|  |
| --- |
| Construction of Geodatabase for the New Braunfels Public Works Department |
|  |
|  |
|  |
| **GenIuS Inc.** |

**Texas State University - San Marcos**

**5/2/2012**

Table of Contents

**ABSTRACT2**

**SUMMARY2**

**PURPOSE4**

**DATA4**

**METHODOLOGY5**

Database Design – Conceptual and Logical Design5

Database Design – Physical Design6

Figure 18

Data Collection & Database Population9

**RESULTS9**

Figure 211

Figure 311

**DISCUSSION12**

**CONCLUSION16**

**REFERENCES18**

**APPENDIX I: Metadata19**

**APPENDIX II: Contributions of Team Members83**

**APPENDIX III: Feature Class Tables90**

**APPENDIX IV: Map of Data Collected97**

**ABSTRACT**

GenIuS Inc. received a request for proposal (RFP) from the New Braunfels Public Works Department to create a file Geodatabase in order to help manage their drainage and right-of-way infrastructure. GenIuS Inc. responded with a project proposal which was accepted by the Public Works Department. GenIuS Inc. then began the process of researching and creating a file Geodatabase that would meet the client’s needs. The base data came from the city of New Braunfels and pilot data was collected in the field from the study area which was five square blocks southwest of Seguin Avenue in downtown New Braunfels. The method for the project was conducted through three phases: conceptual and logical design of the Geodatabase, physical design of the Geodatabase, and data collection and Geodatabase population. The results of the project were the creation of the Geodatabase and population of the Geodatabase with pilot data collected in the field. After the Geodatabase was completed and delivered to the client, GenIuS Inc. held a meeting in order to reflect on the project itself. During the team’s reflection the following was discussed: problems that were faced, implications for the project, recommendations for New Braunfels Public Works Department, what GenIuS Inc. learned throughout the project, and what GenIuS Inc. would do given the opportunity to revisit the project. GenIuS Inc. was able to conclude the project on time and met all the client’s requirements for the project.

**SUMMARY**

New Braunfels is a growing city. Between 2000 and 2010, New Braunfels grew by 14.6 square miles and 21,246 residents (U.S. Census Bureau). As the city expands, it endeavors to ensure that its infrastructure keeps pace with its expanding needs. This has been particularly important in the case of drainage infrastructure. Areas of New Braunfels have experienced problems with flooding, including the 1998 and 2002 floods of the area along Broadway and the 2009 flooding which left the Gruene Crossing neighborhood marooned with all exits blocked by waters (Gonzales, 2012; Gruene Crossing Drainage Project Begins Today, 2012). This problem is compounded by a dispersed filing system of drainage records as well as by existing problems with drainage infrastructure and records from recently-annexed areas to New Braunfels.

New Braunfels is not the only city to have grappled with issues surrounding drainage infrastructure and drainage record management techniques. The City of Houston, Texas, the City of Springfield, Missouri, and the County of Franklin, Ohio are among several local governments that have turned to Geographic Information Systems (GIS) to help them manage, maintain, and make decisions regarding their local drainage infrastructure. These local governments have all made successful use of Geodatabase in managing records in a centralized manner, demonstrating at-risk areas, and making sound financial decisions regarding infrastructure repairs and upgrades (ESRI). Thus, in order to support the growth and health of the City of New Braunfels, a Geodatabase that inventories drainage and right-of-way structures with their conditions is needed. These features will allow for the testing of Geodatabase-ArcPad interface on NBPW Trimble GPS units. For now, it is best for NBPW to start with a concise database, one that simply maps the locations of relevant infrastructure. Further examination of other local governments’ use of Geodatabases suggests that it would benefit NBPW to grow the Geodatabase into a terrain-mapped entity that includes slope and watershed layers. In this way, NBPW will be able to use the technology, as have other local governments, to predict hazard zones (ESRI). This would be the most cost-effective way for New Braunfels to use mapping technology.

**PURPOSE**

This paper will detail the benefits, methodology, and costs involved in the creation of a drainage and right-of-way Geodatabase for the City of New Braunfels. The Geodatabase was designed to relate to existing databases as needed and to record and to maintain drainage information in a centralized, streamlined manner that will allow for data clarity and decision making. The collection of pilot data was used to test the functionality and design of the Geodatabase to ensure that it works according to current and future Public Works professional needs and standards. After this project, the City of New Braunfels Public Works Department will be able to easily maintain and grow this database according to their changing needs.

**DATA**

The data used for the project is all shapefiles obtained through the City of New Braunfels website. The shapefiles were:

1. New Braunfels centerline
2. New Braunfels city limits
3. New Braunfels building parcels
4. New Braunfels railroads
5. New Braunfels addresses
6. New Braunfels school zone

The data was not a major portion of the project. The project focused more on Geodatabase design, as opposed to data analysis. The data did allow us to identify various attribute fields, which were relevant in creating the Geodatabase.

The centerline shapefile contains street segment identifications as part of its attributes, which can be related to the Geodatabase in the future. The railroads and school zone shapefiles were used as a reference for the data collection in testing the Geodatabase. The school zone shapefile is also useful in potentially relating it to the Geodatabase in the future concerning any crosswalks, sidewalks, and/or school crossings in specific school zones. The city limits and building parcels shapefiles allow the user to view the test areas of the Geodatabase in relation to the actual city of New Braunfels.

The entire client supplied data uses the NAD 1983 State Plane Texas South Central Projected Coordinate System.

**METHODOLOGY**

*Database Design – Conceptual and Logical Design*

Designing the Geodatabase for the New Braunfels Public Works Department began with a series of brainstorming sessions and conceptual models by GenIuS Inc. The preliminary design consisted of eight feature classes: sidewalks, crosswalks, curbs, gutters, ditches, inlets, storm drains, and ramps. Each feature class has shared attributes used to reference existing Geodatabase used by the public works department. Attribute fields for longitude and latitude were also created for georeferencing purposes; line feature classes were given two sets of longitude and latitude fields, a start and end point. GenIuS Inc. then examined each feature class to come up with unique attributes that, once populated, would be pertinent information that could be analyzed by the City of New Braunfels Public Works Department at a later time. In addition to feature classes, we decided to incorporate the use of tables, relating each feature class to them, for maintenance information and general field notes. We chose this method so there could be multiple notes for any feature in the Geodatabase, as well as a log of maintenance notes. Specifically, the maintenance notes table can be used to locate areas of expensive or frequent maintenance.

After multiple meetings with the team, we scheduled a meeting with New Braunfels Public Works to address any changes we needed to make to the Geodatabase and ensure the needs of the city department were met. We decided to merge feature classes together: curb and gutter, inlets and storm drains, and we made ramp a sub-feature of the curb cut feature class. These changes resulted in only six feature classes, instead of eight. Other minor changes, such as unit of measure, were discussed and applied to attributes in each feature class. The meetings ended by going over and agreeing upon a finalized concept for the Geodatabase.

*Database Design – Physical Design*

The Geodatabase design started with the creation of each of the feature classes. The feature classes’ geographic information was recorded using both State Plane South-Central Texas coordinates as well as the street segment associated with the feature. The street segment data was taken from the street centerline database currently used by the Public Works Department. Attributes for each feature class were created. Each attribute was given an alias and the field type was selected. Detailed tables for each feature class are located in Appendix III. To address ease and efficiency in creating the Geodatabase, we incorporated subtype domains with features when possible. These domains were applied to the corresponding attribute to create a drop-down menu of possible selections when collecting data in the field. After all six feature classes were created, two tables were created: notes and maintenance notes. The notes table was created to use for any additional information about a feature that was recorded and the maintenance notes table was created for details about any maintenance or repairs done to a feature. These two tables were then related to each of the six feature classes. Upon completion of the physical design of the Geodatabase, GenIuS Inc. emailed New Braunfels Public Works to import the database into their system for pilot data collection (see Figure 1. below).

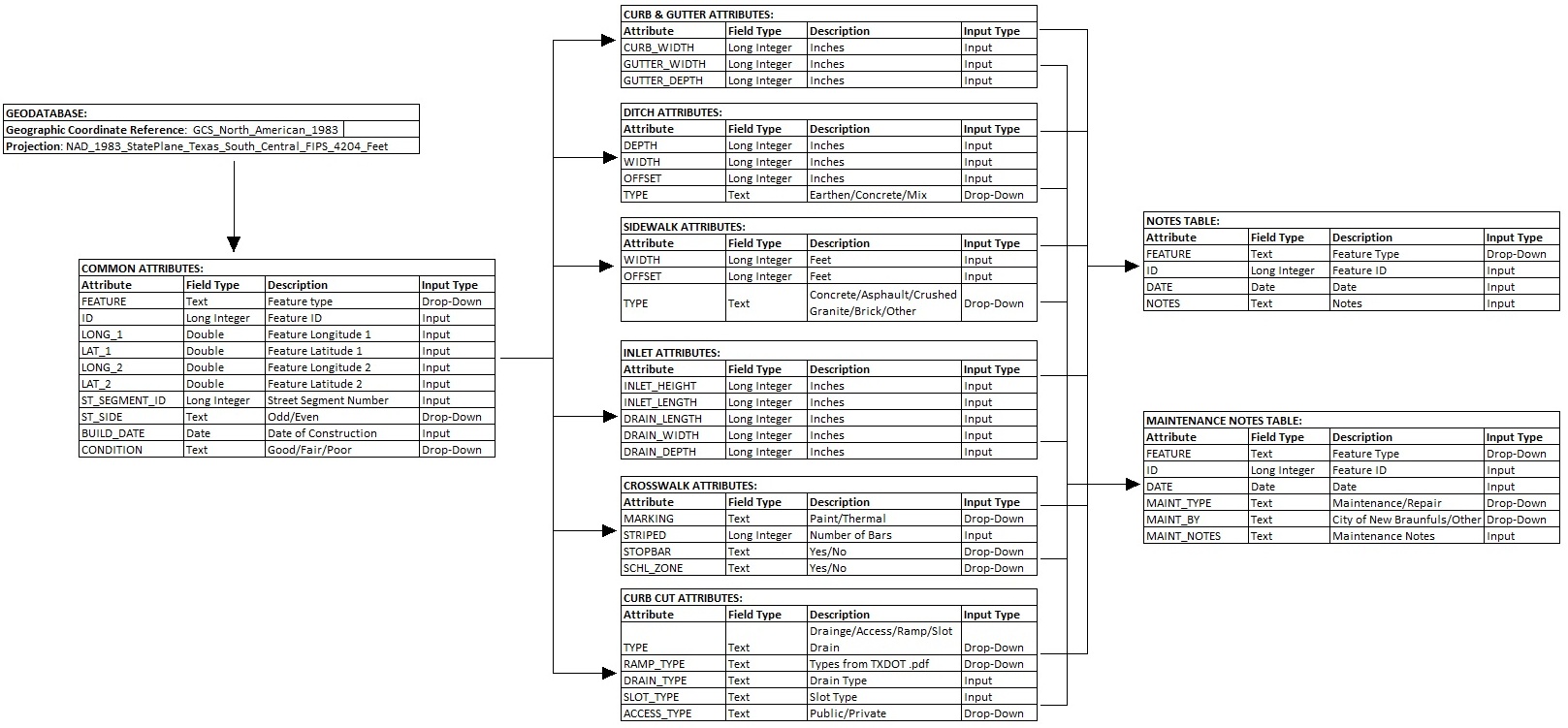


Figure 1.

