City of Okeechobee
TECHNICAL REVIEW COMMITTEE
55 SOUTHEAST THIRD AVENUE ♦ OKEECHOBEE, FL 34974
September 16, 2021
LIST OF EXHIBITS

Application Site Plan Review Application No. 21-002-TRC

ENGINEERING

September 1, 2021

City of Okeechobee
55 SE 3rd Avenue
Okeechobee, FL 34974

Subject: **Loumax Development**

Dear TRC:

Please find below the questions received at TRC on July 15, 2021 concerning the above referenced project. Your comments on in regular type and responses are in italics:

1. Joinder/Unity of Title Must be completed.

   The Joinder/Unity of Title has been submitted to the City of Okeechobee and is being processed.

2. The applicant Please show the hydrants on the plans.

   There is an existing fire hydrant at the southwest corner of the project and it is shown on Sheet 2 of the plans. An additional hydrant will be installed near the existing FDC since the sprinkler system is going to be expanded to cover the additional building area. The location will be coordinated with the Okeechobee County Fire Department and Okeechobee Utility Authority

3. Please show FDC on Plans.

   FDC is located on the plans. As previously discussed, the existing FDC will be used as the existing sprinkler system will be expanded.

4. Increase the egress width of south drive to 20' minimum to comply with Fire Department Access to the site.

   The access has been increased to 20' minimum to comply with this requirement.

5. Existing gate and south gate to be fitted with Knox locks for fire department access.

   Both gates will be fitted with Knox locks as required.

6. The proposed culverts under the proposed access drives were reduced to 36" as discussed. David Allen requested they be A2000 material.

   The requested change has been made.

7. Look at replacing existing north access.

   To be discussed at the September TRC Meeting

8. Replace damaged sidewalks.

   The owner was planning this during construction.

9. 5' fence should extend to the east face of the proposed building.

1062 Jakes Way, Okeechobee, FL 34974
Phone: (863) 824-7644 **Cell:** (863) 634-0194
Email: sdobbs@stevedobbsengineering.com **Website:** www.SteveDobbsEngineering.com

This change has been reflected in the attached plans.

Should you have any questions or comments, please do not hesitate to call.

Sincerely,

Steven L. Dobbs Engineering

Steven L. Dobbs, P. E.
President

CC: Neal Markus
File

ENGINEERING

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Construction Plans
FOR
Loumax Development Inc.
Proposed Site Development

City of Okeechobee, Florida

DESCRIPTION:
LOTS 1 THROUGH 6, INCLUSIVE, BLOCK 190, OKEECHOBEE, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 5, PAGE 5 OF THE PUBLIC RECORDS OF OKEECHOBEE COUNTY, FLORIDA.

AND

ALL OF BLOCK 191, OKEECHOBEE, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 5, PAGE 5 OF THE PUBLIC RECORDS OF OKEECHOBEE COUNTY, FLORIDA.

AND

A PORTION OF THE FLORIDA EAST COAST RAILWAY COMPANY RIGHT-OF-WAY, SINCE ABANDONED, AND OF NORTH CURVE STREET, SINCE ABANDONED, AS SHOWN ON PLAT OF FIRST ADDITION TO OKEECHOBEE, FLORIDA, AS RECORDED IN PLAT BOOK 5, PAGE 6, OF THE PUBLIC RECORDS OF OKEECHOBEE COUNTY, FLORIDA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE INTERSECTION OF THE NORTH RIGHT-OF-WAY (R/W) LINE OF SW 6TH STREET WITH THE WEST R/W OF SW 7TH AVENUE; THENCE NORTH 00°08'53" WEST ALONG THE WEST R/W LINE OF SAID SW 7TH AVENUE, A DISTANCE OF 76.17 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 89°49'42" WEST, A DISTANCE OF 199.99 FEET TO THE INTERSECTION WITH THE NORTHERLY EXTENSION OF THE WEST LINE OF BLOCK 251 OF SAID PLAT OF FIRST ADDITION TO OKEECHOBEE; THENCE NORTH 00°08'48" WEST ALONG SAID NORTHERLY EXTENSION, A DISTANCE OF 693.57 FEET TO THE INTERSECTION WITH THE WESTERLY EXTENSION OF THE NORTH R/W LINE OF SW 4TH STREET; THENCE NORTH 89°47'29" EAST ALONG SAID WESTERLY EXTENSION, A DISTANCE OF 60.00 FEET TO THE NORTHWEST CORNER OF SW 4TH STREET; THENCE SOUTH 00°08'48" EAST ALONG THE WEST R/W LINE OF SW 4TH STREET, A DISTANCE OF 100.00 FEET TO THE NORTHWEST CORNER OF LOT 1, BLOCK 190, OKEECHOBEE, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 5, PAGE 5, OF THE PUBLIC RECORDS OF OKEECHOBEE COUNTY, FLORIDA, SAID POINT BEING A POINT OF CURVATURE OF A CURVE TO THE LEFT AND HAVING FOR ITS ELEMENTS, A CENTRAL ANGLE OF 27°36'08 AND A RADIUS OF 1230.00 FEET; THENCE SOUTHEASTERLY ALONG SAID CURVE, AN ARC DISTANCE OF 592.55 FEET TO THE SOUTHEAST CORNER OF BLOCK 191 OF SAID PLAT OF OKEECHOBEE; THENCE SOUTH 00°08'53" EAST ALONG THE WEST R/W LINE OF SAID SW 7TH AVENUE, A DISTANCE OF 23.65 FEET TO THE POINT OF BEGINNING.

AND

THAT PORTION OF SOUTHWEST 4TH STREET (F/K/A FIFTH AVENUE), FROM SOUTHWEST 7TH AVENUE WESTWARD TO DEAD-END, BEING APPROXIMATELY 100 FEET WIDE BY 140 FEET LONG, AND LYING NORTH OF LOT 1 OF BLOCK 190, CITY OF OKEECHOBEE, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 5, PAGE 5, PUBLIC RECORDS OF OKEECHOBEE COUNTY, FLORIDA; TOGETHER WITH THAT PORTION OF SOUTHWEST 5TH STREET (F/K/A FOURTH STREET), FROM SOUTHWEST 7TH AVENUE WESTWARD TO DEAD-END, BEING APPROXIMATELY 70 FEET WIDE BY 103 FEET LONG, AND LYING NORTH OF BLOCK 191, CITY OF OKEECHOBEE, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 5, PAGE 5, PUBLIC RECORDS OF OKEECHOBEE COUNTY, FLORIDA.

AND

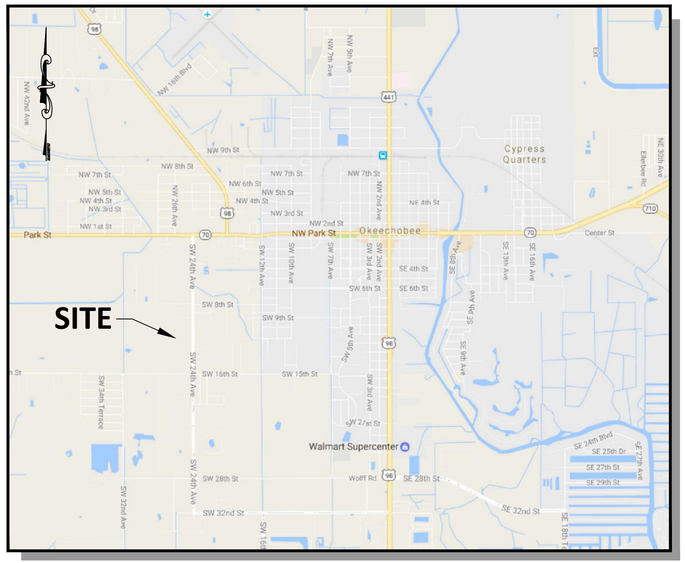
THE SOUTH 297.0 FEET OF THE FOLLOWING DESCRIBED PARCEL A; THE NORTH LINE OF SAID SOUTH 297.0 FEET BEING PARALLEL TO THE NORTHERLY RIGHT-OF-WAY LINE OF S.W. 4TH STREET AND LYING 20.0 FEET SOUTH OF, AS MEASURED AT RIGHT ANGLES TO, THE SOUTH WALL OF AN EXISTING BUILDING.

PARCEL A
COMMENCE AT THE SOUTHWEST CORNER OF THE INTERSECTION OF THE WEST LINE OF OKEECHOBEE AVENUE (S.W. 7TH AVENUE) AND THE SOUTH LINE OF SOUTH PARK STREET (PRIOR TO ROAD VACATION), AS SHOWN ON THE PLAT OF OKEECHOBEE RECORDED IN PLAT BOOK 5, PAGE 5 OF THE PUBLIC RECORDS OF OKEECHOBEE COUNTY, FLORIDA; THENCE DUE WEST ALONG SAID SOUTH BOUNDARY OF SOUTH PARK STREET A DISTANCE OF 218.90 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 07°05'27" EAST A DISTANCE OF 302.95 FEET; THENCE SOUTH 07°12'09" EAST A DISTANCE OF 70.54 FEET TO A POINT LYING ON THE SOUTHERLY RIGHT-OF-WAY LINE OF S.W. 2ND STREET; THENCE NORTH 89°54'07" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 172.97 FEET TO THE INTERSECTION OF THE WESTERLY RIGHT-OF-WAY LINE OF OKEECHOBEE AVENUE (S.W. 7TH AVENUE); THENCE SOUTH 00°02'10" EAST ALONG SAID WESTERLY RIGHT-OF-WAY LINE OF OKEECHOBEE AVENUE (S.W. 7TH AVENUE) A DISTANCE OF 670.00 FEET TO THE INTERSECTION OF THE NORTHERLY RIGHT-OF-WAY LINE OF S.W. 4TH STREET; THENCE SOUTH 89°54'07" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 241.18 FEET TO THE INTERSECTION OF THE EASTERLY RIGHT-OF-WAY LINE OF THE SCL RAILROAD MAIN TRACK, SAID LINE BEING 10 FEET EAST OF THE CENTERLINE OF SAID MAIN TRACK; THENCE NORTH 00°04'14" EAST 10 FEET EAST OF AND PARALLEL TO THE CENTERLINE OF SAID MAIN TRACK A DISTANCE OF 1041.09 FEET TO A POINT LYING ON THE SOUTHERLY RIGHT-OF-WAY LINE OF SOUTH PARK STREET; THENCE DUE EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 20.26 FEET TO THE POINT OF BEGINNING.

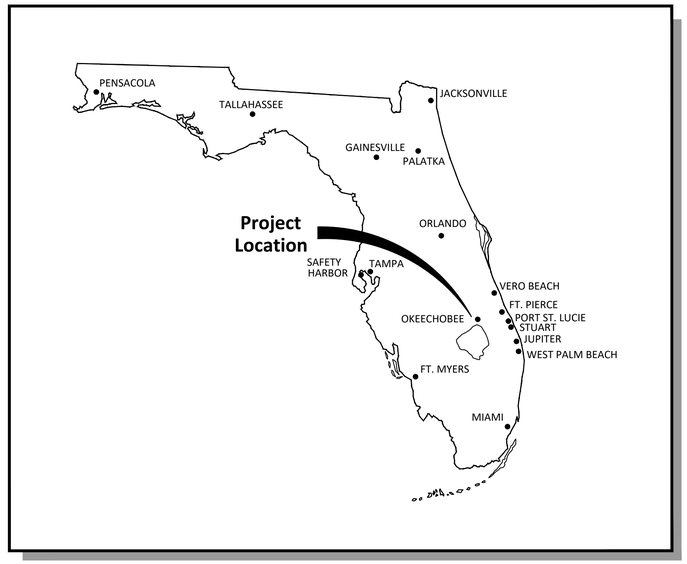
PROJECT SPECIFIC NOTES:
1) UNLESS SHOWN OTHERWISE, ALL DIMENSIONS ARE CALCULATED(C) AND MEASURED(M).
2) SITE ADDRESS: 312 SW 7TH AVENUE.
3) THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
4) F.I.R.M. ZONE: "X", MAP NO. 12093C0480C, DATED 07/16/15.
5) THIS SURVEY IS NOT INTENDED TO DEPICT JURISDICTIONAL AREAS OR OTHER AREAS OF LOCAL CONCERN.
6) SURVEYOR ASSUMES NO RESPONSIBILITY OR LIABILITY FOR THE ACCURACY OF EASEMENT DIMENSIONS SHOWN HEREON, THERE MAY BE OTHER EASEMENTS OR RESTRICTIONS THAT EFFECT THIS PARCEL.
7) THE SURVEY DEPICTED HERE IS NOT COVERED BY PROFESSIONAL LIABILITY INSURANCE.
8) ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.
9) THE DESCRIPTION SHOWN HEREON WAS PREPARED BY THE CLIENT OR THE CLIENT'S REPRESENTATIVE.
10) BEARING REFERENCE: THE WEST RIGHT-OF-WAY LINE OF SW 7TH AVENUE IS TAKEN TO BEAR SOUTH 00°08'53" EAST.
11) DATE OF LAST FIELD SURVEY: 10/28/20.

TRADEWINDS SURVEYING SERVICES, LLC.
200 S.W. 3rd Avenue
Okeechobee, FL. 34974
Tel: (863) 763-2887
Fax: (863) 763-4342
Email: kab.twps@yahoo.com

Richard Barnes, III, PSM 7074



LOCATION MAP
SCALE: N.T.S.



VICINITY MAP
SCALE: N.T.S.

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Steven L. Dobbs Engineering, LLC
Consulting Engineers
1062 Jakes Way - Okeechobee, FL 34974
Phone: (863) 824-7644
FLORIDA CERTIFICATE OF AUTHORIZATION No. 00029206

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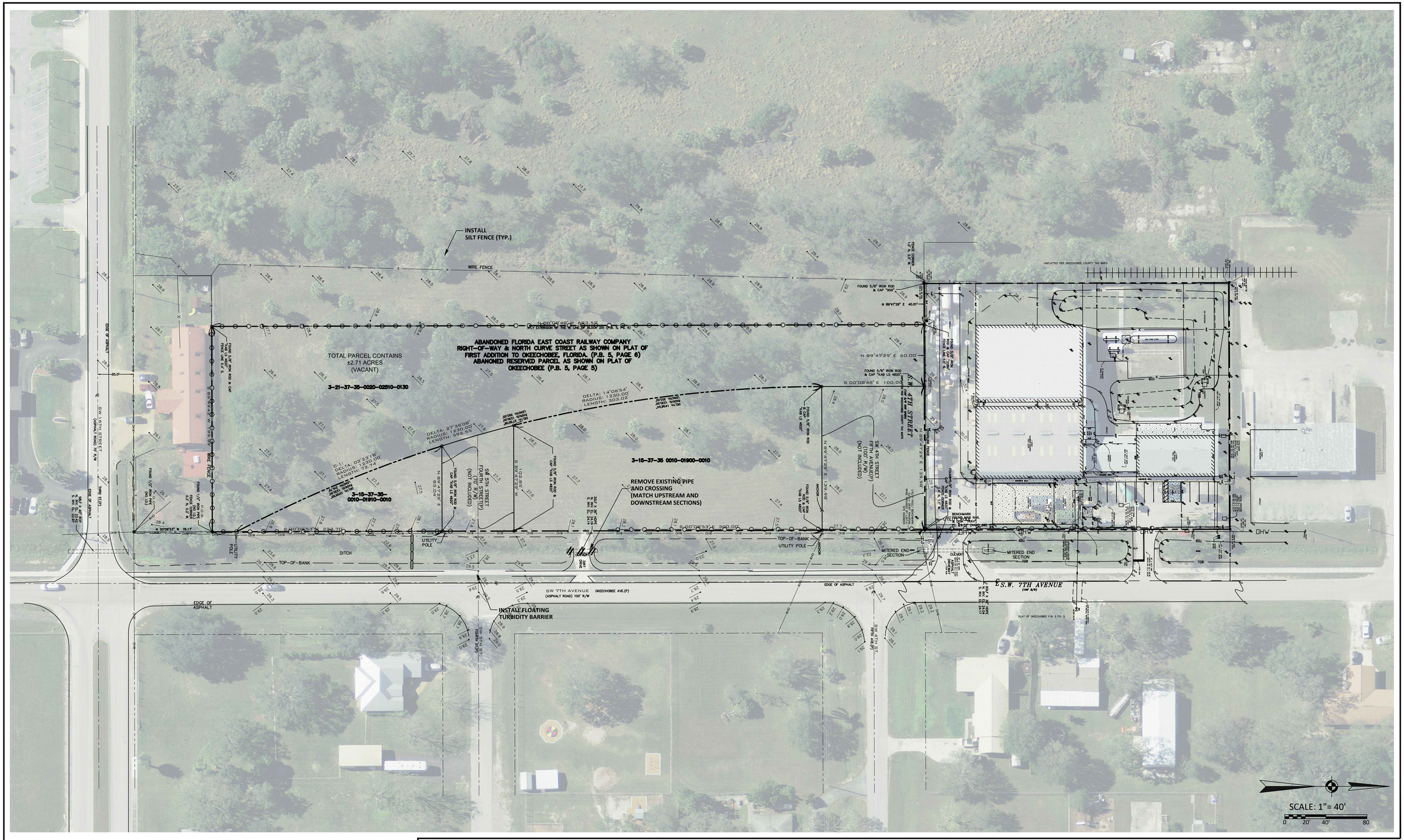
Sunshine State One Call 811 of Florida, Inc.

