Background

AMDSP specification version 2 was created back in 2014 prior to the creation of the online submission system called AMOS (AMDSP online Mapping and quality control System). Don't ask how the name of the system translates to AMOS but it has been the acronym for some time now and has stuck. The AMDSP v2 specification has served us well and for the most part meets the requirements of the members and users of the AMDSP data. The upcoming requirement for our members to meet the specifications coming out of the NG9-1-1 initiative is going to impose some changes on our data specification as well as some data requirement changes from our members and data users. It is time to revise our specifications and update our submission system. In most regards, the specifications needed are laid out for us in the GIS data model that is being used for NG9-1-1. The specifications will mostly be set in the document that is available from NENA (National Emergency Number Association). There will be a few extra fields for our AMDSP members, but the basic structure of the data submission will follow the NENA spec. The current version of the NENA specification is available at the link below:

https://www.nena.org/resource/resmgr/standards/nena-sta-006.2-2022_ng9-1-1_.pdf

An additional resource document is available from NENA which is currently under revision. When available it should be called NENA-INF-028.2-2023 and the name of the document is **NENA Information Document for GIS Data Stewardship for Next Generation 9-1-1 (NG9-1-1**). Where there are conflicts between the NENA documents and the AMDSP specification the AMDSP specification takes precedence.

This AMDSP version 3 document is not so much a data specification as a set of operating procedures and requirements to be able to create, maintain, submit, and validate the GIS data required for NG9-1-1 and our system. There are aspects of this submission standard and process that will alter the submission requirements in the NENA standard. The AMDSP system will add requirements that are not in NENA and automatically take care of many requirements in the NENA standard, so the member does not have to manage them such as the generation and maintenance of GUID values for each GIS feature submitted.

The NENA GIS data model is a work in progress, and it is expected to continue to evolve over time as requirements come to light though the various committees and entities that participate in setting and revising the standard. The NENA standard is currently at version 2, and they are already working on version 3. This sounds a bit scarry for our members who see that they are going to have to modify their data and processes and then be faced with the potential of future modifications and process changes. It is safe to assume though that the significant changes will be dealt with in this version of our AMDSP specifications. The current AMDSP data specification largely meets the current NENA specification with some exceptions. Any subsequent changes will mostly require system modifications to meet the formatting of the information to meet the NENA specification of the day but are not likely to impact most of our members in terms of the data that they need to submit.

The significant changes that are going to impact our members pertain to the following issues:

1. **Standardizing street names.** This is a weakness in our current v2 spec that needs to be addressed. The structure of how the street name is to be stored needs to be standardized and made consistent. Currently there is almost no constraint on what constitutes a street name.

Validation processes will be included in the new submission system requiring the members to keep their street names consistent and meaningful.

2. **Structure of address data.** Currently the old v2 specification only has three fields for house numbers and unit numbers. There is a lack of consistency on how these fields are currently used. The new specification adds additional fields to be used in defining the house number and sub parts of the house number such as building, unit, etc. The new standard will constrain the user to keep their address data in a very consistent format. A tool will be made available for the migration.
3. **Address range data on the road network.** Currently this is the major change for most of our members as most do not currently have address range data on their road network. This will not be dealt with in the initial transition from AMDSP v2 to v3 but will be an additional phase of the transition process. Conceptually we will build tools to assist with the creation and maintenance of the address range data. This will never be a fully automated process so some work will be required by our members to complete this task.

There will be other changes in our specification to meet the NENA specifications as well as to improve the quality and consistency of the data submitted to the AMDSP. The intention of the changes is to make it so that members need only submit their data using the AMDSP AMOS system and it will prepare data in the NG9-1-1 format of the day. A mechanism to provide this to Telus and other agencies may be worked out in future, but the objective is to have the data ready and available when it is needed.

Note that when referring to a field name in this document the descriptive name is used as opposed to the actual field name in the submitted shapefile. The actual shapefile field names are shortened to 10 characters or less to meet the shapefile standard. A correlation of the descriptive names and field names are available in Appendix B spreadsheet.

AMDSP Specification Overview

The NENA specification STA-006.2 document is the basis of the AMDSP specification. Not all the fields and data structures that are in the NENA specifications are required for submission to AMDSP. Even some of the fields that are required fields in the NENA specification are not required for the AMDSP submission as many are hard coded or derived from other values. There are also additional requirements for submission to AMDSP that are not in the NENA specification. The structure of the submission data will be very similar to the files that were submitted based on AMDSP v2. The files submitted will be shapefiles. Validation error files will be provided back as shapefiles in addition to the files that were submitted.

The address and landmark files are to be submitted as separate files, but the system will combine them to produce the Site/Structure Address Point data and related tables that are discussed in the NENA specifications. The structure of our submission data is different from the structure of the data that will be created by the system for distribution to entities needing the NENA formatted data. This will enable us to modify the deliverable data as the NENA specifications change in future hopefully without modifying our submission format. The objective is to keep the AMDSP submission specifications as consistent as possible.

Submission File Format

The file format for submission to the AMDSP AMOS system is a set of shapefiles. A minimum of three shapefiles, consisting of roads, address points and landmark points, must be submitted each time data is uploaded to the system. The naming format for the files has been altered for this version of the specification to help avoid confusion between old submission files and new ones. The prefixes of the filenames have been changed as below:

RD_DDD_XXXX This this polyline shapefile for the road centerline data.

