



# Miami Dade Water and Sewer Department Engineering & Construction Small-Diameter Water Main Replacement Program Work Plan

2022 THROUGH 2027





## VERSION CONTROL DOCUMENTATION

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Purpose  
August 2022  
FINAL



## 1. PURPOSE

The Miami-Dade Water and Sewer Department (WASD) has embarked on the Small water main replacement program (SWRP), a countywide program that will improve water infrastructure by replacing undersized and ageing water distribution mains, replacing water mains that have a history of repairs, retiring infrastructure made from inferior materials (e.g., asbestos cement pipe), and making other updates to infrastructure, such as improving accessibility of water meters and reducing reliance on easements. WASD is currently implementing the SWRP in eight (8) atlas grids (i.e., square miles), with seven of these projects in the pre-design phase, and one in the design phase. The purpose of this workplan is to prioritize implementation of the SWRP in the next atlas grids throughout the county



## 2. BACKGROUND

The SWRP was initially implemented in Atlas W32, which was the highest risk atlas based on the factors described above. The pre-design Technical Memorandum (feasibility study) for implementation of the SWRP in this atlas was prepared by Nova Consulting, Inc. (Nova) on behalf of WASD and was completed in December 2021. Because Atlas W32 was the first atlas in which the SWRP was implemented, Nova also prepared a Standard Guidelines and Procedures (SGP), at WASD's request, to be used in guiding future SWRP projects



### 3. METHODOLOGY

There are currently an estimated 374 atlas grids in WASD's service area that have been identified as needing some length of water main in need of replacement under the SWRP. Each of the proposed atlas grids (i.e., one-square-mile areas) are ranked using a risk-based methodology, which incorporates probability of failure (POF) and consequence of failure (COF). The POF is based on two factors: number of leaks repaired and average pipe age. Once the POF for each atlas is calculated, the scale is normalized from 1 to 10. The COF is based on numerous factors, including pipe diameter, length, development area (such as urban centers or rapid transit zones), and land use (such as single family residential and institutional & industrial). Similar to the POF, once the COF for each atlas is calculated, the scale is normalized from 1 to 10. Finally, the risk for each atlas is then calculated as the product of the normalized POF and the normalized COF, with a resultant scale of 1 to 100. Once ranked, the following categories were applied to designate the priority of each atlas grid under the program.

Category	Risk Criteria	Number of Atlases in Category
Urgent	Risk is between 60 (inclusive) and 100	3
High	Risk is greater than 15 and less than 60	24
Moderate	Risk is greater than 10 and less than or equal to 15	21
Low	Risk is greater than 5 and less than or equal to 10	55
Very Low	Risk is less than or equal to 5	271

The detailed results of the risk analysis are presented in Appendix A.



## 4. PRIORITIZATION OF SWRP PROGRAM

The following table summarizes the current SWRP Projects.

**Table 1: Current SWRP Projects**

Atlas	Current Phase	Description of current phase	Consulting firm	Area	Estimated length of water main to be replaced (linear feet, LF)
W32	Design	Quadrants A & B	Nova	Leisure City	102,053
P16	Pre-Design	Feasibility Study	300 Engineering Group, P.A.	West Dade - UIMDC*	104,776
Q16	Pre-Design	Feasibility Study	ADA Engineering, Inc.	West Dade - UIMDC	94,096
R26	Pre-Design	Feasibility Study	Ross Engineering, Inc.	Cutler Bay & UIMDC	73,519
F13	Pre-Design	Feasibility Study	Premiere Design Services, Inc.	Miami - Downtown	67,257
K17	Pre-Design	Feasibility Study	SRS Engineering, Inc.	Gables & Grove (Miami)	71,448
V31	Pre-Design	Feasibility Study	Chen Moore & Associates, Inc.	Naranja - UIMDC	30,678
K3	Pre-Design	Feasibility Study	HSQ Group, Inc.	Miami Gardens	91,193

\*Unincorporated Miami-Dade County (UIMDC)

### 4.1 PROPOSED PROJECTS

Proposed projects are identified based on the methodology described above, and shown in the map in Figure 1. The full prioritization table, which includes current projects and the detailed results of the risk analysis, is in Appendix A.



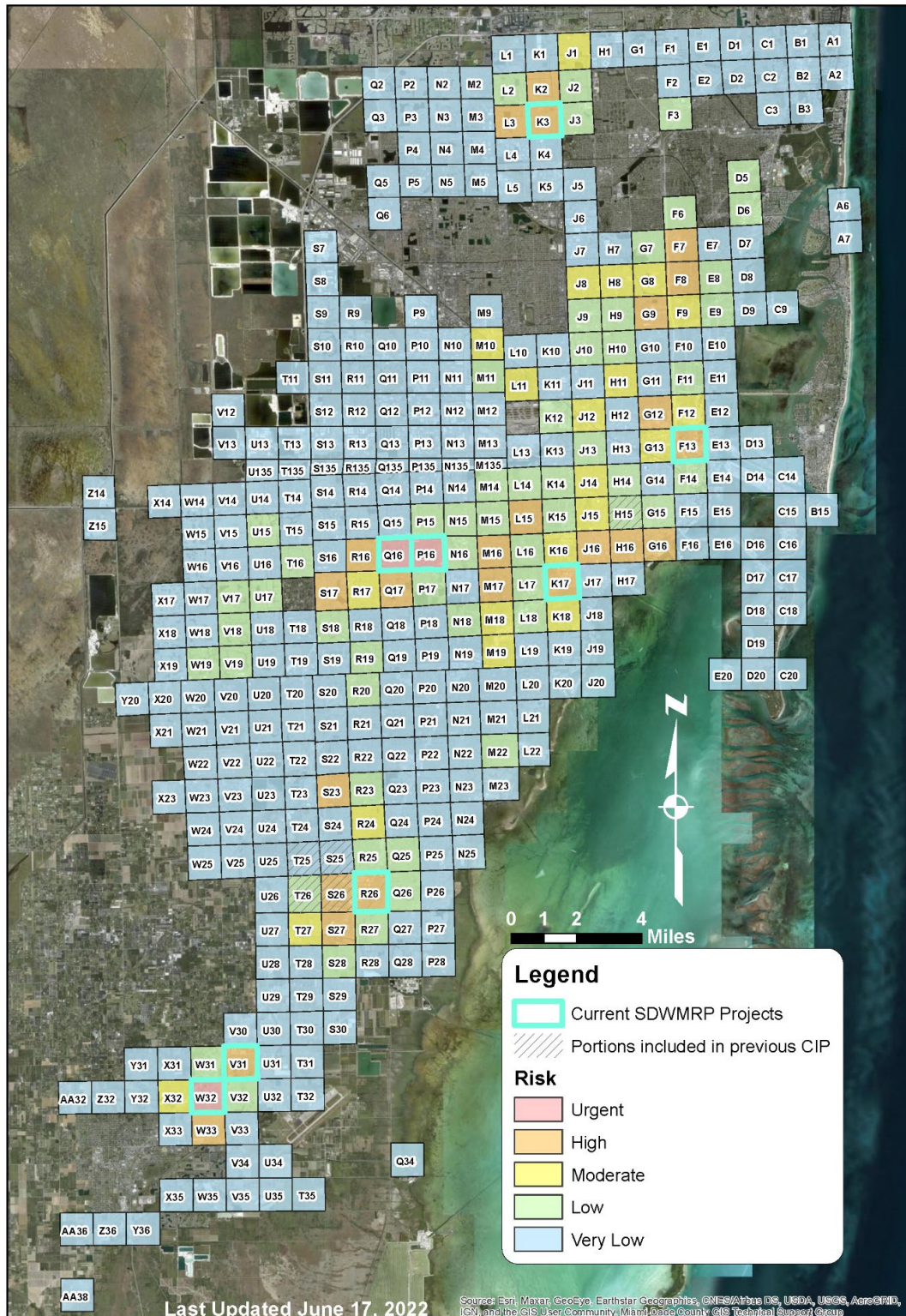


Figure 1: Map with atlas grids prioritized by quantities of vulnerable SDWM in each atlas





## 4.2 SUMMARY OF CURRENT AND PROPOSED PROJECTS

Based on current projects, the total cost per linear foot estimated to be approximately \$340. This cost includes planning, design, construction, and project close-out. Table 2 below outlines the current projects, of which there are eight (8), and proposed next projects, of which there are seven (7), for a total of fifteen (15) projects between current and proposed.

