



GERDAU AMERISTEEL US, INC.

GLN Downstream LAU Expansion Project

Plant Expansion - New Office Building, Fabrication Shop Expansion and Site Improvements

2025 Tigertail Boulevard, Dania Beach, Florida 33004

Broward County

SP-02-15; City Commission Meeting

PROJECT TEAM [SECTION 635-50 (A)]

GERDAU AMERISTEEL US, INC. (OWNER)

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P.O. BOX 31328
TAMPA, FL 33631
TEL: (813)740-3301

BATSON-COOK CONSTRUCTION (GENERAL CONTRACTOR)

BRIAN KLUGE, PROJECT MANAGER
8860 PHILIPS HIGHWAY
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SMITH • McCRARY ARCHITECTS INC. (ARCHITECT)

JAN H. SMITH, AIA
4230 PABLO PROFESSIONAL COURT, STE. 102
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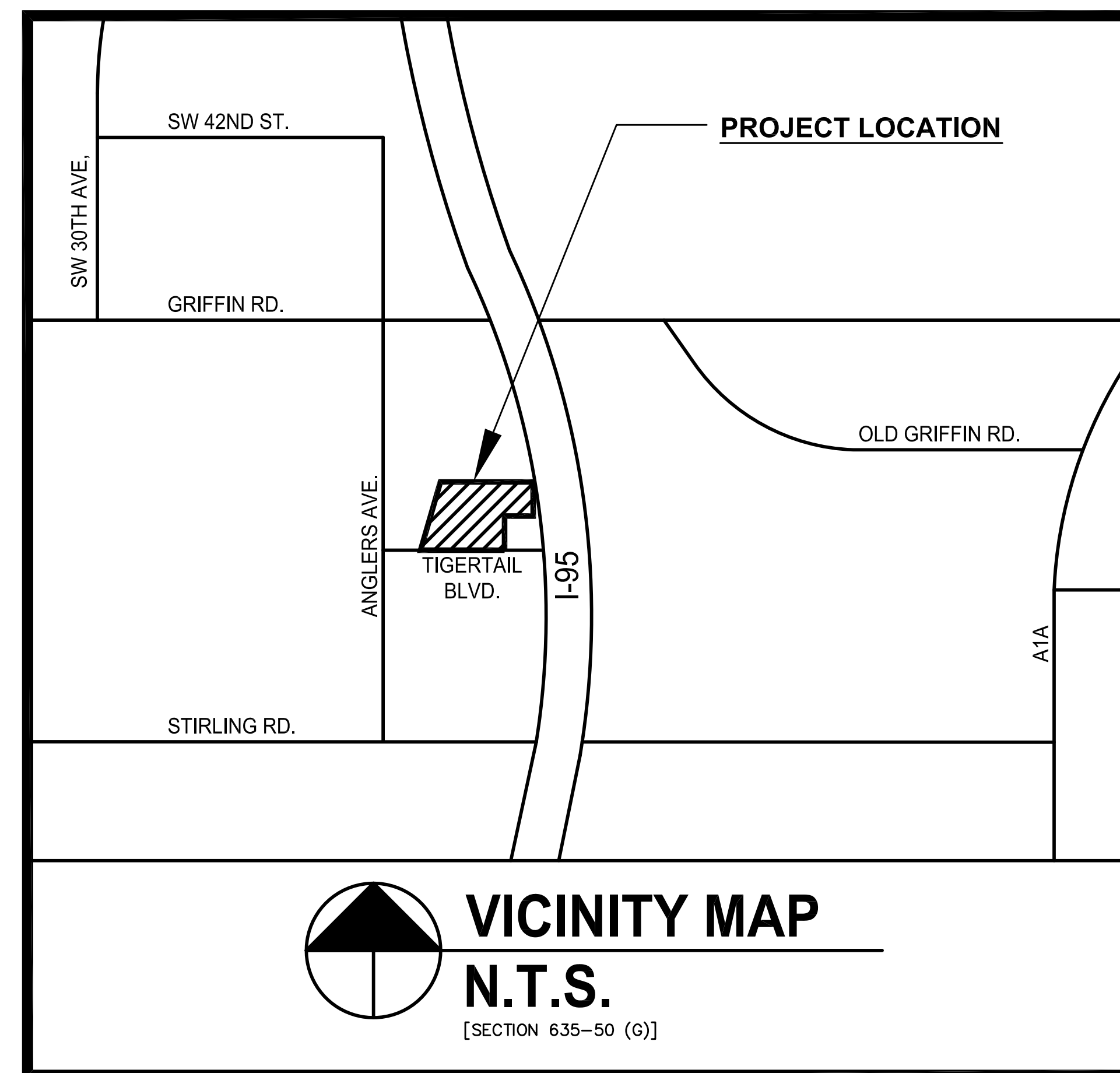
MARY E. LEAPTROTT, PE
10060 SKINNER LAKE DR. STE. 500
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JBC PLANNING & DESIGN (LANDSCAPE ARCHITECT)

JILL COHEN, RLA, AICP, LEED AP
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WESTON, FL 33327
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POWELL & HINKLE ENGINEERING, P.A. (MEP)

ROBERT HINKLE, PE
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ORANGE PARK, FL 32073
TEL: (904)264-5570



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PROJ. NO.: BC-GERDAU
 PHASE: City Commission Meeting
 DATE: 7/21/15

COMPUTATIONS [SECTION 635-50 (Y)]

- SEE "PROJECT SITE INFORMATION" ITEM 1 ON THIS SHEET.
- PROPOSED NET AND GROSS DENSITY - N/A
- TOTAL EXISTING AND PROPOSED SQUARE FOOTAGE OF BUILDINGS AND BREAKDOWNS BY FLOOR, USE TYPE, BAY OR TENANT SPACE, AND DWELLING UNIT, INCLUDING REQUIRED AND PROVIDED MINIMUM FLOOR AREAS. - SEE EXISTING USES & PROPOSED USES CHART ON THIS SHEET.
- AREA DEVOTED TO VEHICULAR USE AREAS (ROADWAYS, AISLES, PARKING) - SEE LANDSCAPE CODE REQUIREMENT CHART. SEE SHEET LNP-6.
- GROSS PROJECT AREA ALLOCATED FOR COMMON OPEN SPACE - N/A
- LOT COVERAGE BY ROOFED STRUCTURES:
TOTAL ROOF STRUCTURE AREA = 118,900 SF
(118,900 SF ÷ 508,343 SF) X 100 = 23% LOT COVERAGE
- PERVIOUS AND IMPERVIOUS SURFACE AREA, ALSO EXPRESSED AS A PERCENTAGE OF THE SITE AREA - SEE CIVIL SHEET C-2.
- NUMBER OF REQUIRED AND PROVIDED PARKING SPACES INCLUDING HANDICAP-ACCESSIBLE, COMPACT AND ANY SPACES DEVOTED TO ATTENDANT PARKING IF PERMITTED - SEE CIVIL SHEET C-2
- MINIMUM LOT AREA, WIDTH AND DEPTH REQUIRED AND PROVIDED - N/A
- MINIMUM YARD SETBACKS OR SPECIFIC BUILD-TO LINES REQUIRED AND PROVIDED - SEE SCHEDULE OF LOT, YARD AND BULK REGULATIONS CHART ON THIS SHEET.
- MAXIMUM AND MINIMUM (IF APPLICABLE) REQUIRED AND PROPOSED BUILDING HEIGHT - SEE SCHEDULE OF LOT, YARD AND BULK REGULATIONS CHART ON THIS SHEET.
- MINIMUM FLOOR AREA REQUIRED - N/A/
- ADJACENT ZONING AND EXISTING LAND USES - IROC

PROPOSED VARIANCES

- ~~VARIANCE #1. SECTION 511-36 APPEARANCE - CANCELLED REQUEST~~
- ~~VARIANCE #2. SECTION 511-40 LANDSCAPE AND FENCING - CANCELLED REQUEST~~
- VARIANCE #3 SECTION 275-120 PERIMETER BUFFER LANDSCAPE REQUIREMENTS
- VARIANCE #4 SECTION 205-10 SCHEDULE OF LOT, YARD AND BULK REQUIREMENTS
- VARIANCE #5 SECTION 115-50 CONDITIONS OF USE
- VARIANCE #6 SECTION 275-100 INTERIOR LANDSCAPE REQUIREMENTS FOR VEHICULAR USE (TERMINAL LANDSCAPE PENINSULAS)
- VARIANCE #7 SECTION 265-110 DESIGN AND CONSTRUCTION STANDARDS OF PARKING LOTS
- VARIANCE #8 SECTION 265-170 NONCONFORMING PARKING FACILITIES

PROJECT SITE INFORMATION

- NET ACREAGE = 11.67 AC. (508,343 S.F.) [SECTION 635-50 (F)]
- EXISTING ZONING OF THE SUBJECT SITE IS IROC. ADJACENT PROPERTIES OF SUBJECT SITE PROPERTY LINE ARE ZONED AS IROC. [SECTION 635-50 (C)]
- MAIL TO BE DELIVERED AT FRONT DOOR MAIL SLOT AT PROPOSED OFFICE BUILDING; NO ON-SITE RECEPTACLE. [SECTION 635-50 (W)]
- SCHEDULE OF LOT, YARD AND BULK REGULATIONS [SECTION 205-10]

SUBJECT SITE	(D) INDUSTRIAL DISTRICT			DENSITY			BULK			YARD		
	AREA (SF)	WIDTH (FT.)	DEPTH (FT.)	MAX.	MAXIMUM		MINIMUM					
					MINIMUM	MAX.						
IROC	N/A	N/A	N/A	N/A	5/62	70	80	GREATER OF 30 OR 1X BUILDING HEIGHT	GREATER OF 20 OR 1/2 BUILDING HEIGHT	GREATER OF 20 OR 1/2 BUILDING HEIGHT	GREATER OF 30 OR 1X BUILDING HEIGHT	GREATER OF 50 OR 1X BUILDING HEIGHT
	N/A	N/A	N/A	N/A	(1 Story/40' Height)	23%	64%	40'	20'	20'	N/A	N/A

*BUILDING HEIGHT OF PROPOSED FABRICATION SHOP = 40'
SEE VARIANCE #4. - REQUEST FOR SETBACK OF 35'.

- OFF-STREET LOADING REQUIREMENTS [SECTION 270]
 - LOADING SPACE DIMENSIONAL REQUIREMENT IS 75'L x 12'W x 14'H [SECTION 270-10]
 - LENGTH OF LARGEST VEHICLE TO BE 69'
 - 69' + 6' = 75' REQUIRED LENGTH
 - 12' REQUIRED WIDTH
 - 14' MINIMUM VERTICAL CLEARANCE
 - CALCULATION FOR LOADING SPACES REQUIRED. [SECTION 270-20 (PARAGRAPH A & C)]
 - INDUSTRIAL LOADING SPACE REQUIREMENTS
 - AGGREGATE FLOOR AREA OF INDUSTRIAL = 106,800 SF
 - 3 SPACES FOR THE FIRST 60,000 SF AND 1 SPACE FOR EACH ADDITIONAL 25,000 SF
 - 5 REQUIRED SPACES FOR INDUSTRIAL
 - OFFICE LOADING SPACE REQUIREMENTS
 - AGGREGATE FLOOR AREA OF OFFICE = 10,800 SF
 - OVER 10,000 BUT NOT OVER 100,000 = 2 SPACES
 - 2 REQUIRED SPACES FOR OFFICE
- A TOTAL OF 7 LOADING SPACES ARE REQUIRED FOR THE PROJECT SITE.

EXISTING & PROPOSED USES [SECTION 115-40]

GERDAU SITE AND BUILDING USE SUMMARY (EXISTING AND PROPOSED AREAS)		
Per ARTICLE 100-6 GENERAL USE REGULATION APPLYING TO ALL ZONES (Section 100-20, Paragraph C-Section 115-20 Industrial Districts)		
IROC ZONING		
BUILDING USE	SIZE (sf)	NOTES
EXISTING FABRICATION SHOP (LIGHT INDUSTRIAL USE per SECTION 115-40)	59,100 SF <i>(area to be removed)-5500</i> 53,600 sf	INCLUDES EXISTING MULTIPURPOSE and DINING ROOM A portion of the existing Fab Shop is to be demolished. Area includes shed roof at outriggers.
PROPOSED FABRICATION SHOP ADDITION (LIGHT INDUSTRIAL USE per SECTION 115-40)	53,200 SF	Same open structure
EXISTING OPERATIONS OFFICE BUILDING (An ACCESSORY USE defined in SECTION 100-40, Paragraph C). This is an office function "customarily incidental and subordinate to the Principal Use (Light Industrial) located on the same lot."	10,703 SF	TO BE DEMOLISHED (8640 if conditioned)
PROPOSED OPERATIONS OFFICE BUILDING (An ACCESSORY USE defined in SECTION 100-40, Paragraph C). This is an office function "customarily incidental and subordinate to the Principal Use (Light Industrial) located on the same lot."	10,800 SF 1300 SF	INCLUDES ENTRY OVERHANGS; Open walkway canopy
SITE USE	SIZE (sf)	NOTES
EXISTING CAR PARKING AREA	2900 SF	2 areas of exist parking to be removed one to remain (Area: 6400; 14,900; 2900)
PROPOSED CAR PARKING AREA	30,800 SF	
EXISTING FLEET TRUCK/ TRAILER STAGING /PARKING AREA	76,900 sf <i>(area to be removed)-52,600sf</i> 34,000 SF	One fleet area to be removed; DOES NOT INCLUDE DRIVES (Area= 42,900; 13,400; 16,000; 4500)
PROPOSED FLEET TRUCK/ TRAILER STAGING /PARKING AREA	13,700 sf	230 x 60 of new; other is existing at NW corner
EXISTING EXTERIOR STORAGE AREA	19,400 sf	Steel coil storage (Area= 11,800; 7600)
PROPOSED EXTERIOR STEEL STORAGE AREA	4180sf	Steel coil storage
TOTAL EXISTING SITE AREA - prior to ROW dedication	11.7 ACRES	
TOTAL EXISTING SITE AREA - after ROW dedication	11.67 ACRES	

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Jan Hammeck Smith AF0013348

GLN Downstream LAU Expansion Project

Plant Expansion - Office, Fabrication Shop and Site Improvements

Dania Beach, Florida 33004

Broward County

SP-02-15

PROJ. NO. BC-GERDAU

M. BRW BY: JHS CK BY:

SITE DATA

PROJECT INFORMATION

MK	DATE	REVISION

PHASE:

CITY COMMISSION

ISSUE DATE: 7/21/15

INFO-1

TRAFFIC STUDY

Traf Tech
ENGINEERING, INC.

April 27, 2015

Mr. Rick Welch, P.E.
President
Connelly & Wicker, Inc.
10060 Skinner Lake Drive
Suite 500
Jacksonville, Florida 32246

Re: **GLN Downstream LAU Expansion Project – Traffic Engineering Evaluation
Dania Beach, Florida**

Dear Rick:

Per your request, Traf Tech Engineering, Inc. conducted a traffic impact evaluation associated with the proposed expansion of the GLN Downstream LAU site located in the City of Dania Beach in Broward County, Florida. More specifically, the site is located between I-95 and the CSX Railroad just north of Tigertail. It is our understanding that the proposed expansion project consists of approximately 44,030 additional square feet (from 59,000 to 103,030 sq ft) and 35 new employees (from 60 to 95 employees).

A trip generation comparison analysis was performed using the trip generation equations published in the Institute of Transportation Engineers' (ITE) *Trip Generation* manual (9th Edition). The trip generation comparison analysis was undertaken for daily, AM peak hour, and PM peak hour conditions. The analysis was based on the following assumptions:

EXISTING LAND USE

- 59,000 square feet of industrial use

PROPOSED LAND USE

- 103,030 square feet of industrial use

According to ITE's *Trip Generation* manual (9th Edition), the trip generation equations used for the existing and proposed land uses are:

GENERAL LIGHT INDUSTRIAL (ITE Land Use 110)

Daily Trip Generation
 $T = 6.97(X)$

Where T = number of daily trips
X = 1,000 square feet of gross floor area

8400 North University Drive, Suite 309, Tamarac, Florida 33321
Tel: (954) 582-0988 Fax: (954) 582-0989

Traf Tech
ENGINEERING, INC.

ID	Location	Daily Capacity	Current Daily Trips	Current LOS
232	Stirling Road west of I-95	59,900	42,500	C
284	Griffin Road west of I-95	59,900	29,000	C
625	Anglers Avenue south of Griffin Rd	29,160	16,000	C

Source: Broward County Roadway Capacity and Level of Service Analysis, FDOT, Traf Tech Engineering.

In summary, the proposed expansion project is anticipated to generate minimal traffic impacts to the surrounding street system. Furthermore, ample roadway capacity is available near the project site in order to absorb the additional traffic impacts generated by the proposed industrial development.

Please give me a call if you have any questions.

Sincerely,

TRAF TECH ENGINEERING, INC.

Joseph E. Vargas, P.E.
Senior Transportation Engineer

ALTERNATE PARKING STANDARD

OWNER PROPOSED ALTERNATE PARKING STANDARD
Section 265-60, Alternate Parking Standards:

The Owner requests that the following criteria be used for parking calculations.

- For the Industrial Use Building (Fabrication Facility)**
Owner proposes that One (1) per two thousand (2000) sf be used to determine parking for the Fabrication Facility. All other use ratios create an excess parking supply resulting in inefficient land use at the expense of landscaped areas, building areas and subsequent employment.
The existing and proposed Fabrication Facility addition is a unique building. The characteristic of this industrial building is that the fabrication process requires extremely large areas to accommodate the equipment for bending steel and the areas to store the steel. (For example, one machine is 20 feet wide x 133 feet long.) Therefore the total area required for this industrial function is extremely large compared to the actual number of employees that are required for the task. The diagram below describes the new and existing areas that will be utilized by employees vs. equipment/stored items.

The Code defined ratio is most similar to "warehouse" use, although the building is not a warehouse.

- The attached documentation demonstrates the actual parking needs and is included on the sheet describing the actual number of current and existing employees.
 - 60 existing employees; existing parking spaces 72 spaces
 - 35 future employees
 - 95 total employees (proposed parking spaces 98)
- The diagram demonstrates the unusually large sizes of equipment required for the large equipment noted below.

For the Business Office (an accessory to the Principal Use) the Code required One (1) per three hundred (300) sf of Section 265-50 (C) Line 45 for "Office, Business and Professional" is used to calculate this accessory building. This is not an alternate parking standard. [Note that (D) Industrial Use, line 60, "Industrial, Manufacturing, labs, and research Uses", states to calculate accessory office separately. This methodology has been applied in this calculation.]

Traf Tech
ENGINEERING, INC.

AM Peak Hour
 $T = 0.92(X)$ (88% ins and 12% out)
Where T = number of AM peak hour trips
X = 1,000 square feet of gross floor area

PM Peak Hour
 $T = 0.97(X)$ (12% ins and 88% out)
Where T = number of PM peak hour trips
X = 1,000 square feet of gross floor area

Using the above-listed trip rates from the ITE document, a trip generation comparison analysis was undertaken for the industrial development project. Table 1 documents the results of the trip generation comparison analysis.

Land Use	Size	Number of Trips		
		Daily	AM Peak	PM Peak
EXISTING INDUSTRIAL USE				
Industrial	59,000 sq.ft.	411	54	57
PROPOSED INDUSTRIAL USE				
Industrial	103,030 sq.ft.	718	95	100
Difference	44,030 sq.ft.	+307	+41	+43

Source: ITE Trip Generation Manual (9th Edition)

As indicated in Table 1, the proposed expansion project is projected to generate approximately 307 additional daily trips, approximately 41 new AM peak hour trips, and approximately 43 new trips during the typical afternoon peak period. Hence, the new trips anticipated to be generated by the proposed expansion project are minimal from a traffic-engineering standpoint (one new peak hour trip every one minute and 24 seconds).

Additionally, a review of current traffic conditions in the vicinity of the subject project indicates that ample roadway capacity is available near the project site. Table 2 on the following page presents the current traffic conditions of the adjacent street system.

GERDAU

7/15/2015

To whom this may concern:

RE: GERDAU AMERISTEEL US, INC.
Fort Lauderdale Reinforcing Steel Employee Headcount

Please accept this letter of verification of the number of employees that are currently employed by the Gerdaus Fort Lauderdale Reinforcing steel. This number may vary on average throughout the course of a year from 45 to 60 employees.

Office Personnel – 13
Drivers – 3
Production – 25
Production Contractors – 4
CURRENT EMPLOYEE TOTAL : 45

The new fabrication facility expansion anticipates hiring a total number of new employees in the range of 35 - 45, for a maximum total employee count of 95. The anticipated breakdown by staff title is as follows:

Office Personnel – 26
Drivers – 6
Production Contractors – 8
Other – 5
FUTURE EMPLOYEE TOTAL: 95

(Note that this facility is based on a daily double work shift, thereby only half the employee population will be on site at any one time with a potential 20 minute overlap.)

For any questions or concerns regarding this information you may contact Shevane McFatyre at 954-921-2500.

Sincerely,

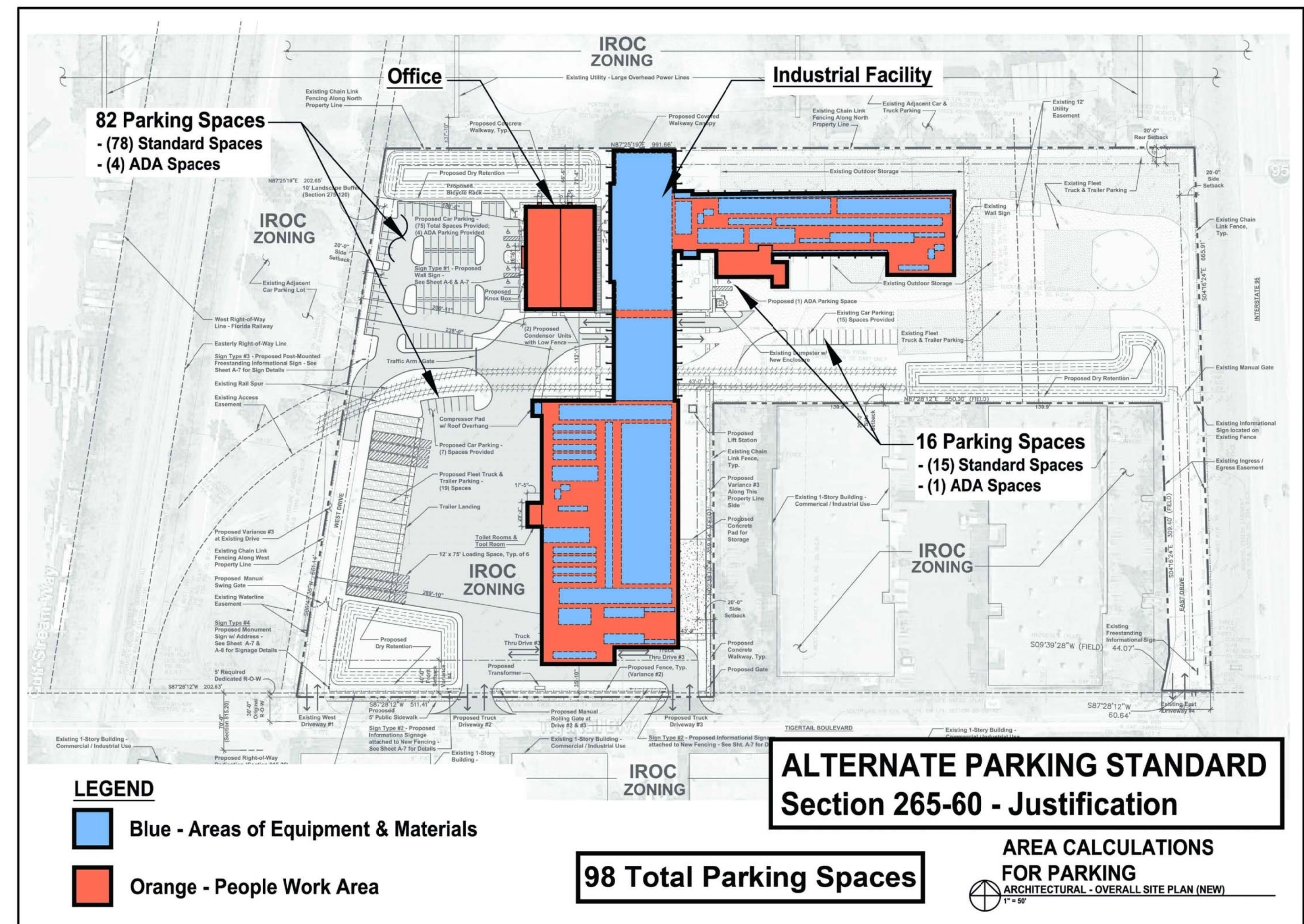
Shevane McFatyre

Shevane McFatyre

Local HR

Fort Lauderdale Reinforcing Steel

2025 Tigertail Boulevard - Dania Beach, FL - 33004 - Phone: 954-921-2500 - www.gerdau.com/longsteel



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GLN Downstream LAU Expansion Project

Plant Expansion - Office, Fabrication Shop and Site Improvements

Dania Beach, Florida 33004

Broward County

SP-02-15

REV	DATE	DESCRIPTION
1		
2		
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5		
6		
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8		
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10		

ALTERNATIVE PARKING

STANDARD &

TRAFFIC STUDY

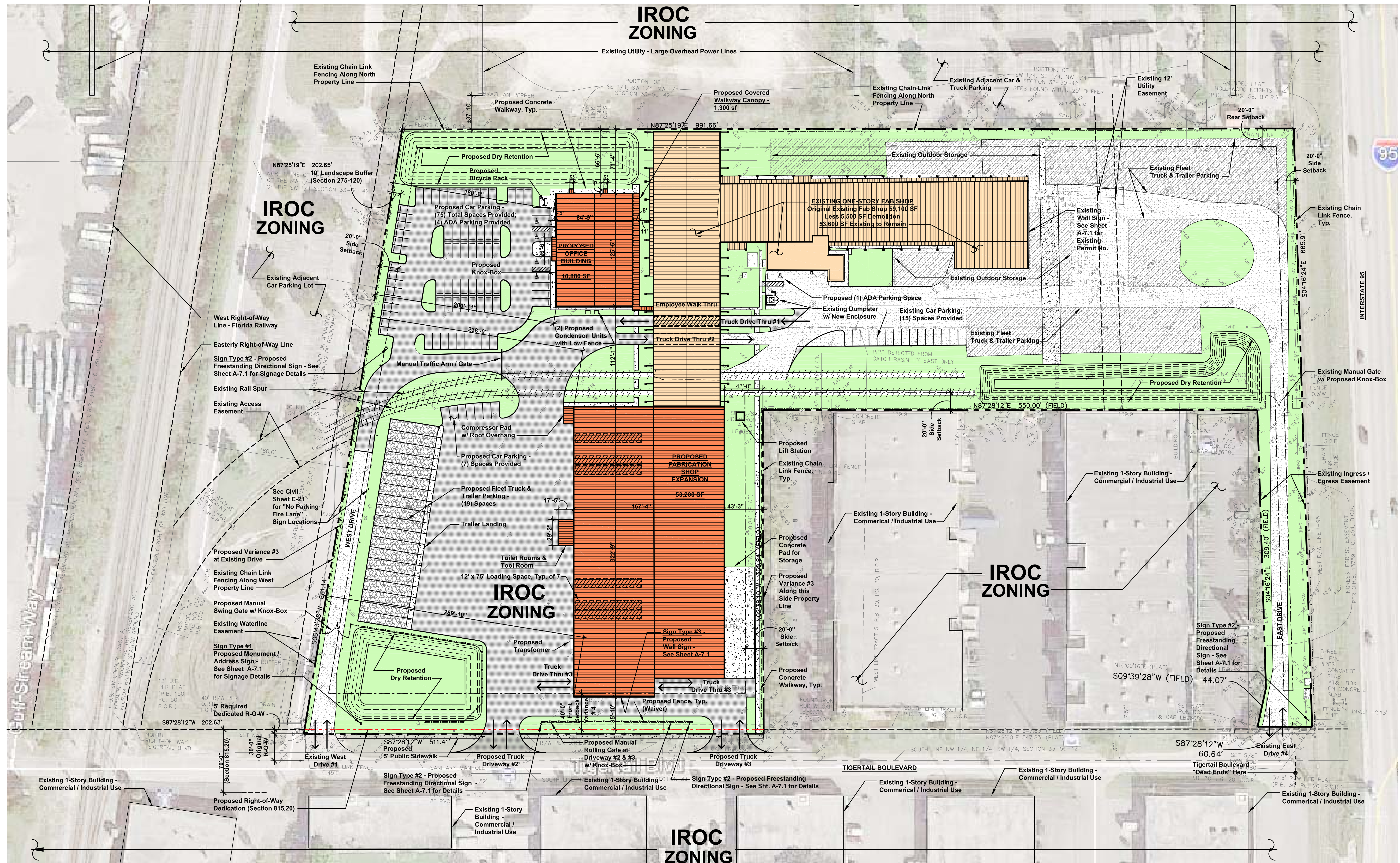
INFO-2

PHASE:
CITY COMMISSION
ISSUE DATE: 7/21/15

OVERALL SITE PLANS (Scale 1:50)

- A-1 Architectural - Overall Site Plan (New)
- A-2 Architectural - Overall Demo Plan (Proposed)
- A-3 Architectural - Aerial and Photos (Existing)
- A-4 Lighting Photometric Site Plan

- C-1 Civil - Overall Grading Drainage and Erosion Control
- C-2 Civil - Overall Geometry and Utility Plan
- C-3 Civil - Pre-Development Drainage Plan
- C-4 Civil - Post-Development Drainage Plan



LEGEND

- Proposed Asphalt Paving
- Existing Asphalt Paving
- Proposed Concrete Paving
- Existing Concrete Paving
- Proposed Gravel Paving
- Landscape / Green Space / Retention
- Proposed Building / Canopy / Overhang
- Existing Building / Canopy / Overhang
- Existing Fleet Truck & Trailer Parking / Existing Exterior Storage
- Existing Property Line
- Proposed Setback
- Right-of-Way / Utility Easement
- Existing Fencing
- Proposed Fencing (Waiver)
- New Property Line / Dedicated R-O-W

ARCHITECTURAL - OVERALL SITE PLAN (NEW)
1" = 50'

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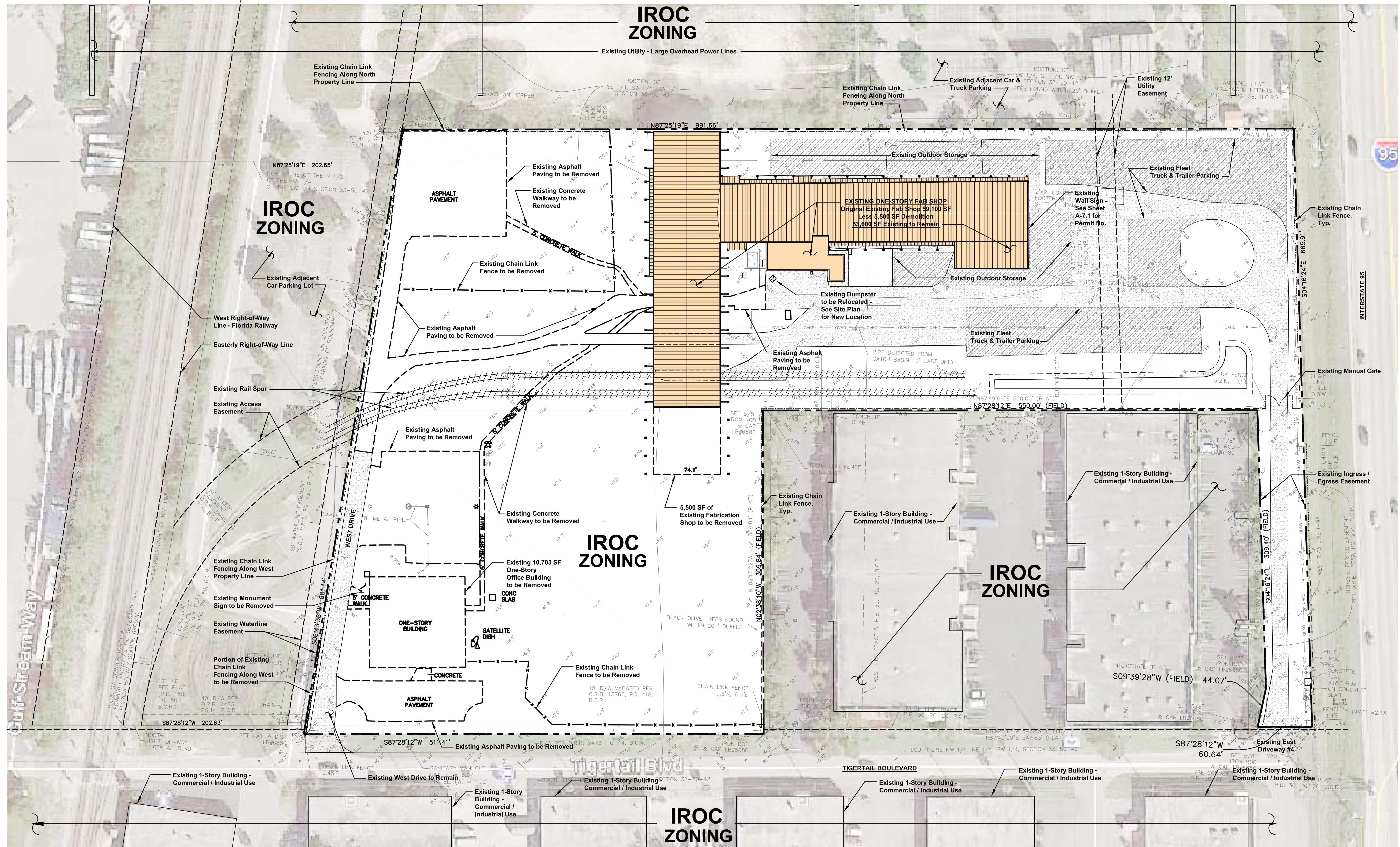
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Dania Beach, Florida 33004
Broward County
SP-02-15

MK	DATE	REVISION

ARCHITECTURAL - OVERALL SITE PLAN (NEW)

A-1

PHASE:
CITY COMMISSION
ISSUE DATE: 7/21/15



LEGEND

	- Existing Asphalt Paving		- Existing Fleet Truck & Trailer Parking / Existing Exterior Storage
	- Existing Concrete Paving		- Existing Fencing
	- Existing Building / Canopy / Overhang		- To Be Removed / Demolished
	- Property Line		
	- Existing Fencing		
	- To Be Removed / Demolished		

ARCHITECTURAL - OVERALL DEMO PLAN (PROPOSED)
1" = 50'

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ARCHITECTURAL - OVERALL DEMO PLAN (PROPOSED)

A-2

PHASE:
CITY COMMISSION
ISSUE DATE: 7/21/15

PROJ. NO. BC-CER04U DRW. BY: MAM CK. BY: JHS

ADJACENT LAND USES AND BUILDINGS

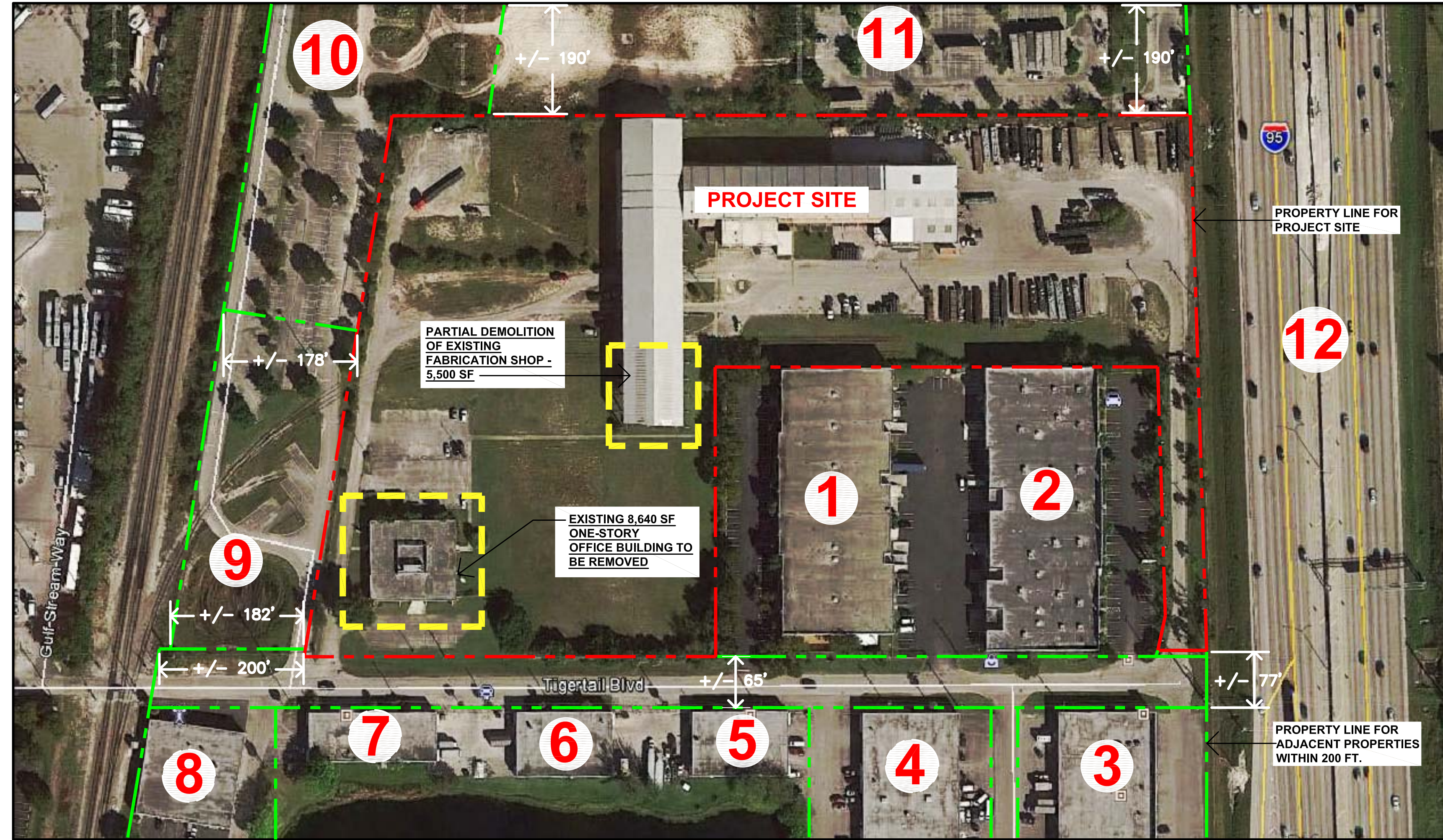
[SECTION 635-50 (E)]

- ① KTR HOLLYWOOD LLC & KTR CAPITAL PARTNERS
a. 1 Story
b. Zoning Code: IROC
- ② KTR HOLLYWOOD LLC & KTR CAPITAL PARTNERS
a. 1 Story
b. Zoning Code: IROC
- ③ TIGERTAIL INDUSTRIAL PARK LLC
a. 1 Story
b. Zoning Code: IROC
- ④ TIGERTAIL INDUSTRIAL PARK LLC
a. 1 Story
b. Zoning Code: IROC
- ⑤ TIGERTAIL INDUSTRIAL PARK LLC
a. 1 Story
b. Zoning Code: IROC
- ⑥ TIGERTAIL INDUSTRIAL PARK LLC
a. 1 Story
b. Zoning Code: IROC
- ⑦ TIGERTAIL INDUSTRIAL PARK LLC
a. 1 Story
b. Zoning Code: IROC
- ⑧ TIGERTAIL INDUSTRIAL PARK LLC
a. 1 Story
b. Zoning Code: IROC
- ⑨ WHITE OAK VENTURES CO.
a. 1 Story
b. Zoning Code: IROC
- ⑩ SPORTSMAN PARK DEV CO.
a. 1 Story
b. Zoning Code: IROC
- ⑪ TGC DANIA LLC & GOODMAN COMPANY
a. 1 Story
b. Zoning Code: IROC
- ⑫ FLORIDA DEPT OF TRANSPORTATION OFFICE RIGHT OF WAY

(BASED ON BROWARD COUNTY PROPERTY APPRAISER MAP INFORMATION)

LEGAL DESCRIPTION [SECTION 635-50 (F)]

DESCRIPTION: (PER WARRANTY DEED, O.R.B. 3460, PG 751, B.C.R.)
 THE SOUTH 35 FEET THAT PORTION OF THE "AMENDED PLAT OF HOLLYWOOD HEIGHTS", PLAT BOOK 14, PAGE 58 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, LYING WEST OF THE WEST RIGHT-OF-WAY LINE OF INTERSTATE 95 (STATE ROAD No. 9);
 THE SOUTH 35 FEET OF THAT PORTION OF THE SE 1/4 OF THE NW 1/4 OF SECTION 33, TOWNSHIP 50 SOUTH, RANGE 42 EAST, LYING WEST OF THE WEST LINE OF SAID "AMENDED HOLLYWOOD HEIGHTS";
 THE SOUTH 35 FEET OF THAT PORTION OF THE SW 1/4 OF THE NW 1/4 OF SAID SECTION 33, LYING EAST OF A LINE THAT IS 300 FEET EAST OF (AS MEASURED AT RIGHT ANGLES TO) AND PARALLEL WITH THE WEST RIGHT-OF-WAY LINE OF THE SEABOARD AIR LINE RAILROAD;
 ALL THAT PROPERTY IN TRACT 5, OF TIGERTAIL GROVE RE-SUBDIVISION, LYING IN SECTION 33, TOWNSHIP 50 SOUTH, RANGE 42 EAST, AS RECORDED IN PLAT BOOK 30, PAGE 20, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA; EXCEPT THE PORTION THEREOF CONVEYED TO BROWARD COUNTY, FLORIDA FOR ROAD AND HIGHWAY PURPOSES BY SPECIAL WARRANTY DEED DATED SEPTEMBER 25, 1962 AND RECORDED IN OFFICIAL RECORDS 2473, PAGE 614 OF THE PUBLIC RECORDS OF SAID COUNTY;
 ALL THAT PART OF THE N 1/2 OF THE NW 1/4 OF THE SW 1/4 OF SECTION 33, TOWNSHIP 50 SOUTH, RANGE 42 EAST, LYING EAST OF THE SEABOARD-ALL FLORIDA RAILWAY RIGHT-OF-WAY IN BROWARD COUNTY, FLORIDA; EXCEPT, BEGINNING AT THE INTERSECTION OF THE NORTH RIGHT-OF-WAY LINE OF TIGERTAIL BOULEVARD AND A POINT 100 FEET EAST OF THE WEST RIGHT-OF-WAY LINE OF THE SEABOARD-ALL FLORIDA RAILWAY, AS MEASURED AT RIGHT ANGLES, SAID POINT OF BEGINNING ALSO BEING DESCRIBED AS THE SOUTHWEST CORNER OF A TRACT FORMERLY KNOWN AS THE SEABOARD-ALL FLORIDA RAILWAY STATION GROUND; THENCE RUN EASTERLY ALONG THE NORTH RIGHT-OF-WAY LINE OF TIGERTAIL BOULEVARD 202.65 FEET; THENCE NORTHEASTERLY PARALLEL TO THE SAID RIGHT-OF-WAY LINE TO THE NORTH LINE OF THE N 1/2 OF THE NW 1/4 OF THE SW 1/4 OF SECTION 33, TOWNSHIP 50 SOUTH, RANGE 42 EAST; THENCE WESTERLY A DISTANCE OF 202.65 FEET ALONG SAID NORTH LINE OF THE N 1/2 OF THE NW 1/4 OF THE SW 1/4 TO A POINT 100 FEET EAST OF THE WEST RIGHT-OF-WAY LINE OF THE SEABOARD-ALL FLORIDA RAILWAY, AS MEASURED AT RIGHT ANGLES; THENCE SOUTHWESTERLY ALONG THE EASTERLY RIGHT-OF-WAY LINE TO THE POINT OF BEGINNING; THE SAID EXCEPTED TRACT OF LAND HEREIN DESCRIBED ALSO BEING KNOWN AS PART OF THE TRACT FORMERLY KNOWN AS SEABOARD-ALL FLORIDA RAILROAD GROUNDS; AND EXCEPT THE PORTION THEREOF CONVEYED TO BROWARD COUNTY, FLORIDA FOR ROAD AND HIGHWAY PURPOSES BY SPECIAL WARRANTY DEED DATED SEPTEMBER 25, 1962 AND RECORDED IN OFFICIAL RECORDS BOOK 2473, PAGE 614 OF THE PUBLIC RECORDS OF BROWARD COUNTY. (END OF DEED DESCRIPTION)
 (ADDITIONAL LESS-OUT PARCEL PER BROWARD COUNTY APPRAISAL);
 AND ALSO LESS THEREFROM PARCEL A OF DESIGNER'S PLACE AT DANIA, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 129, PAGE 33 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.



1 AERIAL OF EXISTING PROJECT SITE
 A-3 N.T.S.



4 PARTIAL EXISTING WEST ELEVATION
 A-3 N.T.S.



3 EXISTING SOUTH ELEVATION
 A-3 N.T.S.



2 EXISTING EAST ELEVATION LOOKING FROM I-95
 A-3 N.T.S.

SMITH • McCRARY ARCHITECTS INC.

4230 Pablo Professional Court, Suite 102
 Jacksonville, Florida 32224
 Tel (904)242-7200 Fax (904)242-0404
 SIA Florida License Number AA0002361

Jan Hammeck Smith AF0013348

GLN Downstream LAU Expansion Project

Plant Expansion - Office, Fabrication Shop and Site Improvements

Dania Beach, Florida 33004

Broward County

SP-02-15

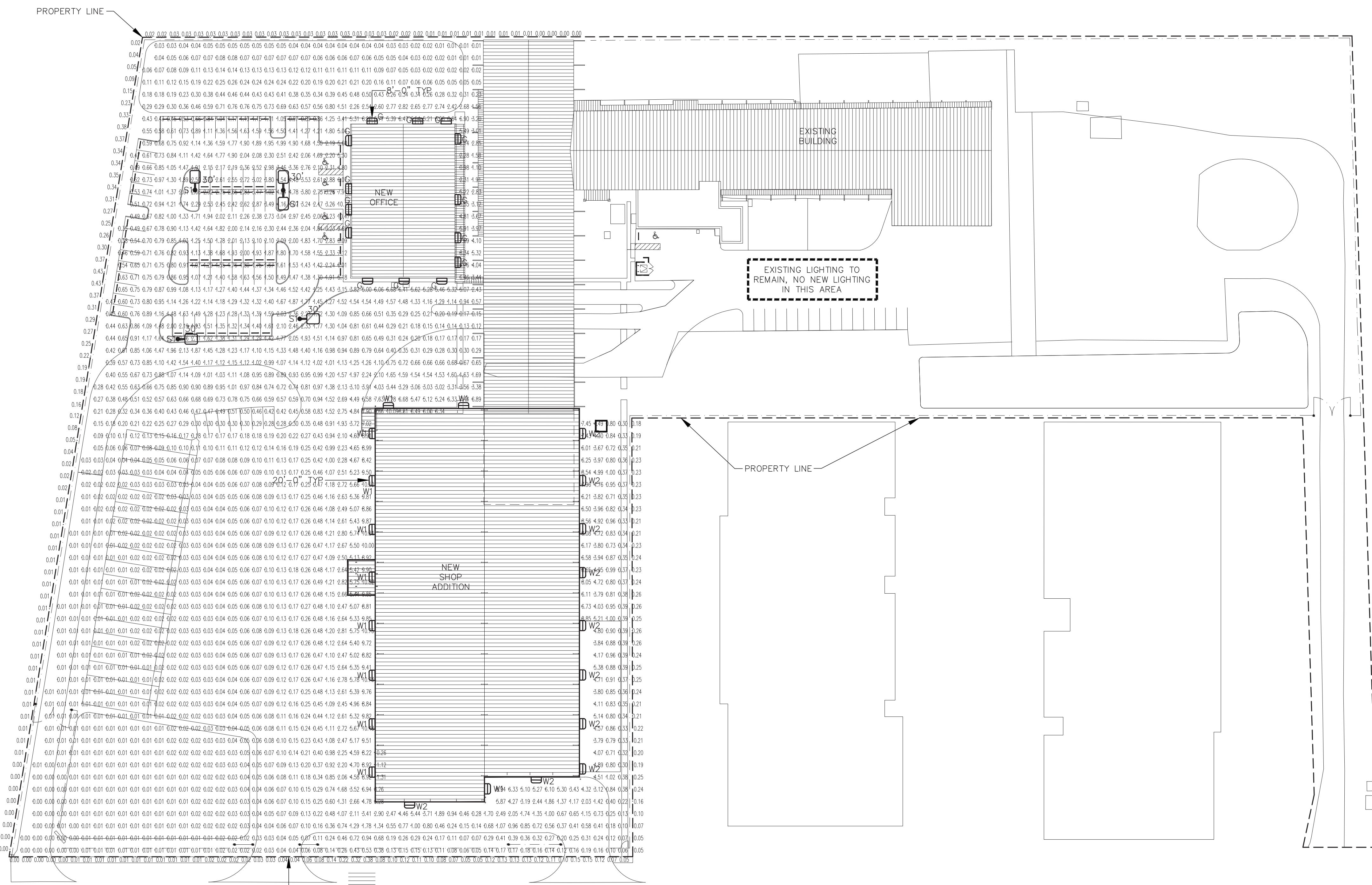
REV	DATE	REVISION
1		
2		
3		
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6		
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8		
9		
10		
11		
12		

ARCHITECTURAL - AERIAL
 PHOTOS (EXISTING)
 ADJACENT LAND USES

PROJ. NO. BC-CER01AU | DRW BY: MAM | CK BY: JHS

A-3

PHASE:
 CITY COMMISSION
 ISSUE DATE: 7/21/15



TIGERTAIL BLVD.
ELECTRICAL PHOTOMETRICS SITE PLAN
SCALE: 1" = 50'-0"

MARK	DESCRIPTION	MANUFACTURER (OR APPROVED EQUAL)	VOLT	QTY	LAMPS TYPE	INPUT WATTS	MTG/INSTALLATION (UNLESS INDICATED OTHERWISE)	NOTES
G	LED WALL PACK	McCRAW EDISON	120	-	LED/41K	51	WALL	
S1	PARKING LOT LIGHTING FIXTURE	DECO	D816-LED-160-40-UNV-TX-PMX-BZ	208	-	LED	30' CONC POLE	
W1	WALL PACK	DECO	D816-LED-160-40-UNV-T3-YM-BZ	277	-	LED	WALL MOUNT	
W2	WALL PACK	DECO	D816-LED-80-40-UNV-T2-YM-BZ	277	-	LED	WALL MOUNT	

ELECTRICAL LEGEND

POLE MOUNTED FIXTURE
WALL MOUNTED FIXTURE (WALLPACK)

DECO digital
D816-LED
16" Area Light

Job Information
Type: _____
Catalog #: _____
Project: _____
Comments: _____
Prepared by: _____

Description
The D816-LED utilizes a soft-cornered aerodynamic design to provide excellent light distribution and an aesthetically appealing appearance. Ideal for storage areas, rail yards, loading docks, and building perimeters. One piece die cast aluminum housing has two captive stainless steel fasteners and can be removed from the die cast aluminum housing for easy maintenance. Attractive dark bronze, polyester powder coated finish for excellent impact, corrosion and UV resistance.

Dimensions
16" x 16" x 3.5"

Ordering Information:
Example: D816-LED-80-30-UNV-T5-YM-BZ-VDF

Order Code	Mounting	Color	Quantity	Notes
D816-LED-160-40-UNV-TX-PMX-BZ	30' Pole	Black	208	
D816-LED-160-40-UNV-T3-YM-BZ	Wall	Bronze	277	
D816-LED-80-40-UNV-T2-YM-BZ	Wall	Bronze	277	

TYPE "S1", "W1" AND "W2"
SCALE: NONE

McGRAW-EDISON
IMPACT ELITE LED TRAPEZOID

DESCRIPTION
The IMPACT Elite family of cutoff wall luminaires is the ideal complement to site design. Incorporating modular LightBAR™ technology, Impact Elite provides outstanding uniformity and energy-conscious illumination. Combined with a rugged construction, the Impact Elite is the ideal facade and security luminaire for areas surrounding schools, office complexes, apartments, and recreational facilities. LULCAL listed for wet locations.

Specification Features
Construction: Heavy-wall, die cast aluminum housing and removable hinged door inset for clean mating with housing surface and secured via two (2) captive fasteners. Optional tamper resistant "key" head fasteners offer vertical resistant access to the electrical chamber.
Optics: Choice of an 80° high efficiency, patented AccuLED Optics™ or 60/20 beam for superior directional control. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. All optics offer backlight control to decrease wall brightness while the optional uplight glow provides with illumination to highlight architectural surfaces. Offered mounting attachment fits directly to 4" box or wall with the Impact Elite "Hook-N-Lock" mechanism for quick installation. Secured with two (2) captive corrosion resistant black oxide coated allen head set screws concealed but accessible from bottom of fixture.
Finish: Cast components finished in a 5 stage super durable TFC polyester powder coat case. 2.0 mil nominal thickness for superior protection against salt and water. Standard colors include black, bronze, grey, white, dark platinum, and graphite metallic. TFL and custom color matches available. Contact the McGraw-Edison Architectural Colors brochure for the complete selection.
Warranty: Five year warranty.

Standard Dimensions
16 1/2" (416mm) x 16 1/2" (416mm) x 3 1/2" (89mm)

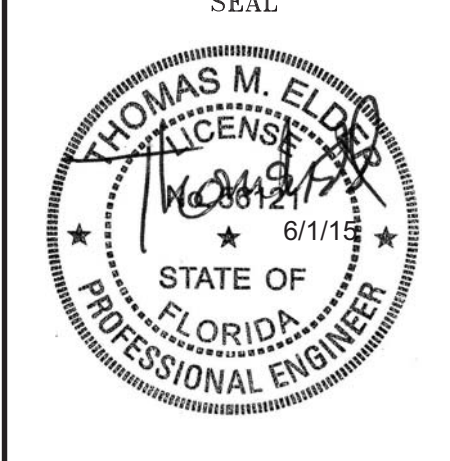
Hook-N-Lock Mounting

Standard Dimensions with Back Box
16 1/2" (416mm) x 16 1/2" (416mm) x 3 1/2" (89mm)

CERTIFICATION DATA
LULCAL Listed
ULC Listed
FIM LightBARs
IMC Compliant
IMC 9001
ULC Classified

ENERGY DATA
Beam Spread
J-8 Power Factor
ULC Total Harmonic Distortion
100-277V & 60Hz 347V/200V
400V/500V
40°C Ambient Temperature Rating
IP20
Shipping Data
Net Wt. (8 lbs.)

TYPE "G"
SCALE: NONE



SMITH • MCCRARY ARCHITECTS INC.
3652 South 3rd Street, Suite 150
Jacksonville Beach, Florida 32250
Tel: (904)242-7200 Fax: (904)242-0404
SMA Florida License Number: AR0002361
Jon Hammock Smith AR0013348

GLN Downstream LAU Expansion Project
Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County

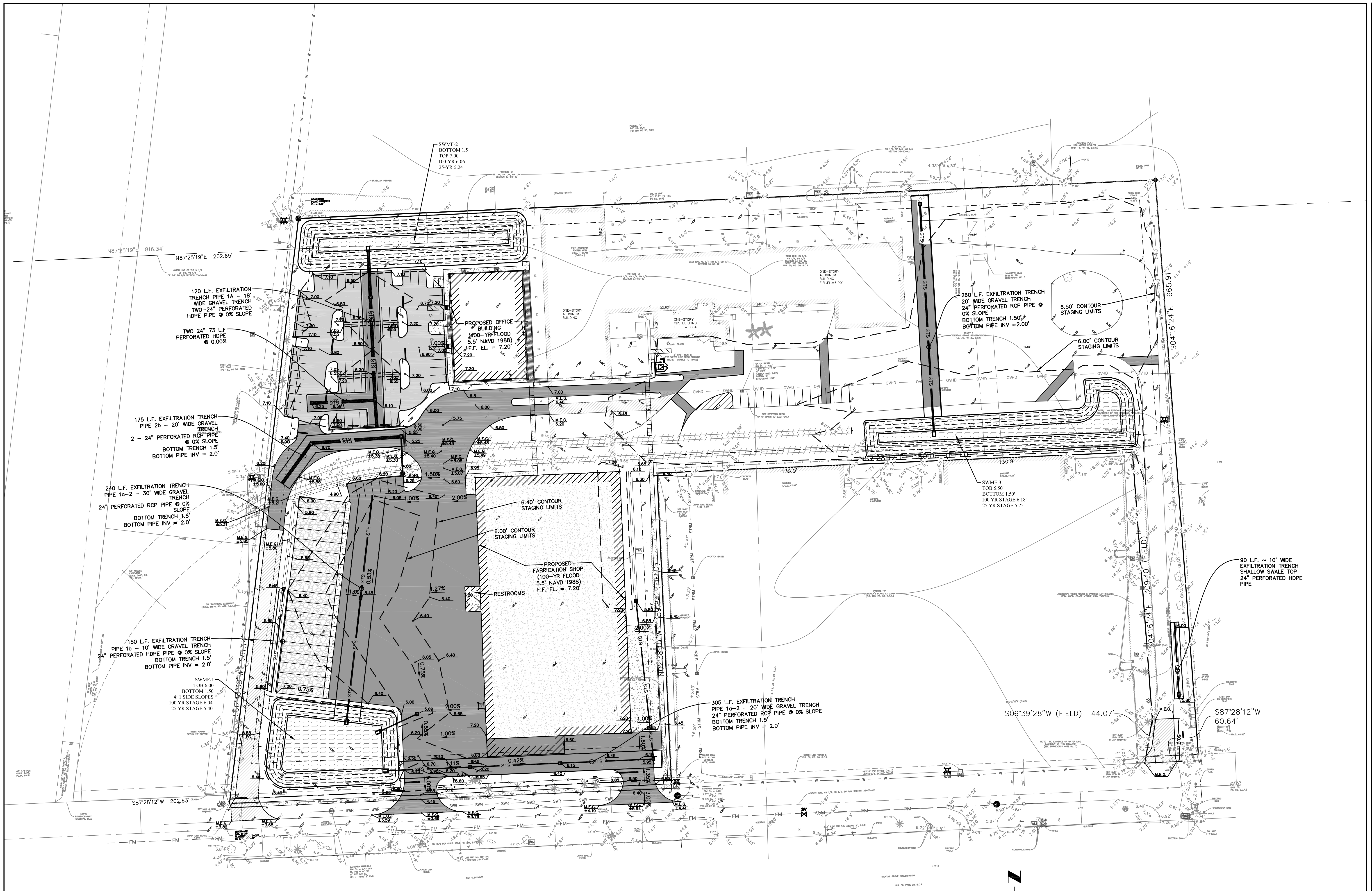
MK	DATE	REVISION

LIGHTING PHOTOMETRIC SITE PLAN
DRW BY: SCS
CK BY: TME
PROJ. NO. BC-GERDAU

A-4
PHASE:
CITY COMMISSION
ISSUE DATE: 7/21/15

POWELL & HINKLE ENGINEERING, P.A.
1409 KINGSLEY AVENUE, BLDG 12A
ORANGE PARK, FLORIDA 32073
(904) 264-5570 FAX:(904) 278-2646
ENGINEERING CORPORATION FLA. REG. EB-4577

ROBERT L. HINKLE PE 29302
GALTON C. MOK PE 33192
LANE R. HINKLE PE 48076
THOMAS M. ELDER PE 56121
RICHARD A. MATHEWS PE 59418



GLN Downstream LAU Expansion Project
 Plant Expansion - Office, Fabrication Shop and Site Improvements
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 Broward County

SMITH • MCCRARY ARCHITECTS INC.
 4230 Pablo Professional Court, Suite 102
 Fort Lauderdale, Florida 33324
 Tel: (904)242-7200 Fax: (904)242-0004
 SMA Florida License Number AA0002361
 Jan Hammock Smith AR0013348

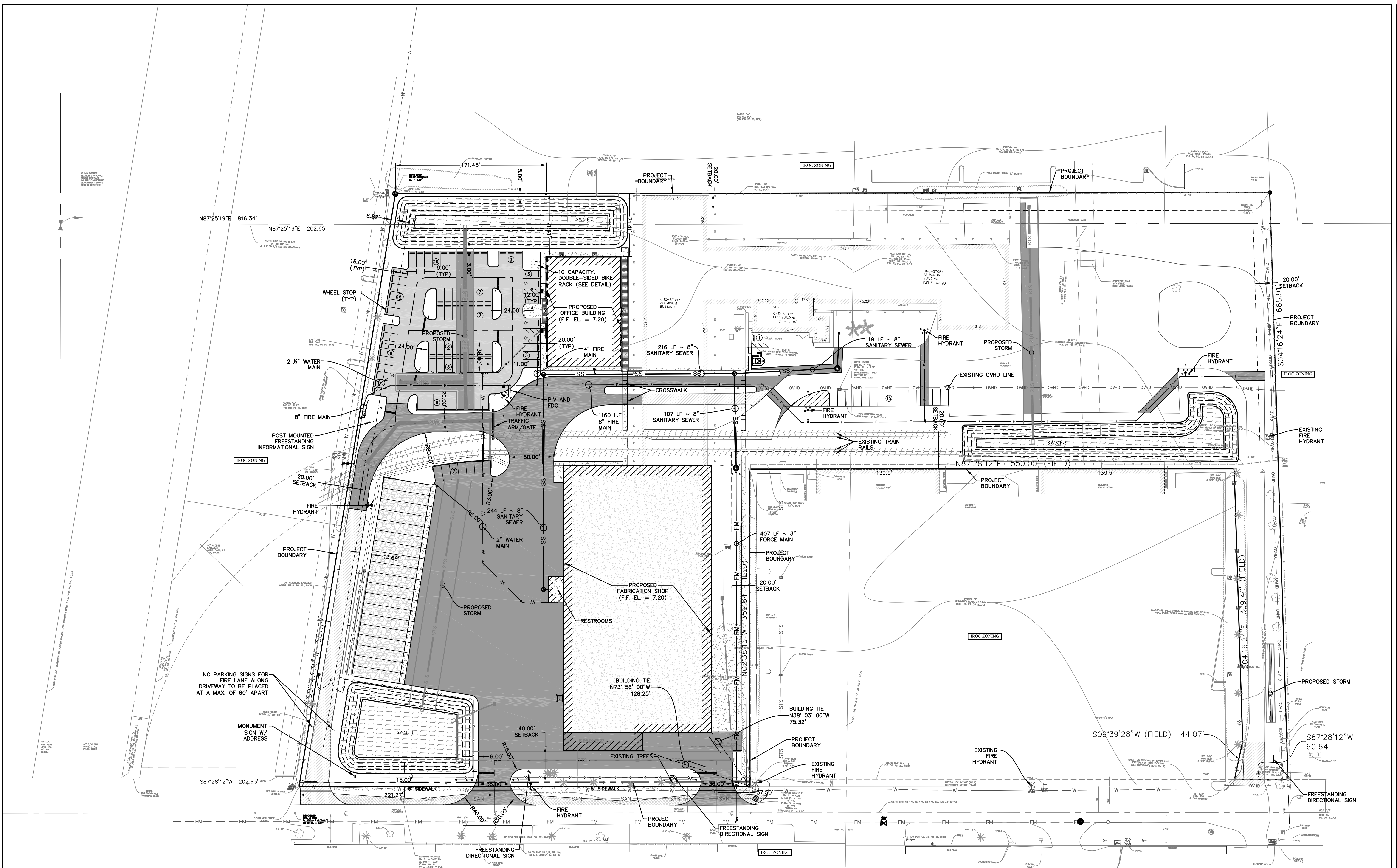
REVISION	DATE	BY	CHK

OVERALL GRADING, DRAINAGE & EROSION CONTROL PLAN
 PROJ. NO. BC-GERDAU
 DRW. BY: LQ/ANB
 CK. BY: MEL

CW Connelly & Wicker Inc.
 Planning · Engineering · Landscape Architecture
 10060 Skinner Lake Dr., Suite 500 Jacksonville, Florida 32246
 (904) 265-3030 Fax: (904) 265-3031 www.cwieng.com
 C.A. NUMBER: 3650 L.A. NUMBER: LC26000311

MARY E. LEAPTROT, P.E.
 FL P.E. # 61449
 Reg. Engineer

C-1
 PHASE: CITY COMMISSION
 ISSUE DATE: 07/21/15



LEGEND

- CONCRETE PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- HEAVY DUTY ASPHALT PAVEMENT
- GRAVEL PARKING
- FM — EXISTING FORCE MAIN
- SAN — EXISTING SANITARY SEWER
- STS — EXISTING STORM
- W — EXISTING WATER MAIN
- FM — PROPOSED FORCE MAIN
- SS — PROPOSED SANITARY SEWER
- W — PROPOSED WATER MAIN

SITE / PARKING TABULATION

DESCRIPTION	UNITS	PARKING RATIO	REQUIRED PARKING	PROVIDED PARKING
OFFICE USE	10,800 S.F.	1/300 S.F.	36	—
INDUSTRIAL USE	106,800 S.F.	1/2,000 S.F.**	54	—
STANDARD PARKING TOTALS:			90	93
HANDICAP (● 93 TOTAL SPACES)			4	5
TOTAL PARKING:			94	98
BICYCLE 10%~REQ. PARKING (90 REQ.)			9	10

** SEE SECTION 265-60, ALT PARKING STANDARD, SEE SHEET INFO-1

SITE TABULATION

IMPERVIOUS:	64%
PAVEMENT & SIDEWALK BUILDINGS	208,063 S.F. 117,600 S.F.
TOTAL IMPERVIOUS:	325,663 S.F. (7.48 AC.)
PERVIOUS:	36%
GREEN SPACE	182,680 S.F.
TOTAL PERVIOUS:	182,680 S.F. (4.19 AC.)
SITE AREA:	510,898 S.F. (11.73 AC.)
DEDICATED ROW:	-2,555 S.F. (0.06 AC)
TOTAL SITE AREA:	508,343 S.F. (11.67 AC.)

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 FL. P.E. # 61449
 Reg. Engineer

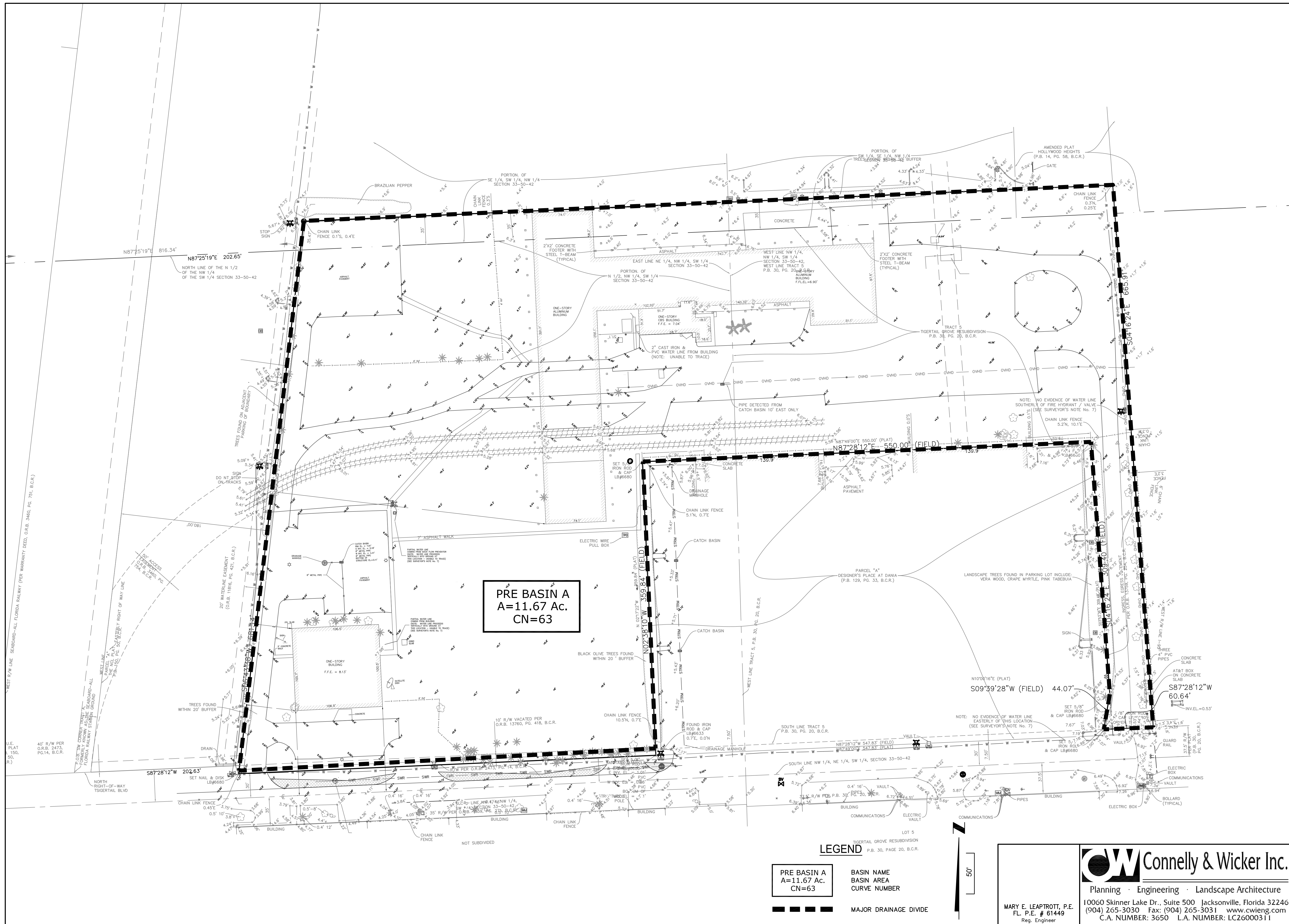
SMITH • MCCRARY ARCHITECTS INC.
 4230 Pablo Professional Court, Suite 102
 Jacksonville, Florida 32224
 Tel: (904) 242-7200 Fax: (904) 242-0404
 SMA Florida License Number AA0002361

GLN Downstream LAU Expansion Project
 Plant Expansion - Office, Fabrication Shop and Site Improvements
 Dania Beach, Florida 33004
 Broward County

NO.	DATE	REVISION

OVERALL SITE GEOMETRY & UTILITY PLAN
 PROJ. NO. BC-GERDAU
 DRW. BY: LQ/ANB CK. BY: MEL

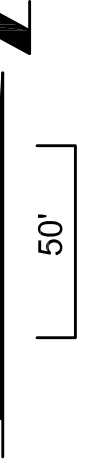
C-2
 PHASE: CITY COMMISSION
 ISSUE DATE: 07/21/15



PRE BASIN A
A=11.67 AC.
CN=63

LEGEND

- PRE BASIN A
A=11.67 AC.
CN=63 BASIN NAME
- BASIN AREA BASIN AREA
- CURVE NUMBER CURVE NUMBER
- MAJOR DRAINAGE DIVIDE



MARY E. LEAPTROT, P.E.
 FL. P.E. # 61449
 Reg. Engineer



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 C.A. NUMBER: 3650 L.A. NUMBER: LC26000311

**PRE-DEVELOPMENT
 DRAINAGE PLAN**

MK	DATE	REVISION

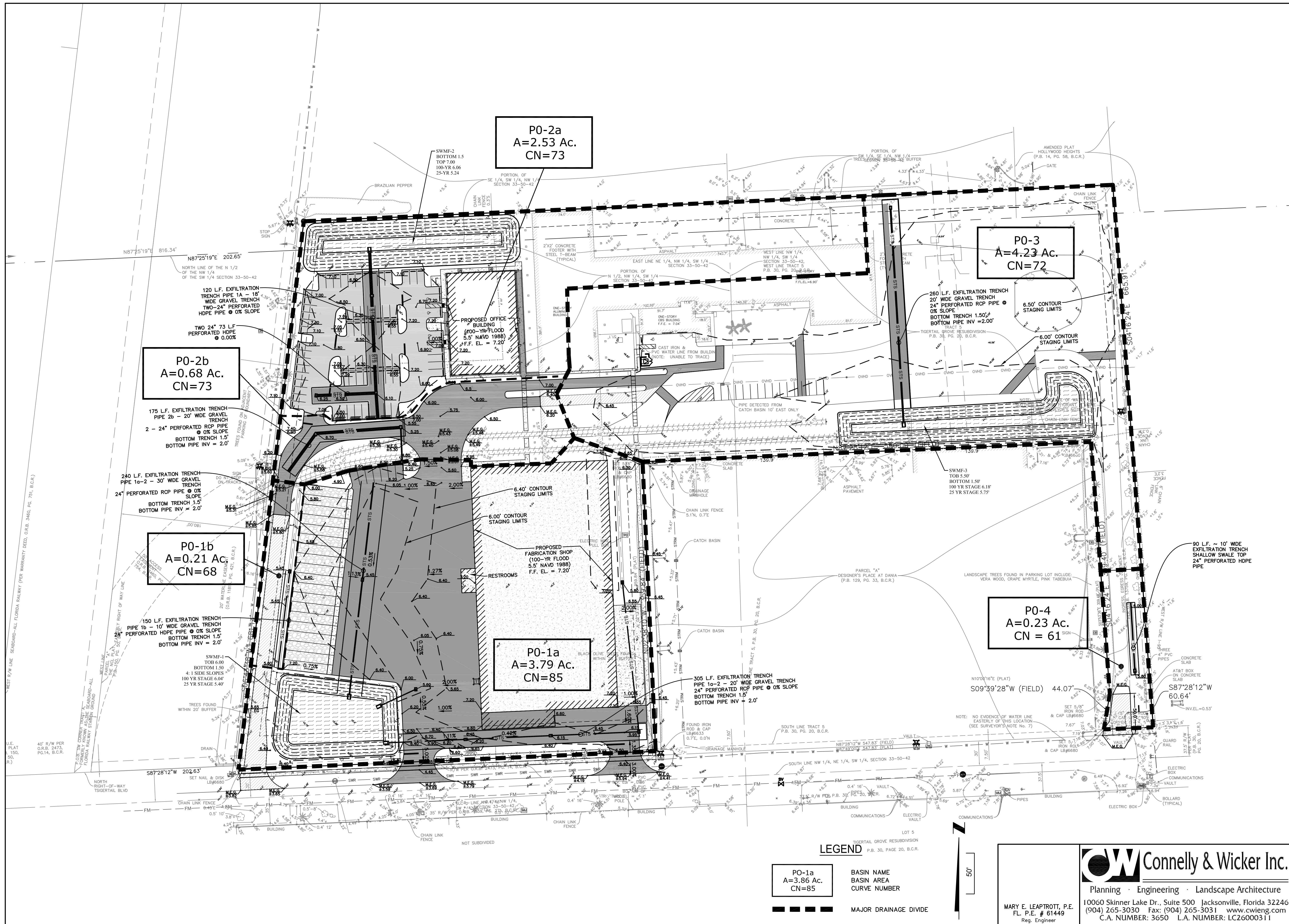
GLN Downstream LAU Expansion Project
 Plant Expansion - Office, Fabrication Shop and Site Improvements
 Dania Beach, Florida 33004
 Broward County

SMITH • MCCRARY ARCHITECTS INC.
 4230 Pablo Picasso Blvd., Suite 102
 Fort Lauderdale, Florida 33324
 Tel: (904) 242-7200 Fax: (904) 242-0044
 SMA Florida License Number AA0002361

C-3
 PHASE:
 CITY COMMISSION
 ISSUE DATE: 07/21/15

PROJ. NO. BC-GERDAU DRW. BY: LOL/AMB CK. BY: MEL

Jan Hammock Smith AR0013348



SMITH • MCCRARY ARCHITECTS INC.
 4230 Pablo Professional Court, Suite 102
 Jacksonville, Florida 32224
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 SMA Florida License Number AA0002361

GLN Downstream LAU Expansion Project
 Plant Expansion - Office, Fabrication Shop and Site Improvements
 Dania Beach, Florida 33004
 Broward County

NO.	DATE	REVISION

POST-DEVELOPMENT DRAINAGE PLAN

C-4

PROJ. NO. BC-GERDAU DRW. BY: LQ/ANB CK. BY: MEL

PHASE: CITY COMMISSION
 ISSUE DATE: 07/21/15

LEGEND

PO-1a
 A=3.86 Ac.
 CN=85

BASIN NAME
 BASIN AREA
 CURVE NUMBER

MAJOR DRAINAGE DIVIDE

CW Connelly & Wicker Inc.
 Planning · Engineering · Landscape Architecture

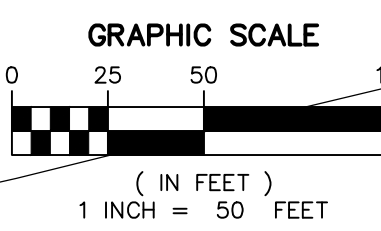
MARY E. LEAPTROT, P.E.
 FL P.E. # 61449
 Reg. Engineer

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 (904) 265-3030 Fax: (904) 265-3031 www.cwieng.com
 C.A. NUMBER: 3650 L.A. NUMBER: LC26000311

SURVEY

1 of 2 Boundary, Topographic and Tree Survey

2 of 2 Tree Count

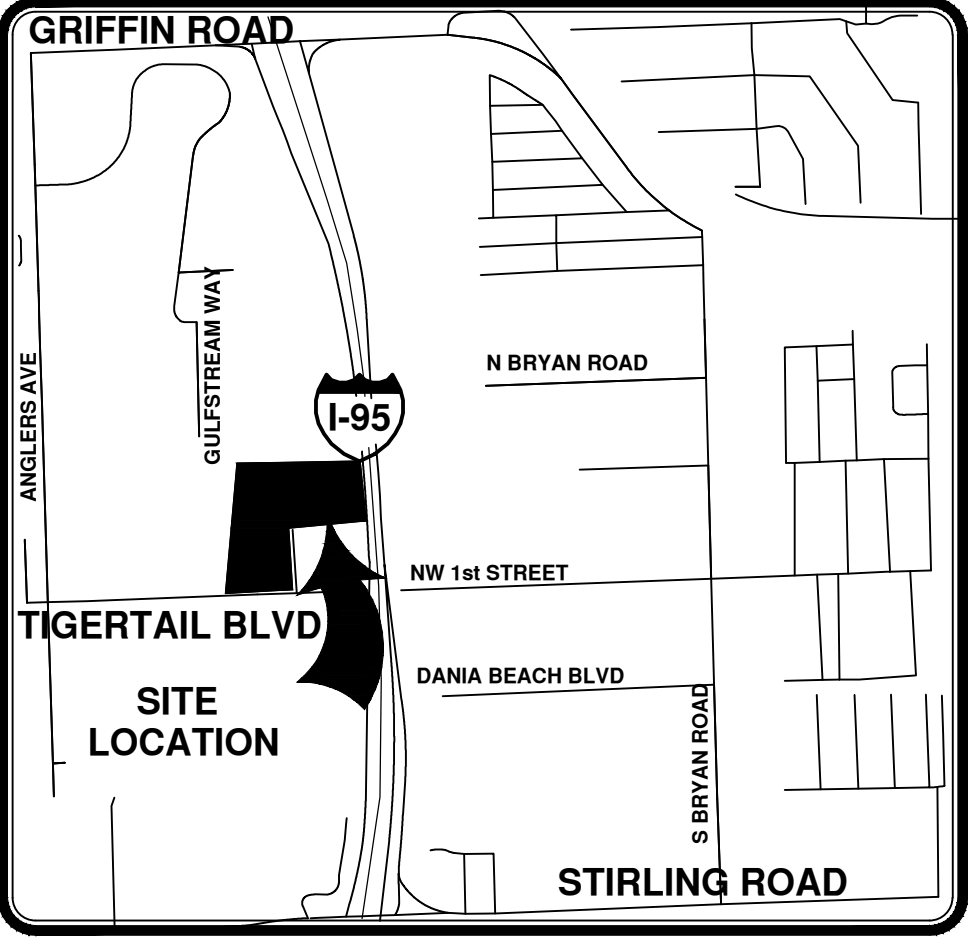
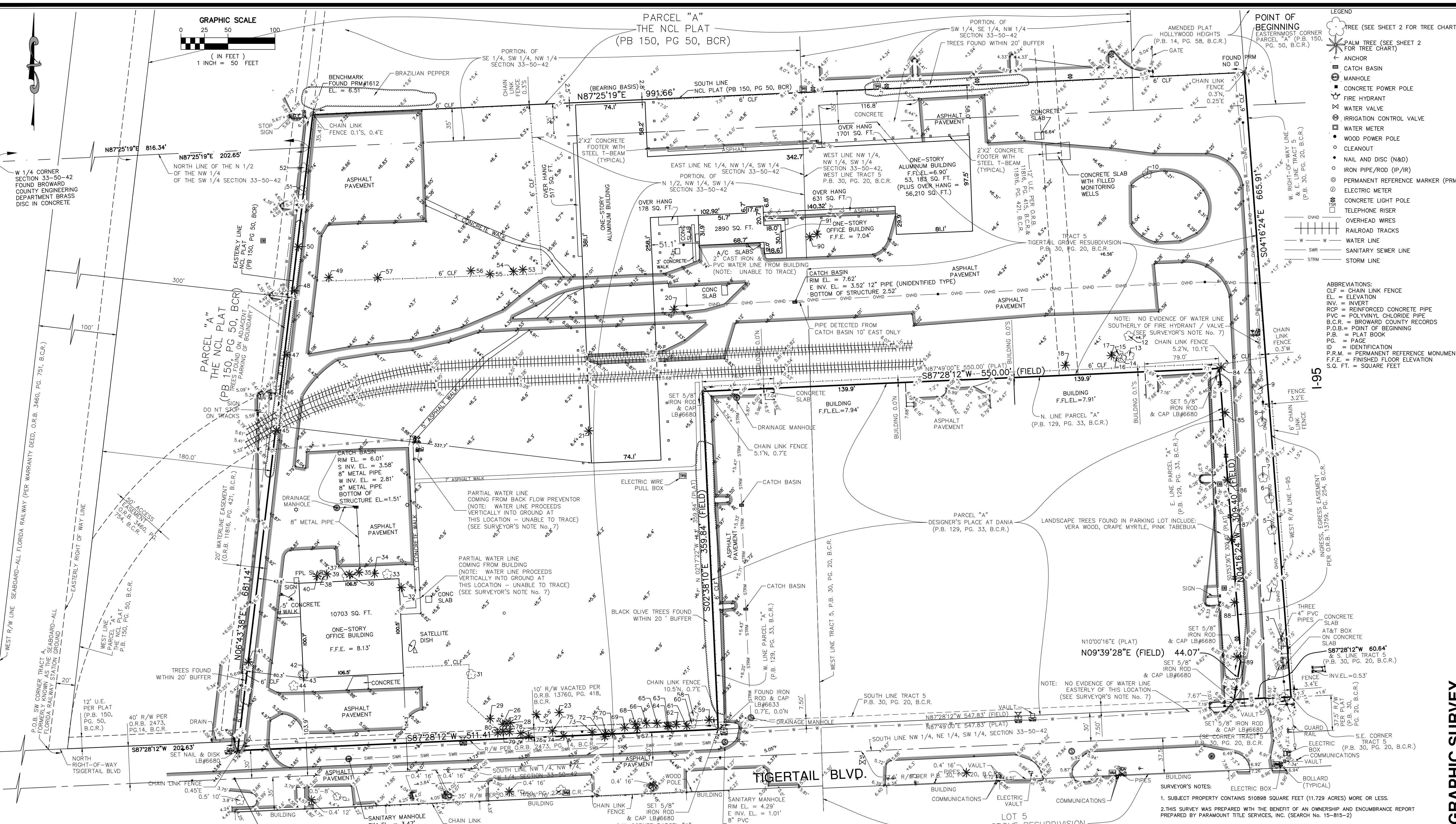


PARCEL "A"
THE NCL PLAT
(PB 150, PG 50, BCR)

POINT OF BEGINNING
EASTERMOST CORNER
PARCEL "A" (P.B. 150,
PG. 50, B.C.R.)

