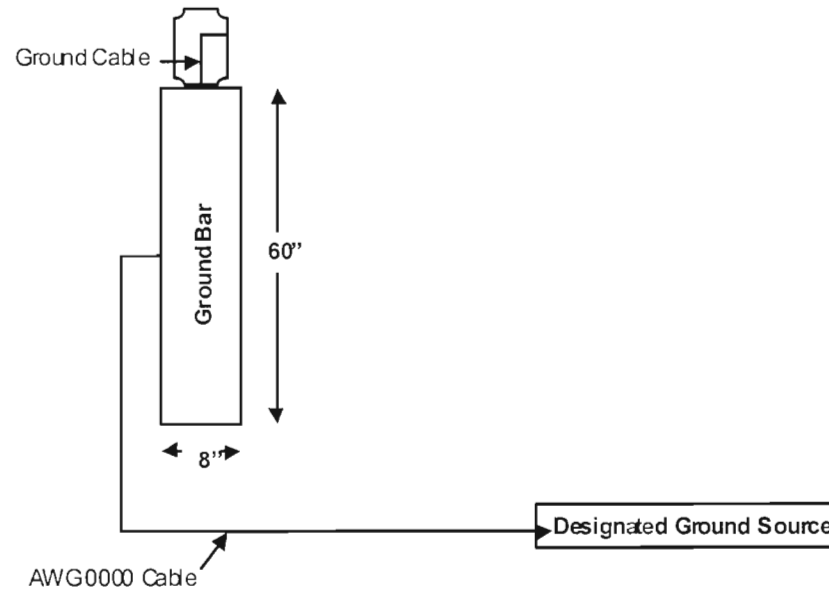
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Ground Bar Cost Study
System Drawing

Ground Bar



Notes: The ground bar is located 100' from the ground plane in the Central Office. Each ground bar is capable of serving 400 sq. ft.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
12	6	Power Monitoring Equipment	Vendor quote											
13	7	Contract Engineering	Vendor quote											
14	8	Contract Labor	Vendor quote											
15	9	Cable & Other Materials	Vendor quote											
16	10	Contract Total	Sum (1 thru 9)	\$ 66,489	\$ 106,910	\$ 115,436	\$ 222,909	\$ 399,828	\$ 674,343					
17	11	Contract Total With Sales Tax (Ln 10 * Ln 11)	6.8%	\$ 70,977	\$ 114,126	\$ 123,228	\$ 237,956	\$ 426,817	\$ 719,961					
18	12	Freight	Vendor quote	3,631	4,944	5,888	12,556	23,969	52,813					
19	13	Company Engineering	Wp 5.6	4,509	4,509	6,012	7,514	7,514	10,019					
20	14	Overheads (As Percent of Lns 11 to 13)	4.03%	3,188	4,980	5,446	10,398	18,469	31,543					
21	15	Generator Cost	Wp 5.7 Ln 17											
22	16	Total Power Plant Cost	Sum (11 thru 15)	\$ 153,911	\$ 218,930	\$ 230,343	\$ 370,645	\$ 623,711	\$ 1,158,970					
23	17	Power Plant Average Use Factor	SME	80%	80%	80%	80%	80%	80%					
24	18	Total Power Plant Cost Grossed Up By Average Use Factor	Ln 16 / Ln 17	\$ 192,389	\$ 273,662	\$ 288,679	\$ 463,307	\$ 779,639	\$ 1,448,712					
25	19	DC Power Cost Per Amp	Capacity	\$962	\$684	\$481	\$463	\$390	\$362					

Power Plant Matrix			
Access Lines	Amp	Cost per	
0	200	\$962	
2500	400	\$684	
5000	600	\$481	
10000	1000	\$463	
20000	2000	\$390	
50000	4000	\$362	

DC Power Plant Investment
Workpaper 5.0

			-----Amperage Capacity of Power Plant-----					
<u>Line</u>	<u>Power Plant Cost Component</u>	<u>Source</u>	<u>200</u>	<u>400</u>	<u>600</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>
1	AC Power Distribution Service Cabinet	Wp 5.1						
2	Rectifiers	Wp 5.2						
3	Battery Plant	Wp 5.3						
4	Power Boards	Wp 5.4						
5	Battery Distribution Fuse Bays	Wp 5.5						
6	Power Monitoring Equipment	Vendor quote						
7	Contract Engineering	Vendor quote						
8	Contract Labor	Vendor quote						
9	Cable & Other Materials	Vendor quote						
10	Contract Total	Sum (1 thru 9)	\$ 66,489	\$ 106,910	\$ 115,436	\$ 222,909	\$ 399,828	\$ 674,343
11	Contract Total With Sales Tax (Ln 10 * Ln 11)	6.8%	\$ 70,977	\$ 114,126	\$ 123,228	\$ 237,956	\$ 426,817	\$ 719,861
12	Freight	Vendor quote	3,631	4,944	5,888	12,556	23,969	52,813
13	Company Engineering	Wp 5.6	4,509	4,509	6,012	7,514	7,514	10,019
14	Overheads (As Percent of Lns 11 to13)	4.03%	3,188	4,980	5,446	10,398	18,469	31,543
15	Generator Cost	Wp 5.7 Ln 17						
16	Total Power Plant Cost	Sum (11 thru 15)	\$ 153,911	\$ 218,930	\$ 230,943	\$ 370,645	\$ 623,711	\$ 1,158,970
17	Power Plant Average Use Factor	SME	80%	80%	80%	80%	80%	80%
	Total Power Plant Cost Grossed Up By							
18	Average Use Factor	Ln 16 / Ln 17	\$ 192,389	\$ 273,662	\$ 288,679	\$ 463,307	\$ 779,639	\$ 1,448,712
19	DC Power Cost Per Amp	Ln 18 / Amp Capacity	\$962	\$684	\$481	\$463	\$390	\$362

		Office Size by Amp						
Line	Description	Source	200	400	600	1000	2000	4000
1	Switch Board Size		250	400	400	1000	2000	4000
2	Panel Cost (Including Breakers)	Contractor Quote	\$ 1,500	\$ 1,500	\$ 2,100	\$ 2,400	\$ 3,600	\$ 6,000
3	Instrumentation	Contractor Quote	\$ 1,000	\$ 1,000	\$ 1,500	\$ 1,500	\$ 2,400	\$ 3,000
4	AC Power Cable Run to Rectifiers	SME	\$ 450	\$ 450	\$ 450	\$ 1,125	\$ 1,125	\$ 1,125
5	Total PDSC Installed Cost	Ln 2 + Ln 3 + Ln 4	\$ 2,950	\$ 2,950	\$ 4,050	\$ 5,025	\$ 7,125	\$ 10,125

Power Investment Analysis
Power Distribution Service Cabinet
Workpaper 5.1

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Office Size by Amp</u>					
			<u>200</u>	<u>400</u>	<u>600</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>
1	Switch Board Size		250	400	400	1000	2000	4000
2	Panel Cost (Including Breakers)	Contractor Quote	\$ 1,500	\$ 1,500	\$ 2,100	\$ 2,400	\$ 3,600	\$ 6,000
3	Instrumentation	Contractor Quote	\$ 1,000	\$ 1,000	\$ 1,500	\$ 1,500	\$ 2,400	\$ 3,000
4	AC Power Cable Run to Rectifiers	SME	\$ 450	\$ 450	\$ 450	\$ 1,125	\$ 1,125	\$ 1,125
5	Total PDSC Installed Cost	Ln 2 + Ln 3 + Ln 4	\$ 2,950	\$ 2,950	\$ 4,050	\$ 5,025	\$ 7,125	\$ 10,125

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			Office Size by Amp					
Line	Description	Source	200	400	600	1000	2000	4000
1	Rectifier Size (In Amps)	SME	50	200	400	400	400	400
2	Rectifiers Required	SME	5	3	3	4	7	12
3	Cost per Rectifier	Equipment List						
4	Total Rectifier Cost	Ln 2 * Ln 3						

Ground Bar.ppt / DC Power Plant Investment WP / PDSC WP / Rectifiers WP / Batteries WP / Power Boards WP / Battery Dist Fuse Board WP / Power Plant Eng

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Power Investment Analysis
Rectifiers
Workpaper 5.2

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Office Size by Amp</u>					
			<u>200</u>	<u>400</u>	<u>600</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>
1	Rectifier Size (In Amps)	SME	50	200	400	400	400	400
2	Rectifiers Required	SME	5	3	3	4	7	12
3	Cost per Rectifier	Equipment List						
4	Total Rectifier Cost	Ln 2 * Ln 3						

			Office Size by Amp					
Line	Description	Source	200	400	600	1000	2000	4000
1	Battery Required - C&D Technologies	SME	LCT-1344	LCT-1344	MCTII - 4000	MCTII - 4500	MCTII - 4000	MCTII - 4000
2	Battery Strings Required	SME	1	2	1	2	3	7
3	Cost per Battery String	Equipment List						
4	Battery Before Mounting	Ln 2 * Ln 3						
5	Battery Rack	Equipment List						
6	Rack Mounted Battery Shunt	Equipment List						
7	Total Battery & Mounting	Ln 4 + Ln 5 + Ln 6						

**Power Investment Analysis
Battery Cost
Workpaper 5.3**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Office Size by Amp</u>					
			<u>200</u>	<u>400</u>	<u>600</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>
1	Battery Required - C&D Technologies	SME	LCT-1344	LCT-1344	MCTII - 4000	MCTII - 4000	MCTII - 4000	MCTII - 4000
2	Battery Strings Required	SME	1	2	1	2	4	7
3	Cost per Battery String	Equipment List						
4	Battery Before Mounting	Ln 2 * Ln 3						
5	Battery Rack	Equipment List						
6	Rack Mounted Battery Shunt	Equipment List						
7	Total Battery & Mounting	Ln 4 + Ln 5 + Ln 6						

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Line	Description	Source	200	400	600	1000	2000	4000
1	Power Board Size	SME	600	1200	1200	3000	3000	5000
2	Supplementary Power Size	SME	0	0	0	0	3000	5000
3	Cost per Primary Board	Equipment List						
4	Cost per Supplementary Board	Equipment List						
5	Total Power Board Distribution Cost	Ln 3 + Ln 4						

Office Size by Amp

Ground Bar.ppt / DC Power Plant Investment WP / PDSC WP / Rectifiers WP / Batteries WP / Power Boards WP / Battery Dist Fuse Board WP / Power Plant Eng

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**Power Investment Analysis
Power Board Investment
Workpaper 5.4**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Office Size by Amp</u>					
			<u>200</u>	<u>400</u>	<u>600</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>
1	Power Board Size	SME	600	1200	1200	3000	3000	5000
2	Supplementary Power Size	SME	0	0	0	0	3000	5000
3	Cost per Primary Board	Equipment List						
4	Cost per Supplementary Board	Equipment List						
5	Total Power Board Distribution Cost	Ln 3 + Ln 4						

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			Office Size by Amp					
Line	Description	Source	200	400	600	1000	2000	4000
1	Number of Battery Distribution Fuse Boards	SME	---	---	---	1	2	3
2	Cost per BDFB	Equipment List						
3	Total Power Board Distribution Cost	Ln 1 * Ln 2						
4	Contract Labor	Vendor Quote						
5	Cable & Other Materials	Vendor quote						
6	Total BDFB Material & Labor	Sum (Lines 3-5)						
7	Percentage of Runs From BDFB	SME				75.00%	75.00%	75.00%
8	Allocated BDFB cost	Ln 6 * Ln 7						

