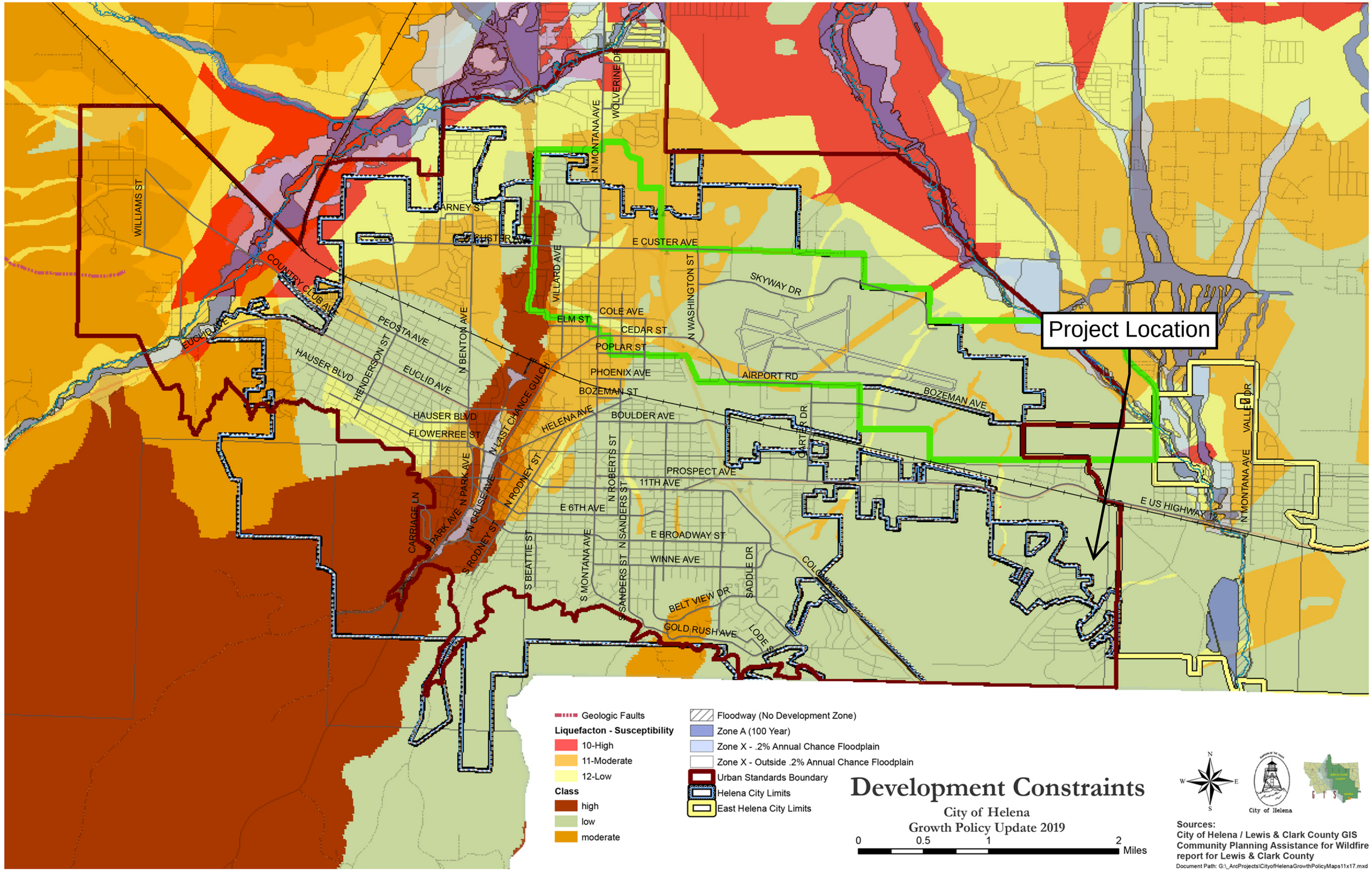


Figure 7.05 – *Development Constraints map (Image: City of Helena)*

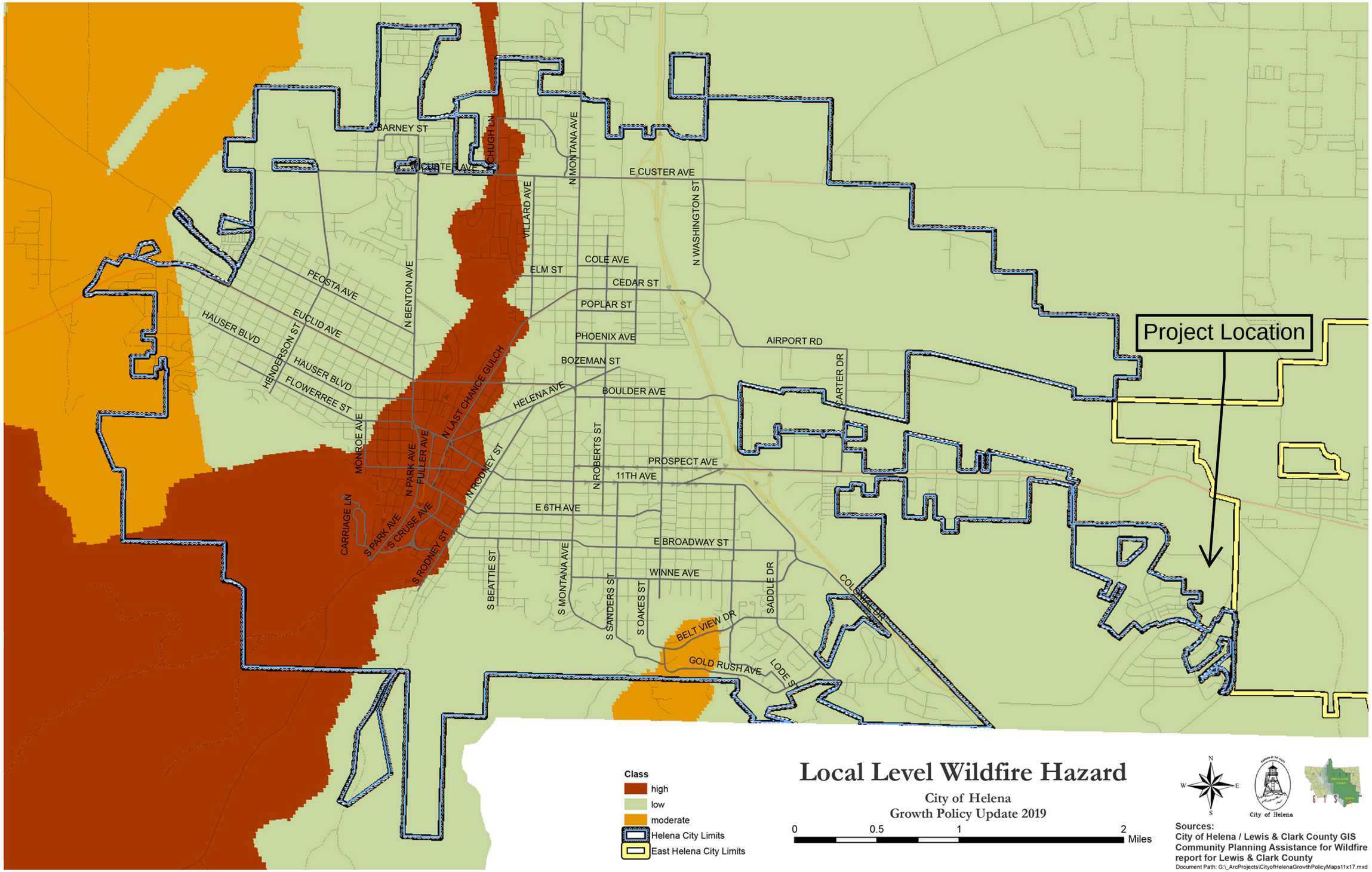


