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## MODULE FIVE: FIBER

Participant Guide  
spatialNET Standard Users Workbook  
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Topic	Page
The Fiber Dictionary	3
Fiber and Network Toolbars	5
Placing an Optical Node	6
Port Mapping	7
Other Fiber OSP Sites	9
Termination Panel	10
Drafting Fiber Cable	11
Splicing	13
Multiple Splicing Locations	14
Fiber Couplers	17
Wavelength Division Multiplexing	18
Fiber List	19
Edit Fiber	20
Master Circuits	21
Cutting Fiber	22
Fiber Tools and Reports	24

## OVERVIEW:

This module provides an overview of how to successfully draft fiber network elements in spatialNET. This includes an introduction of the fiber architecture of spatialNET.

## OBJECTIVES:

By completing this module, participants will be able to:

- Draft fiber cables and other fiber elements on the map.
- Modify fiber elements on the map including creating splice connection to connect multiple fibers together.
- Utilize different fiber reports and tools to modify the RF design.
- Modify usage and master circuit information.

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## NOTES

# THE FIBER DICTIONARY



## NOTES

Just as in the real-world, fiber cable is defined by the color set and then by the count of the individual fibers contained in a sheath. Once the color set is defined, the scheme for the different cables can be created in the dictionary. The hierarchy of the cable scheme is based different groups of color sets.

**Edit Color Set**

Set Name: 864 Ribbon

Set Description: 864 Ribbon Colors

Colors: BL/1, OR/2, GR/3, BR/4, SL/5, WH/6, RD/7, BK/8, YL/9, VL/10, RS/11, AQ/12

Colors - RGB: 0000FF, FFA500, 008000, A52A2A, 708090, FFFFFFFF, FF0000, 000000, FFFF00, EE82EE, FFB6C1, 00FFFF

Colors - Client: 5, 40, 3, 36, 9, 7, 1, 8, 2, 211, 244, 4

Subst. Colors: /

Subst. Colors - RGB: /

Subst. Colors - Client: /

Apply Cancel

**Edit Colour Scheme Definition**

Color Scheme: 864 Ribbon/Loose Tube

Description: 864 Ribbon/Loose Tube Hybrid

Use	Name	Color Set	Separator	Use	Name	Color Set	Before/After	Separator
Group 1	Fiber	864 Ribbon	Overflow 1		864 Ribbon	Before		
Group 2	Ribbon	864 Ribbon	Overflow 2		864 Ribbon	Before		
Group 3	Tube	Generic	Overflow 3		864 Ribbon	Before		

Result: Fiber

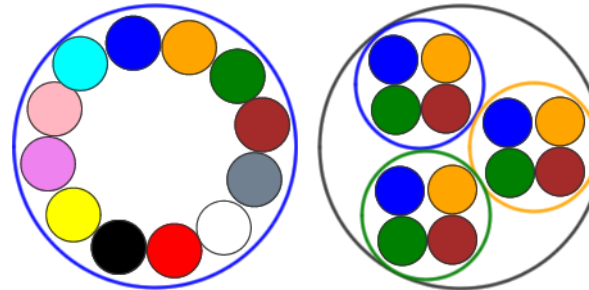
Fiber configuration for example: 1x12

Fiber	Glass	Colour
01	G1	BL/1
02	G1	OR/2
03	G1	GR/3
04	G1	BR/4
05	G1	SL/5
06	G1	WH/6
07	G1	RD/7
08	G1	BK/8
09	G1	YL/9
10	G1	VL/10
11	G1	RS/11
12	G1	AQ/12

Apply Close

Depending on how the cables have been defined in the dictionary, the color scheme will have the following hierarchy:

### Group 3 x Group 2 x Group 1

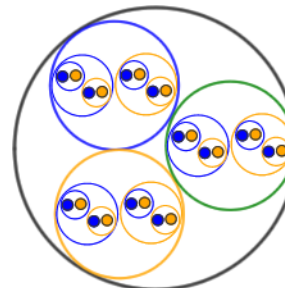


1X12

1 Group 2  
12 Group 1

3X4

3 Group 2  
4 Group 1



3X2X2

3 Group 3  
2 Group 2  
2 Group 1

The configuration of Group 3 x Group 2 x Group 1 would have to be defined differently in the dictionary.

# THE FIBER DICTIONARY

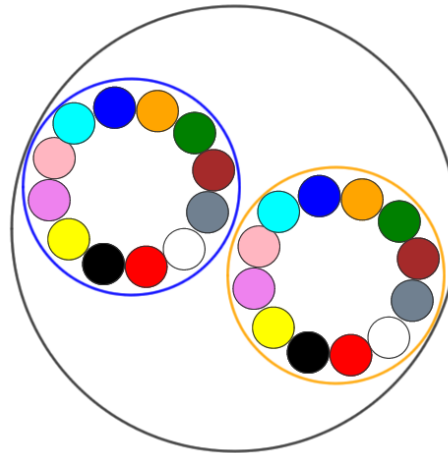


## NOTES

Once color scheme has been set, the fiber cables can be defined. Based on the hierarchy of color scheme, the fiber configuration will be set like the following:

Definition Status  
 Available  Obsolete

Cable Type: 024F ANTEC OSP  
Description: 024F ANTEC OSP  
Manufacturer: ANTEC  
Auto create taps: Manually create taps  
Fiber Configuration: 2x12  
Glass Type 1: Single Mode  
Glass Type 2: Single Mode  
Glass Type 3: Single Mode  
Total Fibers: 24  
Color Scheme: North American Fiber Color Standard (to 144)  
Color/Number Display: Both  Show Fiber Sequence  
Default Fiber State Code: Spare (dark)  
Network Type: FIBER  
Attenuation coefficient for Wavelength 1310: 0.001  
Attenuation coefficient for Wavelength 1440: 0.001  
Attenuation coefficient for Wavelength 1550: 0.001  
Helix Factor: 1.001  
Cost: 11.0  
Splice Case Type: Keptel-LG200  
Google Color: 00FFFF  
Google Width: 3  
Apply Cancel



In this case, the cable that is defined here has a 2x12 configuration. Once the configuration is established, there are additional areas:

### Areas of Discussion:















- Auto Tap Versus Manual
- Fiber Configuration
- Glass Type
- Default Fiber State
- Attenuation

## FIBER AND NETWORK TOOLBARS



## NOTES



Function	Use
 Add Fiber Cable	Draft fiber cable from selected entity or point.
 Add Term Panel	Places a term panel in the selected site.
 Add Splice Case	Adds a splice case in map view at the selected location.
 Add Optical Node	Places an optical node on the map or in the selected site.
 Add Fiber Tap Box	Creates a fiber (FTTx) tap box at the selected location.
 Add Site	Places a site at the selected location on the map view.
 Add Site with Term Panel	Creates an ISP site with rack, chassis and card.
 Physical Splice	Opens the splice panel tool to connect fibers.
 View Splice	Opens the splice view in a new window.
 Fiber Ports List	Displays all of the different fiber ports for the selected cable.
 Fiber/Pair Readings	Shows the circuit information for the selected entity.
 A to Z List	Allows users to change the directionality of the selected cable.
 Tail Off Cable	Opens the Cable Tail Off options to create a tap box for the fibers.
 Drop Tool	Creates association of the selected entity and addresses.

## PLACING AN OPTICAL NODE



## NOTES

Depending on how the fiber optic node is situated, there could be several scenarios that can emerge from adding the node to the map especially as it relates to RF and cooper. It is important to keep in mind that a node is an OSP site.

