# 7.8.2 Release Notes

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#### New Features and Enhancements

#### **Pavement Express**

- Support has been added for single sign-on (SSO) and Trimble ID. When SSO is enabled, the ams-ui will skip the user/password screen and move directly to the adminUnit/securityRole setup.
- Renamed GIS layers, bound map, window panes, system jobs, and action items to match the new menu naming and structure.
- Automated Transport Layer Security (TLS) e-mail configuration. Support for TLS was added in an earlier release, however users has to manually
  navigate to system settings in order to set up e-mail configuration to support this. These settings are now automatically implemented.

### Maintenance Manager

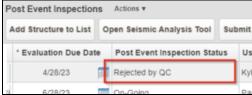
- In the Asset Inventory windows, when the Issue Single Work Order or Create Work Order menu items are used in the legacy Work Order creation wizard:
  - o If only one asset is selected, the Inv. Elem field now populates with the selected asset and is not editable
  - If multiple assets are selected, the Inv. Elem drop-down is now filtered to contain only the selected assets, and the user can then
    manually select those to be added to the work order
- The Create Asset View system job has been updated to insert the REV\_ID column and Change Data Capture (CDC) trigger in the MATERIAL\_INVENTORY table if these artifacts are missing. This change ensures revisions are now always supported on the Material Inventory data set without manual intervention, so that Work Manager SmartSync is always supported here.
- In the Material Requests window, when using the **Fulfill order of multiple Items to requesting Admin Unit** function, a new transfer transaction is now generated only when the Quantity Requested is larger than the Quantity Transferred. This resolves the possibility of fulfillment transactions being duplicated and exceeding the requested quantity.

#### **Platform**

- More informative error messages appear to help users running Roads & Highways (R&H) Interface when it's detected that no changes in the R&H
  geodatabase, or the LRS time from R&H and AMS are abnormal in some situations
- System now supports Reverse Direction Alternate Location Referencing Method (LRM). A Reverse Direction Alt. LRM is where the Alt LRM's inventory direction is reverse to the Base LRM's inventory direction
- Some error messages from postgres platform (value contains more characters than column allows, and column is not nullable) have been
  updated to be more user-friendly
- The performance of deleting a large amount of data in a window has been improved
- Fixed security vulnerability issues in the application

#### Structures Inspector

In the Structures Inspector web, Post-Event Inspection - Ongoing window, when Reject to inspection team leader menu feature is selected, the
inspection status is now set to Rejected by QC.



The Work Requests action menu now has a new function called Link Work Order. A user can now link an existing Work Order to a Work
Request using this menu item. When Link Work Order is selected, a pop-up appears with a checkbox on the selection screen for Show All,
otherwise the list of linkable Work Order records will be filtered by Asset Type to match the Work Request being linked.

#### Link Work Order

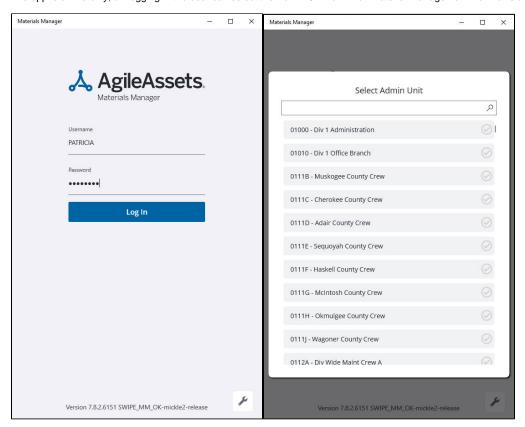
The Work Order action menu has a corresponding function called Link to Work Request. A user can now link an existing Work Request to the
current Work Order using this menu item. When Link to Work Request selected, a pop-up screen appears with a checkbox on the selection
screen for Show All, otherwise the list of linkable open Work Request records will be filtered by Asset Type to match that of the Work Order being
linked

