Located in Collier County
Section 16, Township 50 South, Range 26 East

PPL-2008-AR-14094 REV: 2 WINGSOUTH AIRPARK Project:2008100006 Date: 7/6/09 DUE: 8/3/09

ENGINEERING SERVICES DEPARTMENT
THIS PROJECT HAS BEEN REVIEWED AND APPROVED FOR
SUFFICIENCY WITH COLLIER COUNTY'S LAND DEVELOPMENT
CODE, THE ENTITY/ENGINEER OF RECORD SIGNING AND
SEALING THESE PLANS WILL BE ACCOUNTABLE FOR
ADEQUACY OF DESIGN OF ALL INFRASTRUCTURE
FACILITIES AS EXHIBITED BY THESE DRAWINGS.

AR NO. 140 4

APPROVED N/A

ENGINEERING PROJECT REVIEW
RIGHT-OF-WAY PERMIT
WATER MANAGEMENT PLAN
SITE CLEARING (INFRASTRUCTURE)

Index of Sheets

In Description

No. <u>Description</u>

- 1. COVER SHEET AND INDEX OF DRAWINGS
- 2. AERIAL SITE PLAN
- 3. CLEARING PLAN
- 4. OVERALL SITE PLAN AND GENERAL NOTES
- ZONING DATA SHEET
- GRADING, PAVING AND DRAINAGE PLAN
- 7. UTILITY PLAN
- PLAN AND PROFILE
- 9. EROSION CONTROL PLAN AND DETAILS
- 10. GRADING, PAVING AND DRAINAGE DETAILS & SECTIONS
- 11. WATER AND SEWAGE DISTRIBUTION SYSTEM DETAIL
- 12. SEWAGE COLLECTION SYSTEM DETAILS

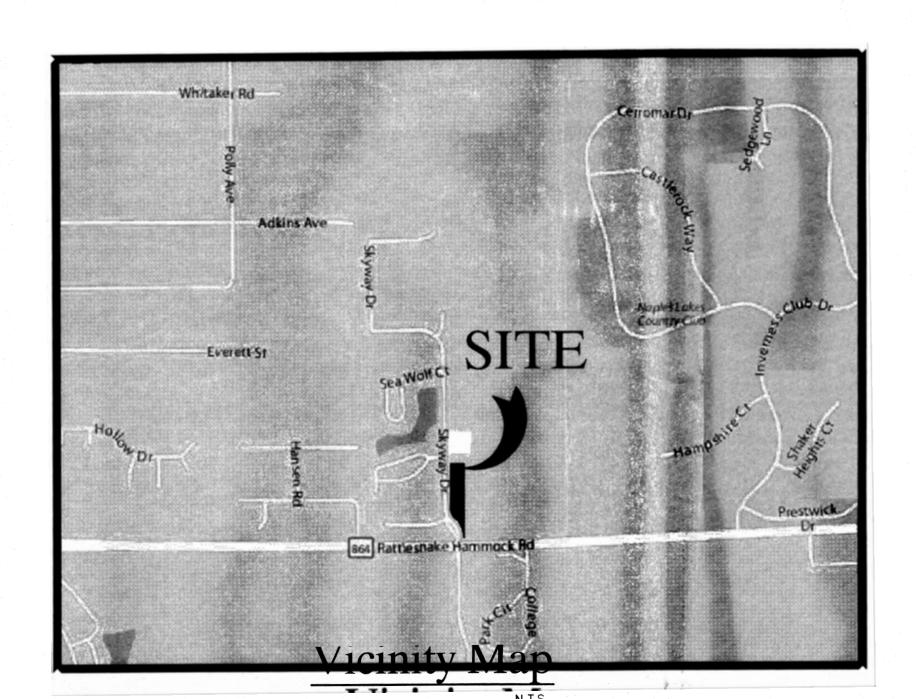
Owner/Developer:

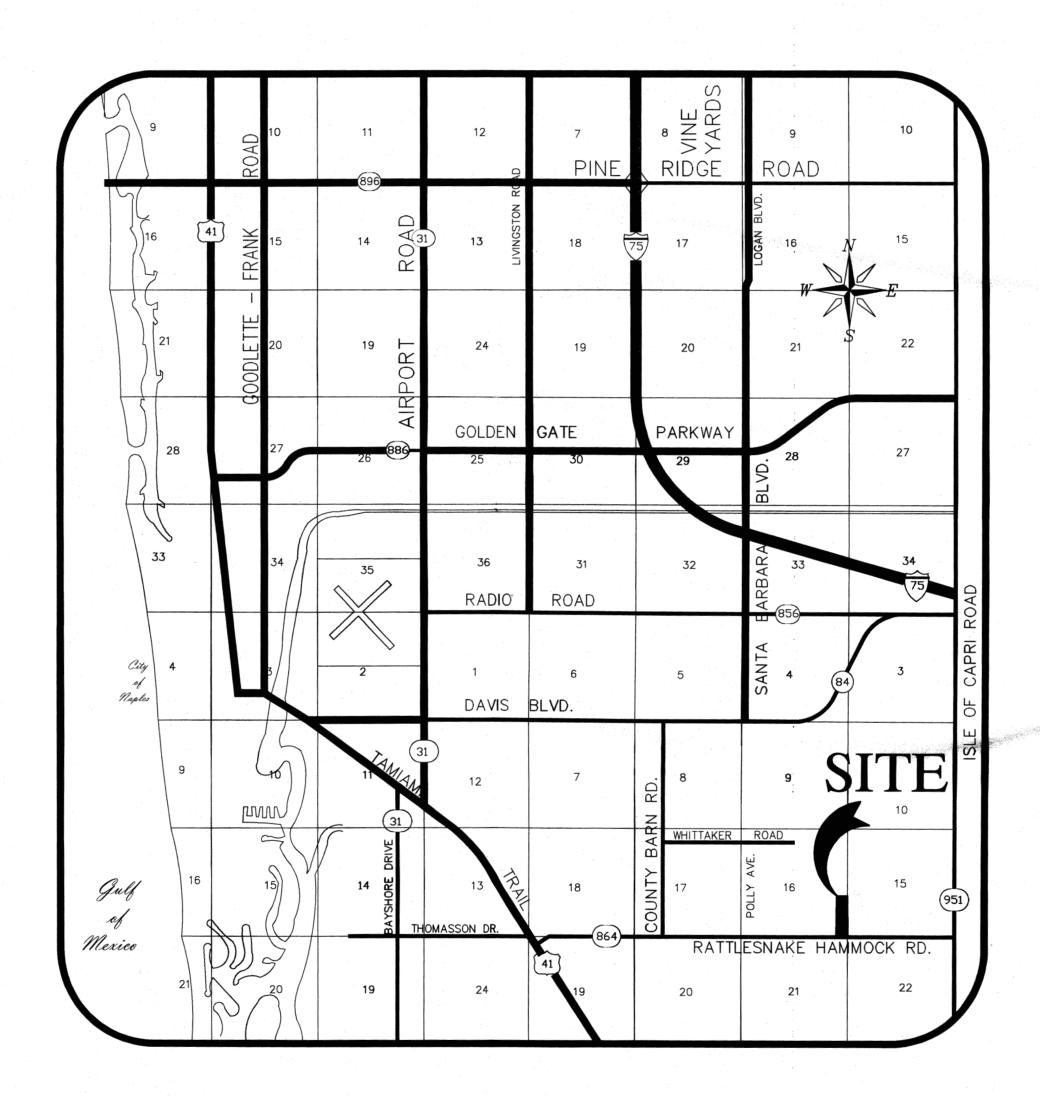
Wing South Airpark 4226 Skyway Drive Naples, Fl. 34112

Tel. 734-658-4520

COLLIER COUNTY ZONING: PUD

COLLIER COUNTY FOLIO NUMBER: 73284000507





Location Map

Prepared by:

Q. GRADY MINOR & ASSOCIATES, P.A. CIVIL ENGINEERS - LAND SURVEYORS - PLANNERS - LANDSCAPE ARCHITECTS BONITA SPRINGS - FORT MYERS - NORTH PORT (239) 947-1144 (239) 690-4380 (941) 426-5858 ENGINEERING CERT. OF AUTH. EB 0005151 SURVEYING CERT. OF AUTH. LB 0005151 LANDSCAPE ARCH. BUSINESS LV 26000266 WWW.GRADYMINOR.COM

LEGAL DESCRIPTION

OFFICIAL RECORDS BOOK 2203 PAGE 0076

ALL THAT PART OF SECTION 16, TOWNSHIP 50 SOUTH, RANGE 26 EAST, COLLIER COUNTY, FLORIDA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS

COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 16, THENCE ALONG THE EAST LINE OF SAID SECTION 16, NORTH 0'15'14" WEST 50.01 FEET TO THE NORTHERLY LINE OF COUNTY ROAD 864 (RATTLESNAKE HAMMOCK ROAD);
THENCE ALONG SAID RIGHT-OF-WAY LINE NORTH 89' 11' 52" WEST 255.03 FEET TO THE EAST LINE OF A ROAD RIGHT-OF-WAY BEING PART OF WING SOUTH PRIVATE VILLAS UNIT "I" ACCORDING TO THE PLAT THEREOF AS RECORDED IN CONDOMINIUM PLAT BOOK 4, PAGE 46, COLLIER COUNTY PUBLIC RECORDS, COLLIER COUNTY, FLORIDA;
THENCE ALONG SAID RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) DESCRIBED COURSES;

1) NORTH 0' 48' 08" EAST 2.44 FEET;
2) NORTHWESTERLY 53.24 FEET ALONG THE ARC OF A CIRCULAR CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 235.00 FEET AND BEING SUBTENDED BY A CHORD WHICH BEARS NORTH 05' 41' 15" WEST 53.12 FEET TO THE POINT OF BEGINNING OF THE PARCEL HEREIN DESCRIBED;

THENCE CONTINUE ALONG SAID RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) DESCRIBED COURSES;

