Crop Yield - FI007.0

Last modified by

Pramod Khombare

Current document version

V1.0

Module Name

F-Intel

Contents

1. Document History 3
2. Overview - 4
2.1 Service objectives or Business requirements and the business values added by the service 4
3. Pre-requisite Services 4
4. Add form 4
4.1 4
4.2 4
4.4.1. Add form field descriptions 5
5. Customizations Summary Table 5
6. Customization Details/ Use Case 5
7. View form 6
7.1. View Screen – F-Intel Dashboard 6
7.2. Feature – Crop Yield – when data is available 6
7.2.1. Feature – Crop Yield – when data not is available 9
7.3. Cancel & Close Functionality 10
7.4. Reverse Functionality 10
7.5. Field Descriptions – Crop Yield card 10
7.6. Scenarios 12
8. Common Validations 12
9. Edit Functionality 12
10. Account Postings 12
11. Detailed View 12
12. Print View 13
13. Configuration Settings 13
14. Post-Impacted Services & Reports 13
15. Email Alerts 13

1. Document History

VERSION HISTORY							
DATE	**CLIENT NAME**	**VERSION**	**DESCRIPTION OF CHANGE**	**AUTHOR**	**REQUIREMENT ID**	**CCB ID**	**STATUS**
05/08/2024	F-Intel	V 1.0	New Document	Pramod K			Pending

2. Overview -

2.1 Service objectives or Business requirements and the business values added by the service

Use Case: Yield Estimation and Harvest Planning

The Crop Yield card offers valuable insights to farmers and agronomists by predicting the harvest date and expected yield based on current ground conditions. It allows users to compare these predictions with real-world outcomes by providing an option to input the actual harvest date and yield, as well as crop yield observations from field inspections.

This functionality helps users monitor crop performance, validate predictions, and refine future yield forecasts, enabling more accurate planning and decision-making for harvest management.

3. Pre-requisite Services

#	MODULE NAME	SERVICE NAME	SERVICE CODE
1		The Data Science team should have access to the weather data (forecast & historical) through APIs to predict the crop yield. Name of the provider: OpenWeather	
2		The Data Science team should be granted access to the satellite derived indices (historical & future dates) through APIs to predict the crop yield.	
3			
4			
5			
6			
7			
8			
9			

4. Add form

4.1

Notes

- Not applicable

Feature:

4.2

Notes

- Not applicable

Field Descriptions

4.4.1. Add form field descriptions

#	FIELD NAME	FIELD DESCRIPTION	ACCEPTANCE DATA/CRITERIA	- ERROR MESSAGE	Sample Example	PREREQUISITE	Mandatory Y/N
			-	-			
			-	-			