Ground Bar.ppt / DC Power Plant Investment WP / PDSC WP / Rectifiers WP / Batteries WP / Power Boards WP / Battery Dist Fuse Board WP / Power Plant Eng

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**Power Investment Analysis
Battery Distribution Fuse Board
Workpaper 5.5**

<u>Line</u>	<u>Description</u>	<u>Source</u>	Office Size by Amp					
			<u>200</u>	<u>400</u>	<u>600</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>
1	Number of Battery Distribution Fuse Boards	SME	-----NOT APPLICABLE-----					
2	Cost per BDFB	Equipment List						
3	Total Power Board Distribution Cost	Ln 1 * Ln 2						
4	Contract Labor	Vendor Quote						
5	Cable & Other Materials	Vendor quote						
6	Total BDFB Material & Labor	Sum (Lines 3-5)						
7	Percentage of Runs From BDFB	SME				75.00%	75.00%	75.00%
8	Allocated BDFB cost	Ln 6 * Ln 7						

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		Office Size by Amp						
Line	Description	Source	200	400	600	1000	2000	4000
1	Engineering Time	SME	72	72	96	120	120	150
2	Labor Cost	Input Sheet Ln 1	\$ 62.62	\$ 62.62	\$ 62.62	\$ 62.62	\$ 62.62	\$ 62.62
3	Total Company Engineering Cost	Ln 1 * Ln 2	\$4,509	\$4,509	\$6,012	\$7,514	\$7,514	\$10,019

DC Power Plant Investment WP / PDSC WP / Rectifiers WP / Batteries WP / Power Boards WP / Battery Dist Fuse Board WP / Power Plant Engr Cost WP

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Power Investment Analysis
Company Engineering
Workpaper 5.6

<u>Line</u>	<u>Description</u>	<u>Source</u>	Office Size by Amp						
			<u>200</u>	<u>400</u>	<u>600</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>	
1	Engineering Time	SME		72	72	96	120	120	160
2	Labor Cost	Input Sheet Ln 1	\$ 62.62	\$ 62.62	\$ 62.62	\$ 62.62	\$ 62.62	\$ 62.62	\$ 62.62
3	Total Company Engineering Cost	Ln 1 * Ln 2	\$4,509	\$4,509	\$6,012	\$7,514	\$7,514	\$7,514	\$10,019

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1		Power Plant Generator												
2		Workpaper 5.7												
3														
4		Office Size by Amp	Category as % of Materials	200	400	600	1000	2000	4000					
5			Source: Work Order Analysis											
6	1	Generator Size KW		80	150	150	230	350	900					
7	2	Generator Model		DGDA	DGFA	DGFA	DFAB	DFCC	DFHC					
8	3	Generator Price												
9	4	Transfer Sw Model		OTBAA260	OTPC800	OTPC800	OTPC800	OCPC1000	OCPC800					
10	5	Transfer Sw Quantity		1	1	1	1	1	2					
11	6	Transfer Sw Price												
12	7	Transfer Sw Total Price												
13	8	Enclosure Price												
14	9	Sub Base Tank Price												
15	10	Total Materials	Sum Lns 3, 7, 8 & 9	\$ 30,267	\$ 38,754	\$ 38,754	\$ 44,114	\$ 64,341	\$ 153,802					
16	11	Installed Cost Pad & Fencing		\$ 4,688	\$ 4,688	\$ 4,688	\$ 4,688	\$ 4,688	\$ 4,688					
17	12	Engineering	11.61%	\$ 3,514	\$ 4,499	\$ 4,499	\$ 5,122	\$ 7,470	\$ 17,856					
18	13	Installation	83.28%	\$ 25,206	\$ 32,274	\$ 32,274	\$ 36,738	\$ 53,593	\$ 128,086					
19	14	Overheads	13.77%	\$ 4,168	\$ 5,336	\$ 5,336	\$ 6,074	\$ 8,860	\$ 21,179					
20	15	Shipping	5.68%	\$ 1,720	\$ 2,202	\$ 2,202	\$ 2,507	\$ 3,657	\$ 8,741					
21	16	Sales Tax	6.75%	\$ 2,043	\$ 2,616	\$ 2,616	\$ 2,978	\$ 4,343	\$ 10,382					
22	17	Total Generator Cost	Sum: Lns. 10 thru 16											

Power Plant Engr Cost WP / Power Plant Generator WP / DC Power Investment Summary WP / DC Power Conn 30 Amp WP / DC Power Conn 60 Amp WP / D

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**Power Plant Generator
Workpaper 5.7**

<u>Office Size by Amp</u>	<u>Category as % of Materials</u>	<u>200</u>	<u>400</u>	<u>600</u>	<u>1000</u>	<u>2000</u>	<u>4000</u>
	Source: Work Order Analysis						
1 Generator Size KW		80	150	150	230	350	900
2 Generator Model		DGDA	DGFA	DGFA	DFAB	DFCC	DFHC
3 Generator Price							
4 Transfer Sw Model		OTBAA260	OTPC800	OTPC800	OTPC800	OCPC1000	OCPC800
5 Transfer Sw Quantity		1	1	1	1	1	2
6 Transfer Sw Price							
7 Transfer Sw Total Price							
8 Enclosure Price							
9 Sub Base Tank Price							
10 Total Materials	Sum: Lns. 3, 7, 8 & 9	\$ 30,267	\$ 38,754	\$ 38,754	\$ 44,114	\$ 64,341	\$ 153,802
11 Installed Cost Pad & Fencing		\$ 4,688	\$ 4,688	\$ 4,688	\$ 4,688	\$ 4,688	\$ 4,688
12 Engineering	11.61%	\$ 3,514	\$ 4,499	\$ 4,499	\$ 5,122	\$ 7,470	\$ 17,856
13 Installation	83.28%	\$ 25,206	\$ 32,274	\$ 32,274	\$ 36,738	\$ 53,583	\$ 128,086
14 Overheads	13.77%	\$ 4,168	\$ 5,336	\$ 5,336	\$ 6,074	\$ 8,860	\$ 21,179
15 Shipping	5.68%	\$ 1,720	\$ 2,202	\$ 2,202	\$ 2,507	\$ 3,657	\$ 8,741
16 Sales Tax	6.75%	\$ 2,043	\$ 2,616	\$ 2,616	\$ 2,978	\$ 4,343	\$ 10,382
17 Total Generator Cost	Sum: Lns. 10 thru 16						

Line	Description	Source	Investment per Amp
1	Average DC Investment per Amp	Wp 4.1. Ln CC2	\$ 463.00
2	Cost per Kwh	Input sheet Ln 11	0.0671
3	Monthly Cost per A/C Usage per DC Amp (1)	Ln 2 * 44.728	\$ 3.00

Notes:
 (1) There are 44 728 Kwh per month to generate a DC amp for a month. This is based upon the following formula

$$\text{Kwh per DC Amp} = \frac{52.08\text{V} * 1 \text{ Amp} * 24 \text{ hours} * 365 \text{ Day}}{85 \text{ efficiency} * 1000\text{W} * 1 \text{ Day} * 12 \text{ Months}}$$

DC Power Investment Summary
Workpaper 5.8

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Investment per Amp</u>
1	Average DC Investment per Amp	Wp 4.1, Ln CC2	\$ 463.00
2	Cost per Kwh	Input sheet Ln 11	0.0671
3	Monthly Cost per A/C Usage per DC Amp (1)	Ln 2 * 44.728	\$ 3.00

Notes:

(1) There are 44.728 Kwh per month to generate a DC amp for a month. This is based upon the following formula:

$$\text{Kwh per DC Amp} = \frac{52.08\text{V} * 1 \text{ Amp} * 24 \text{ hours} * 365 \text{ Day}}{.85 \text{ efficiency} * 1000\text{W} * 1 \text{ Day} * 12 \text{ Months}}$$

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Line	Description	Source	Qty	Unit Price	Material Price
1	1/0 AWG Cable for Power	Equipment Price List	380	\$ 1.24	\$ 471.67
2	Other Materials	Work Activity Study		29.47%	\$ 139.00
3	Total Material	Ln 1 + Ln 2			\$ 610.67
4	Sales Tax	Ln 3 * Ln 4		6.75%	\$ 41.22
5	Freight	Ln 3 * Ln 5		5.00%	\$ 30.53
6	Installation Hours Cable Run	Work Activity Study * Input sheet Ln 2	11	\$ 69.92	\$ 769.12
7	Total Investment	Ln 3 + Ln 4 + Ln 5 + Ln 6			\$ 1,451.55
8	Total Investment - 30 Amp	Ln 7			\$ 1,451.55

Notes: 75 linear feet between BDFB and collocation area with a 10-foot hang on either end, for a total of 95 feet. Two cables each for both A and B feeds.

DC Power Connection 30 Amp Investment (for feeds up to 30 Amps)
Workpaper 5.9

30 Amp power Connection

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	1/0 AWG Cable for Power	Equipment Price List	380	\$ 1.24	\$ 471.67
2	Other Materials	Work Activity Study		29.47%	\$ 139.00
3	Total Material	Ln 1 + Ln 2			\$ 610.67
4	Sales Tax	Ln 3 * Ln 4		6.75%	\$ 41.22
5	Freight	Ln 3 * Ln 5		5.00%	\$ 30.53
6	Installation Hours Cable Run	Work Activity Study * Input sheet Ln 2	11	\$ 69.92	\$ 769.12
7	Total Investment	Ln 3 + Ln 4 + Ln 5+ Ln 6			\$ 1,451.55
8	Total Investment - 30 Amp	Ln 7			\$ 1,451.55

Notes: 75 linear feet between BDFB and collocation area with a 10-foot hang on either end, for a total of 95 feet.
Two cables each for both and A and B feeds.

Line	Description	Source	Qty	Unit Price	Material Price
1	4/0 AWG Cable	Equipment Price List	380	\$ 2.74	\$ 1,041.96
2	Other Materials	Work Activity Study		29.47%	\$ 307.07
3	Total Material	Ln 1 + Ln 2			\$ 1,349.03
4	Sales Tax	Ln 3 * Ln 4		6.75%	\$ 91.06
5	Freight	Ln 3 * Ln 5		5.00%	\$ 67.45
6	Installation Hours Cable Run	Work Activity Study * Input sheet Ln 2	12.5	\$ 69.92	\$ 874.00
7	Total Investment	Ln 3 + Ln 4 + Ln 5 + Ln 6			\$ 2,381.54
8	Total Investment - 60 Amp	Ln 7			\$ 2,381.54

Notes: 75 linear feet between BDFB and collocation area with a 10-foot hang on either end, for a total of 95 feet. Two cables each for both and A and B feeds.

DC Power Connection 60 Amp Investment (for feeds from 35 to 60 Amps)
Workpaper 5.10

60 Amp power Connection

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	4/0 AWG Cable	Equipment Price List	380	\$ 2.74	\$ 1,041.96
2	Other Materials	Work Activity Study		29.47%	\$ 307.07
3	Total Material	Ln 1 + Ln 2			\$ 1,349.03
4	Sales Tax	Ln 3 * Ln 4		6.75%	\$ 91.06
5	Freight	Ln 3 * Ln 5		5.00%	\$ 67.45
6	Installation Hours Cable Run	Work Activity Study * Input sheet Ln 2	12.5	\$ 69.92	\$ 874.00
7	Total Investment	Ln 3 + Ln 4 + Ln 5+ Ln 6			\$ 2,381.54
8	Total Investment - 60 Amp	Ln 7			\$ 2,381.54

Notes: 75 linear feet between BDFB and collocation area with a 10-foot hang on either end, for a total of 95 feet.
Two cables each for both and A and B feeds.

