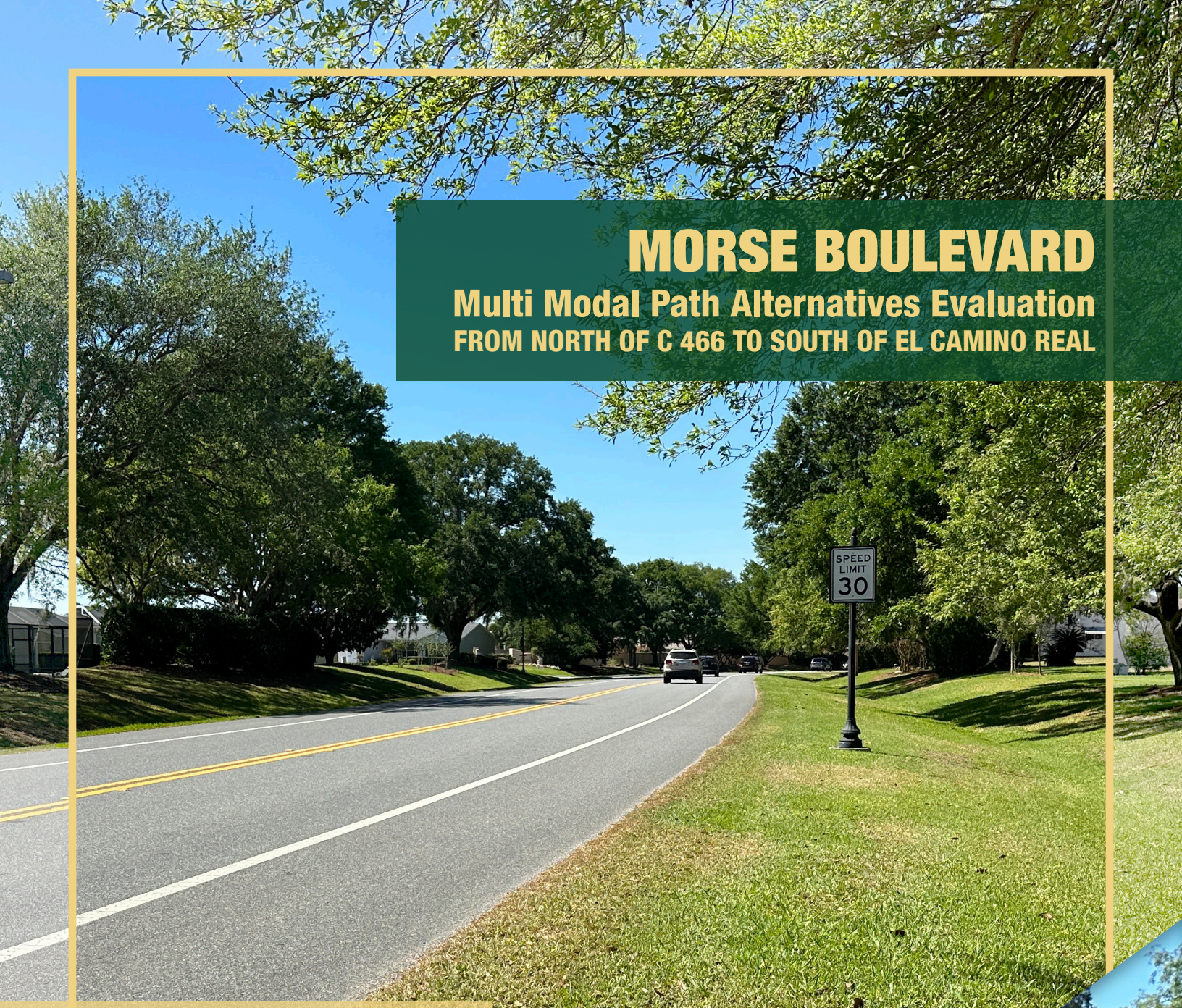
MORSE BOULEVARD

Multi Modal Path Alternatives Evaluation

FROM NORTH OF C 466 TO SOUTH OF EL CAMINO REAL



Prepared for:

The Villages

VILLAGES COMMUNITY DEVELOPMENT DISTRICT 1

Prepared by:

Kimley»Horn

KIMLEY-HORN AND ASSOCIATES, INC.

Date:

JULY 2023

Project Number:

142202062

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Introduction

The Villages Community Development District 1 (VCDD 1) has requested an alternatives evaluation to identify options for separation of the existing multi-modal path on Morse Boulevard from the vehicular travel lanes. The project limits are from south of El Camino Real/Paige Place to north of C 466, for a total project length of approximately 2.8 miles.

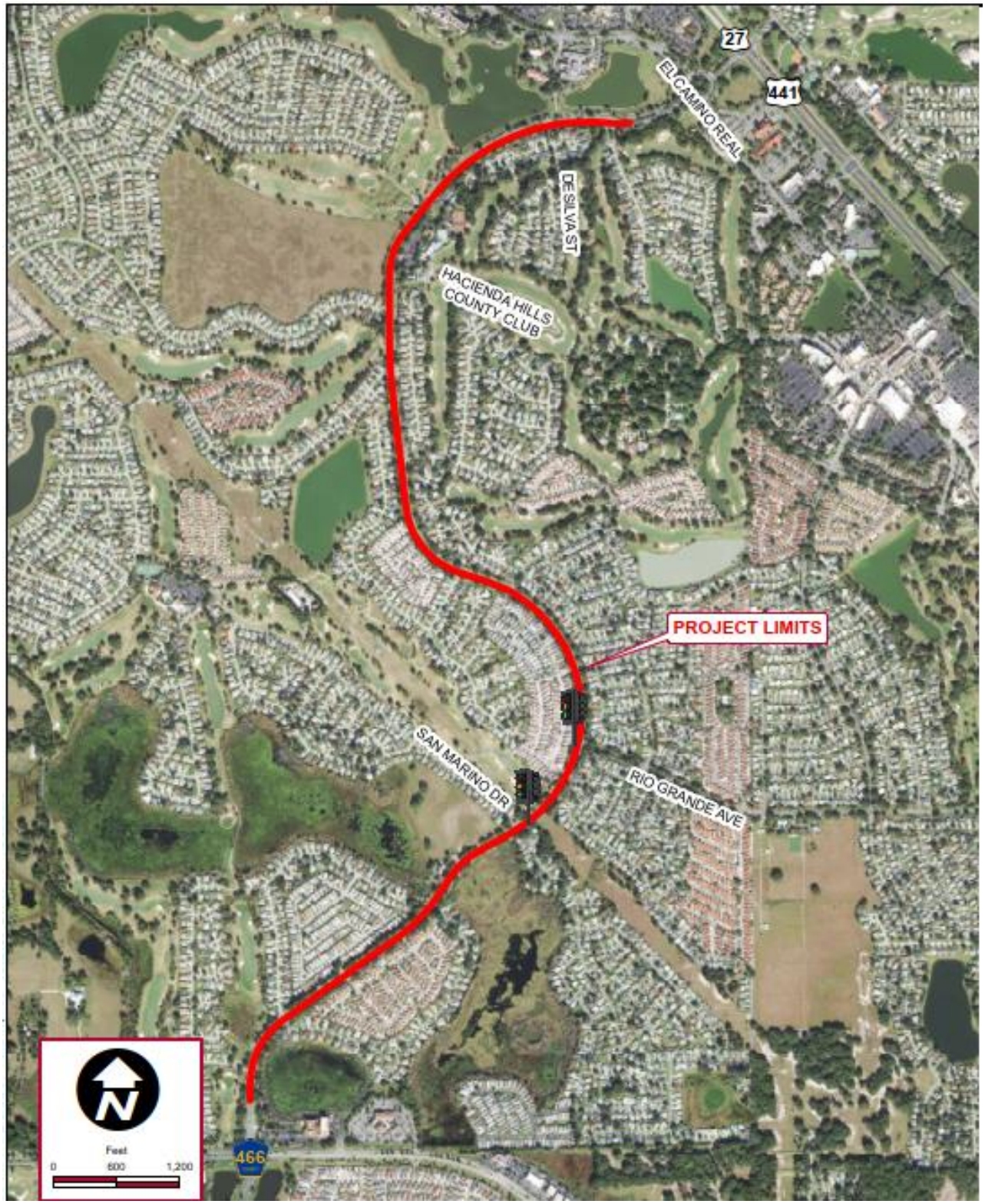
This study includes the following elements:

1. Review of existing conditions and prior studies
2. Development of alternative typical sections, intersection treatments, and preliminary concept plans
3. Review of potential environmental impacts
4. Review of potential drainage and permitting impacts
5. Review of potential utility impacts
6. Development of preliminary cost estimates
7. Evaluation of two build alternatives and a no-build alternative
8. Local agency engagement and public involvement

This evaluation is being provided for consideration by the Villages Community Development District 1 Board.

Figure 1 illustrates the project area.

Figure 1 - Project Location Map



Overview

Two potential alternatives have been developed for providing a multi-modal path separate from the vehicular travel lanes on Morse Boulevard. This segment of Morse Boulevard has been in operation for over 30 years. Various improvements have been made to the corridor over time including widening the golf cart/bicycle lanes, constructing turn lanes, constructing traffic signals, and constructing sections of off-street multi-modal paths.

Both alternatives would require significant cost. Both alternatives will have negative impacts including significant change in character along the roadway due to removal of existing mature landscaping; placing golf carts, bicyclists, and pedestrians closer to private properties; additional travel delay for golf carts due to stops for roadway crossings; impacts to delay and queueing on at Rio Grande Ave due to adding a west leg for golf carts; impacts to the travelling public during construction; potential confusion for golf carts on allowable movements and travel on Morse Boulevard; and inconsistency with other similar roadways in The Villages within Sumter County.

Morse Boulevard is owned and maintained by Sumter County. Review and approval by Sumter County will be required for both alternatives. Sumter County does not have plans for modification to Morse Boulevard and will not contribute funds towards modification of the MMTP design. Improvements will also be required within the VCDD 1 tracts adjacent to the road right-of-way and approvals will be needed from appropriate parties, including The Villages Development Review Committee, for changes within those tracts.

Existing Conditions

Morse Boulevard is a two-lane undivided roadway with a 30-mph posted speed limit from C 466 to Desilva Street just south of El Camino Real. There is a shared golf cart and bicycle lane adjacent to the travel lane in both directions. The travel lanes are 11 feet wide, and the golf cart/bicycle lanes are 7 feet wide. There is a drainage swale on each side of the roadway to collect and convey stormwater runoff to permitted off-site drainage retention areas.

Photograph 1 - Morse Boulevard existing roadway conditions

Photograph 2 - Morse Boulevard existing roadway conditions

From Desilva Street to El Camino Real, the roadway widens to four lanes with a divided landscaped median. There is a 7-foot golf cart/bicycle lane adjacent to the outside travel lane in both directions.

The roadway right-of-way is 80 feet in width. The roadway right-of-way is owned and maintained by Sumter County. There is a 20-foot-wide Villages Community Development District 1 tract located on each side of the roadway that includes landscaping berms and utilities.

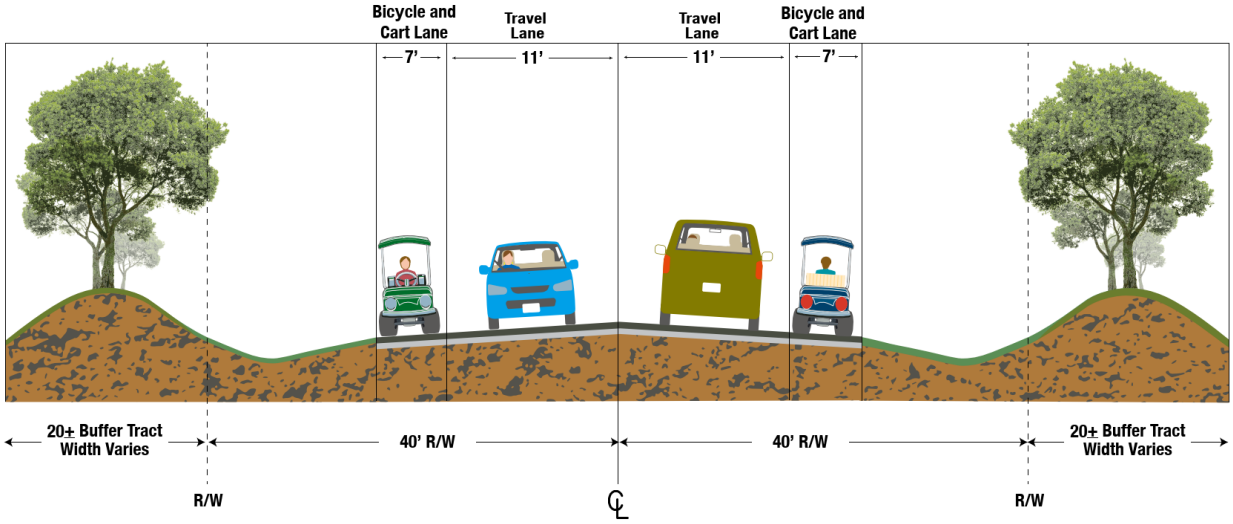
Figure 2 illustrates the existing typical section along Morse Boulevard.

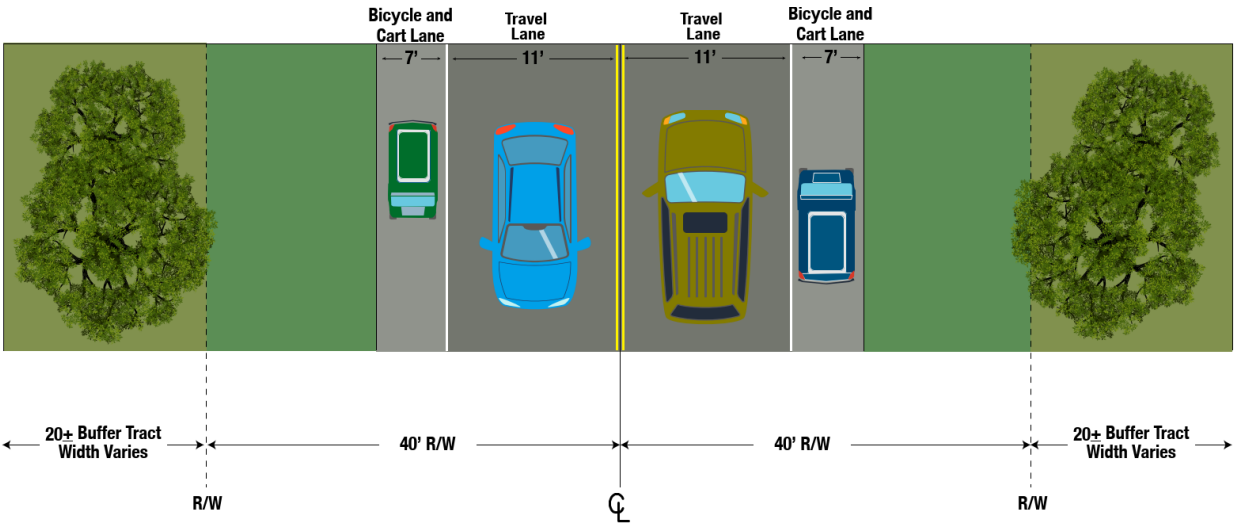
There is a gate located at the south end of the project area, north of C 466. Southbound carts are required to cross vehicular traffic to access the off-street multi-modal path located on the east side of the roadway just north of C 466.

There are two signalized intersections within the corridor: Morse Boulevard at San Marino Drive and Morse Boulevard at Rio Grande Avenue. San Marino Drive is a four-leg intersection. Rio Grande Avenue is a three-leg intersection, with no west leg. There are left-turn lanes on Morse Boulevard at both signalized intersections. There is also a northbound right-turn lane on Morse Boulevard at Rio Grande Avenue.

Photograph 3 - Signalized intersection of Morse Boulevard at Rio Grande Avenue

Figure 2 - Existing Typical Section of Morse Boulevard, north of C 466





Photograph 4 - Signalized intersection of Morse Boulevard at San Marino Drive

Golf carts and bicyclists along Morse Boulevard travel to and from the cross-streets by merging with vehicular traffic prior to making left-turn movements. Golf carts and bicyclists on the side streets share the roadway with vehicular traffic. Golf carts cross Morse Boulevard to and from the side streets within the vehicular travel lanes.

There is a dedicated multi-modal path on the west side of Morse Boulevard, outside of the roadway right-of-way in a Villages Community Development District 1 tract, from El Camino Real to the Hacienda Hills Golf and Country Club. The multi-modal path crosses under Morse Boulevard at this location in a tunnel. There is a dedicated multi-modal path on the east side of Morse Boulevard, outside of the roadway right-of-way in a Villages Community Development District 1 tract, from the Hacienda Hills Golf and Country Club to Soledad Way.

There is a crossing of Morse Boulevard for golf carts and bicyclists from the multi-modal path to Desilva Street. There is also a crossing of Morse Boulevard south of Madero Drive for the golf course.

Photograph 5 - Marked golf cart crossing of Morse Boulevard

At the south end of the corridor, southbound golf cart traffic is merged with vehicular traffic and then required to enter a designated bicycle and golf cart turn lane in the median. The golf carts and bicyclists turn across northbound traffic on Morse Boulevard as they exit the gate to access the MMTP on the east side of Morse Boulevard and continue south. The golf cart merge and crossing treatment was installed as part of the resurfacing project performed by Sumter County in 2009.

Photograph 6 - Marked golf cart crossing of Morse Boulevard at the C 466 gate

Existing Traffic Patterns

Sumter County collects annual traffic counts along County maintained roadways. The five-year traffic trends along Morse Boulevard show a daily traffic volume of approximately 11,000 vehicles per day south of El Camino Real and approximately 20,000 vehicles per day north of C 466. The recorded traffic volumes are relatively consistent with no growth between years 2017 and 2020. The recorded traffic volumes in year 2022 showed a decrease in traffic over the prior years. Traffic volumes recorded in 2023 were consistent with the 2017 to 2020 recorded volumes.

The peak travel periods of the day are between 11:00 AM and 3:00 PM. Sumter County recorded golf cart volumes along Morse Boulevard between the years of 2017 and 2020, which showed between 2,000 and 2,200 golf carts per day in addition to the automobile traffic volumes.

Table 1 - Traffic Volumes on Morse Boulevard

Location	2017 Auto Volume	2023 Auto Volume	2020 Golf Cart Volume
South of El Camino Real	12,551 vpd	11,329 vpd	n/a
North of C 466	19,506 vpd	16,966 vpd (2022)	2,040 vpd

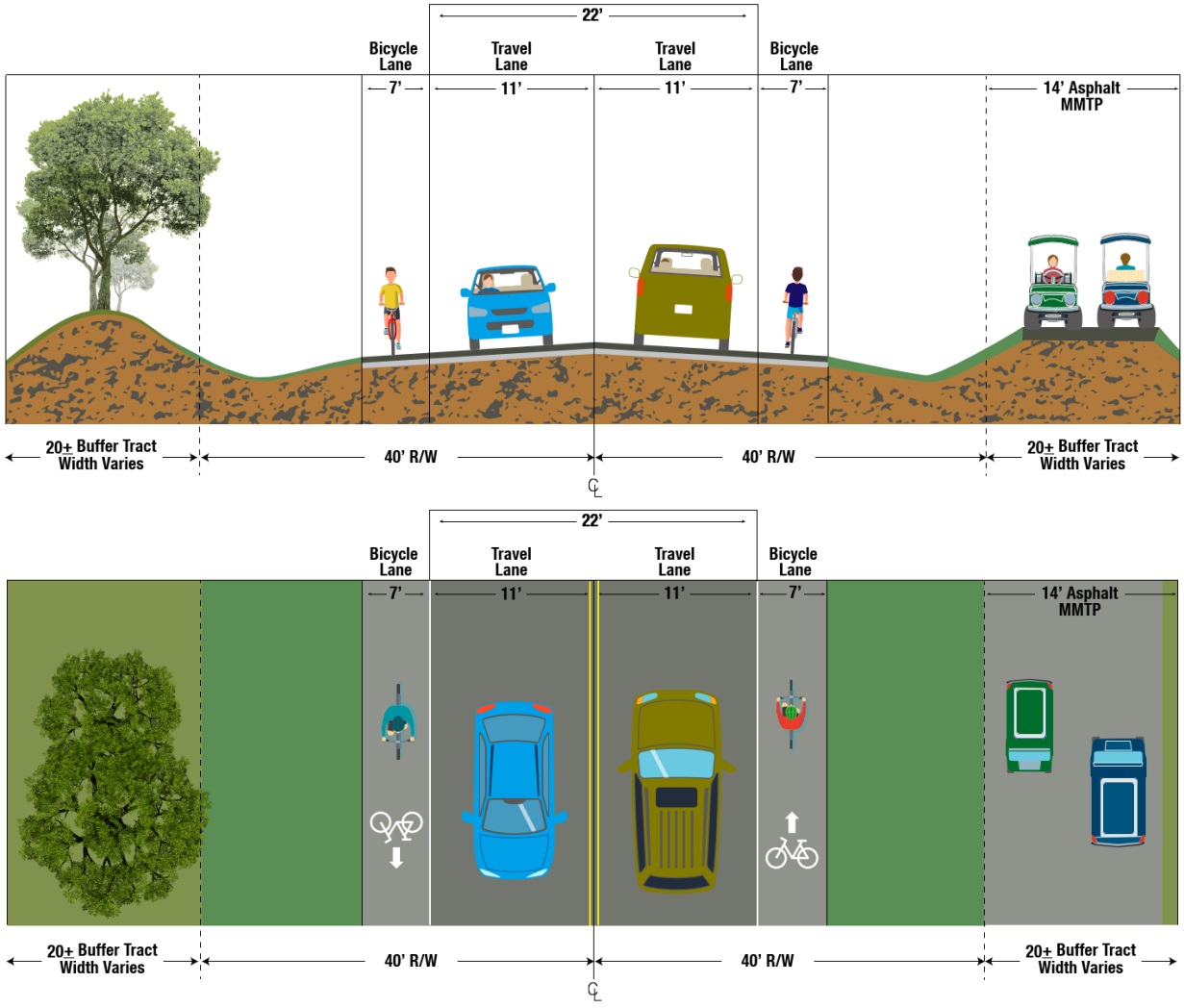
Alternatives Development

Two alternative typical sections were developed to provide for separated multi-modal path lanes from the vehicular traffic lanes on Morse Boulevard. The two typical section alternatives are discussed in more detail below.

Alternative 1

Alternative 1 consists of constructing a 14-foot multi-modal transportation path (MMTP) within the 20-foot VCDD 1 owned tract. The MMTP would include a 13-foot wide asphalt surface bordered by a 6-inch concrete ribbon curb on either side. This design is consistent with the MMTP section located along Morse Boulevard north of Soledad Way. In this alternative the existing golf cart/bicycle lane would be restriped, and new signs would be posted to be a bicycle lane only. Golf carts would no longer be allowed to travel in these lanes. ***Figure 3*** illustrates the Alternative 1 typical section.

