



The Official Source for Municipal Disclosures and Market Data

# **EMMA Dataport Manual and Specifications for 529 College Savings Plan Data (Form G-45) Submissions**

Version 1.3, August 2015

## Revision History

<b>Version</b>	<b>Date</b>	<b>Description of Changes</b>
1.0	February 2015	Initial Version of Form G-45 Manual and Specifications.
1.1	June 2015	Updated manual to reflect the addition of preview feature.
1.2	July 2015	Updated manual to reflect ability to save data for multiple plans.
1.3	August 2015	Updated the Resources and Support section to reflect the change in hours of operation for Email Support.

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## Resources and Support

MSRB Website: [www.msrb.org](http://www.msrb.org)

EMMA Website: [emma.msrb.org](http://emma.msrb.org)

For assistance, contact MSRB Support at 703-797-6668 or [MSRBsupport@msrb.org](mailto:MSRBsupport@msrb.org).

Live Support: 7:30 a.m. - 6:30 p.m. ET

Email Support: 7:00 a.m. – 7:00 p.m. ET

Municipal Securities Rulemaking Board

1900 Duke Street, Suite 600

Alexandria, VA 22314

Tel: 703-797-6600

Fax: 703-797-6700

## Introduction

The MSRB protects investors, state and local governments and other municipal entities, and the public interest by promoting a fair and efficient municipal securities market. The MSRB fulfills this mission by regulating brokers, dealers, municipal securities dealers (dealers) and municipal advisors that engage in municipal securities and advisory activities. To further protect market participants, the MSRB provides market transparency through its [Electronic Municipal Market Access \(EMMA®\) website](#), the official repository for information on virtually all municipal bonds. The MSRB also serves as an objective resource on the municipal market, conducts extensive education and outreach to market stakeholders, and provides market leadership on key issues. The MSRB is a self-regulatory organization established by Congress and governed by a 21-member board of directors. The MSRB is subject to oversight by the Securities and Exchange Commission.

The EMMA 529 College Savings Plans Data Submission Service receives submissions of Form G-45 from brokers, dealers acting in the capacity of an underwriter for 529 plans pursuant to [MSRB Rule G-45](#).

MSRB Rule G-45 requires dealers, when acting in the capacity of an underwriter for a 529 plan, to submit information on a semi-annual or, in the case of performance data, annual basis, to the MSRB. The required information includes plan descriptive information, assets, asset allocation information for the assets of each investment option, contributions, withdrawals, fee and cost structure, performance data, and other information related to the 529 plan. Rule G-45 requires the information to be submitted electronically through Form G-45 to the MSRB's Electronic Municipal Market Access (EMMA®) system. The information will not, at this time, be disseminated publicly.

Underwriters are required to submit the Form G-45 information to EMMA no later than 60 days following the end of each semi-annual reporting period ending on June 30 and December 31; provided, however, that performance data shall be reported annually by no later than 60 days following the end of the reporting period ending on December 31. The Form G-45 Manual and Specifications for 529 College Savings Plan Data Submissions provide instructions and specifications for submitting Form G-45 to the EMMA system. This manual has two parts.

- **Part One** provides instructions for submitting Form G-45 via the EMMA Dataport web user interface.
- **Part Two** provides instructions, figures and specifications for submitting Form G-

45 via an automated computer-to-computer (B2B) interface.

Form G-45, a collection of data elements provided in electronic format pursuant to Rule G-45, is in the appendix to this manual. The appendix also includes descriptions of the data elements required by Form G-45.

## **PART 1: Submitting Form G-45 via EMMA Dataport**

### **Access to EMMA Dataport**

The EMMA Dataport web interface is the utility through which submissions of documents and other information are made to the EMMA system.

A Gateway account is required to make submissions to EMMA. MSRB Gateway serves as a secure access point for all MSRB systems. Dealers and municipal advisors are required to register with the MSRB via the online registration process in Gateway before an MSRB Gateway account is created. See the [MSRB Registration Manual](#) for guidance on how to register with the MSRB and establish an MSRB Gateway account.

Submissions of Form G-45 by underwriters under MSRB Rule G-45, and their designated agents, can only be made by users who have **EMMA Form G-45 Submissions** access right assigned to them by their organization's Master Account Administrator. See the [MSRB Gateway User Manual for Dealers and Municipal Advisors](#) for guidance on how to create and manage a user account.

Logging in to EMMA Dataport to make a Form G-45 submission can be done from the EMMA homepage at [emma.msrb.org](http://emma.msrb.org) or the MSRB website homepage at [msrb.org](http://msrb.org).

 The Beta (test) version of EMMA Dataport for making test Form G-45 submissions is available at [emmabeta.msrb.org](http://emmabeta.msrb.org).

### **Log in from the EMMA Homepage**

From the EMMA homepage at [emma.msrb.org](http://emma.msrb.org), click the EMMA Dataport link at the top of the page.

Welcome, fzerai@msrb.org MyEMMA **EMMA Dataport** Contact Us

Quick Search  
Enter CUSIP or Name

ADVANCED SEARCH BROWSE ISSUERS FIND 529 PLANS MARKET ACTIVITY EMMA HELP

Are you new to EMMA?  
Find prices, disclosures and other information of municipal bonds.  
**Browse municipal securities information by issuer.**  
Explore municipal market trends and data.  
Learn how the MSRB protects municipal market participants.

**Browse Issuers by State**  
Access an interactive map to browse a searchable list of state, city, country and other issuing authorities

**MSRB Education Center**  
Access resources for municipal market investors and state and local governments.

**What's New on EMMA**  
Price Discovery Tool  
Find and compare trade prices of municipal bonds with similar characteristics.  
EMMA 101 Video  
Watch the EMMA 101 video and learn how EMMA can help investors.

**MOST ACTIVELY TRADED MUNICIPAL SECURITIES**  
For 1/14/2015 as of 1:41 PM

Security Description	Maturity Date	Interest Rate (%)	High/Low Price (%)	High/Low Yield (%)	Trade Count	Total Trade Amount (\$)
NEW JERSEY TRANSPORTATION TRUST FUND AUTHORITY / TRANSPORTATION PROGRAM BONDS 2014 SERIES AA	06/15/2044	4.25	104.635 / 101.879	4.007 / 3.66	59	2,640,000
STATE OF NEW JERSEY / GENERAL OBLIGATION BONDS (VARIOUS PURPOSES)	06/01/2030	3.25	102.21 / 99.3	3.308 / 3.0	55	11,520,000
THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY / CONSOLIDATED BONDS, ONE HUNDRED SEVENTY-SEVENTH SERIES	07/15/2035	3.5	100.75 / 98.2	3.625 / 3.392	41	1,065,000
REGENTS OF THE UNIVERSITY OF MINNESOTA / GENERAL OBLIGATION BONDS, SERIES 2014B	01/01/2044	4	110.0 / 107.145	3.08 / 2.728	36	8,040,000

Then click the **Login to MSRB Gateway** button.

EMMA Dataport | Contact Us

ADVANCED SEARCH BROWSE ISSUERS FIND 529 PLANS MARKET ACTIVITY EMMA HELP

for assistance call: 703-797-6668

**EMMA Dataport**

- Overview
- Submissions by Dealers
- Submissions by Issuers
- Submissions by Obligated Persons
- MSRB Subscription Services
- MSRB System Status

**Municipal Securities Document Submission**

Municipal securities dealers, issuers, obligated persons and their designated agents provide the Municipal Securities Rulemaking Board (MSRB) with electronic documents to be posted on EMMA. EMMA Dataport is the utility through which submissions of documents and related information are made to MSRB Market Transparency Programs. For information about how to make specific submissions, please click on the applicable link below.

- Submissions by Dealers
- Submissions by Issuers
- Submissions by Obligated Persons

**Access EMMA Dataport to Submit Documents**

**Login to MSRB Gateway**  
Don't have an account? Register

Access Online Training about Submitting to EMMA  
MSRB Gateway Manual

**EMMA Tools for State and Local Governments**

- Schedule Email Reminders for Recurring Financial Disclosures
- EMMA Trade Monitor
- Getting to Know EMMA
- MSRB Education Center



## Log in from the MSRB Homepage

From the MSRB homepage at [www.msrb.org](http://www.msrb.org), click **Login**.

The screenshot shows the MSRB homepage with the following elements:

- Header: MSRB 10 logo, "Protecting the Public Interest for 40 Years", navigation links (ABOUT MSRB, EMMA®, CAREERS, EMAIL UPDATES, FILE A COMPLAINT, LOGIN), and an Advanced Search bar.
- Navigation Menu: MSRB EDUCATION CENTER, RULES, DISCLOSURES AND DATA, MARKET LEADERSHIP, NEWS, EVENTS AND TRAINING, RESOURCES FOR...
- Main Content Area:
  - Left sidebar: "Learn About the Municipal Market" video player.
  - Center: "MISSION" banner with "PROTECT PUBLIC INTEREST" and "MISSION OF THE BOARD IS TO PROMOTE INTEGRITY, FAIRNESS, AND TRANSPARENCY IN THE MUNICIPAL SECURITIES MARKET."
  - Right sidebar: "EMMA" logo and "Login to MSRB systems" button (highlighted in a red box), "Don't have an account? Register here", "MSRB Board Application" section, and "MSRB Glossary" section.
- Resources for: Investors, State and Local Governments, Municipal Securities Dealers, Municipal Advisors.
- What's New: MSRB Publishes Annual Report and Audited Financial Statements (Thursday, January 8, 2015), MSRB to Begin Accepting Municipal Asset-backed Securities Disclosures on the EMMA Website (Tuesday, January 6, 2015), MSRB Board of Directors Seeks Applicants (Monday, January 5, 2015), MSRB Adopts Best-Execution Rule to Enhance Fairness and Efficiency in the Municipal Securities Market (Monday, December 8, 2014), MSRB Chair Receives Public Finance Award (Friday, December 5, 2014).

## Log into MSRB Gateway

From the MSRB Gateway landing page, enter your User ID and Password, and click **Login**.

The screenshot shows the MSRB Gateway login page with the following elements:

- Header: MSRB Municipal Securities Rulemaking Board logo, "MSRB Home", and "Contact and Support" link.
- Main Content Area:
  - Left sidebar: "Log into MSRB Gateway" section with a lock icon, "User ID" field (containing "Jdoe"), "Password" field (masked with dots), "Forgot password?" link, a red arrow pointing to the "Login" button, "Don't have an account? Register", and "MSRB Gateway Manual" link.
  - Right sidebar: Welcome message, "To return to MSRB.org from within the MSRB Gateway application, click on the MSRB Home link at the top right corner of the page.", "If you are experiencing log-in or other system related problems, please check the MSRB Systems Status Page for more information. If you need additional help, please contact the MSRB via email at [GatewaySupport@msrb.org](mailto:GatewaySupport@msrb.org) or by phone at (703) 797-6668.", "Access Online Training about Submitting to EMMA" link, and "The MSRB recommends not bookmarking this page."



From the MSRB Gateway Main Menu, expand the **Market Transparency Systems** option and click EMMA Dataport.

MSRB Gateway Main Menu


Welcome to MSRB Gateway! Your User Account has the following Access Rights:

(Click on a section to expand)

- [+] **Account and Organization Management**  
Manage profile information for your User Account or for your organization.
- [-] **Agent Relationship Management**  
Invite and approve agent invitations to/from organizations.
  - > **Manage Agent Relationships**  
Manage your organization's relationships with other organizations.
- [+] **Registrant Information Forms**  
Submit forms to provide information about your organization.
- [-] **Market Transparency Systems**  
Access MSRB systems to submit documents and data related to municipal market activity and political contributions.
  - > **Dealer System Outage Reporting**
  - > **EMMA Dataport**  
Submit documents and information to EMMA.

**My Profile** [Edit](#)

User ID: JDOE5  
 Role: Master Account Administrator  
 User Name: JOHN DOE  
 Organization Name: Dealer XYZ  
 MSRB ID: A7243  
 Email Address: jdoe@dealerxyz.com  
[Change Password](#)

 If the **EMMA Dataport** link does not appear, expand the **Account and Organization Management** option, click on **View Account Administrators** and contact one of the listed individuals to request access to EMMA Dataport.

The **EMMA Dataport** link will direct you to the EMMA Dataport Submission Portal. The EMMA Dataport Submission Portal displays tabs that represent the submission types you can make to EMMA.

EMMA Dataport | MSRB Gateway | Contact | Logout

EMMA<sup>®</sup>  
Electronic Municipal Market Access  
A service of the MSRB

for assistance call: 703-797-6668

EMMA Dataport Submission Portal

MSRB GATEWAY

JOHN DOE, email: abyss@msrb.org

529 College Savings Plans (Rule G-45)

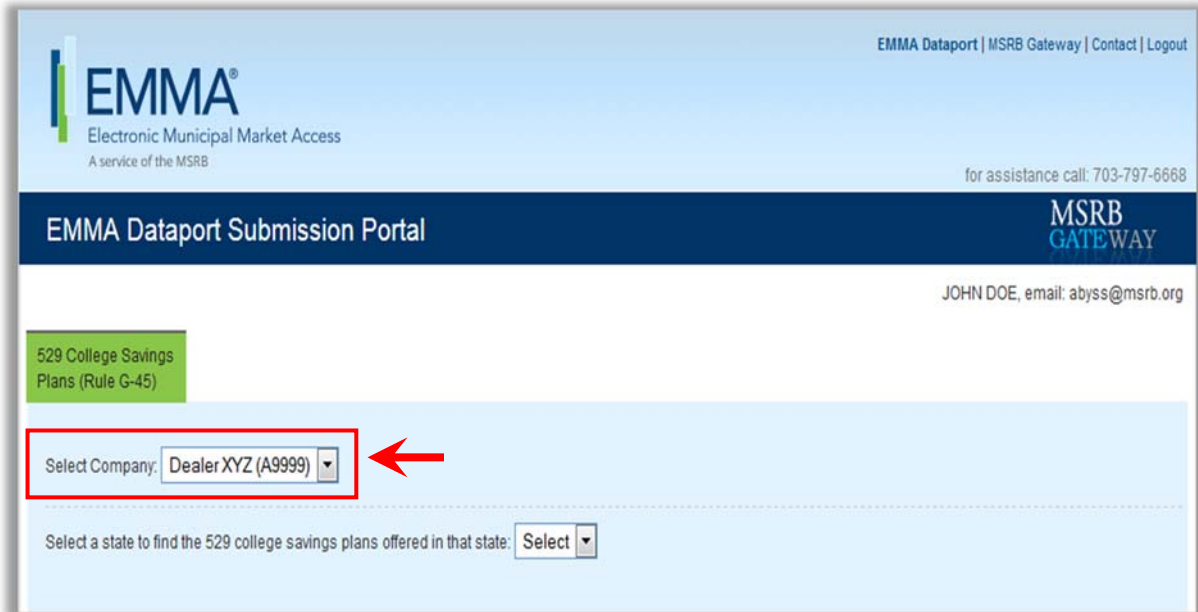
Select Company: Dealer XYZ (A9999) ▼

Select a state to find the 529 college savings plans offered in that state: Select ▼

## Create a New Form G-45 Submission


To create a new submission of Form G-45, click the **529 College Savings Plans** tab.