Line	Description	Source	Qty	Unit Price	Material Price
1	250 MCM Cable (incl. Tax & Freight)	Work Activity Study	520		\$ 2,959.00
2	Other Materials (incl. Tax & Freight)	Work Activity Study			\$ 1,007.00
3	Sub-total Materials	Ln 1 + Ln 2			\$ 3,966.00
4	Engineering	Work Activity Study * Input sheet Ln 1	7.5	\$62.62	\$ 469.65
5	Contract Labor	Work Activity Study			\$ 3,292.00
6	Total Investment	Sum (Ln 3 thru Ln 5)			\$ 7,727.65
7	Total Investment 110' Linear Distance	Ln 6			\$ 7,727.65
100 Amp Power Connection - Incremental Price Per Foot (Based on 350' Run)					
Line	Description	Source	Qty	Unit Price	Material Price
8	750 MCM Cable ⁽¹⁾ (incl. Tax & Freight)	Price Quote	1400		\$ 14,579.00
9	Other Materials (incl. Tax & Freight)	Price Quote			\$ 677.00
10	Sub-total Materials	Ln 8 + Ln 9			\$ 15,256.00
11	Engineering	Work Activity Study * Input sheet Ln 1	7.5	\$62.62	\$ 469.65
12	Contract Labor	Price Quote			\$ 24,725.00
13	Total Investment	Sum (Ln 10 thru Ln 12)			\$ 40,450.65
14	Total Investment 330' Linear Distance	Ln 13			\$ 40,450.65
15	Incremental Investment	Ln 14 less Ln 7			\$ 32,723.00
16	Incremental Linear Distance	(330 ft) - (110 ft)	220		
17	Incremental Cost Per Foot	L 15 / Ln 16			\$ 148.74
18	Engineering Per Foot	L 11 / Ln 16			\$ 2.13
Note (1) Much larger cable due to length of run					

DC Power Connection 100 Amp Investment (for feeds from 70 to 100 Amps)
Workpaper 5.11

Standard 100 Amp Power Connection

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	250 MCM Cable (incl. Tax & Freight)	Work Activity Study	520		\$ 2,959.00
2	Other Materials (incl. Tax & Freight)	Work Activity Study			\$ 1,007.00
3	Sub-total Materials	Ln 1 + Ln 2			\$ 3,966.00
4	Engineering	Work Activity Study * Input sheet Ln 1	7.5	\$62.62	\$ 469.65
5	Contract Labor	Work Activity Study			\$ 3,292.00
6	Total Investment	Sum (Ln 3 thru Ln 5)			\$ 7,727.65
7	Total Investment 110' Linear Distance	Ln 6			\$ 7,727.65

100 Amp Power Connection - Incremental Price Per Foot (Based on 350' Run)

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
8	750 MCM Cable ⁽¹⁾ (incl. Tax & Freight)	Price Quote	1400		\$ 14,579.00
9	Other Materials (incl. Tax & Freight)	Price Quote			\$ 677.00
10	Sub-total Materials	Ln 8 + Ln 9			\$ 15,256.00
11	Engineering	Work Activity Study * Input sheet Ln 1	7.5	\$62.62	\$ 469.65
12	Contract Labor	Price Quote			\$ 24,725.00
13	Total Investment	Sum (Ln 10 thru Ln 12)			\$ 40,450.65
14	Total Investment 330' Linear Distance	Ln 13			\$ 40,450.65
15	Incremental Investment	Ln 14 less Ln 7			\$ 32,723.00
16	Incremental Linear Distance	(330 ft.) - (110 ft.)	220		
17	Incremental Cost Per Foot	L 15 / Ln 16			\$ 148.74
18	Engineering Per Foot	L 11 / Ln 16			\$ 2.13

Note:

(1) Much larger cable due to length of run.

Line	Description	Source	Qty	Unit Price	Material Price
Workpaper 5.12					
Standard 200 Amp power Connection					
1	750 MCM Cable (incl. Tax & Freight)	Price Quote	520		\$ 5,691.00
2	Other Materials (incl. Tax & Freight)	Price Quote			\$ 711.00
3	Sub-total Materials	Ln 1 + Ln 2			\$ 6,402.00
4	Engineering	Work Activity Study * Input sheet Ln 1	7.5	\$62.62	\$ 469.65
5	Contract Labor	Price Quote			\$ 10,124.00
6	Total Investment	Sum (Ln 3 thru Ln 5)			\$ 16,995.65
7	Total Investment 110' Linear Distance	Ln 6			\$ 16,995.65
200 Amp Power Connection - Incremental Price Per Foot (Based on 350' Run)					
Line	Description	Source	Qty	Unit Price	Material Price
8	750 MCM Cable (incl. Tax & Freight)	Price Quote	2800		\$ 29,158.00
9	Other Materials (incl. Tax & Freight)	Price Quote			\$ 1,354.00
10	Sub-total Materials	Ln 8 + Ln 9			\$ 30,512.00
11	Engineering	Work Activity Study * Input sheet Ln 1	7.5	\$62.62	\$ 469.65
12	Contract Labor	Price Quote			\$ 47,851.00
13	Total Investment	Sum (Ln 10 thru Ln 12)			\$ 78,832.65
14	Total Investment 330' Linear Distance	Ln 13			\$ 78,832.65
15	Incremental Investment	Ln 14 less Ln 7			\$ 61,837.00
16	Incremental Linear Distance	(330 ft.) - (110 ft.)	220		
17	Incremental Cost Per Foot	L 15 / Ln 16			\$ 281.08
18	Engineering Per Foot	L 11 / Ln 16			\$ 2.13

DC Power Connection 200 Amp Investment (for feeds from 125 to 200 Amps)
Workpaper 5.12

Standard 200 Amp power Connection

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	750 MCM Cable (incl. Tax & Freight)	Price Quote	520		\$ 5,691.00
2	Other Materials (incl. Tax & Freight)	Price Quote			\$ 711.00
3	Sub-total Materials	Ln 1 + Ln 2			\$ 6,402.00
4	Engineering	Work Activity Study * Input sheet Ln 1	7.5	\$62.62	\$ 469.65
5	Contract Labor	Price Quote			\$ 10,124.00
6	Total Investment	Sum (Ln 3 thru Ln 5)			\$ 16,995.65
7	Total Investment 110' Linear Distance	Ln 6			\$ 16,995.65

200 Amp Power Connection - Incremental Price Per Foot (Based on 350' Run)

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
8	750 MCM Cable ⁽¹⁾ (incl. Tax & Freight)	Price Quote	2800		\$ 29,158.00
9	Other Materials (incl. Tax & Freight)	Price Quote			\$ 1,354.00
10	Sub-total Materials	Ln 8 + Ln 9			\$ 30,512.00
11	Engineering	Work Activity Study * Input sheet Ln 1	7.5	\$62.62	\$ 469.65
12	Contract Labor	Price Quote			\$ 47,851.00
13	Total Investment	Sum (Ln 10 thru Ln 12)			\$ 78,832.65
14	Total Investment 330' Linear Distance	Ln 13			\$ 78,832.65
15	Incremental Investment	Ln 14 less Ln 7			\$ 61,837.00
16	Incremental Linear Distance	(330 ft.) - (110 ft.)	220		
17	Incremental Cost Per Foot	L 15 / Ln 16			\$ 281.08
18	Engineering Per Foot	L 11 / Ln 16			\$ 2.13

Note:

(1) Much larger cable due to length of run.

Line	Description	Source	Unit Cost	Quantity	Total
AC Outlet & Additional Overhead Light Investment					
Workpaper 6					
1	Total Cost per AC Outlet	Work Activity Study			\$ 879.45
2	ILEC Engineering	Input Sheet Ln 1/ Work Activity Study	\$ 62.62	1.5	\$ 93.93
3	Total Cost per AC Outlet	Ln 1 + Ln 2			\$ 973.38
Additional Overhead Lighting					
4	Total Cost per Set of Overhead Lights	Work Activity Study			\$ 1,331.50
5	ILEC Engineering	Input Sheet Ln 1/ Work Activity Study	\$ 62.62	1.5	\$ 93.93
6	Total Cost per Additional Set of Overhead Lights	Ln 4 + Ln 5			\$ 1,425.52

AC Outlet & Additional Overhead Light Investment
Workpaper 6

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Unit Cost</u>	<u>Quantity</u>	<u>Total</u>
	<i>AC Outlet</i>				
1	Total Cost per AC Outlet	Work Activity Study			\$ 879.45
2	ILEC Engineering	Input Sheet Ln 1/ Work Activity Study	\$ 62.62	1.5	\$ 93.93
3	Total Cost per AC Outlet	Ln 1 + Ln 2			\$ 973.38
	<i>Additional Overhead Lighting</i>				
4	Total Cost per Set of Overhead Lights	Work Activity Study			\$ 1,331.59
5	ILEC Engineering	Input Sheet Ln 1/ Work Activity Study	\$ 62.62	1.5	\$ 93.93
6	Total Cost per Additional Set of Overhead Lights	Ln 4 + Ln 5			\$ 1,425.52

Line	Description	Source	Qty	Unit Price	Material Price
1	Investment - Cable Racking	Wp 12, Ln 2			\$ 99.08
2	8x25 Connectorized Block	Equipment Price List	1	\$ 83.75	\$ 83.75
3	Sales Tax	Input Sheet Ln 3		6.75%	\$ 5.65
4	Freight	Input Sheet Ln 17		10.00%	\$ 8.37
5	Subtotal Shared Cable Racking & Block Materials	Sum (Ln 1 - 4)			\$ 196.85
6	Installation Hours Block	Work Activity Study * Input sheet Ln 2	0.5	\$ 69.02	\$ 34.06
7	Subtotal Block & Racking Investment	Ln 5 + Ln 6			\$ 231.91
8	100 Pair Cable	Equipment Price List	170	\$ 0.80	\$ 136.20
9	Block Designator Label	Equipment Price List	1	\$ 4.51	\$ 4.51
10	50 Pin (25 pair) Amphenol Connector (Female)	Equipment Price List	4	\$ 5.41	\$ 21.62
11	Cabling Materials	Sum (Ln 8 - Ln 10)			\$ 162.33
12	Sales Tax	Input Sheet Ln 3		6.75%	\$ 10.96
13	Freight	Input Sheet Ln 17		10.00%	\$ 16.23
14	Subtotal Cabling Materials With Sales Tax & Freight	Sum (Ln 11 - 13)			\$ 189.52
15	Installation Hours Terminal (cable conn. and labeling)	Work Activity Study * Input sheet Ln 2	3.25	\$ 69.02	\$ 227.24
16	Installation Hours Cable	Work Activity Study * Input Sheet Ln 2	6.50	\$ 69.02	\$ 454.48
17	Subtotal Cabling Investment	Sum (Ln 14 - Ln 16)			\$ 871.24
18	Total Investment - Cable & Connection	(Ln 7 + Ln 17) - Ln 1			\$ 1,003.98