Loumax Development Inc
ENGINEERS PROJECT No. 2019-043



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FLORIDA CERTIFICATE OF AUTHORIZATION No. 00029206

No.	DATE	BY	REVISIONS

LOUMAX DEVELOPMENT, INC.
PROPOSED SITE IMPROVEMENTS
LOCATED IN THE CITY OF OKEECHOBEE

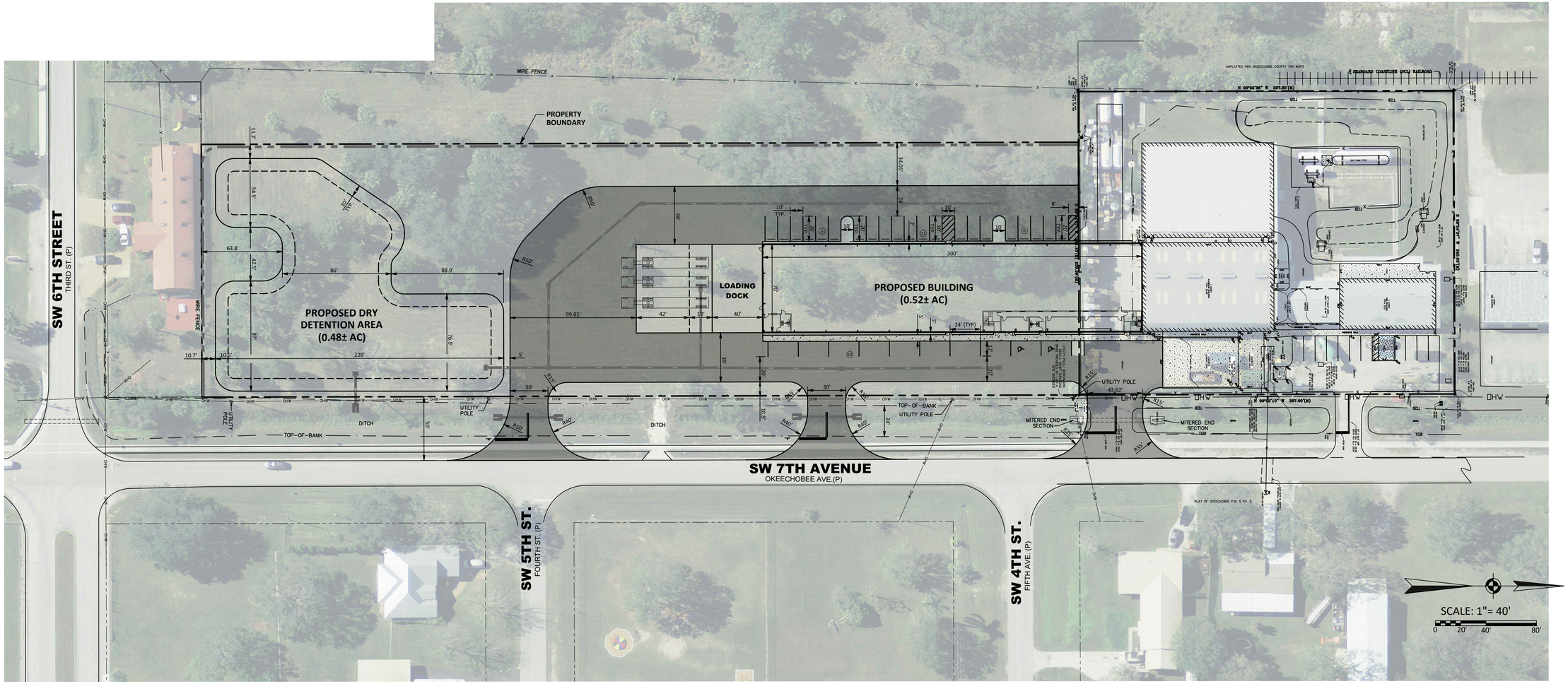
EXISTING CONDITION, DEMOLITION, AND SEDIMENT CONTROL PLAN

CALL 48 HOURS BEFORE YOU DIG IN FLORIDA, IT'S THE LAW
Sunshine State One Call 811 of Florida, Inc.

JOB No.: 2019-043
SHEET 2 OF 12

Project Name:	Ecotech 2020 Expansion					
Owner Name:	Loumax Development, Inc.					
Owner Address:	PO Box 5501, Ft. Lauderdale, FL 33310					
Owner Phone:	305-922-7645					
Engineer Name:	Steven L. Dobbs Engineering, LLC					
Engineer Address:	1062 Jakes Way, Okeechobee, FL 34974					
Engineer Phone:	863-824-7644					
Architect Name:	N/A					
Architect Address:						
Architect Phone:		0.11	1.32	36	37.32	37.5	-0.18
Planner Name:	N/A				4.976		
Planner Address:							
Planner Phone:							

	Existing Site	Proposed Site	Total
Future Land Use:	Industrial	Industrial	Industrial
Zoning:	Industrial	Industrial	Industrial
Min Lot Width:	N/A ft	N/A ft	N/A ft
Proposed lot Width:	297.0 ft	693.6 ft	693.6 ft
Min Lot Size:	N/A sf	N/A sf	N/A sf
Proposed lot size:	71,438.0 sf 1.64	138,707.0 sf 3.18	210,145.0 sf 4.82
Project Size	71,438.0 SF	138,707.0 SF	210,145.0 SF
Total Dwelling Units:	N/A	N/A	N/A
Setbacks:			
	Front Req 25 / Provided 30	Front Req 25 / Provided 49	Front Req 25 / Provided 49
	N. Side Req 15 / Provided 15	N. Side Req 15 / Provided N/A	N. Side Req 15 / Provided N/A
	S. Side Req 40 / Provided N/A	S. Side Req 40 / Provided 444.3	S. Side Req 40 / Provided 444.3
	Rear Req 40 / Provided 40	Rear Req 40 / Provided 75.2	Rear Req 40 / Provided 75.2
Parking:			
Industrial	1 space per 300 sf Office/Support 300 sf per 1 sp.	1 space per 300 sf Office/Support 300 sf per 1 sp.	1 space per 300 sf Office/Support 300 sf per 1 sp.
	Office/Support Area 600 sf	Office/Support Area 2000 sf	Office/Support Area 2600 sf
	1 space per 1,000 sf Warehouse 1000 sf per 1 sp.	1 space per 1,000 sf Warehouse 1000 sf per 1 sp.	1 space per 1,000 sf Warehouse 1000 sf per 1 sp.
	Warehouse Area 17000	Warehouse Area 20651	Warehouse Area 37651
	Required Parking: 19 spaces	Required Parking: 27 spaces	Required Parking: 46 spaces
Handicapped Parking	1 space per every 25 spaces minimum 1		
	Required Handicapped Parking 1	Required Handicapped Parking 2	Required Handicapped Parking 3
	Hanicapped Parking Provided 1	Hanicapped Parking Provided 2	Hanicapped Parking Provided 3
	Total Parking Required 19	Total Parking Required 27	Total Parking Required 46
	Parking Provided 22	Parking Provided 42	Parking Provided 56
Coverage			
	Allowed 50%	Allowed 50%	Allowed 50%
	Proposed 27%	Proposed 16%	Proposed 20%
Impervious Area			
	Allowable Impervious Area: 85%	Allowable Impervious Area: 85%	Allowable Impervious Area: 85%
	Proposed ISR 96%	Proposed ISR 42%	Proposed ISR 47%



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No.	DATE	BY	REVISIONS

LOUMAX DEVELOPMENT, INC.
PROPOSED SITE IMPROVEMENTS
LOCATED IN THE CITY OF OKEECHOBEE

COMBINED EXISTING AND PROPOSED SITE PLAN

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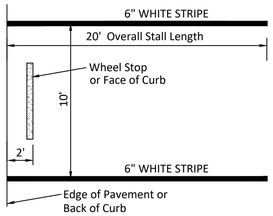
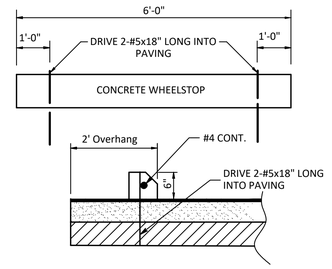
JOB No.: 2019-043
SHEET 3 OF 12



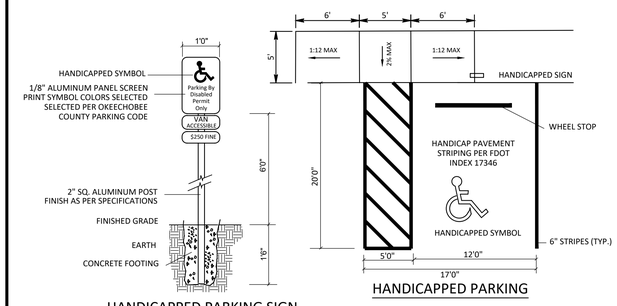
TYPICAL PARKING STALL W/ WHEEL STOP

FOR PAVED AREAS - N.T.S.



TYPICAL WHEELSTOP DETAIL

FOR PAVED AREAS - N.T.S.



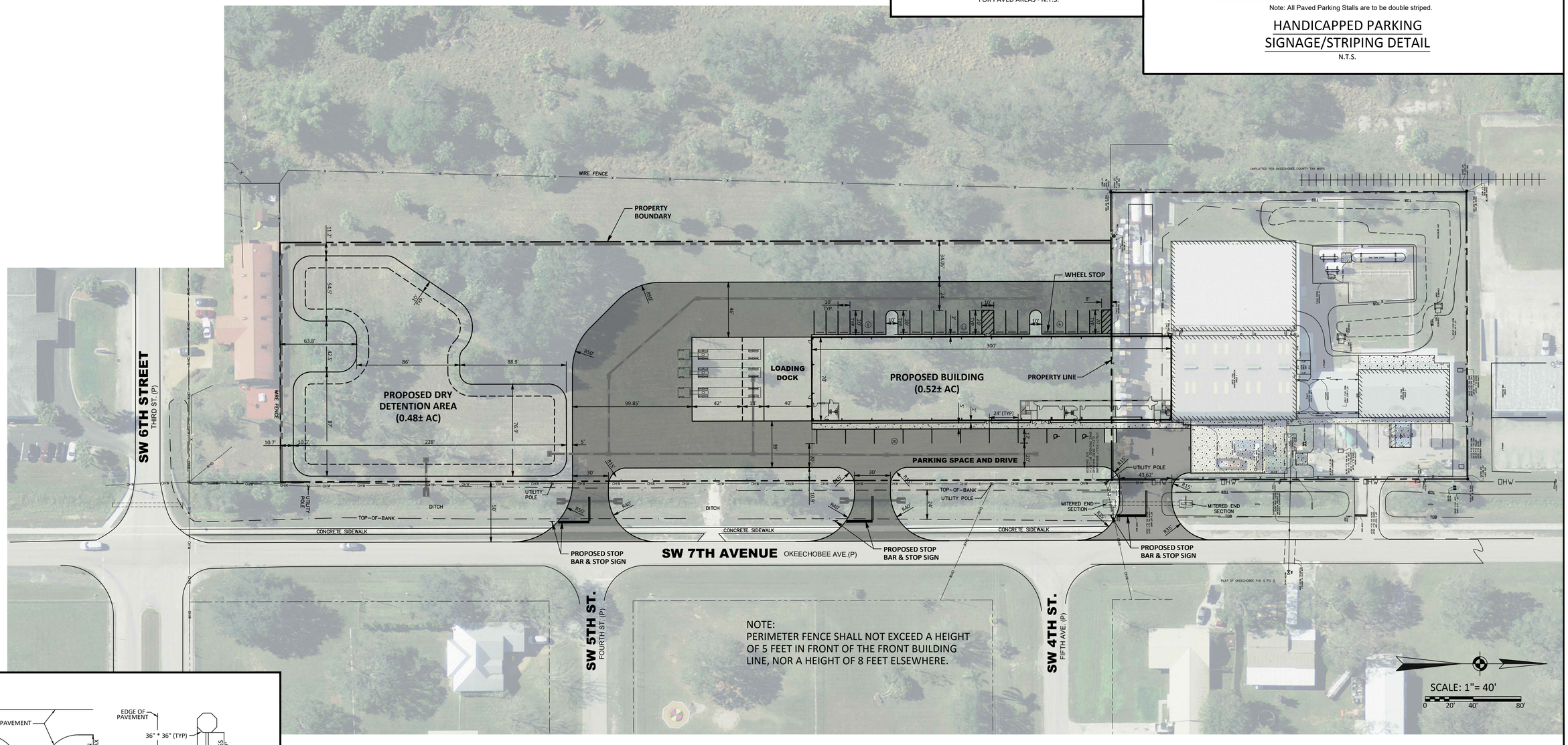
HANDICAPPED PARKING SIGN

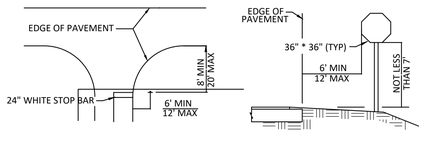
HANDICAPPED PARKING

Note: All Paved Parking Stalls are to be double striped.

HANDICAPPED PARKING SIGNAGE/STRIPING DETAIL

N.T.S.





STOP SIGN LOCATION DETAIL

N.T.S.

Steven L. Dobbs Engineering, LLC
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No.	DATE	BY	REVISIONS

LOUMAX DEVELOPMENT, INC.
PROPOSED SITE IMPROVEMENTS
LOCATED IN THE CITY OF OKEECHOBEE

HORIZONTAL CONTROL STRIPING & SIGNAGE PLAN

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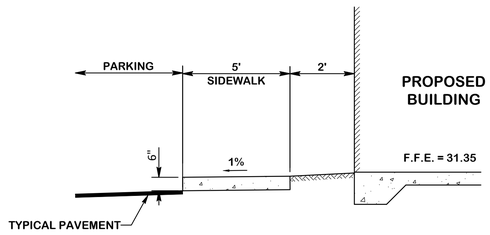
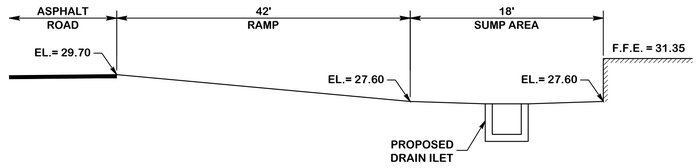
JOB No.: 2019-043
SHEET 4 OF 12



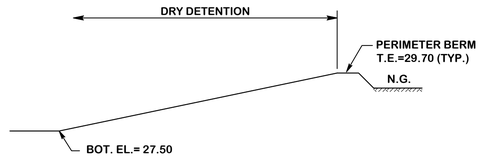
SECTION A-A

N.T.S.



SECTION B-B

N.T.S.