- LEGEND
- TREE (SEE SHEET 2 FOR TREE CHART)
 - PALM TREE (SEE SHEET 2 FOR TREE CHART)
 - ANCHOR
 - CATCH BASIN
 - MANHOLE
 - CONCRETE POWER POLE
 - FIRE HYDRANT
 - WATER VALVE
 - IRRIGATION CONTROL VALVE
 - WATER METER
 - WOOD POWER POLE
 - CLEANOUT
 - NAIL AND DISC (N&D)
 - IRON PIPE/ROD (IP/IR)
 - PERMANENT REFERENCE MARKER (PRM)
 - ELECTRIC METER
 - CONCRETE LIGHT POLE
 - TELEPHONE RISER
 - OVERHEAD WIRES
 - RAILROAD TRACKS
 - WATER LINE
 - SANITARY SEWER LINE
 - STORM LINE

- ABBREVIATIONS:
- CLF = CHAIN LINK FENCE
 - EL = ELEVATION
 - INV = INVERT
 - RCP = REINFORCED CONCRETE PIPE
 - PVC = POLYVINYL CHLORIDE PIPE
 - B.C.R. = BROWARD COUNTY RECORDS
 - P.O.B. = POINT OF BEGINNING
 - P.B. = PLAT BOOK
 - PG. = PAGE
 - ID = IDENTIFICATION
 - PR.M. = PERMANENT REFERENCE MONUMENT
 - F.F.E. = FINISHED FLOOR ELEVATION
 - S.Q.F. = SQUARE FEET



DESCRIPTION: (PER WARRANTY DEED, O.R.B. 3460, PG. 751, B.C.R.)

THE SOUTH 35 FEET THAT PORTION OF THE "AMENDED PLAT OF HOLLYWOOD HEIGHTS", PLAT BOOK 14, PAGE 58 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, LYING WEST OF THE WEST RIGHT-OF-WAY LINE OF INTERSTATE 95 (STATE ROAD No. 9);

THE SOUTH 35 FEET OF THAT PORTION OF THE SE 1/4 OF THE NW 1/4 OF SECTION 33, TOWNSHIP 50 SOUTH, RANGE 42 EAST, LYING WEST OF THE WEST LINE OF SAID "AMENDED HOLLYWOOD HEIGHTS";

THE SOUTH 35 FEET OF THAT PORTION OF THE SW 1/4 OF THE NW 1/4 OF SAID SECTION 33, LYING EAST OF THE LINE THAT IS 300 FEET EAST OF (AS MEASURED AT RIGHT ANGLES TO) AND PARALLEL WITH THE WEST RIGHT-OF-WAY LINE OF THE SEABOARD AIR LINE RAILROAD;

ALL THAT PROPERTY IN TRACT 5, OF TIGERTAIL GROVE RE-SUBDIVISION, LYING IN SECTION 33, TOWNSHIP 50 SOUTH, RANGE 42 EAST, AS RECORDED IN PLAT BOOK 30, PAGE 20, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA; EXCEPT THE PORTION THEREOF CONVEYED TO BROWARD COUNTY, FLORIDA FOR ROAD AND HIGHWAY PURPOSES BY SPECIAL WARRANTY DEED DATED SEPTEMBER 25, 1962 AND RECORDED IN OFFICIAL RECORDS 2473, PAGE 614 OF THE PUBLIC RECORDS OF SAID COUNTY;

ALL THAT PART OF THE N 1/2 OF THE NW 1/4 OF THE SW 1/4 OF SECTION 33, TOWNSHIP 50 SOUTH, RANGE 42 EAST, LYING EAST OF THE SEABOARD-ALL FLORIDA RAILWAY RIGHT-OF-WAY IN BROWARD COUNTY, FLORIDA; EXCEPT, BEGINNING AT THE INTERSECTION OF THE NORTH RIGHT-OF-WAY LINE OF TIGERTAIL BOULEVARD AND A POINT 100 FEET EAST OF THE WEST RIGHT-OF-WAY LINE OF THE SEABOARD-ALL FLORIDA RAILWAY, AS MEASURED AT RIGHT ANGLES, SAID POINT OF BEGINNING ALSO BEING DESCRIBED AS THE SOUTHWEST CORNER OF A TRACT FORMERLY KNOWN AS THE SEABOARD-ALL FLORIDA RAILWAY STATION GROUND; THENCE RUN EASTERLY ALONG THE NORTH RIGHT-OF-WAY LINE OF TIGERTAIL BOULEVARD 202.65 FEET; THENCE NORTHEASTERLY PARALLEL TO THE SAID RIGHT-OF-WAY LINE TO THE NORTH LINE OF THE N 1/2 OF THE NW 1/4 OF THE SW 1/4 OF SECTION 33, TOWNSHIP 50 SOUTH, RANGE 42 EAST; THENCE WESTERLY A DISTANCE OF 202.65 FEET ALONG SAID NORTH LINE OF THE N 1/2 OF THE NW 1/4 OF THE SW 1/4 TO A POINT 100 FEET EAST OF THE WEST RIGHT-OF-WAY LINE OF THE SEABOARD-ALL FLORIDA RAILWAY, AS MEASURED AT RIGHT ANGLES; THENCE SOUTHWESTERLY ALONG THE EASTERLY RIGHT-OF-WAY LINE OF THE SAID EXCEPTED TRACT OF LAND HEREIN DESCRIBED ALSO BEING KNOWN AS PART OF THE TRACT FORMERLY KNOWN AS SEABOARD-ALL FLORIDA RAILROAD GROUNDS; AND EXCEPT THE PORTION THEREOF CONVEYED TO BROWARD COUNTY, FLORIDA FOR ROAD AND HIGHWAY PURPOSES BY SPECIAL WARRANTY DEED DATED SEPTEMBER 25, 1962 AND RECORDED IN OFFICIAL RECORDS BOOK 2473, PAGE 614 OF THE PUBLIC RECORDS OF BROWARD COUNTY, (END OF DEED DESCRIPTION)

(DESCRIPTION CONTINUED TO RIGHT)

(DESCRIPTION CONTINUATION)

AND ALSO LESS THEREFROM PARCEL A OF DESIGNER'S PLACE AT DANIA, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 129, PAGE 33 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

ALL OF THE ABOVE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT THE EASTERMOST CORNER OF PARCEL "A" OF "THE NCL PLAT", ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 150, PAGE 50 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA; THENCE ALONG THE EAST LINE OF THE AFORESAID TRACT 5 OF TIGERTAIL GROVE RE-SUBDIVISION, SOUTH 04°16'24" EAST 665.91 FEET TO THE SOUTHEAST CORNER OF SAID TRACT 5; THENCE ALONG THE SOUTH LINE OF SAID TRACT 5, SOUTH 87°28'12" WEST 80.64 FEET TO AN INTERSECTION WITH AN EASTERLY LINE OF PARCEL "A" OF DESIGNER'S PLACE AT DANIA, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 129, PAGE 33 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA; THENCE ALONG SAID EASTERLY LINE THE FOLLOWING TWO (2) COURSES, (1) NORTH 09°39'28" EAST 44.07 FEET; (2) NORTH 04°16'24" WEST 309.40 FEET TO THE NORTHEAST CORNER OF SAID PARCEL "A"; THENCE ALONG THE NORTH LINE OF SAID PARCEL "A", SOUTH 87°28'12" WEST 550.00 FEET TO THE NORTHWEST CORNER OF SAID PARCEL "A"; THENCE ALONG THE WEST LINE OF SAID PARCEL "A", SOUTH 02°38'10" EAST 359.84 FEET TO THE SOUTHWEST CORNER OF SAID PARCEL "A"; THENCE ALONG A LINE 30 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF THE NORTHWEST ONE-QUARTER (NW 1/4) OF THE NORTHWEST ONE-QUARTER (NW 1/4) OF THE SOUTHWEST ONE-QUARTER (SW 1/4) OF SAID SECTION 33, TOWNSHIP 50 SOUTH, RANGE 42 EAST, SOUTH 87°28'12" WEST 511.41 FEET; THENCE ALONG A SOUTHERLY PROLONGATION OF AN EASTERLY LINE OF SAID PARCEL "A" OF SAID "THE NCL PLAT" AND SAID EASTERLY LINE, NORTH 06°43'38" EAST 681.14 FEET; THENCE ALONG A SOUTHERLY BOUNDARY OF SAID PARCEL "A" OF SAID "THE NCL PLAT", NORTH 87°25'19" EAST 991.66 FEET TO THE POINT OF BEGINNING.

SAID LANDS SITUATE LYING AND BEING IN THE CITY OF DANIA BEACH, BROWARD COUNTY, FLORIDA AND CONTAINING 510,898 SQUARE FEET (11.729 ACRES) MORE OR LESS.

1. SUBJECT PROPERTY CONTAINS 510898 SQUARE FEET (11.729 ACRES) MORE OR LESS.

2. THIS SURVEY WAS PREPARED WITH THE BENEFIT OF AN OWNERSHIP AND ENCUMBRANCE REPORT PREPARED BY PARAMOUNT TITLE SERVICES, INC. (SEARCH NO. 15-815-2)

3. SCALE OF SOME FEATURES MAY BE EXAGGERATED FOR CLARITY.

4. EASEMENTS SHOWN HEREON ARE PER PLAT UNLESS OTHERWISE NOTED.

5. BEARINGS SHOWN HEREON ARE BASED ON A PLAT BEARING OF SOUTH 87°25'19" WEST ALONG THE SOUTHERLY LINE OF PARCEL "A" OF "THE NCL PLAT", P.B. 150, PG. 50, BROWARD COUNTY RECORDS, FLORIDA.

6. ELEVATION NOTE: ELEVATIONS ARE RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988, ARE SHOWN THUS: ±5.25' AND ARE BASED BROWARD COUNTY ENGINEERING DIVISION BENCHMARK #3664 DESCRIBED AS A N/T IN THE SE CORNER OF INTERSECTION OF GRIFFIN ROAD AND RAVENSWOOD ROAD, 3' EAST OF E.E.O.P., 15.5' SOUTH OF CONCRETE SIGNAL LIGHT POLE, 33' SOUTH OF S.E.O.P. ELEVATION: 10.407 (NGVD 29) = 8.871 (NAVD 88)

ELEVATIONS AS SHOWN WERE CONVERTED FROM THE NATIONAL GEODETIC VERTICAL DATUM OF 1929, (N.G.V.D. '29) TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, (N.A.V.D. '88) TO USING THE FOLLOWING CONVERSION: N.G.V.D. '29 VERTICAL DATUM, (IN FEET) -1.60" N.A.V.D. '88 VERTICAL DATUM. THE CONVERSION FACTOR WAS OBTAINED FROM THE NATIONAL GEODETIC SURVEY WEBSITE ORTHOMETRIC HEIGHT CONVERSION PROGRAM USING THE LATITUDE AND LONGITUDE OF THE PROJECT LOCATION TO DETERMINE A CONVERSION FACTOR FOR THIS SPECIFIC LOCATION.

7. UTILITIES ARE DEPICTED PER A SUBSURFACE UTILITY INVESTIGATION CONDUCTED ON 12 FEBRUARY 2015. INDUSTRY STANDARD GEOPHYSICAL PROSPECTING TECHNIQUES WERE USED IN CONJUNCTION WITH GROUND PENETRATING RADAR TO DETECT UNDERGROUND UTILITY LINES IN AREAS SPECIFIED BY THE CLIENT. DUE TO SITE CONDITIONS AND INHERENT LIMITATIONS WITH CURRENT TECHNOLOGY, NO GUARANTEE IS EXPRESSED THAT ALL UTILITIES WERE SUCCESSFULLY DETECTED AND LOCATED. CLIENT / CONTRACTOR IS HEREBY ADVISED TO CONTACT SUNDAY STATE ENGINEERING, INC. AT 811 PRIOR TO ANY EXCAVATION. MILLER LEGG SHALL NOT BE HELD LIABLE FOR DAMAGE CAUSED TO UTILITIES DURING CONSTRUCTION.

I HEREBY CERTIFY THAT THIS SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 55-17, PART 1, ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.02, FLORIDA STATUTES.

DATED THIS 22nd DAY OF JULY, 2014 A.D.

Martin P. Rossi
MARTIN P. ROSSI
PROFESSIONAL SURVEYOR AND MAPPER
STATE OF FLORIDA REGISTRATION NO. 5857
NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

NO.	DATE	REVISIONS
2	6/5/15	ADD METES & BONDUS DESC.
1	2/7/15	REVISED TO SHOW WATER LINE
1	7/19/14	ADDITIONAL TOPO INFORMATION
		REVISED

GERDAU FT. LAUDERDALE REINFORCING STEEL
CITY OF DANIA BEACH, BROWARD COUNTY, FLORIDA
SECTION 33, TOWNSHIP 50 SOUTH, RANGE 42 EAST

SKETCH OF BOUNDARY & TOPOGRAPHIC SURVEY

MILLER LEGG
South Florida Office: 5747 N. Andrews Way
Fort Lauderdale, Florida 33309-2964
954-486-7000 • Fax: 954-486-6664
www.millerlegg.com

CERTIFICATE OF AUTHORIZATION

EB7318	LB6680	LC0337
DES.	DN.	MR.
CHK.	CHK.	CHK.

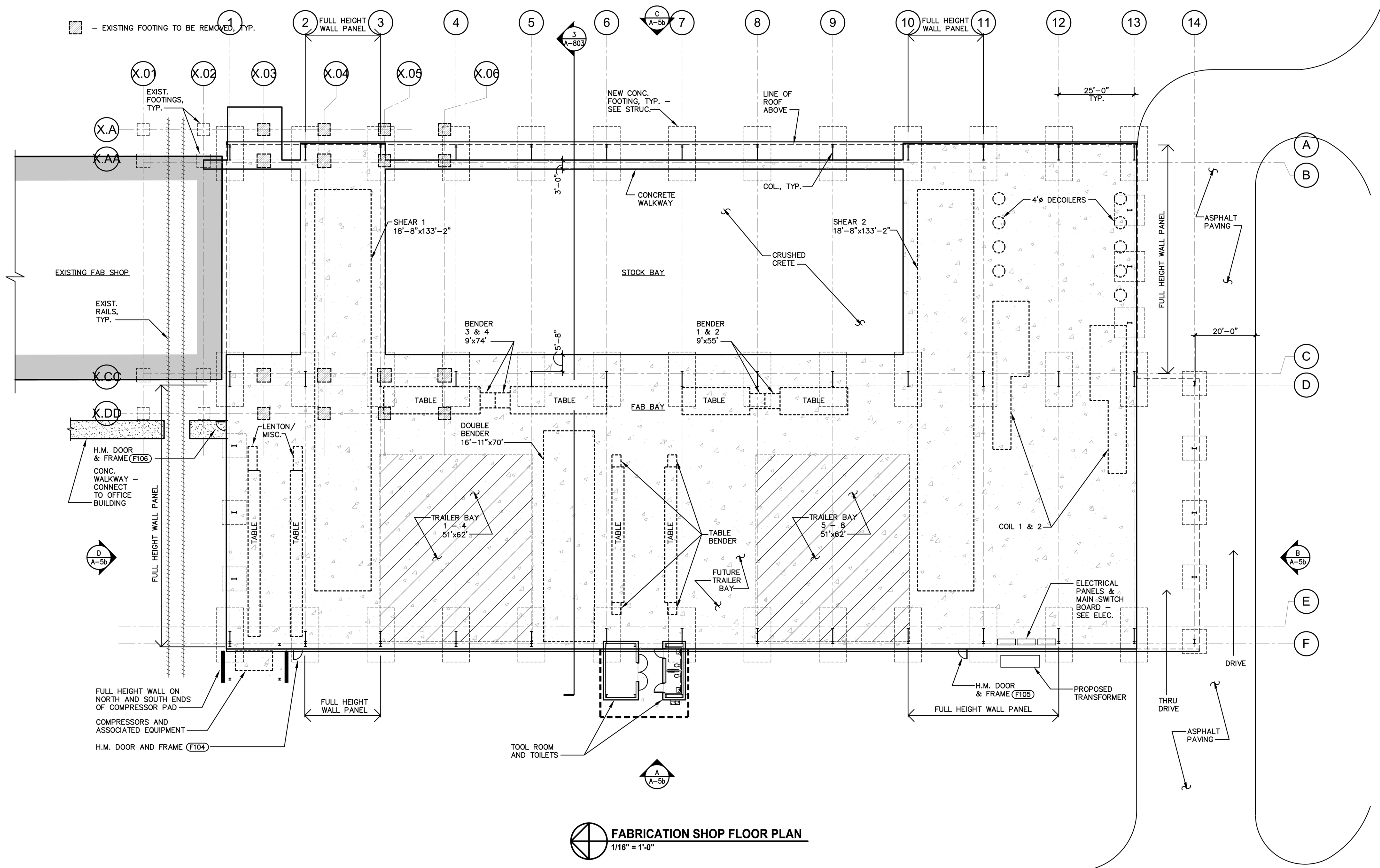
PROJECT / FILE NO.
15-00035

DRAWING NO.
SH-1

DATE DRAWN: 1 OF 2
1/19/15

ARCHITECTURAL DETAILS

- A-5a Fabrication Shop Floor Plan
- A-5b Fabrication Shop Elevations / Rendering
- A-6a Office Building Floor Plan
- A-6b Office Building Elevations / Rendering
- A-7.1 Signage Details
- A-7.2 Dumpster Enclosure and Fence Detail



FABRICATION SHOP FLOOR PLAN
1/16" = 1'-0"

SMITH • MCCRARY ARCHITECTS INC.
4330 Public Professional Court, Suite 102
Jacksonville, Florida 32224
Tel (904)242-7200 Fax (904)242-0404
SMA Florida License Number A0002361

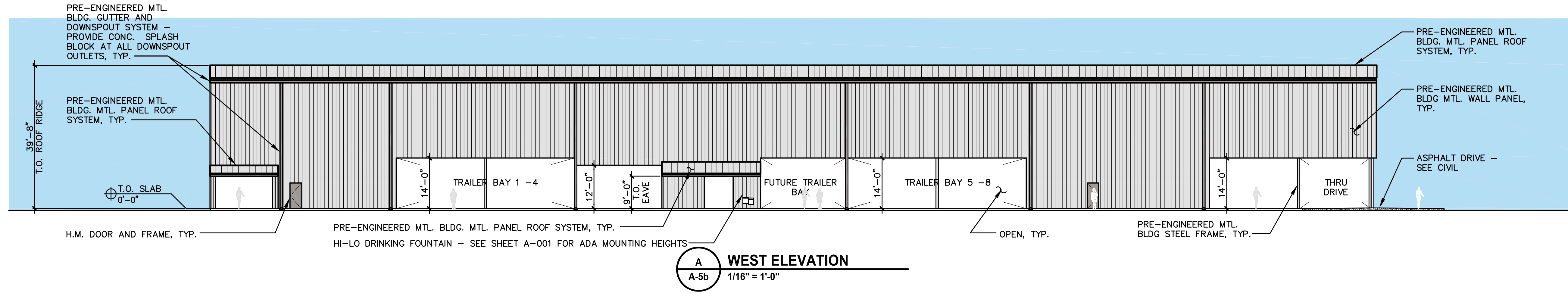
GLN Downstream LAU Expansion Project
Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County
SP-02-15

REV	DATE	DESCRIPTION

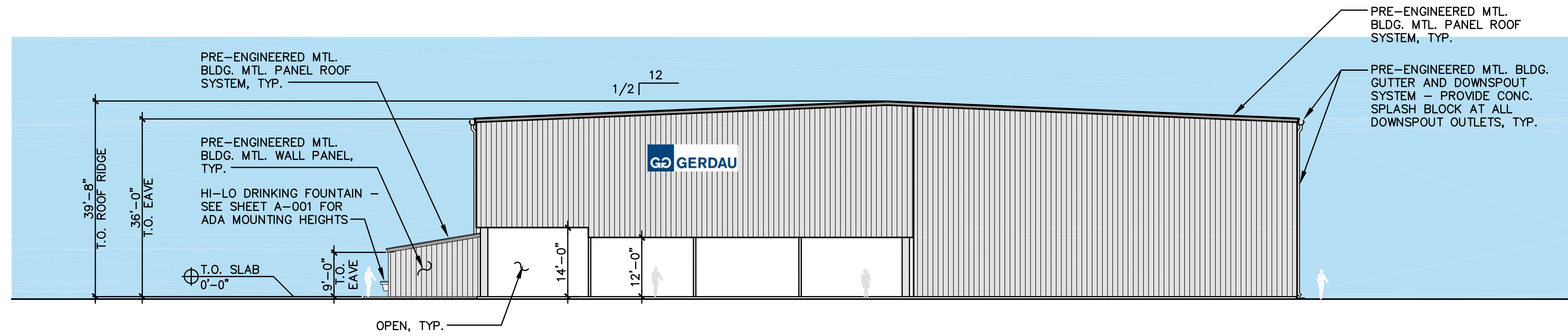
FABRICATION SHOP FLOOR PLAN
PROJ NO. BC-GERDAU DRW BY: AG CK BY: JHS

A-5a
PHASE:
CITY COMMISSION
ISSUE DATE: 7/21/15

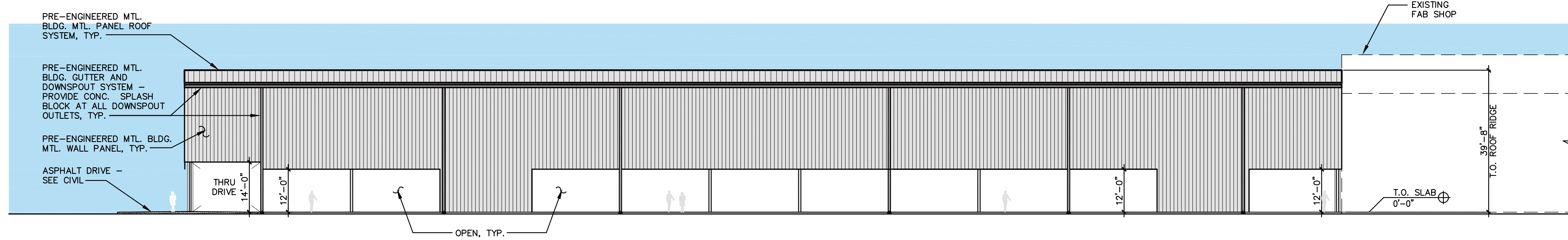
Jan Hamrick Smith AR0013348



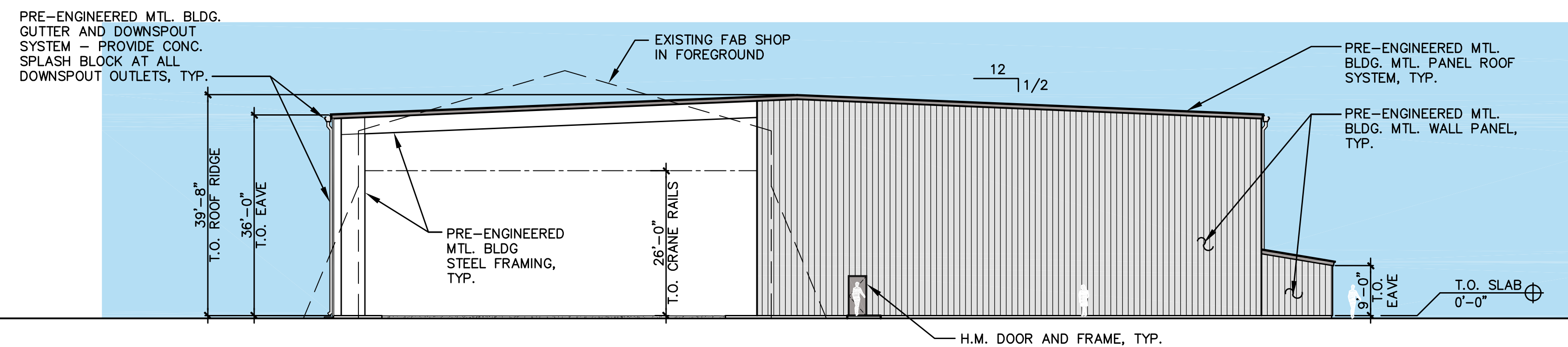
A WEST ELEVATION
A-5b 1/16" = 1'-0"



B SOUTH ELEVATION
A-5b 1/16" = 1'-0"



C EAST ELEVATION
A-5b 1/16" = 1'-0"



D NORTH ELEVATION
A-5b 1/16" = 1'-0"

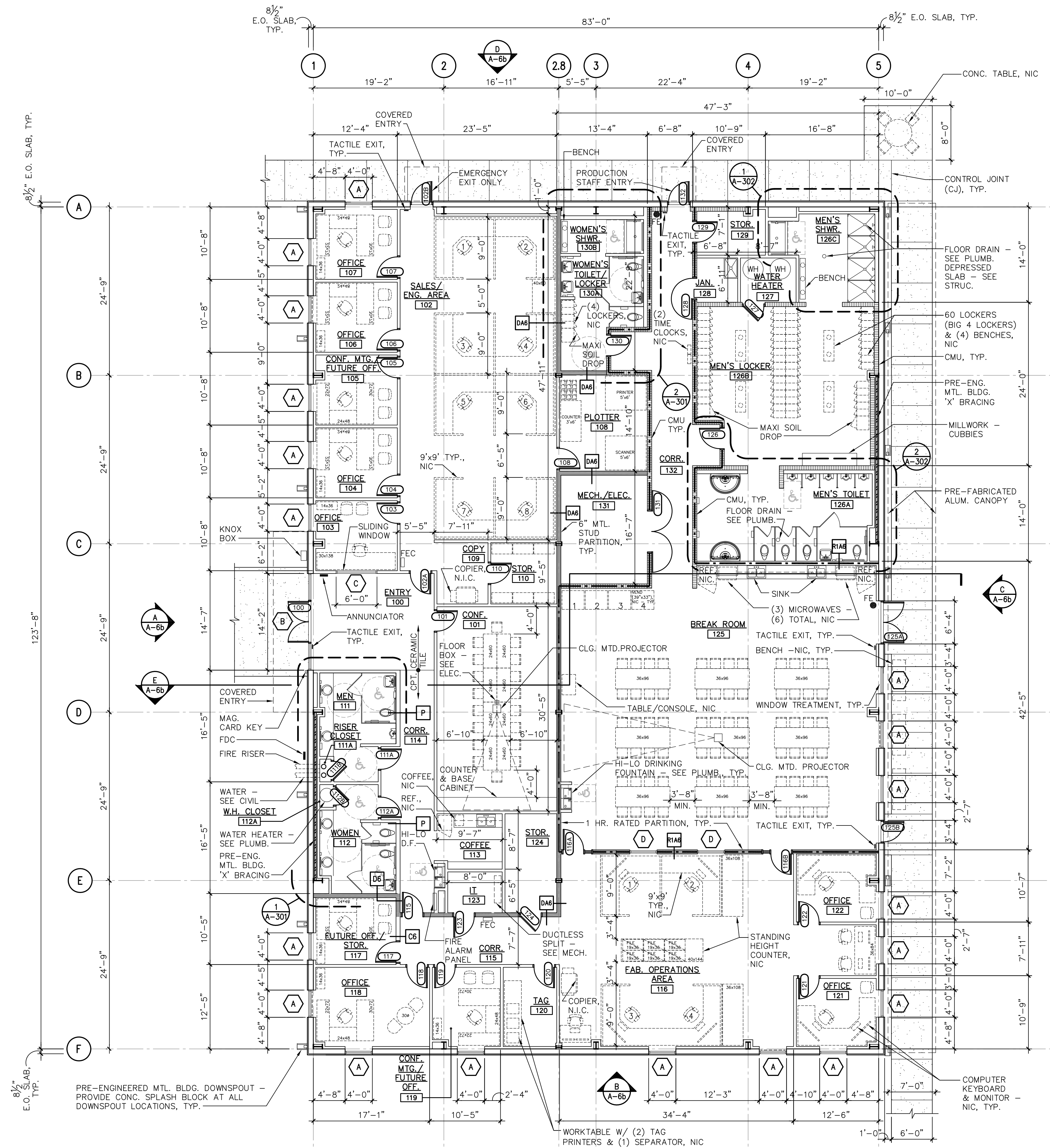
SMITH • McCRARY ARCHITECTS INC.
4230 Pablo Professional Court, Suite 102
Jacksonville, Florida 32224
Tel (904)242-7200 Fax (904)242-0404
SMA Florida License Number AA0002361
Jan Hammock Smith AF0013348

GLN Downstream LAU Expansion Project
Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County
SP-02-15

NO.	DATE	REVISION
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FABRICATION SHOP ELEVATIONS / RENDERING
PROJ. NO. BC-CERDAU | DRAW BY: MAM | CK BY: JHS

A-5b
PHASE: CITY COMMISSION
ISSUE DATE: 7/21/15



OFFICE BUILDING - FLOOR PLAN
 1/8" = 1'-0"

SMITH • MCCRARY ARCHITECTS INC.

4230 Pablo Professional Court, Suite 102
 Jacksonville, Florida 32224
 Tel (904)242-7200 Fax (904)242-0404
 SIA Florida License Number AA0002361

Jan Hammock Smith AF0013348

GLN Downstream LAU Expansion Project

Plant Expansion - Office, Fabrication Shop and Site Improvements

Dania Beach, Florida 33004

Broward County

SP-02-15

REVISION

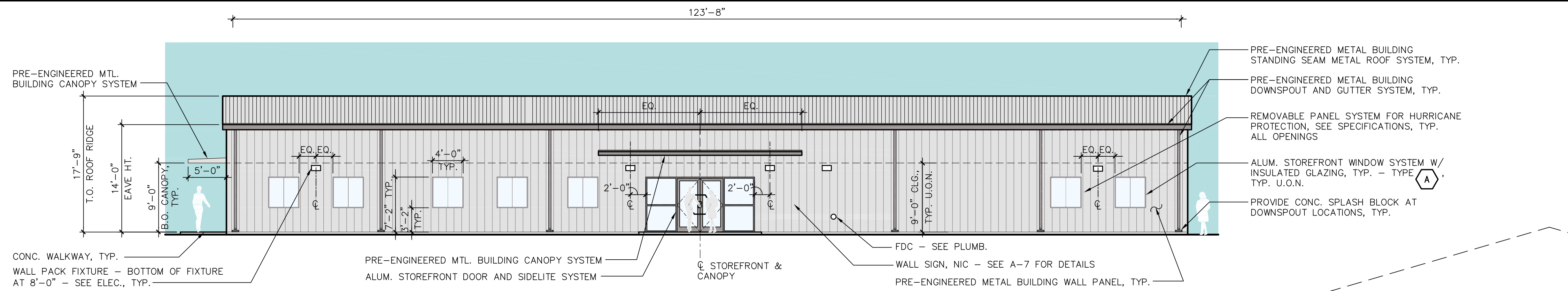
OFFICE BUILDING

FLOOR PLAN

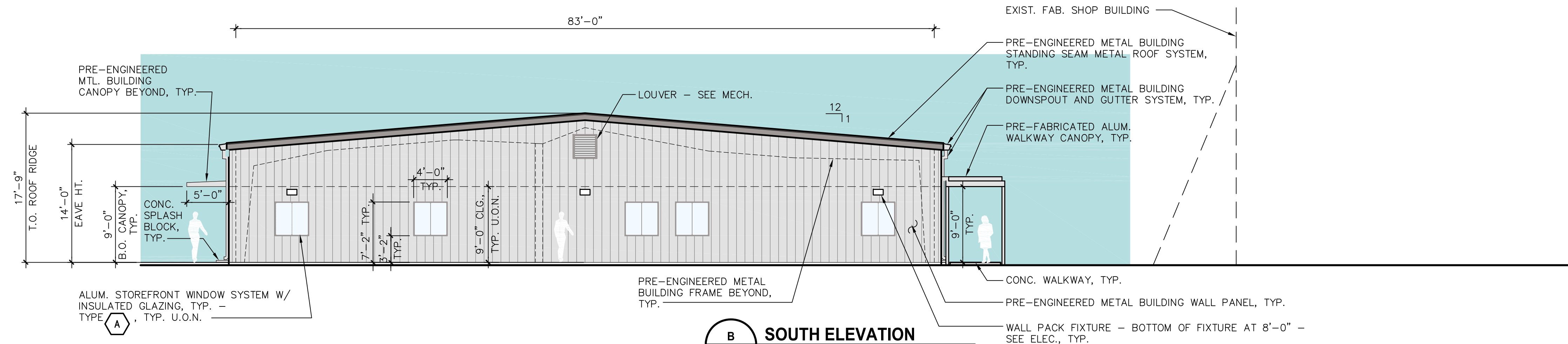
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 CK BY: JHS

A-6a

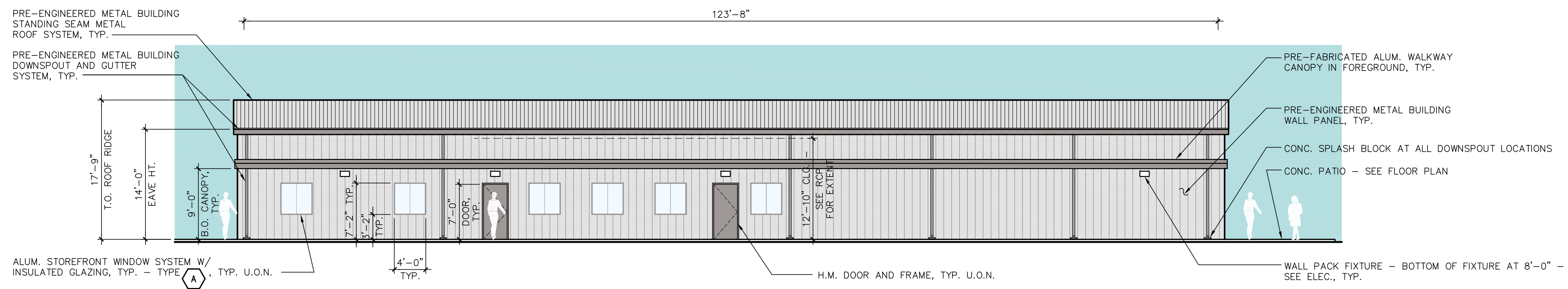
PHASE:
 CITY COMMISSION
 ISSUE DATE: 7/21/15



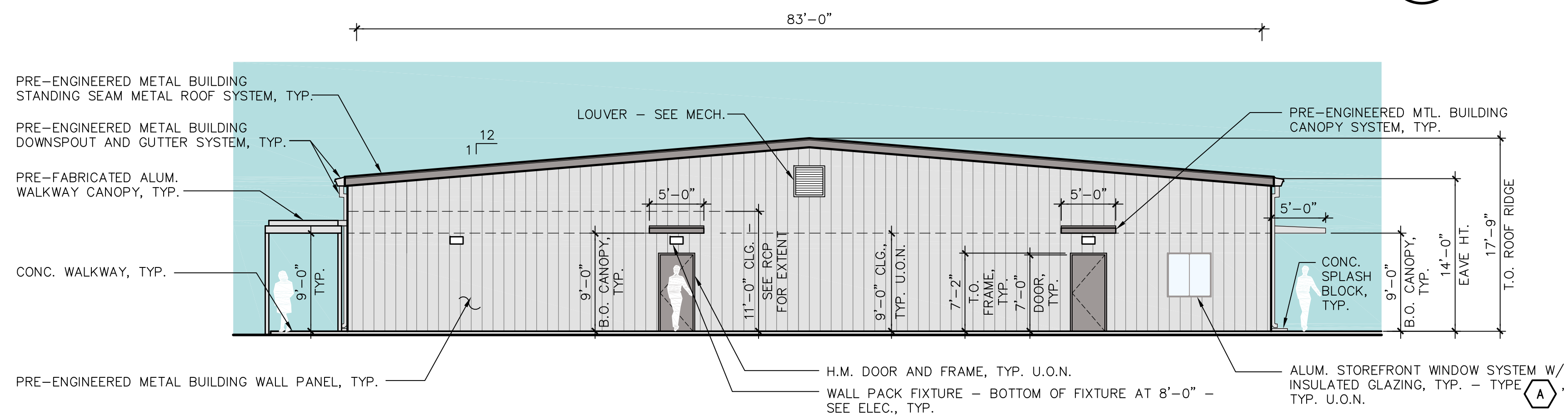
A WEST ELEVATION
A-6b 1/8" = 1'-0"



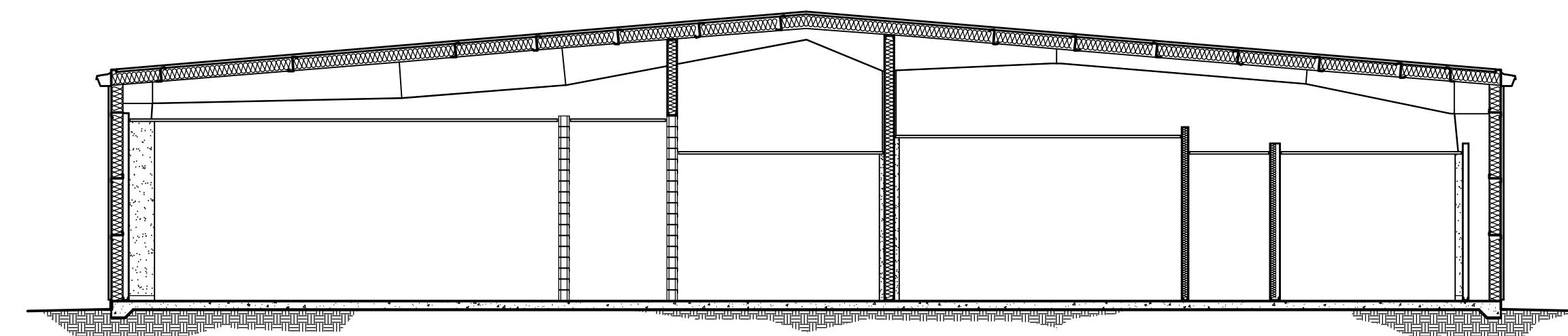
B SOUTH ELEVATION
A-6b 1/8" = 1'-0"



C EAST ELEVATION
A-6b 1/8" = 1'-0"



D NORTH ELEVATION
A-6b 1/8" = 1'-0"



E BUILDING SECTION
A-6b 1/8" = 1'-0"

NOTES:
1. SEE ADD ALTERNATES FOR OPENING PROTECTION.

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Jan Hammock Smith AF0013348

GLN Downstream LAU Expansion Project
Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County

SP-02-15

REV	DATE	REVISION
1		
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OFFICE BUILDING
ELEVATIONS / RENDERING

A-6b

PHASE:
CITY COMMISSION
ISSUE DATE: 7/21/15

SIGN TYPE #1 - MONUMENT / ADDRESS SIGN - See Sheet A-8 for Location on Site
Per Section 505-120, Paragraph (L)

Total Allowable Sign Area = 42 sf
 (per Section 505-120, Paragraph (L))

Total Sign Area of Sign Type #1 = 40 sf

SIGN A: CUSTOM-SIZE NON-ILLUMINATED DOUBLE-FACED SIGN
 Scale: 3/4" = 1' 0"

One (1) double-faced totem sign required.
 Totem sign is aluminum construction, with painted smooth finishes.
 For all other specifications, see notes at left.

Section 505-40, Paragraph (K), (6) Computation

"The minimum setback from an interior property line is 20% of the length of the street frontage of the lot upon which the sign is erected, or 50 feet, whichever is less."

Street Frontage of Project Site = 572.05'
 20% of 572.05' = 114.41'

114.51 > 50', therefore
 50' minimum setback from interior property line required.

The setback from the interior property line for the proposed monument sign is 62'-3".

Project: Gerdau
Address: 2025 Tigertail Blvd., Dania Beach, FL
Dwg#: 15-23032-1
Date: 7-13-15
By: si

Rev. date / notes

CLIENT APPROVAL:
 This print must be signed, dated, and returned to SIGNSTAR. Any unauthorized use is forbidden.
 APPROVED AS NOTED
 SIGNATURE DATE

SIGNSTAR
 A Division of West Central Signs, Inc.
 7720 U.S. Hwy 201 N., Tampa, FL 33637
 Ph: (813)980-4703 Fax: (813)980-4857
 www.signstar.net FL State Cert. #E88000087

SIGN TYPE #2 - DIRECTIONAL SIGNAGE
Per Section 505-120, Paragraph (F)

Total Allowable Sign Area = 3 sf
 (per Section 505-120, Paragraph (F))

Total Sign Area of Sign Type #2 = 3 sf

SIGN C4: CUSTOM SINGLE-FACED ROAD SIGN
 3 SQ. FT. SIGN AT 3' OVERALL HEIGHT
 One (1) single-faced road sign required.
 See notes with Sign C2 for all specifications.

Sign C4: Located near Parking Lot at Office Building - See Sheet A-10

SIGN C1: CUSTOM SINGLE-FACED ROAD SIGN
 3 SQ. FT. SIGN AT 3' OVERALL HEIGHT
 One (1) single-faced road sign required.
 Standard construction, materials, and color/finishes.
 See notes with Sign C2 for all specifications.

Sign C1: Located at Tigertail Blvd. & Truck Driveway #2 - See Sheet A-8

SIGN C2: CUSTOM SINGLE-FACED ROAD SIGN
 3 SQ. FT. SIGN AT 3' OVERALL HEIGHT
 One (1) single-faced road sign required.
 See notes with Sign C2 for all specifications.

Sign C2: Located at Tigertail Blvd. & Truck Driveway #3 - See Sheet A-11

SIGN C3: CUSTOM SINGLE-FACED ROAD SIGN
 3 SQ. FT. SIGN AT 3' OVERALL HEIGHT
 One (1) single-faced road sign required.
 See notes with Sign C2 for all specifications.

Sign C3: Located at Tigertail Blvd. & East Drive #4 - See Sheet A-8

Project: Gerdau
Address: 2025 Tigertail Blvd., Dania Beach, FL
Dwg#: 15-23032-3
Date: 7-13-15
By: si

Rev. date / notes

CLIENT APPROVAL:
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 APPROVED AS NOTED
 SIGNATURE DATE

SIGNSTAR
 A Division of West Central Signs, Inc.
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 www.signstar.net FL State Cert. #E88000087

SIGN TYPE #3 - WALL SIGN - See Sheet A-8 for Location on Site
Per Section 505-120, Paragraph (O)

Total Allowable Sign Area = 102 sf
 (per Section 505-120, Paragraph (O, 2))
 See Calculation Below

Total Sign Area of Sign Type #3 = 100 sf

SIGN B: CUSTOM-SIZE WALL LETTERS 100 SQ. FT.
 Scale: NOT TO SCALE
 1/4" thick aluminum, flat-out letters and square logo shape, painted Gerdau Blue, with Gerdau white vinyl "double-G" logo letters applied.

As per typical installation method for corrugated building wall:
 Letters and logo are installed on corrugated building wall, using 2" x 2" aluminum "rails" painted to match building color. "Rail" color to be determined.

Hardware and installation as necessary.

*Due to installation/weight considerations, larger square logo shapes will be fabricated aluminum, with 3/4" depth.

Code allows: 1 sq. ft. per 1' of building frontage for the first 75', then 1/4 sq. ft. with a max. of 150 sq. ft.
 Building frontage of 184.83' allows for 75 sq. ft. plus 27 sq. ft. (25 x 109.53) = 102 total sq. ft. sign area.

Project: Gerdau
Address: 2025 Tigertail Blvd., Dania Beach, FL
Dwg#: 15-23032-2
Date: 7-13-15
By: si

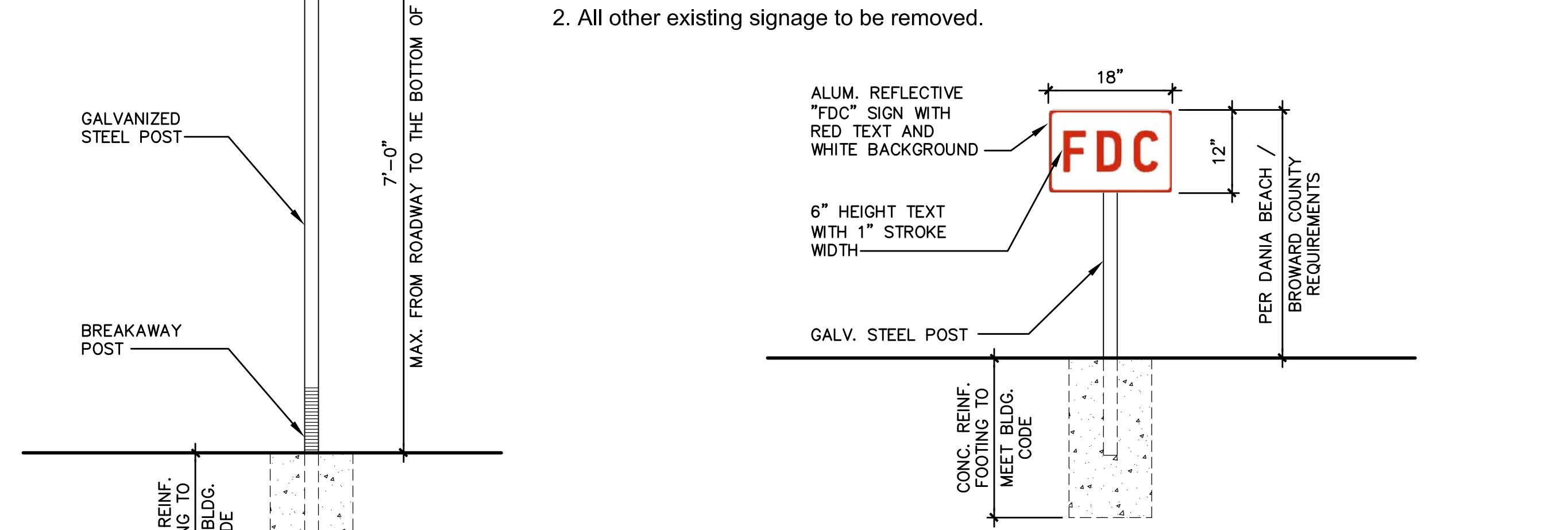
Rev. date / notes

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 APPROVED AS NOTED
 SIGNATURE DATE

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GENERAL SIGNAGE NOTES:

- The existing building wall sign is to remain. See Permit No. B-03-2060
- All other existing signage to be removed.



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GLN Downstream LAU Expansion Project
 Plant Expansion - Office, Fabrication Shop and Site Improvements
 Dania Beach, Florida 33004
 Broward County
SP-02-15

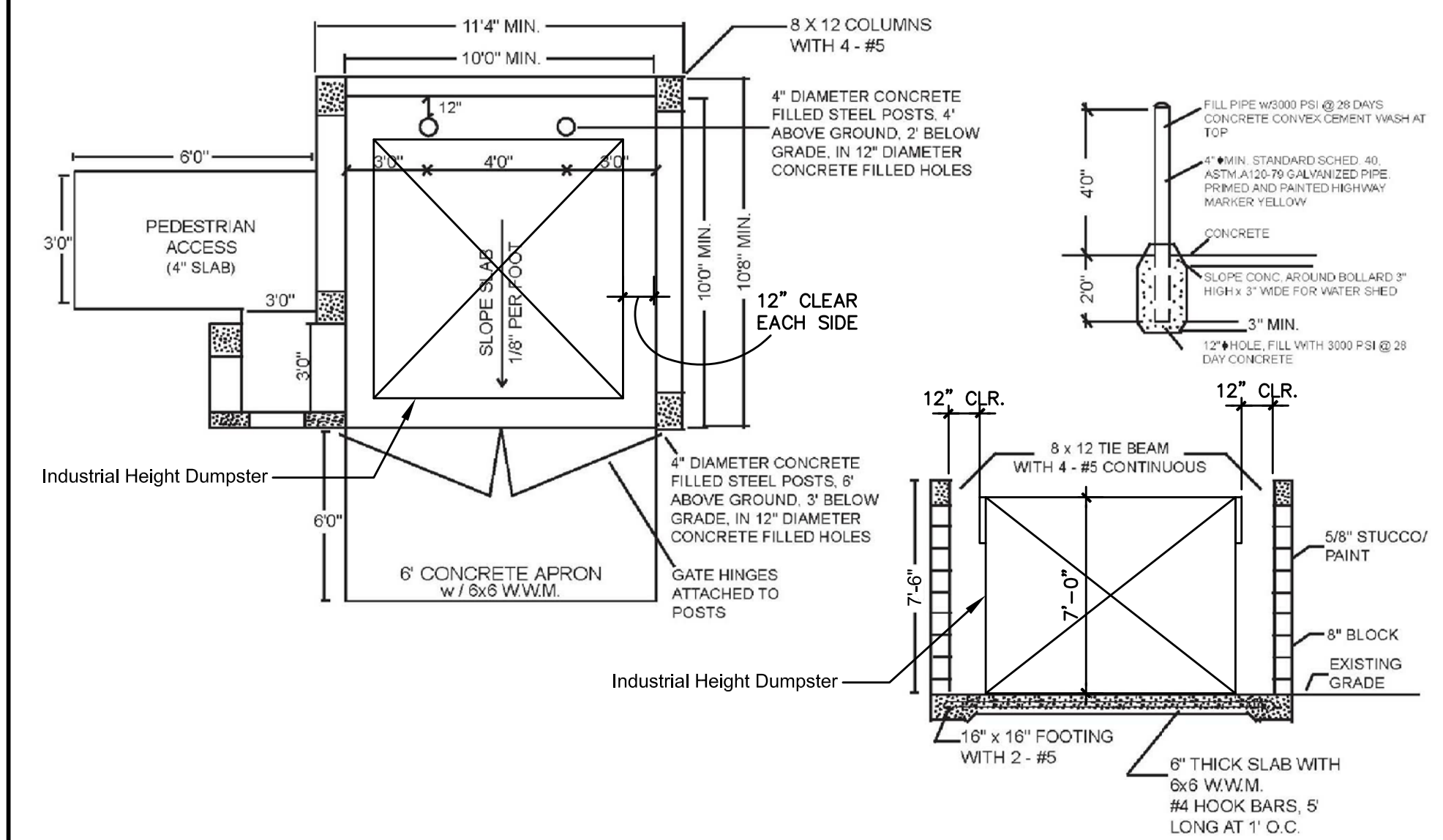
SIGNAGE DETAILS
 DRW BY: MAM CK BY: JHS
 PROJ. NO. BC-CERDAU

A-7.1
 PHASE: CITY COMMISSION
 ISSUE DATE: 7/21/15

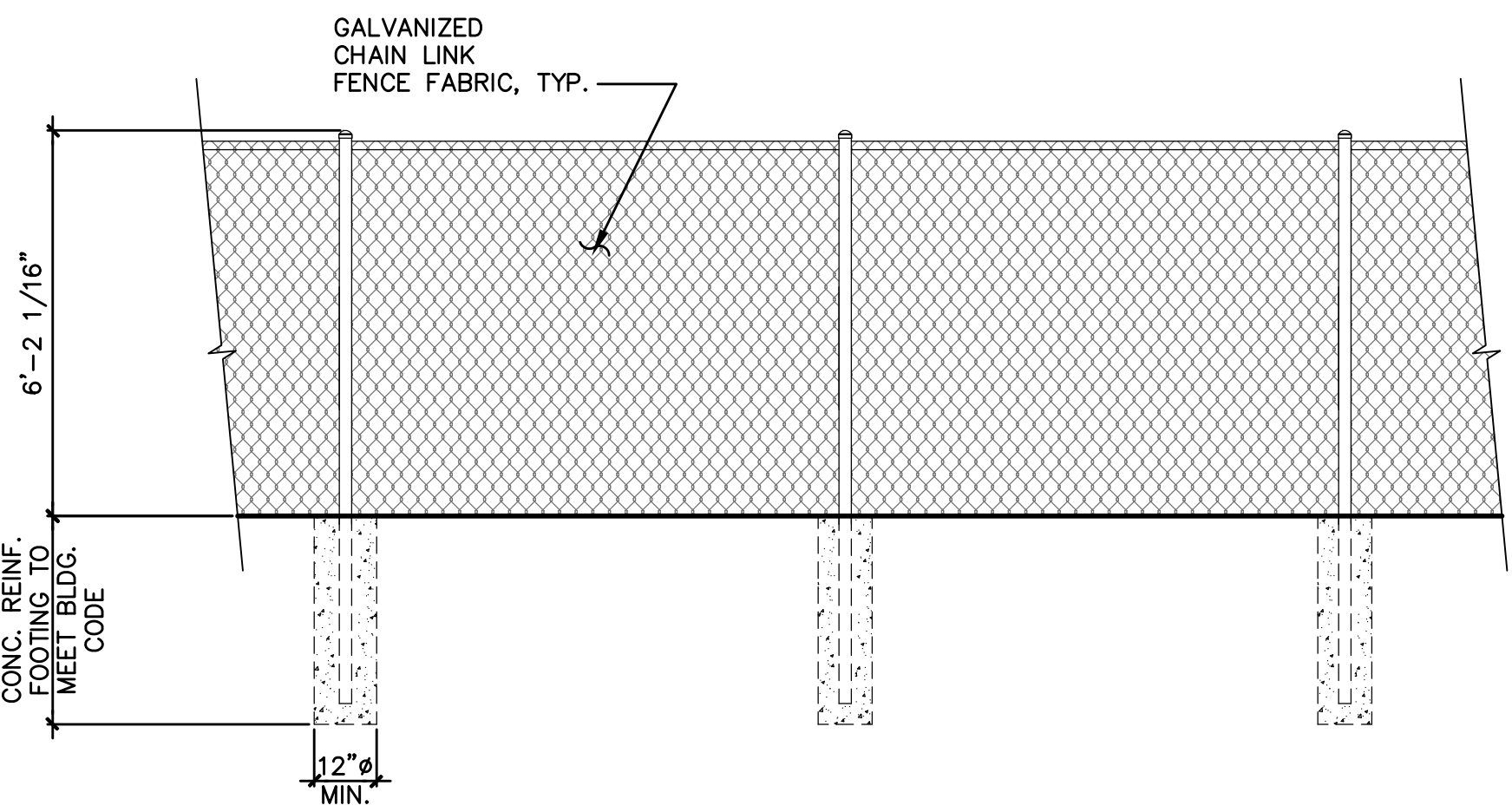
[SECTION 635-50, PARAGRAPH (Q)]

RECYCLE PROGRAM - ALL SCRAP STEEL IS COLLECTED BY GERDAU AND RETURNED TO GERDAU'S RECYCLE PLANT IN FLORIDA.

GENERAL TRASH - LOCAL TRASH COLLECTION PICK-UP; ONE INDUSTRIAL HEIGHT DUMPSTER.



1 CITY OF DANIA BEACH DUMPSTER ENCLOSURE - TYP. DETAIL
A-7.2 N.T.S.



2 CHAIN LINK FENCE - TYP. DETAIL
A-7.2 3/8\"/>

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Jan Hammock Smith AF0013348

GLN Downstream LAU Expansion Project

Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County
SP-02-15

NO.	DATE	REVISION

**DUMPSTER ENCLOSURE
AND FENCE DETAIL**

PROJ. NO. BC-GERDAU | DRW BY: MAM | CK BY: JHS

A-7.2

PHASE:
CITY COMMISSION
ISSUE DATE: 7/21/15

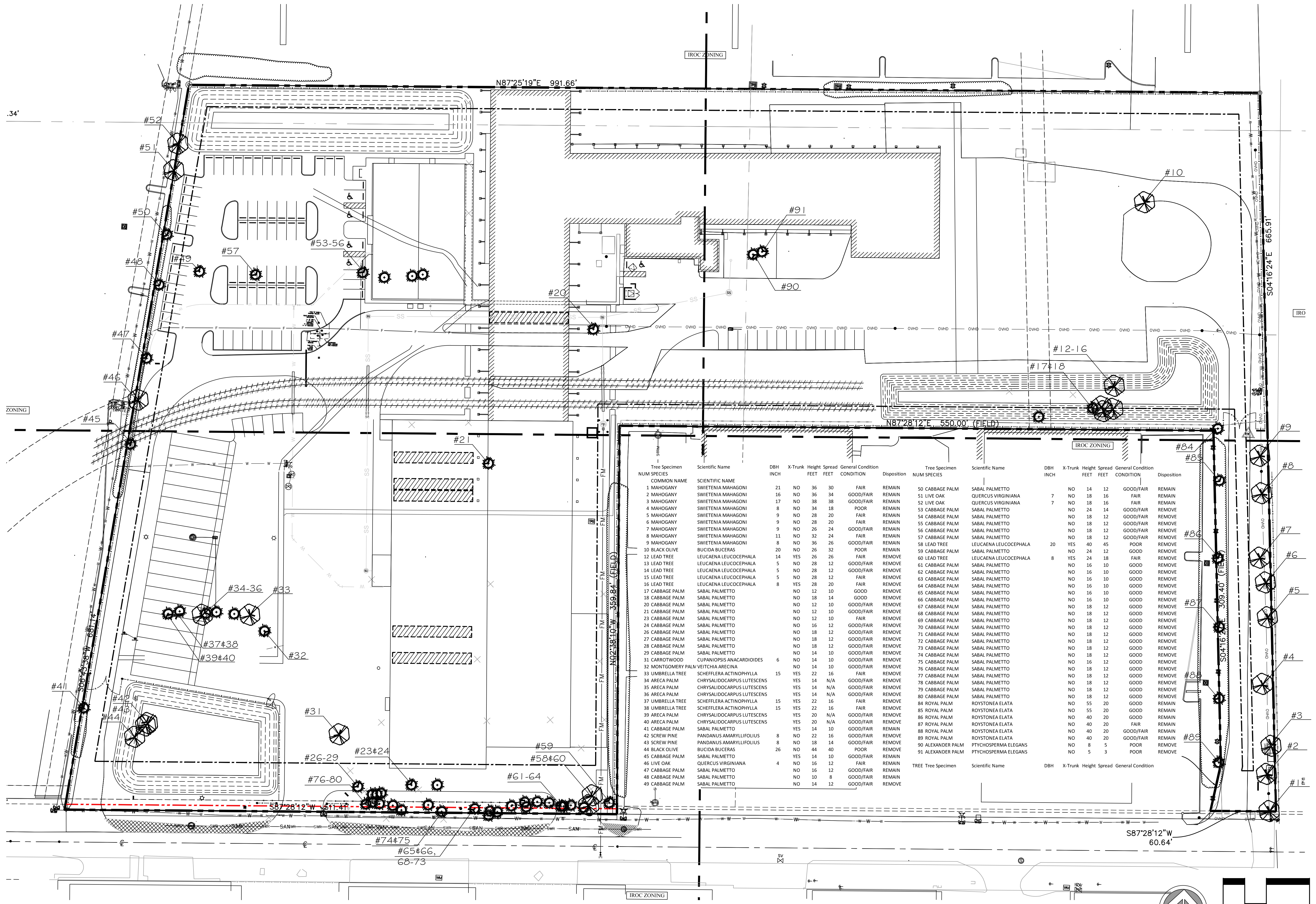
LANDSCAPE PLANS AND DETAILS

- TDP-1 Tree Disposition Plan
- LNP-01 Tree Chart Elevations (Image Board)
- LNP-1 Landscape Plan
- LNP-2 Landscape Plan
- LNP-3 Landscape Plan
- LNP-4 Landscape Plan
- LNP-5 Landscape Plan
- LNP-6 Landscape Plan

- IR-1 Irrigation Plan
- IR-2 Irrigation Plan
- IR-3 Irrigation Plan
- IR-4 Irrigation Plan
- IR-5 Irrigation Plan

GLN DOWNSTREAM LAU EXPANSION

DANIA BEACH, FLORIDA 33004



Tree Specimen NUM SPECIES	COMMON NAME	SCIENTIFIC NAME	DBH INCH	X-Trunk FEET	Height FEET	Spread FEET	General Condition CONDITION	Disposition	Tree Specimen NUM SPECIES	COMMON NAME	SCIENTIFIC NAME	DBH INCH	X-Trunk FEET	Height FEET	Spread FEET	General Condition CONDITION	Disposition
1	MAHOGANY	SWIETENIA MAHAGONI	21	NO	36	30	FAIR	REMAIN	50	CABBAGE PALM	SABAL PALMETTO	NO	14	12	GOOD/FAIR	REMAIN	
2	MAHOGANY	SWIETENIA MAHAGONI	16	NO	36	34	GOOD/FAIR	REMAIN	51	LIVE OAK	QUERCUS VIRGINIANA	7	NO	18	16	FAIR	REMAIN
3	MAHOGANY	SWIETENIA MAHAGONI	17	NO	38	38	GOOD/FAIR	REMAIN	52	LIVE OAK	QUERCUS VIRGINIANA	7	NO	18	16	FAIR	REMAIN
4	MAHOGANY	SWIETENIA MAHAGONI	8	NO	34	18	POOR	REMAIN	53	CABBAGE PALM	SABAL PALMETTO	NO	24	14	GOOD/FAIR	REMOVE	
5	MAHOGANY	SWIETENIA MAHAGONI	9	NO	28	20	FAIR	REMAIN	54	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD/FAIR	REMOVE	
6	MAHOGANY	SWIETENIA MAHAGONI	9	NO	28	20	FAIR	REMAIN	55	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD/FAIR	REMOVE	
7	MAHOGANY	SWIETENIA MAHAGONI	9	NO	26	24	GOOD/FAIR	REMAIN	56	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD/FAIR	REMOVE	
8	MAHOGANY	SWIETENIA MAHAGONI	11	NO	32	24	FAIR	REMAIN	57	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD/FAIR	REMOVE	
9	MAHOGANY	SWIETENIA MAHAGONI	8	NO	36	26	GOOD/FAIR	REMAIN	58	LEAD TREE	LEUCAENA LEUCOCEPHALA	20	YES	40	45	POOR	REMOVE
10	BLACK OLIVE	BUCCIDA BUCERAS	20	NO	26	32	POOR	REMAIN	59	CABBAGE PALM	SABAL PALMETTO	NO	24	12	GOOD	REMOVE	
12	LEAD TREE	LEUCAENA LEUCOCEPHALA	14	YES	26	26	FAIR	REMOVE	60	LEAD TREE	LEUCAENA LEUCOCEPHALA	8	YES	24	18	FAIR	REMOVE
13	LEAD TREE	LEUCAENA LEUCOCEPHALA	5	NO	28	12	GOOD/FAIR	REMOVE	61	CABBAGE PALM	SABAL PALMETTO	NO	16	10	GOOD	REMOVE	
14	LEAD TREE	LEUCAENA LEUCOCEPHALA	5	NO	28	12	GOOD/FAIR	REMOVE	62	CABBAGE PALM	SABAL PALMETTO	NO	16	10	GOOD	REMOVE	
15	LEAD TREE	LEUCAENA LEUCOCEPHALA	5	NO	28	12	FAIR	REMOVE	63	CABBAGE PALM	SABAL PALMETTO	NO	16	10	GOOD	REMOVE	
16	LEAD TREE	LEUCAENA LEUCOCEPHALA	8	YES	28	20	FAIR	REMOVE	64	CABBAGE PALM	SABAL PALMETTO	NO	16	10	GOOD	REMOVE	
17	CABBAGE PALM	SABAL PALMETTO	NO	12	10	GOOD	REMOVE	65	CABBAGE PALM	SABAL PALMETTO	NO	16	10	GOOD	REMOVE		
18	CABBAGE PALM	SABAL PALMETTO	NO	18	14	GOOD	REMOVE	66	CABBAGE PALM	SABAL PALMETTO	NO	16	10	GOOD	REMOVE		
20	CABBAGE PALM	SABAL PALMETTO	NO	12	10	GOOD/FAIR	REMOVE	67	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
21	CABBAGE PALM	SABAL PALMETTO	NO	12	10	GOOD/FAIR	REMOVE	68	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
23	CABBAGE PALM	SABAL PALMETTO	NO	12	10	FAIR	REMOVE	69	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
24	CABBAGE PALM	SABAL PALMETTO	NO	16	12	GOOD/FAIR	REMOVE	70	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
26	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD/FAIR	REMOVE	71	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
27	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD/FAIR	REMOVE	72	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
28	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD/FAIR	REMOVE	73	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
29	CABBAGE PALM	SABAL PALMETTO	NO	14	10	GOOD/FAIR	REMOVE	74	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
31	CARROTWOOD	CUPANIOPSIS AMACARDIODES	6	NO	14	10	GOOD/FAIR	REMOVE	75	CABBAGE PALM	SABAL PALMETTO	NO	16	12	GOOD	REMOVE	
32	MONTGOMERY PALM	VEITCHIA ARECINA	NO	14	10	GOOD/FAIR	REMOVE	76	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
33	UMBRELLA TREE	SCHEFFLERIA ACTINOPHYLLA	15	YES	22	16	FAIR	REMOVE	77	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE	
34	ARECA PALM	CHRYSALEDOCARPUS LUTESCENS	YES	14	N/A	GOOD/FAIR	REMOVE	78	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
35	ARECA PALM	CHRYSALEDOCARPUS LUTESCENS	YES	14	N/A	GOOD/FAIR	REMOVE	79	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
36	ARECA PALM	CHRYSALEDOCARPUS LUTESCENS	YES	14	N/A	GOOD/FAIR	REMOVE	80	CABBAGE PALM	SABAL PALMETTO	NO	18	12	GOOD	REMOVE		
37	UMBRELLA TREE	SCHEFFLERIA ACTINOPHYLLA	15	YES	22	16	FAIR	REMOVE	84	ROYAL PALM	ROYSTONEA ELATA	NO	55	20	GOOD	REMAIN	
38	UMBRELLA TREE	SCHEFFLERIA ACTINOPHYLLA	15	YES	22	16	FAIR	REMOVE	85	ROYAL PALM	ROYSTONEA ELATA	NO	55	20	GOOD	REMAIN	
39	ARECA PALM	CHRYSALEDOCARPUS LUTESCENS	YES	20	N/A	GOOD/FAIR	REMOVE	86	ROYAL PALM	ROYSTONEA ELATA	NO	40	20	GOOD	REMAIN		
40	ARECA PALM	CHRYSALEDOCARPUS LUTESCENS	YES	20	N/A	GOOD/FAIR	REMOVE	87	ROYAL PALM	ROYSTONEA ELATA	NO	40	20	FAIR	REMAIN		
41	CABBAGE PALM	SABAL PALMETTO	YES	14	10	GOOD/FAIR	REMOVE	88	ROYAL PALM	ROYSTONEA ELATA	NO	40	20	GOOD/FAIR	REMAIN		
42	SCREW PINE	PANDANUS AMARYLLIFOLIUS	8	NO	22	16	GOOD/FAIR	REMOVE	89	ROYAL PALM	ROYSTONEA ELATA	NO	40	20	GOOD/FAIR	REMAIN	
43	SCREW PINE	PANDANUS AMARYLLIFOLIUS	8	NO	18	14	GOOD/FAIR	REMOVE	90	ALEXANDER PALM	PTYCHOSPERMA ELEGANS	NO	8	5	POOR	REMOVE	
44	BLACK OLIVE	BUCCIDA BUCERAS	26	NO	44	40	POOR	REMOVE	91	ALEXANDER PALM	PTYCHOSPERMA ELEGANS	NO	5	3	POOR	REMOVE	
45	CABBAGE PALM	SABAL PALMETTO	YES	14	10	GOOD/FAIR	REMOVE										
46	LIVE OAK	QUERCUS VIRGINIANA	4	NO	16	12	FAIR	REMAIN									
47	CABBAGE PALM	SABAL PALMETTO	NO	16	12	GOOD/FAIR	REMAIN										
48	CABBAGE PALM	SABAL PALMETTO	NO	10	8	GOOD/FAIR	REMAIN										
49	CABBAGE PALM	SABAL PALMETTO	NO	14	12	GOOD/FAIR	REMOVE										