**Table 2: Summary of current and proposed Connect to Protect projects for the Laterals Program, which addresses only abutting septic systems. Quantities of septic systems shown are abutting septic systems only.**

Atlas	Area	Current Phase	Estimated linear footage of water main to be replaced	ER number	Current or projected budget	Cumulative total cost
W32	Leisure City	Design	102,053	W017437	\$65,000,000	\$65,000,000
P16	West Dade - UIMDC	Pre-Design	104,776	W017560	\$35,173,680	\$100,173,680
Q16	West Dade - UIMDC	Pre-Design	94,096	W017559	\$31,599,420	\$131,773,100
V31	Naranja - UIMDC	Pre-Design	30,678	W017553	\$19,200,000	\$150,973,100
K3	Miami Gardens	Pre-Design	91,193	W-17562	\$30,650,580	\$181,623,680
F13	Miami - Downtown	Pre-Design	67,257	W017563	\$22,622,340	\$204,246,020
R26	Cutler Bay and UIMDC	Pre-Design	73,519	W017561	\$24,709,560	\$228,955,580
K17	Gables & Miami (Grove)	Pre-Design	71,448	W017558	\$24,033,240	\$252,988,820
H16	Miami (Grove & Silver Bluff)	Proposed	108,681	TBD	\$36,554,400	\$289,543,220
M16	West Dade - UIMDC	Proposed	94,910	TBD	\$31,926,900	\$321,470,120
Q17	West Dade - UIMDC	Proposed	101,578	TBD	\$34,165,800	\$355,635,920
F7	Miami Shores & UIMDC	Proposed	77,323	TBD	\$26,007,360	\$381,643,280
G12	Miami (Overtown)	Proposed	62,447	TBD	\$21,006,600	\$402,649,880
S26	UIMDC and Cutler Bay	Proposed	58,851	TBD	\$19,795,500	\$422,445,380
F8	Miami Shores & UIMDC	Proposed	85,849	TBD	\$28,875,420	\$451,320,800

\*Unincorporated Miami-Dade County (UIMDC)

## 4.3 PROPOSED PLAN AND SCHEDULE FOR 2022 THROUGH 2027

Estimated timelines for completing projects (i.e., completion of all project phases, including pre-design, design, construction, and project close-out) are between four (4) to five (5)



years. **Table 3** outlines the estimated schedule for the current and proposed SWRP projects.

**Table 3: Estimated timelines for completion of current and proposed SWRP projects.**

Atlas	Estimated linear footage of water main to be replaced	Complete pre-design	Complete design	Complete construction
<b>W32</b>	102,053	Complete	August 2024 (W32A&B) February 2025 (W32C&D)	February 2026 (W32A&B) August 2026 (W32C&D)
<b>P16</b>	104,776	October 2022	February 2025	November 2026
<b>Q16</b>	94,096	November 2022	March 2025	December 2026
<b>V31</b>	30,678	October 2022	February 2025	November 2026
<b>K3</b>	91,193	October 2022	February 2025	November 2026
<b>F13</b>	67,257	November 2022	March 2025	December 2026
<b>R26</b>	73,519	October 2022	February 2025	November 2026
<b>K17</b>	71,448	October 2022	February 2025	November 2026
<b>H16</b>	108,681	February 2023	June 2025	March 2027
<b>M16</b>	94,910	February 2023	June 2025	March 2027
<b>Q17</b>	101,578	February 2023	June 2025	March 2027
<b>F7</b>	77,323	March 2023	July 2025	April 2027
<b>G12</b>	62,447	March 2023	July 2025	April 2027
<b>S26</b>	58,851	March 2023	July 2025	April 2027
<b>F8</b>	85,849	March 2023	July 2025	April 2027

## APPENDIX A – PRIORITIZATION (RANKINGS) FOR SMALL WATER MAIN REPLACEMENT PROJECTS

**Table 4: Prioritization of atlas grids based on quantities of vulnerable septic systems in each atlas. Color-coding for the Rank column are Urgent, Very High, High, Medium, and Low priority; Color-coding for rows signify Current Projects and Atlases with portions addressed in a previous Capital Improvement Plan (CIP).**

RANK	ATLAS	POF	COF	RISK
1	W32	10	10	100
2	P16	8	8	64
3	Q16	10	6	60
4	R26	10	5	50
5	F13	7	6	42
6	K17	8	5	40
7	Q17	5	7	35
8	V31	10	3	30
9	F7	4	7	28
10	F8	3	8	24
11	J16	3	8	24
12	K3	4	6	24
13	S26	4	6	24
14	G12	3	7	21
15	K2	3	7	21
16	H16	10	2	20
17	M16	10	2	20
18	S17	5	4	20
19	L3	3	6	18
20	G16	4	4	16
21	G9	4	4	16
22	L15	8	2	16
23	M17	8	2	16
24	R16	8	2	16
25	S23	8	2	16
26	S27	4	4	16
27	W33	8	2	16
28	F9	3	5	15
29	J1	3	5	15
30	M10	3	5	15
31	M19	3	5	15
32	R17	3	5	15
33	H8	2	7	14



RANK	ATLAS	POF	COF	RISK
34	J15	7	2	14
35	K16	7	2	14
36	K18	7	2	14
37	L11	7	2	14
38	M18	2	7	14
39	F12	6	2	12
40	G13	3	4	12
41	G8	2	6	12
42	H11	3	4	12
43	J12	3	4	12
44	J14	4	3	12
45	J8	2	6	12
46	R24	6	2	12
47	T27	4	3	12
48	X32	6	2	12
49	H9	2	5	10
50	J2	2	5	10
51	K15	5	2	10
52	L14	10	1	10
53	M14	5	2	10
54	N15	10	1	10
55	R25	2	5	10
56	S18	10	1	10
57	U17	10	1	10
58	V32	10	1	10
59	F14	3	3	9
60	H10	3	3	9
61	J10	3	3	9
62	E8	4	2	8
63	E9	4	2	8
64	G15	4	2	8
65	H15	4	2	8
66	J9	2	4	8
67	L18	8	1	8
68	N16	8	1	8
69	P15	4	2	8
70	Q26	4	2	8
71	R19	8	1	8
72	R23	8	1	8
73	R27	8	1	8
74	T16	8	1	8