SECTION C-C

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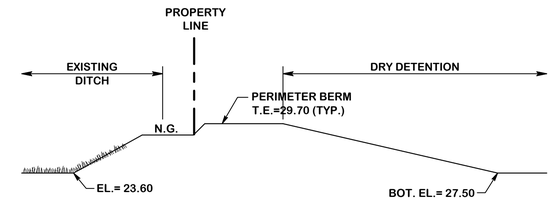

SECTION D-D

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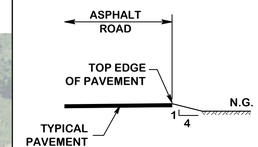

SECTION E-E

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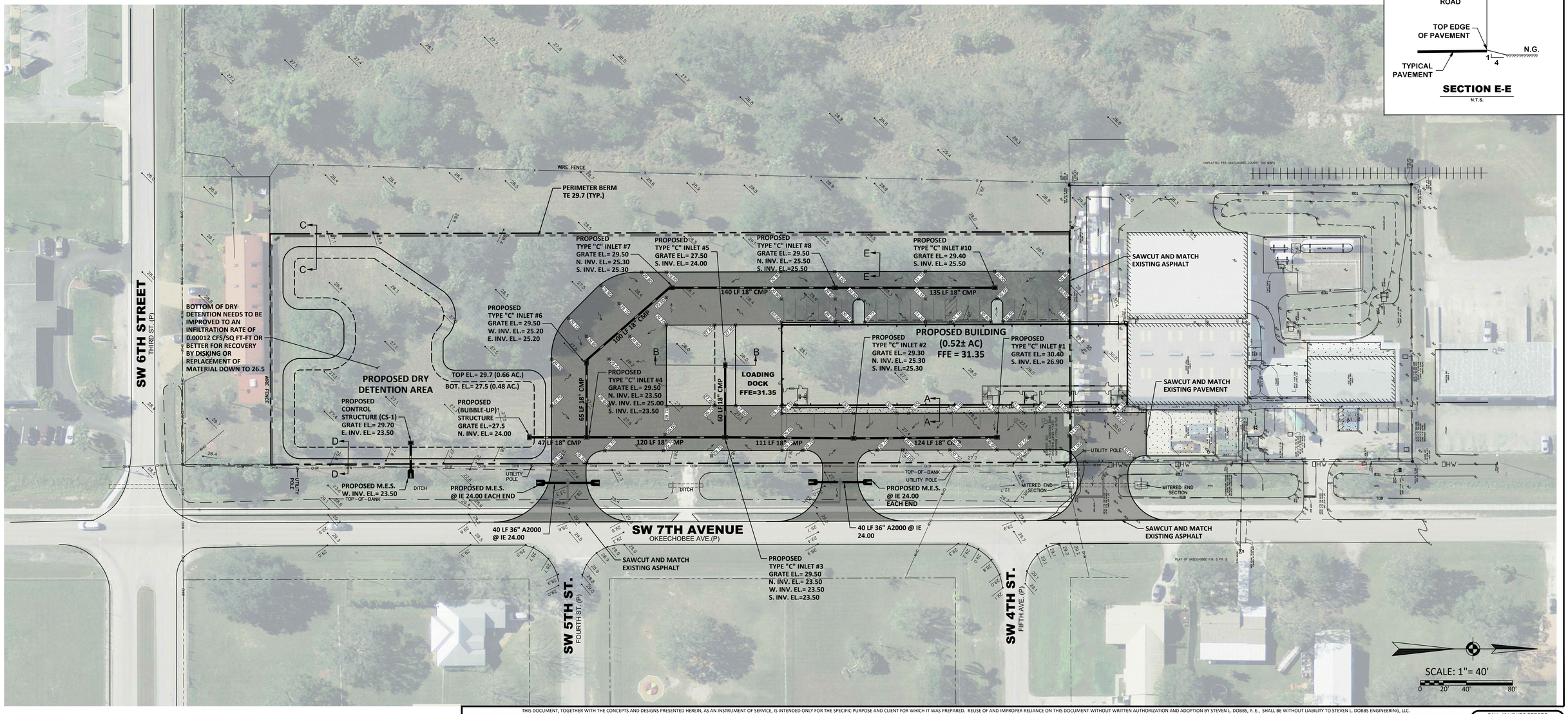

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No.	DATE	BY	REVISIONS

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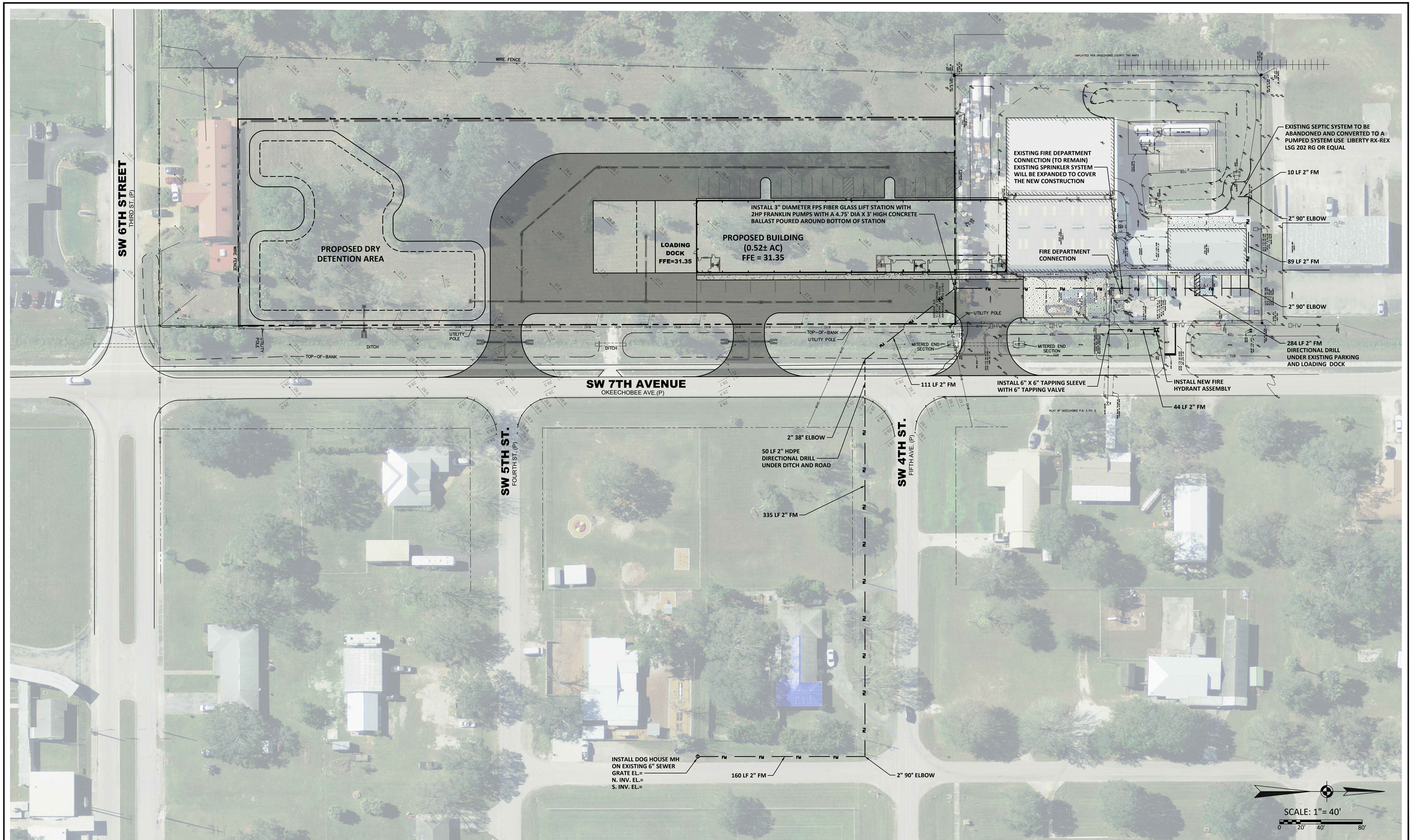
LOUMAX DEVELOPMENT, INC.
PROPOSED SITE IMPROVEMENTS

LOCATED IN THE CITY OF OKEECHOBEE

PAVING, GRADING AND DRAINAGE PLAN

JOB No.: 2019-043
SHEET 5 OF 12



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UTILITIES

CALL 48 HOURS BEFORE YOU DIG IN FLORIDA, IT'S THE LAW
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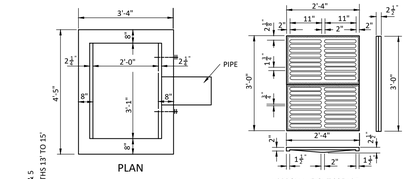
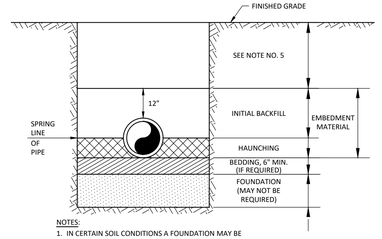
JOB No.: 2019-043
SHEET 6 OF 12



NOTICE:
1.) STEEL GRATES ARE REQUIRED ON INLETS WITH TRAVERSABLE SLOTS AND ON INLETS WHERE BICYCLE TRAFFIC IS ANTICIPATED.
2.) ALL INLETS WILL BE CAST TO PROVIDE A 18" SUMP BELOW LOWEST CULVERT INVERT

PRE-CAST TYPE 'C' CATCH BASIN

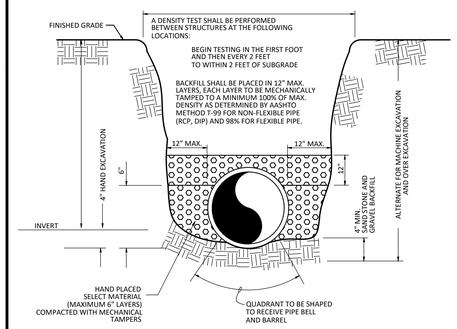
N.T.S.



NOTES:
1. IN CERTAIN SOIL CONDITIONS A FOUNDATION MAY BE REQUIRED.
2. BEDDING IS REQUIRED PRIMARILY TO BRING THE TRENCH BOTTOM UP TO GRADE. BEDDING MATERIALS SHALL PROVIDE A UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE.
3. HAUNCHING MATERIAL SHALL BE HAND PLACED TO THE SPRINGLINE OF THE PIPE. MATERIAL SHALL BE CONSOLIDATED UNDER THE PIPE AND HAND TAMPED TO PROVIDE ADEQUATE SIDE SUPPORT.
4. INITIAL BACKFILL MATERIAL SHALL BE HAND PLACED TO 12" ABOVE THE TOP OF PIPE. THE SOIL SHALL BE COMPACTED.
5. BACKFILL SHALL BE COMPACTED TO 100% OF MAX. DENSITY AS PER AASHTO T-99, TO A POINT 30" BELOW PROPOSED PROFILE GRADE OR EXISTING GRADE. THE FINAL 30" OF BACKFILL SHALL BE COMPACTED TO 98% OF MAX. DENSITY AS PER AASHTO T-180.
6. DENSITY TEST SHALL BE PREFORMED AT AREAS DETERMINED BY THE UTILITIES ENGINEER OR PERMIT AGENCY HAVING JURISDICTION, AT THE CONTRACTOR'S EXPENSE.

BACKFILLING REQUIREMENTS

N.T.S.



NOTE: IF PIPE IS NOT UNDER PROPOSED PAVEMENT, BACKFILL SHALL BE COMPACTED TO A FIRMNESS APPROXIMATELY EQUAL TO THAT OF THE SOIL ADJACENT TO THE PIPE TRENCH.

TYPICAL TRENCH DETAIL

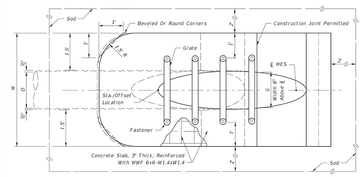
N.T.S.

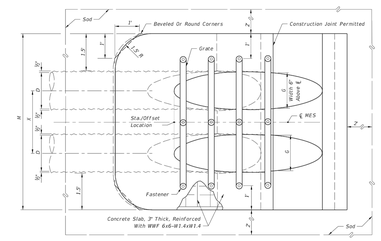
DIMENSIONS & QUANTITIES

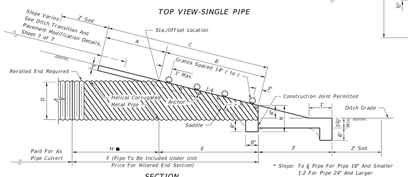
D	X	A	B	C	E	F	G	H ■	M Single Pipe	M Double Pipe	M Triple Pipe	M Quad. Pipe	N	GRATE SIZES Standard Weight Pipe	GRATE SIZES Extra Strong Pipe	CONCRETE (CY) Single Pipe	CONCRETE (CY) Double Pipe	CONCRETE (CY) Triple Pipe	CONCRETE (CY) Quad. Pipe	SODDING (SY) Single Pipe	SODDING (SY) Double Pipe	SODDING (SY) Triple Pipe	SODDING (SY) Quad. Pipe
8"	2'-0"	2.5'	0.72'	3.22'	0.7'	4.0'	0.58'	3.3'	3.75'	5.75'	7.75'	9.75'	1.04'			0.52	0.90	1.22	1.54	7	8	8	9
10"	2'-2"	2.5'	1.34'	3.84'	1.3'	5.0'	0.81'	3.7'	3.92'	6.08'	8.25'	10.41'	1.04'			0.64	0.99	1.34	1.70	7	8	9	10
12"	2'-4"	2.5'	2.06'	4.56'	2.0'	6.0'	1.00'	4.0'	4.08'	6.42'	8.75'	11.08'	1.04'			0.68	1.09	1.48	1.88	7	8	10	11
15"	2'-7"	2.5'	3.09'	5.59'	3.0'	7.0'	1.23'	4.0'	4.33'	6.92'	9.50'	12.08'	1.04'			0.64	1.00	1.35	1.71	8	9	10	11
18"	2'-10"	2.5'	4.12'	6.62'	4.0'	8.0'	1.41'	4.0'	4.58'	7.42'	10.25'	13.08'	1.04'			0.69	1.09	1.49	1.89	9	10	11	12
24"	3'-5"	2.5'	6.18'	8.68'	6.0'	10.0'	1.73'	4.0'	5.08'	8.50'	11.92'	15.33'	1.04'			0.83	1.34	1.82	2.34	10	11	13	14
30"	4'-1"	2.5'	8.25'	10.75'	8.0'	12.0'	2.00'	4.0'	5.58'	9.83'	14.08'	18.33'	1.04'	2'0"	3"	0.96	1.63	2.32	2.99	11	13	15	17
36"	5'-1"	2.5'	10.31'	12.81'	10.0'	14.0'	2.24'	4.0'	6.08'	11.17'	16.25'	21.33'	1.04'	2'0"	3"	1.08	1.92	2.77	3.62	12	14	17	19
42"	6'-0"	2.5'	12.37'	14.87'	12.0'	16.0'	2.45'	4.0'	6.58'	12.58'	18.58'	24.58'	1.04'	2'0"	3½"	1.20	2.26	3.34	4.41	13	16	18	21
48"	6'-9"	2.5'	14.43'	16.93'	14.0'	18.0'	2.65'	4.0'	7.08'	13.83'	20.58'	27.33'	1.04'	2'0"	3½"	1.60	3.11	4.62	6.12	14	17	20	23
54"	7'-8"	2.5'	16.49'	18.99'	16.0'	20.0'	2.83'	4.0'	7.58'	15.25'	22.92'	30.58'	1.04'	3"	4"	1.76	3.56	5.34	7.14	15	19	22	26
60"	8'-4"	2.5'	18.55'	21.05'	18.0'	22.0'	3.00'	4.0'	8.08'	16.58'	25.08'	33.58'	1.04'	3"	4"	1.94	4.03	6.12	8.20	17	20	24	28

■ Values shown for estimating pipe quantities and are for information only.

REMARKS: These sizes are restricted to inlet and outlet treatment for water management systems or similar applications.



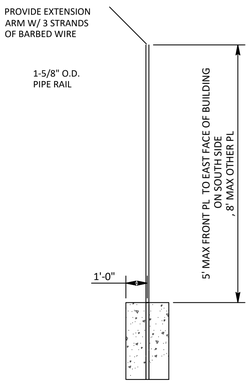




NOTE: See Sheets 6 and 7 for details and general notes.

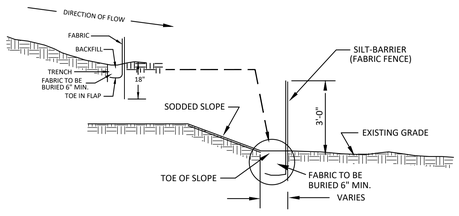
SINGLE AND MULTIPLE ROUND CORRUGATED METAL PIPE

LAST REVISION	DESCRIPTION:	FDOT FY 2017-18 DESIGN STANDARDS	SIDE DRAIN MITERED END SECTION	INDEX NO.	SHEET NO.
11/01/16	07/01/17			273	2 of 7

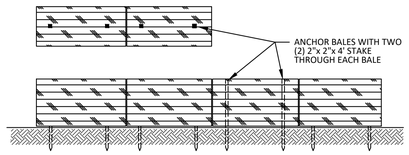


PERIMETER FENCE DETAIL INSTALLATION

N.T.S.



FABRIC FENCE SILT-BARRIER



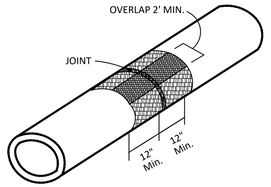
BALED HAY SILT-BARRIER

PERIMETER EROSION AND SEDIMENT CONTROL

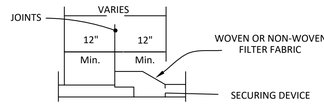
NOTES:
1. CONTRACTOR IS REQUIRED TO PREVENT ANY SEDIMENT TRANSPORT FROM THE PROJECT SITE ON TO ADJACENT PROPERTY. INSTALLATION OF EITHER BALED HAY HAY OR FABRIC FENCE TYPE SILT BARRIER IS ACCEPTABLE. THE BARRIER MUST REMAIN IN PLACE UNTIL UPLAND VEGETATION IS ESTABLISHED.
2. BEFORE REMOVING SILT BARRIER, CONTRACTOR SHALL COLLECT AND DISPOSE OF ANY ACCUMULATED SILT.