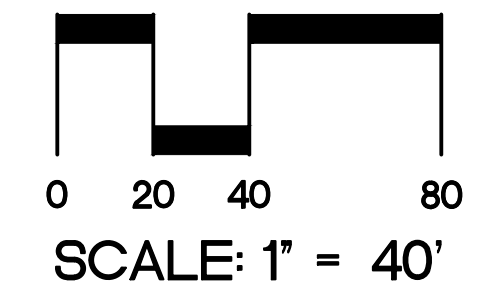
Sheet Title
TREE DISPOSITION PLAN

Revision Dates
7.13.2015 COMMISSION SUBMITTAL

Date
12.20.14

Sheet Number
TDP-1

Seal
JILL COHEN
7.13.2015
LA1600



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TREES



BULNESIA ARBOREA
VERAWOOD



CLUSIA ROSEA
CLUSIA



COCCOLOBA DIVERSIFOLIA
PIGEON PLUM



CONOCARPUS ERECTUS SERICEUS
SILVER BUTTWOOD



PANDINUS UTILIS
SCREW PINE



QUERCUS VIRGINIANA - LIVE OAK
LIVE OAK

TREES



SABAL PALMETTO
SABAL PALM



TAXODIUM DISTICHUM
BALD CYPRESS



VEITCHIA MONTGOMERYANA
MONTGOMERY PALM

SHRUBS



CLUSIA GUTTIFERA
SMALL LEAF CLUSIA



CODIAEUM VARIEGATUM 'MAMMY'
MAMMY CROTON



COSTUS WOODSII
RED BUTTON GINGER

SHRUBS



DIANELLA TASMANICA
BLUEBERRY
FLAX LILY



DOMBEYA SEMINOLE
PINK DOMBEYA



FIGUS MICROCARPA 'GREEN ISLAND'
GREEN ISLAND FIGUS



GALPHIMIA GRACILIS
THRYALLIS



HAMELIA PATENS 'COMPACTA'
DWARF FIRE BUSH

SHRUBS



SCHEFFLERA ARBORICOLA 'TRINETTE'
TRINETTE ARBORCOLA

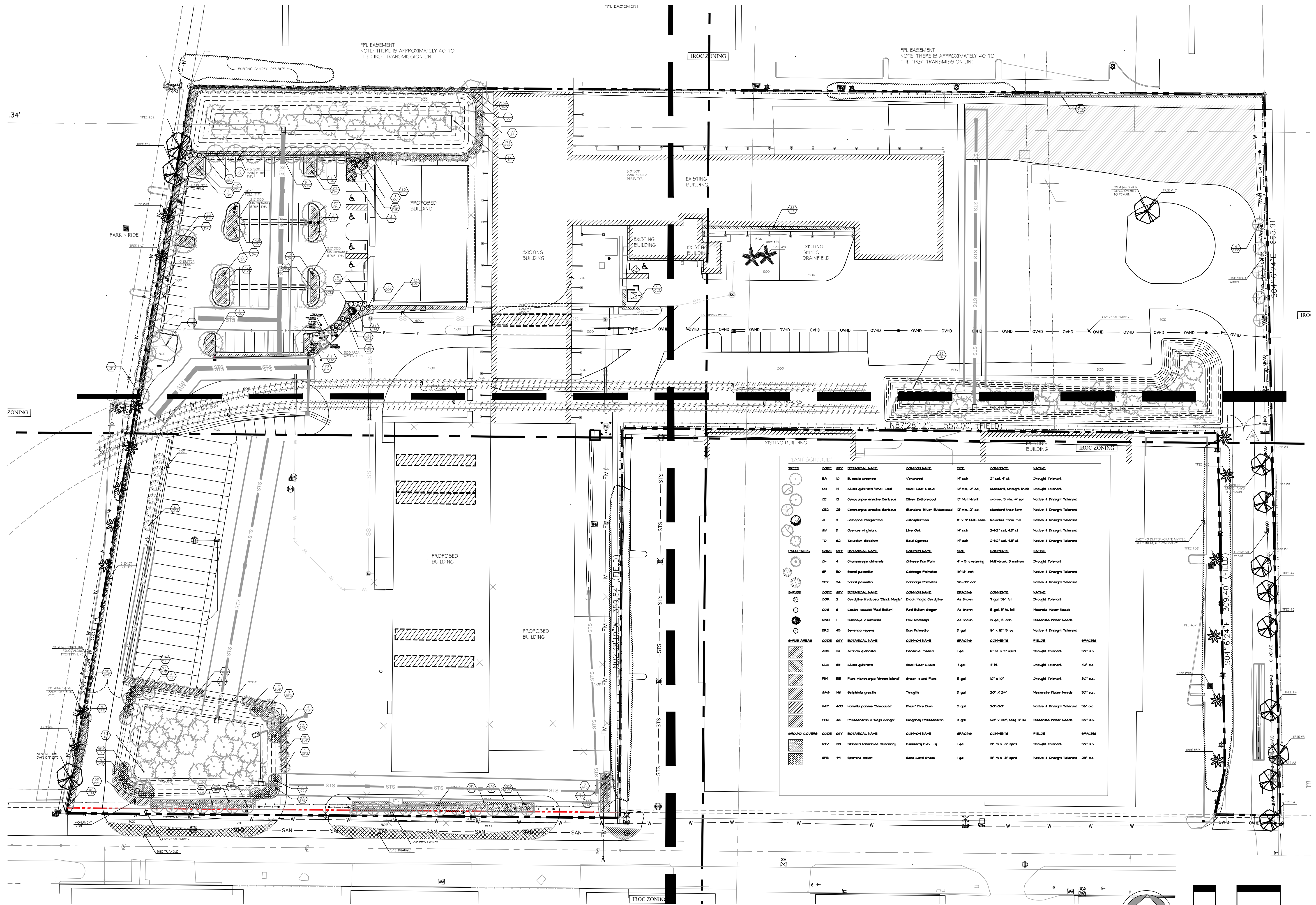


SERENOA REPENS
SAW PALMETTO



SPARTINA BAKERI
SAND CHORD GRASS

C:\PROX\ACAD\DATA\14-1212 GERDAU\GERDAU\GERDAU\DATA\PLANT IMAGE BOARD.DWG 1/20/15 by JBC



TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS	NATIVE	
TREES	BA	10	Bursera arborea	Yucca	14' cal.	2" cal. 4' cal.	Drought Tolerant	
	CR	11	Cleome gilliflora 'Small Leaf'	Small Leaf Cleome	12' min. 2" cal.	standard straight trunk	Drought Tolerant	
	CE	12	Conocarpus erectus Serotena	Silver Buttonwood	10' Mini-trunk	4-6" dbh, 8' min. 4' sp.	Native 4 Drought Tolerant	
	CE2	23	Conocarpus erectus Serotena	Standard Silver Buttonwood	12' min. 2" cal.	standard tree form	Native 4 Drought Tolerant	
	J	5	Jatropha integrirama	JatrophaTree	6' x 8' Mini-trunk	Rounded Form Full	Native 4 Drought Tolerant	
	OV	5	Quercus virginiana	Live Oak	14' cal.	2-1/2" cal. 4.5' cal.	Native 4 Drought Tolerant	
	TD	62	Taxodium distichum	Sold Cypress	14' cal.	2-1/2" cal. 4.5' cal.	Native 4 Drought Tolerant	
	PALM TREES	GH	4	Chamaecyparis obtusa	Chinese Fan Palm	4' - 5' clumping	Mini-trunk, 5' minimum	Drought Tolerant
		SP	50	Sabal palmetto	Cabbage Palmetto	18-18" cal.		Native 4 Drought Tolerant
		SP2	54	Sabal palmetto	Cabbage Palmetto	20-20" cal.		Native 4 Drought Tolerant
SHRUBS		GOR	2	Cordia alliodora 'Black Hedge'	Black Hedge Cordyline	As Shown	7' gal. 5' gal.	Drought Tolerant
		GOS	6	Cordia roosei 'Red Duster'	Red Duster Cordyline	As Shown	5 gal. 5' gal. 5' gal.	Moderate Water Needs
	DOM	1	Dombeya x eumebia	Pink Dombeya	As Shown	5 gal. 5' gal.	Moderate Water Needs	
SHRUBS/ARBS	SMC	43	Sarcococca repens	San Palmetto	5 gal.	18" x 18" 5' cal.	Native 4 Drought Tolerant	
	ANA	14	Anacardium occidentale	Peanut Plant	1 gal.	6" H. x 4" spread.	Drought Tolerant	
	CLB	85	Cleome gilliflora	Small-Leaf Cleome	7 gal.	4" H.	Drought Tolerant	
	FM	53	Ficus microcarpa 'Green Island'	Green Island Ficus	5 gal.	10" x 10"	Drought Tolerant	
	GAB	146	Guzmania gracilis	Thyallis	5 gal.	20" x 24"	Moderate Water Needs	
	HAF	405	Hamelia patens 'Compact'	Dwarf Fire Bush	5 gal.	20"x20"	Native 4 Drought Tolerant	
	PHR	45	Philodendron x 'Raja Congo'	Burgundy Philodendron	5 gal.	20" x 20" 20" 5' cal.	Moderate Water Needs	
	GROUND COVERS	DTV	15	Dianella laevis 'Blueberry'	Blueberry Plant Lily	1 gal.	18" H. x 18" spread	Drought Tolerant
		SPB	41	Spartina bakeri	Sand Cord Grass	1 gal.	18" H. x 18" spread	Native 4 Drought Tolerant

GLN DOWNSTREAM LAU EXPANSION

DANIA BEACH, FLORIDA 33004

Sheet Title
LANDSCAPE PLAN

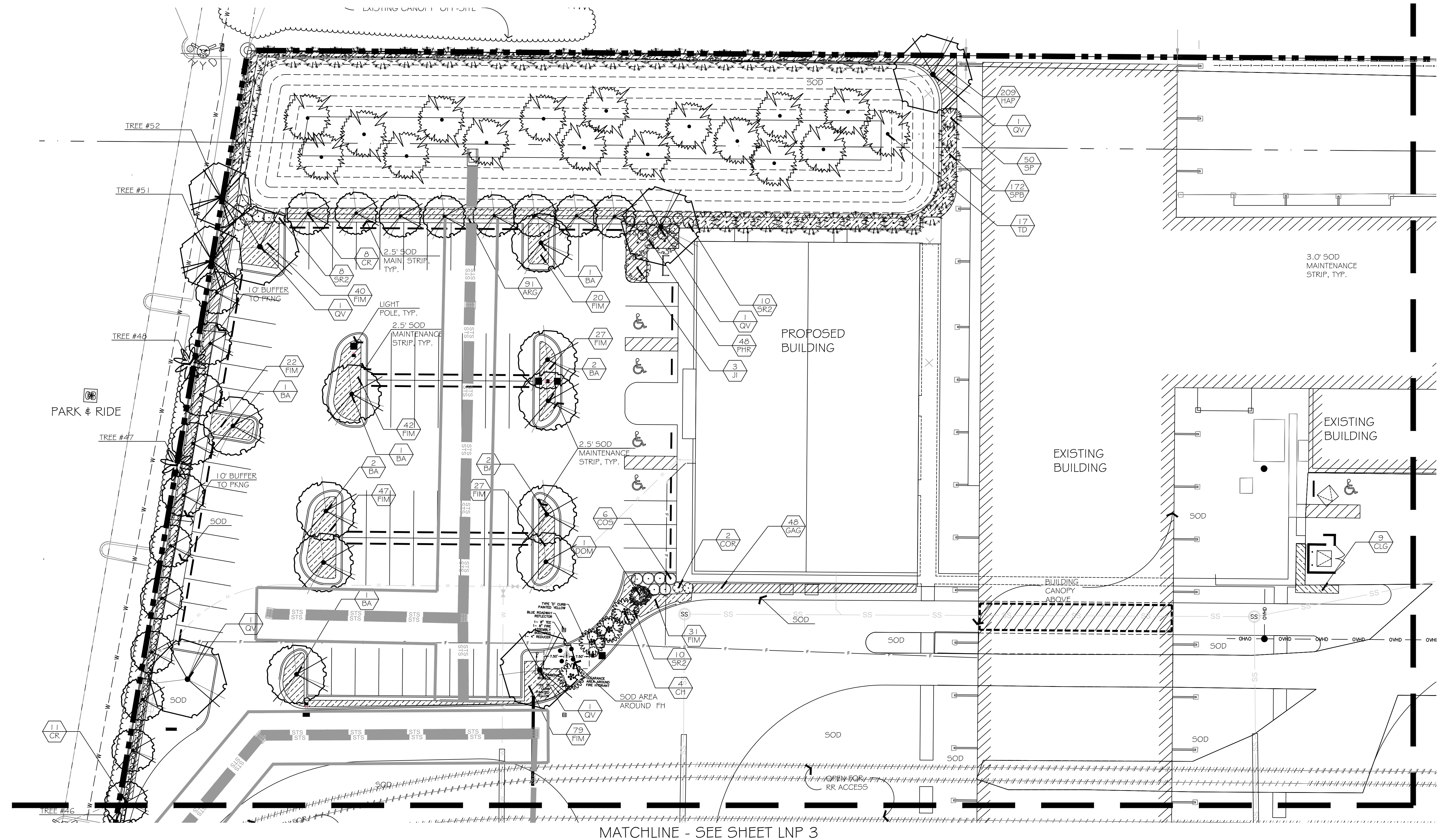
Revision Dates
 6.5.2015 REV FOR DRC COMMENTS
 7.2.2015 COMMISSION SUBMITTAL

Date
 12.20.14

Sheet Number
LNP-1

Scale
 1" = 40'

JILL COHEN
 7.13.2015
 LA1600

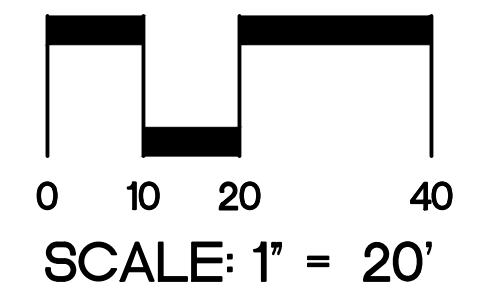
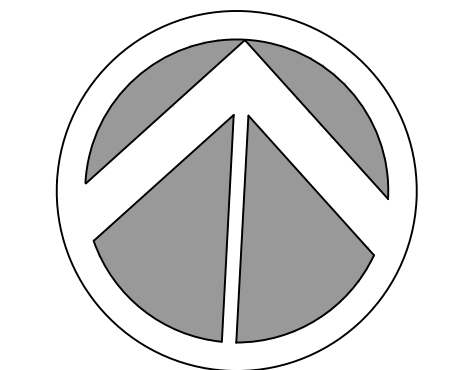


MATCHLINE - SEE SHEET LNP 4

MATCHLINE - SEE SHEET LNP 3

CITY OF DANIA NOTES:

- o A pre-construction meeting with the Dania Beach City Arborist is required prior to landscaping activities including removal of trees and/or installation of plant material. Call 954.924.0423 a minimum of five (5) days prior to desired start date to schedule pre-construction meeting.
- o All existing trees proposed to remain are to be separated from the limits of disturbance of the construction area by tree protection fencing and signage. The tree protection fencing shall be located at the edge of the tree protection zone as depicted on the plan or at the edge of the drip line(s) if a tree protection zone is not designated. No material storage or construction access is permitted within the tree protection zone.
- o All existing trees shall be pruned to ANSI A-300 standards to correct potential hazards.
- o A tree removal permit is required prior to removal or relocation of any tree or palm. Contact the Dania Beach City Arborist at 954.924.6805 to obtain permit information.
- o Landscape contractor shall notify Sunshine One Call Florida, Inc. at 1.800.432.4770 a minimum of two (2) full business days prior to digging. Landscape contractor is responsible for avoiding damage to utilities from plant installation.
- o Tree relocations:
- o Existing trees to be relocated shall be root pruned a minimum of 120 days prior to relocation.
- o Minimum root ball sizes shall be in accordance with ANSI standards as follows:
- o Caliper Minimum Root Ball Diameter
 - 16
 - 24
 - 32
 - 42
 - 54
 - 60
 - 70
 - 80
 - 12 inches per inch of trunk diameter
- o Transplanted trees with undersized root balls may be rejected by the City Arborist and replacement trees may be required.
- o A temporary irrigation system shall be provided during and for the first 40 days after root pruning.
- o All planting must follow planting specifications and details shown on the plan
- o Substitutions of plant species or specifications must be approved in writing by the Dania Beach City Arborist prior to use.
- o All plant material planted per this landscape plan shall be Florida Grade #1 or better, as specified in the current edition of the Florida Department of Agriculture's Grades and Standards for Nursery Plants. Damaged plant material shall be rejected and replaced prior to installation.
- o All sizes shown for plant material are to be considered minimums.
- o Where quantities and/or species differ between the planting plans and plant lists, the plans shall take precedence.
- o All new plant material shall be warranted by the landscape contractor for a minimum period of one year.
- o The warranty period shall begin after acceptance of the plants by the City Arborist.
- o Plant beds to be treated with a pre-emergent herbicide prior to planting.
- o All tree and palm staking and support shall be removed one year after installation.
- o No fertilizer shall be applied to newly planted trees and palms.
- o All landscape material shall be thoroughly watered at the time of planting, no dry planting permitted.
- o Landscape contractor shall be responsible for providing temporary water provisions until such time as the irrigation system is operational.
- o All wire guys and/or fabric straps shall be flagged with fluorescent colored tape.
- o Mulching:
- o All landscape areas not covered by sod shall be covered by a minimum 3-inch layer of mulch.
- o A mulch ring with a minimum radius of 24 inches (48 inch diameter), is required around all newly installed trees and palms.
- o Cypress mulch shall not be used.
- o No mulch shall be placed touching or within six (6) inches of the trunk of a tree or palm.
- o All newly landscaped areas shall be excavated down to a depth of 24 inches below final grade and backfilled with clean, debris-free soil. Existing soil may be reused for backfilling if debris is removed and organic content is sufficient or soil is augmented with topsoil.
- o All landscape areas shall be finish graded such that they are a minimum of 3.5 inches below surrounding paved surfaces so as not to impede the flow of drainage into landscaped areas and to allow for 3-inch mulch layer.



GLN DOWNSTREAM EXPANSION

DANIA BEACH, FLORIDA

Sheet Title
LANDSCAPE PLAN

Revision Dates
 6.3.2015 PER DRG COMMENTS
 7.21.2015 COMMISSION SUBMITTAL

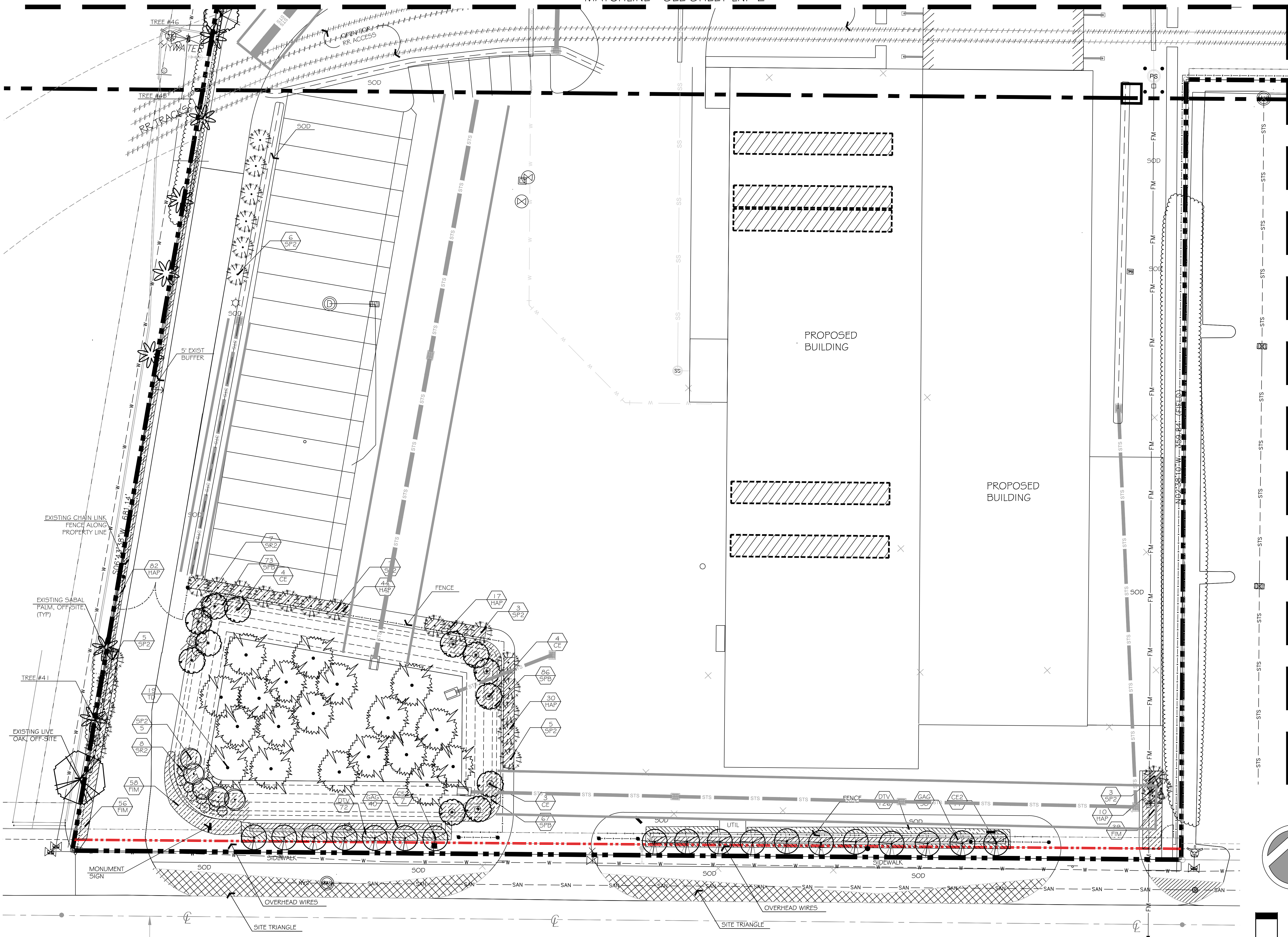
Date
 12.20.14

Sheet Number
LNP-2

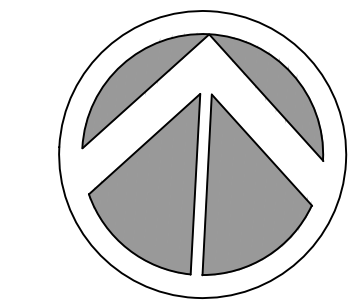
Seal

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MATCHLINE - SEE SHEET LNP 2



MATCHLINE - SEE SHEET LNP 5



0 10 20 40
SCALE: 1" = 20'

jbs planning & design
planning, landscape architecture & sustainable design
1312 Majesty Terrace
Weston, Florida 33327
(954) 802-6292
www.jbsplanning.com

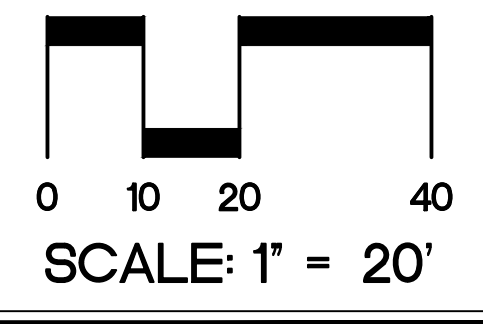
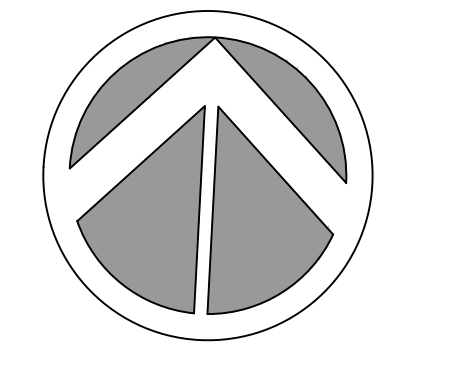
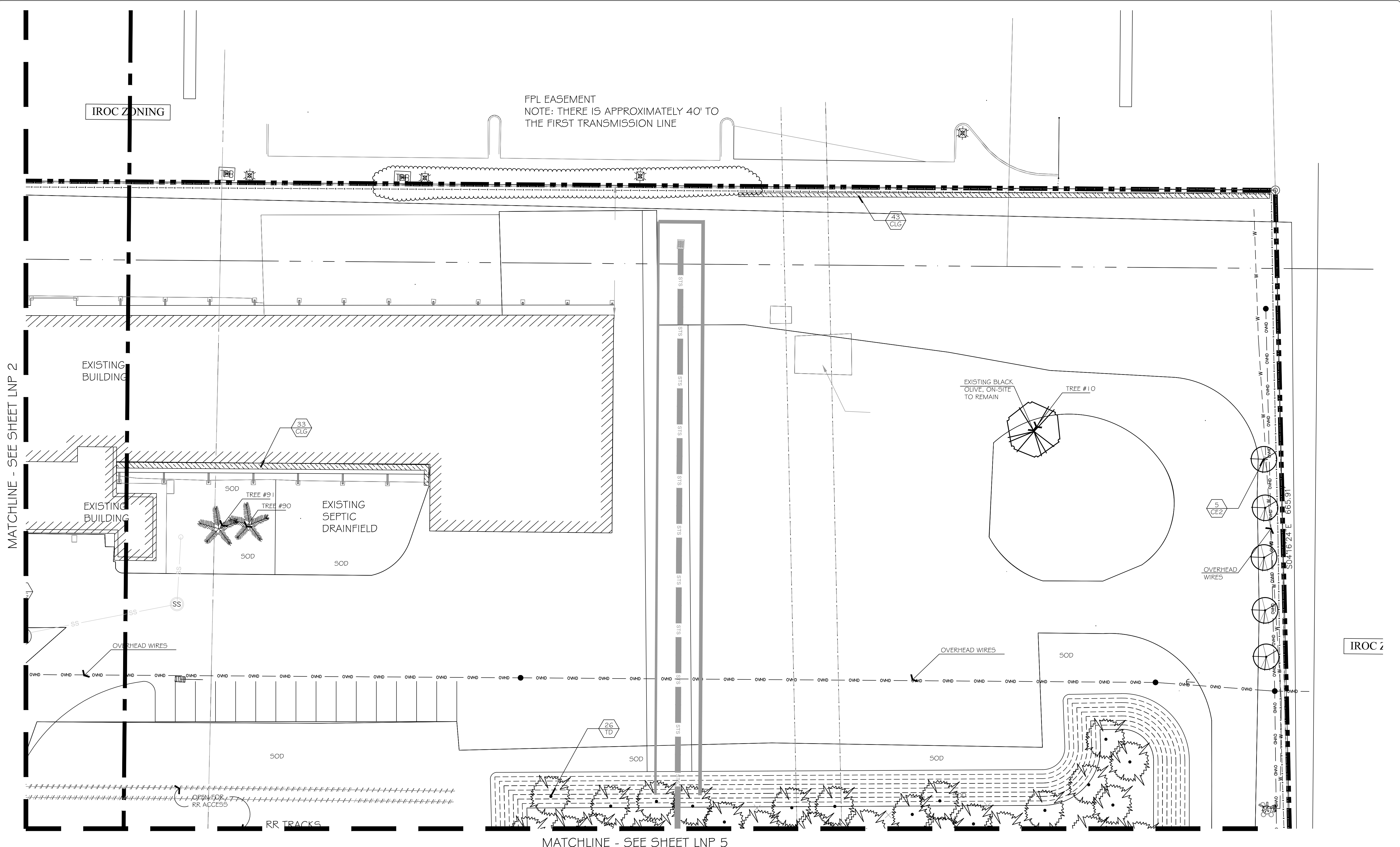
GLN DOWNSTREAM EXPANSION

DANIA BEACH, FLORIDA

Sheet Title	LANDSCAPE PLAN
Revision Dates	6.3.2015 PER DRC COMMENTS 7.21.2015 COMMISSION SUBMITTAL
Date	12.20.14
Sheet Number	LNP-3
Seal	

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GLN DOWNSTREAM LAU EXPANSION
 DANIA BEACH, FLORIDA

Sheet Title	LANDSCAPE PLAN
Revision Dates	6.3.2015 PER DRC COMMENTS
7.21.2015 COMMISSION SUBMITTAL	
Date	12.20.14
Sheet Number	LNP-4
Seal	
	JILL COHEN 7.13.2015 LA1600

GLN DOWNSTREAM LAU EXPANSION

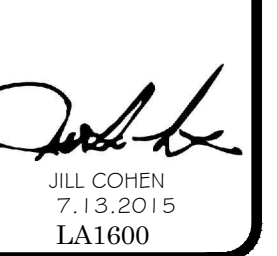
DANIA BEACH, FLORIDA

Sheet Title
LANDSCAPE PLAN

Revision Dates
 7.21.2015 COMMISSION SUBMITTAL

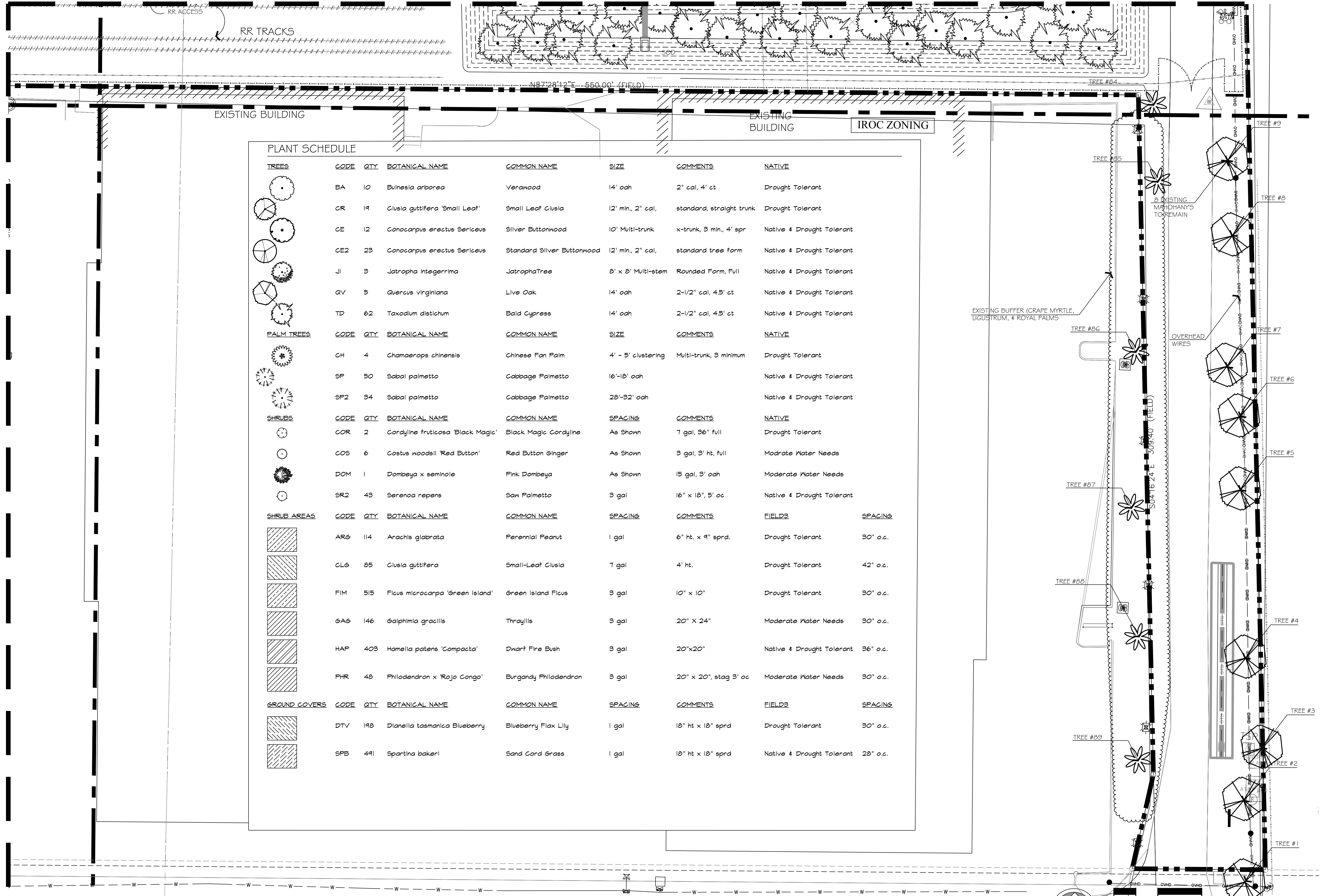
Date
 12.20.14

Sheet Number
LNP-5

Seal

 JILL COHEN
 7.13.2015
 LA1600

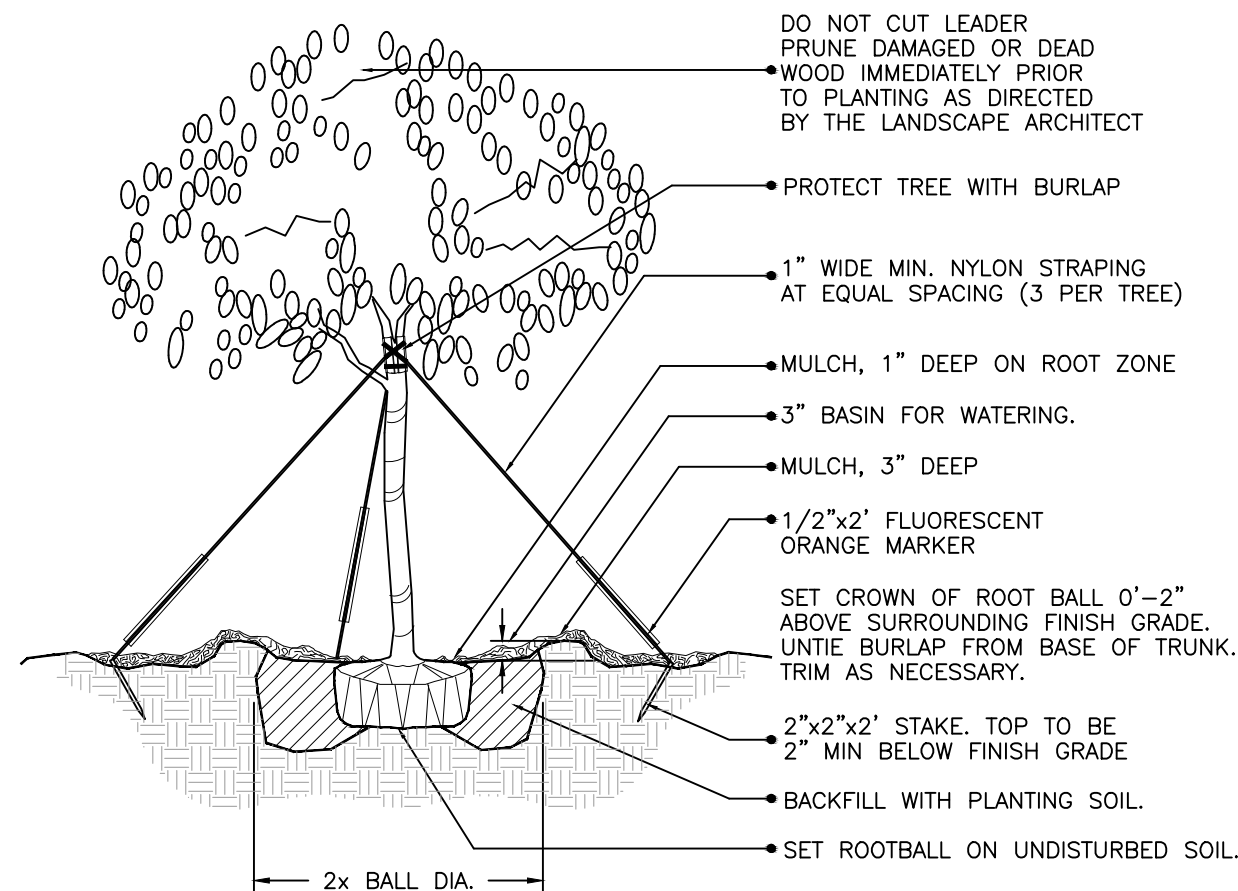
MATCHLINE - SEE SHEET LNP 3

MATCHLINE - SEE SHEET LNP 4



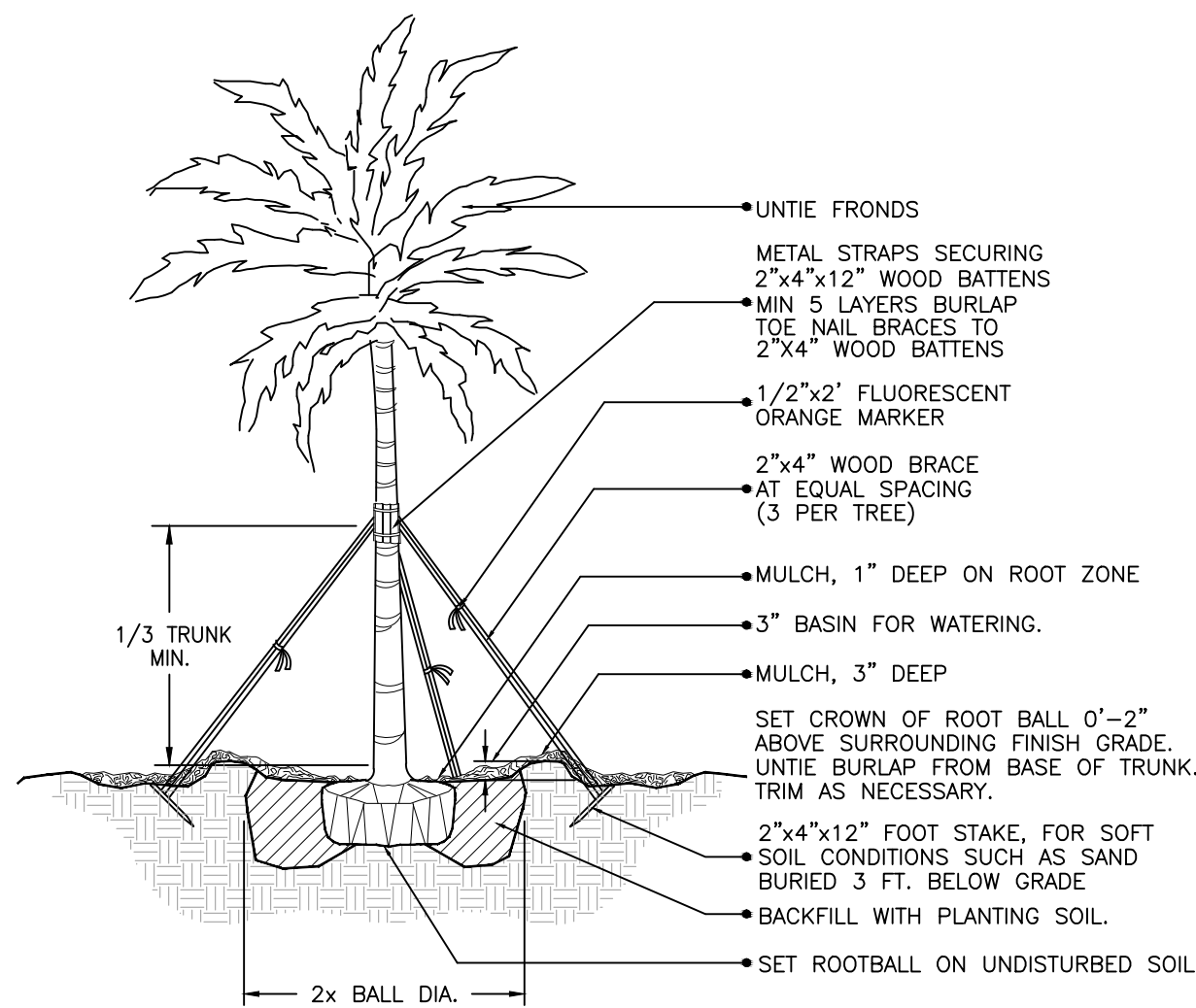
PLANT SCHEDULE							
TREES							
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS	NATIVE	
BA	10	Bulnesia arborea	Verawood	14' oah	2" cal, 4' ct	Drought Tolerant	
CR	19	Clusia guttifera 'Small Leaf'	Small Leaf Clusia	12' min., 2" cal,	standard, straight trunk	Drought Tolerant	
CE	12	Conocarpus erectus Sericeus	Silver Buttonwood	10' Multi-trunk	x-trunk, 3 min., 4' spr	Native & Drought Tolerant	
CE2	23	Conocarpus erectus Sericeus	Standard Silver Buttonwood	12' min., 2" cal,	standard tree form	Native & Drought Tolerant	
J1	3	Jatropha integerrima	Jatropha Tree	8' x 8' Multi-stem	Rounded Form, Full	Native & Drought Tolerant	
QV	5	Quercus virginiana	Live Oak	14' oah	2-1/2" cal, 4.5' ct	Native & Drought Tolerant	
TD	62	Taxodium distichum	Bald Cypress	14' oah	2-1/2" cal, 4.5' ct	Native & Drought Tolerant	
PALM TREES							
CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS	NATIVE	
CH	4	Chamaerops chinensis	Chinese Fan Palm	4' - 5' clustering	Multi-trunk, 3 minimum	Drought Tolerant	
SP	50	Sabal palmetto	Cabbage Palmetto	16'-18' oah		Native & Drought Tolerant	
SP2	34	Sabal palmetto	Cabbage Palmetto	28'-32' oah		Native & Drought Tolerant	
SHRUBS							
CODE	QTY	BOTANICAL NAME	COMMON NAME	SPACING	COMMENTS	NATIVE	
COR	2	Cordyline fruticosa 'Black Magic'	Black Magic Cordyline	As Shown	1 gal, 26" full	Drought Tolerant	
COS	6	Costus woodsonii 'Red Button'	Red Button Ginger	As Shown	3 gal, 3' ht, full	Moderate Water Needs	
DOM	1	Dombeya x seminole	Pink Dombeya	As Shown	15 gal, 3' oah	Moderate Water Needs	
SR2	43	Serenoa repens	Saw Palmetto	3 gal	16" x 18", 5' oc	Native & Drought Tolerant	
SHRUB AREAS							
CODE	QTY	BOTANICAL NAME	COMMON NAME	SPACING	COMMENTS	FIELD3	SPACING
ARG	114	Arachis glabrata	Perennial Peanut	1 gal	6" ht. x 9" sprd.	Drought Tolerant	30" o.c.
CL6	85	Clusia guttifera	Small-Leaf Clusia	7 gal	4' ht.	Drought Tolerant	42" o.c.
FIM	515	Ficus microcarpa 'Green Island'	Green Island Ficus	3 gal	10" x 10"	Drought Tolerant	30" o.c.
GAG	146	Galphimia gracilis	Thrayllis	3 gal	20" x 24"	Moderate Water Needs	30" o.c.
HAP	403	Hamelia patens 'Compacta'	Dwarf Fire Bush	3 gal	20" x 20"	Native & Drought Tolerant	36" o.c.
PHR	48	Philodendron x 'Raja Congo'	Burgandy Philodendron	3 gal	20" x 20", stag 3' oc	Moderate Water Needs	30" o.c.
GROUND COVERS							
CODE	QTY	BOTANICAL NAME	COMMON NAME	SPACING	COMMENTS	FIELD3	SPACING
DTV	198	Dianella tasmanica Blueberry	Blueberry Flax Lily	1 gal	18" ht x 18" sprd	Drought Tolerant	30" o.c.
SPB	441	Spartina bakeri	Sand Cord Grass	1 gal	18" ht x 18" sprd	Native & Drought Tolerant	28" o.c.

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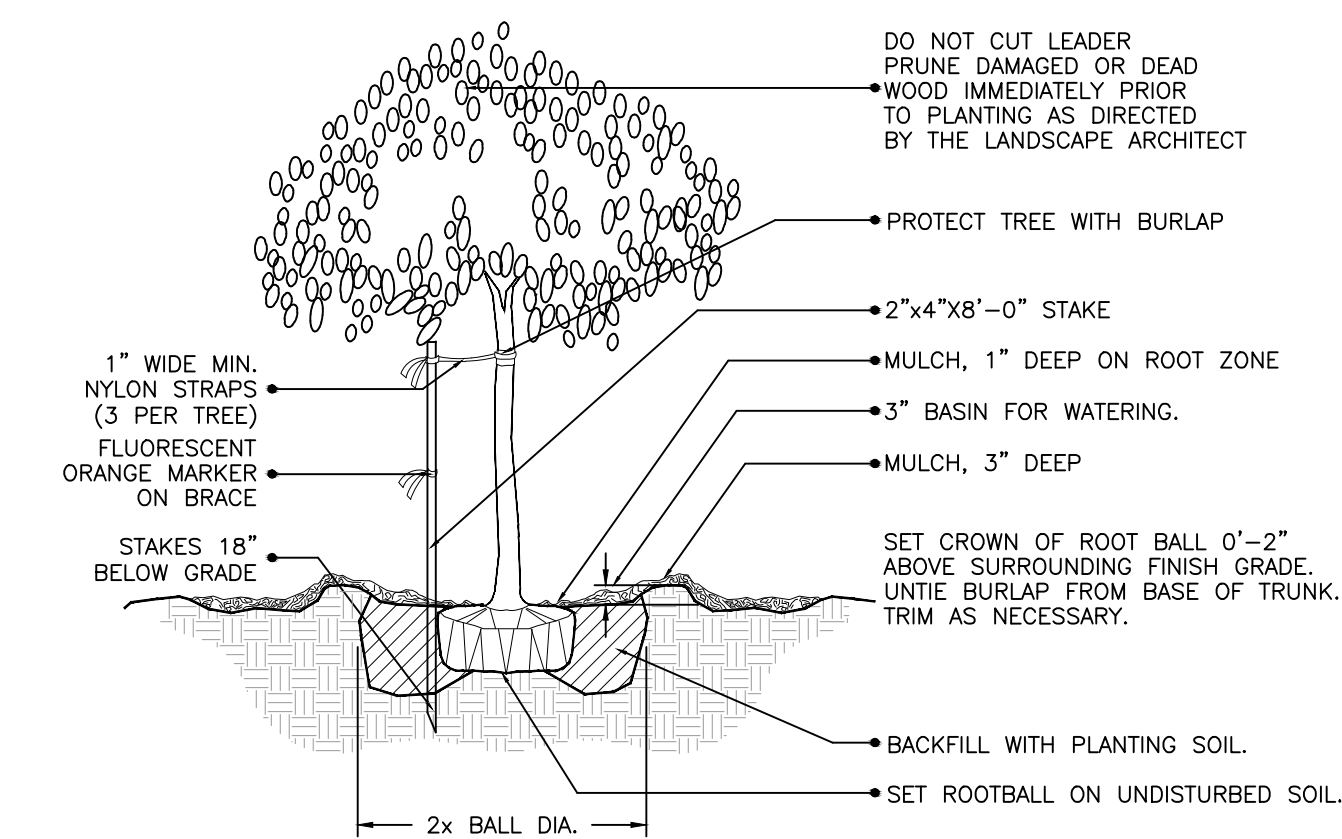
(2" cal. and over)
LARGE TREE PLANTING DETAIL

NTS.



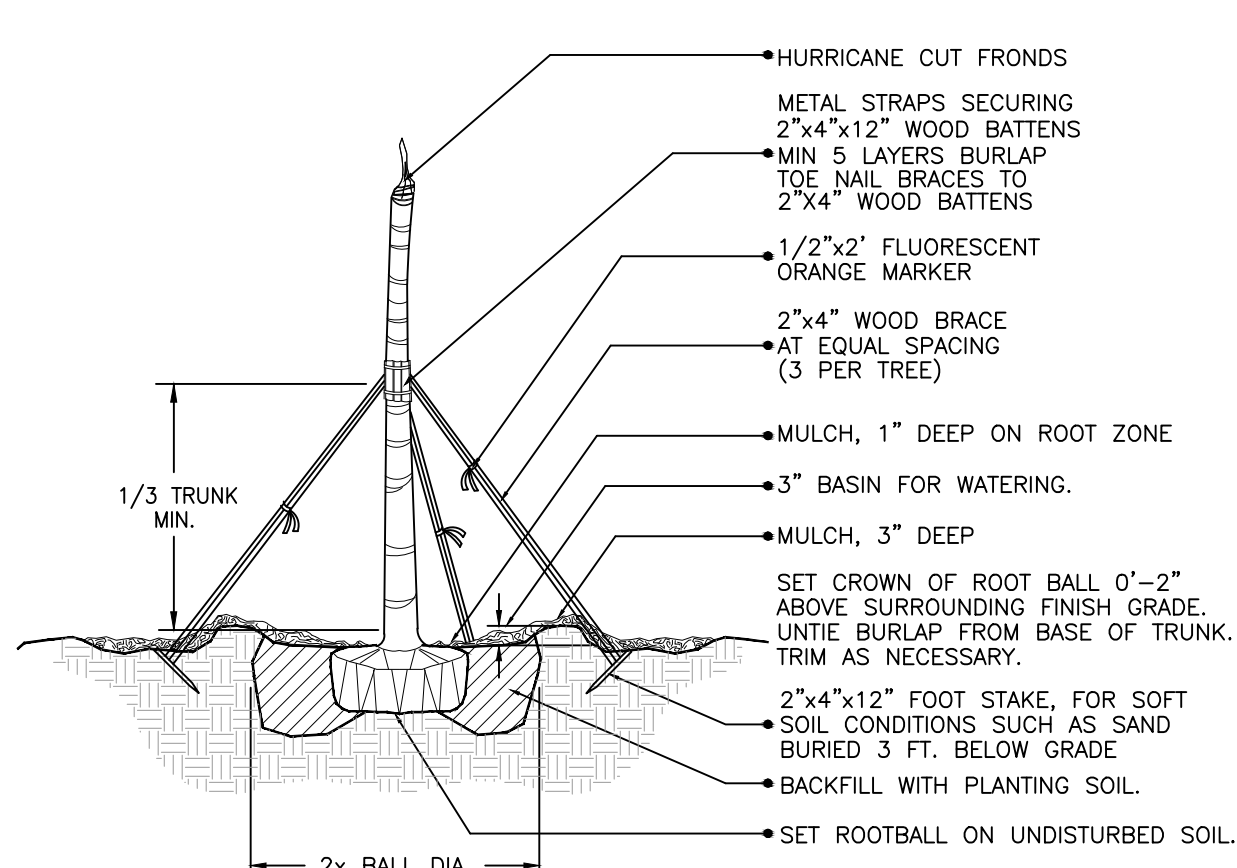
LARGE PALM PLANTING DETAIL

NTS.



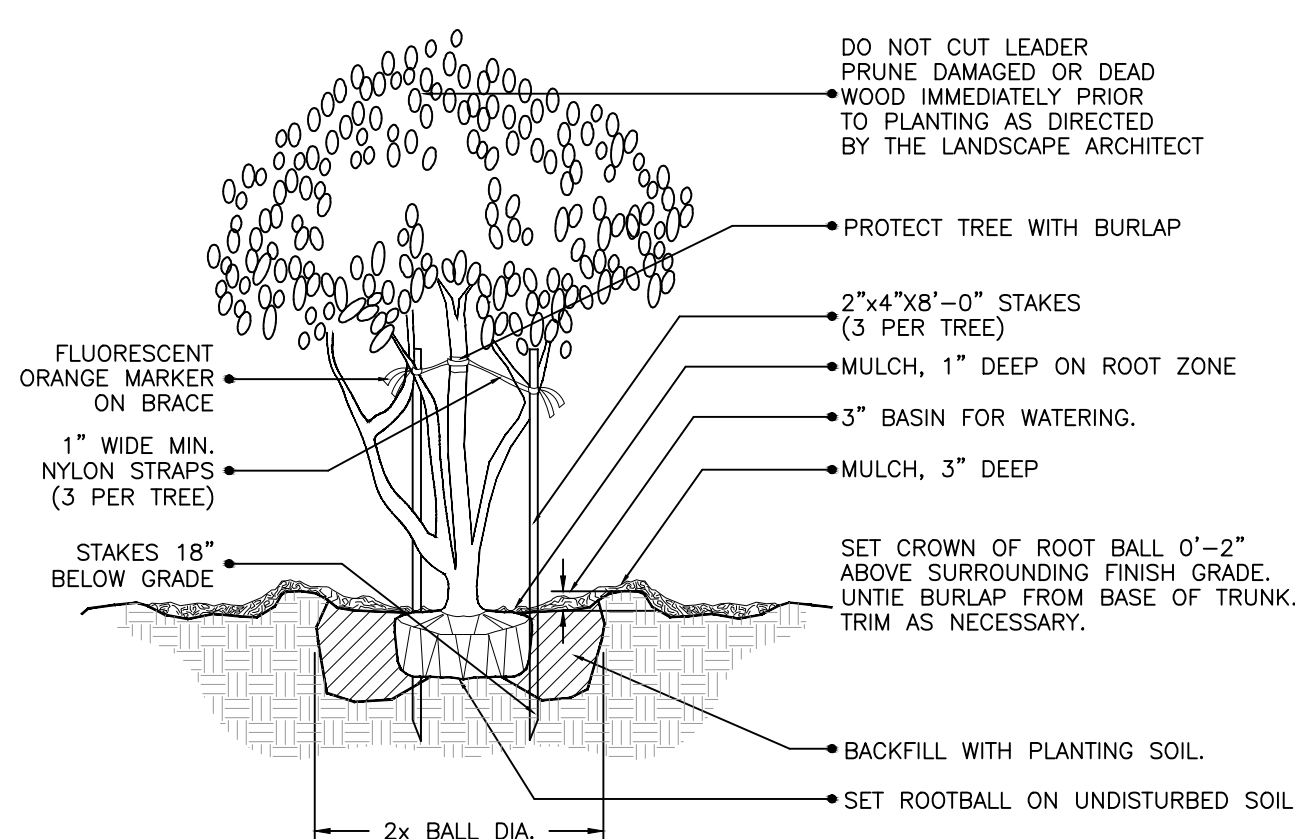
(2" cal. and under)
SMALL TREE PLANTING DETAIL

NTS.



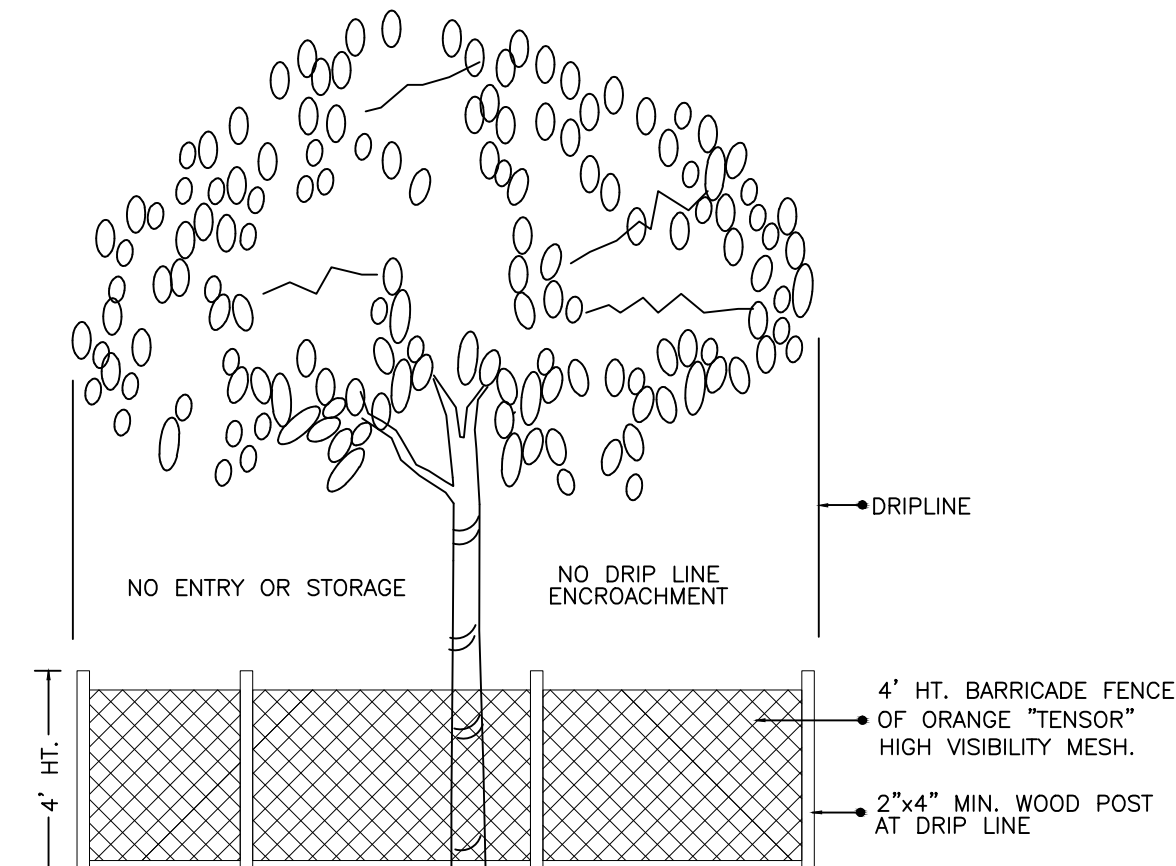
**CIGARED SABAL
PALM PLANTING DETAIL**

NTS.



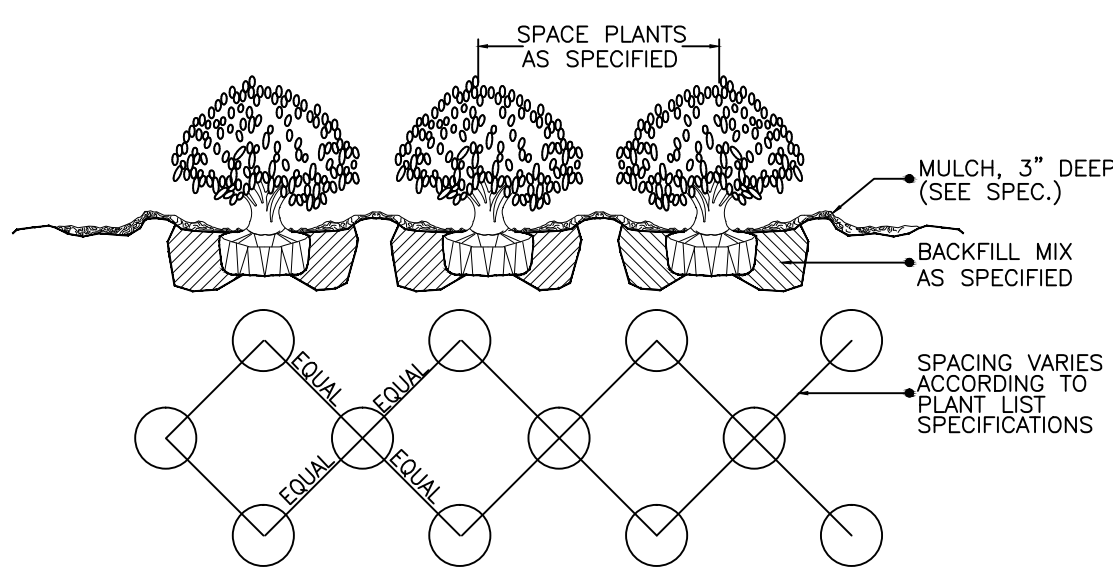
**MULTI- TRUNK AND SMALL TREE
(2" cal. and under) PLANTING DETAIL**

NTS.



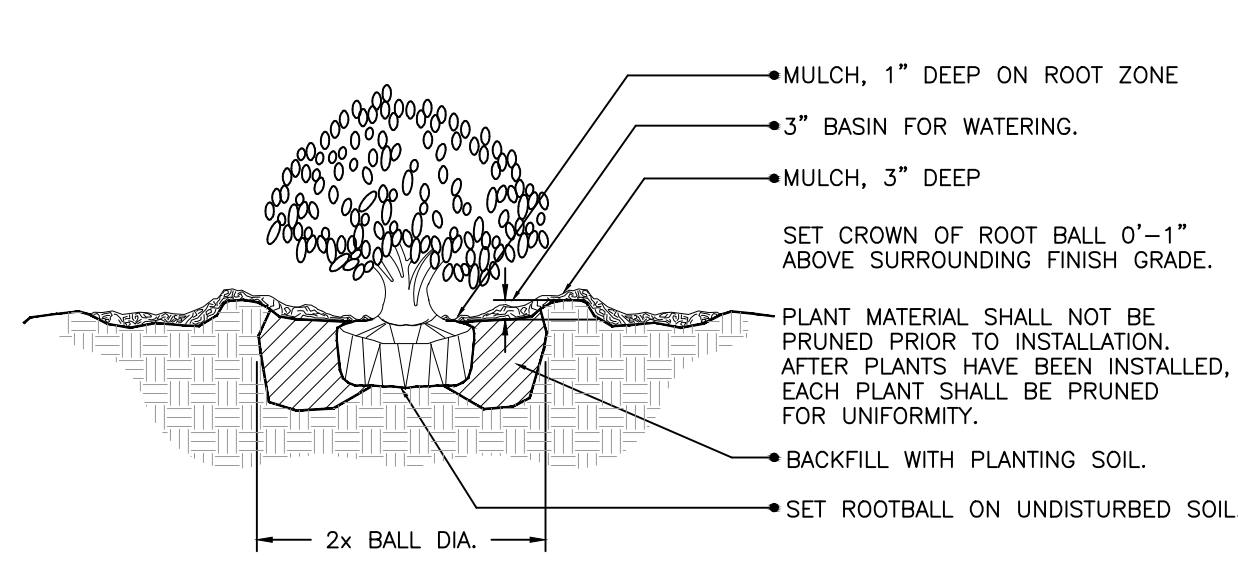
**TREE PRESERVATION
BARRICADE FENCING DETAIL**

NTS.



**SHRUB / GROUNDCOVER
SPACING / PLANTING DETAIL**

NTS.



SHRUB PLANTING DETAIL

NTS.

GENERAL NOTES:

1. PLANT MATERIAL: All plant material shall be Florida "A" or better, as established by "Grades and Standards for Nursery Plants" of the state of Florida, Department of Agriculture.
2. All trees, shrubs and groundcovers shall be of the sizes as specified in the Plant List.
3. Quantities listed on the Plant List are for estimating purposes. Contractor shall verify all quantities. Mulch, topsoil, fertilizer, etc. shall be included in the unit cost of the plants.
4. Where there is a discrepancy either in quantities, plant names, sizes or specifications between the plan or plant list, the plan takes precedence.
5. All planting beds and water basins for trees shall be covered with a 3" minimum depth of shredded eucalyptus or florimulch grade 'B' or better.
6. The Planting Plan shall be installed in compliance with all existing codes and applicable deed restrictions.
7. SOD: All areas not used for buildings, vehicular use areas, walks or planting beds shall be grassed. Grassing shall extend to any abutting street pavement edge and to the mean waterline of any abutting canal, lake or waterway.
8. PLANTING SOIL: All trees and shrubs shall be planted with a minimum of 12" topsoil around and beneath the rootball. Minimum topsoil shall be 6" for groundcover areas and 2" for sodded grass areas.
9. Planting soil to be a used-free mixture of 50% sand, 40% muck and 10% Canadian peat. All plant material to receive planting soil as per details.
10. Contractor is responsible for determining all utility locations and installing facilities so as to not conflict. All damage to existing utilities or improvements caused by Contractor shall be repaired at no additional cost to the Owner.
11. Contractor to notify "Sunshine State One Call of Florida, Inc." at 1-800-432-4110 Two Full Business Days prior to digging for underground utility locations.
12. Contractor shall be responsible for providing final grading of all associated planting areas.
13. After final grade, area to be raked to 6" depth and all rock and foreign inorganic materials removed and disposed of properly off-site.
14. All planting holes to be hand dug except where machine dug holes will not adversely affect or damage utilities or improvements (see note 8).
15. No pruning of any tree or palm will be accepted. All plants to be planted at the nursery grade or slightly higher.
16. Contractor shall stake 4 guy all trees and palms at time of planting as per the appropriate detail. Contractor is responsible for the maintenance and/or repair of all staking and guying during warranty period and removal & disposal of staking after establishment period.
17. Fertilizer for grass areas shall be NPK 16-4-8 @ 12.5 lbs/1000 s.f. or 5-45 lbs/acre. Nitrogen 50% slow release form 4 fertilizer to include secondary micronutrients.
18. SUBSTITUTIONS AND CHANGES: All substitutions and changes shall be approved in writing prior to installation. Any discrepancies between plans, site and specifications shall be brought to the immediate attention of the Landscape Architect, the owner and governing municipality.

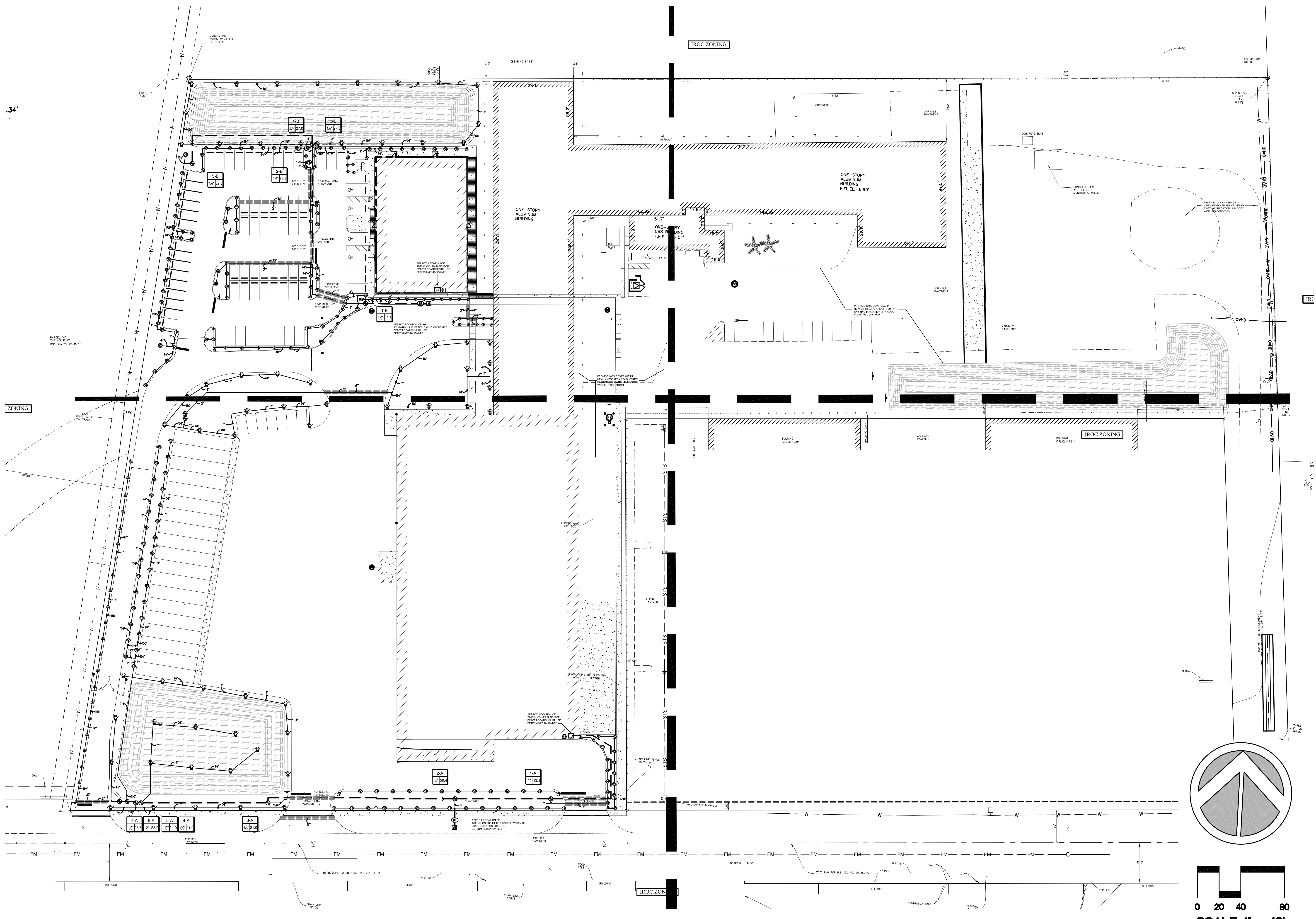
19. WATERING: All plant material shall be watered in at time of planting in accordance with standard nursery practices. In addition, Contractor will continue watering of plant material until substantial completion and as needed thereafter for a period of 2 months.
20. All new plant material shall be guaranteed for 1 year from time of final acceptance of project. Any plant material not in a healthy growing condition will be replaced by the Contractor at no additional cost to the Owner within 10 days of notification. For all replacement plant material, the warranty period shall be extended an additional 45 days beyond the original warranty period. All trees that lean or are blown over, caused by winds less than 15 mph, will be re-set and braced by the Contractor at no additional cost to the Owner.
21. The successful bidder shall furnish to the Owner a unit price breakdown for all materials. The Owner may, at its discretion, add or delete from the materials utilizing the unit price breakdown submitted.
22. No plant material will be accepted showing evidence of cable, chain marks, equipment scars, or otherwise damaged.
23. Plant material will not be accepted when the ball of earth surrounding its roots has been cracked, broken or otherwise damaged.
24. Root-prune all trees a minimum of (8) weeks prior to planting.
25. All landscaped areas will be irrigated by an underground, automatic, rust-free irrigation system providing 100% coverage and 100% spray overlap. The system shall be maintained in good working order and designed to minimize water on impervious surfaces and not overspray walkways. A rain sensor device shall be installed to override the irrigation cycle of the system when adequate rainfall has occurred.
26. All plant material planted within the sight distance triangle areas (see plan) shall provide unobstructed cross-visibility at a horizontal level between 30 inches and 8 feet above adjacent street grade.
27. No canopy trees shall be planted within 12 feet of a light pole. No palm species shall be planted within 6 feet of a light pole.
28. Ground cover plantings shall provide not less than 50 percent coverage immediately upon planting and 100 percent coverage within 6 months after planting.
29. Tree protection barricades shall be provided by Landscape Contractor around existing trees that may be impacted by the proposed construction. Prior to any construction a tree protection barricade inspection shall be conducted by the landscape architect, owner or governing municipality. Refer to landscape detail for tree preservation barricade fencing.
30. In all pedestrian areas, all trees and palms shall be maintained to allow for clear passage at an 8 foot clear trunk.
31. All landscape material shall be setback a minimum of 10' from any Fire Hydrant.

LANDSCAPE CODE REQUIREMENTS

Last Revised 7.16.15

Code Section	Requirement	L.F or Number	Quan.	Quan. Req'd	Quan. Prov'd	Comments
GLN Downstream Expansion						
	Gross Site Area	510,898			11.73 acres	
	Net Site Area	508,343			11.67 acres	
	Pervious Area	182,680			11.67 - 7.48 impervious = 4.19 acres	
	Water	47,640			Retention, 3 areas = 47,640	
	10' Buffer	35,130			Includes all perimeters @ 10' wide** (3,513 x 10)	
	Landscape Islands	4,698			Includes interior areas for vehicles	
	Non-VUA Open Space	95,212				
275 Requirements for Industrial Districts						
	Non-VUA Open Space	95,212				NIC perimeter buffers, islands & retention Sites with 35% non-vua open space
	1 tree per 2,500 SF		38	38	95,212/2,500 = 38.0	
	8 shrubs per 2,500 SF		305	516	95,212/2,500 X 8 = 305	
275-100 Interior VUA						
	VUA area total	208,063				Area of pavement, sidewalks & building
	20% area of VUA	41,613	44,218		20% of 208,063 required	
Landscape Peninsulas						
	1 tree per intermediate island		2	2	2 islands; 1 shade or 2 category 2 trees	
	2 trees per terminal island		14	14	NOTE: Variance sought for 1 Category Tree per island	
275-130 Perimeter Buffer *						
Note all buffers adjacent to industrial properties						
A Perimeter Landscape (South)*						
	1 Tree @ 1/40 L.F.		28	28	2 areas: 511.41 + 610.64' = 1,122	Tigertail Road & Industrial Site
	Continuous hedge		561	561	Based on 1 shrub per 2 feet	
B Perimeter Landscape (West)						
	1 Tree @ 1/40 L.F.		17	17	1 area: 681.41	Railway & Park & Ride, and Industrial Site
	Continuous hedge		341	341	Based on 1 shrub per 2 feet	
C Perimeter Landscape (North)						
	1 Tree @ 1/40 L.F.		25	25	1 area: 992	FPL Easement
	Continuous hedge		496	496	Based on 1 shrub per 2 feet	
D Perimeter Landscape (East)						
	1 Tree @ 1/40 L.F.		18	18	2 areas: 359.84 + 356.51 = 716.35	Industrial Sites
	Continuous hedge		359	359	Based on 1 shrub per 2 feet	
TOTAL TREES		142	162(1)	(1) 20 Additional Trees to meet required tree mitigation		
TOTAL SHRUBS		2,062	2,273			
275-60 Native or Drought Tolerant						
	Trees @ 50%	142	71	137	50% of required plantings	
	Shrubs @ 50%	2,062	1,031	2,099	Native or Drought Tolerant	
Diversity						
	Shade Trees		57	77	40% minimum; 2" caliper, 14' ht., 4.5' ct	
	Intermediate Trees		43	42	30%; 2" caliper, 12' ht., 4' ct***	
	Small Trees		14	15	10%; 1-1 1/2" caliper, 10' ht., 4' spread	
	Palms		28	28	20%; 3:1 for trees with less than 20' spread	
			142	162		
Notes:						
* Southern Buffer along Tigertail VUA same requirement 1/40 lf and hedge as 275-130, included only one time.						
** NIC Eastern access road along I-95 which has existing buffer in place.						
*** Quantity increased for 'FPL - Right Tree-Right Place' due to limited areas without overhead wires.						
(1) 20 Additional Trees (20 Shade Trees) are proposed to mitigate loss of 4,498 sf of tree canopy removed						

CAUSERS/IN/VERIFIED/ILL & BELL/VERIFIED/ILL DANA IR-CORRECTING 7/1/15 BY MUX



.34'

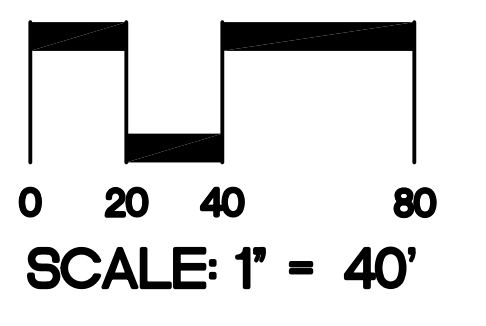
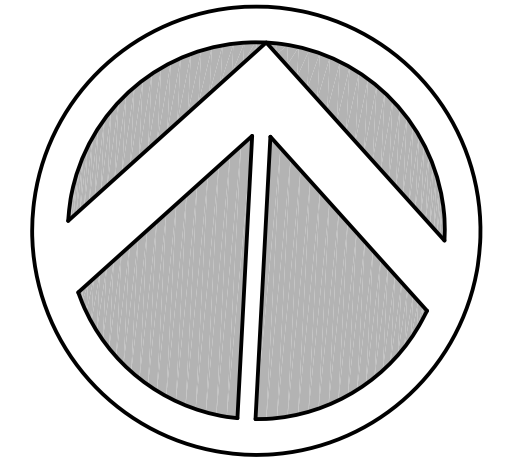
ZONING

IROC ZONING

IROC ZONING

IRC

IROC ZONING



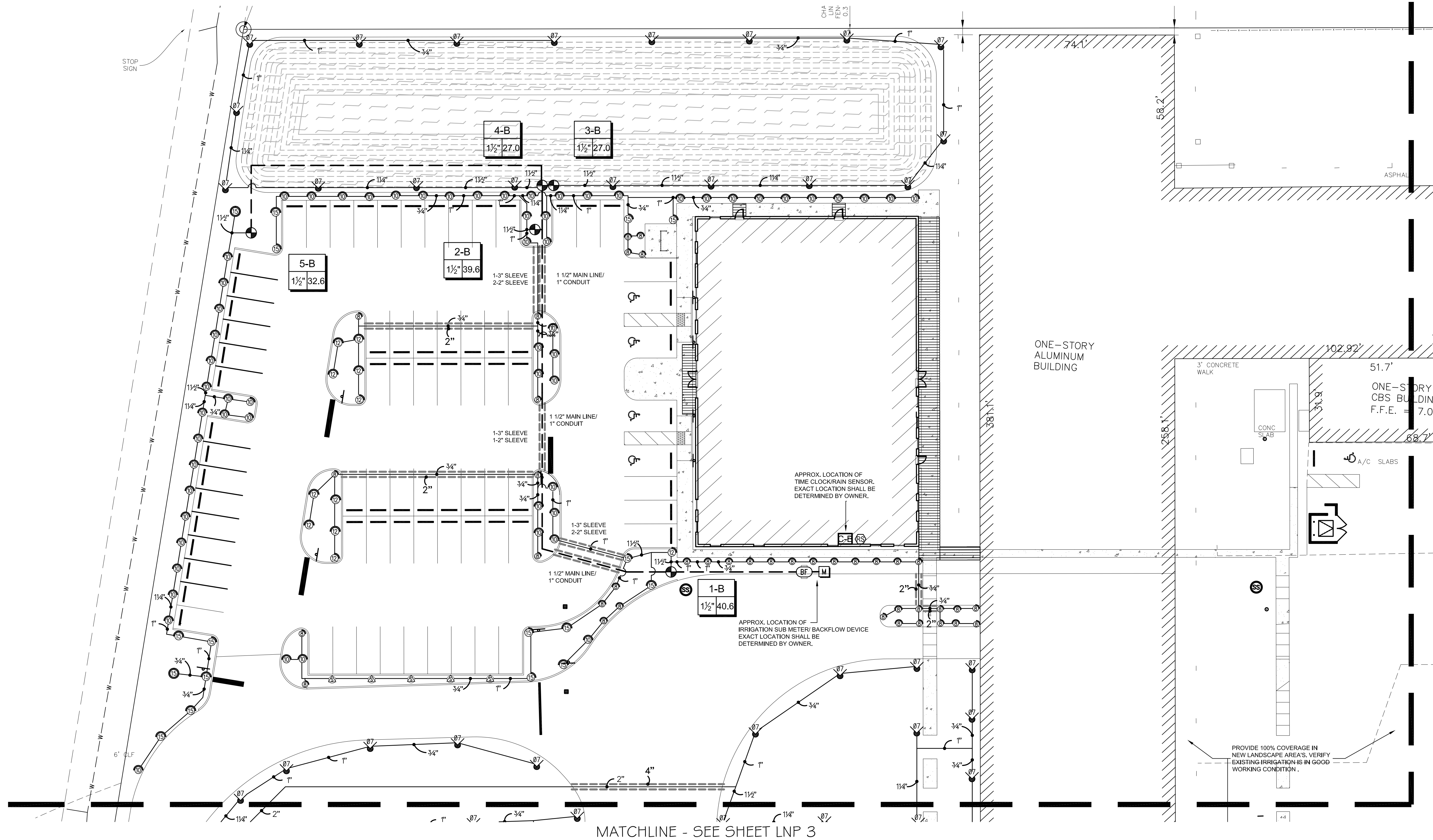
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GLN DOWNSTREAM LAU EXPANSION

DANIA BEACH, FLORIDA 33004

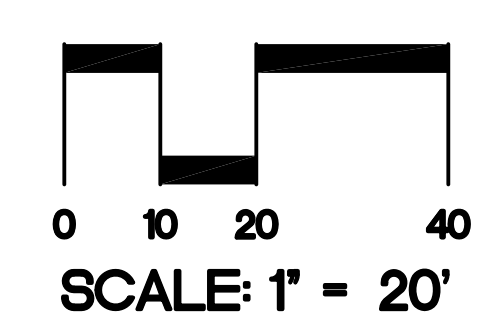
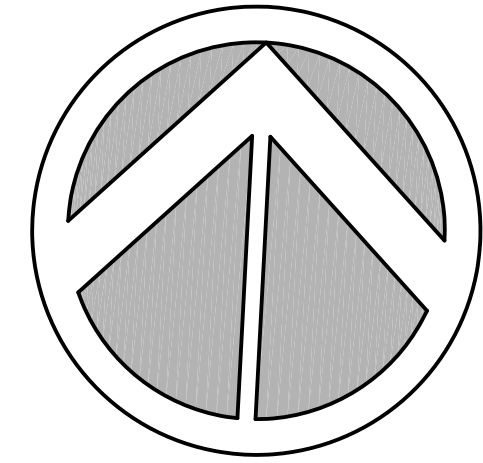
Sheet Title	IRRIGATION PLAN
Revision Dates	
Date	07.13.15
Sheet Number	IR-1
Seal	

JILL COHEN
12.28.2014
LA1600



MATCHLINE - SEE SHEET LNP 3

MATCHLINE - SEE SHEET LNP 4



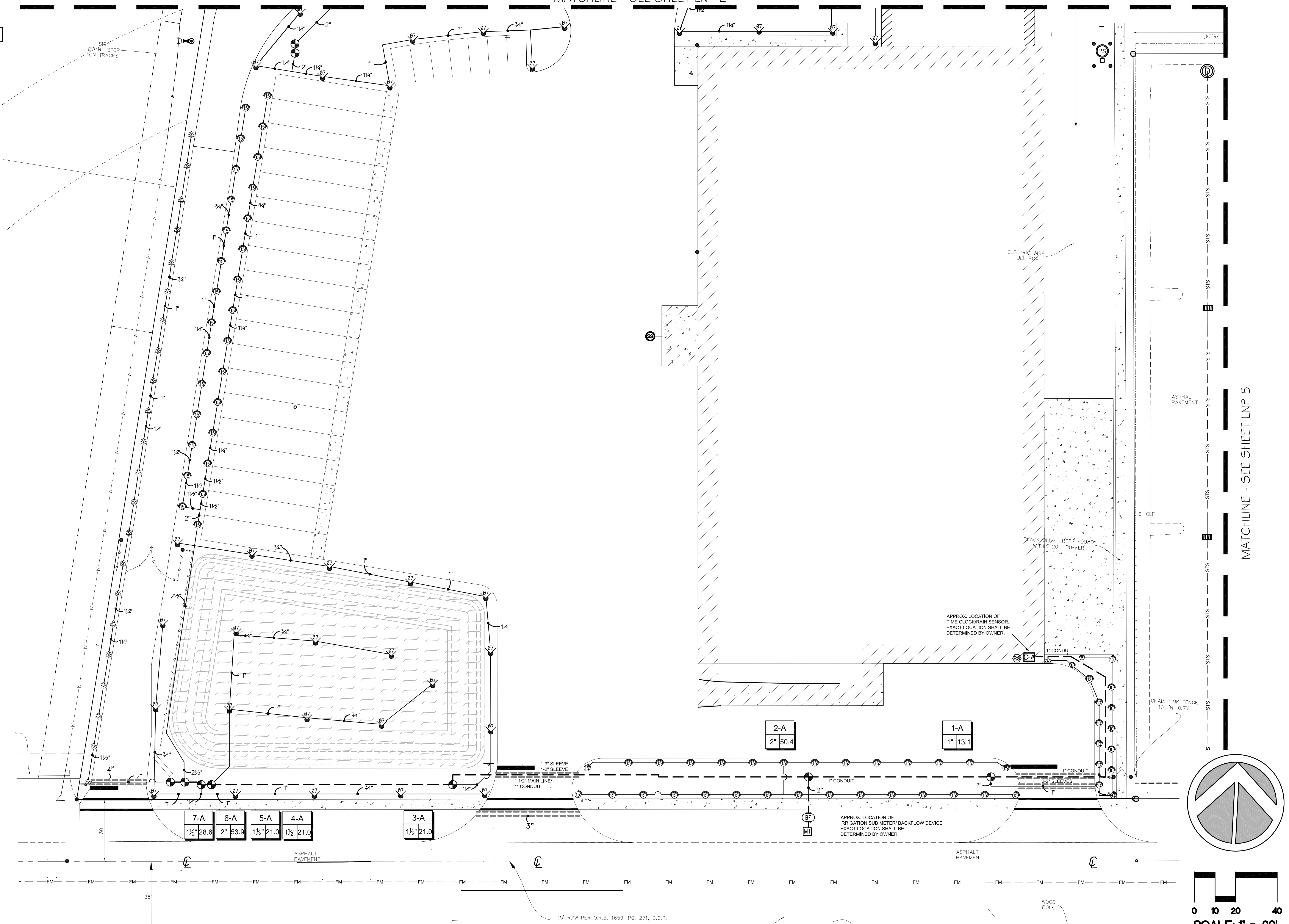
GLN DOWNSTREAM EXPANSION

DANIA BEACH, FLORIDA

Sheet Title	IRRIGATION PLAN
Revision Dates	
Date	07.13.15
Sheet Number	IR-2
Seal	
Signature	JILL COHEN 12.28.2014 LA1600

MATCHLINE - SEE SHEET LNP 2

SIGN
DO NOT STOP
ON TRACKS



7-A	6-A	5-A	4-A
1 1/2" 28.6	2" 53.9	1 1/2" 21.0	1 1/2" 21.0

3-A
1 1/2" 21.0

2-A
2" 50.4

1-A
1" 13.1

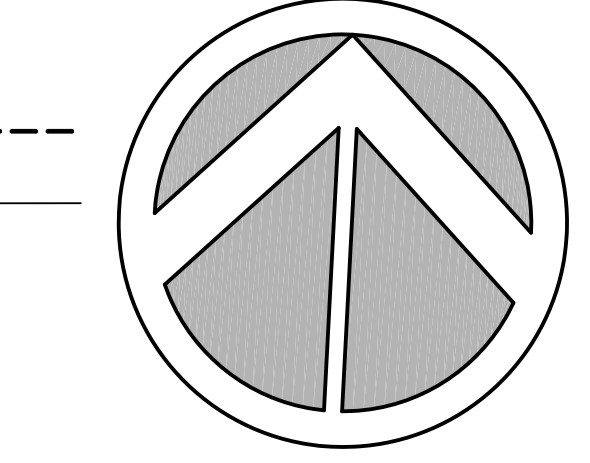
APPROX. LOCATION OF IRRIGATION SUB METER/ BACKFLOW DEVICE EXACT LOCATION SHALL BE DETERMINED BY OWNER.

