2021 Updates to the National Incident Feature Service and Event Geodatabase
01/01/2021

- **NIFC Org Hosting**
  Since the migration to ArcGIS Online hosting occurred in mid-season 2020, it is included here again.
  - o The National Incident Feature Service will continue to be hosted in ArcGIS Online for 2021 and the foreseeable future.

- **Mobile Edit Service (Formerly 'Collector Services')**
  - o The 2021 Mobile Edit Service will be a single service that contains all the Event Layers and Features.
  - o All features will be editable (with Delete still disabled).
  - o Web Map Templates are provided with pop-ups, editing, and visibility settings already configured in the Incident Resources Group.

- **Schema Changes**
  - o Attachments are disabled for Accountable property
    - ▪ The size of attachments was impacting downloads and syncs. PhotoPoints or a separate hosted feature class should be used instead, if needed.
  - o Event Polygon Attribute Defaults
    - ▪ The default values for the *IsVisible*, *FeatureStatus*, and *FeatureAccess* attributes on Event Polygon will be Yes, Approved, and Public (respectively) by default for 2021.
      This will allow all perimeters to display in the Public Wildfire Perimeters service without any additional action by the GISS. Changing any of these values will remove a perimeter from the public service, which feeds InciWeb as well as other publicly shared web apps.
  - o Fields Removed
    - ▪ *Collector*, *ContactName*, *ContactEmail*, *ContactPhone*
      - • AGOL hosting now allows the Editor Tracking on the NIFS to capture the username of each editor, eliminating the need for this information to be entered manually.
    - ▪ *ComplexName*, *ComplexID*, *GACC*, *IMTName*, *UnitID*, *LocalIncidentID*
      - • To reduce the data management workload on GISS and improve consistency and completeness of attribution, these fields (and several new attributes) will be added to a view of the NIFS in EGP and then ported back into the NIFC Org for Reporting Apps and Dashboards.
    - ▪ *GeometryID*
      - • No longer in use. This field was originally intended to be used by custom tools which were negated by enhancements to commercial software.

- New Fields
  - *ElevationFeet*
    - Added to EventPoint for Air Operations.
  - *Acres_AutoCalc*
    - Added to EventPolygon for the InFORM Project.
      This field will be calculated automatically by a geoprocessing service.
      GISAcres will remain manually calculated by the GISS.
  - *GISS_Misc*
    - A 50 character text field added to EventPoint, EventLine, and EventPolygon to be used at the discretion of the GISS.

- **Evacuation and Closure Areas**
  - EvacuationArea and ClosureArea feature classes have been added to the other_incident_data GDB as a convenient starting point for these data sets.
  - These are not part of the official Event Data Standard, and as such, their schema can be modified as needed to suit the incident.
  - When publishing to AGOL, remember that Publicly Shared services are not permitted to have Edit or Sync enabled. (See Section 3.2 of the NIFC Org Rules of Behavior)

- **Archive Service**
  - An EGP account will no longer be required to access the Archive service.
    It will still be hosted in the EGP, but ported back into AGOL for ease of use. A GeoNet post will be forthcoming with the link to the hosted service.

- **Dashboard Service**
  - A new service available for 2021, the Dashboard Service is a read-only copy of the NIFS that includes additional incident attributes joined from IRWIN.
  - The primary intended use is for Dashboards and Apps in which the additional incident attributes can be used for reporting or filtering.

- **Feature Category Updates**
  - Primary updates include dropping infrequently used features and standardizing the naming conventions for Proposed and Completed line types.
  - *Route* (EventLine) and *Check Point* (EventPoint) features added for Air Operations.
  - A table of all the changes can be found in **Appendix A**.

- **Symbology Changes**

  The Point and Line symbols have undergone a redesign to give the entire dataset a more cohesive look and bring the Pro and ArcGIS Online symbols closer into alignment.

  Additionally, in anticipation of future capabilities to categorize and organize the Event Features, the new symbols have also been designed to coordinate within new groupings based on use. These groups will display in Pro but have no bearing on the data for the 2021 season.

  AGOL and Collector symbology will still differ from Pro and printed maps on the Event Line features for 2021.
  The most prominent and safety related features have been left unchanged for ease of transition and will likely be part of a smaller update next year.

  A detailed list of changes can be found in **Appendix B**.

