

EXCHANGE TRADED FUND (ETF)

**PHASE 2: RECORD LAYOUT: ENHANCED CONSOLIDATED PORTFOLIO COMPOSITION OUTPUT MRO:
AUTOROUTE PRODUCTION 02261256/TEST 02981256**

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Title: Phase 2: Record Layout: Enhanced Consolidated Portfolio Composition Output MRO: AutoRoute Production 02261256/Test 02981256

Record Layout: Enhanced Consolidated Portfolio Composition Output Data File: AutoRoute Production 02261256/Test 02981256

The following sections contain the information for the Enhanced Consolidated Portfolio Composition Output Data File: AutoRoute Production 02261256/Test 02981256 record layout.

Note

Values modified from the previous version appear in **red**. All record types are now 500 bytes in length due to the addition of new fields. Additionally, in response to industry requests, several exiting fields were expanded to handle additional decimal places. For example, Net Asset Value Per Creation Unit and Net Asset Value Per ETF. Due to the expansion of existing fields, subsequent fields have been placed in new byte order within the specification, which demands modification even if ETF agents do not use the new data elements.

Type 1–Header Record

The following table show the Type 1–Header Record details for the Enhanced Consolidated Portfolio Composition Output Data File: AutoRoute Production 02261256/Test 02981256:

Type 1–Header Record

AutoRoute Production 02261256/Test 02981256					
Type 1–Header Record					
Record Length = 500					
Seq	Description	Length	Start	Type	Comments
1	Record Type	2	1	A/N	01 = Header Record One per file.
2	File Description	25	3	A/N	Portfolio Composition
3	ETF Agent	8	28	N	NSCC Member Number. Right justified with leading zeros.
4	File Identifier	8	36	A/N	Input File Number.
5	Processing Date	8	44	N	CCYYMMDD
6	Processing Time	6	52	N	HHMMSS
7	Future Use	443	58		
END OF RECORD					

Type 2–Portfolio Header Record

The following table show the Type 2–Portfolio Header Record details for the Enhanced Consolidated Portfolio Composition Output Data File: AutoRoute Production 02261256/Test 02981256:

Type 2–Portfolio Header Record

AutoRoute Production 02261256/Test 02981256					
Type 2 – Portfolio Header Record					
Record Length = 500					
Seq	Description	Length	Start	Type	Comments
1	Record Type	2	1	A/N	02 = Header Type 2 One per portfolio.
2	ETF Trading CUSIP	9	3	A/N	S&P Assigned
3	ETF Trading ISIN	12	12	A/N	International Securities Identification Number.
4	NSCC Portfolio ID	9	24	A/N	NSCC assigned Portfolio ID of the basket.
5	ETF Description	60	33	A/N	From the NSCC Security Master database if found; otherwise, the ETF agent supplied description is used.
6	Portfolio Trade Date	8	93	N	CCYYMMDD
7	ETF Agent	8	101	N	NSCC member number. Right-justified with leading zeros.
8	Component Count	8	109	N	99,999,999
9	Estimated T-1 Cash Amount Per Creation Unit	14	117	N	999,999,999,999.99
10	Sign field for Estimated T-1 Cash Amount Per Creation Unit	1	131	A/N	<ul style="list-style-type: none"> • "-" = Negative value • Space = Positive value • All other values are treated as a space (positive value)
Note: Sequence 11, 15, and 25 are existing fields that have been expanded from 5 to 6 decimal places. Due to this expansion, all subsequent fields have new placement within the file. ETF agents and authorized participants must adjust to the new placement of all fields.					
11	Net Asset Value Per Creation Unit	18	132	N	999,999,999,999.999999 Decimal place expands to 6 digits.