1) NORTHWESTERLY 162.30 FEET ALONG THE ARC OF A CIRCULAR CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 235.00 FEET AND BEING SUBTENDED BY A CHORD WHICH BEARS NORTH 31' 57' 43" WEST 159.10 FEET TO A POINT OF REVERSE CURVATURE;

2) NORTHWESTERLY 122.24 FEET ALONG THE ARC OF A CIRCULAR CURVE CONCAVE TO THE NORTHEAST HAVING A RADIUS OF 135.98 FEET AND BEING SUBTENDED BY A CHORD WHICH BEARS NORTH 25' 59' 40" WEST 118.17 FEET; 3) NORTH 0' 14' 25" WEST 512.15 FEET; THENCE LEAVING SAID RIGHT-OF-WAY LINE NORTH 89' 45' 35" EAST 135.00 FEET TO THE WEST LINE OF A RUNWAY

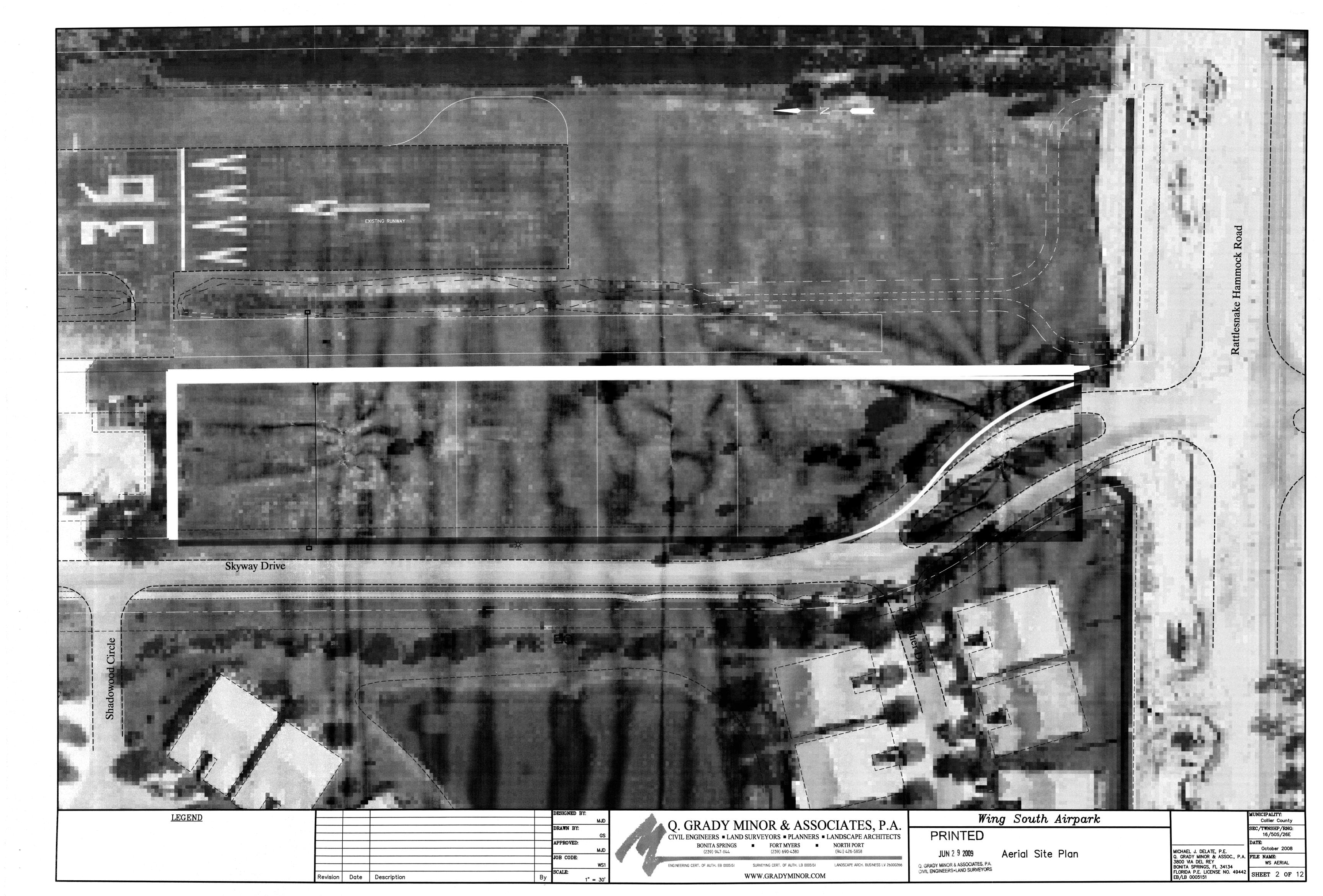
THENCE LEAVING SAID RIGHT-OF-WAY LINE NORTH 89' 45' 35" EAST 135.00 FEET TO THE WEST LINE OF A RUNWAY AND TAXIWAY EASEMENT AS DESCRIBED IN O.R. 593, PAGE 301, COLLIER COUNTY PUBLIC RECORDS, COLLIER COUNTY, FLORIDA; THENCE ALONG SAID WEST LINE SOUTH O' 14' 25" EAST 753.91 FEET TO THE POINT OF BEGINNING OF THE PARCEL HEREIN DESCRIBED; SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

