Attachment 1b

DRAFT

Key Facilities -Tier 1

for

The National Map

National Structures Dataset

Version 1.0

April 22, 2005

ABOUT THIS DOCUMENT

This document contains tier-1 (highest priority) “key facilities” selected from the full list of content of the National Structures Dataset of *The National Map*. This list of facilities has been kept small to ensure that available resources are focused initially on complete collection of the most important facilities. Additional data collection guidelines are being developed for a second tier of priority structures for *The National Map*. This second-tier guidance will be available in summer 2005.

The National Structures Dataset is based primarily on the Homeland Security Infrastructure Program (HSIP) sectors and sub-layers as detailed in the Homeland Security Infrastructure Tiger Team Report, Version 1.1, September 2002, Appendix D – National Critical Infrastructure and Urban Area Minimum Essential Data Sets. The feature classes, herein, represent the key feature classes supporting the Critical Infrastructure Program (CIP) and HSIP. Some HSIP feature modifications have been made by the U.S. Geological Survey to better accommodate features and attributes of interest to the Federal, state and local government.

This document will be modified over the next several weeks to include data field specifications and to improved feature and attribute definitions. Enhancements planned over the next several months include additional feature collection examples, and possible refinement in the list of key facilities.

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INTRODUCTION

This document is written as a guide to state and local government personnel responsible for collecting local structure information and supplying it to *The National Map* and the national Homeland Security community. This document does not include critical infrastructure such as transportation networks or hydrographic features. While information regarding these features is important, other means of collecting and updating these features are being pursued.

The U.S. Geological Survey requests your comments on ways to improve this document or suggestions for improving the data collection process. Please consider these questions when providing feedback:

- Does the list of key facilities and attributes reflect the HLS and other spatial-data priorities of your state or community? What would you add or remove?
- Are the feature positions and attributes too difficult to collect efficiently? Please provide specifics and recommendations for improvement.
- Is the document clear about the information to be collected? What needs improvement?

SPATIAL REPRESENTATION and COORDINATE LOCATION (Required)

Feature Geometry

While the National Structures Dataset will also accommodate line, polygon, and three-dimensional feature geometry, the initial phase of collection only requires single point coordinates to be collected for positioning the feature. Each point feature must have geographic coordinates (latitude, longitude) and a label indicating where, on the feature, that point is located (entrance or centroid). Line, polygon, or 3-D geometry may be used to represent feature geometry, in lieu of, or in addition to a point, but such methods are typically more expensive than single-point collection.

There are a number of methods for collecting the geographic position of a structure. Digital orthophotographs (distortion-corrected aerial photographs) will be provided for use in the field. The data collector who knows an area well and is experienced in matching features in the photographs to features on the ground may wish to use geographic information system (GIS) software to collect coordinates directly from the orthophotos.

Those who are not experienced with identifying a ground structure in an aerial photograph may prefer to use a hand-held geographic positioning system (GPS) to find an approximate position on a sidewalk or curb next to the structure to be collected. Compass directions from the GPS position to the actual structure location should be recorded for later refinement of the position. The ID of the GPS point should also be referenced to the attribute information collected for the feature. Final positioning of the feature can take place in the office using GIS software to display the GPS point over the orthophoto. Using the compass direction from the displayed GPS point the collector can accurately identify the structure to which the field data apply. An accurate coordinate can then be collected within the feature on the digital orthophoto.

Form Versus Function

Homeland security applications drive some of the primary requirements for structures data. For this reason, it is important to collect information about the function taking place at a location, not just the fact that a structure exists in a particular place.

To ensure that all critical facilities are located, feature collection will be performed on the basis of unique functions rather than on the basis of unique structures (form). For example, when a police station and fire station are in the same building, data will be collected for both the police station and the fire station, not just for that single building. Each facility (function) will be tied to it's own geographic coordinate pair, though the actual coordinates may be the same.

COMMON ATTRIBUTES (Required)

The following geometry and identity attributes are required for all feature classes unless otherwise noted.

FacilityName

Definition: The name of the facility

Example: Springfield Police Station

Field Type: String

Domain: None

Owner

Definition: The owner of the structure. City of Springfield, MO

Field Type: String

Domain: None

Address

Definition: The street address of the facility.

Field Type: String

Domain: None

City

Definition: The name of the city, town or community.

Field Type: String
Domain: None

State

Definition: The name of the State.

Field Type: String
Domain: Full name or two letter postal designation

Zip Code

Definition: The zip code of the facility.

Field Type: String
Domain: ZIP or ZIP + 4

AdminType

Definition: The type of entity exercising jurisdictional or administrative control over the facility.

Field Type: Integer

Domain: [0-7]

Label:	Code:
Unknown	0
Federal	1
Tribal	2
State	3
Regional	4
County	5
Municipal	6
Private	7

FCode

Definition: Feature code

Field Type: Integer
Domain: Specified by facility

PointLocationType

Definition: Position of the geographic coordinate in relation to the structure.

Field Type: Integer

Domain: [0-3]

Label:	Code:	Definition:
Unknown	0	Not Specified
Centroid	1	Centroid
Exit or Entrance	2	Exit or Entrance
Turn-off Location	3	Turn-off Location

GeographicCoordinates

Definition: The point location of the structure. Note: The datum and coordinate system of the x and y feature coordinates must be described in the metadata.