From the drop-down menu, select the organization for which you are making a submission.



The screenshot shows the EMMA Dataport Submission Portal interface. At the top left is the EMMA logo (Electronic Municipal Market Access, A service of the MSRB). At the top right are links for EMMA Dataport, MSRB Gateway, Contact, and Logout, along with a phone number for assistance: 703-797-6668. The main header is 'EMMA Dataport Submission Portal' with the MSRB GATEWAY logo. Below the header, the user is identified as JOHN DOE, email: abyss@msrb.org. A green tab labeled '529 College Savings Plans (Rule G-45)' is selected. A red box highlights the 'Select Company' dropdown menu, which is currently set to 'Dealer XYZ (A9999)'. A red arrow points to the dropdown arrow. Below it is a 'Select a state to find the 529 college savings plans offered in that state:' dropdown menu.

From the drop-down menu, select the state of the 529 college savings plan for which you are creating a new submission. A list of all available 529 plans for the selected state, with the MSRB-assigned plan ID, appears on the screen.

 If a state has not previously submitted a plan disclosure document to EMMA, a message will indicate that no plans were found. Refer to the [EMMA Dataport Manual for 529 College Savings Plan Disclosure Submissions Manual](#) for guidance on how to submit new 529 college savings plan and related disclosure documents to EMMA.

EMMA Dataport Submission Portal

MSRB GATEWAY

JOHN DOE, email: jdoe@dealeryz.org

529 College Savings Plans (Rule G-45)

Select Company: DEALER-ORG-01 (A9601)

Select a state to find the 529 college savings plans offered in that state: WV

Plan ID	Plan Name	Form G-45 Submissions
WV-9904	COLLEGE SAVINGS PLAN 4	<a href="#">Create New</a>
WV-9903	COLLEGE SAVINGS PLAN 3	<a href="#">Create New</a>
WV-9902	COLLEGE SAVINGS PLAN 2	<a href="#">Create New</a>
WV-9901	COLLEGE SAVINGS PLAN 1	<a href="#">Create New</a>

Click **Create New** next to the plan for which you are making Form G-45 submission.

EMMA Dataport Submission Portal

MSRB GATEWAY

JOHN DOE, email: jdoe@dealeryz.org


529 College Savings Plans (Rule G-45)


Select Company: DEALER-ORG-01 (A9601)

Select a state to find the 529 college savings plans offered in that state: WV

Plan ID	Plan Name	Form G-45 Submissions
WV-9904	COLLEGE SAVINGS PLAN 4	<a href="#">Create New</a>
WV-9903	COLLEGE SAVINGS PLAN 3	<a href="#">Create New</a>
WV-9902	COLLEGE SAVINGS PLAN 2	<a href="#">Create New</a>
WV-9901	COLLEGE SAVINGS PLAN 1	<a href="#">Create New</a>

Form G-45 requires the submission of information falling into three main categories, described below: plan descriptive information, aggregate plan information and investment option information.

 A complete listing of the Form G-45 data elements and their descriptions are provided in the appendix of this manual.

EMMA Dataport – 529 College Savings Plans


Submission Status: Not Submitted

You are currently acting on behalf of: MSRB4  
Save
Preview
Exit

COLLEGE SAVINGS PLAN 4 (STATE: WA)

Plan Descriptive Information >

Aggregate Plan Information >

Investment Option Information >

Expand All Sections >

All fields are required.

Select the period covered by this submission: Year Period

---

**PLAN DESCRIPTIVE INFORMATION**

**Plan Information**

Plan Name: COLLEGE SAVINGS PLAN 4 (State: WA)

Plan ID: WA-0004

Plan Website URL:   
(e.g. http://www.mywebsite.com) [Validate URL](#)

Marketing Channel: Select

**Program Manager Information**

Organization Name:

Primary Contact:  First Name  Last Name

Address:

City:

State: Select

Zip:

Phone Number:  -

Email Address:

**Underwriter Information**

Organization Name:

Primary Contact:  First Name  Last Name

Address:

City:

State: Select

Zip:

Phone Number:  -

Email Address:

[+ Add Underwriter](#)

**AGGREGATE PLAN INFORMATION** All fields are required.

Total Assets (\$):  Total Contributions (\$):  Total Distributions (\$):

**INVESTMENT OPTION INFORMATION** All fields are required.

**Resources**

Form G-45 Manual and Specifications

MSRB Gateway Manual

MSRB Rule G-45

To begin, select the reporting period covered by the submission.

## Plan Descriptive Information

Rule G-45 requires underwriters to report to the MSRB the name of the state, name of the plan, name of the underwriter and contact information, name of other underwriters on whose behalf the underwriter is submitting information, name of the program manager and contact information, plan website address and type of marketing channel (whether a “direct-sold” or “advisor-sold” plan).

Enter the appropriate information into each of the fields on the **Plan Descriptive Information** screen.



## Aggregate Plan Information

Under Rule G-45, underwriters must report to the MSRB, for the most recent semi-annual reporting period, the total plan assets, total contributions and total distributions.

Enter the appropriate values into each of the fields on the **Aggregate Plan Information** screen.

The screenshot displays the EMMA Dataport interface for 529 College Savings Plans. The header includes the title "EMMA Dataport – 529 College Savings Plans" and the MSRB Gateway logo. A yellow banner indicates "Submission Status: Not Submitted". The user is acting on behalf of "MSRB4", with "Save", "Preview", and "Exit" buttons. The main content area is titled "COLLEGE SAVINGS PLAN 4 (STATE: WA)" and features a sidebar with navigation options: "Plan Descriptive Information", "Aggregate Plan Information" (selected), "Investment Option Information", and "Expand All Sections". The "Aggregate Plan Information" section is titled "AGGREGATE PLAN INFORMATION" and includes a note "All fields are required." Below this, three input fields are shown: "Total Assets (\$): 9,999,999", "Total Contributions (\$): 9,999,999", and "Total Distributions (\$): 9,999,999". A "Resources" section at the bottom left lists "Form G-45 Manual and Specifications", "MSRB Gateway Manual", and "MSRB Rule G-45".

## Investment Option Information

For each investment option offered by the plan, Rule G-45 requires underwriters to provide the MSRB with the following information:

- The name and type of investment option;
- The inception date of the investment option;
- Total assets, contributions and distributions in the investment option as of the end of the most recent semi-annual period;
- The asset classes in the investment option;
- The actual asset class allocation of the investment option as of the end of the most recent semi-annual period;
- The name and allocation percentage of each underlying investment in each investment option as of the end of the most recent semi-annual period;

- The investment option's performance for the most recent calendar year (as well as any benchmark and its performance for the most recent calendar year);
- Total contributions to and distributions from the investment option for the most recent semi-annual reporting period; and
- The fee and expense structure in effect as of the end of the most recent semi-annual reporting period.

Click the **Investment Option Information** menu and then the **Add Investment Option/Share Class** link to provide the required information listed above.

EMMA Dataport – 529 College Savings Plans

Submission Status: Not Submitted

You are currently acting on behalf of: MSRB4

Save Preview Exit

COLLEGE SAVINGS PLAN 4 (STATE: WA)

Plan Descriptive Information >

Aggregate Plan Information >

Investment Option Information >

Expand All Sections >

Resources

Form G-45 Manual and Specifications

MSRB Gateway Manual


MSRB Rule G-45

**INVESTMENT OPTION INFORMATION** All fields are required.

No investment options exist.

[+ Add Investment Option/Share Class](#)


You are directed to the **Investment Option Information** screen.

 The Investment Option ID must be a unique identifier of each investment option and can include up to nine alphanumeric characters.

Click on the **Add Asset Class** link to add asset classes in the investment option and their allocation.


Similarly, clicking the **Add Underlying Investment** link allows you to provide the name and allocation percentage of all underlying investments in each investment option.



EMMA Dataport – 529 College Savings Plans


Submission Status: Not Published You are currently acting on behalf of:

### INVESTMENT OPTION INFORMATION

ID:  

Name:

Inception Date:

Investment Type:

Total Assets (\$):

Total Contributions (\$):

Total Distributions (\$):

**Asset Class**

Asset Class:

Allocation Percentage:

[+ Add Asset Class](#)

**Underlying Investment**


Underlying Investment Name:

Allocation Percentage:

[+ Add Underlying Investment](#)

Provide the investment option's performance data as well as any benchmark and its performance for the most recent calendar year.

By clicking the **Add Note** link under the Investment Performance table, you may add explanatory text or footnotes explaining principles followed, assumptions made and any additional information that, in your judgment, enhances a reviewer's understanding of the direct-sold or advisor-sold plan's performance, as applicable.

 Investment performance as well as any benchmark information is required for annual submissions only.

Investment Performance		Required for annual reporting period only.				
	YTD Return (%)	1 Year Return (%)	Annualized 3 Year Return (%)	Annualized 5 Year Return (%)	Annualized 10 Year Return (%)	Annualized Since Inception Return (%)
Total Returns Including Sales Charge (%)	<input type="text" value="8.99"/>	<input type="text" value="8.99"/>	<input type="text" value="8.99"/>	<input type="text" value="8.99"/>	<input type="text" value="8.99"/>	<input type="text" value="8.99"/>
Total Returns Excluding Sales Charge (%)	<input type="text" value="9.99"/>	<input type="text" value="9.99"/>	<input type="text" value="9.99"/>	<input type="text" value="9.99"/>	<input type="text" value="9.99"/>	<input type="text" value="9.99"/>
<a href="#">Add Note</a>						

**Benchmark Performance** i Required for annual reporting period only.

Are there any benchmarks?  
 Yes  No

Benchmark Name	YTD Return (%)	1 Year Return (%)	Annualized 3 Year Return (%)	Annualized Since Inception Return (%)
<input type="text" value="Benchmark Name"/>	<input type="text" value="9.99"/>	<input type="text" value="9.99"/>	<input type="text" value="9.99"/>	<input type="text" value="9.99"/>

[+ Add Benchmark](#)

Complete the Fees and Expenses section then click the **Save Investment Option** button at the bottom of the Investment Option screen.

**Fees and Expenses**

Estimated Underlying Fund Expenses (%)	<input type="text" value="0.99"/>	Total Annual Asset-Based Fees (%)	<input type="text" value="1.99"/>
Program Management Fee (%)	<input type="text" value="0.99"/>	Maximum Initial Sales Charge (%)	<input type="text" value="1.99"/>
State Fee (%)	<input type="text" value="0.99"/>	Maximum Deferred Sales Charge (%)	<input type="text" value="9.99"/>
Miscellaneous Fee (%)	<input type="text" value="0.99"/>	Annual Account Maintenance Fee (\$)	<input type="text" value="25"/>
Audit Fee (%)	<input type="text" value="0.99"/>	Bank Administration Fee (\$)	<input type="text" value="25"/>
Annual Distribution/ Service/ Sales Fee (%)	<input type="text" value="0.99"/>		

[Add Note](#)

To add more investment options, click the **Add Investment Option/Share Class** link that appears under the list of investment options you have previously added.

From this screen, you can also edit any of the investment option information you previously provided by clicking the **Edit** link next to the investment option.

EMMA Dataport – 529 College Savings Plans

Submission Status: Not Submitted

You are currently acting on behalf of: MSRB4

Save Preview Exit

COLLEGE SAVINGS PLAN 4 (STATE: WA)

Plan Descriptive Information >

Aggregate Plan Information >

Investment Option Information >

**INVESTMENT OPTION INFORMATION** All fields are required.

Investment Option ID	Investment Option Name	Inception Date	Investment Type	
999999AB1	Investment Option Name	5/1/2010	Age Based or Year of Enrollment	<a href="#">Edit</a> <a href="#">Delete</a>

[+ Add Investment Option/Share Class](#)

Once you populate all of the required fields, review your submission for accuracy and completeness.

## Preview and Submit Form G-45

To review your submission before submitting, click the **Preview** button.

Clicking the **Save** button will save the data you have entered before submitting.



Users have the ability to save data for multiple plans prior to submitting.

Clicking the **Exit** button leaves the EMMA Dataport Submission Portal without saving any work. You will also lose all work if your computer is inactive and is “timed out” after 20 minutes of inactivity. If you have to leave your computer after entering data but before being able to submit, it is recommended that you “Save” the data in case you are timed out before you resume.

In the course of making a submission, the **Submission Status** field at the top of each Dataport screen displays either Not Submitted or Submitted. This indicates whether any information has been submitted. You must have a “Submitted” status for each plan on Form G-45 to meet your obligations under Rule G-45.

EMMA Dataport – 529 College Savings Plans MSRB  
GATEWAY

Submission Status: Not Submitted You are currently acting on behalf of: MSRB4  
[Save](#) [Preview](#) [Exit](#)

COLLEGE SAVINGS PLAN 4 (STATE: WA) All fields are required.