When adding an optical node, it will include only the equipment for the fiber transmitters and receivers. Any other equipment will need to be added independently.

Fiber Optical Node Creation

Operational Mode: Placement

Autoselect newly created entity

Equipment Type: STARGATE 2000 4 Return TX/3 Forward

Construction Status (for containing Site): (none)

Symbol Scale (for containing Site):

Number of Ports: 7

Designation: Optical Node

Check for duplicates  Auto increment

Plant Owner: <no owner>

Installation Date: 03Nov11 Account Code:

Miscellaneous Text:

Houses Passed: 0

Add Close

### Areas of Discussion:

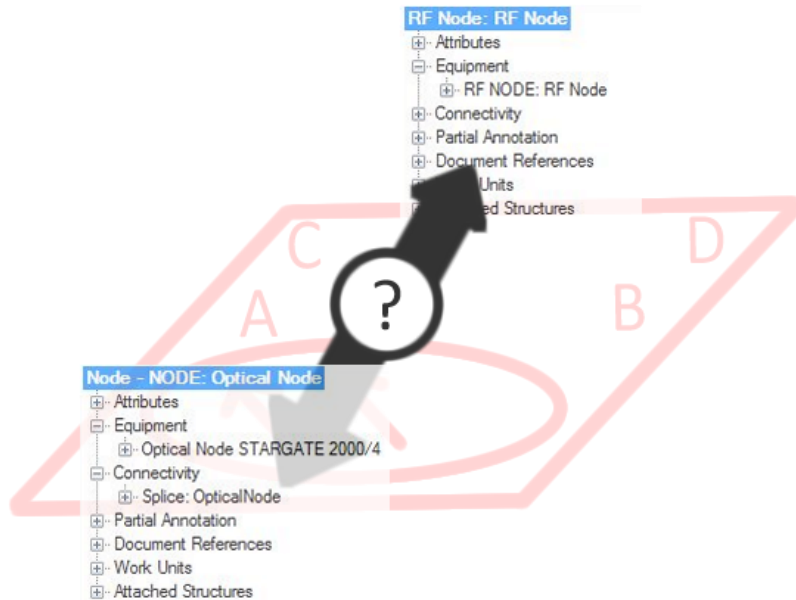
- Equipment Type
- Construction Status
- Symbol Scale
- Number of Ports

## PORT MAPPING



## NOTES

Fiber connection locations will be sites that allow for extra equipment to be placed and allow interconnections with other networks such as RF and copper. The fiber portion of the node and the RF or copper portion of the node are pieces of equipment sitting inside the site.



In order for connectivity to be modeled between these two types of networks, the port mapping between the optical node equipment and the RF/copper node needs to be completed. Depending on the dictionary, some of the port mapping may already be completed. However there might be opportunities in modeling your network where port mapping needs to be completed.

### Areas of Discussion:

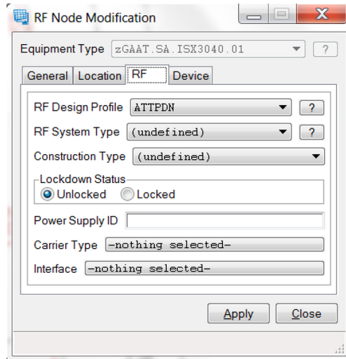
- Definitions of Optical Nodes
- Definitions of RF/Copper Nodes
- Equipment Category
- Connectivity Category

### Notes



In order to complete the port mapping, both nodes need to have the same interface location. There are several steps to process in order to finalize the port mapping.

## Node Modification

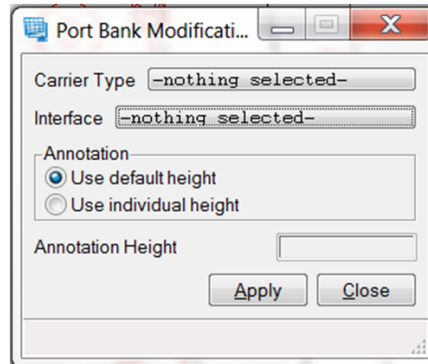


### Areas of Discussion:

- Creating the Interface
- Instance Based Mapping

### Notes:

## Port Bank Modification

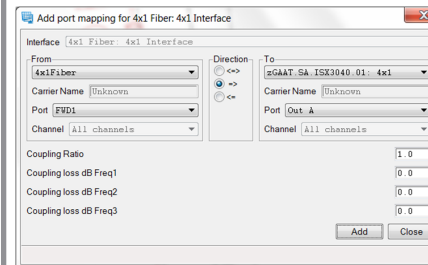


### Areas of Discussion:

- Locating the Port Bank Modification Option
- Select from Site

### Notes:

## Port Mapping



### Areas of Discussion:

- Directionality
- Editing Port Mapping
- Applying Port Mapping

### Notes:

## OTHER FIBER OSP SITES



## NOTES

The screenshot shows the 'Site Creation' dialog box with the following fields and options:

- Operational Mode: Placement
- Autoselect newly created entity
- Site Type: Hub Facility
- Capable of modelling inside plant
- Symbol Scale: [Empty field]
- Site Code: [Empty field]
- Designation: [Empty field]
- Check for duplicates
- Auto increment
- Owner: [Empty field]
- Contact: [Empty field]
- Street Address: [Empty field]
- Billing Address: [Empty field]
- Town: [Empty field]
- State: [Empty field]
- Zip Code: [Empty field]
- Location: [Empty field]
- Construction Status: (none)
- Backdrop File Name: [Empty field]
- Create Default Work Units
- Number of Hybrid Hubs Served
- Number of Secondary Hubs Served
- Number of Node Extenders Served
- Number of Nodes Served
- Number of HHP from Direct Feeds
- Max. (Elements) from Support Structure

When modeling fiber networks in spatialNET, users will want to place more than just optical nodes on the map. Using the Site Creation window, users can place different sites on the map based on what is defined in the dictionary.

### Areas of Discussion:

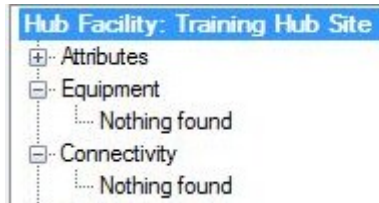
- Site Type
- Site Code/Designation
- Construction Status
- Custom Attributes

### Notes

## TERMINATION PANEL

## NOTES

Once the site is created on the map, that location will not have termination panel added to the site. Users will have to place a termination panel at that site in order to show connectivity at the location (nothing found under equipment and connectivity.) Select the site and click the Add Term Panel icon.