Field Type: Integer
Domain: X coordinate, Y coordinate

AddressBuildingName

Definition: Name of the building housing the function (required if available).

Example: Springfield Municipal Building

Field Type: String
Domain: None

OPTIONAL ATTRIBUTES

The following attributes are considered *optional* for feature classes in this document. While highly desirable, this information may prove difficult or impossible to obtain for some features.

Source Identity

Definition: Data provider (source) permanent identifier for facility.

Field Type: String
Domain: None

EmergencyPOC

PocName	String	eg. John Doe
PocTitle	String	eg. Director
PocOrganization	String	eg. SEMA
PocTel1	Integer	eg. 555001111
PocTel2	Integer	eg. 555001112
PocFax	Integer	eg. 555001113
PocEmail	String	eg. jdoe@usa.com
SitePlanAvailable	String	eg. Yes or No

METADATA (Required)

Metadata (information about the spatial data) is required for all features collected. Metadata that is consistent for a set features (or a data file) need only be specified once for that set of features.

See Appendix A for metadata content.

STRUCTURE FEATURE CLASSES

This section contains the general feature classes and key facilities within each class. Classes and key facilities are presented in alphabetical order.

Each class description includes the items below:

Class Definition: A definition of the structure feature class.

Feature(s): A list of all key facilities within that class.

For each feature:

Name: The feature type for which information is required.

Definition: A definition of the feature as it pertains to the National Structures Dataset.

FCode: The feature identification code (unique to the feature type name).

Required Attributes:

Feature Specific: Specific characteristics of the facility (required).

Field Type: The data type (integer, string, etc.) for the specific attribute.

Domain: Authorized domain of values for the specific attribute. Fixed domain attributes are presented as follows:

Label: Name of the attribute domain.

Code: Numeric code associated with the attribute domain for nternal use.

Definition: Definition of the attribute (where necessary).

Common: List of common attribute(s) to be collected for facility.

Optional: Indication of optional attribute(s) that may be collected for facility.

Commercial and Retail Feature Class

Definition: Infrastructure sector devoted to buying and selling of goods and services.

Feature(s): Shopping Mall/Complex

Shopping Mall/Complex

Definition: A facility containing multiple stores and shops for selling goods and services

FCode: 72010

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, WeekdayPopulation,

WeekendPopulation

Education Feature Class

Definition: Infrastructure sector consisting of architectural facilities and resources used to house activities having to do with teaching and training at all levels.

Feature(s): School
College/University

School

Definition: A building or group of buildings used primarily/exclusively as learning center for children grades pre-kindergarten through high school.

FCode: 73002

Required Attributes:
Feature Specific:

Field Type: Integer (Specify all that apply.)

Domain: [1-6]

Label:	Code:
Pre Kindergarten	1
Kindergarten	2
Elementary	3
Middle School	4
Junior High School	5
High School	6

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, NumStaff, NumStudents

College/University

Definition: A building or group of buildings used exclusively as an institution of higher learning that grants a degree at the completion of an extensive course of studies.

FCode: 73004

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-2]

Label:	Code:
Public	1
Private	2

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, NumStaff, NumStudents

Emergency Response and Law Enforcement Feature Class

Definition: Infrastructure sector devoted to taking action during an emergency to protect life and property, care for the people affected, and restore essential community services.

Feature(s): Emergency Management Office
Emergency Shelter
Fire Station
Law Enforcement
Prison/Correctional Facility

Emergency Management Office

Definition: A physical location at which the coordination of information and resources to support domestic incident management activities normally takes place.

FCode: 74044

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-2]

Label:	Code:	Definition:
Primary	1	Primary Location
Alternate	2	Alternate Location

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, HasGenerator, InBasement, NumDaysFuel, HasRadefKits

Emergency Shelter

Definition: A designated emergency shelter.

FCode: 74046

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, Capacity, HasGenerator, FoodSupplyDays, NumberofFloors

Fire Station

Definition: A facility housing fire-fighting equipment and personnel.

FCode: 74026

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-2]

Label:	Code:
City	1
Rural	2

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, HazMatCapable, NumFireFighters,

NumEmsPeronnel, NumFireTrucks, NumAmbulances

Law Enforcement

Definition: The facility housing law enforcement equipment and personnel.

FCode: 74034

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, IsHeadquarters, Jurisidiction, NumStaff, NumVehicles

Prison/Correctional Facility

Definition: A facility for the confinement of persons convicted of crimes.

FCode: 74036

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName, SecurityLevel

Optional: Identity, EmergencyPOC, NumStaff, NumInmates

Energy Feature Class

Definition: Infrastructure sector devoted to the generation and distribution of electrical power.

Feature(s): Powerplant

Powerplant

Definition: A complex of structures for generating electrical energy.

FCode: Electric Facility = 75030
Hydroelectric Facility = 75032
Nuclear Facility = 75034
Solar Facility = 75036
Substation = 75038
Wind = 75040
Tidal = 75042
Geothermal = 75044
Coal = 75046
Gas = 75048
Oil = 75050

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, GeneratingCapacity, GeneratingCapacityUnits, NumGenerators, NAICSCode

Government and Military Feature Class

Definition: Infrastructure sector including buildings and facilities where executive, legislative, administrative and/or judicial activities take place, and activities of the five major branches of the United States armed forces.