2021 Event Symbology

Accountable Property

- Other Property
- P — Pump
- Water Tank

Event Point

- Aerial Hazard
- Airstrip or Airport
- Check Point
- Dip Site
- Mobile Retardant Base
- Helispot
- H — Helibase
- Sling Site
- U — Uniproved Landing Area
-)(Division Break
-][Branch Break
- Zone Break
- Medical
- Incident Command Post
- Drop Point
- Closure
- Camp
- S — Staging Area
- Lookout
- Hot Spot - Spot Fire
- Fire Origin
- Value at Risk
- Other
- Landmark
- Gate
- F — Fire Station

(Event Point continued)

- Bridge
- Water Development or Draft Site
- Structure Wrap
- Stream Crossing
- Road Repair
- Retardant in Avoidance Area
- Resource Location
- Repair Point
- Landing or Log Deck
- Hazard Tree
- Fence - Cut/Damaged
- Dozer Push
- Culvert
- Clean Up Area
- Mobile Weather Unit
- Internet Access
- Repeater
- Safety Zone
- Hazard
- W — Water Source
- W — Restricted Water Source

IR Point

- IR Isolated Heat Source
- Possible IR Heat Source

Event Line

- Completed Burnout
- Completed Dozer Line
- Completed Fuel Break
- H - H Completed Hand Line
- M - M Completed Mixed Construction Line
- P - P Completed Plow Line
- R - R Completed Road as Line

(Event Line continued)

- Planned Burnout
- Planned Dozer Line
- Planned Fuel Break
- H - H Planned Hand Line
- M - M Planned Mixed Construction Line
- P - P Planned Plow Line
- R - R Planned Road as Line
- S - S Planned Secondary Line
- Access or Improved Road
- Fence
- Highlighted Feature
- Management Action Point
- Other
- Repair Line
- Road Repair
- Escape Route
- Aerial Hazard
- Water Drop
- Foam Drop
- Retardant Drop
- Route
- UAS Launch and Recovery Zone
- Temporary Flight Restriction
- Fire Edge
- Contained Line

IR Line

- Edge of Imagery

Event Polygon

- Other
- Prescribed Fire
- Wildfire Daily Fire Perimeter

Appendix A: Feature Category Domain Change Details

Added	
Dropped	
Modified	

Label Points
Unknown

Event Point
Check Point
Aerial Ignition
Segment Break
Incident Base
Unknown
Spot Fire
~~Retardant/Mud Pit~~ Mobile Retardant Base
~~First Aid Station~~ Medical
~~Hot Spot~~ Hot Spot - Spot Fire

| **Event Line** |
|---|
| Route |
| Completed Mixed Contruction Line |
| Planned Hand Line |
| Planned Mixed Contruction Line |
| Planned Plow Line |
| Planned Road as Line |
| Aerial Ignition |
| Air Tanker Foam |
| Air Tanker Retardant |
| Helitanker Foam |
| Helitanker Water |
| Fire Spread Prediction |
| Active Burnout |
| Unknown |
| Explosive Line |
| Planned Fire Line |
| Highlighted Manmade Feature |
| ~~Aerial Foam Drop~~
Foam Drop |
| ~~Aerial Retardant Drop~~
Retardant Drop |
| ~~Aerial Water Drop~~
Water Drop |
| ~~Ridge/Geographic Feature~~
Highlighted Feature |
| ~~Line Break Completed~~
Completed Fuel Break |
| ~~Road as Completed Line~~
Completed Road as Line |
| ~~Proposed Burnout~~
Planned Burnout |
| ~~Proposed Dozer Line~~
Planned Dozer Line |
| ~~Fire Break Planned or Incomplete~~
Planned Fuel Break |
| ~~Uncontrolled Fire Edge~~
Fire Edge |

Event Polygon
Unburned Island
Active Burnout
Completed Burnout
Proposed Burnout
Unknown
Closure Area
Evacuation Area
Value at Risk
Retardant Avoidance Area