DS0 Switchboard Cable per 100 Pair Investment
Workpaper 7

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Investment - Cable Racking	Wp 12, Ln 2			\$ 99.08
2	8x25 Connectorized Block	Equipment Price List	1	\$ 83.75	\$ 83.75
3	Sales Tax	Input Sheet Ln 3		6.75%	\$ 5.65
4	Freight	Input Sheet Ln 17		10.00%	\$ 8.37
5	Subtotal Shared Cable Racking & Block Materials	Sum (Ln 1 - 4)			\$ 196.85
6	Installation Hours Block	Work Activity Study * Input sheet Ln 2	0.5	\$ 69.92	\$ 34.96
7	Subtotal Block & Racking Investment	Ln 5 + Ln 6			\$231.81
8	100 Pair Cable	Equipment Price List	170	\$ 0.80	\$ 136.20
9	Block Designator Label	Equipment Price List	1	\$ 4.51	\$ 4.51
10	50 Pin (25 pair) Amphenol Connector (Female)	Equipment Price List	4	\$ 5.41	\$ 21.62
11	Cabling Materials	Sum (Ln 8 - Ln 10)			\$ 162.33
12	Sales Tax	Input Sheet Ln 3		6.75%	\$ 10.96
13	Freight	Input Sheet Ln 17		10.00%	\$ 16.23
14	Subtotal Cabling Materials With Sales Tax & Freight	Sum (Ln 11 - 13)			\$ 189.52
15	Installation Hours Terminal (cable conn. and labeling)	Work Activity Study * Input sheet Ln 2	3.25	\$ 69.92	\$ 227.24
16	Installation Hours Cable	Work Activity Study * Input Sheet Ln 2	6.50	\$ 69.92	\$ 454.48
17	Subtotal Cabling Investment	Sum (Ln 14 - Ln 16)			\$ 871.24
18	Total Investment - Cable & Connection	(Ln 7 + Ln 17) - Ln 1			\$1,003.98

Line	Description	Source	Qty	Unit Price	Material Price
1	Subtotal Investment - Cable Racking	Wp 12, Ln 2			\$ 99.08
2	Total Cable Materials - 100 Pr	Equipment Price List	170	\$ 0.80	\$ 136.20
3	Sales Tax	Input Sheet Ln 3		5.75%	\$ 9.19
4	Freight	Input Sheet Ln 17		10.00%	\$ 13.62
5	Installation Hours Cable	Work Activity Study / Input Sheet Ln 2	6.50	\$ 69.92	\$ 454.48
6	Subtotal Cable Investment	Sum Ln 2 thru Ln 5			\$ 613.49

DS0 Co-Carrier Switchboard Cable 100 Pair Investment
Workpaper 7.1

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Subtotal Investment - Cable Racking	Wp 12, Ln 2			\$ 99.08
2	Total Cable Materials - 100 Pr.	Equipment Price List	170	\$ 0.80	\$ 136.20
3	Sales Tax	Input Sheet Ln 3		6.75%	\$ 9.19
4	Freight	Input Sheet Ln 17		10.00%	\$ 13.62
5	Installation Hours Cable	Work Activity Study / Input Sheet Ln 2	6.50	\$ 69.92	\$ 454.48
6	Subtotal Cable Investment	Sum Ln 2 thru Ln 5			\$ 613.49

Line	Description	Source	Qty	Unit Price	Material Price
1	DS1 Cross Connect Investment (Per 28 DS1s)				
2	Workpaper 8				
3					
4					
5	1	Subtotal Investment - Cable Racking per 84 DS1s	6	\$ 70.25	\$ 421.53
6	2	Cable Racking Investment per 28 DS1s			\$ 140.51
7					
8	3	Allocated Portion of Equipment Bay per 84 DS1s	1	\$ 77.36	\$ 77.36
9	4	DSX-1 Front X-Conn. Panel Chassis, 84 Port	1	\$ 1,369.71	\$ 1,369.71
10	5	Sales Tax		6.75%	\$ 92.46
11	6	Freight		10.00%	\$ 136.97
12	7	Subtotal Panel Material with Sales Tax & Freight			\$ 1,676.50
13					
14	8	Installation Hours Panel	0.50	\$ 69.92	\$ 34.96
15	9	Panel Investment 84 DS1s			\$ 1,711.46
16	10	Panel Investment per 28 DS1s Before Usage Factor			\$ 570.49
17	11	Usage Factor			87%
18	12	Panel Investment per 28 DS1s Before Usage Factor			\$ 652.73
19					
20	13	DS1-ABAM 22 GA Cable 30 Pair (Requires separate send and a receive Cable)	6	\$ 137.77	\$ 826.63
21	14	DS1-22 GA Connector-Male Str AMP-2664-001-PKG-2 (1 required per cable)	6	\$ 4.57	\$ 27.42
22	15	Total Cable Materials (84 DS1 Capacity)			\$ 854.05
23	16	Sales Tax		6.75%	\$ 57.65
24	17	Freight		10.00%	\$ 85.40
25					
26	18	Installation Hours Cable Run	10.00	\$ 69.92	\$ 699.20
27	19	Installation Hours Cable Connection & Labeling	7.75	\$ 69.92	\$ 541.68

**DS1 Cross Connect Investment (Per 28 DS1s)
Workpaper 8**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Subtotal Investment - Cable Racking per 84 DS1s	Wp 12, Ln 3	6	\$ 70.25	\$ 421.53
2	Cable Racking Investment per 28 DS1s	Ln 1 / 3			<u>\$ 140.51</u>
3	Allocated Portion of Equipment Bay per 84 DS1s	Wp 11, Ln 12	1.	\$ 77.36	\$ 77.36
4	DSX-1 Front X-Conn. Panel Chassis, 84 Port	Equipment Price List	1	\$ 1,369.71	\$ 1,369.71
5	Sales Tax	Ln 4 * Ln 5		6.75%	\$ 92.46
6	Freight	Ln 4 * Ln 6		10.00%	\$ 136.97
7	Subtotal Panel Material with Sales Tax & Freight	Sum Ln 3 - Ln 6			<u>\$ 1,676.50</u>
8	Installation Hours Panel	Work Activity Study / Input Sheet Ln 2	0.50	\$ 69.92	\$ 34.96
9	Panel Investment 84 DS1s	Ln 7 + Ln 8			\$ 1,711.46
10	Panel Investment per 28 DS1s Before Usage Factor	Ln 9 / 3			\$ 570.49
11	Usage Factor	Work Activity Study			87%
12	Panel Investment per 28 DS1s Before Usage Factor	Ln 10 / Ln 11			<u>\$ 652.73</u>
13	DS1-ABAM 22 GA Cable 30 Pair (Requires separate send and a receive Cable)	Equipment Price List	6	\$ 137.77	\$ 826.63
14	DS1-22 GA Connector-Male Str. AMP-2664-001-PKG-2 (1 required per cable)	Equipment Price List	6	\$ 4.57	\$ 27.42
15	Total Cable Materials (84 DS1 Capacity)	Ln 13 + Ln 14			\$ 854.05
16	Sales Tax	Ln 15 * Ln 16		6.75%	\$ 57.65
17	Freight	Ln 15 * Ln 17		10.00%	\$ 85.40
18	Installation Hours Cable Run	Work Activity Study / Input Sheet Ln 2	10.00	\$ 69.92	\$ 699.20
19	Installation Hours Cable Connection & Labeling	Work Activity Study / Input Sheet Ln 2	7.75	\$ 69.92	\$ 541.88
20	Cable Investment 84 DS1s	Sum Ln 15 - Ln 19			\$ 2,238.18
21	Investment per 28 DS1s	Ln 20 / 3			<u>\$ 746.06</u>
22	Total Investment per 28 DS1s - Cable & Connection	Sum Ln 2+ Ln 12+ Ln 21			\$ 1,539.30

Line	Description	Source	Qty	Unit Price	Material Price
DS1 Co-Carrier Cross Connect Investment (Per 28 DS1) Workpaper 8.1					
1	Investment - Cable Racking per 84 DS1s	Wp 12, Ln 3	6	\$ 70.25	\$421.53
2	Cable Racking Investment per 28 DS1s	Ln 1 / 3			\$ 140.51
3	DS1-ABAM 22 GA Cable 30 Pair (Requires a separate send and receive cable)	Equipment Price List	6	\$ 137.77	\$ 826.03
4	Sales Tax	Ln 3 * Ln 4		6.75%	\$ 55.80
5	Freight	Ln 3 * Ln 5		10.00%	\$ 82.66
6	Installation Hours Cable Run	Work Activity Study / Input Sheet Ln 2	10.00	\$ 69.92	\$ 699.20
7	Subtotal Cable Investment 84 DS1s	Sum (Ln 3 - Ln 6)			\$ 1,664.28
8	Cable Investment per 28 DS1	Ln 7 / 3			\$ 554.76

DS1 Co-Carrier Cross Connect Investment (Per 28 DS1)
Workpaper 8.1

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Investment - Cable Racking per 84 DS1s	Wp 12, Ln 3	6	\$ 70.25	\$421.53
2	Cable Racking Investment per 28 DS1s	Ln 1 / 3			\$ 140.51
3	DS1-ABAM 22 GA Cable 30 Pair (Requires a separate send and receive cable)	Equipment Price List	6	\$ 137.77	\$ 826.63
4	Sales Tax	Ln 3 * Ln 4		6.75%	\$ 55.80
5	Freight	Ln 3 * Ln 5		10.00%	\$ 82.66
6	Installation Hours Cable Run	Work Activity Study / Input Sheet Ln 2	10.00	\$ 69.92	\$ 699.20
7	Subtotal Cable Investment 84 DS1s	Sum (Ln 3 - Ln 6)			\$ 1,664.28
8	Cable Investment per 28 DS1	Ln 7 / 3			\$ 554.76

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Line	Description	Source	Qty	Unit Price	Material Price
1	Investment - Cable Racking	Wp 12, Ln 4	8	\$ 79.82	\$ 638.56
2	Cable Racking Investment per 12 DS3s	Ln 1 / 4			\$ 159.64
3	Allocated Portion of Equipment Bay per 48 DS3	Wp 11, Ln 14	1	\$ 94.55	\$ 94.55
4	DS-3 Broadband Chassis, 48 Module	Equipment Price List	1	\$ 448.54	\$ 448.54
5	DS-3 Broadband Module, 4 Port	Equipment Price List	48	\$ 206.10	\$ 9,892.91
6	12FT Mini-WECO to Mini-WECO Coaxial Patch Cord (for testing)	Equipment Price List	2	\$ 24.36	\$ 48.72
7	Subtotal Panel Materials	Sum (Ln 3 - Ln 6)			\$ 10,484.72
8	Sales Tax	Ln 7 * Ln 8		6.75%	\$ 707.72
9	Freight	Ln 7 * Ln 9		10.00%	\$ 1,048.47
10	Subtotal 48 Panel Materials + Tax and Freight	Sum(Lns 7-9)			\$ 12,240.92
11	Installation Hours Panel & 48 Modules	Work Activity Study / Input Sheet Ln 2	11.5	\$ 69.92	\$ 804.08
12	Panel Investment 48 DS3s	Ln 10 + Ln 11			\$ 13,045.00
13	Investment per 12 DS3 Before Usage Factor	Ln 12 / 4			\$ 3,261.25
14	Usage Factor	Work Activity Study			57%
15	Panel Investment per 12 DS3s	Ln 13 / Ln 14			\$ 5,701.48
16	DS-3 735A 12C COAX CBL 125FT - CA1-0125-X47-735-1	Equipment Price List	8	\$ 640.31	\$ 5,122.48
17	Total Cable Materials (48 DS3 Capacity)	Ln 16			\$ 5,122.48
18	Sales Tax	Ln 17 * Ln 18		6.75%	\$ 345.77
19	Freight	Ln 17 * Ln 19		10.00%	\$ 512.25
20	Installation Hours Cable Run	Work Activity Study / Input Sheet Ln 2	13.5	\$ 69.92	\$ 943.92

