

**Volusia County
MPO**

June 2009



Horizon Elementary School

Bicycle and Pedestrian School Safety Review Study

Phase 3C



Volusia County MPO



**Transportation
Planning**

www.VolusiaCountyMPO.com

**Hoke
Design, Inc.**

School Summary

Horizon Elementary School is located within the City of Port Orange. Of the 939 students attending this school, 278 live within the designated walk zone area. During the 2008/2009 school year approximately 50 of these students walked or rode bicycles to school. Horizon Elementary School has a high percentage of students who wear helmets. There were 17 bicycles and 15 helmets at the bicycle rack.

This school was not designed to accommodate the large number of car riders attending the school and this causes long back ups along Hidden Lake Drive. Additionally, parents park along the right of way of adjacent streets to avoid the car line.

Traffic related issues at the school will be reduced with the planned rezoning of this school but the nearby traffic complexity and volume will most likely increase with the completion of the planned residential housing near the school.

There are two crossing guard locations serving Horizon Elementary School students. There was one reported pedestrian crash on Willow Run Boulevard during estimated school travel times involving an elementary school age child within the walk zone from 2005-2007. The student bicyclist was heading northbound on Harms Way and crossed Willow Run Boulevard and ran into a westbound vehicle in the turn lane (See Appendix I).

This study recommends two Priority Projects for this school. The first project is a trail along the B-19 Canal extending from Hidden Lake Drive to Harms Way. The second project is proposed along the south side of Willow Run Boulevard from Williamson Boulevard to Clyde Morris Boulevard. Both of these projects are recommended to provide students with a more direct travel route to and from school.



Horizon Elementary School – Summary Sheet

School Address: 4751 Hidden Lake Drive
Port Orange, Florida 32129

School Principal: Dr. Margot May
Phone: 386-322-6150
Email: mmay@volusia.k12.fl.us

Volusia County School District Representative: Saralee Morrissey, AICP
Phone: 386-947-8786, ext. 50772
Email: smorriss@volusia.k12.fl.us

Volusia County Public Works Traffic Engineering: Jon Cheney, P.E., Director
Phone: 386-736-5968 ext. 2709
Email: jcheney@co.volusia.fl.us

Crossing Guard Supervisor: Joan Marshall
Phone: 386-423-3361
Email: jmarshall@vcso.us

City Representative: Gwen Perney, Planner
Phone: 386-506-5673
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Bill McCord, Transportation Planner
Phone: 386-506-5676
Email: wmccord@port-orange.org

Volusia County MPO: Stephan Harris, Bicycle and Pedestrian Coordinator
Phone: 386-226-0422 ext. 34
Email: scharris@co.volusia.fl.us

Consultant Representative: Ginger Hoke, RLA, Hoke Design, Inc.
Phone: 407-923-6027
Email: ginger@hokedesign.com

Site Visit Observation Date: March 25, 2009 (weather: sunny & seasonal)

Meeting Attendees:

- Dr. Margot May
- Joan Marshall
- Gwen Perney
- Bill McCord
- Stephan Harris
- Ginger Hoke

Number of Enrolled Students (2008/2009 data): 920 (Enrollment is expected to be reduced by 320 students next year when portables are removed with school re-

zoning)

Estimated Number of Students Living in Walk Zone: 278

Number of School Buses: 12

Number of Aftercare Buses/Vans: 7 or 8

Estimated Number of Walkers/Bicycle Riders: 50-60

Number of Bicycles on Site: 23 bicycles, 3 Razor scooters

Number of Bicycle Helmets (stored with bicycle): 15

Staggered Student Dismissal: Yes, students and walkers are dismissed prior to car riders and bus riders

Estimated Number of Students Attending Breakfast: 175

Number of Students for School Site Aftercare: 150

Teachers Assisting in Arrival and Dismissal Safety:

Arrival: 5, with assistance from other staff

Dismissal: 5, with assistance from other staff

Title One School: (2008/2009): No

Backpack Policy: None

Bicycle/Pedestrian Safety Education Programs: The P.E. coach has held bicycle rodeos in the past, but not this year