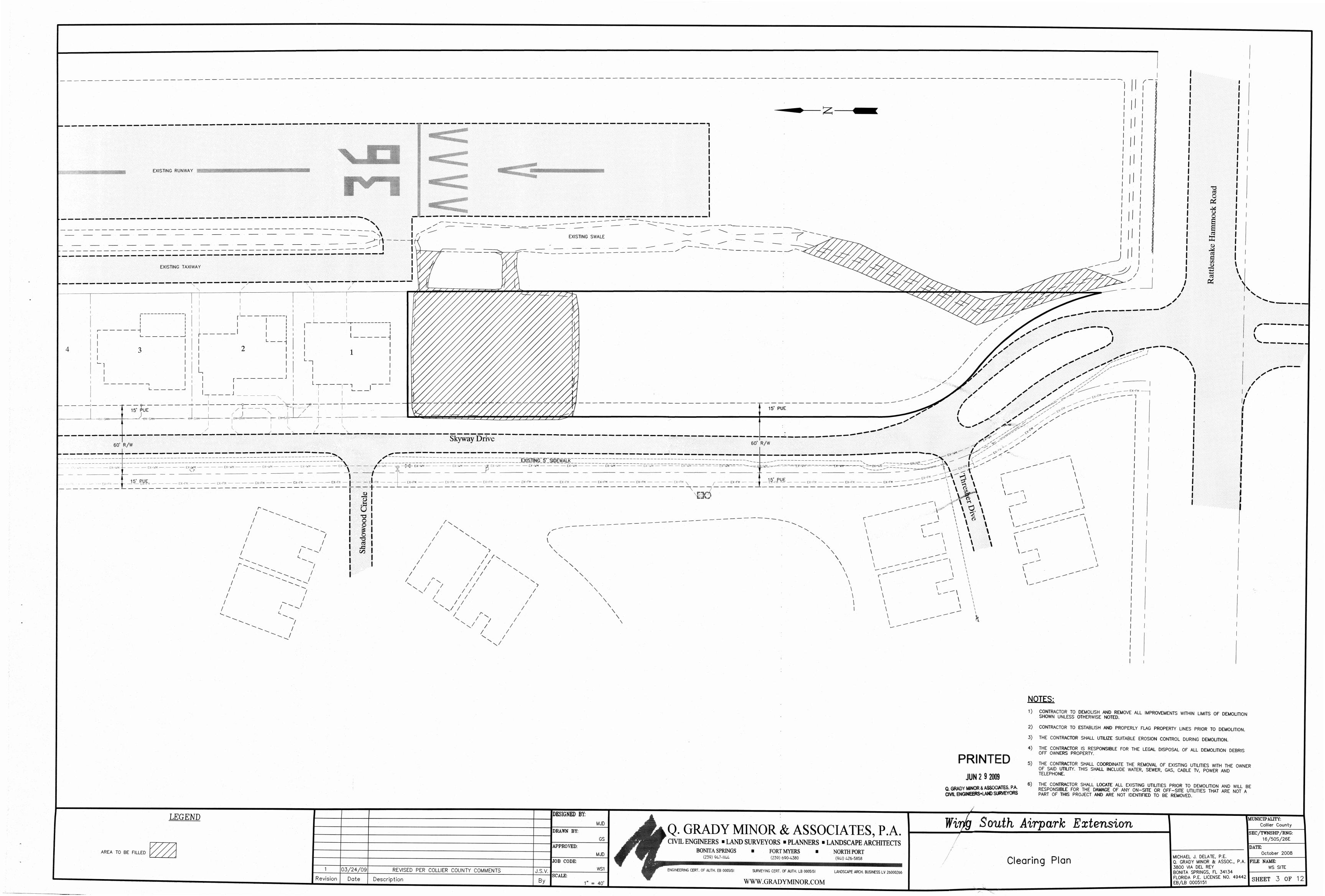
Revisions

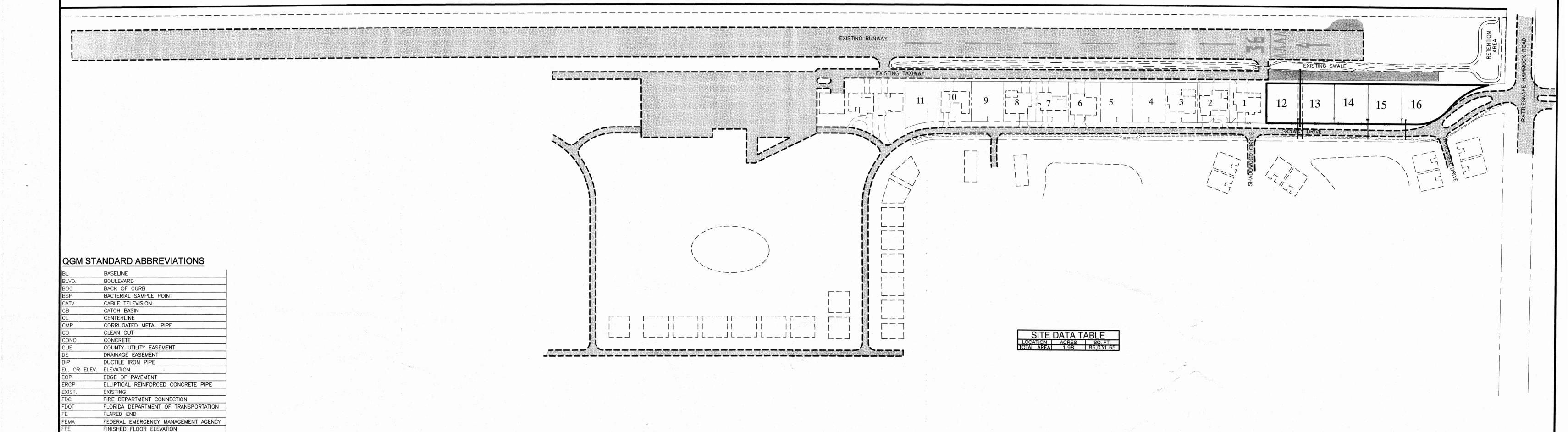
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JUN 2 9 2009 Q. GRADY MINOR & ASSOCIATES, P.A. CIVIL ENGINEERS+LAND SURVEYORS MICHAEL J. DELATE, P.E.
Q. GRADY MINOR & ASSOC., P.A.
3800 VIA DEL REY
BONITA SPRINGS, FL 34134
FLORIDA P.E. LICENSE NO. 49442
EB/LB 0005151







NOTES:

- 1. THE WING SOUTH PROPERTY OWNERS ASSOC. OR THEIR ASSIGNS OR SUCCESSORS SHALL OWN AND MAINTAIN ALL OPEN SPACE, WATER MANAGEMENT, IRRIGATION SYSTEMS, COMMON AREAS, PRIVATE STREETS AND EASEMENTS.
- 2. ALL ON-SITE SANITARY SEWER AND POTABLE SYSTEMS WITHIN THE RIGHTS-OF-WAY SHALL BE OWNED AND MAINTAINED BY COLLIER COUNTY UTILITIES ALL OTHER WATER AND SEWER UTILITIES OUTSIDE OF EASEMENTS OR RIGHTS-OF-WAY SHALL BE OWNED AND MAINTAINED BY THE PROPERTY OWNERS OR THEIR ASSIGNS OR SUCCESSORS.
- 3. WATER AND SANITARY SEWER SERVICE IS PROVIDED BY COLLIER COUNTY UTILITIES.
- 4. THE REVIEW AND APPROVAL OF IMPROVEMENT PLANS DOES NOT AUTHORIZE THE CONSTRUCTION OF REQUIRED IMPROVEMENTS WHICH ARE INCONSISTENT WITH EXISTING EASEMENTS OF RECORDS.
- 5. ALL PROHIBITED EXOTIC VEGETATION SHALL BE REMOVED FROM THE SITE AND IT SHALL BE MAINTAINED FREE OF EXOTICS IN PERPETUITY.
- 6. PROJECT LIES WITHIN THE SHADOWWOOD PUD, ORD. No.'s 82-49 AND 08-43.

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JUN 2 9 2009 Q. GRADY MINOR & ASSOCIATES, P.A. CIVIL ENGINEERS+LAND SURVEYORS

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					JOB CODE:
	1	03/24/09	REVISED PER COLLIER COUNTY COMMENTS	J.S.V.	WS1
	Revision	Date	Description	Ву	SCALE: 1" = 40'

