

ALBERTA MEADOWS

Stormwater Management and Open Space Plan

compiled by **buildingcommunity**WORKSHOP

Alberta Meadows Colonia Overview

Alberta Meadows is a 40 acre subdivision located southeast of the city of Edinburg in Hidalgo County, 0.30 Miles from the intersection of Alberta Rd. and Alamo Rd. It consists of 66 private residential lots, and 2 main roads that provide circulation within the Colonia.

To the North it is bordered by a large agricultural field, to the South it is bordered by Alberta Rd, agricultural fields, and additional subdivisions. To the East there are several residential subdivisions and the Hope Well Mall less than 0.5 miles (15min walk) away. And to the West it is bordered by a Trucks and Trailer Sale company.

The Colonia is located in FEMA designated zone "B" with a moderate flooding hazard and although it has existing drainage infrastructure, it has flooding challenges due to the lack of maintenance and the lack of an outfall to a larger system that can take the water out.

The existing drainage infrastructure consists of curbs and gutters along Raven Circle and Robin Ln, which direct stormwater runoff to detention ditches at the edges of the Colonia (Figure 2). According to the residents, these ditches are able to manage most of the water that falls in the colonia during regular rain events. However, the lack of routine maintenance has worsened the condition of several swales causing the streets and several lots to flood. According to the plat and model subdivision rules, residents are responsible for the maintenance of these ditches, and are not allowed to fill or block them with any structure. However, this may represent a challenge for residents that are not able to maintain them or don't understand the importance of providing proper maintenance. Additionally, the ditches run through several private lots that are abandoned or currently empty, which makes it difficult to apply responsibility for maintenance. As a result, the ditches get blocked and slowly fill in over time with excess vegetation and trash.

The community also struggles with a lack of proper areas for social interaction, lack of open spaces for enjoyment and leisure, and lack of safe walking areas for accessibility. Security is another major concern. Abandoned or empty lots lack proper maintenance, raising concerns over health and safety issues. Several residents reported that they have seen strangers in the