Feature(s): Department of Public Works
DoD/Military Facility
National Guard Armory/Base

Department of Public Works

Definition: A government department that constructs structures for public use.

FCode: 83044

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, IsHeadquarters, HasStagingArea, NumStaff, NumVehicles

DoD/Military Facility

Definition: A base, camp, post, station, yard, center, or other activity under the jurisdiction of a Military Department.

FCode: 83020

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-5]

Label:	Code:	Definition:
Army	1	Army
Navy	2	Navy
Marine Corp	3	Marine Corp
Air Force	4	Air Force
Coast Guard	5	Coast Guard

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, Population, PrimaryUse

National Guard Armory/Base

Definition: A base, camp, post, station, yard, center, or other activity under the jurisdiction of a Military Department.

FCode: 83030

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-2]

Label:	Code:	Definition:
Army	1	Army
Air	2	Air

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, Population, PrimaryUse

Health and Medical Feature Class

Definition: Infrastructure sector devoted to health and medical care.

Feature(s): Hospital/Medical Center
Mortuary/Crematory

Hospital/Medical Center

Definition: A facility where the sick or injured are given medical or surgical care capable of inpatient care.

FCode: 80012

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-4]

Label:	Code:	Definition:
General	1	General
Clinic	2	Clinic
Outpatient	3	Outpatient
Hospice	4	Hospice

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, NumBeds, HasTraumaCtr, NumStaff,

MaxCapacity, Specialty

Mortuary/Crematory

Definition: A place where bodies are kept before burial or cremation.

FCode: 80020

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, NormalCapacity, ExtendedCapacity

Industry Feature Class

Definition: Infrastructural sector devoted to the commercial production and selling of manufactured goods.

Feature(s): Hazardous Materials Facility

Hazardous Materials Facility

Definition: A facility for storing hazardous materials.

FCode: 71016

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, Emergency POC, HasGenerator, InBasement, NumDaysFuel, HasRadefKits

Information and Communication Feature Class

Definition: Infrastructure sector devoted to telecommunications.

Feature(s): Communication Tower
Data Center

Communication Tower

Definition: Any structure that is designed and constructed primarily for the purpose of supporting one or more antennas for telephone, radio, or similar communication purposes.

FCode: 88002

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-5]

Label:	Code:	Definition:
TV	1	TV
Radio	2	Radio
Cell	3	Cell
Microwave	4	Microwave
Mixed	5	Mixed

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, Height

Data Center

Definition: A facility used for housing a large amount of computer systems and electronic equipment.

FCode: 88004

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-6]

Label:	Code:	Definition:
Single	1	Single
Corporate	2	Corporate
Regional	3	Regional
National	4	National
International	5	International
Military	6	Military

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Required Public Attractions and Landmark Buildings Feature Class

Definition: Infrastructure sector related to unrestricted places and events of large gatherings of people.

Feature(s): Dam

Dam

Definition: A manmade linear structure or barrier constructed across a waterway or floodway to control the flow of water or raise the level of water.

FCode: 82052

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-2]

Label:	Code:	Definition:
Concrete	1	Concrete
Earth	2	Earth

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName, EmergencyPOC

Optional: Identity, YearBuilt, CurrentCondition, Elevation, CatchmentArea, MaxFloodDischarge, EmergencyPOC

Optional Public Attractions and Landmark Buildings Feature Class (Large Crowd Gathering Areas, Only)

Definition: These features are considered key facilities *ONLY when designated as large-crowd gathering areas*. For example most campgrounds, cemeteries, and golf courses would not fit this criteria and are, therefore, not priority features.

Feature(s):
Amusement/Water Park
Arboretem/Botantical Garden
Auditorium/Concert Hall/Theater/Opera House
Campground
Cemetery
City/Town Hall
Convention Center
Fair/Exhibition/Rodeo Grounds
Golf Course
Historic Site/Point of Interest
House of Worship
Ice Arena
Library
Marina
Museum
National Symbol/Monument
Observatory
Outdoor Theater/Amphitheater
Racetrack/Dragstrip
Ski Area/Ski Resort
Sports Arena/Stadium
Zoo

Amusement/Water Park

Definition: A permanently located facility where there are various devices for amusement and entertainment, rides and booths.

FCode: 82002

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Arboretem/Botantical Garden

Definition: A place where there are greenhouses and specimens are usually labeled and include exotic varieties of trees and plants.

FCode: 82004

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Auditorium/Concert Hall/Theater/Opera House

Definition: A building with a stage and audience seating, used for the performing arts or meetings, not sporting events.

FCode: 82006

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, Capacity, EmergencyPOC

Campground

Definition: A developed, designated site for camping in tents and/or recreational vehicles.

FCode: 82008

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-2]

Label:	Code:	Definition:
Public	1	Public
Private	2	Private

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, Capacity, EmergencyPOC

Cemetery

Definition: A place or area for burying the dead.