#### **Link to Work Request**

- The app now supports the linking of multiple work requests to a single work order as long as the following prerequisites are met:
  - Feature toggle "AllowMultipleWorkRequestsForWO" is enabled (web).
  - Config key ["features"]["workOrders"]["allowMultipleLinkedWorkRequests"] = true.
- Newly created but unsynced Work Orders and Work Requests are now assigned temporary ID numbers. These are visible both in the sync
  window and on the list of work orders/work requests. The ID is displayed in the format "NEW ####". The temporary ID is replaced by the regular
  WO# or WR# upon a successful sync, but it intended to assist the user in picking the correct record in case of a sync error.
- On the back-ends of older web applications, the assetInspection REST API calls are not sorted by the asssetInspectionId primary key (issue is
  corrected for in current 7.8.2 release). The app has been modified to add sorting by assetInspectionId to the API request for clients on back-ends
  older than 7.8.2 to resolve an issue where asset inspections might appear to be duplicated in the app if they appear in multiple API page results.
- On the Assets selection screen, if a group of assets has been selected and displayed on the selection list, a user now has to dismiss or cancel
  the selection before another group of assets can be selected on the map. This resolves a crash issue with the selection sheet not being properly
  dismissed.

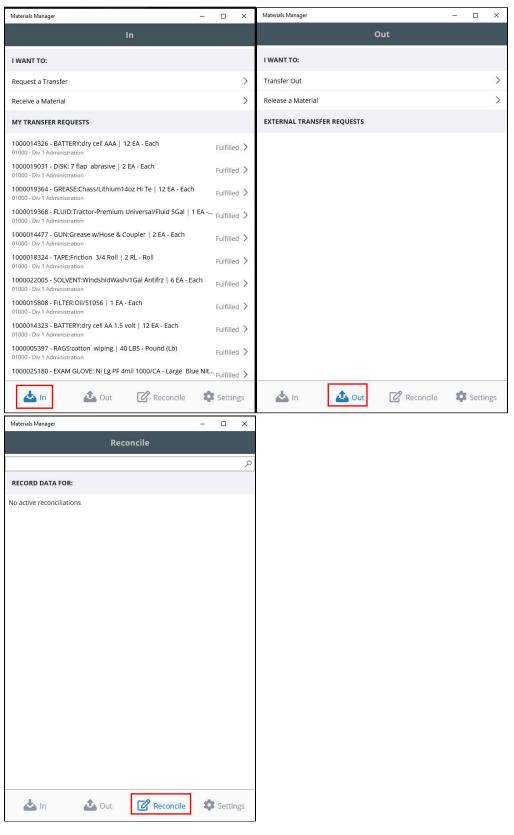
#### Materials Manager Mobile App

- The app has been updated to support multiple platforms. The updated app is now available as iOS, Android, and Windows mobile apps from their respective app stores.
- The app is online only, on logging in the user can select the Admin Unit for which material management workflows are to be managed.



- The app layout and workflows are as follows:
  - In: this tab displays the Transfer In window and My Transfer Requests view. Here a user can process Transfer In and Receipt type
    transactions into the login admin unit's stock bins. It also provides a view of all pending transfer in transactions with their statuses, and
    allows the user to open these to accept them if applicable.
  - Out: this tab displays the Transfer Out window and External Transfer Requests view. Here a user can process Transfer Out and Rele
    ase type transactions from the login admin unit's stock bins. It also provides a view of all pending transfer out transactions with their
    statuses, and allows the user to open these to fulfill them if applicable.

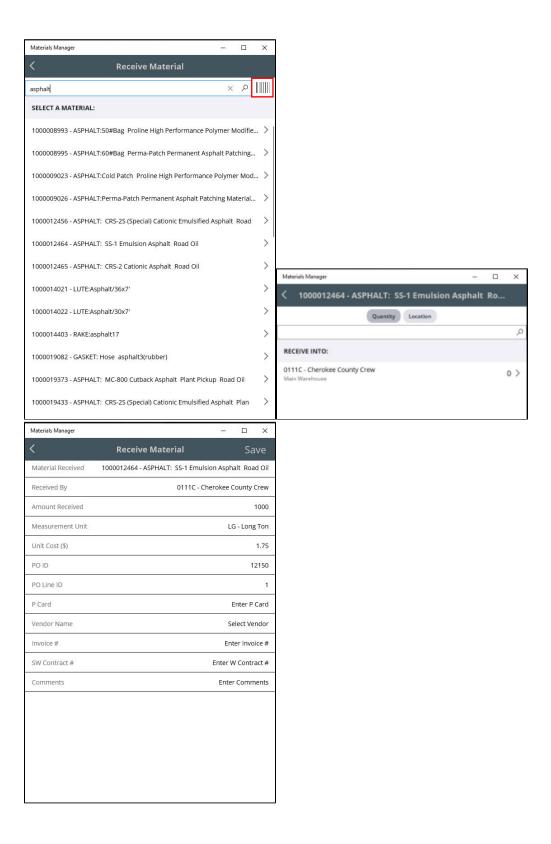
 Reconciliation: this tab supports the material reconciliation workflows, used to correct the Unit Cost and/or Quantity on Hand for selected stock bins needing corrections.