Summary of Principal Comments:

- Prefers a single point of entry along Hidden Lake Drive for students who bicycle or walk to school

Crossing Guard Locations:

- Hidden Lake Drive and Leone Lane
- Hidden Lake Drive and Willow Run Boulevard

Number of Bicycle/Pedestrian Crash Events within the Existing Walk Zone (elementary age, during estimated school travel times, 2005-2007): 1

Planned Road, Sidewalk, or other Improvements:

- Extension of Yorktowne Boulevard west of the school property with planned development
- Roadway and a bridge over the B-19 Canal at Thomas Drive with residential development (Port Orange Landing) planned east of the school

Planned Stimulus Recovery Projects:

- Resurfacing of C.R. 4009/Williamson Boulevard – Taylor Road/S.R. 421 to Beville Road

Planned Development in Walk Zone:

- Construction of single family housing east of the school, south of the B-19 Canal

City use of GIS: Yes

Number of Students Transported (Designated as Hazardous): 0

Votran Route in Walk Zone: Yes

Findings and Recommendations

Finding: Campus sidewalks are not connected to the sidewalk on the north side of School House Drive near Willow Run Park. Students using the new connection to the Oakbrook neighborhood must cross school related traffic to use a connected sidewalk system.

Recommendation: The School District should construct a sidewalk connection between the bus loading area and School House Drive. This sidewalk would cross the service access drive and be 50 feet long. Alternatively, the School District may wish to work with the City of Port Orange to provide school access through Willow Run Park.



There is a gap in the sidewalk near the service area



A new sidewalk connects the Oakbrook development to the School House Drive sidewalk

Finding: Currently, there is one bicycle rack located near the front office. Recent and ongoing development east of the school may result in more “walkers” for this school. There is a new sidewalk connection from this development to the east side of this school.

Recommendation: To provide a shorter travel distance with fewer vehicular conflicts, an additional bicycle rack should be located on the east side of the school site.



The bicycle rack is located near the front office

Finding: Currently, portables have been placed on school grounds and at the adjacent Willow Run Park site to accommodate high student enrollment. Some of these portables are located within the parking area north of the office building and have impacted parking capacity and traffic flow. The School District anticipates the reduction of 320 students when this school is rezoned next year. The removal of the portable units may result in the expansion of on-site parking.



Portable units are located on the parking lot north of the main office building

Recommendation: On-site parking should be maximized to decrease the number of motorists parking along sidewalks. School staff will need to coordinate enforcement of circulation procedures with the City of Port Orange.

Findings: A security fence is located around the school site with gates at limited location points. The main pedestrian access point is located in the parking area along School House Drive. This access point also connects to four accessible parking spaces. Two of these spaces do not include an access route.



Pedestrian access is restricted by fencing

Recommendation: Restripe the accessible parking area to meet current ADA requirements (see Appendix H).

Finding: Long car lines and vehicular congestion encourage motorists to use the bus loading/staff parking area to drop off or pick up students. Additionally, motorists who park along both sides of School House Drive cross this area to access the school.



Motorists drop off students near the pedestrian gate to avoid the long car line

Recommendation: Traffic congestion is expected to improve with the rezoning of this school in the 2009-2010 school year. The City should work with school staff to enforce drop-off and pick-up procedures.

Findings: Vehicles park on the School House Drive sidewalk while dropping off and picking up students. Motorists also park along the south side of School House Drive and cross that road to reach the school access point through the parking lot.

Recommendation: The City of Port Orange should work with school staff to notify parents of parking policies and increase enforcement measures. The City should post “No stopping or parking” signs along the right of way.



Motorists encroach the sidewalk along School House Drive

Finding: Vehicles encroach onto the sidewalk along the east side of Hidden Lake Drive.

Recommendation: The City should consider the use of bollards or fencing in areas where motorists park on the sidewalk. Future roadways adjacent to schools should be designed with raised curbs to reduce motorists’ use of sidewalks.