*Data Collection & Database Population*

Data collection for this project was done primarily using a Trimble with ArcPad 7.1 software. The Geodatabase was exported from ArcMap to the Trimble and new features were added to each feature class. Data was collected for each of the feature classes, populating every attribute for the feature, as well as creating notes and maintenance notes for the feature to check the relationships to the tables. Once the features were captured by the Trimble, we imported the collected data from the Trimble back to ArcMap to update the Geodatabase with the newly collected data. The final step we took with population of the database with pilot data was to analyze the database to assure all attributes, subtype domains, and relationships were working as intended for all feature classes and tables.

**RESULTS**

In the development of the Geodatabase for the City of New Braunfels, the Public Works Department went from a non-existence to fully functional Geodatabase. The end results of this project of the Geodatabase will permit the necessary functionality to maintain the city’s drainage and right-of-way infrastructure. To elaborate, the Public Works Department now has the ability to collect and maintain the required data of the drainage systems and right-of-way of New Braunfels. Genius Inc. was able to study existing and future aspects of the project as much as possible with the collaboration of Sandy Dischinger.

Genius Inc. completed both a functionality test and edited for errors upon completion of the Geodatabase. In GenIuS Inc., the process of the functionality test of the Geodatabase was tested for the appropriate compatibility in two ways: in-house at the Public Works Department and on the Trimble (it was uploaded and then used with Arc Pad 7.1). The test was able to aid the necessary version and ensured the necessary requirements for Arc Pad 7.1. At that point, the discovery of malfunctions on the Trimble allowed the Public Works Department to make notes prior to the Geodatabase usage.

In the end, Genius Inc. was able to create a user manual that was developed to help support the overall functionality and the implementation of the Geodatabase. This includes a step-by-step process and procedure that allows users to reference at any time. Figure 2. below shows the design of the Geodatabase that was created for the New Braunfels Public Works Department. Figure 3. shows the process used to create the final results of the project.

Figure 2.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| Point A | — | — | — | — |
| Point B | — | — | — | — |
| Point C | — | — | — | — |
| Point D | — | — | — | — |
| Point E | — | — | — | — |

Figure 3.



**DISCUSSION**

After the completion of the Geodatabase, GenIuS Inc. met as a team to discuss several issues and ideas that developed throughout the project. These ideas and issues include problems we experienced, implications of Geodatabases, possible recommendations for the city of New Braunfels and its Public Works Department, and what our team took away from the project. GenIuS Inc. feels it more than necessary to inform the client of our team’s discussion and the results of the meeting. By sharing these results, New Braunfels Public Works Department can further develop the Geodatabase to meet their needs due to backlog and increasing growth of the city.

First are the minor issues we encountered during the project. None of the issues prevented us from completing the project, but they were just minor setbacks. The first issue came with our original plan for collecting data and populating the Geodatabase. GenIuS Inc. originally planned to use Garmin handheld GPS units to collect data, and use Microsoft Access as a form of data storage and the import the data into ArcGIS. We were first told the Access plan would not work, and then were later informed that it could be done using a Python script. After talking with the client, the plans changed to creating the Geodatabase alone and then use a Trimble unit with ArcPad installed to both collect data and populate the Geodatabase.

The second issue arrived once the Geodatabase was created. When the Geodatabase was first sent to the Public Works Department it was sent as an ArcGIS 10 Geodatabase. The Public Works Department was using ArcGIS 9.3, and therefore the Geodatabase was not compatible. The Geodatabase was recreated in the ArcGIS 10 program, but was saved as an ArcGIS 9.3 file Geodatabase. The solved the compatibility issue.

The final issues that occurred during the project happened in the data collection phase of the project. The first issues occurred at the very beginning when a mixture of heavy cloud cover, tall buildings, power lines, and trees prevented the access to satellites, and made data collection impracticable. The second problem came after several point features had been collected. Unfortunately the points did not save properly so approximately eight – ten points were lost. It was decided to use the two point features that were taken and move on to line features to insure each feature class was added with study data of some form. This lead to the next to last issue, since no member of GenIuS Inc. had been properly trained with a Trimble it was difficult to figure out exactly how to capture the line features that were needed, and several hours were lost in the process. The final issue during data collection was the weather. On the final day of data collection, a front moved in and brought with it thunderstorms, and, for safety reasons, further data collection was cancelled for the day. With all the issues that were faced, GenIuS Inc. turned in the Geodatabase with each feature class populated with attribute data.

Next are the implications of the project, which are two-fold. The first fold is that the project can result in several positives for New Braunfels Public Works Department. The Public Works Department now has the ability to effectively manage its storm drain and right-of-way infrastructure. This ability will allow the city of New Braunfels to know the exact location of all storm drains and right-of way infrastructure, such as sidewalks, curbs, and storm drain inlets and boxes. New Braunfels can also take field notes and maintenance notes for each unique feature. This will allow New Braunfels to be proactive in maintenance of existing structures, but will also allow for establishing the location for new infrastructure to be built.

Not only can the Publics Works Department effectively manage existing infrastructure and be proactive in the maintenance and creation of structures, but the Public Works Department can combine this Geodatabase with other existing Geodatabases, such as the sign Geodatabase. By doing this the Public Works Department can identify locations for the need of new signs. Often when a crosswalk exists a sign is needed to identify the existence of the crosswalk to motorist. By combining the right-of-way Geodatabase with the sign Geodatabase, New Braunfels Public Works Department can identify where a crosswalk exists without a pedestrian crossing sign being present. The sign Geodatabase in combination with the right-of-way Geodatabase will allow for interdepartmental communication and efficiency.

The second fold is that the project has implications for other real world issues. New Braunfels can use the same principals for creating our Geodatabase and create other Geodatabases to manage other spatially distributed objects, such as street lamps. Also, other cities can copy the New Braunfels Public Works Department right-of-way Geodatabase for their own cities and adapt it to meet their needs. This would be especially useful for smaller cities that are rapidly growing and expanding.

A third subject to address is the several ideas for the future. Now that the New Braunfels Public Works Department has the capability to manage their storm drain and right-of-way infrastructure all that needs to be done is to record all the locations of the structures and the appropriate attribute data. There are several ways of doing this, but GenIuS Inc. feels that one of the best methods would be to conduct another project with Texas State University’s Geography Department. This would allow the New Braunfels Public Works Department to save their own labor hours, and allow other Texas State students to gain the firsthand experience and knowledge that the members of GenIuS Inc. received throughout the past few months. Another recommendation is that the New Braunfels Public Works Department looks into updating current GIS software, from ArcGIS 9.3 to 10. GIS programming is improving at a rapid pace, and in order to keep up it may be more beneficial to upgrade sooner rather than later. Another improvement to look into would be adding new equipment that can better find positions in locations that are blocked by trees, tall buildings, or overhead power lines.

Another topic to discuss is what the members GenIuS Inc. learned throughout the project and personal implications for the future. Not only were the steps to creating a Geodatabase acquired, but experience with a Trimble GPS unit was obtained. This experience could be vital for the development to the GIS careers for the members of GenIuS Inc. The importance to check for compatibility prior to the creation of any Geodatabase is vital knowledge to have. Also, programs such as Access and ArcGIS file Geodatabase can communicate, but a Python script is necessary. Several members of GenIuS Inc. showed interest into learning more on Python scripting. A final learning experience came more as a reality check. Any student of GIS understands the often times data collection requires some form of GPS work. GPS units require satellites to obtain a position for the unit, without satellites a position cannot be fixated. Overall, this project increased the team’s knowledge on the use of GIS in multiple ways.

The final topic to discuss is some of the reflections GenIuS Inc. had regarding this project. If GenIuS Inc. were to redo this project, the main issue to address would be the slight miscommunications that happened between the team and the client. Because assumptions were made regarding the version of ArcGIS used by the client, sometime was lost having to recreate the Geodatabase to solve the compatibility issues that arose. Also, miscommunications lead to rescheduling of meetings with the client, and also resulted in a loss of time. These miscommunications did not prevent the completion of the Geodatabase.

**CONCLUSION**

The main purpose of this project was to create and deliver to the New Braunfels Public Works Department a file Geodatabase. The Geodatabase was to be designed to meet the goal of the Public Works Department to more effectively manage their existing storm drainage and right-of-way infrastructure. Through research GenIuS Inc. was able to develop an appropriate method for creating a Geodatabase. By implementing this method, a Geodatabase was created that contained feature classes for each of the individual features and created field notes and maintenance notes relations ships tables that were joined to each feature class, all of which were deemed necessary by the client. The Geodatabase was then given to New Braunfels Public Works Department. Data to populate each feature class in the Geodatabase was done by the use of a Trimble unit. That data was then downloaded from the Trimble and the uploaded to the Geodatabase in the New Braunfels Public Works Department. Appendix IV contains a map of the pilot data that was collected during the course of this project. As stated earlier, the main purpose of this project and its requirements have been completed. Furthermore, the final Geodatabase, populated with study data, was delivered on time and is currently working.

