

AFFINE ENGINEERING AND SURVEYING INC.
128 NW GREEN LANE, LAKE CITY FL, 32825
TELEPHONE: 407-421-5534

LAKE CITY FIRE DEPARTMENT
225 NW MAIN BLVD.
LAKE CITY, FL
TEL: (386) 752-4344

TURNER AVENUE DUPLEXES

FLORIDA POWER & LIGHT
2618 NE BASCOM NORRIS DR
LAKE CITY, FLORIDA 32055
TEL: (800) 226-3545

COMCAST
2288 SW MAIN BOULEVARD
LAKE CITY, FL
TEL: (407) 513-1351

AFFINE ENGINEERING AND SURVEYING INC.
128 NW GREEN LANE, LAKE CITY FL, 32825
TELEPHONE: 407-421-5534

GANSKOP PROPERTIES, LLC

657 NW SAVANNAH CIR. LAKE CITY FL 32055

CONTACT: MARK GASKOP

PHONE: (386) 867-0269

NTS



PARCEL ID:	27-35-16-02318-803(46415)
ZONNING:	RO
PROJECT AREA:	±8.142 ACRES
BUILDING SETBACKS:	FRONT 25'; BACK 15'; SIDES 10'
LOT TOTAL AREA:	±8.142 ACRES
IMPERVIOUS AREA:	±1.878 ACRES
OPEN AREA:	±6.263 AREA
IMPERVIOUS PERCENTAGE:	23%
OPEN AREA PERCENTAGE:	77%

**PREPARED FOR
GANSKOP PROPERTIES LLC**

AFFINE ENGINEERING
AND SURVEYING, INC.
CERTIFICATE OF
AUTHORIZATION No. 29140



VICTOR O. MARRERO
FLORIDA P.E. # 78630

SHEETS SIGNED
1,2,3,4,5,6,7,8,9,10,11,12,13

THE NORTH HALF OF ORB 1398, PAGE 2166 OF THE PUBLIC RECORDS OF COLUMBIA COUNTY FLORIDA.
LAYING IN SECTION 27, TOWNSHIP 3 SOUTH, RANGE 16 EAST COLUMBIA COUNTY FLORIDA,
MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF OF THE AFORESAID SECTION 27 AND RUN NORTH 01° 16' 14" WEST, ALONG THE WEST LINE OF SAID SECTION 27, SAID LINE BEING THE CENTERLINE OF A COUNTY A COUNTY PAVED ROAD (TURNER ROAD) A DISTANCE OF 2641.93 FEET, THENCE, RUN NORTH 89° 52' 36" EAST DEPARTING SAID WEST LINE A DISTANCE OF 25.00 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF SAID TURNER ROAD AND THE POINT OF BEGINNING; THENCE CONTINUE NORTH 89° 52' 36" EAST 1339.96 FEET; THENCE RUN SOUTH 01° 45' 02" EAST A DISTANCE OF 264.55 FEET; THENCE RUN SOUTH 89° 52' 20" WEST A DISTANCE OF 1342.18 FEET TO SAID EAST RIGHT-OF-WAY LINE OF TURNER ROAD; THENCE RUN NORTH 01° 16' 14" WEST, ALONG SAID EAST LINE A DISTANCE OF 264.60 FEET TO THE POINT OF BEGINNING

CONTAINING 8.142 ACRES MORE OR LESS AND SUBJECT TO EASEMENTS, RIGHT OF WAYS AND RESTRICTIONS OF RECORD

1	COVER SHEET
2	TOPOGRAPHIC SURVEY
3	PLAN VIEW (1)
4	PLAN VIEW (2)
5	GRADING (1)
6	GRADING (2)
7	GRADING (3)
8	UTILITY PLAN
9	DETAIL (1)
10	DETAIL (2)
11	DETAIL (3)
12	NOTES (2)
13	NOTES (2)

- ① REVISION 1 5/21/25
REV. INV ELEVATION CI-2 & CI-5
REV. SLOPES P-1,P-2,P-4,P-5
ADDED REFLECTOR SIGNS
- ② REVISION 2 7/09/25
REV. DRAIN FIELD LOCATION
REV. WATERMAIN OPEN CUT TEXT
REV. REMOVE CURB FROM R/W
REV. ADDED 6" CURB DETAIL
- ③ REVISION 3 7/12/25
REV. SHEET 9
- ④ REVISION 4 7/15/25
REV. REMOVED 6" CURB
FROM ENTRANCE
- ⑤ REVISION 5 8/10/25
REVISED ENTRANCE
UTILITY POLE RELOCATED
- ⑥ REVISION 6
REVISED ENTRANCE
UTILITY POLE RELOCATED



COLUMBIA COUNTY SUBMITTAL
NOT FOR CONSTRUCTION

STORM WATER MANAGEMENT SYSTEM DESIGN HAS BEEN DONE IN REASONABLE CONFORMANCE WITH THE SUWANNEE RIVER WATER MANAGEMENT DISTRICT DESIGN CRITERIA AND THE COLUMBIA COUNTY LAND DEVELOPMENT REGULATIONS.



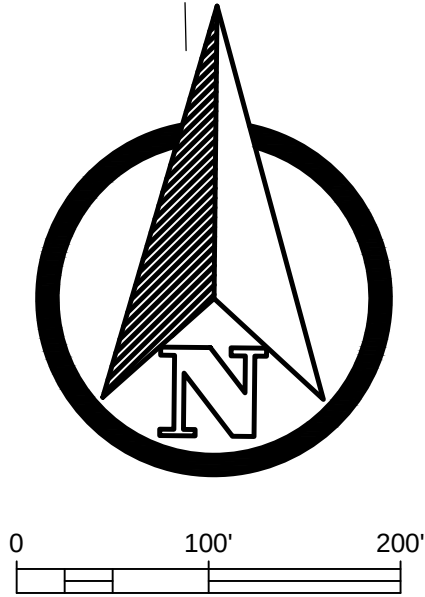
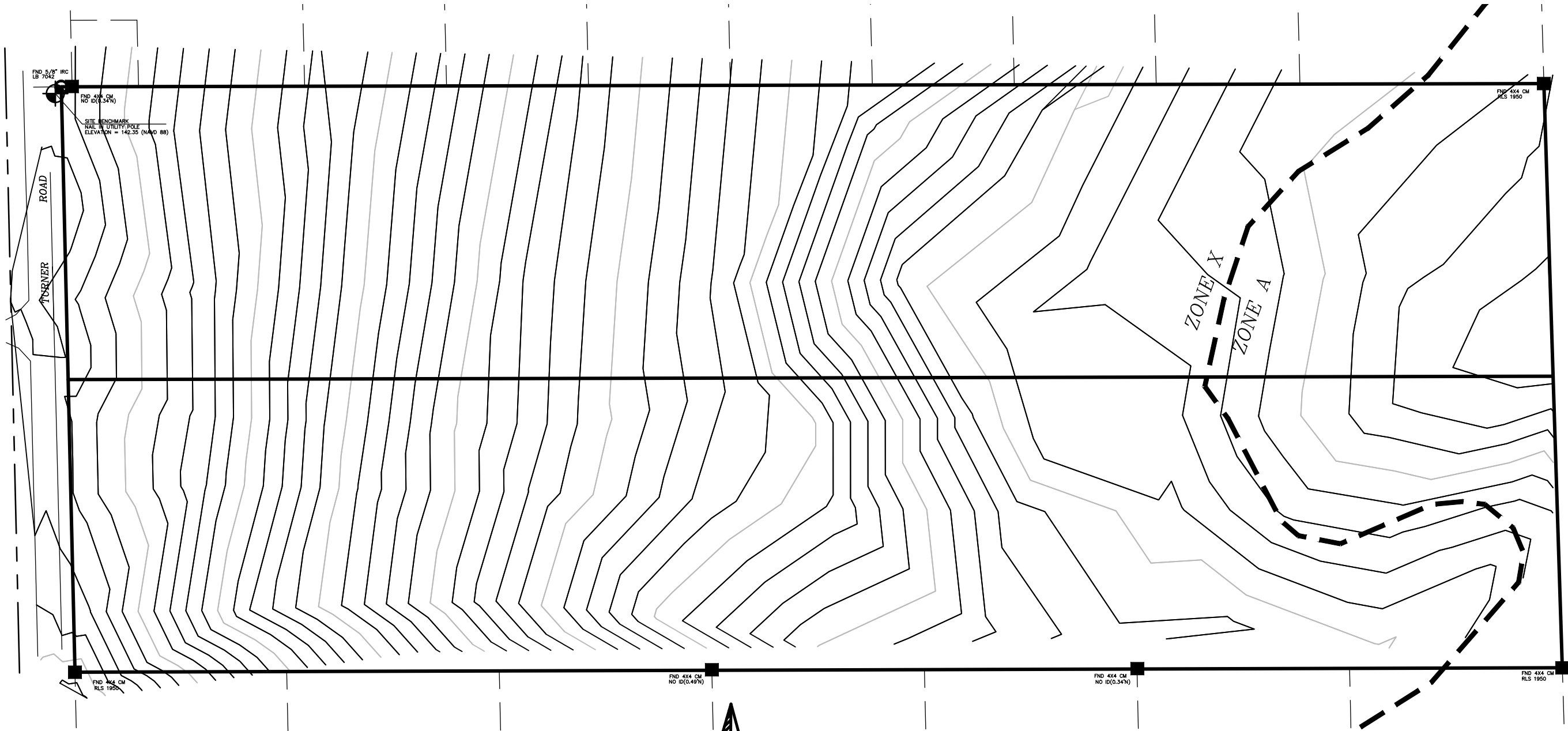
AFFINE ENGINEERING AND SURVEYING, INC