FIRE HYDRANT FORCE MAIN PL OR FP&L FLORIDA POWER & LIGHT GATE VALVE

> HORIZONTAL HEADWALL INCORPORATED INVERT IRRIGATION JUNCTION BOX

LINEAR FEET

MITERED END

MECHANICAL JOINT

NOT IN CONTRACT

POLYVINYL CHLORIDE PIPE

REINFORCED CONCRETE PIPE

POINT OF VERTICAL INTERSECTION

TEMPORARY BACTERIAL SAMPLE POINT

PROPERTY LINE POTABLE

PROPOSED

PAVEMENT

REDUCER

PUMP STATION

RIGHT-OF-WAY SANITARY

SOIL BORING

STREET

STATION

SIDEWALK

TEMPORARY TOP OF BANK

TYPICAL

VERTICAL

WITH

TOE OF SLOPE

UTILITY EASEMENT

VALLEY GUTTER

WATER MAIN YARD DRAIN

WATER CONTROL STRUCTURE

MANHOLE

MINIMUM

HIGH DENSITY POLYETHYLENE

LANDSCAPE BUFFER EASEMENT

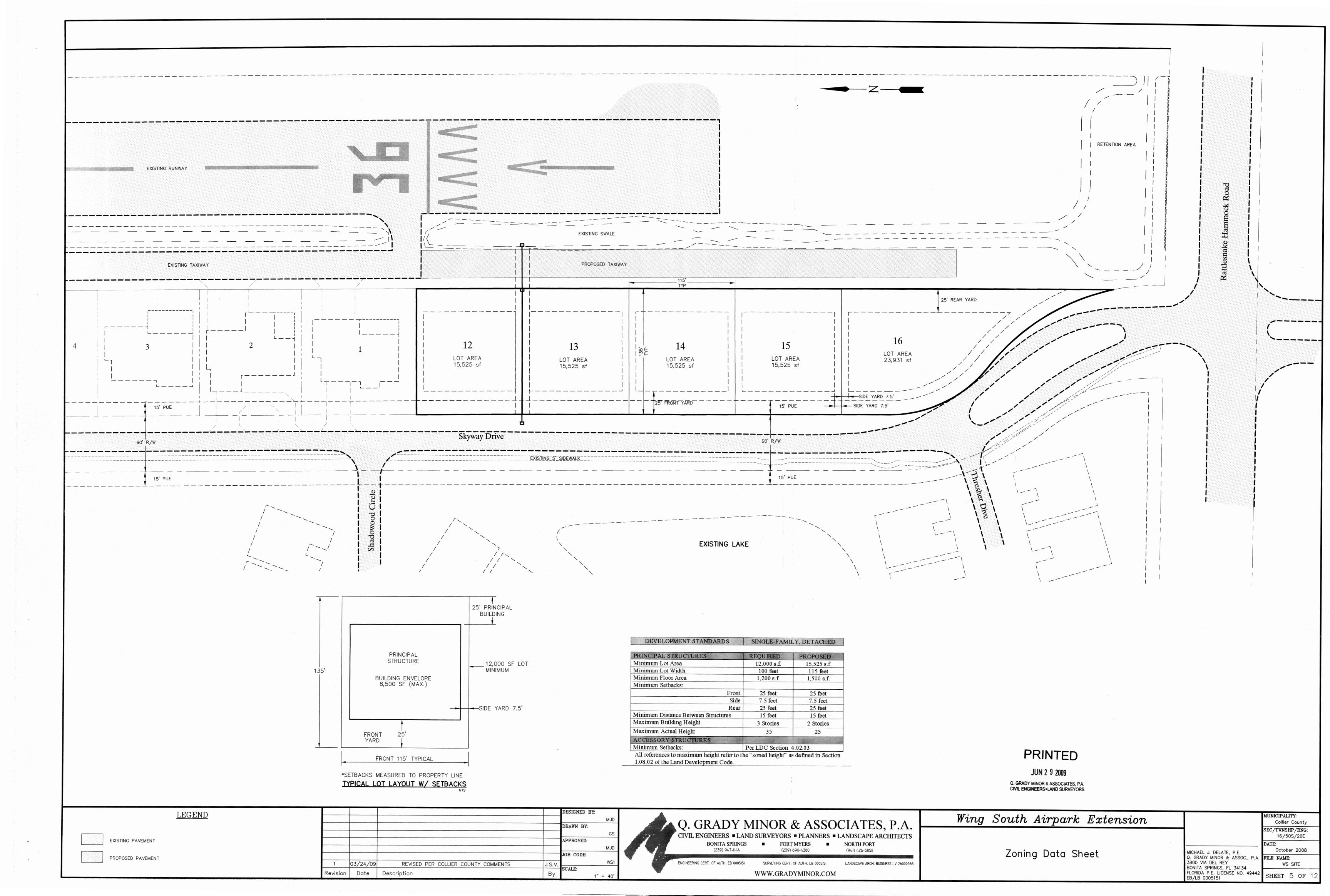
LAKE MAINTENANCE EASEMENT

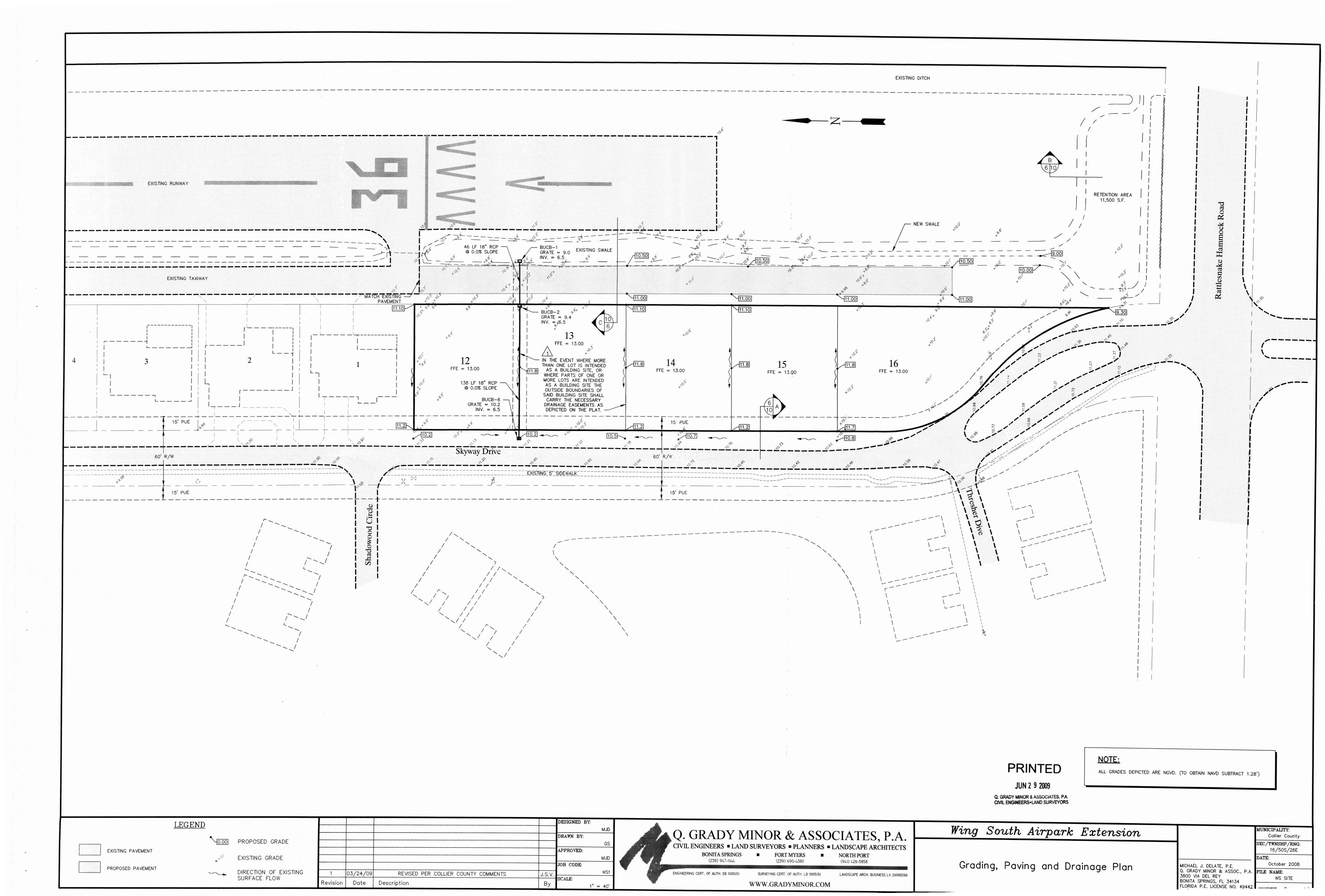
NATIONAL GEODETIC VERTICAL DATUM

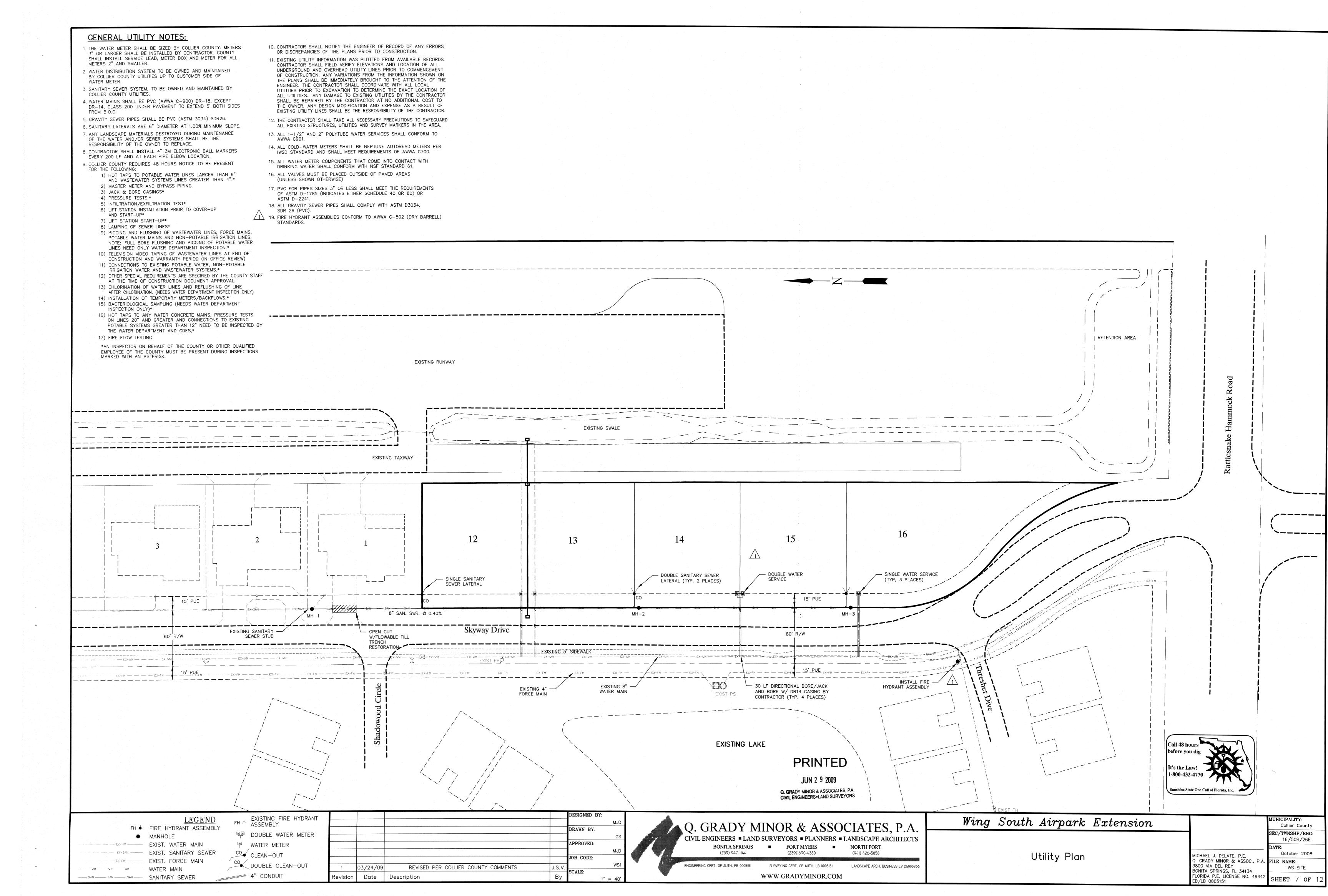
PERMANENT BACTERIAL SAMPLE POINT

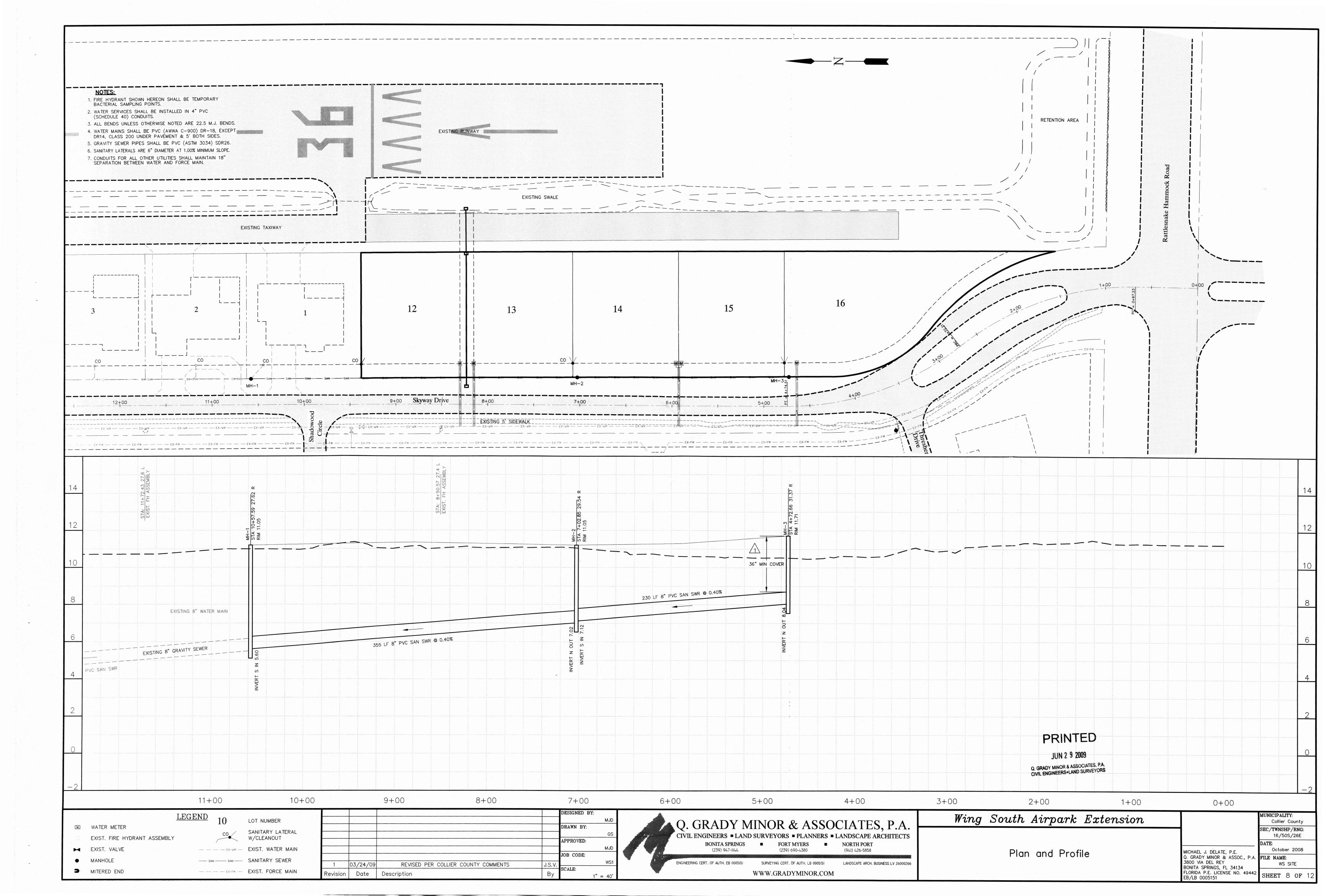
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	BONITA SPRINGS (239) 947-1144	O SURVEYORS ■ PLANNERS ■ I ■ FORT MYERS ■ (239) 690-4380	NORTH PORT (941) 426-5858
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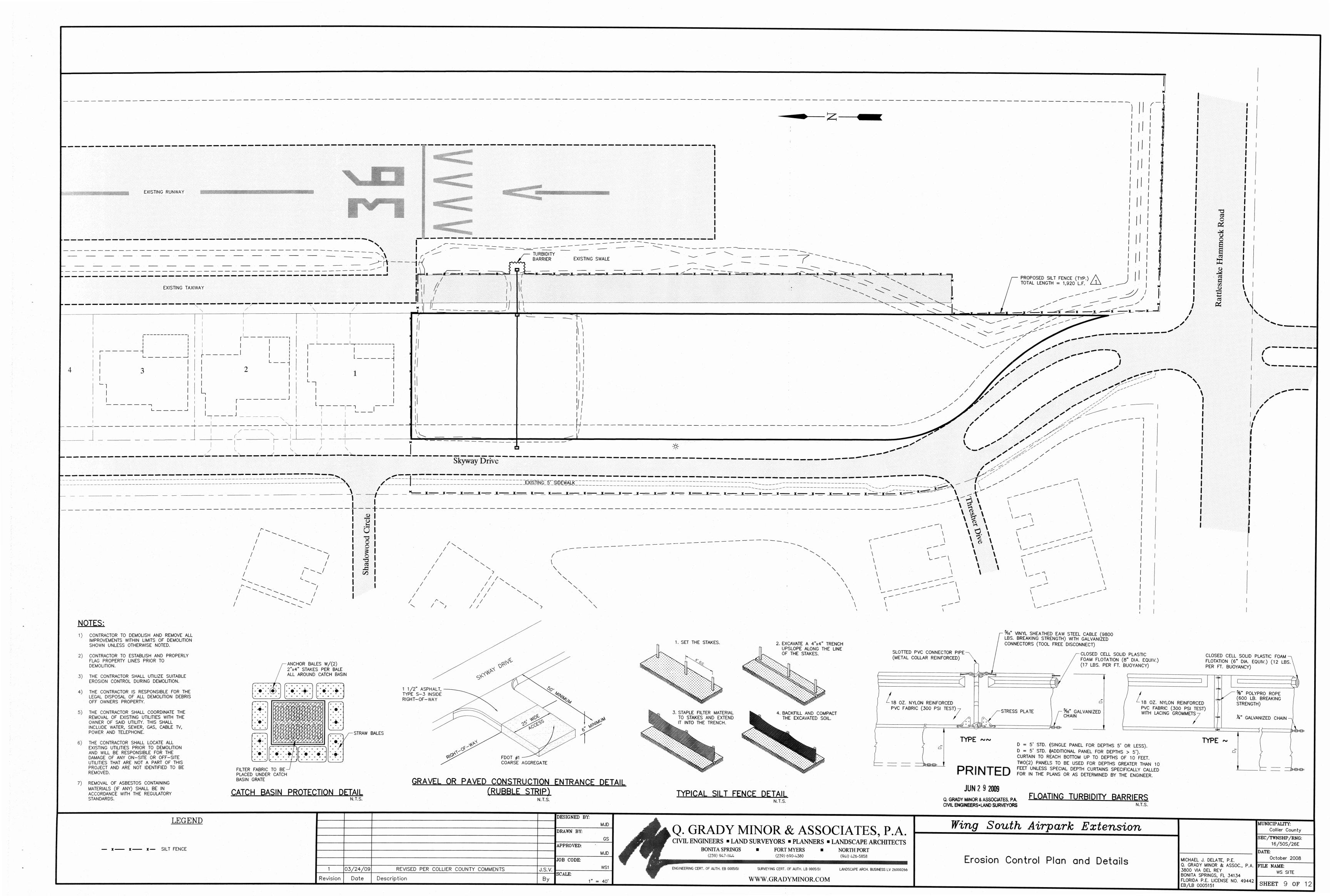
Wing South Airpark Extension	MUNICIPALITY: Collier County