Figure 2: Alberta Meadows Plat

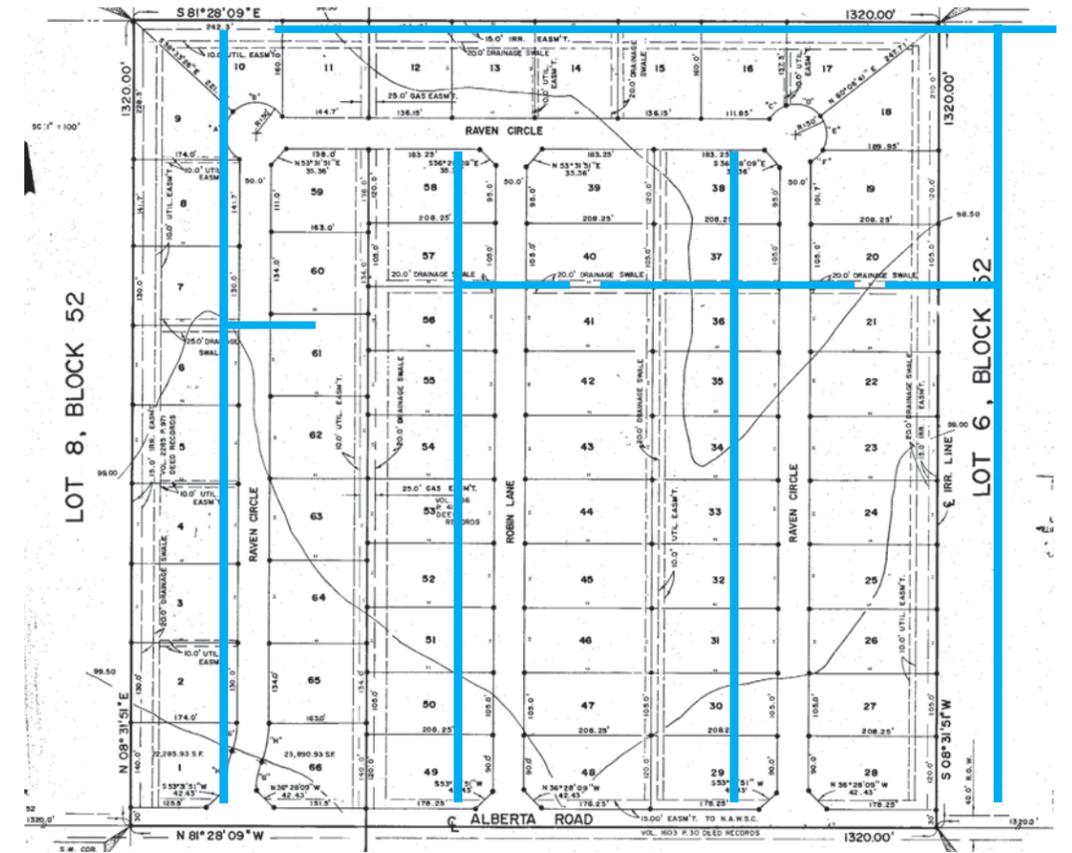


Figure 3: Alberta Meadows Aerial and Flood Extent



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

unattended agricultural fields surrounding the colonias, causing unrest in the neighborhood.

Despite these challenges, there are several opportunities to address these issues. Low Impact Development (LID) or soft/green engineering strategies can provide drainage and water quality improvements while increasing the volume of water the neighborhood can successfully contain after a rain event. These LID strategies would also provide the opportunity for new community amenities for the recreational enjoyment if larger undeveloped and unclaimed areas are used as parks that can hold water during rain events. This would increase the capacity to store and infiltrate water and also reduce the amount of unattended areas by providing places to play, walk, talk and gather.

Adding these amenities to the neighborhood would strengthen a sense of belonging and responsibility in the community. It would also serve as an example for education and learning throughout the valley. Once residents and property owners comprehend the importance of proper drainage infrastructure and its maintenance, they can participate in best practices and set a strong example for others.

The following page (foldout) presents a detailed view of the design process and a proposed plan that was developed with the collaboration of the colonia residents. It also contains several recommendations to be considered by the county and government officials for infrastructure and open space improvements in Alberta Meadows.



Figure 4: Although streets are well paved and have curb and gutter, they are prone to flood and sedimentation



Figure 5: View of the 55ft Gas and Drainage/Utility easement in the colonia which serves as an opportunity for a linear park.

Alberta Meadows Colonia Proposed Drainage and Open Space

The Alberta Meadows drainage and open space plan was developed through a series of design meetings with the residents of the colonia, organized by Arise. During the first meeting the residents explained the drainage challenges in the colonia, identified the areas most impacted by flooding, and several design ideas were discussed. After this meeting, 3 design options were developed and a second meeting was organized in order to prioritize them (see figure 2).

The first option takes advantage of the existing 50ft street right of way to create additional vegetated swales along the road, while adding a sidewalk for safe pedestrian access. Curb cuts would be made to the existing street curbs in order to allow for water to fill the proposed swales and be cleaned, filtered and absorbed into the ground. This would reduce the amount of water that enters the existing drainage ditches inside the property lots during regular rain events.

The second option proposes the use of the existing 45ft gas/drainage/utility easement as a linear park connecting the colonia from North to South towards Alberta Rd. and the acquisition of three empty lots along the easement. These empty lots allow for the creation of a large park that could be used as a retention area in case of larger rain events but would add a much needed gathering place for the community where people can interact in a safe manner.

The third option is similar to the second, however, it proposes to use the existing drainage easement that runs East-West of the colonia to provide a pedestrian connection to Hudson St East of the colonia. This would allow residents to walk to the Hope Well Mall and improve urban connectivity in the area.