Type 2–Portfolio Header Record (Continued)

AutoRoute Production 02261256/Test 02981256					
Type 2 – Portfolio Header Record					
Record Length = 500					
Seq	Description	Length	Start	Type	Comments
12	Sign field for Net Asset Value Per Creation Unit	1	150	A/N	<ul style="list-style-type: none"> • "-" = Negative value • Space = Positive value • All other values are treated as a space (positive value)
13	Estimated T-1 Cash Amount Per ETF	14	151	N	999,999,999,999.99
14	Sign field for Estimated T-1 Cash Amount Per ETF	1	165	A/N	<ul style="list-style-type: none"> • "-" = Negative value • Space = Positive value • All other values are treated as a space (positive value)
15	Net Asset Value Per ETF	18	166	N	999,999,999,999.999999 Decimal place expands to 6 digits.
16	Sign field for Net Asset Value Per ETF	1	184	A/N	<ul style="list-style-type: none"> • "-" = Negative value • Space = Positive value • All other values are treated as a space (positive value)
17	Total Cash Amount Per Creation Unit	14	185	N	999,999,999,999.99
18	Sign field for Total Cash Amount Per Creation Unit	1	199	A/N	<ul style="list-style-type: none"> • "-" = Negative value • Space = Positive value • All other values are treated as a space (positive value)
19	Total Shares Outstanding Per ETF	12	200	N	999,999,999,999
20	Dividend Amount Per ETF on T-1	14	212	N	999,999,999,999.99

Type 2–Portfolio Header Record (Continued)

AutoRoute Production 02261256/Test 02981256					
Type 2 – Portfolio Header Record					
Record Length = 500					
Seq	Description	Length	Start	Type	Comments
21	Sign field for Dividend Amount Per ETF on T-1	1	226	A/N	<ul style="list-style-type: none"> • "-" = Negative value • Space = Positive value • All other values are treated as a space (positive value)
22	Estimated value of Cash-in-lieu Components per Creation Unit	14	227	N	999,999,999,999.99
23	Cash Only Indicator	1	241	A/N	<ul style="list-style-type: none"> • Y = Cash Only (create/redeem with Cash only) • Space = No restrictions (any combination of cash or securities)
24	ETF Expense Ratio on T-1	3	242	N	Expressed in basis points.
25	Total Net Asset Value of ETF Fund on T-1	18	245	N	999,999,999,999.999999 Decimal place expands to 6 digits.
26	ETF Shares Per Create/Redeem Unit	9	263	N	From the NSCC Security Master database. 999,999,999
27	ETF Symbol	15	272	A/N	From the NSCC Security Master database.
28	CNS Eligibility Indicator	1	287	A/N	From the NSCC Security Master database.
29	ETF Create Redeem Identifier	1	288	A/N	<ul style="list-style-type: none"> • Y = Basket can be created or redeemed. • N = Basket cannot be created or redeemed.
30	Prior Day's Portfolio being used	1	289	A/N	<ul style="list-style-type: none"> • Y = Prior day's portfolio • Space = Today's portfolio

Type 2–Portfolio Header Record (Continued)

AutoRoute Production 02261256/Test 02981256					
Type 2 – Portfolio Header Record					
Record Length = 500					
Seq	Description	Length	Start	Type	Comments
Note: Sequence 31 is a newly specified field that lists the code that identifies the type of ETF basket.					
31	Basket Type	2	290	A/N	<ul style="list-style-type: none"> • 01 = Standard • 02 = Restricted • 03 = Pricing • 04 = Rebalance • 05 = Create Only • 06 = Redeem Only • 07 = Negotiated
32	Foreign or Domestic	1	292	A/N	<ul style="list-style-type: none"> • D = Domestic • F = Foreign
33	NSCC New Portfolio	1	293	A/N	<ul style="list-style-type: none"> • Y = New portfolio • Space = Existing portfolio
34	ETF Classification Code	6	294	A/N	For future use to classify ETFs.
Note: Sequence 35 is used for Rebalance baskets only allowing for different unit sizes on rebalancing. If supplied on the portfolio composition file (PCF), the ETF Basket Unit Size will be used to calculate ETF shares for settlement. If not supplied, NSCC calculates the ETF shares using the Creation Unit originally submitted when the NSCC Portfolio IDs are requested at the ETF launch.					
35	ETF Basket Unit Size	9	300	N	Defines the size of this basket that is different from the ETF Creation Unit size. Specified only on Rebalance baskets. Optional. All zeroes if not provided. 999,999,999
Note: Sequence 36 through 50 are optional fields requested by the industry primarily for use in the Pricing and Negotiated basket types. All fields are optional, yet still need to be populated with zeros or spaces, as specified in the Comments column of this table. These fields allow for submission of full fund PCFs with asset types that are not normally reported on the clearing eligible PCFs. Pricing baskets will never be clearing eligible.					
36	Variable Fees	8	309	N	999,999.99