ADD_DDD_XXXX This is a point shapefile containing the civic address data.

LMARK_DDD_XXXX This is a point shapefile that represents points of interest, common place names or landmarks.

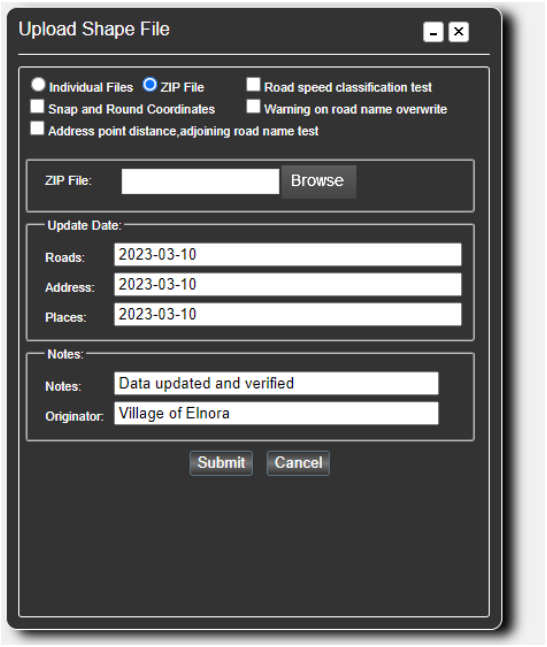
The following is a set of rules pertaining to each of the files above used for submission to the AMOS system.

- The value DDD in the filename indicates the type of municipality which includes the values city, fn (First Nations), met (Metis), rm (Rural, ID and Special Areas), twn (towns), sv (summer Village), urb (Urban service area), and vge (village). The exact filename suffix to be used is specified in Appendix A. The filenames contain a value XXXX which is the unique abbreviation for the member. For example: rd_twn_taber would be the abbreviation used for the road files for the Town of Taber.
- A minimum of 4 files must be included for each shapefile. For example: in the road shapefile for the Town of Taber the required files would be rd_twn_taber.shp, rd_twn_taber.dbf, rd_twn_taber.shx and rd_twn_taber.prj. Other parts of the shapefile may be included such as .cpg, .sbn, .sbx etc.

- All submissions to the system are always a wholesale replacement of the previous submission. The contents of all the files submitted do not need to change. For example: If the address data has changed but the road and landmark data has not, the new address shapefile can be submitted with the previously submitted road and landmark files. This will update all datasets within the system but, in effect, the only change will be to the updated address information. If data is removed from the submitted data, it will be removed from the distributed data. If the submitted file is empty, all data for that layer will be removed from the system. The three shapefiles for the Town of Taber would be rd_twn_taber.eee, add_twn_taber.eee and lmark_twn_taber.eee where eee are the extensions of all the component files making up the shapefile.
- One or more or all the submission files may be empty and contain no graphic data and no populated attribute data. The required fields must be submitted but they do not require data.
- The fields required in each shapefile are specified in the Appendix B spreadsheet in the schema tabs. All the current NENA fields are listed along with the additional AMDSP fields. Some are mandatory for submission, indicated in the AMDSP mandatory column, and others are optional or conditional. Some of the fields are noted as Overwritten. The content of these fields will always be overwritten by the system using values from other submitted data or data stored in the system. The structure of the landmark and address point data are identical.
- Additional fields pertinent to the member may be submitted as part of the submission but this data will be removed from all the distributed data. User data fields must be unique and not match any of the field names in the Appendix B spreadsheet schema tabs. The municipality may wish to include these added fields to avoid having to strip data out of their master data before submitting it. An example would be to have a road pavement date field which would be used to track information on a road segment. The data would pass through the system unaltered but would be removed from the distributed data.
- Address data may be submitted which is private using the AMDSP Security field. Putting a value of 1 in this field will cause the data to be excluded from the public data and only place these points in the NENA formatted data. Initially the NENA data will not be available to anyone by the member. Plans for distribution of this data will have to be worked out in future.
- All data submitted must be in the same map projection using one of the projections listed in the section below. For example: if the address data submitted is in NAD83 3tm 111 then the data shapefiles for landmarks and the roads must also be submitted in the same projection. Also, each shapefile must contain a valid .prj file.
- The shapefiles must not contain any multipart features.
- The shapefiles must not contain polyline ZM or point ZM data types.

Data submission methods

The standard way to submit data to the system is to log in to the submission system using a web browser. The login is assigned to you or your representative by AMDSP support. The web site is: https://amos.amdsp.ca and is available for submissions 24/7. Upload the files as a zip file and follow the prompts. To the right is an example of the submission form:



When submitting data, you have the option to update one or more of the date stamps indicating the update date for each layer. The system will give you the option to update all the dates to the current date. You also have the option to change the text in the Notes: and Originator: fields. This data is included along with the submission dates as the meta data for the current submission.

Another means to submit data is using an automated process. The model for this automated process is based on the member having an automated process which generates the submission files along with an instruction text file which contains the meta data. These files are uploaded to a DropBox folder, and the AMDSP automated processing system picks up the files and submits them to the AMOS system as if it were a manual submission. For more information contact AMDSP support.

