

VILLAGE OF BISCAYNE PARK STORMWATER MASTER PLAN



September 19, 2015

Presentation by:

CRAIG A. SMITH & ASSOCIATES, INC.



Qualifications



- 35 Years of Experience
- Qualified Staff
- Similar Project Experience
 - Town of Golden Beach
 - Town of Pembroke Park
 - Bal Harbour Village
 - Village of El Portal
 - City of Lighthouse Point
 - City of Sweetwater
 - Okeechobee County
 - City of Oakland Park



PROJECT EXPERIENCE



Craig A. Smith & Associates, Inc.

Engineers • Surveyors • Subsurface Utility Engineering
3D Subsurface Imaging • Utility Coordination

Governmental Clients

Clients	Year Est.	Water & Sewer	Stormwater	Transportation	Treatment Plant	Grants Assistance	Environmental	Econ. Dev./Ind. Parks	Constr. Mgt. & Insp.	Gen. Engr./Survey/Arch.	Rec. Facilities
Town of Pembroke Park	1987	X	X	X		X	X		X	X	
City of Margate	1988	X			X		X		X		
Bal Harbour Village	1989	X	X	X		X	X		X	X	X
Okeechobee County	1990	X	X	X		X	X	X	X	X	X
Seminole Tribe of Florida	1991	X	X		X					X	
Glades County	1993	X	X	X		X		X	X	X	X
City of Moore Haven	1995	X	X	X	X	X	X	X	X	X	X
Glades/Moore Haven PWA	1995	X			X	X	X		X	X	
Hardee County	1999	X			X	X	X	X	X	X	
Town of Golden Beach	2000	X	X	X		X			X	X	X
City of Sweetwater	2000		X	X		X			X	X	
Spring Lake Improvement District	2001	X	X	X	X	X	X	X	X	X	
Village of El Portal	2003		X						X	X	
Miccosukee Tribe of Florida	2007	X	X		X				X	X	
Florida Department of Transportation	2010			X						X	
City of Lauderhill	2013	X	X		X				X	X	
City of Belle Glade	2013	X	X	X		X	X	X	X	X	X
City of Miami Beach	2013		X	X					X	X	
City of Sunny Isles Beach	2013	X	X	X					X	X	
Village of Biscayne Park	2013	X	X	X		X			X	X	
Miami-Dade WASD	2014	X							X	X	



VILLAGE OF BISCAYNE PARK

Project Team

CRAIG A. SMITH & ASSOCIATES ENGINEERS * SURVEYORS * UTILITY LOCATORS * GRANT SPECIALISTS

IN-HOUSE PRODUCTION MANAGER

Stephen C. Smith, P.E.
Sr. Vice President & COO

Gene R. Schriener, P.E., President

PROJECT DIRECTOR

QUALITY ASSURANCE / QUALITY CONTROL

Stephen C. Smith, P.E.
Sr. Vice President & COO

William H. Landis, P.E.
Sr. Supervising Engineer

Al Caruso, E.I.

PROJECT MANAGER

SURVEYING

Robert Keener, PSM
Vice President

Sandro Elvir
Survey Coordination
Manager

David Lookabill
Senior Party Chief

*Route Survey, Project
Surveying, Boundary
Surveys, Topographic
Surveying Field Survey
Assistance, G.P.S, Platting,
Plat Review*

CONSTRUCTION MANAGEMENT

Tony Gomes
Senior Field Rep.

William Tanto
Engineering Tech. &
Field Rep.

*Construction Management,
Cost Estimating,
Construction Inspection*

CIVIL STORMWATER ENGINEERING

Orlando Rubio, P.E.
Sr. Design/Supervising
Engineer

Frank Vilar, P.E.
Supervising Engineer

William Tanto
Engineering Tech. &
Field Rep.