o Settings: this tab displays the logged in User and Admin Unit, as well as the Log Out link for closing the app.



• For a workflow example, in the In tab, a Receipt transaction can be initiated using the Receive Material button at the top of the screen. The material to be received can be selected by typing in the search box or by clicking the barcode scanner icon to activate the device camera /scanner. Once a material item has been selected the user can pick the stock bin the material will be received to, then can input the Amount Received and Unit Cost, as well as any purchase order or purchase card details. Saving the transaction will create the request for online approval.



# Other Improvements and Bug Fixes

- Fixed: Issue in Resources module has been resolved and the transfer workflow in the Material Management window now functions correctly,
  when the quantity of stock on hand is less than the requested quantity on a transfer request, the "low balance" warning is now displayed on
  selecting the "Fulfilled" checkbox, to transfer the material out, rather than on selecting the "Accepted" checkbox, to accept the incoming material.
- Fixed: Issue in Structures Inspector has been resolved and when switching between editable and non-editable windows in the data window, it no
  longer auto-scrolls. On page reload the currently selected record becomes the first record displayed on screen.

- Fixed: Issue in System module has been resolved and new notification types can now be added to the System Notifications Types window. Notific
  ation Code column has been added to the System Notifications Types window where it was missing.
- Fixed: Issue in multiple Analyst products has been resolved and the Constraints, Objectives, and Reports panes of the Structures Analysis
   Optimization Analysis windows has been fixed so that the Condition Threshold field is only editable when the Type column is set to Percent
   Above Threshold.
- Fixed: Issue in Roadway module has been resolved and sorting by columns based off a foreign key field such as Location ID now works correctly.
   User can also now sort correctly by Route, Start Milepost, and End Milepost fields that are not stored in the table being sorted but which can be looked up based on Location ID.
- Fixed: Issue in Structures Inspector has been resolved and a message appears notifying users that "condition note and photo is required for a condition state 4 rating" in the Tunnel Inspection Current Inspections window when the conditions are not met. Once the missing items are added the user can save the record successfully.
- Fixed: Issue in Maintenance Manager has been resolved and when an inspection is created in the Maintenance Assets window Create Inspection pop-up, the Location fields of the Asset are also automatically populated.
- Fixed: Issue in Maintenance Manager has been resolved and when there are existing approved day cards, or Accomplishment/Contract/Cost day
  cards, and the work order start/end dates are edited resulting in the day card dates being outside the work order date range, and the Cancel
  button is pressed in the Work Orders window, everything reverts successfully and no changes are made to any of work order dates.
- Fixed: Issue in Structures Inspector has been resolved and when deleting team membres in the Inspection Teams window, the data rows now
  purge correctly and the valid team members display correctly.
- Fixed: Issue in Maintenance Manager has been resolved and the Insert Location(s) from Map menu item in the Create New/In Progress work
  orders window now functions correctly so that Section, Sign, and Bridge assets can be added to work order locations from the map selection
  window.
- Fixed: Issue in Structures Inspetor has been resolved and Active Work Recommendation records are no longer editable in the Current Inspections window.
- Fixed: Issue in Work Manager Mobile App has been resolved and the asset inspection sync process now works correctly. This update resolves an issue where inspections deleted on the web were sometimes still displayed on the mobile app.
- Fixed: Issue in Work Manager mobile app has been resolved and using **Back** to navigate away from a newly created work order no longer causes a crash
- Fixed: Issue in API has been resolved and the assetInspection API has been updated so the results returned are sorted by the assetInspectionId Primary Key column whenever a sort criteria is not passed in the request. This resolves a page sorting back-end issue that was causing asset inspections to be duplicated in the API results and in the Work Manager mobile app (Vinci Autoroutes).
- Fixed: Issue in Structures Inspector has been resolved and scrolling now functions correctly in the Structures Inspector Inspection Teams window.
- Fixed: Issue in Fleet Management has been resolved and when scrolling through records in any CServerDataWindow type windows, any records
  which should be read-only remain not editable as they are displayed.