	SEC/TWNSHP/RNG: 16/50S/26E
	DATE: October 2008
Overall Site Plan and General Notes MICHAEL J. DELATE, P.E. Q. GRADY MINOR & ASSOC.,	
3800 VIA DEL REY BONITA SPRINGS, FL 34134	WS SITE
FLORIDA P.E. LICENSE NO. 4 EB/LB 0005151	9442 SHEET 4 OF 12

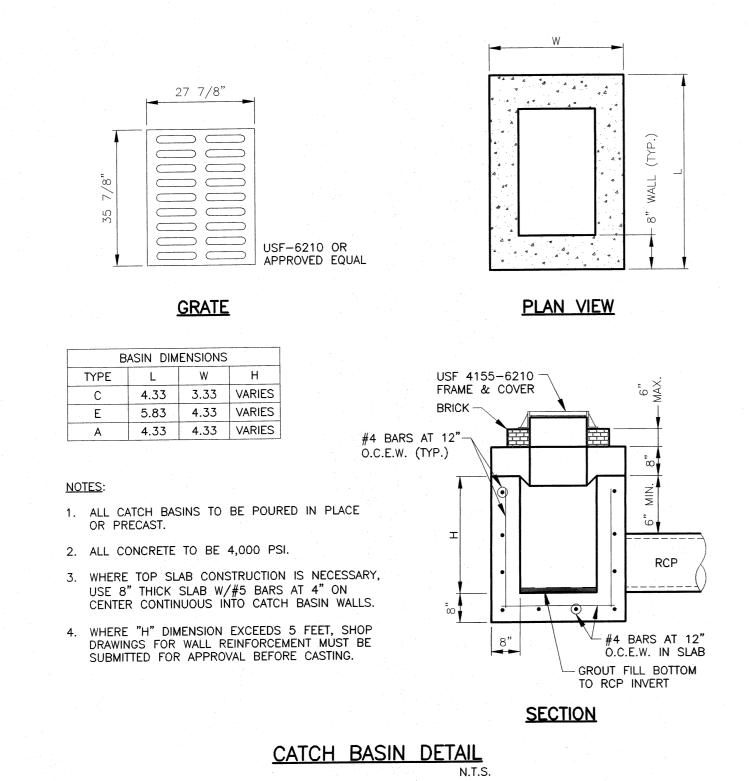


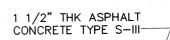




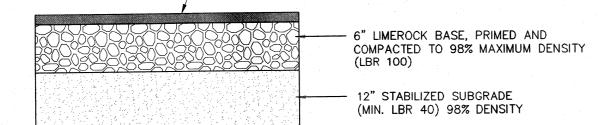






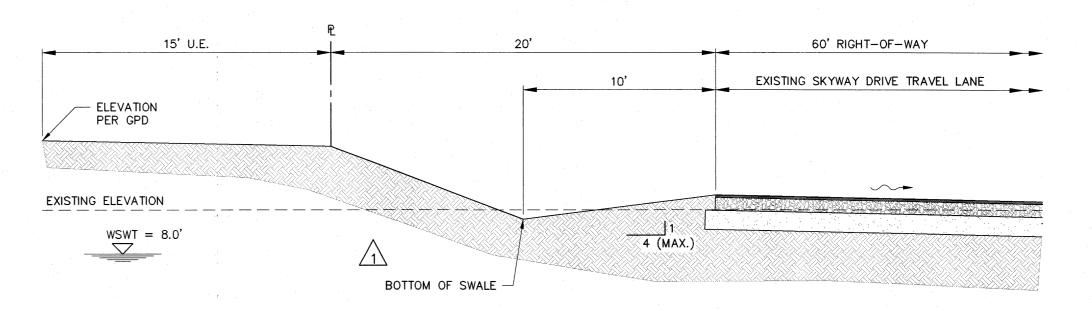


<u>LEGEND</u>

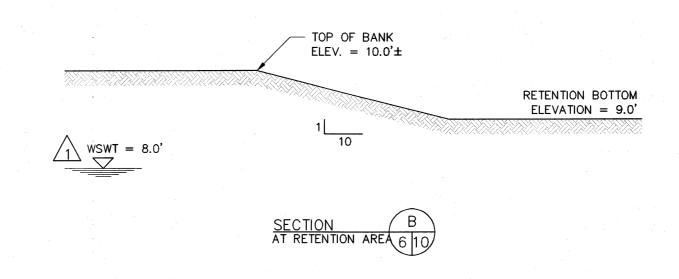


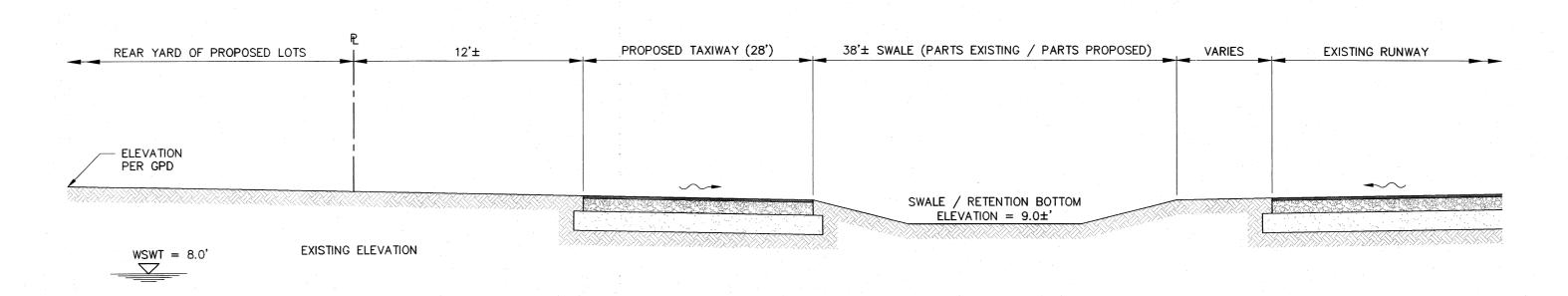
- 1. ASPHALTIC CONCRETE PAVEMENT (TYPE S-III) SHALL BE CONSTRUCTED IN TWO 3/4" LIFTS. THE SECOND LIFT SHALL BE CONSTRUCTED AFTER SUBSTANTIAL COMPLETION OF BUILDING CONSTRUCTION.
- 2. 5 1/2" LIMEROCK BASE MATERIAL MAY BE SUBSTITUTED AS AN ALTERNATE DESIGN TO THE 12" STABILIZED SUBGRADE. ALL SPECIFICATIONS FOR LIMEROCK BASE MATERIAL SHALL BE ADHERED TO.
- 3. ALTERNATE PAVEMENT SECTIONS UTILIZING MATERIALS INCLUDING PAVER BLOCKS AND BOMANITE MAY BE SUBSTITUTED FOR THE ABOVE SYSTEMS. STRUCTURAL CHARACTERISTICS MUST MEET MINIMUM COLLIER COUNTY L.D.C. REQUIREMENTS.
- 4. LIMEROCK BASE MUST EXTEND 6" BEYOND EDGE OF PAVEMENT.
- 5. SUBGRADE MUST EXTEND 12" BEYOND EDGE OF PAVEMENT.