Files returned from the system

The system requires a minimum of three shapefiles to be submitted but the data returned to the member will always contain 9 shapefiles. Three represent the submitted data, three error files and 3 exception files. The error files and exception files may be empty.

The system applies numerous tests to the attributes and geometry of the data. A complete list of tests is in Appendix C along with the exact structure of the error files. Should any feature that is submitted fail on any given test a copy of the feature is placed in the pertinent error file, the original attributes are removed and the attributes relating to the error are placed on that feature. If multiple errors pertain to one feature it will result in multiple copies of the feature with each distinct error code and information. For example: if a road line is missing a street name and is also an orphan road (not connected to any road or tie point) two copies of that road segment will be out into the error_rd_ddd_xxxx shapefile. One will be attributed with the noting the missing attribute data, the other feature will have an error indicating that the road segment is an orphan. These error shapefiles are useful for the member to track down where the errors are in the data and are useful to “drive” around their data for doing cleanup.

All error files must be empty to get a successful submission. Some errors may be from tests which are ambiguous. These tests, by their nature, are not 100% conclusive but may indicate an error. When reviewing these errors, the member may decide that the data is fine the way it is. Appendix C shows which tests allow exceptions. By copying the error feature from the error shapefile into the exception shapefile this creates an exception for that test for that particular feature. The exception shapefile

would then have to be submitted along with the three primary files from that time on. All exceptions need to be accumulated into the appropriate file(s) and kept for resubmission. The matching of an exception to its feature is done using the geometry of the exception feature. If the geometry of a feature changes a new exception feature will have to be created to match (can be taken from the new error file). The attributes of the originating error feature and exception feature are to be identical. Features placed in the exception file that do not relate to any feature or that relate to an error that does not allow an exception will be deleted from the exception file returned by the system. The returned exception file will be "cleaned" of these unused or unusable exceptions. The members can use these returned files as the basis for their new exception data.

All the attributes that are part of the specification are added to the returned data. Some are populated by the system. Some fields will be overwritten if data is provided by the user.

Submissions that return no data

There are cases where no data is returned from a submission. For example, if all the files in the submission are not in the same map projection the submission will fail. Normally the user will get a notification email and the submission grid will not have any data to download.

Distributed Data

Once the member has successfully submitted their data three sets of files will be available based on the submission, public, NENA and member. The submission needs to be left in a successful state in the system overnight to be passed into the distribution area.

The public data will be in the same structure as the submitted data including all the NENA fields, but the member data fields will be removed. The exception files and empty error files are also removed. Data that is marked with a 1 in the AMDSP Security field will only be placed in the NENA data.

The NENA data will be prepared in the NENA format. The NENA formatted data will only be available to the member or entity that does the data submission for the member. The member may distribute this data to organizations that require NENA data updates. A distribution process may be developed in the future should the need arise, and a distribution process can be agreed upon by the member and consuming entities.

The member data format contains the submitted data along with any custom fields in the same format as what was submitted. This also includes the error files and exception files if applicable. This data is available from the system using the review page grid. A historical list of submissions is available in case the user wishes to look at a prior submission. Only members, their designated support agency and system administrators have access to the member data.

Sample input and output and template files are available on the website on the specifications tab or use the following link:

https://amdsp.ca/specifications.html

Street Names

The validation of street names is one of the major changes in the AMDSP 3 specification and this is also a significant requirement in the NENA specifications. **There are several significant changes from the old AMDSP specification in this part of the document.** To facilitate validation, a street name dictionary will be used to determine the parsing for each given street name. All street names are to be submitted using the AMDSP Street Name field. If the parsed street name fields are included in the submission, they will be cleared out and rewritten based on parsing in the dictionary. **The format for the street name is concatenated unabbreviated including the pre and post directional parts of the name.** The text is to be provided in mixed case or it will be overwritten in mixed case based on the text case in the street name dictionary.

The street name test will flag street names that do not have a match in the street name dictionary. A semi-automated routine will add new dictionary values if they are common simple names. Other more complicated or unconventional names will have to be input by the system administrator or user. All new street names entered will have to be validated to control the creation of nonsense street names and to ensure that street names are parsed consistently. The dictionary will contain the concatenated unabbreviated street name and how that gets broken down into the 8 street name fields to be used in the NENA format. This same dictionary will be used to validate the street names on roads, address points, landmarks, and alias street names.

Any street names in the street name field or alias fields of the road data having road classifications that do not require street names that do not have a match in the street name dictionary will be removed from the distributed data and the NENA formatted data. No notice of this removal will be given.

The street name dictionary will also be used to check if street names in the address data are consistent with street names in the road data. Exceptions will be allowed but will be monitored. The basic premise of a street name is that there is a name broken into parts which normally consist of a street name with either a prefix type or suffix type. There is a look up table that is controlled by NENA which will require the creation of new street types to be approved by NENA. There are currently almost 400 street name pre and post types in their list including 15 that have been requested for our Alberta members. The list of these pre and post types can be found at the following link:

http://technet.nena.org/nrs/registry/StreetNamePreTypesAndStreetNamePostTypes.xml

Examples of valid street names and how they are parsed are in the Appendix B spreadsheet on the AMDSP web site.