CIVIL ENGINEERS

SURVEYORS

TELEPHONE NUMBER 407-421-5534
10354 JEPSON STREET, ORLANDO, FLORIDA 32825
CERTIFICATE OF AUTHORIZATION: No 29140

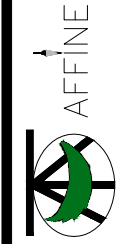
SHEET 1



- LEGEND
- CONCRETE PAVEMENT
 - ASPHALT PAVEMENT

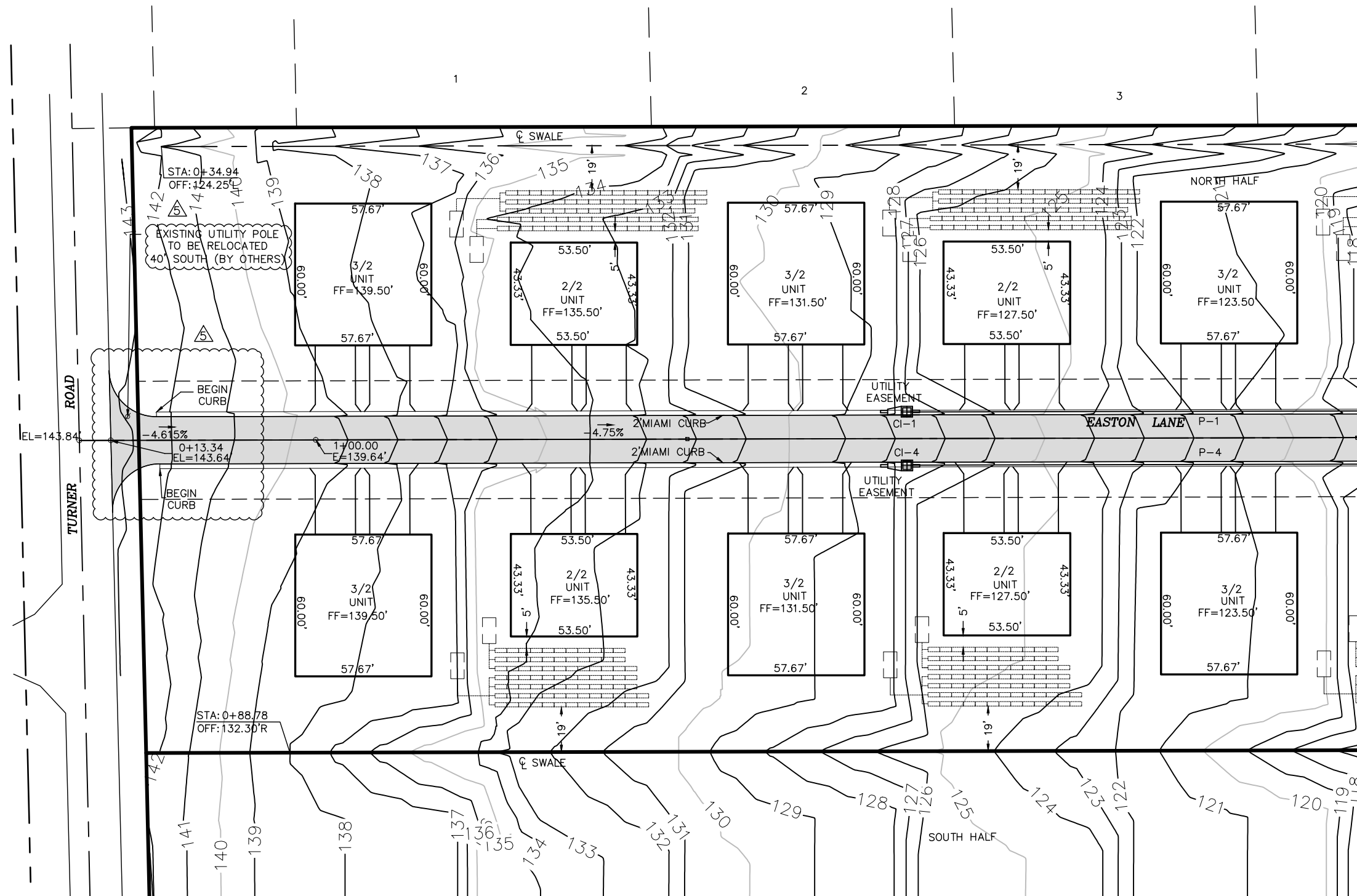
DRAWING
23016-1
SHEET
2

PREPARED FOR:
GANSKOP PROPERTIES LLC
TURNER ROAD
TOPOGRAPHIC SURVEY



AFFINE ENGINEERING AND SURVEYING, INC
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TELEPHONE NUMBER 407-421-5534
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DRAWN BY: VM
CHECKED BY: LJ
DATE: 1/22/25
SCALE: 1"=50'
JOB #: 23016



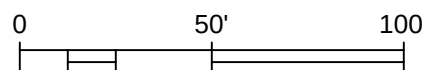
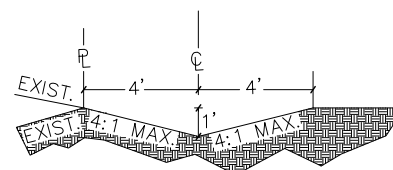
STRUCTURES

CI-1 STA. 3+50.00 ; 11.25'(L)
MODIFIED TYPE 5 CURB INLET
EP = 127.56
INV E = 119.00
CI-4 STA. 3+50.00 ; 11.25'(R)
MODIFIED TYPE 5 CURB INLET
EP = 127.56
INV E = 119.00

PIPES

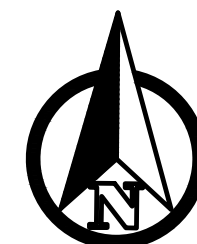
P-1
288 LF 18"HDPE @ 3.12%
P-4
288 LF 18"HDPE @ 3.12%

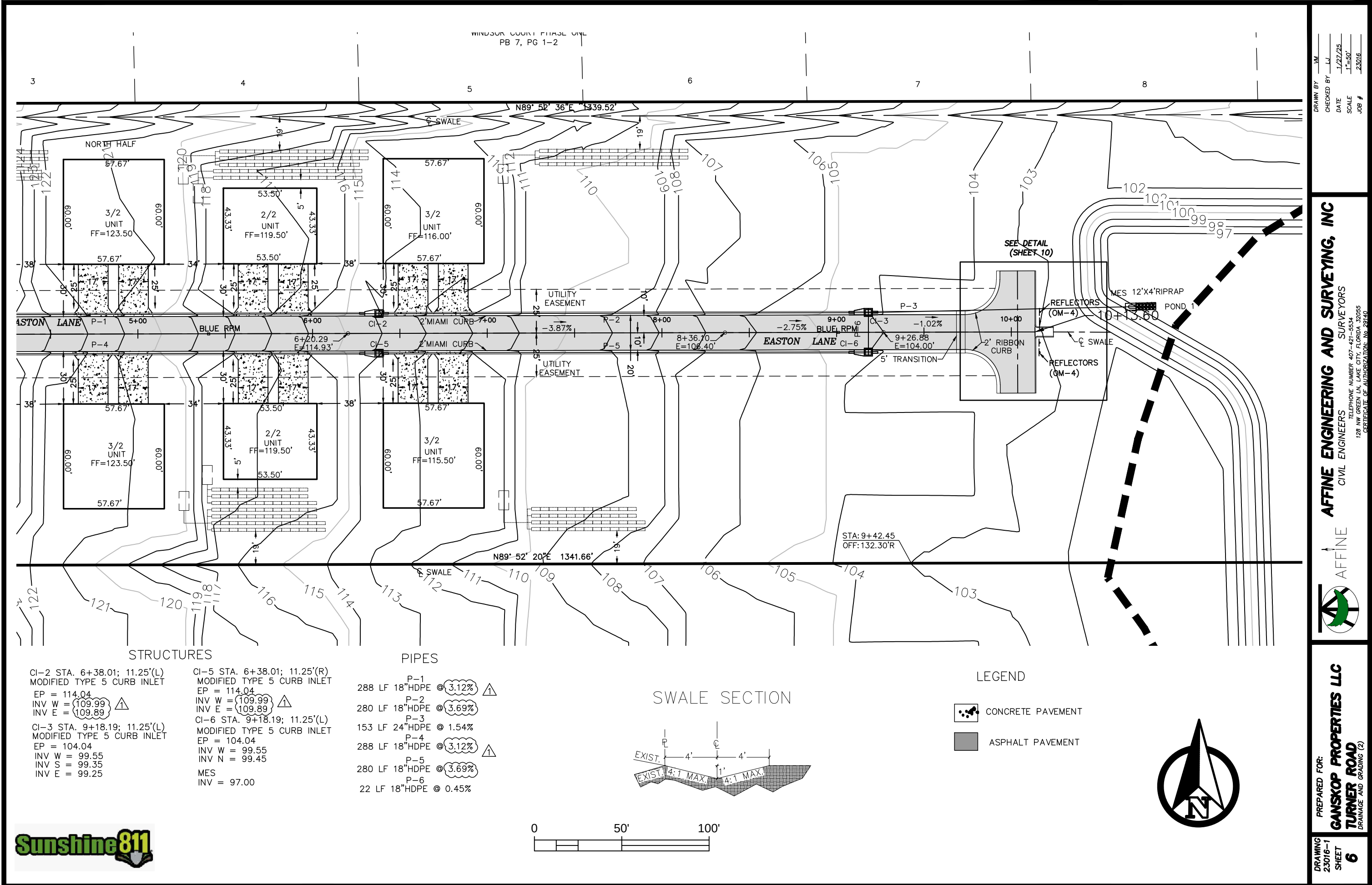
SWALE SECTION

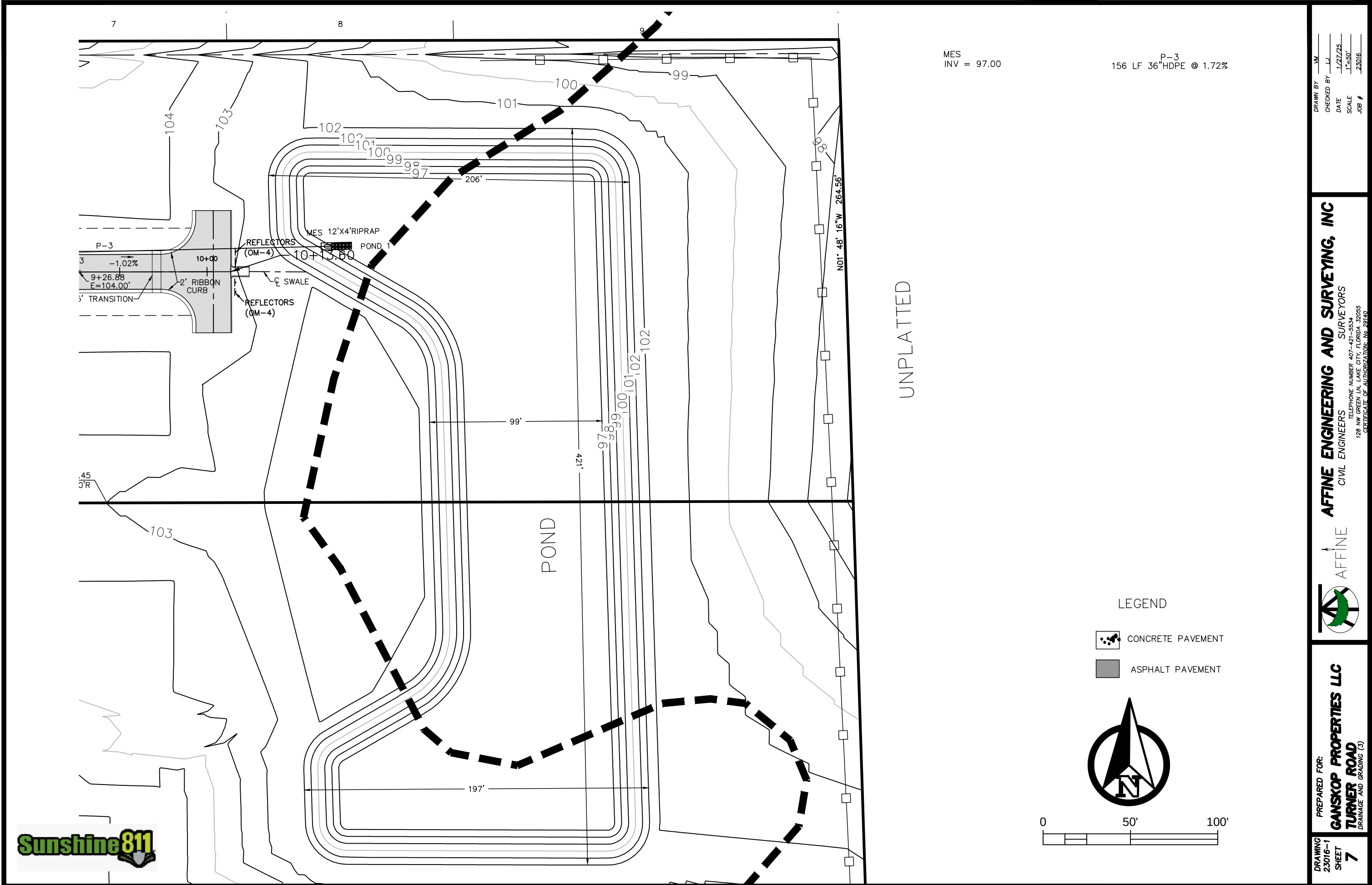


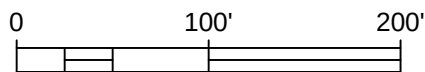
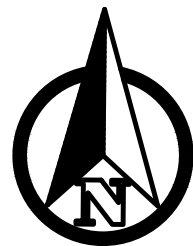
LEGEND