SILT FENCE DETAIL

N.T.S.

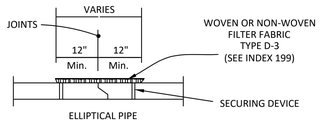


ISOMETRIC VIEW



ROUND PIPE PIPE SECTIONS

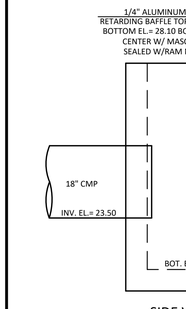
COST OF FILTER FABRIC JACKET TO BE INCLUDED IN COST OF PIPE CULVERTS FOR ALL PIPE TYPES



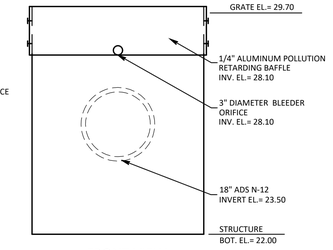
ELLIPTICAL PIPE

FILTER FABRIC JACKET

N.T.S.



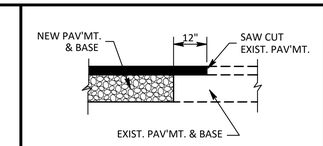
SIDE VIEW



FRONT VIEW

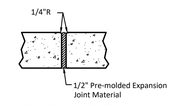
CONTROL STRUCTURE CS-1
TYPE "C" INLET (MODIFIED)

N.T.S.

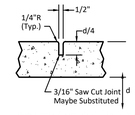


SAW CUT DETAIL

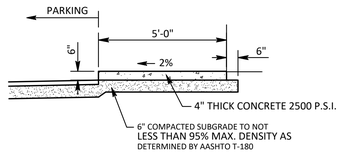
N.T.S.



EXPANSION JOINTS



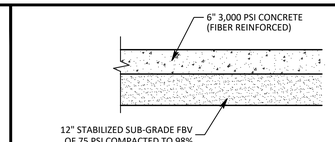
CONTRACTION JOINTS



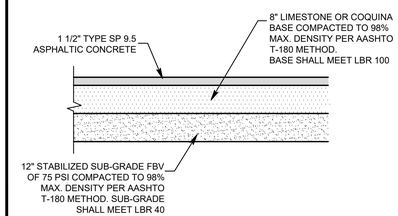
NOTES:
1. Provide expansion joints 20' center to center, at PC & PT of curves, junctions of existing & new sidewalks, and where sidewalk abuts curbs, driveways & similar structures.
2. Provide contraction joints 5' center to center.
3. Sod shall be placed below edge of sidewalk to allow drainage.

TYPICAL SIDEWALK

N.T.S.



CONCRETE PAVEMENT SECTION



PAVEMENT SECTION

Steven L. Dobbs Engineering, LLC
1062 JAKES WAY
Okeechobee, Fl 34974
Phone: (863) 824-7644
FLORIDA CERTIFICATE OF AUTHORIZATION No. 00029206

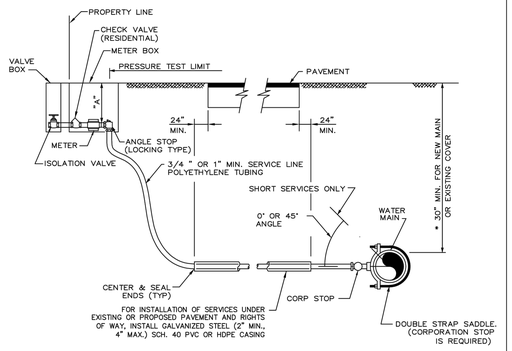
No.	DATE	BY	REVISIONS

LOUMAX DEVELOPMENT, INC.
PROPOSED SITE IMPROVEMENTS
LOCATED IN THE CITY OF OKEECHOBEE

SITE DETAILS

CALL 48 HOURS BEFORE YOU DIG IN FLORIDA, IT'S THE LAW
Sunshine State One Call 811 of Florida, Inc.

JOB No.: 2019-043
SHEET 7 OF 12



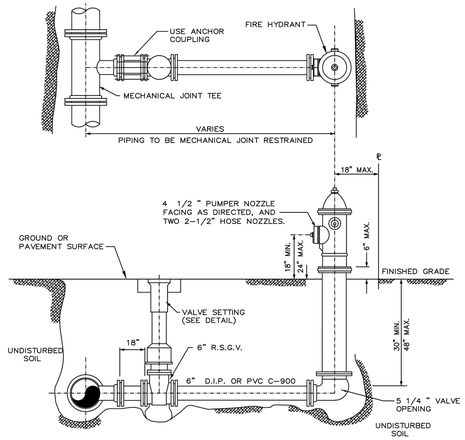
NOTES:

1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" APART. TAPS SPACED BETWEEN 18" TO 48" SHALL BE OFFSET TO EACH SIDE OF THE MAIN, OR OFFSET 45°.
2. METER BOX SHALL BE SET TO CONFORM TO FINISHED GRADE ADJACENT TO PROPERTY LINE. METER BOX SHALL NOT BE PLACED IN SIDEWALK OR DRIVEWAY AREAS. SERVICE LINES SHALL NOT BE PLACED UNDER DRIVEWAYS.
3. SERVICE CONNECTION TUBING TO BE POLYETHYLENE AND MAXIMUM LENGTH OF 100'.
4. ALL 5/8 " & 1" METERS REQUIRE A 3/4 " & 1" LOCKING ANGLE METER VALVE RESPECTIVELY.
5. AFTER METER INSTALLATION, INSTALL LINE VALVE IN CUSTOMER SERVICE LINE.
6. DIMENSION "A" = 7" (5/8" X 3/4" METER)
   = 8" (1" METER)
7. CONTRACTOR TO PROVIDE & INSTALL ENTIRE WATER SERVICE UP TO ANGLE STOP INCLUDING METER BOX.
8. OUA TO PROVIDE AND INSTALL METER.
9. OUA TO INSTALL IN-LINE DUAL CHECK VALVE (RESIDENTIAL).
10. OUA TO INSTALL ISOLATION VALVE & BOX ON CUSTOMER SIDE OF METER INSTALLATION.

* 36" MIN. IN STATE ROAD R/W & UNDER ASPHALT

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION OCT. 2015	TYPICAL SERVICE CONNECTION (UNDERGROUND) FOR 5/8" x 3/4" OR 1" METER	PAGE No D1

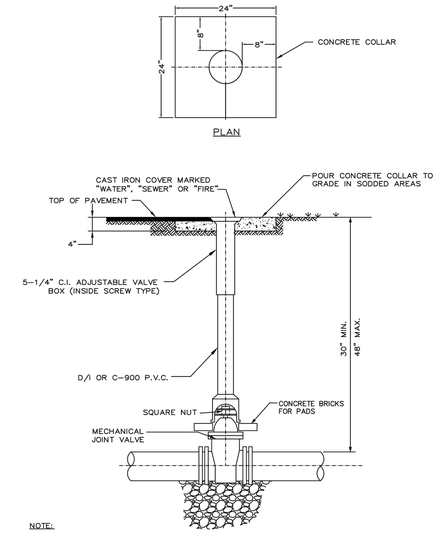


NOTES:

1. HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
2. THE MODEL COLOR TO BE SAFETY YELLOW, HYDRANT SHALL BE PER OUA REQUIREMENTS.
3. VALVE SHALL BE PLACED ADJACENT TO MAIN, TIED TO TEE.
4. ANCHOR TEES ARE PERMITTED.
5. ALL HYDRANTS SHALL BE TEE'D OFF MAINS.
6. HYDRANTS SHALL NOT BE PLACED IN SIDEWALKS, ROADWAYS OR BIKEPATHS.
7. MEGALUGS ON ALL FITTINGS.
8. HYDRANTS SHALL BE BAGGED UNTIL SYSTEM IS PLACED IN SERVICE.

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

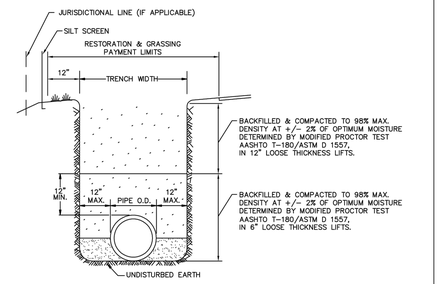
REVISION OCT. 2015	TYPICAL FIRE HYDRANT ASSEMBLY	PAGE No D11



NOTE:
VALVE NUT EXTENSION IS REQUIRED ON ALL VALVES WITH MORE THAN 36" OF COVER. EXTEND NUT TO WITHIN 18" OF VALVE BOX RIM. PROVIDE SOLID BRICK PAD FOR VALVE BOX TO SIT ON.

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION OCT. 2015	TYPICAL VALVE SETTING	PAGE No D12



NOTES:

1. BACKFILL MATERIALS SHALL CONSIST OF CLEAN EARTH FILL COMPRISED OF SAND, SAND AND CLAY, GRAVEL, CRUSHED ROCK OR OTHER MATERIALS FROM GROUPS A-1, A-2 OR A-3, AASHTO CLASSIFICATION, FREE FROM ORGANIC MATTER AND VEGETATION, DEBRIS, LARGE CLODS OF EARTH OR STONES. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS, LARGE ROCKS AND ROOTS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
2. THE PIPE SHALL BE FULLY SUPPORTED ALONG ENTIRE LENGTH.
3. THE PIPE TRENCH SHALL REMAIN DRY DURING PIPE LAYING OPERATIONS.
4. ALL TRENCH WORK SHALL CONFORM TO LATEST STANDARDS AS SET FORTH BY THE FLORIDA TRENCH SAFETY ACT AND OR OSHA.
5. FOUR INCH WIDE DETECTABLE TAPE SHALL BE PLACED APPROXIMATELY 12"-18" BELOW FINISHED GRADE AND DIRECTLY ABOVE ALL PRESSURE PIPING. TAPE, WORDING AND COLOR SHALL CONFORM TO CITY STANDARDS.
6. TRAFFIC LANE CLOSURES, MOT PLANS AND ROADWAY REPAIRS MATERIALS SHALL BE PER DIRECTION OF ROAD OWNER. CONTRACTOR TO INQUIRE WITH OWNER ABOUT REQUIREMENTS PRIOR TO BID.
7. 3M LOCATOR BALLS SHALL BE INSTALLED AT EACH FITTING IN THE PIPE LINE CHANGING DIRECTION AND AT EACH CONNECTION.
8. 3M LOCATORS TO BE PROVIDED BY DEVELOPER AS SPECIFIED BY O.U.A.

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION OCT. 2015	TYPICAL TRENCH DETAIL	PAGE No D13

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPES	HORIZONTAL SEPERATION	CROSSING (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIM WATER (2)	WATER MAIN; 3 FT. MINIMUM	WATER MAIN; 12 INCHES IS THE MINIMUM EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 3 FT. MINIMUM; WATER MAIN
VACUUM SANITARY SEWER	WATER MAIN; 10 FT. PREFERRED 3 FT. MINIMUM	WATER MAIN; 12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM; WATER MAIN
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCEMAIN RECLAIM WATER (4)	WATER MAIN; 10 FT. PREFERRED 6 FT. MINIMUM (3)	WATER MAIN; 12 INCHES IS THE MINIMUM EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED	ALTERNATE 6 FT. MINIMUM; WATER MAIN
ON-SITE SEWAGE TREATMENT & DISPOSAL	10 FT. MINIMUM	---	---

FAC RULE 62-555.314 NOTES:

1. WATERMAIN TO CROSS OVER CONFLICT PIPES WHEREVER POSSIBLE, MAINTAINING 30 INCHES COVER AND 6 INCHES SEPARATION AS MINIMUMS. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MIN. SEPARATION IS 12 INCHES.
2. RECLAIMED WATER REGULATED UNDER PART III OF CHAPER 62-610, F.A.C.
3. 3 FT FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
4. RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

NOTES:

A. THESE METHODS ARE TO BE USED WHEN INSUFFICIENT COVER EXISTS TO ALLOW PRESSURE PIPE TO CROSS ABOVE CONFLICT PIPE WITH 6 INCHES VERTICAL SEPARATION AND MAINTAIN 30 INCHES COVER TO FINISHED GRADE.

B. FITTINGS SHALL BE RESTRAINED WITH MECHANICAL RESTRAINTS (MEGALUG). IN ACCORDANCE WITH OUA STANDARD DETAILS.

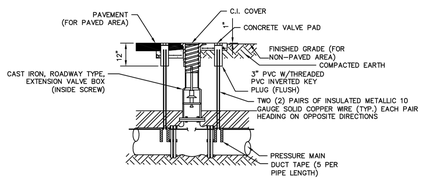
C. THE DEFLECTION TYPE CROSSING IS PREFERRED.

D. DO NOT EXCEED 75% OF MANUFACTURERS RECOMMENDED MAXIMUM JOINT DEFLECTION.

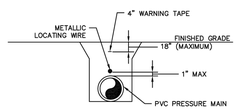
E. MECHANICALLY RESTRAIN ALL FITTINGS, AS PER MANUFACTURERS RECOMMENDATION AND OUA STANDARD DETAILS.

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

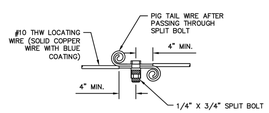
REVISION OCT. 2015	WATER MAIN – SANITARY SEWER CONFLICT	PAGE No D16



1. ALL PVC PIPE SHALL REQUIRE TWO PAIRS OF INSULATED METALLIC LOCATING WIRES (10 GAUGE SOLID COPPER) TAPED WITH 2" WIDE DUCT TAPE TO TOP CENTERLINE OF THE PIPE AT EVERY JOINT AND AT 4 ADDITIONAL EQUALLY SPACED POINTS PER LENGTH OF PIPE.
2. LOCATING WIRES TO TERMINATE ON EACH END AT A VALVE BOX, 4" ABOVE GROUND AND FOLDED BACK INSIDE VALVE BOX.
3. LOCATING WIRES SHALL BE CAPABLE OF DETECTION BY A CABLE LOCATOR AND PASS A FIELD CONDUCTIVITY TEST, OBSERVED BY THE O.U.A., FROM END TO END OF WIRES.
4. SPLICES SHALL BE CAPABLE OF COMPLETE SUBMERSION, SUCH AS BUTT SPLICE WITH RAYCHEM HEAT SHRINK TUBING.
5. NO MORE THAN ONE SPLICE IN LOCATING WIRES BETWEEN VALVES IS ALLOWED.
6. PROVIDE POTTING COMPOUND AT TRACER WIRE JUNCTIONS AND SPLICES.
7. THE ENDS OF ALL LOCATING WIRES, WHETHER THEY ARE SPLICED, CONNECTED, OR TERMINATED, SHALL HAVE THE LAST THREE INCHES PIG TAILED AS DETAILED HEREON.



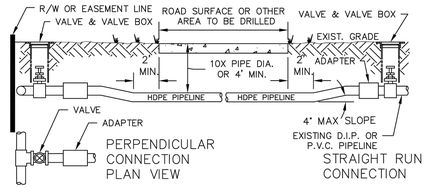
PVC PIPE LOCATING WIRE

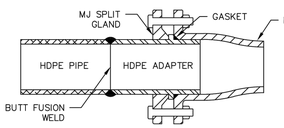


LOCATING WIRE DETAIL

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION OCT. 2015	LOCATING WIRE DETAILS FOR ALL ROAD CROSSINGS AND BORES	PAGE No D17





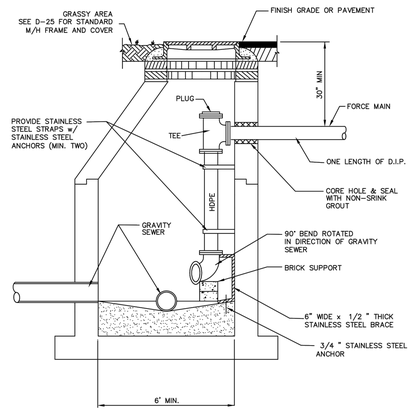
HDPE-MJ ADAPTER

NOTES:

1. DIRECTIONAL DRILLS SHALL BE COMPLETED USING DR11 HDPE PIPE, DIP SIZE: FOR WATER AND SANITARY FORCE MAIN IPS SIZE: FOR VACUUM SEWER.
2. ALL DIRECTIONAL DRILLS SHALL BE AT A DEPTH OF 10X PIPE DIAMETER BELOW THE ROADWAY SURFACE OR 4' WHICHEVER IS GREATER.
3. ALL HDPE MUST BE COLOR CODED (SAFETY BLUE-WATER, SAFETY GREEN FOR SEWER AND PANTONE PURPLE FOR RECLAIMED WATER); BUTT FUSION WELDED; AND CONNECTED WITH HDPE-MJ ADAPTER.
4. 10 GUAGE SOLID COPPER LOCATING WIRES SHALL BE TAPED TO PIPE FROM VALVE TO VALVE AT A SPACING NO GREATER THAN 5 FEET AND PULLED WITH THE PIPE. SEE D17 FOR ADDITIONAL DETAILS.
5. GRAVITY SEWER BORES AS PREAPPROVED BY OUA.