APPROX. LOCATION OF TIME CLOCK/RAIN SENSOR EXACT LOCATION SHALL BE DETERMINED BY OWNER.

BLACK OLIVE TREES FOUND WITHIN 20' BUFFER

CHAIN LINK FENCE 10.5'N, 0.7'E

ELECTRIC WIRE PULL BOX



SCALE: 1" = 20'

MATCHLINE - SEE SHEET LNP 5

COURTESY OF THE CITY OF DANIA BEACH, FLORIDA

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GLN DOWNSTREAM EXPANSION

DANIA BEACH, FLORIDA

Sheet Title
IRRIGATION PLAN

Revision Dates

Date
07.13.15

Sheet Number
IR-3

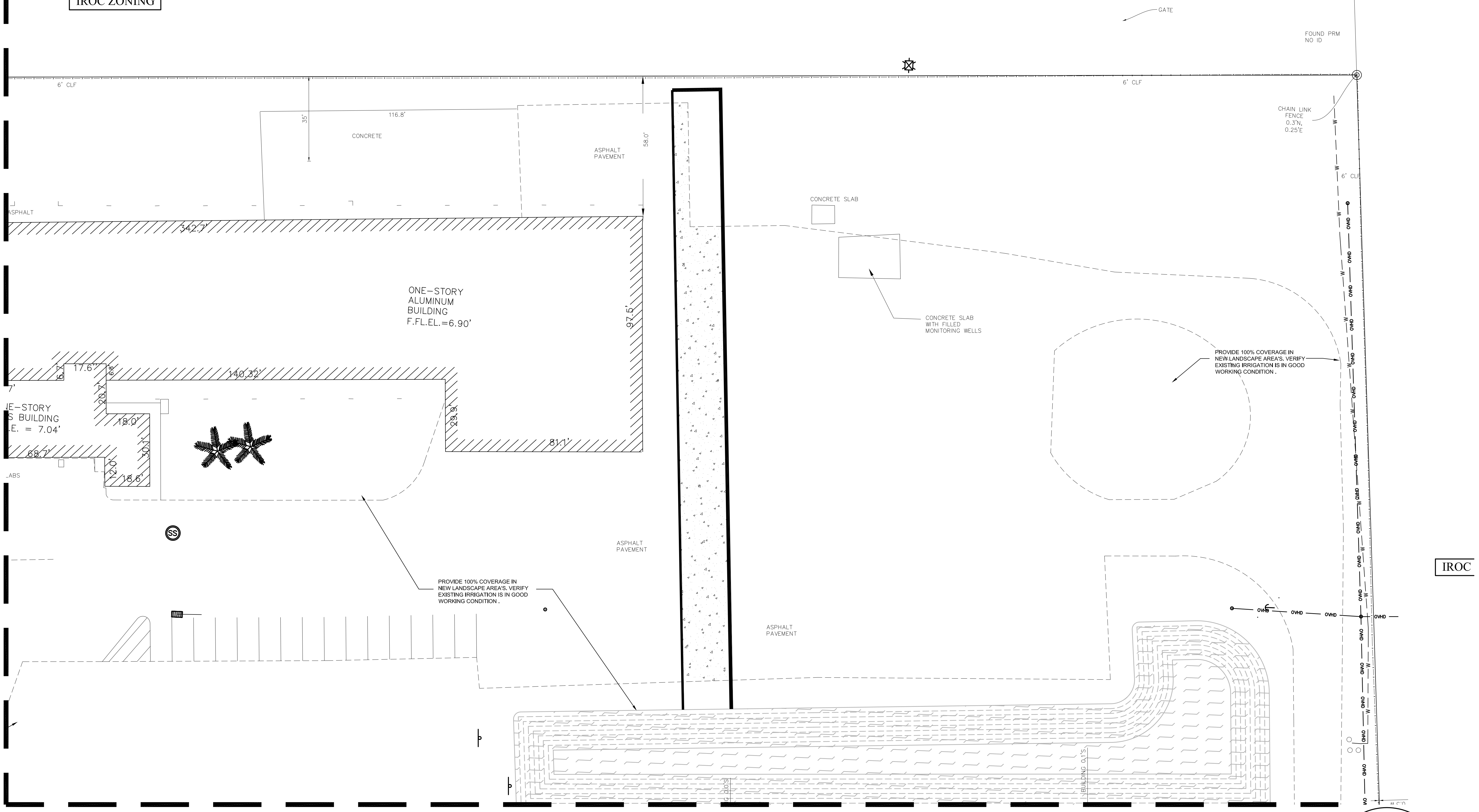
Seal

JILL COHEN
 12.28.2014
 LA1600

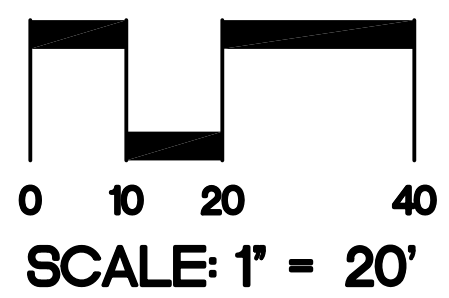
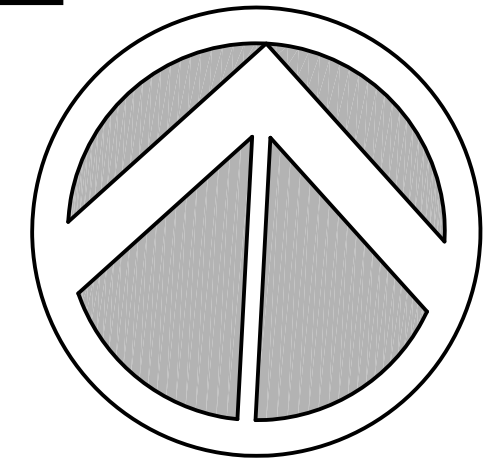
IROC ZONING

MATCHLINE - SEE SHEET LNP 2

MATCHLINE - SEE SHEET LNP 5



IROC



GLN DOWNSTREAM LAU EXPANSION

DANIA BEACH, FLORIDA

Sheet Title	IRRIGATION PLAN
Revision Dates	
Date	07.13.15
Sheet Number	IR-4
Seal	
Signature	JILL COHEN 12.28.2014 LA1600

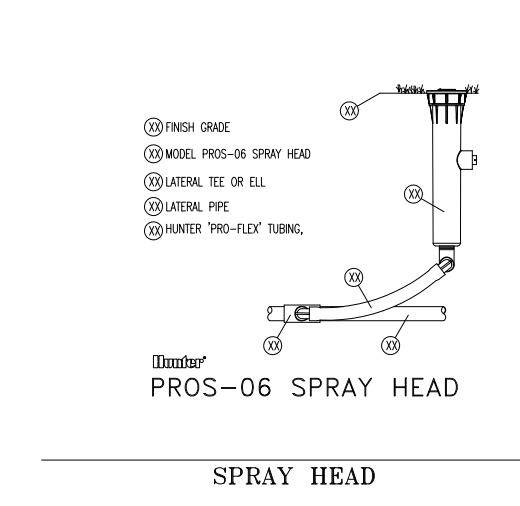
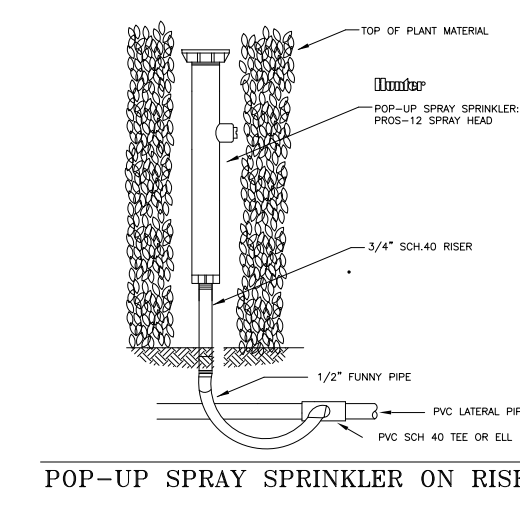
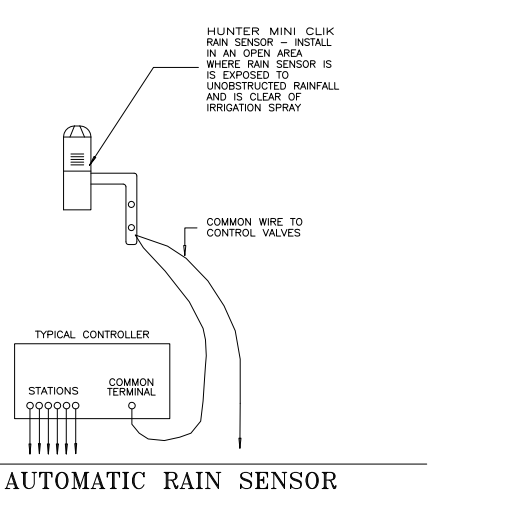
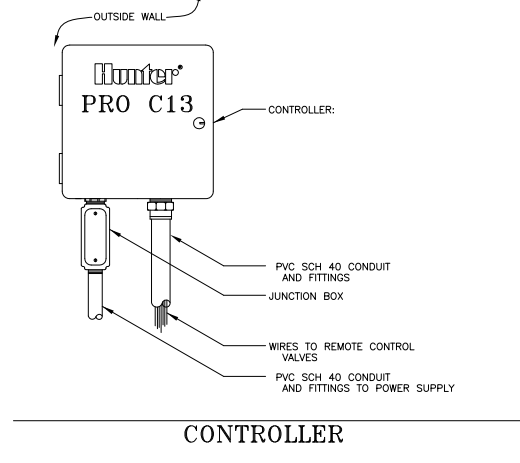
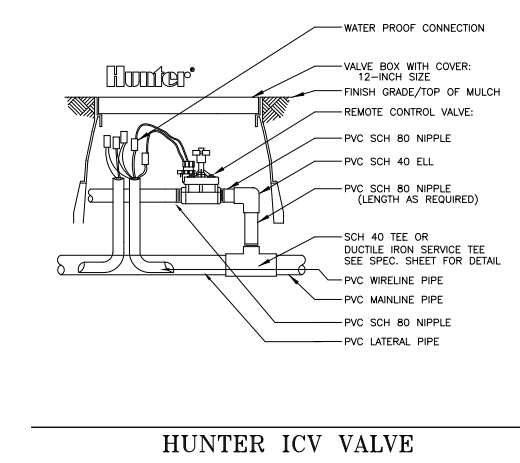
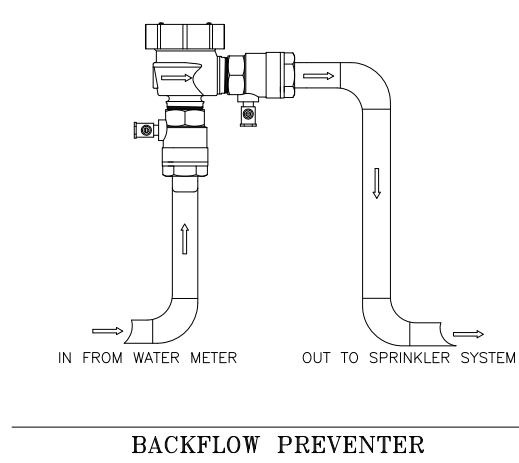
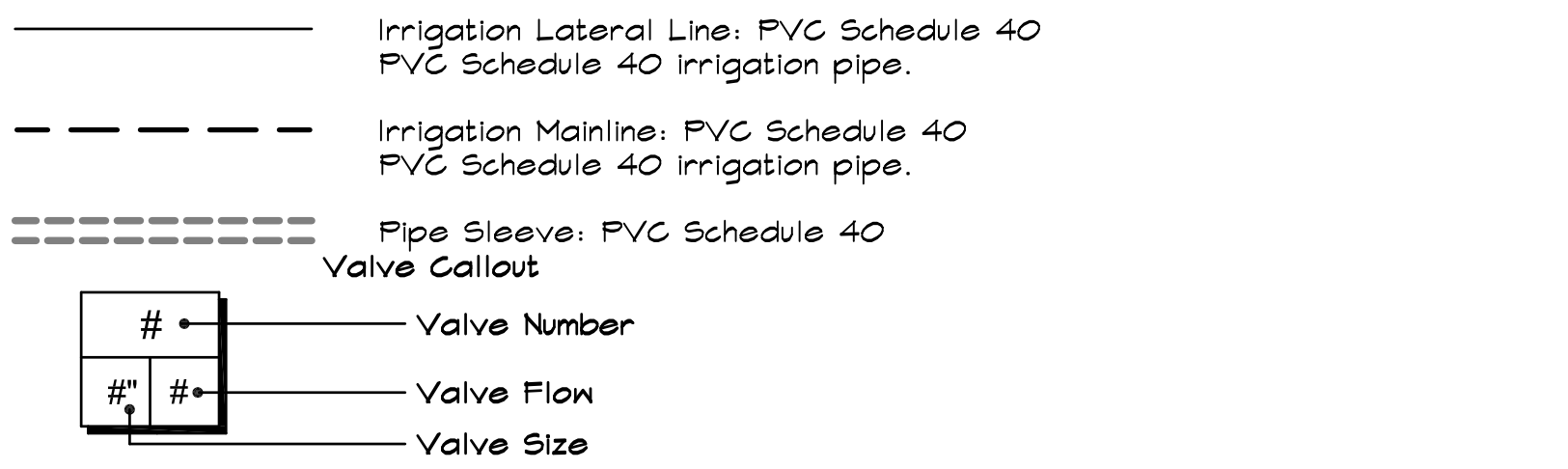
CAUSERS/REVISIONS/DATE: JILL COHEN/12.28.2014/1600

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
	Hunter PROS-06 5' strip spray	30
	Hunter PROS-06 8' radius	30
	Hunter PROS-06 10' radius	30
	Hunter PROS-06 12' radius	30
	Hunter PROS-06 15' radius	30
	Hunter PROS-12 5' strip spray	30
	Hunter PROS-12 12' radius	30
	Hunter PROS-12 15' radius	30

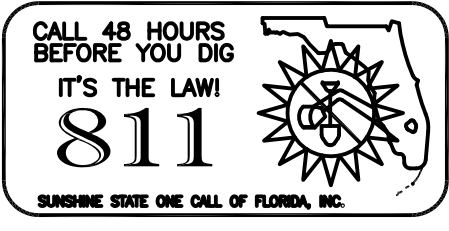
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI	GPM	RADIUS
	Hunter P6P-ADJ Turf Rotor, 4.0" Pop-Up, Adjustable and Full Circle, Standard Angle Red Nozzle. Lower Precipitation Rate.	40	1.40	33'
	Hunter P6P-ADJ Turf Rotor, 4.0" Pop-Up, Adjustable and Full Circle, Standard Angle Red Nozzle. Lower Precipitation Rate.	40	3.00	33'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Hunter ICV-6 1", 1-1/2", 2", and 3" Plastic Electric Remote Control Valves, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use.
	Febco 765 1-1/2" Pressure Vacuum Breaker, brass with ball valve SOV. Install 12" (305MM) above highest downstream outlet and the highest point in the downstream piping.
	Hunter FC-400 with (O) PCM-300 Light Commercial & Residential Controller, 7-station expanded module controller, 120 VAC, Outdoor model
	Hunter FC-400 with (O) PCM-300 Light Commercial & Residential Controller, 7-station expanded module controller, 120 VAC, Outdoor model
	Hunter MINI-CLIK Rain Sensor, mount as noted
	Water Meter 1-1/2" Proposed 1 1/2" Sub Meter
	Water Meter 1-1/2" Proposed 1 1/2" Sub Meter



GENERAL NOTES

- Pipe sizes shall conform to those shown on the drawings. No substitutions of smaller pipe sizes shall be permitted, but substitutions of larger sizes may be approved. All damaged and rejected pipe shall be removed from the site at the time of said rejection.
- All mainline, lateral line and control wire conduit under paving shall be installed in separate sleeves. Sleeves shall be a minimum of twice (2X) the diameter of the pipe to be sleeved.
- Install all backflow prevention devices and all piping between the point of connection and the backflow preventer as per local codes.
- Final location of the backflow preventer and automatic controller shall be approved by the owner's authorized representative.
- 120 VAC electrical power source at controller location shall be provided by others. The electrical contractor shall make the final connection from the electrical source to the controller.
- All sprinkler heads shall be set perpendicular to finish grade unless otherwise specified.
- The irrigation contractor shall flush and adjust all sprinkler heads and valves for optimum spray with minimal overspray onto walks, streets, walls, etc.
- This design is diagrammatic. All piping, valves, etc., shown within paved areas is for design clarification only and shall be installed in planting areas wherever possible. The contractor shall locate all valves in shrub areas where possible.
- It is the responsibility of the irrigation contractor to familiarize himself with all grade differences, location of walls, retaining walls, structures and utilities. The irrigation contractor shall repair or replace all items damaged by his work. He shall coordinate his work with other contractors for the location and installation of pipe sleeves through walls, under roadways and paving, etc.
- Do not willingly install the sprinkler system as shown on the drawings when it is obvious in the field that unknown obstructions, grade differences or differences in the area dimensions exist that might not have been considered in the engineering. Such obstructions or differences should be brought to the attention of the owner's authorized representative. In the event this notification is not performed, the irrigation contractor shall assume full responsibility for any revisions necessary.
- All sprinkler equipment not otherwise detailed or specified shall be installed as per manufacturer's recommendations and specifications.
- The irrigation contractor shall install check valves on all heads in areas where finish grade exceeds 4:1, where post valve shut-off draining, of the irrigation head occurs or as directed by the owner's authorized representative.
- The contractor shall provide 1800 PCS (pressure compensating screens) as necessary to reduce or eliminate overspray onto streets, walks or other areas as directed by the owner's authorized representative.
- All control wires shall be installed in PVC conduit.
- All remote control valves, gate valves, quick couplers, control wire and computer cable pull points shall be installed in approved valves boxes with covers.
- The installation devices are to be guaranteed for the period of (1) year from the date of final acceptance.



Sheet Title
IRRIGATION PLAN

Revision Dates

Date
07.13.15

Sheet Number
IR-5

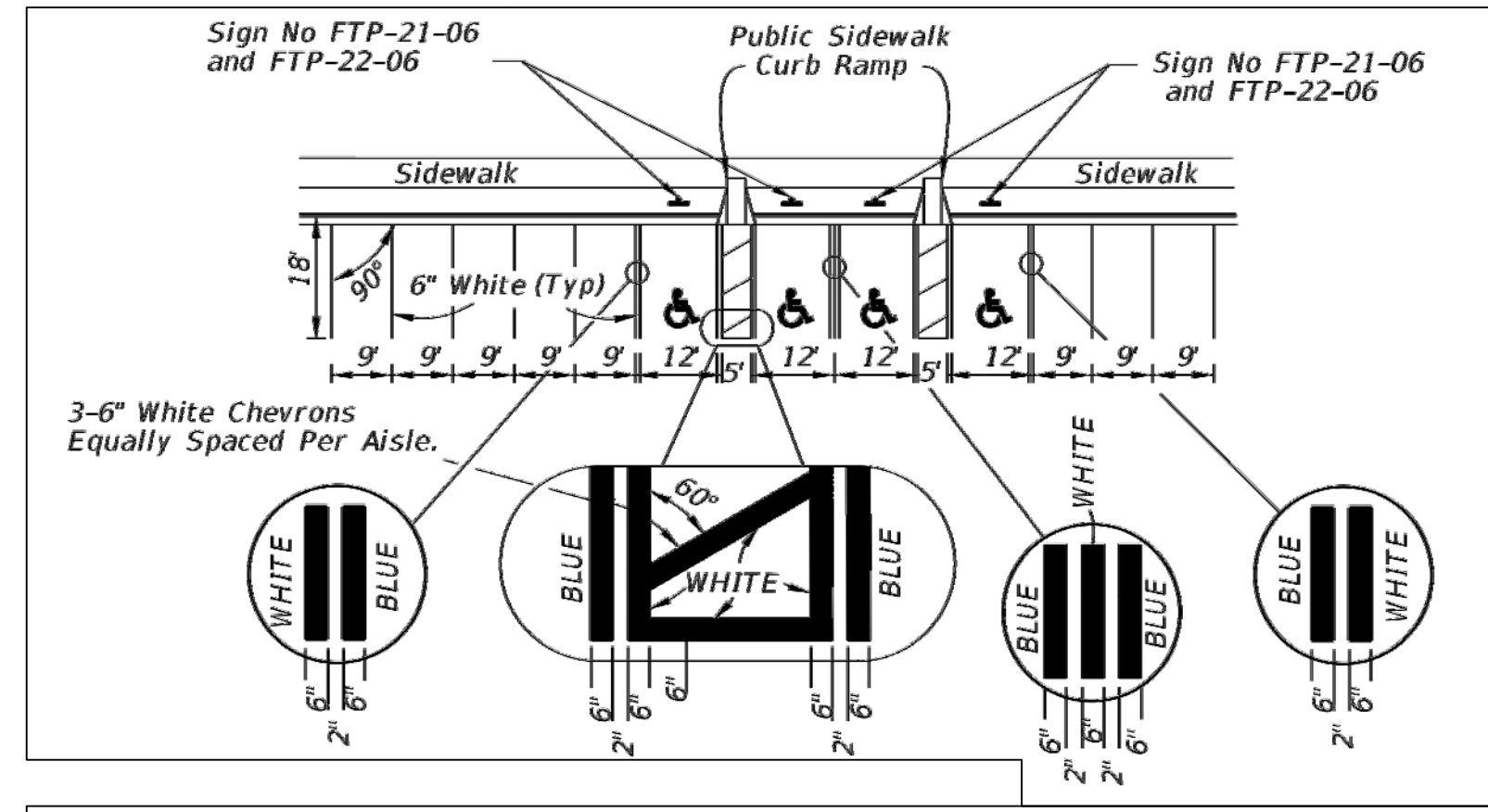
Seal

JILL COHEN
12.28.2014
LA1600

DATE: 04/20/15, 11:45 AM; USER: JDP; PROJECT: DANIA LIP - CURRENT; DATE: 12/28/14 BY: MJC

CIVIL ENGINEERING DETAILS

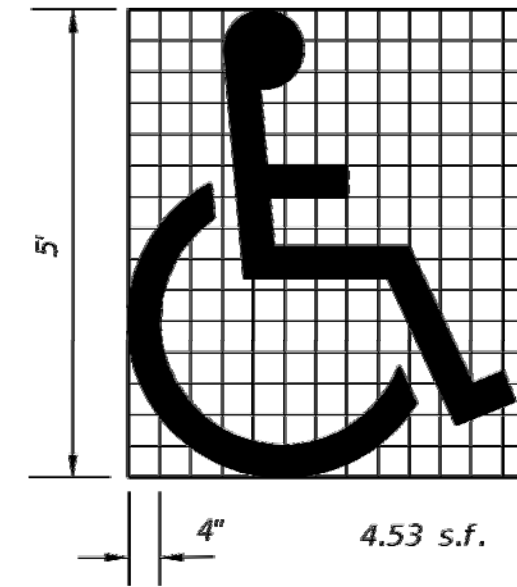
- C-5 Parking, Curb and Pavement Details (Paving & Drainage Details)
- C-6 Drain Structure and Exfiltration Details (Paving & Drainage Details)
- C-7 Drain Structure Details
- C-8 Water and Sewer Details
- C-9 Water and Sewer Details
- C-10 Storm Water Pollution Prevention Plan
- C-11 Civil Notes
- C-12 Civil Notes
- LS-1 Pump Station Details
- F-1 Fire Flow Demand Calcs. (S/S), Flow Test, &
Application for Approval Fire Protection Water Supply Design
- F-2 Exhibit "A" Autoturn
- F-3 Exhibit "B" Fire Hose



* FOR ACCESSIBLE MARKINGS - SEE ABOVE

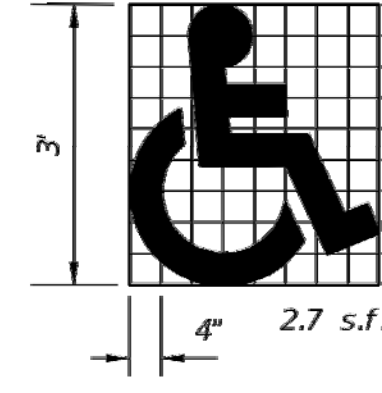
Δ θ	"DIMENSIONS"				
	"A"	"B"	"C"	"D"	"E"
45°	19'-1"	12'-9"	7'-0"	27'-0"	17'-0"
60°	20'-1"	10'-5"	5'-9"	23'-2"	13'-10"

- NOTES:
- Dimensions are to the centerline of markings.
 - An Access Aisle is required for each accessible space when angle parking is used.
 - Criteria for pavement markings only, not public sidewalk curb ramp locations. For ramp locations refer to plans.
 - Blue pavement markings shall be tinted to match shade 15180 of Federal Standards 595a.
 - The FTP-22-06 panel shall be mounted below the FTP-21-06 sign.

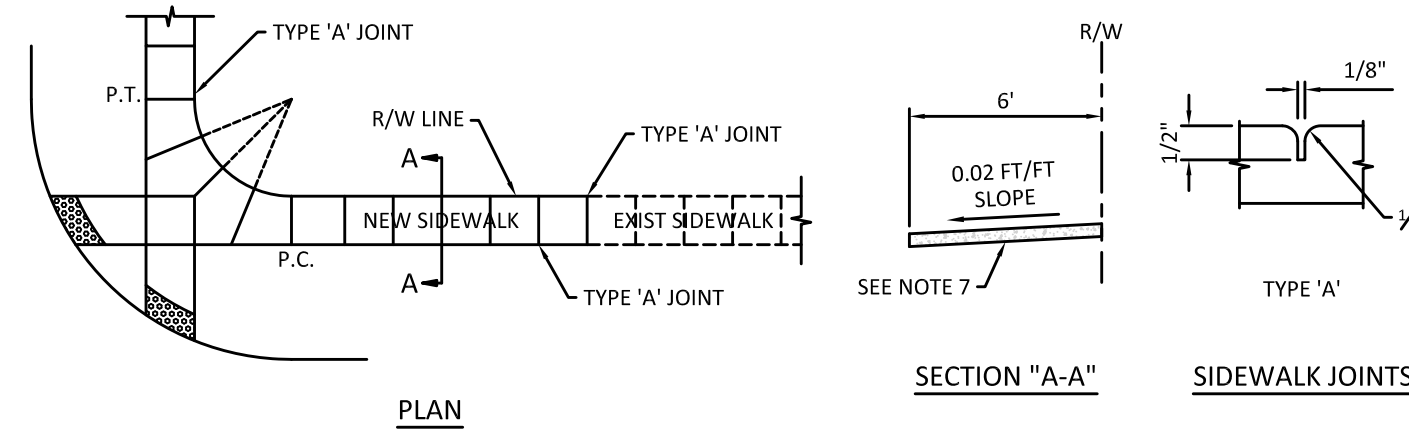


Use of pavement symbol in accessible parking spaces is optional, when used the symbol shall be 3' or 5' high and white in color.

UNIVERSAL SYMBOL OF ACCESSIBILITY

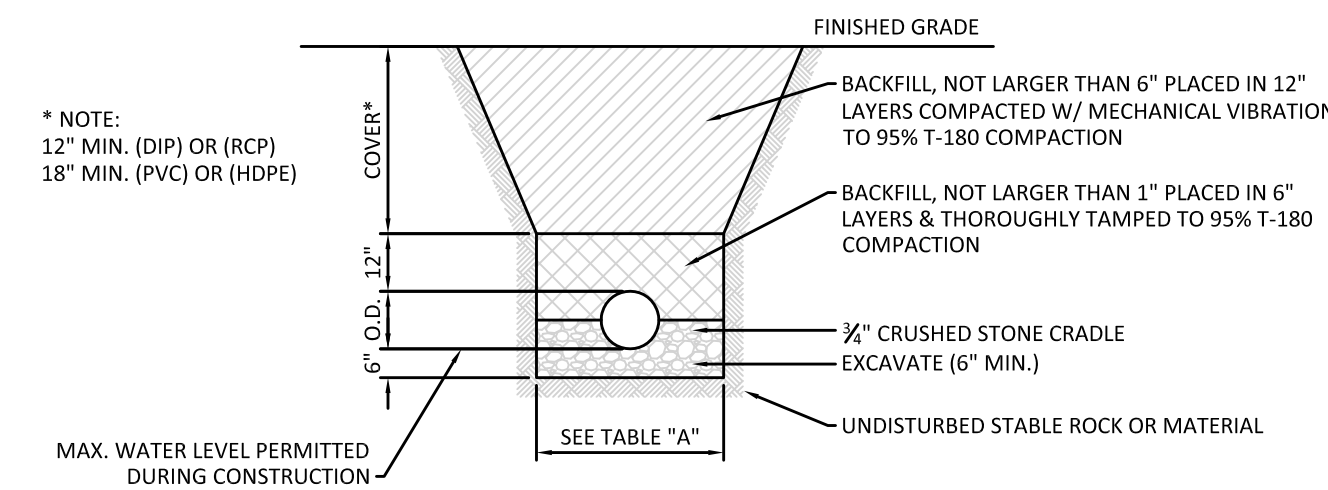


FDOT INDEX 17346 HANDICAP AND STANDARD PARKING SPACES



- NOTES:
- CONCRETE TO BE CLASS 1, 3000 PSI.
 - THE USE OF REINFORCEMENT IS NOT PERMITTED.
 - SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH THE DISABILITIES ACT.
 - RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS IN ACCORDANCE WITH FDOT INDEX 304.
 - THE VERTICAL DEVIATION FOR A NEW SIDEWALK SHALL NOT BE MORE THAN 3/4".
 - THE VERTICAL DEVIATION FOR A NEW MAINTENANCE ACCESS STRUCTURE COVER SHALL NOT BE MORE THAN 3/4".
 - SUBGRADE MATERIAL SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY, PER AASHTO T-99.
 - STAMPED CONCRETE IS NOT PERMITTED IN LIEU OF TRUNCATED DOMES.
 - SEE HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION APPROVED PRODUCT LIST FOR ACCEPTABLE MATERIALS FOR TRUNCATED DOMES.

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
'B'	5'-0" CENTER TO CENTER ON SIDEWALKS

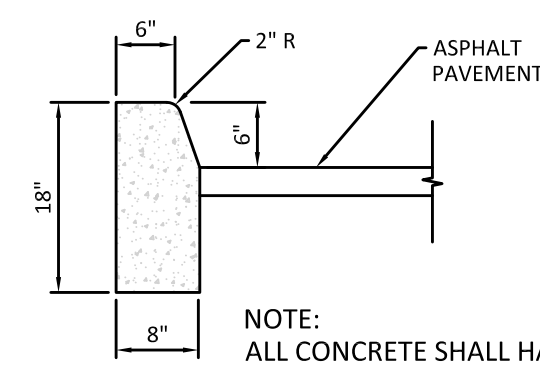


- NOTE:
- COMPACTION AND BACKFILL SHALL BE IN STRICT CONFORMANCE WITH PIPE MANUFACTURER STANDARDS AND SPECIFICATIONS.
 - MAXIMUM DENSITY AS DETERMINED BY A.A.S.H.T.O.
 - MAXIMUM DEPTH TO BOTTOM OF PRESSURE MAINS SHALL NOT EXCEED SIX (6) FEET.

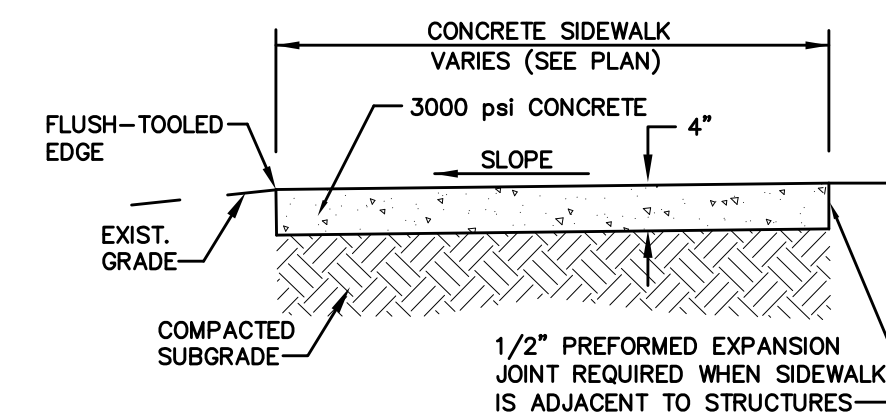
TABLE "A"		
PIPE SIZE	DEPTH OF BACKFILL AT WHICH TRENCH WIDTH IS TO BE LIMITED	MAXIMUM TRENCH WIDTH
6"	15"	2'-6"
8"	15"	3'-0"
10"	12"	3'-0"
12"	12"	3'-3"
15"	12"	3'-6"
18"	12"	3'-9"
24"	12"	4'-3"
30"	12"	4'-9"

DIMENSIONS SHOWN APPLY TO ALL FOUNDATIONS

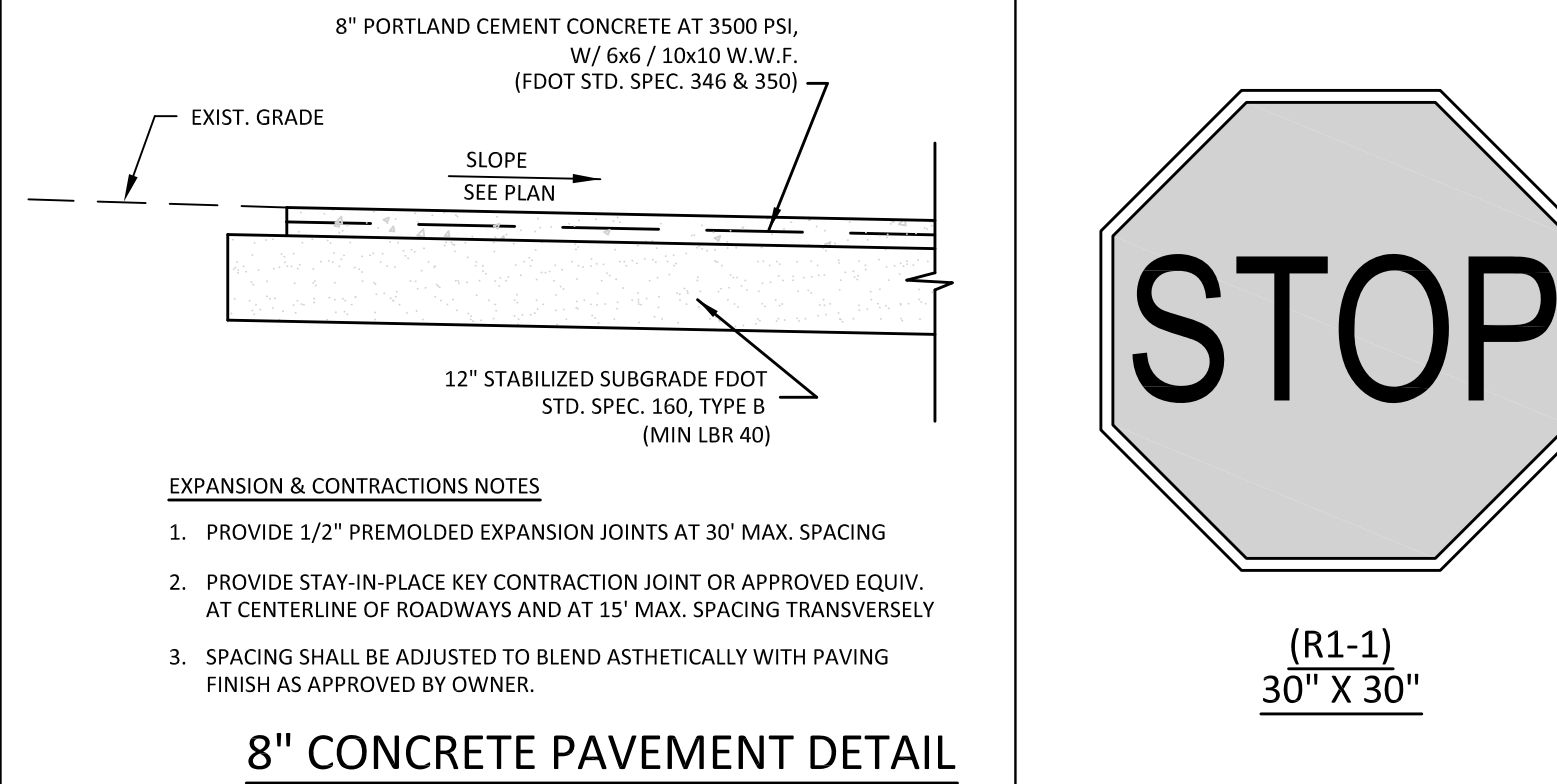
PIPE INSTALLATION AND BEDDING DETAIL



TYPE 'D' CURB

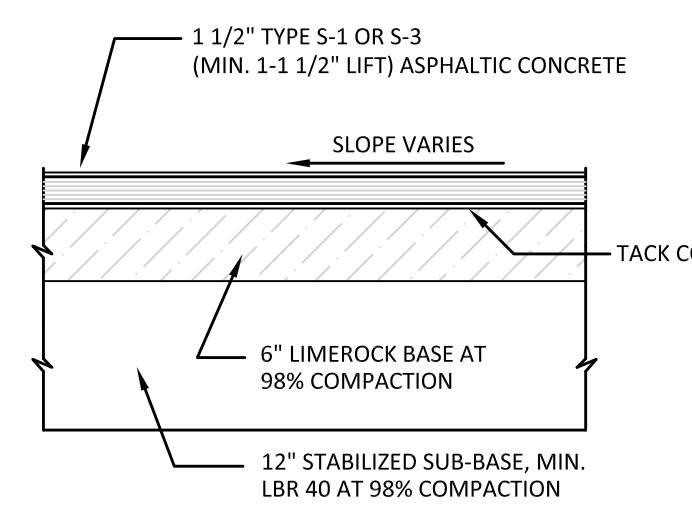
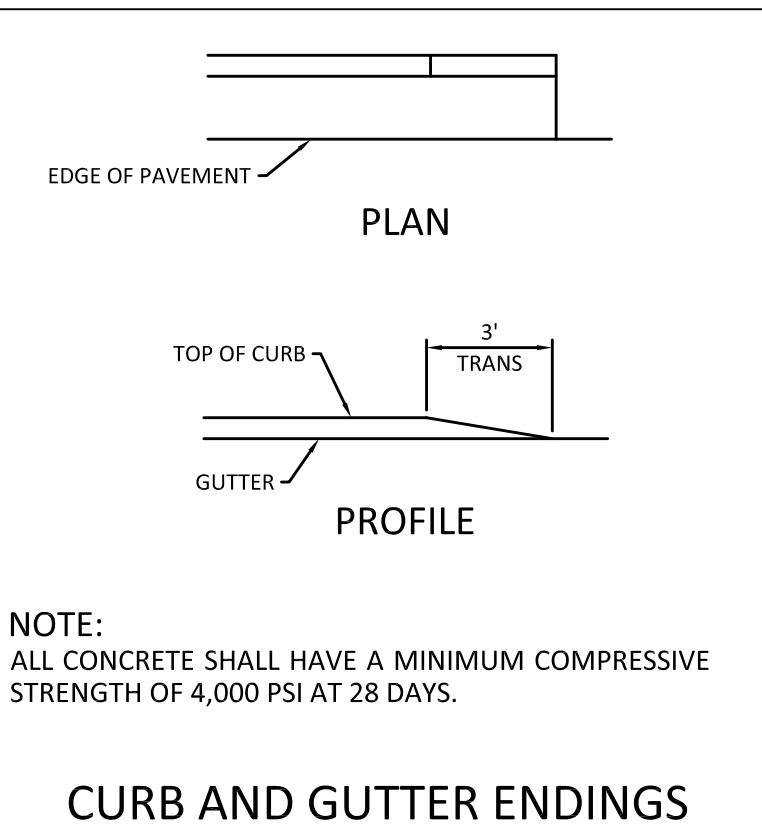


SIDEWALK DETAIL



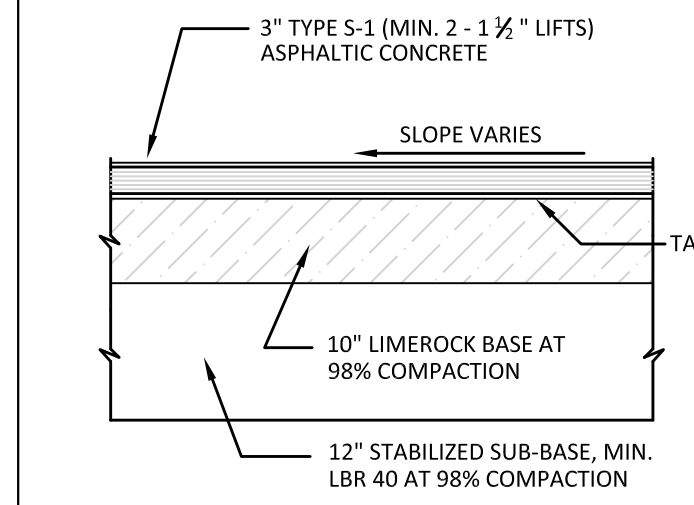
8" CONCRETE PAVEMENT DETAIL

- EXPANSION & CONTRACTIONS NOTES
- PROVIDE 1/2" PREFORMED EXPANSION JOINTS AT 30' MAX. SPACING
 - PROVIDE STAY-IN-PLACE KEY CONTRACTION JOINT OR APPROVED EQUIV. AT CENTERLINE OF ROADWAYS AND AT 15' MAX. SPACING TRANSVERSELY
 - SPACING SHALL BE ADJUSTED TO BLEND AESTHETICALLY WITH PAVING FINISH AS APPROVED BY OWNER.



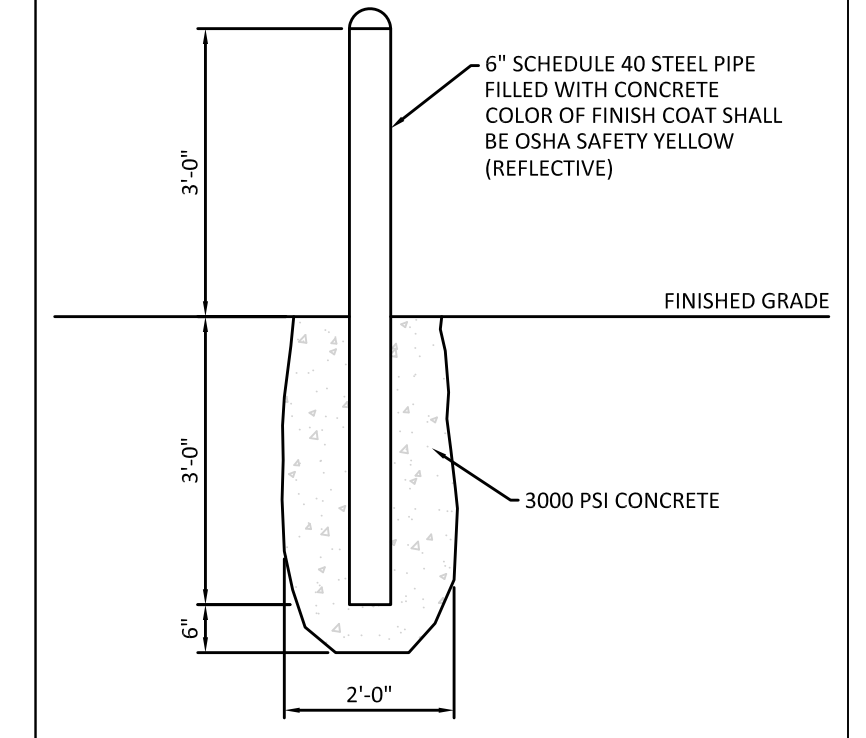
- NOTES:
- SURFACE COURSE (1 1/2") - TYPE S-1 OR S-3 ASPHALTIC CONCRETE WITH MINIMUM STABILITY OF 1500 LBS. COMPACTED TO AT LEAST 98% OF THE MAXIMUM LABORATORY DENSITY.
 - BASE COURSE (6") - LIMEROCK OR CRUSHED CONC. HAVING A MIN. LBR OF 100 AND COMPACTED TO AT LEAST 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557).
 - SUB-BASE (12") - IN-SITU SOIL COMPACTED TO AT LEAST 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557).

LIGHT DUTY ASPHALT PAVEMENT DETAIL



- NOTES:
- SURFACE COURSE (3") - TYPE S-1 OR S-3 ASPHALTIC CONCRETE WITH MINIMUM STABILITY OF 1500 LBS. COMPACTED TO AT LEAST 98% OF THE MAXIMUM LABORATORY DENSITY.
 - BASE COURSE (10") - LIMEROCK OR CRUSHED CONC. HAVING A MIN. LBR OF 100 AND COMPACTED TO AT LEAST 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557).
 - SUB-BASE (12") - IN-SITU SOIL COMPACTED TO AT LEAST 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557).

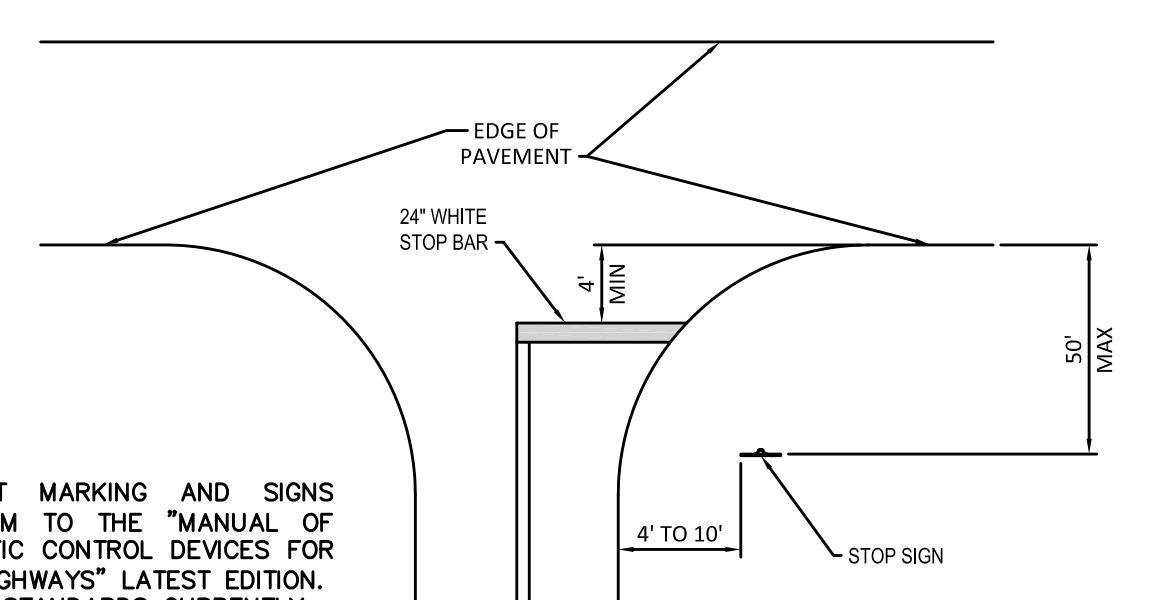
HEAVY DUTY ASPHALT PAVEMENT DETAIL



CONCRETE BOLLARD DETAIL



(R8-31)
12" X 18"



PAVEMENT MARKING PLACEMENT

1. ALL PAVEMENT MARKING AND SIGNS SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS" LATEST EDITION, FLORIDA D.O.T. STANDARDS CURRENTLY ADOPTED AND IN USE.
2. ALL STRIPING AND MARKINGS IN THE PARKING LOT AREAS SHALL BE PAINT.

SMITH • McCRARY ARCHITECTS INC.
 4420 Palco Professional Court, Suite 102
 Jacksonville, Florida 32224
 Tel (904) 242-7200 Fax (904) 242-0404
 SMA Florida License Number AA0002361
 Jan Hammock Smith AR0013348

GLN Downstream LAU Expansion Project
 Plant Expansion - Office, Fabrication Shop and Site Improvements
 Dania Beach, Florida 33004
 Broward County

MK	DATE	REVISION

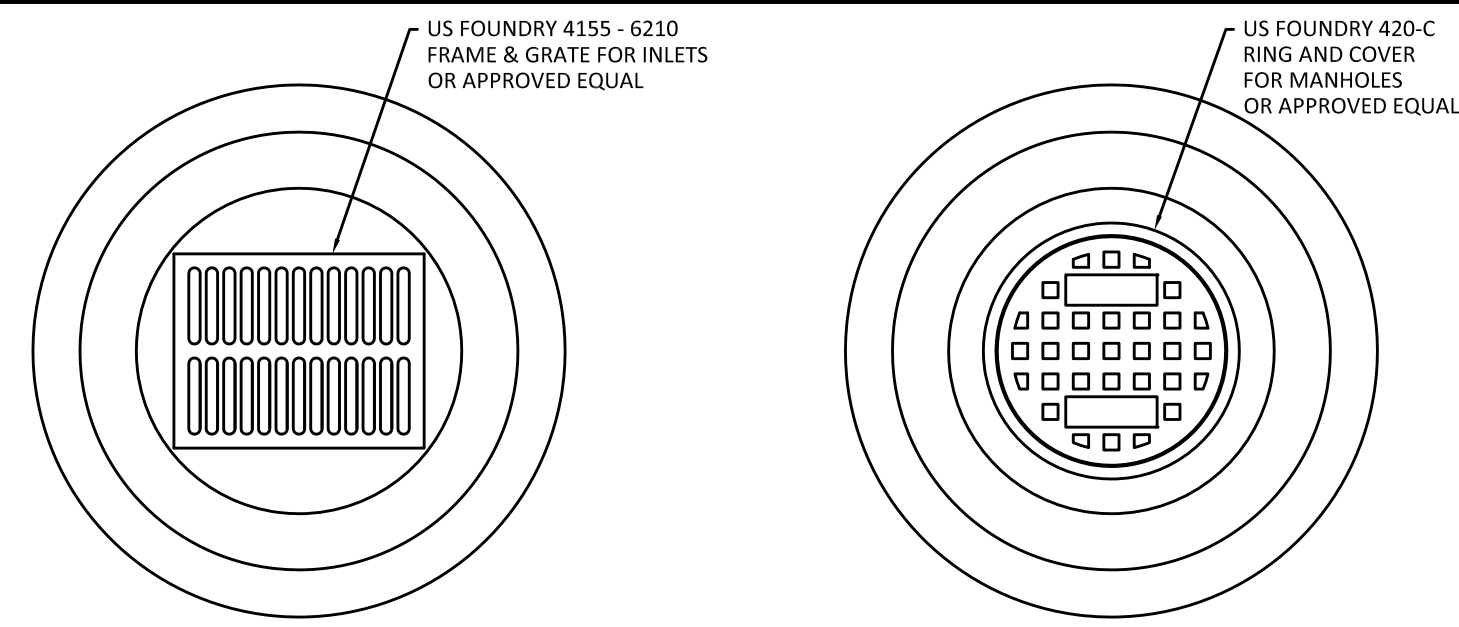
PAVING & DRAINAGE DETAILS

PRJ: NO. BC-GERDAU
 DRW BY: LOL/ANB
 CK BY: MEL

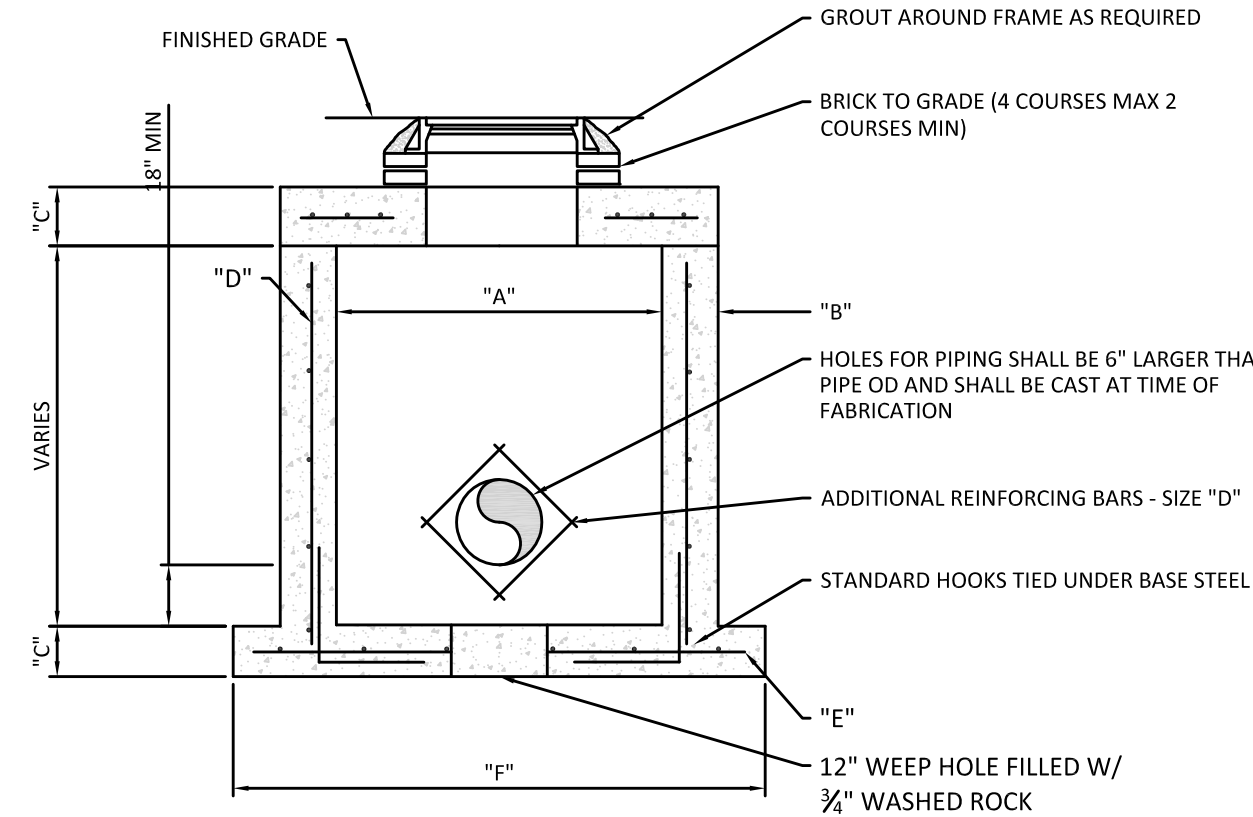
Connelly & Wicker Inc.
 Planning · Engineering · Landscape Architecture
 10060 Skinner Lake Dr., Suite 500 Jacksonville, Florida 32246
 (904) 265-3030 Fax: (904) 265-3031 www.cwieng.com
 C.A. NUMBER: 3650 L.A. NUMBER: LC26000311

C-5
 MARY E. LEAPTROTT, P.E.
 FL. P.E. # 61449
 Reg. Engineer

PHASE:
 CITY COMMISSION
 ISSUE DATE: 07/21/15

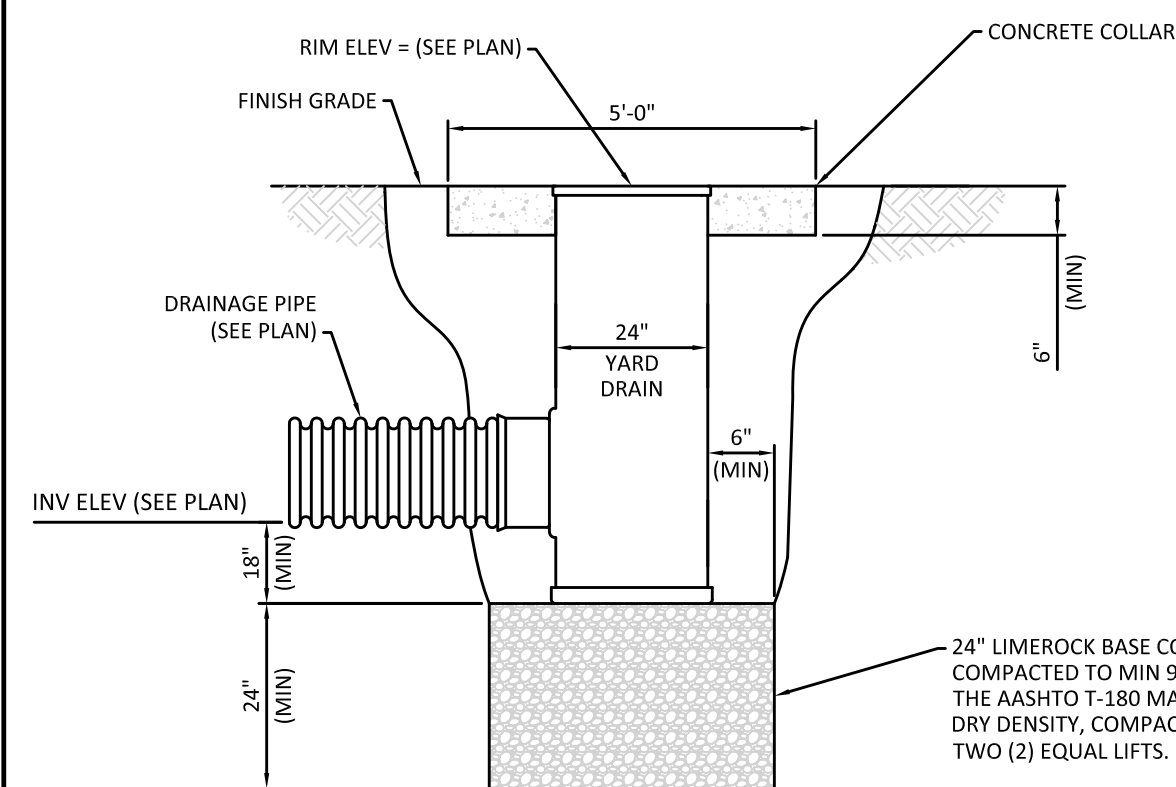


PLAN



TYPE	"A"	"B"	"C"	"D"	"E"	"A"
CB-4 / M-4	4'-0" Ø	8"	8"	#4 @ 12" O.C.E.W.	#4 @ 12" O.C.E.W.	6'-4" Ø
CB-5 / M-5	5'-0" Ø	8"	8"	#5 @ 12" O.C.E.W.	#5 @ 12" O.C.E.W.	7'-4" Ø
CB-6 / M-6	6'-0" Ø	8"	8"	#5 @ 12" O.C.E.W.	#5 @ 6" O.C.E.W.	8'-4" Ø
CB-7 / M-7	7'-0" Ø	8"	10"	#5 @ 12" O.C.E.W.	#5 @ 6" O.C.E.W.	9'-4" Ø
CB-8 / M-8	8'-0" Ø	10"	10"	#4 @ 12" O.C. VERT.	#5 @ 6" O.C.E.W.	10'-8" Ø

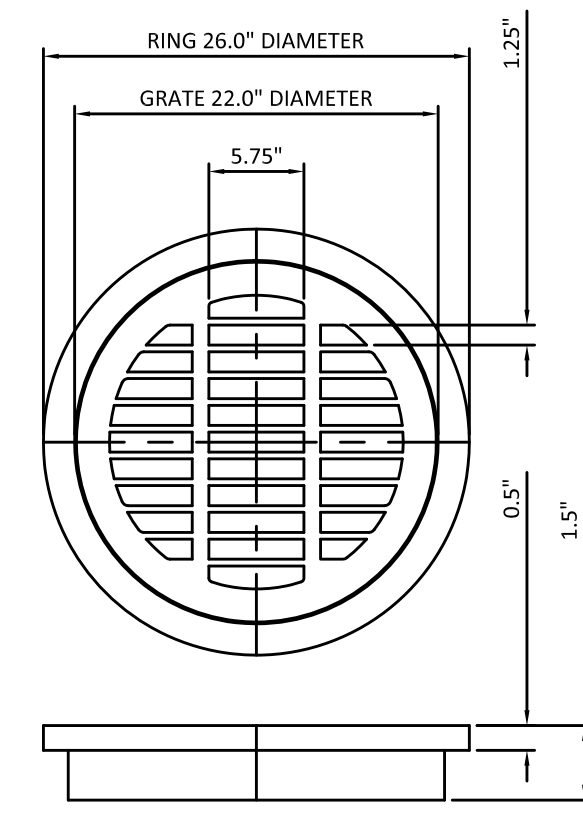
ROUND DRAINAGE STRUCTURE



AS MANUFACTURED BY "NYLOPLAST AMERICA" OR APPROVED EQUAL

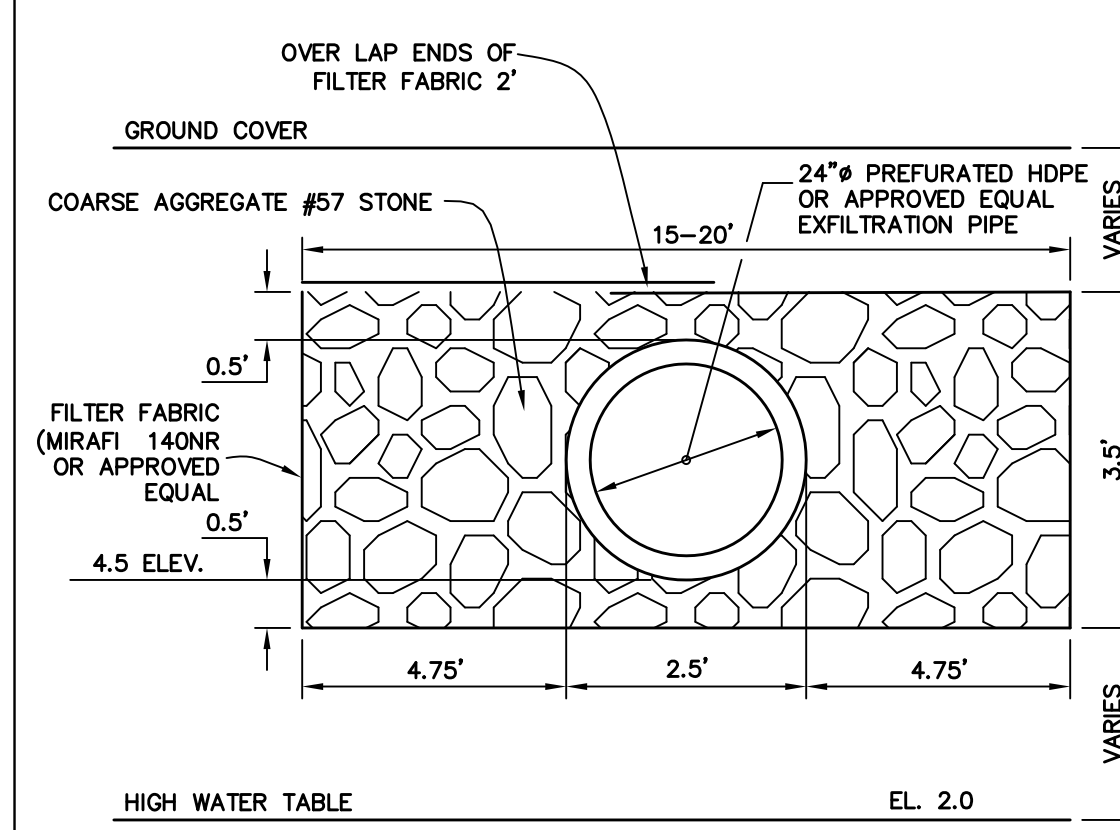
(CONCRETE SHALL BE 4,000 PSI AT 28 DAYS)
CONCRETE COLLAR DETAIL

TYPICAL YARD DRAIN DETAIL

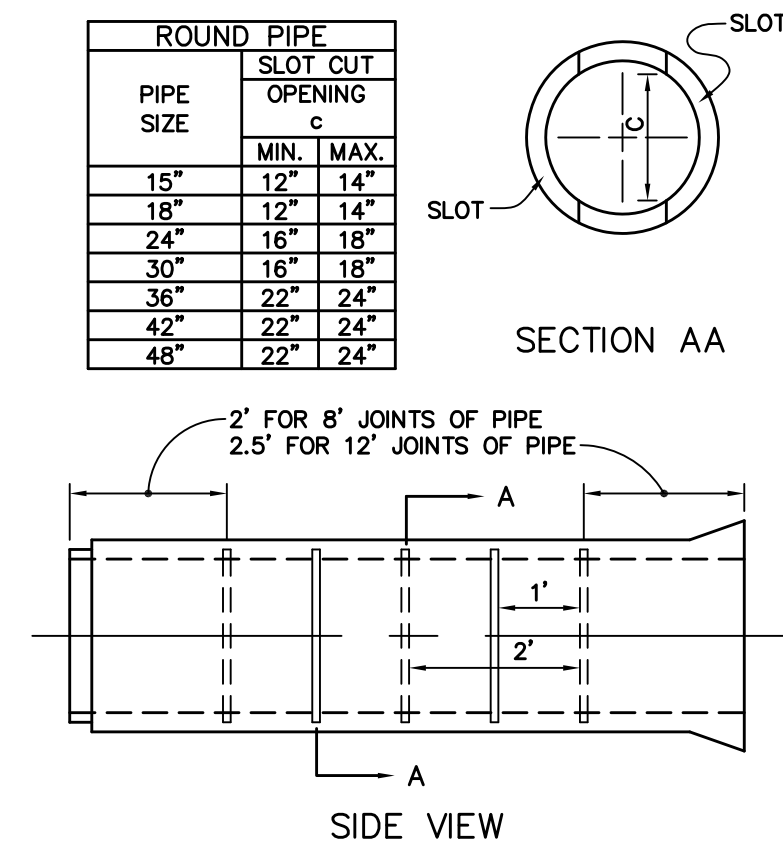


DUCTILE IRON H-20 RATED GRATE
DRAIN AREA = 161.4 SQ. INCH
NOTE:
GRATE MATERIAL SHALL CONFORM TO ASTM A48 - CLASS 30B

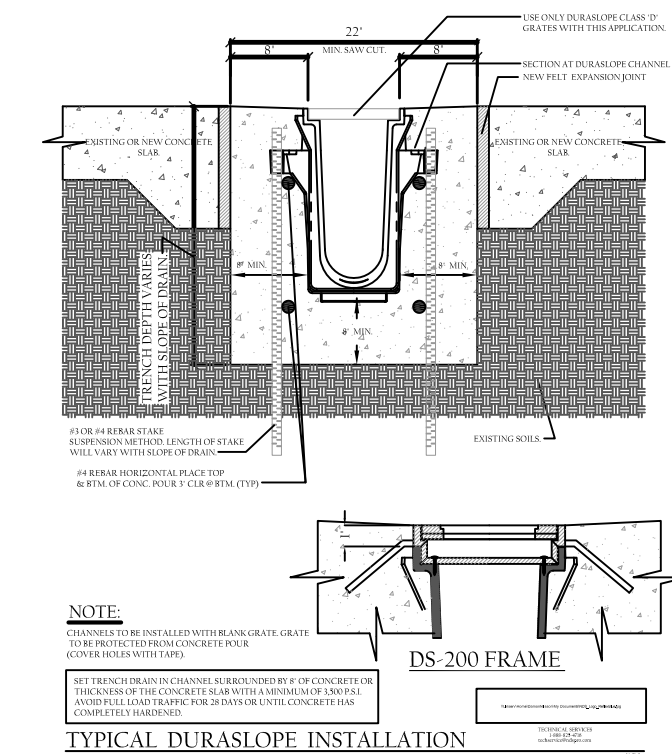
TYPICAL GRATE DETAIL



EXFILTRATION TRENCH
N.T.S.

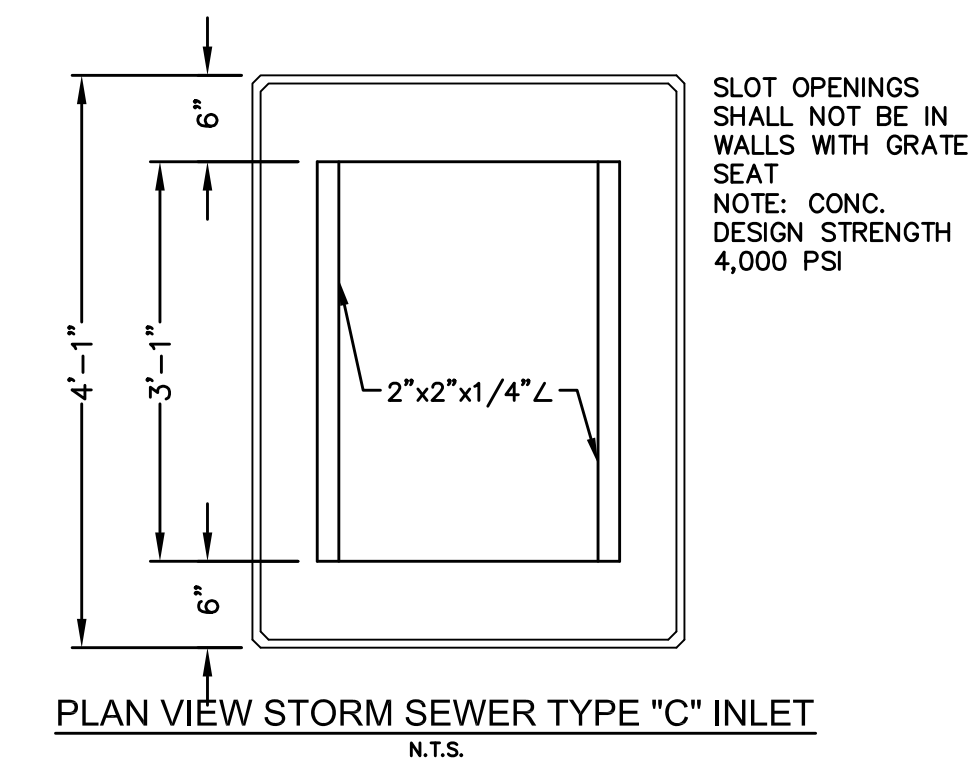


DETAILS FOR EXFILTRATION TRENCH
N.T.S.