Switchboard Cable WP / Co-Carrier Switchboard Cable WP / DS1 Per Cross-Conn. WP / Co-Carrier DS1 Per X-Conn. WP / DS3 Per Cross-Conn. WP / Co-Carrier

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**DS3 Cross Connect Investment (Per 12 DS3s)
Workpaper 9**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Investment - Cable Racking	Wp 12, Ln 4	8	\$ 79.82	\$ 638.56
2	Cable Racking Investment per 12 DS3s	Ln 1 / 4			<u>\$ 159.64</u>
3	Allocated Portion of Equipment Bay per 48 DS3	Wp 11, Ln 14	1	\$ 94.55	\$ 94.55
4	DS-3 Broadband Chassis, 48 Module	Equipment Price List	1	\$ 448.54	\$ 448.54
5	DS-3 Broadband Module, 4 Port	Equipment Price List	48	\$ 206.10	\$ 9,892.91
6	12FT Mini-WECO to Mini-WECO Coaxial Patch Cord (for testing)	Equipment Price List	2	\$ 24.36	\$ 48.72
7	Subtotal Panel Materials	Sum (Ln 3 - Ln 6)			\$ 10,484.72
8	Sales Tax	Ln 7 * Ln 8		6.75%	\$ 707.72
9	Freight	Ln 7 * Ln 9		10.00%	\$ 1,048.47
10	Subtotal 48 Panel Materials + Tax and Freight	Sum(Lns 7-9)			<u>\$ 12,240.92</u>
		Work Activity Study / Input			
11	Installation Hours Panel & 48 Modules	Sheet Ln 2	11.5	\$ 69.92	\$ 804.08
12	Panel Investment 48 DS3s	Ln 10 + Ln 11			\$ 13,045.00
13	Investment per 12 DS3 Before Usage Factor	Ln 12 / 4			\$ 3,261.25
14	Usage Factor	Work Activity Study			57%
15	Panel Investment per 12 DS3s	Ln 13 / Ln 14			<u>\$ 5,701.48</u>
16	DS-3 735A 12C COAX CBL 125FT - CA1-0125-X47-735-1	Equipment Price List	8	\$ 640.31	\$ 5,122.48
17	Total Cable Materials (48 DS3 Capacity)	Ln 16			\$ 5,122.48
18	Sales Tax	Ln 17 * Ln 18		6.75%	\$ 345.77
19	Freight	Ln 17 * Ln 19		10.00%	\$ 512.25
		Work Activity Study / Input			
20	Installation Hours Cable Run	Sheet Ln 2	13.5	\$ 69.92	\$ 943.92
		Work Activity Study / Input			
21	Installation Hours Cable Connection and Labeling	Sheet Ln 2	7.0	\$ 69.92	\$ 489.44
22	Subtotal Cabling Investment per 12 DS3s	Ln 17 thru Ln 21			\$ 7,413.86
23	Investment per 12 DS3s	Ln 22 / 4			<u>\$ 1,853.47</u>
24	Total Investment - Cable & Connection per DS3	Sum Ln 2+ Ln 15+ Ln 23			\$ 7,714.59

Line	Description	Source	Qty	Unit Price	Material Price
1	Investment - Cable Racking per 48 DS3s	Wp 12, Ln 4	8	\$ 79.82	\$638.56
2	Cable Racking Investment per 12 DS3s	Ln 1 / 4			\$ 159.64
3	DS3 735A 12C COAX CBL 125FT - CA1-0125-X47-735-1	Equipment Price List	8	\$ 640.31	\$ 5,122.48
4	Total Cable Materials (48 DS3 Capacity)	Ln 3			\$ 5,122.48
5	Sales Tax	Ln 4 * Ln 5		6.75%	\$ 345.77
6	Freight	Ln 4 * Ln 6		10.00%	\$ 512.25
7	Installation Hours Cable Run	Work Activity Study / Input Sheet Ln 2	13.5	\$ 69.92	\$ 943.92
8	Cable Investment 48 DS3s	Sum (Ln 4 - Ln 7)			\$ 6,924.42
9	Cable Investment per 12 DS3s	Ln 8 / 4			\$ 1,731.11

DS3 Co-Carrier Cross Connect Investment (Per 12 DS3s)
Workpaper 9.1

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Investment - Cable Racking per 48 DS3s	Wp 12, Ln 4	8	\$ 79.82	\$638.56
2	Cable Racking Investment per 12 DS3s	Ln 1 / 4			\$ 159.64
3	DS3 735A 12C COAX CBL 125FT - CA1-0125-X47-735-1	Equipment Price List	8	\$ 640.31	\$ 5,122.48
4	Total Cable Materials: (48 DS3 Capacity)	Ln 3			\$ 5,122.48
5	Sales Tax	Ln 4 * Ln 5		6.75%	\$ 345.77
6	Freight	Ln 4 * Ln 6		10.00%	\$ 512.25
7	Installation Hours Cable Run	Work Activity Study / Input Sheet Ln 2	13.5	\$ 69.92	\$ 943.92
8	Cable Investment 48 DS3s	Sum (Ln 4 - Ln 7)			\$ 6,924.42
9	Cable Investment per 12 DS3s	Ln 8 / 4			\$ 1,731.11

Line	Description	Source	Quantity	Unit Price	Material Price
1	Investment - Fiber Guttering for 144 fibers (per ft.)	Wp 13, Ln 17	95	\$ 79.20	\$ 7,523.89
2	LDC Connector Module Housing	Equipment Price List	1	\$ 396.07	\$ 396.07
3	Adapter Panel 12 Ports SC Adptr	Equipment Price List	12	\$ 44.43	\$ 533.10
4	Material Cost - Per Panel	Sum (Ln 2 + Ln 3)			\$ 929.17
5	Sales Tax	Ln 4 * Ln 5		6.75%	\$ 62.72
6	Freight	Ln 4 * Ln 6		10.00%	\$ 92.92
7	Total Material Cost - Per 144 Fiber Panel	Sum (Ln 4 - Ln 6)			\$ 1,084.81
8	Installation Hours - 144 Fiber Panel	Work Activity Study / Input Sheet Ln 2	0.5	\$ 69.92	\$ 34.96
9	Fiber Bay Cost per Fiber Panel - 144 Fiber	Wp 11, Ln 16			\$ 128.24
10	Total Panel & Bay Cost - 144 fibers	Sum (Ln 7 thru Ln 9)			\$ 1,248.01
11	Usage Factor	SME			67%
12	Subtotal Panel & Bay Investment - 4 Fiber	Ln 10/ Ln 11/ 36			\$ 52.00
13	Subtotal Fiber Guttering Investment - 4 Fiber	Ln 1/ Ln 11/ 36			\$ 313.48
14	1-fiber SC-SC Jumper (40 meter)	Equipment Price List	4	\$ 30.00	\$ 120.00
15	Total Fiber Cable Materials (4 Fiber Capacity)	Ln 14			\$ 120.00
16	Sales Tax	Ln 15 * Ln 16		6.75%	\$ 8.10
17	Freight	Ln 15 * Ln 17		10.00%	\$ 12.00
18	Installation Hours - Jumpers	Work Activity Study / Input Sheet Ln 2	1	\$ 69.92	\$ 69.92
19	Installation Hours Jumper Connection & Labeling	Work Activity Study / Input Sheet Ln 2	0.25	\$ 69.92	\$ 17.48
20	Subtotal Cable Investment 4 Fiber	Sum (Ln 15 - Ln 19)			\$ 227.50
21	Total Investment - Cable & Panel per 4 fibers	Ln 12 + Ln 20			\$ 279.50

**Optical Cross Connect per 4 Fibers Investment
Workpaper 10**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Investment - Fiber Guttering for 144 fibers (per ft.)	Wp 13, Ln 17	95	\$ 79.20	<u>\$ 7,523.89</u>
2	LDC Connector Module Housing	Equipment Price List	1	\$ 396.07	\$ 396.07
3	Adapter Panel 12 Ports SC Adptr.	Equipment Price List	12	\$ 44.43	\$ 533.10
4	Material Cost - Per Panel	Sum (Ln 2 + Ln 3)			\$ 929.17
5	Sales Tax	Ln 4 * Ln 5		6.75%	\$ 62.72
6	Freight	Ln 4 * Ln 6		10.00%	\$ 92.92
7	Total Material Cost - Per 144 Fiber Panel	Sum (Ln 4 - Ln 6)			<u>\$ 1,084.81</u>
Work Activity Study / Input					
8	Installation Hours - 144 Fiber Panel	Sheet Ln 2	0.5	\$ 69.92	\$ 34.96
9	Fiber Bay Cost per Fiber Panel - 144 Fiber	Wp 11, Ln 16			\$ 128.24
10	Total Panel & Bay Cost -144 fibers	Sum (Ln 7 thru Ln 9)			\$ 1,248.01
11	Usage Factor	SME			67%
12	Subtotal Panel & Bay Investment - 4 Fiber	Ln 10/ Ln 11/ 36			\$ 52.00
13	Subtotal Fiber Guttering Investment - 4 Fiber	Ln 1/ Ln 11/ 36			<u>\$ 313.48</u>
14	1-fiber SC-SC Jumper (40 meter)	Equipment Price List	4	\$ 30.00	\$ 120.00
15	Total Fiber Cable Materials (4 Fiber Capacity)	Ln 14			\$ 120.00
16	Sales Tax	Ln 15 * Ln 16		6.75%	\$ 8.10
17	Freight	Ln 15 * Ln 17		10.00%	\$ 12.00
Work Activity Study / Input					
18	Installation Hours - Jumpers	Sheet Ln 2	1	\$ 69.92	\$ 69.92
Work Activity Study / Input					
19	Installation Hours Jumper Connection & Labeling	Sheet Ln 2	0.25	\$ 69.92	\$ 17.48
20	Subtotal Cable Investment 4 Fiber	Sum (Ln 15 - Ln 19)			<u>\$ 227.50</u>
21	Total Investment - Cable & Panel per 4 fibers	Ln 12 + Ln 20			<u>\$ 279.50</u>

Line	Description	Source	Quantity	Unit Price	Material Price
1	Investment - Fiber Guttering for 144 fibers (per ft)	Wp 13, Ln 17	95	\$ 79.20	\$ 7,523.89
2	Usage Factor				67%
3	Investment - Fiber Guttering After Usage Factor	Ln 1 / Ln 2			\$ 11,285.27
4	Investment - Fiber Guttering Per 4-Fibers	Ln 3 / 36			\$ 313.48
5	1-fiber SC-SC Jumper (40 meter)	Equipment Price List	4	\$ 30.00	\$ 120.00
6	Sales Tax	Ln 5 * Ln 6		6.75%	\$ 8.10
7	Freight	Ln 5 * Ln 7		10.00%	\$ 12.00
8	Installation Hours - Cable Run	SME / Input Sheet Ln 2	1	\$ 69.92	\$ 69.92
9	Cable Investment 4 Fiber	Sum (Ln 5 to Ln 8)			\$ 210.02