*Stormwater Master Planning, Design
of Improvements, Studies Modeling,
Roadway Design*

UTILITY LOCATES

James Driscoll
Director

Raul Carbonell
Locates Supervisor

Horizontal Locates, Vertical
Locates, Ground Penetrating
Radar, Soft Digs, Potholing

3D RADAR

MPS3D, LLC

James Driscoll
Radar Tomography
Manager

3D Radar Tomography

GEOTECHNICAL (SUBCONSULTANT)

Wingert
Laboratories, Inc.

Jill Wingerter Chin-You
President

Robert H. Schuler, P.E., P.G.
Chief Engineer

Leon C. Chin-You, B.N.
Vice President

Michael A. Major
Soils Laboratory Manager

John Cooper
Sr. Driller & Geotechnical
Inspector

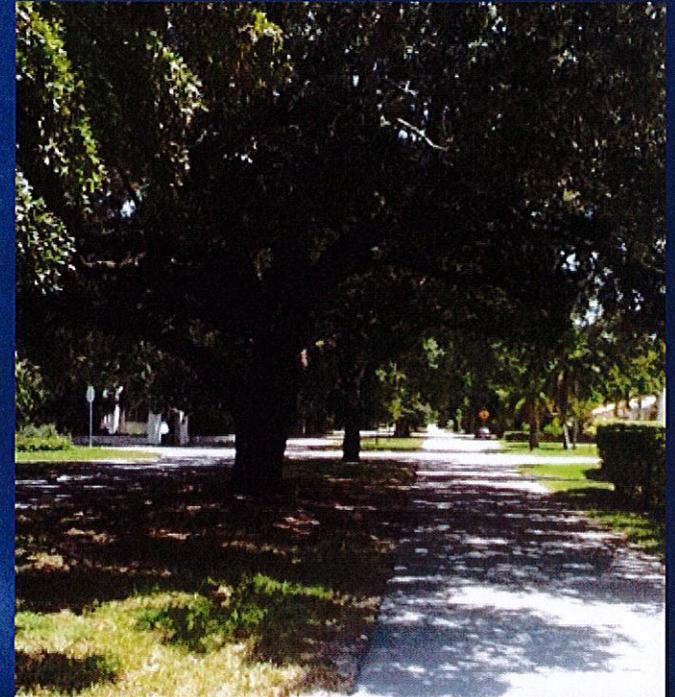
Geotechnical Services



Project Approach



- Information Gathering/Inventory
- Survey and GPS
- Assemble & Evaluate Information
- Identify Problem Areas
- Analyze Alternatives
- Determine Potential Causes and Solutions
- Develop Costs
- Prepare Report of Findings & Recommendations





Potential Causes of Flooding



- Limited to/or no Proper Conveyance of Storm Runoff
- Relatively Flat Terrain and/or Low Grades to facilitate Flood Relief
- Under-performing Existing Drainage Systems
- Over Taxed Existing Drainage Systems
- Obstructed Drainage Facilities or Outfalls
- Existing Drainage Facilities in Disrepair
- Lack of Drainage System Maintenance Frequency
- Combination or All of the Above





Potential Solutions



- Positive Conveyance with Outfalls
- Expansion of Existing System (if viable and cost effective)
- Construction Technology to Minimize Disturbance
 - HDPE Pipe
 - Trenchless Technology
 - Pipe Bursting or Directional Drilling
- Water Quality Components (Stormceptor, Drainage Wells)
- Stormwater Pumping Stations
- Involve Permitting Agencies in the Solution Process
- Involve Community in Planning Process





Public Participation



- Known Areas and Duration of Flooding
- Knowledge of Historical Flood Damage
- Photographs or Evidence of Flooding within the Village
- Study Through Complete Storm Cycle (1 Year)
- Completion of Flood Survey





FLOOD SURVEY

We would appreciate your assistance in developing the Village of Biscayne Park's Stormwater Master Plan by completing the following survey and returning it to:

Village of Biscayne Park
 640 NE 114th Street
 Biscayne Park, FL 33161
 Attention: Village Manager
 (305) 899-8000

Name: _____

Address: _____ # of Years at Address: _____

Phone No. (Optional): _____

Please check (✓) all levels of flooding experienced or observed at the above address:

BACKYARD	INSIDE BUILDING	FRONT YARD	SWALE	ROAD
(✓) _____	(✓) _____ IF CHECKED, No. OF TIMES FLOODED INSIDE BUILDING (1) _____ (2) _____ MORE THAN 2 _____	(✓) _____	(✓) _____	(✓) _____

COMMENTS: _____

If you have copies of photographs depicting the flooding in your neighborhood that you would like to provide, please enclose them with your completed survey. Thank you for your participation!