TYPICAL ASPHALT SECTION











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1	03/24/09	REVISED PER COLLIER COUNTY COMMENTS	J.S.V.	WS1 SCALE:	
Revision	Date	Description	Ву	1" = 40'	

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	BONITA SPRINGS (239) 947-1144	■ FORT MYERS (239) 690-4380	NORTH PORT (941) 426-5858
	ENGINEERING CERT. OF AUTH. EB 0005151	SURVEYING CERT. OF AUTH. LB 0005151 WWW.GRADYMINOR.COM	LANDSCAPE ARCH. BUSINESS LV 26000266

Grading, Paving and Drainage Details and Sections

Wing South Airpark Extension

Collier County

SEC/TWNSHP/RNG:
16/50S/26E

DATE:
October 2008

FILE NAME:
WS SITE

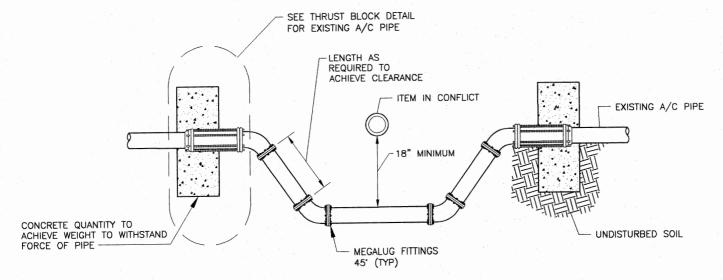
BONITA SPRINGS, FL 34134
FLORIDA P.E. LICENSE NO. 49442
EB/LB 0005151

Collier County

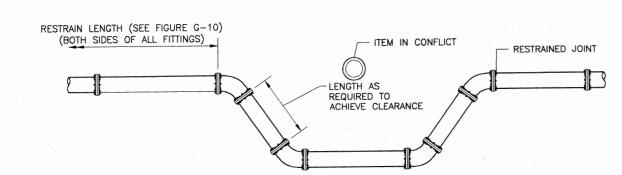
SEC/TWNSHP/RNG:
16/50S/26E

DATE:
October 2008

FILE NAME:
SHEET 10 OF 12



EXISTING A/C PIPE - HEADWALL

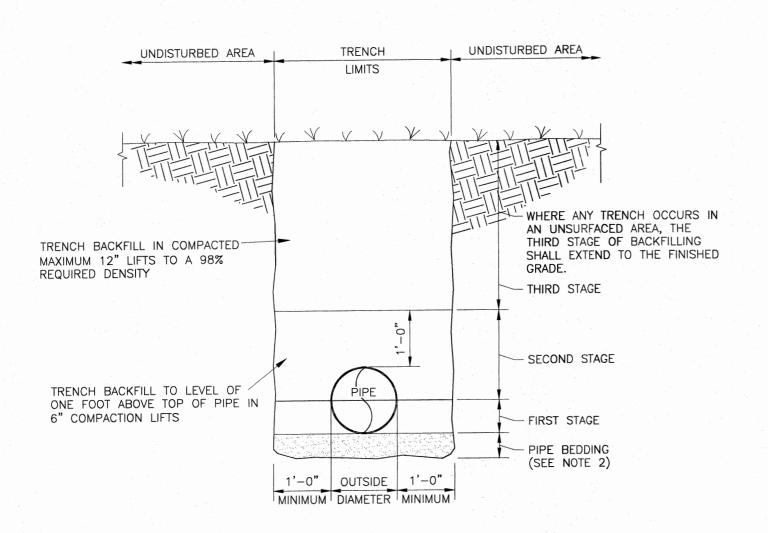


NEW & EXISTING PIPE - RESTRAINED JOINT

NOTES

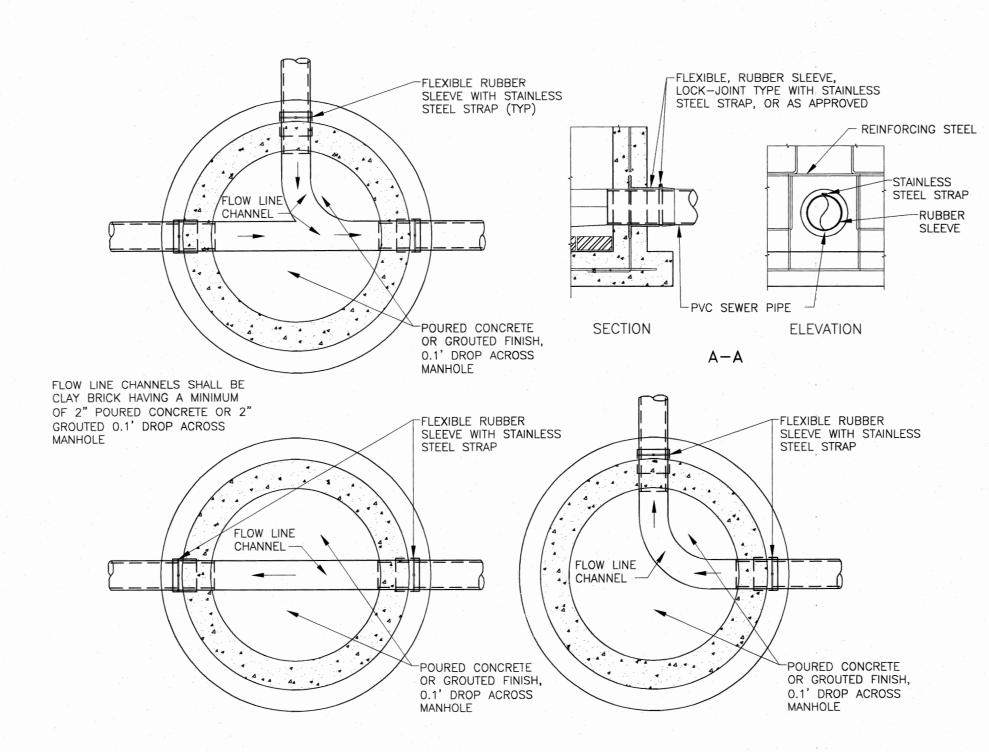
1. SEE SECTION 1 - DESIGN CRITERIA FOR AIR RELEASE VALVE

PIPE CONFLICT DETAILS

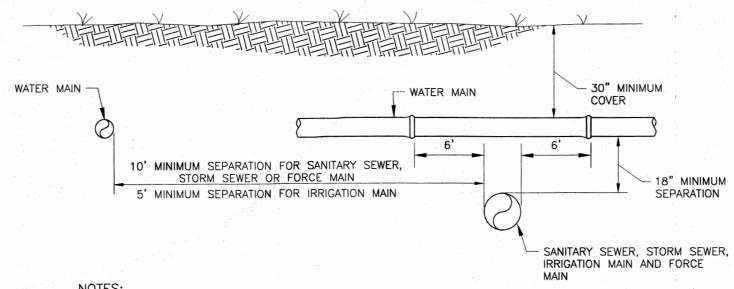


- 1. BACKFILL SHALL BE OF SUITABLE MATERIAL REMOVED FROM EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. BACKFILL MATERIAL SHALL CONSIST OF EARTH, LOAM, SANDY CLAY, GRAVEL, CRUSHED LIMESTONE, OR OTHER APPROVED MATERIAL. REFER TO TECHNICAL SPECIFICATIONS FOR DETAIL REQUIREMENTS.
- 2. IF TRENCH BOTTOM CONTAINS ROCK, THEN A MINIMUM OF A 6" PIPE BEDDING SHALL BE USED.

