General Symbols

Existing	Proposed	Description
		Centerline & Baseline of Survey or Construction
		Building Access (ADA)
		Building Access (NON-ADA)
A-1 24' WIDE	A-1 24' WIDE	Driveway Turnout Identification (Per FDOT Index 515) w/ Drive Width
CR-A	CR-A	Sidewalk Curb Ramp (Per FDOT Index 304)
	A-1	Proposed Section Marker
		Flag Pole
		GPS Point
		Hay Bales
		Mail Box
5.00	5.00	Major Contour Elevation
5.20	5.20	Minor Contour Elevation
		Parking Meter
		Property Line
SURF	14.48	Grade Elevation
	14.98 / 14.48	Top Of Curb Elevation/Pavement Elevation
		Soil Test Boring Hole
B.M. NO. 112	B.M. NO. 112	Survey Bench Mark

Line Types

Existing	Proposed	Description
		County Bound
		Demolition Line
		Easement Line
		Property Line
		Limited Access Line/Non-Vehicular Access
		Railroad
		Right Of Way
		Canal Or Drainage Ditch
		Shore Line
		Tree Line
C_X	C	Aerial Communication Line
C_X	C	Underground Communication Line
SD_X	SD	Underground Storm Drain Line (Double Line 24" And Over
SS_X	SS	Underground Sanitary Line
E_X	E	Aerial Electric Line
E_X	E	Underground Electric
W_X	W	Underground Water Line
NPW_X	NPW	Underground Non Potable Water Line
FM X	FM	Underground Force Main
12'	12'	Gate
X X	X X	Chain Link Fence
		Wood Fence
X X	X X	Metal Rail Fence
SF	SF	Silt Fence
		Staked Turbidity Barrier
		Turbidity Barrier
		Guard Rail
		Roadway Centerline
		2 - 4 Skip
		3 - 9 Skip
		6- 10 Skip
		10 - 30 Skip
		10 - 10 - 20 Skip
		Curb
		Curb And Gutter

Landscaping

Existing	Proposed	Description
		Bush
		Tree
		Palm Tree

Paving and Grading

Existing	Proposed	Description
		Flow Directional Arrow
		Pavement Marking Arrows
		Stop Bar
		Concrete Sidewalk
		Jogging Path
		Pavement Area
		Existing Pavement/Concrete/ Landscape Removal Area
		Milling And Resurfacing
		Detectable Warning (Truncated Domes) Per Florida Accessibility Code
		Soil Tracking Prevention Device

Drainage / Utilities

Existing	Proposed	Description
CB	CB	Catch Basin
YD	YD	Yard Drain
CB	CB	Exfiltration Trench
CB	CB	Catch Basin With Filter Fabric Insert
		Curb Type 5
		Curb Type 6
		Pipe Culvert - Mitered End Section
		Pipe Culvert - Straight Endwall
		Pipe Culvert - U - Type Endwall
C E G D S	C E G D S	Manhole - Communication, Electric, Gas, Drn, San Sew
		Valve Box - Gas, San. Sew, Water, Non-Potable Water
		22.5 degree Bend
		45 degree Bend
		90 degree Bend
		Utility Crossing
		Fire Hydrant
		Proposed Bacteriological Sampling Point
PS#	PS#	Pump Station
GT	GT	Grease Trap
ST	ST	Septic Tank
DW	DW	Drainage Well
MW	MW	Monitoring Well
		Water Well
CO	CO	Sanitary Sewer Cleanout
BFP (NNN)	BFP (NNN)	Back Flow Preventor
J	J	Junction Box
E	E	Electric Handhole
ELEC	ELEC	Electric Meter
W	W	Water Meter
		Gate Valve
		Guy wire
		Light Pole
		Relocated Or Adjusted Light Pole
		Wood Power Pole
		Concrete Utility Pole
		Traffic Signal Pole (Concrete, Wood, Metal)
		Pedestrian Signal Head (Pole Or Pedestal Mounted)
		Post Mounted Sign
		Street Sign
		High Mast Lighting Tower
		Controller Cabinet (Base Mounted)
		Controller Cabinet (Pole Mounted)
		Traffic Signal Head (Span Wire Mounted)
		Traffic Signal Head (Pedestal Mounted)
		Traffic Signal Head (Mast Arm Mounted)
	N: 623025.4322	Coordinate values shown on proposed improvements are relative to the coordinate values indicated on the Right-of-Way, property corners or reference monument
	E: 850262.1786	