Vicinity Map

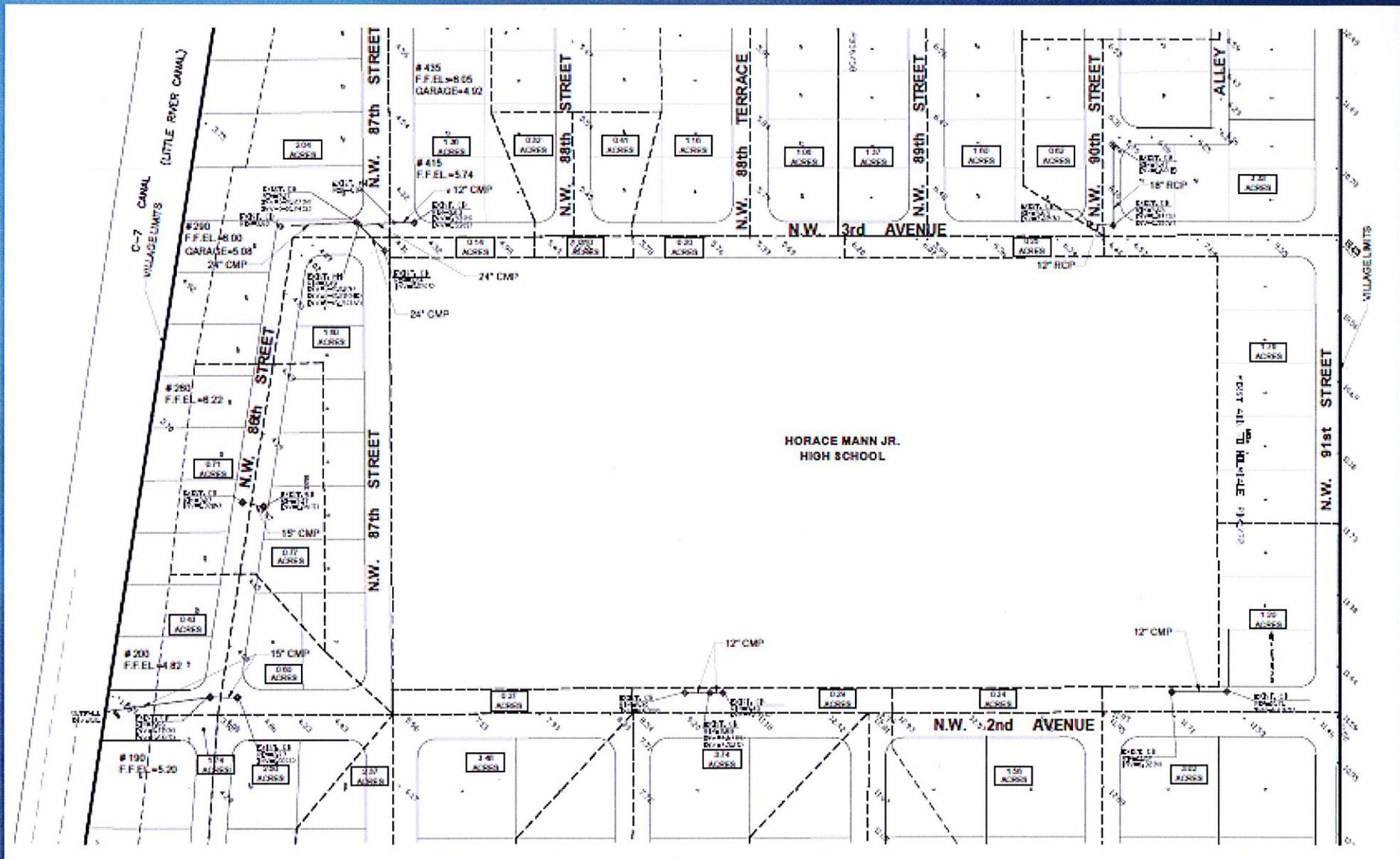




Village of El Portal



Survey Base File – Right-of-ways,
Elevations, Basin Areas

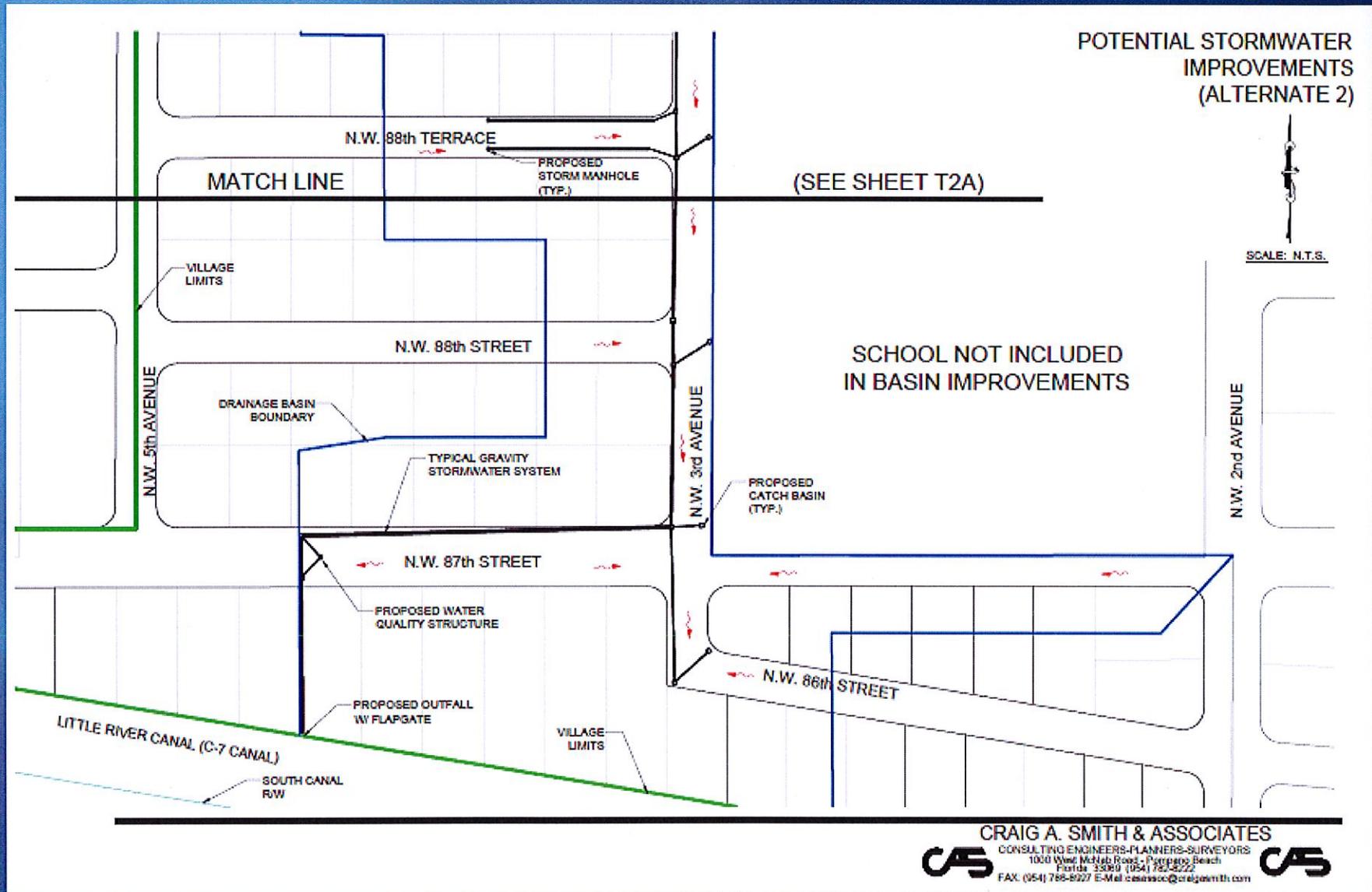




Village of El Portal



Conceptual Engineering – Drainage Basins, Stormwater Design, Outfalls





Village of El Portal



Conceptual Cost Estimate

VILLAGE OF EL PORTAL
 ENGINEER'S CONCEPTUAL
 COST ESTIMATE (EP 2)
 N. W. 3rd AVENUE
 STORMWATER IMPROVEMENTS
 (ALTERNATE 1)

No.	Description	Qty	Unit	Price	Amount
C1. Drainage Structures:					
1.	C Inlet	5	EA	2,300.00	11,500.00
2.	C-4 Inlet	7	EA	2,700.00	18,900.00
3.	C-5 Inlet	1	EA	3,300.00	3,300.00
4.	C-6 Inlet		EA	3,800.00	-
5.	C-7 Inlet		EA	4,500.00	-
6.	M-4 Inlet	2	EA	3,000.00	6,000.00
7.	M-5 Inlet	3	EA	3,600.00	10,800.00
8.	M-6 Inlet	5	EA	4,300.00	21,500.00
9.	M-7 Inlet		EA	5,500.00	-