Figure 3 - Alternative 1 Typical Section of Morse Boulevard, north of C 466



The proposed MMTP switches sides of the roadway within the project limits. The location of the MMTP (east side or west side) was selected based on the following:

- Existing conditions of the VCDD 1 owned buffer tracts
- Location of existing walls separating private residential properties from the VCDD 1 owned tract. Where neighborhood walls exist the MMTP was located adjacent to those properties since additional buffering is present.
- Number of roadway crossings needed to facilitate travel through the corridor
- Ability to provide access from the MMTP to adjacent roadway networks and neighborhoods
- Configuration of roadway intersections and interaction with golf cart traffic from the MMTP
- Connection to existing MMTP north and south of the project area

Two mid-block crossings will be created at locations where the MMTP shifts from one side of the roadway to the other; one crossing between Soledad Way and Medina Avenue and one crossing south of San Marino Drive and north of the postal center. The crossing at Soledad Way is not expected to have a significant volume of golf cart traffic. Standard crosswalk marking and signage is recommended at this location. The crossing south of San Marino Drive will have a significant volume of golf carts. Special emphasis signing and marking is recommended at this location, as detailed in subsequent sections.

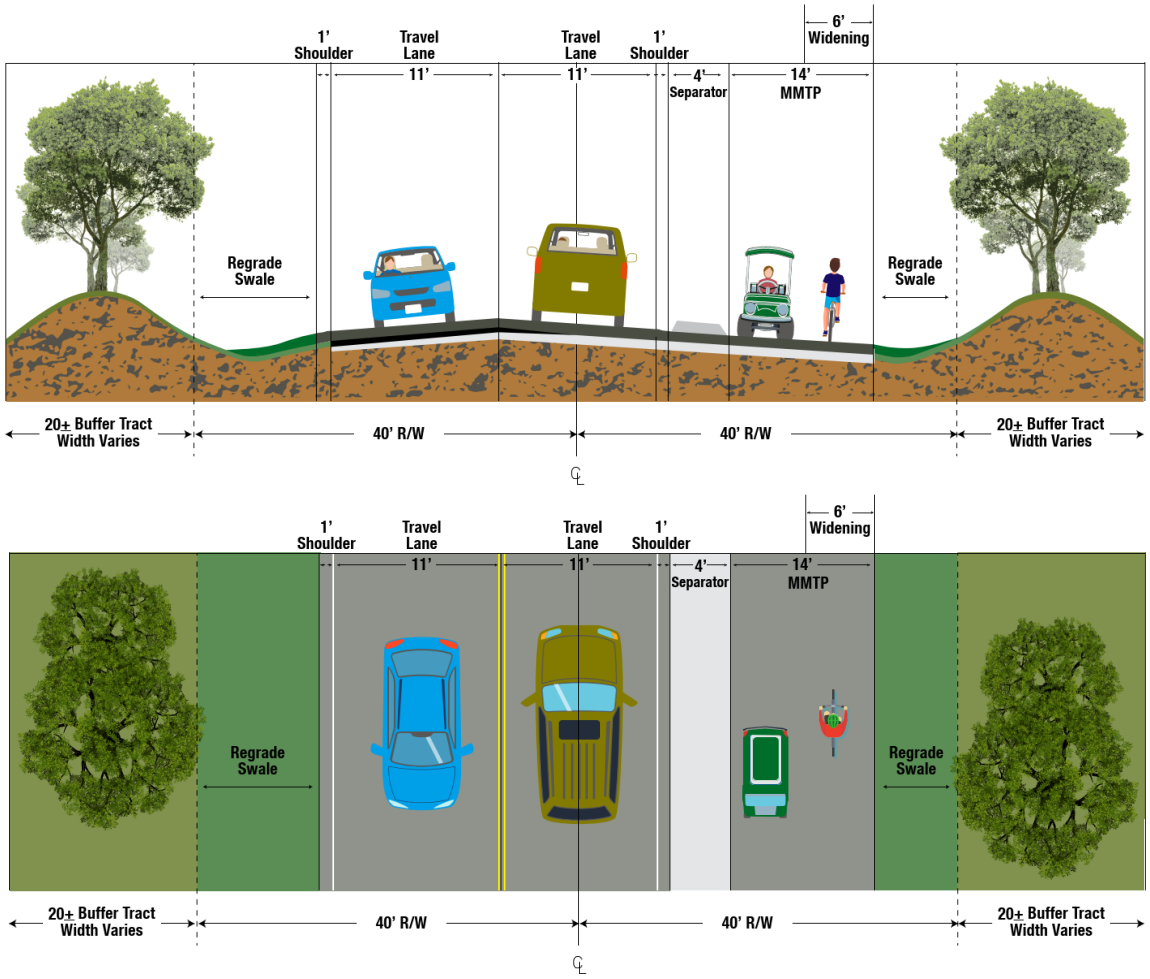
The construction of Alternative 1 will require significant and consequential modification to the existing landscaping along the berm within the VCDD 1 owned tract. These landscape areas were constructed along with the original road construction and today the trees and other plantings are mature and noteworthy. Impacts to, and removal of, existing mature trees and reshaping of the berm will be required. The removal and modification of the landscaping will change the character of the roadway and also the buffer conditions and views for private residential properties located adjacent to the VCDD 1 tract.

Alternative 2

Alternative 2 consists of widening and repurposing the existing roadway footprint to include a 11-foot travel lane with 1-foot shoulder in each direction for automobiles and a 14-foot paved MMTP lane separated from the automobile lanes using a 4-foot concrete separator. This will require an addition of 6 feet of pavement to the existing roadway. The widening and repurposing of lanes will require pavement overbuild and cross slope correction to move the crown of the roadway to be centered on the automobile lanes, and regrading of the adjacent drainage swales along with other miscellaneous drainage improvements.

Figure 4 illustrates the Alternative 2 typical section.

Figure 4 - Alternative 2 Typical Section of Morse Boulevard, north of C 466



The proposed MMTP switches sides of the roadway within the project limits. The location of the MMTP (east side or west side) was selected based on the following:

- Existing conditions of the road and swale system, and existing conditions of the VCCD 1 owned buffer tracts
- Number of roadway crossings needed to facilitate travel through the corridor
- Ability to provide access from the MMTP to adjacent roadway networks and neighborhoods
- Configuration of roadway intersections and interaction with golf cart traffic from the MMTP
- Connection to existing MMTP north and south of the project area

Two crossing locations will be created where the MMTP shifts from one side of the roadway to the other: one at the intersection with Soledad Way and one at a new mid-block crossing south of San Marino Drive and north of the postal center. The crossing at Soledad Way is not expected to have a significant volume of golf cart traffic. Standard crosswalk marking and signage is recommended at this location. The crossing south of San Marino Drive will have a significant volume of golf carts. Special emphasis signing and marking is recommended at this location, as detailed in subsequent sections.

Improvements Consistent with Both Alternatives

There are recommended improvements consistent with both alternatives based on the existing MMTP infrastructure:

- Construction of a new dedicated MMTP from San Juan Drive to cross Morse Boulevard and connect to the existing MMTP on the west side of Morse Boulevard. This will eliminate the need for golf carts to travel in the existing on-street golf cart/bicycle lane, which will be signed and marked as dedicated bicycle lanes.
    - Golf carts currently access San Juan Drive by turning directly from Morse Boulevard and crossing within the intersection of San Juan Drive and Morse Boulevard with automobiles.
    - The proposed treatment would have a dedicated crossing, with no turning movements, for golf carts to get from one side of Morse Boulevard to the other.
    - The median on Morse Boulevard is wide enough for a golf cart to stop within the median and make a 2-stage crossing.
    - The proposed treatment is similar to the golf cart traffic patterns that occur today on Morse Boulevard at San Juan Drive and Desilva Street, but is not consistent with other four-lane roadways in Sumter County, which do not allow golf cart crossings at-grade
- Utilizing the existing MMTP on the west side of Morse Boulevard, from El Camino Real to Hacienda Hills Golf and Country Club.
- Finalization of a route from the MMTP tunnel at Hacienda Hills Golf and Country Club to the existing MMTP south of the Hacienda Hills Golf and Country Club. Golf carts currently have access through the golf facility, but the original Country Club building has been demolished and a re-development of the area is underway. If either of the alternatives are constructed, additional coordination with the property owners will need to occur to refine the preferred route for this segment.
- Utilizing the existing MMTP on the east side of Morse Boulevard, from Hacienda Hills Golf and Country Club to Soledad Way.
- Modification of the signalized intersection of Morse Boulevard and Rio Grande Avenue to construct a new west leg for golf carts to cross Morse Boulevard at the signalized intersection; see **Figure 5**.
    - A new traffic signal mast arm will be required for this improvement.
    - Golf carts on the multi-modal path will be required to stop at the intersection to ensure queuing on the multi-modal path does not affect traffic operations on Morse Boulevard.
    - The addition of the west leg of the intersection will reduce the green time and increase delay and queuing for Morse Boulevard.
    - Signing for allowable movements will be required at the intersection to restrict golf carts on Morse Boulevard.
    - There is no other signalized location within The Villages within Sumter County that has three legs of the intersection for automobiles and one leg exclusively for golf carts. The treatment will be inconsistent with other locations.

- Construction of a mid-block crossing of Morse Boulevard, south of San Marino Drive; see **Figure 6**.
    - Most of the golf carts travelling on Morse Boulevard will be present at this location and be required to cross the roadway.
    - Due to the high volume of golf carts crossing at this location, special emphasis features such as elevated crossing, high emphasis marking, advanced signage, and flashing beacons will be evaluated during implementation (examples shown in **Figure 7**).
    - Implementation of special emphasis features will be inconsistent with other golf cart crossing locations in The Villages within Sumter County.
    - The average delay anticipated for golf carts crossing at this location is between 50 seconds and 60 seconds.
- Utilizing existing intersections for golf carts to cross from the MMTP to the adjacent neighborhoods on the other side of Morse Boulevard.
    - This is consistent with how golf carts operate on Morse Boulevard today, and is consistent with other roadways in The Villages within Sumter County.
- Creating 13 stop-controlled crossings of side-streets connecting to Morse Boulevard. This crossing treatment is consistent with other similar multi-modal paths in Districts 1 through 4 (El Camino Real, Buena Vista Boulevard), and will remove conflicts between through carts and turning vehicles on Morse Boulevard.
- Removal of the existing merge/crossing maneuver of Morse Boulevard, north of the C 466 gate.
    - All golf carts will be required to cross Morse Boulevard at the new special emphasis crossing located south of San Marino Drive.
- Reconstruction of the existing wooden bridge connecting to the C 466 tunnel on the south end of the project to provide more width for golf carts, pedestrians, and bicyclists.

Other Alternatives Considered

Other alternatives were considered but were not furthered in the evaluation process. One option would be to widen both sides of the roadway to implement a traffic separator between the travel lane and golf cart/bicycle lane to provide a physical separation while maintaining existing travel patterns. This alternative was not advanced due to the fact that it would not address the primary concern of conflicting merging/crossing maneuvers between golf carts and automobiles. Another option would be an alternate route outside of the Morse Boulevard footprint. This alternative was not advanced due to expected property impacts and acquisitions that would be required from private properties, and the result of a significantly longer travel route for cart users.

Figure 5 - Intersection Layout, Morse Boulevard at Rio Grande Ave

Figure 6 - MMTP Mid-Block Crossing Layout

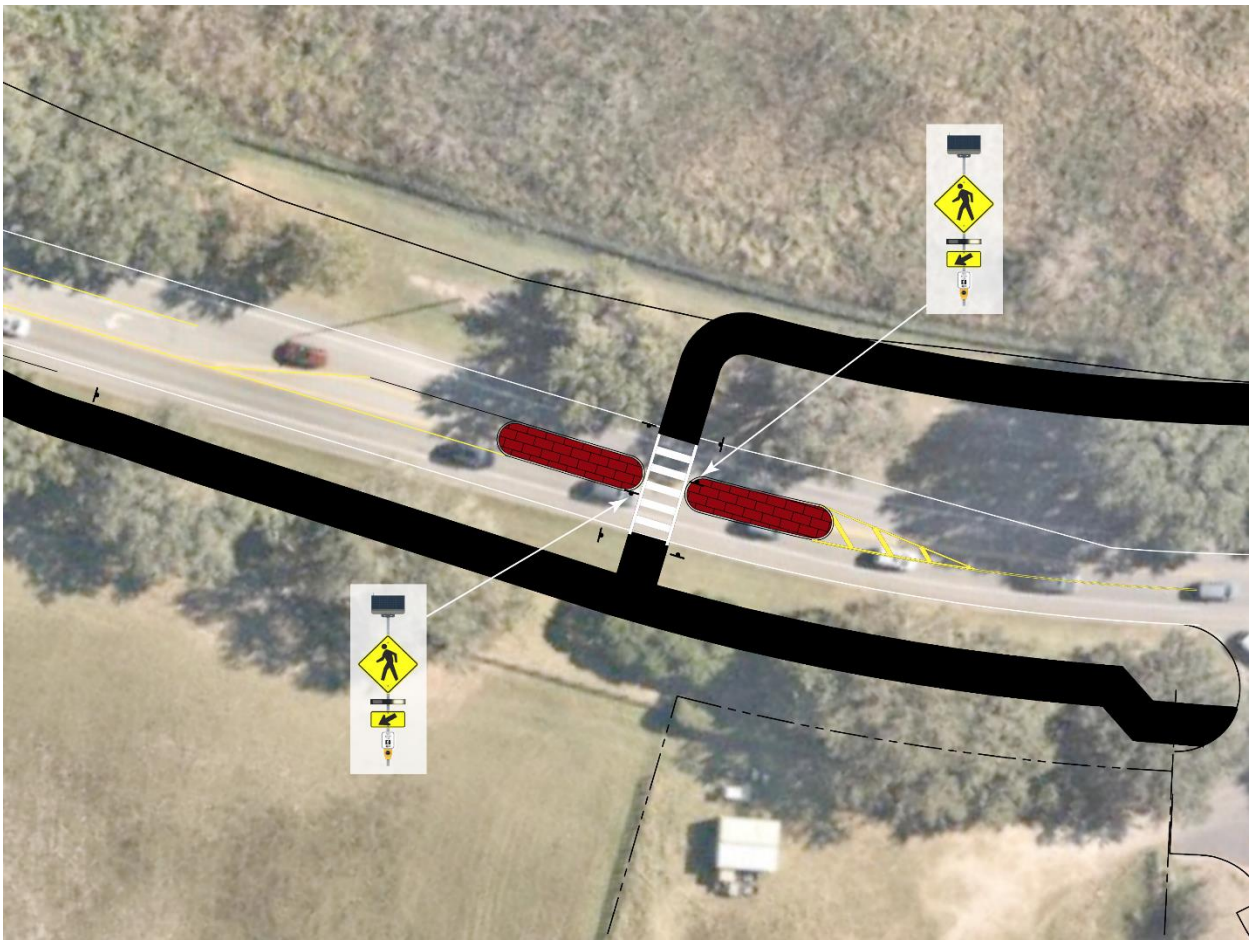
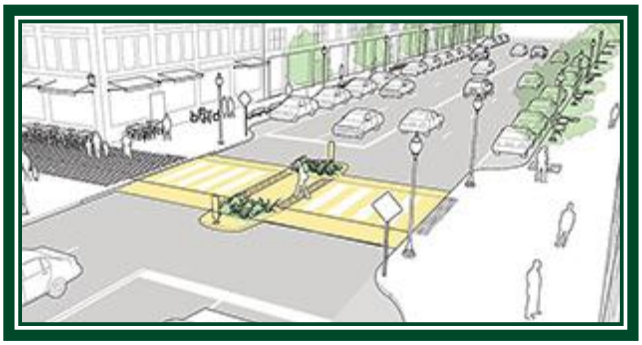
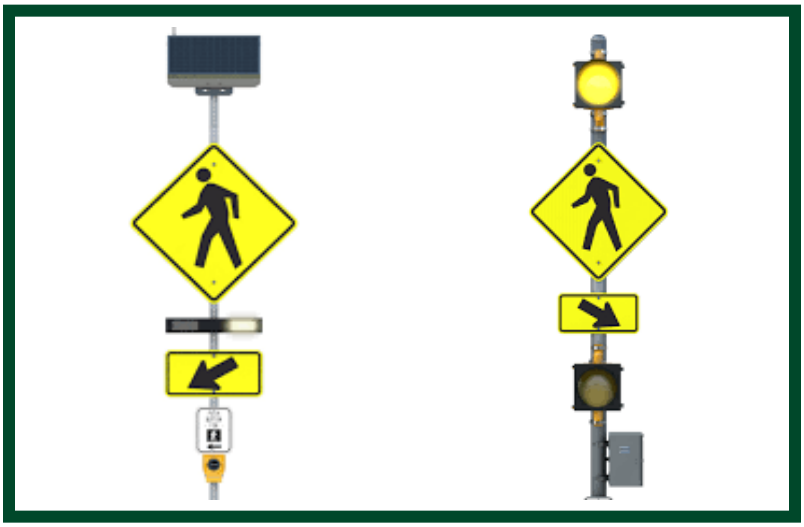


Figure 7 – Example High Emphasis Pedestrian Treatments





Environmental

An environmental review was performed for the build alternatives. The methodology for this review included the following:

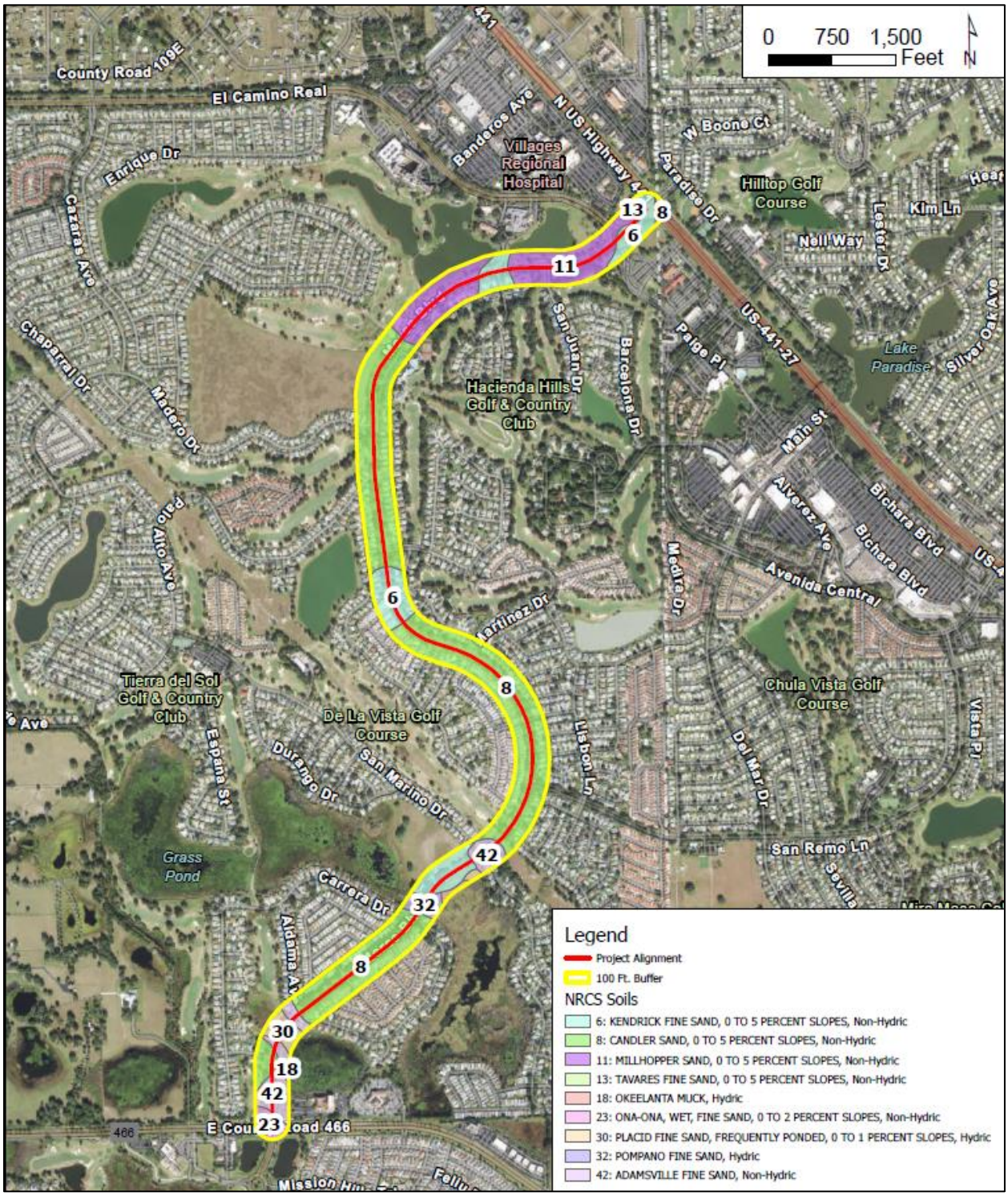
- Review Geographic Information System (GIS) data layers from the U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), and Florida Natural Areas Inventory (FNAI).
- Review the USFWS IPaC data and FNAI reports to generate a federal and state-protected species list within the project area.
- Review the U.S. Department of Agriculture (USDA)/Natural Resources Conservation Service (NRCS) Soil Survey of Sumter County, Florida.
- Review the Florida Land Use, Cover, and Forms Classification System (FLUCFCS, Florida Department of Transportation, 1999).
- Review the Federal Emergency Management Agency (FEMA) Digital Flood Insurance Rate Maps to determine if the project area is within the 100-year floodplain.

Natural Resources

Soils

The USDA/NRCS Soil Survey of Sumter County, Florida, maps the following soils on the property: (6) Kendrick fine sand, 0 to 5 percent slopes, (8) Candler sand, 0 to 5 percent slopes, (11) Millhopper sand, 0 to 5 percent slopes, (13) Tavares fine sand, 0 to 5 percent slopes, (18) Okeelanta muck, (23) Ona-Ona, wet, fine sand, 0 to 2 percent slopes, (30) Placid fine sand, frequently ponded, 0 to 1 percent slopes, (32) Pompano fine sand, and (42) Adamsville fine sand, 0 to 2 percent slopes. The USDA/NRCS soil data is shown in **Figure 8**.

Figure 8 - USDA / NRCS Soil Data



Habitat

Vegetative communities on the project site were identified through pedestrian transects and aerial photograph interpretation. Vegetative communities were classified using the *Florida Land Use, Cover, and Forms Classification System* (FLUCFCS, Florida Department of Transportation, 1999). A FLUCFCS map of the site is shown in **Figure 9**. A description of the upland and wetland land cover types can be found below. The acreage provided for each land cover is approximate, based on aerial mapping. **Figure 10** provides the wetland map.

Uplands

FLUCFCS 120 – Residential Medium Density (± 4.1 acres)
Residential land uses range from high-density urban housing developments to low-density rural areas characterized by a relatively small number of homes per acre. This land use type consists of medium-density housing developments, meaning there are two to five dwelling units per acre.

FLUCFCS 130 – Residential High Density (± 72.1 acres)
Residential land uses range from high-density urban housing developments to low-density rural areas characterized by a relatively small number of homes per acre. This land use type consists of high-density housing developments, meaning there are greater than five dwelling units per acre.

FLUCFCS 140 – Commercial and Services (± 0.4 acres)
This land use type is predominantly associated with the distribution of products and services. This category is composed of many individual types of commercial land uses which often occur in complex mixtures.

FLUCFCS 170 – Institutional (± 0.4 acres)
Education, religious, health, and military facilities are typical components of this category. All buildings, grounds, and parking lots are included within a particular institutional unit.

FLUCFCS 180 – Recreational (± 24.2 acres)
Recreational areas are those areas whose physical structure indicates that active use-oriented recreation is, or could be occurring, within the given physical area. This category would include golf courses, parks, swimming beaches and shores, marinas, fairgrounds, etc.