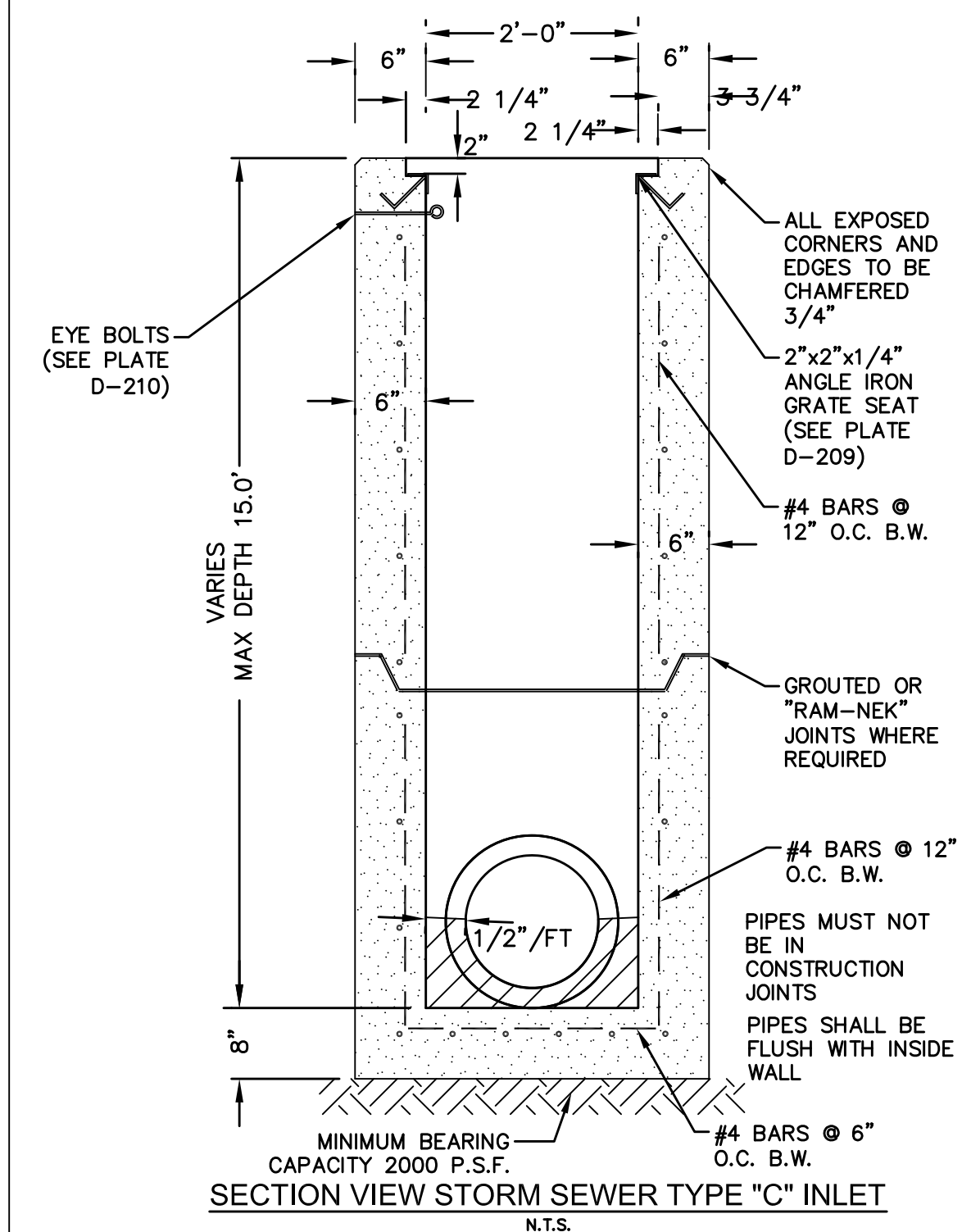


NOTE

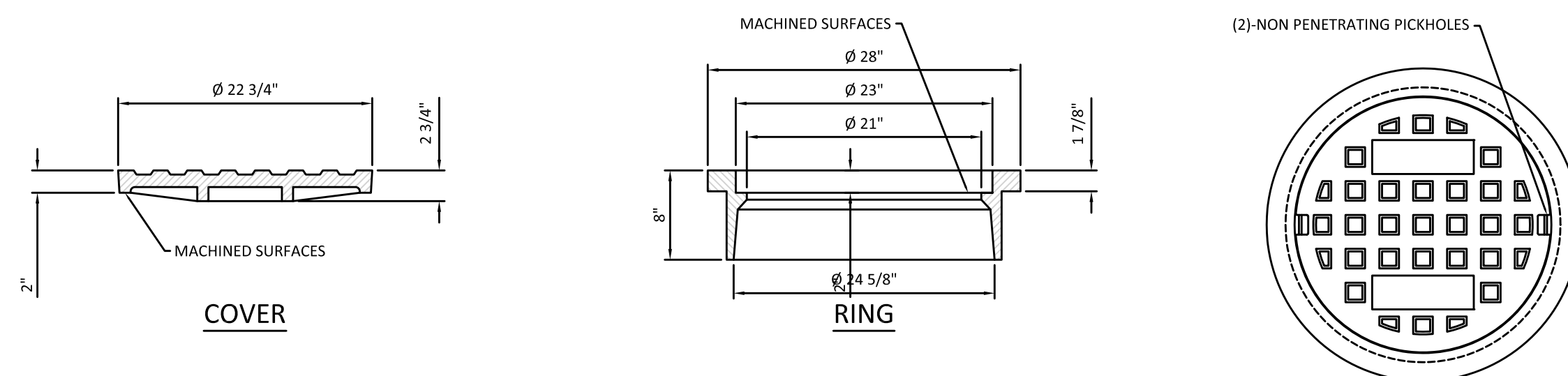
TYPICAL DURASLOPE INSTALLATION



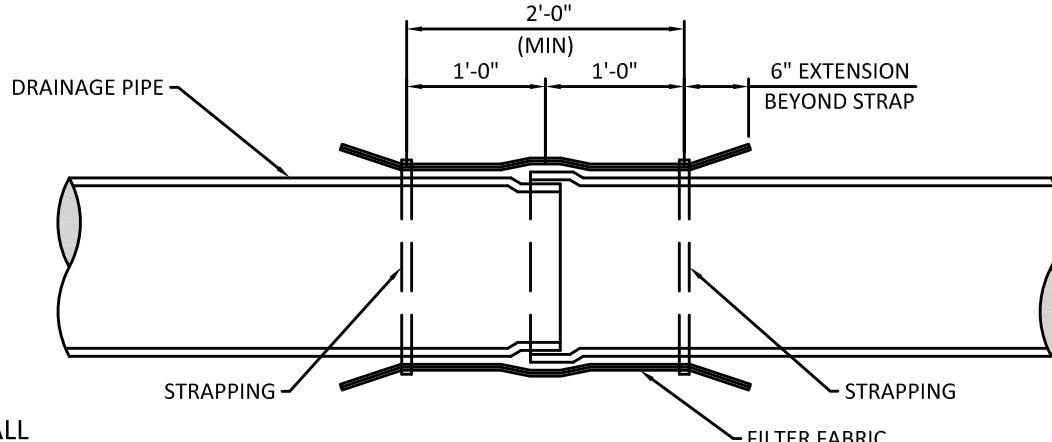
PLAN VIEW STORM SEWER TYPE "C" INLET
N.T.S.



SECTION VIEW STORM SEWER TYPE "C" INLET
N.T.S.



US FOUNDRY 1155 RING AND C COVER



NOTE:
FILTER FABRIC SHALL BE OVERLAPPED 2'-0\"/>

FILTER FABRIC PIPE JOINT WRAP

SMITH • MCCRARY ARCHITECTS INC.
4230 Pablo Professional Court, Suite 102
Palm Beach Gardens, Florida 33424
Tel: (904) 242-7200 Fax: (904) 242-0404
SMA Florida License Number AA0002361

GLN Downstream LAU Expansion Project
Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County

NO.	DATE	REVISION

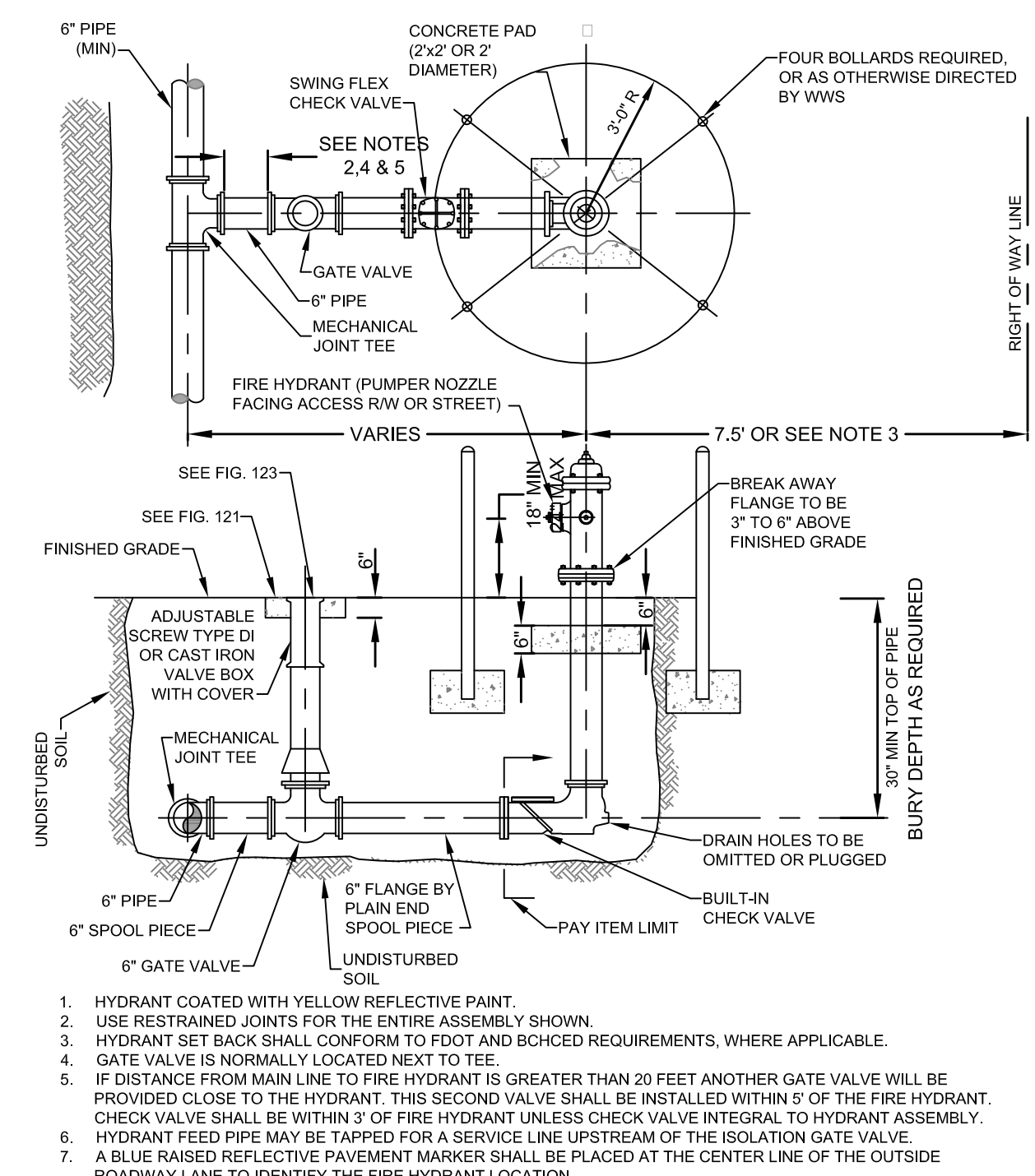
PK DATE
CK BY: MEL
DRW BY: LOJ/ANB
PROJ NO. BC-GERDAU

PAVING & DRAINAGE
DETAILS
C-6
PHASE:
CITY COMMISSION
ISSUE DATE: 07/21/15

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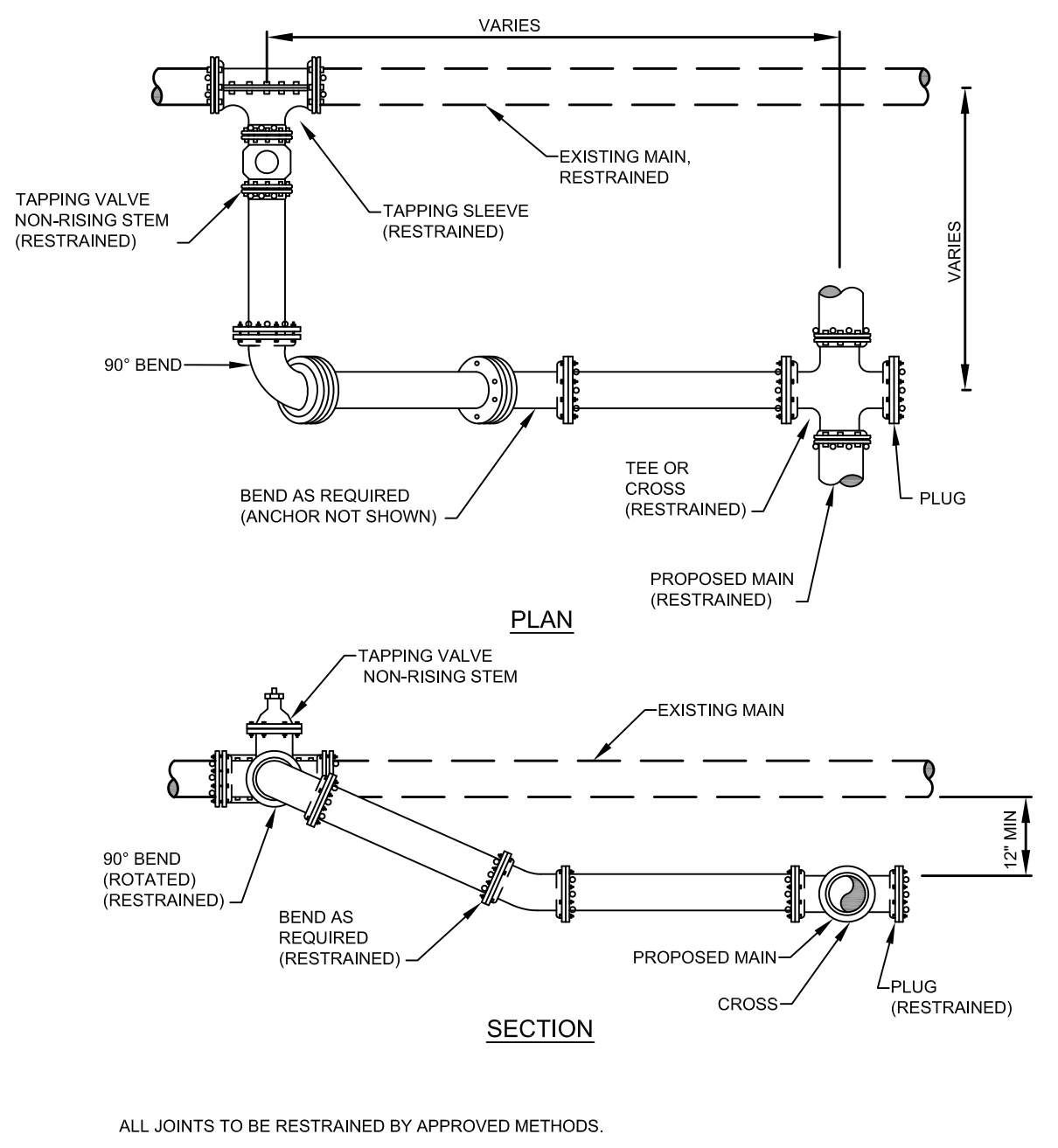
MARY E. LEAPTROTT, P.E.
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Reg. Engineer

Jan Hammock Smith AR0013348

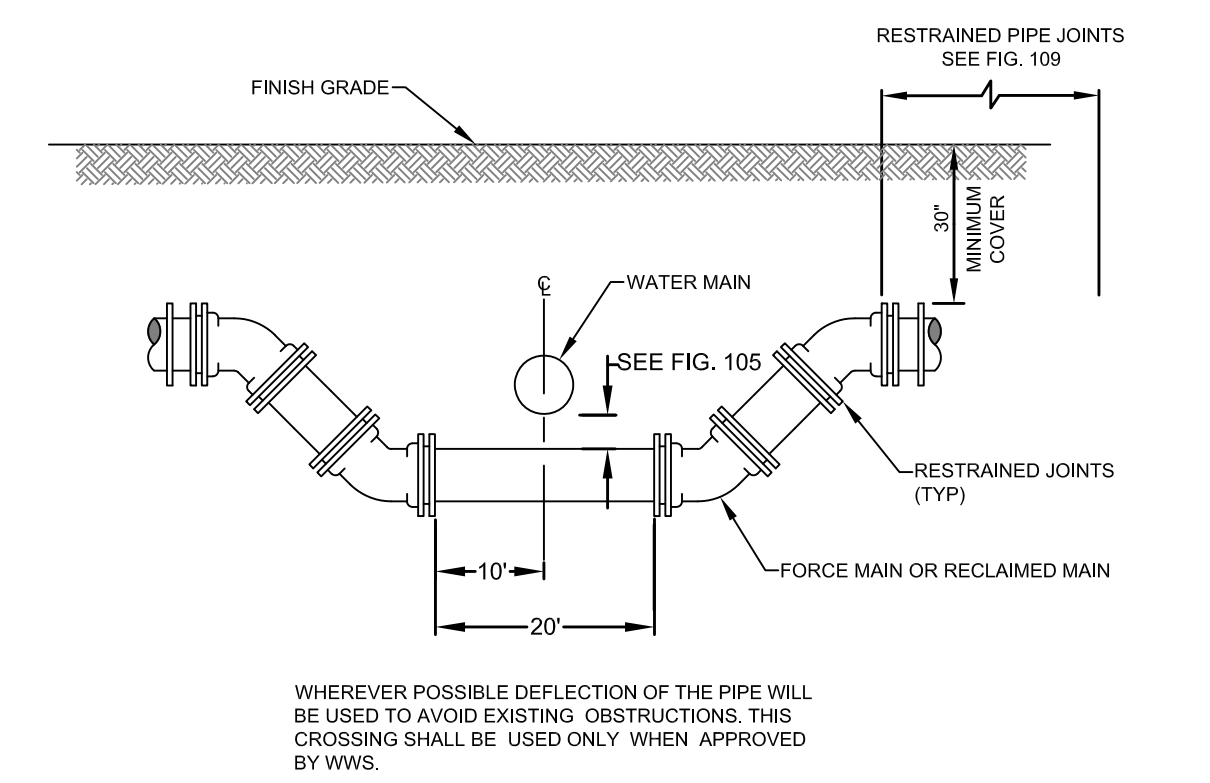


- HYDRANT COATED WITH YELLOW REFLECTIVE PAINT.
- USE RESTRAINED JOINTS FOR THE ENTIRE ASSEMBLY SHOWN.
- HYDRANT SET BACK SHALL CONFORM TO FDOT AND BOHCD REQUIREMENTS, WHERE APPLICABLE.
- GATE VALVE IS NORMALLY LOCATED NEXT TO TEE.
- IF DISTANCE FROM MAIN LINE TO FIRE HYDRANT IS GREATER THAN 20 FEET ANOTHER GATE VALVE WILL BE PROVIDED CLOSE TO THE HYDRANT. THIS SECOND VALVE SHALL BE INSTALLED WITHIN 5' OF THE FIRE HYDRANT. CHECK VALVE SHALL BE WITHIN 3' OF FIRE HYDRANT UNLESS CHECK VALVE INTEGRAL TO HYDRANT ASSEMBLY.
- HYDRANT FEED PIPE MAY BE TAPPED FOR A SERVICE LINE UPSTREAM OF THE ISOLATION GATE VALVE.
- A BLUE RAISED REFLECTIVE PAVEMENT MARKER SHALL BE PLACED AT THE CENTER LINE OF THE OUTSIDE ROADWAY LANE TO IDENTIFY THE FIRE HYDRANT LOCATION.

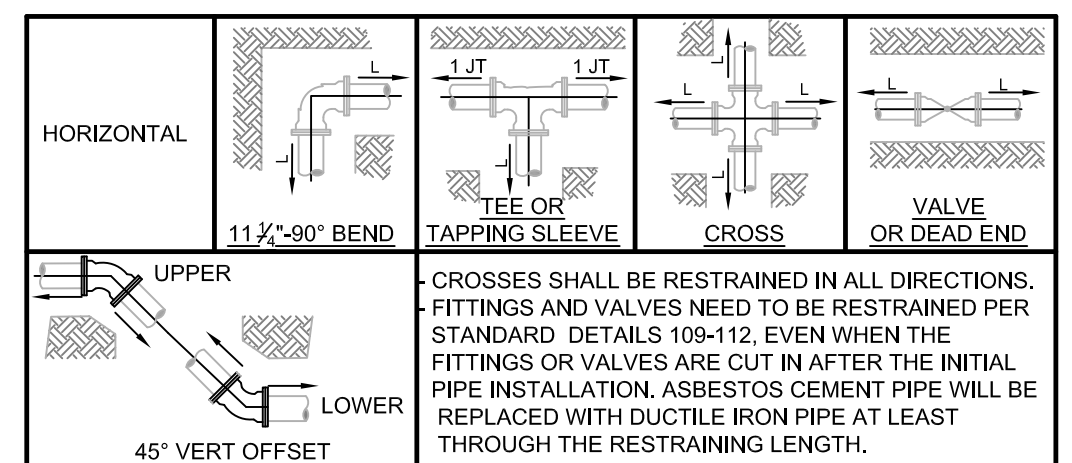
FIRE HYDRANT INSTALLATION



TYPICAL CONNECTION TO EXISTING MAIN



SPECIAL UTILITY CROSSING



DUCTILE IRON PIPE

Diameter	HORIZONTAL L (FEET)				Tees or Cross	Valves and Dead End	45° VERTICAL OFFSET (FEET)	
	11 1/2"	22 1/2"	45"	90"			UPPER	LOWER
4	1	2	4	10	3	20	9	3
6	2	3	6	14	11	28	12	4
8	2	4	8	17	20	37	16	5
10	2	5	10	21	27	44	19	6
12	3	5	10	24	34	52	22	6

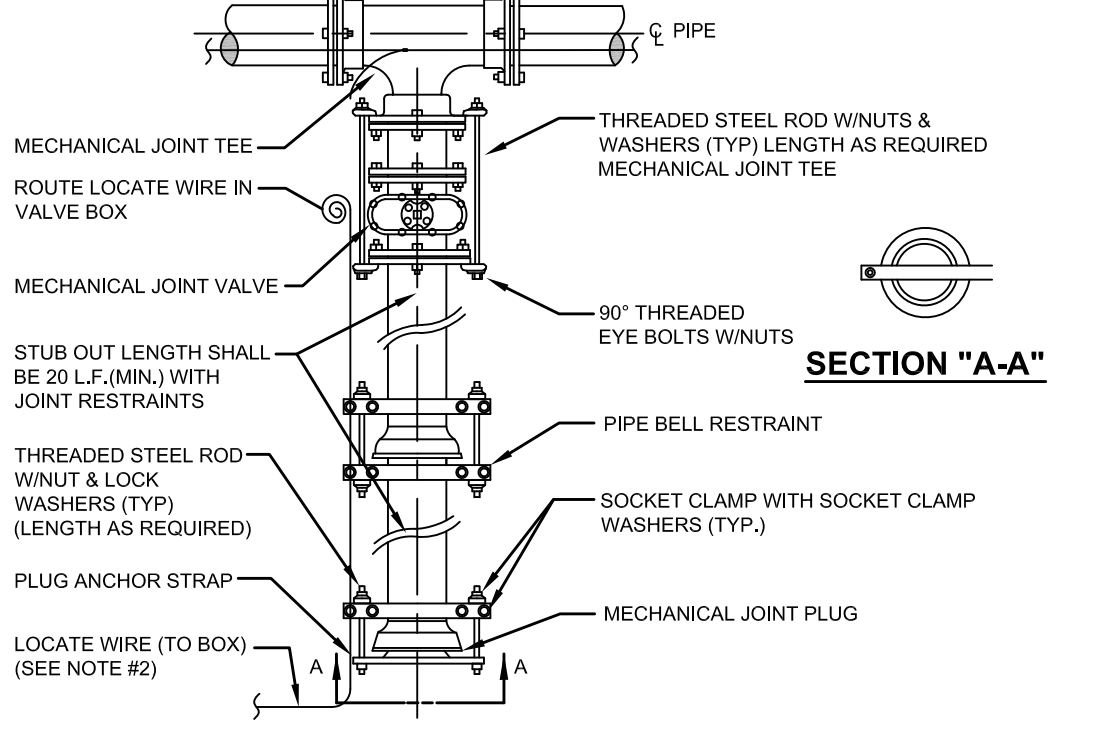
PVC PIPE

Diameter	HORIZONTAL L (FEET)				Tees or Cross	Valves and Dead End	45° VERTICAL OFFSET (FEET)	
	11 1/2"	22 1/2"	45"	90"			UPPER	LOWER
4	2	3	5	12	5	32	14	3
6	2	4	7	16	18	45	19	5
8	3	5	9	21	31	59	25	6
10	3	5	11	25	43	71	30	7
12	3	6	12	29	55	83	35	7

THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH THRUST RESTRAINT CALCULATOR V6.1 BY EBAN IRON WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SAND (SW, SP, GW)
LAYING CONDITION: 4" SAND BEDDING, BACKFILL COMPACTED > 80%
MINIMUM COVER: 3.0 FT. SAFETY FACTOR: 1.5 - BARE PIPE
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY WWS.
FOR PIPE LARGER THAN INCLUDED IN THE ABOVE TABLES, ENGINEER OF RECORD SHALL SUBMIT CALCULATIONS FOR EACH JOINT REQUIRING RESTRAINT.

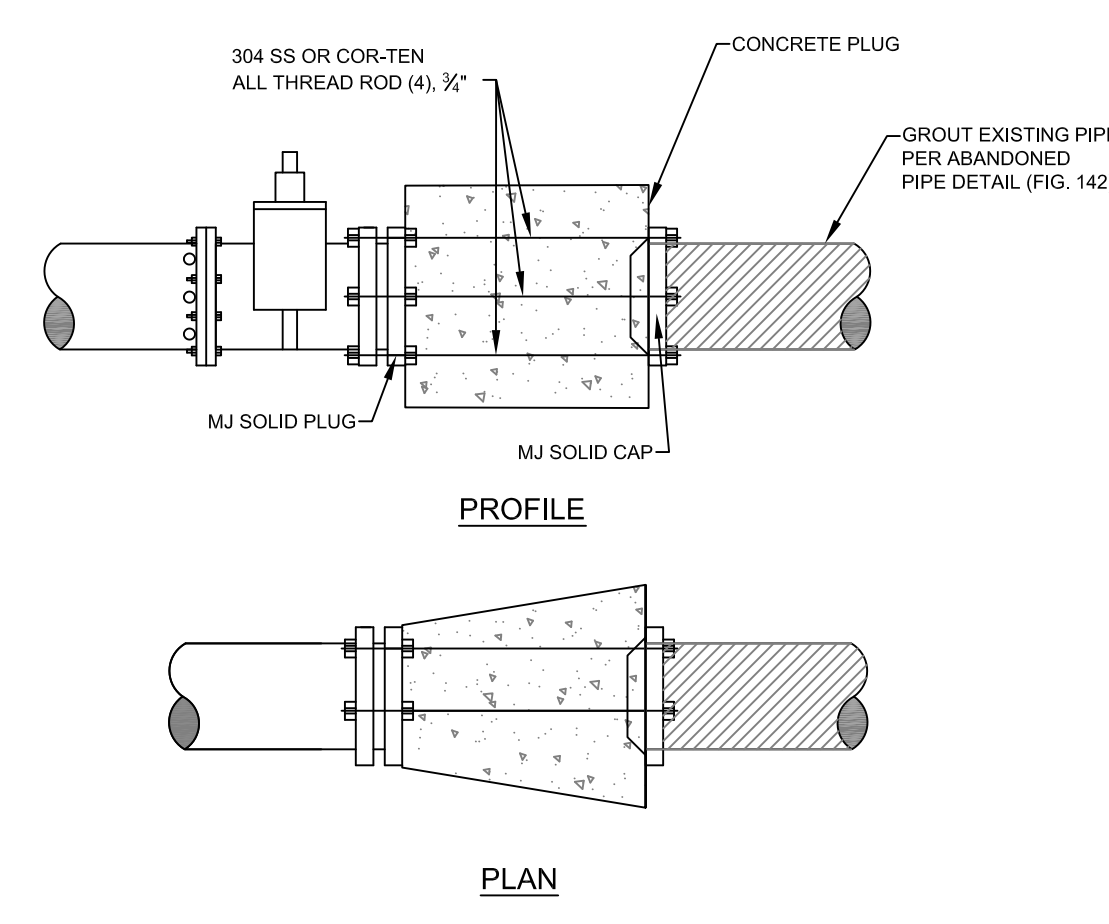
MINIMUM SEPARATION REQUIREMENTS FOR WATER MAINS

- WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
- RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-510, F.A.C.
- 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
- 18" VERTICAL MINIMUM SEPARATION REQUIRED BY WWS, UNLESS OTHERWISE APPROVED.



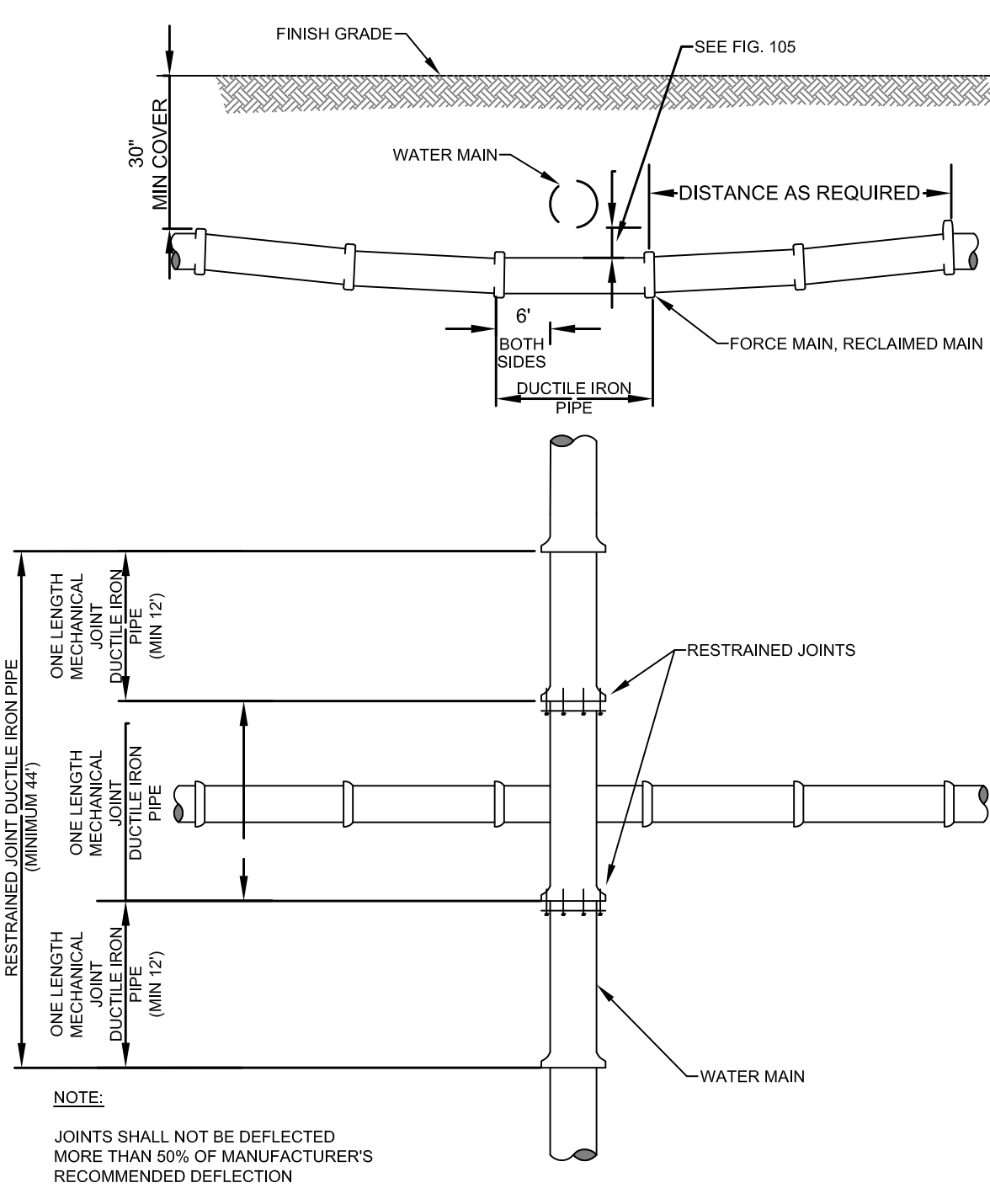
- NOTES:**
- IN LIEU OF BELL/ROD RESTRAINTS, MECHANICAL JOINT RESTRAINTS MAY BE USED.
 - LOCATING WIRE REQUIRED. UTILIZING LOCATE WIRE BOX INSTALLED AT PLUG LOCATION.
 - NUMBER OF TIE RODS REQUIRED IS AS FOLLOWS:
3" - 8"
10" - 12"
14" - 16"
18" - 20"
24"
30" - 36"
42" - 48"
54"
 - THE LOCATION OF THE DEAD END PLUG SHALL NOT BE UNDER PAVEMENT, IF POSSIBLE. THE STUB OUT SHALL EXTEND BEYOND THE INTERSECTION AREAS OR ROAD CROSSINGS BY 10 FEET (MIN.) WHERE POSSIBLE.

PLUGGED DEAD END USING MECHANICAL RESTRAINTS



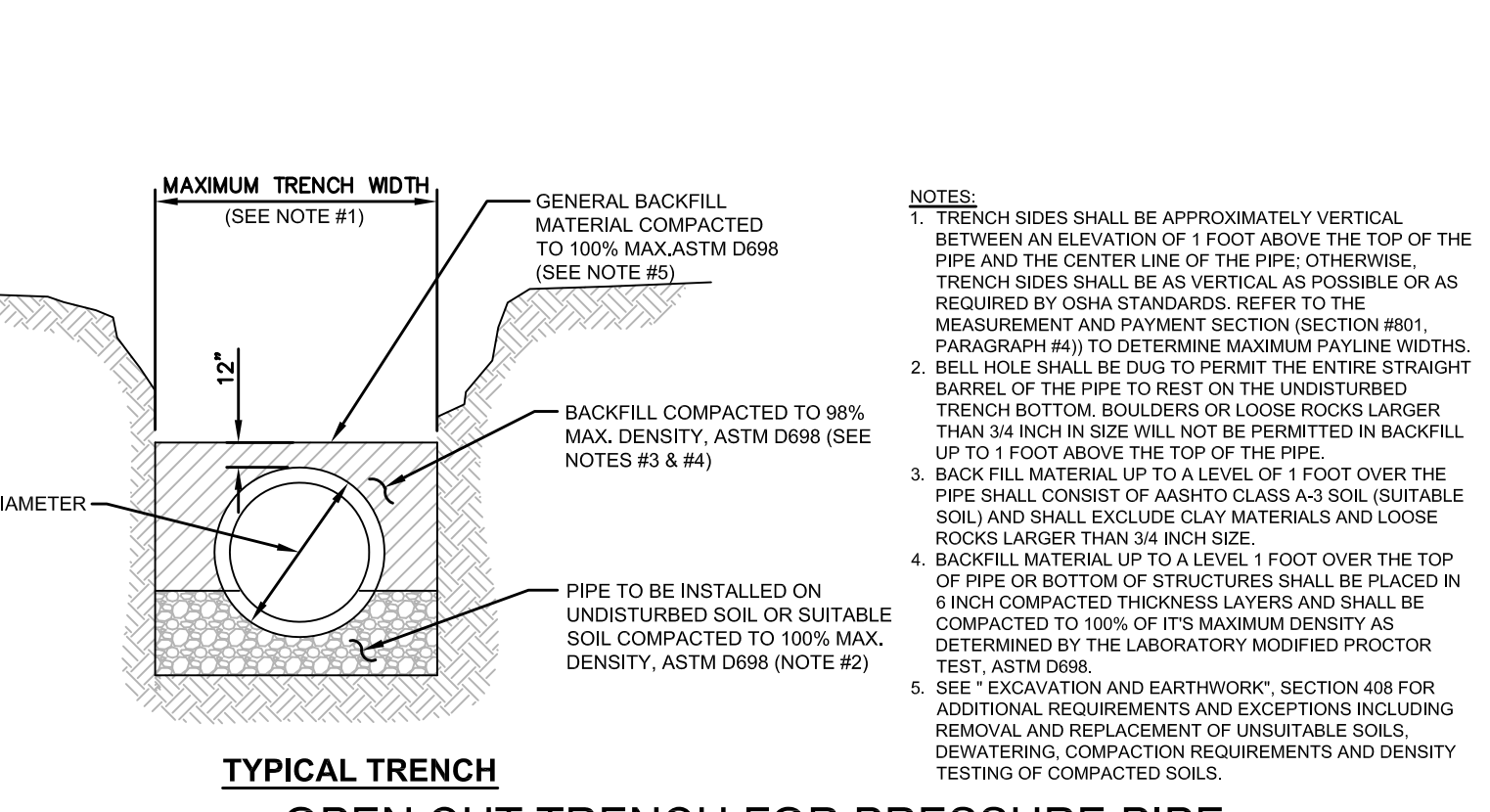
- SEQUENCE OF CONSTRUCTION**
- RESTRAIN VALVE OR FITTING. CONTRACTOR TO PROVIDE TEMPORARY RESTRAINT AS REQUIRED.
 - REMOVE EXISTING PIPE FOR NEW CONCRETE PLUG.
 - INSTALL PLUG INTO BELL OF VALVE OR FITTING AND CAP ON END OF EXISTING PIPE TO BE ABANDONED.
 - INSTALL ALL THREAD RODS (COATED, 3/4" DIA. MIN) AND POUR CONCRETE PLUG.

PIPE TO BE ABANDONED (LIVE LINE 4" AND LARGER)



METER INSTALLATION FOR 1 1/2" OR 2" METER

TYPE 1 PRIVATE FIRE PROTECTION 4", 6" AND 8" DIAMETER CONNECTION



TYPICAL TRENCH OPEN CUT TRENCH FOR PRESSURE PIPE

SMITH • McCRARY ARCHITECTS INC.
4230 Pablo Professional Court, Suite 102
Jacksonville, Florida 32224
Tel (904) 242-7200 Fax (904) 242-004
SMA Florida License Number AA000261
Jan Hammock Smith AR0013348

GLN Downstream LAU Expansion Project
Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County

REVISION	MK	DATE

WATER & SEWER DETAILS
DRW. BY: LOJ/ANB CK BY: MEL
PROJ. NO. BC - GERDAU

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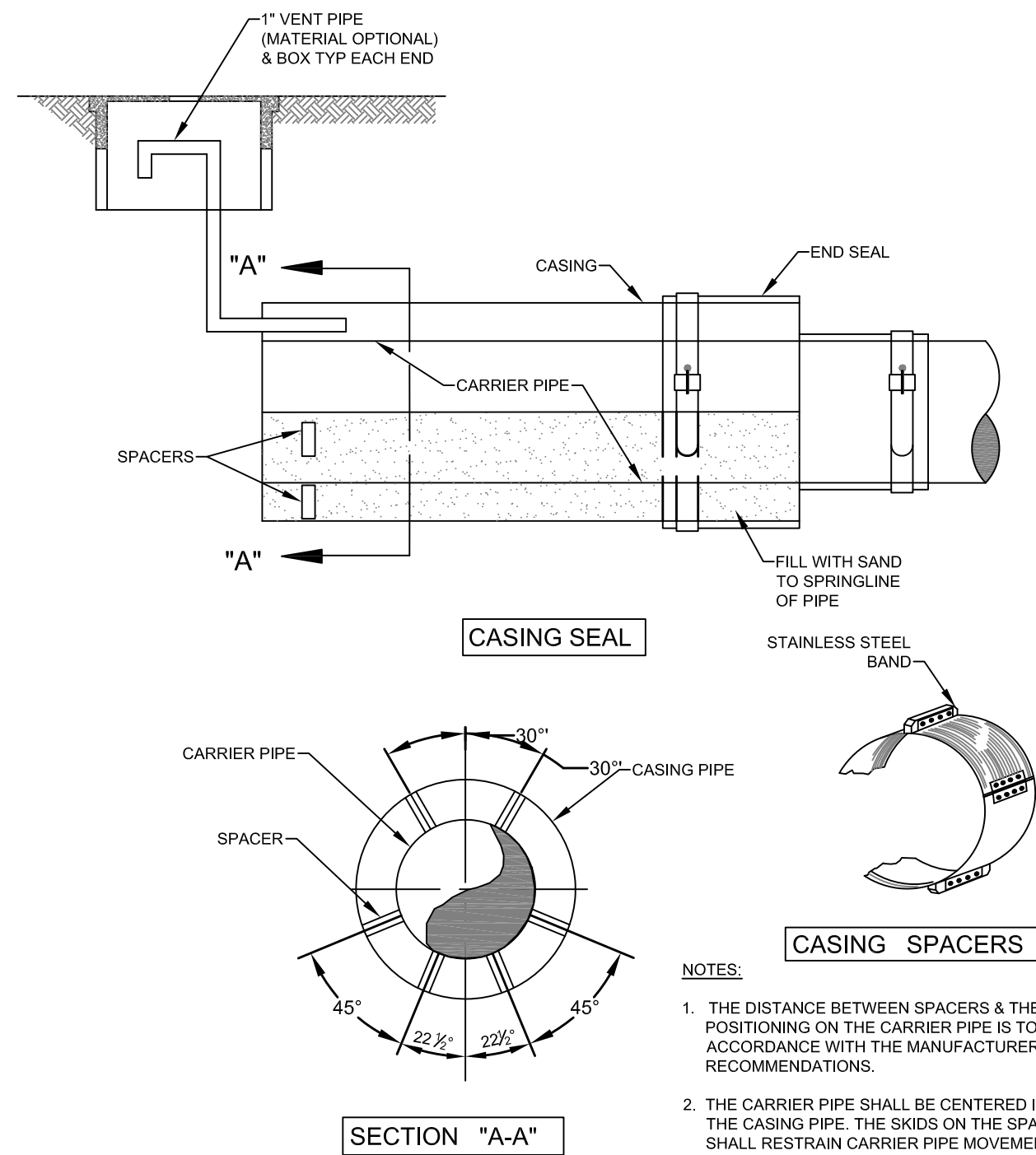
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C-8
PHASE: CITY COMMISSION
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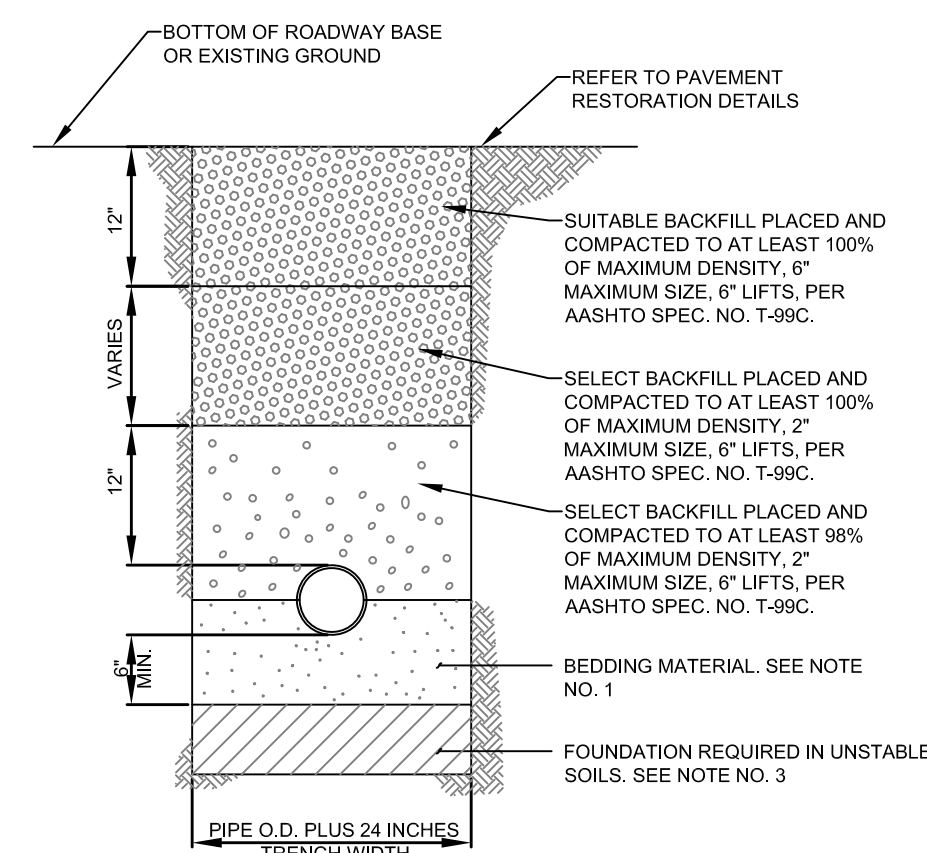
SPECIFICATIONS FOR CARRIER AND CASING PIPES		
	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED	WATER/WASTEWATER	NONE
OUTSIDE DIAMETER	DETERMINED BY PROJECT	SEE TABLE
PIPE MATERIAL	DIP	STEEL
SPECIFICATION AND GRADE	ANSI/AWWA C151/A21.5'	ASTM A139, GRADE "B"
PRESSURE CLASS/WALL THICKNESS	350	0.500"
ACTUAL WORKING PRESSURE	150 PSI	NONE
TYPE OF JOINT	RESTRAINED	WELDED
COATING	BLACK BITUMINOUS	BLACK BITUMINOUS
METHOD OF INSTALLATION	CASING SPACERS	JACK AND BORE
PROTECTION AT ENDS OF CASING	N/A	CASING END SEAL

- NOTES:**
- CASING PIPE TO BE INSTALLED UNDER ROAD BY JACKING AND BORING.
 - ALL WORK DONE WITHIN FDOT OR RAILROAD RIGHT OF WAY IS SUBJECT TO INSPECTION AND DIRECTION OF THEIR ENGINEER.
 - ALL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT AWWA STANDARDS FOR PIPE LINES CONVEYING NONFLAMMABLE SUBSTANCES AND FDOT REQUIREMENTS AS PER UTILITY ACCOMMODATION GUIDE, LATEST VERSION.
 - FIELD AND SHOP WELDS OF THE CASING PIPES SHALL CONFORM WITH AWS STANDARD SPECIFICATIONS. FIELD WELDS SHALL BE COMPLETE PENETRATIONS, SINGLE BEVEL, GROOVE TYPE JOINTS.
 - STEEL CASING SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A139. THE CASING PIPES SHALL HAVE THE MINIMUM NOMINAL DIAMETER AND MINIMUM WALL THICKNESS AS SHOWN.
 - CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO STARTING JACKING AND BORING.
 - MINIMUM VERTICAL CLEARANCE BETWEEN PROPOSED CASING PIPE AND OTHER EXISTING UTILITIES SHALL BE 12" MINIMUM.
 - STAINLESS STEEL CASING SPACERS WITH POLYMER RUNNERS SUBJECT TO APPROVAL OF WWS.

CARRIER PIPE SIZE	NOMINAL DIA OF STEEL CASING PIPE
6"	14"
8"	16"
10"	20"
12"	24"
14"	24"
16"	30"
18"	34"
20"	36"
24"	42"
30"	42"
36"	48"
42"	54"
48"	72"

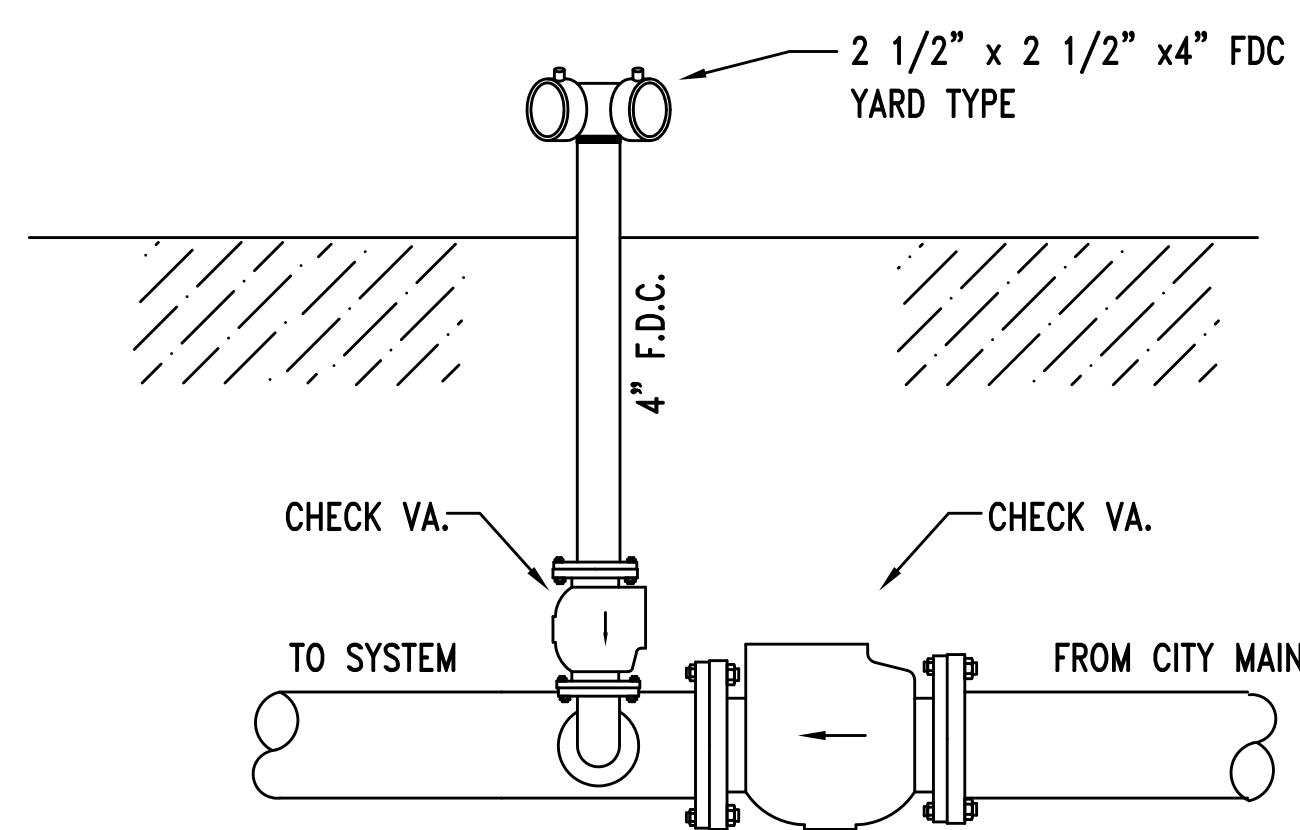


JACK AND BORE PIPE DETAIL



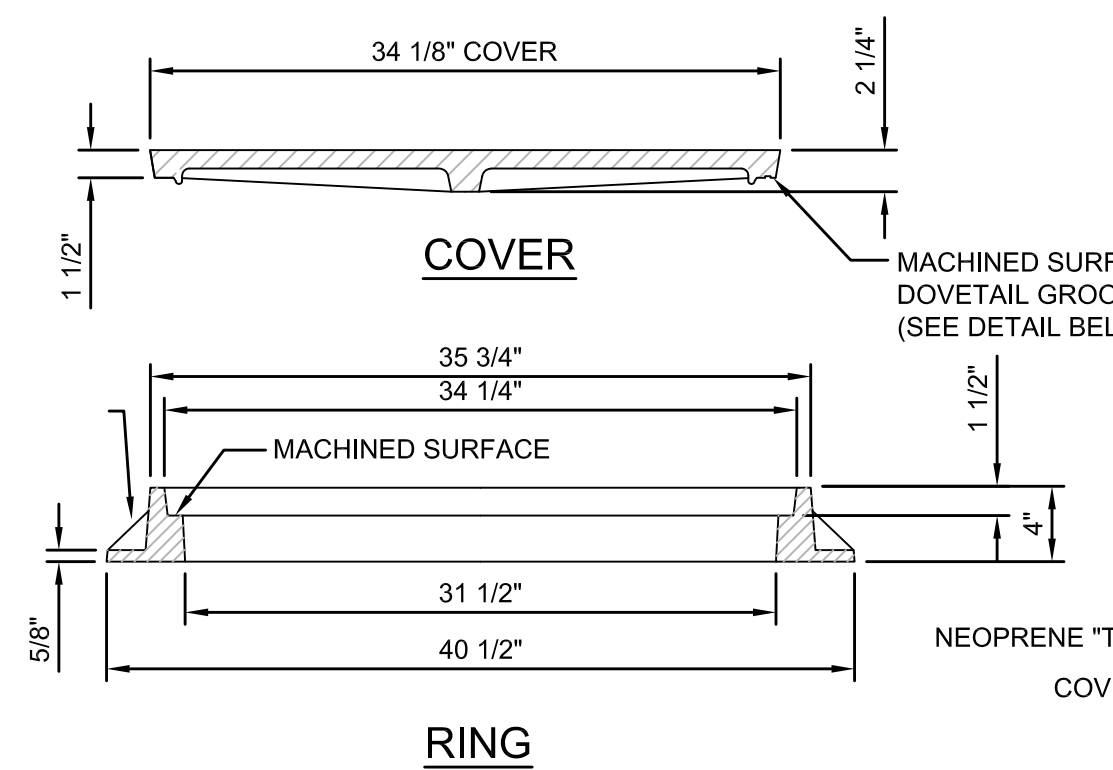
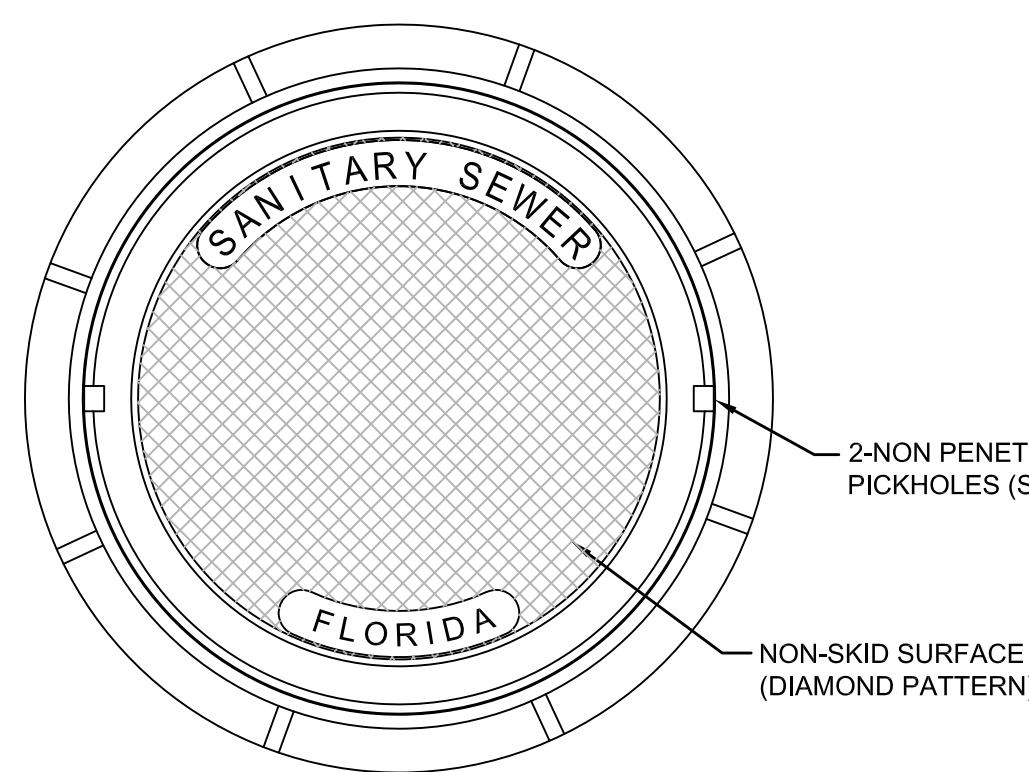
- NOTES:**
- UNLESS OTHERWISE SPECIFIED, BEDDING MATERIAL SHALL CONSIST OF SELECT BACKFILL MATERIAL 2" MAX. SIZE, COMPACTED TO AT LEAST 100% OF MAX. DENSITY, 6" LIFTS, PER AASHTO SPEC. NO. T-99C.
 - WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.
 - WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS, A FOUNDATION IS REQUIRED AS DETERMINED BY THE ENGINEER OF RECORD.

TYPICAL TRENCH BACKFILL



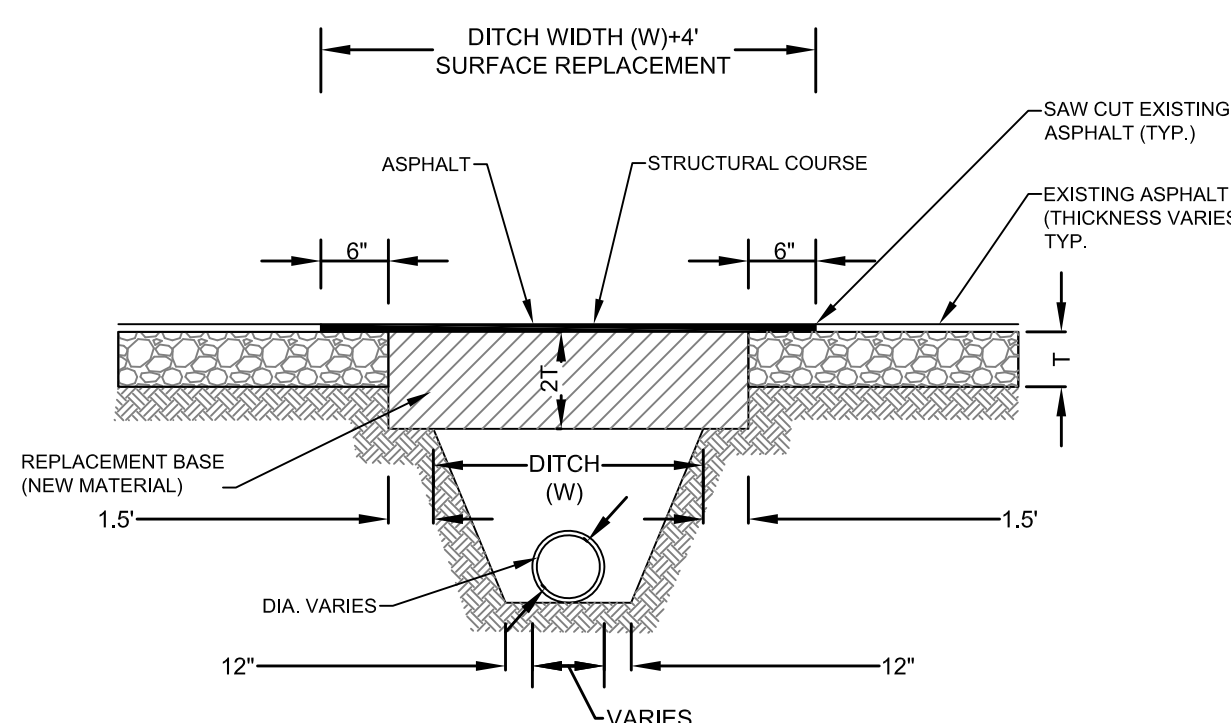
TYP. YARD TYPE FDC CONNECTION DETAIL
N.T.S.

CASING PIPE DETAIL JACK AND BORE



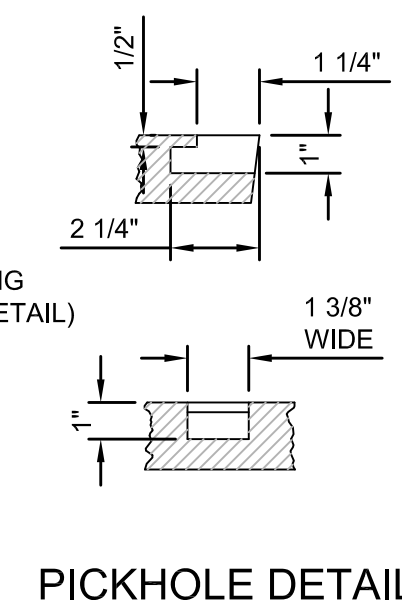
- NOTES:**
- MATERIAL: ASTM A-48 CLASS 35B GRAY IRON.
 - RING WEIGHT 230 LBS. APPROX.
 - COVER WEIGHT 230 LBS. APPROX.
 - ALL DIMENSIONS ARE SHOWN IN INCHES.
 - FOR MANHOLES WHICH WILL BE MAINTAINED BY JEA (INCLUDING UTILITY DEDICATION PROJECTS), THE COVER SHALL INCLUDE THE "JEA" LOGO AND A NEOPRENE GASKET.
 - FOR MANHOLES WHICH WILL BE MAINTAINED BY PARTIES OTHER THAN JEA (SUCH AS PRIVATE SEWER COLLECTION SYSTEMS, PRIVATE (FORCE MAIN) PUMP OUT BOX AND SYSTEMS NOT MAINTAINED BY JEA), THE COVER SHALL INCLUDE "SANITARY SEWER" GENERIC LETTERING (NO "JEA" LOGO OR NEOPRENE GASKET).

SANITARY SEWER MANHOLE FRAME AND COVER

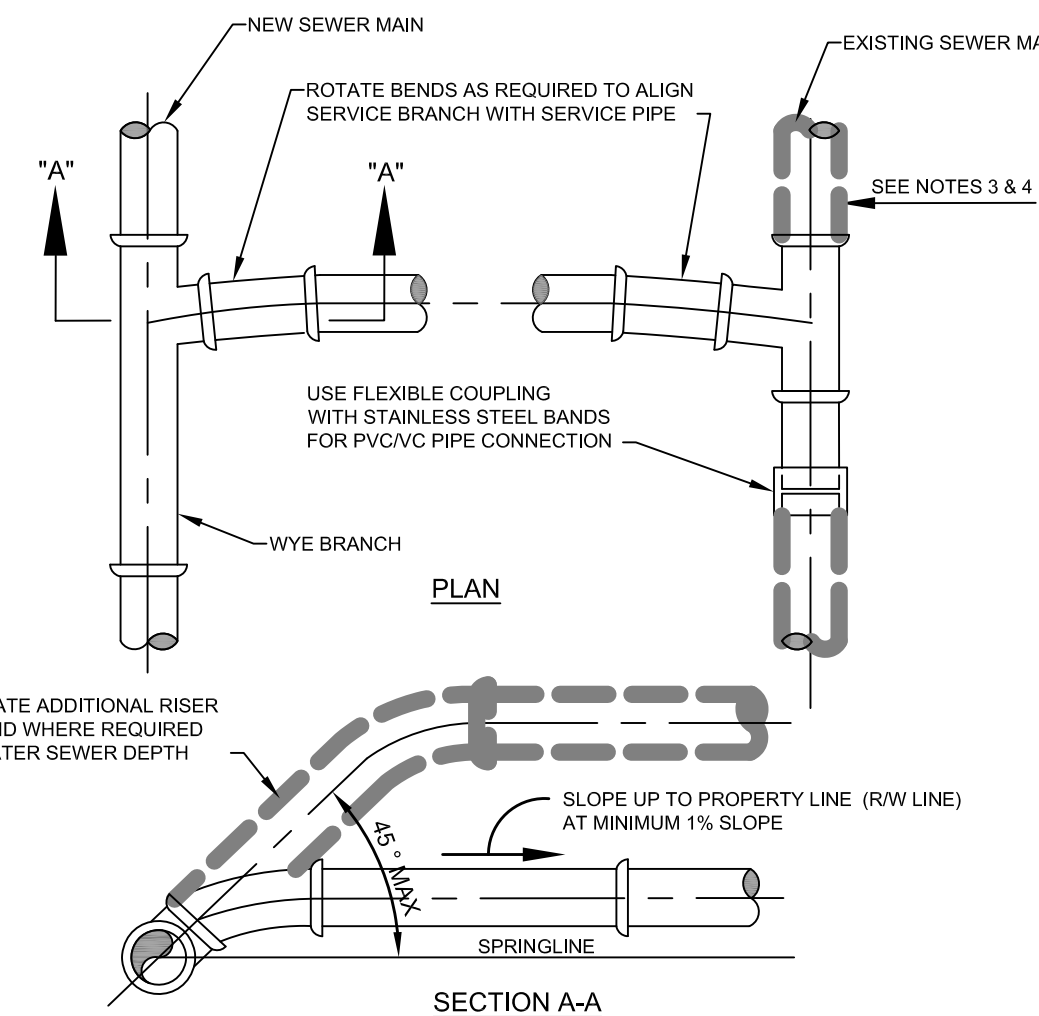


- NOTES:**
- BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL.
 - BASE MATERIAL SHALL BE PLACED IN 6" MAXIMUM LAYERS (LOOSE MEASUREMENT) AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY, PER AASHTO T-160.
 - ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAW CUT.
 - SURFACE MATERIAL SHALL BE CONSISTENT WITH THE SURROUNDING SURFACE MATERIAL.
 - BASE MATERIAL SHALL HAVE A MINIMUM CARBONATE OF 70% (60% FOR LOCAL STREETS).
 - SUB GRADE MATERIAL SHALL BE GRANULAR AND ANGULAR AND SHALL HAVE A MINIMUM LBR OF 40.
 - IF THE DITCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" THICK ASPHALT CONCRETE PATCH TO KEEP THE FILL MATERIAL FROM RAVELING, UNTIL REPLACED WITH A PERMANENT PATCH.
 - FOR STATE ROADS REFER TO FDOT SPECIFICATIONS AND REQUIREMENTS.

RESTORATION OF ROADWAY CUT FOR PERPENDICULAR UTILITY INSTALLATION

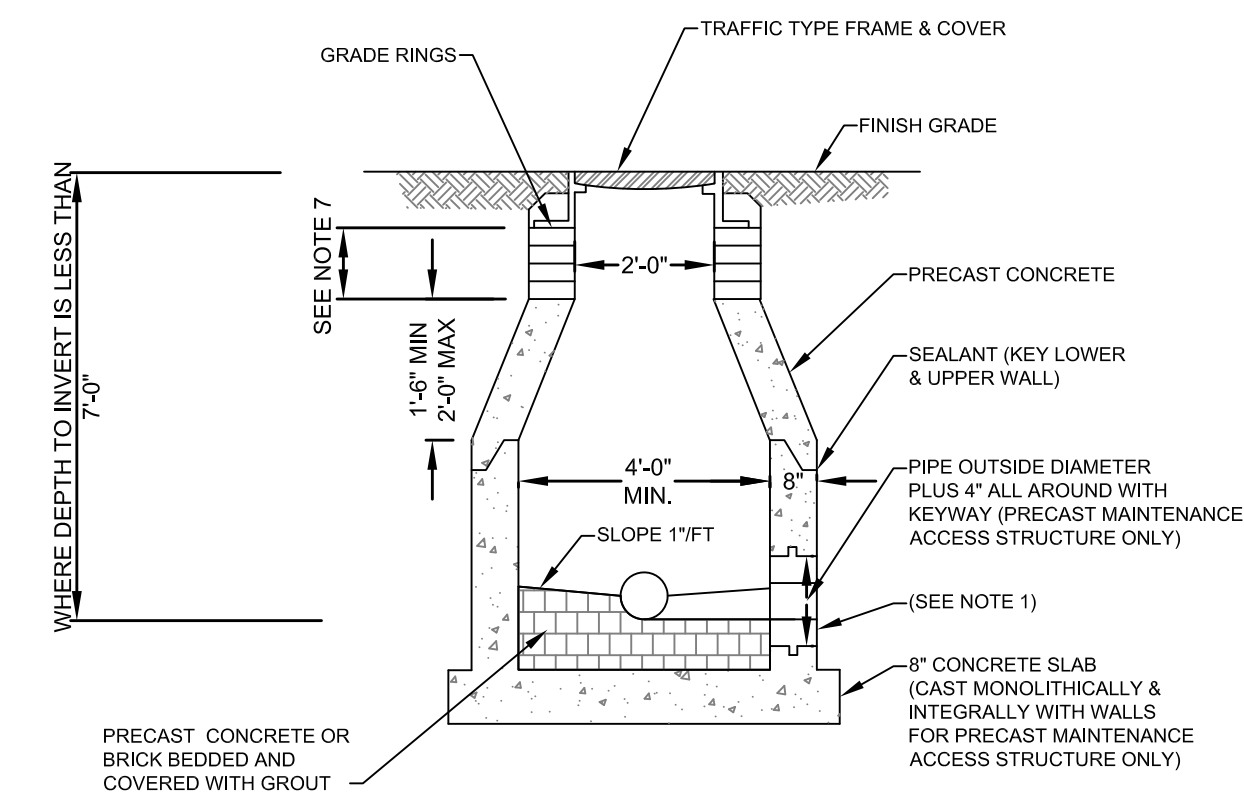


PICKHOLE DETAIL



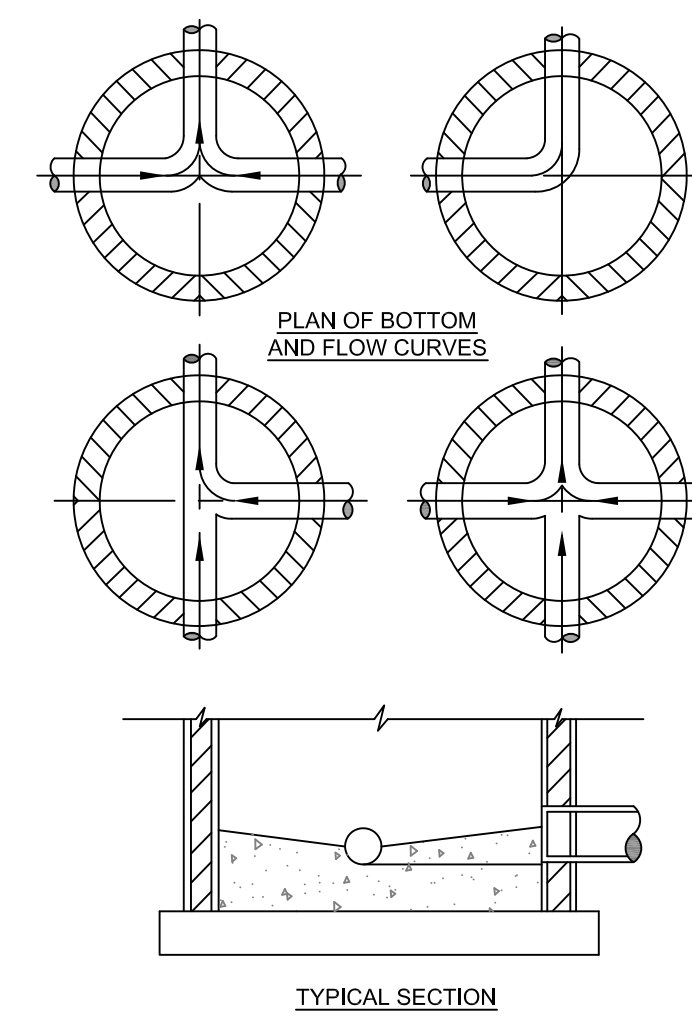
- SINGLE SERVICE CONNECTIONS SHALL USE 6" SDR 26 PVC PIPE AND FITTINGS.
- USE RISER CONNECTIONS WHERE INVERT OF SEWER IS MORE THAN 7'-0" DEEP.
- WHERE BELL OF WYE AND SPIGOT OF EXISTING MAIN ARE NOT COMPATIBLE, USE A SECOND FLEXIBLE COUPLING.
- RIGID COUPLINGS MAY BE USED IN LIEU OF FLEXIBLE COUPLINGS.
- MAINTAIN 36" MINIMUM COVER FROM TOP OF SERVICE TO FINISH GRADE; WHERE NOT TECHNICALLY FEASIBLE CONTACT WWS ENGINEERING.
- PVC SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH MINIMUM STANDARDS OF THE UN-BELL HANDBOOK OF PVC PIPE DESIGN AND CONSTRUCTION, LATEST EDITION.

WYE SEWER SERVICE CONNECTION



- MAINTENANCE ACCESS STRUCTURE ADAPTOR COUPLING NEOPRENE BOOT OR APPROVED EQUAL ARE REQUIRED FOR ALL PIPE MATERIAL OR AS APPROVED BY WWS.
- MAINTENANCE ACCESS STRUCTURE WALLS TO BE SEAL COATED INSIDE AND OUTSIDE WITH 16 MIL THICKNESS OF COAL TAR EPOXY. THE 1st COAT IS RED AND THE 2nd COAT IS BLACK.
- LIFT HOLES THROUGH PRECAST SECTIONS PERMITTED PER OSHA REQUIREMENTS.
- ALL OPENINGS SHALL BE SEALED WITH WATERPROOF EXPANDING GROUT. SEE FIG. 322
- A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MAINTENANCE ACCESS STRUCTURE TO DIRECT INFLUENT INTO FLOW STREAM.
- ALL CONCRETE SHALL BE TYPE II CEMENT, MEETING LATEST ASTM REQUIREMENTS AND PROVIDED WITH LABORATORY CERTIFICATION ON PRECAST STRUCTURES.
- THE CHIMNEY AREA SHALL BE MINIMUM OF 4" AND A MAXIMUM OF 12" IN HEIGHT. A MINIMUM OF 3 GRADE RINGS SHALL BE INSTALLED. SET IN 2 STRIPS OF SEALANT/ADHESIVE COMPOUND ON EACH SEALING FACE.
- SET MAINTENANCE ACCESS STRUCTURE FRAME ON 2 STRIPS OF SEALANT PLUS A BED OF PORTLAND CEMENT AND SILICA SAND. BRING MORTAR UP OVER FRAME.
- APPLY MORTAR COATING TO INSIDE AND OUTSIDE OF CHIMNEY. BRING MORTAR UP AND OVER FRAME.

SHALLOW MANHOLE



- PROVIDE SPILLWAY FOR SMOOTH FLOW BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS.
- SLOPE MAINTENANCE ACCESS STRUCTURE SHELF 1" FT MAINTENANCE ACCESS STRUCTURE WALL TO CHANNEL FLOW WITH NO OBSTRUCTIONS.
- INVERT CHANNEL TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
- CHANNEL SHALL BE PRECAST CONCRETE OR FILLED WITH BRICK COVERED WITH 1" OF MORTAR.

INVERT CHANNEL FLOW DIRECTION

SMITH • MCCRARY ARCHITECTS INC.
4230 Palco Professional Court, Suite 102
Fort Lauderdale, Florida 33324
Tel: (904)242-7200 Fax: (904)242-0044
SMA Florida License Number AA0002361
Jan Hammock Smith AR0013348

GLN Downstream LAU Expansion Project
Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County

REVISION	DATE	BY	CHK

WATER & SEWER DETAILS
PROJ. NO. BC-GERDAU
DRW. BY: LOL/ANB
CK. BY: MEL

CW Connelly & Wicker Inc.
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C.A. NUMBER: 3650 L.A. NUMBER: LC26000311

C-9
PHASE: CITY COMMISSION
ISSUE DATE: 07/21/15

SITE DESCRIPTION

PROJECT NAME AND LOCATION:
GLN DOWNSTREAM LAU EXPANSION PROJECT
TIGERTAIL BLVD. & I-95
DANIA BEACH, FLORIDA, 33004

OWNER NAME AND ADDRESS:
GERDAU AMERISTEEL US INC.
4221 W. BOYSCOUT BLVD., SUITE 600
TAMPA, FL 33607

DESCRIPTION:
CONSTRUCTION OF A NEW OFFICE BUILDING & AN INDUSTRIAL EXPANSION FACILITY INCLUDING PARKING, DRAINAGE COLLECTION SYSTEM, WATER MAIN EXTENSIONS FOR FIRE PREVENTION AND BUILDING SERVICE, SANITARY SEWER EXTENSIONS FOR BUILDING SERVICE, LIGHTING, LANDSCAPING AND SIGNAGE.