Although incorporating the three options would be a challenge, they are included in the Master Plan prepared with the residents. This allows the community and county officials to compare, balance and ideally move forward with the most appropriate option(s). It also serves as an example of the multiple options available to address drainage and open space challenges in colonias.



Figure 6:
Community Meeting
on 7/30/2014



Figure 7:
Community Meeting
on 7/30/2014



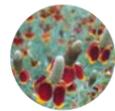
SITE PLAN
Figure 8



Texas bluebonnet
[*Lupinus texensis*]



Indian Blanket
[*Gaillardia pulchella*]



Mexican Hat
[*Ratibida columnifera*]



Sideoats Grama
[*Bouteloua curtipendula*]



Mexican Olive
[*Cordia boissieri*]



Pink Evening Primrose
[*Oenothera speciosa*]



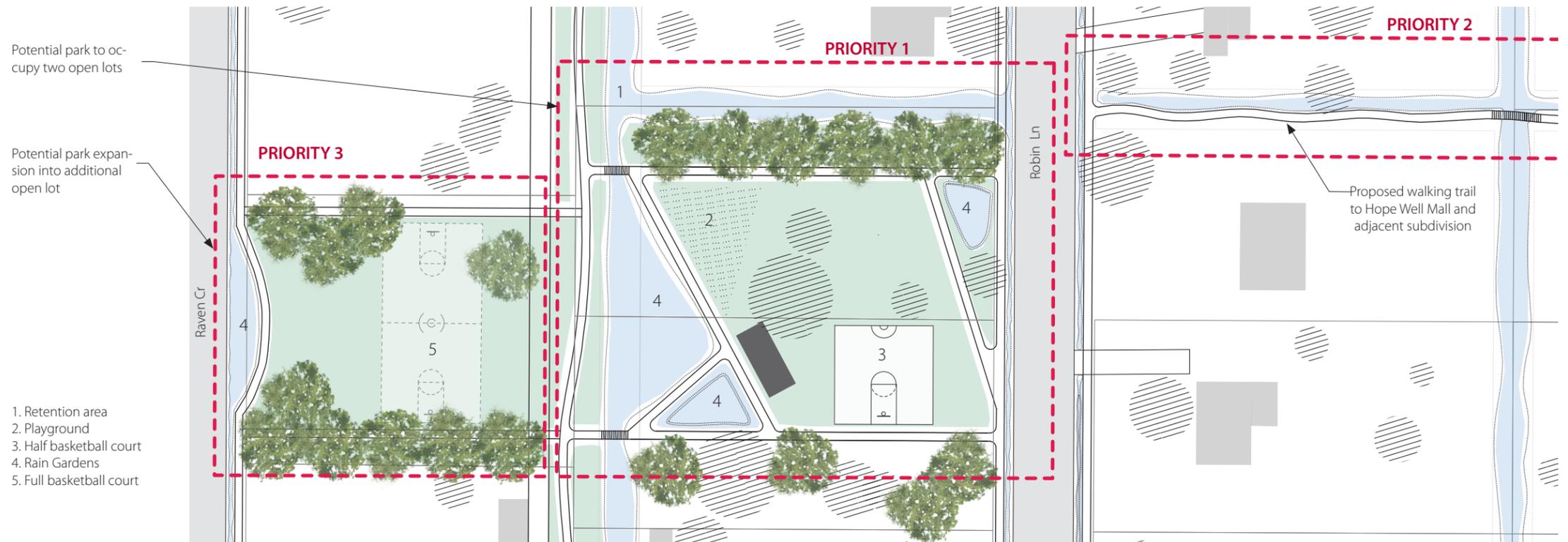
Gulf muhly
[*Muhlenbergia capillaris*]



Desert Willow
[*Chilopsis linearis*]