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION OCT. 2015	DIRECTIONAL DRILLING DETAIL	PAGE No D19



NOTES:

1. SEE MANHOLE NOTES FOR STANDARD MANHOLE.
2. DROP PIPE AND FITTINGS SHALL BE PVC OR HDPE.

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION OCT. 2015	FORCE MAIN TIE-IN AT MANHOLE	PAGE No D29B

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FLORIDA CERTIFICATE OF AUTHORIZATION No. 00029206

No.	DATE	BY	REVISIONS

LOUMAX DEVELOPMENT, INC.
PROPOSED SITE IMPROVEMENTS
LOCATED IN THE CITY OF OKEECHOBEE

UTILITY DETAILS - 1

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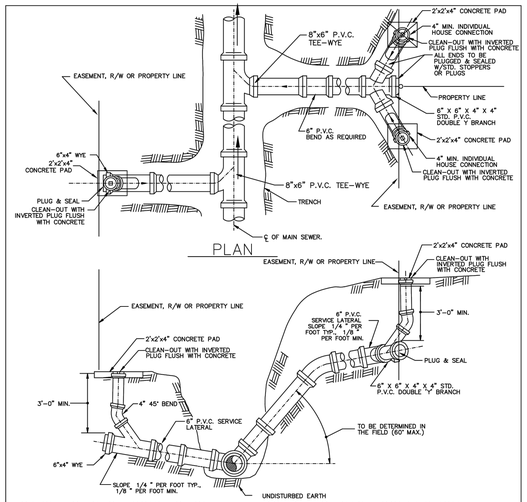


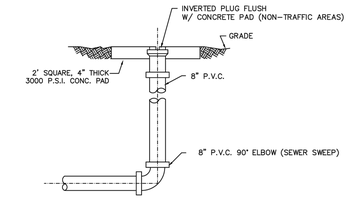
SINGLE SERVICE CONNECTION DOUBLE SERVICE CONNECTION

N O T E S:

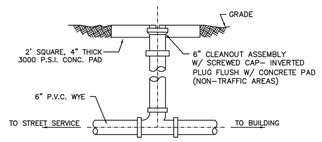
1. SERVICE LATERALS SHALL TERMINATE AT PROPERTY LINE AT A DEPTH OF 3 FEET, PLUGGED WATERTIGHT WITH CLEAN-OUT.
2. THE MINIMUM DIAMETER OF ALL SINGLE HOUSEHOLD CONNECTIONS SHALL BE 4"MINIMUM ALL OTHERS SHALL BE 6" AND ALL DOUBLE SERVICES
3. CONNECTION TO O.U.A. LATERAL SHALL BE MADE WITH A CLEAN-OUT AT PROPERTY LINE BY THE CONTRACTOR OR CUSTOMER MAKING THE CONNECTION, WITH A 2'x2'x4" CONCRETE PAD WITH A INVERTED PLUG, BOTH TO BE SET AT FINAL GRADE

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION OCT. 2015	TYPICAL SEWER SERVICE CONNECTION	PAGE No D31



TYPICAL MAIN LINE TERMINAL CLEANOUT



TYPICAL SERVICE LATERAL ONE WAY CLEANOUT

NOTES:

1. ONE WAY CLEANOUT (SWEEP TO STREET SERVICE).
2. CLEAN OUT SHALL BE LOCATED ON RIGHT OF WAY LINE.
3. IN TRAFFIC AREAS A METAL CLEANOUT COVER AND LID SHALL BE INSTALLED OVER PVC CLEANOUT.
4. ALL CLEAN OUT'S REQUIRE AN INSPECTION.

OKEECHOBEE UTILITY AUTHORITY CONSTRUCTION STANDARDS & DETAILS

REVISION OCT. 2015	TYPICAL CLEANOUT	PAGE No D32

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No.	DATE	BY	REVISIONS

LOUMAX DEVELOPMENT, INC.
PROPOSED SITE IMPROVEMENTS
LOCATED IN THE CITY OF OKEECHOBEE

UTILITY DETAILS - 2

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LEGEND

PROPOSED PALM TREE (38 PROVIDED)

PROPOSED TREE (28 PROVIDED)

PROPOSED SHRUB (279 PROVIDED)

EXISTING PALM TREE TO REMAIN (20 TOTAL)

EXISTING TREE TO REMAIN (38 TOTAL)

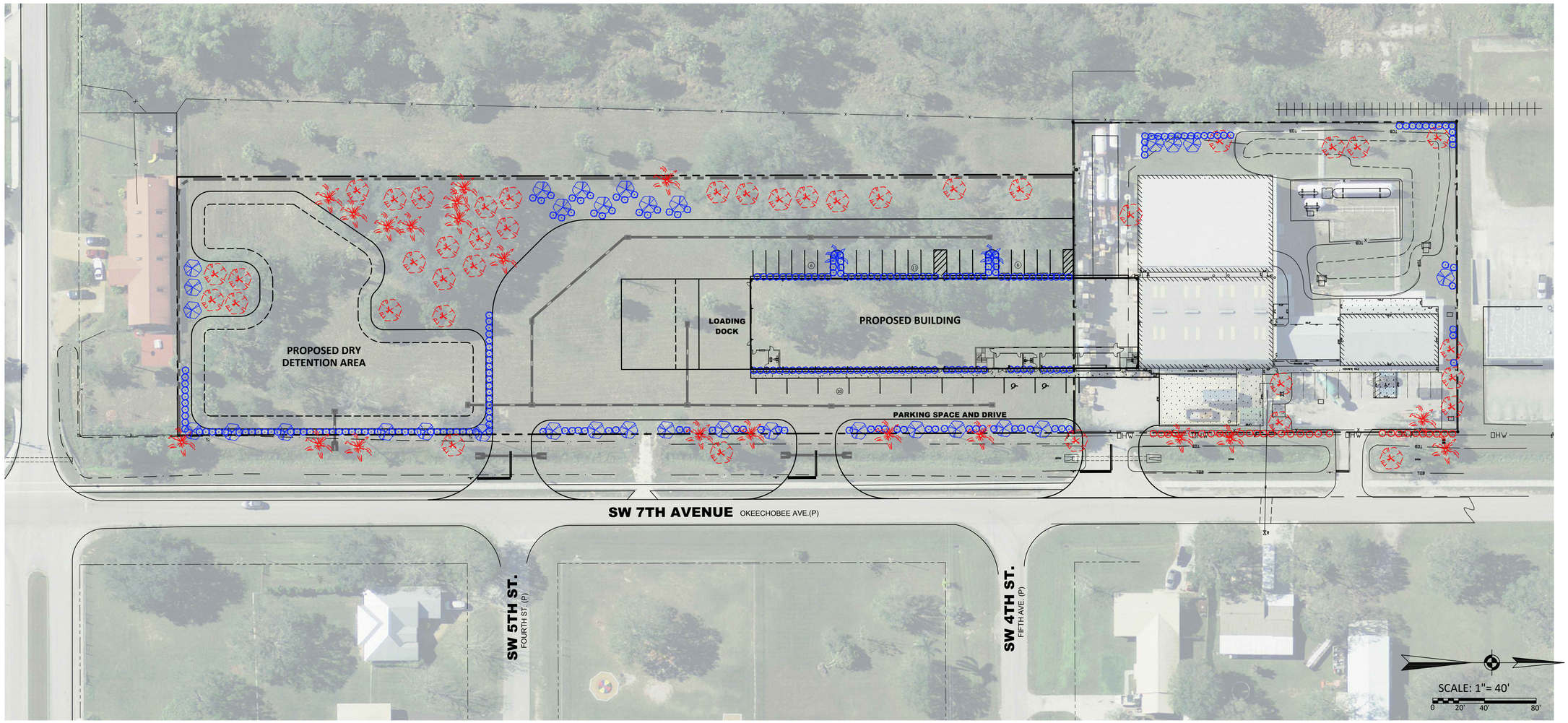
EXISTING SHRUBS (30 TOTAL)

NOTE:

1. There are existing trees onsite that will meet some of the landscaping requirement. Since there is not a tree survey, this will be field adjusted.
2. This plan for site approval and only indicates the location and type of proposed landscaping. The selected plant to be installed will have to meet the City of Okeechobee's Division 4 Landscape Code for type and size of plants installed.
3. The north parcel has already been through site plan and was previously approved and certified prior to Certificate of Occupancy for the latest City of Okeechobee TRC Approval.
4. Consideration will be made to protect the overhead utility lines from mature tree growth.
5. Plantings will be elected from South Florida Water Management District's Xeriscape Plan Guide, with at least 75% of the total required plans being native very drought tolerant species as listed in that Plant Guide.
6. Trees shall be at least 10' high and 2" diameter measured 4' above ground level at the time of planting.
7. The remainder of the parking landscape areas and buffer landscape areas which area not occupied by trees and shrubs shall be landscaped with grass, groundcover, or other landscape material such as mulch.

Landscaping Requirements	Trees	Shrubs
1 tree and 3 shrubs for every 3,000 sf of lot area – 4.82 acres	70	210
Buffer 10' street – 2' other Property Lines (PL) – 1 tree, 3 shrubs for every 300 sf of required landscaping 985 lf on street and 1,196 lf on other PLs	38	114
18 sf of landscaping for every parking space – 1 tree and 3 shrubs for every 72 sf of landscaping – 33 proposed parking spaces	11	33
Landscape islands min 5' x 15' every 10 spaces max. uninterrupted spaces 12	0	0
Individual Single Family	0	0
Multifamily One Bedroom (2 trees per unit)	2	0
Multifamily two to four Bedrooms (3 trees per unit)	6	0
Mobile Home Park or subdivision (2 trees per dwelling)	0	0
Assisted Living facilities, nursing home (1 tree per two units or bedrooms)	0	0
Multifamily One Bedroom (2 trees per unit)	0	0
Total:	**70**	**210**

Note: Since the landscaping requirement is met in the parking, buffers and islands no additional landscaping is required.



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No.	DATE	BY	REVISIONS

LOUMAX DEVELOPMENT, INC.
PROPOSED SITE IMPROVEMENTS
LOCATED IN THE CITY OF OKEECHOBEE

LANDSCAPING PLAN

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JOB No.: 2019-043
SHEET 10 OF 12

GENERAL NOTES

1. Contractor is responsible for checking actual site conditions before starting construction.

2. Any discrepancies on the drawings shall be brought to the attention of the engineer before commencing work.

3. Contractor shall obtain all required building permits before commencing work.

4. Contractor shall be responsible for location of all existing utilities. The contractor shall contact all concerned utilities at least 48 hours in advance for construction operations.

5. No field changes or deviations from design to be made without prior approval of the engineer.

6. All construction shall be completed in accordance with the applicable ordinances of City of Okeechobee, Florida.

7. Contractor shall supply density tests to engineer on all sub-grade and base. Tests shall be prepared per AASHTO T-180 method.

8. Slope grades from elevations shown to existing grade at property line.

9. Engineer shall be notified at least 48 hours in advance for any inspection.

10. All traffic control devices shall be in accordance with M.U.T.C.D. Standards.

11. Erosion and sedimentation control techniques shall be incorporated during construction as follows:
(1) silt screens shall be maintained at the project perimeter.
(2) No off-site discharges shall occur during construction. In the event discharge is required, hay bales and/or turbidity curtains shall be incorporated at the discharge point as necessary to control turbidity.

EROSION AND SEDIMENTATION CONTROL NOTES

Construction activities can result in the generation of significant amounts of pollutants which may reach surface or ground waters. One of the primary pollutants of surface waters is sediment due to erosion. Excessive quantities of sediment which reach water bodies of floodplains have been shown to adversely affect their physical, biological and chemical properties. Transported sediment can obstruct stream channels, reduce hydraulic capacity of water bodies of floodplains, reduce the design capacity of culverts and other works, and eliminate ethic invertebrates and fish spawning substrates by siltation. Excessive suspended sediments reduce light penetration and therefore, reduce primary productivity.

MINIMUM STANDARDS:

1. Sediment basin and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-distributing activity and shall be made functional before unslope land disturbance takes place.

2. All sediment control measures are to be adjusted to meet field conditions at the time of construction and be constructed prior to any grading or disturbance of existing surface material on balance of site. Perimeter sediment barriers shall be constructed to prevent sediment or trash from flowing or floating on to adjacent properties.

3. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain undisturbed for longer than 30 days. Permanent stabilization shall be applied to areas that are to be left undisturbed for more than one year.

4. During construction of the project, soil stockpiles shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as soil intentionally transported from the project site.

5. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that, in the opinion of the Reviewer, is uniform, mature enough to survive and will inhibit erosion.

6. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

ENGINEER OF RECORD INSPECTION REQUIREMENTS

	F.B.V.		DENSITY		L.B.R.		THICKNESS	
	MAX. SPACING		MAX. SPACING		MAX. SPACING		MAX. SPACING	
	LINEAR FEET	SQUARE FEET	LINEAR FEET	SQUARE FEET	LINEAR FEET	SQUARE FEET	LINEAR FEET	SQUARE FEET
COMPACTED OR STABILIZED GRADE	200	5,000	200	5,000	200	5,000	300	10,000
ROCK BASE	----	----	300	10,000	300	10,000	300	10,000
SHELL ROCK	----	----	300	10,000	----	----	300	10,000
ASPHALT	----	----	----	----	----	----	PER INSP.	PER INSP.

ALL TESTING SHALL BE TAKEN IN A STAGGERED SAMPLING PATTERN FROM A POINT 12" INSIDE THE LEFT EDGE OF THE ITEM TESTED, TO THE CENTER, TO A POINT INSIDE OF THE RIGHT EDGE

EROSION AND SEDIMENTATION CONTROL NOTES - (continued)

7. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The sediment basin shall be designed and constructed to accommodate the anticipated sediment loading from the land-disturbing activity. The outfall device or system design shall take into account the total drainage area flowing through the disturbed area to be served by the basin.

8. After any significant rainfall, sediment control structures will be inspected for integrity. Any damaged devices shall be corrected immediately.

9. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.

10. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

11. Sediment will be prevented from entering any storm drain system, ditch or channel. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

12. Before temporary or newly constructed stormwater conveyance channels are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

13. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.

14. When a live watercourse must be crossed by construction vehicles, a temporary stream crossing constructed of nonerodible material shall be provided.

15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

16. Periodic inspection and maintenance of all sediment control structures must be provided to ensure intended purpose is accomplished. The Developer, owner and/or contractor shall be continually responsible for all sediment leaving the property. Sediment control measures shall be in working condition at the end of each working day.

17. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
A. No more than 500 linear feet of trench may be opened at one time.
B. Excavated material shall be placed on the uphill side of trenches.
C. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.
D. Restabilization shall be accomplished in accordance with these regulations.

18. Where construction vehicle access routes intersect paved public roads, provisions shall be made to minimize the transport of sediment by tracking onto the paved surface, where sediment is transported onto a public road surface with curbs and gutters, the road shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual subdivision lots as well as to larger land-distributing activities.

19. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, in the opinion of the Reviewer. Disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

20. Properties and waterways downstream from construction site shall be protected from sediment disposition and erosion.

21. Phased projects should be cleared in conjunction with construction of each phase.

22. Erosion control design and construction shall follow the requirements in Index Nos. 101, 102 and 103 of FDOT Roadway and Traffic Design Standards.

23. The Reviewer may approve modifications or alter plans to these erosion control criteria due to site specific conditions.

ENGINEER OF RECORD INSPECTION REQUIREMENTS
CONTRACTOR TO CALL CONTRACT ENGINEER OF RECORD 48 HOURS ADVANCE FOR FOLLOWING INSPECTIONS:
1. PRECONSTRUCTION MEETING
2. DRAINAGE PIPE (UNCOVERED)
3. PAVEMENT SUBGRADE
4. PAVEMENT BASE
5. FINAL

Earthwork and Drainage Specifications

1. **Clearing and Grubbing:** Clearing and grubbing shall be performed within the limits of the project work in accordance with Section 110, Florida Department of Transportation (FDOT) Specifications. This item shall include, but is not limited to, the complete removal and legal disposal of all trees, brush, stumps, roots, grass, weeds, rubbish and other undesirable material to a depth of 18 inches below natural ground or proposed finished grade, whichever is lower. The areas to be cleared generally consist of the entire site with the exception of areas specifically noted on the landscape plans as preserve areas or as areas to remain un-cleared. Care shall be taken to insure that no preserve areas or wetland areas are impacted by the clearing operation. Prior to initiating the clearing operation, all adjacent wetland and preserve areas shall be marked and flagged in accordance with the City of Okeechobee and South Florida Water Management District (SFWMD) requirements All such areas immediately adjacent to the clearing operation shall also be protected by the installation of temporary silt barriers in accordance with the requirements of The City of Okeechobee and the SFWMD. Further erosion control shall be accomplished by seeding and mulching all disturbed areas as soon as they are at final grade, per the specifications for seeding and mulching found elsewhere on this sheet.