IR Poly
Unburned Island

Appendix B: Symbology Update Details

Accountable Property

Blue Outline Square

Pump → Pump

Water Tank → Water Tank

Other Property → Other Property

Event Point

Air Operations
Purple Circle

- New Check Point feature added.
- New labeling option for Helispot. Use only the number in the Label field and it will be placed inside the circle or include the "H-" and it will be placed adjacent to the feature. Be consistent with your choice.
- Retardant/Mud Pit updated to Mobile Retardant Base to conform with naming convention in [PMS 508 - NWCG Standards for Airtanker Base Operations](#).
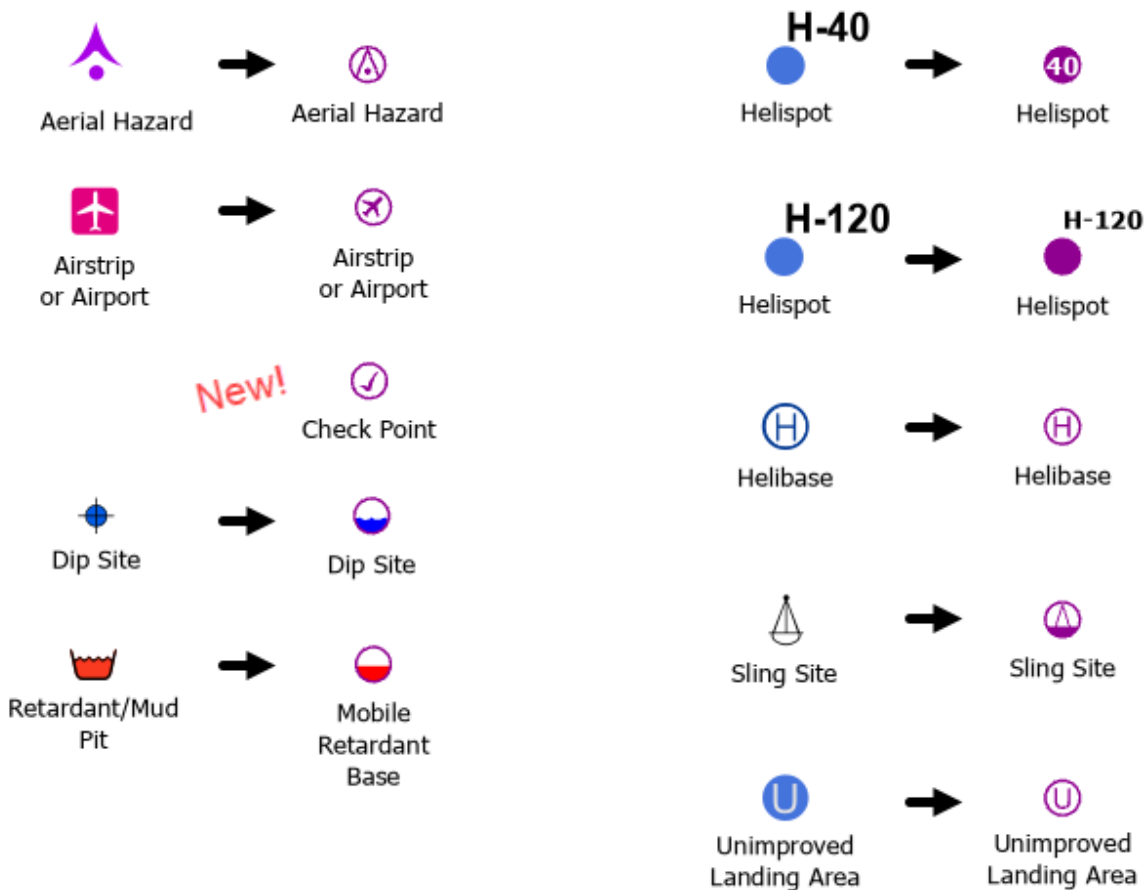
Logistics
Blue Square