5. Customizations Summary Table

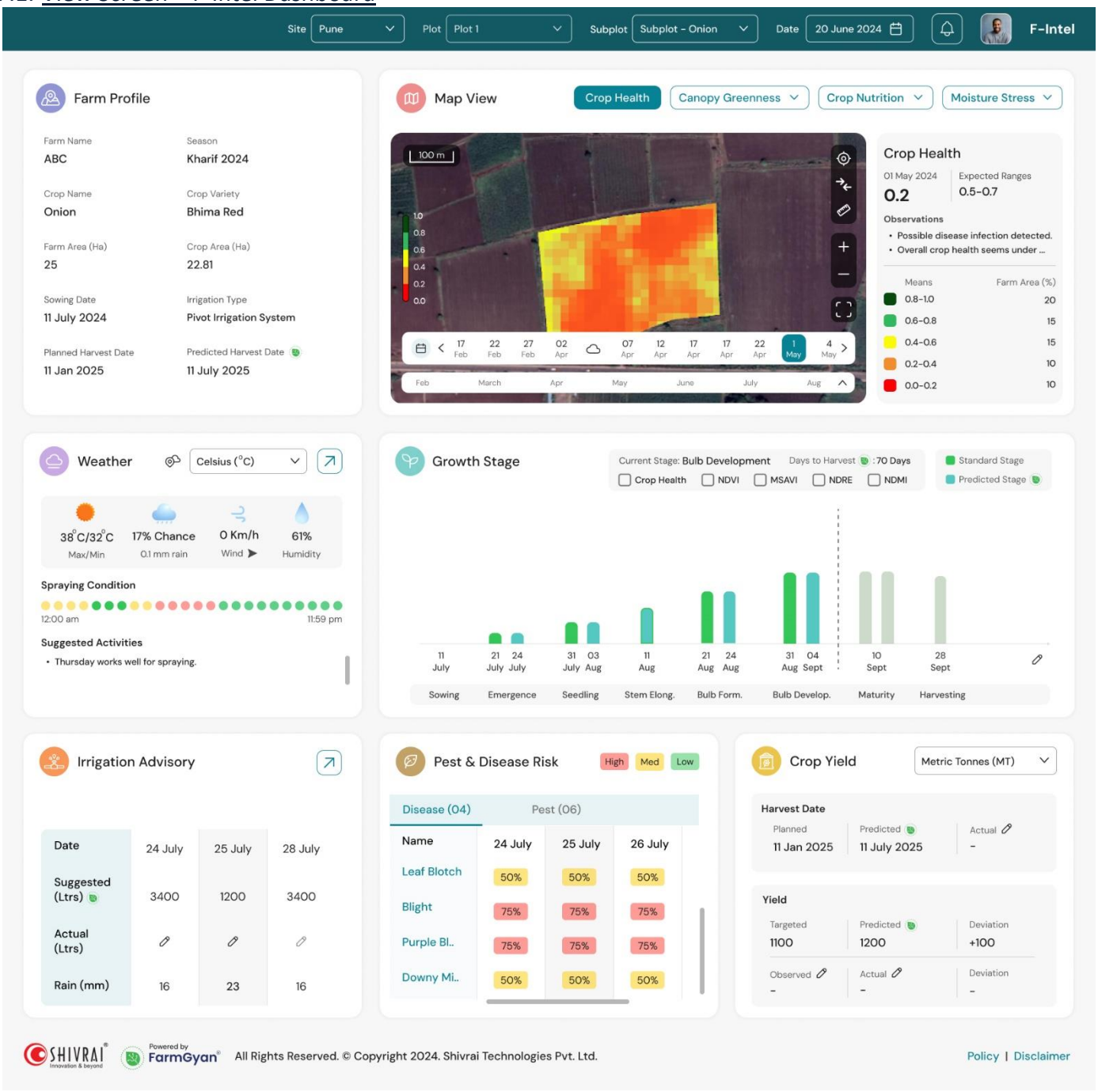
DATE	CLIENT NAME	REQUIREMENT ID	CCB ID	IMPACTED AREA	Change Category	REQUIREMENT STATUS

6. Customization Details/ Use Case

Requirement ID	DevOps ID
Requirement:	