**REFERENCES**

ESRI. White papers: GIS library. Retrieved February 2012, from http://www.esri.com/library/index.html

Gonzales, E. 2012. Residents' opposition becomes a drain on county flood project. Retrieved February 2012, from KENS 5 San Antonio: http://www.kens5.com/news/Local-Residents-become-a-drain-on-county-flood-projects-138088268.html

Gruene Crossing Drainage Project Begins Today. 2012. Retrieved February 2012, from KGNB New Braunfels, Texas: http://kgnb.am/news/gruene-crossing-drainage-project-begins-today

U.S. Census Bureau. American Factfinder. Retrieved February 2012, from http://factfinder2.census.gov/

**APPENDIX I: Metadata**

*Point Features*

Curb Cut:

Description

The curb cuts feature class was created by GenIuS, Inc. to map and collect information about curb cuts in the City of New Braunfels.

Credits  
There are no credits for this item.

Use limitations  
Only accepts point shapes. Curb cuts are defined according to New Braunfels standards.

[ArcGIS Metadata ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#arcgisMetadata)

[Citation ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EFMA)

\* Title CURBCUT

Publication date 2012-04-27T00:00:00

Presentation formats  \* digital map

[Resource Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EDBFNA)

Dataset languages  \* English (UNITED STATES)

Dataset character set  utf8 - 8 bit UCS Transfer Format

Spatial representation type  \* vector

\* Processing environment Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.3.3600

ArcGIS item properties

\* Name CURBCUT

\* Location file://\\Geoserve\Data\G4427YL\NB\_PW\Final GDB\NBgdb9test.gdb\NBgdb9test.gdb

\* Access protocol Local Area Network

\* Content type  Downloadable Data

[Extents ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EEBBFNA)

Extent

Geographic extent

Bounding rectangle

Extent type  Extent used for searching

\* West longitude -98.154175

\* East longitude -98.121617

\* North latitude 29.699609

\* South latitude 29.690831

\* Extent contains the resource Yes

Extent in the item's coordinate system

\* West longitude 2237042.142241

\* East longitude 2247355.931981

\* South latitude 13799775.924568

\* North latitude 13802892.068270

\* Extent contains the resource Yes

[Resource Constraints ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EBMA)

Constraints

Limitations of use

Only accepts point shapes. Curb cuts are defined according to New Braunfels standards.

[Spatial Reference ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EEAFNA)

ArcGIS coordinate system

\* Type Projected

\* Geographic coordinate reference GCS\_North\_American\_1983

\* Projection NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet

\* Coordinate reference details

Projected coordinate system

Well-known identifier 2278

X origin -126725700

Y origin -77828800

XY scale 3048.0060960121914

Z origin -100000

Z scale 10000

M origin -100000

M scale 10000

XY tolerance 0.0032808333333333335

Z tolerance 0.001

M tolerance 0.001

High precision true

Well-known text PROJCS["NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet",GEOGCS["GCS\_North\_American\_1983",DATUM["D\_North\_American\_1983",SPHEROID["GRS\_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert\_Conformal\_Conic"],PARAMETER["False\_Easting",1968500.0],PARAMETER["False\_Northing",13123333.33333333],PARAMETER["Central\_Meridian",-99.0],PARAMETER["Standard\_Parallel\_1",28.38333333333333],PARAMETER["Standard\_Parallel\_2",30.28333333333334],PARAMETER["Latitude\_Of\_Origin",27.83333333333333],UNIT["Foot\_US",0.3048006096012192],AUTHORITY["EPSG",2278]]

Reference system identifier

\* Value 2278

\* Codespace EPSG

\* Version 7.4.1

[Spatial Data Properties ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EAFA)

[Vector  ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EBAFA)

\* Level of topology for this dataset  geometry only

Geometric objects

Feature class name CURBCUT

\* Object type  point

\* Object count 1

[ArcGIS Feature Class Properties  ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EA)

\* Feature type Simple

\* Geometry type Point

\* Has topology FALSE

\* Feature count 1

\* Spatial index TRUE

\* Linear referencing FALSE

[Distribution ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EJA)

[Distributor  ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EAAJA)

Contact information

Individual's name Melissa Reynolsd

Organization's name City of New Braunfels

Contact's position Graduate Engineer

Distribution format

\* Format name File Geodatabase Feature Class

[Fields and Subtypes ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EDA)

[Details for object CURBCUT ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EADA)

\* Type Feature Class

\* Row count 1

[Field OBJECTID ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EPADA)

\* Alias OBJECTID

\* Data type OID

\* Width 4

\* Precision 0

\* Scale 0

\* Field description

Internal feature number.

\* Description source

ESRI

\* Description of values Sequential unique whole numbers that are automatically generated.

[Field SHAPE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EOADA)

\* Alias SHAPE

\* Data type Geometry

\* Width 0

\* Precision 0

\* Scale 0

\* Field description

Feature geometry.

\* Description source

ESRI

\* Description of values Coordinates defining the features.

[Field FEATURE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0ENADA)

\* Alias FEATURE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

Subtype information

\* Subtype name (Subtype code)

New Subtype (0)

no default value

\* Domain name FEATURE

\* Description Feature

\* Type Coded Value

\* Merge rule Default value

\* Split rule Default value

[Hide Field FEATURE ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0ENADA)

[Field ID ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EMADA)

\* Alias ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Hide Field ID ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EMADA)

[Field LONG ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0ELADA)

\* Alias LONG

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field LAT ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EKADA)

\* Alias LAT

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Hide Field LAT ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EKADA)

[Field ST\_SEGMENT\_ID ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EJADA)

\* Alias ST\_SEGMENT\_ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Hide Field ST\_SEGMENT\_ID ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EJADA)

[Field ST\_SIDE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EIADA)

\* Alias ST\_SIDE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

Subtype information

\* Subtype name (Subtype code)

New Subtype (0)

no default value

\* Domain name ST\_SIDE

\* Description Street Side

\* Type Coded Value

\* Merge rule Default value

\* Split rule Default value

[Hide Field ST\_SIDE ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0EIADA)

[Field BUILD\_DATE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EHADA)

\* Alias BUILD\_DATE

\* Data type Date

\* Width 8

\* Precision 0

\* Scale 0

[Field CONDITION ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EGADA)

\* Alias CONDITION

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

Subtype information

\* Subtype name (Subtype code)

New Subtype (0)

no default value

\* Domain name CONDITION

\* Description Condition

\* Type Coded Value

\* Merge rule Default value

\* Split rule Default value

[Field CC\_TYPE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EFADA)

\* Alias CC\_TYPE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field RAMP\_TYPE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EEADA)

\* Alias RAMP\_TYPE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

Subtype information

\* Subtype name (Subtype code)

New Subtype (0)

no default value

\* Domain name RAMP\_TYPE

\* Description Ramp Type

\* Type Coded Value

\* Merge rule Default value

\* Split rule Default value

[Field DRAIN\_TYPE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EDADA)

\* Alias DRAIN\_TYPE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field SLOT\_TYPE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0ECADA)

\* Alias SLOT\_TYPE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field ACCESS\_TYPE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp86A7.tmp.htm" \l "ID0EBADA)

\* Alias ACCESS\_TYPE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Metadata Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp86A7.tmp.htm#ID0TAKNA)

\* Metadata language English (UNITED STATES)

\* Metadata character set  utf8 - 8 bit UCS Transfer Format

Scope of the data described by the metadata  \* dataset

Scope name  \* dataset

\* Last update 2012-04-27

ArcGIS metadata properties

Metadata format ArcGIS 1.0

Metadata style FGDC CSDGM Metadata

Standard or profile used to edit metadata ISO19139

Created in ArcGIS 2012-04-25T11:26:37

Last modified in ArcGIS 2012-04-27T13:51:16

Automatic updates

Have been performed Yes

Last update 2012-04-27T13:51:16

Inlet-Drain:

Description

The inlet\_drain feature class was created by GenIuS, Inc. to map and collect information about ditches in the City of New Braunfels.

Credits  
There are no credits for this item.

Use limitations  
Only accepts point shapes. Inlets and drains are defined according to New Braunfels standards.

[ArcGIS Metadata ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#arcgisMetadata)

[Citation ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EFMA)

\* Title INLET\_DRAIN

Publication date 2012-04-27T00:00:00

Presentation formats  \* digital map

[Hide Citation ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EFMA)

[Resource Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EEBFNA)

Dataset languages  \* English (UNITED STATES)

Dataset character set  utf8 - 8 bit UCS Transfer Format

Spatial representation type  \* vector

\* Processing environment Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.3.3600

ArcGIS item properties

\* Name INLET\_DRAIN

\* Location file://\\Geoserve\Data\G4427YL\NB\_PW\Final GDB\NBgdb9test.gdb\NBgdb9test.gdb

\* Access protocol Local Area Network

\* Content type  Downloadable Data

[Hide Resource Details ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EEBFNA)

[Extents ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EECBFNA)

Extent

Geographic extent

Bounding rectangle

Extent type  Extent used for searching

\* West longitude -98.162614

\* East longitude -98.121419

\* North latitude 29.718133

\* South latitude 29.690891

\* Extent contains the resource Yes

Extent in the item's coordinate system

\* West longitude 2234362.391039

\* East longitude 2247368.275132

\* South latitude 13799798.079708

\* North latitude 13809608.869141

\* Extent contains the resource Yes

[Hide Extents ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EECBFNA)

[Resource Constraints ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EBMA)

Constraints

Limitations of use

Only accepts point shapes. Inlets and drains are defined according to New Braunfels standards.

[Hide Resource Constraints ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EBMA)

[Spatial Reference ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EEAFNA)

ArcGIS coordinate system

\* Type Projected

\* Geographic coordinate reference GCS\_North\_American\_1983

\* Projection NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet

\* Coordinate reference details

Projected coordinate system

Well-known identifier 2278

X origin -126725700

Y origin -77828800

XY scale 3048.0060960121914

Z origin -100000

Z scale 10000

M origin -100000

M scale 10000

XY tolerance 0.0032808333333333335

Z tolerance 0.001

M tolerance 0.001

High precision true

Well-known text PROJCS["NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet",GEOGCS["GCS\_North\_American\_1983",DATUM["D\_North\_American\_1983",SPHEROID["GRS\_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert\_Conformal\_Conic"],PARAMETER["False\_Easting",1968500.0],PARAMETER["False\_Northing",13123333.33333333],PARAMETER["Central\_Meridian",-99.0],PARAMETER["Standard\_Parallel\_1",28.38333333333333],PARAMETER["Standard\_Parallel\_2",30.28333333333333],PARAMETER["Latitude\_Of\_Origin",27.83333333333333],UNIT["Foot\_US",0.3048006096012192],AUTHORITY["EPSG",2278]]

Reference system identifier

\* Value 2278

\* Codespace EPSG

\* Version 7.4.1

[Spatial Data Properties ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EAFA)

[Vector  ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EBAFA)

\* Level of topology for this dataset  geometry only

Geometric objects

Feature class name INLET\_DRAIN

\* Object type  point

\* Object count 1

[ArcGIS Feature Class Properties  ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EA)

\* Feature type Simple

\* Geometry type Point

\* Has topology FALSE

\* Feature count 1

\* Spatial index TRUE

\* Linear referencing FALSE

[Distribution ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EJA)

Distribution format

\* Format name File Geodatabase Feature Class

[Fields and Subtypes ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EDA)

[Details for object INLET\_DRAIN ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EADA)

\* Type Feature Class

\* Row count 1

[Field OBJECTID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EOADA)

\* Alias OBJECTID

\* Data type OID

\* Width 4

\* Precision 0

\* Scale 0

\* Field description

Internal feature number.