Figure 7.06 – *Local Level Wildfire Hazard map (Image: City of Helena)*

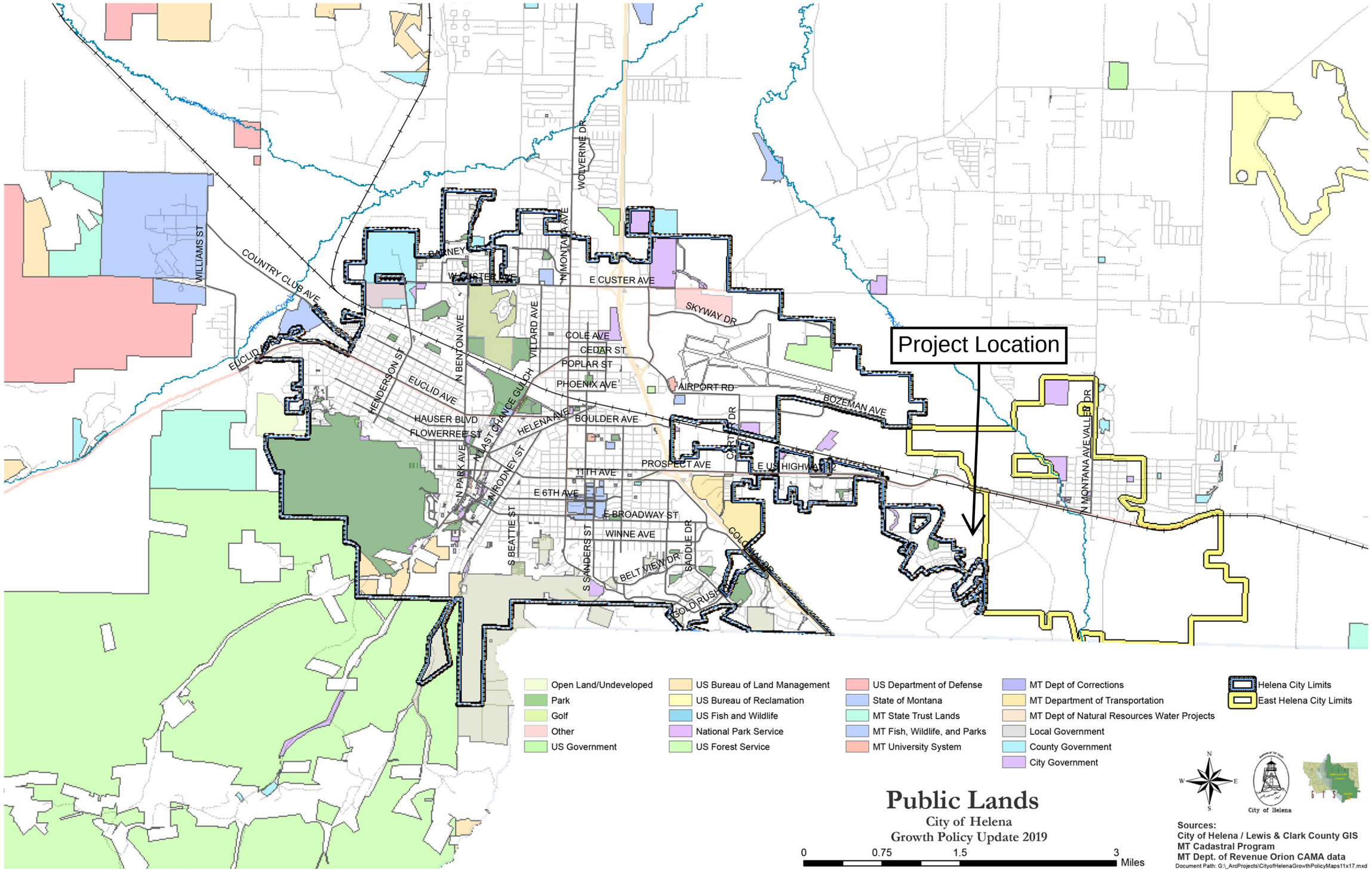


Figure 7.07 – *Public