- CONCRETE PAVEMENT
- ASPHALT PAVEMENT



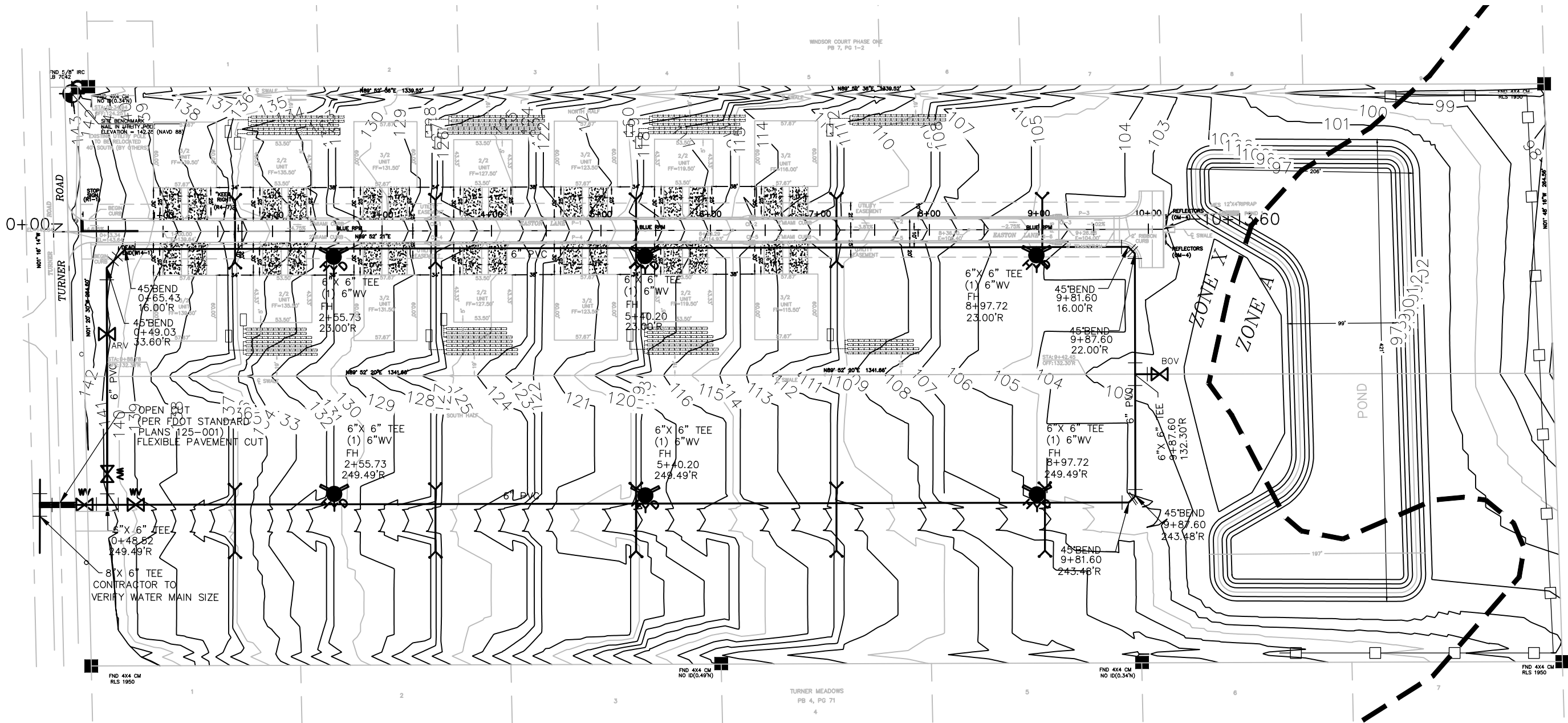






LEGEND

- CONCRETE PAVEMENT
- ASPHALT PAVEMENT
- ARV AIR RELEASE VALVE
- BOV BLOW OFF VALVE
- FH FIRE HYDRANT
- WV WATER VALVE



DRAWING
23016-1
SHEET
8

PREPARED FOR:
GANSKOP PROPERTIES LLC
TURNER ROAD
UTILITY PLAN



AFFINE
CIVIL ENGINEERS

AFFINE ENGINEERING AND SURVEYING, INC
SURVEYORS

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CERTIFICATE OF AUTHORIZATION: No. 29150

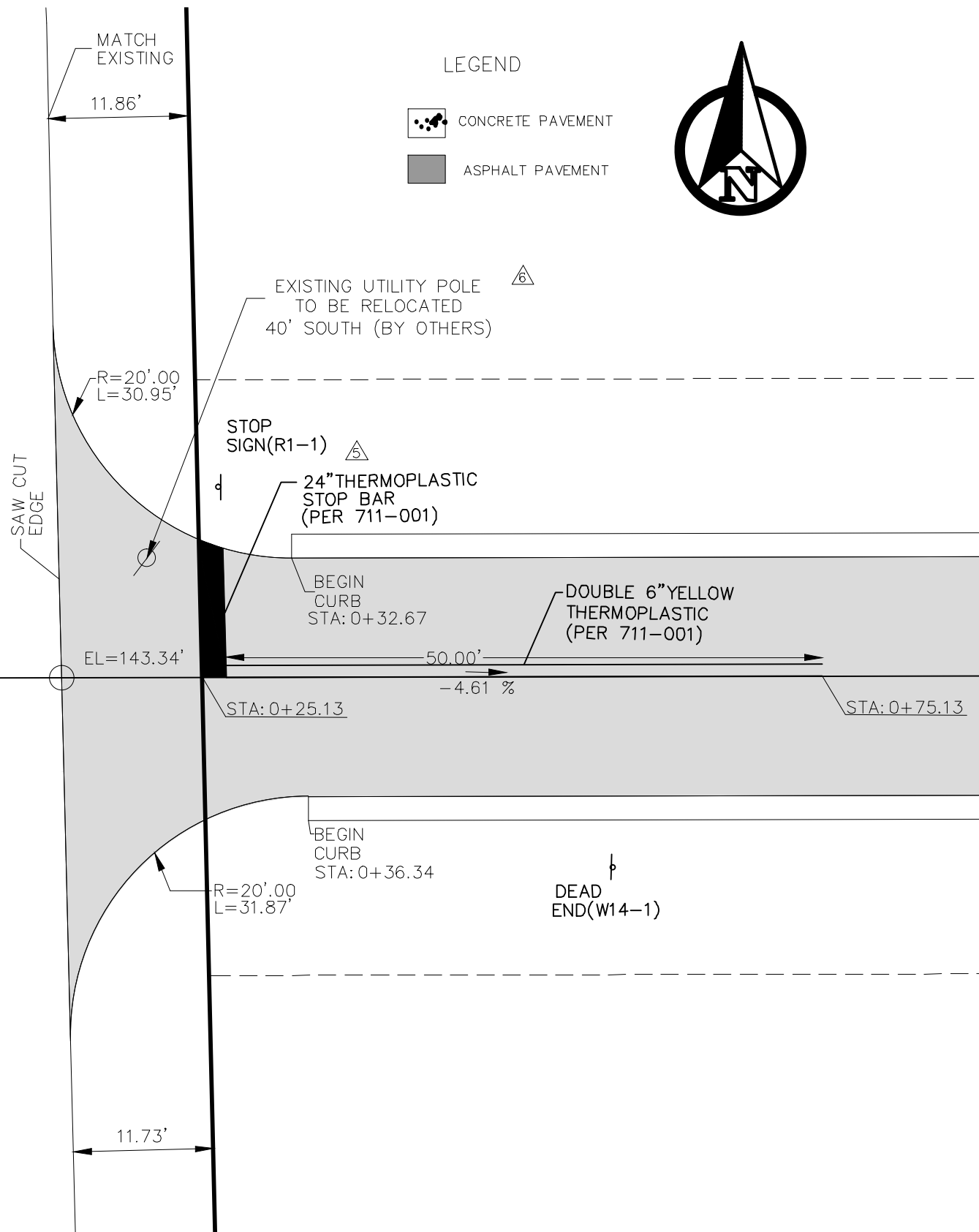
UNPLATTED

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DATE: 1/22/25
SCALE: 1"=50'
JOB #: 23016



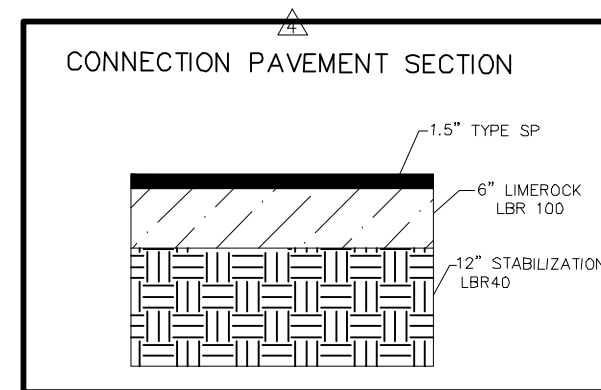
ROAD

TURNER

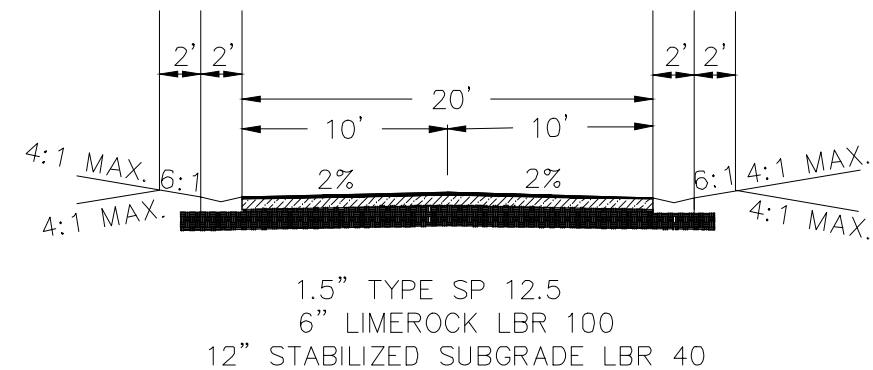


COLUMBIA COUNTY CONSTRUCTION NOTES:

1. ALL DISTURBED AREAS WITHIN FDOT RIGHT-OF-WAY SHALL BE SODDED WITH MESH-FREE ARGENTINA BAHIA.
2. THE CONTRACTOR SHALL NOT LEAVE ANY PITS OUTSIDE OF WORK HOURS (i.e. OVERNIGHT) WITHOUT PROPER PROTECTION BARRIERS.
3. THERE SHALL BE NO SIDEWALKS WITHIN THE PROJECT LIMITS; HOWEVER, THE CONTRACTOR SHALL NOTE THAT ALL AFFECTED SIDEWALKS, RAMPS, AND CROSSWALKS SHALL BE BUILT AND INSPECTED TO MEET CURRENT ADA REQUIREMENTS.
4. THE CONTRACTOR SHALL PROTECT ALL EXISTING STORM STRUCTURES, PIPES, UTILITIES, AND OTHER APPURTENANCES THROUGHOUT CONSTRUCTION. ANY DAMAGE WILL BE THE CONTRACTORS RESPONSIBILITY TO CORRECT.
5. SIGHT DISTANCE AT THE DRIVEWAY COMPLIES WITH FL GREENBOOK STANDARDS. NO LANDSCAPE OR OTHER OBSTRUCTIONS SHALL BE PLACED WITHIN THE SIGHT TRIANGLES SHOWN HEREON.
6. ALL MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH FDOT STANDARD PLANS 102-600 SERIES