**Optical Cross Connect Co-Carrier per 4 Fibers Investment
Workpaper 10.1**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Investment - Fiber Guttering for 144 fibers (per ft.)	Wp 13, Ln 17	95	\$ 79.20	\$ 7,523.89
2	Usage Factor				67%
3	Investment - Fiber Guttering After Usage Factor	Ln 1 / Ln 2			\$ 11,285.27
4	Investment - Fiber Guttering Per 4-Fibers	Ln 3 / 36			\$ 313.48
5	1-fiber SC-SC Jumper (40 meter)	Equipment Price List	4	\$ 30.00	\$ 120.00
6	Sales Tax	Ln 5 * Ln 6		6.75%	\$ 8.10
7	Freight	Ln 5 * Ln 7		10.00%	\$ 12.00
8	Installation Hours - Cable Run	SME / Input Sheet Ln 2	1	\$ 69.92	\$ 69.92
9	Cable Investment 4 Fiber	Sum (Ln 5 to Ln 8)			\$ 210.02

Line	Description	Source	Qty	Unit Price	Material Price
1	Double Sided 23" Deep by 7" Tall Rack	Equipment Price List	1	\$ 281.14	\$ 281.14
2	Rack Installation Kit, Concrete Floor	Equipment Price List	1	\$ 11.72	\$ 11.72
3	Raised Floor Rack Support, 16"-22" Height	Equipment Price List	1	\$ 77.58	\$ 77.58
4	Material Cost	Ln 1 + Ln 2 + Ln 3			\$ 370.44
5	Sales Tax	Ln 4 * Ln 5		6.75%	\$ 25.00
6	Freight	Ln 4 * Ln 6		5.00%	\$ 18.52
7	Installation Hours - DS1/DS3 Bay	SME / Input Sheet Ln 2	6.25	\$ 69.92	\$ 437.00
8	Total Bay Cost - DS1/DS3	Sum (Ln 4 thru Ln 7)			\$ 850.97
9	Installation Hours - Fiber Bay	SME / Input Sheet Ln 2	3.25	\$ 69.92	\$ 227.24
10	Total Bay Cost - Fiber Bay	Sum (Ln 4 thru Ln 6) + Ln 9			\$ 641.21
11	DSX - Panels per Bay	Vendor Spec.			11
12	Cost per 84 Circuit DS1 Panel	Ln 8 / Ln 11			\$ 77.36
13	DSX-3 - Panels per Bay	Vendor Spec.			9
14	Cost per 48 Circuit DS3 Panel	Ln 8 / Ln 13			\$ 94.65
15	OCC Fiber Panels per Bay	Vendor Spec			5
16	Cost per 144 Fiber Panel	Ln 10 / Ln 15			\$ 128.24

**Equipment Bay Investment & Allocation
Workpaper 11**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Double Sided 23" Deep by 7' Tall Rack	Equipment Price List	1	\$ 281.14	\$ 281.14
2	Rack Installation Kit, Concrete Floor	Equipment Price List	1	\$ 11.72	\$ 11.72
3	Raised Floor Rack Support, 16"-22" Height	Equipment Price List	1	\$ 77.58	\$ 77.58
4	Material Cost	Ln 1 + Ln 2 + Ln 3			\$ 370.44
5	Sales Tax	Ln 4 * Ln 5		6.75%	\$ 25.00
6	Freight	Ln 4 * Ln 6		5.00%	\$ 18.52
7	Installation Hours - DS1/DS3 Bay	SME / Input Sheet Ln 2	6.25	\$ 69.92	\$ 437.00
8	Total Bay Cost - DS1/DS3	Sum (Ln 4 thru Ln 7)			\$ 850.97
9	Installation Hours - Fiber Bay	SME / Input Sheet Ln 2	3.25	\$ 69.92	\$ 227.24
10	Total Bay Cost - Fiber Bay	Sum (Ln 4 thru Ln 6) + Ln 9			\$ 641.21
11	DSX - Panels per Bay	Vendor Spec.			11
12	Cost per 84 Circuit DS1 Panel	Ln 8 / Ln 11			\$ 77.36
13	DSX-3 - Panels per Bay	Vendor Spec.			9
14	Cost per 48 Circuit DS3 Panel	Ln 8 / Ln 13			\$ 94.55
15	OCC Fiber Panels per Bay	Vendor Spec.			5
16	Cost per 144 Fiber Panel	Ln 10 / Ln 15			\$ 128.24

Line	Description	Source	Unit Cost	DS0	DS1	DS3	Fiber Entrance	Power ≤ 30 Amps	Power ≤ 60 Amps	Power ≤ 100 Amps	Power ≤ 200 Amps
1	Total Investment per Rack (per ft)	Work Activity Study	\$ 51.52	\$7,726.00	\$5,182.40	\$5,667.20	\$ 9,273.60	\$4,121.60	\$4,121.60	\$5,667.20	\$5,067.20
2	DS0 Investment per Cable (78/rack) (1)	Ln 1 / 78	\$ 99.08								
3	DS1 Investment per Cable (88/rack) (1)	Ln 1 / 88		\$ 70.25							
4	DS3 Investment per Cable (71/rack) (1)	Ln 1 / 71			\$ 79.82						
5	Fiber Entrance Investment per Cable (86/rack) (1)	Ln 1 / 86				\$ 107.83					
7	Power ≤ 30 Amps Investment per Cable (111/rack) (1)	Ln 1 / 111					\$ 37.13				
8	Power ≤ 60 Amps Investment per Cable (84/rack) (1)	Ln 1 / 84						\$ 49.07			
9	Power ≤ 100 Amps Investment per Cable (73/rack) (1)	Ln 1 / 73							\$ 77.63		
10	Power > 200 Amps Investment per Cable (40/rack) (1)	Ln 1 / 40									\$ 141.68
11	100 And 200-Amp Investment Per Foot Per Cable								\$ 0.71		\$ 1.29

Notes:
 (1) Number of cable per rack - Workpaper 14.

Cable Racking Investment
Workpaper 12

Line	Description	Source	Unit Cost	DS0	DS1	DS3	Fiber Entrance	Power ≤ 30 Amps	Power ≤ 60 Amps	Power ≤ 100 Amps	Power ≤ 200 Amps
1	Total Investment per Rack (per ft.)	Work Activity Study	\$ 51.52	\$7,728.00	\$6,182.40	\$ 5,667.20	\$ 9,273.60	\$4,121.60	\$ 4,121.60	\$5,667.20	\$ 5,667.20
2	DS0 Investment per Cable (78/rack) (1)	Ln 1 / 78		\$ 99.08							
3	DS1 Investment per Cable (88/rack) (1)	Ln 1 / 88			\$ 70.25						
4	DS3 Investment per Cable (71/rack) (1)	Ln 1 / 71				\$ 79.82					
5	Fiber Entrance Investment per Cable (86/rack) (1)	Ln 1 / 86					\$ 107.83				
6											
7	Power ≤ 30 Amps Investment per Cable (111/rack) (1)	Ln 1 / 111						\$ 37.13			
8	Power ≤ 60 Amps Investment per Cable (84/rack) (1)	Ln 1 / 84							\$ 49.07		
9	Power ≤ 100 Amps Investment per Cable (73/rack) (1)	Ln 1 / 73								\$ 77.63	
10	Power > 200 Amps Investment per Cable (40/rack) (1)	Ln 1 / 40									\$ 141.68
11	100 And 200-Amp Investment Per Foot Per Cable									\$ 0.71	\$ 1.29

Qty 10 ft
Sections
Required

DS0	15
DS1	12
DS3	11
Fiber Entrance	18
Power Cable ≤ 60 Amps	8
Power Cable > 60 Amps	11

Notes:

(1) Number of cable per rack - Workpaper 14.

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Line	Description	Source	Quantity	Unit Price	Material Price
1	Individual Links 2" X 2" (3 links per foot)	Equipment Price List	300	\$ 5.18	\$ 1,553.81
2	"L" Junction for 2 X 2 Channel	Equipment Price List	2	\$ 44.23	\$ 88.47
3	"T" Drop for 2 X 2 Channel	Equipment Price List	2	\$ 49.65	\$ 99.30
4	Center Drop for 2 X 2 Channel	Equipment Price List	1	\$ 39.72	\$ 39.72
5	End Cap for 2 X 2 Channel	Equipment Price List	2	\$ 8.12	\$ 16.25
6	Universal Bracket	Equipment Price List	10	\$ 8.58	\$ 85.76
7	Adjustable Bracket	Equipment Price List	2	\$ 6.77	\$ 13.54
8	Below-Stringer Bracket	Equipment Price List	10	\$ 17.15	\$ 171.52
9	10' Backbone Support	Equipment Price List	10	\$ 21.67	\$ 216.65
10	Backbone Mount	Equipment Price List	19	\$ 8.12	\$ 154.37
11	Backbone Splice	Equipment Price List	19	\$ 4.06	\$ 77.18
12	Total Material Cost for Fiber Guttering	Sum (Ln 1 - Ln 11)			\$ 2,516.56
13	Sales Tax	Ln 12 * Ln 13		0.75%	\$ 169.87
14	Freight	Ln 12 * Ln 14		10.00%	\$ 251.66
15	Installation Hours	SME / Input Sheet Ln 2	71.25	\$ 69.92	\$ 4,981.80
16	Total Fiber Guttering Cost - 100 ft	Sum (Ln 12 - Ln 15)			\$ 7,919.89
17	Fiber Guttering per foot	Ln 16 / 100			\$ 79.20

Co-Carrier DS3 Per X-Conn. WP / OCC 4-Fiber WP / Co-Carrier OCC 4-Fiber WP / Bay Cost WP / Cable Rack WP / Fiber Guttering WP / Cable Rack Invest Allocati

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Optical Cross Connect - Fiber Guttering Investment
Workpaper 13

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Material Price</u>
1	Individual Links 2" X 2" (3 links per foot)	Equipment Price List	300	\$ 5.18	\$ 1,553.81
2	"L" Junction for 2 X 2 Channel	Equipment Price List	2	\$ 44.23	\$ 88.47
3	"T" Drop for 2 X 2 Channel	Equipment Price List	2	\$ 49.65	\$ 99.30
4	Center Drop for 2 X 2 Channel	Equipment Price List	1	\$ 39.72	\$ 39.72
5	End Cap for 2 X 2 Channel	Equipment Price List	2	\$ 8.12	\$ 16.25
6	Universal Bracket	Equipment Price List	10	\$ 8.58	\$ 85.76
7	Adjustable Bracket	Equipment Price List	2	\$ 6.77	\$ 13.54
8	Below-Stringer Bracket	Equipment Price List	10	\$ 17.15	\$ 171.52
9	10' Backbone Support	Equipment Price List	10	\$ 21.67	\$ 216.65
10	Backbone Mount	Equipment Price List	19	\$ 8.12	\$ 154.37
11	Backbone Splice	Equipment Price List	19	\$ 4.06	\$ 77.18
12	Total Material Cost for Fiber Guttering	Sum (Ln 1 - Ln 11)			\$ 2,516.56
13	Sales Tax	Ln 12 * Ln 13		6.75%	\$ 169.87
14	Freight	Ln 12 * Ln 14		10.00%	\$ 251.66
15	Installation Hours	SME / Input Sheet Ln 2	71.25	\$ 69.92	\$ 4,981.80
16	Total Fiber Guttering Cost - 100 ft.	Sum (Ln 12 - Ln 15)			\$ 7,919.89
17	Fiber Guttering per foot	Ln 16 / 100			\$ 79.20