UNPAVED AREA TRENCH BACKFILL DETAIL



TYPICAL FLOW LINE CHANNELS DETAIL



NOTES:

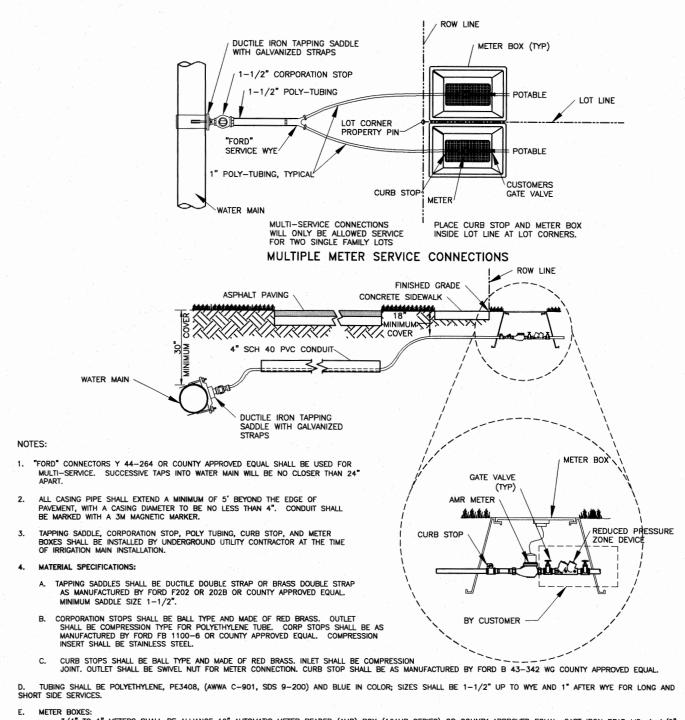
- 1. WATER MAINS SHALL BE SEPARATED FROM STORM SEWER, SANITARY SEWER, NON-POTABLE IRRIGATION MAINS, AND FORCE MAINS BY A MINIMUM CLEAR VERTICAL DISTANCE OF 18 INCHES MEASURED BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE TOP OF THE LOWER PIPE. THE 18 INCHES MINIMUM VERTICAL SEPARATION DISTANCE DOES NOT APPLY TO SEPARATIONS OF SEWER LATERALS AND POTABLE WATER MAIN PIPELINE INSTALLATIONS. ALSO, WATER MAINS SHALL BE SEPARATED FROM STORM SEWER, SANITARY SEWER AND FORCE MAINS BY 10 FEET AND FROM IRRIGATION MAINS BY 5 FEET MEASURED HORIZONTALLY BETWEEN OUTSIDE OF PIPES.
- 2. ALL CROSSINGS WITH VERTICAL CLEARANCE LESS THAN 18 INCHES SHALL REQUIRE SUBMISSION AND APPROVAL OF A DEVIATION. IF A DEVIATION IS SUBMITTED, THE FOLLOWING MINIMUM STIPULATIONS APPLY: THE CROSSING SHALL BE MADE USING THICKNESS CLASS 200 AWWA C-900 DR14, PVC (CLASS 235 AWWA C-905, DR 18, PVC FOR PIPES GREATER THAN 12" IN DIAMETER) OR DUCTILE IRON. PRESSURE CLASS 250 PIPE FOR A HORIZONTAL DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING. WATER MAIN CONCRETE ENCASEMENT SHALL ONLY BE MADE AFTER WRITTEN APPROVAL OF THE WATER DIRECTOR OR HIS DESIGNEE.
- 3. 18 INCHES CLEAR DISTANCE SHALL NOT BE REDUCED IN CASES WHERE WATER CROSSES UNDER SEWER LINE.
- 4. WATER MAINS, SANITARY SEWER, STORM SEWER, AND NON-POTABLE IRRIGATION MAINS SHALL BE IN SEPARATE TRENCHES.

5. WATER MAINS CROSSING ANY TYPE OF SANITARY SEWER, INCLUDING FORCE MAIN, OR STORM SEWER SHALL HAVE THE ONE FULL LENGTH OF WATER MAIN CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THAT THE WATER JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS. ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, FAC, AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610.

6. 57 STONE SHALL BE UTILIZED FOR SEPARATION BETWEEN GRAVITY SANITARY SEWER LINES AND STORMWATER LINES.

7. SEE SECTION 1- DESIGN CRITERIA, SUBSECTIONS 1.2.3 AND 1.3 FOR ADDITIONAL REQUIREMENTS.

PIPE SEPARATION DETAIL

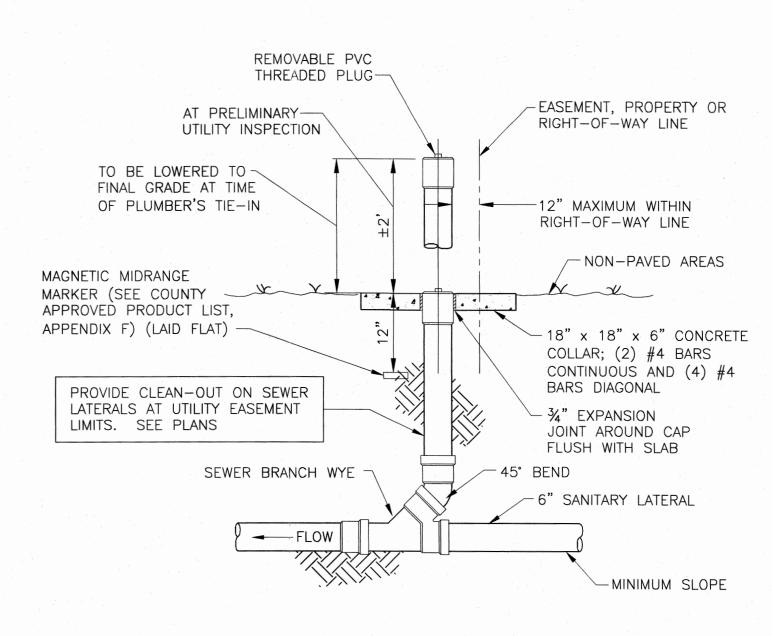


E. METER BOXES:

3/4" TO 1" METERS SHALL BE ALLIANCE 12" AUTOMATIC METER READER (AMR) BOX (16AMR SERIES) OR COUNTY APPROVED EQUAL, CAST IRON READ LID; 1-1/2"
TO 2" METERS SHALL BE ALLIANCE 12" AUTOMATIC METER READER BOX (16AMR SERIES) OR COUNTY APPROVED EQUAL, CAST IRON READ LID. F. POLYETHYLENE PIPE (PE) SHALL MEET THE REQUIREMENTS OF AWWA C-901.

5. ALL PLANTINGS SHALL BE A MINIMUM 3' FROM METER BOX.

TYPICAL SHORT AND LONG SIDE WATER SERVICE METER SETTING DETAIL FOR CONNECTION TO WATER MAIN



ELEVATION

SEWER CLEAN-OUT DETAIL NON PAVED AREAS PRINTED

JUN 2 9 2009 Q. GRADY MINOR & ASSOCIATES, P.A. CIVIL ENGINEERS-LAND SURVEYORS

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						JOB CODE:
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	Q. GRADY M. CIVIL ENGINEERS • LAND S BONITA SPRINGS (239) 947-1144		
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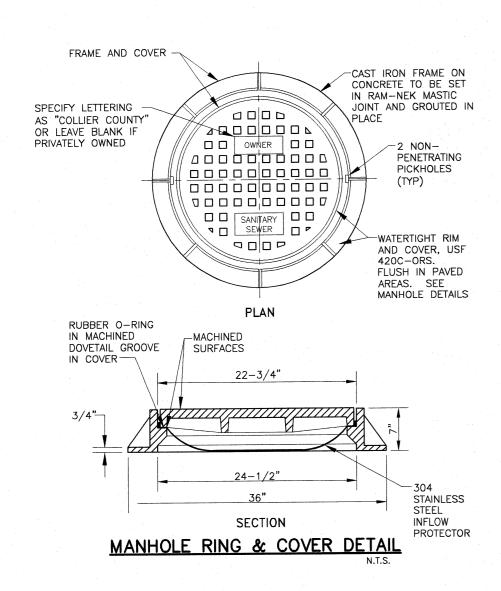
Water and Sewage Distribution System Details

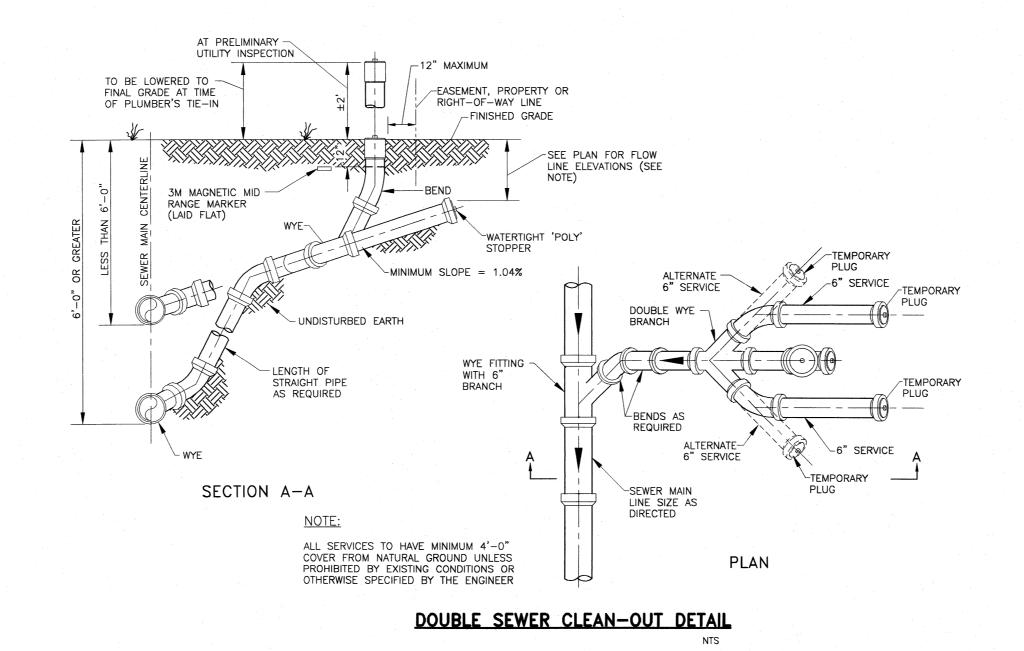
Wing South Airpark Extension

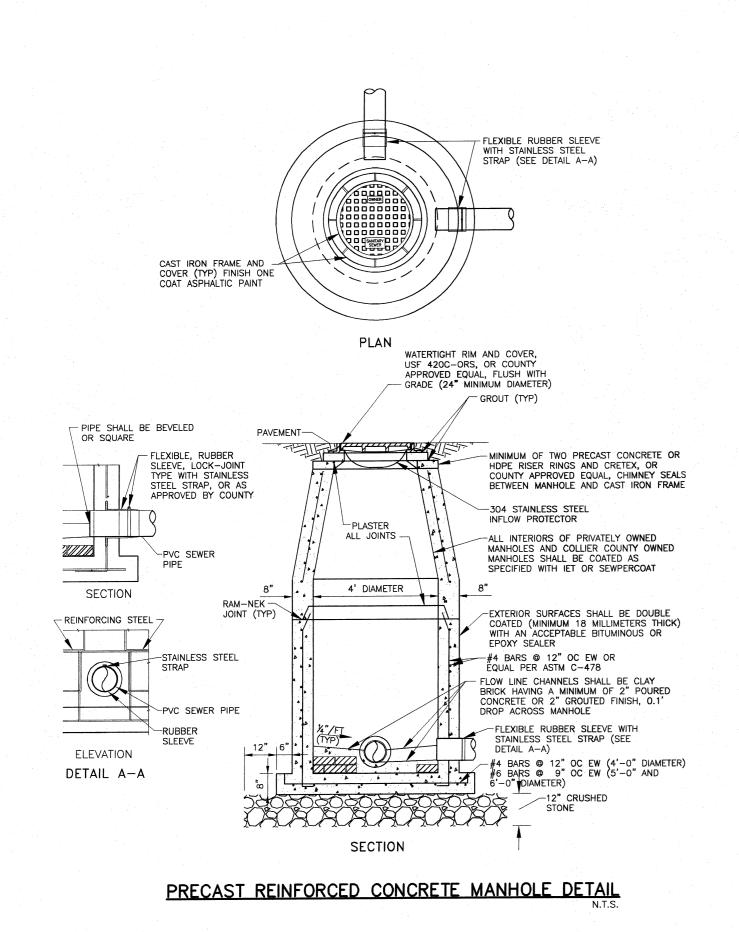
Collier County SEC/TWNSHP/RNG: 16/50S/26E October 2008 WS SITE