RANK	ATLAS	POF	COF	RISK
75	T26	4	2	8
76	V17	8	1	8
77	V18	8	1	8
78	V19	8	1	8
79	W31	4	2	8
80	D5	2	3	6
81	D6	2	3	6
82	F11	3	2	6
83	F3	2	3	6
84	F6	2	3	6
85	G7	3	2	6
86	H14	3	2	6
87	J13	3	2	6
88	J3	3	2	6
89	K12	2	3	6
90	K14	3	2	6
91	L16	3	2	6
92	L17	3	2	6
93	L2	2	3	6
94	M11	3	2	6
95	M15	6	1	6
96	M22	6	1	6
97	N18	6	1	6
98	P17	2	3	6
99	Q25	6	1	6
100	R20	6	1	6
101	S28	2	3	6
102	U15	6	1	6
103	W19	6	1	6
104	F10	5	1	5
105	F15	5	1	5
106	G14	5	1	5
107	H12	5	1	5
108	H13	5	1	5
109	L19	5	1	5
110	N22	5	1	5
111	Q18	5	1	5
112	Q19	5	1	5
113	AA36	4	1	4
114	B1	2	2	4
115	C1	4	1	4



RANK	ATLAS	POF	COF	RISK
116	C17	4	1	4
117	C2	2	2	4
118	D1	4	1	4
119	E13	4	1	4
120	E14	2	2	4
121	E2	2	2	4
122	F2	2	2	4
123	G10	4	1	4
124	H1	2	2	4
125	J11	2	2	4
126	J5	2	2	4
127	J7	2	2	4
128	M23	4	1	4
129	M4	2	2	4
130	N17	4	1	4
131	N19	2	2	4
132	N23	4	1	4
133	N4	4	1	4
134	P18	4	1	4
135	P22	4	1	4
136	P23	4	1	4
137	P24	4	1	4
138	P25	4	1	4
139	P26	4	1	4
140	P27	4	1	4
141	Q15	4	1	4
142	Q24	4	1	4
143	Q27	4	1	4
144	R14	4	1	4
145	R15	4	1	4
146	R18	4	1	4
147	R21	4	1	4
148	S22	4	1	4
149	T21	4	1	4
150	T28	2	2	4
151	T30	4	1	4
152	T35	4	1	4
153	U19	4	1	4
154	U24	4	1	4
155	U35	4	1	4
156	V33	4	1	4



RANK	ATLAS	POF	COF	RISK
157	V35	4	1	4
158	D7	3	1	3
159	D8	3	1	3
160	E10	3	1	3
161	E11	3	1	3
162	E7	3	1	3
163	F1	3	1	3
164	F16	3	1	3
165	G11	3	1	3
166	J17	3	1	3
167	J18	3	1	3
168	J19	3	1	3
169	J20	3	1	3
170	K10	3	1	3
171	K11	3	1	3
172	K13	3	1	3
173	K19	3	1	3
174	K20	3	1	3
175	L10	3	1	3
176	M12	3	1	3
177	N14	3	1	3
178	N20	3	1	3
179	Q28	3	1	3
180	R135	3	1	3
181	S19	3	1	3
182	T15	3	1	3
183	T25	3	1	3
184	U20	3	1	3
185	V34	3	1	3
186	W17	3	1	3
187	W18	3	1	3
188	W20	3	1	3
189	W21	3	1	3
190	X33	3	1	3
191	Y36	3	1	3
192	A2	2	1	2
193	B15	2	1	2
194	B2	1	2	2
195	B3	2	1	2
196	C15	2	1	2
197	C16	2	1	2





RANK	ATLAS	POF	COF	RISK
198	C3	2	1	2
199	C9	2	1	2
200	D13	2	1	2
201	D14	2	1	2
202	D16	2	1	2
203	D17	2	1	2
204	D18	2	1	2
205	D19	2	1	2
206	D2	2	1	2
207	D20	2	1	2
208	D9	2	1	2
209	E1	2	1	2
210	E12	2	1	2
211	E15	2	1	2
212	E16	2	1	2
213	E20	2	1	2
214	G1	2	1	2
215	H17	2	1	2
216	H7	2	1	2
217	J6	1	2	2
218	K1	2	1	2
219	K4	2	1	2
220	K5	2	1	2
221	L1	2	1	2
222	L20	2	1	2
223	L21	2	1	2
224	L22	2	1	2
225	L4	2	1	2
226	M135	2	1	2
227	M2	2	1	2
228	M20	2	1	2
229	M21	2	1	2
230	M3	1	2	2
231	M5	2	1	2
232	M9	2	1	2
233	N10	2	1	2
234	N11	2	1	2
235	N12	2	1	2
236	N13	2	1	2
237	N135	2	1	2
238	N2	2	1	2



RANK	ATLAS	POF	COF	RISK
239	N21	2	1	2
240	N24	2	1	2
241	N25	2	1	2
242	N5	2	1	2
243	P10	2	1	2
244	P11	2	1	2
245	P12	2	1	2
246	P135	2	1	2
247	P14	2	1	2
248	P19	2	1	2
249	P20	2	1	2
250	P21	2	1	2
251	P28	2	1	2
252	P3	2	1	2
253	Q12	2	1	2
254	Q13	2	1	2
255	Q135	2	1	2
256	Q14	2	1	2
257	Q20	2	1	2
258	Q21	2	1	2
259	Q22	2	1	2
260	Q23	2	1	2
261	R11	2	1	2
262	R12	2	1	2
263	R13	2	1	2
264	R22	2	1	2
265	R28	2	1	2
266	S11	2	1	2
267	S135	2	1	2
268	S14	2	1	2
269	S15	2	1	2
270	S16	2	1	2
271	S20	2	1	2
272	S21	2	1	2
273	S24	2	1	2
274	S25	2	1	2
275	S29	2	1	2
276	S9	2	1	2
277	T11	2	1	2
278	T135	2	1	2
279	T14	2	1	2



RANK	ATLAS	POF	COF	RISK
280	T18	2	1	2
281	T19	2	1	2
282	T20	2	1	2
283	T24	2	1	2
284	T31	2	1	2
285	T32	2	1	2
286	U14	2	1	2
287	U16	2	1	2
288	U18	2	1	2
289	U21	2	1	2
290	U23	2	1	2
291	U25	2	1	2
292	U26	2	1	2
293	U30	2	1	2
294	U31	2	1	2
295	U32	2	1	2
296	U34	2	1	2
297	V12	2	1	2
298	V15	2	1	2
299	V20	2	1	2
300	V22	2	1	2
301	V23	2	1	2
302	V30	2	1	2
303	W24	2	1	2
304	W25	2	1	2
305	X18	2	1	2
306	X19	2	1	2
307	X21	2	1	2
308	X31	2	1	2
309	Y31	2	1	2
310	Z32	2	1	2
311	Z36	2	1	2
312	A1	1	1	1
313	A6	1	1	1
314	A7	1	1	1
315	AA32	1	1	1
316	AA38	1	1	1
317	C14	1	1	1
318	C18	1	1	1
319	C20	1	1	1
320	L13	1	1	1



RANK	ATLAS	POF	COF	RISK
321	L5	1	1	1
322	M13	1	1	1
323	N3	1	1	1
324	P13	1	1	1
325	P2	1	1	1
326	P4	1	1	1
327	P5	1	1	1
328	P9	1	1	1
329	Q10	1	1	1
330	Q11	1	1	1
331	Q2	1	1	1
332	Q3	1	1	1
333	Q34	1	1	1
334	Q5	1	1	1
335	Q6	1	1	1
336	R10	1	1	1
337	R9	1	1	1
338	S10	1	1	1
339	S12	1	1	1
340	S13	1	1	1
341	S30	1	1	1
342	S7	1	1	1
343	S8	1	1	1
344	T13	1	1	1
345	T22	1	1	1
346	T23	1	1	1
347	T29	1	1	1
348	U13	1	1	1
349	U135	1	1	1
350	U22	1	1	1
351	U27	1	1	1
352	U28	1	1	1
353	U29	1	1	1
354	V13	1	1	1
355	V14	1	1	1
356	V16	1	1	1
357	V21	1	1	1
358	V24	1	1	1
359	V25	1	1	1
360	W14	1	1	1
361	W15	1	1	1



RANK	ATLAS	POF	COF	RISK
362	W16	1	1	1
363	W22	1	1	1
364	W23	1	1	1
365	W35	1	1	1
366	X14	1	1	1
367	X17	1	1	1
368	X20	1	1	1
369	X23	1	1	1
370	X35	1	1	1
371	Y20	1	1	1
372	Y32	1	1	1
373	Z14	1	1	1
374	Z15	1	1	1

## APPENDIX B – FACT SHEETS ON CURRENT & PROPOSED SMALL WATER MAIN REPLACEMENT PROJECTS

### Current and Proposed Projects

The line colors in the Fact Sheets to follow symbolize a variety of water mains that potentially meet criteria for replacement, whether they are undersized, ageing, of unknown material or age, or of inferior material (e.g., asbestos cement).