Rural Access Numbers – There has been a practice of labeling streets in rural areas with the rural access number. This was a result of the limitations in the Telus database which would not allow for addresses with more than 5 characters. The work around for Telus was to put the access number on the street name. There is only one number for the house number in the NENA format but there are additional fields to separate the building identifier and unit identifier within the building. The convention for the new standard will be to put the house number or access number in the Address Number field. The number or identifier for the building is to be put in the “Building” field and the Unit field is to only be used for units within a building.

The naming of subdivision roads to access one or more dwellings with a rural address type can be done with one of the following methods:

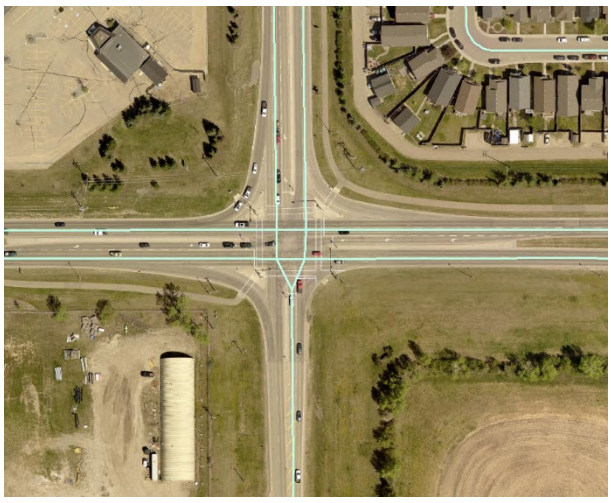
1. Use the same street name as the major street that the access road departs from.
2. Code the street with the Road Class “PUBLIC DRIVEWAY” and leave the street name blank.
3. If the driveway is a private road, code the street with the Road Class “DRIVEWAY” and leave the street name blank.

100 series prefixes – In some urban settings there are small offshoot roads that have a numeric prefix. This may or may not be part of the street name in the address data. The convention is that if the number is part of the street name in the address data it should be present in the road data as well as the street name. If it is just a convenient identifier the numeric prefix should be dropped as is likely only used on the road signage to help distinguish the small offshoot roads.

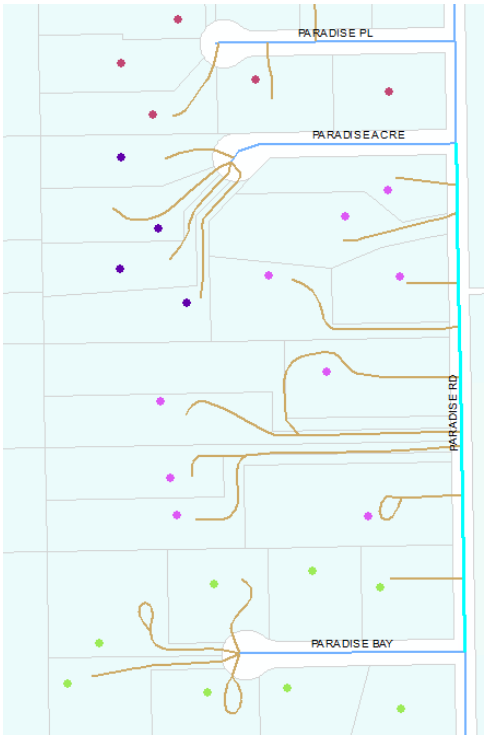
Street name aliases – There are two street name alias values allowed on any given road segment or address. These are to be placed in the AMDSP Alias1 or AMDSP Alias2 fields in the submission. These values will be used to build the street name alias table in the NENA format.

Road network and topology

The road network is a single line representation of the drivable road network although it may contain trails and smaller roads and paths which are normally not driven on with conventional vehicles. Lower grade roads should be designated as trail and given 0 speed rating to indicate that they may not be a viable route for an emergency vehicle. Trails that can be driven on can be given the road class VEHICULAR TRAIL. The intersections in the road network can be represented in two ways as shown below. One is a more



schematic representation where the roads come to a point in an intersection. This is a requirement in some dispatch systems. The preferred representation is a set of intersecting lines that basically represent the lanes of travel. This comes into play more when there are one-way roads being represented. One-way roads need not be present in the submitted data but are preferred as it makes a more accurately routable road network.



The road class values in NENA have 15 values. The AMDSP specifications have 33 values. The submission is to be done with the AMDSP value and the NENA data will be produced by consolidating the values from 33 to 15. Bridle Path will not be used. Members should avoid using the road class UNKNOWN. Limits will be placed on the number of segments that can have this value.

The road class values determine not only the road classification but also the topology of the road network. The diagram to the left shows the difference in topology between major roads and minor roads. The road classifications table in the Appendix B spreadsheet indicates which roads are major and which are minor. Major roads intersect other major roads end to end. Minor roads intersect minor roads end to end but minor roads can intersect major roads on a vertex. This is done to reduce the number of road segments that the road network requires and more closely aligns with the data required by the member for asset management.

There is a possibility that the road network will need to be broken at all intersections broken to adhere to the NENA standard. If this becomes a requirement it could be done by an automated process that produces the NENA data. In automating the splitting of road segments that have address range data the address range will be split up based on the proportion of the road segments that result.

The road class also determines which roads are required to have street names. Roads that do not require a street name should not carry any street name value unless they have received an official name. There are cases where addresses pertain to a road segment that is a private road which has the same street name. Driveways and resource roads should have a null street name. Roads with no street name will be given the Validation Left and Validation Right value of N (no) indicating that there are no address ranges that apply to these segments.