FCode: 82010

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

City/Town Hall

Definition: A building that contains the offices of the public officials of a city, town, or community.

FCode: 82054

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, HasVitalRecords, IsInfoTechSite, EmergencyPOC

Convention Center

Definition: A building or complex of buildings designed and used exclusively of holding large assemblies of people.

FCode: 82012

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Fair/Exhibition/Rodeo Grounds

Definition: A developed public area for large gatherings of people.

FCode: 82014

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Golf Course

Definition: Public or private lands developed expressly for the purpose of playing the game of golf.

FCode: 82016

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-2]

Label:	Code:	Definition:
Public	1	Public
Private	2	Private

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Historic Site/Point of Interest

Definition: A protected area of historic significance or special interest.

FCode: 82018

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

House of Worship

Definition: A building used for religious worship.

FCode: 82020

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Ice Arena

Definition: A facility containing a smooth expanse of ice used for skating.

FCode: 82022

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Library

Definition: A place in which literary and artistic materials, such as books, periodicals, newspapers, pamphlets, prints, records, and tapes, are kept for reading, reference, or lending.

FCode: 82024

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Marina

Definition: A small harbor or boat basin providing dockage, supplies, and services for small pleasure craft.

FCode: 82030

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-2]

Label:	Code:	Definition:
Public	1	Public
Private	2	Private

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Museum

Definition: A building or area used exclusively for preserving and exhibiting artistic, historical, or scientific objects.

FCode: 82032

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

National Symbol/Monument

Definition: A constructed feature, often a statue or monument, with national significance.

FCode: 82034

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Outdoor Theater/Amphitheater

Definition: An outdoor area consisting of a stage of other focal point and an area where the audience can be seated to view the performance or event.

FCode: 82038

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Racetrack/Dragstrip

Definition: A constructed course with either natural or artificial surface prepared expressly for racing horses, dogs, automobiles, or race cars.

FCode: 82042

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Ski Area/Ski Resort

Definition: An area in the mountains developed for downhill skiing, cross-country skiing, or snowboarding.

FCode: 82044

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Sports Arena/Stadium

Definition: A roofed or open structure containing tiers of spectator seating.

FCode: 82046

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Zoo

Definition: A place where living animals are kept for public viewing.

FCode: 82050

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Transportation Facilities Feature Class

Definition: Infrastructural sector devoted to the movement of passengers and goods.

Feature(s): Airport/Airfield
Border Crossing/Point of Entry
Bridge
Port Facility

Railroad Station
Subway Station
Tunnel

Airport/Airfield

Definition: An area of land or other hard surface, excluding water, that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

FCode: 81002

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-3]

Label:	Code:	Definition:
Public	1	Public
Private	2	Private
Military	3	Military

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, FAARegionCode, IsInternational

Border Crossing/Point of Entry

Definition: A place where passengers or goods may enter or leave a country under official supervision.

FCode: 81020

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-2]

Label:	Code:	Definition:

Border Crossing	1	Border Crossing
Point of Entry	2	Point of Entry or Port of Entry

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, BCBPCode, NumStaff, BorderPatrolSector

Bridge

Definition: A structure built over a gap to connect and maintain transportation flow between either sides of the gap.

FCode: Bridge = 81012
Light Rail = 81014
Railroad = 81016
Road = 81018
Runway = 81020

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, AdminType, FCode, PointLocationType

Optional: Identity, EmergencyPOC, Height, BridgeLength, VerticalClearanceAbove, Vertical ClearanceBelow, DesignLoadCapacity, NBIStructureName

Port Facility

Definition: A terminal located on a waterway with facilities for loading and unloading ships and other vessels.

FCode: Port Facility = 81042
Commercial Port = 81044
Crane = 81044
Maintenance and Fuel Facility = 81048
Modal Transfer Facility = 81050
Passenger Terminal = 81052
Warehouse Storage/Container Yard = 81054

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC, HasLNG, HasPassengerTerm

Railroad Station

Definition: A terminal where tracked transport vehicles or trains load and/or unload passengers or goods.

FCode: 81066

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Subway Station

Definition: A terminal where tracked transport vehicles or trains load and/or unload passengers.

FCode: 81074

Required Attributes:

Feature Specific: none

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, EmergencyPOC

Tunnel

Definition: An artificial passage or archway for conducting canals or railroads under elevated ground, for the formation of roads under rivers or canals, and the construction of sewers, drains, and the like.

FCode: 81080

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-3]

Label:	Code:	Definition:
Soft Ground	1	Soft Ground
Rock	2	Rock
Underwater	3	Underwater

Common: FacilityName, Owner, AdminType, FCode, PointLocationType

Optional: EmergencyPOC, EnclosedBy, Identity, VerticalClearance, TunnelWidth, TunnelLength

Water Supply and Treatment Feature Class

Definition: Infrastructure sector devoted to the storage, disinfection, filtration and provision of drinking water to consumers/communities.

Feature(s): Water Treatment Facility

Water Treatment Facility

Definition: A facility designed to receive wastewater from domestic or industrial sources and to remove materials that damage water quality and threaten public health and safety when discharged into receiving streams or bodies of water.