SOIL DISTURBING ACTIVITIES WILL INCLUDE:
CLEARING AND GRUBBING; EARTHWORK; PAVEMENT AND GRADING; STORM SEWER, UTILITIES, AND PREPARATION FOR FINAL PLANTING; AND SEEDING.

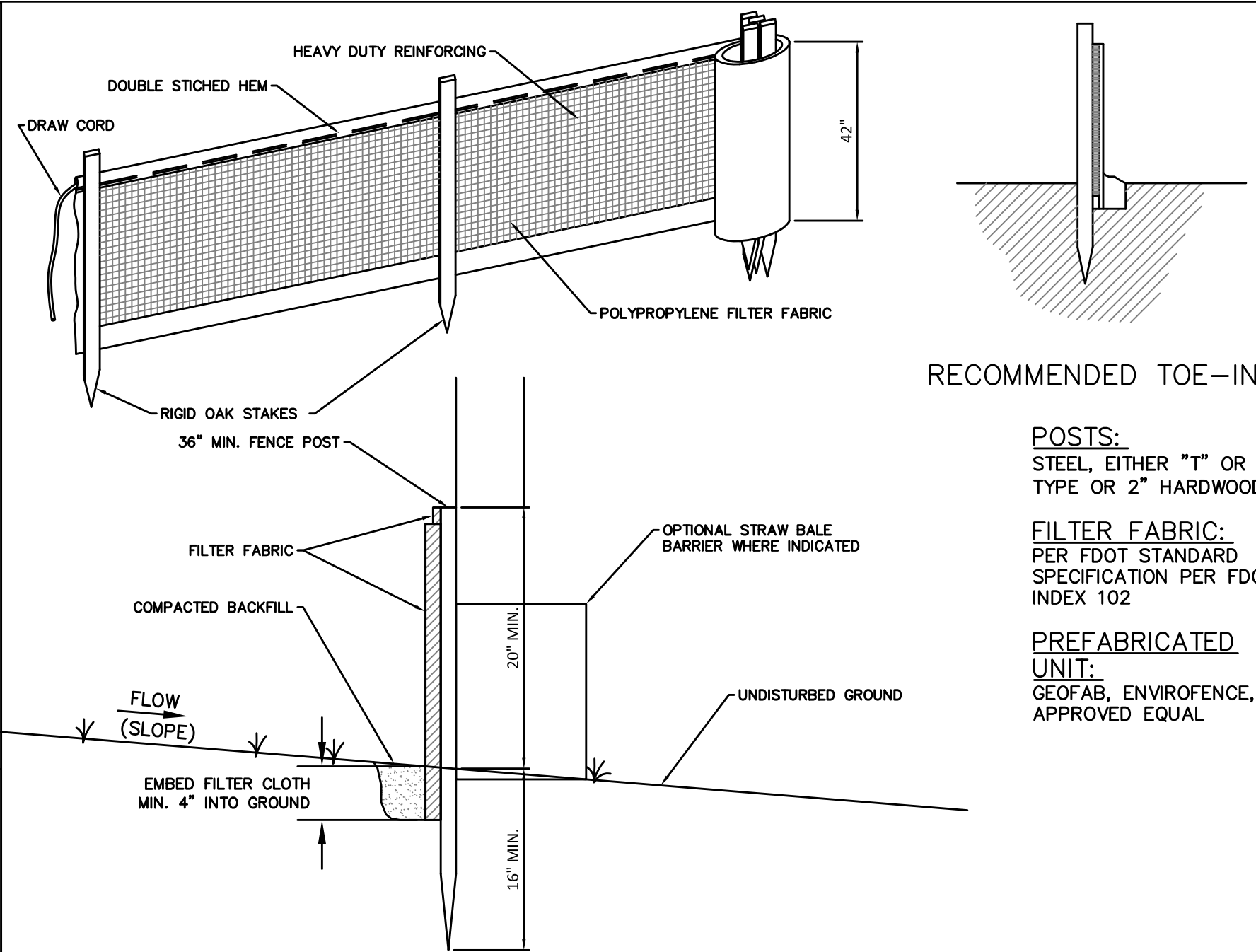
SOILS:
SEE SOIL BORING REPORT FOR SOILS DATA

SITE MAPS:

- SEE ATTACHED GRADING PLAN FOR PRE & POST DEVELOPMENT GRADES, AREAS OF SOILS, DISTURBANCE, LOCATION OF SURFACE WATERS, WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORM WATER DISCHARGE POINTS.
- SEE ATTACHED GRADING PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES, AND TURBIDITY BARRIERS.
- SEE GENERAL NOTES FOR REQUIREMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.

EROSION AND SEDIMENT CONTROL NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM SITE IF NOT REUSABLE ON-SITE AND ASSURING PLAN ALIGNMENT AND GRADE IN ALL DITCHES AND SWALES AT COMPLETION OF CONSTRUCTION.
- THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.
- ADDITIONAL PROTECTION - ON AND OFF-SITE PROTECTION IN ADDITION TO THE ABOVE MUST BE PROVIDED THAT WILL NOT PERMIT SILT TO LEAVE THE PROJECT CONFINES DUE TO UNSEASONAL CONDITIONS OR ACCIDENTS.
- CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
- WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2" INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED.
- FOOT NO. 1 COARSE AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED IN D-903. THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.
- IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.
- BALES SHALL BE EITHER WIRE-BOUND OR STRING-TIED WITH THE BINDINGS ORIENTED AROUND THE SIDES RATHER THAN OVER AND UNDER THE BALES.
- BALES SHALL BE PLACED LENGTHWISE IN A SINGLE ROW SURROUNDING THE INLET, WITH THE ENDS OF ADJACENT BALES PRESSED TOGETHER.
- THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 8 INCHES. AFTER THE BALES ARE STAKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER.
- EACH BALE SHALL BE SECURELY ANCHORED AND HELD IN PLACE BY AT LEAST TWO STAKES OR REBARS DRIVEN THROUGH THE BALE.
- LOOSE STRAW SHOULD BE WEDGED BETWEEN BALES TO PREVENT WATER FROM ENTERING BETWEEN BALES.
- STRAW BALE BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
- CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED BALES, END RUNS AND UNDERCUTTING BENEATH BALES.
- NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE STRAW BALE BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEED.
- SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-THIRD THE HEIGHT OF THE BARRIER.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEED.
- THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
- SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS, SPECIFICATIONS AND SOUTH FLORIDA WATER MANAGEMENT DISTRICT SPECIFICATIONS AND CRITERIA.
- FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "THE FLORIDA DEVELOPMENT MANUAL - A GUIDE TO SOUND LAND AND WATER MANAGEMENT" FROM THE STATE OF FLORIDA SPECIFICATIONS AND CRITERIA.
- EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. SEE DETAIL SHEET FOR TYPICAL CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE GRASSED, FERTILIZED, MULCHED AND MAINTAINED UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED.
- SOD SHALL BE PLACED IN AREAS WHICH MAY REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITY STANDARDS ARE MAINTAINED.
- ANY DISCHARGE FROM DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE OUTFALL IN A MANNER WHICH PREVENTS EROSION AND TRANSPORTATION OF SUSPENDED SOLIDS TO THE RECEIVING OUTFALL.
- DEWATERING PUMPS SHALL NOT EXCEED THE CAPACITY OF THAT WHICH REQUIRES A CONSUMPTIVE USE PERMIT FROM THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.
- ALL DISTURBED AREAS TO BE STABILIZED THROUGH COMPACTION, SILT SCREENS, HAY BALES, AND GRASSING. ALL FILL SLOPES 3:1 OR STEEPER TO RECEIVE STAKED SOLID SOD.
- ALL DEWATERING, EROSION, AND SEDIMENT CONTROL TO REMAIN IN PLACE AFTER COMPLETION OF CONSTRUCTION AND REMOVED ONLY WHEN AREAS HAVE BEEN STABILIZED.
- THIS PLAN INDICATES THE MINIMUM EROSION AND SEDIMENT MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUIDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.
- THE CONTRACTOR SHALL BE REQUIRED TO RESPOND TO ALL WATER MANAGEMENT DISTRICT INQUIRIES, RELATIVE TO COMPLIANCE OF SFWMD FOR EROSION AND SEDIMENTATION CONTROL. THE COST OF THIS COMPLIANCE SHALL BE PART OF THE CONTRACT.



RECOMMENDED TOE-IN

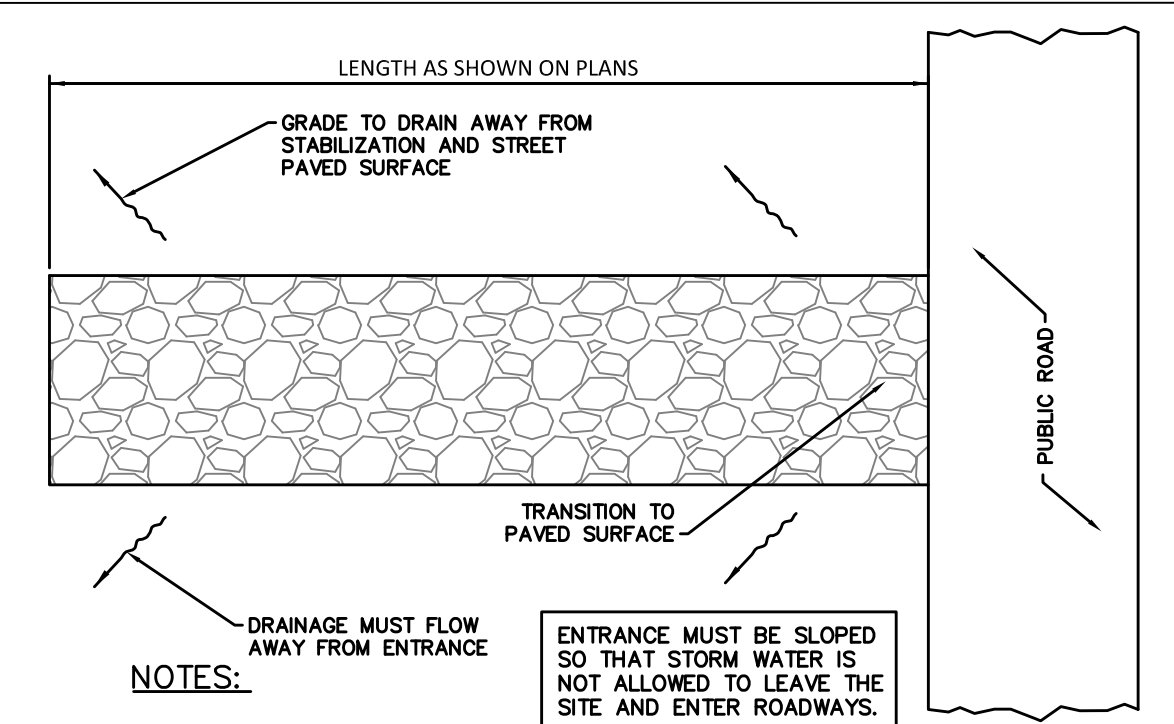
POSTS:
STEEL, EITHER "T" OR "U" TYPE OR 2" HARDWOOD

FILTER FABRIC:
PER FDOT STANDARD SPECIFICATION PER FDOT INDEX 102

PREFABRICATED UNIT:
GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

NOTES:

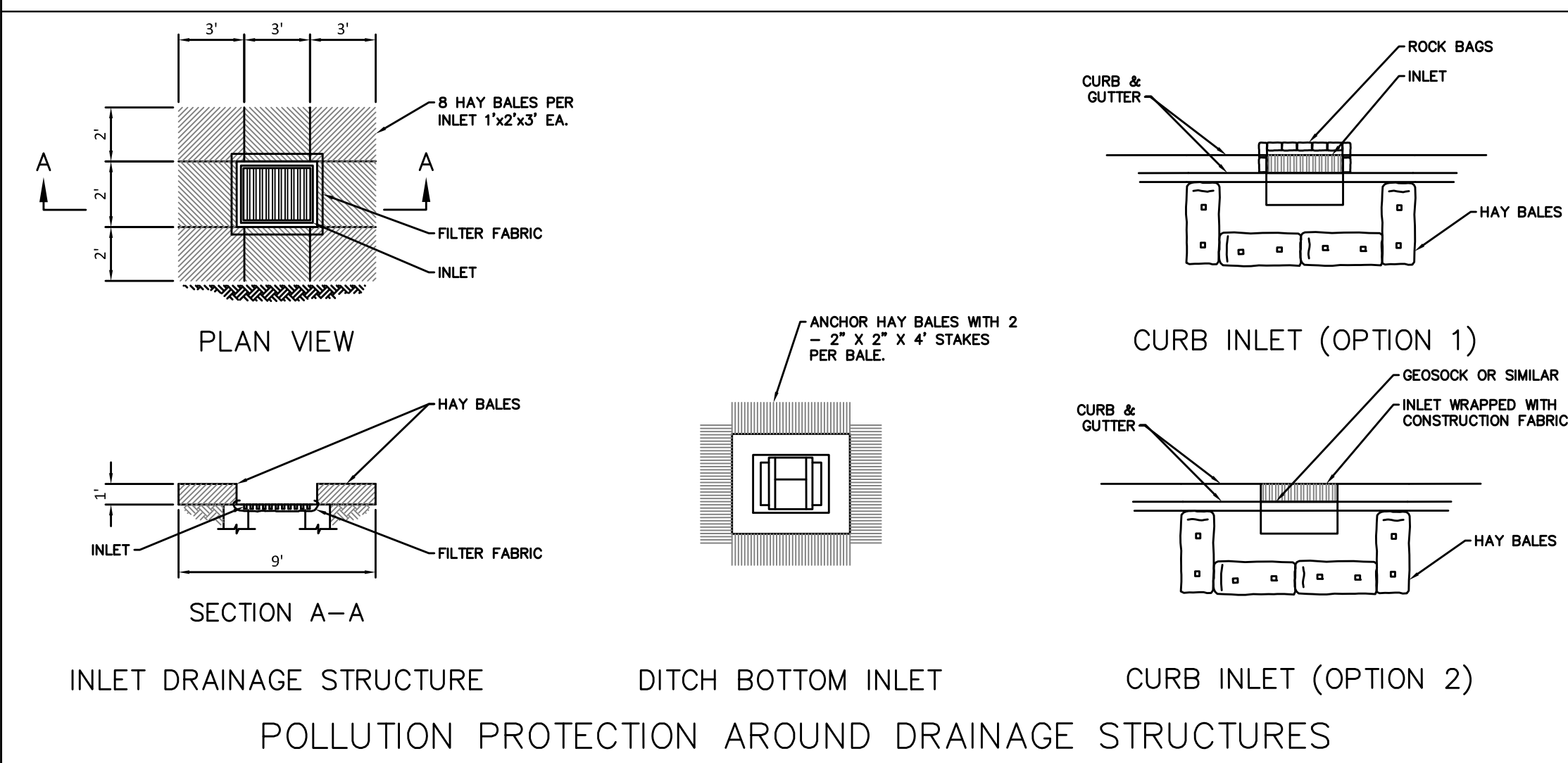
- FILTER FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH TIES SPACED EVERY 24 INCHES AT TOP AND MID. SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE OR DEPTH OF ACCUMULATED SEDIMENT REACHES 6 INCHES.
- SILT FENCE SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION AND SHALL NOT BE REMOVED UNTIL CONSTRUCTION IS COMPLETE.
- THE CONTRACTOR SHALL INSPECT AND REPAIR THE SILT FENCE AFTER EACH RAIN EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
- REMOVED SEDIMENT SHALL BE DEPOSITED IN AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFFSITE AND CAN BE PERMANENTLY STABILIZED.
- THE SILT FENCE SHALL BE PLACED ON SLOPE CONTOUR TO MAXIMIZE ITS PONDING EFFICIENCY.
- IF DITCH LEVEL IS DEEPER THAN 30", THEN A FLOATING SILT SCREEN SHALL BE USED.



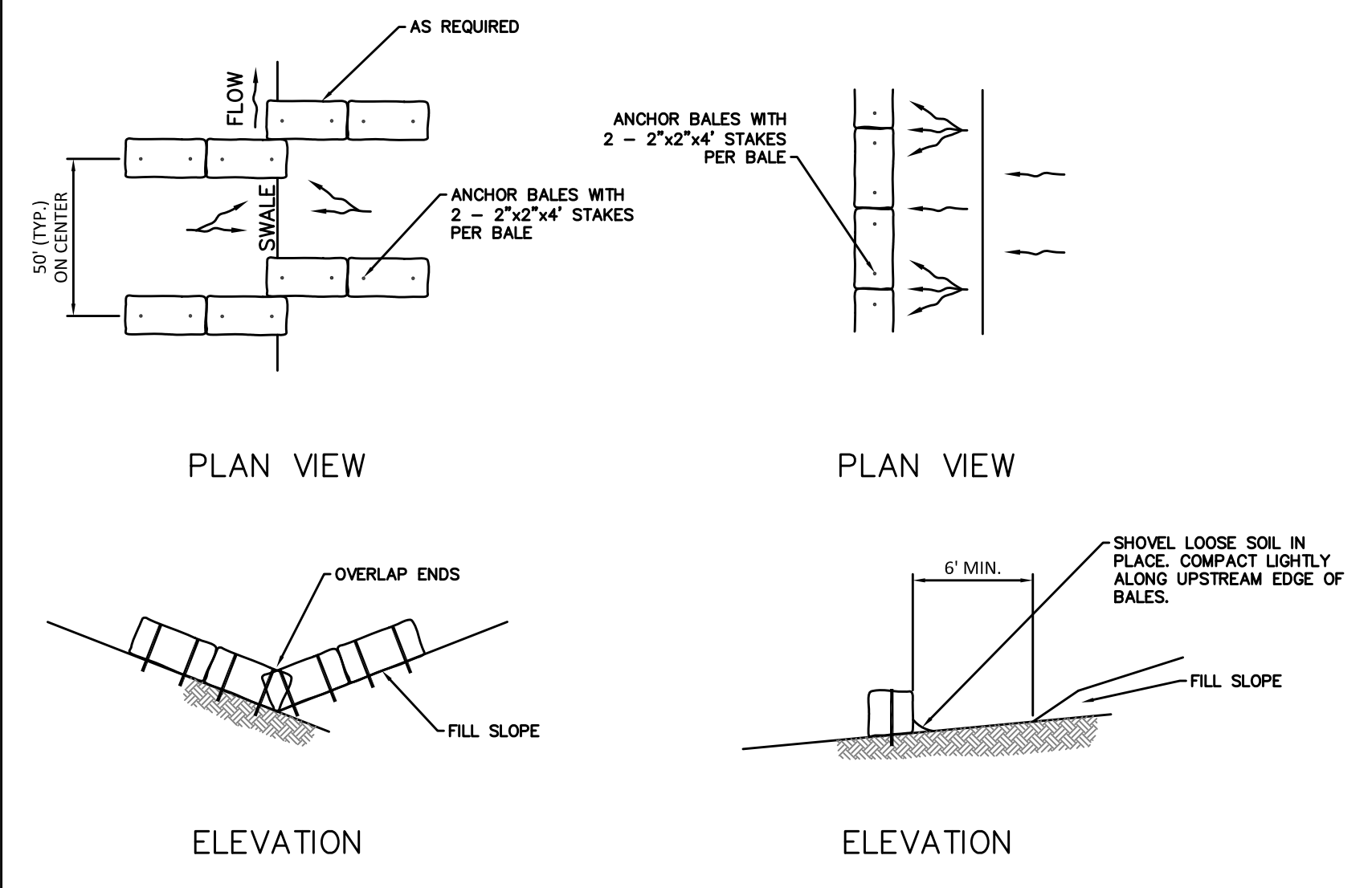
NOTES:

- MINIMUM WIDTH OF ENTRANCE SHALL BE 15 FEET.
- STONE SHALL BE PLACED IN A LAYER AT LEAST 8-INCHES IN THICKNESS. THE STONE SHALL BE A MINIMUM OF 3 TO 5 INCH COARSE AGGREGATE.
- PREVENT SHORTCUTTING OF THE FULL LENGTH OF THE CONSTRUCTION ENTRANCE BY INSTALLING BARRIERS AS NECESSARY.
- WHEN NECESSARY, VEHICLES MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PAVED ROADS, STREETS, OR PARKING LOTS. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A CONSTRUCTED WHEEL WASH FACILITY THAT DRAINS INTO AN APPROVED SEDIMENT BASIN OR OTHER SEDIMENTATION/FILTRATION DEVICE.
- MINIMUM DIMENSION FOR ENTRANCE SHALL BE AS FOLLOWS:
 - MINIMUM WIDTH OF ENTRANCE WILL BE 25 FEET.
 - MINIMUM DEPTH OF ENTRANCE WILL BE 50 FEET.

STABILIZED CONSTRUCTION ENTRANCE



POLLUTION PROTECTION AROUND DRAINAGE STRUCTURES



TO BE USED AT SELECTED SITES WHERE THE NATURAL GROUND SLOPES TOWARD THE TOE OF SLOPE.

STORMWATER / DRAINAGE HAY BALE INSTALLATION

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

SIGNATURE	BUSINESS NAME AND ADDRESS OF CONTRACTOR AND ALL SUBS	RESPONSIBLE FOR DUTIES

SMITH • McCRARY ARCHITECTS INC.
4230 Public Professional Court, Suite 102
Dania Beach, Florida 33004
Tel: (904)242-2700 Fax: (904)242-0404
SMA Florida License Number AA0002361
Jan Hammock Smith AR0013348

GLN Downstream LAU Expansion Project
Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County

REVISION	DATE	BY	CHK

STORM WATER POLLUTION PREVENTION PLAN
PROJ. NO. BC-GERDAU
DRW. BY: LOJ/ANB
CHK. BY: MEL

CW Connelly & Wicker Inc.
Planning · Engineering · Landscape Architecture
10060 Skinner Lake Dr., Suite 500 Jacksonville, Florida 32246
(904) 265-3030 Fax: (904) 265-3031 www.cwieng.com
C.A. NUMBER: 3650 L.A. NUMBER: LC26000311

C-10
PHASE:
CITY COMMISSION
ISSUE DATE: 07/21/15

MARY E. LEAPTROTT, P.E.
FL. P.E. # 61449
Reg. Engineer

SECTION 1: GENERAL NOTES

1. APPLICABLE CODES

- A. ALL CONSTRUCTION WITHIN LIMITS OF PUBLIC RIGHTS OF WAY UNDER CITY OF DANIA BEACH JURISDICTION SHALL CONFORM TO CITY OF DANIA BEACH ENGINEERING DEPARTMENT MINIMUM STANDARDS, LATEST EDITION.
- B. ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER, SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) SHALL BE STRICTLY OBSERVED.
- C. ALL ELEVATIONS ON THE PLANS OR REFERENCED IN THE SPECIFICATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

2. PRE-CONSTRUCTION RESPONSIBILITY

- A. UPON THE RECEIPT OF THE NOTICE TO PROCEED, PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD AND ARRANGE A PRE-CONSTRUCTION CONFERENCE TO INCLUDE CITY OF DANIA BEACH ENGINEERING DEPARTMENT, UTILITY OWNERS, THE OWNER AND THE ENGINEER OF RECORD.
- B. THE CONTRACTOR SHALL OBTAIN A SUNSHINE ONE CALL CERTIFICATION NUMBER AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING ANY EXCAVATION.
- C. ALL APPLICABLE PERMITS SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO START OF CONSTRUCTION.
- D. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, ELEVATION, AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE AREA OF CONSTRUCTION.
- E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH THE CONTRACTOR FAILS TO REQUEST LOCATIONS FROM SUNSHINE ONE CALL. THE CONTRACTOR IS ALSO RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.
- F. IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO BE OF A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD, WHO WILL IN TURN NOTIFY CITY OF DANIA BEACH UTILITIES DEPARTMENT.
- G. THE CONTRACTOR WILL VERIFY THE RESTRAINT OF EXISTING UTILITY LINES, AND SHALL RESTRAIN AS NECESSARY TO PREVENT BLOWOUTS, PRIOR TO CONNECTING TO EXISTING UTILITIES.

3. INSPECTIONS

- THE CONTRACTOR SHALL NOTIFY CITY OF DANIA BEACH ENGINEERING DEPARTMENT AND THE ENGINEER OF RECORD AND ANY OTHER GOVERNMENTAL AGENCIES HAVING JURISDICTION AT LEAST 24 HOURS PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS, WHERE APPLICABLE.
- A. STORM DRAINAGE
 - B. SANITARY SEWER
 - C. WATER SYSTEM
 - D. SUBGRADE: SUBMIT AND HAVE APPROVED DENSITIES PRIOR TO PLACEMENT OF ROCK
 - E. LIMEROCK BASE: SUBMIT AND HAVE APPROVED DENSITIES AND AS-BUILTS PRIOR TO THE PLACEMENT OF ANY ASPHALT
 - F. ASPHALTIC CONCRETE
 - G. CLEARING AND FILLING
 - H. FINAL CLOSEOUT
 - I. SHOP DRAWINGS
 - a. PRIOR TO ISSUANCE OF A CONSTRUCTION PERMIT, CONTRACTOR REVIEWED AND APPROVED SHOP DRAWINGS SHALL BE SUBMITTED TO AND REVIEWED BY THE ENGINEER OF RECORD AND CITY OF DANIA BEACH FOR SANITARY MANHOLES, HYDRANTS, VALVES, PIPING, LIFT STATIONS AND OTHER ACCESSORIES. CATALOG LITERATURE SHALL BE SUBMITTED FOR WATER AND SEWER PIPES, FITTINGS AND APPURTENANCES.
 - b. INDIVIDUAL SHOP DRAWINGS FOR ALL PRECAST STRUCTURES ARE REQUIRED. CATALOG LITERATURE WILL NOT BE ACCEPTED FOR PRECAST STRUCTURES.
 - c. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL OTHER AGENCY APPROVAL, IF REQUIRED.

4. CONSTRUCTION RESPONSIBILITIES

- A. GENERAL
 - a. THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER. UPON FINAL CLEAN UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE SWEEP BROOM CLEAN.
 - b. WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR BEEN PLACED IN WATER, WATER COURSES, GRAVITY SEWER, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING PROGRESS OF THE WORK AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.
 - c. WHEN WORKING IN AND AROUND EXISTING DRAINAGE CANALS, APPROPRIATE SILT BARRIERS SHALL BE INSTALLED AS REQUIRED BY LOCAL DRAINAGE DISTRICT AND CITY OF DANIA BEACH.
- B. TEMPORARY UTILITIES
 - a. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO CONTRACTOR'S EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING CONSTRUCTION.
 - b. CONTRACTOR SHALL OBTAIN CONSTRUCTION METER FOR ALL WATER USED ON JOB. ALL WATER USED FOR CLEANING, TESTING, ETC. WILL BE PAID FOR BY THE CONTRACTOR. IF WATER CANNOT BE METERED THEN IT WILL BE CALCULATED.
- C. TRAFFIC REGULATION
 - a. MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT -OF-WAY SHALL BE IN ACCORDANCE WITH THE M.U.T.C.D. AND CITY OF DANIA BEACH.
 - b. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
 - c. NO TRENCHES OR HOLES NEAR WALKWAYS OR IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESS PERMISSION OF CITY OF DANIA BEACH.
- D. TRENCH SAFETY

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE TRENCH SAFETY SYSTEMS, SUCH AS SHEETING AND BRACING, IN ACCORDANCE WITH STATE, LOCAL AND OSHA REGULATIONS.
- E. CONFINED SPACE SAFETY

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A CONFINED SPACE ENTRY SAFETY SYSTEM IN ACCORDANCE WITH STATE, LOCAL AND/OR OSHA REGULATIONS.
- F. WATER AND SEWER GENERAL NOTES
 - a. SEPARATION OF WATER AND SEWER MAINS:
 - PARALLEL WATER AND SEWER MAINS SHALL HAVE A MINIMUM 10 FEET HORIZONTAL SEPARATION. WHERE THIS IS NOT POSSIBLE, THE SEWER MAIN SHALL BE IN A SEPARATE TRENCH AND BE AT LEAST 18 INCHES BELOW THE WATER MAIN OR BOTH MAINS SHALL BE DUCTILE IRON WITH A MINIMUM 12-INCH CLEARANCE, PER PRESSURE PIPE SPECIFICATIONS.
 - THE SEWER MAIN SHALL CROSS BELOW ALL WATER MAINS WITH A MINIMUM OF 18 INCHES VERTICAL CLEARANCE, WHERE THE CLEARANCE IS LESS THAN 18 INCHES, THE SEWER MAIN AND THE WATER MAIN SHALL BE DUCTILE IRON PIPE WITH A MINIMUM 12-INCH CLEARANCE FOR 20 FEET CENTERED ON THE POINT OF CROSSING. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING SHALL BE MECHANICALLY RESTRAINED.
 - IF A SEWER MAIN MUST CROSS ABOVE A WATER MAIN, REGARDLESS OF VERTICAL CLEARANCE, THE PRECAUTION IN ITEM V.F.1.b. (ABOVE) SHALL BE TAKEN.
 - MINIMUM CLEARANCE BETWEEN WATER MAINS AND DRAINAGE STRUCTURES SHALL BE 18 INCHES UNLESS OTHERWISE APPROVED BY CITY OF DANIA BEACH ENGINEERING, AND MAXIMUM DEFLECTION PER EACH JOINT IS TWO (2) DEGREES WHERE DEFLECTION IS REQUIRED.
 - A THREE (3) FEET LATERAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER/SEWER LINES AND OBSTRUCTIONS (I.E. CATCH BASINS, CONCRETE POLES, ETC.), FIVE (5) FEET FROM TREES.
 - ALL EFFORTS SHALL BE MADE SO THAT WATER AND FORCE MAINS CROSS ABOVE DRAINAGE LINES WITH ADEQUATE COVER AND SEPARATION. IF THIS IS NOT POSSIBLE, CONFLICT MANHOLES SHALL BE USED IF NECESSARY AND SHALL BE INDICATED ON THE PLANS.
 - ALL EFFORTS SHALL BE MADE SO THAT WATER AND FORCE MAINS CROSS ABOVE DRAINAGE LINES WITH ADEQUATE COVER AND SEPARATION. IF THIS IS NOT POSSIBLE, IT SHALL BE INDICATED ON THE PLANS.
 - b. CLEANING

CLEANING OF NEWLY INSTALLED PIPING SYSTEMS SHALL BE ACCOMPLISHED USING PIPE PIGGING METHODS. OPEN FLUSHING SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL OF THE UTILITIES DEPARTMENT. ALL WATER WILL BE ACCOUNTED FOR AND A 48-HOUR NOTICE NEEDS TO BE GIVEN TO CITY OF DANIA BEACH UTILITIES DEPARTMENT. OPTIMAL RUN TIME IS BETWEEN 10:00 AM - 12:00 PM.
 - c. BACKFILL

BEDDING AND INITIAL BACKFILL FOR WATER AND FORCE MAINS SHALL BE 1/2-INCH WASHED ROCK. ALL OTHER FILL SHALL NOT HAVE ROCK LARGER THAN 4 INCHES IN DIAMETER.

5. PROJECT CLOSEOUT

- A. CLEANING UP

THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED BY THE ENGINEER OF RECORD OR CITY OF DANIA BEACH, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY CONTRACTOR'S WORK, EQUIPMENT, EMPLOYEES OR THOSE OF CONTRACTOR'S SUBCONTRACTORS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS. TO THIS END, THE CONTRACTOR SHALL DO AS REQUIRED, ALL NECESSARY HIGHWAY OR DRIVEWAY, SIDEWALK AND LANDSCAPING WORK, SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.
- B. PROJECT RECORD DOCUMENTS
 - a. THE CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPLETE RECORDS OF ALL WORK ITEMS COMPLETED.
 - b. ALL AS-BUILT INFORMATION SUBMITTED TO THE ENGINEER OF RECORD SHALL BE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE ENGINEER OF RECORD THAT THE INFORMATION PROVIDED A TRUE REPRESENTATION OF THE IMPROVEMENTS CONSTRUCTED.
 - c. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD ONE COMPLETE SET OF AS-BUILT CONSTRUCTION DRAWINGS. THESE DRAWINGS SHALL BE MARKED TO SHOW AS-BUILT CONSTRUCTION CHANGES AND DIMENSIONED LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE SIGNED BY THE CONTRACTOR.
 - d. ALL AS-BUILT INFORMATION ON ELEVATIONS OF SANITARY SEWAGE, PAVING, DRAINAGE AND UTILITY EASEMENT SHALL BE CERTIFIED BY A REGISTERED SURVEYOR AND MAPPER.
 - e. AS-BUILT INFORMATION ON THE UTILITY SYSTEM SHALL INCLUDE, BUT IS NOT LIMITED TO, LOCATIONS OF ALL VALVES, FITTINGS, FIRE HYDRANTS, WATER AND SEWER SERVICES, TAP AND END, ANY PIPE DEFLECTIONS AND TOP-OF-PIPE ELEVATION ON 100-FOOT INTERVALS AT A MINIMUM.
 - f. PRIOR TO A FINAL INSPECTION BY CITY OF DANIA BEACH, THE CONTRACTOR SHALL SUBMIT TWO (2) SETS OF BLUEPRINTS OF AS-BUILT CONSTRUCTION DRAWINGS.
 - g. UPON A FINAL INSPECTION BY CITY OF DANIA BEACH, THE CONTRACTOR SHALL SUBMIT TO THE CITY (1) COMPLETE SET OF REPRODUCIBLE MYLARS AND (3) SETS OF BLUEPRINTS OF AS-BUILT CONSTRUCTION DRAWINGS THAT HAVE BEEN CERTIFIED BY A REGISTERED SURVEYOR AND MAPPER.

- AND THE ENGINEER OF RECORD, A CERTIFIED VIRUS FREE LABELED CD CONTAINING AN ELECTRONIC DRAWING FILE IN AUTO-CAD 2000 FORMAT OR AN EQUIVALENT DXF FILE SHALL BE SUBMITTED TO CITY OF DANIA BEACH ENGINEERING DEPARTMENT. THE ELECTRONIC DRAWINGS WILL BE TO SCALE AND SET IN STATE PLANE COORDINATE SYSTEM, NAD 83 (FEET).
- C. MONUMENTS

ALL PROPERTY MONUMENTS OR PERMANENT REFERENCES REMOVED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED BY A STATE OF FLORIDA REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
 - D. UNPAVED SURFACES

ALL UNPAVED SURFACES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED BEFORE THE CONSTRUCTION.
 - E. WALK THROUGH INSPECTION

THE CONTRACTOR SHALL CONDUCT A WALK THROUGH INSPECTION WITH THE CITY OF DANIA BEACH UTILITIES DEPARTMENT. THE CONTRACTOR SHALL HAVE PERSONNEL AND EQUIPMENT TO OPERATE ALL VALVES, FIRE HYDRANTS AND OPENING OF MANHOLES FOR INSPECTION.

SECTION 2: EARTHWORK AND COMPACTION NOTES:

1. GENERAL:
 - A. QUALITY CONTROL TESTING FOR STABILIZATION, BASE, PAVEMENT, COMPACTION, AND MATERIALS SHALL BE IN ACCORDANCE WITH FLORIDA D.O.T. REQUIREMENTS, AND SHALL BE ARRANGED FOR AND PAID FOR BY THE CONTRACTOR, COPIES OF ALL TEST REPORTS SHALL BE PROVIDED TO THE ENGINEER OF RECORD AS THEY ARE RECEIVED.
 - B. EXISTING ON-SITE BASE MATERIAL SHALL NOT BE REUSED FOR BASE CONSTRUCTION, BUT MAY BE USED FOR BACKFILL AROUND UTILITY AND DRAINAGE LINES, AND FOR SUBGRADE CONSTRUCTION, AND FOR GENERAL FILL IF NECESSARY.
 - C. ALL SUBGRADE UNDER PAVED AREAS SHALL HAVE A MINIMUM L.B.R. VALUE OF 40 AND SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
 - D. ALL SUBGRADE UNDER SIDEWALK AREAS SHALL HAVE A MINIMUM OF 6" COMPACTED SUBGRADE TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.
 - E. ALL FILL MATERIAL IN AREAS NOT TO BE PAVED SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
 - F. A 2" BLANKET OF TOP SOIL SHALL BE PLACED OVER ALL AREAS TO BE SOODED.
 - G. SOD SHALL BE ST. AUGUSTINE, BITTER BLUE OR FLORATAM AND SHALL BE PLACED ON THE GRADED TOP SOIL AND WATERED TO ENSURE SATISFACTORY CONDITION UPON FINAL ACCEPTANCE OF THE PROJECT.
 - H. WHEN WORKING IN AND AROUND EXISTING DRAINAGE CANALS OR LAKES, APPROPRIATE SILT BARRIERS SHALL BE INSTALLED.
 - I. NO MUCK BLANKET IS TO BE PLACED ON THE BOTTOM OF RETENTION AREAS OR SWALES.
2. ON-SITE
 - A. ALL ORGANIC AND OTHER UNSUITABLE MATERIAL WITHIN THREE (3) FEET OF FINISHED GRADE AREAS TO BE PAVED SHALL BE REMOVED.
 - B. SUITABLE BACKFILL SHALL BE MINIMUM L.B.R. 40 MATERIAL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 FOR THREE (3) FEET BEYOND THE PERIMETER OF THE PAVING.
 - C. EROSION CONTROL TO BE PROVIDED BY THE CONTRACTOR PER DETAILS ON THE PLANS.

SECTION 3: STORM DRAINAGE NOTES:

1. GENERAL:
 - A. EXISTING STORM DRAINAGE GRATES AND FRAMES AND MANHOLE COVERS AND RINGS THAT ARE TO BE REMOVED OR ADJUSTED, MAY BE REUSED ON THE SITE.
 - B. THE EXISTING DRAINAGE SYSTEM SHALL BE CLEANED AND/OR GRADED TO ENSURE PROPER FLOW FUNCTION.
 - C. THE CONTRACTOR SHALL INSTALL FILTER CLOTH AT ALL CATCH BASIN GRATES UNTIL FINAL ACCEPTANCE OF THE STORM DRAINAGE SYSTEM.
2. CONTRACTOR MAY UTILIZE ONE OF THE FOLLOWING MATERIALS, UNLESS OTHERWISE NOTED ON THE PLANS.
 - A. HIGH DENSITY POLYETHYLENE PIPE (H.D.P.E.)
 - a. PIPE SHALL BE CORRUGATED SMOOTH BORE POLYETHYLENE PIPE (N-12 PRO LINK ULTRA) OR APPROVED EQUAL, MANUFACTURED IN CONFORMANCE WITH ASTM M294.
 - b. PIPE SHALL HAVE BUILT-IN BELL JOINT WITH RUBBER GASKET IN CONFORMANCE WITH ASTM F477.
 - c. PIPE COUPLING BANDS IF NEEDED SHALL BE SPLIT/SPLIT PREMIUM REQUIRING MAXIMUM PULL-APART RESISTANCE.
 - B. POLYVINYL CHLORIDE PIPE (P.V.C.)
 - a. PLASTIC PIPE SHALL CONFORM WITH ASTM D 3034, TYPE PSM, POLYVINYL CHLORIDE (PVC) MATERIAL, BELL AND SPIGOT STYLE SOLVENT SEALED EN JOINTS.
 - C. ALUMINUM PIPE (A.P.)
 - a. ALUMINUM PIPE SHALL CONFORM TO AASHTO M196 FOR CIRCULAR CORRUGATED PIPE OF AASHTO M211 FOR HELICALLY CORRUGATED PIPE, AND SECTION 945, AS PER FDOT STANDARD SPECIFICATIONS.
 - b. MAKE FIELD JOINTS IN (CAP) WITH BANDS FABRICATED OF THE SAME ALLOY AS THE CULVERT PIPE AND CONFORMING TO THE REQUIREMENTS OF AASHTO M196.
 - c. GASKET THE BANDED JOINTS WITH A NEOPRENE GASKET OF THE DESIGN INDICATED TO SECURE A SOIL-TIGHT OR WATERTIGHT JOINT.
 - D. REINFORCED CONCRETE PIPE (R.C.P.)
 - a. CONCRETE PIPE FOR STORM SEWERS SHALL CONFORM TO ASTM C 76, CLASS III WITH WALL TYPE A; BAR REINFORCEMENT.
 - b. ALL REINFORCEMENT CONCRETE PIPES SHALL HAVE BELL AND SPIGOT END JOINTS, AS MODIFIED BY SECTION 941, FDOT STANDARD SPECIFICATIONS.
 - c. ALL REINFORCEMENT CONCRETE PIPES SHALL HAVE RUBBER COMPRESSION GASKET JOINTS, AS PER ASTM C443, UNLESS OTHERWISE SPECIFIED.
3. MISCELLANEOUS
 - A. BEDDING AND INITIAL BACKFILL OVER DRAINAGE PIPES (EXCEPT FRENCH DRAINS) SHALL BE SAND WITH NO ROCKS LARGER THAN 2" DIAMETER.
 - B. BACKFILL MATERIAL UNDER PAVED AREAS SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
 - C. BACKFILL MATERIAL UNDER AREAS NOT TO BE PAVED SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
 - D. CATCH BASINS SHALL BE PRECAST MINIMUM 3000 PSI CONCRETE WITH REINFORCED STEEL PER ASTM A615.
4. INSTALLATION
 - A. PIPE SHALL BE PLACED ON STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION OTHER FOREIGN FORMATIONS, AND CONSTRUCTED TO UNIFORM GRADE AND LINE.
 - B. BACKFILL MATERIAL SHALL BE WELL GRADED GRANULAR MATERIAL WELL TAMPED IN LAYERS NOT TO EXCEED SIX INCHES (6").
 - C. PROVIDE A MINIMUM PROTECTIVE COVER OF 24 INCHES OVER STORM SEWER. CROSSING BY HEAVY CONSTRUCTION VEHICLES DURING CONSTRUCTION SHALL NOT BE ALLOWED WITH LESS THAN 24 INCHES OF COVER.
 - D. THE CONTRACTOR SHALL NOTIFY THE LOCAL WATER MANAGEMENT DISTRICT AT LEAST 24 HOURS PRIOR TO THE START OF THE CONSTRUCTION AND INSPECTION.
 - E. WHERE MINIMUM 24 INCHES OF COVER OVER STORM SEWER CANNOT BE ATTAINED THE PAVEMENT SHALL BE HEAVY DUTY CONCRETE AND PIPE TRENCH BACKFILLED WITH STONE.
5. STORM DRAINAGE PRE-TREATMENT/EXFILTRATION SYSTEM
 - A. ANY CONFLICT WITH EXISTING OR PROPOSED UTILITIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD. ANY IMPERMEABLE MATERIAL ENCOUNTERED IN THE EXCAVATION FOR THE DRAIN FIELD SHALL BE REMOVED AS DIRECTED BY THE ENGINEER OF RECORD.
 - B. THE TRENCH LINER SHALL BE TYPE D-3 PER F.D.O.T. INDEX 199, OR APPROVED EQUAL. IT SHALL BE USED ON THE SIDES AND TOP OF DRAIN FIELD DITCH. THE TOP SECTION OF THE MATERIAL SHALL BE LAPPED A MINIMUM OF 24 INCHES AND THE CONTRACTOR SHALL TAKE EXTREME CARE IN BACKFILLING TO AVOID BUNCHING OF THE FABRIC.
 - C. PERFORATED PIPE WITHIN THE DRAIN FIELD SHALL HAVE 3/8 INCH PERFORATIONS 360° AROUND THE PIPE WITH APPROXIMATELY 120 PERFORATIONS PER FOOT OF PIPE.
 - D. PERFORATED PIPE SHALL TERMINATE FIVE FEET (5.0') FROM THE DRAINAGE STRUCTURE. THE REMAINING FIVE FEET (5.0') SHALL BE NON-PERFORATED PIPE.
 - E. PIPES SHALL TERMINATE TWO FEET (2.0') FROM THE END OF THE TRENCH OR CONNECT TO ADDITIONAL CATCH BASINS.

SECTION 4: PAVING NOTES

1. GENERAL
 - A. ALL UNDERGROUND FACILITIES, INCLUDING WATER, SEWER, STORM DRAINAGE, SLEEVES FOR PUBLIC UTILITIES, AND IRRIGATION LINES SHALL BE INSTALLED PRIOR TO COMPACTION OF ROAD SUBGRADE AND INSTALLATION OF BASE MATERIAL.
 - B. ALL EXISTING PAVEMENT CUT OR DAMAGED BY CONSTRUCTION SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE.
 - C. WHERE PROPOSED PAVEMENT IS TO BE CONNECTED TO EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE SAW CUT.
 - D. EXISTING ASPHALT PAVEMENT THAT IS TO BE REMOVED SHALL BE TRUCKED OFF SITE BY THE CONTRACTOR FOR DISPOSAL AT AN APPROVED LOCATION.
2. MATERIALS
 - A. BASE COURSE SHALL BE CRUSHED LIMEROCK MIAMI OOLITE WITH A MINIMUM OF 70% CARBONATES OF CALCIUM AND MAGNESIUM (60% FOR LOCAL STREETS AND PARKING AREAS) AND A MINIMUM LIMEROCK BEARING RATIO 100.
 - B. ALL LIMEROCK BASE UNDER PAVED AREAS SHALL HAVE A MINIMUM L.B.R. VALUE OF 100, AND SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
 - C. PRIME COAT AND TACK COAT SHALL MEET F.D.O.T. STANDARDS.
 - D. SURFACE COURSE SHALL BE EQUAL TO F.D.O.T. TYPE SP-9 ASPHALT.

- E. REINFORCED CONCRETE SLABS SHALL BE CONSTRUCTED OF CLASS I CONCRETE WITH A MINIMUM STRENGTH OF 3,000 PSI AND SHALL BE REINFORCED WITH A 6"x6" No. 10 GAUGE WIRE MESH, OR AS SHOWN ON THE PLANS.
3. INSTALLATION
 - A. LIMEROCK BASE MATERIAL SHALL BE IN THE COMPACTION THICKNESS SHOWN ON THE PLANS AND SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
 - B. LIMEROCK BASE MATERIAL SHALL BE PLACED IN MAXIMUM 6" LIFTS. BASES GREATER THAN 6" SHALL BE PLACED IN TWO OR MORE EQUAL LIFTS.
 - C. ASPHALTIC CONCRETE PAVEMENT SHALL BE IN THE THICKNESS SHOWN ON THE PLANS.
 - D. PRIME COAT SHALL BE PLACED ON ALL LIMEROCK BASES IN ACCORDANCE WITH F.D.O.T. STANDARDS.
 - E. TACK COAT SHALL BE PLACED AS REQUIRED IN ACCORDANCE WITH F.D.O.T. STANDARDS.
 4. TESTING
 - A. ALL SUBGRADE, LIMEROCK AND ASPHALT TESTS REQUIRED SHALL BE TAKEN AT THE DIRECTION OF THE ENGINEER OF RECORD AND/OR THE PERMITTING AGENCY.
 - B. THE FINISHED SURFACE OF THE BASE COURSE AND THAT OF THE WEARING SURFACE SHALL NOT VARY MORE THAN 1/4" FROM THE TEMPLATE. ANY IRREGULARITIES EXCEEDING THIS LIMIT SHALL BE CORRECTED.
 - C. DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY, CERTIFIED BY THE STATE OF FLORIDA AND TAKEN AS DIRECTED BY THE ENGINEER OF RECORD AND THE PERMITTING AGENCY.
 - D. ALL TESTING COSTS SHALL BE PAID FOR BY THE CONTRACTOR.

SECTION 5: SIGNING AND MARKING NOTES:

1. GENERAL
 - A. ALL PAVEMENT MARKINGS AND SIGNS SHALL COMPLY WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", THE STANDARD SPECIFICATIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION, AND BROWARD COUNTY MINIMUM STANDARDS.
 - B. ALL OFF-SITE MARKINGS TO BE THERMOPLASTIC PER FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, AND ALL ON-SITE MARKINGS SHALL BE TRAFFIC PAINT PER BROWARD COUNTY MINIMUM STANDARDS, UNLESS OTHERWISE NOTED.
 - C. INSTALL REFLECTIVE PAVEMENT MARKERS PER F.D.O.T. STANDARDS, OR AS SHOWN ON THE PLANS.
 - D. ALL SIGNS SHALL BE HIGH-INTENSITY GRADE REFLECTIVE SHEETING, MOUNTED ON A BREAK AWAY POST ASSEMBLY PER B.C.T.E.D. SPECIFICATIONS.
 - E. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL PAVEMENT MARKINGS AND SIGNS CONFLICTING WITH THE PROPOSED ROADWAY CONSTRUCTION.
 - F. CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL PAVEMENT MARKINGS AND SIGNS AS SHOWN IN THE PLANS AND APPLICABLE TRAFFIC DESIGN STANDARDS.
 - G. CONTRACTOR SHALL BE RESPONSIBLE FOR MATCHING EXISTING PAVEMENT MARKINGS AT THE BEGINNING AND AT THE END OF THE PROJECT.
 - H. SIGN ASSEMBLY LOCATIONS SHOWN IN THE PLANS WHICH ARE IN CONFLICT WITH STREET LIGHTING UTILITIES, DRIVEWAYS, PEDESTRIAN RAMPS ETC. MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER OF RECORD AND/OR APPROVAL AGENCIES' INSPECTOR.
 - I.

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GLN Downstream LAU Expansion Project

Plant Expansion - Office, Fabrication Shop and Site Improvements

Dania Beach, Florida 33004
Broward County

NO.	DATE	REVISION

GENERAL NOTES

PROJ. NO. BC-GERDAU DRW. BY: LOJ/ANB CK. BY: MEL



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C-11

PHASE: CITY COMMISSION
 ISSUE DATE: 07/21/15

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SECTION 6: WATER DISTRIBUTION SYSTEM

- 1. MATERIAL:
 - A. PIPE
 - a. PVC PIPE WITH A MINIMUM SIZE OF 6 INCHES SHALL BE ASTM 1120 PRESSURE PIPE WITH CAST IRON O.D. CLASS 150 (DR18), CONFORMING TO ANSI / AWMA C900 OR C905 LATEST REVISION, AND SHALL HAVE PUSH RUBBER GASKET JOINTS.
 - b. A 14-GAUGE MULTI-STRAND COPPER WIRE OF A BLUE COLOR THAT IS CONTINUOUS ALONG THE LENGTH OF ANY P.V.C. MAIN. THE WIRE SHALL BE BROUGHT UP AND A MINIMUM OF FOUR FEET EXCESS WIRE SHALL BE COILED AT EACH VALVE.
 - B. FITTINGS:
 - a. FITTINGS SHALL BE DUCTILE IRON COMPACT MECHANICAL JOINT AND SHALL BE CLASS 350 THROUGH 24 CONFORMING TO ANSI/AWMA C153/A21.53 LATEST REVISION, AND CLASS 250 IN SIZES 24 AND LARGER, CONFORMING TO ANSI/AWMA C110/A21.10 LATEST REVISION COMPLETE WITH GLANDS, GASKETS, BOLTS AND NUTS. ALL FITTINGS SHALL BE CEMENT LINED AND SEAL COATED WITH THE SAME AS PIPE.
 - C. VALVES AND VALVE BOXES
 - a. VALVES SHALL BE GATE VALVES FOR WATER LESS THAN 10 INCHES AND GEAR OPERATED VALVES ABOVE 10 INCHES.
 - b. GATE VALVES 2 INCHES AND LARGER SHALL BE IRON BODY FULLY ENCAPSULATED RESILIENT SEAT, BRONZE MOUNTED NON-RISING STEM, DOUBLE DISC, RATED AT 200 PSI AND CONFORMING TO ANSI/AWMA C509-94, OR LATEST REVISION, EXPOSED VALVES SHALL BE OUTSIDE SCREW AND YOKE TYPE. GATE VALVES SHALL BE AMERICAN DARLING (LINE 80), CLOW F6100 OR APPROVED EQUAL WITH A 2-INCH OPERATING NUT THAT OPENS LEFT ONLY.
 - c. A REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT ADJACENT TO ALL VALVE LOCATIONS OUTSIDE THE ROAD PAVEMENT. WATER MARKERS SHALL BE WHITE.
 - d. VALVE ACTUATOR EXTENSIONS SHALL HAVE A CENTERING RING AND STAINLESS STEEL SET SCREWS.
 - e. VALVE BOXES FOR WATER MAINS SHALL BE U.S. FOUNDRY MODEL 7500, MARKED "WATER," OR APPROVED EQUAL.
 - f. VALVE BOXES FOR BLOW-OFF ASSEMBLY SHALL BE U.S. FOUNDRY MODEL 7630, OR APPROVED EQUAL.
 - D. FIRE HYDRANTS
 - a. FIRE HYDRANTS SHALL HAVE A MINIMUM 5 1/4 INCH VALVE OPENING AND SHALL OPEN AGAINST THE PRESSURE AND CLOSE WITH THE FLOW. HYDRANTS SHALL BE MUELLER CENTURION, MODEL NUMBER A-423, US PIPE METROPOLITAN 250 M-94, AMERICAN DARLING B-84B, KENNEDY GUARDIAN K-81 OR APPROVED EQUAL. HYDRANTS SHALL MEET OR EXCEED ANSI/AWMA C502, C503 LATEST REVISION, AND SHALL COMPLY WITH FACTORY MUTUAL RESEARCH CORPORATION AND UNDERWRITERS LABORATORIES UL246 STANDARD. ALL HYDRANTS SHALL BE INSTALLED WITH ANCHORING TEE AND CONTROL VALVE. AN ADDITIONAL VALVE SHALL BE INSTALLED IF HYDRANT IS MORE THAN 20 FEET FROM MAIN. PUMPER NOZZLE TO BE 18 INCHES FROM FIRE GROUND.
 - b. A BLUE REFLECTIVE PAVEMENT MARKER SHALL BE PROVIDED IN THE CENTER THE NEAREST LANES OF ROAD PAVEMENT ADJACENT TO ALL FIRE HYDRANT LOCATIONS.
 - c. HYDRANTS SHALL BE 36 INCH OR 42 INCH BURY ONLY AND SHALL BE SET TO PROPER BURY AND READADJUST THE USE OF EXTENSIONS. PIPE AND FITTINGS OR GADLOCKS FITTING SHALL BE ACCEPTABLE, EXCEPT NO BENDS GREATER THAN 45 DEGREES SHALL BE ACCEPTABLE. ALL JOINTS SHALL BE RESTRAINED.
 - d. HYDRANTS LOCATED ON CITY OF DANIA BEACH SYSTEM SHALL BE PAINTED YELLOW, RUST-OLEUM # 7446402. HYDRANTS LOCATED ON A PRIVATE SYSTEM (I.E. AFTER A MASTER METER SHALL BE PAINTED YELLOW, RUST-OLEUM # 7446402 WITH CAPS PAINTED WHITE, RUST-OLEUM # 74266402.
 - e. HYDRANTS IN NON PAVED AREAS SHALL HAVE A 4 FOOT BY 4 FOOT BY 8 INCH (4 x4 x8) CONCRETE PAD MINIMUM AND SHALL BE SET AT BURY LINE OF HYDRANT.
 - f. HYDRANTS TO BE RELOCATED SHALL BE REPLACED WITH A NEW HYDRANT. HYDRANTS REMOVED FROM SERVICE SHALL BE DELIVERED TO CITY OF DANIA BEACH.
 - E. SERVICE CONNECTIONS
 - a. SERVICE SADDLES SHALL BE DUCTILE IRON EPOXY WITH DOUBLE STAINLESS STEEL STRAPS. SADDLES SHALL CONFORM TO ANSI/AWMA C111/21.11 AND ASTM A-588 OR LATEST REVISION.
 - b. SERVICE LINES SHALL BE BLUE STRIPED POLYETHYLENE (PE) TUBING AS DESCRIBED IN ANSI/AWMA C901 LATEST REVISION, WITH A WORKING PRESSURE OF 160 PSI (DR 9). PIPE JOINTS SHALL BE OF THE COMPRESSION TYPE TOTALLY CONFINED GRIP SEAL AND COUPLING NUT. POLYETHYLENE SHALL BE EXTRUDED FROM PE 3408 HIGH MOLECULAR WEIGHT MATERIAL AND MUST CONFORM TO ASTM D-2737. STAINLESS STEEL TUBE STIFFENER INSERTS SHALL BE USED.
 - c. CORPORATION STOPS SHALL BE MANUFACTURED FROM BRASS ALLOY IN ACCORDANCE WITH ASTM B-62 WITH THREADED ENDS AS MANUFACTURED BY FORD.
 - d. CURB STOPS SHALL BE FORD OR APPROVED EQUAL.
 - e. METER STOPS SHALL BE THE 90-DEGREE LOCKWING TYPE AND SHALL BE OF BRONZE CONSTRUCTION IN ACCORDANCE WITH ASTM B-62. METER STOPS SHALL BE CLOSED BUTION DESIGN AND RESILIENT O-RING SEALED AGAINST EXTERNAL LEAKAGE AT THE TOP. STOPS SHALL BE EQUIPPED WITH A METER COUPLING NUT ON THE OUTLET SIDES. METER STOP SHALL BE MANUFACTURED BY FORD OR APPROVED EQUAL.
 - f. METER AND METER BOXES 2" OR LESS ARE SUPPLIED BY CITY OF DANIA BEACH AT THE OWNER'S EXPENSE.
 - g. METERS LARGER THAN 2" SHALL BE APPROVED METER, COMPATIBLE WITH THE TOWN'S AMR SYSTEM, SHALL BE SET ABOVE GROUND AND SHALL BE SUPPLIED BY THE CONTRACTOR.
 - F. TAPPING SLEEVES
 - a. TAPPING SLEEVES SHALL BE STAINLESS STEEL, MECHANICAL JOINT, CLOW MODEL F5207, MUELLER H615 OR APPROVED EQUAL.
 - G. RETAINER GLANDS
 - a. RETAINER GLANDS SHALL CONFORM TO ANSI/AWMA C111/A21.11-90 OR LATEST REVISION. ALL GLANDS SHALL BE MANUFACTURED FROM DUCTILE IRON AS LISTED BY UNDERWRITERS LABORATORIES FOR 250 PSI MINIMUM WATER PRESSURE RATING. CLOW CORPORATION MODEL F-105B, TYLER EBA IRON, OR APPROVED EQUAL, FOR PVC PIPE, GLANDS SHALL BE MEGA LUG SERIES 200 OR APPROVED EQUAL.
 - H. BACKFLOW PREVENTION ASSEMBLY
 - a. DOUBLE CHECK VALVE
 - THE ASSEMBLY SHALL CONFORM TO ANSI/AWMA C510 LATEST REVISION, AND CAPABLE OF WITHSTANDING A WORKING PRESSURE OF AT LEAST 150 PSI WITHOUT DAMAGE TO WORKING PARTS OR IMPAIRMENT OF FUNCTION. IT SHALL CONSIST OF TWO INTERNALLY LOADED, INDEPENDENTLY OPERATING CHECK VALVES, LOCATED BETWEEN TWO TIGHTLY CLOSING RESILIENT-SEALED SHUT OFF VALVES, WITH FOUR PROPERLY PLACED RESILIENT-SEALED TEST COCKS.
 - b. REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
 - THE ASSEMBLY SHALL CONFORM TO ANSI/AWMA C511 LATEST REVISION, AND CAPABLE OF WITHSTANDING A WORKING PRESSURE OF AT LEAST 150 PSI WITHOUT DAMAGE TO WORKING PARTS OR IMPAIRMENT OF FUNCTION. IT SHALL CONSIST OF A MECHANICAL, INDEPENDENTLY OPERATING HYDRAULICALLY DEPENDENT RELIEF VALVE LOCATED BETWEEN TWO INDEPENDENTLY OPERATING INTERNALLY LOADED CHECK VALVES THAT ARE LOCATED BETWEEN TWO TIGHTLY CLOSED RESILIENT-SEALED SHUTOFF VALVES WITH FOUR PROPERLY PLACED RESILIENT SEALED TEST COCKS.
 - c. IRRIGATION SYSTEMS
 - IRRIGATION SYSTEMS SHALL BE LOCATED DOWNSTREAM OF A REDUCED PRESSURE BACKFLOW PREVENTER. CHEMICAL INJECTION EQUIPMENT MUST BE SEPARATED FROM THE WATER SUPPLY BY AN APPROVED AIR GAP SEPARATION OR A REDUCED PRESSURE ASSEMBLY IN ACCORDANCE WITH SECTION 2.1.H.2. THE EQUIPMENT MUST ALSO COMPLY WITH ASSE STANDARD #1013 TO PROTECT THE WATER SUPPLY FROM BACK-SIPHONAGE AND BACK-PRESSURE.

- a. COVER SERVICE LINES SHALL BE 18 INCHES MINIMUM, 24 INCHES MAXIMUM BELOW FINISHED GRADE AND 24 INCHES UNDER PAVEMENT.
- b. POLYETHYLENE SHALL BE BEDDED IN BACKFILL OF SAND WITH NO ROCK.
- c. METER STOPS SHALL HAVE 8 INCHES TO 10 INCHES COVER OR AS REQUIRED FOR PROPER METER BOX INSTALLATION.
- d. WATER SERVICES UNDER PAVEMENT SHALL BE ENCASED IN A SCHEDULE 80 PVC SLEEVE FOR THE FULL LENGTH OF THE PAVEMENT AND FOR 2 FEET BEYOND THE EDGE.
- e. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" X 4" TREATED STAKE, PAINTED BLUE, EXTENDING 18 INCHES (MINIMUM) ABOVE GRADE UNLESS INDICATED OTHERWISE. IF HOUSE CONNECTION IS NOT MADE WITHIN THIRTY DAYS, A METER BOX WITH AN ELECTRONIC 3M LOCATOR MUST BE INSTALLED.
- G. SAMPLING POINTS
 - a. SAMPLING POINTS SHALL BE PROVIDED AT THE LOCATIONS SHOWN ON THE PLANS. IF NOT SPECIFIED, SAMPLING POINTS SHALL BE PROVIDED AT INTERVALS OF 1200' MAXIMUM FOR LINES GREATER THAN 1500' IN LENGTH. PROVIDE A MINIMUM OF TWO SAMPLING POINTS FOR ALL OTHER TEST SEGMENTS. TESTS NEED TO BE TAKEN BY AN INDEPENDENT CERTIFIED LAB.
- H. HYDRANTS
 - a. ALL HYDRANTS SHALL BE COVERED WHEN INSTALLED WITH AN OUT OF SERVICE BAG, AND SHALL REMAIN COVERED UNTIL SYSTEM CLEARED FOR OPERATION BY CITY OF DANIA BEACH ENGINEERING DEPARTMENT.

SECTION 7: SANITARY SEWER SYSTEM

- 1. MATERIALS
 - A. GRAVITY SEWER PIPE AND FITTINGS
 - a. PVC SEWER PIPE AND FITTINGS SHALL BE NON-PRESSURE POLYVINYL CHLORIDE PIPE CONFORMING TO ASTM D-3034, SDR 35, WITH PUSH-ON RUBBER GASKET JOINTS UNLESS OTHERWISE NOTED.
 - b. DUCTILE IRON PIPE (DIP) SHALL BE EPOXY LINED CONFORMING TO ANSI/AWMA C104/A21.4 LATEST REVISION, OR POLYETHYLENE LINED INSIDE CONFORMING TO ANSI/AWMA C105/A21.5, OR APPROVED EQUAL AND SHALL HAVE A COAL TAR EPOXY COATING, MANUFACTURED IN ACCORDANCE TO ANSI/AWMA C151/A21.51 LATEST REVISION, MINIMUM WALL THICKNESS CLASS 350 (UNLESS OTHERWISE NOTED). CLASS 52 SHALL BE USED IN PAVED AREAS.
 - c. ALL FITTINGS AND ACCESSORIES SHALL BE AS MANUFACTURED OR SUPPLIED BY THE PIPE MANUFACTURER.
 - B. SEWAGE FORCE MAIN PIPE AND FITTINGS
 - a. PVC PIPE WITH A MINIMUM SIZE OF 6 INCHES SHALL BE ASTM 1120 PRESSURE PIPE WITH CAST IRON O.D. CLASS 150 (DR18), CONFORMING TO ANSI / AWMA C900 OR C905 LATEST REVISION, AND SHALL HAVE PUSH RUBBER GASKET JOINTS.
 - b. DIP PIPE WITH A MINIMUM SIZE OF 6 INCHES SHALL BE CLASS 350 WALL THICKNESS (UP TO 12), CLASS 300 (14 -18), CLASS 250 (20 OR GREATER) WITH INTERIOR CEMENT LINING AND EXTERIOR COAL TAR COATING CONFORMING TO ANSI/AWMA C151/A21.51 LATEST REVISION.
 - c. FITTINGS SHALL BE DUCTILE IRON COMPACT MECHANICAL JOINT AND SHALL BE CLASS 350 THROUGH 24 CONFORMING TO ANSI/AWMA C153/A21.53 LATEST REVISION, AND CLASS 250 IN SIZES 24 AND LARGER, CONFORMING TO ANSI/AWMA C110/A21.10 LATEST REVISION COMPLETE WITH GLANDS, GASKETS, BOLTS AND NUTS. ALL FITTINGS SHALL BE CEMENT LINED AND SEAL COATED WITH THE SAME AS PIPE.
 - C. VALVES
 - a. VALVES SHALL BE GATE VALVES OR PLUG VALVE FOR FORCE MAIN UNLESS OTHERWISE INDICATED.
 - GATE VALVES 6 INCHES AND LARGER SHALL BE IRON BODY FULLY ENCAPSULATED RESILIENT SEAT, BRONZE MOUNTED NON-RISING STEM, DOUBLE DISC, RATED AT 200 PSI AND CONFORMING TO ANSI/AWMA C509-94, OR LATEST REVISION, EXPOSED VALVES SHALL BE OUTSIDE SCREW AND YOKE TYPE. GATE VALVES SHALL BE AMERICAN DARLING (LINE 80), CLOW F6100 OR APPROVED EQUAL.
 - PLUG VALVES SHALL BE SEMI STEEL BODY, NON-LUBRICATED, ECCENTRIC TYPE, WITH DOORSLIP FACED PLUGS, AND CAPABLE OF DRIP-TIGHT SHUT OFF AT THE RATED PRESSURE IF APPLIED AT EITHER PORT. VALVES ARE TO BE EQUIPPED WITH ACTUATING NUTS AS APPROPRIATE FOR THE INSTALLATION AND TYPE OF OPERATOR. VALVES SHALL BE DEZURK CORP. SERIES 1001, CLOW FUL-FLOW MODEL F5413, OR APPROVED EQUAL. VALVES 6 INCHES AND LARGER SHALL BE GEAR OPERATED AND LEFT OPEN.
 - AIR RELEASE VALVE BODY AND COVER SHALL BE OF CAST IRON CONSTRUCTION, BE EPOXY COATED, ASTM A 126-B AND ALL INTERNAL WORKING PARTS SHALL BE OF STAINLESS STEEL. ASTM A240, TYPE 303 AND 304 AND SHALL MEET OR EXCEED ANSI/AWMA C512 LATEST REVISION. THE VENTING ORIFICE SHALL BE 3/8-INCH IN DIAMETER WITH STAINLESS STEEL SEAT. THE INLET OPENING SHALL BE STANDARD 2 INCH NPT SCREWED CONNECTION. THE VALVE SHALL BE FULLY CAPABLE OF OPERATION IN THE SEWAGE FORCE MAIN AND SHALL INCLUDE A BACK-FLUSHING FEATURE FOR PERIODIC CLEANING OF INTERNAL MECHANISM. THE OVERALL HEIGHT OF THE VALVE BODY SHALL NOT EXCEED 15 INCHES. VALVES SHALL BE MANUFACTURED BY VAL-MATIC CORP. APICO OR APPROVED EQUAL.
 - b. A REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT ADJACENT TO ALL VALVE LOCATIONS OUTSIDE THE ROAD PAVEMENT. SEWER MARKERS SHALL BE GREEN.
 - D. MANHOLES
 - a. MANHOLES SHALL BE PRECAST PER ASTM C-478 TYPE 2 WITH 4000 PSI CONCRETE AND GRADE 60 STEEL, MONOLITHICALLY Poured BASES ONLY.
 - MANHOLES OPENINGS ARE TO BE SEALED WITH ANTI-HYDRO CEMENT OR APPROVED EQUAL. NO MOLDING PLASTER WILL BE ALLOWED.
 - MANHOLE JOINTS SHALL BE SEALED WITH RANEXE GASKETS OR APPROVED EQUAL AND WITH ANTI-HYDRO CEMENT ON THE INSIDE AND OUTSIDE.
 - E. TAPPING SLEEVES
 - a. TAPPING SLEEVES SHALL BE STAINLESS STEEL, MECHANICAL JOINT, CLOW MODEL F5207, MUELLER H615 OR APPROVED EQUAL.
 - F. RETAINER GLANDS
 - a. RETAINER GLANDS SHALL CONFORM TO ANSI/AWMA C111/A21.11-90 OR LATEST REVISION. ALL GLANDS SHALL BE MANUFACTURED FROM DUCTILE IRON AS LISTED BY UNDERWRITERS LABORATORIES FOR 250 PSI MINIMUM WATER PRESSURE RATING. CLOW CORPORATION MODEL F-105B, TYLER, EBA IRON, OR APPROVED EQUAL, FOR PVC PIPE, GLANDS SHALL BE MEGA LUG SERIES 200 OR APPROVED EQUAL.

- 2. INSTALLATION
 - A. GRAVITY PIPE AND FITTINGS:
 - a. SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D-2321, AND THE MANUFACTURERS RECOMMENDED PRACTICE FOR THE INSTALLATION OF PVC SEWER PIPE .
 - b. DIP SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWMA C800 LATEST REVISION.
 - c. BEDDING AND INITIAL BACKFILL 12 INCHES OVER SEWER MAINS AND SERVICES SHALL BE 4-INCH WASHED ROCK. ALL OTHER FILL SHALL NOT HAVE ROCKS LARGER THAN 4 INCHES IN DIAMETER.
 - d. PIPE CONNECTION INTO MANHOLE WALL SHALL BE PVC PIPE, CAST-IN NEOPRENE RUBBER BOOT, OR EQUAL AS APPROVED BY CITY OF DANIA BEACH ENGINEERING DEPARTMENT.
 - e. MINIMUM DESIGN SLOPES FOR GRAVITY SEWERS AS FLOWS:
 - FOR PVC: 8 INCH 0.42% 10 INCH 0.42% 12 INCH 0.42%
 - FOR DIP: 8 INCH 0.42% 10 INCH 0.42% 12 INCH 0.42%
 - B. FORCE MAIN PIPE:
 - a. PVC PIPE FOR FORCE MAIN:
 - PVC PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION FOR INSTALLATION OF PVC PRESSURE PIPE FOR MUNICIPAL WATER DISTRIBUTION SYSTEMS.
 - PVC PIPE SHALL BE INSTALLED WITH A MINIMUM OF 36" COVER.
 - b. DUCTILE IRON PIPE FOR FORCE MAIN:
 - DIP SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWMA C800 LATEST REVISION.
 - DIP SHALL BE INSTALLED WITH A MINIMUM OF 30" COVER.
 - C. FORCE MAIN VALVES AND BOXES:
 - a. FORCE MAIN VALVES SHALL BE LOCATED ON AN EXTENSION OF THE RIGHT-OF WAY LINE UNLESS DIMENSIONED OTHERWISE AND CLUSTERED IN ONE CORNER.
 - b. FORCE MAIN VALVES SHALL BE INSTALLED AWAY FROM PARKING AREAS. IF THIS IS UNAVOIDABLE, PROPER MEASURES SHALL BE TAKEN TO AVOID THE PARKING OF VEHICLES OVER THE VALVES. VALVES LOCATED IN NON-PAVED AREAS OR IN PARKING STALLS REQUIRE A REFLECTIVE PAVEMENT MARKER ON THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT. GREEN REFLECTORS FOR SEWER MAIN VALVES.
 - c. THE DISTANCE FROM THE VALVE ACTUATOR NUT TO FINAL GRADE SHALL BE 12 INCHES. ACTUATOR EXTENSIONS SHALL BE RESTRAINED TO VALVE WITH STAINLESS SET SCREWS.
 - d. ALL VALVES SHALL BE INSTALLED WITH ADJUSTABLE CAST IRON VALVE BOXES WITH THE WORD "SEWER" ON THE COVER.
 - D. MANHOLES:
 - a. MANHOLES SHALL BE SET PLUMB TO LINE AND GRADE ON FIRM CLEAN SUBGRADE PROVIDING

- UNIFORM BEARING UNDER THE BASE.
- a. ALL OPENINGS AND JOINTS SHALL BE SEALED WATER-TIGHT.
- b. THE ENTIRE INSIDE OF THE MANHOLES SHALL BE COATED WITH TWO COATS (8 MILS EACH, DRY) OF KOPPER S 300-M BITUMASTIC COATING OR APPROVED EQUAL, FIRST COAT RED, SECOND COAT BLACK. THE OUTSIDE OF EACH MANHOLE REQUIRES ONLY ONE COAT BLACK (8 MILS, DRY) OF THE SAME TYPE OF COATING.
- c. MANHOLES SHALL BE INSTALLED AWAY FROM PARKING AREAS ON THE CENTERLINE OF THE ROADWAY. IF THIS IS UNAVOIDABLE, PROPER MEASURE SHALL BE TAKEN TO PROHIBIT THE PARKING OF VEHICLES OVER THE VALVES.
- d. ORANGE REFLECTIVE PAVEMENT MARKERS SHALL BE PROVIDED ON THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT ADJACENT TO ALL MANHOLE LOCATIONS OUTSIDE THE ROAD PAVEMENT.
- e. ALL LIDS SHALL BE PROVIDED WITH A POLYETHYLENE WATER TIGHT MANHOLE INSERT AS MANUFACTURED BY SOUTHWESTERN PACKING AND SEALS, RAINSTOPPER MODEL, OR APPROVED EQUAL TO REDUCE STORM WATER INFLOW.
- F. SERVICES
 - a. MINIMUM SLOPE OF ALL SERVICE LINES SHALL BE AS INDICATED IN THE FLORIDA BUILDING CODE.
 - b. SERVICE LATERALS SHALL TERMINATE AT A DEPTH NOT TO EXCEED 30 INCHES BELOW FINISHED GRADE.
 - c. EACH SERVICE CONNECTION SHALL BE PLUGGED WATERTIGHT WITH AN APPROVED PLUG.
 - d. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH 2" X 4" TREATED STAKE PAINTED RED, EXTENDING 18 INCHES (MINIMUM) ABOVE GRADE. IF HOUSE CONNECTION IS NOT MADE WITHIN THIRTY DAYS, A CLEAN-OUT INSIDE A VALVE BOX WITH AN ELECTRONIC MARKER MUST BE INSTALLED.
 - e. CONTRACTOR SHALL BE RESPONSIBLE TO RISE TO 1 FOOT ABOVE FINISHED GRADE AND PLUG. AT PROJECT COMPLETION, CUT BACK TO FINISHED GRADE.
 - f. CONNECTION OF SERVICES TO BUILDING S PLUMBING SHALL BE COORDINATED WITH THE CITY OF DANIA BEACH BUILDING DEPARTMENT, PLUMBING SECTION.

- 3. TESTING:
 - A. GRAVITY PIPE
 - a. AFTER CONSTRUCTION OF THE SEWER SYSTEM, THE ENTIRE SYSTEM SHALL BE LAMPED AND SHOW A FULL CIRCULE OF LIGHT. SEWER LAMPING SHALL BE WITNESSED BY THE ENGINEER OF RECORD AND A REPRESENTATIVE FROM CITY OF DANIA BEACH ENGINEERING DEPARTMENT.
 - b. AFTER CONSTRUCTION OF THE SEWER SYSTEM, CITY OF DANIA BEACH OR THE ENGINEER OF RECORD MAY REQUIRE AN EXFILTRATION TEST TO BE PERFORMED ON THE ENTIRE SYSTEM OR ANY PART THEREOF. SEWER PIPE EXFILTRATION LEAKAGE SHALL NOT EXCEED 10 GALLONS PER DAY PER INCH DIAMETER PER MILE IN A TWO HOUR TEST PERIOD FOR ANY SECTION TESTED.
 - c. AN AIR TEST MAY BE SUBSTITUTED FOR THE WATER EXFILTRATION TEST, UPON APPROVAL OF CITY OF DANIA BEACH ENGINEERING DEPARTMENT.
 - d. SANITARY SEWER SHALL BE TELEVIEWED, AT CONTRACTORS EXPENSE, PRIOR TO FINAL APPROVAL OF CONSTRUCTION. A DVD FORM TO BE REPORT TO AND EXAMINED BY CITY OF DANIA BEACH UTILITIES DEPARTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING OF ANY DEFICIENCIES PRIOR TO THE CITY'S CERTIFICATION OF COMPLETION TO ANY AGENCY.
 - B. FORCE MAIN
 - a. THE COMPLETE FORCE MAIN SYSTEM SHALL BE PRESSURE TESTED. THE PRESSURE TEST SHALL BE FOR TWO HOURS MINIMUM AT A PRESSURE ACCORDING TO ANSI/AWMA C800 LATEST REVISION. THE PRESSURE TEST SHALL NOT VARY MORE THAN 5 PSI DURING THE TEST. LEAKAGE ALLOWANCES WILL NOT BE MADE FOR FITTINGS OR VALVES.
 - b. ALLOWABLE LEAKAGE SHALL NOT EXCEED THE FORMULA OF:
 - L (GALLONS PER HOUR) = (SD*P)² / 133,200
 - L = ALLOWABLE LEAKAGE (NO ALLOWABLE LEAKAGE FOR VALVES)
 - S = LENGTH OF PIPE TESTED IN FEET
 - D = NOMINAL DIAMETER OF PIPE IN INCHES
 - P = AVERAGE TEST PRESSURE DURING TEST IN LBS / SQUARE INCH.
 - c. THE PRESSURE TEST SHALL BE WITNESSED BY A REPRESENTATIVE OF CITY OF DANIA BEACH ENGINEERING DEPARTMENT AND THE ENGINEER OF RECORD WITH A MAXIMUM PIPE LENGTH OF 3,000 UNLESS APPROVED BY CITY OF DANIA BEACH ENGINEERING DEPARTMENT.
 - C. MANHOLE
 - a. MANHOLE LEAKAGE SHALL BE NONEXISTENT.
 - b. VISIBLE MANHOLE AND SEWER PIPE INFILTRATION LEAKAGE SHALL NOT BE PERMITTED.