## Known Issues, Limitations, and Restrictions

#### **New Known Issues**

- In Pavement Management, Save is still active after a copied report has been saved to a user's myReports folder. (TXDOT)
- In Pavement Analyst, when copying a report in the Reports window, the original report and the new report are both highlighted.
- In Roadway, after selecting multiple materials in the Material Short List pane of the Day Cards window, only one material is displayed. (INDOT)
- In Structures Manager, when editing team members in the Teams window, members are not being filtered by the admin unit. Currently, deleting
  the admin unity and reselecting it will filter the list correctly.
- In Work Manager mobile app, the Obstruction Types list for Sidewalk Inspections is currently cut off when viewed on an phone screen. (MnDOT)
- In Pavement Management, when adding a new record in the Optimization Analysis window, if the user refreshes the page the new records in Reporting Function and Save are both highlighted. (TXDOT)
- In Pavement Management, when deleting treatments in the Treatments window, it can take up to 14 minutes for the records to be deleted and sometimes generates an error. (TXDOT)
- In Work Manager mobile app, when duplicating a Work Request with multiple attachments, only the first attachment is displayed. Currently, rotating the screen or deleting the visible attachment will display the other attachments.
- In Pavement Analyst, when creating a layer in GIS Explorer, the GIS\_VW\_PMS\_MASTER\_WP table is missing. (MNDOT)
- In Structures Inspector mobile app, the Comments and Other Observations fields on the N.S.c.O. tab are limited to 100 characters. (NYSDOT)
- · In Pavement Analyst, in the Decision Trees window not all decision trees are currently being displayed. (MNDOT)
- In Maintenance Manager mobile app, users are able to log in without an internet connection without seeing an error message notifying them that
  the app requires an internet connection.
- In Pavement Express, when logging out users are incorrectly redirected to an ams-ui login page.

#### **Existing Known Issues**

- JasperServer reports are generated twice. This is working as designed in JasperServer reports and cannot be changed. Reports are rendered twice:
  - 1. Initial request loads only first report page as fast loading summary
  - 2. Second request loads entire report for display/download purposes
- In the Work Manager Mobile App, if Lat/Long fields are present on an Asset Collection Form, the negative Longitude values will still cause the
  "Save" button to be enabled on the opening form. Lat/Long fields should not be included in collections, they should be kept on the web side only
  and updated on sync from the Geometry maintained for the asset record.
- In the Work Manager Mobile App, selecting one segment from a multi-segment Beat asset for a location day card currently generates an error.
- In the Work Manager Mobile App, currently when the URL for an ESRI base map is incorrect and a user tries to change the base map, the app
- In the Work Manager Mobile App, when a user tries to download multiple base maps, if the first map to be downloaded is configured incorrectly
  then none of the maps download. It is possible to change the order of the maps so that the incorrect map is last which will allow the other maps to
  download correctly.