\* Description source

ESRI

\* Description of values Sequential unique whole numbers that are automatically generated.

[Field SHAPE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0ENADA)

\* Alias SHAPE

\* Data type Geometry

\* Width 0

\* Precision 0

\* Scale 0

\* Field description

Feature geometry.

\* Description source

ESRI

\* Description of values Coordinates defining the features.

[Field FEATURE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EMADA)

\* Alias FEATURE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field ID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0ELADA)

\* Alias ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field LONG ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EKADA)

\* Alias LONG

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field LAT ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EJADA)

\* Alias LAT

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field ST\_SEGMENT\_ID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EIADA)

\* Alias ST\_SEGMENT\_ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field ST\_SIDE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EHADA)

\* Alias ST\_SIDE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field BUILD\_DATE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EGADA)

\* Alias BUILD\_DATE

\* Data type Date

\* Width 8

\* Precision 0

\* Scale 0

[Field CONDITION ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EFADA)

\* Alias CONDITION

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field INLET\_HEIGHT ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EEADA)

\* Alias INLET\_HEIGHT

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field INLET\_LENGTH ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EDADA)

\* Alias INLET\_LENGTH

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field DRAIN\_LENGTH ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0ECADA)

\* Alias DRAIN\_LENGTH

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field DRAIN\_WIDTH ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EBADA)

\* Alias DRAIN\_WIDTH

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field DRAIN\_DEPTH ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0EAADA)

\* Alias DRAIN\_DEPTH

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Metadata Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpB26D.tmp.htm#ID0TAKNA)

\* Metadata language English (UNITED STATES)

\* Metadata character set  utf8 - 8 bit UCS Transfer Format

Scope of the data described by the metadata  \* dataset

Scope name  \* dataset

\* Last update 2012-04-27

ArcGIS metadata properties

Metadata format ArcGIS 1.0

Metadata style FGDC CSDGM Metadata

Standard or profile used to edit metadata ISO19139

Created in ArcGIS 2012-04-25T11:26:09

Last modified in ArcGIS 2012-04-27T13:31:48

Automatic updates

Have been performed Yes

Last update 2012-04-27T13:25:59

Line Features

Crosswalk:

Description

The crosswalk feature class was created by GenIuS, Inc. to map and collect information about crosswalks throughout the New Braunfels city limits.

Credits  
There are no credits for this item.

Use limitations  
Only takes polyline shapes. Crosswalks are defined according to New Braunfels standards.

[ArcGIS Metadata ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#arcgisMetadata)

[Citation ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EHMA)

\* Title CROSSWALK

Publication date 2012-04-25T00:00:00

Presentation formats  \* digital map

[Hide Citation ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EHMA)

[Resource Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EEBFNA)

Dataset languages  \* English (UNITED STATES)

Dataset character set  utf8 - 8 bit UCS Transfer Format

Spatial representation type  \* vector

Status  completed

\* Processing environment Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.3.3600

ArcGIS item properties

\* Name CROSSWALK

\* Location file://\\Geoserve\Data\G4427YL\NB\_PW\Final GDB\NBgdb9test.gdb\NBgdb9test.gdb

\* Access protocol Local Area Network

\* Content type  Downloadable Data

[Extents ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EECBFNA)

Extent

Geographic extent

Bounding rectangle

Extent type  Extent used for searching

\* West longitude -98.126810

\* East longitude -98.126712

\* North latitude 29.702870

\* South latitude 29.702679

\* Extent contains the resource Yes

Extent in the item's coordinate system

\* West longitude 2245698.593104

\* East longitude 2245728.970012

\* South latitude 13804072.128574

\* North latitude 13804141.443724

\* Extent contains the resource Yes

[Resource Points of Contact ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EAMA)

Point of contact

Organization's name City of New Braunfels

[Resource Constraints ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EDMA)

Constraints

Limitations of use

Only takes polyline shapes. Crosswalks are defined according to New Braunfels standards.

[Spatial Reference ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EEAFNA)

ArcGIS coordinate system

\* Type Projected

\* Geographic coordinate reference GCS\_North\_American\_1983

\* Projection NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet

\* Coordinate reference details

Projected coordinate system

Well-known identifier 2278

X origin -126725700

Y origin -77828800

XY scale 3048.0060960121914

Z origin -100000

Z scale 10000

M origin -100000

M scale 10000

XY tolerance 0.0032808333333333335

Z tolerance 0.001

M tolerance 0.001

High precision true

Well-known text PROJCS["NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet",GEOGCS["GCS\_North\_American\_1983",DATUM["D\_North\_American\_1983",SPHEROID["GRS\_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert\_Conformal\_Conic"],PARAMETER["False\_Easting",1968500.0],PARAMETER["False\_Northing",13123333.33333333],PARAMETER["Central\_Meridian",-99.0],PARAMETER["Standard\_Parallel\_1",28.38333333333333],PARAMETER["Standard\_Parallel\_2",30.28333333333334],PARAMETER["Latitude\_Of\_Origin",27.83333333333333],UNIT["Foot\_US",0.3048006096012192],AUTHORITY["EPSG",2278]]

Reference system identifier

\* Value 2278

\* Codespace EPSG

\* Version 7.4.1

[Spatial Data Properties ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EAFA)

[Vector  ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EBAFA)

\* Level of topology for this dataset  geometry only

Geometric objects

Feature class name CROSSWALK

\* Object type  composite

\* Object count 1

[ArcGIS Feature Class Properties  ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EA)

\* Feature type Simple

\* Geometry type Polyline

\* Has topology FALSE

\* Feature count 1

\* Spatial index TRUE

\* Linear referencing FALSE

[Distribution ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EJA)

[Distributor  ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EAAJA)

Contact information

Individual's name Melissa Reynolds

Organization's name City of New Braunfels Public Works

Contact's position Graduate Engineer

Contact's role  point of contact

Distribution format

\* Format name File Geodatabase Feature Class

[Hide Distribution ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EJA)

[Fields and Subtypes ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EDA)

[Details for object CROSSWALK ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EADA)

\* Type Feature Class

\* Row count 1

[Field OBJECTID ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0ERADA)

\* Alias OBJECTID

\* Data type OID

\* Width 4

\* Precision 0

\* Scale 0

\* Field description

Internal feature number.

\* Description source

ESRI

\* Description of values Sequential unique whole numbers that are automatically generated.

[Hide Field OBJECTID ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0ERADA)

[Field SHAPE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EQADA)

\* Alias SHAPE

\* Data type Geometry

\* Width 0

\* Precision 0

\* Scale 0

\* Field description

Feature geometry.

\* Description source

ESRI

\* Description of values Coordinates defining the features.

[Hide Field SHAPE ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EQADA)

[Field FEATURE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EPADA)

\* Alias FEATURE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Hide Field FEATURE ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EPADA)

[Field ID ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EOADA)

\* Alias ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Hide Field ID ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EOADA)

[Field LONG\_1 ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0ENADA)

\* Alias LONG\_1

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0[Hide Field LONG\_1 ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0ENADA)

[Field LAT\_1 ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EMADA)

\* Alias LAT\_1

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field LONG\_2 ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0ELADA)

\* Alias LONG\_2

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field LAT\_2 ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EKADA)

\* Alias LAT\_2

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field ST\_SEGMENT\_ID ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EJADA)

\* Alias ST\_SEGMENT\_ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field ST\_SIDE\_1 ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EIADA)

\* Alias ST\_SIDE\_1

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field ST\_SIDE\_2 ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EHADA)

\* Alias ST\_SIDE\_2

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Hide Field ST\_SIDE\_2 ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EHADA)

[Field BUILD\_DATE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EGADA)

\* Alias BUILD\_DATE

\* Data type Date

\* Width 8

\* Precision 0

\* Scale 0

[Hide Field BUILD\_DATE ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EGADA)

[Field CONDITION ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EFADA)

\* Alias CONDITION

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Hide Field CONDITION ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EFADA)

[Field MARKING ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EEADA)

\* Alias MARKING

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

Field description

Defines whether the crosswalks markings are either painted or thermal.

[Hide Field MARKING ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EEADA)

[Field STRIPED ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EDADA)

\* Alias STRIPED

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

Field description

Number of crosswalk stripes.

[Hide Field STRIPED ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EDADA)

[Field STOPBAR ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0ECADA)

\* Alias STOPBAR

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

Field description

Defines whether a stopbar exists at the crosswalk.

[Hide Field STOPBAR ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0ECADA)

[Field SCHL\_ZONE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EBADA)

\* Alias SCHL\_ZONE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

Field description

Defines whether the crosswalk is in a school zone.

[Hide Field SCHL\_ZONE ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0EBADA)

[Field SHAPE\_Length ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp75D7.tmp.htm" \l "ID0EAADA)

\* Alias SHAPE\_Length

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

\* Field description

Length of feature in internal units.

\* Description source

ESRI

\* Description of values Positive real numbers that are automatically generated.

[Metadata Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp75D7.tmp.htm#ID0TAKNA)

\* Metadata language English (UNITED STATES)

\* Metadata character set  utf8 - 8 bit UCS Transfer Format

Scope of the data described by the metadata  \* dataset

Scope name  \* dataset

\* Last update 2012-04-27

ArcGIS metadata properties

Metadata format ArcGIS 1.0

Metadata style FGDC CSDGM Metadata

Standard or profile used to edit metadata ISO19139

Created in ArcGIS 2012-04-25T11:53:49

Last modified in ArcGIS 2012-04-27T13:52:18

Automatic updates

Have been performed Yes

Last update 2012-04-27T13:52:18

Curb & Gutter:

Description

The curb and gutter feature class was created by GenIuS, Inc to map and collect information about curb and gutters in the City of New Braunfels.