Type 2–Portfolio Header Record (Continued)

AutoRoute Production 02261256/Test 02981256					
Type 2 – Portfolio Header Record					
Record Length = 500					
Seq	Description	Length	Start	Type	Comments
37	Baby Bond Cash Value	10	317	N	99,999,999.99
38	Fixed Income Face Value Adjustment	10	327	N	99,999,999.99
39	Asset Classification Code for Underlying Components	2	337	A/N	Asset classification codes: <ul style="list-style-type: none"> • 01 – EQUITY • 02 – FIXED INCOME • 03 – COMMODITY • 04 – MIXED ASSET • 05 – ALTERNATIVE • 06 - CURRENCY
40	Leverage Indicator Code	2	339	A/N	<ul style="list-style-type: none"> • 01 – Unleveraged • 02 – Leveraged • 03 – Inverse Leveraged
41	Leverage Factor	4	341	A/N	99.99
42	Transfer Agent ID	8	345	N	Transfer agent ID.
43	Transfer Agent Name	48	353	A/N	Name of the transfer agent.
44	Fund LEI	20	401	A/N	Legal entity identifier of the fund.
45	Fund Size	23	421	N	Fund AUM, at the share class or product level. 99,999,999,999.999999999999
46	Share Class Apportionment Ratio	1	444	N	Identifies if the fund has share classes and the proportional ownership of the fund if it has share classes. For U.S., ETFs always = 1. Space if not provided.

Type 2–Portfolio Header Record (Continued)

AutoRoute Production 02261256/Test 02981256					
Type 2 – Portfolio Header Record					
Record Length = 500					
Seq	Description	Length	Start	Type	Comments
47	Projected Transaction Fee	7	445	N	EMEA-specific: estimated transaction fee. 99,999.99
48	Date for Projected Transaction Fee	8	452	N	Effective trade date of the basket, in CCYYMMDD format.
49	Confirmed Transaction Fee	7	460	N	Actual cost of the transaction - also known as the Create/Redeem fee. 99,999.99
50	Date for Confirmed Transaction Fee	8	467	N	Effective trade date of the basket, in CCYYMMDD format.
51	Projected Cash for Pricing Basket	14	475	N	Projected cash figure for trade date based on pricing basket. 999,999,999,999.99
52	Baskets Outstanding	6	489	N	Number of basket/units outstanding in the fund, at the share class or product level. 999999

Type 2–Portfolio Header Record (Continued)

AutoRoute Production 02261256/Test 02981256

Type 2 – Portfolio Header Record

Record Length = 500

Seq	Description	Length	Start	Type	Comments
<p>Note: Sequence 53, Pricing Usage Indicator, is used to specify if the Standard basket should be used as a Pricing basket for passive Index Funds. In cases where Y is submitted, the ETF Agent or Sponsor will not provide a full holdings pricing file. Consumers of the PCF output should use the Standard basket for pricing or continue current practices for pricing. If N is submitted the ETF Agent or Sponsor will submit a separate full fund holdings Pricing basket.</p> <p>The new Pricing Usage Indicator has the following edits and controls:</p> <ul style="list-style-type: none"> • If Y is submitted and a separate Pricing basket for the same fund is also submitted, the Pricing basket will be rejected. • If N is submitted and a separated Pricing basket is not submitted, a WARN message will be issued. • If a Pricing basket is submitted and no Standard basket for the same fund is submitted, the Pricing basket is rejected at the end of the day. <p>See message codes 268, 269, and 283 in the Message Codes and Descriptions section.</p>					
53	Pricing Usage Indicator	1	495	A (Y, N)	<ul style="list-style-type: none"> • Y = Standard basket to be used as a Pricing basket. • N = Full Fund Pricing basket will be submitted for this fund. • Space = Defaults to Y
54	Creation Order Usage	1	496	A (Y, N)	<ul style="list-style-type: none"> • Y = Standard NSCC Instruction ID to be used for standard and creation orders. • N = Create Only basket (basket type 05) will be submitted and published on ETF output. The NSCC Portfolio ID associated with the type 05 basket is used for creation orders. • Space = Defaults to Y