- Incident Base feature removed due to lack of use.
- New labeling option for Drop Point. Use only the number in the Label field and it will be placed inside the square or include the "DP-" and it will be placed adjacent to the feature. Be consistent with your choice.
- First Aid Station updated to Medical to improve usability.
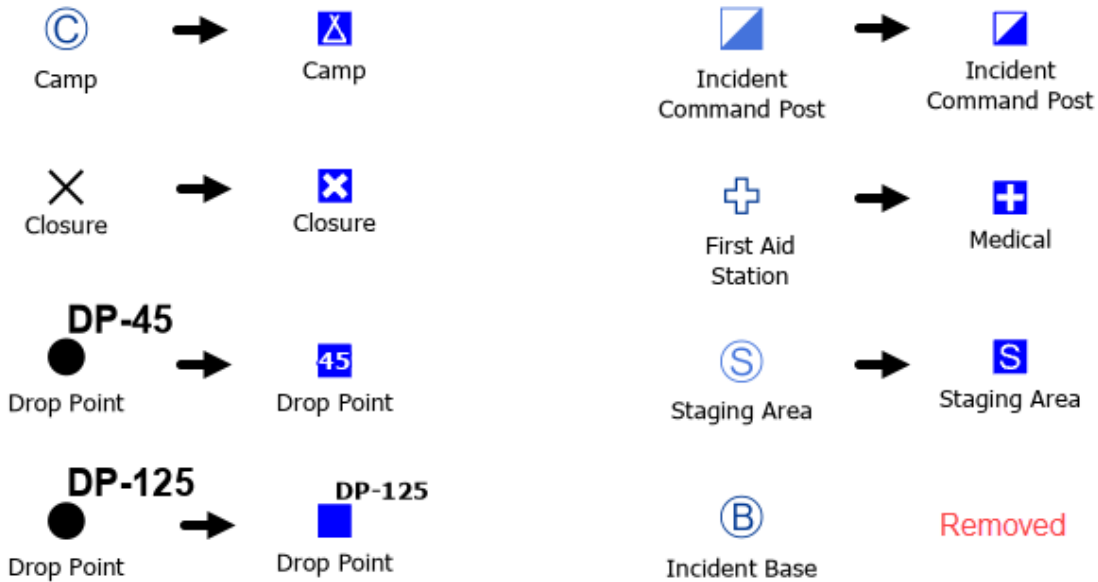
Operations
Black Squares

Only a single feature for now, with the possibility for future expansion.

Repair
Green Pentagon

T Clean Up Area	→	Clean Up Area
O Culvert	→	Culvert
Dozer Push	→	Dozer Push
Fence - Cut/Damaged	→	Fence - Cut/Damaged
Hazard Tree	→	Hazard Tree
L Landing or Log Deck	→	Landing or Log Deck
Repair Point	→	Repair Point

R Resource Location	→	Resource Location
Retardant in Avoidance Area	→	Retardant in Avoidance Area
Road Repair	→	Road Repair
Stream Crossing	→	Stream Crossing
Structure Wrap	→	Structure Wrap
Water Development or Draft Site	→	Water Development or Draft Site

Reference
Gray Hexagon

- Unknown feature removed to improve clarity.

Bridge → Bridge

Other → Other

Fire Station → Fire Station

Value at Risk → Value at Risk

Gate → Gate

Unknown → Removed

Landmark → Landmark
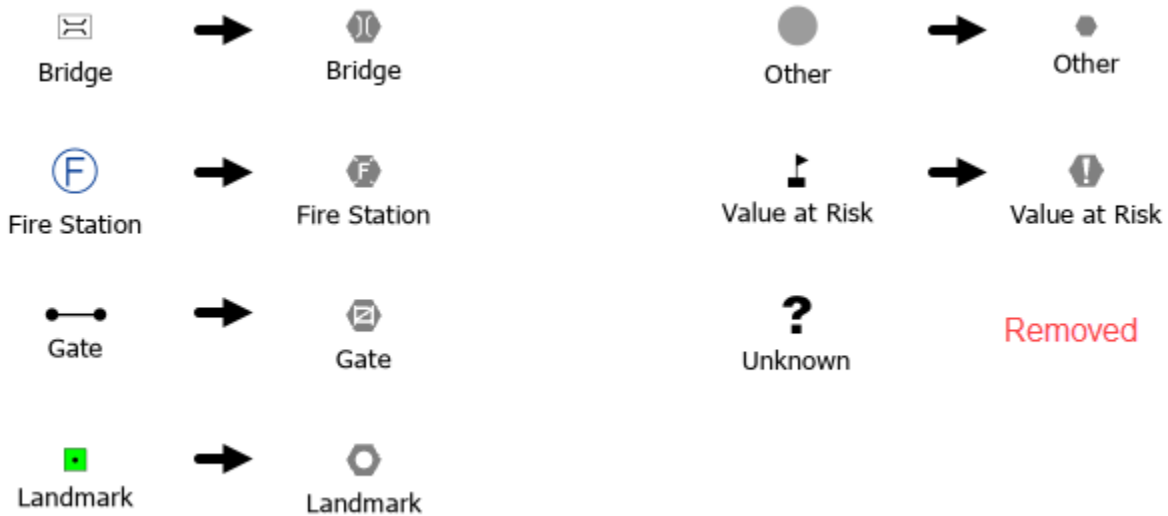
Communications
Navy Diamond