Lands map (Image: City of Helena)*

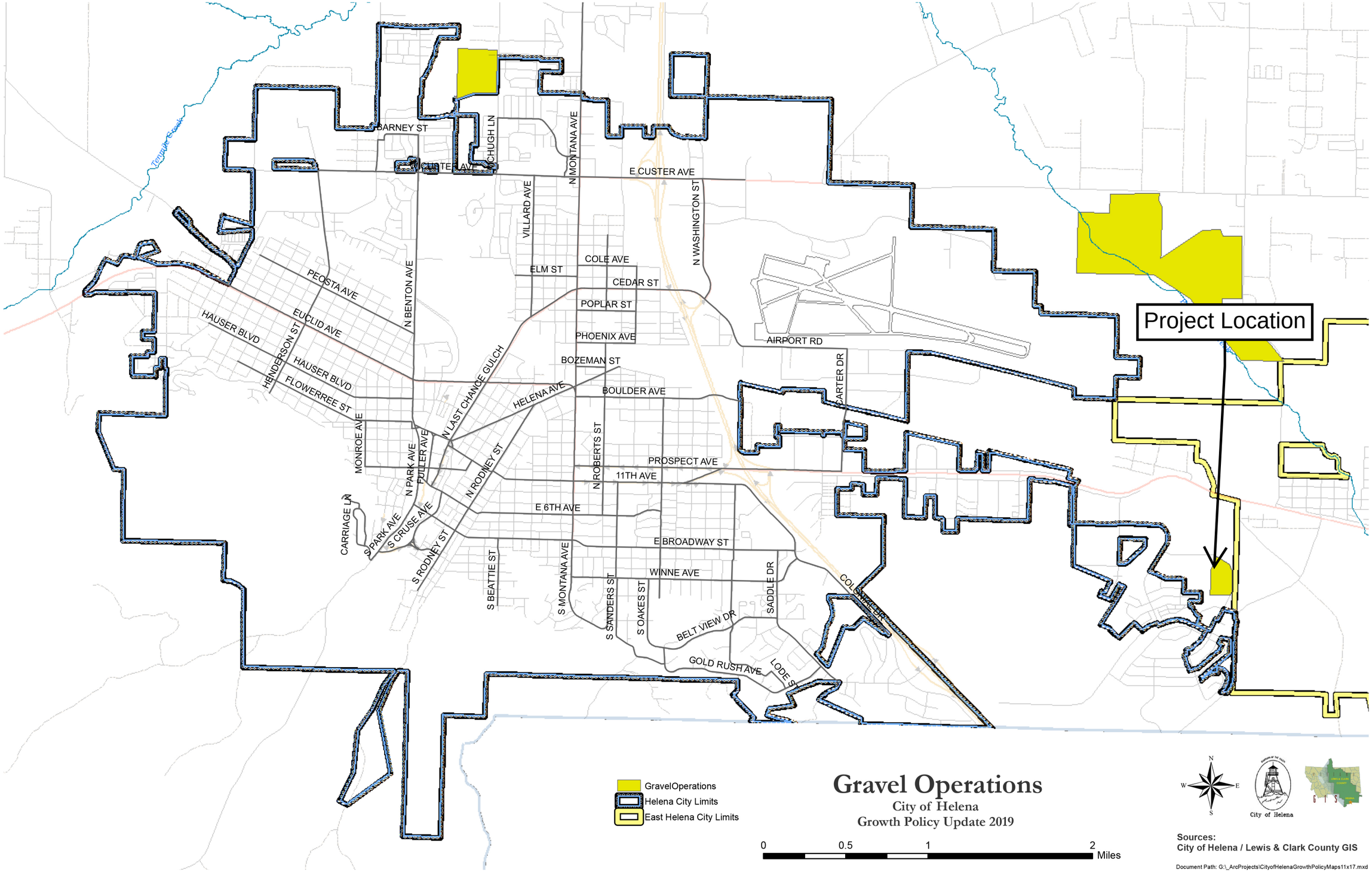


Figure 7.08 – *Gravel Operations map (Image: City of Helena)*