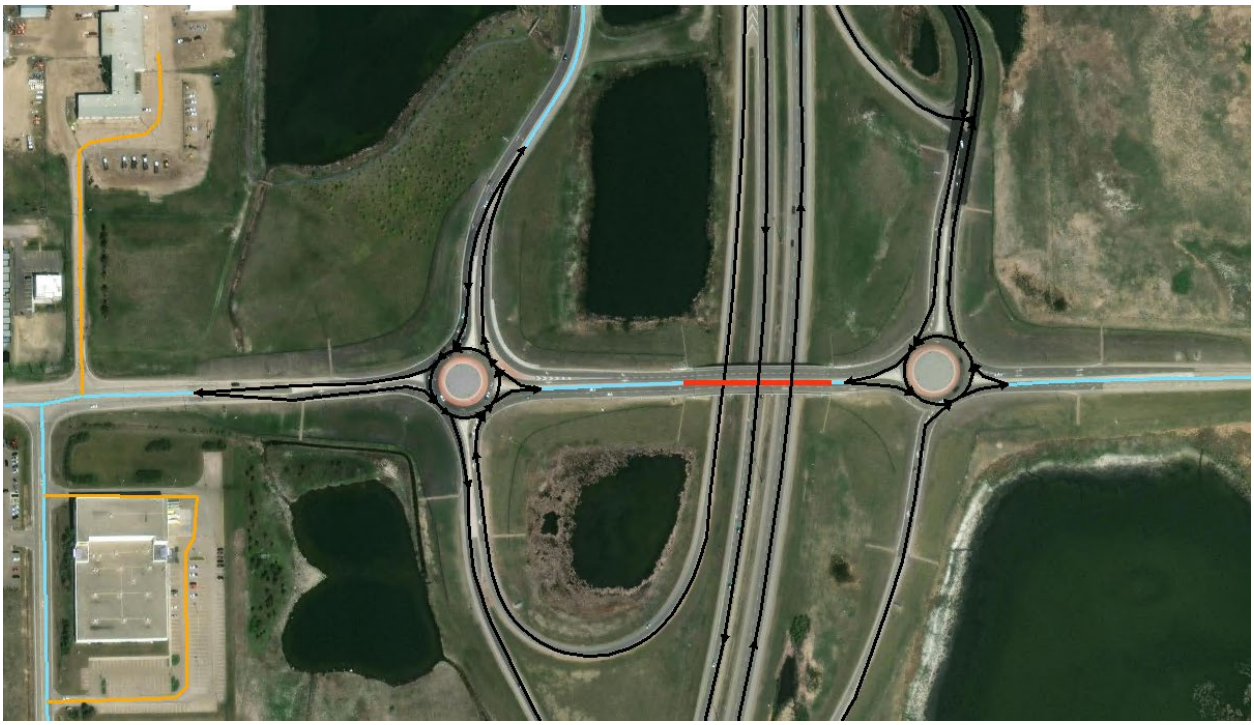
Two-way roads may be drawn in either direction but the NENA Information Document for GIS Data Stewardship suggests that the best practice is to draw the road in the direction of increasing address number.

One-way roads are to be drawn in the direction of travel and have a One-Way value of FT (From To). This may conflict with the road addressing rule for two-way roads but the segments **must** be drawn in the direction of travel. Ramps do not require a street name but if one is given the convention is to use the

street name of the road that the ramp departs from. Street names on ramps or other road segments should not indicate multiple road names pertaining to an intersection. These would be invalidated by the street name dictionary. By distinguishing ramps using the road class RAMP the system will not flag these one-way segments as meeting head-to-head. Should any situation exist where two one-way roads do meet the error can be dealt with using an exception.

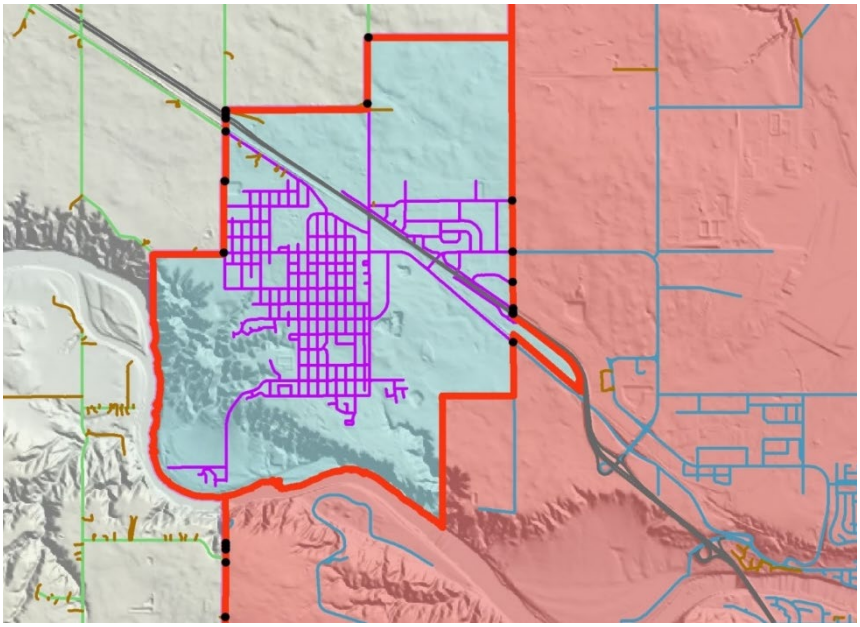
Overpass segments should be drawn from abutment to abutment and should not have any common vertices with roads that pass over or under the structure. This will avoid systems routing traffic off the side of a bridge. The overpass segment should be given the road class BRIDGE and the structural material the bridge is made from should be used for the surface type.