Type 2–Portfolio Header Record (Continued)

AutoRoute Production 02261256/Test 02981256					
Type 2 – Portfolio Header Record					
Record Length = 500					
Seq	Description	Length	Start	Type	Comments
55	Redemption Order Usage	1	497	A (Y, N)	<ul style="list-style-type: none"> • Y = Standard NSCC Instruction ID to be used for standard and redemption orders. • N = Redeem Only basket (basket type 06) will be submitted and published on ETF output. The NSCC Portfolio ID associated with the type 06 basket is used for redemption orders. • Space = Defaults to Y
56	Future Use	3	498		Spaces
END OF RECORD					

Type 3–Detail Component Record

The following table show the Type 3–Detail Component Record details for the Enhanced Consolidated Portfolio Composition Output Data File: AutoRoute Production 02261256/Test 02981256:

Type 3–Detail Component Record

AutoRoute Production 02261256/Test 02981256					
Type 3–Detail Component Record					
Record length=500					
Seq	Description	Length	Start	Type	Comments
1	Record Type	2	1	A/N	03 = Record Type 3 One per component.
2	ETF Trading CUSIP	9	3	A/N	S&P Assigned
3	ETF Trading ISIN	12	12	A/N	International Securities Identification Number.
4	NSCC Portfolio ID	9	24		NSCC assigned Portfolio ID of the basket.
5	Portfolio Trade Date	8	33	N	CCYYMMDD
6	Component ID Code	2	41	A/N	<ul style="list-style-type: none"> • 01 = CUSIP • 02 = SEDOL • 03 = ISIN • 04 = ISIN/SEDOL • 05 = Bloomberg • 06 = Reuters • 07 = ICE / NYSE Life • 99 = Other
<p>Note: Type 99 Component ID Code is a catch all for underlying assets without standardized identifiers. Components with ID Code type 99 = Other do not require Component ID Sequence 4. NSCC passes only the description provided. In all other cases, NSCC passes the ID code provided in Sequence 4.</p>					
7	Component ID	25	43	A/N	Defined by the value in the Component ID Code field.
	<ul style="list-style-type: none"> • CUSIP 	9	43	A/N	Identifies the domestic component.
	<ul style="list-style-type: none"> • SEDOL 	7	43	A/N	Official SEDOL number.
	<ul style="list-style-type: none"> • ISIN 	12	43	A/N	Official ISIN number. Identifies the foreign or domestic component.

Type 3–Detail Component Record (Continued)

AutoRoute Production 02261256/Test 02981256 Type 3–Detail Component Record Record length=500					
Seq	Description	Length	Start	Type	Comments
	<ul style="list-style-type: none"> • ISIN/SEDOL 	19	43	A/N	Combination ISIN/ SEDOL number Recommended for non-US domiciled securities.
	<ul style="list-style-type: none"> ◦ ISIN 	12	43	A/N	International Securities Identification Number.
	<ul style="list-style-type: none"> ◦ SEDOL 	7	55	A/N	Stock Exchange Daily Official List.
	<ul style="list-style-type: none"> • Bloomberg 			A/N	Alternative market identifier code.
	<ul style="list-style-type: none"> • Reuters 			A/N	Reuters instrument code (RIC). Alternative market identifier code.
	<ul style="list-style-type: none"> • ICE/NYSE Life 			A/N	Alternative market identifier code.
	<ul style="list-style-type: none"> • All other types 	25	43	A/N	Free form field identifying other types of identifier codes.
<p>Note: Sequence 8 is an existing field that has been expanded for Fixed Income Clearing and other asset types. Due to this expansion, all subsequent fields have new placement within the file. ETF agents must adjust to the new placement of all fields.</p>					
8	Component Quantity	21	68	N	Quantity of component per creation unit (par value for fixed income securities). 9,999,999,999,999.99999999
9	Sign Field for Component Quantity	1	89	A/N	<ul style="list-style-type: none"> • "-" indicates negative value (short position) • Space = Positive value • All other values are treated as a space (positive value) <p>Note: A component with negative quantity (short component) can only be created or redeemed for cash.</p>
10	New Security Indicator	1	90	A/N	<ul style="list-style-type: none"> • N = New component in portfolio as per the ETF agent. • Space = Not new