### Atlas W32 (Quadrants A and B)

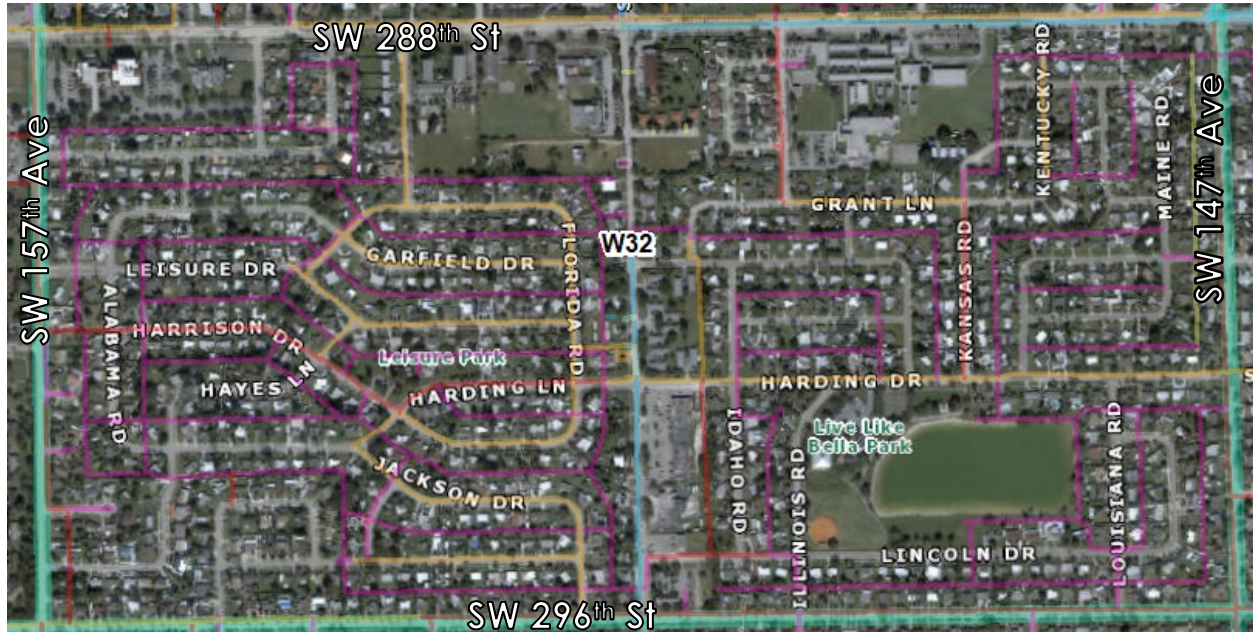
Neighborhood: Leisure City  
Approx. Boundaries (N; E; S; W): SW 280<sup>th</sup> St; SW 147<sup>th</sup> Ave; SW 288<sup>th</sup> St; SW 157<sup>th</sup> Ave.  
Estimated water main to replace: 39,300 linear feet  
Estimated Total Cost: \$ 25,000,000  
Comments: Most of the undersized mains, ageing mains, or mains made of inferior materials, are located in W32 B (NE quadrant).





## Atlas W32 (Quadrants C and D)

Neighborhood: Leisure City  
 Approx. Boundaries (N; E; S; W): SW 288<sup>th</sup> St; SW 157<sup>th</sup> Ave; SW 296<sup>th</sup> St; SW 147<sup>th</sup> Ave  
 Estimated water main to replace: 92,800 linear feet  
 Estimated Total Cost: \$ 40,000,000  
 Comments: Quadrant C (SW quadrant) contains a considerable amount of asbestos cement pipe (orange pipe is 8", and most of the 8" in this quadrant is made of asbestos cement).





## Atlas P16

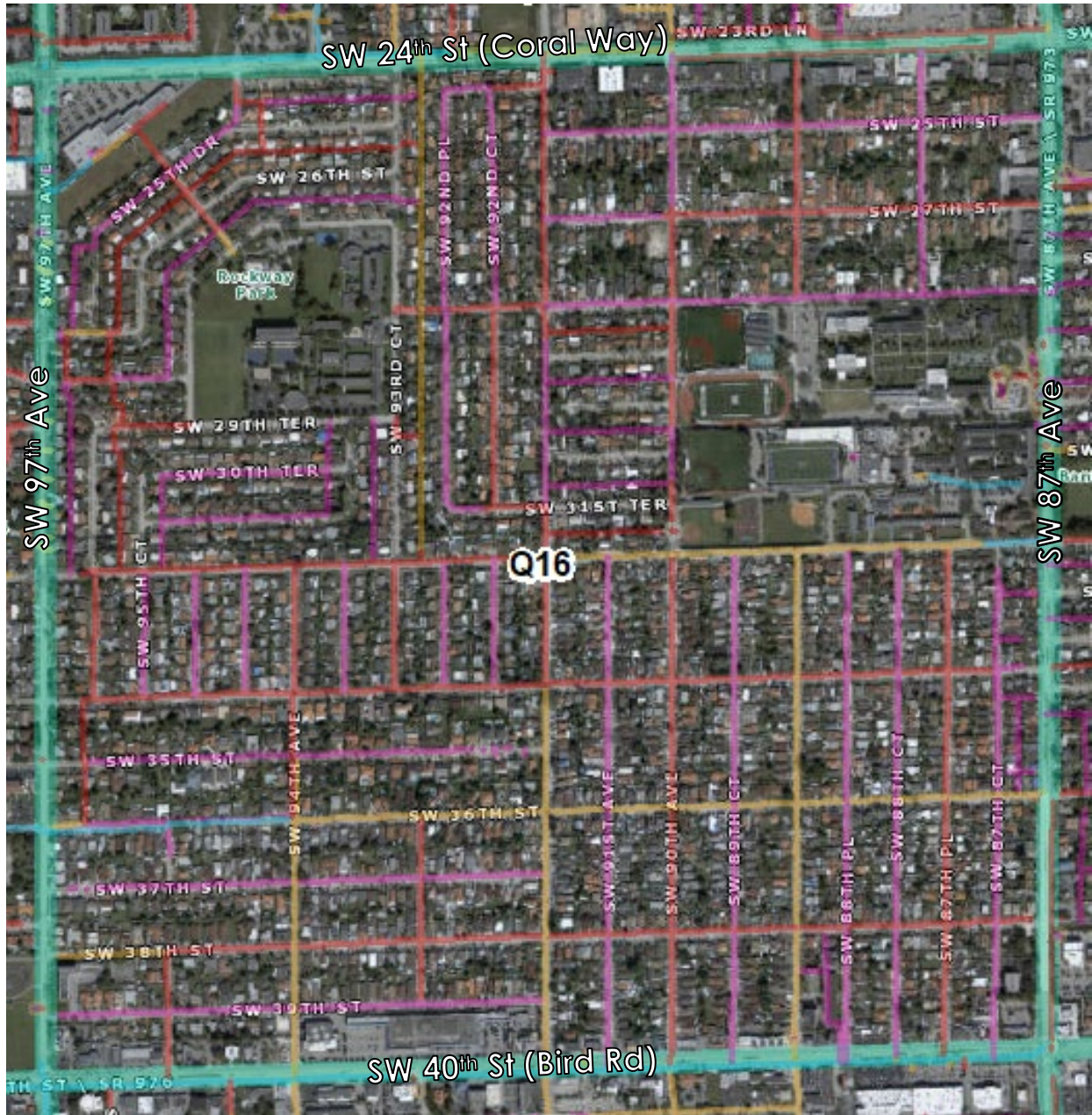
Neighborhood: West Dade - UIMDC  
 Approx. Boundaries (N; E; S; W): SW 24<sup>th</sup> St (Coral Way); Palmetto Expwy (SR 826); SW 40<sup>th</sup> St (Bird Rd); SW 87<sup>th</sup> Ave  
 Estimated water main to replace: 104,776 linear feet  
 Estimated Total Cost: \$ 35,173,680  
 Comments:





## Atlas Q16

Neighborhood:	West Dade - UIMDC
Approx. Boundaries (N; E; S; W):	SW 24 <sup>th</sup> St (Coral Way); SW 87 <sup>th</sup> Ave; SW 40 <sup>th</sup> St (Bird Rd); SW 97 <sup>th</sup> Ave.
Estimated water main to replace:	94,096 linear feet
Estimated Total Cost:	\$ 31,599,420
Comments:	







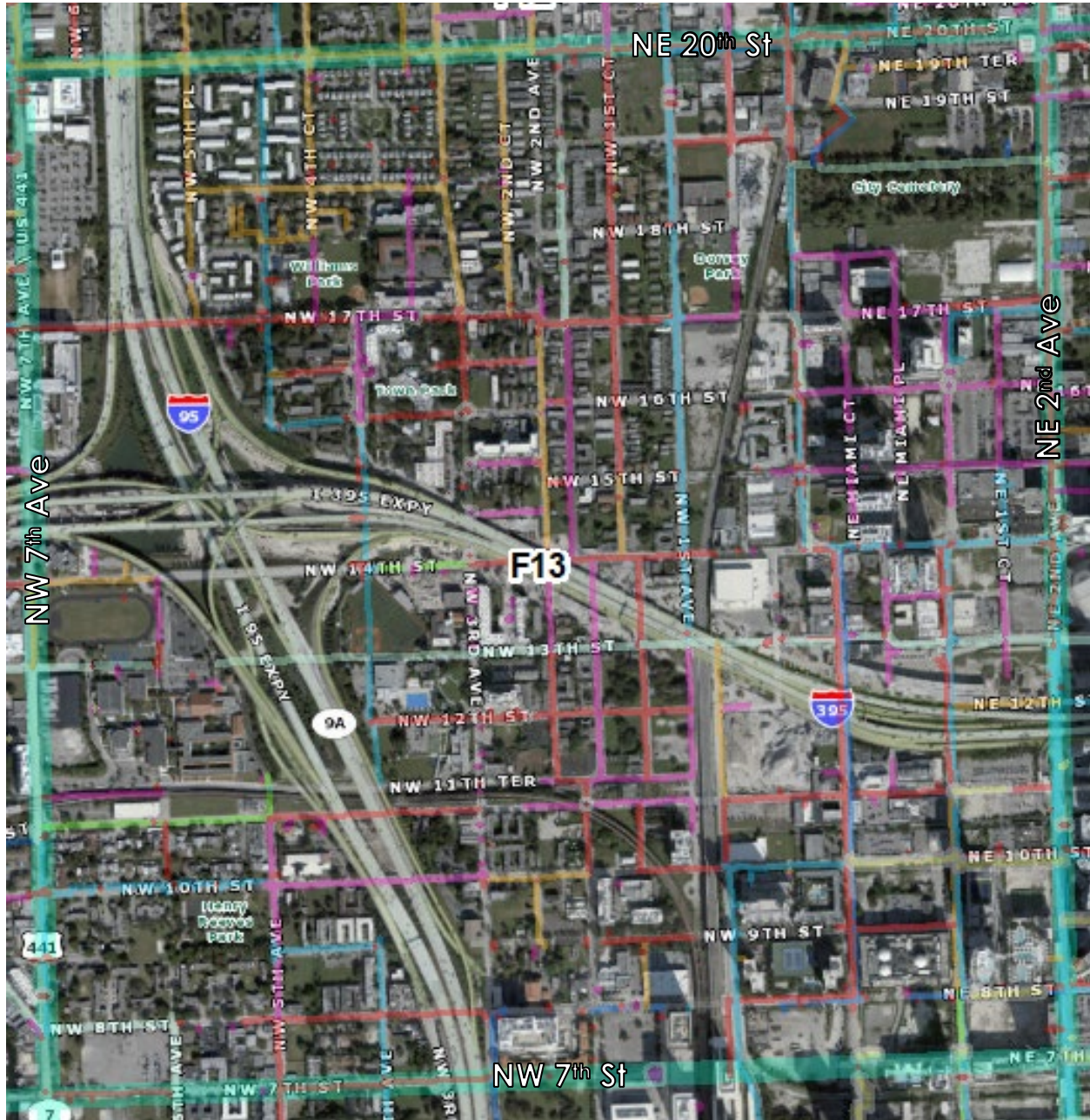






## Atlas F13

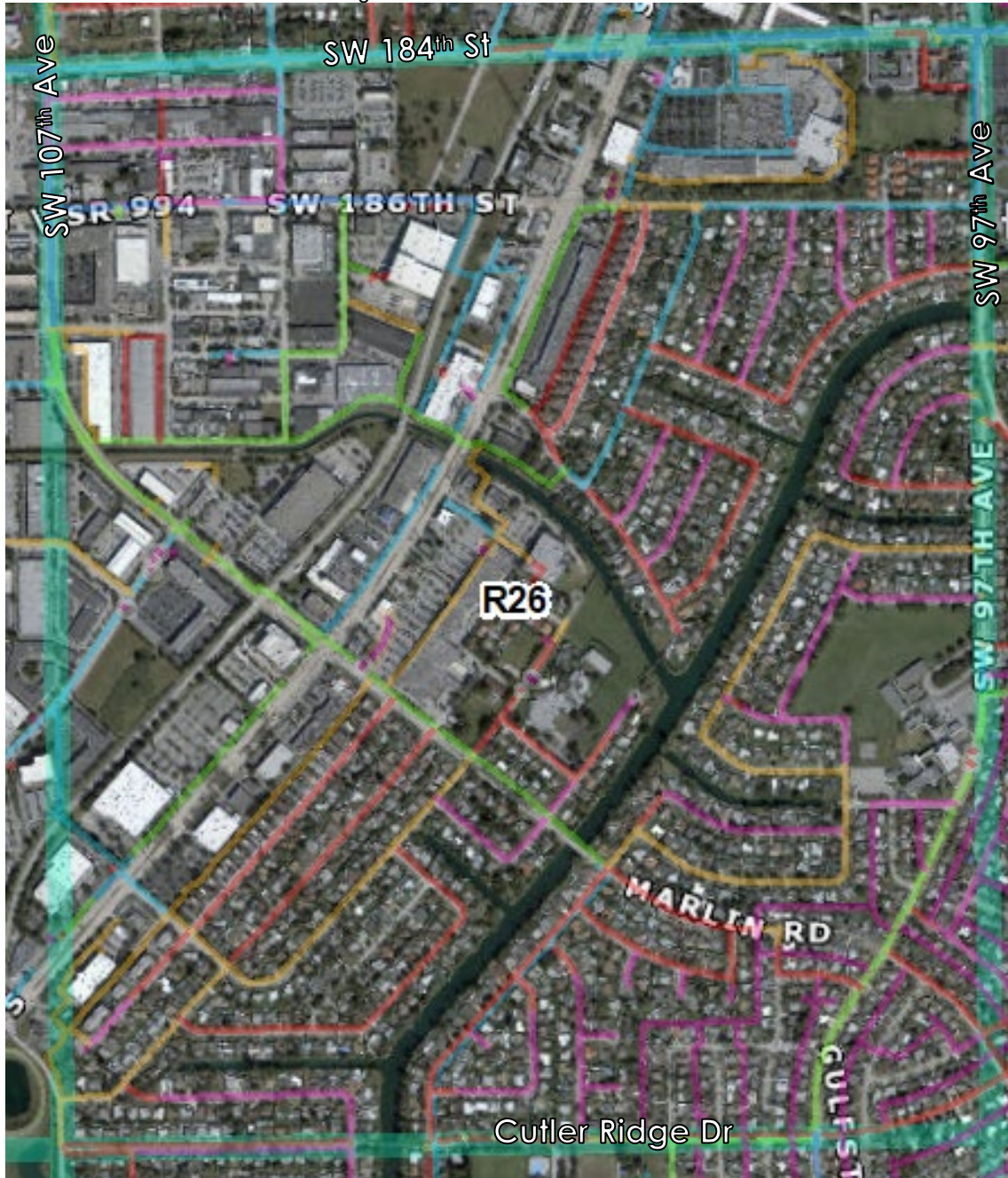
Neighborhood: Miami - Downtown  
Approx. Boundaries (N; E; S; W): NE 20<sup>th</sup> St; NE 2<sup>nd</sup> Ave; NW 7<sup>th</sup> St; NW 7<sup>th</sup> Ave.  
Estimated water main to replace: 67,257 linear feet  
Estimated Total Cost: \$ 22,622,340  