Abbreviations

General	
AADT	Annual Average Daily Traffic
ABAN	Abandon
ADJ	Adjust
APPROX.	Approximate
A.C.	Asphalt Concrete
ACCM PIPE	Asphalt Coated Corrugated Metal Pipe
BIT.	Bituminous
BC	Back Of Curb
BD.	Bound
BL	Baseline
BLDG	Building
BM	Benchmark
BO	By Others
BOS	Bottom Of Slope
BR.	Bridge
CAP	Corrugated Aluminum Pipe
CB	Catch Basin
CBCI	Catch Basin With Curb Inlet
CC	Cement Concrete
CCM	Cement Concrete Masonry
CEM	Cement
CI	Curb Inlet
CIP	Cast Iron Pipe
CLF	Chain Link Fence
CL	Centerline
CMP	Corrugated Metal Pipe
CO.	County
CONC	Concrete
CONT	Continuous
CONST	Construction
CR GR	Crown Grade
DHV	Design Hourly Volume
DI	Drop Inlet
DIA	Diameter
DIP	Ductile Iron Pipe
DWY	Driveway
ELEV (OR EL.)	Elevation
EMB	Embankment
EOP	Edge Of Pavement
EXIST (OR EX)	Existing
EXC	Excavation
F&C	Frame And Cover
F&G	Frame And Grate
FDN.	Foundation
FLDSTN	Fieldstone
GAR	Garage
GD	Ground
GI	Gutter Inlet
GIP	Galvanized Iron Pipe
GRAN	Granite
GRAV	Gravel
GRD	Guard
GV	Gate Valve
HDW	Headwall
HMA	Hot Mix Asphalt
HOR	Horizontal
HYD	Hydrant
INV	Invert
JCT	Junction
L	Length Of Curve
LB	Leach Basin
LP	Light Pole
LT	Left
MAX	Maximum
MB	Mailbox
MEG	Match Existing Grade
MH	Manhole
MIN	Minimum
NIC	Not In Contract
NO.	Number
PC	Point Of Curvature
PCC	Point Of Compound Curvature

Abbreviations Continued

P.G.L.	Profile Grade Line
PI	Point Of Intersection
POC	Point On Curve
POT	Point On Tangent
PRC	Point Of Reverse Curvature
PROJ	Project
PROP	Proposed
PT	Point Of Tangency
PVC	Point Of Vertical Curvature
PVI	Point Of Vertical Intersection
PVT	Point Of Vertical Tangency
PVMT	Pavement
PWW	Paved Water Way
R	Radius Of Curvature
R&D	Remove And Dispose
RCP	Reinforced Concrete Pipe
RD	Road
RDWY	Roadway
REM	Remove
RET	Retain
RET WALL	Retaining Wall
ROW	Right Of Way
RR	Railroad
R&R	Remove And Reset
RT	Right
SHLD	Shoulder
SMH	Sewer Manhole
ST	Street
STA	Station
SSD	Stopping Sight Distance
SW	Sidewalk
T	Tangent Distance Of Curve/Truck %
TAN	Tangent
TEMP	Temporary
TC	Top Of Curb
TOS	Top Of Slope
TSV	Tapping Sleeve and Valve
TYP	Typical
UP	Utility Pole
VAR	Varies
VERT	Vertical
VC	Vertical Curve
WCR	Wheel Chair Ramp
WIP	Wrought Iron Pipe
WM	Water Meter/Water Main
X-SECT	Cross Section

KEITH
301 East Atlantic Boulevard
Pompano Beach, FL 33060
PH: (954) 788-3400
Florida Certificate of Authorization # - 7928

BID / CONTRACT NO. :

REVISIONS

NO.	DESCRIPTION	DATE

PRELIMINARY PLAN
NOT FOR CONSTRUCTION
THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS. RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

#34798
16000 S. MILITARY TRAIL
DELRAY BEACH, FL 33484

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 2018
DRAWN BY:	AM
DESIGNED BY:	AM
CHECKED BY:	TD

THOMAS F. DONAHUE, P.E.
FLORIDA REG. NO. 60529
(FOR THE FIRM)

SHEET TITLE

LEGEND

SHEET NUMBER

GI-001

SHEET of 27

PROJECT NO. 09725.24

Drawing name: N:\09\09725.24 - 7-11 16000 S Military Trail Delray Beach - Creighton\Engineering\Cadd\09725.24-GI-GIXX.dwg Layout Name: GI-001 Plotted by: amizrahi Plotted on: - jan 11, 2019 - 8:18am

CONSTRUCTION SPECIFICATIONS

Section 20 - General Specifications Paving Grading Drainage and Earthwork

20.General

20.1. It is the intent of these specifications to describe the minimum acceptable technical requirements for the materials and workmanship for construction of site improvements for this project. Such improvements may generally include, but not to be limited to, clearing, grading, paving, removal of existing pavement storm drainage, water lines and sanitary sewers.

20.2. It is the intent that the Florida Department of Transportation (FDOT) "Standard Specifications for Road and Bridge Construction: (current edition) together with "Supplemental Specifications to the Standard Specifications for Road and Bridge Construction" (current edition), and the FDOT Roadway and Traffic Design Standards (current edition) be used where applicable for the various work, and that where such wording therein refers to the State of Florida and its Department of Transportation and personnel, such wording is intended to be replaced with the wording which would provide proper terminology; thereby making such "Standard Specifications for Road and Bridge Construction" together with the "FDOT Roadway and Traffic Design Standards" as the "Standard Specifications" for this project. If within a particular section, another section, article or paragraph is referred to, it shall be part of the Standard Specifications also. The Contractor shall abide by all local and State laws, regulations and building codes which have jurisdiction in the area.

20.3. The Contractor shall furnish all labor, materials and equipment and perform all operations required to complete the construction of a paving and drainage system as shown on the plans, specified herein, or both. It is the intent to provide a complete and operating facility in accordance with these specifications and the construction drawings. The material and equipment shown or specified shall not be taken to exclude any other incidentals necessary to complete the work.

20.4. All labor, materials, and methods of construction shall be in strict accordance with the plans and construction specifications and the minimum engineering and construction standards adopted by the unit of government which has jurisdiction and responsibility for the construction. Where conflicts or omissions exist, the jurisdictional government Engineering Department's standards shall govern. Substitutions and deviations from plans and specifications shall be permitted only when written approval has been issued by the Engineer.