A screenshot of the "Fiber Term Panel Creation" dialog box. It contains the following fields and options:

- Operational Mode: Placement (with a blue plus icon and a mouse cursor icon)
- Autoselect newly created entity
- Equipment Type: 24F CONN TERM PANEL (dropdown menu)
- Construction Status (for containing Site): (none) (dropdown menu)
- Symbol Scale (for containing Site): (text input)
- Number of Ports: 24 (text input)
- Designation: TRN.Hub.0001 (text input)
- Check for duplicates
- Auto increment
- Plant Owner: <no owner> (dropdown menu)
- Installation Date: 07Nov11 (dropdown menu)
- Account Code: (text input)
- Miscellaneous Text: (text area)
- Create Default Work Units
- Buttons: Add, Close

### Areas of Discussion:

- Equipment Type
- Placement Mode
- Number of Ports
- Designation
- Add versus Close

### Notes

# DRAFTING FIBER CABLE



## NOTES

**Fiber Cable Creation**

Operational Mode:  
Placement

Autoselect newly created entity  
 Close add panel after line capture

Cable Type: 012F ALCATEL OSP

General | Length | Service Info | Custom Attributes

Symbol Scale: [ ]

Number of Fibers: 12

Cable Name: Training.Cable.0007

Check for duplicates  
 Auto increment

Plant Owner: <no owner>

Lease Agreement: -nothing selected-

Reel ID: [ ]

Add Close

There are, in general, two methodologies that can be used to draft fiber network: design and as-built. Select the starting point for your cable before you begin. If spatialNET isn't sure where the fiber cable starts or ends, it will place extra splice cases.

If multiple splicing locations are present at the site that users have selected, spatialNET will prompt for the splicing location to use for starting or ending the connection.

**Select a splice**

Hub Facility:

- OSP splices
  - Splice:
  - Splice: TRN.Hub.0001

Select Cancel

**Notes:**



Fiber Cable Creation

Operational Mode:  
Placement

Autoselect newly created entity  
 Close add panel after line capture

Cable Type: 012F ALCATEL OSP

General | **Length** | Service Info | Custom Attributes

Cable Design Length: 0.0  
Cable Sag Factor: 1.0  
Add Slack Length: 0.0

Design Length Control:  
 Estimate From Strand  
 Estimate From Model  
 Manual Override

Sheath Reading at Start: 0  
Sheath Reading at End: 0  
Cable Length: 0

Add Close

Click to unselect Close add panel after line capture

There are different options for updating fiber cable length in spatialNET. In the Fiber Cable Creation window, users can update length information based on design length and adjust with sag and slack lengths. In addition, users can update the tick marks from the sheath readings.

### Areas of Discussion:

- Manual versus Auto Tap
- Cable Name
- Number of Fibers
- Service Info
- Custom Attributes
- Line Capture Controls

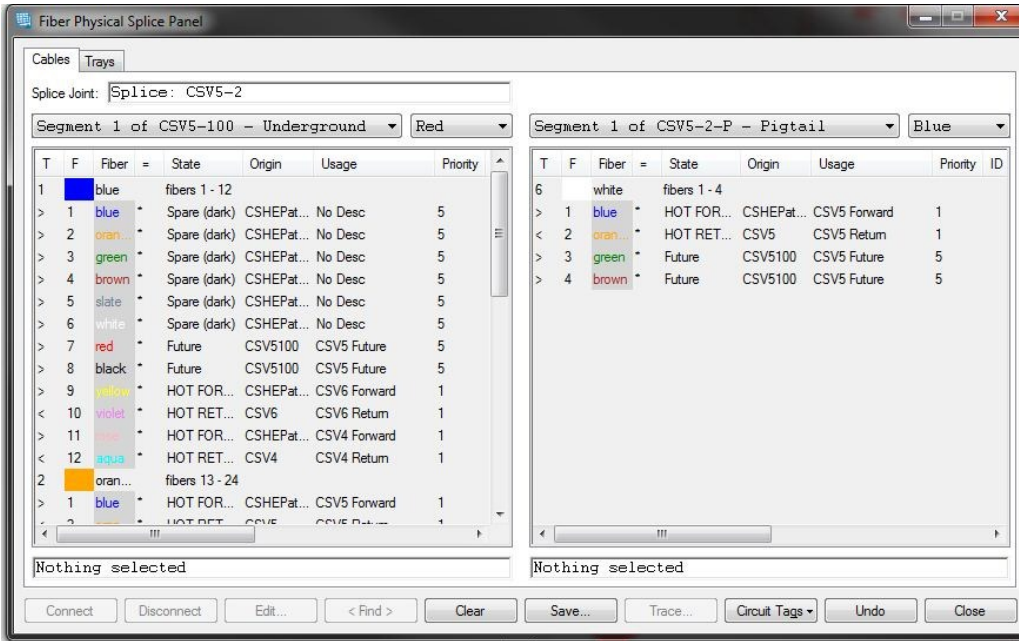
### Notes:

# SPLICING

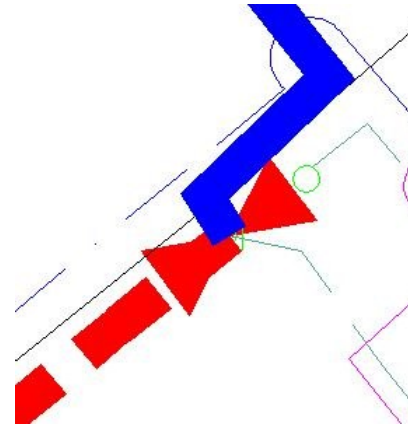


## NOTES

When connecting multiple fibers together, spatialNET allows for the glass layer to be spliced together. Users can



control what cables or entities are being spliced based on the pull-down menus at the top of the window and spatialNET will display highlights to assist with splicing.



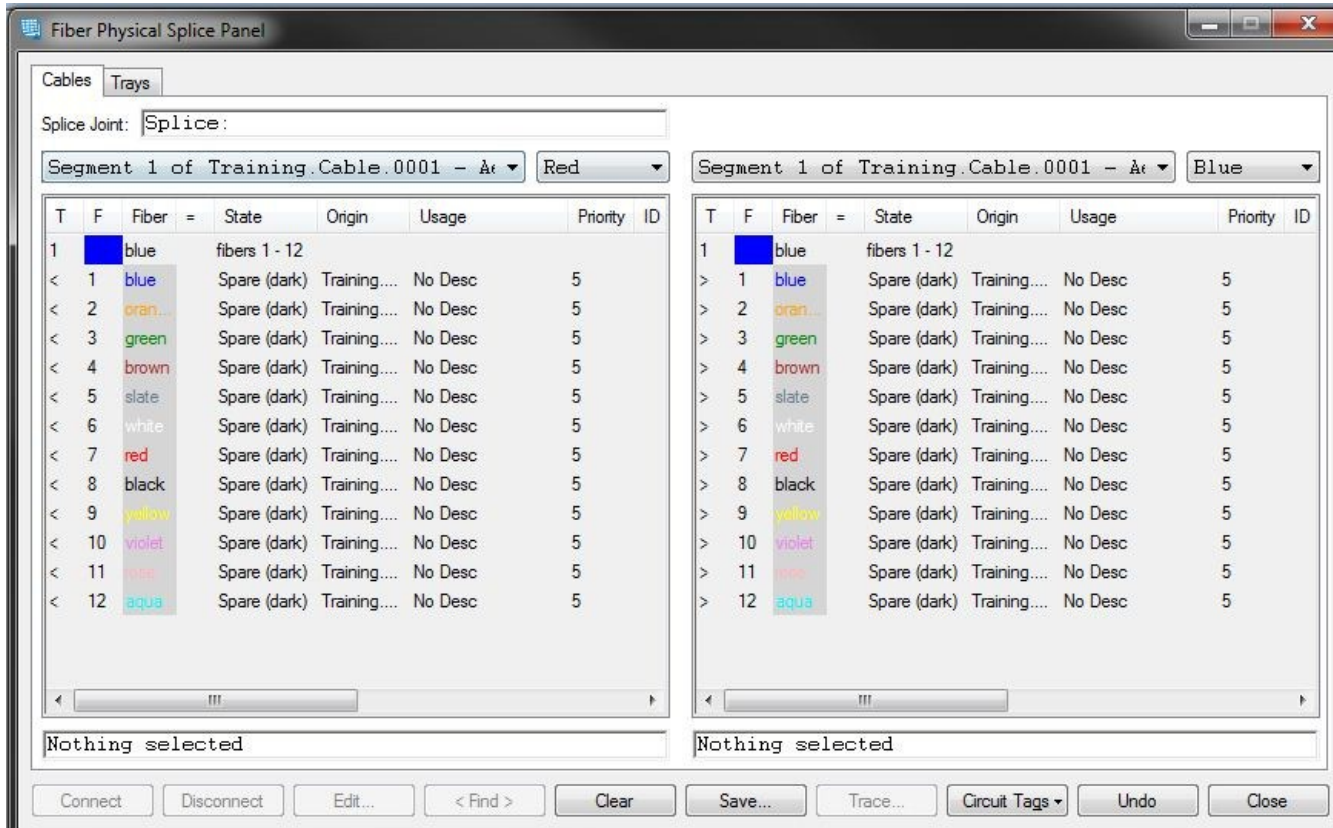
- T** Buffer tube notification for the user.
- F** The actual fiber that can be spliced.
- Fiber** Fiber color notification for the user based on the color schema the cable is using.
- \*** When \* is present, the fiber is spliced.
- State** What is the state of the fiber. Typically controlled by the usage.
- Origin** Origin entity for the cable based on the directionality. This is subject usage and state code.
- Usage** Preset use code for the fiber. Depending on the dictionary, this code can override state and directionality of the fiber cable.
- Priority** Allows users to set repair or usage priority over the specific fiber. When splicing, if a fiber is spliced to another fiber, the one with a higher priority can reset the usage information.