Credits  
There are no credits for this item.

Use limitations  
Only takes polyline shapes. Curb and gutter are defined according to New Braunfels standards.

[ArcGIS Metadata ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#arcgisMetadata)

[Citation ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EFMA)

\* Title CURB\_GUTTER

Publication date 2012-04-25T00:00:00

Presentation formats  \* digital map

[Resource Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EEBFNA)

Dataset languages  \* English (UNITED STATES)

Dataset character set  utf8 - 8 bit UCS Transfer Format

Spatial representation type  \* vector

\* Processing environment Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.3.3600

ArcGIS item properties

\* Name CURB\_GUTTER

\* Location file://\\Geoserve\Data\G4427YL\NB\_PW\Final GDB\NBgdb9test.gdb\NBgdb9test.gdb

\* Access protocol Local Area Network

\* Content type  Downloadable Data

[Extents ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EECBFNA)

Extent

Geographic extent

Bounding rectangle

Extent type  Extent used for searching

\* West longitude -98.127141

\* East longitude -98.126801

\* North latitude 29.702481

\* South latitude 29.702128

\* Extent contains the resource Yes

Extent in the item's coordinate system

\* West longitude 2245594.975857

\* East longitude 2245701.746641

\* South latitude 13803871.670642

\* North latitude 13803999.274717

\* Extent contains the resource Yes

[Resource Constraints ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EBMA)

Constraints

Limitations of use

Only takes polyline shapes. Curb and gutter are defined according to New Braunfels standards.

[Spatial Reference ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EEAFNA)

ArcGIS coordinate system

\* Type Projected

\* Geographic coordinate reference GCS\_North\_American\_1983

\* Projection NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet

\* Coordinate reference details

Projected coordinate system

Well-known identifier 2278

X origin -126725700

Y origin -77828800

XY scale 3048.0060960121914

Z origin -100000

Z scale 10000

M origin -100000

M scale 10000

XY tolerance 0.0032808333333333335

Z tolerance 0.001

M tolerance 0.001

High precision true

Well-known text PROJCS["NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet",GEOGCS["GCS\_North\_American\_1983",DATUM["D\_North\_American\_1983",SPHEROID["GRS\_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert\_Conformal\_Conic"],PARAMETER["False\_Easting",1968500.0],PARAMETER["False\_Northing",13123333.33333333],PARAMETER["Central\_Meridian",-99.0],PARAMETER["Standard\_Parallel\_1",28.38333333333333],PARAMETER["Standard\_Parallel\_2",30.28333333333334],PARAMETER["Latitude\_Of\_Origin",27.83333333333333],UNIT["Foot\_US",0.3048006096012192],AUTHORITY["EPSG",2278]]

Reference system identifier

\* Value 2278

\* Codespace EPSG

\* Version 7.4.1

[Spatial Data Properties ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EAFA)

[Vector  ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EBAFA)

\* Level of topology for this dataset  geometry only

Geometric objects

Feature class name CURB\_GUTTER

\* Object type  composite

\* Object count 1

[ArcGIS Feature Class Properties  ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EA)

\* Feature type Simple

\* Geometry type Polyline

\* Has topology FALSE

\* Feature count 1

\* Spatial index TRUE

\* Linear referencing FALSE

[Distribution ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EJA)

[Distributor  ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EAAJA)

Contact information

Individual's name Melissa Reynolds

Organization's name City of New Braunfels Public Works

Contact's position Graduate Engineer

Contact's role  point of contact

Distribution format

\* Format name File Geodatabase Feature Class

Fields and Subtypes ▼►

[Details for object CURB\_GUTTER ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EADA)

\* Type Feature Class

\* Row count 1

[Field OBJECTID ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EPADA)

\* Alias OBJECTID

\* Data type OID

\* Width 4

\* Precision 0

\* Scale 0

\* Field description

Internal feature number.

\* Description source

ESRI

\* Description of values Sequential unique whole numbers that are automatically generated.

[Field SHAPE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EOADA)

\* Alias SHAPE

\* Data type Geometry

\* Width 0

\* Precision 0

\* Scale 0

\* Field description

Feature geometry.

\* Description source

ESRI

\* Description of values Coordinates defining the features.

[Field FEATURE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0ENADA)

\* Alias FEATURE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Hide Field FEATURE ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0ENADA)

[Field ID ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EMADA)

\* Alias ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Hide Field ID ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EMADA)

[Field LONG\_1 ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0ELADA)

\* Alias LONG\_1

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Hide Field LONG\_1 ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0ELADA)

[Field LAT\_1 ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EKADA)

\* Alias LAT\_1

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Hide Field LAT\_1 ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EKADA)

[Field LONG\_2 ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EJADA)

\* Alias LONG\_2

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Hide Field LONG\_2 ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EJADA)

[Field LAT\_2 ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EIADA)

\* Alias LAT\_2

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Hide Field LAT\_2 ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EIADA)

[Field ST\_SEGMENT\_ID ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EHADA)

\* Alias ST\_SEGMENT\_ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0  
  
[Field ST\_SIDE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EGADA)

\* Alias ST\_SIDE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field BUILD\_DATE ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EFADA)

\* Alias BUILD\_DATE

\* Data type Date

\* Width 8

\* Precision 0

\* Scale 0

[Hide Field BUILD\_DATE ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EFADA)

[Field CONDITION ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EEADA)

\* Alias CONDITION

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Hide Field CONDITION ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EEADA)

[Field CURB\_WIDTH ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EDADA)

\* Alias CURB\_WIDTH

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Hide Field CURB\_WIDTH ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0EDADA)

[Field GUTTER\_WIDTH ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0ECADA)

\* Alias GUTTER\_WIDTH

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field GUTTER\_DEPTH ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EBADA)

\* Alias GUTTER\_DEPTH

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field SHAPE\_Length ▼►](file:///C:\\Users\\so1094\\AppData\\Local\\Temp\\tmp67E.tmp.htm" \l "ID0EAADA)

\* Alias SHAPE\_Length

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

\* Field description

Length of feature in internal units.

\* Description source

ESRI

\* Description of values Positive real numbers that are automatically generated.

[Metadata Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp67E.tmp.htm#ID0TAKNA)

\* Metadata language English (UNITED STATES)

\* Metadata character set  utf8 - 8 bit UCS Transfer Format

Scope of the data described by the metadata  \* dataset

Scope name  \* dataset

\* Last update 2012-04-27

ArcGIS metadata properties

Metadata format ArcGIS 1.0

Metadata style ISO 19139 Metadata Implementation Specification

Standard or profile used to edit metadata ISO19139

Created in ArcGIS 2012-04-25T12:28:06

Last modified in ArcGIS 2012-04-27T13:49:38

Automatic updates

Have been performed Yes

Last update 2012-04-27T13:49:38

Ditch:

Description

The ditch feature class was created by GenIuS, Inc. to map and collect information about ditches in the City of New Braunfels.

Use limitations  
Only accepts polyline shapes. Ditches are defined according to New Braunfels standards.

[ArcGIS Metadata ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#arcgisMetadata)

[Citation ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EFMA)

\* Title DITCH

Publication date 2012-04-27T00:00:00

Presentation formats  \* digital map

[Resource Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EEBFNA)

Dataset languages  \* English (UNITED STATES)

Dataset character set  utf8 - 8 bit UCS Transfer Format

Spatial representation type  \* vector

\* Processing environment Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.3.3600

ArcGIS item properties

\* Name DITCH

\* Location file://\\Geoserve\Data\G4427YL\NB\_PW\Final GDB\NBgdb9test.gdb\NBgdb9test.gdb

\* Access protocol Local Area Network

\* Content type  Downloadable Data

[Extents ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EECBFNA)

Extent

Geographic extent

Bounding rectangle

Extent type  Extent used for searching

\* West longitude -98.154175

\* East longitude -98.123948

\* North latitude 29.700421

\* South latitude 29.690846

\* Extent contains the resource Yes

Extent in the item's coordinate system

\* West longitude 2237042.124853

\* East longitude 2246613.658531

\* South latitude 13799775.760855

\* North latitude 13803187.359675

\* Extent contains the resource Yes

[Resource Constraints ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0ECMA)

Constraints

Limitations of use

Only accepts polyline shapes. Ditches are defined according to New Braunfels standards.

[Spatial Reference ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EEAFNA)

ArcGIS coordinate system

\* Type Projected

\* Geographic coordinate reference GCS\_North\_American\_1983

\* Projection NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet

\* Coordinate reference details

Projected coordinate system

Well-known identifier 2278

X origin -126725700

Y origin -77828800

XY scale 3048.0060960121914

Z origin -100000

Z scale 10000

M origin -100000

M scale 10000

XY tolerance 0.0032808333333333335

Z tolerance 0.001

M tolerance 0.001

High precision true

Well-known text PROJCS["NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet",GEOGCS["GCS\_North\_American\_1983",DATUM["D\_North\_American\_1983",SPHEROID["GRS\_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert\_Conformal\_Conic"],PARAMETER["False\_Easting",1968500.0],PARAMETER["False\_Northing",13123333.33333333],PARAMETER["Central\_Meridian",-99.0],PARAMETER["Standard\_Parallel\_1",28.38333333333333],PARAMETER["Standard\_Parallel\_2",30.28333333333334],PARAMETER["Latitude\_Of\_Origin",27.83333333333333],UNIT["Foot\_US",0.3048006096012192],AUTHORITY["EPSG",2278]]

Reference system identifier

\* Value 2278

\* Codespace EPSG

\* Version 7.4.1

[Spatial Data Properties ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EAFA)

[Vector  ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EBAFA)

\* Level of topology for this dataset  geometry only

Geometric objects

Feature class name DITCH

\* Object type  composite

\* Object count 1

[ArcGIS Feature Class Properties  ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EA)

\* Feature type Simple

\* Geometry type Polyline

\* Has topology FALSE

\* Feature count 1

\* Spatial index TRUE

\* Linear referencing FALSE

[Distribution ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EJA)

[Distributor  ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EAAJA)

Contact information

Individual's name Melissa Reynolds

Organization's name City of New Braunfels

Contact's position Graudate Engineer

[Hide Distributor ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EAAJA)

Distribution format

\* Format name File Geodatabase Feature Class

[Fields and Subtypes ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EDA)

[Details for object DITCH ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EADA)

\* Type Feature Class

\* Row count 1

[Field OBJECTID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EQADA)

\* Alias OBJECTID

\* Data type OID

\* Width 4

\* Precision 0

\* Scale 0

\* Field description

Internal feature number.