Comments: This atlas is in the heart of downtown, with a wide variety of old (almost 100 years old) mains, water mains of unknown materials, and water mains of unknown age, among others.





## Atlas R26

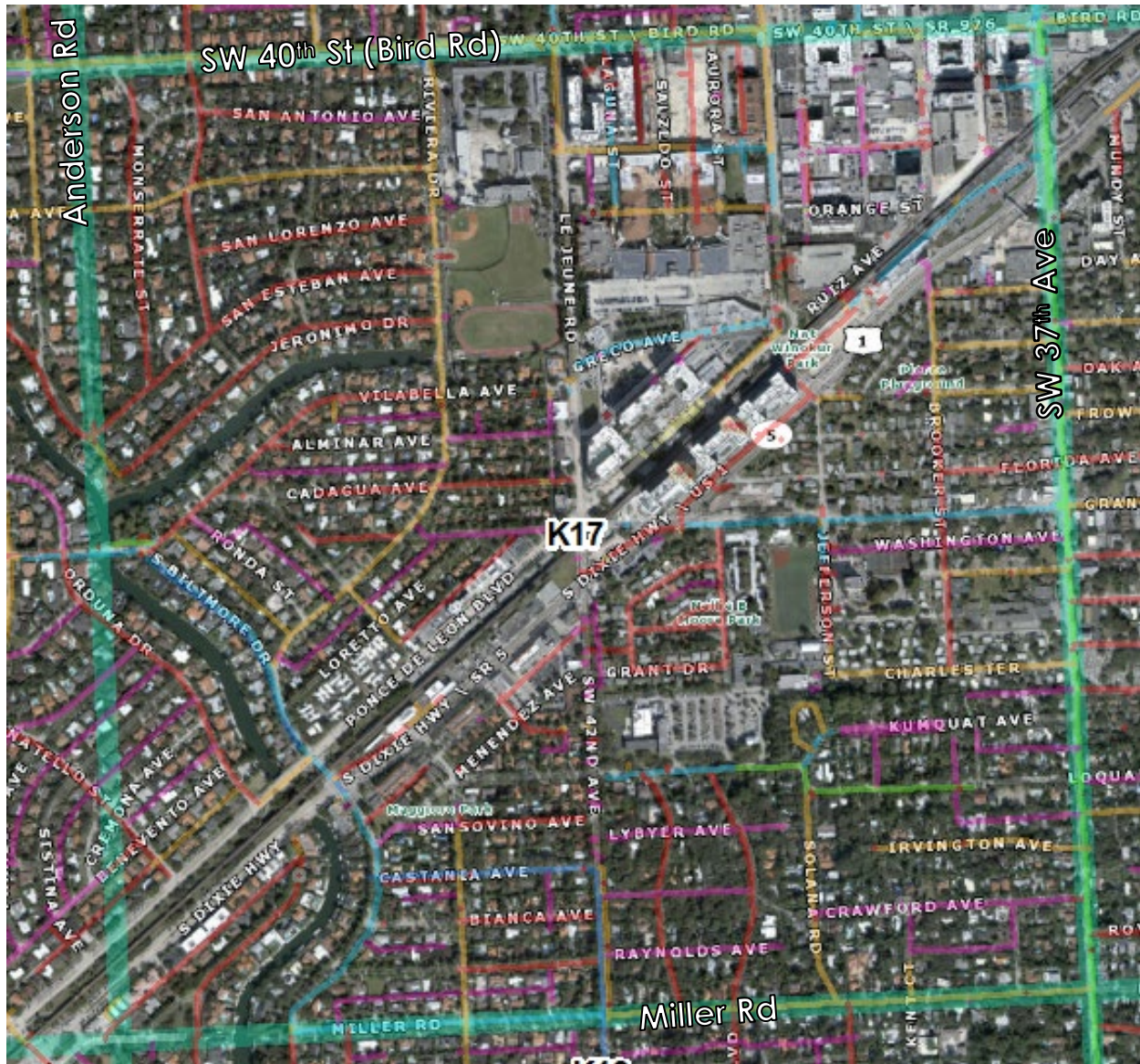
Neighborhood: Cutler Bay and UIMDC  
 Approx. Boundaries (N; E; S; W): SW 184<sup>th</sup> St; SW 97<sup>th</sup> Ave; Cutler Ridge Dr; SW 107<sup>th</sup> Ave.  
 Estimated water main to replace: 73,519 linear feet  
 Estimated Total Cost: \$ 24,709,560  
 Comments: This atlas has a slightly larger layout than most others, due to the unconventional grid layout of the streets in this area. There are numerous canals that traverse this atlas; as such, there may be some canal crossing water mains to consider.