Motorists park along both sides of Hidden Lake Drive and encroach onto the sidewalk adjacent to the school

Finding: Motorists park along the west side of Hidden Lake Drive and escort students across the road at various locations. Motorists who travel through this area currently maneuver past a long car line that extends into the road.

Recommendation: The City of Port Orange should work with the School District at the beginning of the 2009-2010 school year to sign and enforce a no parking area along the west side of Hidden Lake Drive.



Pedestrians cross Hidden Lake Drive

Finding: There are no sidewalks along the south side of School House Drive and students entering campus from Yorktowne Boulevard must cross School House drive at the intersection of Yorktowne Boulevard.

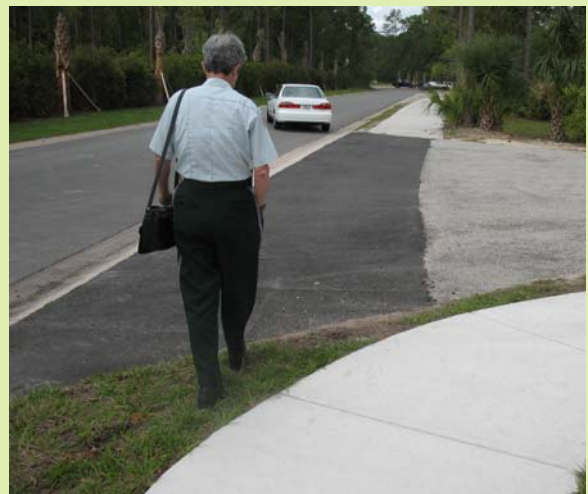
Recommendation: Students should be encouraged to access the school through the neighborhood connection to the Oakbrook neighborhood. Alternatively, a sidewalk should be constructed along the south side of School House Drive and include a crossing over School House Drive to the school site. This crossing should be located east of the bus loop entrance to reduce vehicular conflict. The need for a crossing guard at this location may need to be reviewed in the future when School House Drive is extended.



There is no sidewalk along the south side of School House Drive

Finding: The new sidewalk connecting the Oakbrook neighborhood to the sidewalk along the north side of School House Drive does not include a curb ramp connection or a crosswalk beyond the entrance to Willow Run Park.

Recommendation: Provide a sidewalk connection and a crosswalk over the Willow Run Park entrance.



A sidewalk connection and a crosswalk are needed at the entrance to Willow Run Park

Finding: Many students must travel longer distances to and from school because of the lack of direct sidewalk connections between neighborhoods. Some students must travel in the opposite direction from the school on their route to school. Signs have been posted to direct students to school.

Recommendation: If possible, construct a trail along the B-19 Canal corridor to provide a more direct connection from the school to the neighborhoods located west of school property.



Routes to school are signed

A second option would be to provide a sidewalk along the south side of Willow Run Boulevard (see following findings and recommendations).

Note: The directional sign for the route to school on Harms Way is turned in the wrong direction.

Findings: Although there is an 8' trail along the north side of Willow Run Boulevard throughout most of the walk zone, there are no sidewalks along the south side of the road. One exception is a short section of sidewalk along the south side of Willow Run Boulevard from Tracy Drive to Harms Way. Some students may cross Willow Run Boulevard unaided to reach the trail on the north side of the road and then would need to cross Willow Run Boulevard again with the guard at Hidden Lake Drive. One reported bicycle crash occurred on Willow Run Boulevard near the intersection of Harms Way and was most likely the result of a student crossing Willow Run Boulevard to reach the trail on the north side.



Willow Run Boulevard looking east

Recommendations: Construct a minimum 5' wide sidewalk along the south side of Willow Run Boulevard from Williamson Boulevard to Clyde Morris Boulevard. This project is recommended as a Priority Project and is further described at the end of this chapter.

Findings: The City-owned B-19 Canal runs along the north side of Horizon Elementary school property and continues east to the Ocean Oaks Apartments.