FCode: 85016

Required Attributes:

Feature Specific:

Field Type: Integer

Domain: [1-5]

Label:	Code:	Definition:
Municipal	1	Municipal
Industrial	2	Industrial
Commercial	3	Commercial
Agricultural	4	Agricultural
Mixed	5	Mixed

Common: FacilityName, Owner, Address, City, State, Zipcode, AdminType, FCode, PointLocationType, Geographic Coordinates, AddressBuildingName

Optional: Identity, Capacity, CapacityUnits, EmergencyPOC

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ACRONYMS AND ABBREVIATIONS

BCBP	Bureau of Customs and Border Protection
CTR	Center
DOD	Department of Defense
FAA	Federal Aviation Adminstration
GNIS	Geographic Names Information System
HRCQ	Highway Route Controlled Quantities
ID	Identifier
LNG	Liquified Natural Gas
LPG	Liquified Petroleum Gas
NAICS	North American Industry Classification System
NBI	National Bridge Inventory
NRHM	Non-Radioactive Hazardous Material
NUM	Number
POC	Point of Contact
RADEF	Radiological Defense
TBD	To Be Determined
TV	Television
UUID	Universal Unique Identifier

Appendix A

Metadata Content - Going Beyond the Minimum

The CSDGM was written to encompass the needs of many types of geospatial data and provides the flexibility to create templates for specific user needs. When creating templates, keep in mind that "Minimal metadata is minimally useful. If you limit your metadata to the mandatory elements of the Content Standard for Digital Geospatial Metadata (CSDGM), then you have limited your metadata to those elements common to all data types and have not realized the value of metadata to capture that which is unique to the data set. Metadata producers must determine all metadata elements necessary to adequately characterize the data set and provide complete, current information for each element. When you create metadata that goes beyond the minimum, you create a data management resource that serves both your community and your own data management efforts." [1]

In our effort to meet the needs above, we have created templates in both text format and also in xml format to be used in the XMLInput metadata creation tool developed at the Mid-Continent Mapping Center. The templates are intended to be used for layer metadata - that which describes the data in a general sense and is distinguished by the data theme and sometimes scale, but not geographic boundary. For example, a boundary layer file would describe the boundaries for an entire project, but does not describe any particular boundary or tile. In *The National Map* implementation, each layer must have exactly one metadata URL which points to a file or metadata service.

[1] Creating and Publishing Metadata in Support of Geospatial One-Stop and the NSDI, August 25, 2004, http://www.geo-one-stop.gov/metadata/index.html

Minimum Content Requirements

The template below was created to demonstrate the absolute minimum content required by the CSDGM. It is not intended to be an example of the type of metadata that is preferred for *The National Map*.

This template provides input for the MINIMUM metadata required for FGDC compliance (Sections 1 & 7 of the metadata standard). Where highlighted text appears, the element requires user input. Bold text gives comments specific to element input and should not be included in a regular metadata file. The other elements are headings and do not require input.

This is section 1. ***It is always REQUIRED.***
Identification_Information:
Citation:
Citation_Information:
Originator: ***What organization created this dataset?***
Publication_Date: ***The date the data (not metadata) was published.***
Title: ***The name by which the dataset is known (This should indicate the nature of the dataset rather than a specific file name).***
Geospatial_Data_Presentation_Form: ***The mode in which the geospatial data is represented. Choose one of these: atlas, diagram, globe, map, model, profile, remote-sensing image, section, view, free text.***
Description:
Abstract: ***General information about the dataset.***
Purpose: ***Why was this dataset created?***
Time_Period_of_Content
Time_Period_Information
Single_Date/Time
Calendar_Date: ***This date is the currency of the data - to what date is the data current? For example, if your data were collected from photographs, the calendar date would be the date of photography. If your dataset spans different dates, use one of the choices below.***
OR
Multiple_Dates/Times
Calendar_Date:
OR
Range_of_Dates/Times:
Beginning_Date:
Ending_Date:
Currentness_Reference: ***ground condition (This is the typical entry for geospatial data.), publication date, free text***
Status:
Progress:
Maintenance_and_Update_Frequency: ***How often will the data be updated? Choose one: unknown, weekly, monthly, annually, irregular, free text.***

Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: ***Coordinates in decimal degree form***
East_Bounding_Coordinate: ***Coordinates in decimal degree form***
North_Bounding_Coordinate: ***Coordinates in decimal degree form***
South_Bounding_Coordinate: ***Coordinates in decimal degree form***
Keywords:
Theme:
Theme_Keyword_Thesaurus: ***Unless you are using one, enter "None"***
Theme_Keyword: ***(include any keywords that one may use to find this data - for example, road, transportation, route, etc. You may use as many Theme_Keywords as you need but don't include empty ones)***
Access_Constraints: ***USGS data usually uses: "None." Other organizations may wish to use something else.***
Use_Constraints: ***USGS data usually uses: "None. Acknowledgement of the U.S. Geological Survey would be appreciated in products derived from these data." (Our standard blurb) Other organizations may wish to use something else.***

This is section 7 - the only other REQUIRED section.