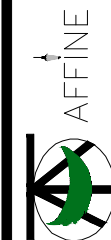


TYPICAL SECTION



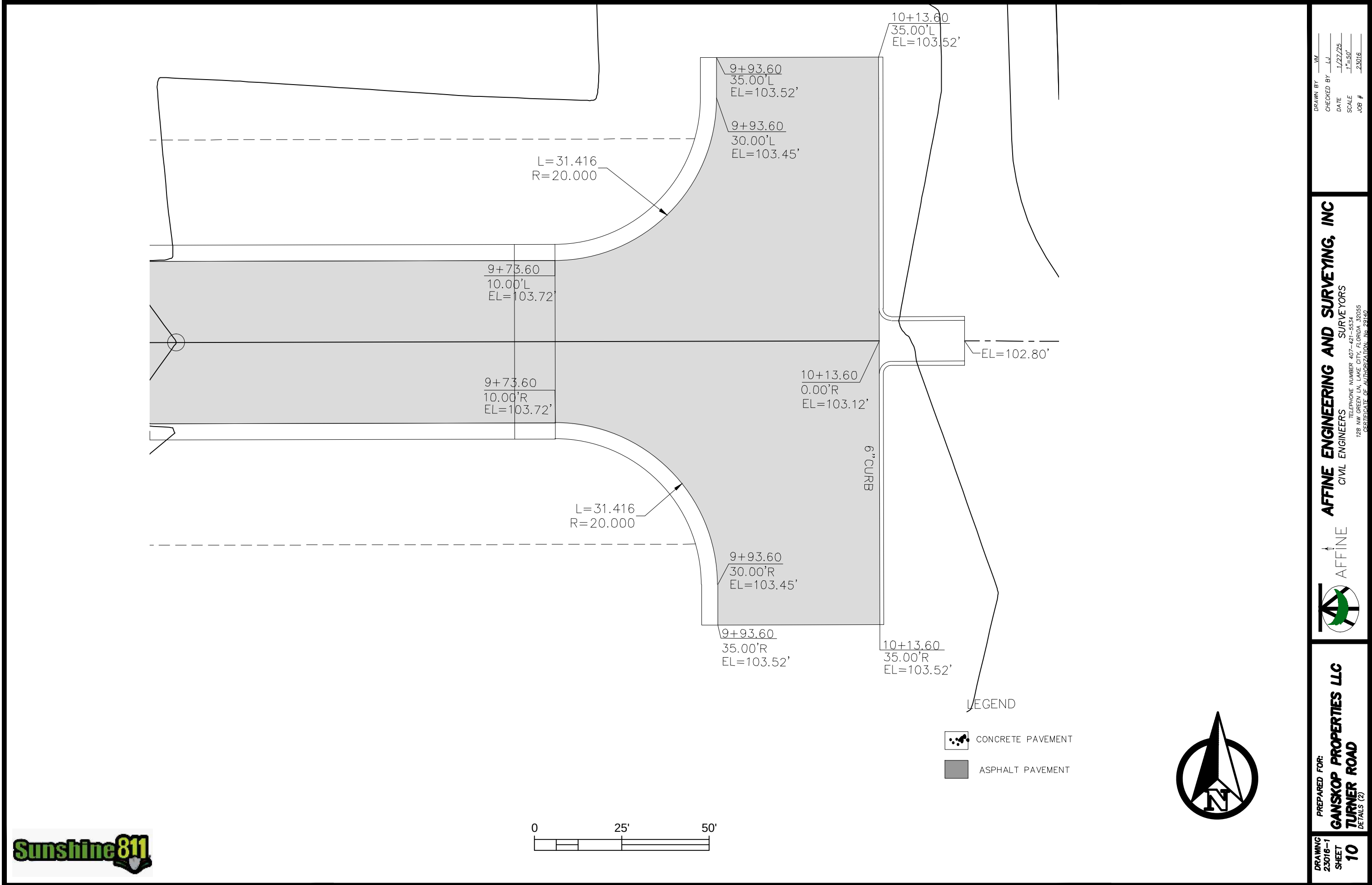
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SHEET
9

PREPARED FOR:
GANSKOP PROPERTIES LLC
TURNER ROAD
DETAILS (1) DRIVEWAY CONNECTION



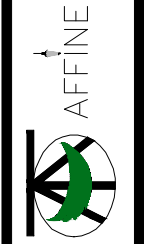
AFFINE ENGINEERING AND SURVEYING, INC
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TELEPHONE NUMBER 407-421-5534
128 NW GREEN LN, LAKE CITY, FLORIDA 32055
CERTIFICATE OF AUTHORIZATION: No. 28140

DRAWN BY: WM
CHECKED BY: L.J.
DATE: 1/22/25
SCALE: 1"=50'
JOB #: 23016



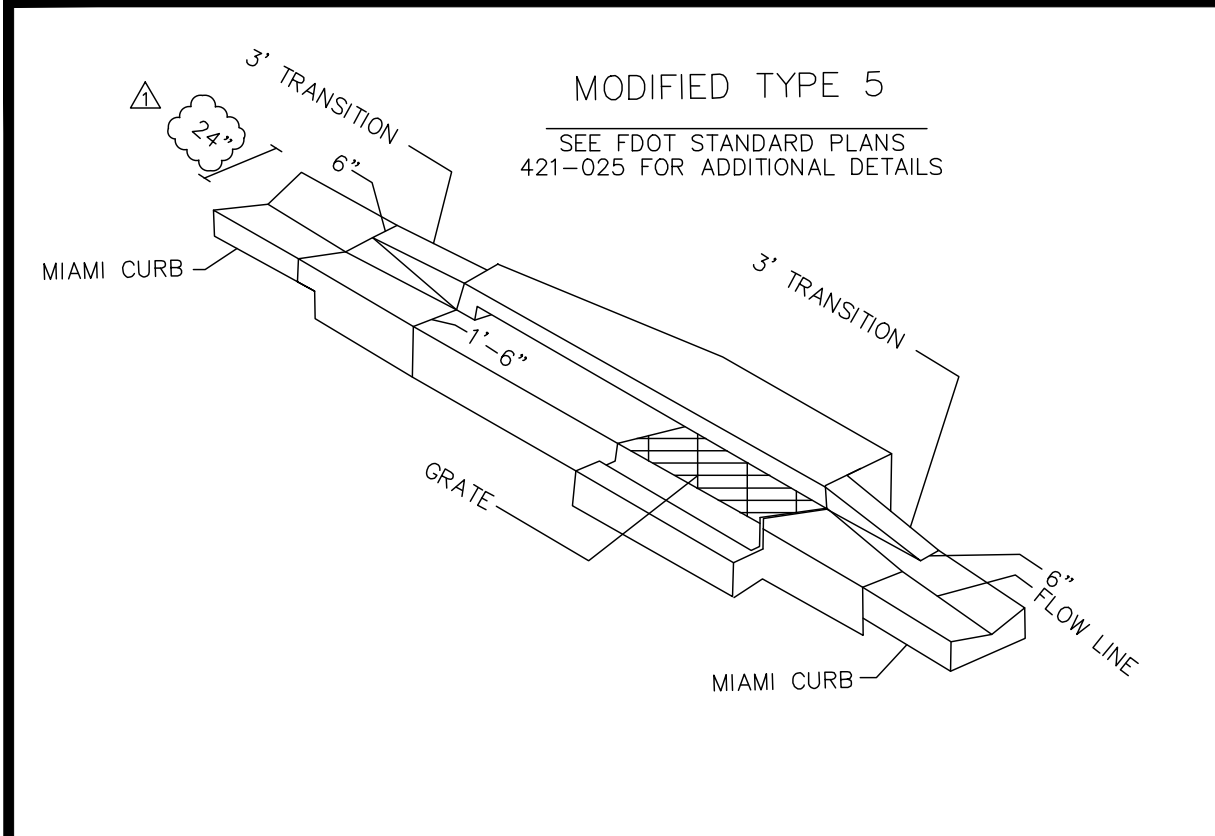
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PREPARED FOR:
GANSKOP PROPERTIES LLC
TURNER ROAD
DETAILS (2)

DRAWING
23016-1
SHEET
10



MODIFIED TYPE 5
SEE FDOT STANDARD PLANS
421-025 FOR ADDITIONAL DETAILS

PVC PIPE RESTRAINT NOTES:

- THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
- ASSUMPTIONS: PVC PIPE, SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE.
- BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
- VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, LU IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. LI IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
- TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
- HOPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).
- THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR-18 & 25 PIPE) SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

PVC PIPE RESTRAINT JOINT SCHEDULE

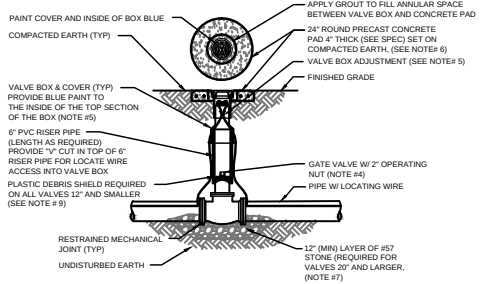
NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL OFFSETS (SEE NOTE 4)		VALVES OR DEAD ENDS L (FT.)
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER L (FT.)	LOWER L (FT.)	
4	21	9	5	3	17	3	47
6	30	13	6	3	23	4	66
8	38	16	8	4	30	6	86
10	45	19	9	5	36	7	103
12	53	22	11	6	43	8	121
14	61	26	13	6	50	9	140
16	66	28	14	7	55	10	154
18	73	30	15	8	60	11	170
20	79	33	16	8	66	12	186
24	79	33	16	8	77	15	185
30	93	39	19	10	97	17	222
36	106	39	21	11	107	20	257
42	117	49	24	12	120	24	289
48	144	53	26	13	133	26	321

REDUCERS	
SIZE (IN.)	L (FT.)
6x4	34
8x6	36
8x4	62
10x8	35
10x6	63
12x6	64
16x12	66
16x10	92
20x18	35
20x16	66
20x12	117
24x20	56
24x18	80
24x16	101
30x24	78
30x20	121
36x30	78
36x24	141
42x36	75
42x30	140
48x42	75
48x36	139

TEES SEE NOTE 5	
RUN SIZE (IN.)	BRANCH SIZE (IN.)
4	4
6	6
8	8
10	10
12	12
16	16
20	20
24	24
30	30
36	36
42	42
48	48

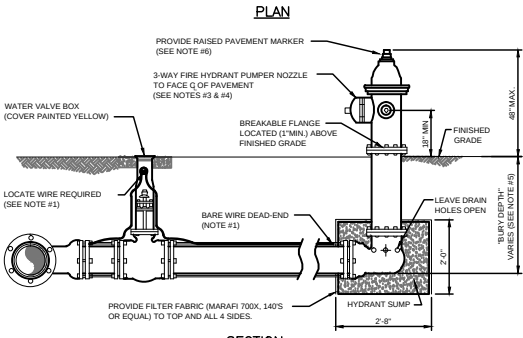
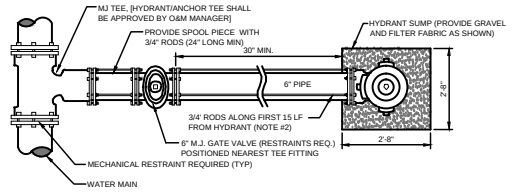
F.O. = FITTING ONLY

WATER VALVE
DETAIL



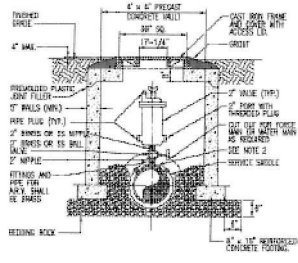
- NOTES:
- FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED OTHERWISE.
 - LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING.
 - A "Y" CUT SHALL BE CARVED IN THE CURB CLOSEST ADJACENT TO ALL BELOW GRADE VALVES. THE "Y" CUT IS TO BE PAINTED GREEN.
 - IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 36 INCHES BELOW FINISHED GRADE.
 - FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO ALLOW FOR FUTURE SEA ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "Y" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 12" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.
 - BRASS IDENTIFICATION TAG INDICATING "WATER", VALVE SIZE, DIRECTION AND TURNS TO OPEN A VALVE TYPE. PROVIDE A BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.
 - IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/ 2" #4 REBAR AROUND PERIMETER MAY BE USED.
 - GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO 1/2 THE OVERALL HEIGHT OF THE VALVE.
 - FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY APC, BOSLOK OR APPROVED EQUAL.
 - ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1428R FOR WATER AND 3488R FOR RECLAIMED WATER).