**BROWARD COUNTY TRAFFIC ENGINEERING DEPARTMENT
MAINTENANCE OF TRAFFIC - SCHOOL/PEDESTRIAN**

THE MAINTENANCE OF TRAFFIC PLAN, PROVIDED BY THE CONTRACTOR, SHALL INCLUDE PROVISIONS FOR PEDESTRIAN AND/OR SCHOOL STUDENT TRAFFIC AS WELL AS VEHICULAR TRAFFIC. THE FOLLOWING ARE MINIMUM REQUIREMENTS:

- THE SAFE WALK ROUTE FOR ALL SCHOOL STUDENTS WITHIN THE VICINITY OF THE CONSTRUCTION ZONE SHALL BE MAINTAINED DURING STUDENT ARRIVAL AND DISMISSAL TIMES. IF THE CURRENT WALKING SURFACE CANNOT BE MAINTAINED, A TEMPORARY WALK SURFACE SHALL BE CREATED. THE SAFE WALK ROUTE SHALL BE SEPARATED FROM THE CONSTRUCTION ACTIVITY DURING THE ENTIRE LENGTH OF THE PROJECT ENCOMPASSING THE ENTIRE WALK ROUTE WITH PROPER PEDESTRIAN OPENINGS AT DESIGNATED CROSSINGS IN COMPLIANCE WITH FOOT DESIGN STANDARDS INDEX NO. 600 AS WELL AS MEETING ALL ADA REQUIREMENTS.
- ALL CONSTRUCTION EQUIPMENT ACTIVITY AROUND ANY DESIGNATED CROSSWALK SHALL CEASE TO OPERATE DURING THE STUDENT ARRIVAL AND DISMISSAL TIMES. ALL CONSTRUCTION EQUIPMENT ACTIVITY ADJACENT TO A DESIGNATED WALK ROUTE SHALL CEASE OPERATING UNLESS SATISFACTORILY BARRICADED FROM THE WALK ROUTE.
- IN THE CASE THAT A DESIGNATED CROSSING OR ANY PORTION OF THE DESIGNATED WALK ROUTE CANNOT BE MAINTAINED, THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2600. A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO CLOSING THAT ROUTE IN ORDER TO ESTABLISH AN ALTERNATE CROSSING/ROUTE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL ANY NECESSARY PAVEMENT, ROAD ROCK, PAVEMENT MARKINGS AND SIGNAGE AND/OR ANY PEDESTRIAN SIGNALIZATION AND/OR SIGNAL MODIFICATION TO ACCOMMODATE AN EXISTING OR ALTERNATE WALK ROUTE THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE STATE CERTIFIED SCHOOL CROSSING GUARDS OR OFF DUTY POLICE OFFICERS TO CROSS STUDENTS AT ALL LOCATIONS OTHER THAN THOSE PREVIOUSLY DESIGNATED. THE CONTRACTOR MAY USE FLAGMEN, BUT ONLY IF THEY ARE STATE CERTIFIED AS A SCHOOL CROSSING GUARD.
- THIRTY (30) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2600 OR AT BROWARDCOUNTYTRAFFIC.ORG TO DISCUSS ALL NECESSARY SAFETY MEASURES.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE FOLLOWING BROWARD COUNTY SCHOOL BOARD PUPIL TRANSPORTATION DEPARTMENT PERSONNEL IF CONSTRUCTION WILL IMPACT ANY BUS ROUTES:
 - RUTH MASTERS - ROUTING - (754) 321-4400 EXT. # 2309 - RUTH.MASTERS@BROWARD.SCHOOLS.COM
 - VINCENT HARELL - STUDENT TRANSPORTATION & FLEET SERVICE - (754) 321-4472 - VINCENT.HARELL@BROWARD.SCHOOLS.COM
 - MARY TOCHERTMANN - STUDENT TRANSPORTATION & FLEET SERVICE - (754) 321-4400 EXT. # 2006 - MARY.TOCHERTMANN@BROWARD.SCHOOLS.COM
- UPON COORDINATION WITH THE AFORESAID PERSONNEL, AND IF DEEMED NECESSARY, A PRE-CONSTRUCTION MEETING WILL BE HELD TO DETERMINE ALL BUS ROUTES AND TO MAKE ANY NECESSARY ARRANGEMENTS FOR REROUTING. THE SPECIAL PROJECTS COORDINATOR FROM THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2600, WILL BE NOTIFIED AND MAY ATTEND THE PRE-CONSTRUCTION MEETING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AN APPROVED MAINTENANCE OF TRAFFIC PLAN (MOT), SPECIFYING THE ABOVE SCHOOL/PEDESTRIAN CONDITIONS, THROUGH THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION OR THE LOCAL MUNICIPALITY, DEPENDING ON THE ROADWAY JURISDICTION. THE CONDITIONS OUTLINED IN THE MOT ARE FULLY EFFECTIVE AS PART OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL WORK ASSOCIATED WITH THE PROJECT IS IN COMPLIANCE WITH ALL THE REQUIREMENTS OF THE APPROVED MOT.
- THE CONTRACTOR SHALL ENSURE THAT THERE ARE NO SPEED LIMIT SIGNS INSTALLED WITHIN THE DESIGNATED REDUCED SPEED SCHOOL ZONE AT ANY TIME THROUGHOUT THE PROJECT.

**BROWARD COUNTY TRAFFIC ENGINEERING DIVISION
COMMUNICATIONS NOTES**

THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNALS AND RELATED EQUIPMENT IS BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED). ALL SYSTEM COMMUNICATIONS EQUIPMENT, CABLING AND RELATED MATERIAL SHALL COMPLY WITH BROWARD COUNTY'S LATEST EDITION OF THE MINIMUM STANDARDS AS EXPRESSED IN THE "STANDARDS AND SPECIFICATIONS - COMMUNICATION INFRASTRUCTURE" DOCUMENT. PLEASE REFER TO (BCTED'S) COMMUNICATIONS POLICIES AND PROCEDURES FOR ADDITIONAL INFORMATION. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION WILL NOT ACCEPT ANY PROJECTS THAT DO NOT MEET THESE STANDARDS AND SPECIFICATIONS. IF FIBER OPTIC PULL BOXES ALREADY EXIST AT AN INTERSECTION, NO ADDITIONAL FIBER OPTIC PULL BOXES WILL NEED TO BE INSTALLED. FOR A COPY OF THESE STANDARDS REFER TO THE BROWARD COUNTY WEB SITE AT WWW.BROWARD.ORG/TRAFFIC UNDER PUBLICATIONS.

IF THERE ARE COPPER INTERCONNECT CABLES WITHIN YOUR PROJECT LIMITS OR WITHIN 1500 FEET OF YOUR PROJECT LIMITS, CONTACT THE TRAFFIC SIGNAL TECHNICIAN III AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2761.

IF THERE ARE FIBER OPTIC CABLES WITHIN YOUR PROJECT LIMITS OR WITHIN 1500 FEET OF YOUR PROJECT LIMITS CONTACT THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2745.

ALL BCTED COMMUNICATIONS CABLES/CONDUIT SHALL BE LOCATED A MINIMUM OF 48 HOURS IN ADVANCE.

**BROWARD COUNTY TRAFFIC ENGINEERING DIVISION
PROCEDURE FOR NOTIFICATION OF COMMUNICATION DISRUPTION.**

COPPER INTERCONNECT CABLE NOTIFICATION CONTACT PERSON:
WHEN COMMUNICATIONS TO AN INTERSECTION MUST BE INTERRUPTED BY A CONTRACTOR TO PERFORM WORK, THE CONTRACTOR SHALL PROVIDE TWO DAY ADVANCE NOTICE IN WRITING TO THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION. THIS NOTIFICATION SHALL BE CONVEYED VIA ELECTRONIC MAIL (EMAIL) TO THE TRAFFIC SIGNAL TECHNICIAN III AT TECOMMUNICATIONS@BROWARD.ORG. NOTIFICATION SHALL INCLUDE CONTACT PERSON, TELEPHONE NUMBER, PURPOSE, LOCATION AND DURATION. THE DISRUPTION SHALL LAST FOR NO MORE THAN 3 CONSECUTIVE BUSINESS DAYS. WHERE POSSIBLE, THE DISRUPTION SHALL BE DURING OFF PEAK HOURS BEGINNING AT 9:00AM AND ENDING AT 3:00PM.

FIBER OPTIC CABLE NOTIFICATION CONTACT PERSON:
WHEN COMMUNICATIONS TO AN INTERSECTION MUST BE INTERRUPTED BY A CONTRACTOR TO PERFORM WORK, THE CONTRACTOR SHALL PROVIDE TWO DAY ADVANCE NOTICE IN WRITING TO THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION. THIS NOTIFICATION SHALL BE CONVEYED VIA ELECTRONIC MAIL (EMAIL) TO THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG. NOTIFICATION SHALL INCLUDE CONTACT PERSON, TELEPHONE NUMBER, PURPOSE, LOCATION AND DURATION. THE DISRUPTION SHALL LAST FOR NO MORE THAN 3 CONSECUTIVE BUSINESS DAYS. WHERE POSSIBLE, THE DISRUPTION SHALL BE DURING OFF PEAK HOURS BEGINNING AT 9:00AM AND ENDING AT 3:00PM.

COPPER INTERCONNECT CABLE - (TIM MILLER) BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED) 954-847-2761
FIBER OPTIC CABLE - (ROBERT BLOUNT) BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED) 954-847-2745

SMITH • MCCRARY ARCHITECTS INC.
4230 Palco Professional Court, Suite 102
Jacksonville, Florida 32216
Tel: (904)242-2700 Fax: (904)242-0044
SMA Florida License Number AA0002361

GLN Downstream LAU Expansion Project
Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County

NO.	DATE	REVISION
1		
2		
3		
4		
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GENERAL NOTES

CON BY: MEL
DRW BY: LOU/AMB
CHK BY: MEL
PROJ NO. BC-GERDAU

Connelly & Wicker Inc.
Planning · Engineering · Landscape Architecture

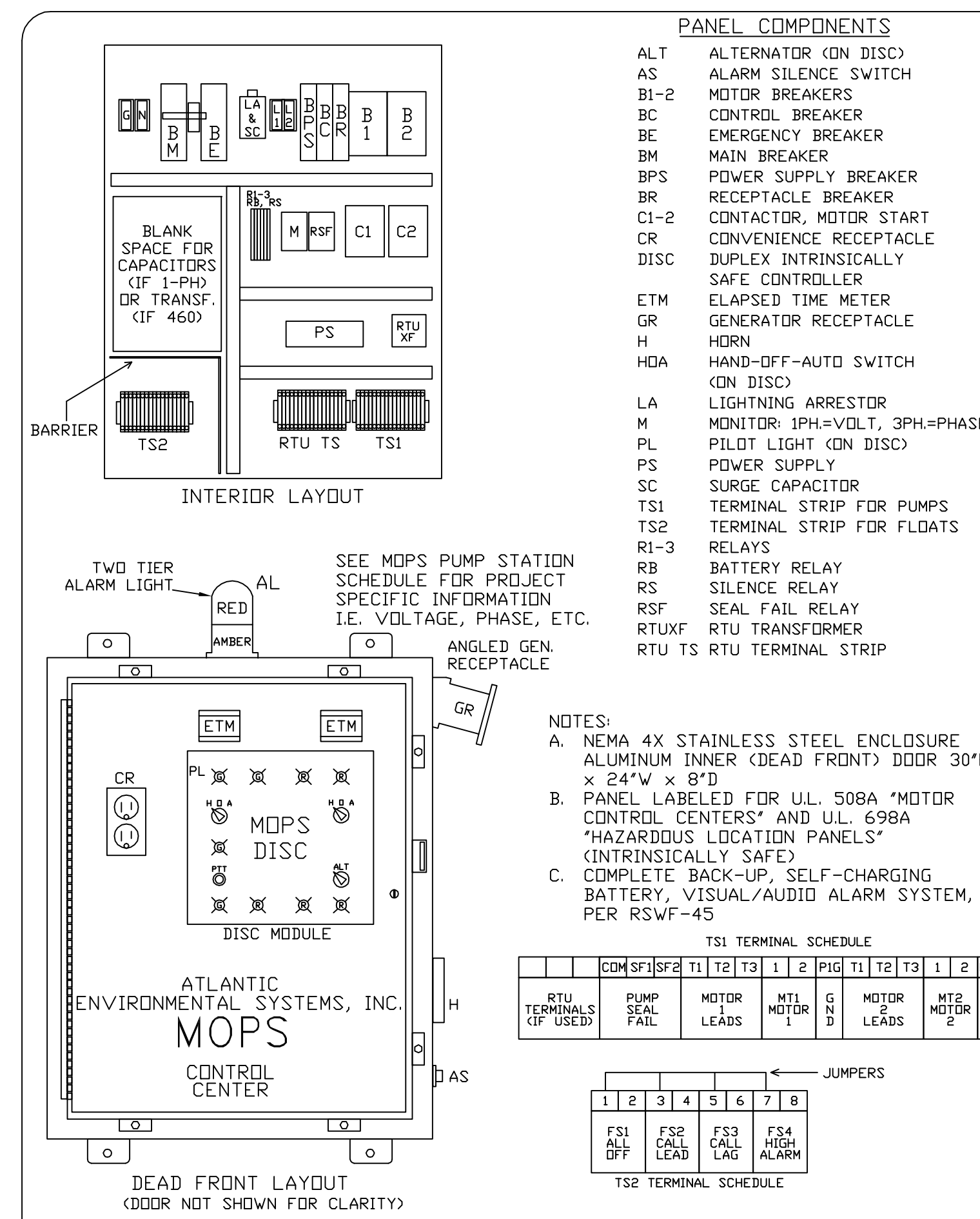
10060 Skinner Lake Dr., Suite 500 Jacksonville, Florida 32246
(904) 265-3030 Fax: (904) 265-3031 www.cwieng.com
C.A. NUMBER: 3650 L.A. NUMBER: LC26000311

C-12

PHASE:
CITY COMMISSION
ISSUE DATE: 07/21/15

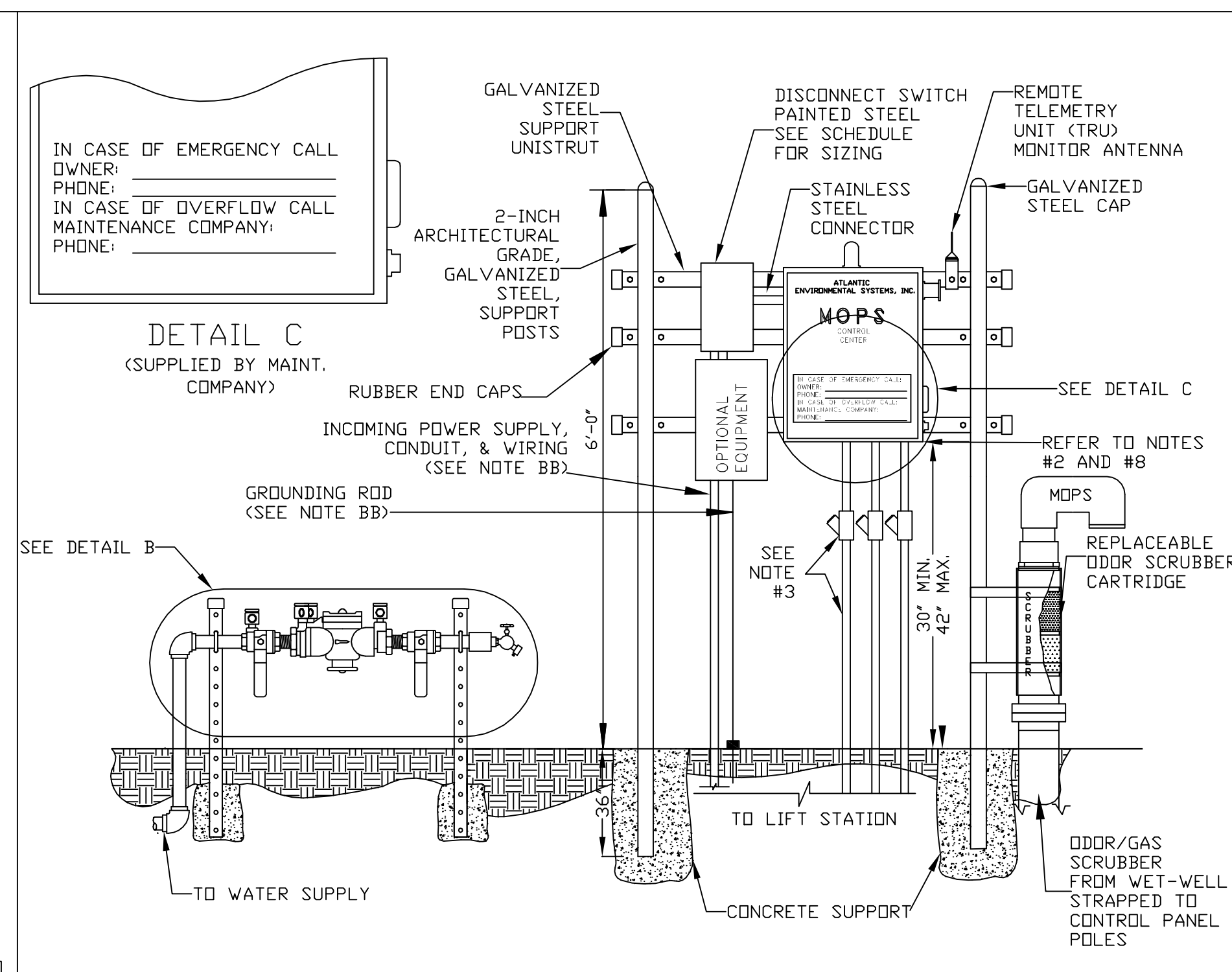
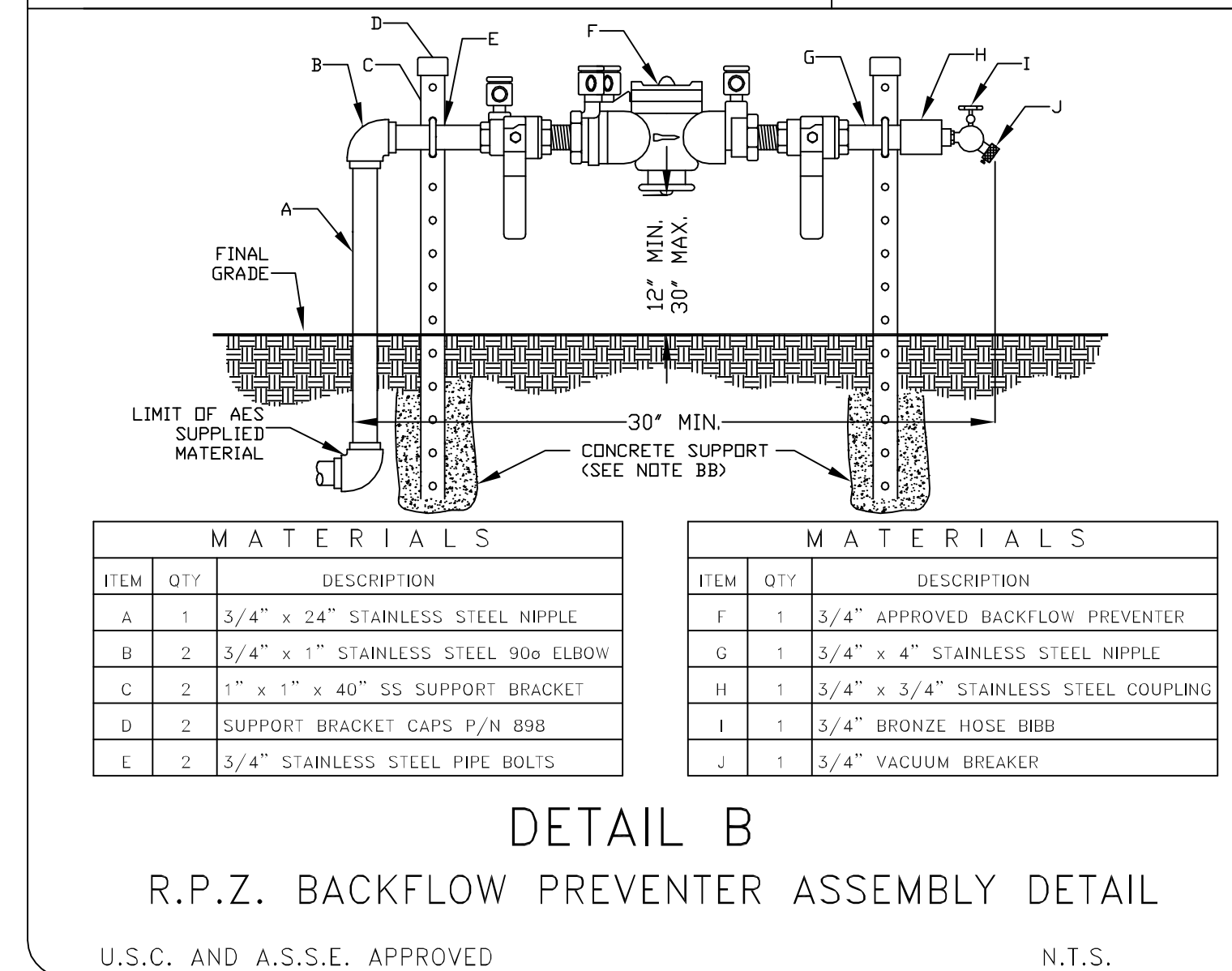
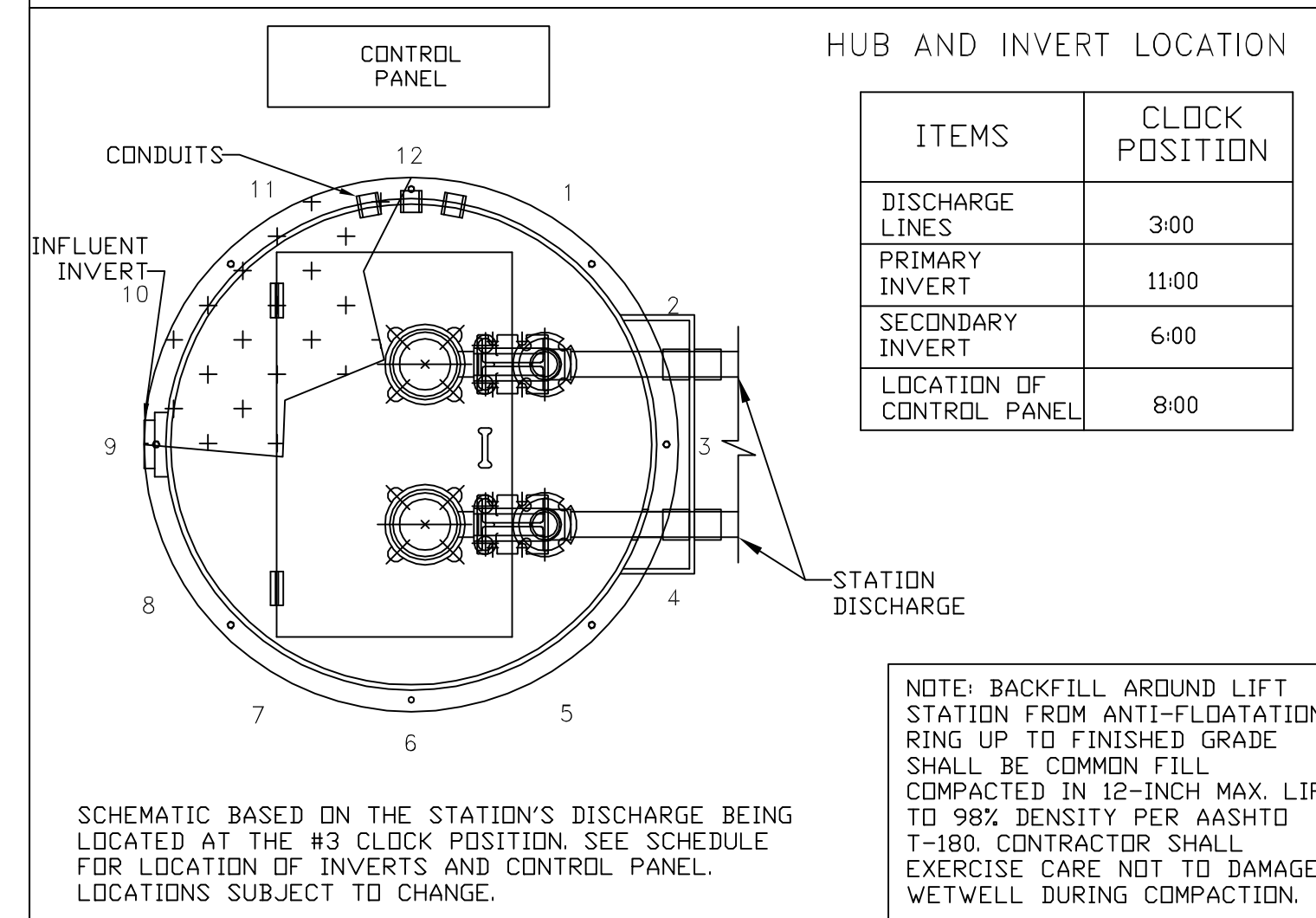
MARY E. LEAPROT, P.E.
FL P.E. # 61449
Reg. Engineer

Jan Hammock Smith AR0013348

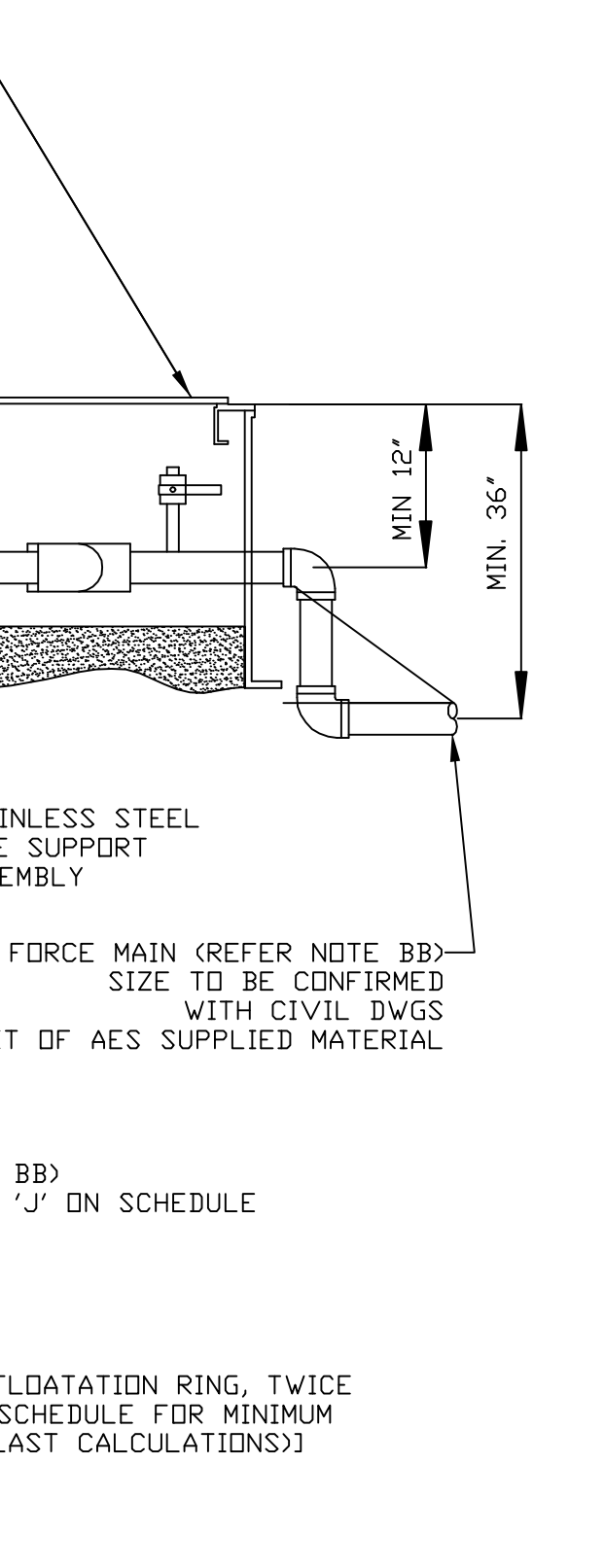
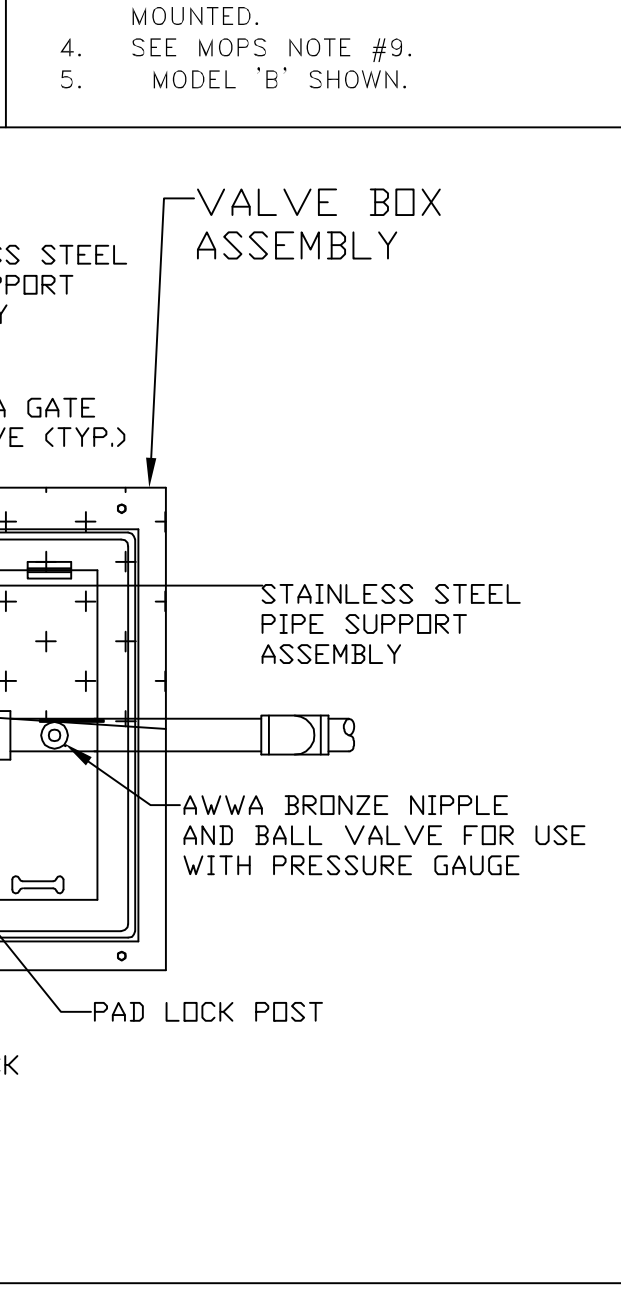
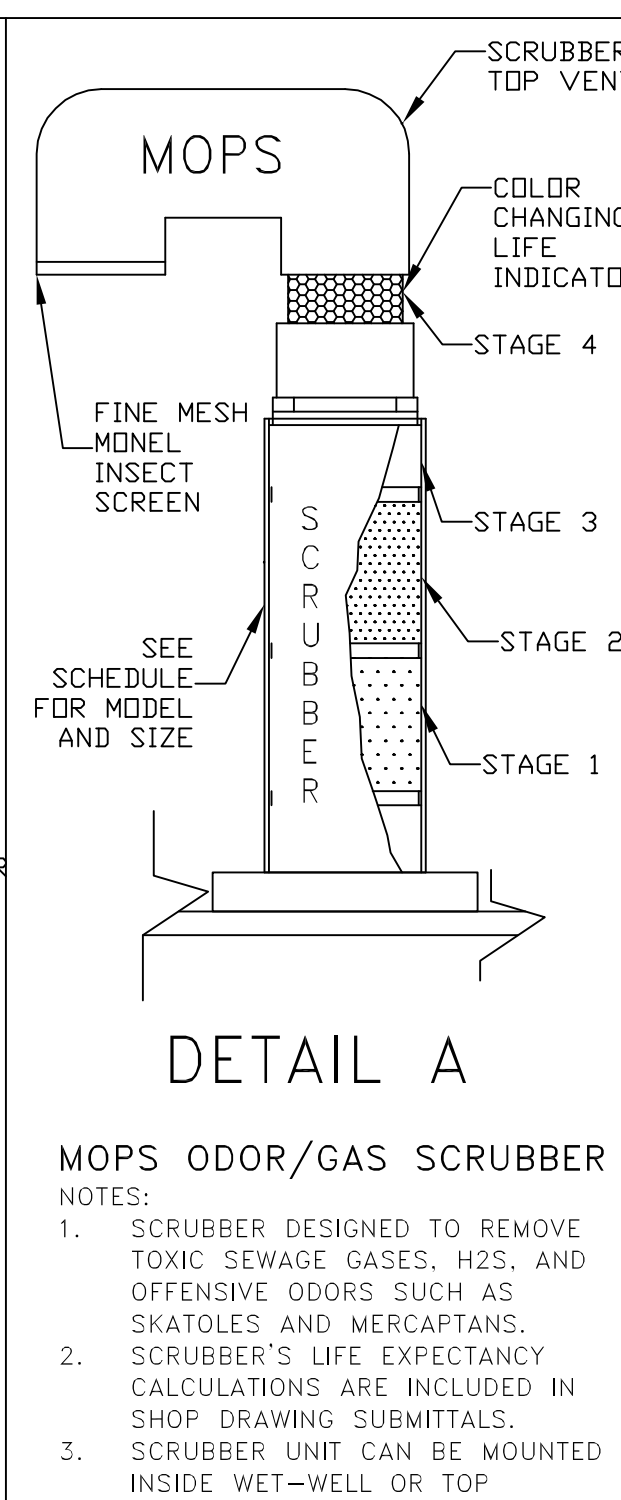
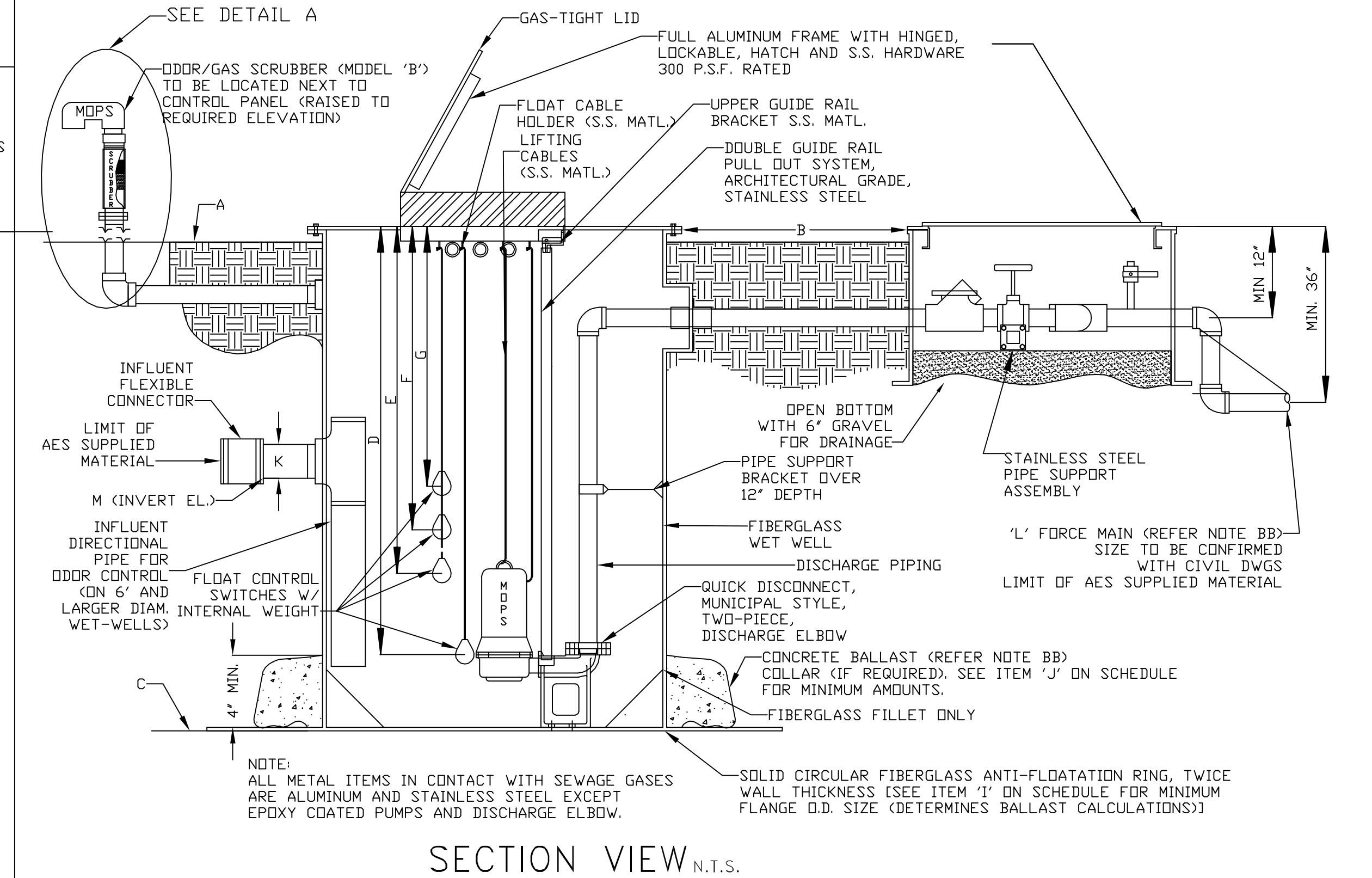
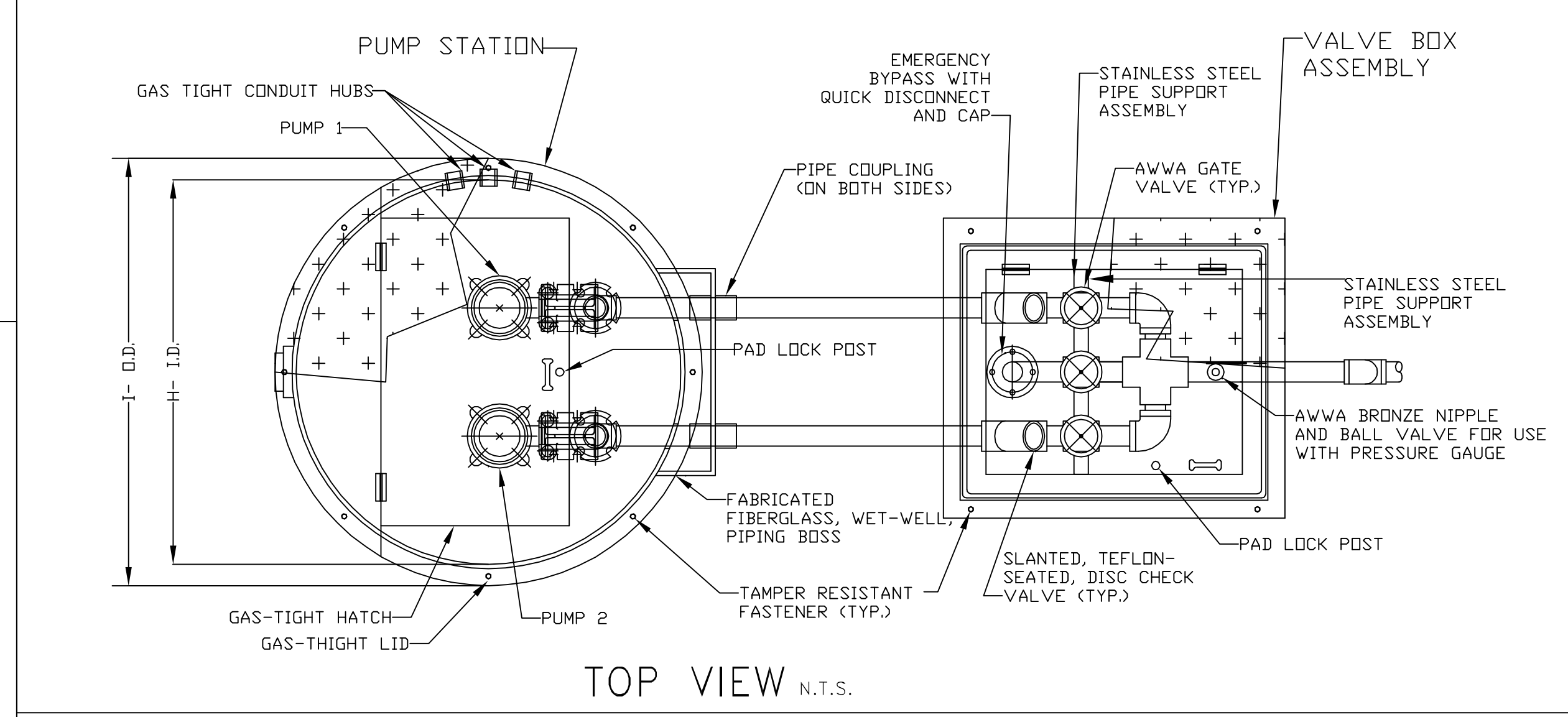


MOPS CONTROL CENTER

CONTROL CENTER DESIGNED AND MANUFACTURED TO MEET ALL D.E.P. REQUIREMENTS. SEE SCHEDULE FOR ELECTRICAL SERVICE REQUIREMENTS.



CONTROL CENTER ASSEMBLY AND INSTALLATION N.T.S.



MOPS PRIVATE SERIES

MANUFACTURED ODORLESS PUMP STATION
ATLANTIC ENVIRONMENTAL SYSTEMS, INC.
LAKE WORTH, FL 33461
PH: (561) 547-8080 FAX: (561) 547-3999 ©2000

THIS DRAWING AND THE DESIGN CONTAINED HEREIN IS PROPRIETARY AND IS AND SHALL REMAIN THE PROPERTY OF ATLANTIC ENVIRONMENTAL SYSTEMS, INC. THIS DRAWING AND DESIGN SHOULD BE USED ONLY FOR THE PURPOSE FOR WHICH IT IS INTENDED, AND ONLY WITH WRITTEN AUTHORIZATION FROM ATLANTIC ENVIRONMENTAL SYSTEMS, INC. ANY REPRODUCTION IN WHOLE OR IN PART, WITHOUT PERMISSION FROM ATLANTIC ENVIRONMENTAL SYSTEMS, WOULD VIOLATE ATLANTIC ENVIRONMENTAL SYSTEMS' COPYRIGHTS.

MOPS PUMP STATION SCHEDULE

MOPS SERIES	ITEM DESCRIPTION	QTY.	MODEL DESIGNATION
INITIAL DESIGN FLOW (G.P.M.)	100 YEAR FLOOD ELEVATION	45	5.50'
INITIAL DESIGN HEAD (T.D.H.)	25 YEAR FLOOD ELEVATION	60	<5.50'
SECONDARY DESIGN FLOW (G.P.M.)	A GRADE ELEVATION	61	6.30'
SECONDARY DESIGN HEAD (T.D.H.)	B TOP ELEVATION OF WET WELL	29	6.80'
RATED PERFORMANCE SPEED	C BOTTOM ELEVATION OF WET WELL	3450 RPM	-5.20'
RATED MOTOR HORSEPOWER	D ALL PUMPS OFF ELEVATION	3.0	-2.40'
SUBMERSIBLE PUMP TYPE (P-1,P-2)	E LEAD PUMP ON ELEVATION	GRINDER	-1.00'
PUMP MODEL NUMBER	F LAG PUMP ON ELEVATION	MOPS	-0.50'
SERVICE ENTRANCE VOLTAGE	G HIGH ALARM ELEVATION	460	0.00'
SERVICE ENTRANCE PHASE	H INSIDE DIAMETER OF WET-WELL	3	60"
CONTROL CENTER FULL LOAD AMPS	I OUTSIDE DIAMETER OF ANTI-FLOATATION RING	15	96"
NEMA 3R PAINTED STEEL DISCONNECT SWITCH, RATED AMPS	J MINIMUM CUBIC FEET OF CONCRETE BALLAST (CU YDS)	30	43/(2)
WET WELL SCOURER SYSTEM	K INVERT PIPE DIAMETER	N/A	8"
REMOTE STATION MONITOR (TELEMETRY)	L FORCE MAIN DIAMETER	W/ SA	3"
ON-SITE GENERATOR SYSTEM	M PRIMARY INVERT ELEVATION	N/A	0.80'
	N SECONDARY INVERT ELEVATION		0.80'

MOPS EQUIPMENT IDENTIFICATION	QTY.	MODEL DESIGNATION
MOPS PUMP STATION	1	B23-60144-D-3.0
MOPS VALVE BOX ASSEMBLY (VBA)	1	VBA-23
MOPS ODOR/GAS SCRUBBER (OGS)	1	OGS-B
MOPS R.P.Z. ASSEMBLY	1	75
MOPS CONTROL CENTER	1	PSC-232-3.0
MOPS DISCONNECT SWITCH	1	FDS-30-3-4-PS
MOPS CONTROL CENTER MOUNTING ASSEMBLY	1	CCMA-22GA
MOPS WET WELL SCOURER SYSTEM	0	N/A
MOPS REMOTE STATION MONITOR	1	PROVIDED WITH SERVICE AGREEMENT
1st YEAR SERVICE/MAINTENANCE CONTRACT	1	LEVEL 1 WITH REMOTE MONITOR
MOPS ON-SITE GENERATOR SYSTEM	0	N/A
MOPS FIELD SERVICE WORK	1	CONTROL INSTALLATION & START-UP

MOPS PUMP STATION COMPLIANCE NOTES

THIS PUMP STATION DESIGN COMPLIES WITH THE FOLLOWING REQUIRED STANDARDS:

- STATE OF FLORIDA ENVIRONMENTAL PROTECTION STANDARDS
- FLORIDA ADMINISTRATIVE CODE (F.A.C.): 62-640.400- COLLECTION AND TRANSMISSION SYSTEMS
- NATIONAL ELECTRIC CODE (NEC) CLASS 1, DIVISION 1, GROUP D- HAZARDOUS LOCATIONS
- UNDERWRITER'S LABORATORIES (U.L.) 508A-MOTOR CONTROL CENTERS AND U.L. 698A-INSTRINSICALLY SAFE CONTROL CENTERS
- RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES (1997 EDITION).

- PUMPS ARE RATED BY FACTORY MUTUAL FOR CLASS 1, DIVISION 1, GROUP D ATMOSPHERES AS REQUIRED BY NEC.
- THE CONTROL CENTER INCORPORATES INTRINSICALLY SAFE RELAYS AND IS LISTED TO U:698A INTRINSICALLY SAFE FOR CLASS 1, DIVISION 1 ATMOSPHERES.
- THE CONDUIT PROVIDED, ALONG WITH CONDUIT GAS-SEAL-OFFS, ARE RATED FOR CLASS 1, DIVISION 1 LOCATIONS.
- THE WASTEWATER PUMPS AND THE CONTROL CENTER INCORPORATE A MECHANICAL SEAL FAILURE DETECTION AND NOTIFICATION SYSTEM.
- THE CONTROL CENTER INCLUDES EITHER A REMOTE TELEMETRY UNIT (RTU) OR A SELF-CHARGING, BACK-UP ALARM SYSTEM TO OPERATE ON POWER FAILURE.
- THE PUMP STATION INCORPORATES AN ODORLESS DESIGN WITH A SCRUBBER SYSTEM TO CONTROL TOXIC GASES AND ODORS FOR COMPLIANCE TO F.A.C. 62-604.400.
- THE BOTTOM OF THE TOP RIM ELEVATION OF PUMP STATION MUST BE LOCATED AT A HIGHER ELEVATION THAN THE 25 YEAR FLOOD ELEVATION. THE LISTED 25 YEAR FLOOD ELEVATION PROVIDED BY SITE CIVIL ENGINEER.
- THE BOTTOM ELEVATION OF THE MOPS CONTROL CENTER MUST BE LOCATED AT A HIGHER ELEVATION THAN THE 100 YEAR FLOOD ELEVATION. THE LISTED 100 YEAR FLOOD ELEVATION PROVIDED BY THE SITE CIVIL ENGINEER.

MOPS ENGINEERING NOTES

AA. THE HORSEPOWER SHOWN ON THE SCHEDULE IS A MINIMUM HORSEPOWER REQUIREMENT BASED ON THE STATION'S DESIGN CRITERIA AND THE REQUIRE TORQUE. (LOWER RATED HORSEPOWER EQUIPMENT WILL NOT BE ACCEPTABLE.)

BB. THESE ITEMS ARE NOT SUPPLIED BY A.E.S. WITH THE MOPS STATION.

CC. INVERT ELEVATIONS BASED ON INSIDE BOTTOM OF PIPE.

DD. THE MOPS CONTROL ASSEMBLY CONSISTS OF THE FOLLOWING: CONTROL CENTER DISCONNECT SWITCH, MOUNTING ASSEMBLY, ELECTRICAL CONDUITS, AND SEAL-OFF. THESE ITEMS MUST BE SUPPLIED AND INSTALLED BY THE MOPS PUMP STATION MANUFACTURER TO VALIDATE MOPS WARRANTY PROGRAM.

THE MOPS WASTEWATER PUMP STATION DESIGN AND EQUIPMENT SHOWN ON THIS DRAWING HAS BEEN REVIEWED, PERMITTED, AND CERTIFIED AS COMPLYING WITH ALL THE STATE OF FLORIDA D.E.P. AND LOCAL REQUIREMENTS. ANY SUBSTITUTION FROM THIS DESIGN MAY REQUIRE NEW PERMITS, APPLICATION FEES, AND ENGINEERING SERVICES FOR RE-CERTIFICATION AND DESIGN REVIEW.

P.E. CERTIFICATION:

Bonnie S. McLeod, P.E. License # 70797
V.P. of Engineering
Atlantic Environmental Systems, Inc., C A # 26398
2244 4th Ave. North, Lake Worth, Florida 33461
Ph: 561-547-8080 / Fax: 561-547-3999

PRIVATE PUMP STATION

DATE: ___/___/___


REVISION: ___/___/___

Project: GERDAU AMERISTEEL US
Prepared For: CONNELLY & WICKER
10060 SKINNER LAKE DR., STE 500, JACKSONVILLE, FL 32246

Project No: 898
Date: 06/01/15

Page No: LS-1

FIRE HYDRANT FLOW TEST



WAYNE
Automatic Fire Sprinklers, Inc.

4/10/2015

Gerdau Rebar (Ameristeel)
2025 Tigertail Blvd
Dania Beach, FL

Dear Brian,

A fire flow test has been conducted by Wayne Automatic Fire Sprinklers, Inc. for the following project:

PROJECT NAME: Gerdau Rebar (Ameristeel)
PROJECT LOCATION: 2025 Tigertail Blvd
HYDRANT LOCATION: FIRE HYDRANTS:
TEST DATE: 4/8/2015

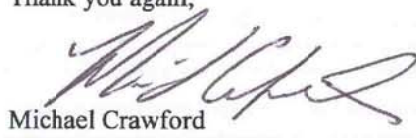
The results of this test are:

STATIC PRESSURE.....62 PSI
RESIDUAL PRESSURE.....58 PSI
PITOT PRESSURE (1) HYD. FLOWING.....42 PSI
PITOT PRESSURE (2) HYD. FLOWING.....38 PSI
HYDRANT OUTLET COEFFICIENT......90
FIRE HYDRANT FLOW.....2130 GPM
TIME OF TEST.....12:25PM

The data contained herein are furnished only to demonstrate the available water supply at the time of the test. Fluctuations to pressure and flow will occur due to demands on the system and other conditions beyond the control of Wayne Automatic Fire Sprinklers, Inc.; therefore, additional criteria must be considered and additional independent test run to confirm pressures for use in design of any water distribution, sprinkler, or fire protection system.

Additionally, Wayne Automatic Fire Sprinklers, Inc. (WAFS) attests only to the correct use of generally recognized applicable procedures and techniques by experienced, qualified personnel in the execution of the flow test. WAFS in no way implies any guarantee as to the repeatability of the pressure/flow as observed and recorded. Neither does WAFS assume any liability for the overall quality of the water source.

Please give me a call, if you should have any questions.
Thank you again.


 Michael Crawford
 954-917-3030 ext. #1346

Corporate Office: 222 Capitol Court • Ocoee, Florida 34761-3033 • (407) 656-3030 • Fax (407) 656-8026
Regional Offices: Jacksonville • Fort Myers • Pompano Beach • Tampa • Concord, NC

APPLICATION FOR APPROVAL FIRE PROTECTION WATER SUPPLY DESIGN

DEPARTMENT OF FIRE RESCUE AND EMERGENCY SERVICES
FIRE MARSHAL'S BUREAU
DANIA BEACH DISTRICT
103 West Dania Beach Boulevard
Dania Beach, FL 33004
Phone: (954) 342-4262
Fax: (954) 342-4265

APPLICATION FOR APPROVAL
FIRE PROTECTION WATER SUPPLY DESIGN


Date of Application: 5/4/15
Application #: SP-02-15
Name of Project/Development: Gerdau, Ameristeel US, Inc.
Address of Project/Development: 2025 Tigertail Blvd, Dania Beach, FL 33004
Owner/Agent: Dennis Hunter
Design Professional of Record: Robert L. Hinkle, PE
Water Purveyor: Dania Beach
Water Purveyor Address: Dania Beach

In order for the Broward Sheriff's Office, Department of Fire Rescue, Fire Marshal's Bureau to provide an approval letter for the adequacy of the fire protection water supply design for the above referenced project, the following information must be provided:

Affirmation of Compliance with Fire Protection Water Supply Design Requirements:

- The Type of Construction is II (000) in accordance with NFPA 220. (Office and Fab Shop)
- The total fire protection water supply needed for manual firefighting (fire flow) and fire sprinkler/standpipe operations is 1750 gallons per minute. (In compliance with water supply requirements for manual firefighting operations in accordance NFPA 1 (2009 Ed.), Chapter 18, Section 18.4 and the Broward County Land Development Code; and the water supply necessary for fire sprinkler and standpipe operations in accordance with the currently adopted editions of NFPA 13 and NFPA 14).
- Statement of verification from the design professional of record, on official company letterhead, that the proposed water main sizing, fire hydrant spacing, and fire hydrant locations, are in compliance with the Broward County Land Use Code and the Florida Fire Prevention Code. (Attach signed and sealed document).

This will affirm that the above stated information and attached statement of verification for this project/development is accurate and can be relied on for the requested approval letter to the applicable water purveyor.

Dennis Hunter Gerdau 6/2/15
 Signature - Owner/Agent/Occupant: Date

 Signature - Design Professional of Record 6/2/15
 Date


NFPA 1 Chapter 18 Section 18.4 Fire Flow Requirements for Buildings
Table 18.4.5.1.2 Column 11 (000)

Fire Flow Area 108,801 - 113,200 sq. ft. 7000 gpm Minimum Fire Flow Required for Non-Sprinklered Building
7000 gpm X 75% = 5250 gpm (reduction for fully sprinklered building)
7000 gpm - 5250 gpm = 1750 gpm Minimum Fire Flow Required for Fully Sprinklered Building

FIRE FLOW DEMAND CALCULATION

File: 2368 BLDG FIRE DEMAND.doc

Powell & Hinkle Engineering, P.A.
Ph: 904.264.5570 | Fax: 904.278.2646
1409 Kingsley Avenue Bldg. 12A | Orange Park, FL 32073 5557
Successfully Serving The Construction Industry Since 1986



June 1, 2015

GLN Downstream Lau Expansion Project
Dania Beach, Florida 33004
Broward County

Fire flow demand calculations based on Flow test dated 4/10/15 and conducted by Wayne Automatic:

Static Pressure: 62 psi
Residual Pressure: 58 psi
Hydrant Flow: 2130 gpm

Fabrication Shop: Ordinary Hazard Group 2 with 8" site fire main and 6" fire main for fabrication shop:

Pressure Demand Calculations		Flow Demand Calculations	
End Head Pressure	8.1 psi	Sprinkler @ 0.20 gpm x 1,500 sf	300 gpm
Elevation Loss	16 psi	Outside Hose Station Allowance	250 gpm
Pipe Friction Loss	24 psi	10% Overage	55 gpm
Back-flow Preventer Loss	12 psi		
Total Pressure Demand	60 psi	Total Flow Demand	605 gpm

Office: Ordinary Hazard Group 1 with 8" site fire main with 4" fire main for office:

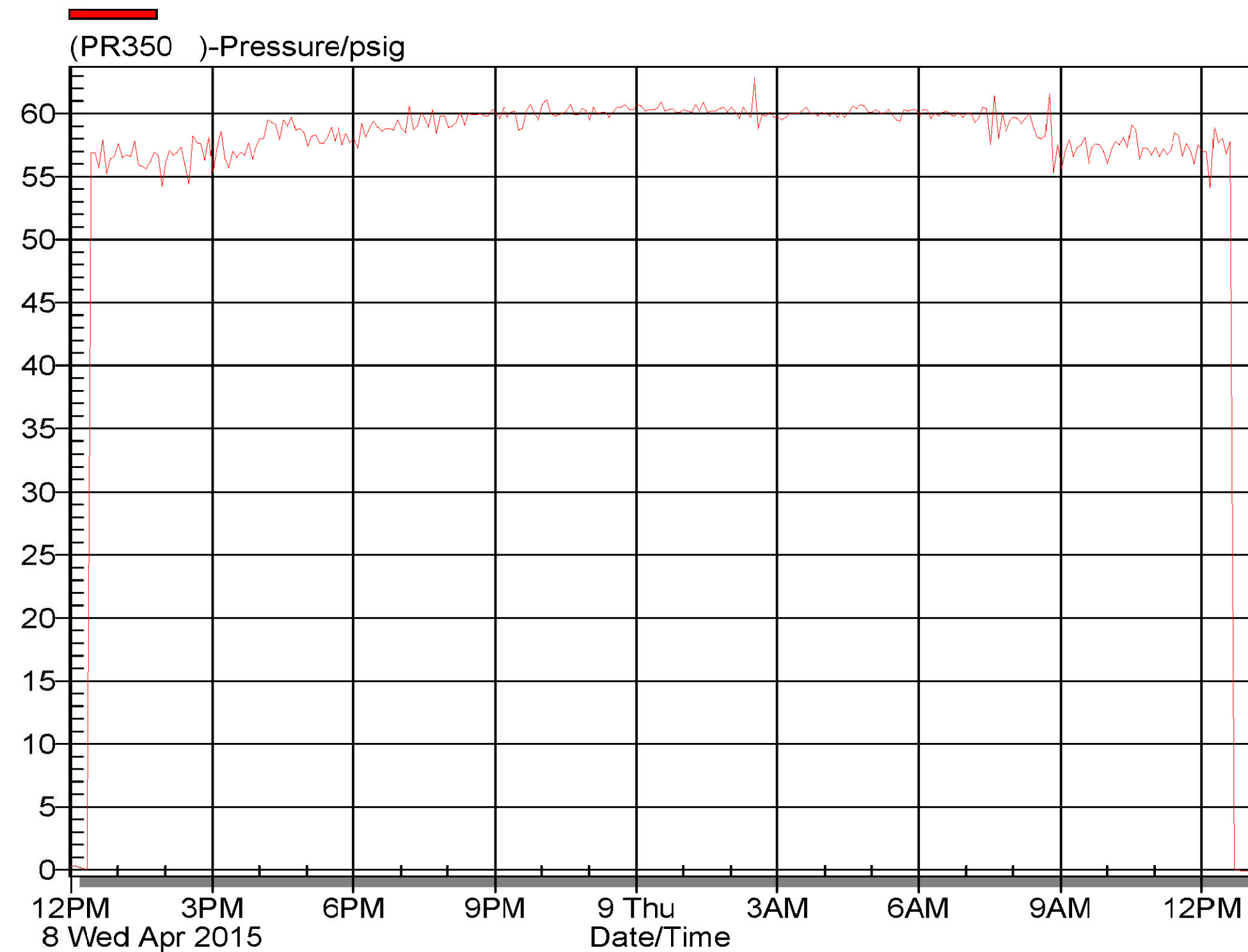
Pressure Demand Calculations		Flow Demand Calculations	
End Head Pressure	8.1 psi	Sprinkler @ 0.15 gpm x 250 sf	38 gpm
Elevation Loss	13 psi	Outside Hose Station Allowance	250 gpm
Pipe Friction Loss	16 psi	10% Overage	29 gpm
Back-flow Preventer Loss	12 psi		
Total Pressure Demand	49 psi	Total Flow Demand	317 gpm

Office: Light Hazard with 8" site fire main with 4" fire main for office:

Pressure Demand Calculations		Flow Demand Calculations	
End Head Pressure	8.1 psi	Sprinkler @ 0.10 gpm x 1,500 sf	150 gpm
Elevation Loss	13 psi	Outside Hose Station Allowance	100 gpm
Pipe Friction Loss	16 psi	10% Overage	25 gpm
Back-flow Preventer Loss	12 psi		
Total Pressure Demand	49 psi	Total Flow Demand	275 gpm

Respectfully Submitted,
Robert L. Hinkle, P.E.
Principal Mechanical and Fire Protection Engineer

Downloaded Data - Friday, April 10, 2015



SMITH • MCCRARY ARCHITECTS INC.

4230 Pablo Professional Court, Suite 102
Jacksonville, Florida 32224
Tel (904) 242-7200 Fax (904) 242-0404
SMA Florida License Number AA0002361

Jan Hammock Smith AF0013348

GLN Downstream LAU Expansion Project

Plant Expansion - Office, Fabrication Shop and Site Improvements

Dania Beach, Florida 33004

Broward County

SP-02-15

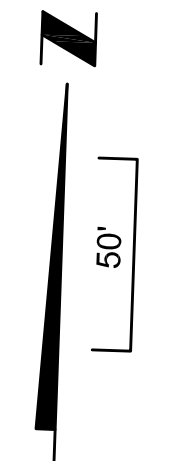
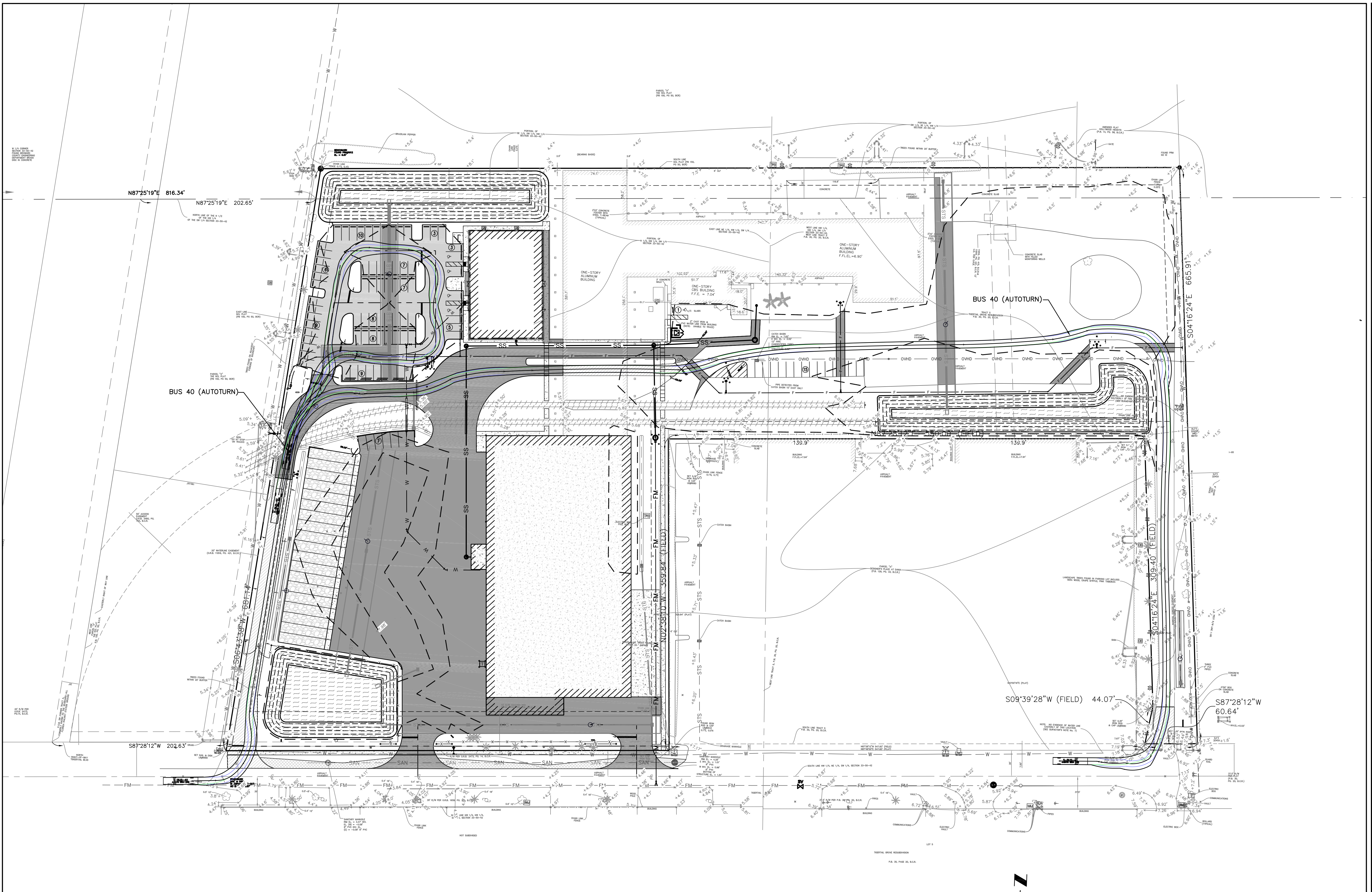
REVISION

FIRE FLOW DEMAND CALCS.,
FLOW TEST, & APPLICATION FOR
APPROVAL FIRE PROTECTION
WATER SUPPLY DESIGN

PROJ. NO. BC-CER01AU | DRW BY: MAM | CK BY: JHS

F-1

PHASE:
CITY COMMISSION
ISSUE DATE: 7/21/15



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 C.A. NUMBER: 3650 L.A. NUMBER: LC26000311

MARY E. LEAPTROTT, P.E.
 FL. P.E. # 61449
 Reg. Engineer

GLN Downstream LAU Expansion Project
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 Broward County

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Jan Hammock Smith AR0013348

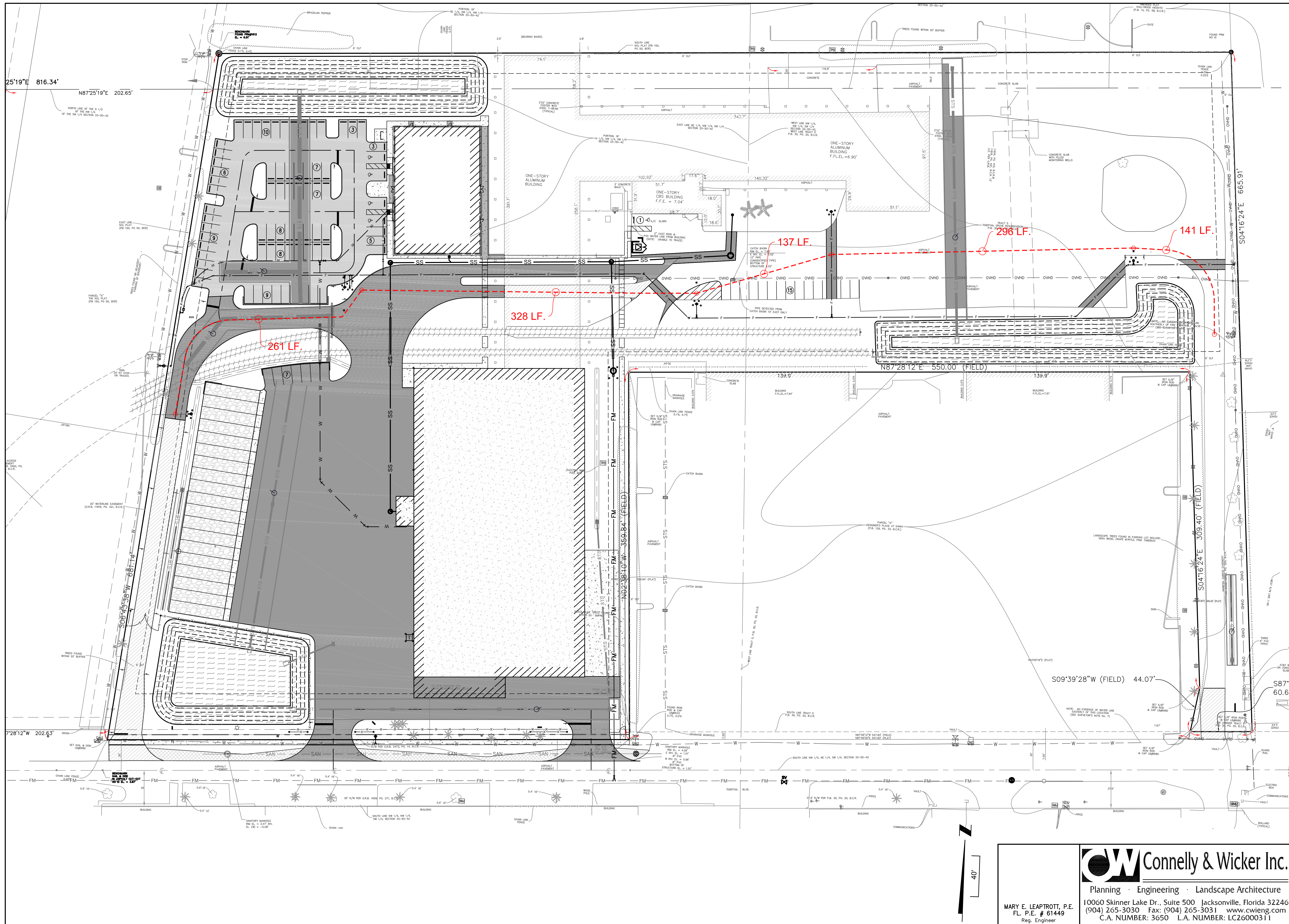
MK	DATE	REVISION

EXHIBIT "F-2"
AUTOTURN

PROJ. NO. BC-GERDAU DRW. BY: LOI/ANB CK. BY: MEL

F-2

PHASE:
 CITY COMMISSION
 ISSUE DATE: 07/21/15



GLN Downstream LAU Expansion Project
 Plant Expansion - Office, Fabrication Shop and Site Improvements
 Dania Beach, Florida 33004
 Broward County

NO.	DATE	REVISION

EXHIBIT "F-3"
FIRE HYDRANT LAYOUT

PROJ. NO. BC-GERDAU DRW. BY: LOL/ANB CK. BY: MEL

F-3

PHASE:
 CITY COMMISSION
 ISSUE DATE: 07/21/15

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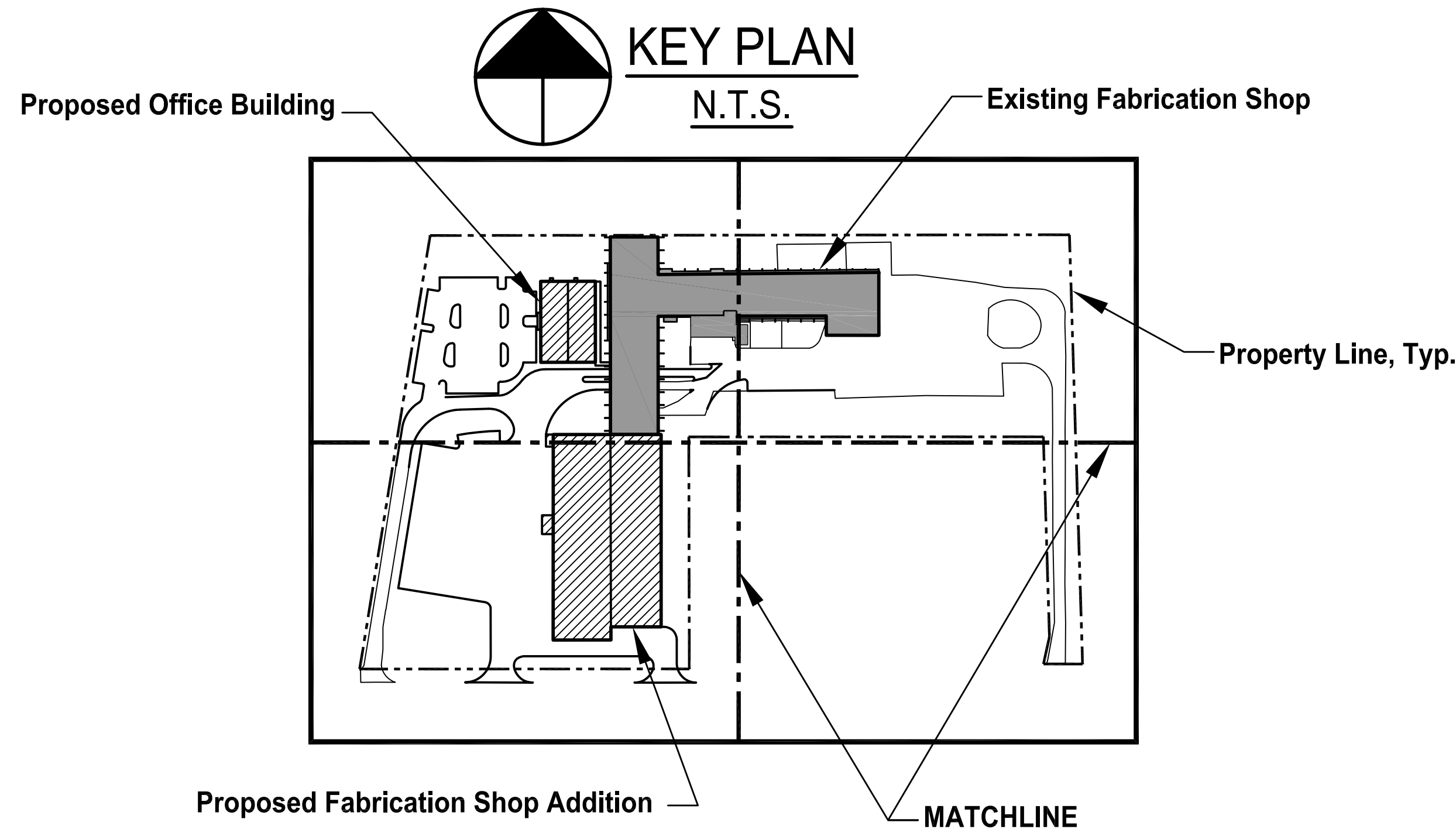
SITE PLANS (Scale 1:20)