7. View form

7.1. View Screen – F-Intel Dashboard



Notes

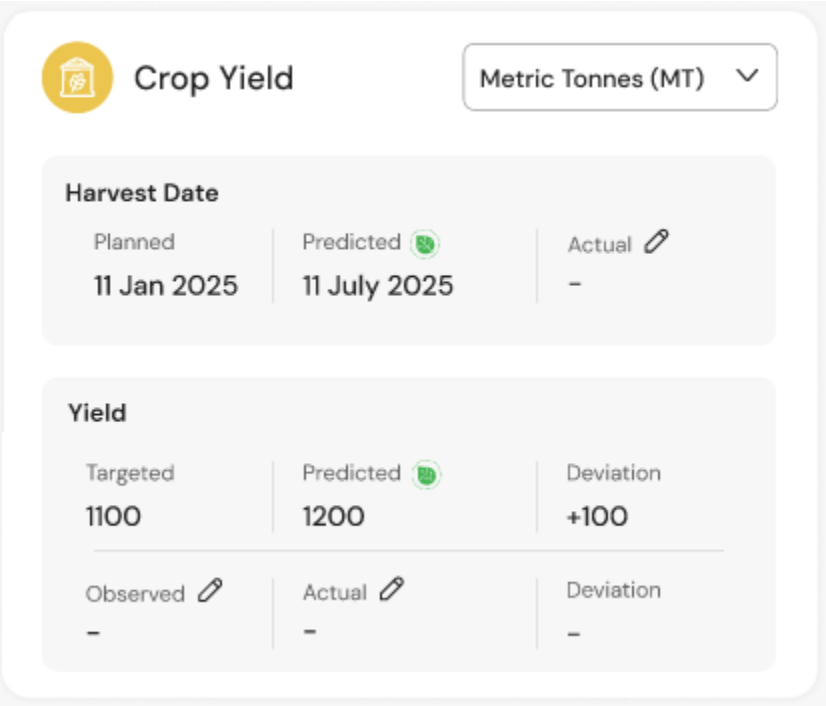
Introducing the F-Intel dashboard, designed to deliver a comprehensive range of insights:

- **Farm Profile**: Provides detailed information about the farm.
- **Map View**: Offers map-based insights into crop health, nutrition, canopy greenness, and moisture stress.
- **Weather Details**: Displays current weather conditions with hourly and daily updates, including suggestions for spraying conditions and recommended activities.

- **Crop Growth Stage**: Tracks the crop's current stage, age, and days to harvest. It also offers insights into crop performance using satellite-based time series data like NDVI, MSAVI, NDRE, and NDMI.
- **Irrigation Advisory**: Recommends the optimal amount of water for irrigation, factoring in actual irrigation and rainwater contribution.
- **Pest and Disease Risk**: Highlights the percentage risk of pests and diseases, complete with images, details, control measures, and expert recommendations.
- **Crop Yield**: Shows planned and predicted harvest dates, allows for input of actual harvest dates, and compares targeted vs. predicted yields. Users can also log field observations during the growing season and actual yields after harvesting to track deviations.

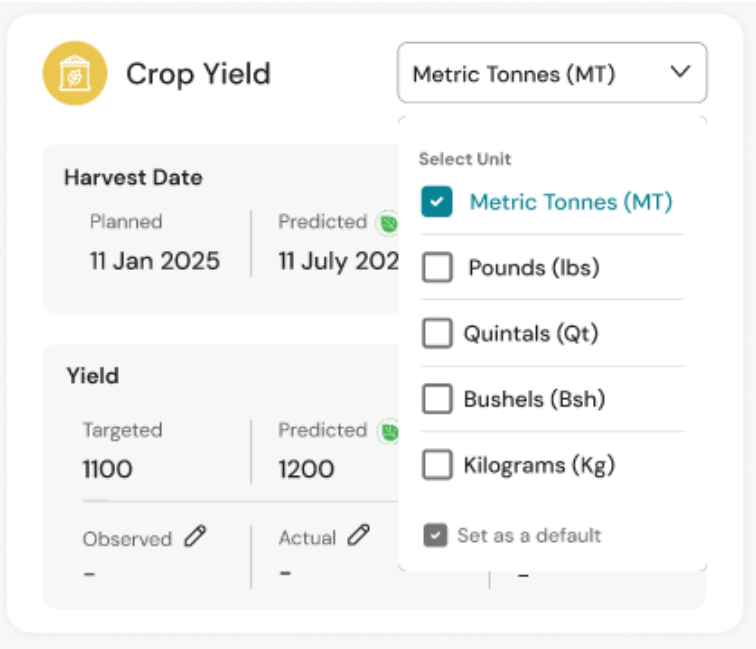
The dashboard presents insights based on the selected site, plot, subplot, and date.