Plan Descriptive Information > Select the period covered by this submission: 2014  Period

Aggregate Plan Information >

Investment Option Information >

Expand All Sections >

**Resources**  
Form G-45 Manual and Specifications  
MSRB Gateway Manual  
MSRB Rule G-45

**PLAN DESCRIPTIVE INFORMATION**

**Plan Information**

Plan Name: COLLEGE SAVINGS PLAN 4 (State: WA)  
Plan ID: WA-0004  
Plan Website URL:   
(e.g. http://www.mywebsite.com) [Validate URL](#)  
Marketing Channel:

**Program Manager Information**

Organization Name:   
Primary Contact:    
Address:   
City:   
State:   
Zip:   
Phone Number:  -   
Email Address:

**Underwriter Information**

Organization Name:   
Primary Contact:    
Address:   
City:   
State:   
Zip:   
Phone Number:  -   
Email Address:

[+ Add Underwriter](#)

**AGGREGATE PLAN INFORMATION** All fields are required.

Review the information on the **Preview** or the **Print Preview** screens for accuracy and completeness. If revisions are needed, click the **Edit** button.

EMMA Dataport – 529 College Savings Plans MSRB  
GATEWAY

Submission Status: Not Submitted You are currently acting on behalf of: MSRB4  
[Save](#) [Edit](#) [Submit](#) [Exit](#)

**FORM G-45 SUBMISSION PREVIEW**

Reporting Period: 2014, Ending December 31 [Print](#)

**PLAN DESCRIPTIVE INFORMATION**

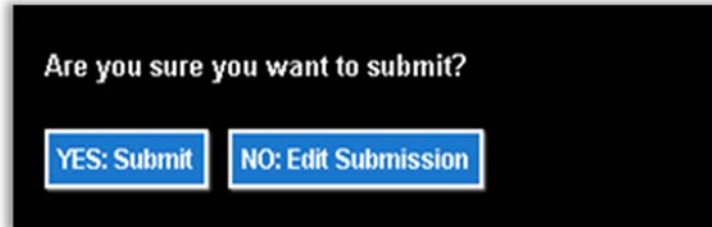
Plan Name: COLLEGE SAVINGS PLAN 4(State:WA)  
Plan ID: WA-0004  
Plan Website URL: http://collegesavingsplan4.com  
Marketing Channel: Direct Sold

**PLAN INFORMATION**

**Program Manager Information**

Organization Name: Program Manager Org Name  
Primary Contact First Name: John  
Last Name: Doe

Once the review is satisfactory, click the **Submit** button. A confirmation screen will then appear. Once you are ready to submit, click **Yes: Submit** to submit the form to the MSRB.



After submitting, a confirmation screen containing the following information appears.

- A submission ID (EA0000000000005 in the example below), which is a unique identifier of the submission
- A link to print your submission confirmation, which provides you with a printer-friendly version of your completed Form G-45, along with the date and time of submission to EMMA, for recordkeeping purposes
- A link to start a new submission or modify your existing submission
- A link to send your submission confirmation to a secondary email address



Upon successful submission, EMMA sends an electronic receipt to the submitter. The receipt includes the submitted information and a link to EMMA Dataport to view or modify the submission.

## Modify Submitted Form G-45

To make changes to previously submitted Form G-45 information, click the **View Existing** link next to the plan for which you have previously made Form G-45 submissions.

EMMA Dataport Submission Portal

MSRB GATEWAY

JOHN DOE, email: jdoe@dealeryz.org

529 College Savings Plans (Rule G-45)

Select Company: DEALER-ORG-01 (A9601)

Select a state to find the 529 college savings plans offered in that state: WV

Plan ID	Plan Name	Form G-45 Submissions
WV-9904	COLLEGE SAVINGS PLAN 4	<a href="#">View Existing</a> <a href="#">Create New</a>
WV-9903	COLLEGE SAVINGS PLAN 3	<a href="#">Create New</a>
WV-9902	COLLEGE SAVINGS PLAN 2	<a href="#">Create New</a>
WV-9901	COLLEGE SAVINGS PLAN 1	<a href="#">Create New</a>

A list of previous Form G-45 submissions, labeled by reporting period, appears on the **529 College Savings Plans** screen. Click the **Modify** link next to the submission.

EMMA Dataport Submission Portal

MSRB GATEWAY

JOHN DOE, email: jdoe@dealeryz.com

529 College Savings Plans (Rule G-45)

Select Company: MSRB4 (MSRB4)

Select a state to find the 529 college savings plans offered in that state: WA

Plan ID	Plan Name	Form G-45 Submissions
WA-0004	COLLEGE SAVINGS PLAN 4	<a href="#">View Existing</a>   <a href="#">Create New</a>
WA-0003	COLLEGE SAVINGS PLAN 3	
WA-0002	COLLEGE SAVINGS PLAN 2	
WA-0001	COLLEGE SAVINGS PLAN 1	

Reporting Period

2014 Ending June 30 [Modify](#)



A screen showing the details of the submission appears. Verify or modify the previously submitted Form G-45 information and click **Submit** to resubmit the form.

EMMA Dataport – 529 College Savings Plans

MSRB GATEWAY

Submission Status: Submitted

You are currently acting on behalf of: MSRB4

Save Edit **Submit** Exit

**FORM G-45 SUBMISSION PREVIEW**

Reporting Period: 2014, Ending June 30 [Print](#)

**PLAN DESCRIPTIVE INFORMATION**

Plan Name: COLLEGE SAVINGS PLAN 4(State:WA)  
 Plan ID: WA-0004  
 Plan Website URL: http://collegesavingsplan4.com  
 Marketing Channel: Direct Sold

**PLAN INFORMATION**

**Program Manager Information**

Organization Name: Program Manager Org Name  
 Primary Contact First Name: John  
 Last Name: Doe  
 Address: 1900 Security Street Suite 300  
 City: Alexandria  
 State: VA  
 Zip: 99999  
 Phone Number: 999-999-9999 Extn 999  
 Email Address: Jdoe@programmanger.com

A confirmation screen containing a submission ID and a link to print the submission for recordkeeping purposes will then appear. Submitters will receive an electronic receipt upon successful submission.

## Pre-populate a New Submission with Existing Data

Form G-45 allows submitters to pre-populate many of the data elements required to make a submission with information from a prior submission. This function allows submitters to make a submission without having to re-key data elements that typically do not change from one submission to the next.

To make a new Form G-45 submission using the pre-population function, click the **Create New** link next to the plan for which you wish to submit Form G-45 and select the **Pre-Populated Form** option from the pop-up box.



The screenshot shows the EMMA Dataport Submission Portal interface. At the top, it displays "EMMA Dataport Submission Portal" and "MSRB GATEWAY". The user is identified as "JOHN DOE, email: jdoe@dealeryz.org". A green box highlights "529 College Savings Plans (Rule G-45)". Below this, there are two dropdown menus: "Select Company: DEALER-ORG-01 (A9601)" and "Select a state to find the 529 college savings plans offered in that state: WV". A table lists several plans with columns for "Plan ID", "Plan Name", and "Form G-45 Submissions". The table includes plans like WV-9904, WV-9903, WV-9902, WV-9901, and WV-0004. A red box highlights the "Form G-45 Submissions" column for the first row, showing a dropdown menu with options "View Existing", "Create New", "Pre-Populated Form" (indicated by a red arrow), and "Blank Form".

Plan ID	Plan Name	Form G-45 Submissions
WV-9904	COLLEGE SAVINGS PLAN 4	View Existing   Create New Pre-Populated Form Blank Form
WV-9903	COLLEGE SAVINGS PLAN 3	
WV-9902	COLLEGE SAVINGS PLAN 2	
WV-9901	COLLEGE SAVINGS PLAN 1	
WV-0004	THE HARTFORD SMARTS29 COLLEGE SAVINGS PLAN	

A form pre-populated with the following data elements from the most recent submission appears.

#### Plan Descriptive Information

- State
- Plan name
- Underwriter (s) information
- Program manager information
- Plan website address
- Marketing Channel

#### Investment Option Information

- Investment option ID
- Investment option name and type
- Inception date
- Asset classes in the investment option
- Name of each underlying investment option
- Benchmark name, if any
- Fees and Expenses

Enter the appropriate information for the data elements that are not pre-populated and make any necessary corrections to the pre-populated data elements. Click the **Submit** button to complete the submission.

## **Recordkeeping**

MSRB Rules G-8 on books and records and G-9 on preservation of records have been modified to reflect Rule G-45 requirements. In general, underwriters are required to retain electronic copies of Form G-45 and related XML data files they submit to EMMA. Upon successful submission of Form G-45, the submitter has an opportunity to print a confirmation of the submission. In addition, EMMA sends an email to the submitter after a completed submission containing information required by Rule G-8.

## **PART 2: Automated Submission of Form G-45**

The EMMA Form G-45 Submission Service includes an automated computer-to-computer submission interface as an alternative to the web interface submission process previously described. The EMMA Dataport web user interface is designed to accept input for a single submission at a time, while the computer-to-computer interface supports input of multiple submissions.

While the specifications are intended for technical specialists, non-technical submitters may note these features.

### **Preparing for Computer-to-Computer Submission**

The main steps in preparing to use the computer-to-computer interface are:

- Review the schema, which defines the structure and content of submission data messages. Data messages consist of required Form G-45 information.
- Identify, within your organization, the sources of data to be submitted within the schema.
- Set up a client proxy using commercially available tools (some examples are Java or .NET).
- Establish a connection between your firm's client proxy and the EMMA web service interface.
- Set up test cases.
- Communicate with the MSRB to arrange to test interoperability of your client proxy and EMMA.
- Conduct systems testing.

### **Using the Computer-to-Computer Interface**

- The EMMA Dataport web interface (sometimes called the "web form") is the portion of the EMMA system tailored for individual users to manually submit Form G-45 and other disclosure information. Submissions made through the computer-to-computer interface may be viewed and updated by the submitter on the web form. Generally, the submission appears immediately on the web form after receipt through the computer-to-computer interface.

- Each message that reaches EMMA will be followed immediately by a response message to the submitter's computer.
- Response messages will include the Submission ID, Submission Status and Message Return Code. Subsequent updates must use the Submission ID, Plan Reference ID along with the Reporting Year and Reporting Period as submission update identifiers.
- Response messages will be returned to the submitter system when certain types of conditions exist with respect to the data submitted. Response messages are classified as Error, Warning or Information depending on the nature and severity of the exception as follows:
  - Error message indicates termination of message processing with failure of the intended action. The submitter should take appropriate corrective action and re-submit as appropriate.
  - Warning message indicates a potential problem that deserves attention and correction as appropriate; however, the requested action is fulfilled.
  - Information message indicates certain action taken by EMMA that does not materially affect completeness of the submission but of which the submitter should be aware.

## **Web Service Interface Specifications**

The MSRB exposes a web service interface allowing for the submission of SOAP (Simple Object Access Protocol) standard XML (extensible markup language) messages using secure, computer-to-computer communications. This interface is remotely consumed by applications written by or for submitters in a wide variety of programming languages and running on a wide variety of platforms.

Submitters using the automated submission interface connect to the web service (production) interface using the URL below.

<https://services.emma.msrb.org/DisclosureServices/G45DisclosureService.svc>

## Test Web Service Interface

The beta version of the automated submission interface serves as a platform for submitters to conduct tests and ensure proper programming and configuration of their applications for making Form G-45 submissions to the EMMA system.

The URL for the beta version of the web service interface for making automated Form G-45 submissions is:

<https://servicesbeta.emma.msrb.org/DisclosureServices/G45DisclosureService.svc>

## Message Processing, Schemas, Data Tags and Required Elements

Data is submitted through the automated submission interface as SOAP(Simple Object Access Protocol) messages. Data elements submitted in a data message for Form G-45 submissions are organized in a hierarchical relationship into the following categories: (i) submission data; (ii) submitter data; (iii) plan data; (iv) program manager and underwriter contact data; (v) option data; (vi) asset class data; (vii) underlying investments data; (viii) investment performance data; (ix) benchmark performance data; and (x) fees and expenses data. These categories and the available data tags applicable to each category shall, as applicable, be included in the XML message payload. Each message must also include a header containing an authentication token and web services protocol support as detailed in the XML Message Schemas section of this manual. Below are the typical data elements provided in a data message, together with the value to be selected or entered. Sample XML messages representing a standard submission are also provided below.