Mobile Weather Unit → Mobile Weather Unit

Repeater → Repeater

Internet Access → Internet Access
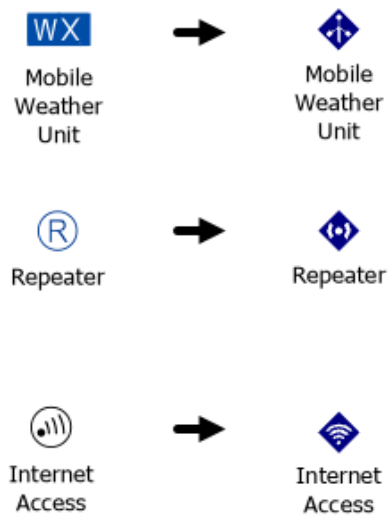
Assignment Breaks

- Segment Break feature removed due to lack of use.

Branch Break → Branch Break

Zone Break → Zone Break

Division Break → Division Break

Segment Break — Removed
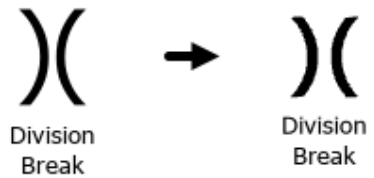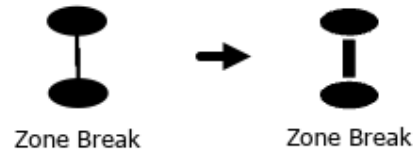
Fire
Red Circle

- Hot Spot and Spot Fire features combined. Feature within the perimeter should be assumed as Hot Spot and outside the perimeter as Spot Fire.
- Aerial Ignition feature removed due to lack of use.

Fire Origin → Fire Origin

Hot Spot → Hot Spot - Spot Fire

Spot Fire

Aerial Ignition — Removed

Safety
Yellow and Black

Safety Zone   →   Safety Zone

Hazard   →   Hazard

Water
Blue Circle

Water Source   →   Water Source
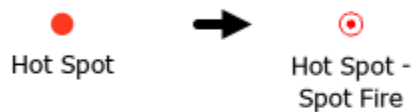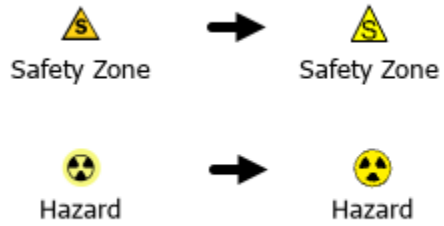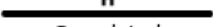
Restricted
Water Source   →   Restricted
Water Source
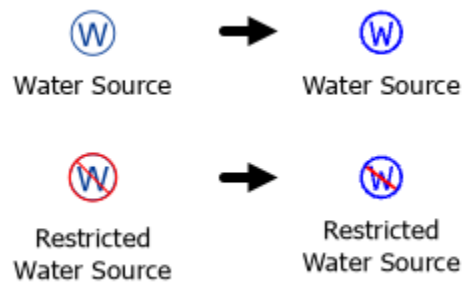
Event Line

2021 Event Line AGOL and Feature Service Symbology

There is still insufficient complexity supported in feature services to allow for a single, cross-platform Event Line symbol set, but the new symbols take a step towards changes that are expected in 2022 to make that possible. Line labels will not yet display in AGOL's basic Map Viewer but will in Collector and Field Maps mobile apps.

Aerial Hazard	**B** Completed Burnout	B Planned Burnout
Water Drop	**D** Completed Dozer Line	D Planned Dozer Line
Retardant Drop	**FB** Completed Fuel Break	FB Planned Fuel Break
Foam Drop	**H** Completed Hand Line	H Planned Hand Line
Route	**M** Completed Mixed Construction Line	M Planned Mixed Construction Line
UAS Launch and Recovery Zone	**P** Completed Plow Line	P Planned Plow Line
Temporary Flight Restriction	**R** Completed Road as Line	R Planned Road as Line
		S Planned Secondary Line
Access or Improved Road		
Fence	Fire Edge	Repair Line
Highlighted Feature	Contained Line	Road Repair
Management Action Point		
Other		

2021 Event GDB Line Symbology

Fire Perimeter

- Implementation for the Fire Perimeter features remains the same as 2020. The entire fire perimeter should be covered by either Fire Edge or Contained Line (i.e. there should be Event Line features of only these two categories coincident with the entire fire polygon).
- Unknown feature removed for clarity.