7.2. Feature – Crop Yield – when data is available



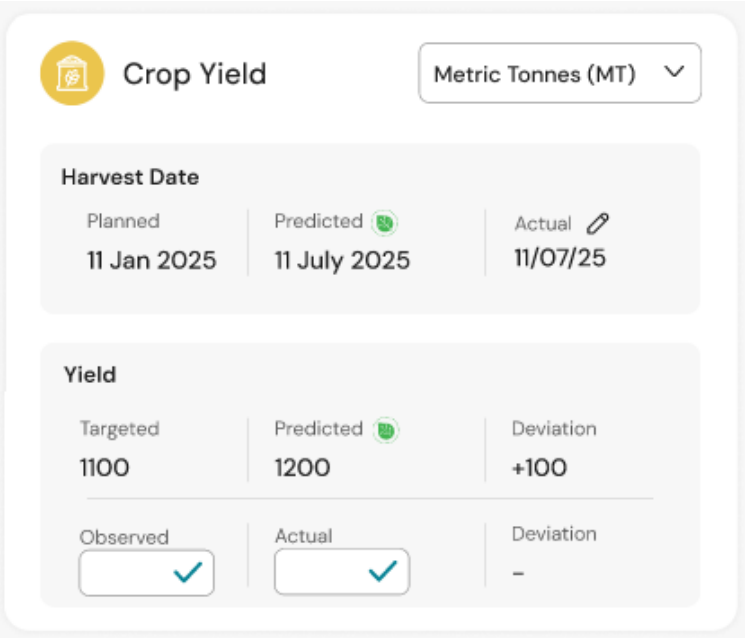
Notes

- The Crop Yield card provides key insights by predicting the harvest date and expected yield based on current ground conditions.
- Users can input the actual harvest date, yield, and observations from field inspections.
- It displays the planned, predicted, and actual harvest dates, allowing users to identify deviations and make more informed decisions for harvest management.
- The card highlights deviations between targeted and predicted yields, as well as observed and actual yields, to support better management practices.

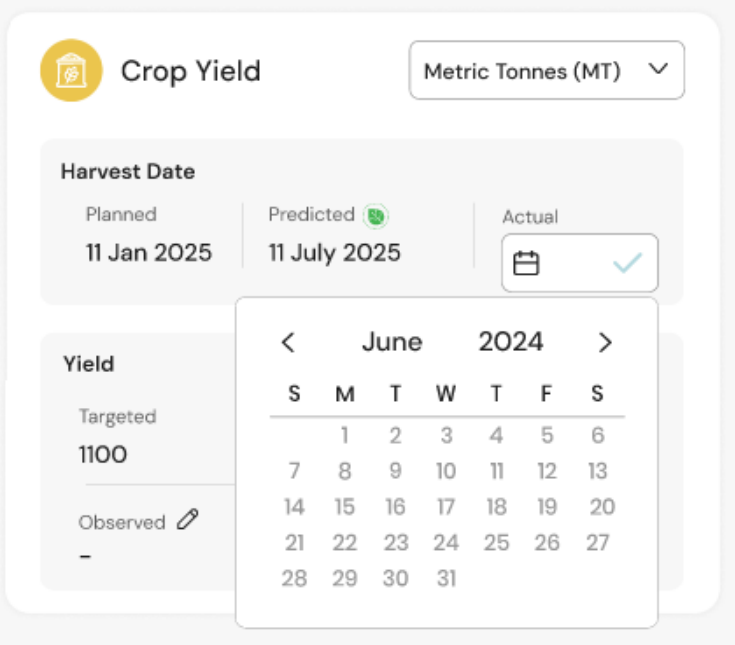


Notes

- Measurement unit's dropdown offers a dropdown menu with multiple yield measurement units for users to choose from as shown in below image.
- User can set one measurement unit as a default.