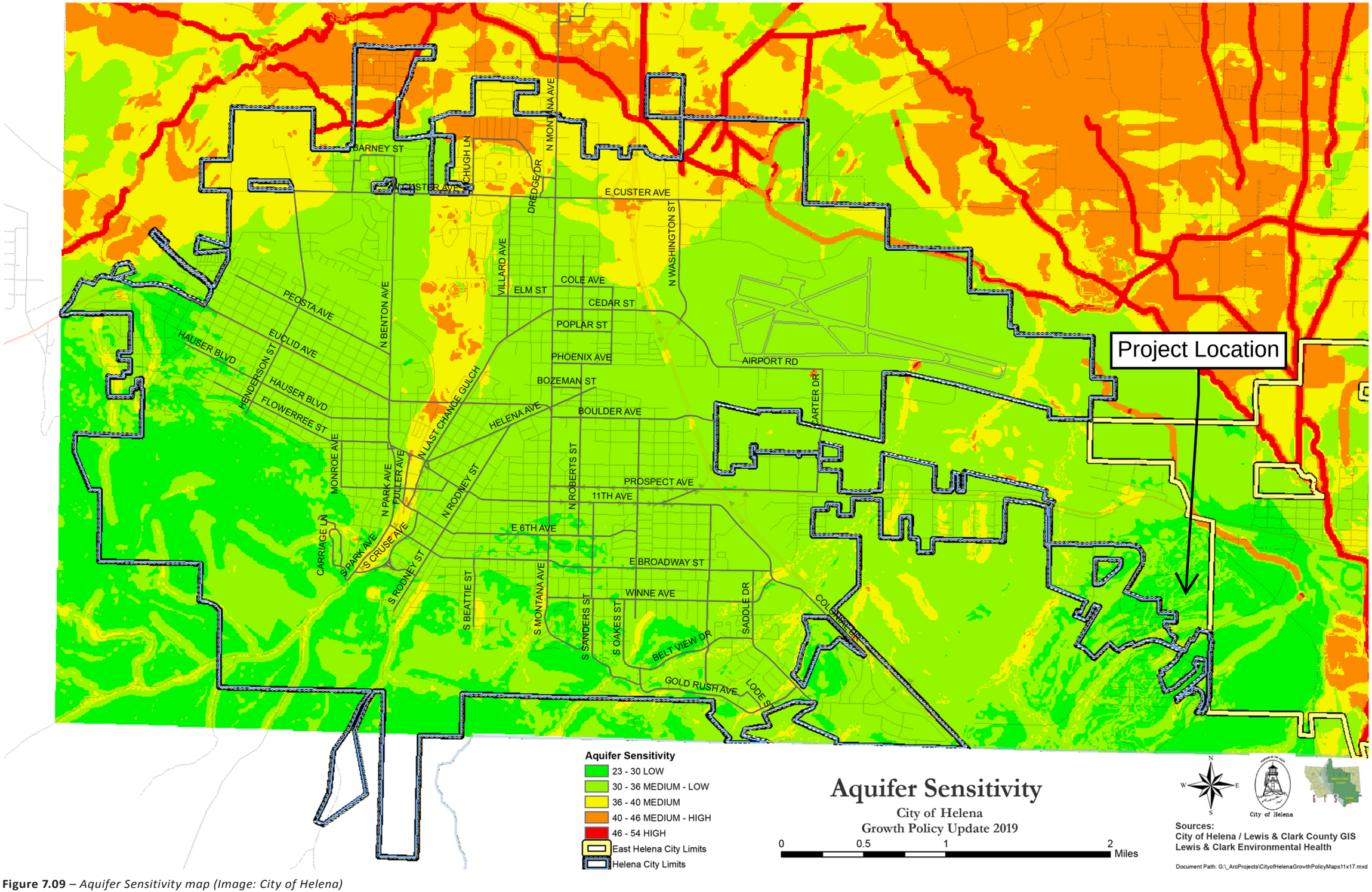


Figure 7.09 – *Aquifer Sensitivity map (Image: City of Helena)*

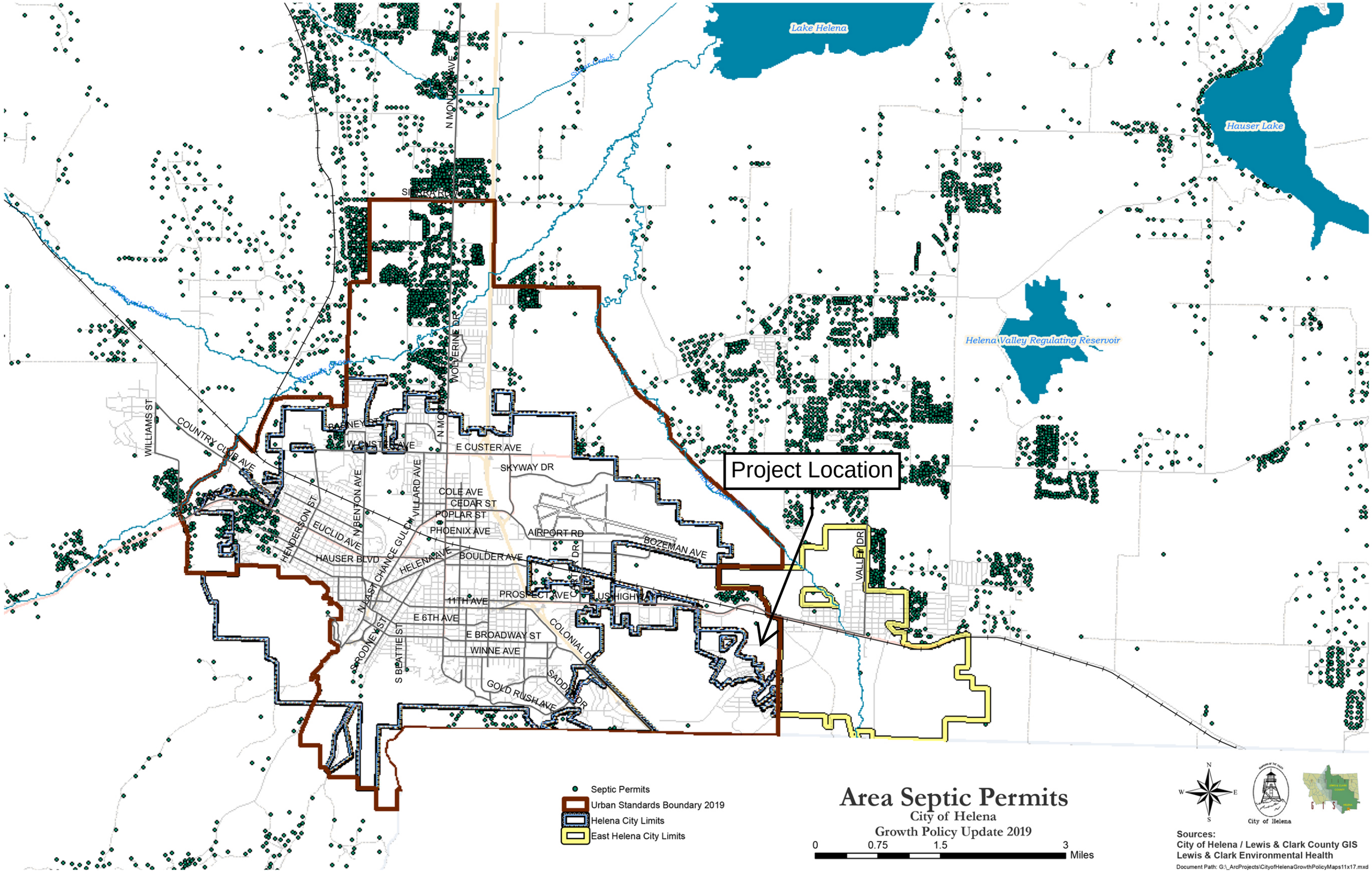