Uncontrolled Fire Edge	→	Fire Edge
Contained Line	→	Contained Line
Unknown		Removed

Repair
Brown Lines

| Repair Line | → | Repair Line |
| Road Repair | → | Road Repair |

Safety
Green Lines

| Escape Route | → | Escape Route |
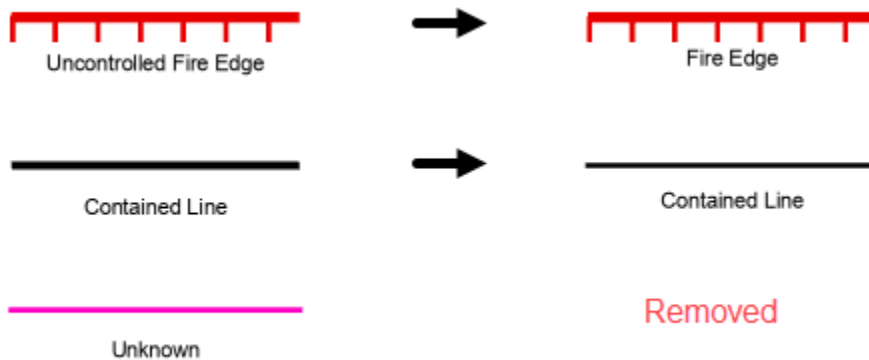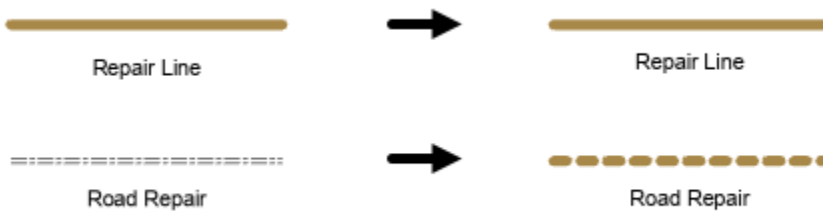
Air Operations
Purple Lines

- Aerial Ignition feature removed due to lack of use.
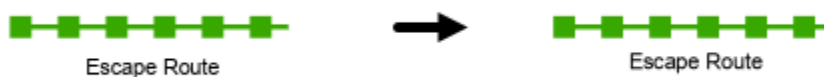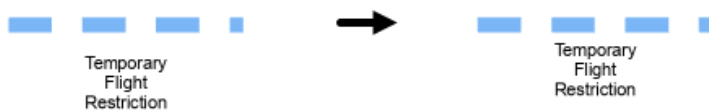- Drop features combined into Water, Retardant, and Foam to improve clarity.
- Route feature added.

Aerial Hazard → Aerial Hazard

Aerial Ignition → Removed

Aerial Water Drop → Water Drop

Helitanker Water

Aerial Retardant Drop → Retardant Drop

Air Tanker Retardant

Air Tanker Foam

Aerial Foam Drop → Foam Drop

Helitanker Foam

New! → Route

UAS Launch and Recovery Zone → UAS Launch and Recovery Zone

Temporary Flight Restriction → Temporary Flight Restriction
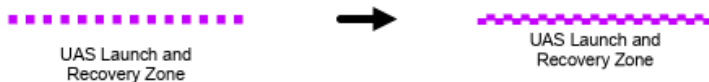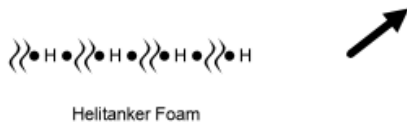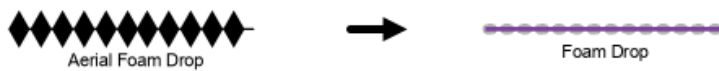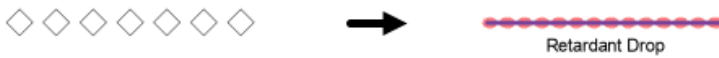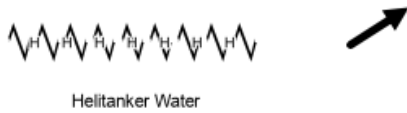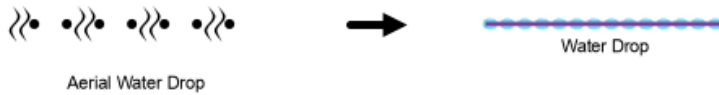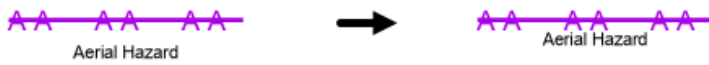
Ops Completed
Black Lines

- Active Burnout feature removed due to lack of use.
- Completed Mixed Construction Line feature added for consistency in line types.
- Explosive Line feature removed due to lack of use.