20.5. Guarantee - all materials and equipment to be furnished and/or installed by the Contractor under this contract, shall be guaranteed for a period of (l) one year from the date of final acceptance thereof, against defective materials, design and workmanship. Upon receipt of notice from the owner of failure of any part of the guaranteed equipment or materials, during the guarantee period, the affected part or materials shall be replaced promptly with new parts or materials by the contractor, at no expense to the owner. In the event the Contractor fails to make necessary replacement or repairs within (7) seven days after notification by the owner, the owner may accomplish the work at the expense of the contractor.

21.Earthwork

21.1. All areas within the project limits shall be cleared and grubbed prior to construction. This shall consist of the complete removal and disposal of all trees, brush, stumps, roots, grass, weeds, rubbish and all other obstructions resting on or protruding through the surface of the existing ground to a depth of 1'. All work shall be in accordance with section 110 of the Standard Specifications.

21.2. None of the existing limerock material from demolished pavement is to be incorporated in the new limerock base, unless noted in plans. The existing limerock material from demolished pavement may be incorporated into the stabilized subgrade / subbase, or stabilized shoulder.

21.3. Fill material shall be classified as A-l, A-3, or A-2-4 in accordance with AASHTO N--145 and shall be free from vegetation and organic material. Not more than 12% by weight of fill material shall pass the no. 200 sieve.

21.4. All fill material in areas not to be paved shall be compacted to 95% of the maximum density as determined by AASHTO T-99.

21.5. All material of construction shall be subject to inspection and testing to establish conformance with the specifications and suitably for the uses intended. The Contractor shall notify the Engineer at least 24 hours prior to the time he will be ready for an inspection or test. The Contractor shall follow City and County inspection procedures. The Contractor shall not proceed with any phase of work dependent on an inspection or test of an earlier phase of work, prior to that test or inspection passing. The Contractor shall be responsible for providing certified material test results to the Engineer of record prior to the release of final certification by the Engineer. Test results must include, but may not be limited to, densities for subgrade and limerock, utilities, excavation, asphalt gradation reports, concrete cylinders, etc.

21.6. When encountered, muck shall be completely removed from the center line (10) ten feet beyond the edge of pavement each side. All such material shall be replaced by approved granular fill.

21.7. When encountered within drainage swales, hardpan shall be removed to full depth for a width of (5) five feet at the invert and replaced with granular materials.

21.8. All underground utilities and drainage installations shall be in place prior to subgrade compaction and pavement construction.

21.9. Ground adjacent to roadway/pavement having runoff shall be graded (2) two inches lower than the edge of pavement to allow for the placement of sod.

21.10.Site grading elevations shall be within 0.1' of the required elevation for non paved areas and all areas shall be graded to drain without ponding.

21.11.The Contractor shall perform all excavation, fill, embankment and grading to achieve the proposed plan grades including typical road sections, side slopes and canal sections. All work shall be in accordance with section 120 of the Standard Specifications. If fill material is required in excess of that generated by the excavation, the Contractor shall supply this material as required from off-site.

21.12.A 2" blanket of top soil shall be placed over all areas to be sodded or seeded and mulched within the project limits unless otherwise indicated on the plans.

21.13.Sod shall be St. Augustine unless otherwise indicated on the plans, and shall be placed on the graded top soil and watered to insure satisfactory condition upon final acceptance of the project.

22.Drainage

22.1. Inlets - all inlets shall be the type designated on the plans, and shall be constructed in accordance with section 425 of the Standard Specifications. All inlets and pipe shall be protected during construction to prevent siltation in the drainage systems by way of temporary plugs and plywood or plastic covers over the inlets. The entire drainage system shall be cleaned of all debris prior to final acceptance.

22.2. Pipe specifications: the material type is shown on the drawings by one of the following designations:

- RCP = reinforced concrete pipe, ASTM designation C--76, section 941 of the Standard Specifications.
- CMP = corrugated metal (aluminum) pipe, ASTM designation M-196.
- CMP (smooth lined) = corrugated metal aluminum pipe, (smooth lined) ASTM designation M-196.
- SCP = slotted concrete pipe, sections 941 and 942, of the Standard Specifications.
- PVC = polyvinyl chloride pipe.
- PCMP = perforated cmp, section 945, of the Standard Specifications
- Corrugated High Density Polyethylene Pipe (HDPE) (12 Inches to 60 Inches), shall meet the requirements of FDOT Specification section 948-2.3.

22.3. Pipe backfill - requirements for pipe backfill crossing roads or parking areas shall be as defined in the section 125-8, of the Standard Specifications. Pipeline backfill shall be placed in 6 inch lifts and compacted to 100% of the standard proctor (AASHTO T--99 specifications)

22.4. Location of drainage structures shall govern, and pipe length may have to be adjusted to accomplish construction as shown on these plans.

22.5. Distance and lengths shown on plans and profile drawings are referenced to the inner walls of structures.

22.6. Filter fabric shall be Mirafi, Typar or equal conforming to section 985 of the Standard Specifications.

23.Asphalt Paving

23.1. Where new asphalt meets existing asphalt, the existing asphalt shall be saw cut to provide a straight even line. Prior to removing curb or gutter, the adjacent asphalt shall be saw cut to provide a straight even line.