Figure 7.10 – *Area Septic Permits map (Image: City of Helena)*

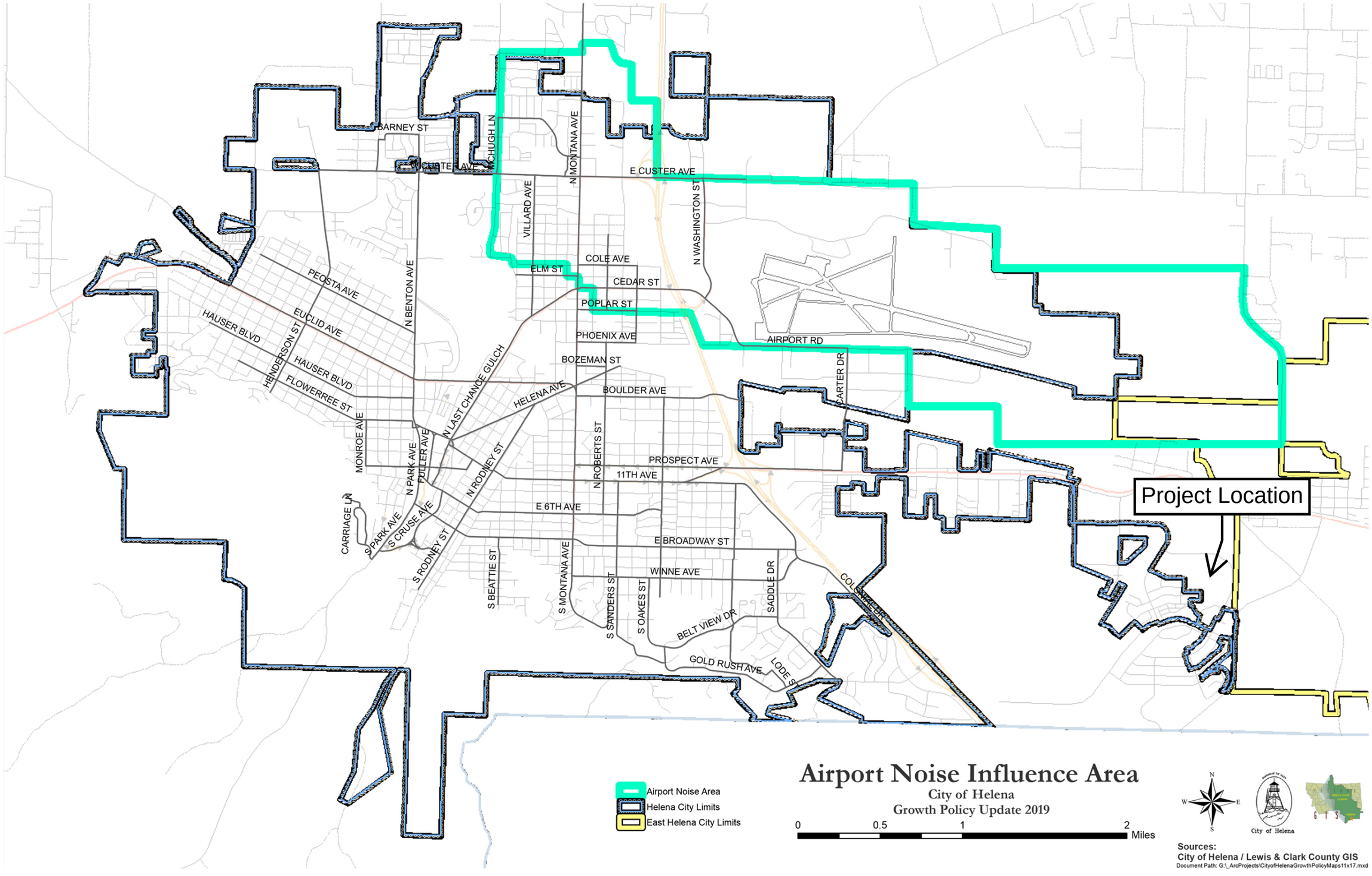
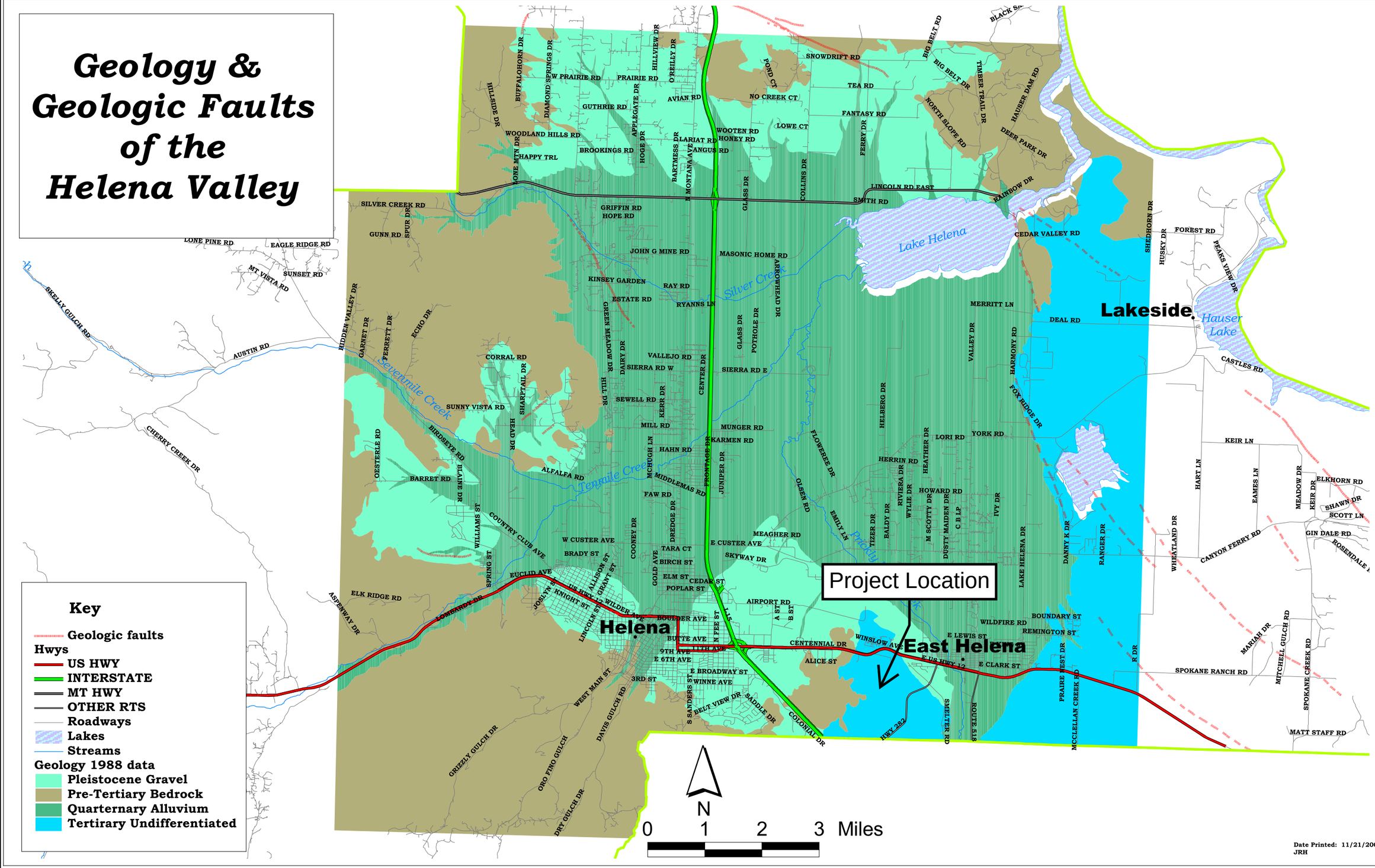