Active Burnout — Removed

Completed Burnout → Completed Burnout

Completed Dozer Line → Completed Dozer Line

Line Break Completed → Completed Fuel Break

Completed Hand Line → Completed Hand Line

New! → M - M - M - M - M - M
Completed Mixed Construction Line

Completed Plow Line → P - P - P - P - P - P
Completed Plow Line

Road as Completed Line → R - R - R - R - R - R
Completed Road as Line
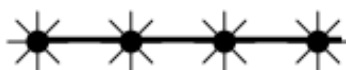
Explosive Line — Removed

Ops Planned
Gray Lines
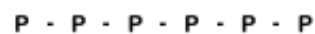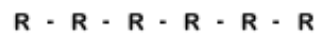
- Planned Fire Line feature removed for consistency in line types.
- Planned Hand Line, Planned Mixed Construction Line, Planned Plow Line, and Planned Road as Line features added for consistency in line types.

Planned Fire Line — Removed

Proposed Burnout → Planned Burnout

Proposed Dozer Line → Planned Dozer Line

Fire Break Planned or Incomplete → Planned Fuel Break

New! — H · H · H · H · H · H
Planned Hand Line

New! — M · M · M · M · M · M
Planned Mixed Construction Line

New! — P · P · P · P · P · P
Planned Plow Line

New! — R · R · R · R · R · R
Planned Road as Line

Planned Secondary Line → S · S · S · S · S · S
Planned Secondary Line
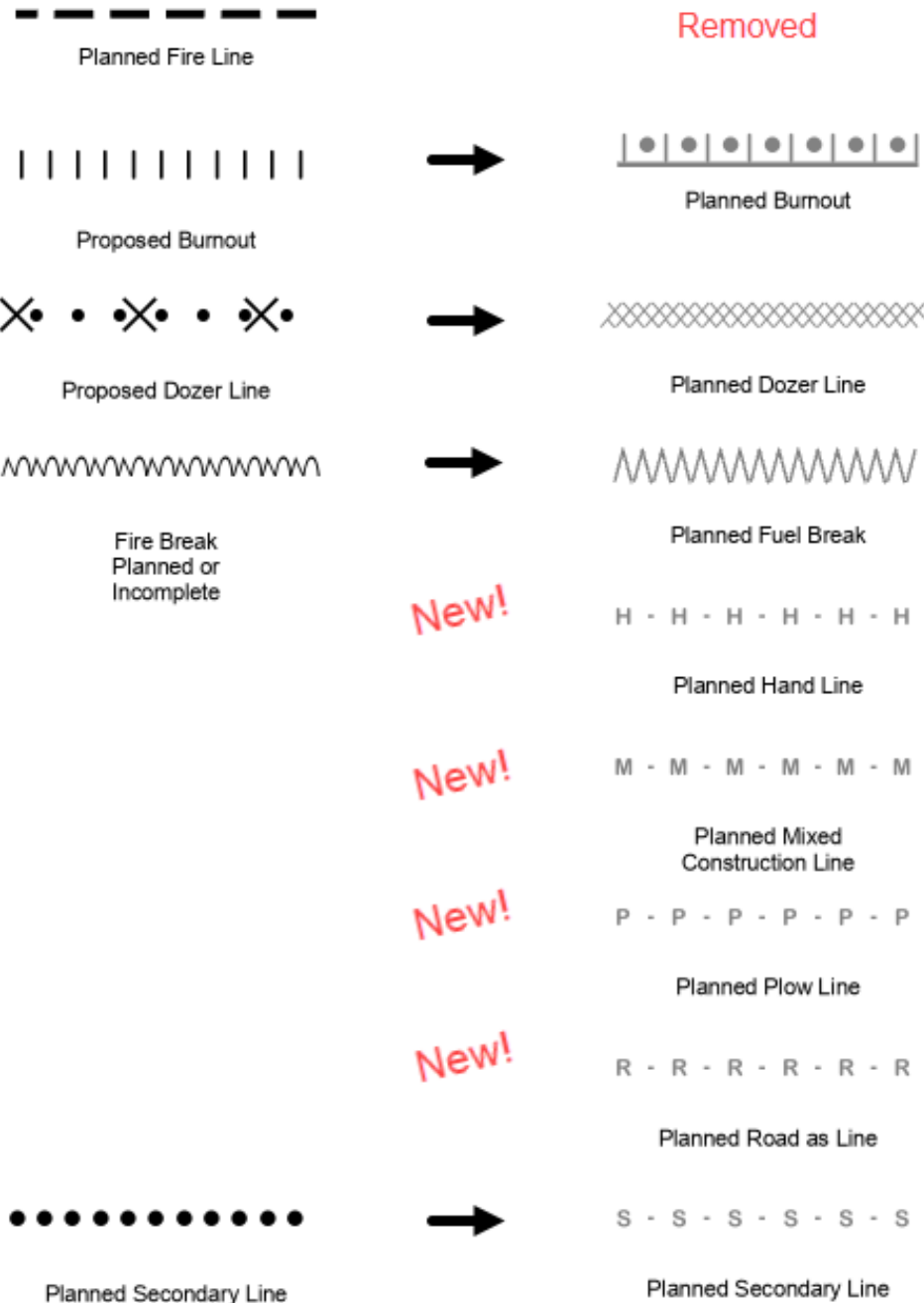
Reference