HYDRANT DETAIL



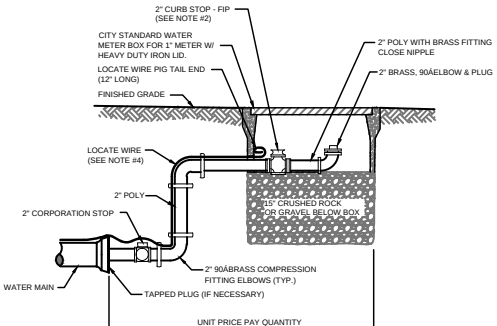
- NOTES:
- LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MARK. SEE SECTION 850 LOCATE WIRE INSTALLATION PARAGRAPHS.
 - FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK AND NOT WITHIN SWALE/EDCH AREAS. THE DISTANCE RANGE FROM EDGE OF ADJACENT PAVEMENT, BACK OF CURB AND FACE OF SIDEWALK SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY SEA AND APPLICABLE PERMITTING AGENCIES. DISTANCE SHALL BE MEASURED TO THE CLOSEST PART OF THE FIRE HYDRANT (I.E. THE PUMPER NOZZLE). THE MAXIMUM DISTANCE BACK OF CURB SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY SEA. FOR OTHER LOCATION LIMITATIONS SEE PLATES W-10 AND W-11. IF PIPING BETWEEN TEE AND HYDRANT IS LONGER THAN 15 LF, AN ADDITIONAL 6" GATE VALVE IS REQUIRED AT THE HYDRANT LOCATION PROVIDE 30" SEPARATION. ALL PIPING, VALVES AND FITTINGS ALONG THE HYDRANT BRANCH MAIN WHICH IS WITHIN 15 LF OF THE HYDRANT SHALL BE RESTRAINED UTILIZING ONLY TWO 3/4" DIA. (THREADED ENDS) STEEL RODS AND EYE BOLTS (NO JOINT RESTRAINT DEVICES REQUIRED). A 3/4" DIA. SERRATED RING WITH RESTRAINT EARS (SRA) IS PROHIBITED UNLESS USED IN THIS ASSEMBLY. ALL OTHER JOINTS ALONG THE HYDRANT BRANCH MAIN OUTSIDE OF THE FIRST 15 LF SHALL INCLUDE JOINT RESTRAINTS.
 - OPERATION OF THE FIRE HYDRANT SHALL BE EITHER FULL OPEN POSITION OR TOTALLY CLOSED POSITION. THE HYDRANT SHALL NOT BE UTILIZED TO THROTTLE OUTLET FLOW.
 - PRIOR TO PROJECT FINAL INSPECTION, THE HYDRANT AND ALL ABOVE GROUND PIPING SHALL BE RE-OILED, GREASED AND REPAINTED (RUS-XL ENAMEL-INTERNATIONAL YELLOW OR EQUAL). PRIVATELY OWNED AND MAINTAINED FIRE HYDRANTS SHALL BE PAINTED RED.
 - FIRE HYDRANTS SHALL BE ORDERED WITH PROPER "BURY DEPTH" TO MEET ACTUAL FIELD CONDITIONS. THIS IS ESPECIALLY IMPORTANT FOR BRANCH LINES WHICH TIE OFF A 12" OR LARGER WATER MAIN, UNLESS APPROVED OTHERWISE BY SEA. THE INSTALLATION OF 45° BENDS IS NOT ACCEPTABLE WHEN UTILIZED TO CORRECT AN IMPROPERLY FURNISHED HYDRANT. THE USE OF HYDRANT EXTENSIONS SHOULD BE MINIMIZED.

AIR RELEASE VALVE
DETAIL

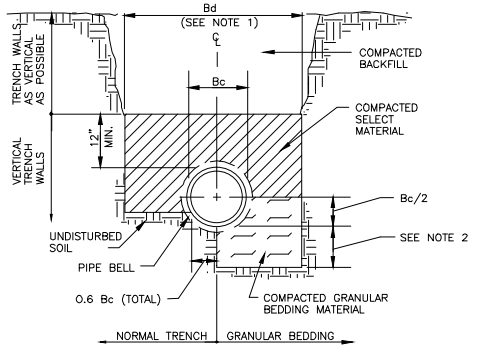


- NOTES:
- GRADE DEFINED IS BASED ON 2" CORRELATION AIR/VEHICLE RELATION. GRADE SHALL BE SET AND TYPED ACCORDINGLY FOR OTHER VALVE SIZES AND TYPES. VALVE SIZE TO BE DETERMINED BY THE ENGINEER AND APPROVED BY THE CITY PRIOR TO INSTALLATION.
 - THE MINIMUM DIMENSION FROM TOP OF PIPE TO FINISHED GRADE SHALL BE 4.0 FEET.

BLOW OFF VALVE



- NOTES:
- PIPE SHALL BE POLYETHYLENE. FITTINGS SHALL BE BRASS.
 - THE 2" CURB STOP SHALL BE ALL BRONZE. FITTINGS SHALL BE BRASS.
 - ANY RECLAIMED WATER VALVE SHALL HAVE RECLAIMED ENAMEL.
 - LOCATE WIRE FOR 12" OR GREATER IN LENGTH.
 - CANNOT BE PLACED UNDER CONCRETE OR PAVEMENT.



CLASS "B" BEDDING-NORMAL CONDITIONS

BEDDING AND TRENCHING NOTES

- Bc = PIPE O.D.
Bd = TRENCH WIDTH AT TOP OF PIPE
MAX. Bd = Bc + 24"
MIN. Bd = MAX. DIM. OF BELL + 8" (UNSHEETED TRENCH)
MAX. DIM. OF BELL + 12" (SHEETED TRENCH)
- DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL BE AS REQUIRED TO REACH SUITABLE FOUNDATION FOR NON-CUSHIONING MATERIAL. DEPTH SHALL BE 6" BELOW BOTTOM OF UTILITY.
- SHEETING SHALL BE DRIVEN BELOW THE UTILITY INVERT IF REQUIRED FOR LATERAL SUPPORT OR UNSUITABLE MATERIAL REMOVAL. WHERE DRIVEN BELOW PIPE INVERT, SHEETING SHALL BE CUT OFF A MINIMUM OF 12" ABOVE TOP OF PIPE, OR HIGHER AS AUTHORIZED BY THE ENGINEER, AND LEFT IN PLACE. IN NO CASE SHALL SHEETING LEFT IN PLACE EXTEND HIGHER THAN 30" BELOW SURFACE GRADE UNLESS SPECIALLY APPROVED. BRACING SHALL BE APPROVED AS REQUIRED.
- PROTECTIVE CONCRETE SLABS ARE REQUIRED WHENEVER DEPTH OF COVER IS LESS THAN 36" AND IF APPROVED BY THE UTILITY.
- BACKFILL TO BE COMPACTED TO 98% DENSITY OF AASHTO T180 MODIFIED PROCTOR IN AREAS TO BE PAVED AND 95% IN OTHERS.

PIPE BEDDING & TRENCHING DETAILS

DRAWN BY

CHECKED BY

DATE

SCALE

JOB #

1M

LJ

1/21/25

1"=50'

23016

PREPARED FOR:

23016-1

SHEET

11

AFFINE ENGINEERING AND SURVEYING, INC

SURVEYORS

128 NW GREEN LN, LAKE CITY, FLORIDA 32055

CERTIFICATE OF AUTHORIZATION: No. 29140

ENGINEERS

CIVIL ENGINEERS

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GENERAL CONSTRUCTION NOTES

1. ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM 88 (NAVD 88).
2. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY ALL PERTINENT DATA FOR ACCURACY PRIOR TO BEGINNING CONSTRUCTION.
3. THE CONTRACTOR SHALL CHECK THE PLANS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S ENGINEER OF ANY CONFLICTS OR DISCREPANCIES BEFORE PERFORMING ANY WORK IN THE AFFECTED AREA.
4. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES, AND SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE VARIOUS UTILITY COMPANIES, IN ORDER TO PERMIT MARKING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, IN ADVANCE OF CONSTRUCTION, BY CALLING "SUNSHINE " AT 1-800-432-4770.
5. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED BY THE CONTRACTOR.
6. ALL UNDERGROUND UTILITIES MUST BE IN PLACE AND TESTED OR INSPECTED PRIOR TO BASE AND SURFACE CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, AND SCHEDULE INSPECTIONS ACCORDING TO AGENCY INSTRUCTION.
8. ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO SHALL BE OF LATEST REVISIONS AND/OR LATEST EDITION.
9. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.
10. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE OWNER'S ENGINEER, SHOP DRAWING ON ALL PRECAST AND MANUFACTURED ITEMS SPECIFIED FOR THE PROJECT. FAILURE TO OBTAIN APPROVAL BEFORE INSTALLATION MAY RESULT IN REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE. ALL SHOP DRAWINGS ARE TO BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER'S ENGINEER.
11. AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE AGENCIES, AND SUPPLY THEM WITH ALL REQUIRED SHOP DRAWINGS, THE CONTRACTOR'S NAME, STARTING DATE, PROJECTED SCHEDULE, AND OTHER INFORMATION AS REQUIRED. ANY WORK PERFORMED PRIOR TO NOTIFYING THE ENGINEER, OR WITH OUT AGENCY INSPECTOR PRESENT, MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
12. WORK PERFORMED UNDER THIS CONTRACT SHALL INTERFACE, SMOOTHLY WITH OTHER WORK BEING PREFORMED ON SITE BY OTHER CONTRACTORS AND UTILITY COMPANIES. IT WILL BE NECESSARY FOR THE CONTRACTOR TO COORDINATE AND SCHEDULE HIS ACTIVITIES, WHERE NECESSARY, WITH OTHER CONTRACTORS AND UTILITY COMPANIES.
13. THE PIPE, IN AREAS TO BE PAVED, BACKFILL SHALL BE COMPACTED TO 98% MAXIMUM DENSITY AS DETERMINED BY A.A.S.H.T.O. T-99.
14. SITE WORK CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 3,000 P.S.I. IN 28 DAYS, UNLESS OTHERWISE NOTED.
15. CONCRETE REINFORCING SHALL BE BILLET STEEL BARS CONFORMING TO A.S.T.M. A615 GRADE OR BETTER.
16. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITIONS UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. ADDITIONAL COSTS ARE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION IS TO BE ALLOWED.
17. ALL DISTURBED AREAS WHICH ARE NOT TO BE SODDED, ARE TO BE SEEDED AND MULCHED TO F.D.O.T. STANDARDS, AND MAINTAINED UNTIL A SATISFACTORY STAND OF BEEN OBTAINED. ANY WASHOUTS, REGRADING, RESEEDING, AND GRASSING WORK, AND OTHER EROSION WORK REQUIRED, WILL BE PERFORMED BY THE CONTRACTOR UNTIL THE SYSTEM IS ACCEPTED FOR MAINTENANCE, BY THE REGULATORY AGENCY AND ENGINEER OF RECORD.
18. CHAPTER 77-153 OF THE FLORIDA STATUTES REQUIRES THAT AN EXCAVATOR NOTIFY ALL GAS UTILITIES A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO EXCAVATING. MAPS SHOW ONLY THE APPROXIMATE LOCATION OF GAS MAINS AND DO NOT SHOW SERVICE LINES. THE ONLY SAFE AND PROPER WAY TO LOCATE EITHER MAINS OR SERVICE LINES IS BY AN ON-SITE INSPECTION BY THE RESPECTIVE GAS PERSONNEL. THEREFORE, EXCAVATORS ARE INSTRUCTED TO TELEPHONE THE RESPECTIVE GAS COMPANY TWO (2) WORKING DAYS BEFORE ENTERING A CONSTRUCTION AREA.
19. THE CONTRACTOR SHALL LOCATE AND FLAG ALL PROPERTY CORNERS PRIOR TO FINAL ENGINEERING INSPECTION AND CERTIFICATION. I SHALL BE THE CONTRACTORS RESPONSIBILITY TO HAVE PROPERTY CORNERS, WHICH HAVE BEEN LOST DURING CONSTRUCTION, REESTABLISHED BY A PROFESSIONAL LAND SURVEYOR.
20. THE SOILS ENGINEER IS TO SUPPLY THE ENGINEER WITH A PHOTOCOPY FOR ALL COMPACTION TESTS, AND ASPHALT RESULTS. THE SOILS ENGINEER IS TO CERTIFY REQUIRED BY THE LOCAL REGULATORY AGENCY, AND THE FLORIDA DEPARTMENT OF TRANSPORTATION (F.D.O.T.) FOR THE IMPROVEMENTS, AS REQUIRED BY THE ENGINEERING CONSTRUCTION DRAWINGS, HAVE BEEN SATISFIED.
21. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING APPLICABLE TESTING WITH THE SOILS ENGINEER. TESTS WILL BE REQUIRED PURSUANT WITH THE TESTING REQUIREMENTS AS SHOWN ONT THE ENGINEERING CONSTRUCTION DRAWINGS. UPON COMPLETION OF THE WORK, THE SOILS ENGINEER IS TO SUBMIT CERTIFICATIONS TO THE OWNER'S ENGINEER, STATING THAT ALL REQUIREMENTS HAVE BEEN MET.
22. THE CONTRACTOR IS TO REVIEW THE SOIL REPORTS AND BORINGS PRIOR TO BIDDING THE PROJECT AND COMMENCING CONSTRUCTION.
23. IRRIGATION SYSTEM SHALL CONSIST OF SPIGOT AND HOSES WITH IRRIGATION HEADS OR STANDARD COMMERCIAL OUTDOOR SPRINKLERS.
24. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE APPROVED PLANS AND PERMITS AT THE CONSTRUCTION SITE.
25. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS FOR CONSTRUCTION SITE SAFETY.
26. ALL SODDING, SEEDING, AND MULCHING SHALL INCLUDE WATERING AND FERTILIZATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE AREAS UNTIL THE PROJECT IS COMPLETED AND ACCEPTED BY THE OWNER.
27. ALL AREAS WITHIN THE COUNTY RIGHT-OF-WAY DISTURBED THOUGH THE COURSE OF CONSTRUCTION WILL BE RE-GRADED AND SODDED.
28. WORK WITHIN PUBLIC RIGHT OF WAY MUST BE IN ACCORDANCE TO FDOT STANDARD PLANS INDEX 102-600, WORK WITHIN THE SHOULDER AND WORK WITHIN THE TRAVEL LANE ACCORDING TO 102-602 & 102-603 RESPECTIVELY.
29. RIP RAP TO BE A MINIMUM OF 18" THICK PER FDOT SPECIFICATION 530-2.1.3.2 WITH 12" BEDDING STONE PER 530-2.1.4 AND TYPE D2 GEOTEXTILE FABRIC PER FDOT SPECIFICATION 514.



CLEARING AND EROSION CONTROL NOTES

1. PRIOR TO ANY SITE CLEARING, ALL TREES SHOWN TO REMAIN ON THE CONSTRUCTION PLANS SHALL BE PROTECTED IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY'S TREE ORDINANCE AND DETAILS CONTAINED IN THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION. NO TREES SHOWN TO REMAIN SHALL BE REMOVED WITHOUT WRITTEN APPROVAL FROM THE OWNER.
2. THE CONTRACTOR IS TO PREPARE THE SITE PRIOR TO BEGINNING, ACTUAL CONSTRUCTION IN ACCORDANCE WITH THE SOILS TESTING REPORT. COPIES OF THE SOILS REPORT ARE AVAILABLE THROUGH THE OWNER OR THE SOILS TESTING COMPANY. QUESTIONS REGARDING SITE PREPARATION REQUIREMENTS DESCRIBED IN THE SOILS REPORT ARE TO BE DIRECTED TO THE SOILS TESTING COMPANY.
3. THE CONTRACTOR SHALL CLEAR AND GRUB ONLY THOSE PORTIONS OF THE SITE NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.
4. THE TOP 4 " TO 6 " OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER.
5. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS. ONLY "GRADING BY HAND " IS PERMITTED WITHIN THE CANOPY LINE OF TREES THAT ARE TO REMAIN.
6. THE CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS FOR REMOVING ANY EXISTING STRUCTURES.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES TO DISCONNECT OR REMOVE THEIR FACILITIES PRIOR TO REMOVING OR DEMOLISHING ANY EXISTING STRUCTURES FROM THE SITE.
8. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATION OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING ANY UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ALL UTILITIES WHICH INTERFACE WITH THE PROPOSED CONSTRUCTION SHALL BE RELOCATED BY THE RESPECTIVE UTILITY COMPANIES AND THE CONTRACTOR SHALL COOPERATE WITH THE UTILITY COMPANIES DURING RELOCATION OPERATIONS. ANY DELAY OR INCONVENIENCE CAUSED TO THE CONTRACTOR BY THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.
9. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING A VISUAL INSPECTION OF THE SITE AND WILL BE RESPONSIBLE FOR THE DEMOTION AND REMOVAL OF ALL UNDERGROUND AND ABOVE GROUND STRUCTURES THAT WILL NOT BE INCORPORATED WITH THE NEW FACILITIES. SHOULD ANY DISCREPANCIES EXIST WITH THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING THE OWNER AND REQUESTING A CLARIFICATION OF THE PLANS PRIOR TO DEMOLITION.
10. DURING CONSTRUCTION, ALL STORM SEWER INLET IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS SUCH AS SECURED HAY BALES, SOD, STONE, ETC., WHICH SHALL BE MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
11. ALL EROSION AND SILTATION CONTROL METHODS SHALL BE IMPLEMENTED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
12. WHEN CONSTRUCTION IS COMPLETED, THE RETENTION/DETENTION AREAS WILL BE RESHAPED, CLEANED OF SILT, MUD AND DEBRIS, AND RE-SODDED IN ACCORDANCE TO THE PLANS.
13. CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTY, STREETS, STORM SEWERS, WATERWAYS, AND EXISTING WETLANDS. IN ADDITION, THE CONTRACTOR SHALL PLACE STRAW, MULCH, OR OTHER SUITABLE MATERIAL ON THE GROUND IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT THE SITE. IF, IN THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES, EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF-SITE EITHER BY NATURAL DRAINAGE OR BY VEHICULAR TRAFFIC, THE CONTRACTOR IS TO REMOVE SAID EARTH TO THE SATISFACTION OF THE ENGINEER AND/OR AUTHORITIES.
14. IF WIND EROSION BECOMES SIGNIFICANT DURING CONSTRUCTION, THE CONTRACTOR SHALL STABILIZE THE AFFECTED AREA USING SPRINKLING, IRRIGATION, OR OTHER ACCEPTABLE METHODS.
15. THERE IS TO BE NO DISCHARGE (i.e. PUMPING, SHEET FLOW, SWALE, DITCH, ETC...) INTO EXISTING LAKE SYSTEM, WETLAND, OR RIVER, WITHOUT THE USE OF SETTLING PONDS. IF THE CONTRACTOR DESIRES TO DISCHARGE INTO THE EXISTING LAKE SYSTEM OR RIVER, A SETTLING POND PLAN MUST BE SUBMITTED AND APPROVED BY THE ENGINEER OF RECORD AND LOCAL REGULATORY AGENCY PRIOR TO CONSTRUCTION.

SAFETY NOTES

1. DURING THE CONSTRUCTION AND/OR MAINTENANCE OF THIS PROJECT, ALL SAFETY REGULATIONS ARE TO BE ENFORCED BY THE CONTRACTOR. THE CONTRACTOR OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE CONTROL AND SAFETY OF THE TRAVELING PUBLIC AND THE SAFETY OF THIS PERSONNEL. LABOR SAFETY REGULATIONS SHALL CONFORM TO THE PROVISIONS SET FORTH BY O.S.H.A. IN THE FEDERAL REGISTER OF THE DEPARTMENT OF TRANSPORTATION.
2. THE MINIMUM STANDARDS AS SET FORTH IN THE CURRENT EDITION OF THE STATE OF FLORIDA, MANUAL ON TRAFFIC CONTROL AND SAFE PRACTICES FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, AND UTILITY OPERATIONS HALL BE FOLLOWED IN THE DESIGN APPLICATION, INSTALLATION, MAINTENANCE, AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES, AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND WORKMEN FROM HAZARDS WITHIN THE PROJECT LIMITS.
3. ALL TRAFFIC CONTROL MARKINGS AND DEVICES SHALL CONFORM TO THE PROVISIONS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PREPARED BY THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION.
4. LABOR SAFETY REGULATIONS SHALL CONFORM TO THE PROVISIONS SET FORTH BY O.S.H.A. IN THE FEDERAL REGISTER OF THE DEPARTMENT OF TRANSPORTATION.
5. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY AND ENFORCE ALL APPLICABLE SAFETY REGULATIONS. THE ABOVE INFORMATION HAS BEEN PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY AND DOES NOT IMPLY THAT THE OWNER OR ENGINEER WILL INSPECT AND/OR ENFORCE SAFETY REGULATIONS.