FLUCFCS 190 – Open Land (± 12 acres)
This land use type includes undeveloped land within urban areas and inactive land with street patterns but without structures. Open land does not exhibit any structures or any indication or intended use. Often, urban inactive land may be in a transitional state and ultimately will be developed into one of the typical urban land uses.

FLUCFCS 434 – Hardwood-Conifer Mixed (±0.66 acres)
This category is reserved for those forested areas in which neither upland conifers nor hardwoods achieve a 66 percent crown canopy dominance.

FLUCFCS 810 – Transportation (± 15.5 acres)
Transportation facilities are used for the movement of people and goods and are, therefore, major influences on land, and many land use boundaries are outlined by them. Roads and highways are easily identifiable and include areas used for interchanges, limited access rights-of-way, and service facilities. The center median, pavements, and sizeable buffer zone should be included even if exact boundaries cannot be detected.

FLUCFCS 830 – Utilities (± 2.3 acres)
This land use type usually includes power generating facilities and water treatment plants, including their related facilities such as transmission lines for electric generation plants and aeration fields for sewage treatment sites. Small facilities of those associated with industrial, commercial, or extractive land use are included within their larger respective categories.

Wetlands

FLUCFCS 530 – Reservoirs (± 2.2 acres)
Reservoirs are artificial impoundments of water, and they are used for irrigation, flood control, municipal and rural water supplies, recreation, and hydroelectric power generation. Dams, levees, and other water control structures will usually be evident to aid in the identification.

FLUCFCS 641 – Freshwater Marshes (± 4.4 acres)
The communities included in this category are characterized by having one or more of the following species predominate: Sawgrass (Cladium jamaicensis, Cattail (Typha domingenis), Typha latifolia (Typha angustifolia), Arrowhead (Sagittaria sp.), Maidencane (Panicum hemitomon), Buttonbush (Cephalanthus occidentalis), Cordgrass (Spartina bakeri), Giant Cutgrass (Zizaniopsis miliacea), Switchgrass (Panicum virgatum), Bulrush (Scirpus americanus), Needlerush (Juncus effusus), Common Reed (Phragmites communnis), and Arrowroot (Thalia dealbata).

FLUCFCS 643 – Wet Prairie (± 0.5 acres)
This classification is composed predominately of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. These communities will be predominated by one or more of the following species: Sawgrass (Cladium jamaicensis), Maidencane (Panicum hemitomon), Cordgrasses (Spartina bakeri), Spike Rushes (Eleocharis sp.), Beach Rushes (Rhynchospora sp.), St. John's Wort (Hypericum sp.), Spiderlily (Hymenocallis palmeri), Swamplily (Crinum Americanum), Yellow-eyed Grass (Xeric ambigua), and Whitetop Sedge (Dichromena colorata).

FLUCFCS 644 – Emergent Aquatic Vegetation (± 0.04 acres)
This category of wetland plant species includes both floating vegetation and vegetation which is found either partially or completely above the surface water.

The locations of wetlands noted in this report are preliminary and will need to be verified during design and permitting of any improvements. Actual final wetland areas may be larger, or smaller, than those shown on **Figures 9 and 10.**

Figure 9 - Land Use (FLUCFCS) Map

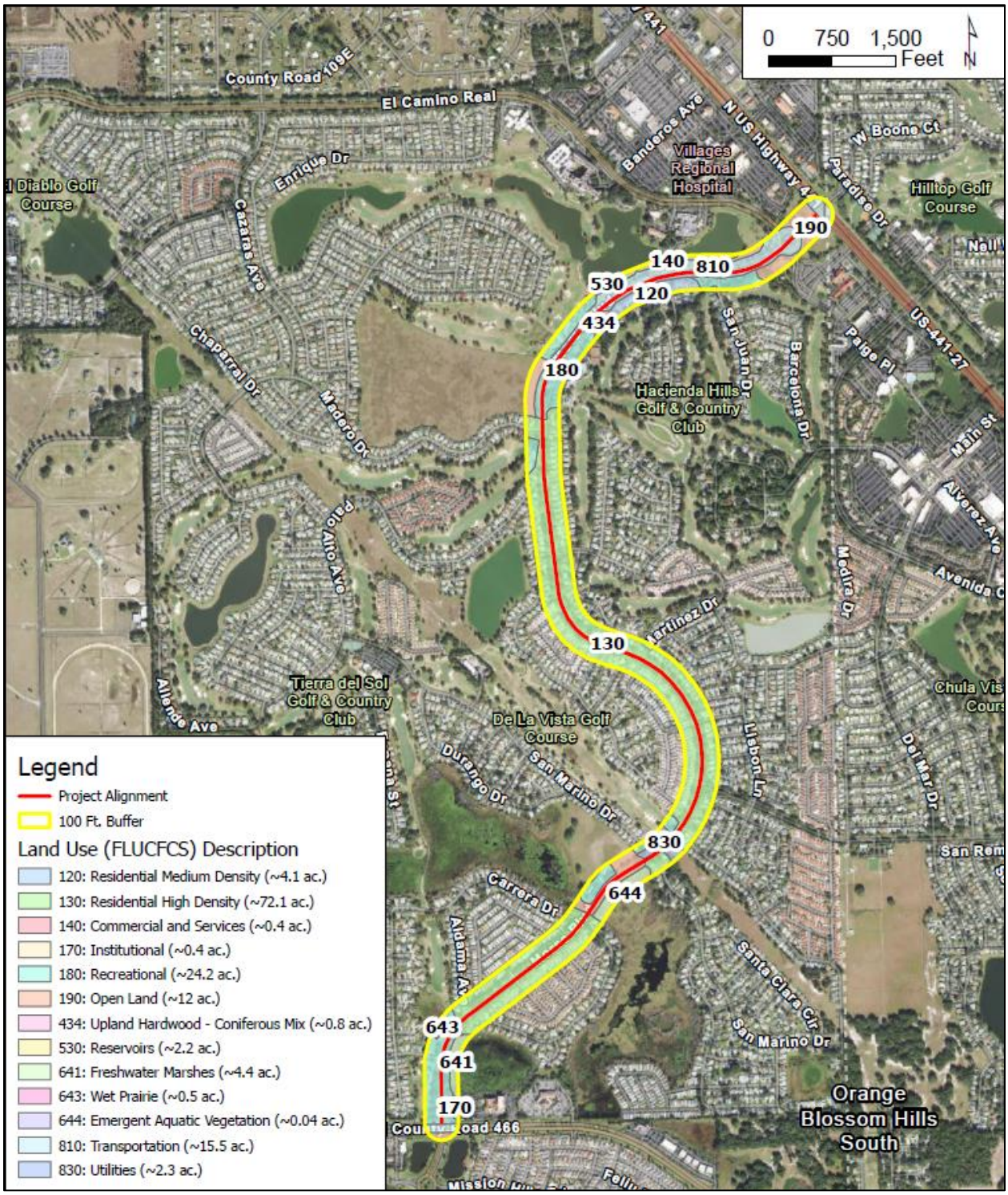
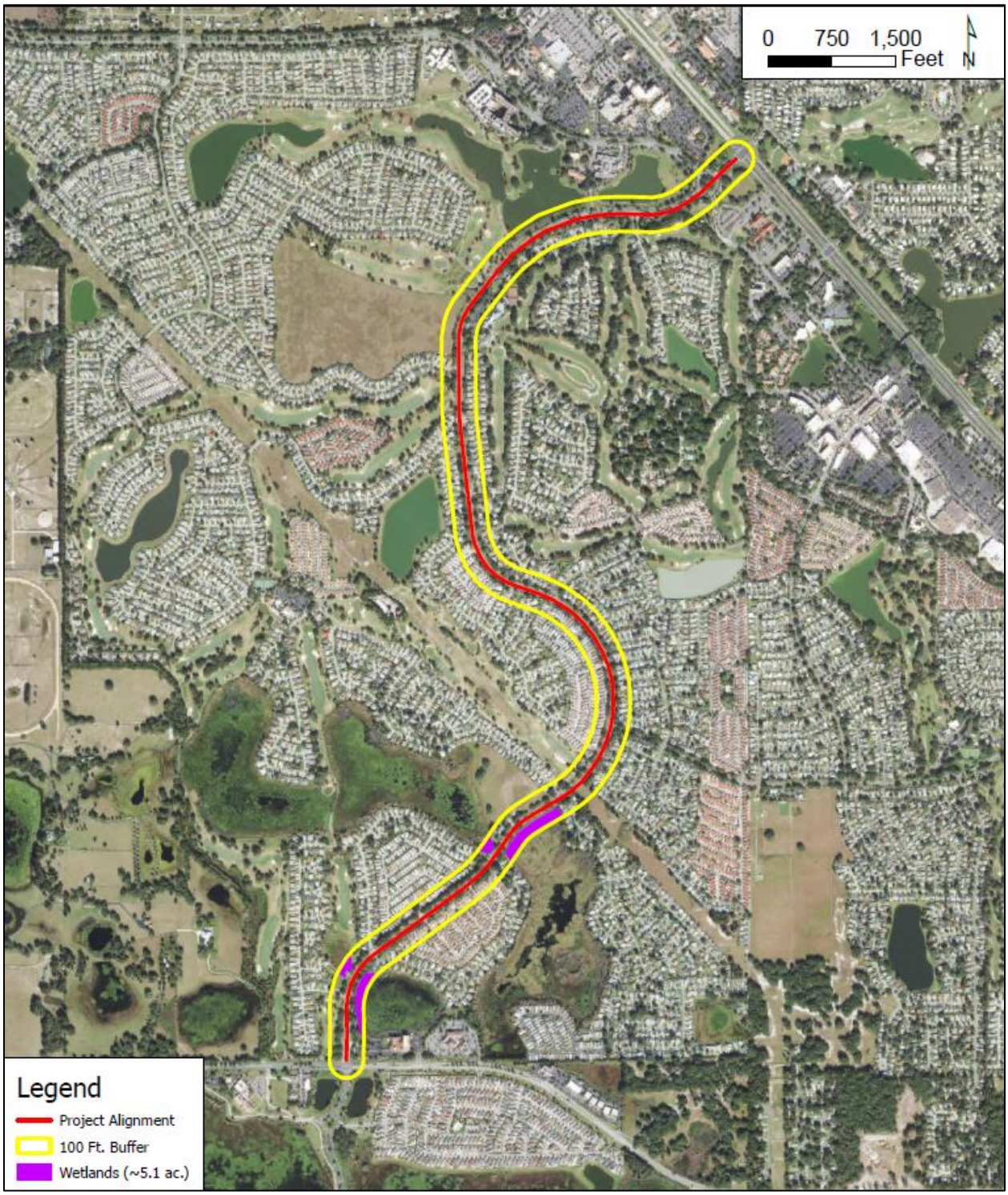


Figure 10 - Wetlands Location Map



Listed Species

USFWS

The site is located within the USFWS Consultation Areas for the Florida scrub-jay (*Aphelocoma coerulescens*), Everglade snail kite (*Rostrhamus sociabilis plumbeus*), sand skink (*Neoseps reynoldsi*), and Lake Wales Ridges plants. There does not appear to be suitable habitat within the project area to support either of these species. Additional information regarding federally listed species is included below:

- There are no wood stork core foraging area (CFA) buffers located within the site.
- There are two previously recorded bald eagle nests located within +/- 0.1 and 0.4 miles from the project area (see Figure 5 – Species Observation Map). The project area is within the 660-foot buffer of the nest that is +/- 0.1 miles from the project area but is outside of the 330-foot buffer. As a result, a survey of the previously recorded bald eagle nest should take place to ensure it is still present and to document if any bald eagles are actively nesting. Depending on the status of the nest, further coordination with USFWS will be required. The project area is not within the 660-foot buffer of the nest that is +/- 0.4 miles from the project area.
- There are no wading bird rookeries located on or near the site.

FNAI

The FNAI report (**Appendix A**) includes data from FNAI Matrix Units 34106, 34107, 34108, 34430, 34431, and 34432. Based on the FNAI report, one documented listed species, the Florida burrowing owl (*Athene cunicularia floridana*) was recorded near the site in FNAI Matrix Unit 34107. The following species could potentially occur within the project area:

Florida Burrowing Owl

The Florida burrowing owl is one of the smallest species of owls in Florida and is listed as state-designated threatened. Burrowing owls inhabit open prairies that have little understory vegetation. These areas can include golf courses, airports, pastures, agricultural fields, and vacant lots. Per the FNAI report, one documented sighting of a Florida burrowing owl was recorded within Matrix Unity 34107. The species is also listed as having the potential to occur within this area. GIS data from FWC show several previously recorded Florida burrowing owl sightings occurring on and within +/- 0.4 miles of the project site (See **Figure 11 – Species Observation Map**). Based on the above considerations, a survey within the project area should be conducted to ensure no owls are present within or adjacent to the project limits.

Southeastern American Kestrel

The southeastern American kestrel (*Falco sparverius paulus*) is a non-migratory subspecies of kestrels found within the state of Florida. Habitat for this species includes savannahs, sandhills, prairies, and pastures throughout Florida and the southeastern United States. This species is listed as threatened in Florida due to the decline in nesting and foraging habitat. Based on the FNAI report, this species has the potential to occur within the project area. FWC GIS data shows that one sighting of the American kestrel was previously recorded within +/- 0.5 miles from the project area (see **Figure 11 – Species Observation Map**). Based on the above considerations, a survey within the project area should be conducted to ensure no kestrels are nesting within or adjacent to the project limits.

Wood Stork

The wood stork (*Mycteria americana*) inhabits both fresh and saltwater habitats, such as fresh and saltwater marshes, tidal flats, wet prairies, cypress swamps, and drainage features. As part of the *Effect Determination Key for the Wood Stork in South Florida*, CFA buffers were established around known wood stork colonies. Within South Florida, the wood stork is known to utilize an 18.6-mile radius CFA from its nesting area for foraging. The project area does not fall within a CFA and is not within a 2-mile radius of any known wood stork colonies. Some of the edges of the wetlands or reservoirs could be considered suitable foraging habitat (SFH), therefore if the edges of wetlands or reservoirs are proposed to be impacted, the impacts to SFH will need to be quantified. If impacts exceed 0.50 acres, mitigation may be required.

Florida Sandhill Crane

The Florida sandhill crane (*Grus canadensis*) inhabits freshwater marshes, prairies, and pastures. Florida's Kissimmee and Desoto prairie regions are home to the state's most abundant populations. This species is listed as state-designated threatened and is listed as having the potential to occur within the project area, per the FNAI report. Based on the FLUCFCS map (**Figure 9**), there is evidence of habitat on-site. Therefore, a survey for nesting sandhill cranes should be conducted to ensure no sandhill cranes are nesting on or near the project site.

Eastern Indigo Snake

The eastern indigo snake (*Drymarchon couperi*) occurs in a range of habitats, including pine flatwoods, scrubby flatwoods, high pine, dry prairie, tropical hardwood hammocks, edges of freshwater marshes, agricultural fields, coastal dunes, and human-altered habitats. The snake requires large tracts of land to survive and often winters in burrows of gopher tortoises, armadillos, cotton rats, and land crabs (in coastal areas) and forages in hydric habitats. The FNAI report lists this species as having the potential to occur within the project area. As a result, the *USFWS Standard Protection Measures for the Eastern Indigo Snake* (August 12, 2013) should be implemented during development. With this measure, the project should not negatively impact the eastern indigo snake.

Gopher Tortoise

The gopher tortoise (*Gopherus polyphemus*) is a burrowing tortoise that inhabits upland habitats such as pine flatwoods, xeric oak hammocks, and open sandy pastures, but can also often occur in disturbed areas. Typically, gopher tortoises require habitats with well-drained soils, sparse canopy, and abundant herbaceous understory for foraging. This species is listed as state-designated threatened and has the potential to occur within the project area, per the FNAI report. As there appears to be suitable habitat within the project area, a 100% gopher tortoise survey should be conducted prior to construction.

Short-Tailed Snake

Short-tailed snakes (*Lampropeltis* extenuate) can be found burrowed within sandy soils, particularly in longleaf pine and oak sandhills, but can also be found in scrub and xeric (habitat that needs little water) hammock habitats. This species is listed as state-threatened. The FNAI report lists this species as having the potential to occur within the project area, however, there does not appear to be any suitable habitat within the project area. Therefore, this project should have no effect on the short-tailed snake.

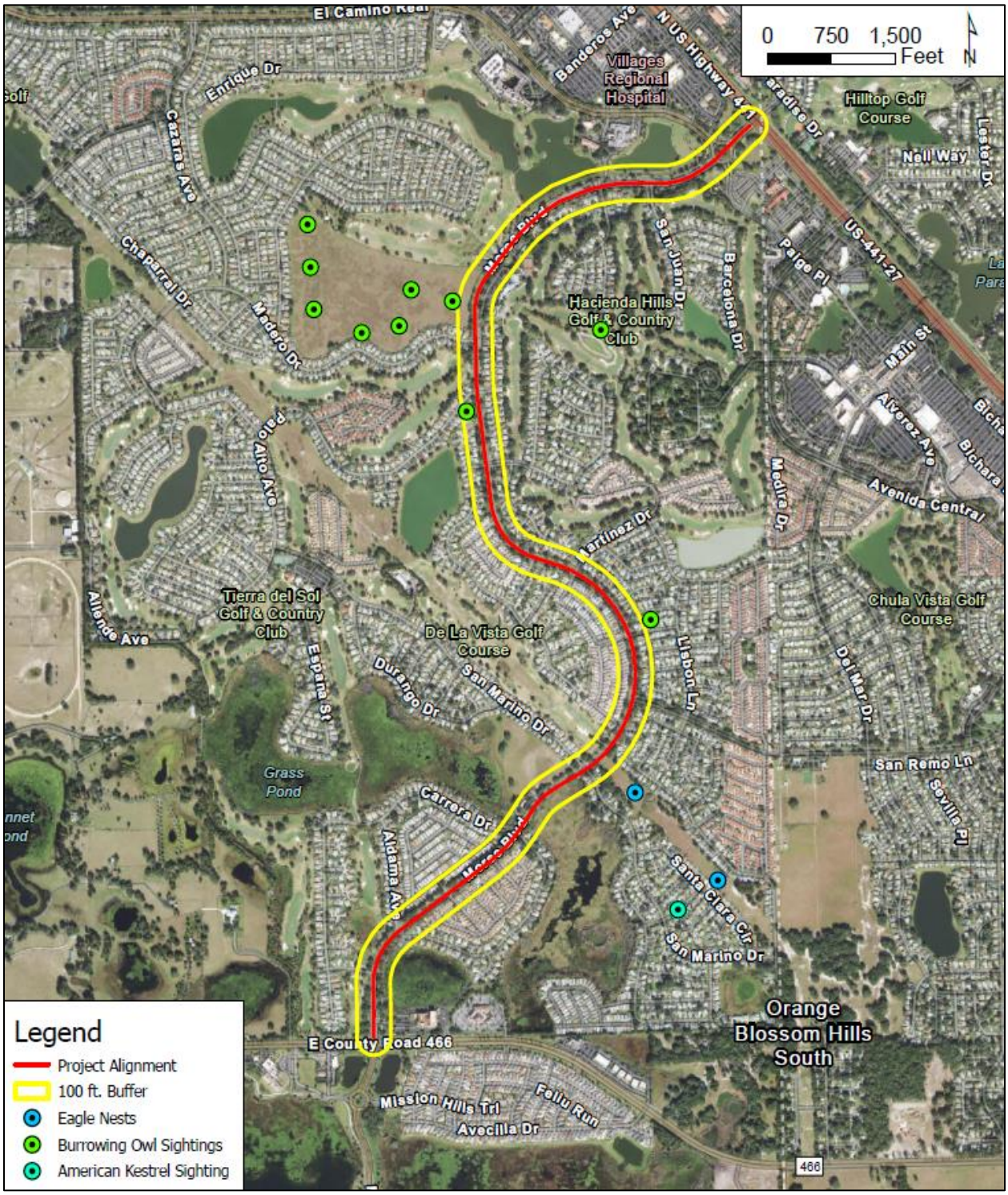
Listed Plant Species

The Florida Department of Agriculture and Consumer Service's *Notes on Florida's Threatened and Endangered Plants*, and Richard Wunderlin's *Guide to Vascular Plants of Florida*, were consulted to assess habitat requirements for listed plant species. Thirteen (13) state-listed plants and six (6) federally-listed plants were noted by FNAI as possibly occurring in this area.

Lake Wales Ridge Plants

The project area falls within the consultation zone for Lake Wales Ridge Plants. These plants inhabit scrub, pine flatwoods, marshes, and seepage slopes and are characterized by three species of evergreen scrub oaks (*Quercus spp*.), Florida rosemary (*Ceratiola ericoides*), and the short-needle sand pine (*Pinus clausa*). Marginal habitat for these species could exist within the project area. Further surveys should take place in FLUCFCS 434 (hardwood-conifer mixed) and 641 (freshwater marshes) habitat types to ensure no listed plant species occur within the project area.

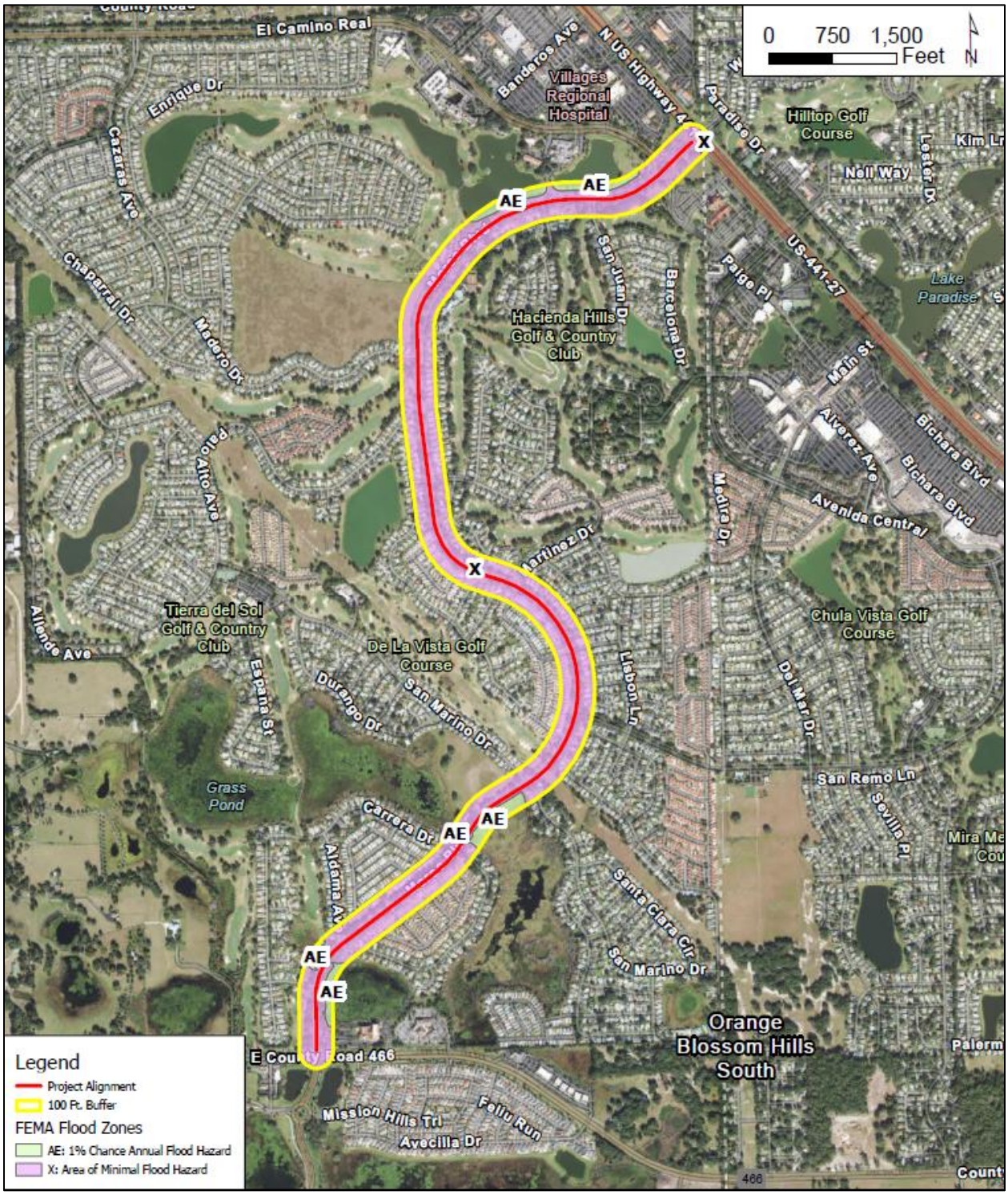
Figure 11 - Species Observation Map



FEMA

The FEMA FIRM panels 12119C0087D and 12119C0079D dated 09/027/2013, indicate that the site is located within Flood Zone X (areas of minimal flood hazard) and Flood Zone AE (areas with 1% chance of annual flood hazard). A FEMA flood insurance rate map is shown in **Figure 12.**

Figure 12 - FEMA FIRM Map



Drainage

Morse Boulevard was constructed in phases in the 1990's, concurrent with the adjacent development areas. The stormwater system for Morse Boulevard was permitted along with the adjacent development and utilizes shared retention with the adjacent residential development. Stormwater runoff from the roadway is collected in roadside swales and conveyed to off-site drainage retention and wetland areas.