   All material shall be removed from the site and shall be legally disposed of in accordance with all local, state and federal requirements.

2. **Earthwork and Grading:** All earthwork and grading shall be performed as required to achieve the final grades, typical sections and elevations shown on the plans. In all other respects, materials and construction methods for earthwork, embankment, excavation and grading shall conform to the requirements of FDOT Specifications, Section 120. Any plastic or otherwise undesirable material within 36 inches of finished road grade shall be removed and replaced with suitable material. The contractor shall also refer to the Soils Report, if available. The specifications and recommendations included in that report shall be considered as a part of these plans and specifications. Should there be any conflict between that document and any requirements of these drawings or specifications, the most restrictive requirement shall govern.

3. **Paving Improvements:** All areas proposed for paving shall be constructed in accordance with the design grades and typical sections shown on the drawings, and in conformance to the requirements of the City of Okeechobee and Florida Department of Transportation.
   - **A. Asphalt:** Prime Coat and tack coat for base course and between lifts of asphalt shall conform to the requirements of Sections 300-1 through 300-7 of the FDOT Specifications. Prime Coat shall be applied at a rate of 0.25 gallons per square yard and tack coat at a rate of 0.10 gallons per square yard, unless otherwise approved by the Engineer.

     Asphalt surface course thickness and material shall be as shown on the typical sections and shall in all ways conform to the requirements of FDOT.
   - **B. Base:** Limerock base material shall be compacted to 98% of maximum density per AASHTO T-180. All limerock shall meet the minimum requirements of FDOT Section 911. As an alternate, cemented coquina conforming to FDOT Section 915 may be substituted and shall be subject to the compaction specifications detailed above and included in the Soils Engineer's report.
   - **C. Sub-grade**: Sub-grade shall be compacted to 98% of maximum density per AASHTO T-180, and stabilized to a minimum FBV of 50psi. Sub-grade shall be thoroughly rolled with a pneumatic tired roller prior to scheduling any sub-grade inspection.
   - **D. Valley Gutter/ F-Curb/D-Curb/Flush Curb:** Shall be constructed per the typical section by extruding machine or forms as shown on the plans. Minimum concrete compressive strength shall be 3,000psi after 28 days. Sub-grade shall be moistened at the time concrete is placed to insure a uniformly damp surface. Ready-mix concrete shall have a slump of between 2 and 4 inches. No water shall be added to increase workability. Test cylinders shall be made for the strength testing of each batch of concrete for at least 7 and 28 day testing.
   - **E. Sod:** A minimum of a two-foot wide strip of sod, or as otherwise shown on the plans, shall be placed along the back of curb of all constructed pavement to aid in prevention of erosion and soil stability. Sod shall be placed in conformance to FDOT Section 570, 575 and 981. Generally, the sodding requirements shall be as specified on the landscape plans, prepared by Others.
   - **F. Seed, Fertilize and Mulch:** All disturbed areas shall be stabilized with seed, fertilizer and mulch upon completion and acceptance by Engineer of final grading. Seed, fertilizer and mulch shall be in conformance to FDOT Sections 570, 575 and 981. The Contractor is responsible for establishing a stand of grass sufficient to prevent erosion prior to removal of the temporary silt fences. This applies only to those areas not covered by the sodding specified in the landscape plans, prepared by Others.
   - **G. Testing:** The Contractor shall secure the services of an approved independent testing laboratory to conduct all required testing on sub-grade, base, asphalt and concrete. Locations required for these tests shall be as required by the City of Okeechobee, and/or in the case of the turn-lane improvements as required by the City of Okeechobee. At a minimum, testing shall be as recommended by FDOT. Should any tests fail, contractor shall at his own expense, repair the deficiencies and retest the work until compliance with the specifications is demonstrated.
   - **H. Traffic Control:** The installation of Traffic Control Devices shall be in conformance to the requirements of the Manual of Uniform Traffic Control Devices, The City of Okeechobee. Maintenance of traffic During Construction shall be as required by FDOT.

Continued:

4. **Drainage Improvements:** All labor, materials and construction methods shall be in conformance to the minimum engineering and construction standards of the City of Okeechobee and FDOT Specifications. Trench excavation and back-filling operations shall meet or exceed the requirements of FDOT Specifications, Section 125. The Contractor shall provide the necessary back-fill compaction testing required to demonstrate compliance with this section. The pipe trench shall be dry when pipe is laid and the pipe shall be bedded per the details and per FDOT specifications.

   The Contractor shall comply with Chapter 90-96, Laws of Florida, which requires the Contractor performing trench excavations over five feet in depth comply with all applicable trench safety standards and shoring requirements as set forth in the Occupational Safety and Health Administration's (OSHA) excavation and safety standards, 29 C.F.R. 19926.650, Sub-part P and incorporated as the State of Florida standard, as revised and/or updated. The cost of compliance with this requirement shall be included as a separate line item on the Contractor's bid. Otherwise, Contractor certifies that the cost of compliance is included in the unit cost of all items of work to which this requirement applies.

   - **A. Reinforced Concrete Pipe (RCP):** RCP shall conform to the requirements of ASTM Specifications C-76, Class III, Wall Thickness "B", latest revision. All joints shall be soil-tight. Pipe gasket shall conform to FDOT Specifications, Section 942.
   - **B. Corrugated Metal Pipe (CMP):** All CMP shall be Steel, round, helical-wound corrugated pipe conforming to AASHTO-M 36 and FDOT Section 943. Pipe ends at joints shall be reformed to a minimum of 2 annular corrugations for the complete band width. All joints shall be soil-tight. All connecting bands shall be corrugated annular coupling bands. A Neoprene gasket of at least 7 inches wide by 3/8 inch thick shall be used for all pipes of 36-inch diameter and smaller. Larger pipe sizes require gaskets of at least 10-1/2 inches in width. All CMP shall be installed at maximum lengths to reduce the number of joints.
   - **C. Corrugated Aluminum Pipe (CAP):** All CAP shall be aluminum alloy, round, helical-wound corrugated pipe conforming to AASHTO-M 196 and FDOT Section 945. Pipe ends at joints shall be reformed to a minimum of 2 annular corrugations for the complete band width. All joints shall be soil-tight. All connecting bands shall be corrugated annular coupling bands. A Neoprene gasket of at least 7 inches wide by 3/8 inch thick shall be used for all pipes of 36-inch diameter and smaller. Larger pipe sizes require gaskets of at least 10-1/2 inches in width. All CAP shall be installed at maximum lengths to reduce the number of joints.
   - **D. Corrugated High Density Polyethylene Pipe (HDPE):** All HDPE Pipe shall be resin conforming to ASTM D3350 minimum cell classification 435400C, round, only annular corrugations and conforming to FDOT Section 948-2.3. All joints shall be soil-tight. All connecting bands shall be corrugated annular coupling bands. A Neoprene gasket of at least 7 inches wide by 3/8 inch thick shall be used for all pipes of 36-inch diameter and smaller. Larger pipe sizes require gaskets of at least 10-1/2 inches in width. All HDPE shall be installed at maximum lengths to reduce the number of joints.
   - **E. Contech A-2000 PVC drainage pipe (A-2000):** All A-2000 corrugated pipe with a smooth interior shall conform to the requirements of ASTM Designation F949 & F794 Dual Wall Corrugated Profile (DWCP) Pipe. Pipe and fittings shall be homogeneous throughout and free from visible cracks, holes, foreign inclusions or other injurious defects. Pipe shall be manufactured to 46 psi stiffness when tested in accordance with ASTM Test Method D2412. There shall be no evidence of splitting, cracking or breaking when the pipe is tested per ASTM Test Method D2412 and F949 section 7.5. The pipe shall be made of PVC compound having a minimum cell classification of 12454B as defined in ASTM Specification D1784.
   - **F. PVC Drainage Pipe:** PVC Drainage Pipe shall be C-900 with push-on joints (no glued joints) and shall be as specified for sanitary sewer construction, except that it shall be white in color. Any portion of the PVC storm pipe that may be exposed to sunlight, such as its outlet to the detention pond, shall be painted to protect it from UV light.
   - **G. Inlets, Manholes, and Junction Boxes:** All drainage inlets, manholes, and junction boxes shall be precast concrete conforming to ASTM C-478 and 64T. All concrete shall have not less than 4000-psi compressive strength at 28 days. Structure sections shall be joined with a mastic sealing compound. The remaining space shall be filled with the cement mortar and finished so as to produce a smooth continuous surface inside and outside the wall sections. All openings in precast structures shall be cast at the time of manufacture. Holes for piping shall be six inches larger than the outside diameter of the proposed pipe. All spaces between the manhole and the pipe shall be completely filled with mortar and finished smooth. Mortar used for concrete structures shall conform to M C-270. Mortar material shall be mixed one part Type 2 Portland cement to two parts aggregate by volume. Portland cement shall conform to ASTM C-144 and aggregate shall conform to ASTM C-144. The CONTRACTOR shall furnish the ENGINEER with shop drawings of all precast structures for his approval prior to fabrication. Shop drawings shall show all dimension, reinforcing steel and specifications. Storm Manholes shall be constructed with a traffic bearing cast-iron slotted grate.
   - **H. Trench Backfill** shall be as shown in the Drainage Details. In addition, testing under paved areas shall be as follows: One test location midway between structures and one test location adjacent to each structure. Engineer may request additional locations. Testing in each location shall begin in the first foot above the culvert with tests every two feet to within two feet of the sub-grade. Density shall be to 100 percent of maximum as determined by AASHTO T-99.
   - **I. Control Structures:** Shall be constructed per the above specifications for Inlets, Manholes, and Junction Boxes except that the structures shall include the bleeders and weirs as shown on the detail.
   - **J. Rip-Rap Energy Dissipaters:** Shall be constructed per the details and as shown on the drawings at the control structures and the downstream bubble-up structures. The rubble shall be of material and placed in accordance to FDOT Section 530-2.3 (material) and FDOT Section 530-3.3 (Construction Methods). Should broken concrete be used as the rubble, it shall be free from reinforcing bars or wire mesh. The contractor shall use care in the placement of the stone so that it is not dropped on thew fabric in such a fashion that tears the fabric. The fabric shall be as specified in FDOT Section 985 and shall be of the woven design and as specified for use with riprap per Table 1 of this section. The bedding stone shall be of the type typically used for drainfield rock and shall meet the requirements of FDOT for drainfield rock.

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FLORIDA CERTIFICATE OF AUTHORIZATION No. 00029206

No.	DATE	BY	REVISIONS

LOUMAX DEVELOPMENT, INC.
PROPOSED SITE IMPROVEMENTS
LOCATED IN THE CITY OF OKEECHOBEE

GENERAL NOTES & SPECIFICATIONS

CALL 48 HOURS BEFORE YOU DIG IN FLORIDA, IT'S THE LAW
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JOB No.: 2019-043
SHEET 11 OF 12

GENERAL NOTES:

FOR THE PURPOSE OF THE GENERAL NOTES BELOW, THE TERM DEPARTMENT SHALL MEAN OKEECHOBEE UTILITY AUTHORITY

1. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.

2. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHOD AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS SHALL BE RESOLVED BY THE ENGINEER AND DEPARTMENT PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

3. LOCATION OF PROPOSED FACILITIES WILL BE STAKED BY CONTRACTOR. CONTRACTOR MUST GIVE 48 HOURS NOTICE TO THE DEPARTMENT IN ADVANCE OF LAYOUT.

4. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHOD AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS SHALL BE RESOLVED BY THE ENGINEER AND DEPARTMENT PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

5. LOCATION OF PROPOSED FACILITIES WILL BE STAKED BY CONTRACTOR. CONTRACTOR MUST GIVE 48 HOURS NOTICE TO THE DEPARTMENT IN ADVANCE OF LAYOUT.

6. PROJECT SUPERINTENDENT: THE CONTRACTOR SHALL PROVIDE A QUALIFIED SUPERINTENDENT TO REMAIN ON THE JOB SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. THE SUPERINTENDENT SHALL BE PRESENT AT THE PRE-CONSTRUCTION MEETINGS. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT BY LETTER PRIOR TO THE PRE-CONSTRUCTION MEETING APPOINTING THE SUPERINTENDENT FOR THIS PROJECT INCLUDING A FORMAL RESUME SHOWING QUALIFICATIONS. IN THE EVENT THE SUPERINTENDENT WILL NOT BE PRESENT FOR ANY PERIOD OF TIME DURING CONTRACT WORK THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE IN WRITING TO THE DEPARTMENT, INCLUDING THE APPOINTMENT OF A QUALIFIED REPLACEMENT SUPERINTENDENT WHO WILL BE PRESENT DURING THE CONSTRUCTION. WORK SHALL NOT BE ALLOWED TO PROCEED UNLESS THE ASSIGNED SUPERINTENDENT IS PRESENT.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE HIS COMPLETE FAMILIARITY WITH THE PROJECT SITE AND COMPONENTS TO INCLUDE SUBSURFACE CONDITIONS OF SOIL AND GROUNDWATER TABLE.

WARNING: EXACT LOCATION OF UNDERGROUND UTILITIES IS NOT KNOWN NOR IS THIS DRAWING TO BE CONSTRUED AS DEPICTING THE LOCATION OF ALL UNDERGROUND UTILITIES OR STRUCTURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINATION OF LOCATION PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR IS RESPONSIBLE, THEREFORE, FOR ALL DAMAGE AND REPAIR COSTS.

8. DENSITY TESTS OF TRENCH BACKFILL MATERIAL SHALL BE REQUIRED AT INTERVALS OF NOT MORE THAN 500 FEET. DENSITY TESTS OF PAVEMENT OPEN-CUT AREAS INCLUDING ROADS, TURNLANES, AND DRIVES SHALL BE REQUIRED AT EACH OPEN-CUT AT INTERVALS OF NOT MORE THAN 50 FEET. ALL TESTS SHALL COMMENCE AT THE TOP OF CONDUIT AND EVERY 12 INCHES TO THE FINISH GRADE. COMPACTION SHALL BE IN ACCORDANCE WITH "TYPICAL TRENCH DETAIL" AND "FLEXIBLE PAVEMENT REPLACEMENT DETAIL". FLORIDA BEARING TESTS FOR THE STABILITY OF EXISTING SUBSOIL SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 500 FEET, AND CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN THE STRATA. A CERTIFIED COPY OF THE TESTS SHALL BE PROVIDED TO THE DEPARTMENT AND THE FLORIDA DEPARTMENT OF TRANSPORTATION OR COUNTY ENGINEERING DEPARTMENT DEPENDING ON JURISDICTION. CONTRACTORS BID PRICE SHALL INCLUDE PAYMENT FOR ALL TESTS CONDUCTED BY AN INDEPENDENT TESTING LAB.

9. ANY LANDSCAPING DISTURBED, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE DEPARTMENT AT THE CONTRACTORS EXPENSE.

10. ANY WALK, CURB AND GUTTER OR PAVEMENT DISTURBED, UNLESS OTHERWISE SHOWN ON PLANS, SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. ALL CONSTRUCTION SHALL MEET ADA REQUIREMENTS.

11. ALL SOD IS TO BE PLACED FOR THE FULL WIDTH DISTURBED AT THE PER LINEAR FOOT UNIT PRICE FOR SOD. SOD SHALL BE REPLACED TO MATCH EXISTING KIND UNLESS OTHERWISE SHOWN ON PLANS.

12. ANY TREES AND/OR SCRUB OR OTHER VEGETATION NOT TO BE REPLACED SHALL BE REMOVED FROM THE PROJECT AT THE CONTRACTOR'S EXPENSE.

13. ALL RUBBLE AND UNSUITABLE MATERIAL MUST BE REMOVED FROM THE PROJECT AND DISPOSED OF PROPERLY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

14. MAILBOXES MUST BE MAINTAINED TO BE CAPABLE OF RECEIVING MAIL AT ALL TIMES. CONTRACTOR'S BID PRICE FOR PIPE SHALL INCLUDE MAILBOX MAINTENANCE.

15. ALL CONSTRUCTION DEWATERING (WELL POINTS, SUMPS, ETC.) WILL REQUIRE A DEWATERING PERMIT FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT. THIS SHALL BE OBTAINED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR'S BID PRICE FOR PIPE SHALL INCLUDE DEWATERING.

16. THE "TRENCH SAFETY ACT" SHALL BE INCORPORATED INTO THIS CONTRACT AS ENACTED BY THE LEGISLATURE OF THE STATE OF FLORIDA TO BE IN EFFECT AS OF OCTOBER 1, 1990.