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Cable Rack Investment Allocation													
2	Workpaper 14													
3														
4	Description													
5	Cable Rack Usable Space Width (inches)	Vendor Spec.	10.50											
6	Cable Rack Usable Space Depth (inches)	Vendor Spec.	10.00											
7	Cable Rack Volume	Ln 2 * Ln 3	105.00											
8														
9	DS0 Cable Size	Vendor Spec.	0.67											
10														
11	Cables per Cable Rack	Ln 3 / Ln 4	156.72											
12	Fill Factor	Input Sheet Ln 15	50%											
13	Assignable Cables per Rack	Ln 5 * Ln 6	78											
14														
15	DS1 Cable Size	Vendor Spec.	0.60											
16														
17	Cables per Cable Rack	Ln 3 / Ln 8	175.00											
18	Fill Factor	Input Sheet Ln 15	50%											
19	Assignable Cables per Rack	Ln 9 * Ln 10	88											
20														
21	DS3 Cable Size	Vendor Spec.	0.74											
22														
23	Cables per Cable Rack	Ln 3 / Ln 12	142.86											
24	Fill Factor	Input Sheet Ln 15	50%											
25	Assignable Cables per Rack	Ln 13 * Ln 14	71											
26														
27	Fiber - 48 Strand, Single Mode, Plenum Cable (# 513016)	Vendor Spec.	0.61											
28														
29	Cables per Cable Rack	Ln 3 / Ln 16	172.13											
30	Fill Factor	Input Sheet Ln 15	50%											
31	Assignable Cables per Rack	Ln 17 * Ln 18	86											
32														

**Cable Rack Investment Allocation
Workpaper 14**

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Result</u>
1	Cable Rack Usable Space Width (inches)	Vendor Spec.	10.50
2	Cable Rack Usable Space Depth (inches)	Vendor Spec.	10.00
3	Cable Rack Volume	Ln 2 * Ln 3	105.00
4	DS0 Cable Size	Vendor Spec.	0.67
5	Cables per Cable Rack	Ln 3 / Ln 4	156.72
6	Fill Factor	Input Sheet Ln 15	50%
7	Assignable Cables per Rack	Ln 5 * Ln 6	78
8	DS1 Cable Size	Vendor Spec.	0.60
9	Cables per Cable Rack	Ln 3 / Ln 8	175.00
10	Fill Factor	Input Sheet Ln 15	50%
11	Assignable Cables per Rack	Ln 9 * Ln 10	88
12	DS3 Cable Size	Vendor Spec.	0.74
13	Cables per Cable Rack	Ln 3 / Ln 12	142.86
14	Fill Factor	Input Sheet Ln 15	50%
15	Assignable Cables per Rack	Ln 13 * Ln 14	71
16	Fiber - 48 Strand, Single Mode, Plenum Cable (# 513016)	Vendor Spec.	0.61
17	Cables per Cable Rack	Ln 3 / Ln 16	172.13
18	Fill Factor	Input Sheet Ln 15	50%
19	Assignable Cables per Rack	Ln 17 * Ln 18	86

**Cable Rack Investment Allocation
Workpaper 14**

20	Fiber - 4 Strand, Single Mode, Plenum Cable	Vendor Spec.	0.20
21	Cables per Cable Rack	Ln 3 / Ln 20	525.00
22	Fill Factor	Input Sheet Ln 15	50%
23	Assignable Cables per Rack	Ln 21 * Ln 22	263
24	Power Cables - 1/0 AWG	Cable size	0.47
25	Cables per Cable Rack - 250 MCM	Ln 3 / Ln 24	221.52
26	Fill Factor	Input Sheet Ln 15	50%
27	Assignable Cables per Rack	Ln 25 * Ln 26	111
28	Power Cables - 4/0 AWG	Cable size	0.62
29	Cables per Cable Rack - 250 MCM	Ln 3 / Ln 28	168.27
30	Fill Factor	Input Sheet Ln 15	50%
31	Assignable Cables per Rack	Ln 29 * Ln 30	84
32	Power Cables - 250 MCM	Cable size	0.72
33	Cables per Cable Rack - 250 MCM	Ln 3 / Ln 32	145.83
34	Fill Factor	Input Sheet Ln 15	50%
35	Assignable Cables per Rack	Ln 33 * Ln 34	73
36	Power Cables - 750 MCM	Cable size	1.30
37	Cables per Cable Rack - 750 MCM	Ln 3 / Ln 36	80.77
38	Fill Factor	Input Sheet Ln 15	50%
39	Assignable Cables per Rack	Ln 37 * Ln 38	40

Line	Description	Source	Qty	Unit Price	Investment
Internal Cable Space - Fiber Investment Workpaper 15					
Riser Space - Fiber					
1	Core Drilling	RS Means 2003	1	\$ 48.50	\$ 48.50
2	Conduit	Input Sheet Ln 12	1	\$ 6.16	\$ 6.16
3	Innerduct	Equipment List Ln 61	3	\$ 0.32	\$ 0.97
4	Transmission Space Cost per Foot	Wp 4, Ln 11	1	\$ 341.70	\$ 341.70
5	Total Core Hole per Ft	Sum (Ln 1 - Ln 4)			\$ 397.33
6	Number of Innerducts per Core Hole	3 Innerducts per 4" Hole			3
7	Cost - per exit through Cable Vault Ceiling	Ln 5 / Ln 6			\$ 132.44
Cable Rack					
8	Fiber Entrance Investment per Cable (86/rack)	Wp 12, Ln 5			\$ 107.83
Vault Access - Fiber					
9	Vault Space Cost Per Foot	Wp 4, Ln 7	1	\$ 163.19	\$ 163.19
10	Average Sq. Ft. per Vault	Vault Study			791
11	Number of Conduits per Vault	Vault Study			48
12	Number of Innerducts per Conduit	Actual	3		3
13	Total Cost per Cable Vault Entrance	Ln 9 / Ln 10 / Ln 11 / Ln 12			\$ 896.43
Conduit Investment - Fiber					
14	Conduit	Input Sheet Lns. 31 & 12	95	\$ 6.16	\$ 585.20
15	Innerducts	Actual	3		
16	Cost of Conduit per Innerduct	Ln 14 / 3			\$ 195.07

Internal Cable Space - Fiber Investment
Workpaper 15

Riser Space - Fiber

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Investment</u>
Core Hole					
1	Core Drilling	RS Means 2003	1	\$ 48.50	\$ 48.50
2	Conduit	Input Sheet Ln 12	1	\$ 6.16	\$ 6.16
3	Innerduct	Equipment List Ln 61	3	\$ 0.32	\$ 0.97
4	Transmission Space Cost per Foot	Wp 4, Ln 11	1	\$ 341.70	\$ 341.70
5	Total Core Hole per Ft.	Sum (Ln 1 - Ln 4)			\$ 397.33
6	Number of Innerducts per Core Hole	3 Innerducts per 4" Hole			3
7	Cost - per exit through Cable Vault Ceiling	Ln 5 / Ln 6			\$ 132.44
Cable Rack					
8	Fiber Entrance Investment per Cable (86/rack)	Wp 12, Ln 5			\$ 107.83
Vault Access - Fiber					
9	Vault Space Cost Per Foot	Wp 4, Ln 7	1	\$ 163.19	\$ 163.19
10	Average Sq. Ft. per Vault	Vault Study	1		791
11	Number of Conduits per Vault	Vault Study			48
12	Number of Innerducts per Conduit	Actual	3		3
13	Total Cost per Cable Vault Entrance	Ln 9*Ln 10 / Ln 11 / Ln 12			\$ 896.43
Conduit Investment - Fiber					
14	Conduit	Input Sheet Lns. 31 & 12	95	\$ 6.16	\$ 585.20
15	Innerducts	Actual	3		
16	Cost of Conduit per Innerduct	Ln 14 / 3			\$ 195.07
17	Manhole Cost	Input Sheet Ln 13	1	\$ 8,407.00	\$ 8,407.00
18	Number of Conduits per Manhole	Vault Study			32
19	Innerducts per Conduit	Actual			3
20	Cost per Manhole per Cable Entrance	Ln 17 / Ln 18 / Ln 19			\$ 87.57
21	Innerduct	Equipment List Ln 61	95	\$ 0.32	\$ 30.85
22	Conduit Investment per Cable Entrance Innerduct	Ln 16 + Ln 20 + Ln 21			\$ 313.49

Line	Description	Source	Qty	Unit Price	Investment
Internal Cable Space - Copper Investment					
Workpaper 16					
Riser Space - Copper					
Core Hole					
1	Core Drilling	RS Means 2003	1	\$ 48.50	\$ 48.50
2	Total Transmission Space Cost per Foot	Wp 4, Ln 11	1	\$ 341.70	\$ 341.70
	Total Core Hole	Sum Ln 1 + Ln 2			\$ 390.20
4	Divide by Number of 100-pr (Tip) Cables	SME & Observations			6
6	Core Hole Cost Per 100-Pair Cable	Ln 3 / Ln 4			\$ 65.03
Vault Access - Copper					
Description					
7	Total Vault Space Cost per Foot	Wp 4, Ln 7	1	\$ 163.19	\$ 163.19
8	Average Sq. Ft. per Vault	Vault Study			7.91
9	Number of Conduits per Vault	Vault Study			48
10	Investment per Conduit	Ln 7 * Ln 8 / Ln 9			\$ 2,689.28
11	Divide by Number of 100 Pr increments	SME & Observations			6
12	Total Cost per 100-Pair Per Sq. Ft.	Ln 10 / Ln 11			\$ 448.21
Conduit Investment Copper					
Line					
13	Conduit	Input Sheet Lns 31 & 12	95	\$ 6.16	\$ 585.20
14	Manhole Cost	Input Sheet Ln 13	1	\$ 8,407.00	\$ 8,407.00
15	Number of Conduits per Manhole	Vault Study			32
16	Cost for Conduit per Manhole	Ln 14 / Ln 15			\$ 262.72

Internal Cable Space - Copper Investment
Workpaper 16

Riser Space - Copper

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Investment</u>
Core Hole					
1	Core Drilling	RS Means 2003	1	\$ 48.50	\$ 48.50
2	Total Transmission Space Cost per Foot	Wp 4, Ln 11	1	\$ 341.70	\$ 341.70
3	Total Core Hole	Sum Ln 1 + Ln 2			\$ 390.20
4	Divide by Number of 100-pr (Tip) Cables	SME & Observations			6
5					
6	Core Hole Cost Per 100-Pair Cable	Ln 3 / Ln 4			\$ 65.03

Vault Access - Copper

	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Material Price</u>
7	Total Vault Space Cost per Foot	Wp 4, Ln 7	1	\$ 163.19	\$ 163.19
8	Average Sq. Ft. per Vault	Vault Study			791
9	Number of Conduits per Vault	Vault Study			48
10	Investment per Conduit	Ln 7 * Ln 8 / Ln 9			\$ 2,689.28
11	Divide by Number of 100 Pr increments	SME & Observations			6
12	Total Cost per 100-Pair Per Sq. Ft.	Ln 10 / Ln 11			\$ 448.21