- **submission data –**
  - i) submission status (select 'Publish')
  - ii) submission id (only for update scenario)
- **submitter data –**
  - i) managing MSRB ID (enter MSRB ID)
- **plan data –**
  - i) plan reference id (enter plan reference identifier. [Click here for a list of plan IDs.](#))
  - ii) reporting year (enter calendar year)
  - iii) reporting period (select value: ending June 30 or ending December 31)
  - iv) plan information website (enter value)
  - v) marketing channel (select value: direct sold or advisor sold)
  - vi) total aggregate assets (enter value)
  - vii) total aggregate contributions (enter value)
  - viii) total aggregate distributions (enter value)
- **program manager data –**
  - i) organization name (enter full organization name)

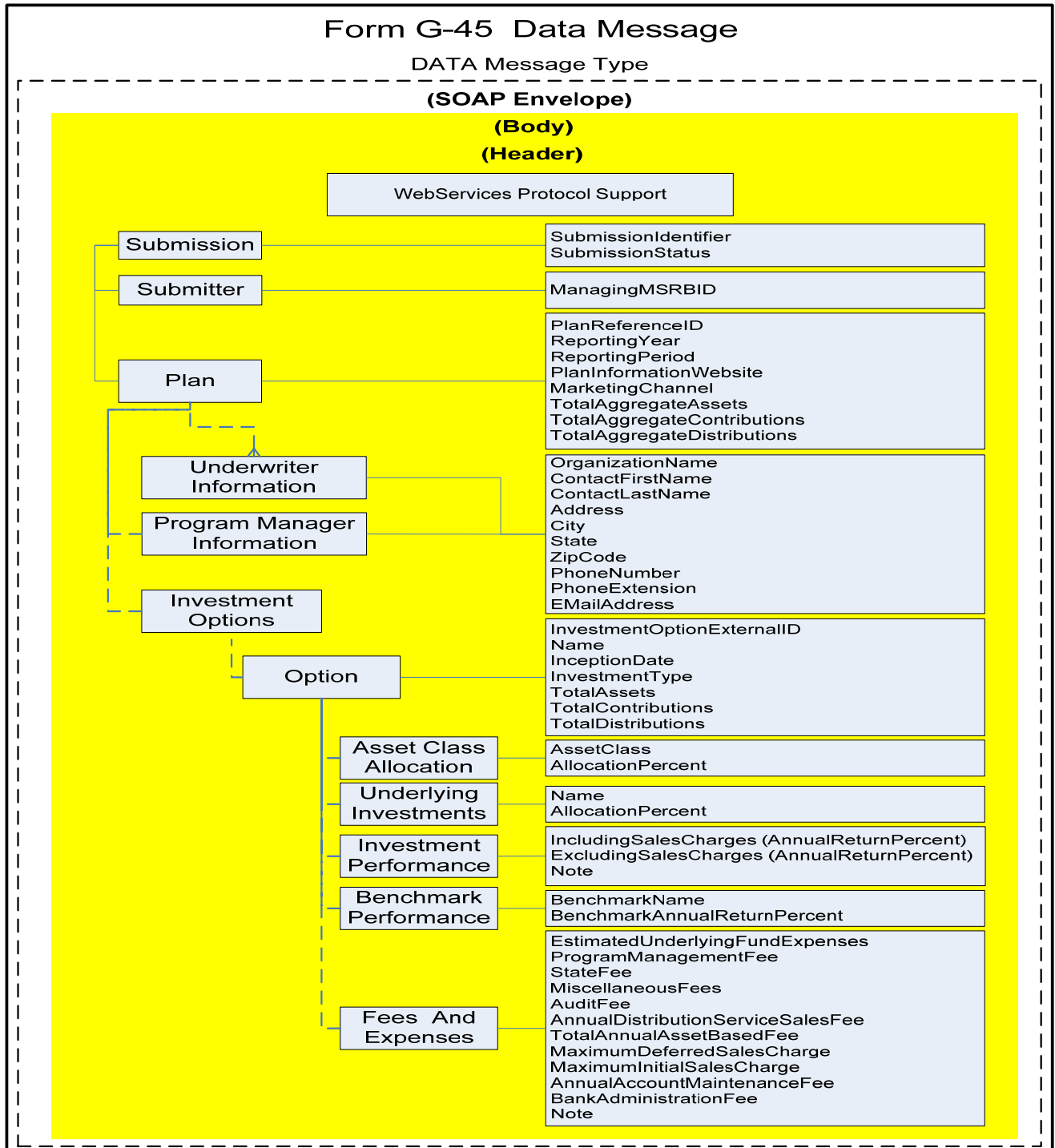
- ii) contact first name (enter name)
- iii) contact last name (enter name)
- iv) address (enter address)
- v) city (enter city)
- vi) state (enter state code)
- vii) zip code (enter zip code)
- ix) phone number (enter phone number)
- x) phone extension (enter phone extension)
- xi) email address (enter email address)
- **underwriter data –**
  - i) organization name (enter full organization name)
  - ii) contact first name (enter name)
  - iii) contact last name (enter name)
  - iv) address (enter address)
  - v) city (enter city)
  - vi) state (enter state code)
  - vii) zip code (enter zip code)
  - xii) phone number (enter phone number)
  - xiii) phone extension (enter phone extension)
  - xiv) email address (enter email address)
- **Investment option data –**
  - i) investment option external id (enter value)
  - ii) name (enter name of investment option)
  - iii) inception date (enter date)
  - iv) investment type (select value:age based or year of enrollment, individual or stand alone, static or fixed)
  - v) total assets (enter value)
  - vi) total contributions (enter value)
  - vii) total distributions (enter value)
- **asset class data –**
  - i) asset class (select value:domestic equities, international equities, fixed income products,commodities,insurance products,bank products, cash and cash equivalents or other products)
  - ii) allocation percent (enter value)
- **underlying investments data –**
  - i) name (enter name)
  - ii) allocation percent (enter value)
- **investment performance data –**
  - i) total annual return percent including sales charges (enter values for YTD, 1 Year, 3 Year, 5 Year, 10 Year and Since Inception)
  - ii) total annual return percent excluding sales charges (enter values for YTD, 1 Year, 3 Year, 5 Year, 10 Year and Since Inception)
  - iii) note (enter text)
- **benchmark performance data –**
  - i) benchmark name (enter name)
  - ii) benchmark annual return percent (enter value for YTD, 1 Year, 3 Year and Since Inception)
- **fees and expenses data –**
  - i) estimated underlying fund expenses (enter value)
  - ii) program management fee (enter value)
  - iii) state fee (enter value)
  - iv) miscellaneous fees (enter value)

- v) annual distribution, service and sales fee (enter value)
- vi) total annual asset based fees (enter value)
- vii) maximum deferred sales charge (enter value)
- viii) maximum initial sales charge (enter value)
- ix) annual account maintenance fee (enter value)
- x) bank administration fee (enter value)
- xi) note (enter text)





**Figure 2: Form G-45 Data Tag Structure**




SOAP (Simple Object Access Protocol) - foundation layer of the web services protocol stack  
 MTOM (SOAP Message Transmission Optimization Mechanism) - a method of efficiently sending binary data to and from web services

## Data Tags and Requirements for Form G-45 Disclosure

**Table 1: Message Data Tag Glossary**

Below is a list of data tags to be used for submitting Form G-45 data messages using EMMA's automated (computer-to-computer) submission interface. These data elements are organized in a hierarchical data relationship. This glossary includes each data element's XML container, data tag, data specifications, listing of enumerated values, and an example of the data format where the submitter is to enter a value.

 A complete listing of the Form G-45 data elements and their descriptions are provided in the appendix of this manual.

Submission Data Tags Description and Specification		
Form G-45 Submissions EMMA G45DisclosureServiceMessage		
XML Container	Data Tag	Data Specification
Submission	Submission Status	SubmissionStatusType Enumerated Value: • Publish
	Submission Identifier	Max15Text Ex: EA0000000000063
Submitter	Managing MSRBID	Max15Text ex: A12345
Plan	Plan Reference ID	String {Max10Text} ex: AK-000001
	Reporting Year	YearType ex: 2015
	Reporting Period	ReportingPeriodType Enumerated Value: • EndingJune30 • EndingDecember31
	Plan Information Website	String {Max150Text} ex: www.plan.com
	Marketing Channel	MarketingChannelType Enumerated Value: • AdvisorSold • DirectSold
	Total Aggregate Assets	MoneyType{Max15Numbers} ex:10000000
	Total Aggregate Contributions	MoneyType{Max15Numbers} Ex:10000000

Submission Data Tags Description and Specification		
Form G-45 Submissions EMMA G45DisclosureServiceMessage		
XML Container	Data Tag	Data Specification
	Total Aggregate Distributions	MoneyType{Max15Numbers} ex: 10000000
Program Manager Information	Organization Name	String {Max250Text} ex: 529 Underwriter
	Contact First Name	String {Max50Text} ex: Emma
	Contact Last Name	String {Max50Text} ex: Jones
	Address	String {Max250Text} ex: 123 Security Road
	City	String {Max50Text} ex: Alexandria
	State	String;StateCode;2 ex: VA
	Zip Code	ZipType ex: 22301-5555
	Phone Number	PhoneType ex: 703-555-2222
	Phone Extension	PhoneExtType ex: 12345
	Email Address	EmailType ex: ejones@underwriter.com
Underwriter Information	Organization Name	String {Max250Text} ex: 529 Underwriter
	Contact First Name	String {Max50Text} ex: Emma
	Contact Last Name	String {Max50Text} ex: Jones
	Address	String {Max250Text} ex: 123 Security Road
	City	String {Max50Text} ex: Alexandria
	State	String;StateCode;2 ex: VA
	Zip Code	ZipType ex: 22301-5555
	Phone Number	PhoneType ex: 703-555-2222
Phone Extension	PhoneExtType ex: 12345	

Submission Data Tags Description and Specification		
Form G-45 Submissions EMMA G45DisclosureServiceMessage		
XML Container	Data Tag	Data Specification
	Email Address	EmailType ex: ejones@underwriter.com
Option	Investment Option External ID	InvestmentOptionIdType ex: 125888BB4
	Name	String {Max250Text} ex: Jones River Progressive Fund
	Inception Date	ISODate Ex : 2012-05-20
	Investment Type	Enumerated Value: <ul style="list-style-type: none"> <li>• AgeBasedOrYearOfEnrollment</li> <li>• StaticOrFixed</li> <li>• IndividualOrStandAlone</li> </ul>
	Total Assets	MoneyType{Max15Numbers} ex: 1500000
	Total Contributions	MoneyType{Max15Numbers} ex: 1500000
	Total Distributions	MoneyType{Max15Numbers} ex: 1500000
Asset Class Allocation	Asset Class	AssetClassType Enumerated Value: <ul style="list-style-type: none"> <li>• DomesticEquities</li> <li>• InternationalEquities</li> <li>• FixedIncomeProducts</li> <li>• Commodities</li> <li>• InsuranceProducts</li> <li>• BankProducts</li> <li>• CashOrCashEquivalents</li> <li>• OtherProductTypes</li> </ul>
	Allocation Percent	DecimalType {+/- ###.###} ex: 5.50
Underlying Investments	Name	String{Max250Text} ex: Total Stock Market Index
	Allocation Percent	DecimalType {+/- ###.###} ex: 5.50
Investment Option Performance	Including Sales Charges (Annual Return Percent)	DecimalType {+/- ###.###} ex: 4.25
	Excluding Sales Charges (Annual Return Percent)	DecimalType {+/- ###.###} ex: 4.30
	Note	String {Max3500Text} ex: performance free text note
Benchmark Performance	Benchmark Name	String {Max250Text} ex: Benchmark Name
	Benchmark (Annual Return Percent)	DecimalType {+/- ###.###} ex: 15.50

Submission Data Tags Description and Specification		
Form G-45 Submissions EMMA G45DisclosureServiceMessage		
XML Container	Data Tag	Data Specification
Fees and Expenses Percent	Estimated Underlying Fund Expenses	DecimalType {+/- ###.###} ex: 0.125
	Program Management Fee	DecimalType {+/- ###.###} ex: 0.125
	State Fee	DecimalType {+/- ###.###} ex: 0.125
	Miscellaneous Fees	DecimalType {+/- ###.###} ex: 0.125
	Audit Fee	DecimalType {+/- ###.###} ex: 0.125
	Annual Distribution Service Sales Fee	DecimalType {+/- ###.###} ex: 0.125
	Total Annual Asset Based Fees	DecimalType {+/- ###.###} ex: 0.125
	Maximum Deferred Sales Charge	DecimalType {+/- ###.###} ex: 0.125
	Maximum Initial Sales Charge	DecimalType {+/- ###.###} ex: 0.125
	Annual Account Maintenance Fee	MoneyType ex: 100
	Bank Administration Fee	MoneyType ex: 100
	Note	String {Max3500Text} ex: Note concerning fees and costs

## Table 2: Required Message Tags

Below is a list of the data tags required for submission data messages. The data elements are organized in a hierarchical data relationship. This specification sets out each data element's XML container, data tag and if the tag value is required, optional, as applicable or not applicable, and possible qualifying conditions.

<b>Submission Message Tags</b>		
<b>Form G-45 Submissions</b>		
<b>EMMA G45DisclosureServiceMessage</b>		
XML Container	Data Tag	Required Indicator
Submission	Submission Status	R
	Submission Identifier	R (Only when updating existing submissions)
Submitter	Managing MSRBID	R
Plan	Plan Reference ID	R
	Reporting Year	R
	Reporting Period	R
	Plan Information Website	R
	Marketing Channel	R
	Total Aggregate Assets	R
	Total Aggregate Contributions	R
	Total Aggregate Distributions	R
Program Manager Information and Underwriter Information	Organization Name	R
	Contact First Name	R
	Contact Last Name	R
	Address	R
	City	R
	State	R
	Zip Code	R
	Phone Number	R
	Phone Extension	AA
Investment Option	Investment Option External ID	R
	Name	R
	Inception Date	R
	Investment Type	R
	Total Assets	R
	Total Contributions	R
	Total Distributions	R
Asset Class Allocation	Asset Class	R
	Allocation Percent	R

<b>Submission Message Tags</b>		
<b>Form G-45 Submissions</b>		
<b>EMMA G45DisclosureServiceMessage</b>		
XML Container	Data Tag	Required Indicator
Underlying Investments	Name	R
	Allocation Percent	R
Investment Performance	Total annual return percent including Sales Charges	At least one field is required if the reporting period is EndingDecember31.
	Total annual return percent excluding Sales Charges	
	Note	O
Benchmark Performance	Benchmark Name	If benchmark tag exists, then: R
	Benchmark Annual Return Percentages	If benchmark tag exists, then: R
Fees and Expenses	Estimated Underlying Fund Expenses	At least one field is required
	Program Management Fee	
	State Fee	
	Miscellaneous Fees	
	Audit Fee	
	Annual Distribution Service Sales Fee	
	Total Annual Asset Based Fees	
	Maximum Deferred Sales Charge	
	Maximum Initial Sales Charge	
	Annual Account Maintenance Fee	
	Bank Administration Fee	
Note	O	
<b>Footnotes:</b>		
R	Required for a complete data submission	
O	Optional	
AA	As Applicable	
N/A	Not Applicable – signifies that no data is to be provided for a particular data element because such data is not needed for such submission.	



## XML Message Schemas

Detailed below are the relevant schemas applicable to Form G-45 XML submission messages.