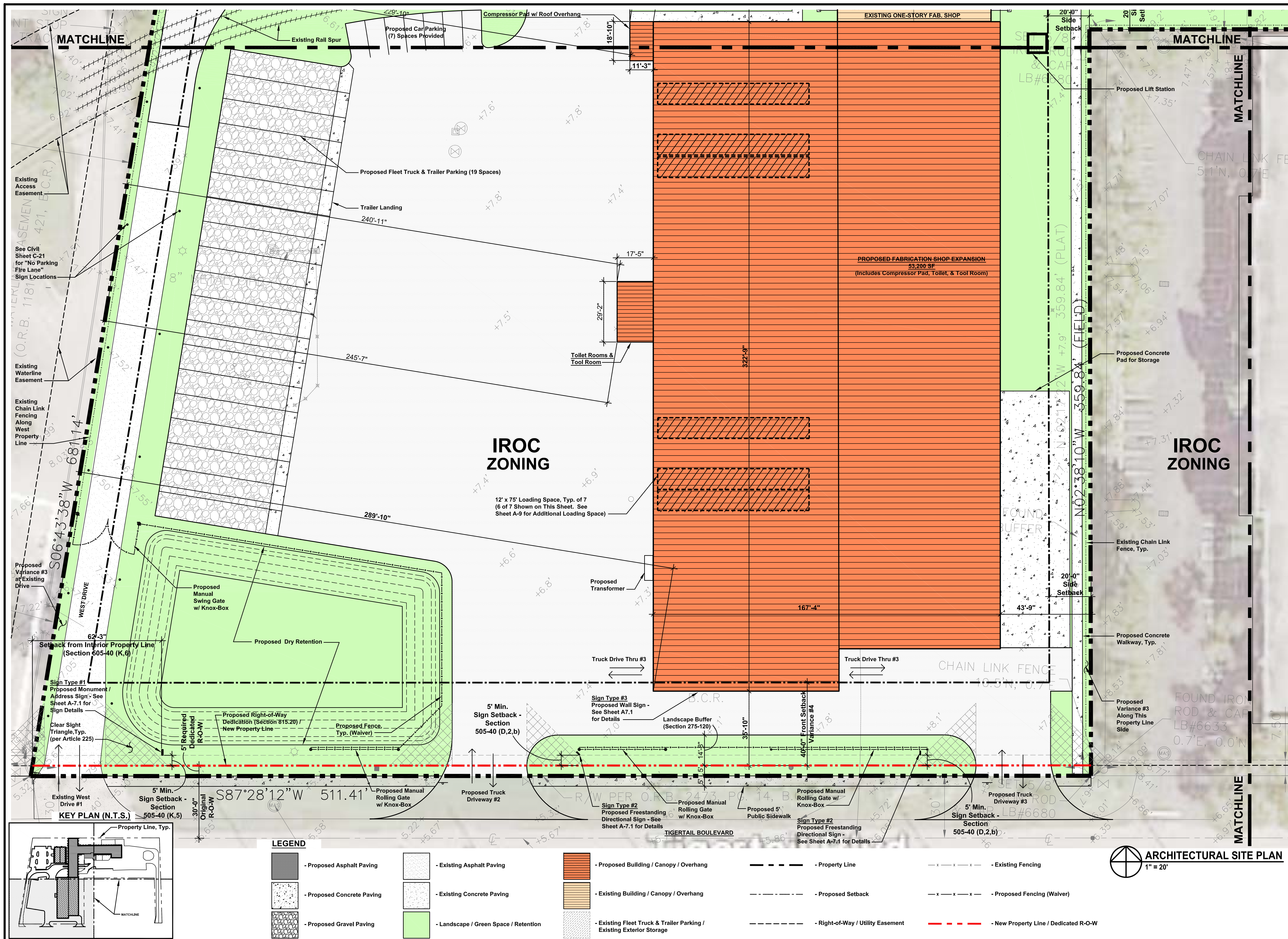
- A-8 Architectural Site Plan
- A-9 Architectural Site Plan
- A-10 Architectural Site Plan
- A-11 Architectural Site Plan

- C-13 Civil Demolition Plan
- C-14 Civil Demolition Plan
- C-15 Civil Demolition Plan
- C-16 Civil Demolition Plan

- C-17 Civil Grading, Drainage and Erosion Plan
- C-18 Civil Grading, Drainage and Erosion Plan
- C-19 Civil Grading, Drainage and Erosion Plan
- C-20 Civil Grading, Drainage and Erosion Plan

- C-21 Civil Site Geometry and Utility Plan
- C-22 Civil Site Geometry and Utility Plan
- C-23 Civil Site Geometry and Utility Plan
- C-24 Civil Site Geometry and Utility Plan





IROC ZONING

12' x 75' Loading Space, Typ. of 7
(6 of 7 Shown on This Sheet. See Sheet A-9 for Additional Loading Space)

IROC ZONING

LEGEND

- Proposed Asphalt Paving
- Existing Asphalt Paving
- Proposed Concrete Paving
- Existing Concrete Paving
- Proposed Gravel Paving
- Landscape / Green Space / Retention
- Proposed Building / Canopy / Overhang
- Existing Building / Canopy / Overhang
- Existing Fleet Truck & Trailer Parking / Existing Exterior Storage
- Property Line
- Existing Fencing
- Proposed Setback
- Proposed Fencing (Waiver)
- Right-of-Way / Utility Easement
- New Property Line / Dedicated R-O-W

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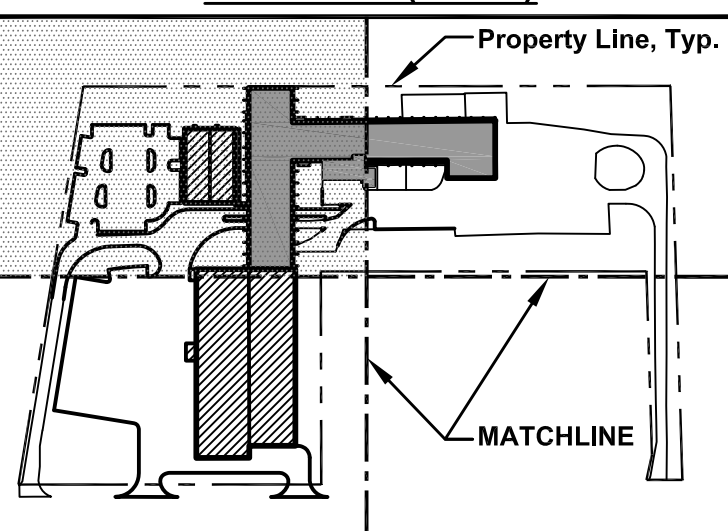
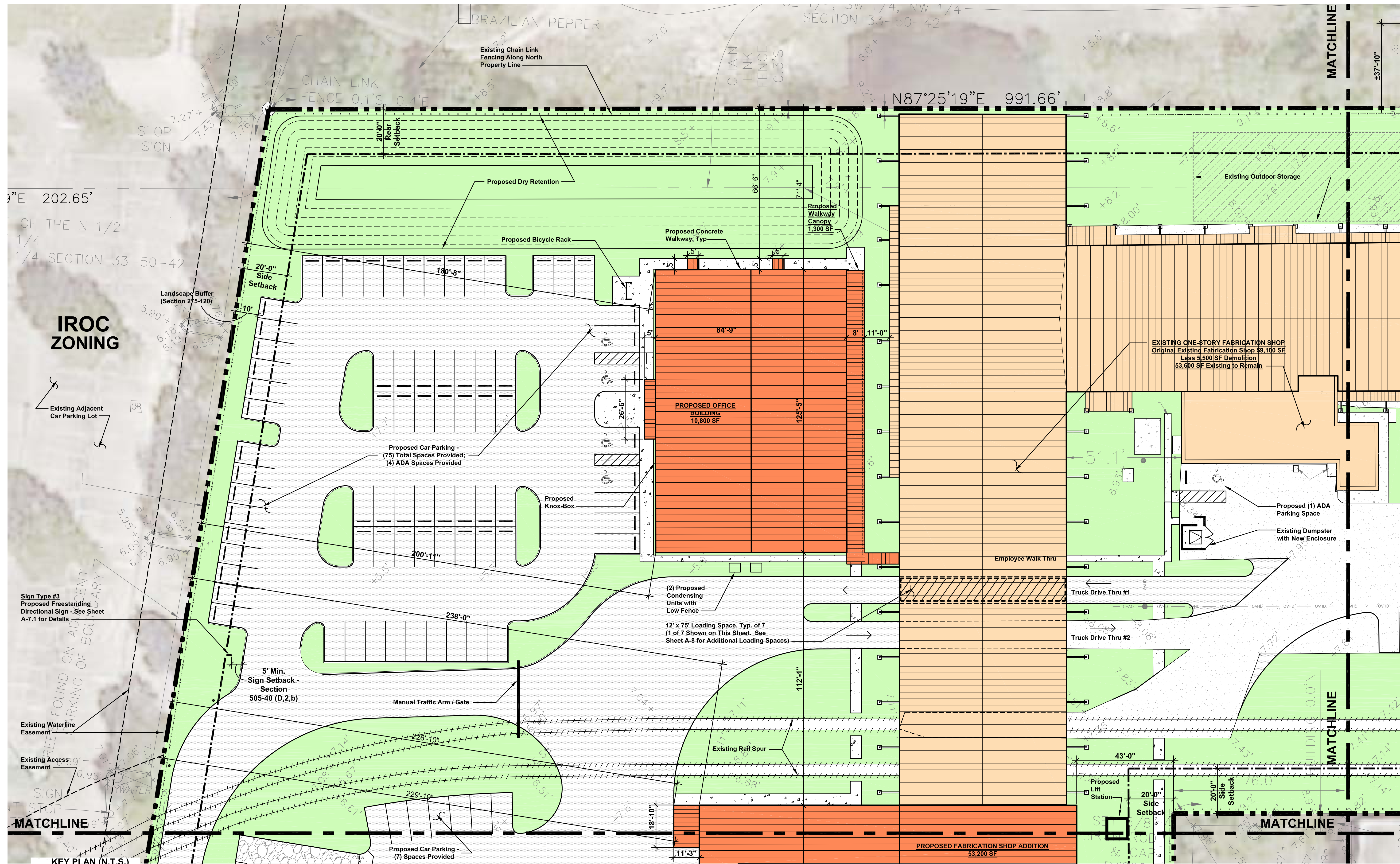
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 Dania Beach, Florida 33004
 Broward County
SP-02-15

MK	DATE	REVISION

ARCHITECTURAL SITE PLAN
 PROJ. NO. BC-CER04U DRW. BY: MAM CK. BY: JHS

A-8
 PHASE:
 CITY COMMISSION
 ISSUE DATE: 7/21/15





LEGEND

- Proposed Asphalt Paving
- Existing Asphalt Paving
- Proposed Concrete Paving
- Existing Concrete Paving
- Proposed Gravel Paving
- Landscape / Green Space / Retention
- Proposed Building / Canopy / Overhang
- Existing Building / Canopy / Overhang
- Existing Fleet Truck & Trailer Parking / Existing Exterior Storage
- Property Line
- Proposed Setback
- Right-of-Way / Utility Easement
- Existing Fencing
- Proposed Fencing (Waiver)
- New Property Line / Dedicated R-O-W



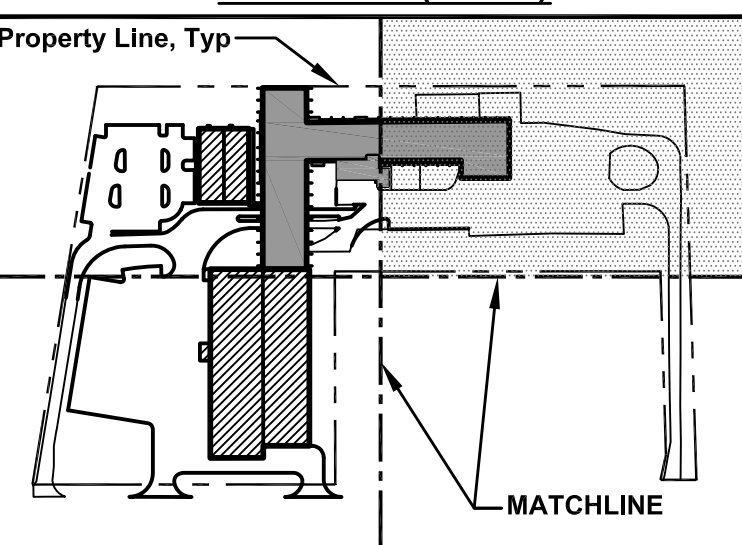
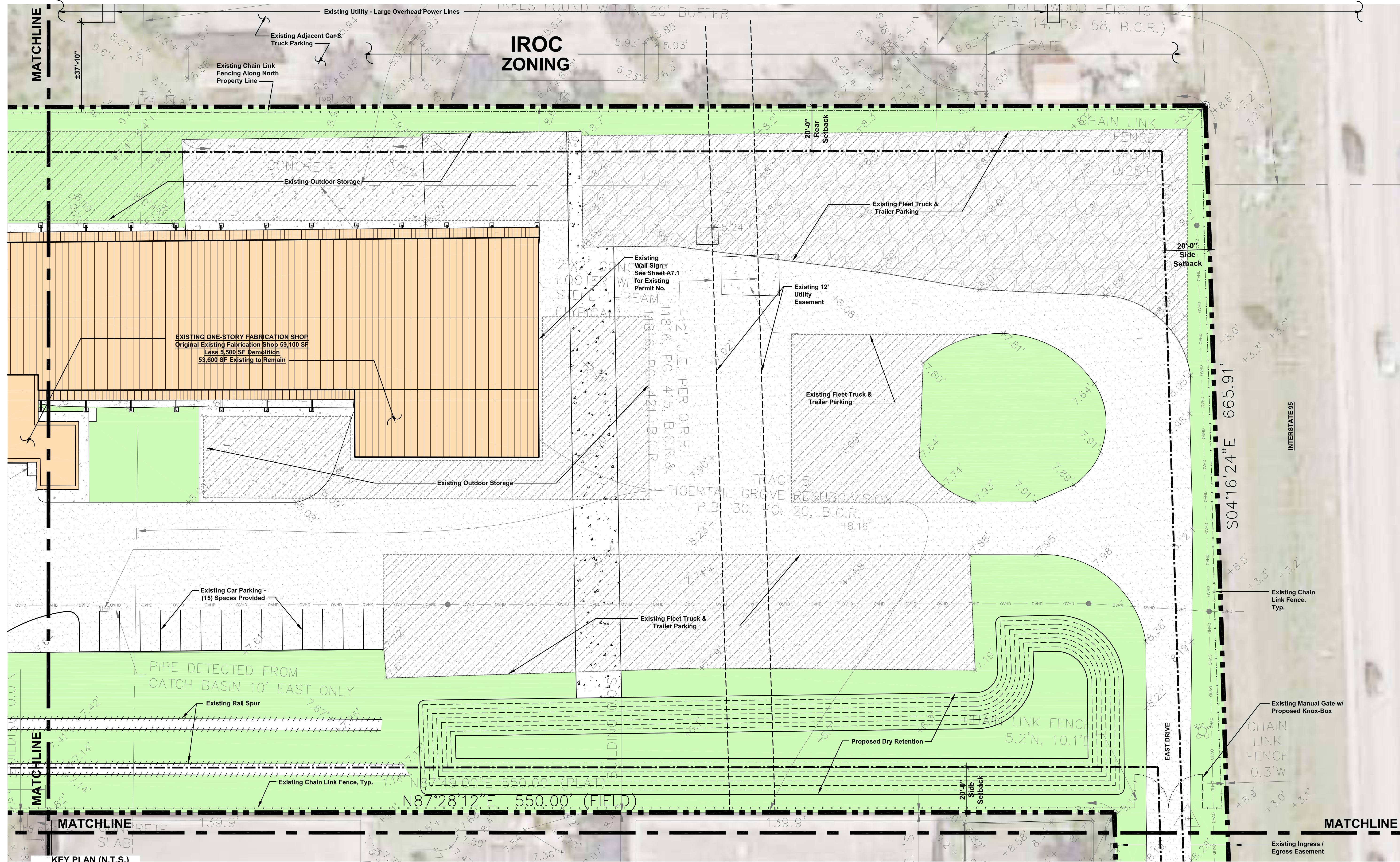
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 Plant Expansion - Office, Fabrication Shop and Site Improvements
 Dania Beach, Florida 33004
 Broward County
SP-02-15

MK	DATE	REVISION

ARCHITECTURAL SITE PLAN
 DRW BY: MAMM CK BY: JHS
 PROJ. NO. BC-CER04U

A-9
 PHASE:
 CITY COMMISSION
 ISSUE DATE: 7/21/15



LEGEND

- Proposed Asphalt Paving
- Existing Asphalt Paving
- Proposed Concrete Paving
- Existing Concrete Paving
- Proposed Gravel Paving
- Landscape / Green Space / Retention
- Proposed Building / Canopy / Overhang
- Existing Building / Canopy / Overhang
- Existing Fleet Truck & Trailer Parking / Existing Exterior Storage
- Property Line
- Proposed Setback
- Right-of-Way / Utility Easement
- Existing Fencing
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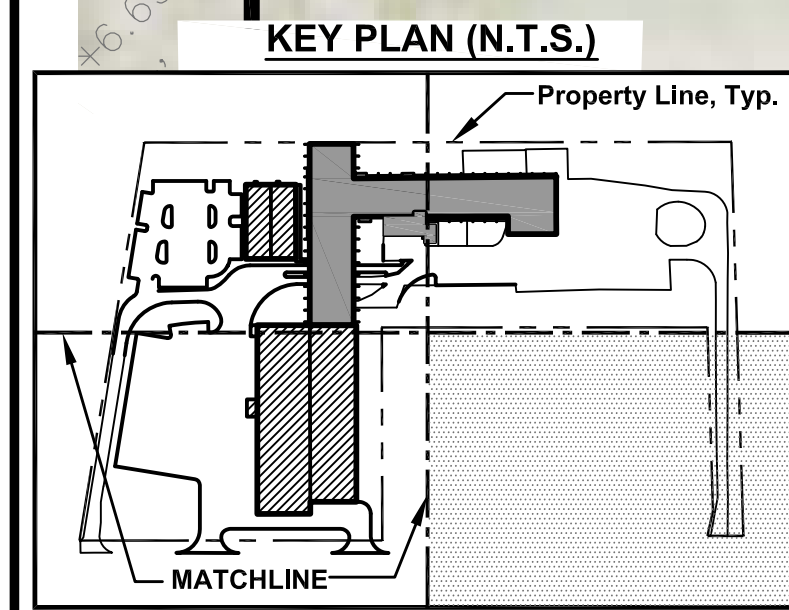
GLN Downstream LAU Expansion Project
 Plant Expansion - Office, Fabrication Shop and Site Improvements
 Dania Beach, Florida 33004
 Broward County
SP-02-15

MK	DATE	REVISION

ARCHITECTURAL SITE PLAN

A-10
 PHASE:
 CITY COMMISSION
 ISSUE DATE: 7/21/15

Jan Hammock Smith AF0013348



LEGEND

- Proposed Asphalt Paving
- Existing Asphalt Paving
- Proposed Building / Canopy / Overhang
- Existing Building / Canopy / Overhang
- Proposed Concrete Paving
- Existing Concrete Paving
- Proposed Gravel Paving
- Landscape / Green Space / Retention
- Existing Fleet Truck & Trailer Parking / Existing Exterior Storage
- Property Line
- Proposed Setback
- Right-of-Way / Utility Easement
- Existing Fencing
- Proposed Fencing (Waiver)
- New Property Line / Dedicated R-O-W

ARCHITECTURAL SITE PLAN
1" = 20'

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SMA Florida License Number AA0002361
Jan Hammock Smith AF0013348

GLN Downstream LAU Expansion Project
Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County
SP-02-15

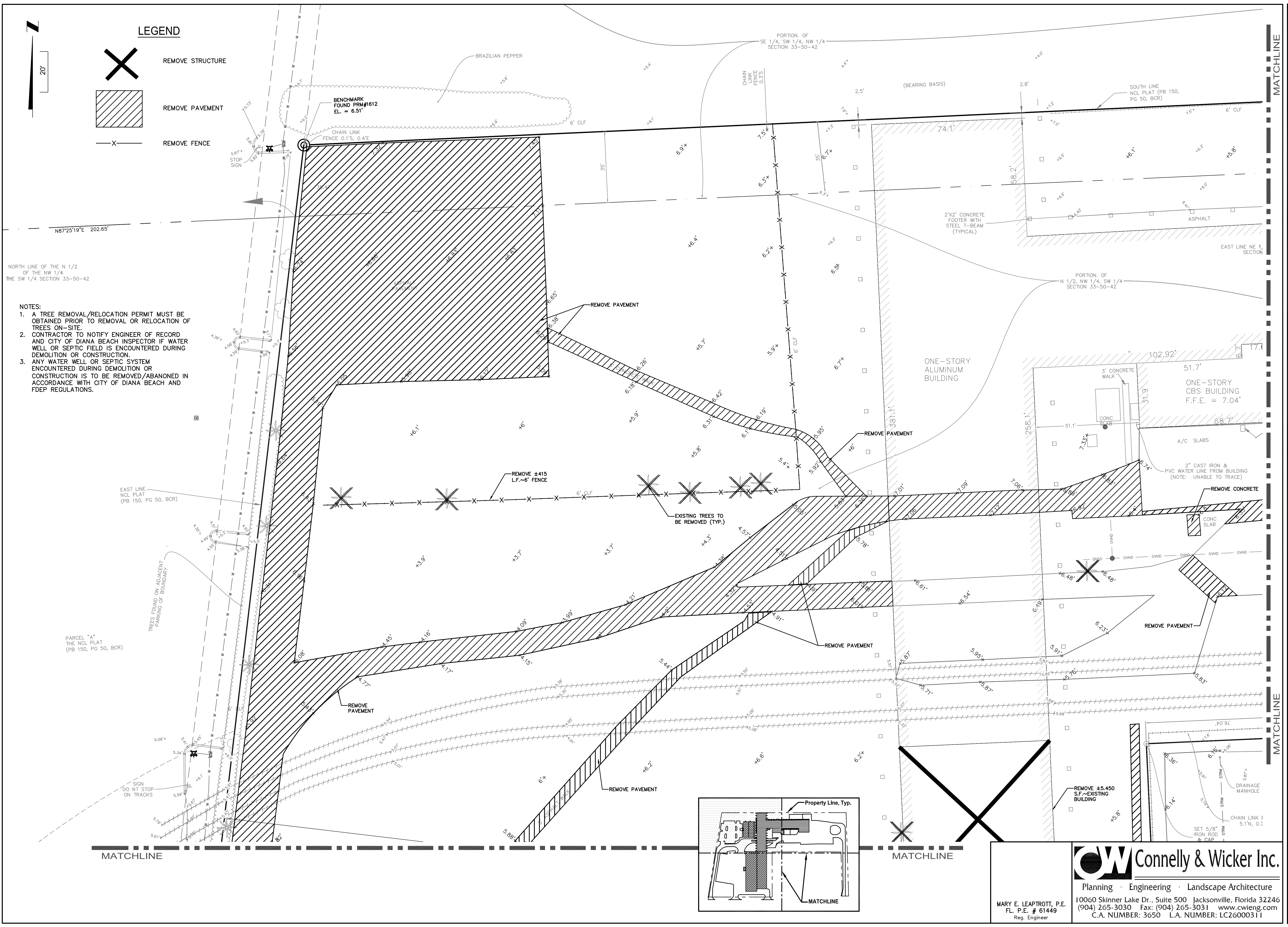
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ARCHITECTURAL SITE PLAN


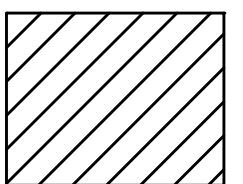
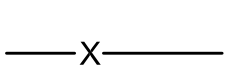
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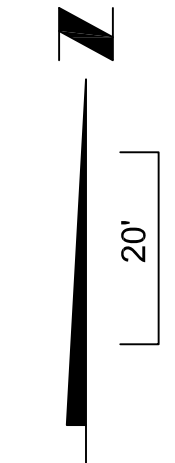
A-11

PHASE:
CITY COMMISSION
ISSUE DATE: 7/21/15



LEGEND

-  REMOVE STRUCTURE
-  REMOVE PAVEMENT
-  REMOVE FENCE



NORTH LINE OF THE N 1/2 OF THE NW 1/4 THE SW 1/4 SECTION 33-50-42

- NOTES:**
1. A TREE REMOVAL/RELOCATION PERMIT MUST BE OBTAINED PRIOR TO REMOVAL OR RELOCATION OF TREES ON-SITE.
 2. CONTRACTOR TO NOTIFY ENGINEER OF RECORD AND CITY OF DIANA BEACH INSPECTOR IF WATER WELL OR SEPTIC FIELD IS ENCOUNTERED DURING DEMOLITION OR CONSTRUCTION.
 3. ANY WATER WELL OR SEPTIC SYSTEM ENCOUNTERED DURING DEMOLITION OR CONSTRUCTION IS TO BE REMOVED/ABANDONED IN ACCORDANCE WITH CITY OF DIANA BEACH AND FDEP REGULATIONS.

MATCHLINE

MATCHLINE

SMITH • MCCRARY ARCHITECTS INC.
 4230 Pablo Professional Court, Suite 102
 Jacksonville, Florida 32224
 Tel (904)242-7200 Fax (904)242-0044
 SMA Florida License Number AA0002361

GLN Downstream LAU Expansion Project
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 Dania Beach, Florida 33004
 Broward County

NO.	DATE	REVISION

DEMOLITION PLAN

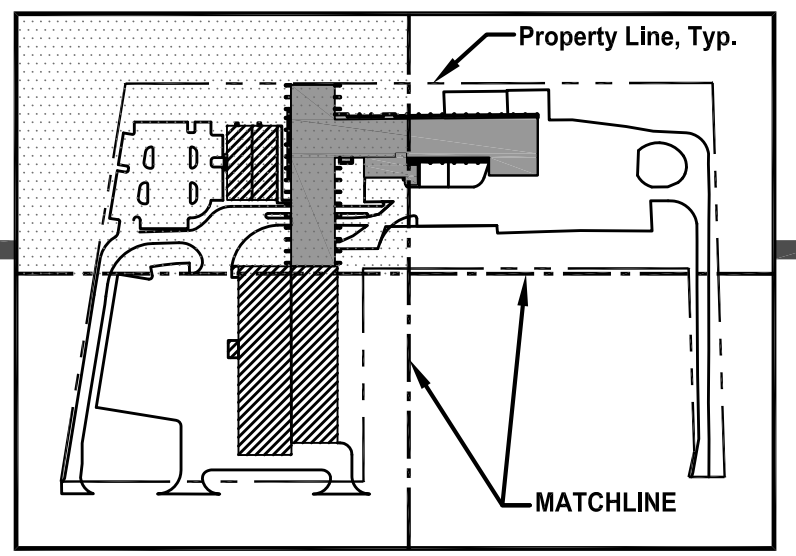
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C-14

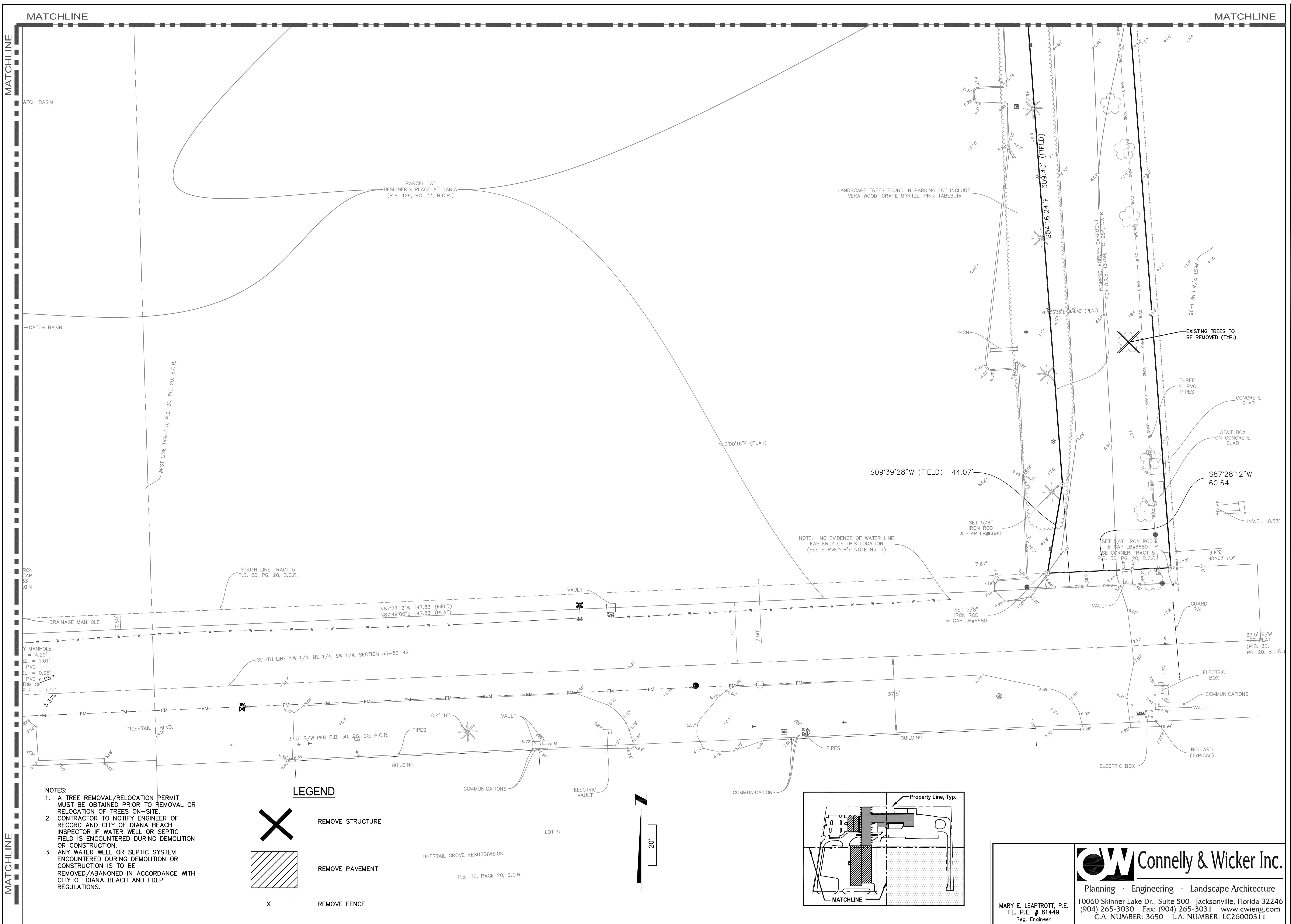
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 ISSUE DATE: 07/21/15

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MARY E. LEAPTROTT, P.E.
 FL. P.E. # 61449
 Reg. Engineer

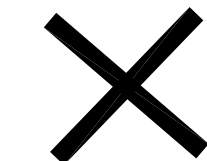
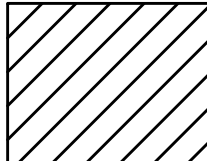



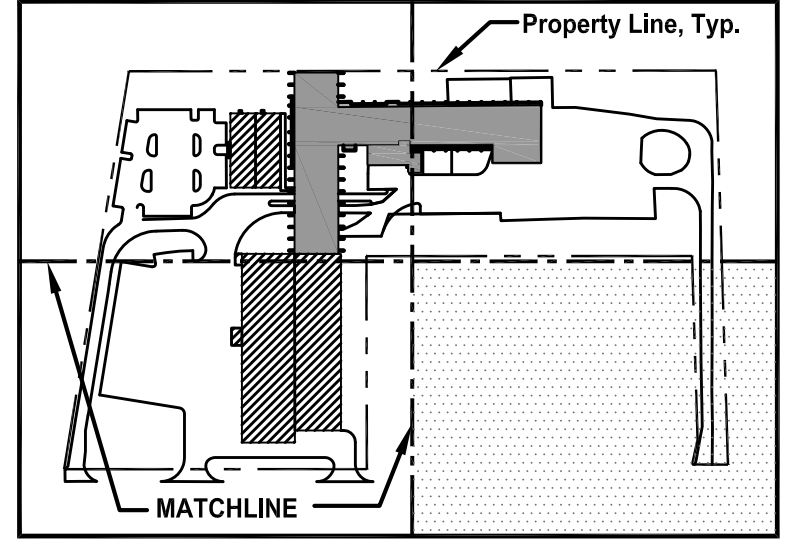
Jan Hammock Smith AR0013348



- NOTES:
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 3. ANY WATER WELL OR SEPTIC SYSTEM ENCOUNTERED DURING DEMOLITION OR CONSTRUCTION IS TO BE REMOVED/ABANDONED IN ACCORDANCE WITH CITY OF DIANA BEACH AND FDEP REGULATIONS.

LEGEND

-  REMOVE STRUCTURE
-  REMOVE PAVEMENT
-  REMOVE FENCE



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MARY E. LEAPTROTT, P.E.
 FL. P.E. # 61449
 Reg. Engineer

DEMOLITION PLAN

PROJ. NO. BC-GERDAU DRW. BY: LOI/ANB CK. BY: MEL

NO.	DATE	REVISION

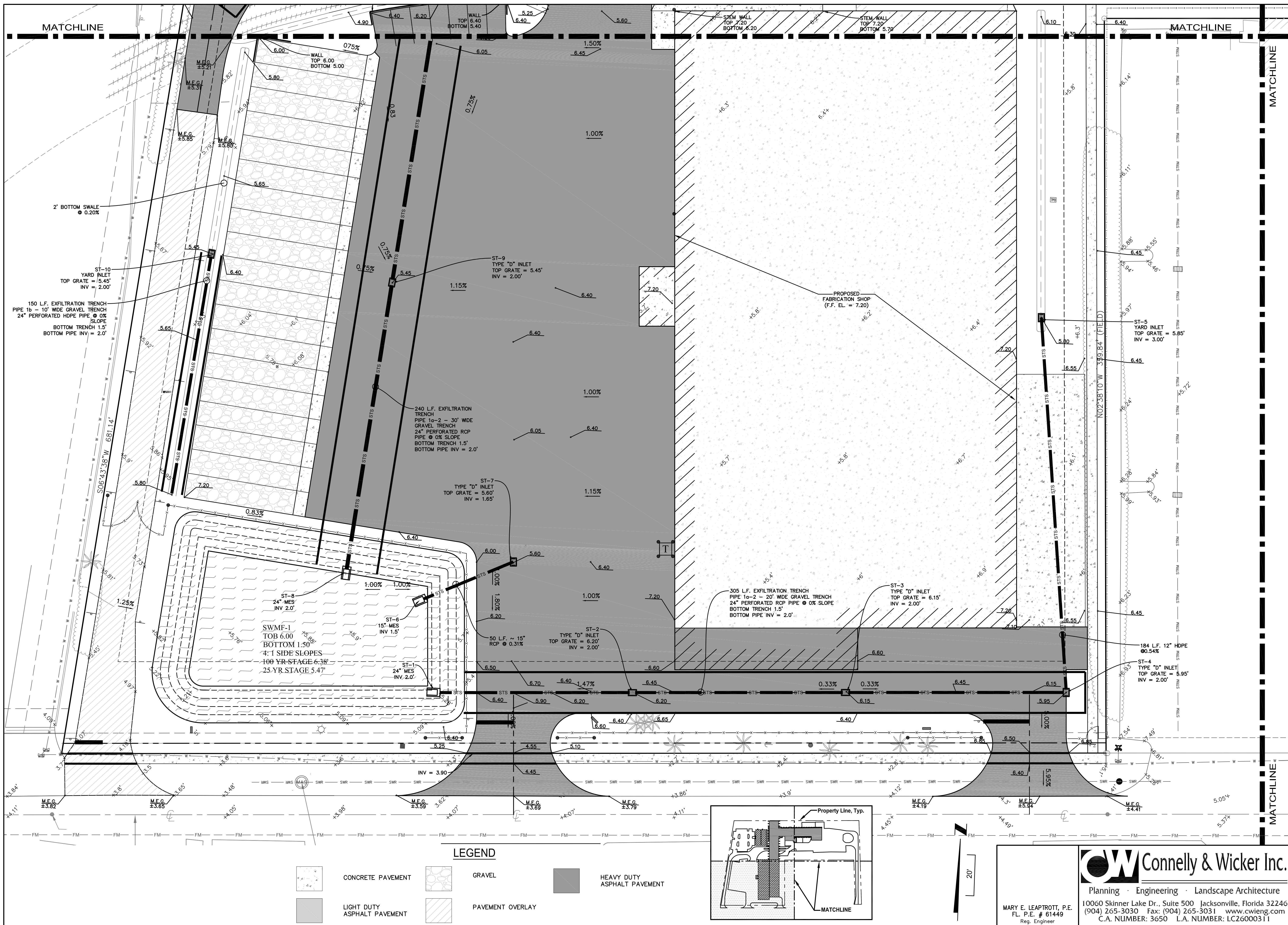
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PHASE: CITY COMMISSION
 ISSUE DATE: 07/21/15

GLN Downstream LAU Expansion Project
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 Broward County

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Jan Hammock Smith AR0013348



MATCHLINE

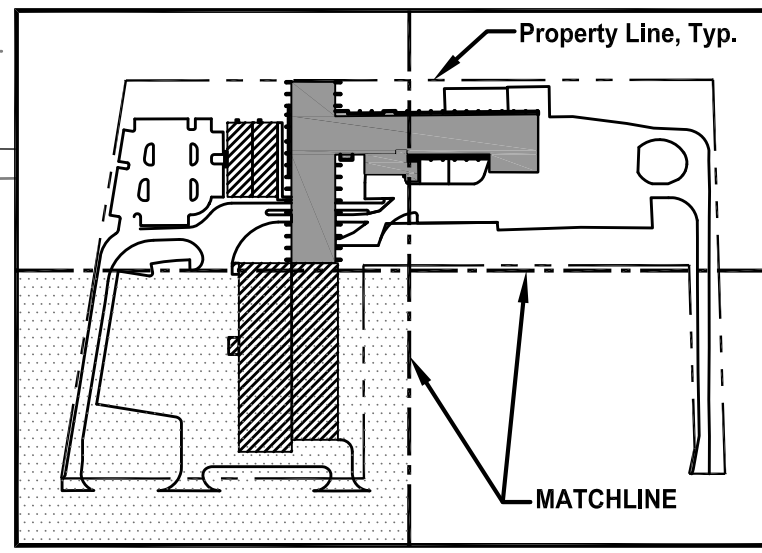
MATCHLINE

MATCHLINE

MATCHLINE

LEGEND

- CONCRETE PAVEMENT
- GRAVEL
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- PAVEMENT OVERLAY



MARY E. LEAPTROTT, P.E.
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Reg. Engineer

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Plant Expansion - Office, Fabrication Shop and Site Improvements
Dania Beach, Florida 33004
Broward County

NO.	DATE	REVISION

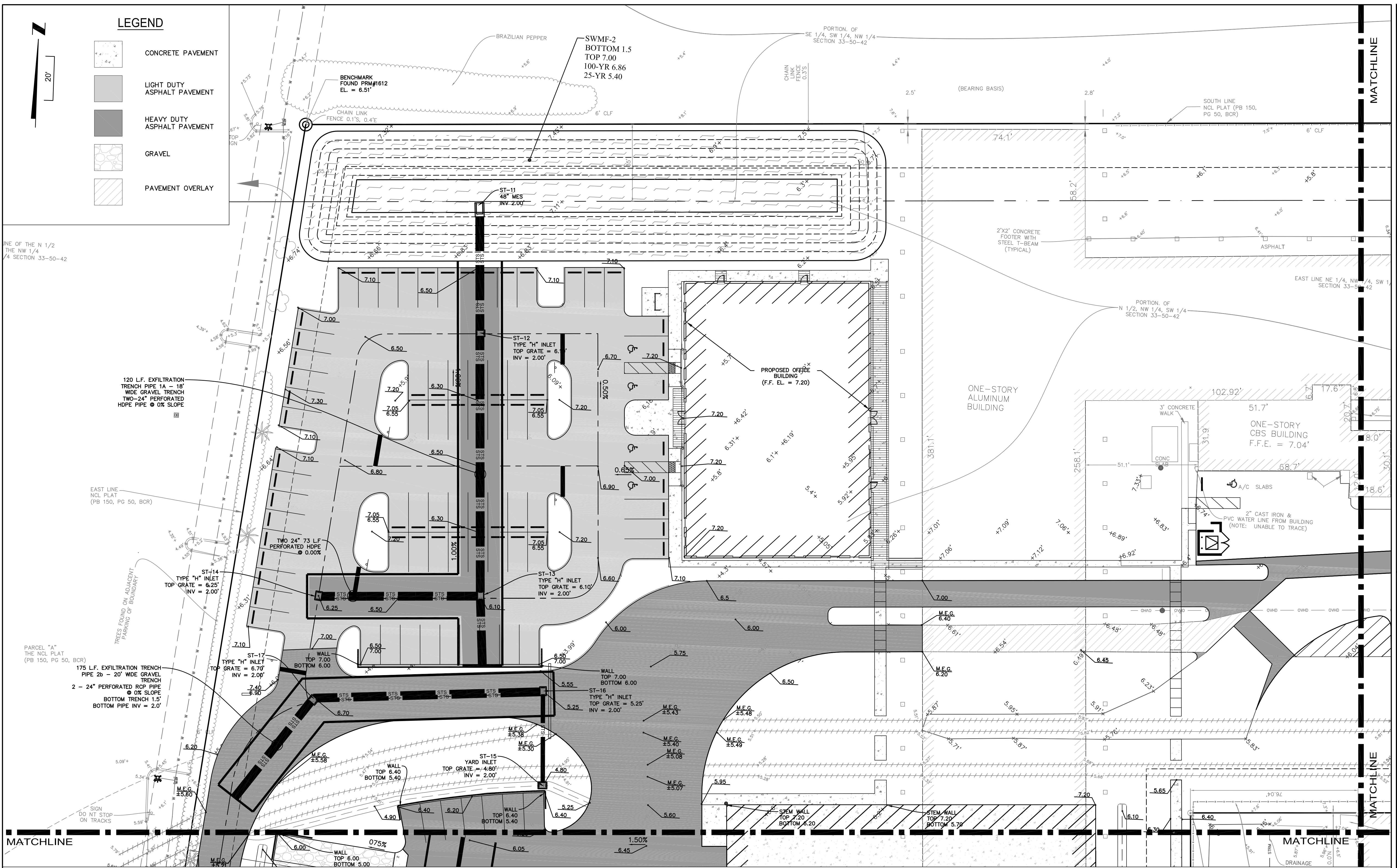
GRADING, DRAINAGE & EROSION CONTROL PLAN

PROJ. NO. BC-GERDAU DRW. BY: LQ/ANB CK. BY: MEL

C-17

PHASE: CITY COMMISSION
ISSUE DATE: 07/21/15

Jan Hammock Smith AR0013348



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 SMA Florida License Number AA0002361

GLN Downstream LAU Expansion Project
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 Broward County

NO.	DATE	REVISION

GRADING, DRAINAGE & EROSION CONTROL PLAN

PROJ. NO. BC-GERDAU DRW. BY: LQ/ANB CK. BY: MEL

CW Connelly & Wicker Inc.
 Planning · Engineering · Landscape Architecture

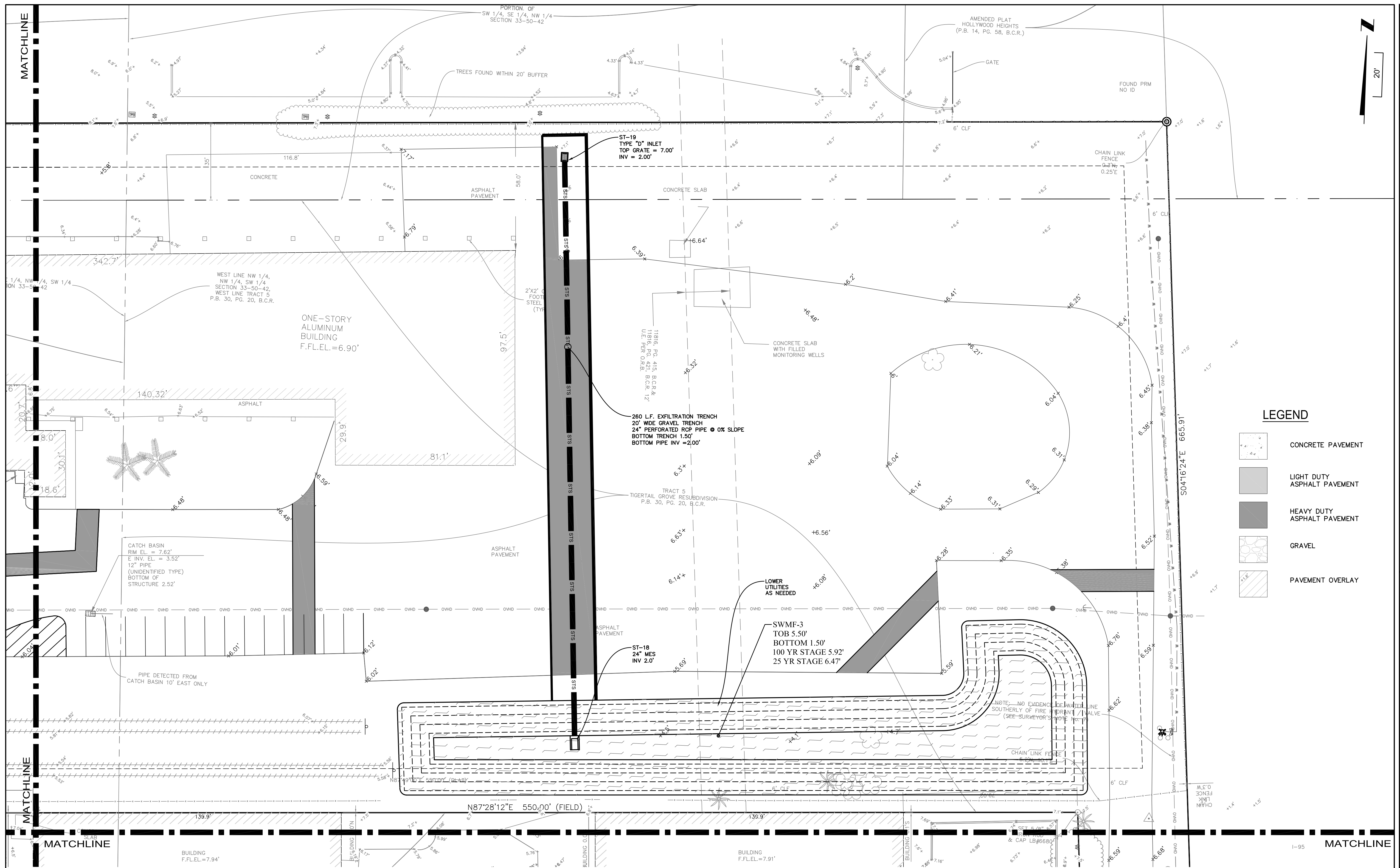
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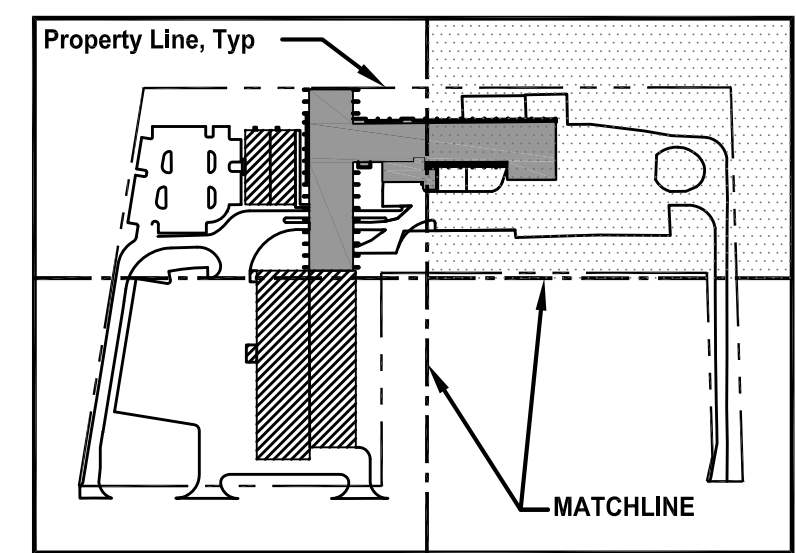
C-18

PHASE: CITY COMMISSION
 ISSUE DATE: 07/21/15

Jan Hammock Smith AR0013348



- LEGEND**
- CONCRETE PAVEMENT
 - LIGHT DUTY ASPHALT PAVEMENT
 - HEAVY DUTY ASPHALT PAVEMENT
 - GRAVEL
 - PAVEMENT OVERLAY



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 SMA Florida License Number AA0002361

GLN Downstream LAU Expansion Project
 Plant Expansion - Office, Fabrication Shop and Site Improvements
 Dania Beach, Florida 33004
 Broward County

REVISION	DATE	BY	CHK

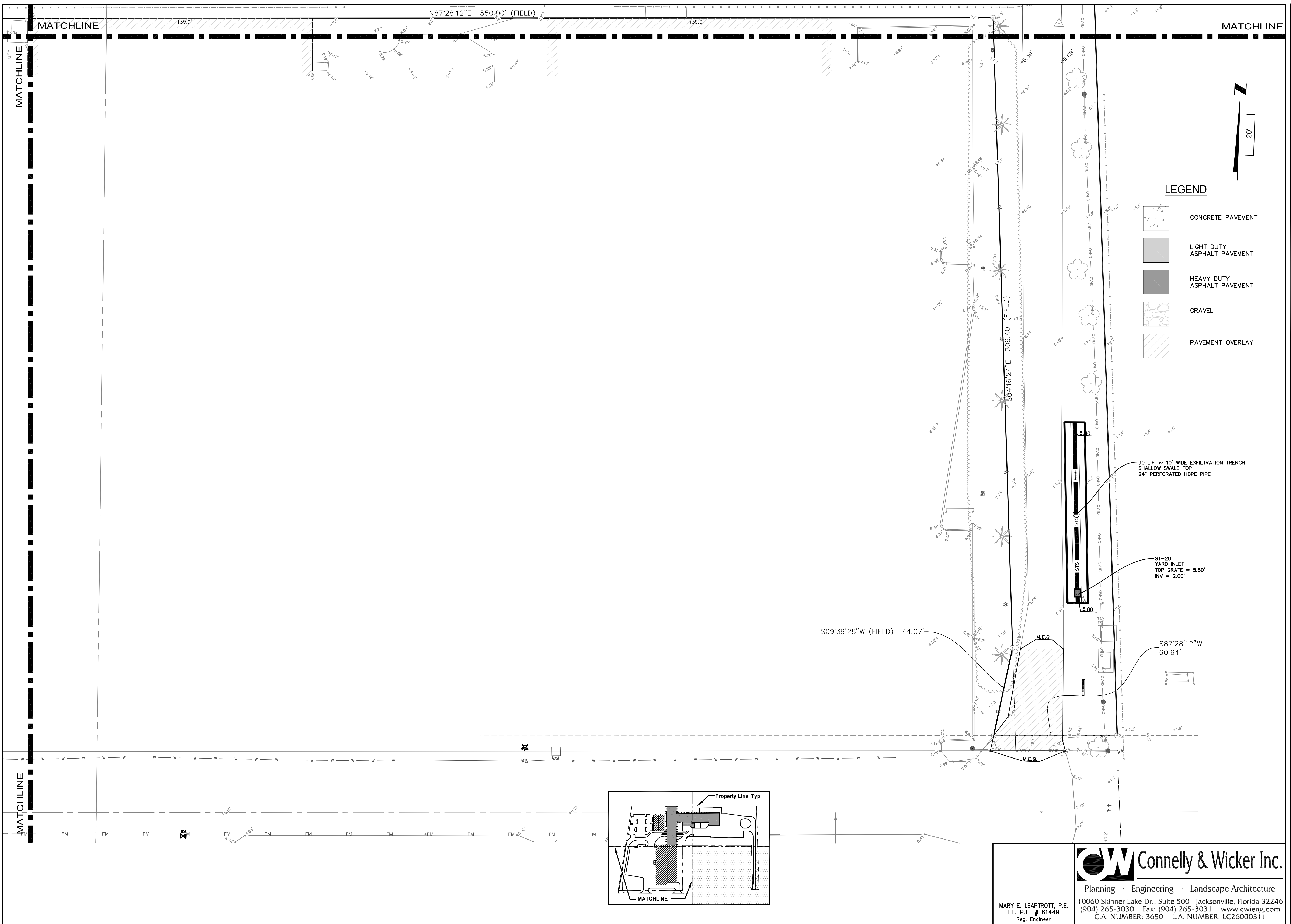
GRADING, DRAINAGE & EROSION CONTROL PLAN
 PROJ. NO. BC-GERDAU
 DRW. BY: LO/ANB
 CK. BY: MEL

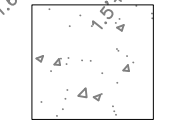



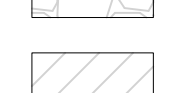
CW Connelly & Wicker Inc.
 Planning · Engineering · Landscape Architecture
 10060 Skinner Lake Dr., Suite 500 Jacksonville, Florida 32246
 (904) 265-3030 Fax: (904) 265-3031 www.cwieng.com
 C.A. NUMBER: 3650 L.A. NUMBER: LC26000311

MARY E. LEAPTROTT, P.E.
 FL. P.E. # 61449
 Reg. Engineer

C-19
 PHASE: CITY COMMISSION
 ISSUE DATE: 07/21/15

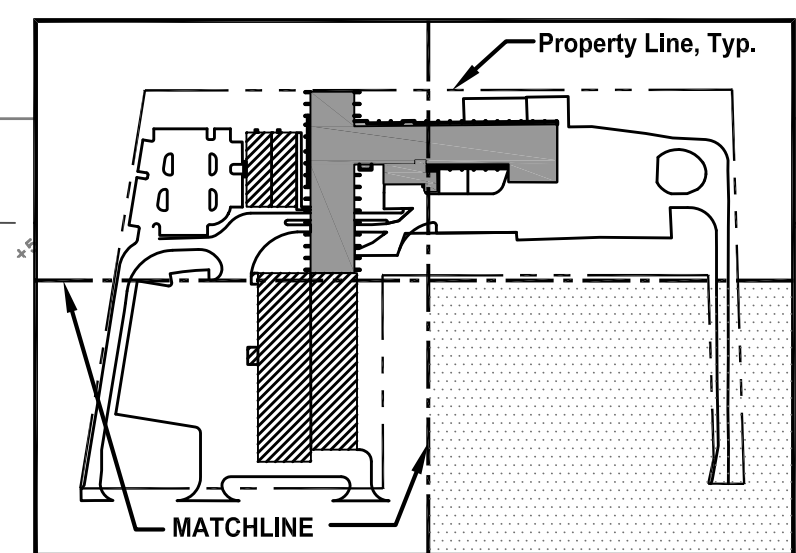
Jan Hammock Smith AR0013348



- LEGEND**
-  CONCRETE PAVEMENT
 -  LIGHT DUTY ASPHALT PAVEMENT
 -  HEAVY DUTY ASPHALT PAVEMENT
 -  GRAVEL
 -  PAVEMENT OVERLAY

90 L.F. ~ 10' WIDE INFILTRATION TRENCH
SHALLOW SWALE TOP
24" PERFORATED HDPE PIPE

ST-20
YARD INLET
TOP GRATE = 5.80'
INV = 2.00'



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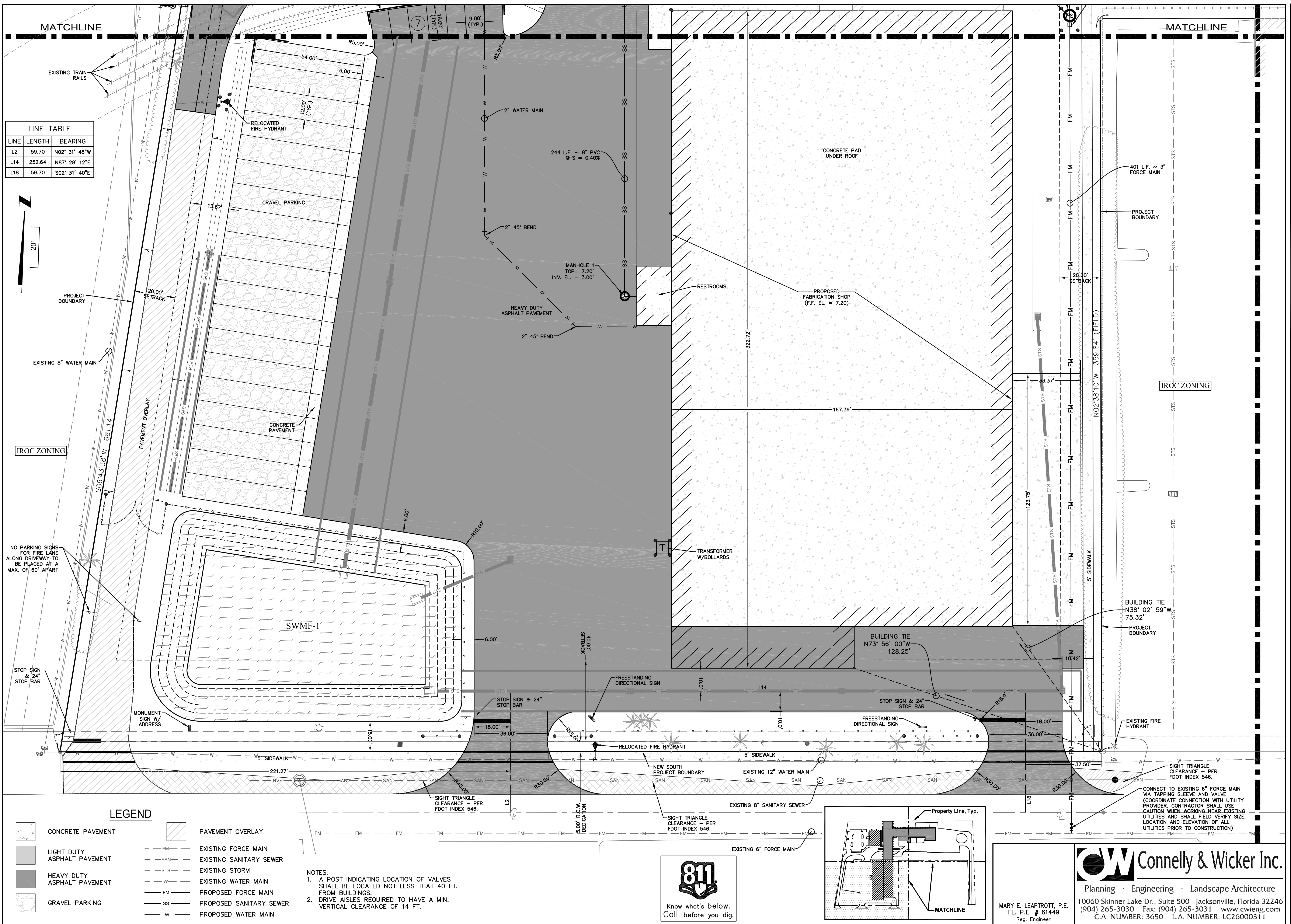
GRADING, DRAINAGE & EROSION CONTROL PLAN

PROJ. NO. BC-GERDAU DRW. BY: LOL/ANB CK. BY: MEL

C-20

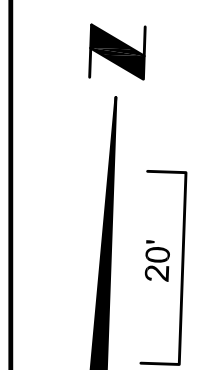
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LINE TABLE

LINE	LENGTH	BEARING
L2	59.70	N02° 31' 48"W
L14	252.64	N87° 28' 12"E
L18	59.70	S02° 31' 40"E



IROC ZONING

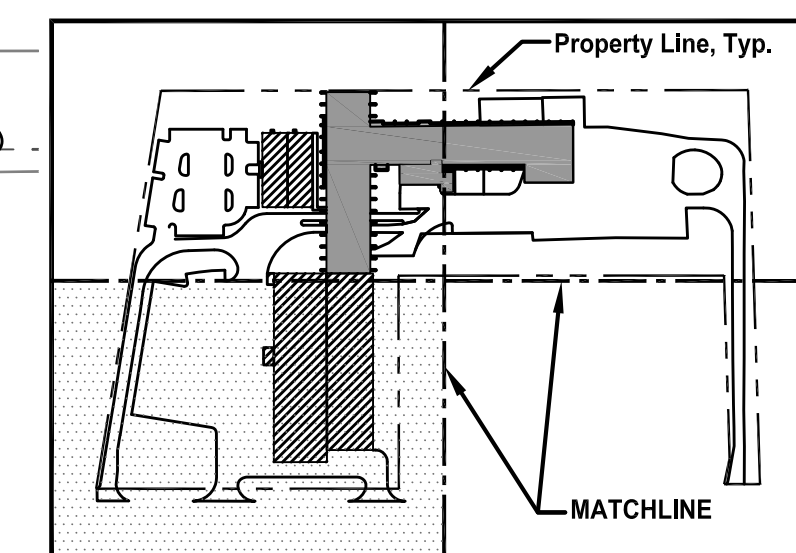
NO PARKING SIGNS FOR FIRE LANE ALONG DRIVEWAY TO BE PLACED AT A MAX. OF 60' APART

STOP SIGN & 24" STOP BAR

LEGEND

- | | | | |
|--|-----------------------------|--|-------------------------|
| | CONCRETE PAVEMENT | | PAVEMENT OVERLAY |
| | LIGHT DUTY ASPHALT PAVEMENT | | EXISTING FORCE MAIN |
| | HEAVY DUTY ASPHALT PAVEMENT | | EXISTING SANITARY SEWER |
| | GRAVEL PARKING | | EXISTING STORM |
| | | | EXISTING WATER MAIN |
| | | | PROPOSED FORCE MAIN |
| | | | PROPOSED SANITARY SEWER |
| | | | PROPOSED WATER MAIN |

- NOTES:**
1. A POST INDICATING LOCATION OF VALVES SHALL BE LOCATED NOT LESS THAN 40 FT. FROM BUILDINGS.
 2. DRIVE AISLES REQUIRED TO HAVE A MIN. VERTICAL CLEARANCE OF 14 FT.



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SITE GEOMETRY & UTILITY PLAN

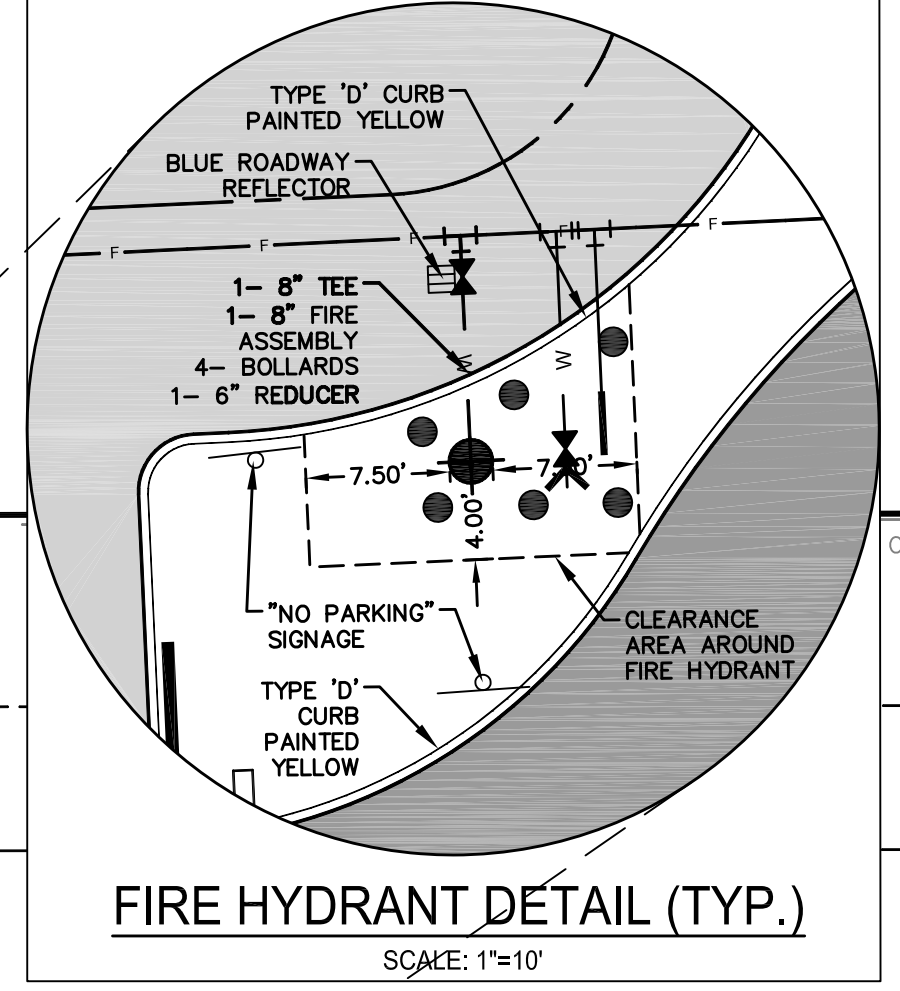
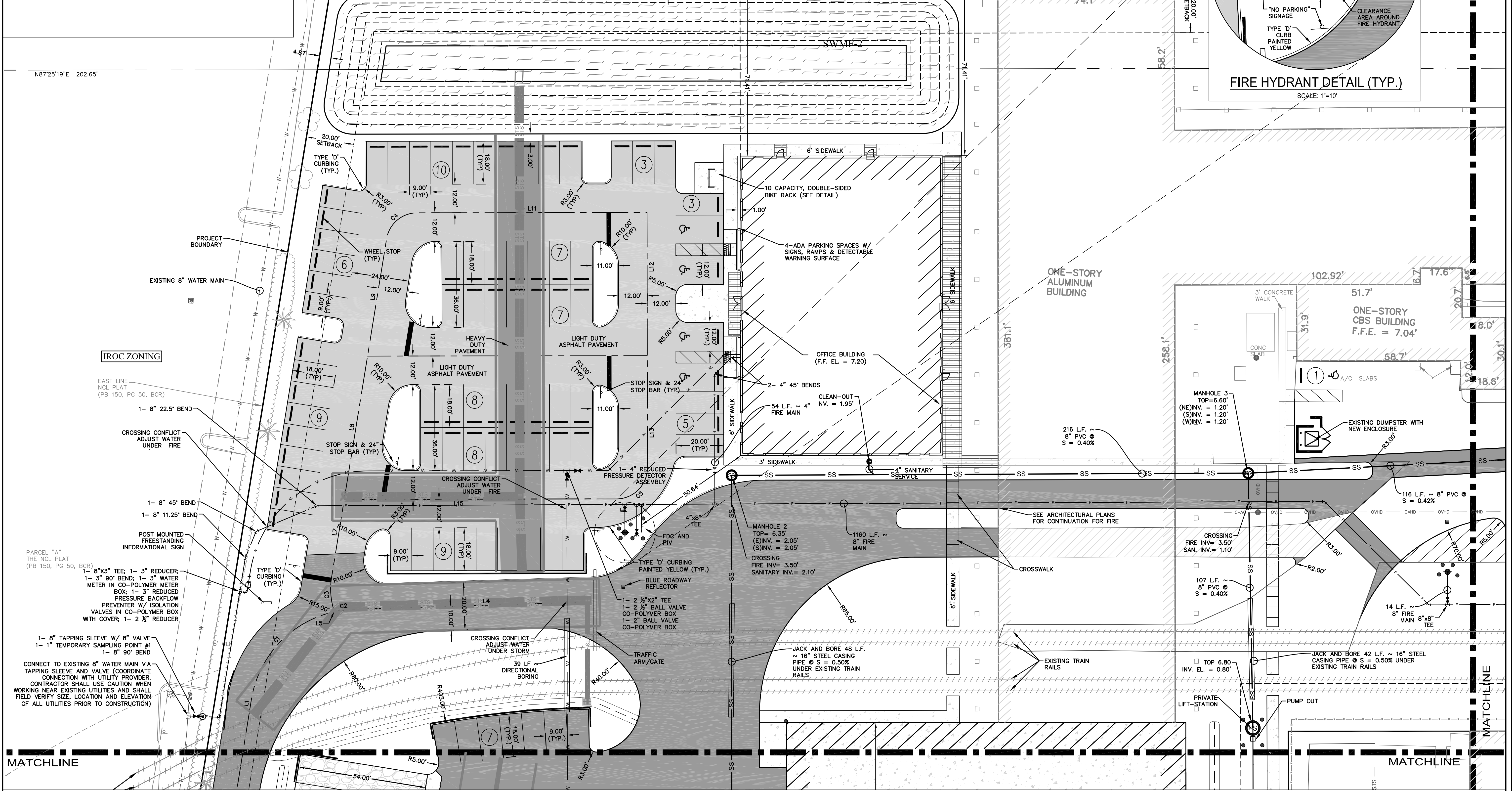
PROJ. NO. BC-GERDAU DRW. BY: LOI/ANB CK. BY: MEL

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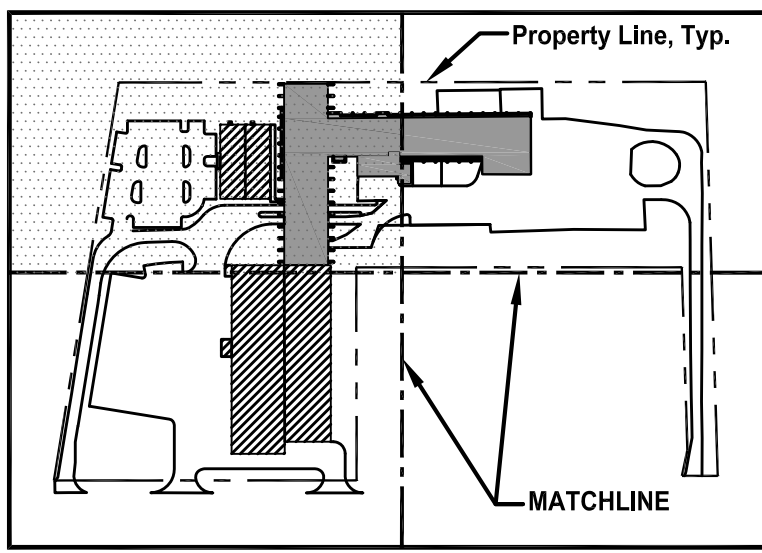
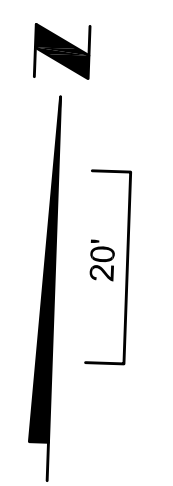
LINE	LENGTH	BEARING
L4	96.76	N85° 44' 07"E
L5	0.25	N20° 35' 10"W
L7	33.18	N06° 43' 38"E
L8	60.80	N06° 43' 38"E
L9	49.76	N06° 43' 38"E
L11	96.36	N87° 25' 19"E
L12	60.00	S02° 34' 41"E
L13	47.00	S02° 34' 41"E
L15	114.07	S87° 25' 19"W

CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD DIR.	DELTA	
C1	45.00	53.40	N41° 08' 11"E	67°59'20"	
C2	45.22	8.33	N80° 25' 59"E	10°33'12"	
C3	30.00	14.30	N06° 55' 46"W	27°18'48"	
C4	13.00	18.31	N47° 04' 28"E	80°41'41"	
C5	13.00	20.42	S42° 25' 19"W	90°00'00"	



NOTES:
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LEGEND	
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	LIGHT DUTY ASPHALT PAVEMENT
	HEAVY DUTY ASPHALT PAVEMENT
	GRAVEL PARKING
	PAVEMENT OVERLAY
	EXISTING FORCE MAIN
	EXISTING SANITARY SEWER
	EXISTING STORM
	EXISTING WATER MAIN
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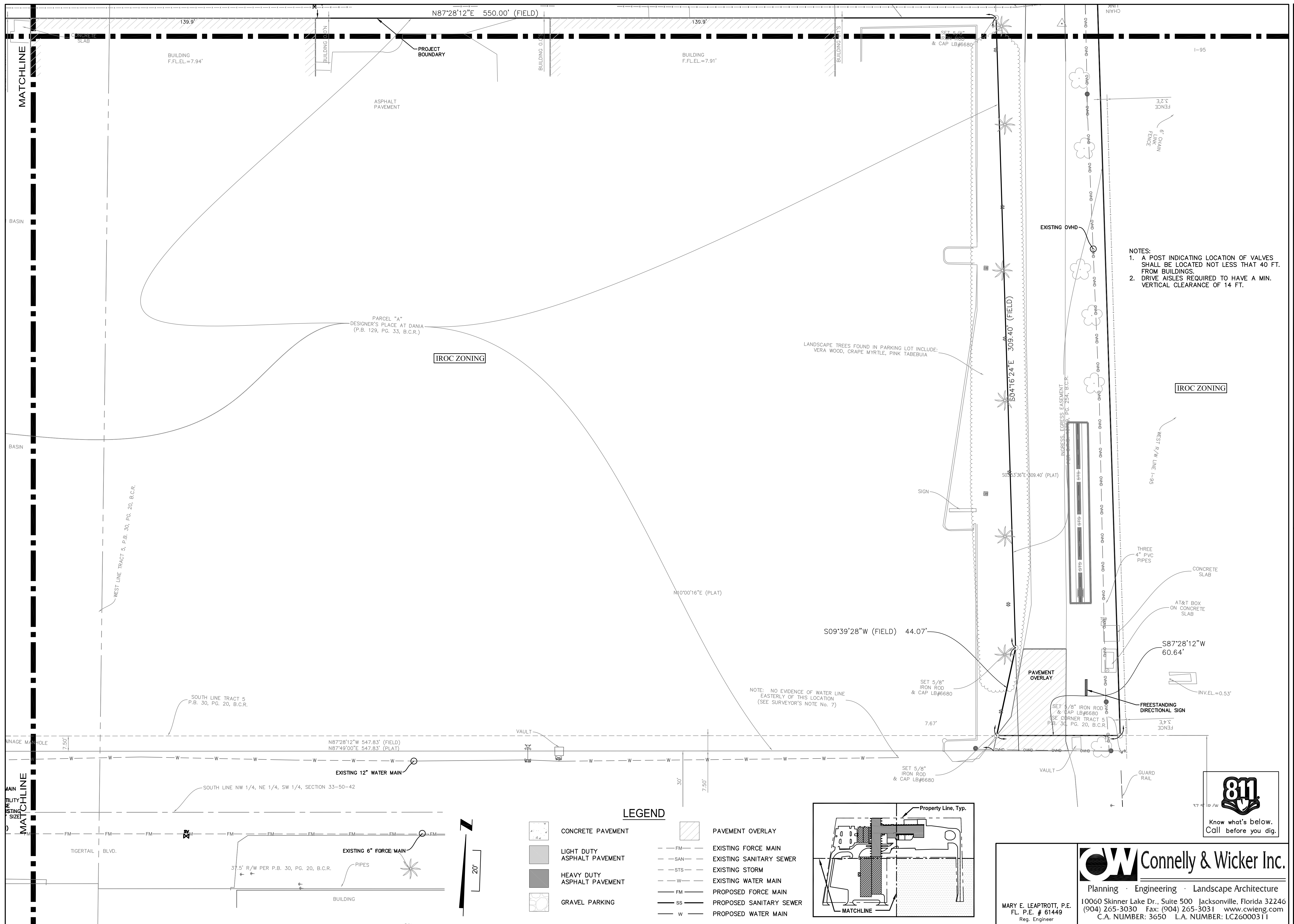
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SITE GEOMETRY & UTILITY PLAN

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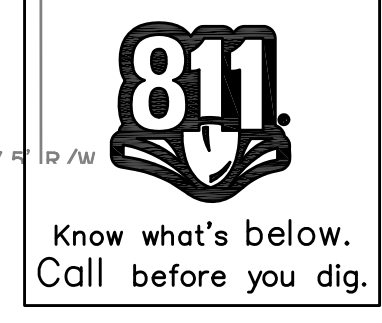
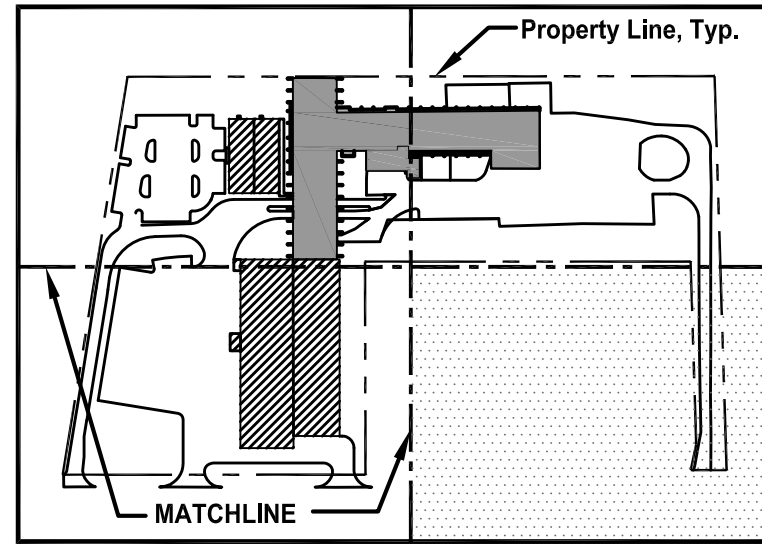
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LEGEND

- | | | | |
|--|-----------------------------|--|-------------------------|
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DRW BY: LOI/ANB CK BY: MEL
 PROJ. NO. BC-GERDAU

C-24

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