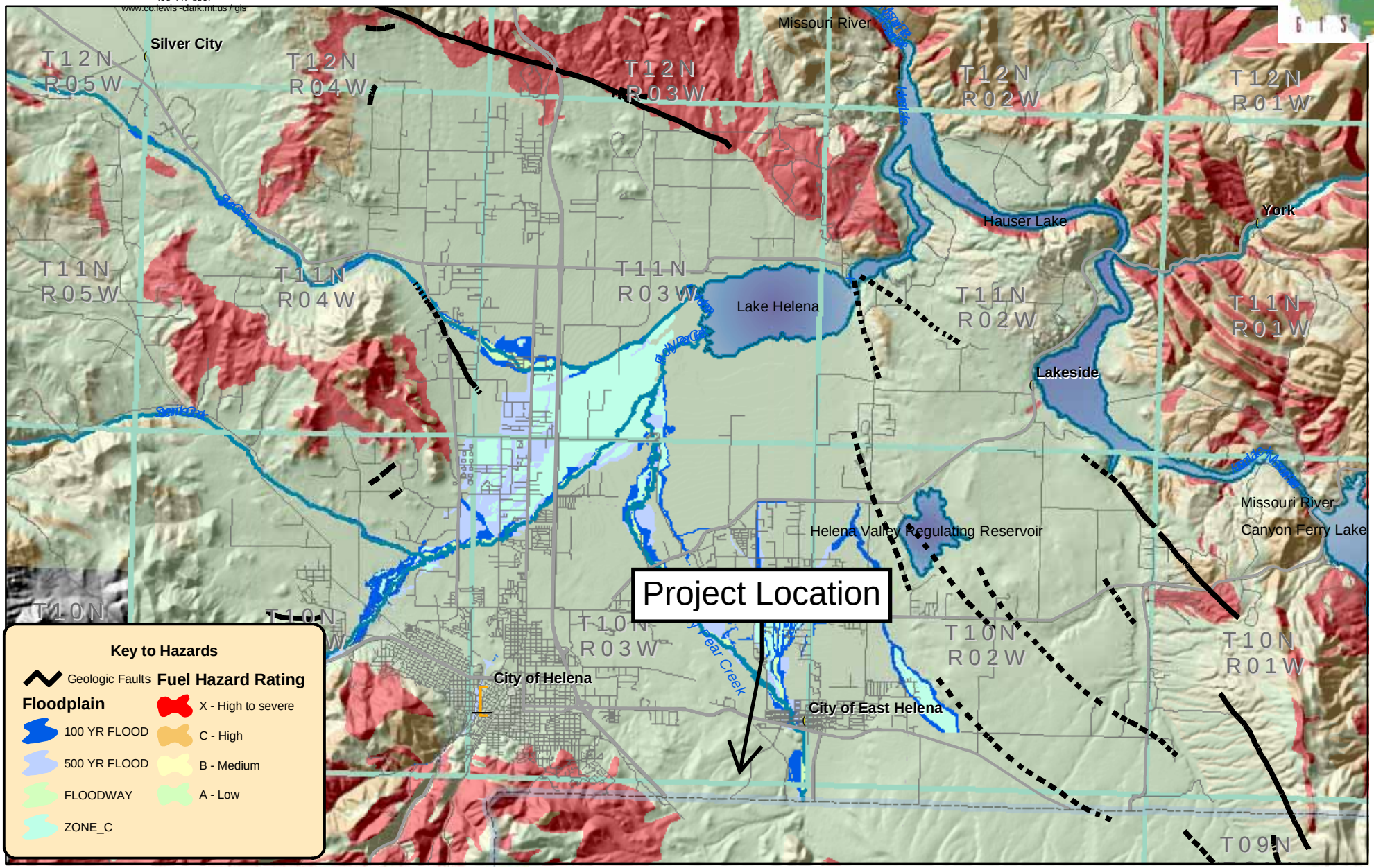
Figure 7.11 – *Airport Noise Influence Area map (Image: City of Helena)*

Geology & Geologic Faults of the Helena Valley



CITY OF HELENA - LEWIS & CLARK COUNTY
GEOGRAPHIC INFORMATION SERVICES
ROOM 147 CITY-COUNTY BUILDING
316 N PARK AVE
HELENA, MONTANA 59624
406-447-8367
www.co.lewis-clark.mt.us/gis

Hazards of the Helena Valley Area 2004



Map Document: (G:_ArcProjects\Hazards of the Helena Valley Area 8x11.mxd)
2/24/2004 – 10:25:48 AM

IMPORTANT These data are NOT the official record *IMPORTANT*
The data contained on this map are NOT the official records and may be inaccurate and incomplete!

Original and official copies of deeds, surveys, plats and ownership information, are available at the Lewis & Clark County Clerk and Recorder office. By using this GIS information, the user acknowledges and accepts full responsibility for verifying the correctness and the completeness of any of the information provided here.

The City of Helena and Lewis & Clark County do not warrant, either explicit or implied, the completeness or accuracy of the information provided. Additionally, the city and county accept no liability of any kind, including but not limited to any losses or damages that may result from the wrongful reliance on this information, and the user also accepts full responsibility for any subsequent use or reuse of the data, and shall be solely responsible for results or any damages which may result from the use of any of these data.
This map does not necessarily depict road ownership or maintenance, either public or private. Nor, does it necessarily depict all roadways in the county.