As noted previously, The FEMA FIRM panels 12119C0087D and 12119C0079D dated 09/027/2013, indicate that the site is located within Flood Zone X (areas of minimal flood hazard) and Flood Zone AE (areas with 1% chance of annual flood hazard). Filling within the Flood Zone AE areas will require compensating storage to be provided as part of the design. Based on review of the FEMA maps and field conditions these floodplain impacts are expected to be minor, and encountered near the south end of the corridor where adjacent wetlands exist.

Future drainage analysis of both alternatives will require the delineation of all additional impervious area created by the MMTP and roadway widening within the limits of the proposed project. Drainage design will span the existing six basins which serve the stormwater drainage systems. Runoff from the increased impervious area must be calculated to determine if there is an adverse impact on the receiving water bodies, meeting all drainage design criteria for both the Southwest Florida Water Management District (SWFWMD) and Sumter County. If the runoff from the increased impervious area results in adverse increases in the design flood elevations of the receiving stormwater facilities, then additional storage volume will need to be created. If additional storage volume is needed, private property impacts may be necessary to create additional retention area. Analysis of all receiving stormwater systems was not included in the scope of this report, but based on the overall contributing drainage basin areas and the expected additional impervious areas created by the MMTP the impacts are expected to be manageable. Alternative 2 will create less new impervious coverage than Alternative 1, and will therefore be less impactful to the existing drainage systems.

The existing stormwater system is regulated by multiple permits with the Southwest Florida Water Management District (SWFWMD). A pre-application meeting was held with SWFWMD on June 15th, 2023 to discuss the two alternatives and permitting requirements. SWFWMD indicated that the modifications from either Alternative 1 or Alternative 2 would require a modification to the original permit(s).

In prior discussions with SWFWMD the agency has indicated that they consider the existing roadside collection swales to be part of the overall treatment capacity of the existing drainage system. The concept plans for Alternatives 1 and 2 propose minor modifications to the roadside swales, but not elimination of those systems. Any alternative that would propose eliminating the roadside swales would meet with resistance from SWFWMD, in addition to being very costly to construct.

The existing SWFWMD Environmental Resource Permits to be modified for both alternatives include:

- 4305994.005
- 4305994.012
- 4305994.015
- 4305994.018
- 4305994.033
- 4305994.035

Permit applications through the SWFWMD would need to document the following:

- A site visit by SWFWMD staff will be required to verify the presence or absence of wetlands and/or surface waters
- The applicant must demonstrate that the post development peak discharges from the proposed project area will not cause an adverse impact to existing drainage ponds for a 25-year, 24-hour storm event and a 100-year, 24-hour storm event.
- The applicant must demonstrate that the site will not impede the conveyance of contributing off-site flows.
- The applicant must demonstrate that the project will not increase flood stages up- or down-stream of the project area
- The applicant will need to confirm that existing roadway right-of-way areas are incorporated into the existing treatment/attenuation as part of the overall area development and master stormwater system

Minutes provided by SWFWMD from the June 15th pre-application meeting are located in **Appendix B**.

Utilities

There are several underground utilities located along the corridor in the roadway right-of-way and within the VCDD 1 tract. Following is a description of the utilities and potential impacts.

Table 2 - Potential Utility Impacts

Present Utilities	Description	Locations
LUMEN Local	Underground fiber	West side of Morse Boulevard from C 466 to Carrera Dr; East side of Morse Boulevard from Carrera Drive to El Camino Real
LUMEN National	Fiber	Located in the Duke Power Easement with crossing of Morse Boulevard
Duke Transmission	Overhead Electric	Located in an easement that crosses Morse Boulevard north of San Marino Drive
TECO Gas	Underground Gas	Two underground crossings of Morse Boulevard at the Hacienda Hills Country Club
VCDD District 1	10-inch Water Main	Located on the east side of Morse Boulevard within project limits
VCDD District 1	Sanitary Sewer Force Main	Underground crossings of Morse Boulevard at Carrera Drive, San Marino Drive, Rio Grande Avenue, Martinez Drive, Soledad Way, San Fernando Drive
SECO Electrical	Underground Electric Distribution	Located on both the east and west sides of Morse Boulevard within the VCDD 1 owned tract. Facilities include feeder, switchgear, splice boxes, and pedestals. Upgrades have recently been installed.
SECO Lighting	Overhead light poles	Located within the roadway right-of-way

Multiple coordination meetings were held with SECO representatives to discuss the existing facilities and potential impacts with the proposed alternatives. SECO is currently upgrading their facilities along Morse Boulevard. New underground 25 kV electric lines are being installed in three 4-inch conduits located approximately 4 feet below existing grade. The installation also includes a 2-inch conduit for future fiber installation. The prior direct buried lines will be abandoned. New pull / splice boxes and switch gear are also being installed. The multi-modal path will need to have clearance, generally 2 feet, from the switch gear boxes due to the size and potential hazard for users of the path. This may require narrowing of the path near the switch gear boxes for Alternative 1. SECO requires a 10-foot clear working area at the switchgear doors. The 10-foot clear area can be partially within a multi-modal path, it would just require closure of the path during work at the switchgear location. Any pull/splice boxes that are impacted by the multi-modal path construction will necessitate new pull/splice boxes as well as running new cable as there is not currently sufficient slack in the pull boxes to allow for relocation. SECO's facilities are located within an easement, and they will require compensation for any utility relocations.

Photograph 7 – SECO Switchgear and utility installation

The SECO overhead lights within the Morse Boulevard right-of-way are located approximately 23 feet from the pavement edge. Some overhead light relocations may be required for Alternative 2 to meet clear zone requirements. Overhead light relocations will be required for both alternatives due to conflicts with the proposed MMTP alignments. SECO will require compensation for any light relocations.

Preliminary Cost Estimates

Planning level construction cost estimates for both alternatives have been prepared using historical cost information published by FDOT and other sources as noted. The planning level estimates are intended to provide order of magnitude information; more detailed cost estimates would be prepared during the design phase of the project.

Planning level cost estimates for roadway components were developed using historical cost information published by FDOT, the VCDD and selected recent roadway projects in Sumter County. Conceptual cost estimates were developed for landscaping impacts and replacement based on other similar projects performed in The Villages. A contingency was added to the cost estimates based on the preliminary nature of this project. These estimates include budget estimates for design and permitting costs that would need to be verified at the time of development. **Table 3** summarizes the planning level cost estimates. A more detailed breakdown for each alternative is provided in **Appendix C**.

Table 3 - Planning Level Cost Estimate

Alternative	Construction Budget	Design Budget	Total Planning Level Cost Estimate
Alternative 1	$11,312,800	$3,959,500	$15,280,000+/-
Alternative 2	$9,347,920	$3,271,800	$12,620,000+/-

Alternatives Evaluation

An alternatives evaluation was performed to compare potential impacts from the build alternative 1 and build alternative 2 concepts. A comparison was also provided for the no-build alternative. Factors considered include physical impacts, social impacts, environmental impacts, and permitting requirements. An impact level of "low, moderate, and high" was assigned for each evaluated criterion. **Table 4** summarizes the alternatives comparison.

Table 4 - Alternatives Comparison

Criteria	No-Build	Alternative 1	Alternative 2
Utility Impacts and Relocation Potential	None	High	Low
Light Pole Impacts	None	Low	Moderate
Social Impacts due to Proximity to Residential Property	None	High	Moderate
Landscape Buffer / Social Aesthetic Impacts	None	High	Low
Entry Feature / Wall Aesthetic Impacts	None	Moderate	Moderate
Drainage Impacts	None	High	Moderate
Direct Private Property Impacts	None	None	None
Potential Impact to Vehicular Travel Speed	None	Moderate	Low
Permitting Requirements	None	High	High
Impact to Existing Travel Patterns / Times	None	Moderate	Moderate
Construction Impacts	None	Moderate	High
Potential Environmental Impacts	None	Low	Low
Cost	None	High	High

Description of Comparison Criteria

Utility Impacts and Relocation Potential – A high impact rating means there is a potential for significant utility impacts and relocations, resulting in significant cost. A low impact rating means that utility impacts consistent with a normal construction project can be expected, but not at a significant impact or cost.

Light Pole Impacts – A high impact rating means there is a potential for significant light pole impacts and relocations, resulting in significant cost. A low impact rating means that minimal to no light pole impacts can be expected.

Social Impacts due to Proximity to Residential Property – A high impact rating means that the alternative will create significant social impacts to adjacent properties by removing existing landscape buffer areas, causing additional noise, and generating activity adjacent to existing properties. A low impact rating means that the alternative has minimal to no impacts to the area adjacent to existing residential properties.

Landscape Buffer / Social Aesthetic Impacts – A high impact rating means that the alternative will create significant impacts to the existing landscape buffer, which will create a social aesthetic impact for adjacent properties and for the users of the roadway. A low impact rating means that the alternative has minimal to no impacts to the landscape buffer.

Entry Feature / Wall Aesthetic Impacts – A high impact rating means that the alternative will require removal of existing entry features and/or walls, which create a sense of place and aesthetics for the neighborhoods along Morse Boulevard. A low impact rating means that the alternative has minimal to no impacts to existing walls and/or entry features.

Drainage Impacts – A high impact rating means the alternative will require substantial permitting through the water management district, with supporting calculations and design to minimize impacts. A high impact rating also anticipates significant cost for constructing drainage swale modifications. A low rating means that the alternative will have a minimal effect on the existing drainage patterns and design of Morse Boulevard.

Direct Private Property Impacts – A high impact rating means that the alternative will directly impact (i.e. necessitate right-of-way acquisition) from a significant number of private properties. A low impact rating means that the alternative has minimal to no impacts and would not require right-of-way acquisition from private properties.

Potential Impact to Vehicular Travel Speed – A high impact rating means that the alternative has design features that would result in increased travel speeds on Morse Boulevard. A low impact rating means that the alternative does not include design features that would result in increased travel speeds on Morse Boulevard.

Permitting Requirements – A high impact rating means that the alternative will require permitting with other agencies (SWFWMD, Sumter County, and The Villages Development Review Committee) and there are challenges to receiving those approvals. A low impact rating means that the alternative requires little to no permitting with other agencies and approvals are likely.

Impact to Existing Travel Patterns/Times - A high impact rating means that the alternative will result in a significantly longer travel pattern and time for users of the MMTP. A low impact rating means that little to no impact to existing travel patterns and time will be experienced for users of the MMTP.

Construction Impacts - A high impact rating means that the alternative will result in a significant impact to the surrounding properties and travelling public during construction. A low impact rating means that little to no impact to surrounding properties and travelling public during construction.

Potential Environmental Impacts - A high impact rating means that the alternative will result in environmental impacts (wetlands, listed species). A low impact rating means that little to no impact to the natural environment are anticipated.

Cost - A high impact rating means that the alternative will require significant capital expenditure. A low impact rating means that the alternative will have low cost.

No-Build Alternative

The No-build alternative maintains the existing roadway conditions. The following is a summary of the advantages, disadvantages, and potential impacts of the No-Build Alternative.

Advantages

- No social / aesthetic feature impacts
- No impacts to adjacent properties
- No utility impacts
- No expenditure of capital funds for construction
- Maintains existing travel patterns

Disadvantages

- Does not provide for the requested physical separation of automobiles and golf carts

Alternative 1

Alternative 1 proposes a new MMTP 14 feet in width to be constructed at the outside edge of the VCDD tract and behind adjacent buffers. This alignment would be similar in nature to the MMTP locations along other major roadways in The Villages. The primary benefits of Alternative 1 are the physical separation between the MMTP and vehicular lanes, the ability to repurpose the existing on-street cart lanes as bicycle lanes, and the more pedestrian scale experience for the users (carts and pedestrians) of the MMTP. The biggest disadvantage of Alternative 1 is the significant impacts the new MMTP would have to existing buffer vegetation along the project limits. Although it may be possible to save individual selected trees in final design, this alternative will have a significant impact to the park-like feel of the existing buffer tracts, and to the traffic calming and social aesthetic benefits provided to the corridor.

The following is a summary of the advantages, disadvantages, and potential impacts of Alternative 1.

Advantages

- Provides physical separation of automobiles and golf carts within a designated off-street multi-modal path, which will provide a better experience for golf carts, bicyclists, and pedestrians
- Requires golf carts to cross Morse Boulevard in a through movement instead of turning/merging movements

Disadvantages

- High social / aesthetic feature impacts due to impacts to existing entry wall features and significant impact to existing landscaping buffer that will result in a change in character of the roadway
- High social impact potential to adjacent residential properties due to increased noise and activity within close proximity of the property line and removal of existing landscape buffer
- High potential for utility impacts
- Drainage modifications and permitting necessary
- High potential for increased travel speeds on Morse Boulevard due to pavement width and loss of landscaping which promotes traffic calming
- Requires 13 new stop-controlled side street crossings for the multi-modal path, which increases travel time for golf carts
- Has the potential for golf carts to continue to utilize the on-street bicycle lanes for unauthorized travel
- Creates a driver expectancy issue due to mixed travel and crossing conditions. Golf carts will travel on a separated multi-modal path along Morse Boulevard, but be allowed to cross Morse Boulevard at intersections; there is no other instance in the community where this condition exists when the MMTP is on a separated facility.
- Moderate impact to neighboring properties during construction
- Requires significant expenditure of capital funds for construction

Alternative 2

Alternative 2 proposes repurposing and widening the existing roadway section to provide a bi-directional 14-foot multi modal path adjacent to the automobile travel lanes, but separated with a concrete separator. The primary benefit of Alternative 2 is having a physical separation between the MMTP and vehicular lanes while having lesser impacts to other features within the roadway footprint (utilities, landscaping buffers). The biggest disadvantage of Alternative 2 is that the MMTP users will be traveling close to the automobile lanes and could have a more constrained travel experience than that of Alternative 1. Construction of Alternative 2 will also create greater impacts to automobile traffic on Morse Boulevard during construction.

The following is a summary of the advantages, disadvantages, and potential impacts of Alternative 2.

Advantages

- Provides physical separation of automobiles and golf carts
- Requires golf carts to cross Morse Boulevard in a through movement instead of turning/merging movements
- Lower impact to utilities, existing landscaping, and social / aesthetic features when compared to Alternative 1

Disadvantages

- Moderate social / aesthetic feature impacts due to impacts to existing entry wall features
- Potential for utility and lighting impacts
- Low social impact potential to adjacent residential properties due to the path coming close to the backyard of properties adjacent to the side-street crossings
- Drainage modifications and permitting necessary
- Requires 13 new stop-controlled street crossings for the multi-modal path, which increases travel time for golf carts
- Creates a driver expectancy issue due to mixed travel and crossing conditions. Golf carts will travel on a separated multi-modal path along Morse Boulevard, but be allowed to cross Morse Boulevard at intersections; there is no other instance in the community where this condition exists.
- High impact to existing traffic during construction
- Requires significant expenditure of capital funds for construction

Agency and Public Involvement

The following agency and public involvement activities were performed during the study:

- Project kick-off meeting at the District 1 Board meeting on February 10, 2023
- Meeting with VCDD and Sumter County to review alternative concepts March 2023
- Coordination with utility owners within the project limits
- Meeting with SECO May 2023
- Meeting with SWFWMD June 2023
- Meeting with VCDD and Sumter County to review draft report and alternatives analysis July 2023

Input received from the public and District 1 Board members at the February 10, 2023 meeting included:

- Concern over the travel speeds on Morse Boulevard and desire for traffic calming measures
- Desire for a physical separation between the golf carts and automobiles traveling on Morse Boulevard
- Concern about conflicts between right-turning vehicles and golf carts and bicycles located in the golf cart/bicycle lane
- Concern about conflicts with left-turning / merge maneuvers between golf carts and automobiles
- Desire for more emphasis of existing crossing locations (flashing beacons, lighted signs)
- Development of controlled treatment for safe crossing and turning maneuvers for golf carts
- Request for replacement of the wooden bridge path areas to be wider to accommodate all users (golf carts, pedestrians, bicyclists)
- Request for raised pavement markers on the multi-modal path
- Stated difficulty entering or crossing Morse Boulevard from side streets and request for additional traffic signals along the corridor
- Request for additional law enforcement of vehicle and golf cart speeds

The alternatives and alternatives analysis will be presented to the District 1 Board at the August 11, 2023 meeting. Input will be received from the Board and public at the meeting and incorporated into a final report.

Sumter County Input

Morse Boulevard is owned and maintained by Sumter County. Any modifications within the existing Morse Boulevard right-of-way, or other roadways owned and maintained by Sumter County, will require permitting and approval by them. Sumter County provided the following initial concerns and input regarding the two alternatives.

- General concern about the MMTP / golf cart crossings on Morse Boulevard and consistency with other locations and treatments through The Villages in Sumter County. Preference is for golf cart crossings to occur within two-lane roadway sections if possible.
- The configuration of the intersection of Morse Boulevard and Rio Grande Avenue will be inconsistent with all other signalized intersections, with golf carts allowed on Rio Grande Avenue and crossing Morse Boulevard, but not allowed to travel on Morse Boulevard.
- Adding a fourth leg at the intersection of Morse Boulevard and Rio Grande Avenue will reduce green time and create additional delay and queueing on Morse Boulevard.
- A signage plan is needed for the entire roadway to indicate allowable movements for golf carts.
- Request for a detailed operational analysis of all golf cart crossings to support design treatment.
- Consideration of impact to pedestrians and pedestrian movements.
- The alternatives will also affect many Sumter County roadways other than Morse Boulevard due to the MMTP crossings. Permitting through Sumter County will be required for all roadway crossings.
- Concern that the additional delay to golf carts from needing to stop at roadway crossings will encourage illegal use of Morse Boulevard.
- Concern over the change in roadway conditions resulting in golf carts continuing to use Morse Boulevard even if restricted.

Design review and permitting will be required by Sumter County for improvements within any of their roadway rights-of-way. Sumter County will need to approve proposed intersection geometry and control, and crossing geometry and control. Sumter County will not contribute funding towards modification to the MMTP. Additionally, maintenance responsibilities will need to be established for the improvements noted in Alternative 1 and Alternative 2 that are within Sumter County right-of-way through a maintenance agreement. Maintenance responsibility limits are to be determined.

Summary

This report provides preliminary alternative concepts for a multi-modal path along Morse Boulevard separated from the vehicular travel lanes. Potential impacts and preliminary costs have been developed for review and consideration by the District 1 Board.

This study and alternatives evaluation consider the following elements:

- Review of existing conditions and prior studies
- Review of potential environmental impacts
- Review of potential drainage and permitting impacts
- Review of potential utility impacts
- Development and comparison of preliminary cost estimates
- Evaluation of physical and social impacts of the alternatives
- Documentation of advantages, disadvantages, and potential impacts for consideration of implementation

If a build alternative is selected for implementation by the District 1 Board, the next steps would include field survey and geotechnical investigations, underground utility locations, preparation of construction plans, permit applications to the SWFWMD, Villages DRC and Sumter County, more detailed construction cost estimates, bidding, and construction. Sumter County would need to approve the design of all improvements and crossings within their right-of-way, which will require further analysis of some issues noted by them during preparation of this report. Maintenance responsibilities and agreements would need to be established for maintenance of MMTP and crossings within Sumter County right-of-way.

APPENDICES

APPENDIX A

FNAI REPORT

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Tallahassee, FL 32303
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Florida Natural Areas Inventory

Biodiversity Matrix Query Results

UNOFFICIAL REPORT

Created 4/17/2023

(Contact the FNAI Data Services Coordinator at 850.224.8207 or kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

Report for 6 Matrix Units: 34106 , 34107 , 34108 , 34430 , 34431 , 34432

Descriptions

DOCUMENTED - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.

DOCUMENTED-HISTORIC - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit; however the occurrence has not been observed/reported within the last twenty years.

LIKELY - The species or community is *known* to occur in this vicinity, and is considered likely within this Matrix Unit because:

1. documented occurrence overlaps this and adjacent Matrix Units, but the documentation isn't precise enough to indicate which of those Units the species or community is actually located in; *or*
2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.

POTENTIAL - This Matrix Unit lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.