PAVING, GRADING, AND DRAINAGE NOTES

1. ALL DELETERIOUS SUBSTANCE MATERIAL, (K.E. MUCK, PEAT, BURIED DEBRIS), ARE TO BE EXCAVATED IN ACCORDANCE WITH THESE PLANS, OR AS DIRECTED BY THE OWNER'S ENGINEER, OR OWNER'S SOIL TESTING COMPANY. DELETERIOUS MATERIAL IS TO BE STOCKPILED OR REMOVED FROM THE SITE AS DIRECTED BY THE OWNER. COMPACTED AS SHOWN ON THESE PLANS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND WILL PROVIDE BRACING, SHEETING, OR SHORING, AS NECESSARY. TRENCHES SHALL BE KEPT DRY WHILE PIPE AND APPURTENANCES ARE BEING PLACED DEWATERING SHALL BE USED AS REQUIRED.
3. IT MAY BE NECESSARY TO FIELD ADJUST PAVEMENT ELEVATIONS TO PRESERVE THE ROOT SYSTEMS OF TREES SHOWN TO BE SAVED. THE CONTRACTOR IS TO COORDINATE WITH OWNER'S ENGINEER PRIOR TO ANY ELEVATION CHANGES.
4. PRIOR TO CONSTRUCTING CONCRETE PAVEMENT, THE CONTRACTOR IS TO SUBMIT A PROPOSED JOINTING PATTERN TO THE OWNER'S ENGINEER FOR APPROVAL.
5. THE CONTRACTOR IS TO PROVIDE A 1/2 " BITUMINOUS EXPANSION JOINT MATERIAL WITH SEALER, AT ABUTMENT OF CONCRETE AND ANY STRUCTURE.
6. ALL PAVEMENT MARKINGS SHALL BE MADE WITH TRAFFIC PAINT IN ACCORDANCE TO F.D.O.T. STANDARD SPECIFICATIONS 971-12 OR 971-13. PARKING STALL STRIPING TO BE 4 " WIDE PAINTED WHITE STRIPES.
7. STANDARD INDEXES REFER TO THE LATEST EDITION OF FDOT "ROADWAY AND TRAFFIC DESIGN STANDARDS ".
8. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE CLASS III (A.S.T.M. C-76) OR HDPE PIPE - ADS N-12 (ASTM D3350) OR APPROVED EQUAL, UNLESS OTHERWISE NOTED ON PLANS.
9. P.V.C. STORM PIPE, 12 " AND SMALLER SHALL CONFORM TO A.W.W.A. C-900, CLASS 150 STANDARDS, UNLESS OTHERWISE NOTED. HDPE PIPE SIZES RANGE FROM 12-60 INCH DIAMETERS AND DESIGNATED AS AASHTO ANNUAL TYPE "S" (n-12 PIPE). THE PIPE SHALL HAVE CIRCULAR CROSS SECTION WITH AN OUTER CORRUGATED PIPE WALL AND A SMOOTH INNER WALL.
10. HDPE STORM PIPE JOINTS SHALL CONSIST OF INTEGRAL, CONSTANT DIAMETER IN-LINE BELL AND SPIGOT WITH FACTORY INSTALLED RUBBER GASKET PER ASTM F477. STORM SEWER, SIDE DRAIN AND CROSS DRAIN PIPE SHALL UTILIZE ADS N-12 WT PIPE WITH WATER TIGHT JOINTS SPECIFIED TO MEET A MINIMUM LABORATORY PRESSURE TEST OF 10.8-PSI FOLLOWING ASTM D-3212. EXFILTRATION PIPE SHALL UTILIZE AASHTO CLASS PERFORATED ADS N-12 PIPE WITH SOIL TIGHT JOINTS.
11. FITTING FOR HDPE PIPE MAY BE EITHER MOLDED OR FABRICATED AND INCLUDE IN-LINE JOINT FITTINGS SUCH AS COUPLERS AND REDUCERS, BRANCH ASSEMBLY FITTINGS SUCH AS TEES, WYES, AND EN CAPS. ONLY FITTINGS SUPPLIED OR RECOMMENDED BY THE MANUFACTURER SHALL BE USED.
12. HDPE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 AND AS RECOMMENDED BY THE MANUFACTURER.
13. ALL HIGH DENSITY POLYETHYLENE (HDPE) PIPE USED FOR CULVERT AND STORM DRAIN APPLICATIONS SHALL CONFORM TO THE REQUIREMENTS FOR AASHTO M294 CURRENT EDITION AND BE CERTIFIED THROUGH THE PLASTICS PIPE INSTITUTE (PPI) THIRD PARTY CERTIFICATION PROGRAM. ALL HDPE PIPE DELIVERED AND USED SHALL BEAR THE THIRD PARTY ADMINISTERED PPI SEAL.
14. PIPE LENGTHS SHOWN ARE APPROXIMATE AND TO THE CENTER OF DRAINAGE STRUCTURES. PIPE LENGTH FOR MITERED END AND FLARED END SECTIONS ARE TO END OF PIPE.
15. ALL DRAINAGE STRUCTURE GRATES AND COVERS WITHIN TRAFFIC AREAS SHALL BE TRAFFIC RATED FOR H-20 LOADINGS OR HIGHER.
16. THE CONTRACTOR IS TO SOD THE RETENTION/DETENTION POND AS INDICATED ON PLANS WITHIN ONE WEEK FOLLOWING CONSTRUCTION OF THE POND, IF APPLICABLE.
17. MATERIALS AND CONSTRUCTION METHODS FOR STREETS AND STORM DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY AND THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2018, OR LATEST REVISION THEREOF AND SUPPLEMENTAL SPECIFICATIONS THERETO.
18. UNDERCUTTING AND/OR OVER EXCAVATING THE RETENTION/DETENTION AREAS WILL NOT BE ALLOWED.
19. THE CONTRACTOR SHALL PROVIDE CERTIFIED SURVEY AND AS-BUILT DRAWINGS, SIGNED AND SEALED BY A PROFESSIONAL SURVEYOR OR MAPPER REGISTERED IN FLORIDA. THE RECORD DRAWINGS SHALL SHOW FINAL GRADES, INVERTS, A ND LOCATIONS OF ALL STORMWATER FACILITIES INCLUDING THE SUBSURFACE DRAINAGE SYSTEM, DRAINAGE STRUCTURES, BERMS & SWALES. THE CONTRACTOR SHALL PROVIDE TEN COPIES OF THE CERTIFIED RECORD DRAWINGS TO THE ENGINEER FOR THE PURPOSE OF CERTIFYING THE STORMWATER MANAGEMENT SYSTEM.
20. PVC SURFACE DRAINAGE INLETS SHALL INCLUDE THE DRAIN BASIN TYPE AS INDICATED ON THE CONTRACT DRAWING AND REFERENCED WITHIN THE CONTRACT SPECIFICATIONS. THE DUCTILE IRON GRATES (12 " AND 15 " FRAMES ARE CAST IRON) FOR EACH OF THESE FITTINGS ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SURFACE DRAINAGE INLET AND SHALL BE FURNISHED BY THE SAME MANUFACTURER. THE SURFACE DRAINAGE INLETS SHALL BE AS MANUFACTURED BY NYLOPLAST A DIVISION OF ADVANCED DRAINAGE SYSTEMS, INC., OR PRIOR APPROVED EQUAL.
21. THE DRAIN BASINS REQUIRED FOR THIS CONTRACT SHALL BE MANUFACTURED FROM PVC PIPE STOCK, UTILIZING A THERMO-MOLDING PROCESS TO REFORM THE PIPE STOCK TO THE SPECIFIED CONFIGURATION. THE DRAINAGE PIPE CONNECTION STUBS SHALL BE MANUFACTURED FROM PVC PIPE SYSTEM. THIS JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR JOINTS FOR DRAIN AND SEWER PLASTIC PIPE USING FLEXIBLE ELASTOMERIC SEALS. THE PIPE BELL SPIGOT SHALL BE JOINED TO THE MAIN BODY OF THE DRAIN BASIN OR CATCH BASIN. THE PIPE STOCK USED TO MANUFACTURE THE MAIN BODY AND PIPE STUBS FOR THE SURFACE DRAINAGE INLETS SHALL MEET THE MECHANICAL PROPERTY REQUIREMENTS FOR FABRICATED FITTINGS AS DESCRIBED BY ASTM D3034, STANDARD FOR SEWER PVC PIPE AND FITTINGS; ASTM F1336. STANDARD FOR PVC GASKETED SEWER FITTINGS.
22. DIRECT AL ROOF RUN-OFF TO DETENTION AREA.

BEDDING AND TRENCHING NOTES

1. Bc = PIPE O.D. Bd = TRENCH WIDTH AT TOP OF PIPE MAX. Bd = Bc + 24" MIN. Bd = MAX. DIM. OF BELL + 8" (UNSHEETED TRENCH) MAX. DIM. OF BELL + 12" (SHEETED TRENCH)
2. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL BE AS REQUIRED TO REACH SUITABLE FOUNDATION FOR NON-CUSHIONING MATERIAL, DEPTH SHALL BE 6" BELOW BOTTOM OF UTILITY.
3. SHEETING SHALL BE DRIVEN BELOW THE UTILITY INVERT IF REQUIRED FOR LATERAL SUPPORT OR UNSUITABLE MATERIAL REMOVAL. WHERE DRIVEN BELOW PIPE INVERT, SHEETING SHALL BE CUT OFF A MINIMUM OF 12" ABOVE TOP OF PIPE, OR HIGHER AS AUTHORIZED BY THE ENGINEER, AND LEFT IN PLACE. IN NO CASE SHALL SHEETING LEFT IN PLACE EXTEND HIGHER THAN 30" BELOW SURFACE GRADE UNLESS SPECIFICALLY APPROVED. BRACING SHALL BE PROVIDED AS REQUIRED.
4. PROTECTIVE CONCRETE SLABS ARE REQUIRED WHENEVER DEPTH OF COVER IS LESS THAN 36" AND IF APPROVED BY THE UTILITY.
5. BACKFILL TO BE COMPACTED TO 98% DENSITY OF AASHTO T180 MOTIFIED PROCTOR IN AREAS TO BE PAVED AND 95% IN OTHERS.

DRAWN BY: WM
CHECKED BY: LJ
DATE: 1/22/25
SCALE: 1"=50'
JOB #: 23016

AFFINE ENGINEERING AND SURVEYING, INC
SURVEYORS
CIVIL ENGINEERS
TELEPHONE NUMBER 407-421-5534
128 NW GREEN LN, LAKE CITY, FLORIDA 32055
CERTIFICATE OF AUTHORIZATION: No. 28140



PREPARED FOR:
GANSKOP PROPERTIES LLC
TURNER ROAD
NOTES (1)