\* Description source

ESRI

\* Description of values Sequential unique whole numbers that are automatically generated.

[Field SHAPE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EPADA)

\* Alias SHAPE

\* Data type Geometry

\* Width 0

\* Precision 0

\* Scale 0

\* Field description

Feature geometry.

\* Description source

ESRI

\* Description of values Coordinates defining the features.

[Field FEATURE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EOADA)

\* Alias FEATURE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Hide Field FEATURE ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EOADA)

[Field ID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0ENADA)

\* Alias ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field LONG\_1 ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EMADA)

\* Alias LONG\_1

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field LAT\_1 ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0ELADA)

\* Alias LAT\_1

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Hide Field LAT\_1 ▲](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0ELADA)

[Field LONG\_2 ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EKADA)

\* Alias LONG\_2

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field LAT\_2 ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EJADA)

\* Alias LAT\_2

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field ST\_SEGMENT\_ID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EIADA)

\* Alias ST\_SEGMENT\_ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field ST\_SIDE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EHADA)

\* Alias ST\_SIDE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field DATE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EGADA)

\* Alias DATE

\* Data type Date

\* Width 8

\* Precision 0

\* Scale 0

[Field CONDITION ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EFADA)

\* Alias CONDITION

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field DEPTH ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EEADA)

\* Alias DEPTH

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field WIDTH ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EDADA)

\* Alias WIDTH

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0  
  
[Field OFFSET ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0ECADA)

\* Alias OFFSET

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field TYPE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EBADA)

\* Alias TYPE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0  
  
[Field SHAPE\_Length ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0EAADA)

\* Alias SHAPE\_Length

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

\* Field description

Length of feature in internal units.

\* Description source

ESRI

\* Description of values Positive real numbers that are automatically generated.

[Metadata Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp363B.tmp.htm#ID0TAKNA)

\* Metadata language English (UNITED STATES)

\* Metadata character set  utf8 - 8 bit UCS Transfer Format

Scope of the data described by the metadata  \* dataset

Scope name  \* dataset

\* Last update 2012-04-27

ArcGIS metadata properties

Metadata format ArcGIS 1.0

Metadata style ISO 19139 Metadata Implementation Specification

Standard or profile used to edit metadata ISO19139

Created in ArcGIS 2012-04-27T13:00:51

Last modified in ArcGIS 2012-04-27T13:53:07

Automatic updates

Have been performed Yes

Last update 2012-04-27T13:53:07

Sidewalk:

Summary  
There is no summary for this item.

Description

The sidewalks feature class was created by GenIuS, Inc. to map and collection information about ditches in the City of New Braunfels.

Credits  
There are no credits for this item.

Use limitations  
Only accepts polyline shapes. Sidewalks are defined according to New Braunfels standards.

[ArcGIS Metadata ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#arcgisMetadata)

[Citation ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EFMA)

\* Title SIDEWALKS

Publication date 2012-04-27T00:00:00

Presentation formats  \* digital map

[Resource Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EEBFNA)

Dataset languages  \* English (UNITED STATES)

Dataset character set  utf8 - 8 bit UCS Transfer Format

Spatial representation type  \* vector

\* Processing environment Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.3.3600

ArcGIS item properties

\* Name SIDEWALKS

\* Location file://\\Geoserve\Data\G4427YL\NB\_PW\Final GDB\NBgdb9test.gdb\NBgdb9test.gdb

\* Access protocol Local Area Network

\* Content type  Downloadable Data

[Extents ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EECBFNA)

Extent

Geographic extent

Bounding rectangle

Extent type  Extent used for searching

\* West longitude -98.162785

\* East longitude -98.126726

\* North latitude 29.718134

\* South latitude 29.692087

\* Extent contains the resource Yes

Extent in the item's coordinate system

\* West longitude 2234305.337019

\* East longitude 2245683.759473

\* South latitude 13800220.082145

\* North latitude 13809608.853065

\* Extent contains the resource Yes

[Resource Constraints ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EBMA)

Constraints

Limitations of use

Only accepts polyline shapes. Sidewalks are defined according to New Braunfels standards.

[Spatial Reference ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EEAFNA)

ArcGIS coordinate system

\* Type Projected

\* Geographic coordinate reference GCS\_North\_American\_1983

\* Projection NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet

\* Coordinate reference details

Projected coordinate system

Well-known identifier 2278

X origin -126725700

Y origin -77828800

XY scale 3048.0060960121914

Z origin -100000

Z scale 10000

M origin -100000

M scale 10000

XY tolerance 0.0032808333333333335

Z tolerance 0.001

M tolerance 0.001

High precision true

Well-known text PROJCS["NAD\_1983\_StatePlane\_Texas\_South\_Central\_FIPS\_4204\_Feet",GEOGCS["GCS\_North\_American\_1983",DATUM["D\_North\_American\_1983",SPHEROID["GRS\_1980",6378137.0,298.257222101]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert\_Conformal\_Conic"],PARAMETER["False\_Easting",1968500.0],PARAMETER["False\_Northing",13123333.33333333],PARAMETER["Central\_Meridian",-99.0],PARAMETER["Standard\_Parallel\_1",28.38333333333333],PARAMETER["Standard\_Parallel\_2",30.28333333333334],PARAMETER["Latitude\_Of\_Origin",27.83333333333333],UNIT["Foot\_US",0.3048006096012192],AUTHORITY["EPSG",2278]]

Reference system identifier

\* Value 2278

\* Codespace EPSG

\* Version 7.4.1

[Spatial Data Properties ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EAFA)

[Vector  ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EBAFA)

\* Level of topology for this dataset  geometry only

Geometric objects

Feature class name SIDEWALKS

\* Object type  composite

\* Object count 1

[ArcGIS Feature Class Properties  ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EA)

\* Feature type Simple

\* Geometry type Polyline

\* Has topology FALSE

\* Feature count 1

\* Spatial index TRUE

\* Linear referencing FALSE

[Distribution ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EJA)

[Distributor  ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EAAJA)

Contact information

Individual's name Melissa Reynolds

Organization's name City of New Braunfels

Contact's position Graudate Engineer

Distribution format

\* Format name File Geodatabase Feature Class

[Fields and Subtypes ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EDA)

[Details for object SIDEWALKS ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EADA)

\* Type Feature Class

\* Row count 1

[Field OBJECTID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EPADA)

\* Alias OBJECTID

\* Data type OID

\* Width 4

\* Precision 0

\* Scale 0

\* Field description

Internal feature number.

\* Description source

ESRI

\* Description of values Sequential unique whole numbers that are automatically generated.

[Field SHAPE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EOADA)

\* Alias SHAPE

\* Data type Geometry

\* Width 0

\* Precision 0

\* Scale 0

\* Field description

Feature geometry.

\* Description source

ESRI

\* Description of values Coordinates defining the features.

[Field FEATURE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0ENADA)

\* Alias FEATURE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field ID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EMADA)

\* Alias ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field LONG\_1 ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0ELADA)

\* Alias LONG\_1

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field LAT\_1 ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EKADA)

\* Alias LAT\_1

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field LONG\_2 ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EJADA)

\* Alias LONG\_2

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field LAT\_2 ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EIADA)

\* Alias LAT\_2

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

[Field ST\_SEGMENT\_ID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EHADA)

\* Alias ST\_SEGMENT\_ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field ST\_SIDE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EGADA)

\* Alias ST\_SIDE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field BUILD\_DATE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EFADA)

\* Alias BUILD\_DATE

\* Data type Date

\* Width 8

\* Precision 0

\* Scale 0

[Field CONDITION ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EEADA)

\* Alias CONDITION

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field WIDTH ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EDADA)

\* Alias WIDTH

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field OFFSET ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0ECADA)

\* Alias OFFSET

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field TYPE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EBADA)

\* Alias TYPE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field SHAPE\_Length ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0EAADA)

\* Alias SHAPE\_Length

\* Data type Double

\* Width 8

\* Precision 0

\* Scale 0

\* Field description

Length of feature in internal units.

\* Description source

ESRI

\* Description of values Positive real numbers that are automatically generated.

[Metadata Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp566F.tmp.htm#ID0TAKNA)

\* Metadata language English (UNITED STATES)

\* Metadata character set  utf8 - 8 bit UCS Transfer Format

Scope of the data described by the metadata  \* dataset

Scope name  \* dataset

\* Last update 2012-04-27

ArcGIS metadata properties

Metadata format ArcGIS 1.0

Metadata style FGDC CSDGM Metadata

Standard or profile used to edit metadata ISO19139

Created in ArcGIS 2012-04-25T11:37:07

Last modified in ArcGIS 2012-04-27T13:46:42

Automatic updates

Have been performed Yes

Last update 2012-04-27T13:46:42

Relationship Tables

Field Notes:

Description

The notes table is a relationship table used to add general notes about any feature class of the geodatabase.

[ArcGIS Metadata ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#arcgisMetadata)

[Citation ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0EDHA)

\* Title NOTES

Publication date 2012-04-29T00:00:00

Presentation formats  \* digital table

[Resource Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0EDAFIA)

Dataset languages  \* English (UNITED STATES)

Dataset character set  utf8 - 8 bit UCS Transfer Format

Spatial representation type  \* text table

\* Processing environment Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.3.3600

ArcGIS item properties

\* Name NOTES

\* Location file://\\Geoserve\Data\G4427YL\NB\_PW\Final GDB\NBgdb9test.gdb\NBgdb9test.gdb

\* Access protocol Local Area Network

\* Content type  Downloadable Data

[Distribution ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0EEA)

Distribution format

\* Format name File Geodatabase Table

[Fields and Subtypes ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0EBA)

[Details for object NOTES ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0EABA)

\* Type Table

\* Row count 0

[Field OBJECTID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0EEABA)

\* Alias OBJECTID

\* Data type OID

\* Width 4

\* Precision 0

\* Scale 0

\* Field description

Internal feature number.

\* Description source

ESRI

\* Description of values Sequential unique whole numbers that are automatically generated.