- In the Work Manager Mobile App, layers for online maps also appear on offline maps although layers are not supported while offline. Logging out
  and back in will update the offline map.
- In the Work Manager Mobile App, it is not possible to edit To and From offsets of the linear asset after it is selected and saved as a Work Order
  location.
- In the Work Manager Mobile App, Work Orders are not displayed on the map if more than 900 Work Orders are present in the Admin Unit. Work Orders can still be clicked even though they are not visible.
- In the Work Manager Mobile App, when syncing after performing a Pond Inspection the sync fails. Inspection questions are retained when text is entered into Field Rain Depth (In) field (MNDOT)
- In the Work Manager Mobile App, the Add Work Log button is not available for shared Work Orders. (NYSDOT)
- In Pavement Management, it is not possible to see data and graph in the Pavement Mgmnt > Database > Construction > Pavement Structure (Profile / Cross Section) &menu\_id=pms\_graph window. (TXDOT-PMS)
- n the Work Manager Mobile App, it is not currently possible to create a Line type location for Reporting Forms if there is an associated route (field Start and End MP are present in WM on location details pane). This is an API issue. Locations can still be created in the web application.
- In Maintenance Manager, Find function can be slow or unresponsive on windows using Paginated Data Window type.
- In the Work Manager Mobile App, if an inspection has fields where text must be entered as an input, the check box next to the field will clear after the inspection is synced. This only affects text fields.
- In Signals & ITS Manager, when using the new feature to edit point assets on the map on the bound map, and selecting multiple assets with the multi-select tool, the tool sometimes does not select all the assets within the selected area. After selecting assets and moving them on the map, you must click the general map area to complete the action. You also need to click on the **Edit** button on the map to complete the edit process. To select another asset, you will then need to switch from multi-select mod back to the arrow.
- When using the Work Manager app on a device with low memory, switching the app to the background can result in being logged out
  automatically. If the user needs to authenticate using Open ID to log back in, they will need an internet connection. This means that if they are
  logged out due to low memory while offline, they may be unable to log back in until they have internet connectivity.
- In the Work Manager app, if a user enters data in a Reporting form or Asset Collection form and then switches the app to the background and a timeout occurs, the data entered will not be saved. This is an expected behavior and will not be changed.
- In the Work Manager mobile app, if an inspection has fields where text must be entered as input, the check icon next to the field will be cleared out after the inspection has been synced. This only affects open text fields.
- After migrating JasperReports Server reports, private reports cannot be viewed in the AgileAssets application since they are migrated to the
  user's private JasperReports Server folder.
   Workaround: Copy this report from the private user's folder in JasperReports Server repository directly to Migrations folder. Make the report public
  prior to migration from Manage Reports window, and then make it private again after successful migration if desired.
- For JasperReports ad-hoc views used in dashboards, JasperReports Server 7.8 version provides a new parameter to show Titles by default so
  they can be duplicated in places where they are used. To address this issue, the duplicated headers can be disabled manually in JasperReports
  Server when opening the dashboard in Designer mode.
- For JasperReports ad-hoc views used in dashboards that use Crosstab visualization type, an extra Measures field is introduced with JasperReports Server 7.8. To avoid this issue, the visualization type needs to be changed to any other type. This may be configured directly in JasperReports Server when opening the dashboard in Designer mode.
- General font and scale changes were introduced with JasperReports Server 7.8. As a result, some dashboard objects may be than in previous
  versions and have different formatting (ex: ad-hoc views used in dashboards that use Pie Chart visualization type can display less information or