Matrix Unit ID: 34106

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

4 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST
Falco sparverius paulus Southeastern American Kestrel	G5T4	S3	N	ST
Mycteria americana Wood Stork	G4	S2	T	FT
Sandhill upland lake	G3	S2	N	N

Matrix Unit ID: 34107

1 **Documented** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST

0 **Documented-Historic** Elements Found

4 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Falco sparverius paulus Southeastern American Kestrel	G5T4	S3	N	ST
Mycteria americana Wood Stork	G4	S2	T	FT
Sandhill upland lake	G3	S2	N	N
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N

Matrix Unit ID: 34108

1 **Documented** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST

0 **Documented-Historic** Elements Found

4 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Falco sparverius paulus Southeastern American Kestrel	G5T4	S3	N	ST
Mycteria americana Wood Stork	G4	S2	T	FT
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Upland hardwood forest	G5	S3	N	N

Matrix Unit ID: 34430

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

4 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST
Falco sparverius paulus Southeastern American Kestrel	G5T4	S3	N	ST
Mycteria americana Wood Stork	G4	S2	T	FT
Upland hardwood forest	G5	S3	N	N

Matrix Unit ID: 34431

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST
Falco sparverius paulus Southeastern American Kestrel	G5T4	S3	N	ST
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N

Matrix Unit ID: 34432

0 **Documented** Elements Found

0 **Documented-Historic** Elements Found

1 **Likely** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N

Matrix Unit IDs: 34106 , 34107 , 34108 , 34430 , 34431 , 34432

36 **Potential** Elements Common to Any of the 6 Matrix Units

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Agrimonia incisa incised groove-bur	G3	S2	N	T
Antigone canadensis pratensis Florida Sandhill Crane	G5T2	S2	N	ST
Asplenium x curtissii Curtiss' spleenwort	GNA	S1	N	N
Asplenium x heteroresiliens Morzenti's spleenwort	G2	S1	N	N
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	ST
Bonamia grandiflora Florida bonamia	G3	S3	T	E
Calamintha ashei Ashe's savory	G3	S3	N	T
Calopogon multiflorus many-flowered grass-pink	G2G3	S2S3	N	T
Carex chapmannii Chapman's sedge	G3	S3	N	T
Centrosema arenicola sand butterfly pea	G2Q	S2	N	E
Clitoria fragrans scrub pigeon-wing	G2G3	S2	T	E
Coelorachis tuberculosa Piedmont jointgrass	G3	S3	N	T
Digitaria floridana Florida fingergrass	G1	S1	N	N
Drymarchon couperi Eastern Indigo Snake	G3	S2?	T	FT
Eriogonum longifolium var. gnaphalifolium scrub buckwheat	G4T3	S3	T	E

Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Heterodon simus Southern Hognose Snake	G2	S2S3	N	N
Lampropeltis extenuata Short-tailed Snake	G3	S3	N	ST
Lithobates capito Gopher Frog	G2G3	S3	N	N
Matelea floridana Florida spiny-pod	G2	S2	N	E
Monotropsis reynoldsiae pygmy pipes	G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3?	S3?	N	N
Nemastylis floridana celestial lily	G2	S2	N	E
Neofiber alleni Round-tailed Muskrat	G2	S2	N	N
Nolina brittoniana Britton's beargrass	G3	S3	E	E
Notophthalmus perstriatus Striped Newt	G2G3	S2	N	C
Podomys floridanus Florida Mouse	G3	S3	N	N
Pteroglossaspis ecristata giant orchid	G2G3	S2	N	T
Salix floridana Florida willow	G2G3	S2S3	N	E
Sciurus niger niger Southeastern Fox Squirrel	G5T5	S3	N	N
Selonodon mandibularis Large-Jawed Cebrionid Beetle	G2G4	S2S4	N	N
Sideroxylon alachuense silver buckthorn	G1	S1	N	E
Spigelia loganioides pinkroot	G2Q	S2	N	E
Trichomanes punctatum ssp. floridanum Florida filmy fern	G4G5T1	S1	E	E
Ursus americanus floridanus Florida Black Bear	G5T4	S4	N	N
Warea amplexifolia clasping warea	G1	S1	E	E

APPENDIX B

SWFWMD PRE-APPLICATION MEETING MINUTES

THIS FORM IS INTENDED TO FACILITATE AND GUIDE THE DIALOGUE DURING A PRE-APPLICATION MEETING BY PROVIDING A PARTIAL "PROMPT LIST" OF DISCUSSION SUBJECTS. IT IS NOT A LIST OF REQUIREMENTS FOR SUBMITTAL BY THE APPLICANT.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
RESOURCE REGULATION DIVISION
PRE-APPLICATION MEETING NOTES

FILE NUMBER:

PA 410509

Date:	06/15/2023		
Time:	09:00am		
Project Name:	Morse Boulevard MMTP		
District Engineer:	Beth Geurink		
District ES:	Al Gagne		
Attendees:	Amber Gartner, Gary Levengood, Tory Bacheler, Bruce Brown, Michael Davis		
County:	County	**Sec/Twp/Rge:**	12-13/18S/23E
Total Land Acreage:		**Project Acreage:**	17.5+/- acres

Prior On-Site/Off-Site Permit Activity:

- Roadway – none; adjacent multiple 5994.xxx. PreApp 402333 (6/9/2015) 80' ROW

Project Overview:

- Roughly 1.8 miles of multi-modal transportation project. Existing road cross-section includes car travel lane, golf-cart lane and swales. Two alternatives reviewed for revised cross-section with either a bike/cart lane and concrete separator or a 14-foot multi-use path for bikes and golf carts on the existing buffer berm.

Environmental Discussion: (Wetlands On-Site, Wetlands on Adjacent Properties, Delineation, T&E species, Easements, Drawdown Issues, Setbacks, Justification, Elimination/Reduction, Permanent/Temporary Impacts, Secondary and Cumulative Impacts, Mitigation Options, SHWL, Upland Habitats, Site Visit, etc.)

- There are wetlands/surface waters adjacent to the project. No impacts are proposed. All work will be conducted in the upland areas of the existing road right-of-way.
- A site visit by District staff will be required to verify the presence or absence of wetlands and/or surface waters. Prior to the site visit, District staff will contact the applicant or authorized agent to provide an approximate date of the site visit and to ensure that the project area is accessible. If wetlands or surface waters are discovered during the site visit, additional information may be required. A site visit will not be scheduled until the appropriate signatures on the application and the fee is submitted.

Site Information Discussion: (SHW Levels, Floodplain, Tailwater Conditions, Adjacent Off-Site Contributing Sources, Receiving Waterbody, etc.)

- Existing roadway/intersections – Morse Blvd between E CR 466 and El Camino Real
- Lake Panasoffkee Watershed
- WBIDs need to be independently verified by the consultant - WBID 1342F-Lake Miona Drain and WBID 2800- Non Contributing Area/Ocklawaha Group
- No listed impairment per the Water Quality Assessments, TMDLs, and BMAPs and Assessment Lists
- Appears to discharge to a closed basin.
- Document/justify SHWE's at pond locations, wetlands, and OSWs.
- Provide documentation to support tailwater conditions for quality and quantity design
- No contamination points within/adjacent to the project area per FDEP MapDirect Link
- Stormwater retention and detention systems are classified as moderate sanitary hazards with respect to public and private drinking water wells. Stormwater treatment facilities shall not be constructed within 100 feet of an existing public water supply well and shall not be constructed within 75 feet of an existing private drinking water well. Subsection 4.2, A.H.V.II.
- Any wells on site should be identified and their future use/abandonment must be designated.

Water Quantity Discussions: (Basin Description, Storm Event, Pre/Post Volume, Pre/Post Discharge, etc.)

- Applicant will need to confirm, but roadways may have been incorporated into the treatment/attenuation pond designs of the adjacent neighborhoods as part of the master plan. Basin appears to be closed.
- Demonstrate that post development peak discharges from proposed project area will not cause an adverse impact for a 25-year, 24-hour storm event.
- Show the stage and discharge impact of the proposed improvements on any existing ponds which receive drainage from it.

- For projects or portions of projects that discharge to a closed basin, limit the post-development 100-year discharge volume to the pre-development 100-year, 24-hour volume.
- Demonstrate that site will not impede the conveyance of contributing off-site flows.
- Demonstrate that the project will not increase flood stages up- or down-stream of the project area(s).
- Lake Panasoffkee Watershed Model information may be available for download using the following link: https://watermatters.sharefile.com/d-s8c9019e00fd243908654e733a6b2016c
- Provide equivalent compensating storage for all 100-year, 24-hour riverine floodplain impacts if applicable. Providing cup-for-cup storage in dedicated areas of excavation is the preferred method of compensation if no impacts to flood conveyance are proposed and storage impacts and compensation occur within the same basin. In this case, tabulations should be provided at 0.5-foot increments to demonstrate encroachment and compensation occur at the same levels. Otherwise, storage modeling will be required to demonstrate no increase in flood stages will occur on off-site properties, using the mean annual, 10-year, 25-year, and 100-year storm events for the pre- and post-development conditions.
- Please be aware that if there is credible historical evidence of past flooding or the physical capacity of the downstream conveyance or receiving waters indicates that the conditions for issuance will not be met without consideration of storm events of different frequency or duration, applicants shall be required to provide additional analyses using storm events of different duration or frequency than the 25-year 24-hour storm event, or to adjust the volume, rate or timing of discharges. [Section 3.0 Applicant's Handbook Volume II]

Water Quality Discussions: (Type of Treatment, Technical Characteristics, Non-presumptive Alternatives, etc.)

- Provide water quality treatment in accordance with rules for existing public roadways (below) or demonstrate, by include appropriate excerpts from previous permits, that these rights-of-way were already included in the contributing basins of existing permitted treatment ponds and at what level of impervious coverage (or CN).
- Presumptive Water Quality Treatment for Alterations to Existing Public Roadway Projects:
  -Refer to Section 4.5 A.H.V.II for Alterations to Existing Public Roadway Projects.
  -Refer to Sections 4.8, 4.8.1 and 4.8.2 A.H.V.II for Compensating Stormwater Treatment, Overtreatment, and Offsite Compensation.
  -All co-mingled existing & new impervious that is proposed to be connected to a treatment pond will require treatment for an area equal to the co-mingled existing & new impervious (times ½" for dry treatment or 1" for wet treatment). This applies whether or not equivalent treatment concepts are used.
  -However, if equivalent treatment concepts are used it is possible to strategically locate the pond(s) so that the minimum treatment requirement may be for an area equivalent to the new impervious area only. That is, co-mingled existing & new impervious that is not connected to a treatment pond may bypass treatment (as per Section 4.5(2), A.H.V.II); if the 'total impervious area' that is connected to the treatment pond(s) is at least equivalent to the area of new impervious only. The 'total impervious area' that is connected to the pond(s) may be composed of co-mingled existing & new impervious.
  -Offsite impervious not required to be treated; but may be useful to be treated when using equivalent treatment concepts.
  -Existing treatment capacity displaced by any road project will require additional compensating volume. Refer to Subsection 4.5(c), A.H.V.II.
- Will acknowledge compensatory treatment to offset pollutant loads associated with portions of the project area that cannot be physically treated.

Sovereign Lands Discussion: (Determining Location, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP)

- N/A

Operation and Maintenance/Legal Information: (Ownership or Perpetual Control, O&M Entity, O&M Instructions, Homeowner Association Documents, Coastal Zone requirements, etc.)

- The permit must be issued to entity that owns or controls the property.
- Unless right of way is a County operated and maintained roadway, provide evidence of ownership or control by deed, easement, contract for purchase, etc. if privately owned properties are involved. Evidence of ownership or control must include a legal description. A Property Appraiser summary of the legal description is NOT acceptable.

- If using ponds which are operated/maintained by a Homeowners Association (HOA) or Property Owners Association (POA) or CDD, provide documentation that the entity is willing to accept the runoff and how access for maintenance and repair will be guaranteed.
- Alternatively the HOA/POA/CDD can be a co-permittee with the County for the project.

Application Type and Fee Required:

- SWERP – Sections A, C, and E of the ERP Application. Major Modification to base permit under which receiving ponds are tracked.
- < 40 acres of project area and < 3 acres of wetland or surface water impacts - $1245.75 Online Submittal
- Consult the fee schedule for different thresholds.

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits – WUP, WOD, Well Construction, etc.)

- An application for an individual permit to construct or alter a dam, impoundment, reservoir, or appurtenant work, requires that a notice of receipt of the application must be published in a newspaper within the affected area. Provide documentation that such noticing has been accomplished. Note that the published notices of receipt for an ERP can be in accordance with the language provided in Rule 40D-1.603(10), F.A.C.

- Provide a copy of the legal description (of all applicable parcels within the project area) in one of the following forms:
  a. Deed with complete Legal Description attachment.
  b. Plat.
  c. Boundary survey of the property(ies) with a sketch.

- The plans and drainage report submitted electronically must include the appropriate information required under Rules 61G15-23.005 and 61G15-23.004 (Digital), F.A.C. The following text is required by the Florida Board of Professional Engineers (FBPE) to meet this requirement when a digitally created seal is not used and must appear where the signature would normally appear:

  ELECTRONIC (Manifest): *[NAME] State of Florida, Professional Engineer, License No. [NUMBER] This item has been electronically signed and sealed by [NAME] on the date indicated here using a SHA authentication code. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies*

  DIGITAL: *[NAME] State of Florida, Professional Engineer, License No. [NUMBER]; This item has been digitally signed and sealed by [NAME] on the date indicated here; Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.*
- Provide soil erosion and sediment control measures for use during construction. Refer to ERP Applicant's Handbook Vol. 1 Part IV Erosion and Sediment Control.
- On December 17, 2020, the Environmental Protection Agency (EPA) formally transferred permitting authority under CWA Section 404 from the U.S. Army Corps of Engineers (Corps) to the State of Florida for a broad range of water resources within the State. The primary State 404 Program rules are adopted by the Florida Department of Environmental Protection (FDEP) as Chapter 62-331 of the Florida Administrative Code (F.A.C.). While the State 404 Program is a separate permitting program from the Environmental Resource Permitting program (ERP) under Chapter 62-330, F.A.C., and agency action for State 404 Program verifications, notices, or permits shall be taken independently from ERP agency action, the FDEP and the Southwest Florida Water Management District (SWFWMD) will be participating in a Joint application Process. Upon submittal of an ERP application that proposes dredge/fill activities in wetlands or surface waters within state assumed waters, the SWFWMD will forward a copy of your application to the FDEP for activities under State 404 jurisdiction. The applicant may choose to have the State 404 Program and ERP agency actions issued concurrently to help ensure consistency and reduce the need for project modifications that may occur when the agency actions are issued at different times. Additional information on the FDEP's 404 delegation can be found at: https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/state-404-program

  Additionally, for those projects located in areas where the Corps retains jurisdiction, the applicant is advised that the District will not send a copy of an application that does not qualify for a State Programmatic General

Permit (SPGP) to the U.S. Army Corps of Engineers. If a project does not qualify for a SPGP, you will need to apply separately to the Corps using the appropriate federal application form for activities under federal jurisdiction. Please see the Corps' Jacksonville District Regulatory Division Sourcebook for more information about federal permitting. Please call your local Corps office if you have questions about federal permitting. Link: http://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/

Disclaimer: The District ERP pre-application meeting process is a service made available to the public to assist interested parties in preparing for submittal of a permit application. Information shared at pre-application meetings is superseded by the actual permit application submittal. District permit decisions are based upon information submitted during the application process and Rules in effect at the time the application is complete.

APPENDIX C

ALTERNATIVES PLANNING LEVEL COST ESTIMATES

Prepared by:

Kimley»Horn

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
MORSE BOULEVARD MMTP ALTERNATIVES EVALUATION
ALTERNATIVE #1 - OFF STREET PATH OPTION

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
I	**MISCELLANEOUS**				
1	Mobilization	1	LS	$ 1,573,952.20	$ 1,573,952.20
2	Maintenance of Traffic	1	LS	$ 393,488.05	$ 393,488.05
3	Clearing and Grubbing (Heavy)	4.2	AC	$ 125,000.00	$ 525,000.00
4	Clearing and Grubbing (Typical)	0.2	AC	$ 25,000.00	$ 5,000.00
5	Earthwork	7,797	CY	$ 35.00	$ 272,895.00
6	Erosion and Sediment Control	1	LS	$ 15,000.00	$ 15,000.00
II	**TRAIL CONSTRUCTION**				
1	12" Compacted Subgrade	15,601	SY	$ 15.00	$ 234,015.00
2	6" Limerock Base, Primed	15,601	SY	$ 26.00	$ 405,626.00
3	1.5" Asphalt	1,204	TN	$ 200.00	$ 240,800.00
4	6" Header Curb	19,016	LF	$ 35.00	$ 665,560.00
5	8" Limestone Base (Roadway)	398	SY	$ 30.00	$ 11,940.00
6	1.5" Asphalt (Roadway)	33	TN	$ 200.00	$ 6,600.00
7	6" Thick 3000 psi Concrete	0	SY		
8	Elevated Path	262	LF	$ 950.00	$ 248,900.00
9	ConcreteTraffic Separator	0	LF	$ 90.00	$ -
10	Curb, Including Transitions	1,135	LF	$ 35.00	$ 39,725.00
11	Concrete Pipe Demolition	25	LF	$ 50.00	$ 1,250.00
12	Concrete Pipe	312	LF	$ 100.00	$ 31,200.00
13	Concrete MES Demo	4	EA	$ 500.00	$ 2,000.00
14	Concrete MES	20	EA	$ 3,000.00	$ 60,000.00
15	Concrete Pad, Relocate Existing Bench	1	EA	$ 1,500.00	$ 1,500.00
16	Stacked Block Retaining Wall	3,406	SF	$ 50.00	$ 170,300.00
17	Four Board Fence	719	LF	$ 50.00	$ 35,950.00
18	Decorative Sign Assembly	79	EA	$ 2,500.00	$ 197,500.00
19	24" White	0	LF	$ 20.00	$ -
20	12" White	223	LF	$ 10.00	$ 2,230.00
21	6" White	1,849	LF	$ 5.00	$ 9,245.00
22	6" Double Yellow	344	LF	$ 10.00	$ 3,440.00
23	12" Yellow Gore	137	LF	$ 5.00	$ 685.00
24	Turn Lane Marking	8	EA	$ 275.00	$ 2,200.00
25	Bike Lane Marking	62	EA	$ 500.00	$ 31,000.00
26	New Signal Mast Arm at Rio Grande	1	EA	$ 175,000.00	$ 175,000.00
27	Relocate Traffic Contoller at Rio Grande	1	EA	$ 50,000.00	$ 50,000.00
28	Special Emphasis Pedestrian Activated Cart Crossing	1	EA	$ 85,000.00	$ 85,000.00
29	Demolish Wall Feature (Rio Grande)	1	EA	$ 50,000.00	$ 50,000.00
30	Demolish and Construct New Entry Sign (Rio Ranchero South)	0	EA	$ 35,000.00	$ -
31	Demolish and Construct New Entry Sign (Villa Marbella)	1	EA	$ 35,000.00	$ 35,000.00
32	Demolish and Construct New Entry Sign (Hacienda South)	1	EA	$ 35,000.00	$ 35,000.00
33	Demolish and Construct New Entry Sign (Villa San Miguel)	2	EA	$ 35,000.00	$ 70,000.00
34	Modify Entry Sign (Villa De La Vista East)	1	EA	$ 10,000.00	$ 10,000.00
35	Relocate Welcome/Thanks for Visiting Sign	1	EA	$ 5,000.00	$ 5,000.00

Prepared by:

Kimley»Horn

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
MORSE BOULEVARD MMTP ALTERNATIVES EVALUATION
ALTERNATIVE #1 - OFF STREET PATH OPTION

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
III	**LANDSCAPING AND IRRIGATION**				
1	Landscaping and Irrigation Replacement Budget	9,738	LF	$ 400.00	$ 3,895,200.00
IV	**UTILITIES**				
1	Electric Vault	3	EA	$ 25,000.00	$ 75,000.00
2	Light Pole Relocations	3	EA	$ 5,000.00	$ 15,000.00
3	Misc Utility Adjustments	1	LS	$ 25,000.00	$ 25,000.00
V	**SURVEY AND TESTING**				
1	Construction Stakeout	1	LS	$ 75,000.00	$ 75,000.00
2	Record Drawings	1	LS	$ 25,000.00	$ 25,000.00
3	Geotechnical Testing	1	LS	$ 25,000.00	$ 25,000.00
				SUBTOTAL	$ 9,837,201.25
				CONTINGENCY (15%)	$ 1,475,580.19
				TOTAL CONSTRUCTION BUDGET ESTIMATE	**$ 11,312,800**
				FIELD SURVEY (5%)	$ 565,640.00
				GEOTECHNICAL (4%)	$ 452,512.00
				CIVIL ENGINEERING (12%)	$ 1,357,536.00
				LANDSCAPE ARCHITECTURE (6%)	$ 678,768.00
				CONSTRUCTION ENGINEERING INSPECTION (8%)	$ 905,024.00
				ESTIMATED DESIGN COSTS	**$ 3,959,500**
				ESTIMATED PROJECT TOTAL	**$ 15,280,000**

DISCLAIMER: THE ENGINEER HAS NO CONTROL OVER THE COST OF LABOR, MATERIALS, EQUIPMENT, OR OVER THE CONTRACTOR'S METHODS OF DETERMINING PRICES OR OVER COMPETITIVE BIDDING, OR MARKET CONDITIONS. OPINIONS OF PROBABLE COSTS PROVIDED HEREIN ARE BASED ON PRESENT DAY DOLLARS AND ARE BASED ON THE INFORMATION KNOWN TO ENGINEER AT THIS TIME AND REPRESENT ONLY THE ENGINEER'S JUDGMENT AS A DESIGN PROFESSIONAL FAMILIAR WITH THE CONSTRUCTION INDUSTRY. THE ENGINEER CANNOT AND DOES NOT GUARANTEE THAT PROPOSALS, BIDS, OR ACTUAL CONSTRUCTION COSTS WILL NOT VARY FROM ITS OPINIONS OF PROBABLE COSTS.