Metadata_Reference_Information:
Metadata_Date: ***When was this metadata created?***
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: ***What organization is responsible for this metadata?***
Contact_Address:
Address_Type: ***Choose one: Mailing address, physical address, mailing and physical address***
Address: ***Free text - type in the address of the organization.***
City: ***Enter city***
State_or_Province: ***Enter state***
Postal_Code: ***Enter zip code***
Contact_Voice_Telephone: ***Phone number of person or organization responsible for metadata***
Metadata_Standard_Name: ***Will usually be "Content Standard for Digital Geospatial Metadata"***
Metadata_Standard_Version: ***FGDC-STD-001-1998***

Recommended Content Requirements

The metadata elements contained in this template more accurately define the level of metadata that is required for *The National Map.* It also corresponds to the template, "minimum.xml" provided for use with the XMLInput software.

This template provides input for the <u>mandatory if applicable</u> metadata required for FGDC compliance. Some options are not included in this template as required elements may change with different data sets. It is meant only as a guide. Where highlighted text ***appears, the element requires user input. The other elements are headings and do not require input. Bold text gives comments specific to the element input and should not be included in a regular metadata file.***

This is section 1***. It is always required***.
Identification_Information:
Citation:
Citation_Information:
Originator: ***What organization created this dataset?***
Publication_Date: ***The date the data (not metadata) was published.***
Title: ***The name by which the dataset is known. (This should indicate nature of the dataset rather than a specific file name).***
Geospatial_Data_Presentation_Form: ***The mode in which the geospatial data is represented. Choose one of these: atlas, diagram, globe, map, model, profile, remote-sensing image, section, view, free text.***
Description:
Abstract: ***General information about the dataset.***
Purpose: ***Why was this dataset created?***
Time_Period_of_Content
Time_Period_Information
Single_Date/Time
Calendar_Date: ***This date is the currency of the data - to what date is the data current? For example, if your data were collected from photographs, the calendar date would be the date of photography. If your dataset spans different dates, use one of the choices below.***
OR
Multiple_Dates/Times
Calendar_Date:
OR
Range_of_Dates/Times:
Beginning_Date:
Ending_Date:
Currentness_Reference: ***Enter the basis on which the time period of content information is determined. Aground condition@, Apublication date@, free text.***
Status:
Progress:

Maintenance_and_Update_Frequency: ***How often will the data be updated? Choose one: unknown, weekly, monthly, annually, irregular, free text.***

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: ***(Include coordinates in decimal degree form)***

East_Bounding_Coordinate: ***(Include coordinates in decimal degree form)***

North_Bounding_Coordinate: ***(Include coordinates in decimal degree form)***

South_Bounding_Coordinate: ***(Include coordinates in decimal degree form)***

Keywords:

Theme:

Theme_Keyword_Thesaurus: ***Unless you are using one, enter "None"***

Theme_Keyword: ***(include any keywords that one may use to find this data - for example, road, transportation, route, etc. You may use as many Theme_Keywords as you need, but don't include empty ones.***

Place:

Place_Keyword_Thesaurus: ***Unless you are using one, enter "None"***

Place_Keyword: ***(Include the names of the places covered by the dataset. This is helpful for users to find the data. For example, Illinois, Chicago)***

Access_Constraints: ***USGS data usually uses: "None." Other organizations may wish to use something else.***

Use_Constraints: ***USGS data usually uses: "None. Acknowledgement of the U.S. Geological Survey would be appreciated in product derived from these data." Other organizations may wish to use something else.***

Point_of_Contact:

Contact_Information:

Contact_Organization_Primary:

Contact_Organization: ***Name the organization associated with the data set.***

Contact_Address:

Address_Type: ***"mailing" "physical" "mailing and physical", free text***

Address:

City:

State_or_Province:

Postal_Code:

Contact_Voice_Telephone:

This is section 2 - ***Only the mandatory elements from this section are included. It would be worthwhile to include the <u>mandatory if applicable</u> elements as well (Attribute Accuracy and Positional Accuracy). These are elements that users would be interested in.***

Data_Quality_Information:

Logical_Consistency_Report: ***Describe the fidelity of relationships encoded in the data structure of the digital spatial data. The report should detail the tests performed and the results of the tests. If it is ARC data, we have merely stated, 'ARC-node topology exits.'***

Completeness_Report: ***Document the inclusion of features for your dataset. For example, what level of features and what type of attribution were collected?***

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report: ***Enter an explanation of the accuracy of the horizontal coordinate measurements and a description of the tests used.***

Vertical_Positional_Accuracy:

Vertical_Positional_Accuracy_Report: ***The identification of the test that yielded the Vertical Positional Accuracy Value.***

Lineage: ***For the lineage, you need to include any sources that have contributed to your dataset. Repeat Source_Citation, Citation_Information for each source used. Also, you may repeat Source_Time_Period_of_Content, Time_Period_Information as many times as needed.***

Source_Information: ***All source information is mandatory if applicable. Only go as far back as you feel is necessary. You may not need to document every source that produced the sources that you used.***

Source_Citation:

Citation_Information:

Originator: What ***organization created the data used as a source.***

Publication_Date: ***Date the source data was published.***

Title: ***Name of the source data***

Geospatial_Data_Presentation_Form: ***The mode in which the geospatial data is represented. Choose one of these: atlas, diagram, globe, map, model, profile, remote-sensing image, section, view, free text.***