The exhibit below shows several conditions pertaining to one-way roads and bridges. The ramps and highway roads all flow in the direction of travel. One-way roads come together with two-way roads indicated in blue. The Red segment is a bridge and shares no vertices with ramps or roads other than the ones connecting to the ends. Driveways are connected on a vertex of the main road.



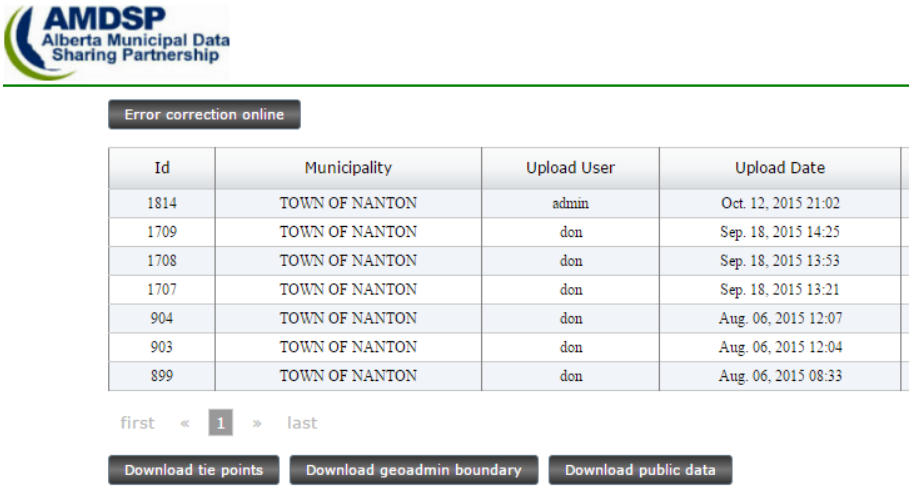
There are several left and right values required in the NENA data. The system should auto populate many of these values in the NENA format. The required values are noted in the Appendix B spreadsheet. Auto populated values include Province, County, Incorporated Municipality name etc. As far as we know no road segments are coincident with a boundary which would mean both left and right values should be the same. Some may be very close and be in line with the boundary but the system will not look into the next municipality and use that value. All values that are auto populated pertain to the member organization being submitted.

The road linework and all data submitted must be within the members geoadministrative boundary.



The exhibit to the left shows a series of points along the boundary polygon where roads cross into the next member area. The network of over 16000 tie points is kept in sync with the geoadministrative boundary polygons by the system administrator. Tie points are referred to as Snap-to-Points, anchor points, agreement points, stitch points, edge match points in the NENA GIS Data Stewardship document. The AMOS submission system will snap your road linework that connects to a tie point to have the end of the road connected to the tie point if it is within 10 cm of the tie point when projected to 10tm. This is the only routine in the submission system which will modify the geometry of the member data.

The tie points and geoadministrative boundary data in the submission system can be downloaded at any time by the member. The buttons for download are on the review page in the lower left corner.



The geoadministrative boundaries used in the system are mostly in sync with the geoadministrative boundary data provided by Altalis. The Altalis data is modified to some extent to keep the tie points stationary. A tie point will force a modified boundary polygon to snap to it within 20cm. Should the boundary move more than that the road data affected will have to be adjusted by the member to match the new boundary. There are also some boundaries which are in the process of being fixed through the process used for boundary changes with Alberta Municipal Affairs. As these changes can take an extended amount of time the boundary changes needed to match with the members new boundaries are manually altered in the AMDSP data until such time as the changes become official.