  may not show all values). To avoid this, the space used might need to be increased or the font size may need to be decreased. The same might
  need to be done for Stacked Column visualization type and others. This may be configured directly in JasperReports Server or fixed explicitly for
  every specific dashboard object.
- Some String Type report parameters after JasperReports Server 7.8 upgrade may display Null. This value can be removed manually while selecting report parameters for viewing so that the report will be generated as before.
- As a result of general font and scale changes introduced with JasperReports Server 7.8, some Table headers in the reports can be wrapped to
  another line thus hiding part of the text. This issue may also affect some report data titles, text displayed in table columns/rows etc. This might
  need to be fixed explicitly for each specific report.
- There is an existing ESRI bug (https://support.esri.com/en/bugs/nimbus/QIVHLTAwMDEzODczMQ==) wherein the Export Network tool fails to
  include all routes in the output when the Linear Referencing System (LRS) Time and Last LRS Time parameters are used.
- In the Structure Inspector mobile app, the Inspection Date field has been removed from the general form. It will be added back with a validation check for past due inspections.
- Version 7.6.1 of the Work Manager app crashes on non-supported iOS version 12.4.8.
- ESRI 10.8.1 has an existing issue (<u>BUG-000138399</u>) that will affect users of our Roads and Highways module. They can work around the bug until ESRI resolves it by using the Relocate Events tool from the Location Referencing Tools.tbx located in the installation directory C:\Program Files\ArcGIS\LocationReferencing\Server10.8\ArcToolBox\Toolboxes when creating the GP Tool.
- In Work Manager, when adding a new Work Request an error appears if the name is more than 20 characters long. (KYTC)
- In Signals, when selecting multiple assets with the multi-select tool on the bound map, it will sometimes not select all the assets within the selected area. After selecting assets and moving them on the map, users may have to click in the general map area to complete the action. Users will also need to click on the new **Edit** button on the map to complete the edit process. To select another single asset afterwards, users need to switch from the multi-select mode back to the **Arrow** tool. (NYSDOT)
- On mobile apps running on Windows, when using the device's camera to scan a barcode, the app will crash if the app has not previously been
  given access to the camera and the device is rotated.
- In Firefox, User Update and Date Update aren't displaying for added elements in Tunnels.
- Work Manager validation checks for Work Logs aren't currently working.
- Users cannot view all warranties attached to a Repair Order if one of them has an empty Name or Warranty Rule field in the Fleet Maintenance Manager App.
- In the Work Manager app, two location cards created for the same asset and the same date currently share Work Logs. Work logs created, edited, or deleted on one will be reflected on the other card. The Web Application does not allow duplicate Location cards for the same Date and Asset, so if a duplicate is created on Work Manager by mistake, it can be easily deleted on the Web application or on Work Manager.
- Repair Orders are currently taking longer than usual to load in the Fleet Maintenance Manager app.
- In the Fleet Maintenance Manager app, the Date selector is cropped in landscape mode on small devices.
- Delete is not available in in the Fleet Maintenance Manager app.
- Direct Cost Quantities are rounded or truncated if too large to display in the Fleet Maintenance Manager app.
- Direct Cost Activity cannot be updated to None if it has previously been set with a different value in the Fleet Maintenance Manager app.
- Changing Warranty Rules does not currently reset unsaved values on Repair Orders in the Fleet Maintenance Manager app.
- The Repair Order Number is currently missing from the header of drop-down lists in the Repair Order screen in the Fleet Maintenance Manager app.
- Time Spent does not currently support 2 decimal places in the Fleet Maintenance Manager app.
- The Type of Service drop-down in the Fleet app and Equipment Work Class drop-down on the web are not currently synced.