The data shown on this map were derived from various sources at different scales for a variety of purposes, and there is great variability in the spatial accuracy of the different data sets. Therefore, there may be some mis-alignment between data sets and layers.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Montana State Plane Zone (FIPS zone 2500). The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from NAIP Orthophotography produced with a one meter ground resolution from photography dated 2005.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map,** how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

Lewis & Clark County Vertical Datum Offset Table

Flooding Source	Vertical Datum Offset (ft)	Flooding Source	Vertical Datum Offset (ft)
Blackfoot River	3.7	Orofino Gulch	3.5
East Overflow of Prickly Pear Creek	3.4	Prickly Pear Creek	3.4
Elk Creek	3.3	Silver Creek	3.3
Grizzly Gulch	3.5	South Braid of Prickly Pear Creek	3.4
Last Chance Gulch	3.4	Ten Mile Creek	3.4
North Overflow of Prickly Pear Creek	3.4		

Example: To convert Blackfoot River elevations to NAVD 88, 3.7 feet were added to the NGVD 29 elevations.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% Annual Chance Floodplain Boundary
	0.2% Annual Chance Floodplain Boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
45° 02' 08", 93° 02' 12"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
4989000 M	1000-meter ticks: Montana State Plane Zone (FIPS Zone 2500), Lambert Conformal Conic projection
489000mN	1000-meter Universal Transverse Mercator grid values, zone 11
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 19, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-8620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2333E

FIRM

FLOOD INSURANCE RATE MAP

LEWIS AND CLARK COUNTY, MONTANA AND INCORPORATED AREAS

PANEL 2333 OF 2450
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

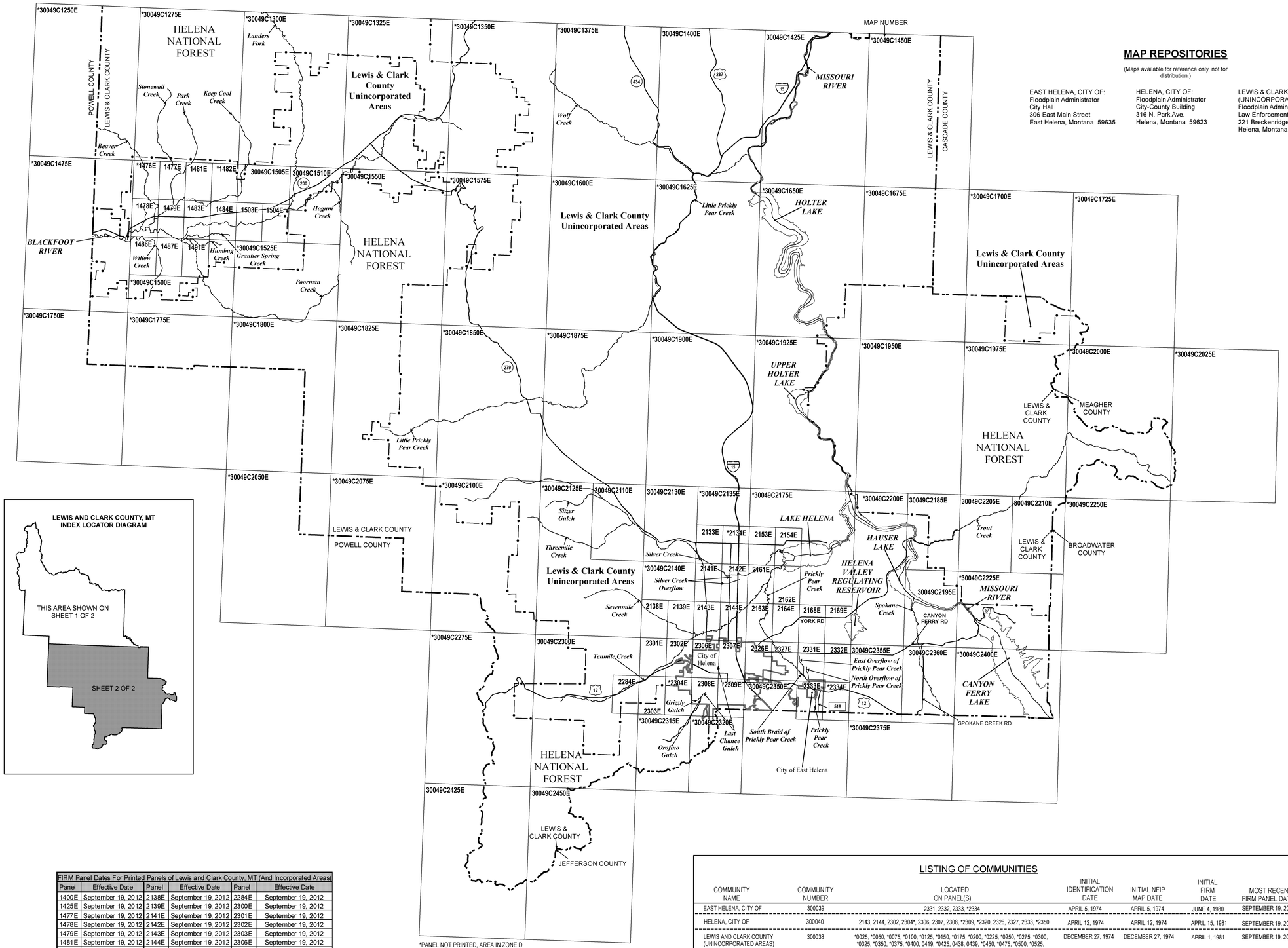
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
EAST HELENA, CITY OF	300039	2333	E
HELENA, CITY OF	300040	2333	E
LEWIS & CLARK COUNTY, UNINCORPORATED AREAS	300038	2333	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
30049C2333E
EFFECTIVE DATE
SEPTEMBER 19, 2012

Federal Emergency Management Agency



*PANEL NOT PRINTED, AREA IN ZONE D

MAP REPOSITORIES

(Maps available for reference only, not for distribution.)