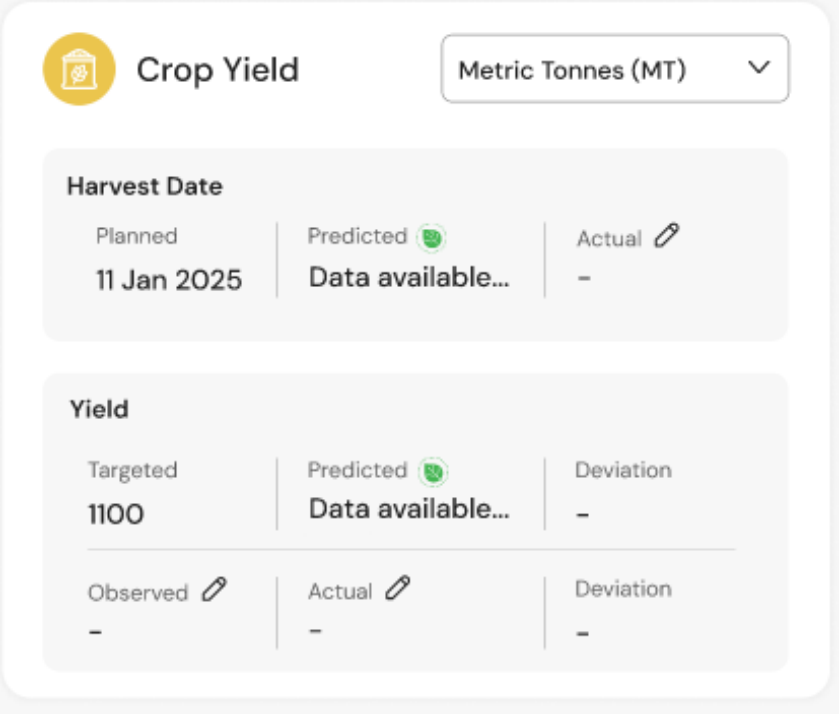
- User can enter observed and actual yield values as per the selected default unit, enabling better management practices.

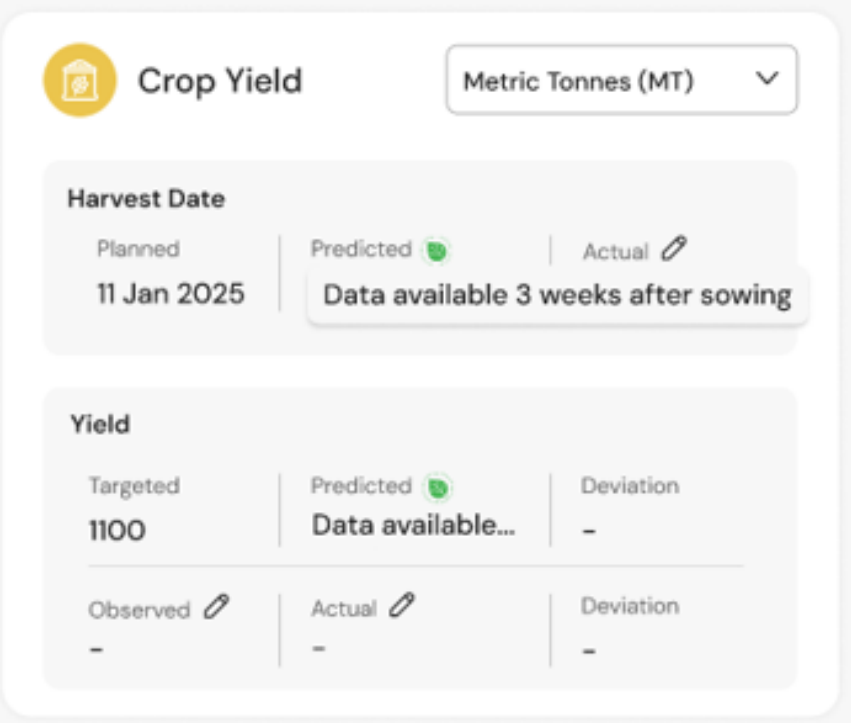


Notes

- User to add the actual harvest date for record-keeping, helping the user identify deviations and make more informed decisions for harvest management.

7.2.1. Feature – Crop Yield – when data not is available





Notes

- "Data available…" should be displayed and, upon mouse hover, should display the message "Data available 3 weeks after sowing" as shown in the image above when there is no data to showcase or when processing and displaying the data on the card for "Predicted Harvest Date" and "Predicted Yield" takes some time.