Publication_Information:

Publication_Place: ***Enter city, state where source data was published.***

Publisher: ***Organization that published the source data.***

Type_of_Source_Media: ***Choose one: paper, stable-base material, disc, cartridge tape, CD-ROM, on-line, free text.***

Source_Time_Period_of_Content:

Time_Period_Information: ***Choose as appropriate: Single_Date/Time:, Multiple_Dates/Times:, Range_of_Dates/Times:***

Range_of_Dates/Times:

Beginning_Date:

Ending_Date:

Source_Currentness_Reference: ***Enter the basis on which the time period of content information is determined. Aground condition@, Apublication date@, free text***

Source_Citation_Abbreviation: ***The short-form alias for source citation.***

Source_Contribution: ***Brief statement identifying the information contributed by the source to the data set. For example, "feature position", "data set content".***

Process_Step:

Process_Description: ***Describe the process that was used to create your dataset. Be sure to include all of your sources in your description. For example, source A was digitized and combined with the imagery (source B)...***

Process_Date: ***When was this process finished?***

This is section 3 **-** ***You would probably want to use Direct_Spatial_Reference_Method. Since there are several choices with this method, it is recommended that you refer to the workbook.***

Spatial_Data_Organization_Information

Indirect_Spatial_Reference: ***Name of types of geographic features, addressing schemes, or other means through which locations are referenced in the data set.***

OR

Direct_Spatial_Reference_Method: (***Choices under this method are point, raster, vector) It would be best to use the workbook to work through this section.***

This is section 4 – ***(For this section, you can specify geographic, planar or local horizontal coordinate system definitions) Use the workbook to complete this section, unless you are documenting USGS DLGs. The example below contains the elements typically found with USGS DLG metadata.***

Spatial_Reference_Information:

Example:

- Horizontal_Coordinate_System_Definition:
  - Planar:
    - Grid_Coordinate_System:
      - Grid_Coordinate_System_Name:
      - Universal_Transverse_Mercator:
        - UTM_Zone_Number:
        - Transverse_Mercator:
          - Scale_Factor_at_Central_Meridian:
          - Longitude_of_Central_Meridian:
          - Latitude_of_Projection_Origin:
          - False_Easting:
          - False_Northing:
    - Planar_Coordinate_Information:
      - Planar_Coordinate_Encoding_Method:
      - Coordinate_Representation:
        - Abscissa_Resolution:
        - Ordinate_Resolution:
      - Planar_Distance_Units:
    - Geodetic_Model:
      - Horizontal_Datum_Name:
      - Ellipsoid_Name:
      - Semi-major_Axis:
      - Denominator_of_Flattening_Ratio:

This is section 5 -***There may be data sets for which you may want to give a more detailed description of the attributes used to describe your data, and if so, use the workbook to make your choices. The overview is probably sufficient in most cases to give the user enough information.***

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview: ***Detailed summary of the information contained in the data set.***
Entity_and_Attribute_Detail_Citation: ***Reference to the complete description of the entity types, attributes, and attribute values for the data set. For example, we would cite the NMP standard that describes the attributes.***

This is section 6 - ***This section would only be used if the dataset were going to be distributed. The elements contained below are the only mandatory elements in this section.***

Distribution_Information:
Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: ***What organization is responsible for distribution?***
Contact_Address:
Address_Type: ***Choose one: Mailing address, physical address, mailing and physical address***
Address: ***Free text - type in the address of the organization.***
City: ***Enter city***
State_or_Province: ***Enter state***
Postal_Code: ***Enter zip code***
Contact_Voice_Telephone: ***Phone number of person or organization responsible for distribution.***
Distribution_Liability: ***Enter statement of the liability assumed by the distributor.***

This is section 7 - ***a REQUIRED section.***
Metadata_Reference_Information:
Metadata_Date: ***When was this metadata created?***
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: ***What organization is responsible for this metadata?***
Contact_Address:
Address_Type: ***Choose one: Mailing address, physical address, mailing and physical address***
Address: ***Free text - type in the address of the organization.***
City: ***Enter city***
State_or_Province: ***Enter state***

Postal_Code: ***Enter zip code***
Contact_Voice_Telephone: ***Phone number of person or organization responsible for metadata***
Metadata_Standard_Name: ***Will usually be "Content Standard for Digital Geospatial Metadata"***
Metadata_Standard_Version: ***FGDC-STD-001-1998***

XMLInput – A metadata creation tool

Many metadata creation tools are currently available. Some are free; some are for sale, some are supported, and some are not. The Mid-Continent Mapping Center created a metadata creation tool, XMLInput out of a need to have a tool that could be easily modified and maintained in-house, and provide output in XML format.

Currently, most of the metadata displayed through *The National Map* viewer are in HTML format, but we are moving toward XML formatted metadata since that is the format demanded by the Geospatial One Stop.