## MULTIPLE SPLICING LOCATIONS



## NOTES

When the entities and/or cables are in a different splicing location, the Fiber Physical Splice Panel will not display as expected. Based on this example, the user would be trying to splice upon the same cable.



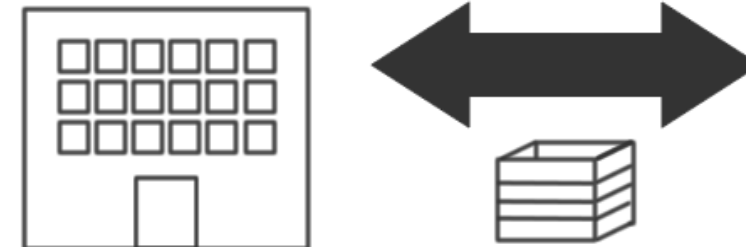
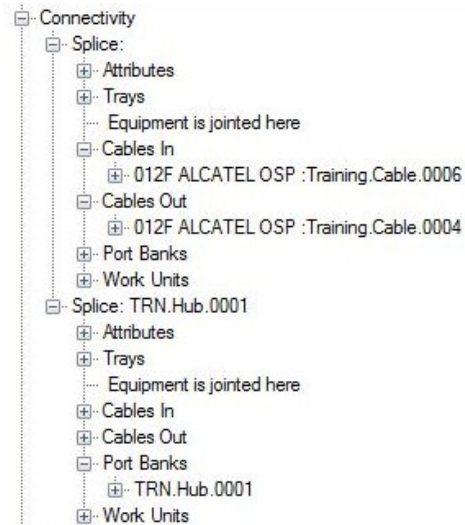
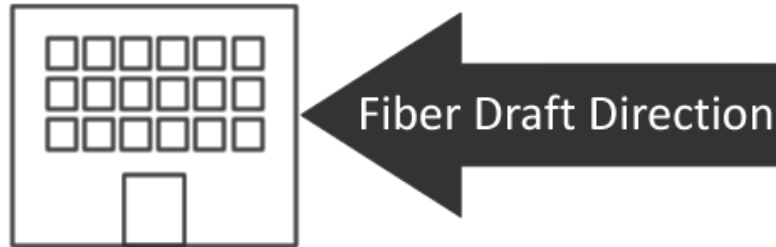
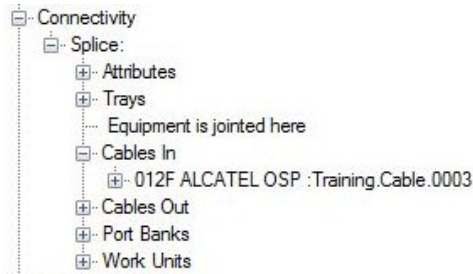
Notes:

# MULTIPLE SPLICING LOCATIONS



## NOTES

Depending on the drafting situation, fiber connections at site will automatically make a splicing location if no termination panels are present. The specific splicing location that spatialNET will add the connection to will be determined based on the drafting direction.

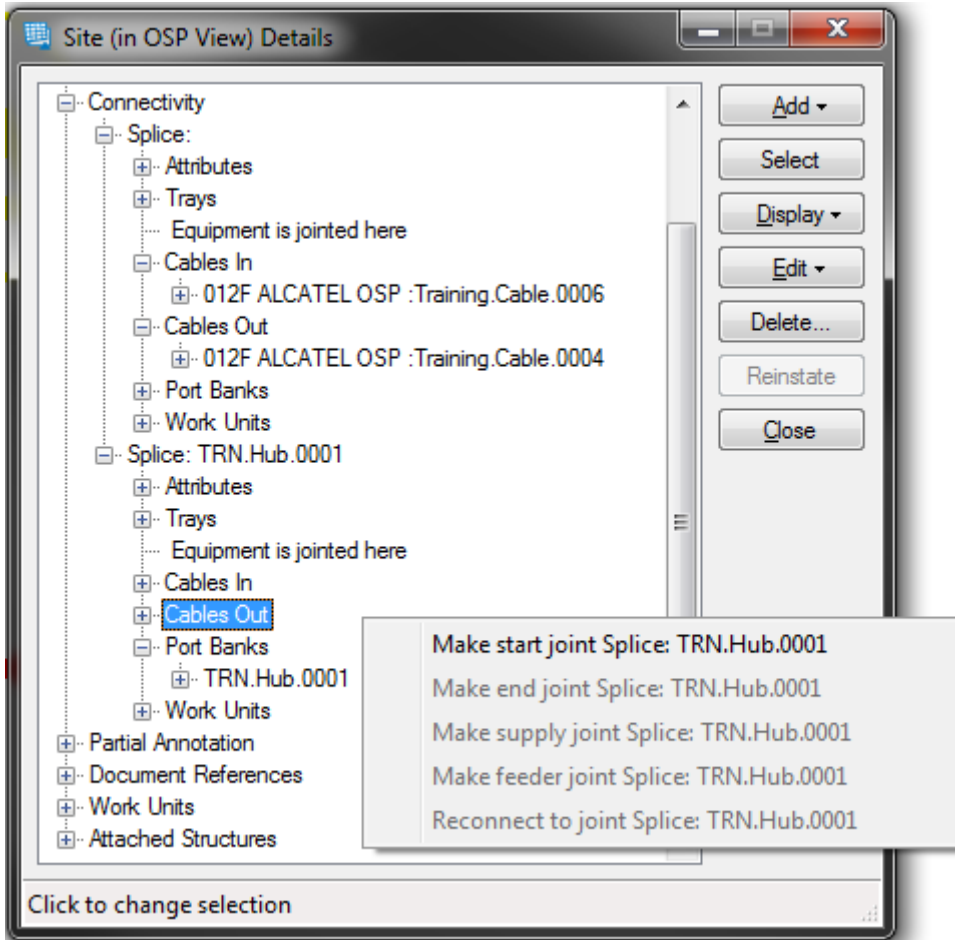


## MULTIPLE SPLICING LOCATIONS



## NOTES

With multiple splicing locations present, entities located at different splicing locations cannot be spliced together. Users will have to reconcile which location and entities to splice. The process to resolve these types of situations is fairly straightforward can be used to control entities that users would like to have them separated.