- Lists are not using the full screen space in Admin Units and Daycards in the Fleet Maintenance Manager app the lists can still be scrolled in their
  entirety so no functionality is lost.
- The Mileage field is not following digit parameters for Repair Orders in the Fleet Maintenance Manager app.
- Labor and Equipment daycard statuses are not syncing correctly between the web and the Fleet Maintenance Manager app.
- Direct Costs are not updating correctly when Description or Part Number exceed 100 in the Fleet Maintenance Manager app.
- In Work Manager, when users update from version 7.5.2 to 7.5.3, they should perform a sync when they first login.
- In Fleet & Equipment Manager, it is currently possible to delete all the equipment from an equipment purchase and then have that purchase approved.
- The Work Manager mobile app can crash if the device screen is rotated during sync.
- In the Structure Inspector mobile app, in certain network connectivity conditions where a sync of an inspection with attachments from the structure inspector mobile app fails, a subsequent successful sync of the app may cause element condition state notes to be duplicated.
- In the Work Manager mobile app, some thumbnails for uploaded photographs added to an inspection rotate 90°.
- In the Work Manager mobile app, assets cannot be setup to view in the app as View Only. They need have the necessary geometry information and assets set to allow editing and inspection creation.
- In the Work Manager mobile app, only one currency symbol (\$) is currently supported.
- In Work Manager and Maintenance Manager, photographs added to an Inspection do not display in the app on some Android devices. This issue
  is device specific.
- In Maintenance Manager, it is currently possible to create an inspection without entering an Inspection Date. If no date is selected, when syncing
  the inspection to Work Manager, it will default to 01/01/01 on Work Manager.
- In Structure Inspector, when the Tunnel inventory screen is displayed, Revert Edits is briefly shown and then hidden along with Edit Tunnel.
- Structure Inspector inspections for Tunnels can currently be edited after being submitted.
- Work Manager App users on Android devices with memory of less than 2GB may receive an Out of Memory Exception. Please close and reopen
  the app daily to avoid this issue.
- The Structure Inspector mobile app Condition State comment text box covers the tittle.
- The supplied CORS filter for Tomcat will not work on Tomcat version 8.5.32 and above. Customers need to review the use of the CORS filter and
  update web.xml as needed. Additional information can be found at <a href="https://tomcat.apache.org/tomcat-8.5-doc/config/filter.html">https://tomcat.apache.org/tomcat-8.5-doc/config/filter.html</a>
- As of Chrome 71, browser pop-ups may be blocked which will negatively affect system operations. To address this in Chrome go to Settings >
  Advanced > Content Settings > Pop-ups and redirects and then add the URL for the application.
- The new GIS Explorer like all web mapping applications requires datasets in the geographic coordinate system (EPSG:4326), so customer
  schemas with data stored in a different coordinate system would need to be transformed for map layers to be created from the dataset. See the
  section on re-projecting geometries in the Implementation Guide
- Inserting a location or inventory item from a map is not functional when using Firefox as your web browser. To work around this limitation, use the other supported web browsers: Chrome or Safari
- When you select to print a map as an image (png file) using Firefox as your web browser, the file is downloaded as map.png.pdf. You would have to manually edit out the '.pdf' extension from the file name, after the file has been downloaded, to be able to open/use the file
- When you define a map print template of size 34x44 or larger, an error is returned since the size of the generated map image always times before
  a PDF for printing is generated
- While working on the GIS Interface and performing tasks that does not generate a request to the server (such as styling a map), your user
  session may expire as a result. The configured session expiration warnings will be displayed when this occurs or your session may timeout and a
  session expiration notification displayed, if a warning is not configured
- Map filter value does not get pre-populated in the JasperReport print template, even though the parameter is specified for display in the template
- Map filter value cannot be defined or edited for a map with a specified area of interest. To work around the definition limitation, the map filter should be defined before the AOI is set
- A map's layer style settings become null and un-editable, when an applied filter is partially applicable or not applicable to the defined styling
  attribute values for the map
- On a map bound to a data window, some items when selected on the map aren't highlighted in the data window because they aren't present there (In a data window, items can be Access Regulated), but on the map all inventory items are displayed
- In the Roads & Highways interface, routes with curves are not handled properly by the ESRI FDGB API. A workaround is to have the agency
  densify the routes to turn the curves into line strings
- The HTML5 based copy/paste functionality has limitations on the number of rows that can be copied to a browser's clipboard
  - Edge 4000 rows
  - O Chrome 400 rows
  - o Firefox 1000 rows
  - o Edge on a Surface Tablet 15 rows
- · When you select to copy rows from a data window, data from hidden columns on the window are also copied to the clipboard
- The spinner indicating that a layer is loading in the GIS Explorer, continues to spin after selecting to remove a previous loading layer by
  using either the new map or remove layer option
- · When zoomed in at the 0.6km/0.4m level before selecting to print a map, the basemap is not rendered on the resulting printed map
- Hebrew and other languages with special characters are not rendered properly on the properties panel of GIS Explorer
- GIS Explorer does not display the contents of the screen for a right to left language setting
- The owner of a GIS catalog folder no longer has access to the catalog, when the folder is shared by a GIS admin with administrative units that the
  owner of the folder does not belong to
- A map built from an image service is not rendered in the printed document (PDF or PNG) when select to print the map
- · An image layer is not displayed on the map when change the basemap from the 'None' option to any other basemap option
- A map comprised of layers from multiple sources including an image service, does not display the layers in the correct z-order when the layers are re-ordered
- For some monitor resolutions, opening the messages dialog while the GIS Explorer window is open results in the messages dialog to be partially hidden
- · When the same editable layer is added to GIS Explorer so there is more than one active, the features on the layer cannot be dragged for an edit
- The undo/redo of edits retains the actions performed even the associated layer has been removed
- When add a new editable layer to a map with in-progress edits, the undo and redo options are temporarily disabled. Performing an edit re-enables
  undo/redo and previous edits can be undone or redone
- In Microsoft Edge, some admin units in the Admin Units drop-down on the inspection team's creation dialog, appear as actionable links
- Setting of columns as fixed in a data window is not supported in right to left language displays, such as for Hebrew or Arabic, i.e. only the left
  most columns can be fixed
- There is an issue in ESRI ArcGIS Enterprise 10.6.1, that prevents the publishing of services for Oracle tables or views with a geometry column
  owner of MDSYS. When the ESRI issue is addressed, we will test and ensure that the functionality has been restored