The City of Port Orange has received residential plans for the Port Orange Landings (Oakbrook Phase II) development that will connect School House Drive to Thomas Drive. The bridge over the canal and roadways includes plans for 4' wide sidewalks on both sides of the road.

Recommendations: The City should review the possibility of adding a trail along the B-19 Canal to provide more direct bicycle and pedestrian connections to the school. Future sidewalks within the school walk zone should be constructed at a minimum of 5' wide. This project is recommended as a Priority Project and is further described at the end of this chapter.



The B-19 Canal looking east

Finding: There are no traffic control measures at the intersection of Willow Run Boulevard at Hidden Lake Drive. Although the crossing is signed, there are no flashing signals to emphasize the location of this crossing. The speed limit along Willow run Boulevard is 35 mph.

A police officer often assists with traffic control at this location. The completion of Yorktowne Boulevard extension is expected to decrease traffic along Willow run Boulevard.

Recommendation: The addition of flashing signals should be reviewed for this crossing to increase motorists' awareness. If high traffic volume and speeds on Willow Run Boulevard continue, this intersection should be reviewed for a 4-way stop or signal.



The crossing at Willow Run Boulevard does not have flashing lights

Finding: Some sidewalks within the school walk zone do not provide a continuous connected route along roadways. In some instances, drainage structures may be misconstrued as sidewalk connections, especially for sidewalk users with low vision or when lighting is insufficient.

Recommendation: Provide connecting sidewalk sections to allow continuous movement along and across roadways. Review the possibility of separating the sidewalk from drops in elevation related to drainage structures. Alternatively, the drainage structure may be able to be modified to eliminate the potential hazard.



Some sidewalks do not include continuous routes

Finding: A few sections of the trail along the north side of Willow Run Boulevard have not been edged recently, reducing the width of the trail.

Recommendation: Increase the level of maintenance to include regular edging along the trail.



Some areas of the trail along Willow Run Boulevard need more frequent maintenance

Finding: There is no paved access to the pedestrian push button signal at the southwest corner of Willow Run Boulevard and Clyde Morris Boulevard.

Recommendation: Provide a sidewalk connection to the push button signal or relocate the push button signal closer to the sidewalk.



The pedestrian push button signal at Willow Run Boulevard and Clyde Morris Boulevard is not accessible for all users

Master Plan

The following Bicycle and Pedestrian Master Plan specifies a network of sidewalks and trails that, if implemented, will greatly increase the convenience and safety of travel for pedestrians and bicyclists. A 24"x36" fold-out Bicycle and Pedestrian Master Plan is included as a deliverable with this Study.

The Master Plan includes the following information:

Existing Conditions:

- Existing Walk Zone area from School District GIS (shaded tan)
- Student Home Locations from School District (dark blue dot)
- Existing Trails from County GIS and field review (solid green line)
- Existing Wide Sidewalk 6-8' from field review (solid blue line)
- Existing Sidewalks 3-5' from field review (solid red line)
- Existing Crossing Guard Locations from County GIS and field observations (green cross)
- Bicycle or Pedestrian Crash Event Locations from 2005-2007 from County GIS data, during estimated school travel times and involving an elementary age bicyclist or pedestrian (pink star).
- Existing Votran Routes and stops from Volusia County MPO (yellow lines along roadway centerline with yellow squares at bus stops).