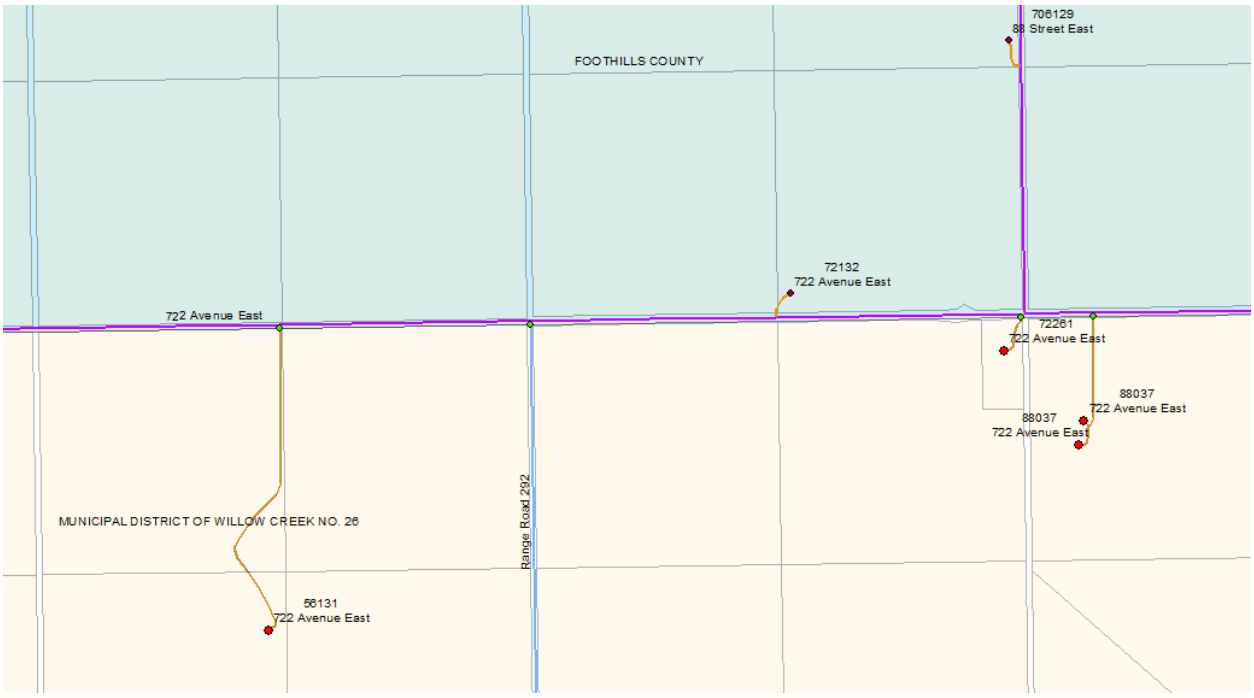
Currently there is no process in place to synchronize the Emergency Service zones with the other boundary information. The AMDSP is working with the PSAP's and other dispatch entities to try to devise a mechanism to keep everything in sync.

Addresses

Address points represent the location of a civic address assigned by the member. In most cases the address point is placed at the entrance door to the building. This is the preferred convention. Address points may also be placed inside the property but there must be a process in place to mark one of the address points as a master address. The example to the right shows many addresses that are placed near the center of the parcel. Some points have been moved on the larger properties to put the point on the entrance to the building. This is helpful for emergency responders to know where the entrance is to the building. Note the old location of the point was near the red x which would not have been as helpful.

In the case where multiple address points are submitted that refer to the exact same address one of address points must be given the default value of 0 in the AMDSP Master Address field and the other points need a value of 1.

A distinct address is one that is unique based on the combination of the fields Unincorporated Community (A4) and all the address and street name fields. The Unincorporated Community field should be used to specify a hamlet name, neighborhood name or subdivision name. The intent of these names is to associate the address to a neighborhood or hamlet area which can be useful for dispatch and as well to make the address unique. For instance, there could be multiple addresses within a rural municipality with the address 1 Main Street. One might be in the hamlet Orton and the other in the hamlet Parkland. By including the hamlet name the addresses become distinct.



The example above shows a couple of things. The municipal boundary between Foothills County and the Municipal District of Willow Creek is just south of the road named 722 Avenue East. The address numbers and street name has been harmonized between the two municipalities. Many adjoining municipalities have addresses that use different street names but use the same road. To correct this, use the name of the road that resides in the municipality that "owns" the road and assign addresses that are all in the same series. As a stopgap measure you can have your neighbor put a synonym road name in their road network but renaming and readdressing to be consistent is the best method.

The second issue the example shows is the need to have driveway road segments from the originating road to the dwelling and to have the address point placed at the dwelling. This shows a clear route to get to the dwelling. If the address points had been placed using the center of the parcels, they could give a misleading representation of where the dwelling is and how to get to it. Driveways and address point placement are very important in the rural setting.

Addresses may be kept private using the value 1 in the AMDSP Security field. The default value is 0 which is public. Address points marked with a 1 will be removed from the publicly distributed data.

The address points submitted along with the Landmark points will be used by the system to make the combined site structure address point layer along with street alias table.

The Placement Method field can be used to further describe the address with the values Structure, Site, Parcel, Geocoding, Property Access, or Unknown. The Site or Structure designation would be the most used values. Some may place the address using the parcel polygon. The use of the value Unknown is to be avoided. More information can be found about these values using the link below:

http://technet.nena.org/nrs/registry/SiteStructureAddressPointPlacementMethod.xml

Landmark (Place names) Data

Landmark names are an important part of the emergency response dataset. In the old AMDSP specification we referred to these as points of interest or common place names. The idea is to have a point for a given location which people commonly refer to using a name or names so that if an emergency response is needed the PSAP can send the responder to the location of the name rather than having to get the civic address. On the example above one to reference the Elnora Library instead of knowing that the address is 210 Main Street. The complete address should be included if one exists. The structure of the Landmark submission is identical to the Address point data. The name of the landmark is to be placed in the Complete Landmark Name field. The AMDSP Address Type field shall be populated with the value Landmark. Multiple points can be stacked on top of each other to indicate a facility that has multiple common names or alias names.

If the landmark is a mile marker the number of the mile marker can be placed in the Milepost field. Addresses and street names for landmarks in unaddressed areas can be left blank.

The Placement Method field can be used to further describe the landmark with the values Structure, Site, Parcel, Geocoding, Property Access, or Unknown. The Site or Structure designation would be the most used values. More information can be found about these values using the link below:

http://technet.nena.org/nrs/registry/SiteStructureAddressPointPlacementMethod.xml

Using a landmark can also be a helpful way to deal with nonsense addresses. If an addressing or building numbering scheme does not conform to the addressing standards landmark points can be used to distribute the location names until the addressing information is corrected or created.