23.2. Internal asphalt paving constructed on existing sandy soils shall be constructed with a 12" subgrade, compacted to a minimum density of 100% maximum density as determined by AASHTO T-99. The compacted subgrade shall be constructed in the limits shown on the plans. All subgrade shall have an LBR of 40 unless otherwise noted.

23.3. Asphaltic concrete surface course shall be constructed to the limits shown on the plans. The surface course shall consist of the thickness and type asphaltic concrete as specified in the plans. All asphaltic concrete shall be in accordance with sections 320, 327, 330, 334, 336, 337, 337, 338, 339 and 341 of the Standard Specifications.

23.4. Limerock base shall be prepared, compacted and graded and shall be in accordance with section 200 of the Standard Specifications. All limerock shall be compacted to 98% per AASHTO T-180 and have not less than 70% of carbonates of calcium and magnesium unless otherwise designated. The Engineer shall inspect the completed base course and the Contractor shall correct any deficiencies and clean the base course prior to the placement of the prime coat. A tack coat will also be required if the Engineer finds that the primed base has become excessively dirty or the prime coat has cured to the extent of losing bounding effect prior to placement of the asphaltic concrete surface course. The prime and tack coats shall be in accordance with section 300 of the Standard Specifications.

23.5. Limerock base material shall be placed in maximum 6" lifts. Bases greater than 6" shall be placed in two equal lifts. If, through field tests, the Contractor can demonstrate that the compaction equipment can achieve density for the full depth of a thicker lift, and if approved by the engineer, the base may be constructed in successive courses of not more than 8 inches (200 mm) compacted thickness.

23.6. Asphalt edges that are not curbed shall be saw cut to provide a straight even line to the dimensions shown on plans.

24.Concrete Construction

24.1. Concrete sidewalk shall be in accordance with section 522 of the Standard Specifications and in accordance with F.D.O.T. Roadway and Traffic Design Standards, index no. 310. Concrete sidewalk shall be 4" thick, unless otherwise not and constructed on compacted subgrade, with 1/2" expansion joints placed at a maximum of 75', unless otherwise noted on plans. Crack control joints shall be 5' on center. All concrete sidewalks that cross driveways shall be 6" thick, unless otherwise noted on plans.

24.2. Sidewalk Curb ramps hall be in accordance with F.D.O.T. Roadway and Traffic Design Standards, index no. 304.

24.3. Concrete curb shall be constructed to the limits shown on the plans. The concrete shall have a minimum compressive strength of 2500 PSI at 28 days and shall be in accordance with section 520 of the Standard Specifications. Concrete curbing shall be in accordance with F.D.O.T. Roadway and Traffic Design Standards, index no. 300.

24.4.

Section 30 - Water distribution and sanitary sewer force mains.

30. Materials:

Note: If materials list here on are in conflict with utility owner, material owner requirements shall govern.

30.1. All water main pipe, including fittings, shall be color coded or marked using blue as a predominant color to differentiate drinking water from reclaimed or other water. Underground plastic pipe shall be solid-wall blue pipe, shall have a co-extruded blue external skin, or shall be white or black pipe with blue stripes incorporated into, or applied to, the pipe wall; and underground metal or concrete pipe shall have blue stripes applied to the pipe wall. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90-degree intervals around the pipe, and that will remain intact during and after installation of the pipe. If tape or paint is used to stripe pipe during installation of the pipe, the tape or paint shall be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe; for pipes with an internal diameter of 24 inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe.

30.2. Ductile iron pipe for water distribution mains shall conform to ANSI/AWWA standard C151/A21.51 latest revision, "ductile iron pipe centrifugally cast in metal molds or sand-lined molds" with a minimum wall thickness of class 51 (pressure class 350) unless otherwise noted in the plans. Ductile iron pipe shall be cement lined and seal coated in accordance with ANSI/AWWA standard C104/A21.4 latest revision. The pipe shall be adapted for use with class 250 fittings for all sizes. Water main shall be colored blue in accordance with Florida State Statutes.

30.3. Ductile iron pipe for sewage force mains shall conform to ANSI/AWWA standard C151/A21.51 latest revision, "ductile iron pipe centrifugally cast in metal molds or sand- lined molds" with a minimum wall thickness of class 51 (pressure class 350) unless otherwise noted in the plans. Ductile iron pipe shall be interior ceramic epoxy lined and exterior coated with the manufacturer's coating system (Protecto 401 ceramic epoxy with a minimum dry film thickness of 40 mils and an outside coating of either coal tar epoxy or asphalt). Cement mortared linings are not appropriate for this application.

30.4. All pipe & fittings on the lift station sites shall be ductile iron conforming to the same specifications as above for sewage force mains except that flanged ductile iron pipe & fittings shall be used inside valve pits and wet wells. Flanged pipe and fittings shall conform to ANSI/AWWA C115/a21.15 latest revision and ANSI/AWWA C110/A21.10 latest revision. The following thickness classes shall be adhered to: 4" - 12" - class 52, 14" & larger - class 51.

30.5. PVC pressure pipe for sizes 4" through 12" and shall conform to ANSI/AWWA standard C900 latest revision. PVC pressure pipe shall be made from class 12454-a or class 12454-b virgin material and conform with the outside diameter of cast iron pipe with a minimum wall thickness of dr series 18. Ultra violet degradation or sun bleached pipe will be cause for rejection. Water main shall be colored blue in accordance with Florida State Statutes. Force main shall be impregnated with green pigment. Reuse main shall be impregnated with purple pigment.