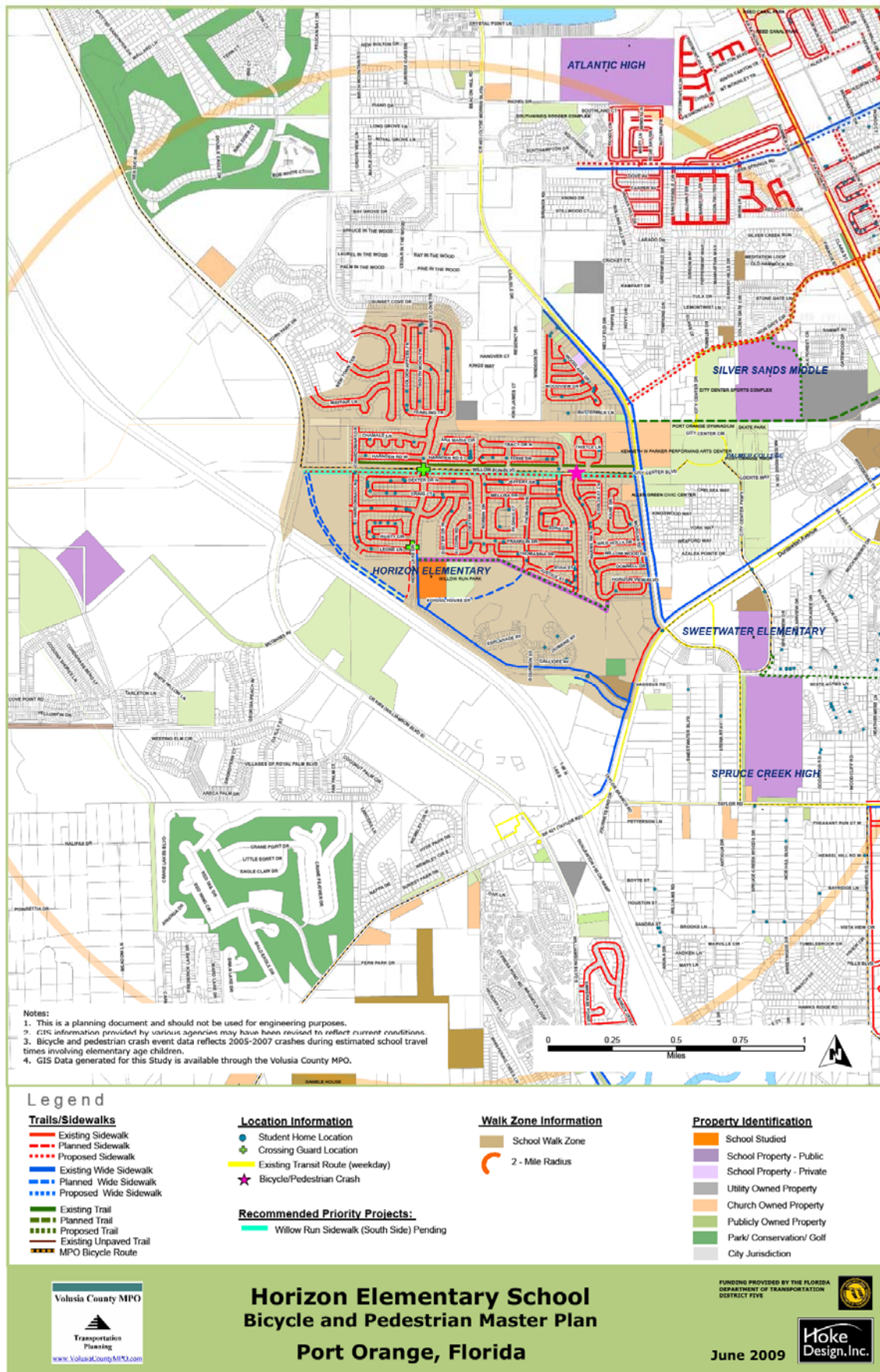
Planned Conditions:

- Planned trail (long dashed dark green line)
- Planned wide sidewalk (long dashed blue line)
- Planned sidewalk (long dashed red line)

Recommendations of this Study:

- Proposed Trails (dashed dark green line)
- Proposed Sidewalks 6-8' wide (dashed blue line)
- Proposed Sidewalks 5' (dashed red line)
- Blue Highlighted sidewalk is a recommended Priority Project
- Purple highlighted sidewalk is a recommended Priority Project

This Master Plan and supplemental information supplied within the Implementation Report are meant as a guideline for sidewalk and trail planning. The Master Plan is not an engineering document.