EAST HELENA, CITY OF:
Floodplain Administrator
City Hall
306 East Main Street
East Helena, Montana 59635

HELENA, CITY OF:
Floodplain Administrator
City-County Building
316 N. Park Ave.
Helena, Montana 59623

LEWIS & CLARK COUNTY (UNINCORPORATED AREAS):
Floodplain Administrator
Law Enforcement Center
221 Breckenridge Ave.
Helena, Montana 59601

MAP DATES

This FIRM Index displays the map date for each FIRM panel at the time that this Index was printed. Because this Index may not be distributed to unaffected communities in subsequent revisions, users may determine the current map date for each FIRM panel by visiting the FEMA Map Information eXchange (FMIX) website at http://msc.fema.gov, or by calling the FEMA Map Information eXchange (FMIX) at 1-877-336-2627

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

NOTE TO USER

Future revisions to this FIRM Index will only be issued to communities that are located on FIRM panels being revised. This FIRM Index therefore remains valid for FIRM panels dated September 19, 2012 or earlier. Please refer to the "MOST RECENT FIRM PANEL DATE" column in the Listing of Communities table to determine the most recent FIRM Index date for each community.

LEWIS AND CLARK COUNTY, MT
INDEX LOCATOR DIAGRAM

FIRM Panel Dates For Printed Panels of Lewis and Clark County, MT (And Incorporated Areas)					
Panel	Effective Date	Panel	Effective Date	Panel	Effective Date
1400E	September 19, 2012	2138E	September 19, 2012	2284E	September 19, 2012
1425E	September 19, 2012	2139E	September 19, 2012	2300E	September 19, 2012
1477E	September 19, 2012	2141E	September 19, 2012	2301E	September 19, 2012
1478E	September 19, 2012	2142E	September 19, 2012	2302E	September 19, 2012
1479E	September 19, 2012	2143E	September 19, 2012	2303E	September 19, 2012
1481E	September 19, 2012	2144E	September 19, 2012	2306E	September 19, 2012
1483E	September 19, 2012	2153E	September 19, 2012	2307E	September 19, 2012
1484E	September 19, 2012	2154E	September 19, 2012	2308E	September 19, 2012
1486E	September 19, 2012	2161E	September 19, 2012	2326E	September 19, 2012
1487E	September 19, 2012	2162E	September 19, 2012	2327E	September 19, 2012
1491E	September 19, 2012	2163E	September 19, 2012	2331E	September 19, 2012
1503E	September 19, 2012	2164E	September 19, 2012	2332E	September 19, 2012
1504E	September 19, 2012	2168E	September 19, 2012	2333E	September 19, 2012
1505E	September 19, 2012	2169E	September 19, 2012	2355E	September 19, 2012
1510E	September 19, 2012	2185E	September 19, 2012	2360E	September 19, 2012
2110E	September 19, 2012	2195E	September 19, 2012	2425E	September 19, 2012
2130E	September 19, 2012	2205E	September 19, 2012	2450E	September 19, 2012
2133E	September 19, 2012	2210E	September 19, 2012		

LISTING OF COMMUNITIES

COMMUNITY NAME	COMMUNITY NUMBER	LOCATED ON PANEL(S)	INITIAL IDENTIFICATION DATE	INITIAL NFIP MAP DATE	INITIAL FIRM DATE	MOST RECENT FIRM PANEL DATE
EAST HELENA, CITY OF	300039	2331, 2332, 2333, *2334	APRIL 5, 1974	APRIL 5, 1974	JUNE 4, 1980	SEPTEMBER 19, 2012
HELENA, CITY OF	300040	2143, 2144, 2302, 2304*, 2306, 2307, 2308, *2309, *2320, 2326, 2327, 2333, *2350	APRIL 12, 1974	APRIL 12, 1974	APRIL 15, 1981	SEPTEMBER 19, 2012
LEWIS AND CLARK COUNTY (UNINCORPORATED AREAS)	300038	*0025, *0050, *0075, *0100, *0125, *0150, *0175, *0200, *0225, *0250, *0275, *0300, *0325, *0350, *0375, *0400, 0419, *0425, 0438, 0439, *0450, *0475, *0500, *0525, *0550, *0575, *0600, *0625, 0631, 0632, 0635, *0650, 0651, *0675, *0700, *0725, *0750, *0775, *0800, *0825, *0850, *0875, *0900, *0925, *0950, *0975, *1000, *1025, *1050, *1075, *1100, *1125, *1150, *1175, 1200, *1225, *1250, *1275, *1300, *1325, *1350, *1375, 1400, 1425, *1450, *1475, *1476, 1477, 1478, 1479, 1481, *1482, 1483, 1484, 1486, 1487, 1491, *1500, 1503, 1504, 1505, 1510, *1525, *1550, *1575, *1600, *1625, *1650, *1675, *1700, *1725, *1750, *1775, *1800, *1825, *1850, *1875, *1900, *1925, *1950, *1975, *2000, *2025, *2050, *2075, *2100, 2110, *2125, 2130, 2133, *2134, *2135, 2138, 2139, *2140, 2141, 2142, 2143, 2144, 2153, 2154, 2161, 2162, 2163, 2164, 2168, 2169, *2175, 2185, 2195, *2200, 2205, 2210, *2225, *2250, *2275, 2284, 2300, 2301, 2302, 2303, 2304*, 2306, 2307, 2308, *2309, *2315, *2320, 2326, 2327, 2331, 2332, 2333, *2334, *2350, 2355, 2360, *2375, *2400, 2425, 2450,	DECEMBER 27, 1974	DECEMBER 27, 1974	APRIL 1, 1981	SEPTEMBER 19, 2012

*PANEL NOT PRINTED

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

MAP INDEX

FIRM

FLOOD INSURANCE RATE MAP

LEWIS AND CLARK COUNTY, MONTANA AND INCORPORATED AREAS

(SEE LISTING OF COMMUNITIES TABLE)

MAP INDEX

PANELS PRINTED: 1400, 1425, 1477, 1478, 1479, 1481, 1483, 1484, 1486, 1487, 1491, 1503, 1504, 1505, 1510, 2110, 2130, 2133, 2138, 2139, 2141, 2142, 2143, 2144, 2153, 2154, 2161, 2162, 2163, 2164, 2168, 2169, 2185, 2195, 2205, 2210, 2284, 2300, 2301, 2302, 2303, 2306, 2307, 2308, 2326, 2327, 2331, 2332, 2333, 2355, 2360, 2425, 2450

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
30049CIND2A
EFFECTIVE DATE
SEPTEMBER 19, 2012

Federal Emergency Management Agency