How to download and use XMLInput

XMLInput is a java application that requires a current version of **Java Runtime Environment (JRE)**. **JRE may be downloaded for free at** http://java.sun.com/downloads/

XMLInput Free Download To download XMLInput, go to ftp://ftpext.usgs.gov/pub/cr/mo/rolla/release/xmlinput/. Select XMLInput1_63v5.zip and save it to your hard drive. The downloaded file is in compressed (ZIP) format and contains a number of files necessary for the application. Extract the ZIP file to any directory making sure to extract all the files and retain the existing directory structure. The final directory structure should look like this:

```
./XMLInput
        /XMLInput/img
        ./XMLInput/help
        ./XMLInput/templates
```

You may create a shortcut for the *XMLInput* application by right clicking on the XMLInput.jar file and selecting 'Create Shortcut' from the pop-up menu. The shortcut will be created in the same directory as the JAR file. Simply drag this to your Desktop or any preferred location. To run XMLInput, double click on the shortcut or the .jar file in the application directory.

The help file that is included in the XMLInput1_63v5.zip file describes the download, installation and usage in great detail. There are some templates included in the .zip file or you can edit those templates to make your own.

The download also contains the file ‘csdgm2.dtd’. This is the CSDGM Document Type Definition. Place this file in the directory where you will create your metadata. This file gives the structure and content for the FGDC metadata standard.

You will also need the file “minimum.xml” from the ftp site. Copy it to your hard drive. It is helpful to create a “templates” directory, then keep all of your templates in the same place.

Creating a metadata file with XMLInput

1. Open the software by double clicking on the XMLInput.jar icon.

2. Select the template by clicking on the yellow open folder icon. Navigate to the directory where the minimum.xml file resides.

3. Click on “Open”.

4. The word “Metadata” will be displayed in the window under “Select Template”. To expand the template, left click then right click on the word “metadata”, and choose “expand”. Only the elements in red require an input.

5. To enter data for those metadata elements, left click on the red element name, then click in the box to the right of the template to add an input. (In the box below the space for the input is an explanation of the information needed. This information is similar to that given in the examples in Sections 2.1 and 2.2 of this document.)*

6. The first time that you save your metadata file, you will need to **rename it** so that you can keep the minimum.xml file as a blank template.

7. To save, go to the menu bar and select File, Save As, then enter the name that you want for the metadata file and click OK.

8. Once all of the red elements have been entered, save the file, by going to the menu bar and selecting File, Save, OK.

   NOTE: When saving your file, be sure to move the cursor off of the last element that was entered to be sure that all data will be saved.

After completing the metadata you are ready to validate the XML format against the FGDC standard. MP is the tool that is used for geospatial metadata validation.

*If there is a red metadata element that does not apply to the data that is being documented, it may be deleted **as long as it is not mandatory**. Please check the CSDGM before removing any elements from your template.

To modify the metadata or template, right click on the element name. A menu will pop up that displays several choices. You can insert a new metadata element, delete the element that you have selected, or duplicate the selected element.

Important: The metadata elements in the CSDGM relate to one another in a parent, child, or sibling relationship. As long as the csdgm.dtd file is located in the same directory as the metadata file that you are creating, all of the sibling and child relationships will be maintained. When you select the ‘insert’ button to add an element, only the metadata elements that belong to that directory structure will be displayed. When

one of these is selected, the software will properly place the element within the hierarchal structure.

MP: A Free Metadata Validation Tool

Metadata Parser (MP) is a compiler that checks for syntax errors against the FGDC Content Standard for Digital Geospatial Metadata and generates output suitable for viewing in a web browser or text editor. MP may be downloaded to your computer for an interactive validation of your metadata files, or accessed online for an automated validation.

MP Free Download *http://geology.usgs.gov/tools/metadata/*

a. Select '**small package'** from the choices under 'Download software packages'.
b. Select '**Save'** then choose the directory where you want it to be stored. It is best to store it at the root on your D drive. It will create its own directory structure. The file that will be saved to your directory is a zipped file called bin_win.exe.
c. Go to the directory where the file **bin_win.exe** is located and double-click on it.
d. A menu will prompt you to unzip the file. Be sure to select the directory where you want to store this program. Select '**Unzip'**
e. Another menu "WinZip Self-Extractor" will come up. Click on '**OK**'.
f. Another window will pop up with instructions for setup. Follow these instructions.

To run MP on your system:

a. Navigate to the command prompt (go to Start, Programs, Accessories, Command Prompt). If you want to make a shortcut to the command prompt, search for the file cmd.exe and create a shortcut to your desktop.
b. Change the drive and directory containing your data by using the change directory '**cd'** command. If you need help using UNIX, find an introductory source for some basic commands or contact the help desk.
c. Instructions on the use of MP can be found at http://geology.usgs.gov/tools/metadata/tools/doc/mp.html, but you can also see the usage of the mp command by typing 'mp' at the prompt.

NOTES:

1. MP *does not read word-processor documents; it only reads ASCII text, SGML, and* XML!

2. MP does not 'fix' the metadata file. With it, you can create an error report. **The changes must be done manually in a text editor and then the process can be repeated**. It is best to look through all of the errors

and fix any that seem major. Often when one is corrected, several other errors disappear.

3. When the file is error free you will get the message “No Errors” from the MP validation.

To use MP Online

MP Online Metadata Validation Service may be used to check for structure errors and/or reformat ASCII indented text, SGML, and XML files. http://geo-nsdi.er.usgs.gov/validate.php.