### Areas of Discussion:

- Process
- Different Joint Splice Locations

### Notes

## FIBER COUPLERS



## NOTES

Fiber couplers act as fiber splitters allowing users to model different connection points across the fiber network. Accessing fiber couplers are from the spatialNET Fiber menu as there is not a default icon to add fiber couplers on the map. Just as with other entities in spatialNET, couplers will have pre-defined ports to use within the model. In the

case of the 3-Way Optical Splitter displayed on this page, the splitter has one in port and three out ports allowing for the connection to be split into three. This can be controlled based on attenuation and for types of carrier/channels.

Fiber Coupler Creation

Operational Mode:  
Placement

Autoselect newly created entity

Equipment Type: 3 Way Optical Splitter

Construction Status (for containing Site): (none)

Symbol Scale (for containing Site):

Number of Ports: 4

Designation: TRN . Hub . 0002

Check for duplicates  Auto increment

Plant Owner: <no owner>

Installation Date: 07 Nov 11 Account Code:

Miscellaneous Text:

Add Close

### Areas of Discussion:

- Equipment Type
- Ports

### Notes:

## WAVELENGTH DIVISION MULTIPLEXING



## NOTES

Couplers can be defined to act as multiplexers and de-multiplexers to support Wavelength Division Multiplexing (WDM). The Port Mapping for the coupler can control the different carriers and channels that can be associated to a specific port. Directionality of that signal can also be controlled from these definitions. Depending on the situation, broad, coarse and dense WDM can be modeled in spatialNET. The number of ports and wavelengths can be controlled for the ports.

Equipment Type	Map from ...	Map fro...	Map to Port Name	Map to channel	Direction	Coupli...	Estimated Loss at Wavelength 1310	Estimated Loss at Wavelength 144
CWDM 8 CH DMUX	COMMON	1471nm	1471	1471nm	Bi-directio...	1	0	0
CWDM 8 CH DMUX	COMMON	1491nm	1491	1491nm	Bi-directio...	1	0	0
CWDM 8 CH DMUX	COMMON	1511nm	1511	1511nm	Bi-directio...	1	0	0
CWDM 8 CH DMUX	COMMON	1531nm	1531	1531nm	Bi-directio...	1	0	0
CWDM 8 CH DMUX	COMMON	1551nm	1551	1551nm	Bi-directio...	1	0	0
CWDM 8 CH DMUX	COMMON	1571nm	1571	1571nm	Bi-directio...	1	0	0
CWDM 8 CH DMUX	COMMON	1591nm	1591	1591nm	Bi-directio...	1	0	0
CWDM 8 CH DMUX	COMMON	1611nm	1611	1611nm	Bi-directio...	1	0	0

### Areas of Discussion:

- Wavelength channels and carriers

### Notes:

## FIBER LIST



## NOTES

Once the fiber drafted, users can see fibers that are contained in the fiber sheath. There is a set of tools users will have access to different tools. These tools are helpful to spatialNET users and provide greater insight to the overall design. The list itself contains the same basic information from the Physical Splicing Tool.

T	F	Tube/Fiber	State	Origin	ID	Usage	Priority	Circuit Own
1	1	blue/blue	Spare (dark)	CSHEPat...		No Desc	5	No Owner
1	2	blue/orange	Spare (dark)	CSHEPat...		No Desc	5	No Owner
1	3	blue/green	Spare (dark)	CSHEPat...		No Desc	5	No Owner
1	4	blue/brown	Spare (dark)	CSHEPat...		No Desc	5	No Owner
1	5	blue/slate	Spare (dark)	CSHEPat...		No Desc	5	No Owner
1	6	blue/white	Spare (dark)	CSHEPat...		No Desc	5	No Owner
1	7	blue/red	Future	CSV5100	CSV5 Future	CSV5 Future	5	No Owner
1	8	blue/black	Future	CSV5100	CSV5 Future	CSV5 Future	5	No Owner
1	9	blue/yellow	HOT FOR...	CSHEPat...	CSV6 Forward	CSV6 Forward	1	No Owner
1	10	blue/violet	HOT RET...	CSV6	CSV6 Return	CSV6 Return	1	No Owner
1	11	blue/...	HOT FOR...	CSHEPat...	CSV4 Forward	CSV4 Forward	1	No Owner
1	12	blue/aqua	HOT RET...	CSV4	CSV4 Return	CSV4 Return	1	No Owner
2	1	orange/blue	HOT FOR...	CSHEPat...	CSV5 Forward	CSV5 Forward	1	No Owner
2	2	orange/or...	HOT RET...	CSV5	CSV5 Return	CSV5 Return	1	No Owner
2	3	orange/gr...	Spare (dark)	CSV5100	No Desc	No Desc	5	No Owner
2	4	orange/br...	Spare (dark)	CSV5100	No Desc	No Desc	5	No Owner
2	5	orange/slate	Spare (dark)	CSV5100	No Desc	No Desc	5	No Owner
2	6	orange/wh...	Spare (dark)	CSV5100	No Desc	No Desc	5	No Owner
2	7	orange/red	Spare (dark)	CSV5100	No Desc	No Desc	5	No Owner

### Areas of Discussion:

- Distance Tool
- Channels
- Trace
- Circuit Tags

### Notes:

## EDIT FIBER



## NOTES

When drafting the fiber network, users will want to document the usage of specific fiber strands that are in use. Users can modify the usage information through the Edit option location in several windows in the Network toolbar. Once open, the Fiber Modification window provides users different options to update the fiber.

**Fiber Modification**

Owing Cable Segment 1 of CSV5-100 - Underground

Fiber Sequence Number 15 Glass Type Unknown ?

Cable Owner COMCAST ?

Fiber Owner ILEC\_CUSTOMER ? Fiber Lease Agreement -nothing selected-

Usage Type Code Spare (dark) ? Connection Priority Priority 5 (lowest) ?

Usage Description No Desc

Circuit ID

Circuit Owner No Owner Circuit Lease Agreement -nothing selected-

Circuit Type Unknown Carrier Type -nothing selected-

Circuit Construction Status (none) ?

Master Circuit -nothing selected-

Apply Close

### Areas of Discussion:

- Glass Type
- Fiber Owner
- Usage Type Code
- Connection Priority
- Circuit ID
- Circuit Type
- Carrier Type
- Circuit Construction Status

### Notes:

# MASTER CIRCUITS



## NOTES

Master circuits provide a way to track multiple splice points for a specific fiber strand or collection of strands. This is very useful using WDM transmissions.

Master circuits can also be very helpful when a specific fiber needs to be found and traced.

When creating a master circuit, select Create and Propagate... so other fibers can be associated to the master circuit.