### G45DisclosureService\_0.xsd

```
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:tns="http://emma.msrb.org/schemas/disclosuremessages/G45Disclosure"
  elementFormDefault="qualified"
  targetNamespace="http://emma.msrb.org/schemas/disclosuremessages/G45Disclosure">
  <xs:import schemaLocation="G45DisclosureService_1.xsd"
  namespace="http://emma.msrb.org/schemas/G45DisclosureService" />
  <xs:element name="G45DisclosureServiceMessage">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:q1="http://emma.msrb.org/schemas/G45DisclosureService" minOccurs="0" maxOccurs="1"
          ref="q1:G45DataMessage" />
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

### G45DisclosureService\_1.xsd

```
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:tns="http://emma.msrb.org/schemas/G45DisclosureService"
  elementFormDefault="qualified" targetNamespace="http://emma.msrb.org/schemas/G45DisclosureService">
  <xs:import schemaLocation="G45DisclosureService_2.xsd"
  namespace="http://emma.msrb.org/schemas/disclosuremessages/G45Disclosure/types" />
  <xs:element xmlns:q1="http://emma.msrb.org/schemas/disclosuremessages/G45Disclosure/types"
  name="G45DataMessage"
  type="q1:G45DataMessageType" />
</xs:schema>
```

### G45DisclosureService\_2.xsd

```
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:tns="http://emma.msrb.org/schemas/disclosuremessages/G45Disclosure/types"
  elementFormDefault="qualified"
  targetNamespace="http://emma.msrb.org/schemas/disclosuremessages/G45Disclosure/types">
  <xs:complexType name="G45DataMessageType">
    <xs:sequence>
      <xs:element minOccurs="1" maxOccurs="1" name="Submission" type="tns:SubmissionDetailsType" />
      <xs:element minOccurs="1" maxOccurs="1" name="Plan" type="tns:PlanDetailsType" />
      <xs:element minOccurs="1" maxOccurs="1" name="Submitter" type="tns:SubmitterDetailsType" />
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="SubmissionDetailsType">
    <xs:attribute name="SubmissionIdentifier" type="tns:Max15Text"/>
    <xs:attribute name="SubmissionStatus" type="tns:SubmissionStatusType" />
  </xs:complexType>
  <xs:simpleType name="SubmissionStatusType">
    <xs:restriction base="xs:string">
      <xs:enumeration value="Publish" />
      <xs:enumeration value="Test" />
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="PlanDetailsType">
    <xs:sequence>
```

```

    <xs:element minOccurs="1" maxOccurs="1" name="ProgramManagerInformation"
type="tns:ManagementInformationType" />
    <xs:element minOccurs="1" maxOccurs="1" name="UnderwriterInformation"
type="tns:ArrayOfManagementInformationType" />
    <xs:element minOccurs="1" maxOccurs="1" name="InvestmentOptions" type="tns:ArrayOfOptionDetailsType" />
</xs:sequence>
<xs:attribute name="PlanReferenceID" type="tns:Max10Text" use="required"/>
<xs:attribute name="ReportingYear" type="tns:YearType" use="required"/>
<xs:attribute name="ReportingPeriod" type="tns:ReportingPeriodType" />
<xs:attribute name="PlanInformationWebsite" type="tns:Max150Text" use="required"/>
<xs:attribute name="MarketingChannel" type="tns:MarketingChannelType" />
    <xs:attribute name="TotalAggregateAssets" type="tns:MoneyType" />
    <xs:attribute name="TotalAggregateContributions" type="tns:MoneyType" />
    <xs:attribute name="TotalAggregateDistributions" type="tns:MoneyType" />
</xs:complexType>
<xs:complexType name="ManagementInformationType">
    <xs:attribute name="OrganizationName" type="tns:Max250Text" use="required"/>
    <xs:attribute name="ContactFirstName" type="tns:Max50Text" use="required"/>
    <xs:attribute name="ContactLastName" type="tns:Max50Text" use="required"/>
    <xs:attribute name="Address" type="tns:Max250Text" use="required"/>
    <xs:attribute name="City" type="tns:Max50Text" use="required"/>
    <xs:attribute name="State" type="tns:StateCode" use="required"/>
    <xs:attribute name="ZipCode" type="tns:ZipType" use="required"/>
    <xs:attribute name="PhoneNumber" type="tns:PhoneType" use="required"/>
    <xs:attribute name="PhoneExtension" type="tns:PhoneExtType" />
    <xs:attribute name="EMailAddress" type="tns:EmailType" use="required"/>
</xs:complexType>
<xs:complexType name="ArrayOfManagementInformationType">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="unbounded" name="Underwriter"
type="tns:ManagementInformationType" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="ArrayOfOptionDetailsType">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="unbounded" name="Option" type="tns:OptionDetailsType" />
    </xs:sequence>
</xs:complexType>
<xs:complexType name="OptionDetailsType">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="1" name="AssetClassAllocation"
type="tns:ArrayOfClassAllocationType" />
        <xs:element minOccurs="1" maxOccurs="1" name="UnderlyingInvestments"
type="tns:ArrayOfUnderlyingInvestmentType" />
        <xs:element minOccurs="0" maxOccurs="1" name="InvestmentPerformance"
type="tns:InvestmentPerformanceType" />
        <xs:element minOccurs="0" maxOccurs="1" name="BenchmarkPerformance" type="tns:ArrayOfBenchmarkType"
/>
        <xs:element minOccurs="1" maxOccurs="1" name="FeesAndExpensesPercent"
type="tns:FeesAndExpensesType" />
    </xs:sequence>
    <xs:attribute name="InvestmentOptionExternalID" type="tns:InvestmentOptionIdType" use="required" />
    <xs:attribute name="Name" type="tns:Max250Text" use="required" />
    <xs:attribute name="InceptionDate" type="tns:ISODate" />
    <xs:attribute name="InvestmentType" type="tns:InvestmentType" />
        <xs:attribute name="TotalAssets" type="tns:MoneyType" />
        <xs:attribute name="TotalContributions" type="tns:MoneyType" />
        <xs:attribute name="TotalDistributions" type="tns:MoneyType" />
</xs:complexType>
<xs:complexType name="ArrayOfClassAllocationType">
    <xs:sequence>
        <xs:element minOccurs="1" maxOccurs="unbounded" name="Allocation" type="tns:ClassAllocationType" />
    </xs:sequence>
</xs:complexType>

```

```

</xs:sequence>
</xs:complexType>
<xs:complexType name="ClassAllocationType">
  <xs:attribute name="AssetClass" type="tns:AssetClassType" />
  <xs:attribute name="AllocationPercent" type="tns:DecimalType" />
</xs:complexType>
<xs:simpleType name="AssetClassType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="DomesticEquities" />
    <xs:enumeration value="InternationalEquities" />
    <xs:enumeration value="FixedIncomeProducts" />
    <xs:enumeration value="Commodities" />
    <xs:enumeration value="InsuranceProducts" />
    <xs:enumeration value="BankProducts" />
    <xs:enumeration value="CashOrCashEquivalents" />
    <xs:enumeration value="OtherProductTypes" />
  </xs:restriction>
</xs:simpleType>
<xs:complexType name="ArrayOfUnderlyingInvestmentType">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="unbounded" name="Investment" type="tns:UnderlyingInvestmentType" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="UnderlyingInvestmentType">
  <xs:attribute name="Name" type="tns:Max250Text" use="required"/>
  <xs:attribute name="AllocationPercent" type="tns:DecimalType" />
</xs:complexType>
<xs:complexType name="InvestmentPerformanceType">
  <xs:sequence>
    <xs:element minOccurs="0" maxOccurs="1" name="IncludingSalesCharges" type="tns:AnnualReturnType" />
    <xs:element minOccurs="0" maxOccurs="1" name="ExcludingSalesCharges" type="tns:AnnualReturnType" />
  </xs:sequence>
  <xs:attribute name="Note" type="tns:Max3500Text" />
</xs:complexType>
<xs:complexType name="AnnualReturnType">
  <xs:attribute name="AnnualReturnPercent_YearToDate" type="tns:DecimalType" />
  <xs:attribute name="AnnualReturnPercent_1Year" type="tns:DecimalType" />
  <xs:attribute name="AnnualReturnPercent_3Year" type="tns:DecimalType" />
  <xs:attribute name="AnnualReturnPercent_5Year" type="tns:DecimalType" />
  <xs:attribute name="AnnualReturnPercent_10Year" type="tns:DecimalType" />
  <xs:attribute name="AnnualReturnPercent_SinceInception" type="tns:DecimalType" />
</xs:complexType>
<xs:complexType name="ArrayOfBenchmarkType">
  <xs:sequence>
    <xs:element minOccurs="1" maxOccurs="unbounded" name="Benchmark" type="tns:BenchmarkType" />
  </xs:sequence>
</xs:complexType>
<xs:complexType name="BenchmarkType">
  <xs:attribute name="BenchmarkName" type="tns:Max250Text" use="required"/>
  <xs:attribute name="BenchmarkAnnualReturnPercent_YearToDate" type="tns:DecimalType" />
  <xs:attribute name="BenchmarkAnnualReturnPercent_1Year" type="tns:DecimalType" />
  <xs:attribute name="BenchmarkAnnualReturnPercent_3Year" type="tns:DecimalType" />
  <xs:attribute name="BenchmarkAnnualReturnPercent_SinceInception" type="tns:DecimalType" />
</xs:complexType>
<xs:complexType name="FeesAndExpensesType">
  <xs:attribute name="EstimatedUnderlyingFundExpenses" type="tns:DecimalType" />
  <xs:attribute name="ProgramManagementFee" type="tns:DecimalType" />
  <xs:attribute name="StateFee" type="tns:DecimalType" />
  <xs:attribute name="MiscellaneousFees" type="tns:DecimalType" />
  <xs:attribute name="AuditFee" type="tns:DecimalType" />
  <xs:attribute name="AnnualDistributionServiceSalesFee" type="tns:DecimalType" />

```

```
<xs:attribute name="TotalAnnualAssetBasedFee" type="tns:DecimalType" />
<xs:attribute name="MaximumInitialSalesCharge" type="tns:DecimalType" />
<xs:attribute name="MaximumDeferredSalesCharge" type="tns:DecimalType" />
<xs:attribute name="AnnualAccountMaintenanceFee" type="tns:MoneyType" />
<xs:attribute name="BankAdministrationFee" type="tns:MoneyType" />
<xs:attribute name="Note" type="tns:Max3500Text" />
</xs:complexType>
<xs:simpleType name="InvestmentType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="AgeBasedOrYearOfEnrollment" />
    <xs:enumeration value="StaticOrFixed" />
    <xs:enumeration value="IndividualOrStandAlone" />
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="ReportingPeriodType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="EndingJune30" />
    <xs:enumeration value="EndingDecember31" />
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="MarketingChannelType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="AdvisorSold" />
    <xs:enumeration value="DirectSold" />
  </xs:restriction>
</xs:simpleType>
<xs:complexType name="SubmitterDetailsType">
  <xs:attribute name="ManagingMSRBID" type="tns:Max15Text" use="required" />
</xs:complexType>
<xs:simpleType name="StateCode">
  <xs:restriction base="xs:string">
    <xs:pattern value="[A-Z]{2,2}" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="ISODate">
  <xs:restriction base="xs:date" />
</xs:simpleType>

<xs:simpleType name="Max3500Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1" />
    <xs:maxLength value="3500" />
    <xs:pattern value=".*[^\s].*" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="Max250Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1" />
    <xs:maxLength value="250" />
    <xs:pattern value=".*[^\s].*" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="Max150Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1" />
    <xs:maxLength value="150" />
    <xs:pattern value=".*[^\s].*" />
  </xs:restriction>
</xs:simpleType>
```

```
<xs:simpleType name="Max140Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1" />
    <xs:maxLength value="140" />
    <xs:pattern value=".*[^\s].*" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="Max50Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1" />
    <xs:maxLength value="50" />
    <xs:pattern value=".*[^\s].*" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="Max15Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1" />
    <xs:maxLength value="15" />
    <xs:pattern value=".*[^\s].*" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="Max10Text">
  <xs:restriction base="xs:string">
    <xs:minLength value="1" />
    <xs:maxLength value="10" />
    <xs:pattern value=".*[^\s].*" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="YearType">
  <xs:restriction base="xs:integer">
    <xs:pattern value="[0-9]{4,4}" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="InvestmentOptionIdType">
  <xs:restriction base="xs:string">
    <xs:minLength value="9" />
    <xs:maxLength value="9" />
    <xs:pattern value=".*[^\s].*" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="DecimalType">
  <xs:restriction base="xs:decimal">
    <xs:pattern value="^[+-]?[0-9]{1,3}(?!\.[0-9]{1,3})?$/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="MoneyType">
  <xs:restriction base="xs:decimal">
    <xs:pattern value="[0-9]{1,15}" />
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="ZipType">
  <xs:restriction base="xs:string">
    <xs:maxLength value="15" />
  </xs:restriction>
</xs:simpleType>
```

```

    <xs:pattern value="\d{5}(-\d{4})?$/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="PhoneType">
  <xs:restriction base="xs:string">
    <xs:maxLength value="15" />
    <xs:pattern value="^\(?([0-9]{3})\)?[-. ]?([0-9]{3})[-. ]?([0-9]{4})$/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="PhoneExtType">
  <xs:restriction base="xs:string">
    <xs:maxLength value="10" />
    <xs:pattern value="^[0-9]+$/>
  </xs:restriction>
</xs:simpleType>

<xs:simpleType name="EmailType">
  <xs:restriction base="xs:string">
    <xs:maxLength value="140" />
    <xs:pattern value="^[([a-zA-Z0-9_-\.\,]+)@([a-zA-Z0-9_-\.\,]+)\.([a-zA-Z]{2,5})$/>
  </xs:restriction>
</xs:simpleType>
</xs:schema>

```

### G45DisclosureService\_3.xsd

```

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:tns="http://emma.msrb.org/schemas/disclosuremessages"
  elementFormDefault="qualified" targetNamespace="http://emma.msrb.org/schemas/disclosuremessages">
  <xs:import schemaLocation="G45DisclosureService_4.xsd"
    namespace="http://emma.msrb.org/schemas/disclosuremessages/types" />
  <xs:element name="DisclosureMessageResponse">
    <xs:complexType>
      <xs:sequence>
        <xs:element xmlns:q1="http://emma.msrb.org/schemas/disclosuremessages/types" minOccurs="0"
          maxOccurs="1"
          ref="q1:DisclosureResponseDetails" />
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