RECOMMENDED NATIVE PLANTS

Figure 11

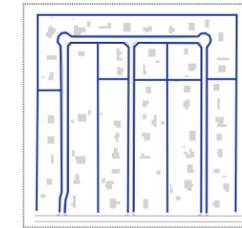


PROPOSED PARK / WATER RETENTION AREA

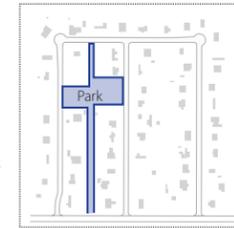
Figure 12

NEIGHBORHOOD SCALE DRAINAGE OPTIONS

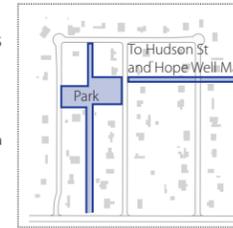
Figure 9



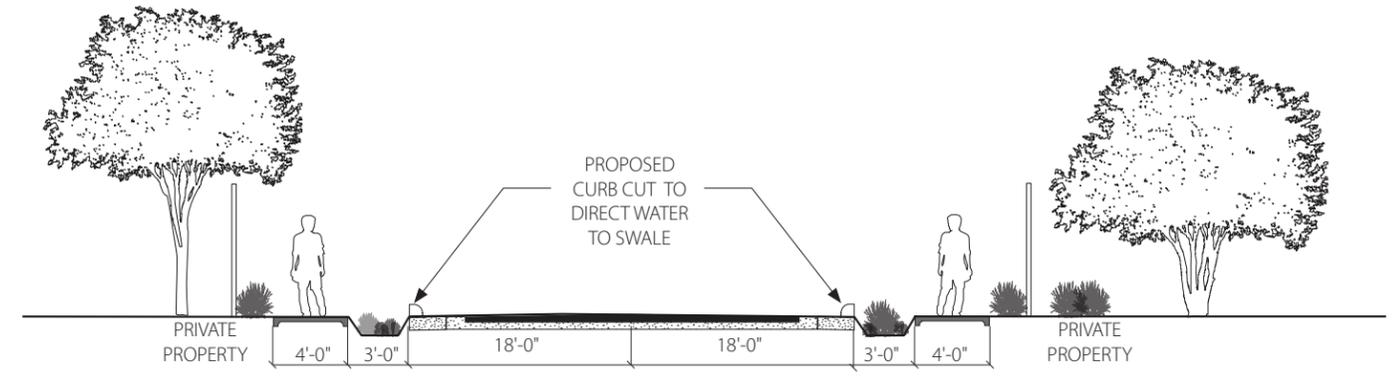
Option 1:
Sidewalk and easements
- Additional Volume Capacity of approximately 11,000 ft³
- Advantages: Provides safe walkway for residents, improves character of the street by the use of native flowers, trees and shrubs
- Disadvantages: Small space for a water catchment area limits flexibility



Option 2:
Easements and open lots
- Additional Volume Capacity of 99,430 ft³
- Advantages: Provides more volume capacity, adds a small park and amenities to the colonia and neighbor subdivisions, and increases usage of sub utilized easements



Option 3:
Making an urban connection
- Additional Volume Capacity of approximately 99,430 ft³
- Advantages: Safe pedestrian connection to Hudson St. and access to the Hope Well Mall



TYPICAL STREET SECTION

Figure 10

PARTNERS:



buildingcommunityWORKSHOP

609 E. 11th St., Brownsville, TX 78520

tel: 956 443 2211

email: inform@bcworkshop.org

website: www.bcworkshop.org



C.D.C. Brownsville

901 E. Levee St., Brownsville, TX 78520

tel: 956 541 4955

email: info@cddb.org

website www.cddb.org



LA UNION DEL PUEBLO ENTERO

P.O. Box 188, San Juan, TX 78589

tel: 956 787 2233

facebook: [Facebook.com/lupergv](https://www.facebook.com/lupergv)

website: www.lupenet.org



A Resource in Serving Equality

P.O. Box 778, Alamo, TX 78516

tel: 956 783 6959

email: arisesotex@arisesotex.org

website: <http://www.arisesotex.org>



Gas Easement

Planted retention area for stormwater

Recreation / maintenance trail