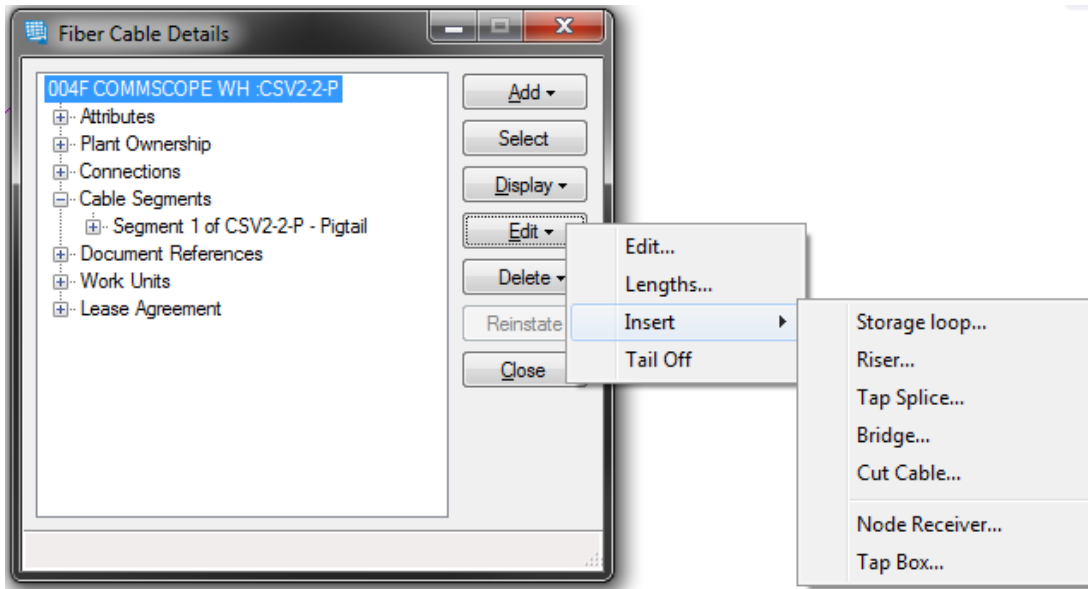
### Areas of Discussion:

- Master Circuit Name
- Master Circuit Code
- Master Circuit Type
- Master Circuit Owner
- Line Capture Controls

# CUTTING FIBER

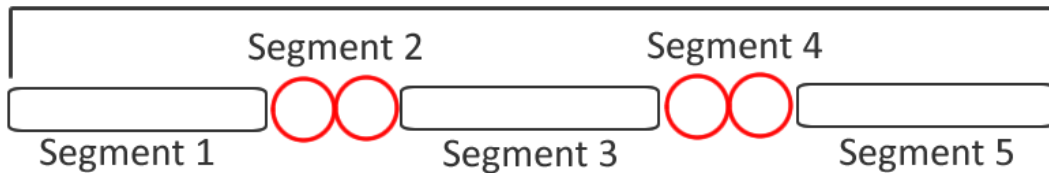


## NOTES



Cutting fiber occurs in the real-world constantly with different network changes. When these occur, spatialNET supports these changes. Through the Details of the selected fiber segment, users can add different fiber network elements to the segment. These inserts are part of the same fiber cable, but will have different segments. The number of segments will depend on the number of elements that are inserted into the cable. These segments have different lengths associated to them.

Fiber Cable



**Notes:**

## CUTTING FIBER



## NOTES

Once the different elements have been added to the cable, users can change the lengths of the segments. The Cable Lengths Editor can accommodate users who want to change the length of the whole cable or different segments. In

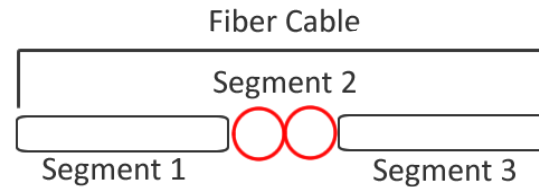
	Model Length	Strand Length	Design Length	Start Reading	End Reading	As-Built Length
002F CORNING :CSV3-1-P	89.27	0.00	0.00	2078.00	2010.00	68.00
Segment 1 of CSV3-1-P - Pigtail	61.28	0.00	0.00	0.00	0.00	46.68
Segment 2 of CSV3-1-P - Storage Loop	0.00	0.00	0.00	0.00	0.00	0.00
Segment 3 of CSV3-1-P - Pigtail	27.99	0.00	0.00	0.00	0.00	21.32

Details for 002F CORNING :CSV3-1-P

Model Length	Strand Length	Design Length	Start Reading	End Reading	As-Built Length
89.27	0.0	0.0	2078.0	2010.0	68.0

Next Options Recalc Apply Cancel

the case of this cable, there are three segments associated to CSV3-1-P.



When updating the length of one segment, spatialNET can change the length of the whole cable based on as-built readings. It is important for users to confirm the lengths when editing the segments and the cable.

### Areas of Discussion:

- Model, Strand, Design, As-Built Lengths
- Length Options
- Calculation of the Cable Length

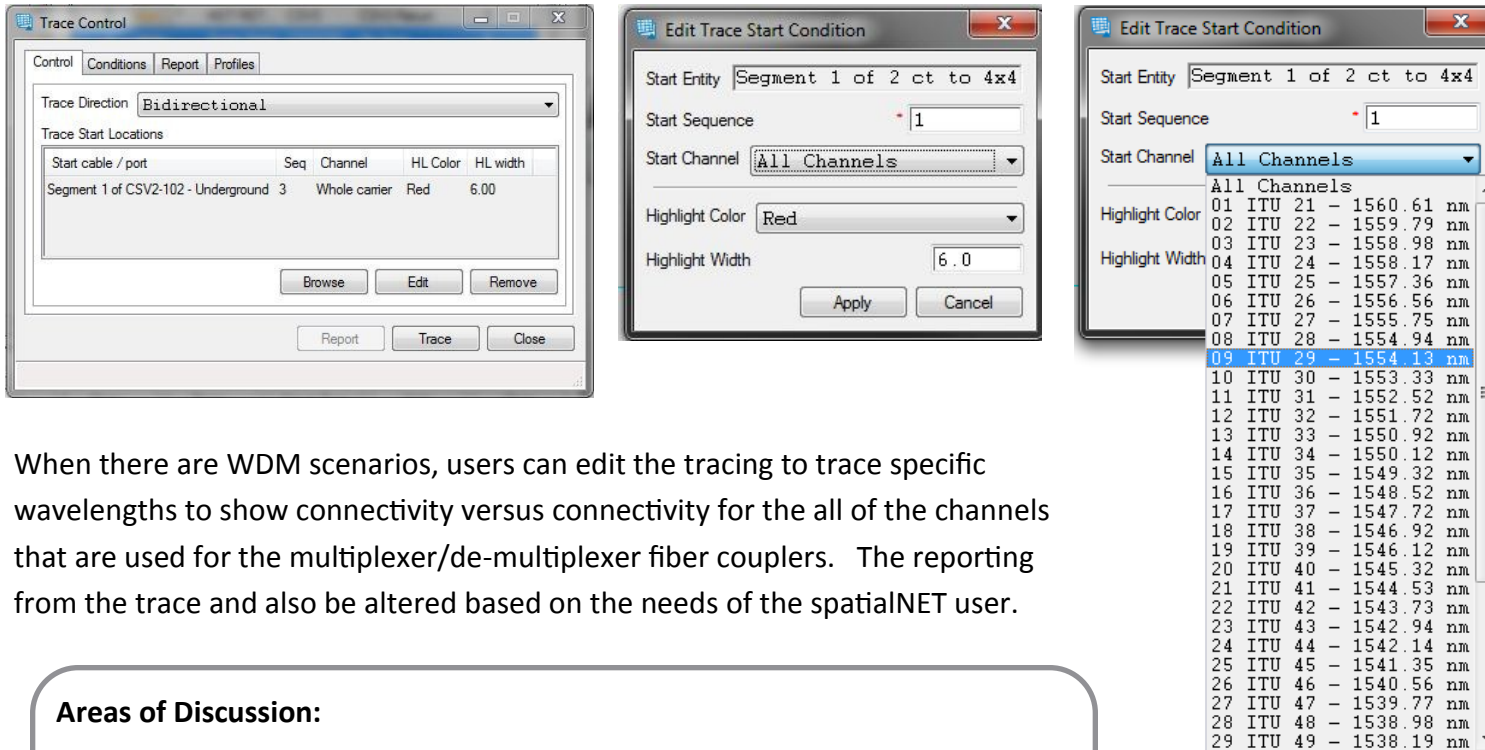
### Notes:



As with the different fiber tools, the different fiber reports are helpful in gaining insight to the overall design of the fiber network. There are several reports and others that users can individually customize for their needs. The different reports (based on the version of spatialNET being used) are:

## Tracing

The tracing tool provides users the ability to locate, display and report on the connective paths through the fiber network. The trace tool can display connections for both physical and logical network.



When there are WDM scenarios, users can edit the tracing to trace specific wavelengths to show connectivity versus connectivity for the all of the channels that are used for the multiplexer/de-multiplexer fiber couplers. The reporting from the trace and also be altered based on the needs of the spatialNET user.

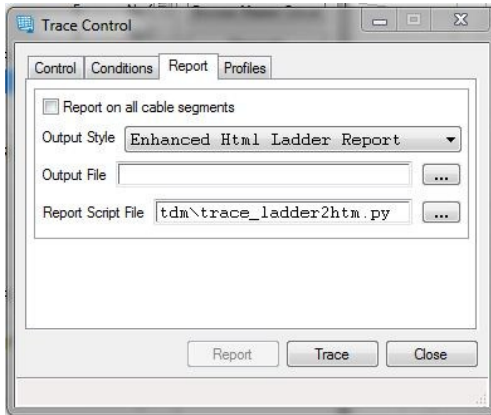
### Areas of Discussion:

- Highlight Map View Only
- Summary Report
- OSP View from Trace
- Splice View
- Ports Traced
- Custom Reports
- Google Earth Export
- Loss Report



**Ladder Report**

Ladder Reports (especially enhanced ladder reports) provide users each connection point for the fiber with specific channel, as-built length and distance and design length and distance. In addition, address information and other information about the entities that the fiber connects through is listed.



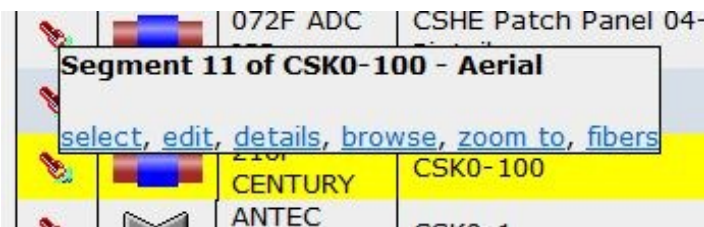
A End / Z End Splice Details		
Attribute	A end	Z end
Name	CSJ6-2	CSJ6-2
Enclosure Type	Storage Loop	Storage Loop
Address		
City		
CBU		
Card Type		
Port Type		

Trace Details															
View	Symbol	Type	Name	Address	Location	Section F	Tray	Ribbon	Seq	Channel	Fiber Owner	ASB Len	ASB Running	Design Len	Design Running
		Port Up	Branch -20												
		Port Up	Branch -2												
			IN1	N Union Blvd					1	Whole carrier			6930.0		652.0
			OUT1B	N Union Blvd					102	Whole carrier			6930.0		652.0
		NUP01	R05.03 TX18 Slot 11B	N Union Blvd		01.05.03.84.11B									
		100073: CABLE / ISP JUMPER CABLE YELLOW	BGNC1-R	N Union Blvd		01.05.03.84.11B.OUT1B -> 01.01.01.H5.01.IN4			1	Whole carrier		5.0	6935.0	5.0	657.0
		NUP01	R01.01 Patch Panel 04	N Union Blvd		01.01.01.H5.01									
			IN4	N Union Blvd					4	Whole carrier			6935.0		657.0
		NUP01	R01.01 Patch Panel 04	N Union Blvd		01.01.01.H5.01									
		72F CONN PANEL	CSHE-Patch Panel 04						4	Whole carrier			6935.0		657.0
		NUP01	Rack 01.01	N Union Blvd		01.01.01				Unlocated					
		072F ADC ISP	CSHE Patch Panel 04-Pigtail		6x12				1.4	4	Whole carrier	100.0	7035.0	0.0	657.0
		NUP01	FEC 01	N Union Blvd		01.00.01			19:04						
		216F CENTURY ANTEC 8248	CSK0-100		18x12				1.4	4	Whole carrier	2720.0	9755.0	350.0	1007.0
			CSK0-1							Unlocated					

Once the report generates, the selected fiber will be highlighted. The report will also show connected ISP entities.

		072F ADC ISP	CSHE Patch Panel 04-Pigtail		6x12				1.4	4	Whole carrier	100.0	7035.0	0.0	657.0
		NUP01	FEC 01	N Union Blvd		01.00.01			19:04						
		216F CENTURY ANTEC 8248	CSK0-100		18x12				1.4	4	Whole carrier	2720.0	9755.0	350.0	1007.0
			CSK0-1							Unlocated					



With this spatialNET report, users can choose to select, edit, display details, browse and zoom to the specific entity by clicking on the flashlight next to the entity on the report.



## A to Z List

The default directionality for spatialNET is always determined by the direction of the drafting of the specific entity. For fiber cables, the next condition that impacts directionality is usage and state codes. Depending on the dictionary definition, directionality can be controlled by the state code. Using the Switch End function on the right side of the window, spatialNET users can directly change the directionality of the selected fiber. In addition, users will be able to

State	A Name	A Address	A Loc	T	F	Tube/Fiber	Z Name	Z Address
HOT...	NUP01:01.0...	N Union B...	1	1	1	blue/blue	CSV3: Node ...	
HOT...	CSV3: Node ...		1	2	2	blue/orange	NUP01:01.0... N Union B...	
Spar...	CSV2-1: Coy...		1	3	3	blue/green	CSV3-1: Coy...	
Spar...	CSV3-1: Coy...		1	4	4	blue/brown	CSV2-1: Coy...	
Spar...	CSV2-1: Coy...		1	5	5	blue/slate	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		1	6	6	blue/white	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		1	7	7	blue/red	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		1	8	8	blue/black	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		1	9	9	blue/yellow	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		1	10	10	blue/violet	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		1	11	11	blue/pink	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		1	12	12	blue/aqua	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		2	1	1	orange/blue	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		2	2	2	orange/or...	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		2	3	3	orange/gr...	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		2	4	4	orange/br...	CSV3-1: Coy...	
Spar...	CSV2-1: Coy...		2	5	5	orange/slate	CSV3-1: Coy...	

display the details of the entities that are at either end of the fiber. Also, users have access to other tools directly from this list.