DRAWING
23016-1
SHEET
12

WATER SYSTEM NOTES

1. ALL WATER MAINS SHALL HAVE A MINIMUM OF 36 INCHES OF COVER.
2. ALL WATER SYSTEM WORK SHALL CONFORM TO LOCAL REGULATORY STANDARDS AND SPECIFICATIONS.
3. CONFLICTS BETWEEN WATER AND STORM OR SANITARY SEWER TO BE RESOLVED BY ADJUSTING THE WATER LINES AS NECESSARY.
4. DUCTILE IRON PIPE SHALL BE A MINIMUM OF CLASS 50 OR PRESSURE CLASS 250 AND WILL BE ACCEPTED IN ANY DIAMETER FOR USE WITHIN THE DISTRIBUTION SYSTEM. DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA C151, AND SHALL BE CEMENT LINED AND CONFORM TO THE REQUIREMENTS OF ANSI STANDARD C104. FITTINGS FOR DIP SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA C153/A 21.53 OR ASNSI/AWWA C110/A 21.10. MECHANICAL AND PUSH-ON JOINTS SHALL CONFORM TO ANSI/AWWA C 111 /A21.11 AND FLANGED JOINTS SHALL CONFORM TO ANSI/AWWA 115/A21.51.
5. ALL FITTINGS LARGER THAN 3" SHALL BE DUCTILE IRON CLASS 53 IN ACCORDANCE WITH A.W.W.A. C-110 WITH A PRESSURE RATING OF 350 P.S.I. JOINTS SHALL BE MECHANICAL JOINTS IN ACCORDANCE WITH A.W.W.A. C-111. FITTINGS SHALL BE CEMENT MORTAR LINED AND COATED IN ACCORDANCE WITH A.W.W.A. C-104.
6. THE CONTRACTOR IS TO INSTALL TEMPORARY BLOW-OFFS OR HYDRANTS AT THE END OF WATER SERVICE LATERALS TO ASSURE ADEQUATE FLUSHING AND DISINFECTION.
7. ALL PVC. WATER MAINS 4" THROUGH 12" SHALL BE IN ACCORDANCE WITH A.W.W.A. C-900. PIPE SHALL BE CLASS 235 (DR-18) AND IN ACCORDANCE WITH A.S.T.M. D-2241.
8. WATER MAIN PIPING OF LESS THAN 4" SHALL BE SCHEDULE 80 P.V.C. UNLESS OTHERWISE SPECIFIED ON DRAWINGS.
9. WATER MAIN PIPING LARGER THAN 12" SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE UNLESS OTHERWISE SPECIFIED ON DRAWINGS.
10. ALL FITTINGS 2" AND SMALLER SHALL BE SCHEDULE 80 P.V.C. WITH SOLVENT WELDED SLEEVE TYPE JOINTS.
11. ALL GATE VALVES LARGER THAN 2" SHALL BE RESILIENT SEAT OR RESILIENT WEDGE MEETING THE REQUIREMENTS OF A.W.W.A. C509.
12. ALL FIRE HYDRANTS SHALL MEET THE REQUIREMENTS OF A.W.W.A. C502 AND SHALL BE APPROVED BY THE LOCAL UTILITY AND FIRE MARSHAL.
13. MATERIALS AND CONSTRUCTION METHODS FOR WATER DISTRIBUTION SYSTEM SHALL BE IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY CODES, PLANS AND SPECIFICATIONS FOR CONSTRUCTION, LATEST REVISION THEREOF, AND SUPPLEMENTAL SPECIFICATIONS THERETO. APPROVAL AND CONSTRUCTION OF ALL POTABLE WATER SERVICE MAIN EXTENSIONS AND CONNECTIONS MUST BE COORDINATED THROUGH THE LOCAL REGULATORY AGENCY.
14. FIRE HYDRANT ASSEMBLY SHALL MATCH THE CITY'S STANDARD CONFIGURATION.
15. VALVE BOXES SHALL BE PAINTED BLUE OR MATCH THE COLOR OF THE CITY'S EXISTING BOXES.
16. LOCATE WIRE SHOULD BE WRAPPED AROUND THE MAIN
17. THE CONTRACTOR SHALL PROVIDE CERTIFIED UTILITY AS-BUILT DRAWINGS, SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN FLORIDA. THE AS-BUILT DRAWINGS SHALL SHOW THE LOCATIONS ON ALL WATER MAINS AND SERVICES. THE CONTRACTOR SHALL PROVIDE TEN COPIES OF THE CERTIFIED AS-BUILT DRAWINGS TO THE ENGINEER. WHERE WATER MAIN CROSSES SEWER OR STORM PIPES, ALL AS-BUILT ELEVATIONS OF INVERTS AT THIS LOCATION SHALL BE OBTAINED AND SHOWN ON THE SURVEY.

WATER SYSTEM TESTING AND INSPECTION REQUIREMENTS

1. ALL COMPONENTS OF THE WATER SYSTEM, INCLUDING FITTINGS, HYDRANTS CONNECTIONS, AND VALVES SHALL REMAIN UNCOVERED UNTIL PROPERLY PRESSURE TESTED AND ACCEPTED BY THE OWNER'S ENGINEER. PRESSURE TESTS TO BE IN ACCORDANCE WITH WATER DEPARTMENT SPECIFICATIONS. CONTRACTOR TO NOTIFY OWNER; S ENGINEER AND WATER DEPARTMENT INSPECTORS 48 HOURS IN ADVANCE OF PERFORMING TEST.
2. CONTRACTOR TO PERFORM CHLORINATION, BACTERIOLOGICAL SAMPLING SHALL BE BY THE LOCAL PUBLIC HEALTH UNIT AND/OR LOCAL UTILITY. CONTRACTOR SHALL OBTAIN CLEARANCE OF DOMESTIC WATER SYSTEM. COPIES OF ALL BACTERIOLOGICAL TESTS TO BE SUBMITTED TO OWNER'S ENGINEER.
3. A HYDROSTATIC TEST CONSISTING OF PRESSURE TEST AND LEAKAGE TEST SHALL BE CONDUCTED ON ALL NEWLY-INSTALLED WATER DISTRIBUTION SYSTEM PRESSURE PIPES AND APPURTENANCES. THESE TESTS SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF A.W.W.A. C600 FOR DUCTILE IRON PIPES AND C605 FOR PVC PIPES.
4. ALL NEWLY-INSTALLED WATER DISTRIBUTION SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH A.W.W.A. C651 - DISINFECTING WATER MAINS.

SANITARY SEWER NOTES

1. ALL SANITARY SEWER MAINS & SERVICE LATERALS SHALL BE CONSTRUCTED OF P.V.C. PIPE S.D.R.-26 OR AS OTHERWISE INDICATED IN THE DRAWINGS.
2. ALL SANITARY SEWER WORK SHALL CONFORM WITH LOCAL REGULATORY STANDARDS AND SPECIFICATIONS.
3. PRIOR TO COMMENCING WORK THAT REQUIRES CONNECTING NEW WORK WITH EXISTING LINES OR APPURTENANCES, THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING CONNECTION POINT AND NOTIFY THE OWNER'S ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.
4. P.V.C. PIPE SHALL CONFORM TO A.S.T.M. D3034 SPECIFICATIONS. P.V.C. FITTINGS SHALL CONFORM WITH A.S.T.M. D1784 SPECIFICATIONS. INSTALLATION OF S.D.R.-26 PIPE SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. SPECIFICATION SECTION D2321. ALL SANITARY SEWER PIPE LINES SHALL BE SOLID GREEN IN COLOR.
5. ALL DUCTILE IRON PIPE SHALL BE CLASS 52 IN ACCORDANCE WITH A.N.S.I. A21.50 (A.W.W.A. C 150) AND A.N.S.I. A21.51 (A.W.W.A. C 151). DUCTILE IRON PIPE SHALL RECEIVE INTERIOR AND EXTERIOR BITUMINOUS COATING IN ACCORDANCE WITH A.N.S.I. A21.6, A21.8 OR A21.51.
6. ALL SANITARY SEWER GRAVITY MAINS OR SANITARY SEWER FORCEMAINS THAT REQUIRE D.I.P. ARE TO BE LINED WITH A FUSION BONDED EPOXY COATING TO A MINIMUM OF 20 MIL THICKNESS.
7. ALL SANITARY SEWER COVERS SHALL BE TRAFFIC RATED FOR H-20 LOADING.
8. THE CONTRACTOR SHALL PROVIDE CERTIFIED UTILITY RECORD DRAWINGS, SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR IN FLORIDA. THE RECORD DRAWINGS SHALL SHOW FINAL GRADES AND LOCATIONS OF ALL SANITARY SEWER MAINS AND SERVICES. THE CONTRACTOR SHALL PROVIDE TEN COPIES OF THE CERTIFIED RECORD DRAWINGS TO THE ENGINEER.
9. INLET AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A GASKETED FLEXIBLE WATERTIGHT CONNECTION OR ANOTHER WATERTIGHT CONNECTION THAT ALLOWS DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE WALL.
10. USE WATERTIGHT MANHOLE COVERS WHENEVER MANHOLE TOPS MY BE FLOODED BY STREET RUNOFF OR HIGHWATER.

SANITARY SEWER TESTING AND INSPECTION REQUIREMENTS

1. ALL GRAVITY SEWER PIPING SHALL BE SUBJECT TO A VISUAL INSPECTION BY THE OWNER'S ENGINEER. CONTRACTOR TO NOTIFY THE ENGINEER 48 HOURS IN ADVANCE TO SCHEDULE INSPECTION.
2. THE CONTRACTOR SHALL PERFORM AND INFILTRATION/EXFILTRATION TEST ON ALL GRAVITY SEWERS IN ACCORDANCE WITH THE REGULATION AGENCY HAVING JURISDICTION. SAID TESTS ARE TO BE CERTIFIED BY THE ENGINEER OF RECORD AND SUBMITTED TO THE REGULATORY AGENCY FOR APPROVAL. COORDINATION AND NOTIFICATION OF ALL PARTIES IS THE CONTRACTOR'S RESPONSIBILITY.
3. ALL FORCE MAINS SHALL BE SUBJECT TO A HYDROSTATIC PRESSURE TEST IN ACCORDANCE WITH THE REGULATORY AGENCY HAVING JURISDICTION. SAID TESTS ARE TO BE CERTIFIED BY THE ENGINEER OF RECORD AND SUBMITTED TO THE REGULATORY AGENCY FOR APPROVAL. COORDINATION AND NOTIFICATION OF ALL PARTIES IS THE CONTRACTOR'S RESPONSIBILITY.
4. THE CONTRACTOR SHALL PERFORM DEFLECTION TESTS ON ALL FLEXIBLE GRAVITY SEWERS AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. TO PERMIT STABILIZATION OF THE SOIL PIPE SYSTEM. THE MAXIMUM ALLOWABLE DEFLECTION IS 5% OF THE BARE INTERNAL PIPE DIAMETER. MANDREL OR RIGID BALL OUTSIDE DIAMETER SHALL BE AS FOLLOWS:
6" PIPE - 5.455 "
8" PIPE - 7.282 "
10" PIPE - 9.085 "
SECTION OF PIPE WHICH FAIL THE DEFLECTION TEST SHALL HAVE THE DEFECTS REPAIRED AND THE TEST REPEATED.

WORK IN PUBLIC RIGHTS-OF-WAY

1. ALL STRIPING SHALL BE THERMOPLASTIC AND SHALL MEET THE REQUIREMENTS OF F.D.O.T. & LOCAL REGULATORY AGENCY SPECIFICATIONS AND SUPPLEMENTS.
2. REFLECTIVE PAVEMENT MARKERS SHALL MEET THE REQUIREMENTS OF F.D.O.T. AND LOCAL REGULATORY AGENCY SPECIFICATIONS AND SUPPLEMENTS.
3. ALL SIGNS WITHIN FDOT RIGHT-OF-WAY SHALL MEET THE REQUIREMENTS OF F.D.O.T. S AND LOCAL REGULATORY AGENCY SPECIFICATIONS AND SUPPLEMENTS.
4. REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN ACCORDANCE WITH F.D.O.T. STANDARD PLANS No.706-001.
5. STRIPING WITHIN FDOT RIGHT-OF-WAY SHALL BE PLACED IN ACCORDANCE WITH F.D.O.T. STANDARD PLANS No. 711-001.
6. SIGNS WITHIN FDOT RIGHT-OF-WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH F.D.O.T. STANDARD PLANS No. 700-010 AND SHALL BE PLACED IN ACCORDANCE WITH F.D.O.T. STANDARD PLANS No. 700-101.
7. SIGNING AND STRIPING WITHIN F.D.O.T. RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
8. THE MAINTENANCE OF TRAFFIC IS TO BE PER FDOT STANDARD PLANS No. 102-600, 102-602 and No. 102-603.





AFFINE

CIVIL ENGINEERS

AFFINE ENGINEERING AND SURVEYING, INC

SURVEYORS

TELEPHONE NUMBER 407-421-5534

128 NW GREEN LN, LAKE CITY, FLORIDA 32055

CERTIFICATE OF AUTHORIZATION: No. 28140

PREPARED FOR:

GANSKOP PROPERTIES LLC

TURNER ROAD

NOTES(2)

DRAWING

23016-1

SHEET

13

DRAWN BY

WM

CHECKED BY

LJ

DATE

1/27/25

SCALE

1"=50'

JOB #

23016