[Field FEATURE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0EDABA)

\* Alias FEATURE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field ID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0ECABA)

\* Alias ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field DATE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0EBABA)

\* Alias DATE

\* Data type Date

\* Width 8

\* Precision 0

\* Scale 0

[Field NOTES ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0EAABA)

\* Alias NOTES

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Metadata Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmp90E9.tmp.htm#ID0TAKIA)

\* Metadata language English (UNITED STATES)

\* Metadata character set  utf8 - 8 bit UCS Transfer Format

Scope of the data described by the metadata  \* non-geographic dataset

Scope name  \* dataset

\* Last update 2012-04-29

ArcGIS metadata properties

Metadata format ArcGIS 1.0

Metadata style ISO 19139 Metadata Implementation Specification

Standard or profile used to edit metadata ISO19139

Created in ArcGIS 2012-04-29T14:46:35

Last modified in ArcGIS 2012-04-29T14:48:17

Automatic updates

Have been performed Yes

Last update 2012-04-29T14:48:17

Maintenance Notes:

Description

The maintenance notes table is a relationship table used to add maintenance notes about any feature class of the geodatabase.

[ArcGIS Metadata ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#arcgisMetadata)

[Citation ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EDJA)

\* Title MAINTENANCE\_NOTES

Publication date 2012-04-29T00:00:00

Presentation formats  \* digital table

[Resource Details ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EDAFKA)

Dataset languages  \* English (UNITED STATES)

Dataset character set  utf8 - 8 bit UCS Transfer Format

Spatial representation type  \* text table

\* Processing environment Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; ESRI ArcGIS 10.0.3.3600

ArcGIS item properties

\* Name MAINTENANCE\_NOTES

\* Location file://\\Geoserve\Data\G4427YL\NB\_PW\Final GDB\NBgdb9test.gdb\NBgdb9test.gdb

\* Access protocol Local Area Network

\* Content type  Downloadable Data

[Fields and Subtypes ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EDA)

[Details for object MAINTENANCE\_NOTES ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EADA)

\* Type Table

\* Row count 3

[Field OBJECTID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EGADA)

\* Alias OBJECTID

\* Data type OID

\* Width 4

\* Precision 0

\* Scale 0

\* Field description

Internal feature number.

\* Description source

ESRI

\* Description of values Sequential unique whole numbers that are automatically generated.

[Field FEATURE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EFADA)

\* Alias ID

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field ID ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EEADA)

\* Alias ID

\* Data type Integer

\* Width 4

\* Precision 0

\* Scale 0

[Field DATE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EDADA)

\* Alias DATE

\* Data type Date

\* Width 8

\* Precision 0

\* Scale 0

[Field MAINT\_TYPE ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0ECADA)

\* Alias MAINT\_TYPE

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field MAINT\_BY ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EBADA)

\* Alias MAINT\_BY

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Field MAINT\_NOTES ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EAADA)

\* Alias MAINT\_NOTES

\* Data type String

\* Width 50

\* Precision 0

\* Scale 0

[Metadata Contacts ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EBA)

Metadata contact

Individual's name Samuel Ortega

Organization's name GenIuS, Inc.

Contact's position Student

[Contact information  ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EABA)

Address

Type

e-mail address [so1094@txstate.edu](mailto:so1094@txstate.edu?subject=MAINTENANCE_NOTES)

Metadata contact

Individual's name Scott Christensen

Organization's name GenIuS, Inc.

Contact's position Student

[Contact information  ▼►](file:///C:\Users\so1094\AppData\Local\Temp\tmpA5A8.tmp.htm#ID0EAAA)

Address

Type

e-mail address [scottc55@gmail.com](mailto:scottc55@gmail.com?subject=MAINTENANCE_NOTES)

**APPENDIX II: Contributions of Each Team Member**

*Scott Christensen – Project Manager, GIS Analyst*

Throughout the project I worked with the team on brainstorming and generating ideas for the geodatabase and how we should meet the client’s needs stated in the RFP. We met with the clients in New Braunfels twice and I was in charge of creating an agenda for the meetings as well as led the meetings. I created the initial design on ArcMap for the geodatabase; creating the feature class, table, and relationship classes. I showed the group how to make the feature classes in ArcMap and relate them to the tables; I also showed them how to create the subtype domains and apply them to the attributes in the feature class they created. I attended two of the data collection meetings in New Braunfels and helped the group collect data for the functionality test of the geodatabase.

My management duties were mainly to keep the team focused and on track with the completion of deliverables and the overall project. For each of the deliverables I split up the sections to team members to write and then create PowerPoint slides for their section. I sent emails to the group reminding them of important due dates and set deadlines for individual parts of deliverables. When the group reached an unclear section in the progress of the project, I met or arranged meetings with Dr. Lu and Ryan to clear things up.

For the written deliverables, which include the project proposal, progress report, and final report, I was responsible for writing and presenting the methodology section. I also was in charge of creating the entire PowerPoint slides and formatting them for each of the three presentations.

Additionally, I assisted Jackie with the website and hosted it throughout the semester on my personal web space. I also worked with Jackie to create the Manifold map and export that to the web site as well. I was in charge of creating the comprehensive CD for the final deliverables as well.

*Bradly Dillashaw – Assistant Project Manager, Point of Contact, GIS Analyst*

Throughout the project I had various tasks. I had managerial obligations, contact responsibilities, and analyst duties to fulfill. My managerial duties included coordinating with Scott, the team manager, and the rest of the team regarding all matters of the project. Often this updating team member on what they might have missed in case of an absence. I would keep everyone informed regarding the progress of the project, and discussed with Scott what tasked were needed.

As point of contact I scheduled meetings with the client and confirmed each meeting with Dr. Lu. I also reminded the team of each meeting and its time and location. During data collection, I scheduled each field meeting with the client, established the time with Dr. Lu, and notified each team member. I also stayed in constant contact with the client and informed the team about each communication between myself and the team. Any communication between the team and the client went through me in order to prevent confusion.

As GIS analyst I had multiple tasks throughout the project. When the project originally included access it was my job to research access and then created the access database using the individual feature classes the members created. I was responsible for creating the Inlet-Drain and Curb Cut feature class. While Access was not used in this project the feature classes remained the same for the Geodatabase. I created the same feature classes for both versions of the Geodatabase.

As far as the meetings with the client, I scheduled each meeting and was unable to attend the first meeting in order to work on the budget and timeline needed for the project proposal. I also attended four of the five data collection days during the project.

During the course of the project our team had several written papers to complete. These papers included the project proposal, progress report, and final report and deliverables. As mentioned above, I completed the budget and timeline portion of the project proposal and presentation. For the progress report I wrote the timeline/schedule and the conclusion and the editor. For the final report I wrote the discussion and conclusion segments. I also was the creator of the poster for the final deliverables.

*Sam Ortega – GIS Analyst*

I contributed to the project by participating in all facets of the creation of the Geodatabase as well as the written reports necessary for the project. My contributions included designing the crosswalk feature class in the trial run of the Geodatabase. This includes adding the domains, subtypes, and fields necessary to build the crosswalk feature class. I also added test attributes through editor to verify that the integers, text, and other coded values worked as they were supposed to.

I also participated in all group meeting, including class and lab. The meetings included discussions with Dr. Lu and Ryan Schuermann concerning the progress of the Geodatabase, as well as both meetings with Melissa Reynolds and Sandy Dischinger from the City of New Braunfels Public Works Department.

When we found out the Geodatabase had to be created in ArcMap 9.3 format, I re-created the crosswalk feature class in that format, once again adding the domains, subtypes, and fields. I tested the attributes using the editor tool.

I did the majority of the writing of the progress report. This includes writing the schedule and the *Work Remaining* and *Work Completed* portions of the “Create Feature Classes” section, the “Data Collection” section, and the “Populate Geodatabase” section. I also contributed to editing the Progress Report, along with the rest of our team.

Data collection was also a major contribution. I was able to attend every meeting with Sandy Dischinger to test the Geodatabase via the Trimble and ArcPad. I learned how to run ArcPad on the Trimble by collection numerous curb cut points and sidewalk polylines along Mill Street, S. Castell Avenue, and W. San Antonio Street. I also measured the width of the ditch on Hill Avenue as well as the offset and width of sidewalks along Mill Street while Brad used the Trimble.

For the final deliverables, I created and edited the metadata as well as typing up the “Data” portion of the final report.

*Jacqueline Carrillo – Web Master, GIS Analyst*

In the project my specific role was being responsible for the project website. During the 3rd week of the project I started the development of the website. It started off by researching templates and the style. Brad brought up the idea of our group name as being GenIuS Inc. and then he started working on the logo. From this point I also assisted Brad in creating another logo I had in mind. After everyone agreed in using the logo I created we decided on that logo as a group with some edits and suggestions everyone put in. The logo then lead to the style and color scheme I aimed to use throughout the website.

Since some of my skills using Dreamweaver were limited Scott also assisted me with some of the technical questions I had. Our website had four tabs on the site at the beginning; Home, About us, Resources and Contact. I suggested for our group to have a page having both a picture and summary about us for our webpage that our clients could use for reference if necessary. During our final week of the project I and Scott were in charge of creating the mainifold for the project. So we collaborated on the task as Scott walked me through the process and then I wrapped up the color scheme. In addition we decided on having the mainifold as an active map on our website. Therefore, we changed our Contact tab to Webmap this is where our mainifold version of our project.

During our data collection process and having to meet with clients I was able to attend every meeting. I also assisted with the outline for the meeting with our clients and after I typed up my notes for those who were not able to attend. The first week we met our clients in New Braunfels Public Works that Friday I, Sam, and Brad completed a walk-through. The walk-through started from the Main Plaza in downtown New Braunfels and five blocks down West San Antonio Street this was within our client’s specifications. This walk-through was then used to help the group understand and decided on the extent of our scope as well as focus would take on.   
 Then, for our proposal I wrote the scope of our project. Next, I took our scope and created a map to present to our clients in our proposal for a visual aspect. Since me and Sam had some trouble downloading data from The City of New Braunfels website I used layers from another source. The layers I used were from the Capcog website for the New Braunfels area. The Map including an inset of showing the Comal County that New Braunfels falls within to help provide an additional aspect.

In the proposal I was in charge of describing and explaining our final deliverable to our clients. This was a list of everything we would deliver at the end and it was an opportunity where I discussed how our website. Since the production of the website was almost already we would launched our website early on Scott’s personal host. With the website being active our clients were then capable of being able to use the website as a reference for our work process. On our home page there was a section showing a list of task and their status as; Pending, In progress, or Completed with date. So each week I maintained the updates as much as possible. It got a little technical since it was on Scott’s local host which I didn’t have access to only during lab or when we met. But by Monday of each week I would update it.