17. A PERMIT IS REQUIRED FOR ALL WORK WITHIN COUNTY RIGHT-OF-WAY. THIS PERMIT MUST BE OBTAINED BY THE CONTRACTOR FROM THE COUNTY ENGINEERING DEPARTMENT. ALL COSTS PAYABLE BY THE CONTRACTOR. A COPY OF THIS PERMIT MUST BE MAINTAINED ON THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.

18. ALL CONCRETE AND ASPHALT DRIVES MUST BE REPLACED FROM SAW CUT TO EDGE OF PAVEMENT.

19. LOCATIONS OF FIRE HYDRANTS AND AIR RELEASE VALVES ARE APPROXIMATE ONLY. FINAL LOCATIONS WILL BE DETERMINED BY DEPARTMENT PERSONNEL IN FIELD.

20. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND RESTORATION (IF DAMAGED) OF ALL EXISTING STRUCTURES WITHIN THE CONSTRUCTION LIMITS OF THE PROJECT, INCLUDING BUT NOT LIMITED TO WALLS, FENCES, POWER POLES, MAIL BOXES, DRAINAGE PIPES AND STRUCTURES, ETC..

21. "RECORD DRAWINGS" SHALL INCLUDE FURNISHING THE DEPARTMENT WITH ALL INFORMATION NECESSARY FOR A COMPLETE SET OF RECORD DRAWINGS AS STIPULATED IN THE REFERENCED "MINIMUM DESIGN AND CONSTRUCTION STANDARDS."

22. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL SUPPORT UTILITIES AND SHORE TRENCH AS REQUIRED TO PROTECT AND MAINTAIN EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY EACH UTILITY PRIOR TO ATTEMPTING TO SUPPORT THEIR FACILITIES. IF THE UTILITY REQUIRES THAT ONLY THEIR CREWS SHALL BE ALLOWED TO SUPPORT THEIR FACILITIES, THEN IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE WORK AND PAY THE UTILITY FOR THEIR EXPENSES IF REQUIRED. ALL COSTS FOR THIS WORK SHALL BE AT THE CONTRACTORS EXPENSE AND INCLUDED IN THE CONTRACTORS BID PRICE.

23. OUA MUST BE NOTIFIED OF, CONDUCT INSPECTION, AND ACCEPT ALL MATERIAL DELIVERIES TO THE JOBSITE PRIOR TO INSTALLATION.

SPECIAL NOTES:

1. RIGHT OF WAYS / PROPERTY LINES AS SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL IDENTIFY ANY AREAS OF CONCERN AND VERIFY ACTUAL RIGHT OF WAY / PROPERTY LINES BY STAKING IN FIELD BY CERTIFIED PROFESSIONAL LAND SURVEYOR. CONTRACTOR SHALL BE RESPONSIBLE TO RELOCATE ANY NEW WATERMAINS THAT ARE PLACED ON PRIVATE PROPERTY. COST FOR THIS SURVEY WORK SHALL BE INCLUDED IN BID UNIT PRICES FOR WATER MAIN.

WATER GENERAL NOTES:

1. ALL CONNECTIONS TO EXISTING MAINS SHALL BE OBSERVED BY THE DEPARTMENT. VALVES ON EXISTING MAINS SHALL BE OPERATED BY DEPARTMENT PERSONNEL OR UNDER THEIR DIRECT SUPERVISION. TAPPING SLEEVE AND VALVE SHALL BE PRESSURE TESTED PRIOR TO TAPPING. IF SERVICE MUST BE CUT OFF TO EXISTING CUSTOMERS, THE DEPARTMENT MUST HAVE THREE DAYS NOTICE TO MAKE NECESSARY NOTIFICATIONS. THE CONTRACTOR MAY BE REQUIRED TO ASSIST IN NOTIFICATIONS. IN THIS EVENT, CONTRACTOR SHALL BE READY TO PROCEED WITH AS MUCH MATERIAL PREASSEMBLED AS POSSIBLE AT THE SITE TO MINIMIZE THE LENGTH OF SERVICE INTERRUPTION. THE DEPARTMENT WILL POSTPONE A SERVICE CUT OFF IF THE CONTRACTOR IS NOT READY TO PROCEED ON SCHEDULE. SUCH CONNECTIONS SHALL BE MADE AT NIGHT TO MINIMIZE EFFECTS UNLESS OTHERWISE AUTHORIZED BY THE DEPARTMENT. NO CUSTOMER SHOULD BE WITHOUT SERVICE FOR MORE THAN FOUR HOURS.

LOCAL CHLORINATION WILL BE REQUIRED FOR ALL PIPE AND FITTINGS USED TO COMPLETE CONNECTIONS WITH POTABLE WATER.

2. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF OKEECHOBEE UTILITY AUTHORITY MINIMUM DESIGN AND CONSTRUCTION STANDARDS, ONE COPY OF THE CONTRACT DOCUMENTS, INCLUDING PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.

3. CONTRACTOR SHALL PROVIDE PROPER BENDS TO MAINTAIN REQUIRED DEPTH AND ALIGNMENT OF PIPE. COST OF BENDS NOT DESIGNATED ON PLANS SHALL BE INCLUDED WITH THE UNIT PRICE FOR PIPE.

4. DEFLECT PIPE AS NECESSARY TO OBTAIN THE REQUIRED ALIGNMENT. USE APPROPRIATE FITTINGS WHEN DEFLECTION EXCEEDS 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.

5. ALL FITTINGS SHALL BE MECHANICALLY RESTRAINED. REFER TO MECHANICAL RESTRAINT DETAIL.

6. MAXIMUM LENGTH OF WATER MAIN AND FORCE MAIN PRESSURE TEST SHALL BE 1500 FEET. WATER SOURCE FOR FLUSHING, FILLING AND PRESSURE TESTING THE WATER MAIN SHALL BE FROM A TREATED SOURCE APPROVED BY THE DEPARTMENT.

7. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING WATER SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT THE EXISTING WATER SERVICES FROM DAMAGE AND REPAIR ANY BREAKS IMMEDIATELY.

8. MECHANICALLY RESTRAIN THREE (3) FULL LENGTHS EACH SIDE OF ALL BENDS AND AS STIPULATED IN THE MECHANICAL RESTRAINT DETAIL. MECHANICAL RESTRAINTS SHALL BE EITHER EBBA, TYLER OR UNIFLANGE. THE CONTRACTORS BID PRICE FOR PIPE, GATE VALVES AND FITTINGS SHALL INCLUDE MECHANICAL RESTRAINT.

9. ALL PRESSURE TESTS SHALL BE IN ACCORDANCE WITH AWWA STANDARDS. CONTRACTOR'S BID PRICE FOR PIPE SHALL INCLUDE PRESSURE TESTING.

10. AIR RELEASE VALVE VAULT COVERS SHALL BE CONSTRUCTED PER DETAIL "STANDARD ALUMINUM COVER" AS SHOWN IN THE DEPARTMENTS MINIMUM DESIGN AND CONSTRUCTION STANDARDS. MINIMUM COVER SIZE TO MATCH VAULT INSIDE WALL DIMENSIONS.

11. ALL WATER SERVICES SHALL BE HORIZONTAL DIRECTIONAL DRILLED UNDER EXISTING PAVEMENT.

12. VALVE STEM RISER SHALL BE REQUIRED WHERE OPERATING NUT DEPTH EXCEEDS 4 FEET. THE RISER SHALL BE BOLTED TO THE VALVE NUT. METHOD AND MATERIALS SHALL BE APPROVED BY THE DEPARTMENT. COST FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACTORS BID UNIT PRICE FOR GATE VALVES.

13. THE CONTRACTOR SHALL CLEAN MAINS USING APPROVED POLYURETHANE PIG(S). TEMPORARY CLEANING STATIONS SHALL BE CONSTRUCTED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CLEANING PLAN SHOWING METHOD OF FILLING AND CLEANING MAINS PRIOR TO START OF CONSTRUCTION. THE CLEANING PLAN SHALL BE APPROVED BY THE DEPARTMENT PRIOR TO CONSTRUCTION. ALL COSTS FOR FILLING AND CLEANING SHALL BE AT THE CONTRACTORS EXPENSE AND INCLUDED IN BID PRICE FOR PIPE.

14. THE CONTRACTOR SHALL INSTALL TESTING POINTS FOR PRESSURE TESTING MAINS. THE CONTRACTOR SHALL INSTALL AND REMOVE AND PLUG CORP. STOPS PER DEPARTMENT STANDARDS. THE LOCATION OF TEST POINTS SHALL BE APPROVED BY THE DEPARTMENT.

15. WATER MAIN DISINFECTION SHALL BE IN ACCORDANCE WITH CURRENT AWWA, BULLETIN C-651.

16. WATER MAINS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH CURRENT AWWA AND NSF STANDARDS.

17. MINIMUM COVER TO FINISHED GRADE OVER WATER MAINS SHALL BE 30 INCHES UP TO 8" DIAMETER; 10" OR LARGER SHALL HAVE 36" COVER OR GREATER TO PROVIDE A MINIMUM 18" COVER OVER OPERATING NUT OF GATE VALVES.

18. ALL MAINS SHALL BE TESTED FOR LEAKAGE. WATER SHALL BE SUPPLIED TO THE MAIN AND PUMPED TO THE REQUIRED 150 PSI PRESSURE.

19. NEWLY CONSTRUCTED FIRE HYDRANTS THROUGHOUT THE PROJECT SHALL HAVE A RED "OUT OF SERVICE" DISK (JOSEPH G. POLLARD CO. OR EQUAL) ATTACHED TO 4" PUMPER NOZZLE CAP. DISK TO BE REMOVED AFTER WATER SYSTEM HAS BEEN APPROVED FOR SERVICE BY THE DEPARTMENT.

THE DEPARTMENT SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY TESTING PROCEDURES. AFTER FLUSHING IS COMPLETED, LINE PRESSURE SHALL BE APPLIED TO THE WATER SYSTEM TO DETERMINE IF ANY MAJOR DEFECTS ARE PRESENT. THE COMPLETE WATER SYSTEM SHALL THEN BE TESTED AT A PRESSURE OF 150 PSI FOR A PERIOD OF NOT LESS THAN TWO HOURS. THE DEPARTMENT MAY, AT ITS DISCRETION, INCREASE THE PERIOD TO FOUR HOURS. MAXIMUM LENGTH OF LINE TO BE TESTED AT ONE TIME SHALL NOT EXCEED 1500 LINEAR FEET. AN OIL FILLED PRESSURE GAUGE UP TO 200 PSI AT 2 POUND INCREMENTS SHALL BE USED FOR ALL PRESSURE TESTS. NO VISIBLE MOVEMENT OF THE SYSTEM SHALL OCCUR AND LEAKAGE SHALL NOT EXCEED:

$$\frac{L=SD\sqrt{P}}{14{,}800}$$

WHERE: L=ALLOWABLE LEAKAGE IN GALLONS
S= LENGTH OF PIPE IN FEET
P = TEST PRESSURE IN PSI
D = DIAMETER OF PIPE IN INCHES

SEWER GENERAL NOTES:

1. SEWERS SHALL BE LAID ACCURATELY TO BOTH GRADE AND LINE. THE OUA WILL NOT ACCEPT ANY LINE LAID WITH A SLOPE LESS THAN 10% OF THE MINIMUM SLOPE.

2. VISIBLE LEAKAGE, DEFLECTIONS, HORIZONTAL MISALIGNMENT, SIGNIFICANT BOWING, NON-CONSTANT SLOPES BETWEEN MANHOLES AND SAGGING JOINTS SHALL BE GROUNDS FOR REJECTION OF THE INSTALLED SYSTEM OR PORTIONS THEREOF.

3. THE MAXIMUM ACCEPTABLE DEVIATION SHALL BE 7.5% OF THE INSIDE DIAMETER OF THE PIPE WITH NO GREATER OCCURRENCE THAT ONE EACH HUNDRED FEET.

4. MINIMUM COVER ON A PVC SANITARY SEWER SHALL BE 4' TO THE INVERT, DIP SHALL BE PLACED FOR LENGTHS WITH LESS THAN MINIMUM COVER.

5. MANHOLES SHALL BE SET ACCORDING TO THE APPROVED CONSTRUCTION PLANS AND SHALL BE PRECAST IN ACCORDANCE WITH THE OUA'S STANDARD DETAILS.

6. ALL GRAVITY SEWER LINES SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH OUA MANUAL OF STANDARDS LATEST VERSION.

STANDARD WATER/SEWER SEPARATION STATEMENT

62-555.314 LOCATION OF PUBLIC WATER SYSTEM MAINS.

FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT ARE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER.

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

(C) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

(C) AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN 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, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES.

(A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.

(B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS REQUIREMENT (I.E., WHERE THERE IS A CONFLICT IN THE ROUTING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE), THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E., THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES), BUT SUPPLIERS OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT IN ACCORDANCE WITH PART V OF THIS CHAPTER AND MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCOMPANYING THEIR PERMIT APPLICATION THE FOLLOWING INFORMATION:

1. TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE.
2. A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT MANHOLE.
3. ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUB-SUBPARAGRAPHS A. THROUGH D. BELOW.

A. EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTLING BETWEEN THE MAIN AND THE MANHOLE.

B. WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE INSTALLED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE).

C. EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING, AND SHALL BE SIZED, TO ALLOW FOR EASY CLEANING OF THE MANHOLE.

D. GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM ENTERING THE MANHOLE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS. NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

(5) EXCEPTIONS. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THE REQUIREMENTS IN SUBSECTION (1) OR (2) ABOVE, THE DEPARTMENT (FDEP) SHALL ALLOW EXCEPTIONS TO THESE REQUIREMENTS IF SUPPLIERS OF WATER OR CONSTRUCTION PERMIT APPLICANTS PROVIDE TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH EXCEPTION AND PROVIDE ALTERNATIVE CONSTRUCTION FEATURES THAT AFFORD A SIMILAR LEVEL OF RELIABILITY AND PUBLIC HEALTH PROTECTION. ACCEPTABLE ALTERNATIVE CONSTRUCTION FEATURES INCLUDE THE FOLLOWING:

(A) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE:
1. USE OF PRESSURE-RATED PIPE CONFORMING TO THE AMERICAN WATER WORKS ASSOCIATION STANDARDS INCORPORATED INTO RULE 62-555.330, F.A.C., FOR THE OTHER PIPELINE IF IT IS A GRAVITY- OR VACUUM-TYPE PIPELINE;
2. USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE; OR
3. USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.
(B) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS BEING LAID LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE:
1. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN; AND
2. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE OTHER PIPELINE IF IT IS NEW AND IS CONVEYING WASTEWATER OR RECLAIMED WATER.

NOTE: OKEECHOBEE UTILITY AUTHORITY OPERATING HOURS MONDAY-THURSDAY 7:00 am - 5:30 pm

NOTE: OKEECHOBEE UTILITY AUTHORITY MINIMUM DESIGN AND CONSTRUCTION STANDARDS (LATEST EDITION) ARE TO BE ADHERED TO AND WILL BE ENFORCED TO AT LEAST THESE MINIMUM STANDARDS.

Steven L. Dobbs Engineering, LLC
1062 JAKES WAY
Okeechobee, Fl 34974
Phone: (863) 824-7644
FLORIDA CERTIFICATE OF AUTHORIZATION No. 00029206

No.	DATE	BY	REVISIONS

LOUMAX DEVELOPMENT, INC.
PROPOSED SITE IMPROVEMENTS
LOCATED IN THE CITY OF OKEECHOBEE

UTILITY NOTES

CALL 48 HOURS BEFORE YOU DIG IN FLORIDA, IT'S THE LAW
Sunshine State One Call 811 of Florida, Inc.

JOB No.: 2019-043
SHEET 12 OF 12

Staff Report
Site Plan Review:

Prepared for: *The City of Okeechobee*

Applicant: *Loumax Development, Inc.*

Address: *312 SW 7th Avenue*

Petition No.: *21-002-TRC*

Description: *Addition to Existing Manufacturing Facility*

LaRue planning
1375 Jackson Street # 206 Fort Myers, FL 33901

General Information

Applicant/Owner	Loumax Development, Inc
Applicant Address	312 SW 7th Avenue Okeechobee, FL 34974
Site Address	312 SW 7th Street
Parcel Identification	3-15-37-35-0010-00620-0110
Contact Person	Steven L. Dobbs
Contact Phone Number	863.634.0194
Contact Email Address	sdobbs@stevedobbsengineering.com
For the legal description of the project or other information regarding this application, please refer to the application submittal package which is available by request at City Hall and is posted on the City's website prior to the advertised public meeting at https://www.cityofokeechobee.com/agendas.html.	