Type 3–Detail Component Record (Continued)

AutoRoute Production 02261256/Test 02981256					
Type 3–Detail Component Record					
Record length=500					
Seq	Description	Length	Start	Type	Comments
11	Cash In Lieu Indicator	1	91	A/N	<ul style="list-style-type: none"> Y = ETF agent provided indicator for component to be substituted for cash in a create/redeem. X = NSCC applied indicator for component to be substituted for cash in a create and redeem (per below mentioned rules) Space = No substitution <p>Note: CIL is set to X if one of the following conditions is met for create / redeem eligible portfolios:</p> <ul style="list-style-type: none"> Component is not in NSCC Security Master database. Portfolio is a cash only portfolio.
12	Component Symbol	15	92	A/N	Trading symbol of the component.
13	Component WI Indicator	1	107	A/N	When Issued indicator of the domestic component.
14	Component Undergoing Corporate Action	1	108	A/N	<ul style="list-style-type: none"> Space = No corporate action M = Mandatory Corporate Action V = Voluntary Corporate Action
15	Component NSCC Eligibility Indicator	1	109	A/N	<ul style="list-style-type: none"> Y = NSCC eligible N = Not NSCC eligible
16	Component CNS Indicator	1	110	A/N	<ul style="list-style-type: none"> Y = CNS eligible N = Not CNS eligible

Type 3–Detail Component Record (Continued)

AutoRoute Production 02261256/Test 02981256 Type 3–Detail Component Record Record length=500					
Seq	Description	Length	Start	Type	Comments
17	External Settlement Date	8	111	N	ETF agent provided settlement date for non-DTC settling components, in CCYYMMDD format.
18	Component Description	60	119	A/N	ETF agent defined description.
Notes: <ul style="list-style-type: none"> Sequence 19, 20, and 21 can be used on Pricing basket types. They have also been added in preparation for Phase 2, clearing of ETFs with Corporate and Municipal Fixed Income underlying assets. Sequence 20 and 21 take effect when the Phase 1 PCF Enhancements are deployed. For Sequence 20 and 21, the descriptions are expected to change after the deployment of ETF Phase 2. For more information about the full requirements, see the ETF Phase 2: Clearing Enhancements to Support Fixed Income Assets for Corporate, Municipal, and UIT (CMU) document. 					
19	When Issued Indicator	1	179	A/N	Agent provide When Issued (WI) indicator for fixed income components: <ul style="list-style-type: none"> Y = When Issued N = Not When Issued
20	<ul style="list-style-type: none"> Accrued Interest T1 (Phase 1) Accrued Interest Nonstandard Settlement (Phase 2) 	11	180	N	999,999,999.99
21	<ul style="list-style-type: none"> Accrued Interest T2 (Phase 1) Accrued Interest Standard Settlement (Phase 2) 	11	191	N	999,999,999.99
Note: Sequence 22 through 41 are optional fields requested by the industry primarily for use in Pricing and Negotiated basket types. All fields are optional, yet still need to be populated with zeros or spaces, as specified in the Comments column of this table. These fields allow for submission of full fund PCFs with assets types that are not normally reported on the clearing eligible PCFs. Pricing baskets will never be clearing eligible.					
22	Asset Class	27	202	A	Free form field to identify the asset class of the security.