### G45DisclosureService\_4.xsd

```

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:tns="http://emma.msrb.org/schemas/disclosuremessages/types" elementFormDefault="qualified"
  targetNamespace="http://emma.msrb.org/schemas/disclosuremessages/types">
  <xs:element name="DisclosureResponseDetails" type="tns:DisclosureMessageResponseType" />
  <xs:complexType name="DisclosureMessageResponseType">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="Submission" type="tns:SubmissionStructureType" />
      <xs:element minOccurs="0" maxOccurs="unbounded" name="Message" type="tns:MessageStructureType" />
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="SubmissionStructureType">
    <xs:attribute name="SubmissionID" type="xs:string" />
    <xs:attribute name="SubmissionState" type="tns:SubmissionProcessingStateType" />
    <xs:attribute name="SubmissionStatus" type="tns:SubmissionProcessingStatusType" use="required" />
  </xs:complexType>

```

```
</xs:complexType>
<xs:simpleType name="SubmissionProcessingStateType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Published" />
    <xs:enumeration value="InWorkspace" />
  </xs:restriction>
</xs:simpleType>
<xs:simpleType name="SubmissionProcessingStatusType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Added" />
    <xs:enumeration value="Updated" />
    <xs:enumeration value="Rejected" />
    <xs:enumeration value="Failure" />
  </xs:restriction>
</xs:simpleType>
<xs:complexType name="MessageStructureType">
  <xs:attribute name="MessageReturnCode" type="tns:MessageReturnCodeType" />
  <xs:attribute name="MessageContent" type="xs:string" />
</xs:complexType>
<xs:simpleType name="MessageReturnCodeType">
  <xs:restriction base="xs:string">
    <xs:enumeration value="Error" />
    <xs:enumeration value="Warning" />
    <xs:enumeration value="Information" />
  </xs:restriction>
</xs:simpleType>
</xs:schema>
```



## Sample XML Header Trace Files

### Data Message – Sample Header + Message Trace File

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/" xmlns:u="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <s:Header>
    <o:Security s:mustUnderstand="1" xmlns:o="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd"><u:Timestamp u:Id="_0"><u:Created>2008-08-21T19:58:44.296Z</u:Created><u:Expires>2008-08-21T20:03:44.296Z</u:Expires></u:Timestamp><o:UsernameToken u:Id="uuid-99a8d3c0-8044-4572-a189-2af1f3a246e8-1"><o:Username><!--Removed--></o:Username><o:Password><!--Removed--></o:Password></o:UsernameToken></o:Security>
    <To s:mustUnderstand="1" xmlns="http://schemas.microsoft.com/ws/2005/05/addressing/none">https://temp-wrk/EmmaDisclosureService/DisclosureService.svc</To>
    <Action s:mustUnderstand="1" xmlns="http://schemas.microsoft.com/ws/2005/05/addressing/none">http://emma.msrb.org/schemas/disclosureservice/IDisclosureService/OpenSubmission</Action>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <?xml version="1.0" encoding="UTF-8"?>
    <?xml version="1.0" encoding="UTF-8"?>
    <G45DataMessageType xmlns="EMMA-SUBMISSION-XML"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="EMMA-SUBMISSION-XML C:\EMMA\B2B\Schema\PrimaryMarket\529CollegeSavingsPlans\EMMA_B2B_Submission_TypeDefinition_Schema_RuleG45.xsd">
      <Submission SubmissionStatus="Publish"/>
      <Plan PlanReferenceID="VA-000001" ReportingYear="2014" ReportingPeriod="EndingJune30" MarketingChannel="AdvisorSold" PlanInformationWebsite="www.topcollegefunds.com" TotalAggregateAssets="2500000000" TotalAggregateContributions="250000000" TotalAggregateDistributions="5000000">
        <ProgramManagerInformation OrganizationName="Top College Funds" ContactFirstName="Program" ContactLastName="Manager" PhoneNumber="1-888-567-0540" Address="123 529 Road" City="Alex" State="VA" ZipCode="22222-5555" EMailAddress="pm@2.com"/>
        <UnderwriterInformation>
          <Underwriter OrganizationName="Underwriter_1" ContactFirstName="Under" ContactLastName="Writer1" PhoneNumber="1-888-567-0540" Address="123 529 Road" City="Alex" State="VA" ZipCode="22222-5555" EMailAddress="uw@1.com"/>
          <Underwriter OrganizationName="Underwriter_2" ContactFirstName="Under" ContactLastName="Writer2" PhoneNumber="1-888-567-0540" Address="123 529 Road" City="Alex" State="VA" ZipCode="22222-5555" EMailAddress="uw@2.com"/>
        </UnderwriterInformation>
        <InvestmentOptions>
          <Option InvestmentOptionExternalID="123456789" Name="Age-Based 0-6 Years Portfolio" InceptionDate="2012-05-20" InvestmentType="AgeBasedOrYearOfEnrollment" TotalAssets="5000000.00" TotalContributions="5000000.00" TotalDistributions="5000000.00">
            <AssetClassAllocation >
              <Allocation AssetClass="DomesticEquities" AllocationPercent="12.5"/>
              <Allocation AssetClass="InternationalEquities" AllocationPercent="12.5"/>
              <Allocation AssetClass="FixedIncomeProducts" AllocationPercent="12.5"/>
              <Allocation AssetClass="Commodities" AllocationPercent="12.5"/>
              <Allocation AssetClass="InsuranceProducts" AllocationPercent="12.5"/>
            </AssetClassAllocation >
          </Option>
        </InvestmentOptions>
      </Plan>
    </G45DataMessageType>
  </s:Body>
</s:Envelope>

```

```

AllocationPercent="12.5"/>
AllocationPercent="12.5"/>
AllocationPercent="12.5"/>
AllocationPercent="17" />
AllocationPercent="17" />
AllocationPercent="13" />
Fund" AllocationPercent="25" />
International Class" AllocationPercent="13" />
Class" AllocationPercent="10" />
Portfolio Institutional Class" AllocationPercent="0" />
Institutional Class" AllocationPercent="0" />
<Allocation AssetClass="BankProducts"
<Allocation AssetClass="CashOrCashEquivalents"
<Allocation AssetClass="OtherProductTypes"
</AssetClassAllocation>
<UnderlyingInvestments>
  <Investment Name="T. Rowe Price Large-Cap Growth Fund"
  <Investment Name="Artisan Value Fund Institutional Class"
  <Investment Name="William Blair Growth Fund Class I"
  <Investment Name="Dodge & Cox International Stock
  <Investment Name="DFA U.S. Small Cap Portfolio
  <Investment Name="Dreyfus Bond Market Index Fund BASIC
  <Investment Name="DFA Inflation-Protected Securities
  <Investment Name="Invesco Liquid Assets Portfolio
</UnderlyingInvestments>
<InvestmentPerformance Note="Investment performance note.">
  <IncludingSalesCharges
    AnnualReturnPercent_YearToDate="24.65"
    AnnualReturnPercent_1Year="28.81"
    AnnualReturnPercent_3Year="14.31"
    AnnualReturnPercent_5Year="18.81"
    AnnualReturnPercent_10Year="7.95"
    AnnualReturnPercent_SinceInception="3.93" />
  <ExcludingSalesCharges
    AnnualReturnPercent_YearToDate="24.15"
    AnnualReturnPercent_1Year="28.31"
    AnnualReturnPercent_3Year="14.26"
    AnnualReturnPercent_5Year="18.26"
    AnnualReturnPercent_10Year="7.45"
    AnnualReturnPercent_SinceInception="3.53" />
</InvestmentPerformance>
<BenchmarkPerformance>
  <Benchmark BenchmarkName="Russell 1000 Growth Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
  <Benchmark BenchmarkName="Russell 1000 Value Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
  <Benchmark BenchmarkName="Jones U.S. Total Stock
Market Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
  <Benchmark BenchmarkName="Russell 2000 Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
  <Benchmark BenchmarkName="MSCI All Country World ex-
U.S. Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
  <Benchmark BenchmarkName="MSCI EAFE Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />

```

```

    <Benchmark BenchmarkName="S&P 500 Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="All Country World ex-U.S.
Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Barclays U.S. Aggregate
Bond" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Barclays U.S. TIPS"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Citigroup 1-Month Treasury
Bill Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
  </BenchmarkPerformance>
  <FeesAndExpensesPercent
EstimatedUnderlyingFundExpenses="0.00"
ProgramManagementFee="0.65"
StateFee=".10"
MiscellaneousFees="0.24"
AuditFee="0.00"
AnnualDistributionServiceSalesFee="0.22"
TotalAnnualAssetBasedFee="1.18"
MaximumDeferredSalesCharge="0.00"
MaximumInitialSalesCharge="05.85"
AnnualAccountMaintenanceFee="10.50"
BankAdministrationFee="0.00"
Note="Fee to 529 Fund - As compensation for its oversight and

```

administration, State 529 receives a quarterly fee accrued daily and calculated at the annual rate of 0.10% on the first \$30 billion of the net assets invested in Fund Program and 0.09% on the net assets between \$30 billion and \$60 billion.

Additional breakpoints apply to assets in excess of \$60 billion.

Annual distribution and/or service(12b-1) fee - The 12b-1 fees for the series may not exceed 0.50% for Class 529-A, 1% for Class 529-B, 1% for Class 529-C, 0.75% for Class 529-E, and 0.50% for Class 529-F-1 of the class's average net assets annually.

Total annual asset-based fees after fee waiver and/or reimbursement - The fund's investment adviser is currently waiving its management fee of 0.10%. This waiver will be in effect through at least December 31, 2014.

The waiver may only be modified or terminated with the approval of the fund's board.

Maximum initial sales charge - In addition to the annual Account maintenance fee, Accounts incur a setup fee of \$10.

General - The fund's investment adviser is currently reimbursing certain fees and expenses. This reimbursement will be in effect through at least December 31, 2014. The adviser may elect at its discretion to extend, modify or terminate the reimbursement at that time. The amounts of the reimbursements in the table are estimated.

Maximum initial sales charge or contingent deferred sales charge - The initial sales charge is reduced for purchases of \$100,000 or more and eliminated for purchases of \$1 million or more.

Maximum initial sales charge or contingent deferred sales charge - The contingent deferred sales charge is reduced one year after purchase and eliminated six years after purchase.

Maximum initial sales charge or contingent deferred sales charge - The contingent deferred sales charge is eliminated one year after purchase."

```

  />
  </Option>
</InvestmentOptions>
<InvestmentOptions>
  <Option InvestmentOptionExternalID="223456789"
InvestmentType="IndividualOrStandAlone" Name="Age-Based 12-14 Year Portfolio" InceptionDate="2008-01-01"
TotalAssets="5000000" TotalContributions="5000000" TotalDistributions="5000000">
  <AssetClassAllocation >
    <Allocation AssetClass="DomesticEquities"
AllocationPercent="12.5"/>
    <Allocation AssetClass="InternationalEquities"
AllocationPercent="12.5"/>

```



```

        <Benchmark BenchmarkName="MSCI All Country World ex-
U.S. Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
        <Benchmark BenchmarkName="MSCI EAFE Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
        <Benchmark BenchmarkName="S&P 500 Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
        <Benchmark BenchmarkName="All Country World ex-U.S.
Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
        <Benchmark BenchmarkName="Barclays U.S. Aggregate
Bond" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
        <Benchmark BenchmarkName="Barclays U.S. TIPS"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
        <Benchmark BenchmarkName="Citigroup 1-Month Treasury
Bill Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    </BenchmarkPerformance>
    <FeesAndExpensesPercent
        EstimatedUnderlyingFundExpenses="0.00"
        ProgramManagementFee="0.32"
        StateFee="0.10"
        MiscellaneousFees="0.19"
        AuditFee="0.125"
        AnnualDistributionServiceSalesFee="0.21"
        TotalAnnualAssetBasedFee="0.82"
        MaximumDeferredSalesCharge="0.0"
        MaximumInitialSalesCharge="5.75"
        AnnualAccountMaintenanceFee="10.25"
        BankAdministrationFee="0.00"
        Note="Fee to 529 Fund - As compensation for its oversight and
administration, Virginia529 receives a quarterly fee accrued daily and calculated at the annual rate of 0.10% on the
first $30 billion of the net assets invested in Fund Program a and 0.09% on net assets between $30 billion and $60
billion. Additional breakpoints apply to assets in excess of $60 billion.
        Annual distribution and/or service(12b-1) fee - Class 529-A 12b-1 fees may not exceed 0.50% of the class's
average net assets annually.
        Annual Account maintenance fee - In addition to the annual Account maintenance fee, Accounts incur a
setup fee of $10.
        Maximum initial sales charge - The initial sales charge is reduced for purchases of $25,000 or more and
eliminated for purchases of $1 million or more.
        General - For American Funds Developing World Growth and Income Fund, the fund's investment adviser is
currently reimbursing certain fees and expenses. Amounts shown do not reflect these reimbursements. The
expenses for American Funds Developing World Growth and Income Fund are estimated.
        Maximum initial sales charge - The initial sales charge is reduced for purchases of $500,000 or more and
eliminated for purchases of $1 million or more.
    "/>
    </Option>
</InvestmentOptions>
</Plan>
<Submitter ManagingMSRBID="X099999"/>
</G45DataMessageType>s:Body>
</s:Envelope>

```

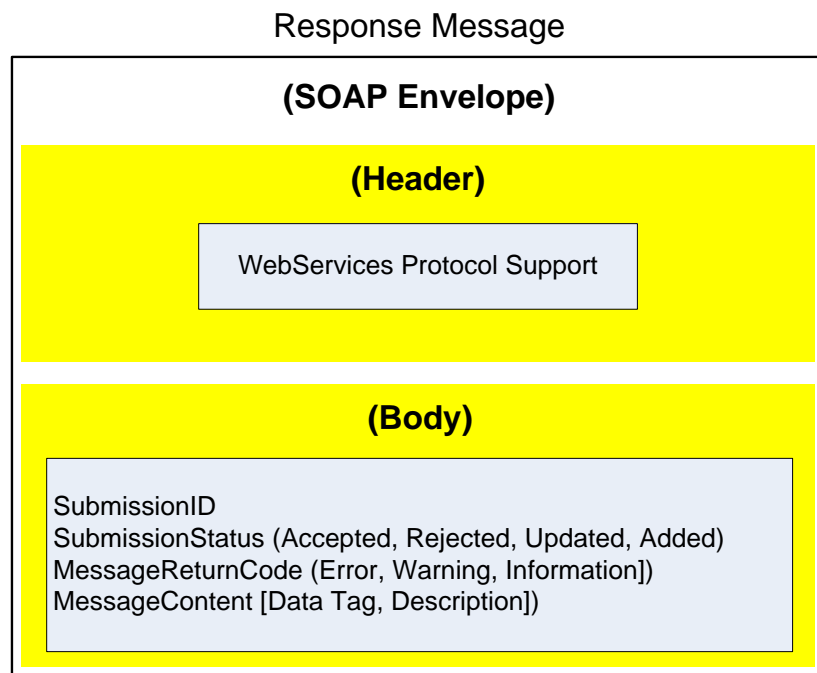
## Message Validation

### Figure 3: Validation Response Trace

As submission messages are processed by EMMA, the message content will be verified relative to business rules of expected data relationships. Exception response messages will be returned to the submitter system when certain types of conditions exist with respect to the data submitted. Response messages are classified as Error, Warning or Information depending on the nature and severity of the exception as follows:

1. Error message indicates termination of message processing with failure of the intended action. The submitter should take appropriate corrective action and re-submit as appropriate.
2. Warning message indicates a potential problem that deserves attention and correction as appropriate; however, the requested action is fulfilled.
3. Information message indicates certain action taken by EMMA that does not materially affect completeness of the submission but of which the submitter should be aware.

An abstract representation of a Response Message, shown below, will be returned to the Submitter System with the Response Message Content, defined in the table below, contained in the body of the message.



Below is a sample Response Message trace where a submission event has been confirmed as added successfully. This sample is intended to show the general structure of response messages.

## Response Message – Sample Trace File

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <Action s:mustUnderstand="1"
xmlns="http://schemas.microsoft.com/ws/2005/05/addressing/none">http://emma.msrb.org/sche
mas/disclosureservice/IDisclosureService/OpenSubmissionResponse
    </Action>
  </s:Header>
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <DisclosureMessageResponse
xmlns="http://emma.msrb.org/schemas/disclosuremessages">
      <DisclosureResponseDetails
xmlns="http://emma.msrb.org/schemas/disclosureservice">
        <Submission SubmissionID="EA1734" SubmissionStatus="Added"
xmlns="http://emma.msrb.org/schemas/disclosuremessages/types">
          </Submission>
        <Message MessageReturnCode="Information" MessageContent="Advance
refunding submission added."
xmlns="http://emma.msrb.org/schemas/disclosuremessages/types">
          </Message>
        </DisclosureResponseDetails>
      </DisclosureMessageResponse>
    </s:Body>
  </s:Envelope>
```