30.6. Ductile iron fittings for water distribution mains shall conform to ANSI/AWWA standard C110/A21.10 latest revision. Fittings 4" and larger shall be cement lined and seal coated in accordance with ANSI/AWWA standard C104/A21.4 latest revision. Water Main fitting shall be colored blue in accordance with Florida state statutes.

30.7. Cast iron and ductile iron fittings for sewage force mains shall conform to ANSI/AWWA standard C110/A21.10 latest revision. Fittings 4" and larger shall be coated in accordance with the requirements of ductile iron pipe for sewage force mains.

30.8. Joints for bell and spigot ductile iron pipe and fittings shall conform to ANSI/AWWA standard C111/A21.11 latest revision. Mechanical joint or push-on joint to be rubber gasket compression-type. Special fittings and joints shall be considered for specific installation subject to the approval of the engineer.

30.9. Joints for PVC pressure pipe shall be bell and spigot push-on rubber gasket type only. No solvent weld or threaded joints will be permitted.

30.10.Water distribution system restraint: all fittings and specific pipe joints shall be restrained as outlined below:

- Joint restraint
- Push-on P.V.C. EBAA iron series 1600
- Push-on DIP EBAA iron series 1700
- tr-flex by U.S. Pipe or
- flex ring by American
- Fittings w/ DIP EBAA iron series 1100 megalug
- Fittings w/ P.V.C. EBAA iron series 2000 megalug
- Length of restrained pipe shall be as indicated on restrained joint pipe detail. (see water & sewer detail sheet)

30.11. Sewage force main system restraint: all fittings and specific pipe joints shall be restrained as outlined below

- Joint restraint
- Push-on P.V.C. EBAA iron series 1600
- Push-on DIP EBAA iron series 1700
- tr-flex by U.S. Pipe or
- flex ring by American
- Fittings w/ DIP EBAA iron series 1100 megalug
- Fittings w/ P.V.C. EBAA iron series 2000 megalug
- Length of restrained pipe shall be as indicated on restrained joint pipe detail. (see water & sewer detail sheet)

30.12.Water distribution valves shall be gate valves, iron body, fully resilient seat bronzed mounted non-rising stem, rated at 200 PSI and conforming to ANSI/AWWA C509 latest revision, and shall have mechanical joints.

30.12.1. Gate valves 4" and larger shall be Mueller A-2360, American 250 line or Clow F-6100, conforming to ANSI/AWWA C500 latest revision or approved equal.

30.12.2. Tapping valves shall be Mueller T-2360 or approved equal.

30.12.3. Gate valves 3" or less shall be Nibco T-133 or T-136 with malleable hand wheels. No substitutions allowed.

30.13.Tapping sleeves shall be Mueller H615, Clow F- 2505 or approved equal.

30.14.Valve boxes shall be U.S. foundry 7500 or approved equal painted blue with the designation "water".

30.15.Retainer glands for DIP shall conform to ANSI/AWWA C111/A21.11 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-1058, standard fire protection equipment company or approved equal.

30.16.Dresser couplings shall be regular black couplings with plain gaskets for galvanized steel pipe. They shall be dresser style 90. No substitutions allowed.

30.17.Fire hydrants shall be Mueller centurion traffic type A-423 with 5 1/4" internal valve opening or approved equal.. Pumper nozzle to be 18" from finished grade. All hydrants to be installed with control valve. Retainer glands are preferred for restraining. Fire hydrant shall comply with ANSI/AWWA C502 latest revision. Fire hydrants shall be painted in accordance with NFPA #291 or per agency standards having jurisdiction. Blue raised reflective pavement marker (rpm) shall be used to identify fire hydrant location. The placement of the rpm to be at the centerline of the outside roadway lane.

30.18.Sewage force main valves shall be plug valves which shall be of the non-lubricated, eccentric type with resilient faced plugs, port areas for valves 20 inches and smaller shall be at least 80% of full pipe area. Port area of valves 24 inches and larger shall be at least 70% of full pipe area. The body shall be of semi-steel (ASTM A-126 C1.b) and shall have bolted bonnet which gives access to the internals of the valve. Seats shall be welded overlay of high nickel content or a stainless steel plate locked in the body cavity. If a plate is used, it shall be replaceable through the bonnet access. Bearings shall be permanently lubricated of stainless steel, bronze or Teflon lined, fiber glass backed Duralon. Bearing areas shall be isolated from the flow with grit seals. Valves shall have packing bonnets where the shaft protrudes from the valve and the packing shall be self-adjusting chevron type which can be replaced without removing the bonnet. All nuts, bolts, springs and washers shall be stainless steel.

30.19.Plug valves shall be designed for a working pressure of 150 PSI the valve and actuator shall be capable of satisfactory operation in either direction of flow against pressure drops up to and including 100 PSI (for plug valves over 12" in diameter). Valves shall be bubble tight in both directions at 100 psi differential. Plug valves over 12" in diameter shall have worm gear operators. The operating mechanism shall be for buried service with a 2 inch square operating nut.

30.20.Plug valves are to be installed with the seat pointed towards the upstream flow, when specified.