Future Land Use, Zoning and Existing Use

	Existing	**Proposed**
Future Land Use	Industrial	Industrial
Zoning	Industrial	Industrial
Use of Property	Manufacturing	Manufacturing
Acreage	4.82 acres	4.82 acres

General Description

The Applicant owns an existing manufacturing facility which has occupied a 1.64 acre parcel. Recently the City approved a future land use map amendment to Industrial (20-002-SSA), a rezoning to Industrial (20-001-R), and a right-of-way abandonment (20-002-SE) for adjacent property to the south which totals 3.18 acres. The Applicant is now proposing to construct additional warehouse, manufacturing, and office space which will occupy the adjacent property as well as some of the existing site and connect to the existing facility. Additional parking facilities, loading docks, and a stormwater detention area are also proposed.

The existing facility contained 600 square feet of office area and 17,000 square feet of warehouse/manufacturing area. The proposed addition contains 2,000 square feet of office area and 20,651 square feet of warehouse/manufacturing area. The Applicant has stated that all associated parcels are being joined to create one 4.82 acre parcel, though this action has yet to be completed.

Future Land Use, Zoning and Existing Use on Surrounding Properties

North	Future Land Use	Industrial
	Zoning	Industrial
	Existing Use	Light Industrial
East	Future Land Use	Single Family Residential
	Zoning	Residential Multiple Family
	Existing Use	Single Family and Duplex Residences
South	Future Land Use	Multifamily Residential
	Zoning	Residential Multiple Family
	Existing Use	Childcare Facility
West	Future Land Use	Multifamily Residential
	Zoning	Residential Multiple Family
	Existing Use	Approved site plan for church

Adequacy of Public Facilities

POTABLE WATER AND SANITARY SEWER: Potable water and sanitary sewer will be provided by the Okeechobee Utility Authority. Applying the City's Level of Service standard for nonresidential use of 0.15 gallons of water per day per square foot (gpd/sf) to the additional 22,651 square feet of building floor area indicates a demand of about 3,398 gallons of potable water per day.

SOLID WASTE DISPOSAL: On several occasions the County has confirmed a considerable level of excess capacity available to serve the solid waste disposal needs of other developments in the City. It's reasonable that the volume of solid waste generated by the proposed establishment can also be accommodated within the capacity of the County's Solid Waste Facility.

DRAINAGE: The Applicant has provided a drainage report and the site plan includes a stormwater retention feature, both of which will require review by the City's engineering service.

TRAFFIC GENERATION, ACCESS AND EGRESS:

The site plan depicts three new driveways on SW 7th Avenue in addition to the existing driveway for a total of 4 driveways, each providing ingress/egress, with the southernmost driveway intended for large truck access.

The Institute of Transportation Engineers provides an estimated trip generation rate for manufacturing at 3.82 weekday daily vehicle trips per 1,000 square feet. For a 40,251 square foot facility, this equates to an estimated 154 daily vehicle trips.

In addition to the standard size vehicle trips, expansion of this manufacturing facility will increase the number of semi-trucks coming and going in this predominantly residential neighborhood. The applicant has provided a truck route plan indicating that these trucks will be accessing the site from SW 7th Ave via SR-70. The applicant has agreed to bear the cost of improving the impacted section of local roadway (the section of SW 7th Ave from SR-70 to the southernmost proposed driveway of the expanded facility) in order to mitigate the expected deterioration of this roadway due to the increase in heavy truck traffic.

INTERIOR CIRCULATION:

Internal circulation of the proposed addition seems adequate.

SERVICE VEHICLE ACCESS AND EGRESS:

A. Fire Truck

The appropriateness of this plan will be addressed by the Fire Department.

B. Loading Zone

The proposed addition includes a loading dock sufficiently wide to accommodate at least three large trucks.

C. Dumpster Location and Trash Collection

No dumpster enclosure is depicted on the plans. The applicant should specify how trash storage and collection will be handled.

Compatibility with Adjacent Uses

The railway runs along the north property line and existing industrial uses lie to the north of that. The vacant properties to the east and west are zoned industrial and also have the railway running along their northern property lines. There are single family residences to the south, though the plans depict a proposed buffer of trees, shrubs and a drainage area between the proposed structures and the southern property line.

Compliance with Land Development Codes

Regulation	Required	Provided
Min front yard setback (SW 7th Ave) §90-345(2)	25’	Proposed building: 49’
Min side yard setback §90-345(2)	15’; 40’ abutting residential zoning district	Proposed building: 444’ from south side PL
Min rear yard setback §90-345(2)	20’; 40’ abutting residential zoning district	Proposed building: 75’
Max lot coverage §90-345(3)	50%	20%
Max impervious surface §90-345(3)	85%	47%
Max height §90-345(4)	45’	22’
Min parking space dimensions §90-511(b)	9’ by 20’	Parking spaces proposed on east side are only 10’ by 18’
Min ADA parking space dimensions FL Accessibility Code §502	12’ by 20’ w/ a 5’ wide access aisle	In compliance
Min Loading space dimensions §90-511(c)	10’ by 30’ w/14’ vertical clearance	Large loading dock proposed
Min drive aisle width §90-511(d)(2)	24’ for spaces 75º to 90º 20’ for spaces 60º to 74.9º 16’ for spaces less than 60º	In compliance
Paving §90-511(e)(1)	Each parking and loading space shall be paved	In compliance
Parking and loading space layout §90-511(e)(2)	Each parking or loading space shall open directly onto a driveway that is not a public street, and each parking space shall be designed to permit access without moving another vehicle.	In compliance

Regulation	Required	Provided
Pedestrian oriented design §90-511(e)(3)	Buildings, parking and loading areas, landscaping and open spaces shall be designed so that pedestrians moving between parking areas and buildings are not unreasonably exposed to vehicular traffic areas.	In compliance
Pedestrian walks §90-511(e)(4)	Paved pedestrian walks shall be provided along the lines of the most intense use, particularly between building entrances to streets, parking areas, and adjacent buildings.	Provided
Loading space identification §90-511(e)(5)	Loading facilities shall be identified as to purpose and location when not clearly evident.	Loading dock denotes loading area
Min parking space setback §90-511(e)(6)	No parking space accessed via a driveway from a public road shall be located closer than 20 feet from the right-of-way line of said public road.	In compliance
Min number of parking spaces §90-512(5) §90-512(6) §90-512(2)	1 per 1,000 sq ft of warehouse floor area up to 20,000 square feet plus 1 per 2,000 square feet of floor area to 40,000 square feet 1 per 300 sq ft of office floor area *29 parking spaces required for 37,651 sf warehouse area* *9 parking spaces required for 2600 sf office area*	51 parking spaces
Min number of ADA parking spaces Florida Accessibility Code §208.2	For facilities with 51 - 75 parking spaces, at least 3 must be ADA spaces	3 ADA parking spaces provided
Min number of Loading spaces §90-513(2)	1 for 5,000 to 25,000 sf, plus 1 for 25,000 to 60,000 sf of floor area	Large loading dock proposed to accommodate at least 3 trucks
Min Landscaping §90-532	1 tree and 3 shrubs/3,000 sf of lot area. *210,145 sf ÷ 3,000 = 70 trees and 210 shrubs required*	80 trees 210+ shrubs

Regulation	Required	Provided
Landscaping for parking and vehicular use areas §90-533(1)	18 sq ft of landscaping required per required parking space. *38 x 18 = 684 sq ft*	In compliance
Landscaping for parking and vehicular use areas §90-533(2)	One tree per 72 sf of required landscape area *684 ÷ 72 = 10 trees*	In compliance
Landscaping for parking and vehicular use areas §90-533(4)	Two feet of landscaping required between buildings and vehicular use areas.	In compliance.
Landscaping for parking and vehicular use areas §90-533(5)	Min. dimension of landscaped areas must not be less than 4' except adjacent to on-site buildings.	In compliance
Landscaping for parking and vehicular use areas §90-533(6)	One landscaped island at least 5' by 15' w/at least one tree must be provided for each 10 required parking spaces w/ a maximum of 12 uninterrupted parking spaces in a row.	In compliance
Landscaping for parking and vehicular use areas §90-533(7)	The remainder of a parking landscape area shall be landscaped with grass, ground cover, or other landscape material.	Not indicated
Landscape buffer areas §90-534(1)	10' minimum width of street frontage buffers	Buffer provided along SW 7th Ave is not in compliance
Landscape buffer areas §90-534(1)	2' minimum width of property line buffers	In compliance

Regulation	Required	Provided
Landscape buffer areas §90-534(2)	1 tree and 3 shrubs for each 300 square feet of required landscaped buffer *990 linear ft of frontage on SW 7th Ave minus 130' of driveway width is 860'. With 10' wide buffer 8,600 sf of landscaped area is required with 29 trees and 86 shrubs* *200 linear ft of south property line requires 400 sf of landscaped area with 1 tree and 4 shrubs* *1,031 linear ft of west property line requires 2,062 sf of landscaped area with 7 trees and 21 shrubs* *240 linear ft of north property line requires 480 sf of landscaped area with 2 trees and 5 shrubs*	Not in compliance In compliance In compliance In compliance
Landscape buffer areas §90-534(3)	Trees may be planted in clusters, but shall not exceed 50 feet on centers abutting the street.	In compliance
Landscape buffer areas §90-534(4)	The remainder of a landscape buffer shall be landscaped with grass, ground cover, or other landscape material	Not indicated
Species diversification §90-538(c)	When more than ten trees are required to be planted, two or more species shall be used.	Notation indicates that plantings will comply
Tree spacing from utility structures §90-538(d)	Trees and shrubs shall not be planted in a location where at their maturity they would interfere with utility services (in accordance with §90-543).	Notation indicates that plantings will comply
Shade §90-538(e)	Trees should maximize the shading of pedestrian walks and parking spaces.	In compliance
Landscape area barriers §90-538(g)	Landscaping shall be protected from vehicular encroachment by means of curbs, wheel stops, walks or similar barriers.	Not indicated

Regulation	Required	Provided
Drought tolerance §90-540(b)	Plants required to be installed shall be elected from the South Florida Water Management District's Xeriscape Plant Guide.	Notation indicates that plantings will comply
Drought tolerance §90-540(b)	At least 75 percent of the total number of plants required shall be state native very drought tolerant species as listed in the South Florida Water Management District Xeriscape Plant Guide. However, when a landscape irrigation system is installed, at least 75 percent or the total number of plants required shall be state native moderate or very drought tolerant species.	Notation indicates that plantings will comply
Min tree size §90-540(c)	Trees shall be at least ten feet high and two inches in diameter measured four feet above ground level at the time of planting.	Notation indicates that plantings will comply
Prohibited species §90-542	Species listed in §90-542 shall not be planted.	Notation indicates that plantings will comply
Fencing §90-639(a)	Fences shall not exceed a height of five feet in front of the front building line, nor a height of eight feet elsewhere	Not in compliance
Sidewalks § 78-36(a)(1)	Sidewalks required adjacent to right-of-way	A sidewalk is already provided in ROW along SW 7th Ave
Lighting § 78-71(a)(5)	All off-street parking areas, service roads, walkways and other common use exterior areas open to the public shall have a minimum of one-half horizontal foot-candle power of artificial lighting. Lighting, when provided, shall be directed away from public streets and residential areas and shall not be a hazard or distraction to motorists traveling a street.	Photometric plan provided which demonstrates adequate illumination of the parking area with minimal illumination intensity adjacent to ROW.

Recommendations

Based on the foregoing analyses, we recommend that approval of this site plan be conditional upon the following criteria being met prior to issuance of any building permits:

1. A joinder/unity of title must be completed for all associated parcels: 2-21-37-35-0A00-00005-0000, 3-15-37-35-0010-01900-0010, 3-21-37-35-0020-02510-0130, 3-15-37-35-0010-01910-0010.

2. The applicant should either be approved for a variance to allow relief from the landscape buffer requirements of City landscape code section 90-534, or the site plan should be revised to meet all landscape buffer requirements.

3. The remainder of the parking landscape areas and buffer landscape areas which are not occupied by trees and shrubs shall be landscaped with grass, ground cover, or other landscape material (such as mulch).

4. The applicant should either be approved for a variance to allow relief from the maximum fence height requirements of City code section 90-639, or the site plan should be revised to meet maximum allowable fence heights.

5. The applicant should either be approved for a variance to allow relief from the minimum parking space dimensions of City code section 90-511(b), or the site plan should be revised to provide parking spaces which are at least 9'x20'.

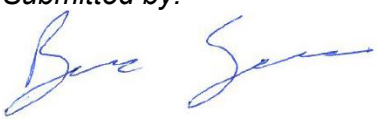
5. The applicant shall pay the City for the costs associated with the necessary improvements to SW 7th Ave as determined by the City engineering service.

6. The applicant should provide details regarding the proposed storage and collection of trash which satisfies all requirements of the City's Public Works Director.

7. The appropriateness of this plan as it applies to fire truck access should be addressed by the Fire Department in their review.

8. The City's engineering service should review the proposed stormwater facilities and the submitted drainage report to ensure on site stormwater will be captured and released according to all applicable standards.

Submitted by:



Ben Smith, AICP
Sr. Planner, LaRue Planning

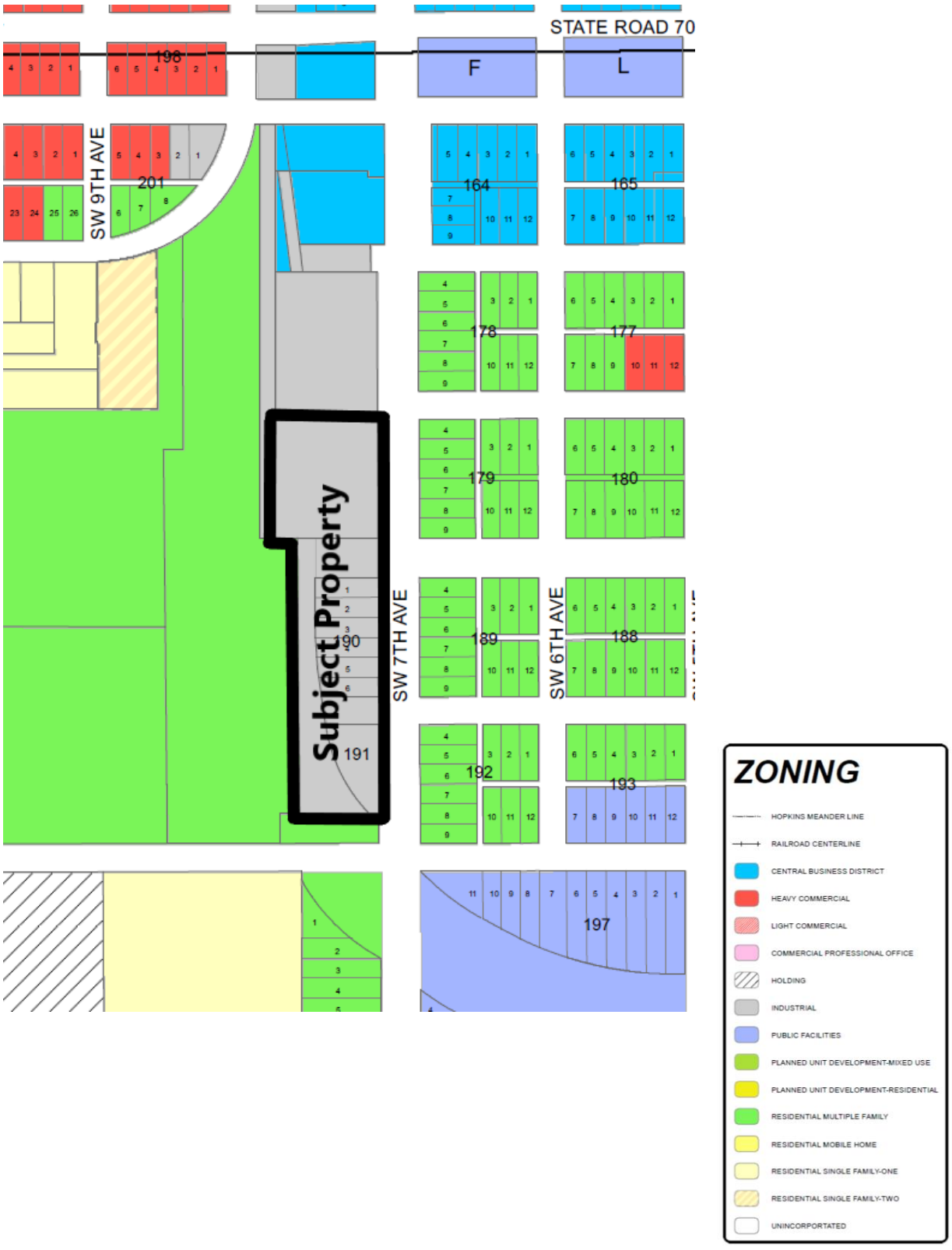
Submitted: July 7, 2021

TRC Hearing date: July 15, 2021

Attachments: Future Land Use, Subject & Environs; Zoning, Subject & Environs;
Existing Land Use, Subject & Environs

FUTURE LAND USE
Subject Site and Environs

ZONING
Subject Site and Environs



EXISTING LAND USE

Subject Site and Environs