Type 3–Detail Component Record (Continued)

AutoRoute Production 02261256/Test 02981256					
Type 3–Detail Component Record					
Record length=500					
Seq	Description	Length	Start	Type	Comments
23	Excluded From Pricing	21	229	N	<p>Pricing Basket Only</p> <p>Quantity of securities owned by the fund per basket/unit, but difficult to price.</p> <p>Securities that should be priced intraday, but names that are unable to price on the NAV date.</p> <p>Pre-corporate action prices and shares would be included as part of this basket.</p> <p>Examples: Complex corporate actions and fair-valued names.</p> <p>9,999,999,999,999.99999999</p>
24	Price (in Fund Base Currency)	24	250	N	<p>Pricing Basket Only</p> <p>Price of the security on the NAV date.</p> <p>999,999,999,999,999,999.999999</p>
25	Local Currency	3	274	A	Identifies the currency of the security. For example, USD.
26	Factor	24	277	N	<p>Decimal value reflecting a proportion of the outstanding principal value of the factor bonds that changes over time. Also applies to equity factors, such as stock split on ex date.</p> <p>999,999,999,999,999,999.999999</p>
27	Synthetics Local Currency	3	301	A	Identifies the currency of the security. For example, USD.
28	Synthetics Price Multiplier	24	304	N	<p>Designated price multiplier.</p> <p>999,999,999,999,999,999.999999</p>

Type 3–Detail Component Record (Continued)

AutoRoute Production 02261256/Test 02981256 Type 3–Detail Component Record Record length=500					
Seq	Description	Length	Start	Type	Comments
29	Synthetics Contract Size	24	328	N	Agreed notional size of the futures contract. 999,999,999,999,999,999.999999
30	Synthetics Average Contract Open Price	24	352	N	Average of the future trade price. 999,999,999,999,999,999.999999
31	FX Rates Base Currency	3	376	A	Identifies the base currency of the fund. For example, USD
32	FX Rates Currencies	3	379	A	Spot FX rates of respective currencies against the base currency of the fund. For example, EUR, GBR, USD.
33	FX Forwards Currency Pair	6	382	A	Identifies the currency pair associated with the FX forward. For example, EURUSD
34	FX Forwards Value Date	8	388	N	Settlement date of the FX forward, CCYYMMDD format.
35	FX Forwards Quantity	9	396	N	Fund hedged quantity. 9,999,999.99
36	FX Forwards Rate	7	405	N	Interpolated rate: rate used for NAV calculation, including forward point interpolation. 9.999999
37	FX Forwards Value	9	412	N	Currency market value of the FX forward. 9,999,999.99
38	FX Forwards Currency	3	421	A	Identifies the base currency of the FX forward contract. For example, EUR

Type 3–Detail Component Record (Continued)

AutoRoute Production 02261256/Test 02981256 Type 3–Detail Component Record Record length=500					
Seq	Description	Length	Start	Type	Comments
39	SWAPs Notional Value	7	424	N	Total amount of a security's underlying asset. 9,999,999
40	SWAPs Spread	5	431	N	Cost of the underlying fee from the SWAP counterparty. 9.9999
41	SWAPs Market Value	9	436	N	Agreed upon price of the SWAP. 9,999,999.99
42	Future Use	56	445		Spaces
END OF RECORD					

Type 99–Trailer Record

The following table show the Type 99–Trailer Record details for the Enhanced Consolidated Portfolio Composition Output Data File: AutoRoute Production 02261256/Test 02981256:

Type 99–Trailer Record

AutoRoute Production 02261256/Test 02981256					
Type 99–Trailer Record (New Record)					
Record length = 500					
Seq	Description	Length	Start	Type	Comments
1	Record Type	2	1	A/N	99 = Trailer Record One per file.
2	Processing Date	8	3	N	CCYYMMDD
3	Primary Transmission or Supplement	1	11	A/N	<ul style="list-style-type: none"> • P = Primary Transmission • S = Supplemental Transmission
4	Record Count	13	12	N	Number of records in transmission (including trailer).
5	Future Use	476	25		Spaces
END OF RECORD					

FOR MORE INFORMATION

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