10.	M-8 Inlet	4	EA	6,200.00	24,800.00
11.	M-4 Manhole		EA	3,000.00	-
12.	M-5 Manhole		EA	3,600.00	-
13.	M-6 Manhole		EA	4,300.00	-
14.	M-7 Manhole		EA	5,500.00	-
15.	M-8 Manhole		EA	6,500.00	-
16.	Control Structure		EA	10,000.00	-
17.	Water Quality Structure	1	EA	35,000.00	35,000.00
18.	Conflict Structure	3	EA	6,500.00	19,500.00
DRAINAGE SYSTEM TOTAL					583,045.00
D. MISCELLANEOUS					
1.	Core into Existing Seawall	1	EA	65,000.00	65,000.00
2.	Connect to Existing Stormwater System		LS	4,000.00	-
3.	Directional Bore		LF	90.00	-
4.	Pipe Bursting		LF	150.00	-
5.	Flap Gate	1	EA	3,000.00	3,000.00
6.	Water Service Relocations	15	EA	500.00	7,500.00
7.	Sewer Lateral Relocations		EA	500.00	-
8.	Turbidity Barrier	150	LF	8.00	1,200.00
MISCELLANEOUS TOTAL					76,700.00
Contract Summary					
A.	Earthwork				183,103.75
B.	Paving and Grading				72,670.00
C.	Drainage				583,045.00
D.	Miscellaneous				76,700.00
TOTAL IMPROVEMENTS					\$915,518.75
TOTAL IMPROVEMENTS					915,518.75
15% CONTINGENCY					137,327.81
5% LANDSCAPE RESTORATION					45,775.94
PROJECT TOTAL					1,098,622.50



Aerial Map





Why CAS?

- Knowledge of the Village
 - Previous Work During Stormwater Repair
 - Committed to Results
 - Solutions that Work
 - Qualified and Experienced Personnel
 - Availability
 - Strong Management
 - Strong Agency Coordination
 - Technical Support
 - Cost Effectiveness
 - Funding Support
 - Client Relationship
 - Proven Results in Local Communities
 - WE GET THE JOB DONE !!!



Previous Work Performed In Village





Previous Work Performed In Village



VILLAGE OF BISCAYNE PARK STORMWATER MASTER PLAN



Question & Answer

CRAIG A. SMITH & ASSOCIATES, INC.