## Message Error Responses

**Table 3: Data Message Error/Warning Messages**

<b>XML Submission Validation - Response Messages</b>			
<b>Form G-45 (Data Message)</b>			
<b>XML Block</b>	<b>Data Tag</b>	<b>Message Return Code</b>	<b>Response Message Content</b>
Submission	Submission Identifier	Error	Required Field – Submission Identifier is a required field for updating existing submissions
		Information	Unnecessary Data Element - Submission should not be provided on an OPEN Submission.
		Error	Data Validation - Submission with id '<Submission ID>' does not exist for Plan Reference ID: <Plan Reference ID> and Managing MSRB ID: <MSRB ID>.
	Submission Status	Error	Required Field – Submission Status is a required field.
Submitter	Managing MSRBID	Error	Data Validation - You are not authorized to submit on behalf of the party indicated by the Managing MSRB ID.
Plan	Plan Reference ID	Error	Data Validation-Invalid Plan ID
	Reporting Year	Error	Data Validation - Invalid Reporting Year.
	Reporting Period	Error	Data Validation - Invalid Reporting Period.
		Error	Form G-45 submission already exists for the specified reporting period.
		Error	Required Field – Reporting Period is a required field.
	Plan Information Website	Error	Data Validation - Plan information website URL should start with 'http://' or 'https://'.
		Error	Data Validation - Invalid Plan Information Website.
	State	Error	Data Validation - Invalid State in Program Manager Information.
		Error	Data Validation - Invalid State in Underwriter Information.

## XML Submission Validation - Response Messages

### Form G-45 (Data Message)

XML Block	Data Tag	Message Return Code	Response Message Content
	Marketing Channel	Error	Required Field – Marketing Channel is a required field.
	Total Aggregate Assets	Error	Required Field – Total Aggregate Assets is a required field.
	Total Aggregate Contributions	Error	Required Field – Total Aggregate Contributions is a required field.
	Total Aggregate Distributions	Error	Required Field – Total Aggregate Distributions is a required field.
Option	Investment Option External ID	Error	Data Validation - Duplicate Investment Option IDs exist for <Investment Option ID>.
		Error	Data Validation - Space is not allowed in Investment Option ID: <Investment Option ID>.
	Inception Date	Error	Required Field – Inception Date is a required field for Investment Option ID: <Investment Option ID>.
		Error	Data Validation - Inception Date cannot be in future for Investment Option ID: <Investment Option ID>.
	Investment Type	Error	Required Field – Investment Type is a required field for Investment Option ID: <Investment Option ID>.
	Total Assets	Error	Required Field – Total Assets is a required field for Investment Option ID: <Investment Option ID>.
	Total Contributions	Error	Required Field – Total Contributions is a required field for Investment Option ID: <Investment Option ID>.
	Total Distributions	Error	Required Field – Total Distributions is a required field for Investment Option ID: <Investment Option ID>.
Asset Class Allocation	Asset Class	Error	Required Field – Asset Class Type is a required field for Investment Option ID: <Investment Option ID>.
	Allocation Percent	Error	Required Field – Asset Class Allocation Percent is a required field for Investment Option ID: <Investment Option ID>.
Underlying Investments	Allocation Percent	Error	Required Field – Underlying Investment Allocation Percent is a required field for Investment Option ID: <Investment Option ID>.

## XML Submission Validation - Response Messages

### Form G-45 (Data Message)

XML Block	Data Tag	Message Return Code	Response Message Content
Investment Performance	Including Sales Charges (Annual Return Percent)	Error	Required Field - At least one field is required in Investment Performance for Investment Option ID: <Investment Option ID>.
	Excluding Sales Charges (Annual Return Percent)		
	Note	-	-
Benchmark Performance	Benchmark Annual Return Percent YTD	Error	Required Field – Benchmark YTD annual return percent is a required field for Investment Option ID: <Investment Option ID>.
	Benchmark Annual Return Percent 1 Year	Error	Required Field – Benchmark one year annual return percent is a required field for Investment Option ID: <Investment Option ID>.
	Benchmark Annual Return Percent 3 Year	Error	Required Field – Benchmark three years annual return percent is a required field for Investment Option ID: <Investment Option ID>.
	Benchmark Annual Return Percent Since Inception	Error	Required Field – Benchmark annual return percent since inception is a required field for Investment Option ID: <Investment Option ID>.
Fees and Expenses	Estimated Underlying Fund Expenses	Error	Required Field- At least one field is required in Fees and Expenses for Investment Option ID: <Investment Option ID>
	Program Management Fee		
	State Fee		
	Miscellaneous Fees		
	Audit Fee		
	Annual Distribution Service Sales Fee		
	Total Annual Asset Based Fees		
	Maximum Deferred Sales Charge		
	Maximum Initial Sales Charge		
	Annual Account Maintenance Fee		
	Bank Administration Fee		
Note	-	-	

## Form G-45 Sample XML Message

### Data Message

```

<G45DataMessageType xmlns="EMMA-SUBMISSION-XML"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="EMMA-SUBMISSION-XML
C:\EMMA\B2B\Schema\PrimaryMarket\529CollegeSavingsPlans\EMMA_B2B_Submission_TypeDefinition_Schema_
RuleG45.xsd">
  <Submission SubmissionStatus="Publish"/>
  <Plan PlanReferenceID="VA-000001" ReportingYear="2014" ReportingPeriod="EndingJune30"
MarketingChannel="AdvisorSold" PlanInformationWebsite="www.topcollegefunds.com"
TotalAggregateAssets="25000000000" TotalAggregateContributions="2500000000"
TotalAggregateDistributions="5000000">
    <ProgramManagerInformation OrganizationName="Top College Funds"
ContactFirstName="Program" ContactLastName="Manager" PhoneNumber="1-888-567-0540" Address="123 529
Road" City="Alex" State="VA" ZipCode="22222-5555" EMailAddress="pm@2.com"/>
    <UnderwriterInformation>
      <Underwriter OrganizationName="Underwriter_1" ContactFirstName="Under"
ContactLastName="Writer1" PhoneNumber="1-888-567-0540" Address="123 529 Road" City="Alex" State="VA"
ZipCode="22222-5555" EMailAddress="uw@1.com"/>
      <Underwriter OrganizationName="Underwriter_2" ContactFirstName="Under"
ContactLastName="Writer2" PhoneNumber="1-888-567-0540" Address="123 529 Road" City="Alex" State="VA"
ZipCode="22222-5555" EMailAddress="uw@2.com"/>
    </UnderwriterInformation>
    <InvestmentOptions>
      <Option InvestmentOptionExternalID="123456789" Name="Age-Based 0-6
Years Portfolio" InceptionDate="2012-05-20" InvestmentType="AgeBasedOrYearOfEnrollment"
TotalAssets="5000000.00" TotalContributions="5000000.00" TotalDistributions="5000000.00">
        <AssetClassAllocation >
          <Allocation AssetClass="DomesticEquities"
AllocationPercent="12.5"/>
          <Allocation AssetClass="InternationalEquities"
AllocationPercent="12.5"/>
          <Allocation AssetClass="FixedIncomeProducts"
AllocationPercent="12.5"/>
          <Allocation AssetClass="Commodities"
AllocationPercent="12.5"/>
          <Allocation AssetClass="InsuranceProducts"
AllocationPercent="12.5"/>
          <Allocation AssetClass="BankProducts"
AllocationPercent="12.5"/>
          <Allocation AssetClass="CashOrCashEquivalents"
AllocationPercent="12.5"/>
          <Allocation AssetClass="OtherProductTypes"
AllocationPercent="12.5"/>
        </AssetClassAllocation>
        <UnderlyingInvestments>
          <Investment Name="T. Rowe Price Large-Cap Growth Fund"
AllocationPercent="17" />
          <Investment Name="Artisan Value Fund Institutional Class"
AllocationPercent="17" />
          <Investment Name="William Blair Growth Fund Class I"
AllocationPercent="13" />
          <Investment Name="Dodge & Cox International Stock
Fund" AllocationPercent="25" />
          <Investment Name="DFA U.S. Small Cap Portfolio
International Class" AllocationPercent="13" />
          <Investment Name="Dreyfus Bond Market Index Fund BASIC
Class" AllocationPercent="10" />
        </UnderlyingInvestments>
      </Option>
    </InvestmentOptions>
  </Plan>
</Submission>

```

```

Portfolio Institutional Class" AllocationPercent="0" />
    <Investment Name="DFA Inflation-Protected Securities
Institutional Class" AllocationPercent="0" />
    <Investment Name="Invesco Liquid Assets Portfolio
</UnderlyingInvestments>
<InvestmentPerformance Note="Investment performance note.">
    <IncludingSalesCharges
        AnnualReturnPercent_YearToDate="24.65"
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        AnnualReturnPercent_3Year="14.31"
        AnnualReturnPercent_5Year="18.81"
        AnnualReturnPercent_10Year="7.95"
        AnnualReturnPercent_SinceInception="3.93" />
    <ExcludingSalesCharges
        AnnualReturnPercent_YearToDate="24.15"
        AnnualReturnPercent_1Year="28.31"
        AnnualReturnPercent_3Year="14.26"
        AnnualReturnPercent_5Year="18.26"
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        AnnualReturnPercent_SinceInception="3.53" />
</InvestmentPerformance>
<BenchmarkPerformance>
    <Benchmark BenchmarkName="Russell 1000 Growth Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Russell 1000 Value Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Jones U.S. Total Stock
Market Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Russell 2000 Index"
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BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="MSCI All Country World ex-
U.S. Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="MSCI EAFE Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
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BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="All Country World ex-U.S.
Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Barclays U.S. Aggregate
Bond" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Barclays U.S. TIPS"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Citigroup 1-Month Treasury
Bill Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
</BenchmarkPerformance>
<FeesAndExpensesPercent
EstimatedUnderlyingFundExpenses="0.00"
ProgramManagementFee="0.65"
StateFee=".10"
MiscellaneousFees="0.24"
AuditFee="0.00"

```

AnnualDistributionServiceSalesFee="0.22"  
 TotalAnnualAssetBasedFee="1.18"  
 MaximumDeferredSalesCharge="0.00"  
 MaximumInitialSalesCharge="05.85"  
 AnnualAccountMaintenanceFee="10.50"  
 BankAdministrationFee="0.00"

Note="Fee to 529 Fund - As compensation for its oversight and administration, State 529 receives a quarterly fee accrued daily and calculated at the annual rate of 0.10% on the first \$30 billion of the net assets invested in Fund Program and 0.09% on the net assets between \$30 billion and \$60 billion.

Additional breakpoints apply to assets in excess of \$60 billion.

Annual distribution and/or service(12b-1) fee - The 12b-1 fees for the series may not exceed 0.50% for Class 529-A, 1% for Class 529-B, 1% for Class 529-C, 0.75% for Class 529-E, and 0.50% for Class 529-F-1 of the class's average net assets annually.

Total annual asset-based fees after fee waiver and/or reimbursement - The fund's investment adviser is currently waiving its management fee of 0.10%. This waiver will be in effect through at least December 31, 2014.

The waiver may only be modified or terminated with the approval of the fund's board.

Maximum initial sales charge - In addition to the annual Account maintenance fee, Accounts incur a setup fee of \$10.

General - The fund's investment adviser is currently reimbursing certain fees and expenses. This reimbursement will be in effect through at least December 31, 2014. The adviser may elect at its discretion to extend, modify or terminate the reimbursement at that time. The amounts of the reimbursements in the table are estimated.