### Areas of Discussion:

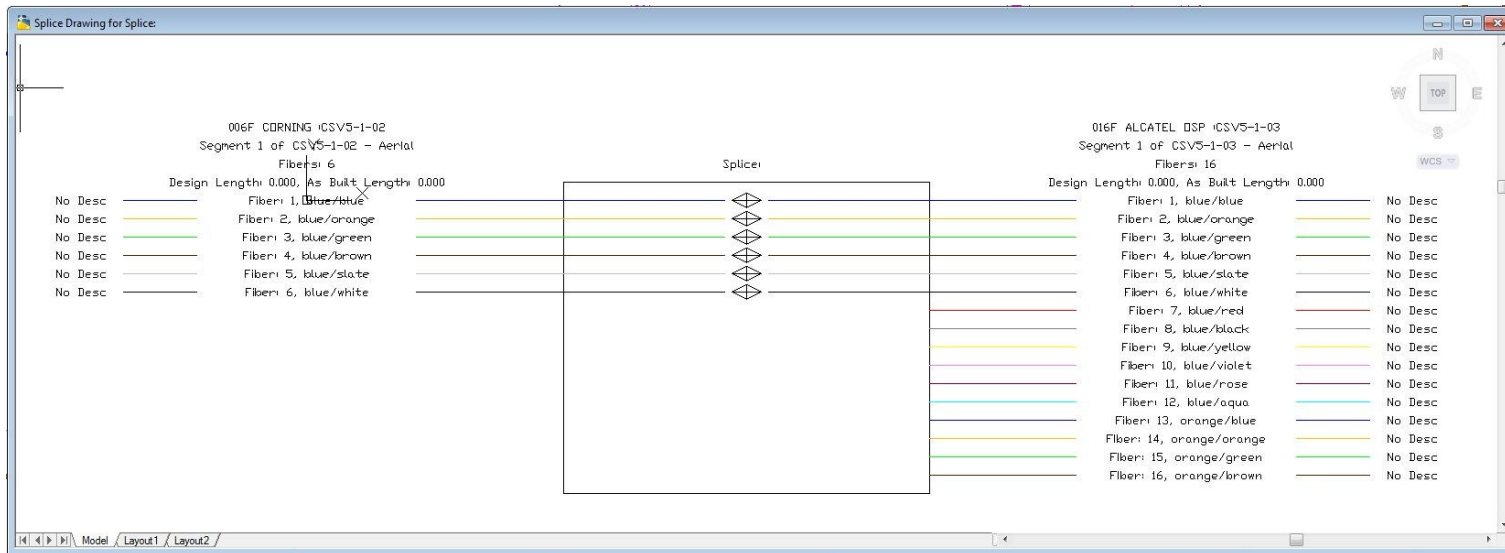
- Channels
- Browse Master Circuit
- Edit Master Circuits

### Notes:



## Splice View/Splice Drawing

spatialNET can also provide an view of the splicing in an unique format without using simple table layout. When users click on the Splice View icon, spatialNET will render a splicing schematic in AutoCAD to provide the user a high level view of how the fibers are spliced across multiple splicing locations.



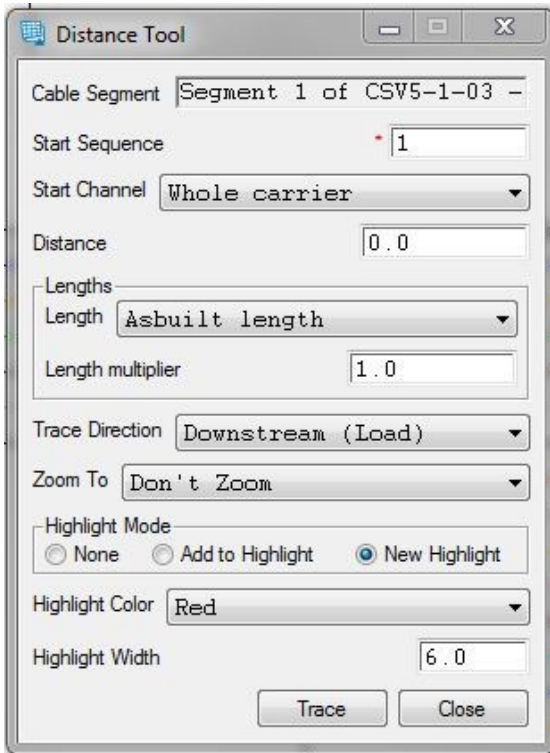
If splicing trays are used in the network design, splice trays display in the Splice Drawing. If users select a fiber in the splice drawing, tracing can be performed directly from this view. If multiple map views are open, the trace highlight will display on those views as well.

### Notes:



**Distance Tool**

Managing the network can be a challenging task. The Distance Tool is helpful when specific distances need to be measured on the map view of the network especially in outage scenarios. The distance information is controlled by the Lengths option in the Distance Tool. Users can select as-built, design and model lengths. There are other options that are controlled and customizable for the user depending on the situation.



**Areas of Discussion:**

- Start Sequence
- Start Channel
- Distance
- Length
- Length Multiplier
- Trace Direction
- Zoom To

**Notes:**



Master Circuit Touched By Job

Master circuits changed

**Master Circuit 1560.61 : NODE FWD**  
 Circuit state(s) attached to master circuit were modified in this job  
 Master circuit was created in this job

Master Circuit	Name	Account Code	Code	Type	Owner
Master Circuit 1560.61 : NODE FWD	1560.61		1560.61	NODE FWD	

**Master Circuit 1559.79 : NODE FWD**  
 Circuit state(s) attached to master circuit were modified in this job  
 Master circuit was created in this job

Master Circuit	Name	Account Code	Code	Type	Owner
Master Circuit 1559.79 : NODE FWD	1559.79		1559.79	NODE FWD	

**Master Circuit 1558.98 : Return Feed from Node**  
 Circuit state(s) attached to master circuit were modified in this job  
 Master circuit was created in this job

Master Circuit	Name	Account Code	Code	Type	Owner
Master Circuit 1558.98 : Return Feed from Node	1558.98		1558.98	Return Feed from Node	

**Master Circuit 1558.17 : Return Feed from Node**  
 Circuit state(s) attached to master circuit were modified in this job  
 Master circuit was created in this job

Master Circuit	Name	Account Code	Code	Type	Owner
Master Circuit 1558.17 : Return Feed from Node	1558.17		1558.17	Return Feed from Node	

Save A Copy... Print... Close

When modifying different fibers, it might difficult to know exactly which fibers belong to master circuits and their impact can be wide sweeping based on the numbers of fibers involved. When modified, pessimistic locking prevents other users from modifying those fibers and the master circuit itself.

Circuit state(s) attached to master circuit we  
 Master circuit was created in this job

**Master Circuit 1560.61 : NODE FWD**

[select](#), [edit](#), [details](#), [browse](#), [zoom to](#)

Master Circuit 1560.61 : NODE FWD 156

With this spatialNET report, users can choose to select, edit, display details, browse and zoom to the specific entity.

Notes:

**LEARNING MOMENTS**

What are your top three learning moments from this discussion? Why?

[Empty rounded rectangular box for learning moment 1]

Why?

[Empty rounded rectangular box for learning moment 2]

Why?

[Empty rounded rectangular box for learning moment 3]

Why?

Which topics in this training do you think will be the most challenging to apply?

\_\_\_\_\_  
\_\_\_\_\_

What will you do differently as a result of this training?

\_\_\_\_\_  
\_\_\_\_\_