For our progress report I was created a work flow showing our task and our progress/step we were. I also created a map showing the points we collected in Phase I of our pilot data collect. Both the map and work flow were used in the data collect description in the progress report. In addition, to creating the deliverables and the website updates as well as usage.

As for my contribution for the Geodatabase, I created one feature class and then created two feature classes when we had to create the Geodatabase in Arc 9.3 format to meet our client’s requirements. I also assisted in discussions for our process of the development and each task, which the entire group collaborated on. Finally, I created the summary for the Results in our final report that included shape art of our functionality.

*Kelly McGauhey – GIS Analyst*

Kelly McGauhey has functioned as support staff during the term of the project. She conducted the research for and wrote the literature review, as well as the project summary and purpose for the proposal. She compiled and edited the proposal, and wrote the summary and purpose slides for the presentation. During the methodology planning phase, Kelly researched methods for building a Geodatabase, including the differences between the types of Geodatabase and interfaces for data collection. She made recommendations to the group manager and assistant manager, and accepted management decisions. She collected three blocks of pilot data in New Braunfels with a Garmin GPS unit. Kelly built the curb and gutter feature and relevant domains for the ArcGIS 10 version of the Geodatabase, and built the domains for the curb cut feature in the ArcGIS 9.3 version of the Geodatabase. Kelly wrote the purpose and summary sections of the progress report, and contributed ideas and edits to the other sections as requested. She wrote the summary and purpose slides for the progress presentation. Kelly attended two data collection sessions in which she was able to learn how to use the New Braunfels’ Trimble unit from the in-house data collection tech. She wrote the manual for the final deliverables, and collaborated with Sam to write the metadata. She wrote the summary and purpose sections of the final paper, and the summary and purpose slides for the final presentation.

**APPENDIX III: Feature Class Tables**

*Point Feature Classes*

Curb Cuts:

|  |  |  |  |
| --- | --- | --- | --- |
| **Curb Cut** | | | |
| **Attribute Name** | **Field Type** | **Description** | **Data Input** |
| FEATURE | Text | Feature type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| ST\_SEGMENT\_ID | Long Integer | Street Segment Number (from Street Centerline data) | Input |
| ST\_SIDE | Text | Odd/Even | Drop-Down |
| BUILD\_DATE | Date | Date of Construction | Input |
| CONDITION | Text | Good/Fair/Poor | Drop-Down |
| TYPE | Text | Drainage/Access/Ramp/Slot Drain | Drop-Down |
| RAMP\_TYPE | Text | Ramp Type: See Ramp Type Classification Sheet | Drop-Down |
| ACCESS\_TYPE | Text | Public/Private | Drop-Down |
|  |  |  |  |
| Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| NOTES | Text | Notes | Input |
|  |  |  |  |
| Maintenance Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| MAINT\_TYPE | Text | Maintenance/Repair | Drop-Down |
| MAINT\_BY | Text | City of New Braunfels/Other (if other - specify in notes) | Drop-Down |
| MAINT\_NOTES | Text | Maintenance Notes | Input |

Inlet-Drain:

|  |  |  |  |
| --- | --- | --- | --- |
| **Inlet** | | | |
| **Attribute Name** | **Field Type** | **Description** | **Data Input** |
| FEATURE | Text | Feature type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| LONG | Double | Feature Longitude | Input |
| LAT | Double | Feature Latitude | Input |
| ST\_SEGMENT\_ID | Long Integer | Street Segment Number (from Street Centerline data) | Input |
| ST\_SIDE | Text | Odd/Even | Drop-Down |
| BUILD\_DATE | Date | Date of Construction | Input |
| CONDITION | Text | Good/Fair/Poor | Drop-Down |
| INLET\_HEIGHT | Long Integer | Inches | Input |
| INLET\_LENGTH | Long Integer | Inches | Input |
| DRAIN\_LENGTH | Long Integer | Inches | Input |
| DRAIN\_WIDTH | Long Integer | Inches | Input |
| DRAIN\_DEPTH | Long Integer | Inches | Input |
|  |  |  |  |
| Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| NOTES | Text | Notes | Input |
|  |  |  |  |
| Maintenance Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| MAINT\_TYPE | Text | Maintenance/Repair | Drop-Down |
| MAINT\_BY | Text | City of New Braunfels/Other (if other - specify in notes) | Drop-Down |
| MAINT\_NOTES | Text | Maintenance Notes | Input |

*Line Feature Classes*

Crosswalk:

|  |  |  |  |
| --- | --- | --- | --- |
| **CROSSWALK** | | | |
| **Attribute Name** | **Field Type** | **Description** | **Data Input** |
| FEATURE | Text | Feature type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| LONG\_1 | Double | Feature Longitude 1 | Input |
| LAT\_1 | Double | Feature Latitude 1 | Input |
| LONG\_2 | Double | Feature Longitude 2 | Input |
| LAT\_2 | Double | Feature Latitude 2 | Input |
| ST\_SEGMENT\_ID | Long Integer | Street Segment Number (from Street Centerline data) | Input |
| ST\_SIDE\_1 | Text | Odd/Even | Drop-Down |
| ST\_SIDE\_2 | Text | Odd/Even | Drop-Down |
| BUILD\_DATE | Date | Date of Construction | Input |
| CONDITION | Text | Good/Fair/Poor | Drop-Down |
| MARKING | Text | Paint/Thermal | Drop-Down |
| STRIPED | Long Integer | Number of Bars | Input |
| STOPBAR | Text | Yes/No | Drop-Down |
| SCHL\_ZONE | Text | Yes/No | Drop-Down |
|  |  |  |  |
| Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| NOTES | Text | Notes | Input |
|  |  |  |  |
| Maintenance Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| MAINT\_TYPE | Text | Maintenance/Repair | Drop-Down |
| MAINT\_BY | Text | City of New Braunfels/Other (if other - specify in notes) | Drop-Down |
| MAINT\_NOTES | Text | Maintenance Notes | Input |

Curb & Gutter:

|  |  |  |  |
| --- | --- | --- | --- |
| **Curb & Gutter** | | | |
| **Attribute Name** | **Field Type** | **Description** | **Data Input** |
| FEATURE | Text | Feature type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| LONG\_1 | Double | Feature Longitude 1 | Input |
| LAT\_1 | Double | Feature Latitude 1 | Input |
| LONG\_2 | Double | Feature Longitude 2 | Input |
| LAT\_2 | Double | Feature Latitude 2 | Input |
| ST\_SEGMENT\_ID | Long Integer | Street Segment Number (from Street Centerline data) | Input |
| ST\_SIDE | Text | Odd/Even | Drop-Down |
| BUILD\_DATE | Date | Date of Construction | Input |
| CONDITION | Text | Good/Fair/Poor | Drop-Down |
| CURB\_WIDTH | Long Integer | Inches | Input |
| GUTTER\_WIDTH | Long Integer | Inches | Input |
| GUTTER\_DEPTH | Long Integer | Inches | Input |
|  |  |  |  |
| Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| NOTES | Text | Notes | Input |
|  |  |  |  |
| Maintenance Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| MAINT\_TYPE | Text | Maintenance/Repair | Drop-Down |
| MAINT\_BY | Text | City of New Braunfels/Other (if other - specify in notes) | Drop-Down |
| MAINT\_NOTES | Text | Maintenance Notes | Input |

Ditch:

|  |  |  |  |
| --- | --- | --- | --- |
| **Ditch** | | | |
| **Attribute Name** | **Field Type** | **Description** | **Data Input** |
| FEATURE | Text | Feature type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| LONG\_1 | Double | Feature Longitude 1 | Input |
| LAT\_1 | Double | Feature Latitude 1 | Input |
| LONG\_2 | Double | Feature Longitude 2 | Input |
| LAT\_2 | Double | Feature Latitude 2 | Input |
| ST\_SEGMENT\_ID | Long Integer | Street Segment Number (from Street Centerline data) | Input |
| ST\_SIDE | Text | Odd/Even | Drop-Down |
| BUILD\_DATE | Date | Date of Construction | Input |
| CONDITION | Text | Good/Fair/Poor | Drop-Down |
| DEPTH | Long Integer | Inches | Input |
| WIDTH | Long Integer | Inches | Input |
| OFFSET | Long Integer | Inches | Input |
| TYPE | Text | Earthen/Concrete/Mix | Drop-Down |
|  |  |  |  |
| Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| NOTES | Text | Notes | Input |
|  |  |  |  |
| Maintenance Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| MAINT\_TYPE | Text | Maintenance/Repair | Drop-Down |
| MAINT\_BY | Text | City of New Braunfels/Other (if other - specify in notes) | Drop-Down |
| MAINT\_NOTES | Text | Maintenance Notes | Input |

Sidewalk:

|  |  |  |  |
| --- | --- | --- | --- |
| **Sidewalk** | | | |
| **Attribute Name** | **Field Type** | **Description** | **Data Input** |
| FEATURE | Text | Feature type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| LONG\_1 | Double | Feature Longitude 1 | Input |
| LAT\_1 | Double | Feature Latitude 1 | Input |
| LONG\_2 | Double | Feature Longitude 2 | Input |
| LAT\_2 | Double | Feature Latitude 2 | Input |
| ST\_SEGMENT\_ID | Long Integer | Street Segment Number (from Street Centerline data) | Input |
| ST\_SIDE | Text | Odd/Even | Drop-Down |
| BUILD\_DATE | Date | Date of Construction | Input |
| CONDITION | Text | Good/Fair/Poor | Drop-Down |
| WIDTH | Long Integer | Feet | Input |
| OFFSET | Long Integer | Feet | Input |
| TYPE | Text | Concrete/Asphalt/Crushed Granite/Brick/Other | Drop-Down |
|  |  | *\*if other - specify in notes* |  |
| Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| NOTES | Text | Notes | Input |
|  |  |  |  |
| Maintenance Notes: |  |  |  |
| FEATURE | Text | Feature Type | Drop-Down |
| ID | Long Integer | Feature ID | Input |
| DATE | Date | Date | Input |
| MAINT\_TYPE | Text | Maintenance/Repair | Drop-Down |
| MAINT\_BY | Text | City of New Braunfels/Other (if other - specify in notes) | Drop-Down |
| MAINT\_NOTES | Text | Maintenance Notes | Input |

**APPENDIX IV: Map of Data Collected**