Maximum initial sales charge or contingent deferred sales charge - The initial sales charge is reduced for purchases of \$100,000 or more and eliminated for purchases of \$1 million or more.

Maximum initial sales charge or contingent deferred sales charge - The contingent deferred sales charge is reduced one year after purchase and eliminated six years after purchase.

Maximum initial sales charge or contingent deferred sales charge - The contingent deferred sales charge is eliminated one year after purchase."

```

    />
  </Option>
</InvestmentOptions>
<InvestmentOptions>
  <Option InvestmentOptionExternalID="223456789"
InvestmentType="IndividualOrStandAlone" Name="Age-Based 12-14 Year Portfolio" InceptionDate="2008-01-01"
TotalAssets="5000000" TotalContributions="5000000" TotalDistributions="5000000">
  <AssetClassAllocation >
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AllocationPercent="12.5"/>
    <Allocation AssetClass="InternationalEquities"
AllocationPercent="12.5"/>
    <Allocation AssetClass="FixedIncomeProducts"
AllocationPercent="12.5"/>
    <Allocation AssetClass="Commodities"
AllocationPercent="12.5"/>
    <Allocation AssetClass="InsuranceProducts"
AllocationPercent="12.5"/>
    <Allocation AssetClass="BankProducts"
AllocationPercent="12.5"/>
    <Allocation AssetClass="CashOrCashEquivalents"
AllocationPercent="12.5"/>
    <Allocation AssetClass="OtherProductTypes"
AllocationPercent="12.5"/>
  </AssetClassAllocation>
<UnderlyingInvestments>
  <Investment Name="T. Rowe Price Large-Cap Growth Fund"
AllocationPercent="9.5" />
  <Investment Name="Artisan Value Fund Institutional Class"
AllocationPercent="9.5" />
  <Investment Name="William Blair Growth Fund Class I"
AllocationPercent="9" />
  <Investment Name="Dodge & Cox International Stock
Fund" AllocationPercent="5" />

```

```

International Class" AllocationPercent="17" />
Class" AllocationPercent="30" />
Portfolio Institutional Class" AllocationPercent="20" />
Institutional Class" AllocationPercent="0" />
</UnderlyingInvestments>
<InvestmentPerformance Note="Investment performance note.">
  <IncludingSalesCharges
    AnnualReturnPercent_YearToDate="24.65"
    AnnualReturnPercent_1Year="28.81"
    AnnualReturnPercent_3Year="14.31"
    AnnualReturnPercent_5Year="18.81"
    AnnualReturnPercent_10Year="7.95"
    AnnualReturnPercent_SinceInception="3.93" />
  <ExcludingSalesCharges
    AnnualReturnPercent_YearToDate="24.15"
    AnnualReturnPercent_1Year="28.31"
    AnnualReturnPercent_3Year="14.26"
    AnnualReturnPercent_5Year="18.26"
    AnnualReturnPercent_10Year="7.45"
    AnnualReturnPercent_SinceInception="3.53" />
  </InvestmentPerformance>
  <BenchmarkPerformance>
    <Benchmark BenchmarkName="Russell 1000 Growth Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Russell 1000 Value Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Jones U.S. Total Stock
Market Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Russell 2000 Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="MSCI All Country World ex-
U.S. Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="MSCI EAFE Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="S&P 500 Index"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="All Country World ex-U.S.
Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Barclays U.S. Aggregate
Bond" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Barclays U.S. TIPS"
BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
    <Benchmark BenchmarkName="Citigroup 1-Month Treasury
Bill Index" BenchmarkAnnualReturnPercent_YearToDate="3.5" BenchmarkAnnualReturnPercent_1Year="4.5"
BenchmarkAnnualReturnPercent_3Year="4.5" BenchmarkAnnualReturnPercent_SinceInception="4.5" />
  </BenchmarkPerformance>
  <FeesAndExpensesPercent
    EstimatedUnderlyingFundExpenses="0.00"

```



ProgramManagementFee="0.32"  
 StateFee="0.10"  
 MiscellaneousFees="0.19"  
 AuditFee="0.125"  
 AnnualDistributionServiceSalesFee="0.21"  
 TotalAnnualAssetBasedFee="0.82"  
 MaximumDeferredSalesCharge="0.0"  
 MaximumInitialSalesCharge="5.75"  
 AnnualAccountMaintenanceFee="10.25"  
 BankAdministrationFee="0.00"  
 Note="Fee to 529 Fund - As compensation for its oversight and

administration, Virginia529 receives a quarterly fee accrued daily and calculated at the annual rate of 0.10% on the first \$30 billion of the net assets invested in Fund Program a and 0.09% on net assets between \$30 billion and \$60 billion. Additional breakpoints apply to assets in excess of \$60 billion.

Annual distribution and/or service(12b-1) fee - Class 529-A 12b-1 fees may not exceed 0.50% of the class's average net assets annually.

Annual Account maintenance fee - In addition to the annual Account maintenance fee, Accounts incur a setup fee of \$10.

Maximum initial sales charge - The initial sales charge is reduced for purchases of \$25,000 or more and eliminated for purchases of \$1 million or more.

General - For American Funds Developing World Growth and Income Fund, the fund's investment adviser is currently reimbursing certain fees and expenses. Amounts shown do not reflect these reimbursements. The expenses for American Funds Developing World Growth and Income Fund are estimated.

Maximum initial sales charge - The initial sales charge is reduced for purchases of \$500,000 or more and eliminated for purchases of \$1 million or more.



"/>  
 </Option>  
 </InvestmentOptions>  
 </Plan>  
 <Submitter ManagingMSRBID="X099999"/>  
 </G45DataMessageType>

## Appendix

Form G-45 consists of a collection of data elements provided in electronic format to MSRB's EMMA system in connection with 529 college savings plans pursuant to MSRB Rule G-45. Below is a complete listing of all data elements and their descriptions.

	Data Elements	Description
	Underwriter Organization Name and MSRB ID	Submitting underwriter organization name and MSRB-issued registration number.
<b>Plan Descriptive Information</b>	State	The state that offers the 529 college savings.
	Plan ID	The MSRB issued and published plan ID. <a href="#">Click here for a list of plan IDs.</a>
	Reporting Year	The calendar year for which the submission applies.
	Reporting Period	The reporting period associated with the submission: <ul style="list-style-type: none"> <li>Semi-annual, ending June 30</li> <li>Annual, ending December 31.</li> </ul>
	Plan Website Address	Plan website address, if any. The "plan" is a college savings plan or program established by a state, or agency or instrumentality of a state, to operate as a Qualified Tuition Program in accordance with Section 529 of the Internal Revenue Code of 1986, as amended.
	Marketing Channel	The manner by which municipal fund securities that are not local government investment pools are sold to the public, such as through a broker, dealer or municipal securities dealer that has a selling agreement with an underwriter (commonly known as "advisor-sold") or through a website or toll-free telephone number or other direct means (commonly known as "direct-sold").
<b>Program Manager Information</b>	Organization Name	Legal name of program manager. "Program manager" is an entity that enters into a contract directly with the trustee of the plan to provide, directly or indirectly through service providers, investment advisory and management services, administration and accounting functions, and/or marketing and other services related to the day-to-day operation of the plan.
	Primary Contact First Name	First name of the primary contact of the program manager.
	Primary Contact Last Name	Last name of the primary contact of the program manager.
	Address	Street address or post office box of the program manager.
	City	Address city of the program manager.
	State	Address state of the program manager.
	Zip Code	Address zip code of the program manager.
	Phone Number	Phone number of the primary contact of the program manager.
	Phone Extension	Phone number of the primary contact of the program manager.
Email Address	Email address of the primary contact of the underwriter(s).	

	Data Elements	Description	
<b>Underwriter(s) Information</b>	Organization Name	Legal name of the underwriter(s). "Underwriter" shall mean a broker, dealer or municipal securities dealer that is an underwriter, as defined in Securities Exchange Act Rule 15c2-12(f)(8), of municipal fund securities that are not local government investment pools.	
	Primary Contact First Name	First name of the primary contact of the underwriter(s).	
	Primary Contact Last Name	Last name of the primary contact of the underwriter(s).	
	Address	Street address or post office box of the underwriter(s).	
	City	Address city of the underwriter(s).	
	State	Address state of the underwriter(s).	
	Zip Code	Address zip code of the underwriter(s).	
	Phone Number	Phone number of the primary contact of the underwriter(s).	
	Phone Extension	Phone number extension of the primary contact of the underwriter(s).	
	Email Address	Email address of the primary contact of the underwriter(s).	
<b>Aggregate Plan Information</b>	Total Aggregate Assets	Total plan assets, as of the end of the most recent semi-annual reporting period.	
	Total Aggregate Contributions	Total aggregate of all deposits into the plan, but shall not include reallocations,* for the most recent semi-annual period.	
	Total Aggregate Distributions	Total aggregate of all withdrawals of funds from the plan, but shall not include reallocations,* for the most recent semi-annual period.	
<b>Investment Option information</b>	Investment Option ID	Unique, alphanumeric investment option identifier assigned by the submitter.	
	Investment Option Name	Indicates the name of the investment option as described in a plan disclosure document or supplement thereto, available to account owners in a plan to which funds may be allocated.	
	Investment Option Inception Date	Inception date of investment option.	
	Investment Option Type	Investment type is the type of investment option. Investment types are: age based or year of enrollment/static or fixed/ individual or stand alone (as noted in <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> ).	
	Total Assets	Total assets in each investment option as of the end of the most recent semi-annual period.	
	Total Contributions	Total of all deposits into each investment option, but shall not include reallocations,* for the most recent semi-annual period.	
	Total Distributions	Total of all withdrawals of funds from each investment option, but shall not include reallocations,* for the most recent semi-annual period.	
	<b>Asset Class(es)</b>		
		Asset Class	Asset classes in each investment option, which shall mean domestic equities, international equities, fixed income products, commodities, insurance products, bank products, cash or cash equivalents or other product types.

	Data Elements	Description
<b>Investment Option Information</b>	Allocation Percentage	Actual asset class allocation of each investment option as of the end of the most recent semi-annual period.
	<b>Underlying Investment(s)</b>	
	Underlying Investment Name	The name of a registered investment company, unit investment trust, or other investment product in which an investment option invests.
	Allocation Percentage	The percentage allocation of each underlying investment in each investment option as of the end of the most recent semi-annual period.
	<b>Investment Performance</b>	
	 <u>Required for annual reporting period ending December 31.</u>	
	Total Returns Including Sales Charges	Total returns of the investment option expressed as a percentage, net of all generally applicable fees and costs, including sales charges, for the most recent calendar year. Specified periods include: year-to-date, one-year, annualized three-year, annualized five-year, annualized ten-year and annualized since inception.
	Total Returns Excluding Sales Charges	Total returns of the investment option expressed as a percentage, net of all generally applicable fees and costs, excluding sales charges, for the most recent calendar year. Specified periods include: year-to-date, one-year, annualized three-year, annualized five-year, annualized ten-year, annualized since inception.
	Note	As noted in <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> , in order to make the table clear and understandable, submitters are encouraged to add explanatory text or footnotes to each performance table, explaining principles followed and assumptions made by the State Issuer in preparing the table. Finally, submitters are encouraged to add additional information that, in their judgment enhances a user's understanding of the direct-sold or advisor-sold savings plan's performance, as applicable.
	<b>Benchmark Performance (If any)</b>	
	 <u>Required for annual reporting period ending December 31.</u>	
Benchmark Name	The name of the established index or a blended index that combines the benchmarks for each of the underlying mutual funds or other investments held by an investment option during the relevant time period weighted according to the allocations of those underlying mutual funds or other investments and adjusted to reflect any changes in the allocations and the benchmarks during the relevant time period.	
Benchmark Return Percent	Total returns of the benchmark for each investment option for the most recent calendar year. Specified periods include: year-to-date, one-year, annualized three-year, annualized since inception.	

	Data Elements	Description
Investment Option Information	<b>Fees and Expenses</b>	
	Estimated Underlying Fund Expenses	As noted in <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> , estimated underlying fund expenses for registered mutual funds, in the absence of a change that would materially affect information, is based on the most recent fiscal year reported upon in the applicable fund's most recent prospectus, and for investment options invested in multiple registered mutual funds, estimated underlying fund expenses is based on a weighted average of each fund's expense ratio, in accordance with the investment option's asset allocation among the applicable funds as of the reporting period.
	Program Management Fee	Program management fee in effect as of the most recent semi-annual reporting period. Ascribe as contemplated by <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> .
	State Fee	State fee in effect as of the most recent semi-annual reporting period. Ascribe as contemplated by <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> .
	Miscellaneous Fees	Miscellaneous fee in effect as of the most recent semi-annual reporting period. Ascribe as contemplated by <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> .
	Audit Fee	Audit fee in effect as of the most recent semi-annual reporting period.
	Annual Distribution/ Service/ Sales Fee	Annual distribution and/or service and/or sales fee in effect as of the most recent semi-annual reporting period. Ascribe as contemplated by <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> .
	Total Annual Asset Based Fees	This total is assessed against assets over the course of the year and does not include sales charges or account maintenance fees in effect as of the most recent semi-annual reporting period. Ascribe as contemplated by <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> .
	Maximum Deferred Sales Charge	Maximum deferred sales charge in effect as of the most recent semi-annual reporting period. Ascribe as contemplated by <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> .
	Maximum Initial Sales Charge	Maximum initial sales charge in effect as of the most recent semi-annual reporting period. Ascribe as contemplated by <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> .
	Annual Account Maintenance Fee	Annual account maintenance fee that is separately imposed on investors in connection with the maintenance of their accounts in effect as of the most recent semi-annual reporting period, as noted in <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> .
	Bank Administration Fee	Bank administration fee in effect as of the most recent semi-annual reporting period.
	Note	As noted in <a href="#">College Savings Plans Network Disclosure Principles Statement No.5</a> , submitters are also encouraged to add explanatory footnotes to the fee and cost tables in order to make such tables clear and understandable.

\* The term "reallocation" shall mean the withdrawal of funds from one investment option in a plan and deposit of the same funds into one or more investment options in the same plan, such as where an account owner selects a different investment option or funds are moved from one age-band to another as beneficiaries approach college age.

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