## Atlas K17

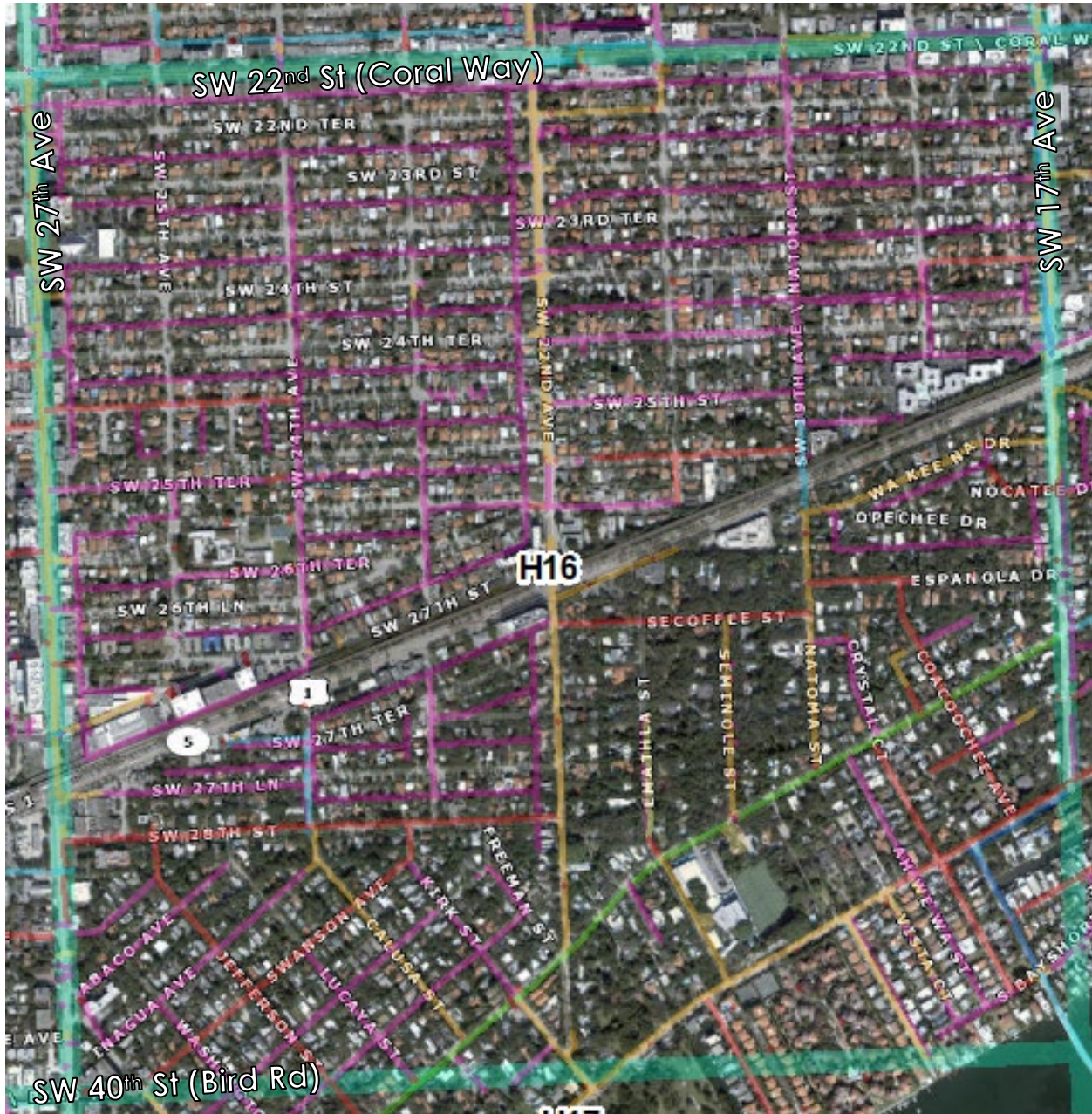
Neighborhood: Coral Gables and Coconut Grove (Miami)  
 Approx. Boundaries (N; E; S; W): SW 40<sup>th</sup> St (Bird Rd); SW 37<sup>th</sup> Ave; Miller Rd; Anderson Rd.  
 Estimated water main to replace: 71,448 linear feet  
 Estimated Total Cost: \$ 24,033,240  
 Comments: This atlas has a mix of ageing water mains and undersized water mains, among others. The eastern edge of this atlas is not a continuous road, due to the unconventional street layout in Coral Gables.





## Atlas H16

Neighborhood: Coconut Grove (Miami) and Silver Bluff (Miami)  
 Approx. Boundaries (N; E; S; W): SW 22<sup>nd</sup> St; SW 17<sup>th</sup> Ave; Bird Rd/Bird Ave; SW 27<sup>th</sup> Ave.  
 Estimated water main to replace: 108,681 linear feet  
 Estimated Total Cost: \$ 36,554,400  
 Comments: The southern half of this atlas has an unconventional street layout, so the southern border of Bird Ave is approximate.





## Atlas M16

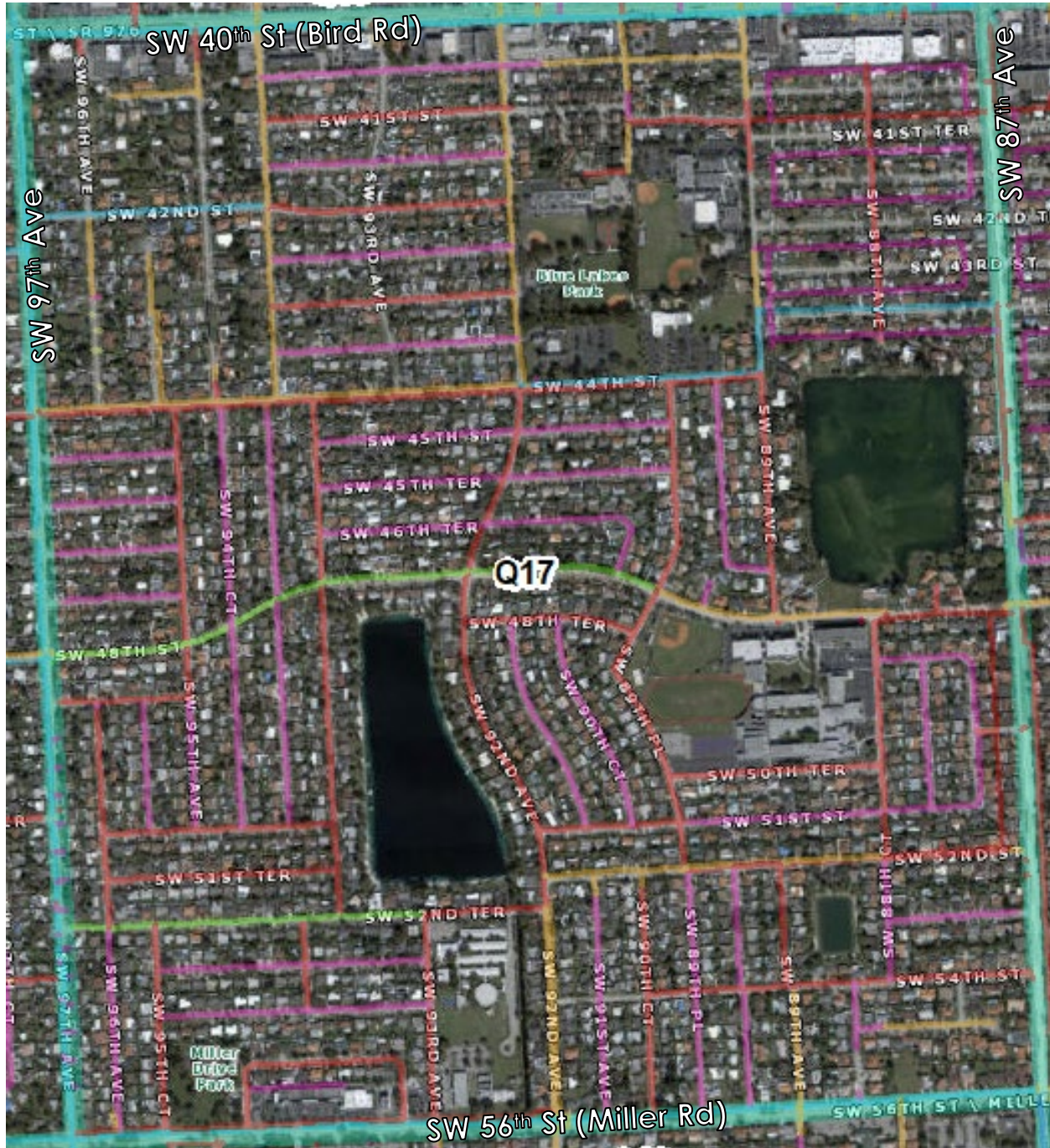
Neighborhood:	West Dade (UIMDC)
Approx. Boundaries (N; E; S; W):	SW 24 <sup>th</sup> St (Coral Way); SW 57 <sup>th</sup> Ave; SW 40 <sup>th</sup> St (Bird Rd); SW 67 <sup>th</sup> Ave.
Estimated water main to replace:	94,910 linear feet
Estimated Total Cost:	\$ 31,926,900
Comments:	