Prepared by:

Kimley»Horn

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
MORSE BOULEVARD MMTP ALTERNATIVES EVALUATION
ALTERNATIVE #2 - ON STREET PATH OPTION

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
I	**MISCELLANEOUS**				
1	Mobilization	1	LS	$ 1,231,610.00	$ 1,231,610.00
2	Maintenance of Traffic	1	LS	$ 738,966.00	$ 738,966.00
3	Clearing and Grubbing (Heavy)	1.6	AC	$ 125,000.00	$ 200,000.00
4	Clearing and Grubbing (Typical)	1.4	AC	$ 25,000.00	$ 35,000.00
5	Earthwork	7,353	CY	$ 35.00	$ 257,355.00
6	Erosion and Sediment Control	1	LS	$ 15,000.00	$ 15,000.00
II	**TRAIL CONSTRUCTION**				
1	12" Compacted Subgrade (MMTP)	11,495	SY	$ 15.00	$ 172,425.00
2	6" Limerock Base, Primed (MMTP)	11,495	SY	$ 26.00	$ 298,870.00
3	1.5" Asphalt (MMTP)	635	TN	$ 200.00	$ 127,000.00
4	6" Header Curb	9,838	LF	$ 35.00	$ 344,330.00
5	1" Milling of Existing Roadway	36,680	SY	$ 3.50	$ 128,380.00
6	8" Limestone Base	3,900	SY	$ 30.00	$ 117,000.00
7	12" Compacted Subgrade	3,900	SY	$ 15.00	$ 58,500.00
8	1.5" Asphalt (Roadway)	3,365	TN	$ 200.00	$ 673,000.00
9	1.5" Average Asphalt Overbuild	1,840	TN	$ 200.00	$ 368,000.00
10	MMTP Reflective Pavement Markers	470	EA	$ 10.00	$ 4,700.00
12	Elevated Path	261	LF	$ 950.00	$ 247,950.00
13	Concrete Traffic Separator	5,055	LF	$ 90.00	$ 454,950.00
14	Curb, Including Transitions	671	LF	$ 35.00	$ 23,485.00
16	Concrete Pipe	791	LF	$ 100.00	$ 79,100.00
17	Concrete MES Demo	17	EA	$ 500.00	$ 8,500.00
18	Concrete MES	33	EA	$ 3,000.00	$ 99,000.00
19	Type C Drainage Inlet	15	EA	$ 7,500.00	$ 112,500.00
20	Concrete Pad, Relocate Existing Bench	1	EA	$ 1,500.00	$ 1,500.00
21	Stacked Block Retaining Wall	602	SF	$ 50.00	$ 30,100.00
22	Four Board Fence	698	LF	$ 50.00	$ 34,900.00
23	Decorative Sign Assembly	71	EA	$ 2,500.00	$ 177,500.00
24	Painted Pavement Markings, Final Surface	1	LS	$ 50,000.00	$ 50,000.00
25	24" White	96	LF	$ 20.00	$ 1,920.00
26	12" White	230	LF	$ 10.00	$ 2,300.00
27	6" White	16,373	LF	$ 5.00	$ 81,865.00
28	6" Double Yellow w/ RPM	9,028	LF	$ 15.00	$ 135,420.00
29	12" Yellow Gore	185	LF	$ 5.00	$ 925.00
30	Turn Lane Marking	19	EA	$ 275.00	$ 5,225.00
31	Bike Lane Marking	15	EA	$ 500.00	$ 7,500.00
32	New Signal Mast Arm at Rio Grande	1	EA	$ 175,000.00	$ 175,000.00
33	Relocate Traffic Contoller at Rio Grande	1	EA	$ 50,000.00	$ 50,000.00
34	Special Emphasis Pedestrian Activated Cart Crossing	1	EA	$ 85,000.00	$ 85,000.00
35	Demolish Wall Feature (Rio Grande)	1	EA	$ 50,000.00	$ 50,000.00
36	Demolish and Construct New Entry Sign (Hacienda Hills CC)	1	EA	$ 35,000.00	$ 35,000.00
37	Demolish and Construct New Entry Sign (Rio Ranchero North)	1	EA	$ 35,000.00	$ 35,000.00
38	Demolish and Construct New Entry Sign (Rio Ranchero South)	2	EA	$ 35,000.00	$ 70,000.00
39	Demolish and Construct New Entry Sign (Villa Marbella)	1	EA	$ 35,000.00	$ 35,000.00
42	Modify Entry Sign (Villa De La Vista East)	1	EA	$ 10,000.00	$ 10,000.00
43	Relocate Welcome/Thanks for Visiting Sign	1	EA	$ 5,000.00	$ 5,000.00

Prepared by:

Kimley»Horn

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST
MORSE BOULEVARD MMTP ALTERNATIVES EVALUATION
ALTERNATIVE #2 - ON STREET PATH OPTION

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	COST
III	**LANDSCAPING AND IRRIGATION**				
1	Landscaping and Irrigation Replacement Budget	9,339	LF	$ 100.00	$ 933,850.00
2	Sod Replacement	13,000	SY	$ 5.00	$ 65,000.00
IV	**UTILITIES**				
1	Electric Vault	3	EA	$ 25,000.00	$ 75,000.00
2	Light Pole Relocations	7	EA	$ 5,000.00	$ 35,000.00
3	Misc Utility Adjustments	1	LS	$ 25,000.00	$ 25,000.00
V	**SURVEY AND TESTING**				
1	Construction Stakeout	1	LS	$ 50,000.00	$ 50,000.00
2	Record Drawings	1	LS	$ 20,000.00	$ 20,000.00
3	Geotechnical Testing	1	LS	$ 50,000.00	$ 50,000.00
				SUBTOTAL	$ 8,128,626.00
				CONTINGENCY (15%)	$ 1,219,293.90
				TOTAL CONSTRUCTION BUDGET ESTIMATE	**$ 9,347,920**
				FIELD SURVEY (5%)	$ 467,396.00
				GEOTECHNICAL (4%)	$ 373,916.80
				CIVIL ENGINEERING (12%)	$ 1,121,750.39
				LANDSCAPE ARCHITECTURE (6%)	$ 560,875.19
				CONSTRUCTION ENGINEERING INSPECTION (8%)	$ 747,833.59
				ESTIMATED DESIGN COSTS	**$ 3,271,800**
				ESTIMATED PROJECT TOTAL	**$ 12,620,000**

DISCLAIMER: THE ENGINEER HAS NO CONTROL OVER THE COST OF LABOR, MATERIALS, EQUIPMENT, OR OVER THE CONTRACTOR'S METHODS OF DETERMINING PRICES OR OVER COMPETITIVE BIDDING, OR MARKET CONDITIONS. OPINIONS OF PROBABLE COSTS PROVIDED HEREIN ARE BASED ON PRESENT DAY DOLLARS AND ARE BASED ON THE INFORMATION KNOWN TO ENGINEER AT THIS TIME AND REPRESENT ONLY THE ENGINEER'S JUDGMENT AS A DESIGN PROFESSIONAL FAMILIAR WITH THE CONSTRUCTION INDUSTRY. THE ENGINEER CANNOT AND DOES NOT GUARANTEE THAT PROPOSALS, BIDS, OR ACTUAL CONSTRUCTION COSTS WILL NOT VARY FROM ITS OPINIONS OF PROBABLE COSTS.

APPENDIX D

CONCEPT PLANS

The Villages®
Community Development Districts
District 1

CONCEPTUAL PLANS
FOR

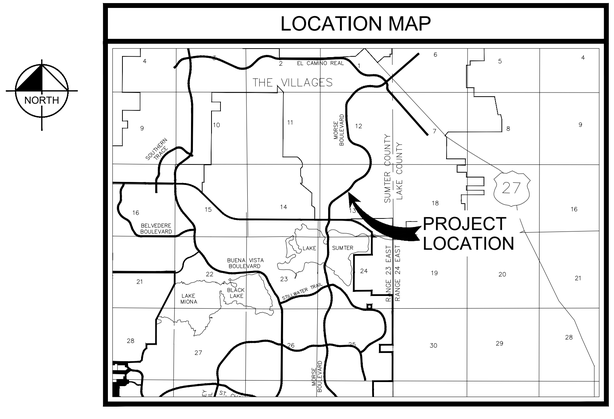
MORSE BOULEVARD MMTP ALTERNATIVES EVALUATION

SUMTER COUNTY, FLORIDA

SECTIONS 23, 44 & 60 TOWNSHIP 18 SOUTH, RANGE 23 EAST

JULY 2023

LOCATION MAP



DRAWING INDEX

PROJECT OWNER AND CONSULTANTS

OWNER/APPLICANT
THE VILLAGES COMMUNITY
DEVELOPMENT DISTRICT 1
984 OLD MILL RUN
THE VILLAGES, FL 32162
352-751-3904

CIVIL ENGINEERING CONSULTANT
KIMLEY-HORN AND ASSOCIATES, INC.
1700 SE 17TH STREET., SUITE 200
OCALA, FLORIDA 34471
PHONE: (352) 438-3000

AGENCY CONTACT LISTING

ELECTRIC
SECO ENERGY
330 SOUTH US HWY 301
SUMTERVILLE, FL 33585
(352) 793-3801

WATER & SEWER
VILLAGES CENTER COMMUNITY
DEVELOPMENT DISTRICT (VCCDD)
1038 LAKE SUMTER LANDING
THE VILLAGES, FL 32162
TREY ARNETT
(352) 753-6260

STORMWATER
ST. JOHNS RIVER WATER
MANAGEMENT DISTRICT
4049 REID STREET
PALATKA, FL 32177

TELEPHONE/CABLE TV
CENTURY LINK
1325 BLAIRSTONE RD RM 113
TALLAHASSEE, FL 32301
BILL MCCLOUD

GAS
TECO PEOPLE'S GAS
600 W. ROBINSON ST.
ORLANDO, FL 32801

CALL TWO (2) BUSINESS DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

No.	REVISIONS	DATE	BY

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PHONE: 352-438-3000
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

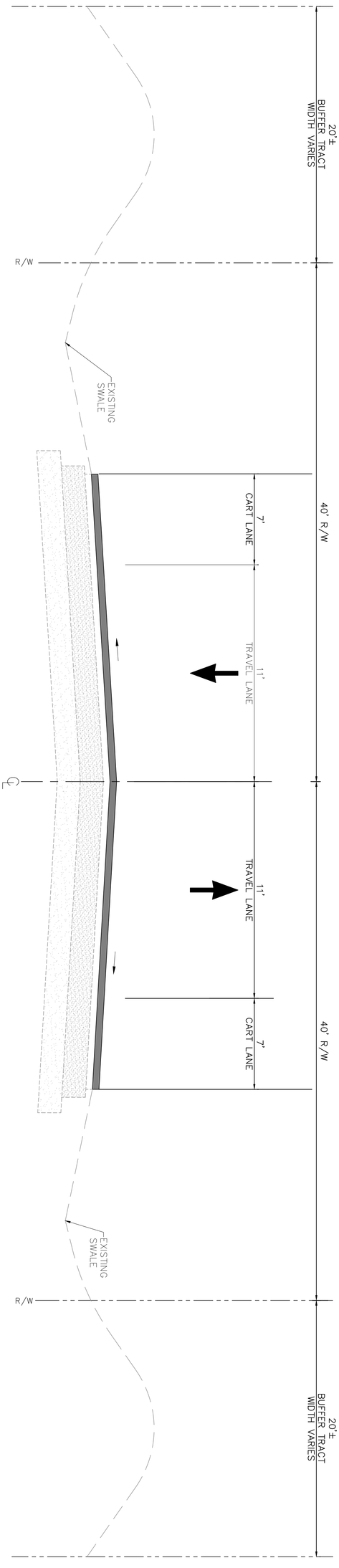
LICENSED PROFESSIONAL
AMBER L GARTNER, P.E.
FLORIDA LICENSE NUMBER
72294
DATE:

KHA PROJECT 142202062
DATE JULY 2023
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY WRC
CHECKED BY ALG

COVER SHEET

MORSE BOULEVARD MMTP
ALTERNATIVES EVALUATION
PREPARED FOR
THE VILLAGES COMMUNITY
DEVELOPMENT DISTRICT 1
SUMTER COUNTY FLORIDA

SHEET NUMBER
01



EXISTING ROAD SECTION

NOT TO SCALE

SHEET NUMBER 02

MORSE BOULEVARD MMTP
ALTERNATIVES EVALUATION
PREPARED FOR
THE VILLAGES COMMUNITY DEVELOPMENT DISTRICT 1
SUMTER COUNTY FLORIDA

TYPICAL SECTIONS

KHA PROJECT 142202062
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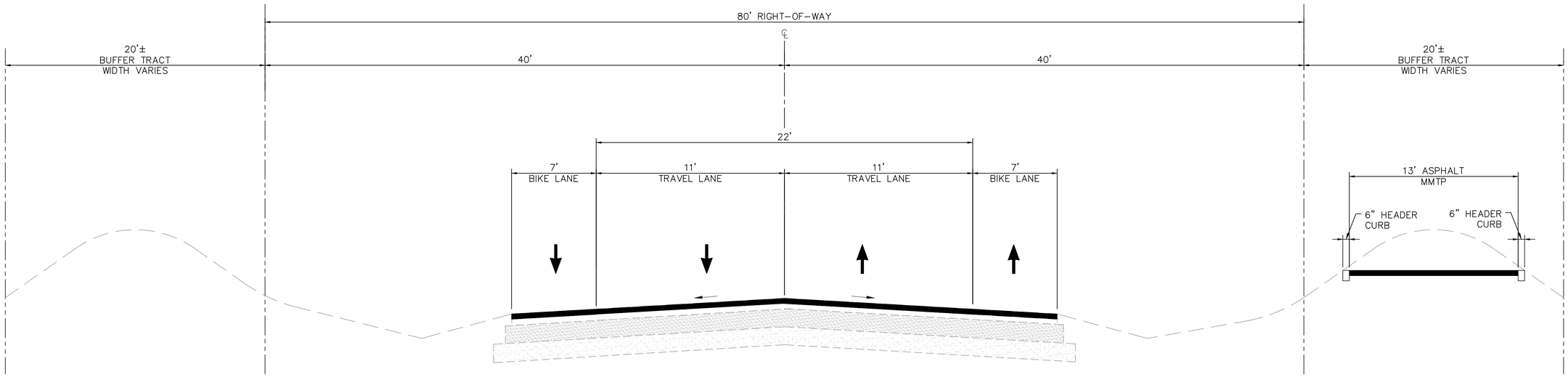
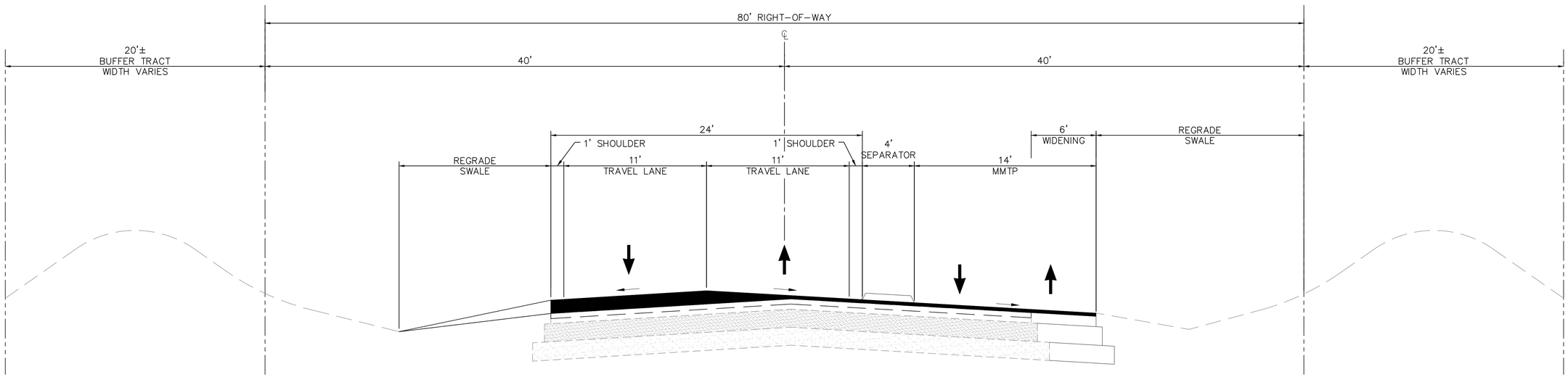


ALTERNATIVE 1

NOT TO SCALE

* CONSTRUCT 14 FT. MMTP IN BUFFER TRACT AND R/W.
* RESTRIPE EXISTING ON-ROAD CART LANE TO BE 7 FT. BUFFERED BIKE LANE.



ALTERNATIVE 2

NOT TO SCALE

* WIDEN PAVEMENT SECTION BY 6 FT. TO PROVIDE A 14 FT. MMTP FOR CARTS, BICYCLISTS, AND PEDESTRIANS.
* RESURFACE ROAD TO PROVIDE CROSS SLOPE CORRECTION.
* CONSTRUCT 4 FT. TRAFFIC SEPARATOR BETWEEN ROAD AND MMTP.

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MORSE BOULEVARD MMTP
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DEVELOPMENT DISTRICT 1
SUMTER COUNTY FLORIDA

SHEET NUMBER
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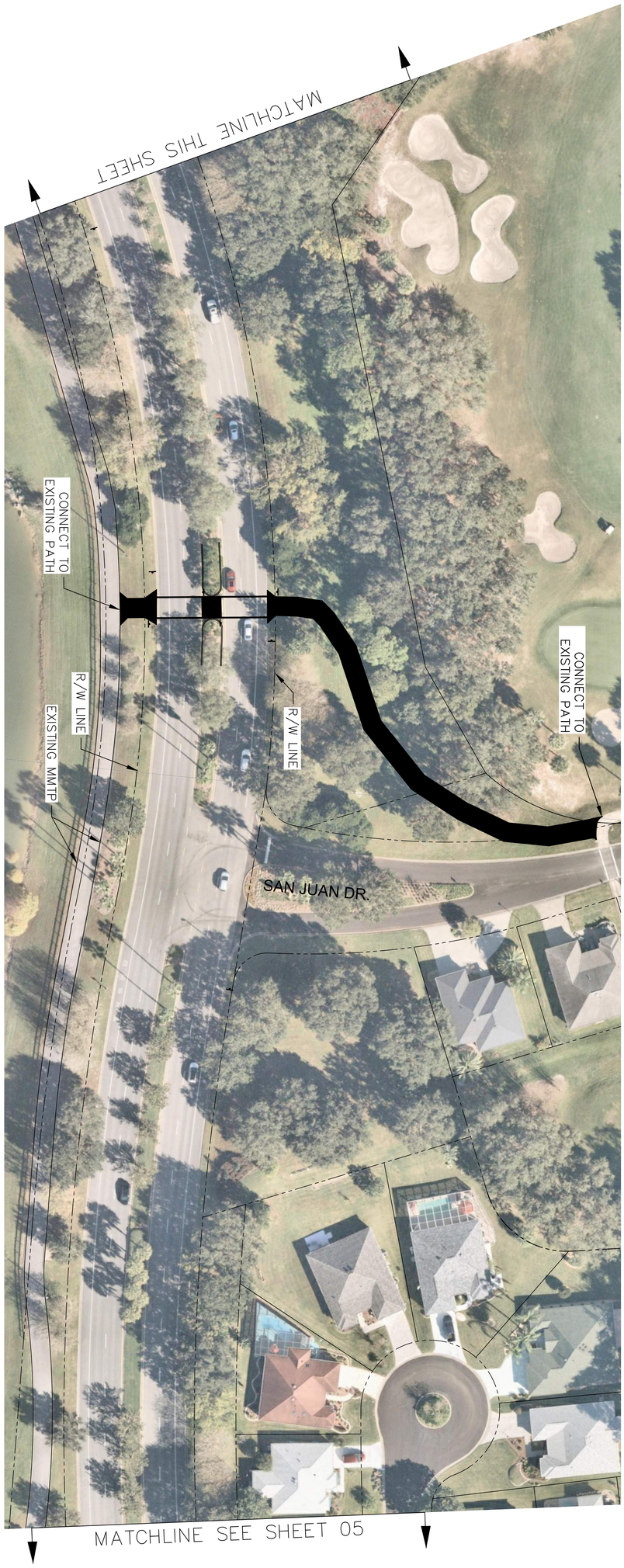

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MORSE BOULEVARD MMTP
ALTERNATIVES EVALUATION
PREPARED FOR
THE VILLAGES COMMUNITY DEVELOPMENT DISTRICT 1
SUMTER COUNTY FLORIDA

ALTERNATIVE 1

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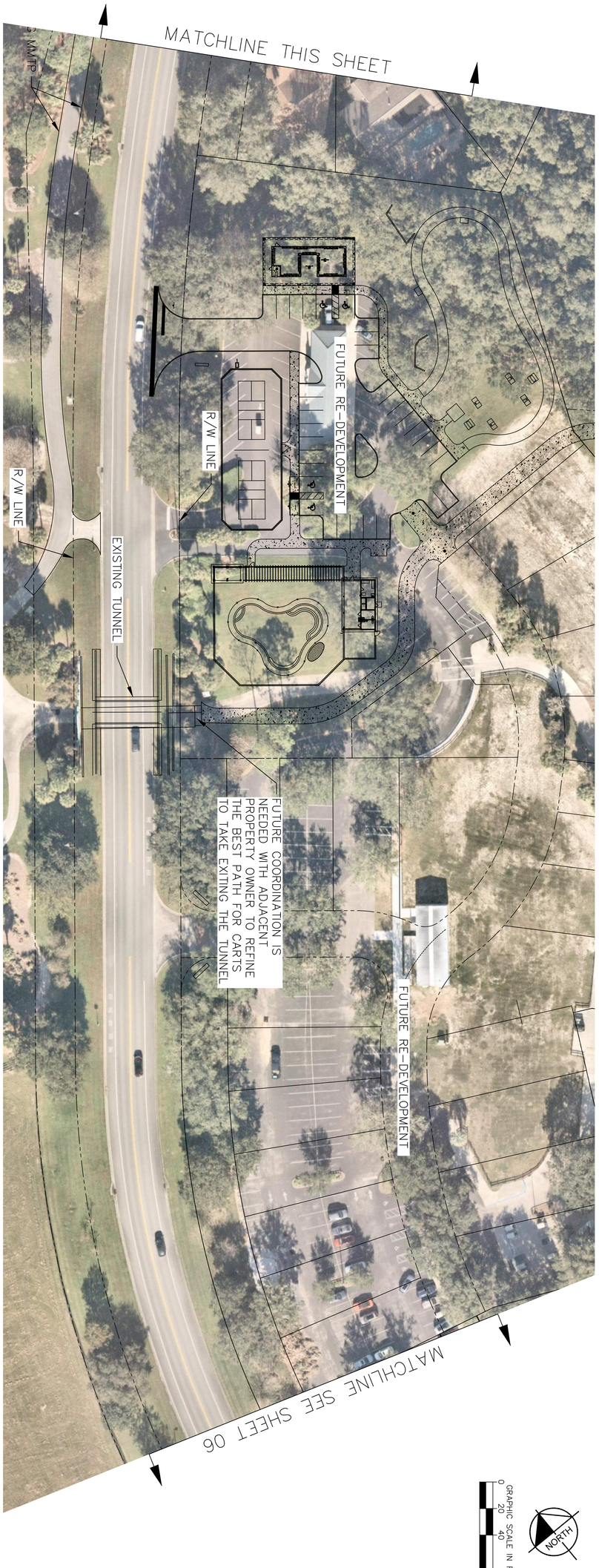

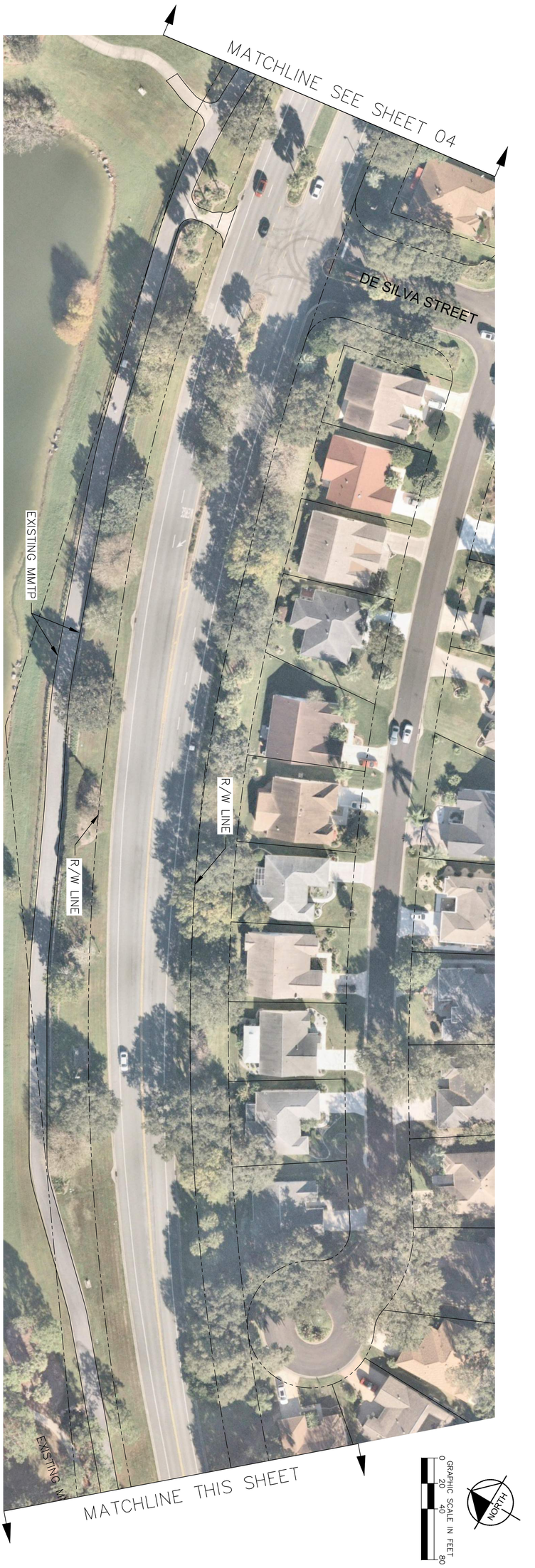

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MORSE BOULEVARD MMTP
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ALTERNATIVE 1