7.3. Cancel & Close Functionality

Notes

- Not applicable

7.4. Reverse Functionality

Notes

- Not applicable

7.5. Field Descriptions – Crop Yield card

#	FIELD NAME	FIELD DESCRIPTION	ACCEPTANCE DATA/CRITERIA	ERROR MESSAGE	PREREQUISITE	Enabled/Disabled
1	Units	This will provide the crop yield measurement units in a dropdown	- This is dropdown field with checkbox - This will provide the crop yield measurement units in a dropdown - Using checkbox user can set one measurement unit as a default	NA	NA	NA
2	Harvest Date	This will tell the name of the sub-card	- This is label - This will tell the name of the sub-card that	NA	NA	NA

			displays the planned, predicted and actual harvest dates			
3	Planned	This will display the planned harvest date added by the user	- This is a label - This will display the planned harvest date added by the user during farm onboarding	NA	NA	NA
4	Predicted	This will display the predicted harvest date provided by the FarmGyan API	- This is a label - This will display the predicted harvest date provided by the FarmGyan API - This data will be provided by the Farmgyan API	NA	API Name: YiledPrediction API Code: ClCN001-YP	NA
5	Actual	This will display the actual harvest date added by the user upon harvesting	- This is a label - This will display the actual harvest date added by the user after harvesting the crop	NA	NA	NA
6	Yield	This will tell the name of the sub-card	- This is label - This will tell the name of the sub-card that displays the targeted, predicted, observed and actual yield	NA	NA	NA
7	Targeted	This will display the targeted yield added by the user	- This is a label - This will display the targeted yield added by the user during farm onboarding	NA	NA	NA
8	Predicted	This will display the predicted yield provided by the FarmGyan API	- This is a label - This will display the predicted yield provided by the FarmGyan API - This data will be provided by the Farmgyan API	NA	API Name: YiledPrediction API Code: ClCN001-YP	NA
9	Deviation	This will display deviation while comparing targeted with predicted yield	- This is a label - This will display deviation while comparing targeted with predicted yield	NA	NA	NA
10	Observed	This will display the targeted yield added by the user after field inspections	- This is a label - This will display the targeted yield added by the user after field inspections	NA	NA	NA
11	Actual	This will display the actual yield added by the user upon harvesting	- This is a label - This will display the actual yield added by the user after harvesting the crop	NA	NA	NA
12	Deviation	This will display deviation while	- This is a label - This will display deviation while	NA	NA	NA

		comparing targeted with predicted yield	comparing observed with actual yield			

Notes

7.6. Scenarios

#	SCENERIO NAME	SCENERIO DESCRIPTION & IMPACT
1	When data is available via FarmGyan API	When data is available then display the data as shown in image (section 7.2.)
2	When data is not available via FarmGyan API	"Data available…" should be displayed and, upon mouse hover, should display the message "Data available 3 weeks after sowing" as shown in the image above when there is no data to showcase or when processing and displaying the data on the card for "Predicted Harvest Date" and "Predicted Yield" takes some time.

Notes

8. Common Validations

Add Form

#	FIELD NAME	FIELD DESCRIPTION	Applicable Y/N

View Form

#	FIELD NAME	FIELD DESCRIPTION	Applicable Y/N
1			
2			

9. Edit Functionality

Notes

- Not applicable

10. Account Postings

Ledger details	Explanation	Ledger Name	Dr	Cr	Dr	Cr

Notes

- Not applicable

11. Detailed View

Notes

- Not applicable

12. Print View

Notes

- Not applicable

13. Configuration Settings

#	CONFIG SETTING ID	CONFIG SETTING NAME	CONFIG SETTING IMPACT DETAILS

14. Post-Impacted Services & Reports

#	MODULE NAME	SERVICE NAME	SERVICE CODE	DESCRIPTION / IMPACT

Notes

- Not applicable

15. Email Alerts

Notes

- Not applicable