- Highlighted Manmade Feature and Ridge/Geographic Feature combined into Highlighted Feature for simplicity.
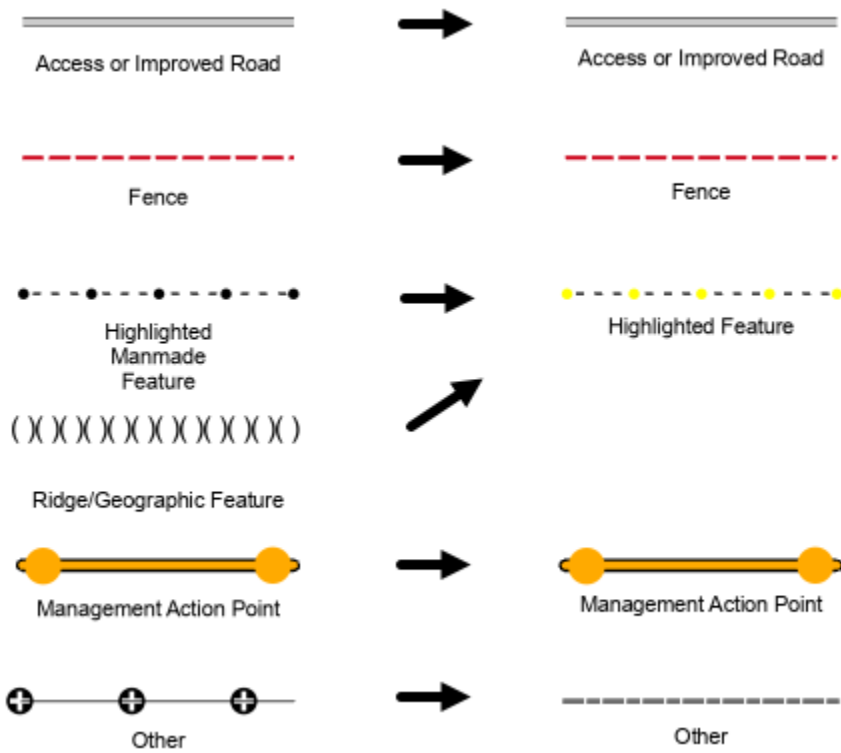
Event Polygon

- The majority of the Event Polygon feature have been removed due to lack of use or the availability of more appropriate data sources/hosting.
- Evacuation Area and Closure Area features should have separate services so they can be shared publicly.
- Retardant Avoidance Areas should be pulled from the authoritative source.

Wildfire Daily Fire Perimeter	→ Wildfire Daily Fire Perimeter	Active Burnout	Removed
Prescribed Fire	→ Prescribed Fire	Closure Area	Removed
Other	→ Other	Completed Burnout	Removed
		Evacuation Area	Removed
		Proposed Burnout	Removed
		Retardant Avoidance Area	Removed
		Unburned Island	Removed