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SHEET NUMBER 06

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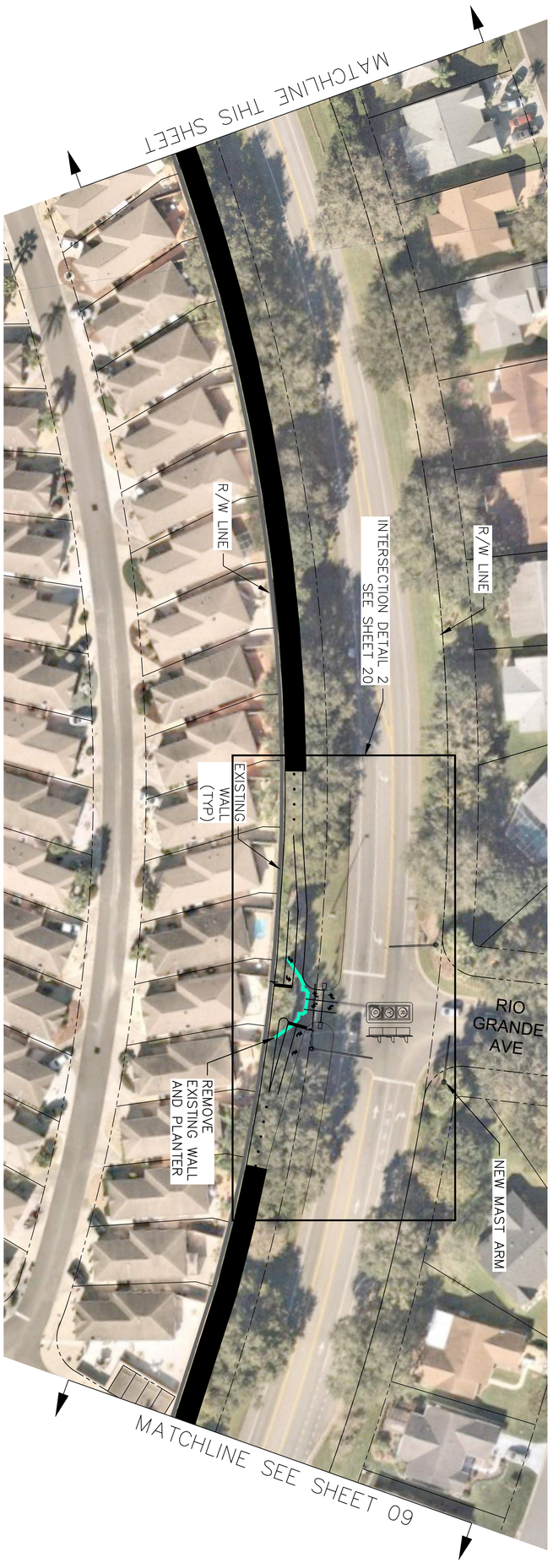

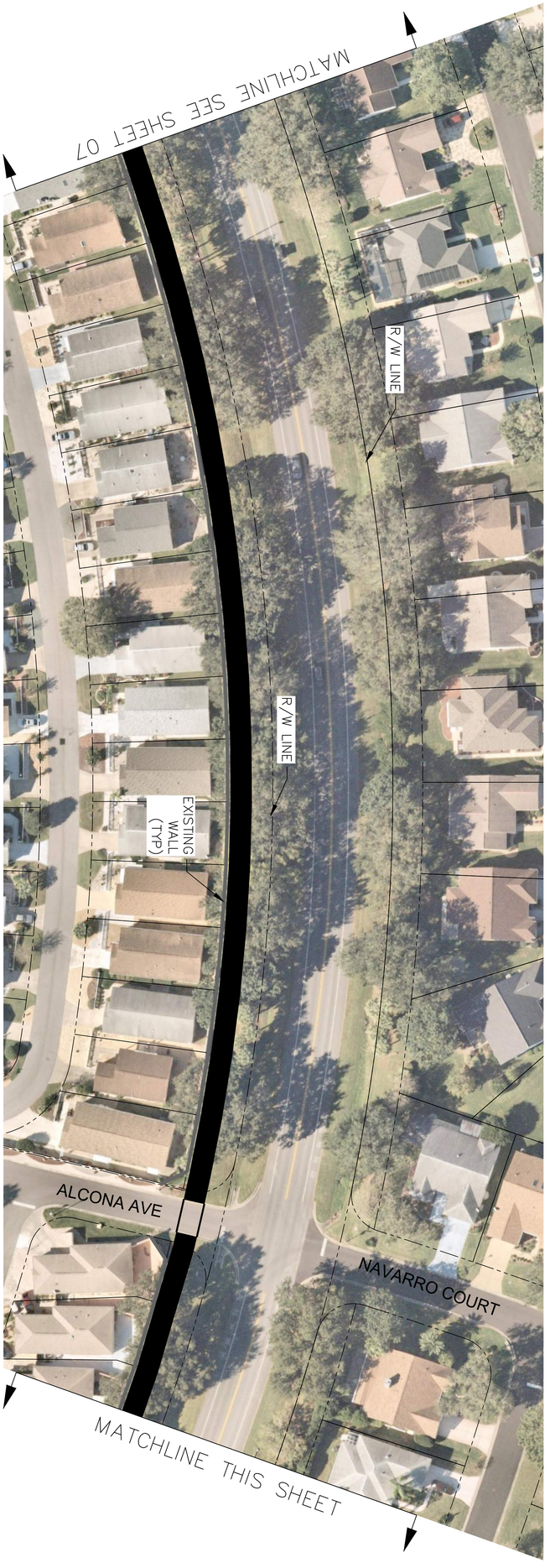

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GRAPHIC SCALE IN FEET 0 20 40 80

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MORSE BOULEVARD MMTP
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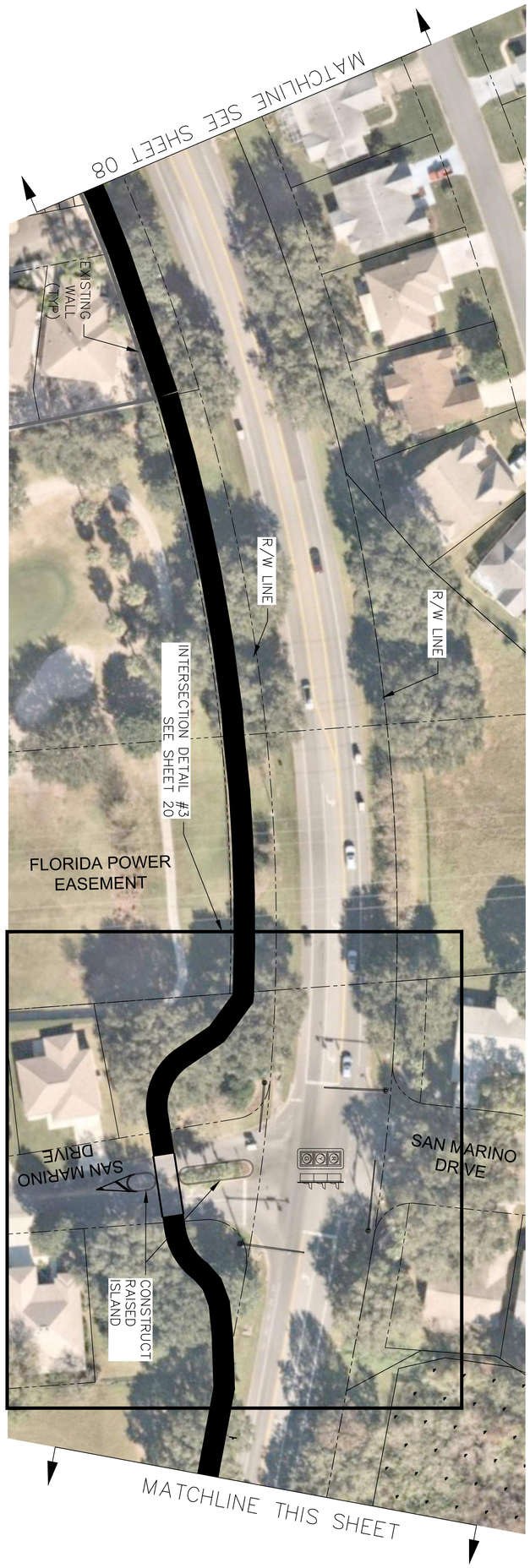

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GRAPHIC SCALE IN FEET 0 20 40 80

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MORSE BOULEVARD MMTP
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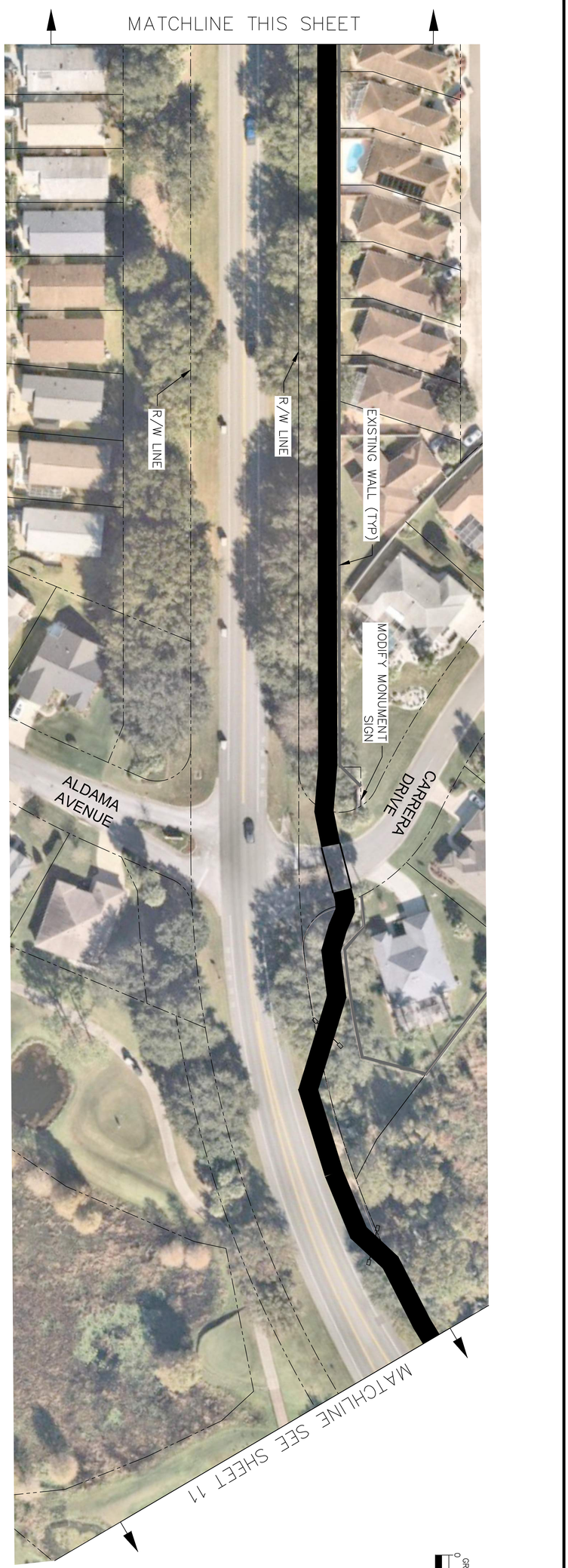

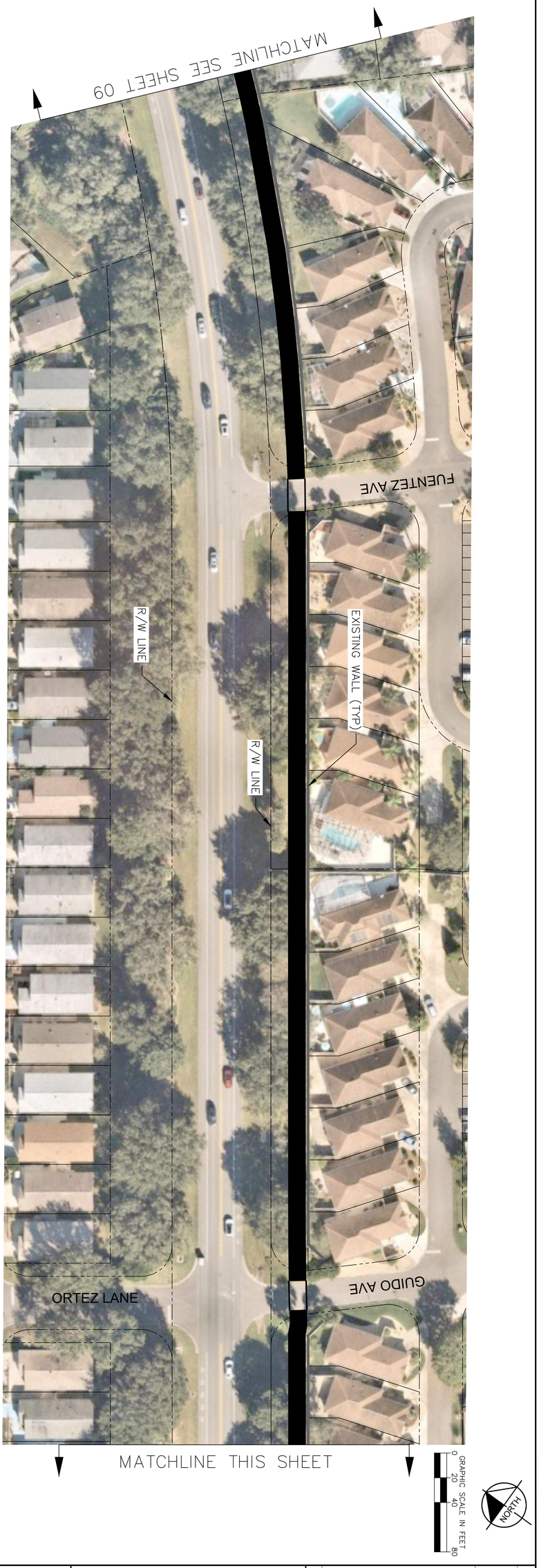

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MORSE BOULEVARD MMTP
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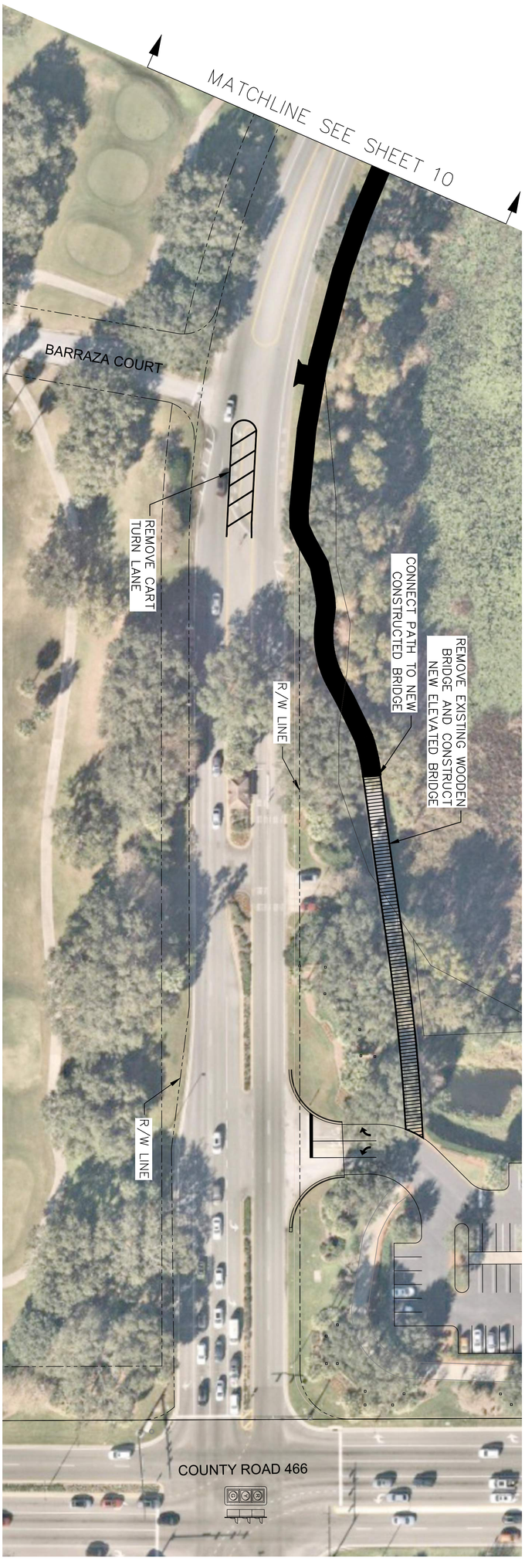

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SHEET NUMBER
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MORSE BOULEVARD MMTP
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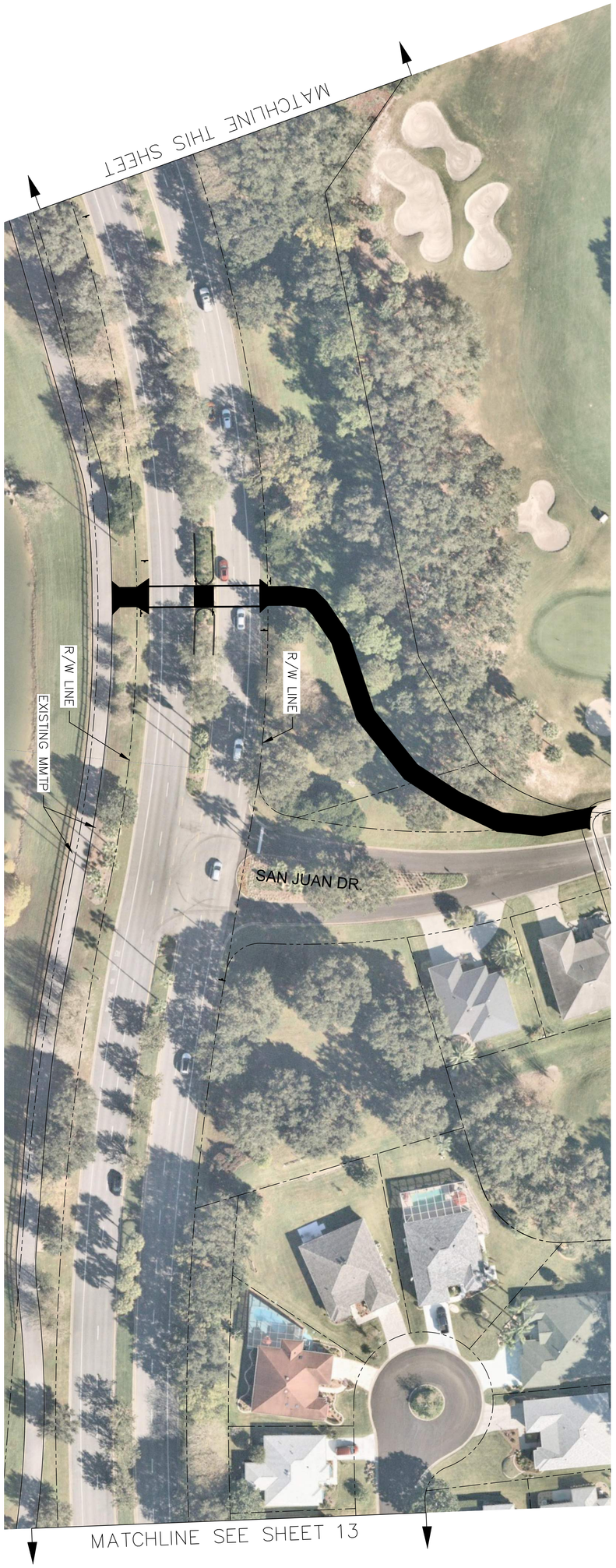

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MORSE BOULEVARD MMTP
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ALTERNATIVE 2

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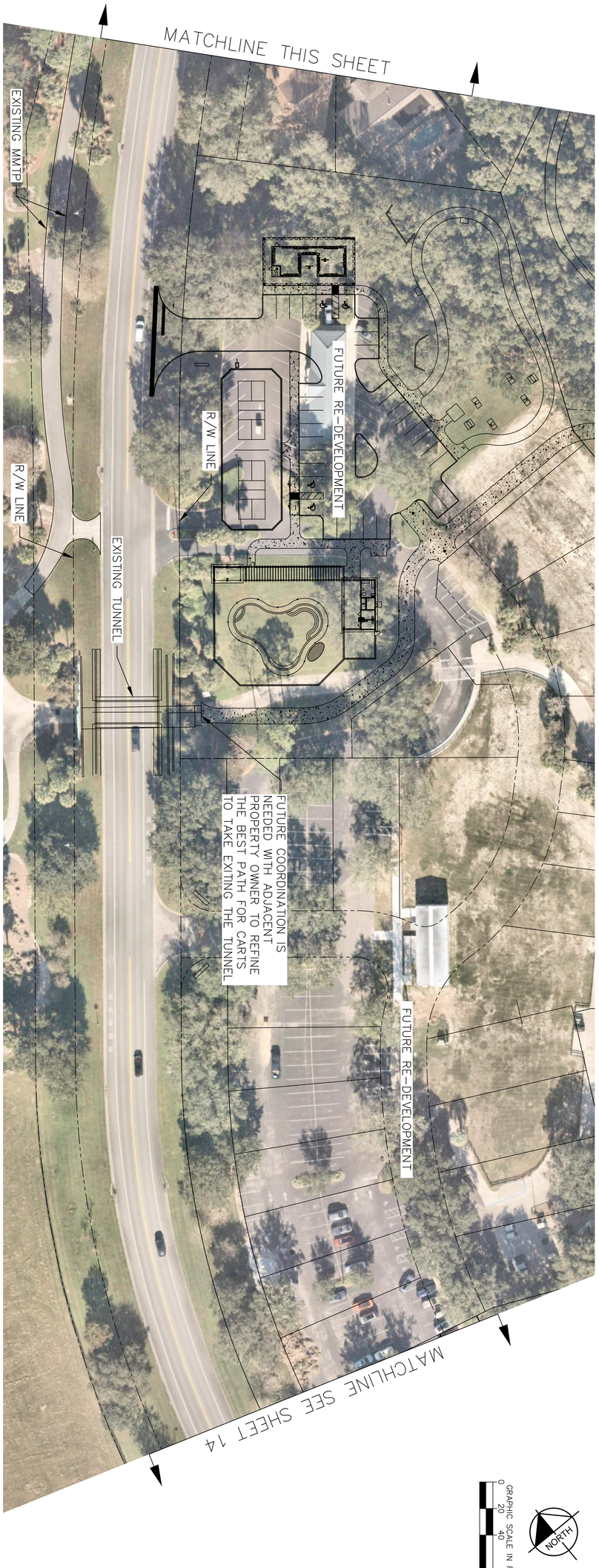