## Atlas Q17

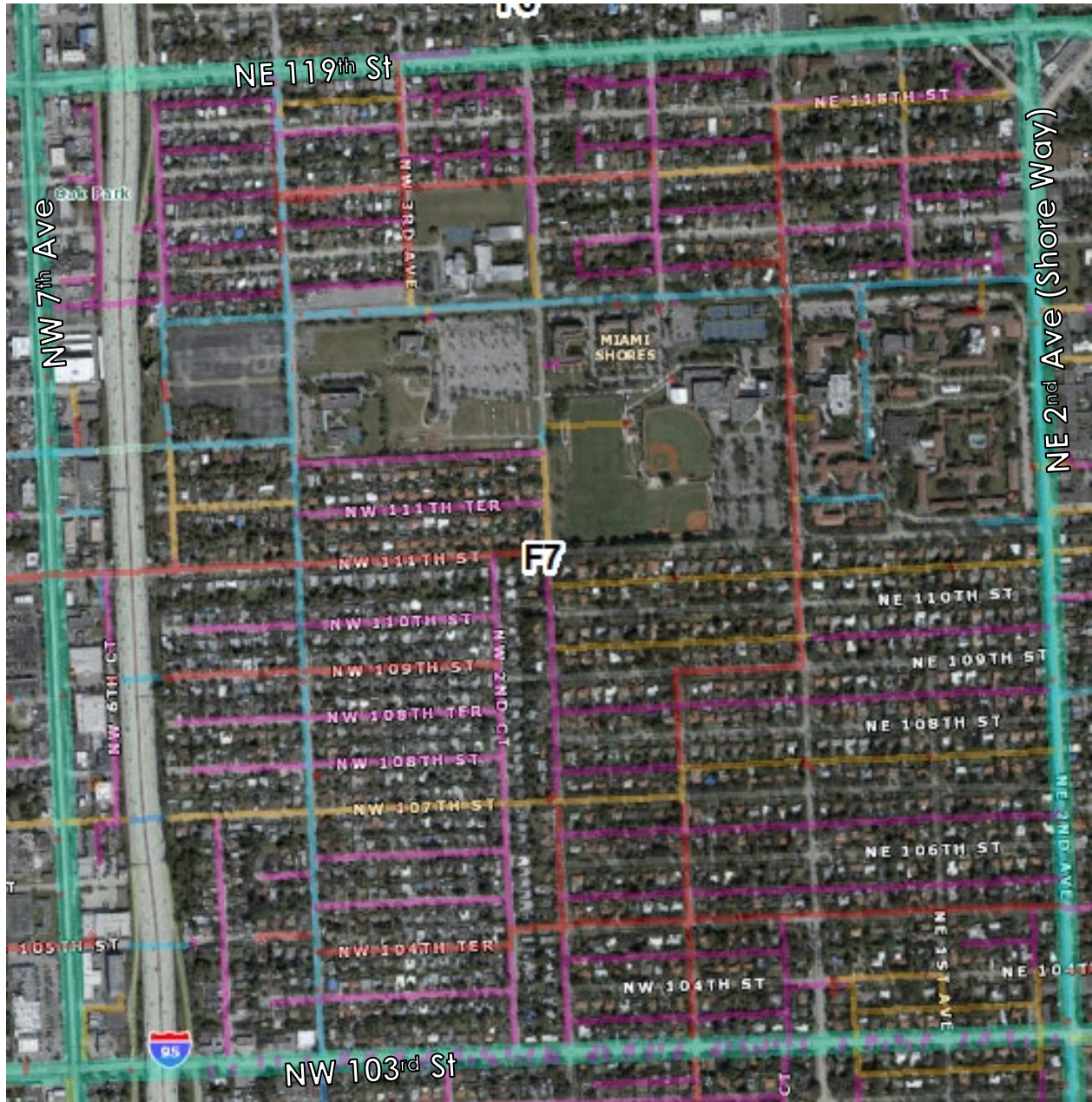
Neighborhood: West Dade (UIMDC)  
Approx. Boundaries (N; E; S; W): SW 40<sup>th</sup> St (Bird Rd); SW 87<sup>th</sup> Ave; SW 56<sup>th</sup> St (Miller Dr); SW 97<sup>th</sup> Ave.  
Estimated water main to replace: 101,578 linear feet  
Estimated Total Cost: \$ 34,165,800  
Comments:





## Atlas F7

Neighborhood:	Miami Shores and UIMDC
Approx. Boundaries (N; E; S; W):	NE 119 <sup>th</sup> St; NE 2 <sup>nd</sup> Ave (Shore Way); NW103 <sup>rd</sup> St; NW 7 <sup>th</sup> Ave.
Estimated water main to replace:	77,323 linear feet
Estimated Total Cost:	\$ 26,007,360
Comments:	





## Atlas G12

Neighborhood:	Miami (Overtown)
Approx. Boundaries (N; E; S; W):	NW 36 <sup>th</sup> St; NW 7 <sup>th</sup> Ave; NW 20 <sup>th</sup> St; NW 17 <sup>th</sup> Ave.
Estimated water main to replace:	62,447 linear feet
Estimated Total Cost:	\$ 21, 006, 600
Comments:	





## Atlas S26

Neighborhood: UIMDC and Cutler Bay  
Approx. Boundaries (N; E; S; W): SW 184<sup>th</sup> St; SW 107<sup>th</sup> Ave; SW 200<sup>th</sup> St; SW 117<sup>th</sup> Ave.  
Estimated water main to replace: 58,851 linear feet  
Estimated Total Cost: \$ 19,795,500  
Comments:





## Atlas F8

Neighborhood: Miami Shores, El Portal, and UIMDC  
 Approx. Boundaries (N; E; S; W): NE 103<sup>rd</sup> St; NE 2<sup>nd</sup> Ave (Shore Way); NW 87<sup>th</sup> St; NW 7<sup>th</sup> Ave.  
 Estimated water main to replace: 85,849 linear feet  
 Estimated Total Cost: \$ 28,875,420  
 Comments: The southern border of this atlas is approximate, since NW 87<sup>th</sup> St does not run continuously along the southern edge of this atlas, and a portion of The Miami River runs along the southern edge.