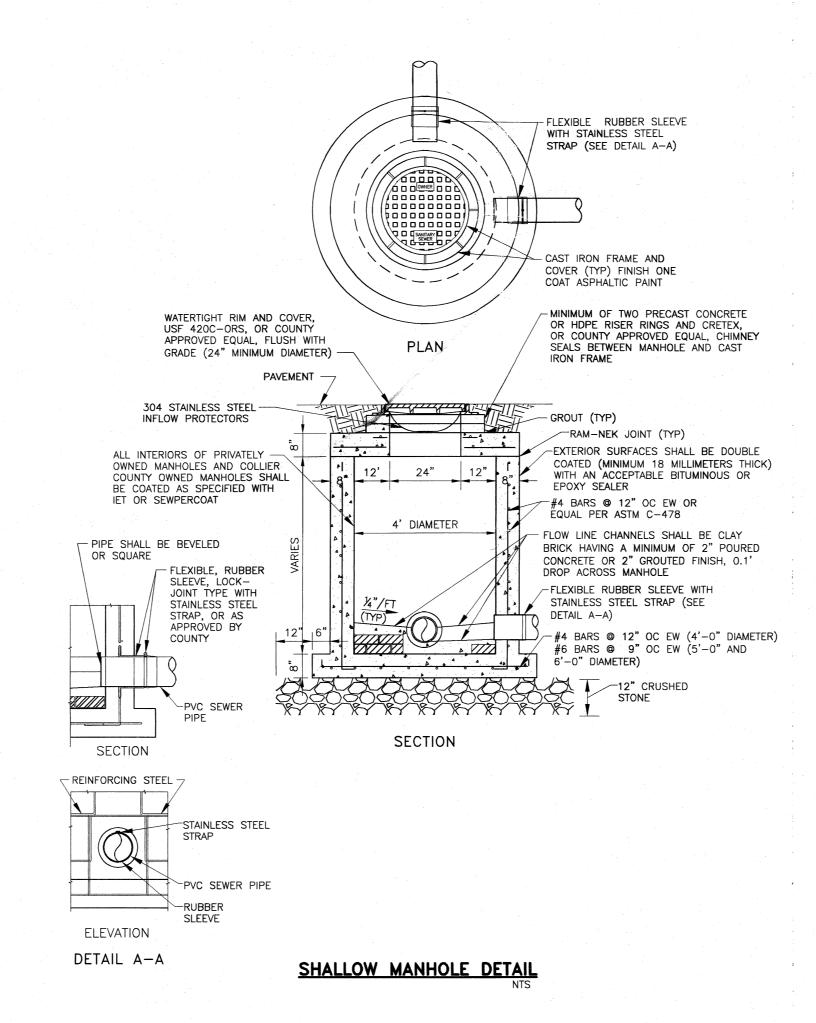
MUNICIPALITY:

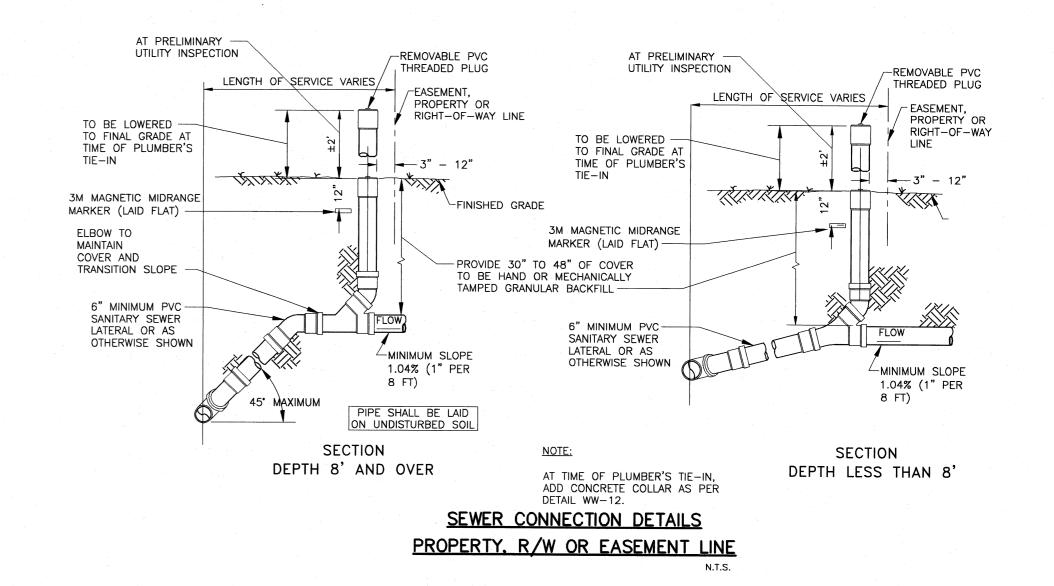
MICHAEL J. DELATE, P.E.
Q. GRADY MINOR & ASSOC., P.A. FILE NAME: 3800 VIA DEL REY BONITA SPRINGS, FL 34134 FLORIDA P.E. LICENSE NO. 49442 SHEET 11 OF 12

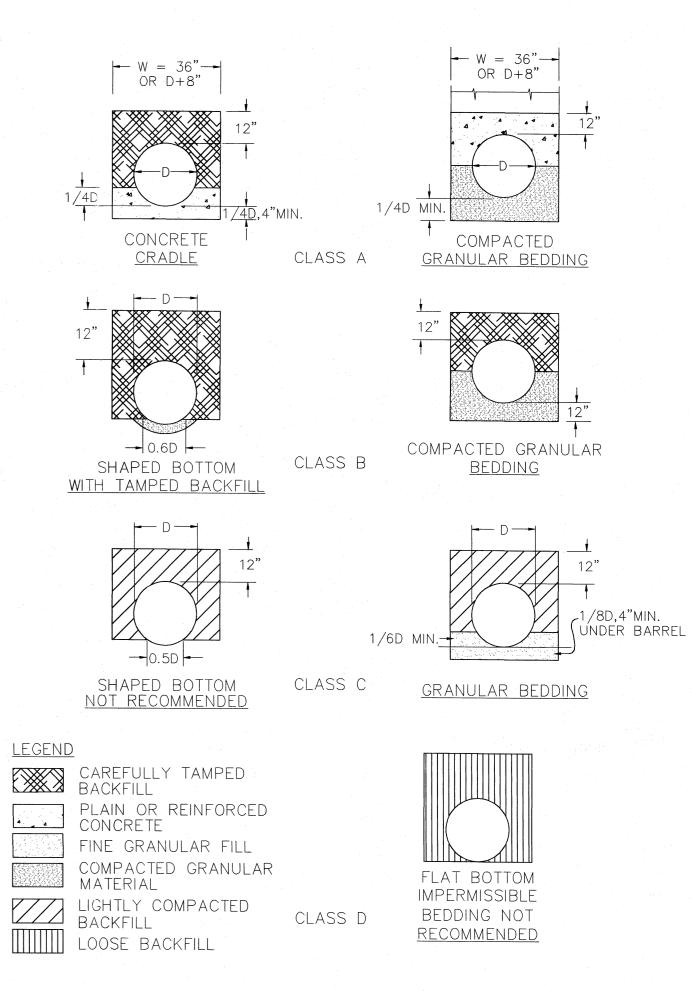












BEDDING DETAIL

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<u>LEGEND</u>			DESIGNED BY:	Q. GRADY MINOR & ASSOCIATES, P.A.	Wing South Airpark Extension	MUNICIPALITY: Collier County
			DRAWN BY:	CIVIL ENGINEERS • LAND SURVEYORS • PLANNERS • LANDSCAPE ARCHITECTS		SEC/TWNSHP/RNG: 16/50S/26E
			APPROVED:	BONITA SPRINGS ■ FORT MYERS ■ NORTH PORT (239) 947-1144 (239) 690-4380 (941) 426-5858	Sewage Collection System Details	MICHAEL J. DELATE, P.E. DATE: October 2008
			JOB CODE: WS1	ENGINEERING CERT. OF AUTH. EB 0005151 SURVEYING CERT: OF AUTH. LB 0005151 LANDSCAPE ARCH. BUSINESS LV 26000266	6	MICHAEL J. DELATE, P.E. Q. GRADY MINOR & ASSOC., P.A. 3800 VIA DEL REY BONITA SPRINGS, FL 34134 FLORIDA P.E. LICENSE NO. 49442 EB/LB 0005151 October 2008 FILE NAME: WS SITE SHEET 12 OF 1
	Revision Date	e Description	SCALE: 1" = 40'	WWW.GRADYMINOR.COM		FLORIDA P.E. LICENSE NO. 49442 EB/LB 0005151 SHEET 12 OF 12