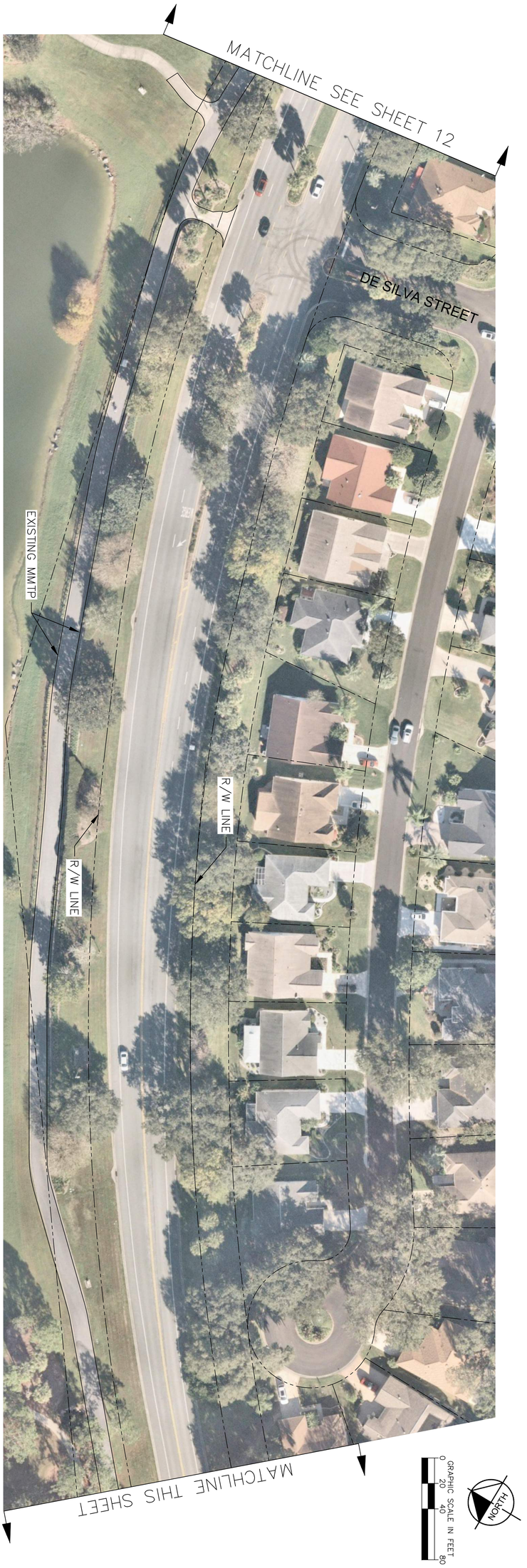

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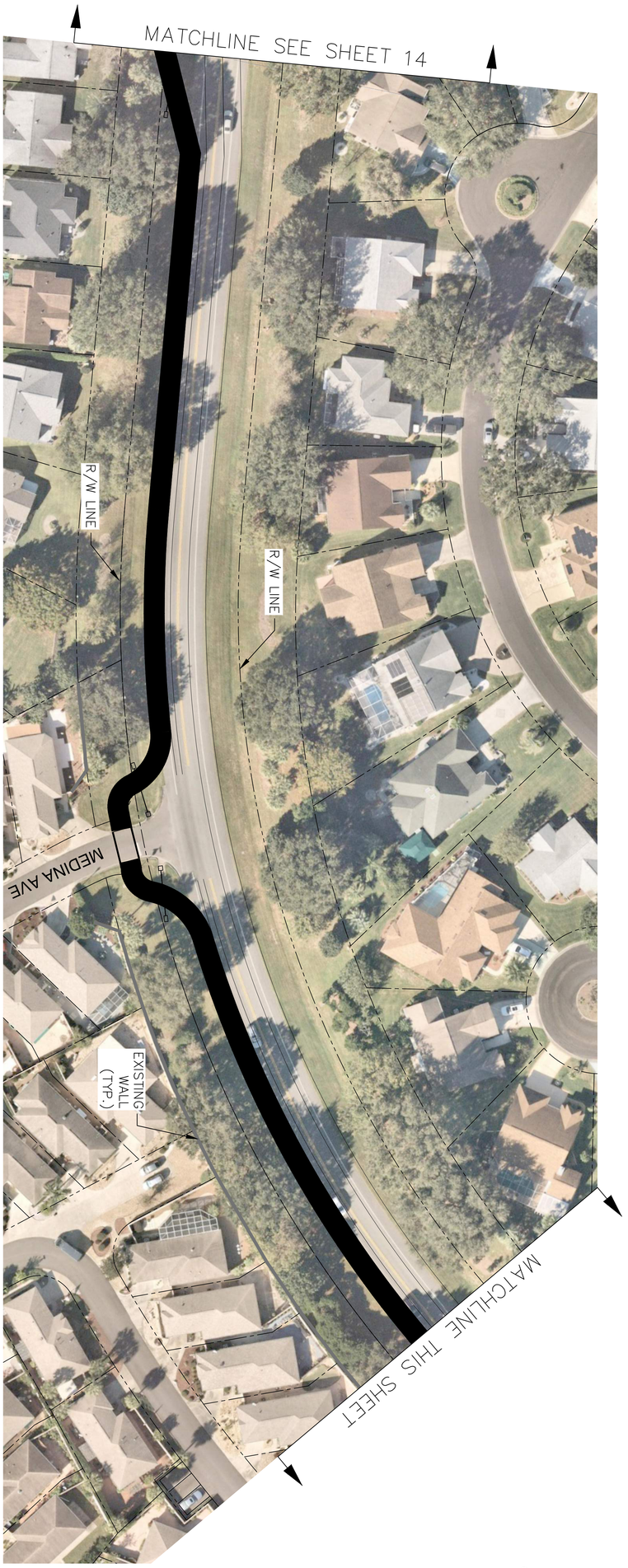

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MORSE BOULEVARD MMTP
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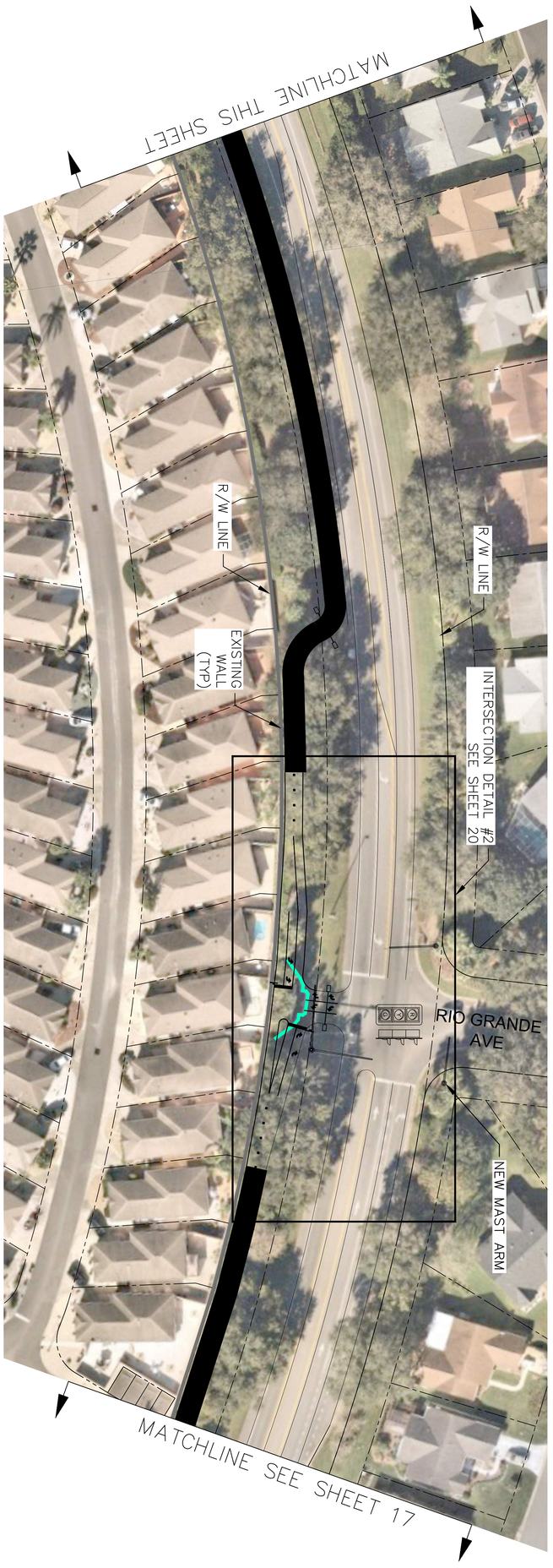

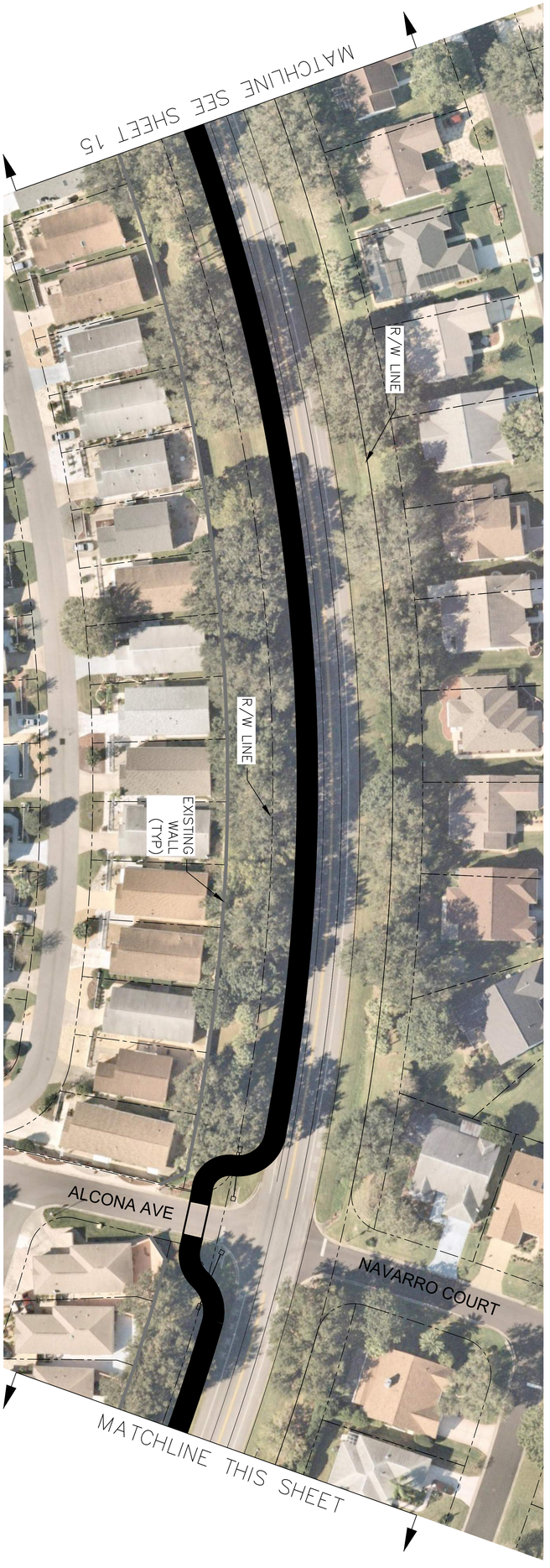

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GRAPHIC SCALE IN FEET 0 20 40 80

NORTH

SHEET NUMBER 16

MORSE BOULEVARD MMTP
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ALTERNATIVE 2

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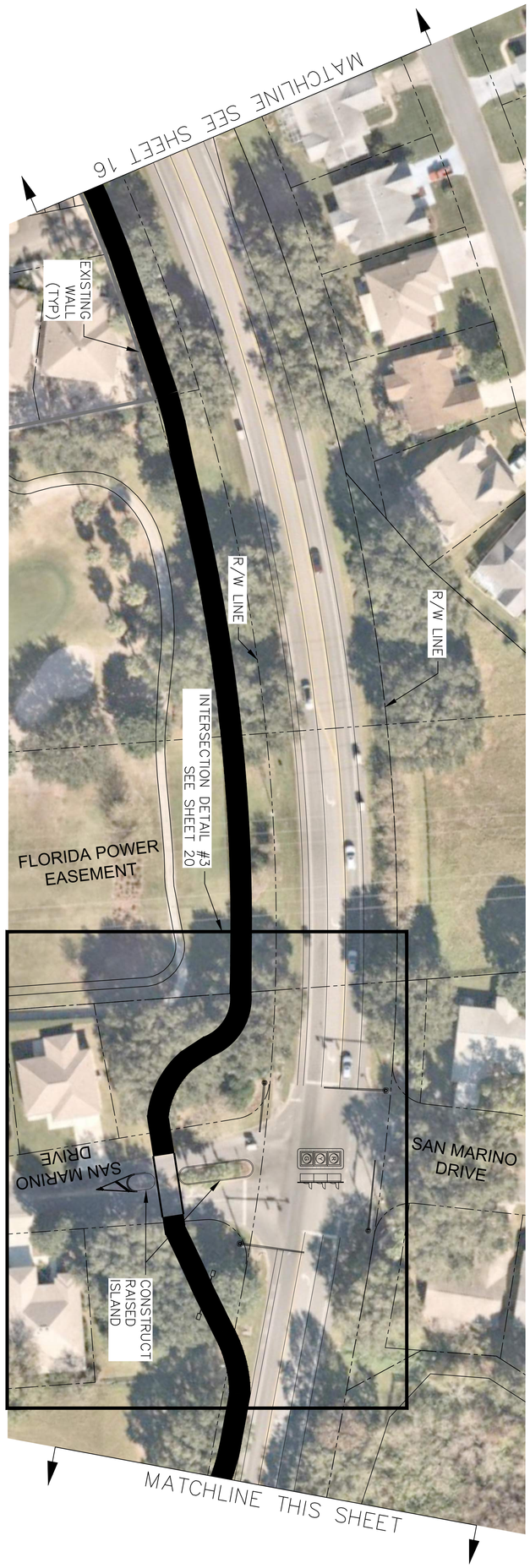

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GRAPHIC SCALE IN FEET 0 20 40 80

NORTH

SHEET NUMBER 17

MORSE BOULEVARD MMTP
ALTERNATIVES EVALUATION
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ALTERNATIVE 2

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ALTERNATIVE 2

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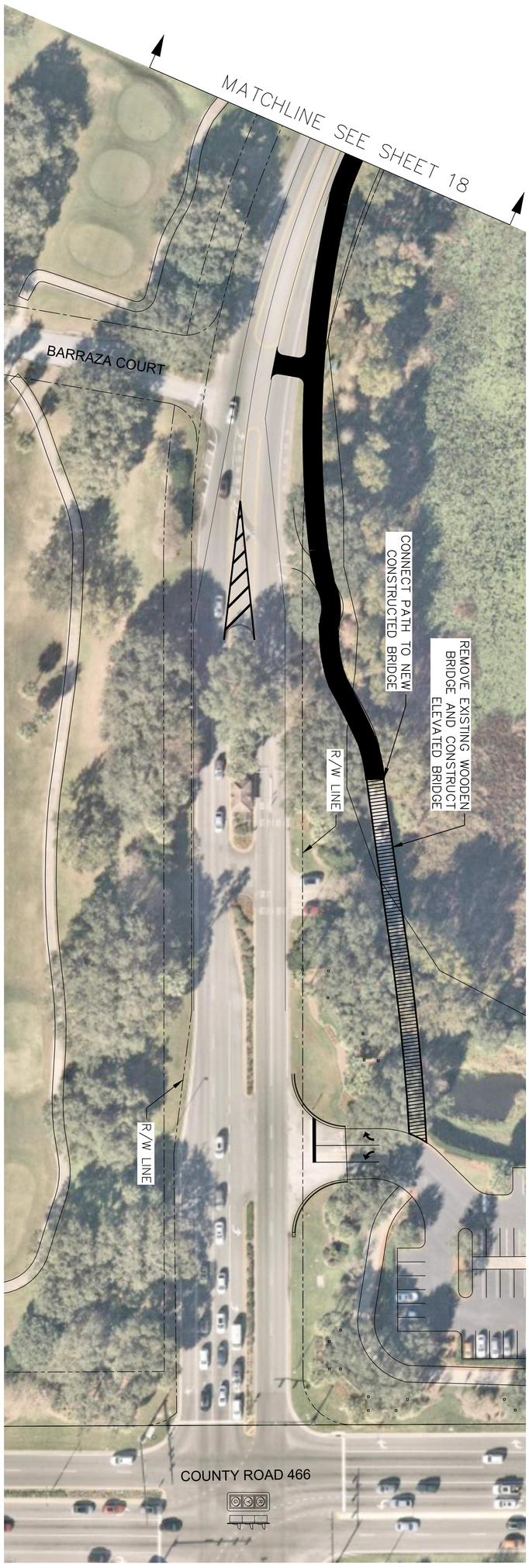

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NORTH

SHEET NUMBER 16

MORSE BOULEVARD MMTP
ALTERNATIVES EVALUATION
PREPARED FOR
THE VILLAGES COMMUNITY DEVELOPMENT DISTRICT 1
SUMTER COUNTY FLORIDA

ALTERNATIVE 2

KHA PROJECT 142202062
DATE JULY 2023
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY WRC
CHECKED BY ALG

LICENSED PROFESSIONAL
AMBER L GARTNER, P.E.
FLORIDA LICENSE NUMBER 72294
DATE: _____

Kimley»Horn
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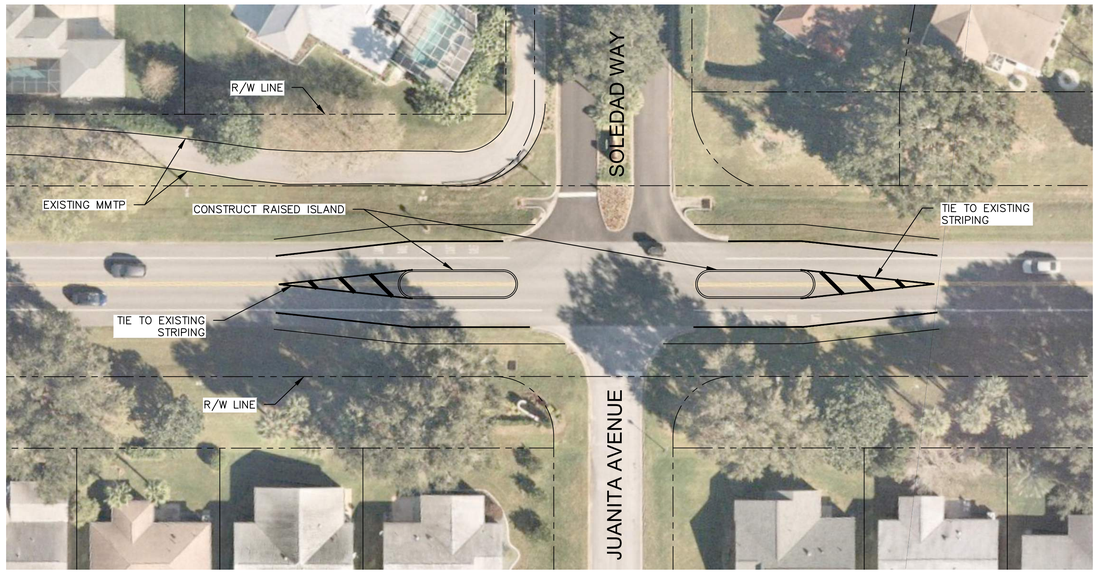
1700 SE 17TH STREET, SUITE 200, OCALA, FLORIDA 34471
PHONE: 352-438-3000
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

No.	REVISIONS	DATE	BY



NORTH

GRAPHIC SCALE IN FEET
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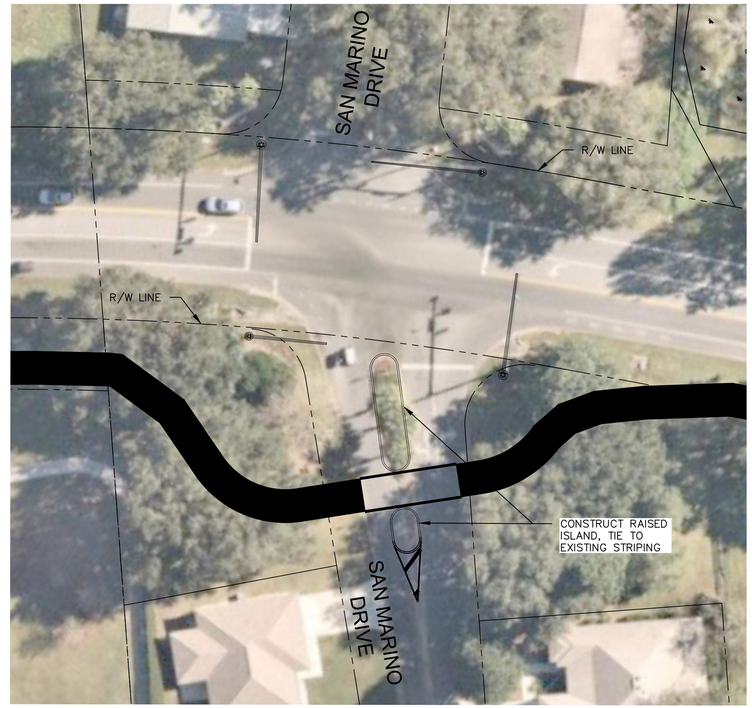
INTERSECTION
DETAIL #1



NORTH

GRAPHIC SCALE IN FEET
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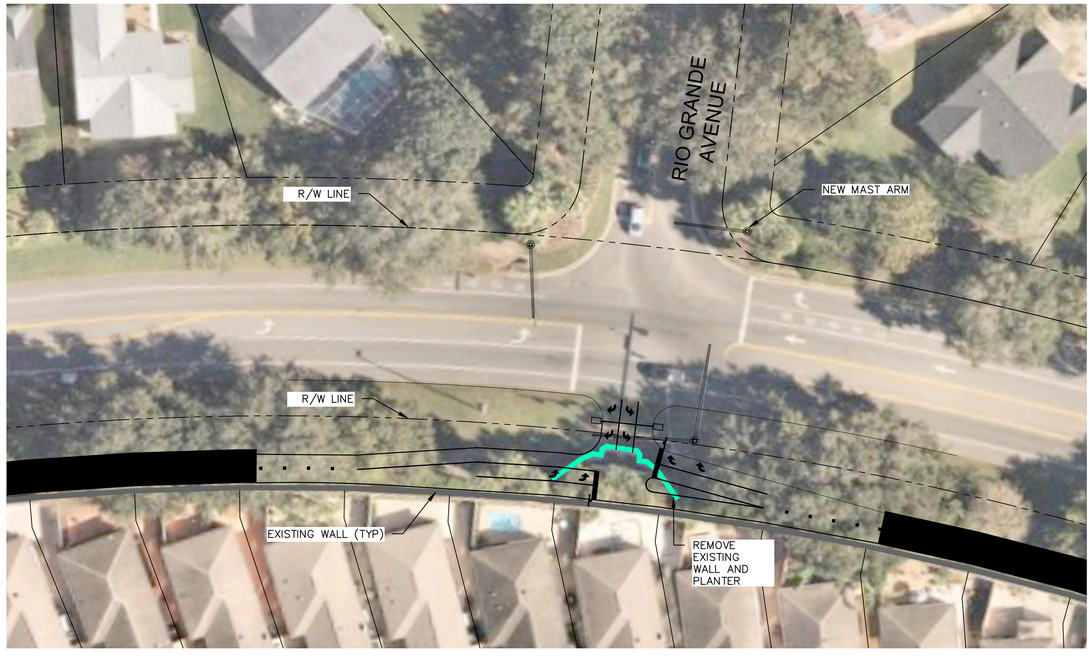
INTERSECTION
DETAIL #3



NORTH

GRAPHIC SCALE IN FEET
0 15 30 60

INTERSECTION
DETAIL #2

No.	REVISIONS	DATE	BY

Kimley»Horn

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INTERSECTION DETAILS

MORSE BOULEVARD MMTP
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SHEET NUMBER
20