Recommended Priority Project #1

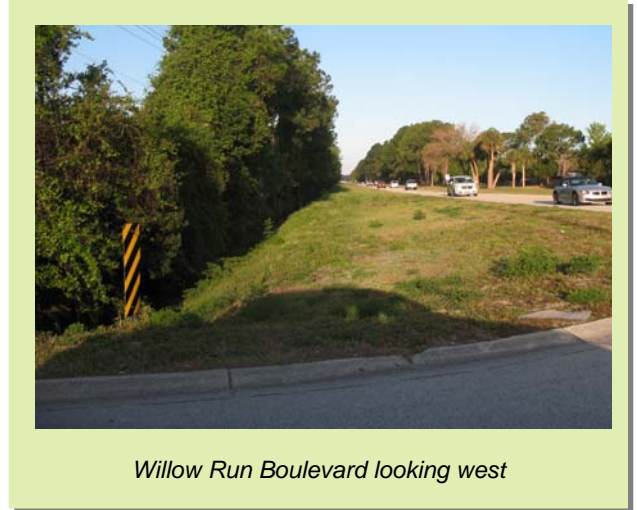
Willow Run Boulevard Sidewalk (south side)

School Served: Horizon Elementary School

Project Location: South side of Willow Run Boulevard from Williamson Boulevard to Clyde Morris Boulevard

Project Description: A minimum 5 foot wide sidewalk 5,728 LF long

Findings: Although there is a trail along the north side of Willow Run Boulevard throughout most of the walk zone, there are no sidewalks along the south side of the road. There is an existing short section of sidewalk along the south side of Willow Run Boulevard from Tracy Drive to Harms Way. Due to lack of neighborhood connectivity, students may walk along the road on the south side of Willow Run Boulevard or cross the road to reach the trail on the north side. These students would need to cross Willow Run Boulevard a second time with the crossing guard at Hidden Lake Drive.



Crash Data: There was one reported pedestrian crash on Willow Run Boulevard during estimated school travel times that involved an elementary school age child. The student bicyclist was heading northbound on Harms Way and crossed Willow Run Boulevard and ran into a westbound vehicle in the turn lane (See Appendix I).

Recommendation: Construct a minimum 5' wide sidewalk along the south side of Willow Run Boulevard from Williamson Boulevard to Clyde Morris Boulevard. A wide sidewalk is preferred if funding is available.

Maintaining Agency: City of Port Orange

Potential Constraints: Drainage

Potential Opportunities: This project may decrease the number of students crossing Willow Run Boulevard to reach the sidewalk on the north side and may shorten the length of the route to school for some students. Students attending Silver Sands Middle School may also benefit from the construction of this sidewalk.

Estimated Project Cost (not including right of way costs, if applicable): \$600,000

Note: This Priority Project is highlighted in blue on the corresponding Bicycle and Pedestrian Master Plan.

Recommended Priority Project #2



Canal Trail

School Served: Horizon Elementary School

Project Location: Along the south side of the B-19 Canal from Hidden Lake Drive to Harms Way

Project Description: A wide sidewalk or trail

Finding: The City-owned B-19 Canal runs along the north side of Horizon Elementary school property and continues west throughout the walk zone.

The City of Port Orange has received plans from a developer to provide a connection over the B-19 Canal at Thomas Drive. This connection will include a bridge with four foot wide sidewalks on both sides.

Recommendation: The City should review the possibility of adding a trail along the north side of the B-19 Canal to provide a more direct bicycle and pedestrian connection to the school. Future sidewalks within the school walk zone should be constructed at a minimum of 5' wide.

Maintaining Agency: City of Port Orange

Potential Constraints: Lack of right of way along the canal, the position of the canal within the right of way and the need for coordination with a developer. Public involvement meetings are recommended and may increase project cost.

Potential Opportunities: Students living south of Willow Run Boulevard and east of Hidden Lake Drive will have a more direct connection to Horizon Elementary School.

Estimated Project Cost (not including right of way costs, if applicable): \$788,000

Note: This Priority Project is highlighted in pink on the corresponding Bicycle and Pedestrian Master Plan.



B-19 Canal looking east from Hidden Lake Drive



The sidewalk along the west side Thomas Drive connection terminates at the B-19 Canal