30.21.Swing check valves for water, sewage, sludge, and general service shall be of the outside lever and spring or weight type, in accordance with ANSI/AWWA C 508 latest revision swing-check valves for waterworks service, 2" through 24" NPS, unless otherwise indicated, with full-opening passages, designed for a water-working pressure of 150 PSI they shall have a flanged cover piece to provide access to the disc.

30.22.High density polyethylene pipe (HDPE) for water distribution mains shall conform to AWWA C906 standard, latest revision. Pipes shall be color-coded blue, minimum 40 feet standard lengths.

31.Service connection:

31.1. Service saddles shall be fusion bonded plastic coated ductile iron (ASTM A536) with stainless steel straps, saddles shall be double strap type.

31.2. Service lines shall be polyethylene (PE 3408), 200 p.s.i rated, DR9. Pipe joints shall be of the compression type totally confined grip seal and coupling nut.

31.3. Corporation stops shall be manufactured of brass alloy in accordance with ASTM B-62 with threaded ends, as manufactured by Ford ballcorp, catalog # 1100 or approved equal.

31.4. Curb stops shall be Ford v63-44w-x" latest revision or approved equal.

31.5. Meter stops shall be 90 degree lockwing type and shall be of bronze construction in accordance FV63-777W" latest revision with ASTM B-62. Meter stops shall be closed bottom design and resilient "0" ring sealed against external leakage at the top. Stops shall be equipped with a meter coupling nut on the outlet sides, as manufactured by Ford or approved equal.

32. Installation:

32.1. Where restrained pipe joints are required due to fittings, appurtenances, etc., pipe material shall be DIP

32.2. All PVC pipe shall be installed in accordance with the uni-bell plastic pipe association "guide for installation of PVC pressure pipe for municipal water distribution system," and ANSI/AWWA C605-xx latest revision standard.

32.3. All DIP shall be installed in accordance with ANSI/ C600-xx latest revision.

32.4. All water mains shall typically be laid with a minimum 36" cover for PVC and 30" cover for DIP.

32.5. Detector tape shall be laid 18 inches above all water and sewer lines. A 14 gauge multi-strand wire shall be attached to all nonconductive water mains to facilitate location. An extra 4 feet of wire shall be provided at all valves, blow-offs, hydrants, etc. The wire shall be tested for continuity at the pressure test.

32.6. Pipe deflection shall not exceed 50% of the maximum deflection recommended by the manufacturer.

32.7. A continuous and uniform bedding shall be provided. Backfill material shall be placed in accordance with the plans and specifications.

32.8. All valves shall be installed with adjustable cast iron valve boxes with the word "water" or "sewer", as applicable, cast in the cover. U.S. foundry or approved equal.

33.Testing:

33.1. Before any physical connections and acceptance for operation to the existing water mains are made, the complete water system shall be flushed, pressure tested and disinfected. Copies of passing bacteriological results and pressure test results must be submitted to, and approved by, the engineer, utility owner, and health department. Hydrostatic testing of new mains shall be performed at a minimum starting pressure of 150 PSI for two hours in accordance with ANSI/AWWA C600-05 (hydrostatic test). The pressure test shall not vary more than 5 PSI during the test. The allowable leakage during the pressure test shall be less than the number of gallons per hour as determined by the formula:

L = (sd(p)1/2)/148,000.

In which L equals the allowable leakage in gallons per hour. S equals length of pipe (linear feet), d equals nominal diameter of pipe (inches) and p equals the average test pressure (pounds per square inch gauge). Maximum length of test pipe section should be 2000 feet. The water system shall be disinfected in accordance with the ANSI/AWWA C651-05 (water main bacteriological tests).

33.2. The pressure test shall be witnessed by a representative of the utility owner and the engineer of record.

33.3. For water distribution pipes, sampling points shall be provided by the contractor at the locations shown on the plans.

33.4. For water distribution pipes, disinfection and bacteriological testing shall be in accordance with ANSI/AWWA C651-14 (water main bacteriological tests). Maximum distance between sampling points shall be as follows:

- Transmission mains: every 1200 feet
- Branch mains: every 1000 feet
- Isolated mains < 1000 feet: 2 sample points
- Isolated mains > 1000 feet: 3 sample points

Section 40 - Gravity Sanitary Sewer Collection System

40.General:

40.1. Manhole, valve box, meter box and other structure rim elevations within the limits of construction are to be adjusted to conform to plan grades proposed in these plans. If no other individual cost item is included in the contract schedule for a particular structure adjustment.

40.2. Distance and lengths shown on plans and profile drawings are referenced to the center of structures.

41. Materials:

Note: If materials list here on are in conflict with utility owner, material owner requirements shall govern.

41.1. All PVC sewer pipe and fittings shall be non-pressure polyvinyl chloride (PVC) pipe conforming to ASTM D 3034, SDR 26, with push-on rubber gasket joints.

41.2. Ductile iron pipe shall conform to ANSI/AWWA C151/A21.51-xx latest revision, "ductile iron pipe centrifugally cast in metal molds or sand-lined molds" with wall thickness class 51 for 8" and above, class 52 for 4" and 6", unless otherwise directed by the engineer. Ductile iron pipe shall be epoxy lined or coated with the manufacturer's coating system as approved by the engineer of record and the local municipality or utility owner. In either case, the engineer's review and approval is required for either alternative prior to construction. Cement mortared linings are not appropriate for this application.

41.3. All ductile iron fittings shall conform to ANSI/AWWA standard C110/A21.10-xx latest revision. All fittings and accessories shall be epoxy lined and as manufactured or supplied by the pipe manufacturer or approved equal.