Supported Third Party Applications and Versions

Verified items have been tested on this release. Supported items have been tested on previous releases and may have a less than optimal experience for this release. Unless otherwise specified, the version number listed are verified.

	Platform	Version	Notes		
Application Server	Apache Tomcat	9.0.73			
Java	Oracle Java SE	11.0.18			
	*Zulu JDK Oracle JDK	11.62.17 (based on OpenJDK 11.0.17.0.101+3) 11.0.18	*Zulu JDK is the preferred JDK.  Support for Open JDK ended with 7.6.4.		
Web Browsers	Internet Explorer	N/A	<b>Note:</b> Microsoft stopped supporting Internet Explorer as of August 17th, 2021 and Agile Assets stopped supporting it on June 15th, 2022 for all versions of the application.		
	Edge	112.0.1722.39			
	Chrome	102 or newer			
	Firefox	ESR 102.4.0	Extended Support Release versions are supported.		
	Mobile Safari	iOS 15.X iOS 16.X			
Database Servers	Oracle Enterprise Edition	19.1.0.0 18.1.0 (patch 18.17.0)	Requires OJDBC8 driver  We recommend upgrading to 19c because 12.2 is no longer supported as of Q1 2022 and 18c is no longer be supported as of Q2 2022.		
	PostgreSQL	12.9	Support for 9.5 and 9.6 ended with 7.6.5.		
	PostGIS	3.1			
Server Operating Systems	MS Windows Server	2019	Support for 2008 ended with 7.6.4.		
	Red Hat Enterprise Linux	7	Support for 5 and 6 ended with 7.6.4.		
Reporting	Jaspersoft	7.8	JasperReports 4.X was deprecated after 7.6.1 and JasperReports Server 6.x was supported through 7.6.2.		
Mahila Anna	iOS	15.X	Support for versions prior to JasperReports Server 7.8 ended with 7.6.3.		
Mobile Apps	103	16.X			
	Android	9.X, 10.X 11.X	The Materials Manager mobile app is now supported on Android.		
	Windows	Fall Creators Update, build 16299 or later	The Materials Manager mobile app is now supported on Windows 10.  1909 - 19H2 - November 2019 Update - build 18363 or higher is recommended		
LRS Interface	ESRI Roads & Highways	10.7, 10.7.1, 10.8, 10.8.1	Install the latest Roads and Highways patches.		
GIS	ESRI ArcGIS Enterprise	For data editing:  Oracle: 10.5.1, 10.6 Postgres: 10.8.1  For data reading only: Oracle: 10.8.1 Postgres: 10.8.1			

# Mobile Apps and Device Specifications

Notes	Device Type	Product	Recommended Minimum Device Specs
Note: The current version of the mobile apps require a minimum web application version of 7.7 + to support the current release version.  Use with an unsupported web application can result in data loss or corruption.	Smart Phones	Fleet Structure Inspector Materials Manager Work Manager Fleet Materials Manager Work Manager	iOS, Android, or Windows Screen Size: 7 inch Camera resolution: 8MP Internal memory: 4GB Device storage: at least 64GB, with a minimum of 4GB available iOS or Android Screen Size: 5.8 Camera resolution: 8MP Internal memory: 3GB Device storage: at least 64GB, with a minimum of 4GB available
	Desktop	Web applications	All operating systems System RAM: 4GB Processor Speed: Single Core 2 Ghz Processor Type: 64 bit Screen Resolution: 1024 X 768