Unincorporated Communities and A1 – A6 values

There are a series of fields used to describe the location of a given address point, landmark, or road segment. These are coming to be known as the A1 – A6 values and are part of the advanced set of specifications that are being developed by the NENA CLDXF-CA workgroup. As time goes on the NENA specifications and CLDXF-CA specifications will be united into one common spec. The A1 – A6 values are to represent the data from coarse to fine gradient. Following are the business rules for the fields:

A1 represents the Province of Alberta and the value AB will be inserted by the AMDSP submission system.

A2 represents the County or rural area and will be populated by the AMDSP submission system for municipalities that represent a county or county like status. The name of the rural municipality, urban service area, ID, first nation or Metis settlement will be entered.

A3 represents an incorporated municipality that is not one of the A2 values. The AMDSP submission system will insert the city, town, village, or summer village name in this field. A2 will be left blank.

A4 represents an unincorporated community. This represents an unincorporated hamlet or rural subdivision within incorporated municipality or a county. The hamlet name or subdivision name will be inserted based on the data provided by the member.

A5 is not used in Alberta.

A6 is not used and is currently not part of the NENA specification until NENA version 3 is released.

Assignment and re-use of GUID values

GUID values will be assigned by the AMDSP system. The method for doing this is undecided at this point. Further consultation with entities consuming the data will have to take place to determine the requirements. An attempt to retain the GUID values from one submission to the next will be made but more consultation is required on this aspect as well.

Accepted Map Projections

The data submitted must be in one of the following projected formats. All the projections are based on the North American Datum 1983 as defined by the NTv2 routines and Alberta grid files from Natural Resources Canada. The datum is based on the GRS 1980 spheroid parameters defined in EPSG 7019. If the originating member data, in its original form, is in the WGS84 datum, care should be taken to reproject this in the same transformation that will be used by the AMDSP AMOS system to generate the NENA formatted data.

- NAD_1983_10TM_AEP_Resource – EPSG 3401
- NAD_1983_3TM_111 – EPSG 3775

• NAD_1983_3TM_114 – EPSG 3776

• NAD_1983_3TM_117 – EPSG 3777

• NAD_1983_3TM_120 – EPSG 3801

• NAD_1983_UTM_Zone_11N – EPSG 26911

• NAD_1983_UTM_Zone_12N – EPSG 26912

• GCS_North_American_1983 – EPSG 4269

All data distributed to the public will be in NAD 83 10TM. Files available in the system for the geoadministrative boundaries and tie points will also be in NAD 83 10TM. The submission system will also do all the processing in NAD 83 10TM so any distances tested will only be true in that projection. For example, if a test indicates that the length of a line is less than 2 meters but in the submitted projection the length is slightly over 2 meters the difference is due to the map projection.

WGS84 Datum and Conversion

The output projection for the NENA formatted data will be WGS84 geographic coordinates defined in EPSG 4326. Further consultation with the entities using the data will take place before the determined method of transformation is defined and published.

Pre-Submission Checklist

Following is a list of things to check on when preparing data for submission to AMDSP. This is not an exhaustive list but includes some of the more common errors and omissions. The list is in no particular order.

Addresses

- Check the positioning of the address points. They should be placed at the front door of the building. On properties without a building, they can be placed inside the parcel of land pertaining to the address. If there are multiple address points with the same address designate one as ENTRANCE in the AMDSP Address Type field.
- Review the data using imagery and look for missing addresses. For example, look for dwellings or buildings which are normally occupied that do not have an address point.
- Check for address points at the end of the block which may relate to the crossroad instead of the front road that adjoining addresses may use.
- Color code the address points by street name and look for any miscolored points which could indicate typos or the choice of the wrong street name.
- Check the list of street names in the road and address data and see if there are any nonsense addresses.
- Check that hamlet names are recorded in the Unincorporated Community field for urban addresses in the hamlet areas.
- Record subdivision names and neighborhood names in the Neighborhood Community field.

Roads

- Create driveway road segments for properties with driveways more than 100 meters long.

- Compare the street names in the address data against the road data and make sure that the street names are consistent between the two layers.
- Check if there are road segments that can be added to the road data from the current Base Features Access data available from Altalis. Roads to be added are driveways, resource roads and vehicular trails. Ignore roads which have been reclaimed or are cutlines, pipeline r/w that are not navigable.
- Avoid the use of UNKNOWN in the RD_DESC field. There should only be a few and preferably none of these in the data.
- Remove the words UNKNOWN, Alley, Lane, Ramp in the street name fields. The street name fields should only contain valid street names. RD_DESC values that do not have a street name test should likely not have a street name populated unless it is a meaningful name. On occasion private roads and driveways carry a valid street name.

Landmarks

- Create points of interest for sites within a campground or trailer park.

Transition Considerations from AMDSP v2

A semi-automated process to convert v2 files to v3 files will be integrated into the submission system. By submitting v2 files v3 files will be returned to the user. The conversion process will result in errors that need to be reviewed. More details on this process are in Appendix C.

Appendix A – List of all member filenames

Appendix B – AMDSP v3 Spreadsheet with schemas, examples, and lookup tables

Appendix C –Tests and error codes