41.4. Manholes shall be precast per ASTM C 478 and in accordance with the plans and specifications.

41.5. Manholes are to be sealed with type II sulphate resistant cement or approved equal - no molding plaster.

41.6. Joints for bell and spigot ductile iron pipe and fittings shall conform to ANSI/AWWA standard C111/A21.11-xx latest revision. Mechanical joint or push-on joint to be rubber gasket compression- type.

41.7. PVC clean-outs to have screw type access plug. Long radius wye connections and fittings shall be used in order to access clean-out operations.

41.8. Cleanouts shall be installed at all sewer services exceeding 75' in length (every 75') with a clean out at the property line, easement line, or 5' from a building. The contractor shall coordinate the location of the building cleanout (5' from the building) and elevation of the end of the sewer service with the building plumbing contractor. Cleanouts shall be the same size as the service lateral in which they are installed.

42. Installation:

42.1. PVC sewer pipe shall be laid in accordance with ASTM D 2321 and the Uni-Bell plastic pipe association's "recommended practice for the installation of PVC sewer pipe."

42.2. DIP shall be installed in accordance with ANSI/AWWA C-600-xx latest revision.

42.3. Pipe to manhole connection to be Fernco neoprene boot couplings with stainless steel accessories or approved equal.

42.4. Manholes shall be set plumb to line and grade on firm subgrade providing uniform bearing under the base.

42.5. All openings and joints shall be sealed watertight.

42.6. Two coats of Koppers 300-m, first red, second one black, shall be applied to the inside of all manholes and shall be applied in accordance with the manufacturer's specifications (16 mils per coat). Coating as required by utility owner or engineer shall be applied to the outside of the manhole. The interior coats shall be applied after sewer lamping of lines. After the application of each coat, the utility owner and engineer shall inspect the manholes. The inspection shall be scheduled a minimum of 48 hours prior to inspection.

43.Testing: Testing of gravity sewer mains and laterals shall be in accordance with the utility owner's minimum design and construction standards latest revision.

43.1. After construction of the sewer system, the engineer may require a visual infiltration and/or exfiltration test to be performed on the entire system or any part thereof.

43.2. An air test may be substituted for the water exfiltration test, upon approval of the engineer.

43.3. The allowable limits of sewer pipe leakage for gravity sewer mains shall not exceed 100 gallons per inch of inside pipe diameter per mile per day for any section tested. No visible leakage shall be allowed.

43.4. The installed sewers may require video inspections.

KEITH
301 East Atlantic Boulevard
Pompano Beach, FL 33060
PH: (954) 788-3400
Florida Certificate of Authorization # - 7928

BID / CONTRACT NO. :

REVISIONS

NO.	DESCRIPTION	DATE

PRELIMINARY PLAN
NOT FOR CONSTRUCTION
THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS. RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

#34798
16000 S. MILITARY TRAIL
DELRAY BEACH, FL 33484

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 2018
DRAWN BY:	AM
DESIGNED BY:	AM
CHECKED BY:	TD

THOMAS F. DONAHUE, P.E.
FLORIDA REG. NO. 60529
(FOR THE FIRM)

SHEET TITLE
CONSTRUCTION SPECIFICATIONS

SHEET NUMBER
GI-002

SHEET 03 of 12

PROJECT NO. 09725.24

Drawing name: N:\09\09725.24 - 7-11 16000 S Military Trail Delray Beach - Creighton\Engineering\Cadd\09725.24-GI-00X.dwg Layout Name: GI-002 Plotted by: amizrahi Plotted on: Jan 09, 2019 - 9:58am

General Notes

This construction project may or may not include all items covered by these notes and specifications, i.e. paving, grading, drainage lines, water lines, or sanitary sewer lines. See plans for detailed project scope. Notes and specifications on this sheet refer to paving, grading, drainage, water, and sanitary sewer, and are intended for this projects scope of work and for reference purposes for other work items that may be required due to unforeseen existing conditions or required remedial work.

1. Specific Site Notes

1.1. County and "City" in these notes refers to County and City in which project resides.

1.2. State in these notes refers to the State of Florida.

1.3. Existing topographic information in the plans is based on survey data and best available information. See project survey and notes on plan sheets regarding the source of the topographic information.

2. Applicable Codes

2.1. All construction and materials shall conform to the standards and specifications of the city, county, and all other jurisdictional, State and national codes where applicable.

2.2. In the event of a conflict between the general notes and construction specifications in these plans, and the contract documents and specifications in the specification booklet, the contractor shall submit written request for clarification.

2.3. All construction shall be done in a safe manner and in strict compliance with all the requirements of the Federal occupational safety and health act of 1970, and all State and jurisdictional safety and health regulations.

2.4. The contractor shall be required to comply with Federal, State, County, and City laws, codes, and regulations.

2.5. All handicap accessible areas to conform to the requirements of the Americans with Disabilities Act (ADA), State ADA codes, and Florida Building Code ADA codes latest edition.

2.6. Trench safety act

2.6.1. All trench excavation shall be performed in accordance with chapter 90-96 of the laws of Florida (the trench safety act).

2.6.2. All trench excavation in excess of 5 feet in depth shall be undertaken in accordance with O.S.H.A. standard 29 cfr. Section 1926.650 subpart p.