Conduit Investment Copper

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Investment</u>
13	Conduit	Input Sheet Lns. 31 & 12	95	\$ 6.16	\$ 585.20
14	Manhole Cost	Input Sheet Ln 13	1	\$ 8,407.00	\$ 8,407.00
15	Number of Conduits per Manhole	Vault Study			32
16	Cost for Conduit per Manhole	Ln 14 / Ln 15			\$ 262.72
17	Investment per Conduit for 4' Duct	Ln 13 + Ln 16			\$ 847.92
18	Divide by Number of 100 Pr Equivalents	SME & Observations			6
19	Conduit Cost per 100-Pair Equivalent	Ln 17 / Ln 18			\$ 141.32

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Line	Description	Source	Qty	Price	Material Price
1	Internal Cabling Fiber Investment				
2	Workpaper 17				
3					
4	Monthly Recurring Charge				
5					
6					
7	1 48 Fiber Cable	Equipment Price List	320	\$ 1.00	\$ 320.00
8	2 Sales Tax	Ln 1 * Ln 2		6.75%	\$ 21.60
9	3 Freight	Ln 1 * Ln 3		5.00%	\$ 16.00
10	4 Installation Hours - Cable Run & Connectorization (48 fibers)	SME / Input Sheet Ln 2	14.25	\$ 69.92	\$ 996.36
11	5 Subtotal Investment - Cost for Cable Run	Sum (Ln 1 thru Ln 4)			\$ 1,353.96
12					
13	6 Total Fiber Optic Bay Cost 144 Fibers	Wp 10, Ln 7 thru Ln 9		\$ 1,248.01	\$ 1,248.01
14	7 Cross Connects per Bay	Actual			144
15	8 Cost per Cross Connect	Ln 6 / Ln 7			\$ 8.67
16	9 Fiber per Cable	Ln 1 (Description)			48
17	10 Subtotal Investment - Bay Cost	Ln 6 * Ln 9			\$ 416.16
18					
19	11 Total Investment - Internal Fiber Cable	Ln 5 + Ln 10			\$ 1,770.12
20					
21	Nonrecurring Charge				
22					
23	12 Outside Plant Engineering	WA Study/Input Sheet Ln 18	19.25	\$ 49.11	\$ 945.37
24					
25					
26					
27					
28					
29					
30					
31					
32					

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Internal Cabling Fiber Investment
Workpaper 17

Monthly Recurring Charge

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Price</u>	<u>Material Price</u>
1	48 Fiber Cable	Equipment Price List	320	\$ 1.00	\$ 320.00
2	Sales Tax	Ln 1 * Ln 2		6.75%	\$ 21.60
3	Freight	Ln 1 * Ln 3		5.00%	\$ 16.00
4	Installation Hours - Cable Run & Connectorization (48 fibers)	SME / Input Sheet Ln 2	14.25	\$ 69.92	\$ 996.36
5	Subtotal Investment - Cost for Cable Run	Sum (Ln 1 thru Ln 4)			<u>\$ 1,353.96</u>
6	Total Fiber Optic Bay Cost 144 Fibers	Wp 10, Ln 7 thru Ln 9		\$ 1,248.01	\$ 1,248.01
7	Cross Connects per Bay	Actual			144
8	Cost per Cross Connect	Ln 6 / Ln 7			\$ 8.67
9	Fiber per Cable	Ln 1 (Description)			48
10	Subtotal Investment - Bay Cost	Ln 8 * Ln 9			<u>\$ 416.16</u>
11	Total Investment - Internal Fiber Cable	Ln 5 + Ln 10			\$ 1,770.12
Nonrecurring Charge					
12	Outside Plant Engineering	WA Study/Input Sheet Ln 18	19.25	\$ 49.11	\$ 945.37

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Line	Description	Source	Qty	Price	Investment
1	100-Pair Copper Protection Block With Connectorized Cable	Work Activity Analysis	1	\$ 733.00	\$ 733.00
2	Protector Module	Work Activity Analysis	100	\$ 2.73	\$ 273.07
3	Other Materials	Work Activity Analysis			\$ 34.00
4	Installation Labor	Work Activity Analysis			\$ 556.00
5	Total Investment 100-Pair Copper Internal Cable	Sum Ln 1 thru Ln 4			\$ 1,596.07
6	Engineering Non-recurring Charge	Work Activity Analysis			\$ 163.00

Internal Cable Space Fiber WP / Internal Cable Space Copper WP / Internal Cabling Fiber WP / Internal Cabling Copper WP / Inputs / Equipment Prices

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Internal Cabling Copper Per 100-Pair Investment
 Workpaper 18

Monthly Recurring Charge

<u>Line</u>	<u>Description</u>	<u>Source</u>	<u>Qty</u>	<u>Price</u>	<u>Investment</u>
1	100-Pr Copper Protection Block With Connectorized Cable	Work Activity Analysis	1	\$ 733.00	\$ 733.00
2	Protector Module	Work Activity Analysis	100	\$ 2.73	\$ 273.07
3	Other Materials	Work Activity Analysis			\$ 34.00
4	Installation Labor	Work Activity Analysis			\$ 556.00
5	Total Investment 100-Pair Copper Internal Cable	Sum Ln 1 thru Ln 4			\$ 1,596.07
Nonrecurring Charge					
6	Engineering Non-recurring Charge	Work Activity Analysis			\$ 163.00

Line	Description	Input	Source
1	Central Office Engineering	\$ 62.62	Work Activity Study
2	Central Office Labor	\$ 69.92	Work Activity Study
3	Sales Tax	6.75%	Department of Taxation
4	Building Annual Charge Factor	24.31%	Annual Charge Factor Model
5	Digital Circuit Annual Charge Factor	28.44%	Annual Charge Factor Model
6	Local Switching Factor	29.03%	Annual Charge Factor Model
7	Conduit Factor	15.83%	Annual Charge Factor Model
8	Common Factor	13.68%	Florida UNE Docket No. 990649B-TP
9	DC Power Annual Charge Factor	29.03%	Annual Charge Factor Model
10	DC Power Maintenance Factor	13.79%	Annual Charge Factor Model
11	Cost per KWH	\$ 0.0671	Annual Charge Factor Model
12	Conduit Cost	\$ 6.160	Florida UNE Docket No. 990649B-TP
13	Manhole Cost	\$ 8.407	Florida UNE Docket No. 990649B-TP
14	Assignable Transmission Space to Total	49.2%	Analysis of CO Drawings
15	Cable Rack Fill Factor	50%	SME Observation
16	Freight - Power Cable - as % of Material	5%	Freight Study
17	Freight - Transmission Equip - as % of Material	10%	Freight Study
18	OSP Engineering	\$ 49.11	Payroll Data
19	OSP Technician	\$ 58.21	Payroll Data
20	Legal Labor	\$ 88.79	Payroll Data
21	Application Engineering	\$ 62.82	Payroll Data
22	Network Sales Manager	\$ 70.52	Payroll Data
23	Field Service Manager	\$ 70.52	Payroll Data
24	Network Project Manager	\$ 50.55	Payroll Data
25	Power Engineer	\$ 56.08	Payroll Data
26	Land & Building Engineer	\$ 75.71	Payroll Data
27	CFR/CAD Technician - Drafting	\$ 33.07	Payroll Data
28	NASC Service Rep - Billing	\$ 36.74	Payroll Data
29	Contract Negotiator - National Acct. Manager	\$ 70.11	Payroll Data
30	Architect, Engineering & Construction Mgt. Exp.	16.00%	RS Means Data

Collocation Study Inputs

<u>Line</u>	<u>Description</u>	<u>Input</u>	<u>Source</u>
1	Central Office Engineering	\$ 62.62	Work Activity Study
2	Central Office Labor	\$ 69.92	Work Activity Study
3	Sales Tax	6.75%	Department of Taxation
4	Building Annual Charge Factor	24.31%	Annual Charge Factor Model
5	Digital Circuit Annual Charge Factor	28.44%	Annual Charge Factor Model
6	Local Switching Factor	29.03%	Annual Charge Factor Model
7	Conduit Factor	15.83%	Annual Charge Factor Model
8	Common Factor	13.68%	Florida UNE Docket No. 990649B-TP
9	DC Power Annual Charge Factor	29.03%	Annual Charge Factor Model
10	DC Power Maintenance Factor	13.79%	Annual Charge Factor Model
11	Cost per KWH	\$ 0.0671	Annual Charge Factor Model
12	Conduit Cost	\$ 6.160	Florida UNE Docket No. 990649B-TP
13	Manhole Cost	\$ 8,407	Florida UNE Docket No. 990649B-TP
14	Assignable Transmission Space to Total	49.2%	Analysis of CO Drawings
15	Cable Rack Fill Factor	50%	SME Observation
16	Freight - Power Cable -as % of Material	5%	Freight Study
17	Freight - Transmission Equip - as % of Material	10%	Freight Study
18	OSP Engineering	\$ 49.11	Payroll Data
19	OSP Technician	\$ 58.21	Payroll Data
20	Legal Labor	\$ 88.79	Payroll Data
21	Application Engineering	\$ 62.82	Payroll Data
22	Network Sales Manager	\$ 70.52	Payroll Data
23	Field Service Manager	\$ 70.52	Payroll Data
24	Network Project Manager	\$ 50.55	Payroll Data
25	Power Engineer	\$ 56.08	Payroll Data
26	Land & Building Engineer	\$ 75.71	Payroll Data
27	CPR/CAD Technician - Drafting	\$ 33.07	Payroll Data
28	NASC Service Rep - Billing	\$ 36.74	Payroll Data
29	Contract Negotiator - National Acct. Manager	\$ 70.11	Payroll Data
30	Architect, Engineering & Construction Mgt. Fee	16.00%	RS Means Data
31	Distance in ft. from Manhole to Vault	95	SME Observation
32	Installed Cost of Ground Bar	\$ 3,000	Vendor Quote
33	Digital Circuit Recurring Expense Factor	8.20%	Annual Charge Factor Model
34	Cost of Removal Factor - Power Cable	1.17%	Annual Charge Factor Model
35	Cost of Removal Factor - Digital Circuit	1.94%	Annual Charge Factor Model

Item	Description	Price Per Unit
40 016280	Adapter Panel 12 Ports SC Adptr Zircona SLV	\$ 44.43
41 Vendor Quote	1-fiber SC-SC Jumper (40 Meter)	\$ 30.00
42 513273	Individual Links 2" X 2" (3 Ft. Length)	\$ 5.18
43 513279	"L" Junction for 2 X 2 Channel	\$ 44.23
44 025776	"T" Drop for 2 X 2 Channel	\$ 49.66
45 513277	Center Drop for 2 X 2 Channel	\$ 39.72
46 513278	End Cap for 2 X 2 Channel	\$ 8.12
47 025770	Universal Bracket	\$ 8.58
48 513275	Adjustable Bracket	\$ 6.77
49 025763	Below-Stringer Bracket	\$ 17.15
50 025764	10' Backbone Support	\$ 21.67
51 025732	Backbone Mount	\$ 8.12
52 025766	Backbone Splice	\$ 4.06
53 WA Study	C377 TIN BONDED CABLE 24GA 100FT STUB	\$ 733.00
54 568116	PROTECTOR Module SS 300VDC WHT COIL	\$ 2.73
55 168435	1 25" Innerduct RR - per ft.	\$ 0.32