2.6.3. The contractor shall submit with his contract a completed, signed, and notarized copy of the trench safety act compliance statement. The contractor shall also submit a separate cost item identifying the cost of compliance with the applicable trench safety codes.

2.6.4. A trench safety system, if required, shall be designed by the excavation contractor utilizing a specialty engineer as required.

3. Construction Notes:

3.1. Contractor shall tie to existing grade by evenly sloping from closest proposed grade provided to existing grade at limits of construction, unless otherwise noted on the plans. If no limit of work line is indicated, slope to adjacent property line or right-of-way line, as applicable.

3.2. Unless otherwise indicated on the plans, all existing manholes, catch basins, meters and other structures, whether indicated on the plans or not shall be adjusted to match the new grade, by the contractor.

3.3. The curb shall be sloped to accommodate the new pavement, catch basin and grate, and the surface flow pattern.

3.4. The contractor shall use care when cutting the existing asphalt pavement and during excavations, so that the existing catch basins and grates that are to remain will not be damaged.

3.5. The contractor shall maintain the roadway slope when resurfacing the roadway. The edge of pavement shall match the new gutter lip per FDOT index 300.

3.6. The new sidewalk shall be constructed in accordance with the given elevations and at the proper slopes depicted in the specifications, details and standards. Existing driveways and other features shall be matched when possible as directed by the engineer.

3.7. Radii shown are to the edge of pavement.

3.8. All bench mark monuments within the limits of construction shall be protected and referenced by the contractor in the same way as public land corners.

3.9. All excess material is to be disposed by the contractor within 72 hours.

3.10. In areas where the base is exposed by the milling operation, the contractor shall restore the base to its original thickness and structural capacity before paving over such areas. This includes but is not limited to restoring original degree of compaction, moisture content, composition, stability, and intended slope. If paving will not take place the same day the base is exposed and reworked, the base shall be sealed according to the governing standards and specifications. Any additional work resulting from the contractor's failure to protect the exposed base as stated above in order to restore the original structural capacity shall be the contractor's cost.

3.11. The contractor is to maintain existing signage during construction operations, in order to facilitate emergency vehicle traffic.

3.12. The topographic survey included with this set of plans reflects pre-demolition conditions and does not reflect the site conditions after demolition. The contractor is fully and solely responsible in determining the required earthwork for the proposed development of the site. This includes, but is not limited to, any excavation/dredge and fill activities required at any phase of the project. The contractor shall use the final approved (released for construction) plans, surveys, geotechnical reports, and any other available information for determining the amount of excavation/dredging and filling required. Any quantities included in the approved permits were estimated by the engineer for purposes of obtaining the permit and under no circumstances shall be used by the contractor in lieu of performing their own earthwork calculations required for cost estimating and bidding the project.

3.13. The contractor shall be responsible for reading and familiarizing themselves with any and all available geotechnical reports prepared by others and/or any recommendations written or implied by the geotechnical engineer for this project. The geotechnical conditions and recommendations outlined in these reports are in force and in full effect as part of the proposed improvements. The contractor is responsible for ensuring that all the work associated with this project is in compliance with the geotechnical engineer's recommendations. Keith and Associates, Inc. is not responsible for the suitability or unsuitability of the soils encountered. It is the contractor's responsibility to ensure that the means and methods of construction used can and will allow for the successful completion of the required site improvements.

3.14. The contractor shall ensure that the available geotechnical information is sufficient for his complete understanding of the soil conditions for the site. If additional geotechnical investigation is required by the contractor, this additional work shall be considered incidental to the contract and no additional compensation shall be allowed.

3.15. The contractor shall be responsible for the repair and restoration of existing pavement, pipes, conduits, sprinkler heads, cables, etc., and landscaped areas damaged as a result of the contractor's operations and/or those of his subcontractors and shall restore at no additional cost.

3.16. The contractor shall not bring any hazardous materials onto the project. Should the contractor require such for performing the contracted work, the contractor shall request, in writing, permission from the owner, city and engineer. The contractor shall provide the owner, city and engineer with a copy of the material safety data sheet (MSDS) for each hazardous material proposed for use. The project engineer shall coordinate with the owner and city prior to issuing written approval to the contractor.

3.17. Any known or suspected hazardous material found on the project by the contractor shall be immediately reported to the city and/or engineer, who shall direct the contractor to protect the area of known or suspected contamination from further access. The city and/or engineer are to notify the owner/engineer of the discovery. The owner/engineer will arrange for investigation, identification, and remediation of the hazardous material. The contractor shall not return to the area of contamination until approval is provided by the engineer.

3.18. The contractor shall contact the appropriate city engineering inspector and engineer 48 hours in advance of the event to notify the city of construction start up, or to schedule all required tests and inspections including final walk-throughs.

4. Preconstruction Responsibilities

4.1. All utility / access easements to be secured prior to construction.

4.2. No construction may commence until the appropriate permits have been obtained from all municipal, State, County, and Federal agencies and a pre-construction meeting has been conducted.

4.3. All required governmental agency building permits to be obtained by the contractor prior to any construction activity.

4.4. Contractor to coordinate construction scheduling for connection to the existing water and sewer lines with the utility department that owns and/or maintains the water and sewer lines.

4.5. Prior to the start of construction, the owner shall submit an NPDES construction general permit (CGP) "notice of intent (N.O.I.) to use Generic Permit for storm water discharge from construction activities form (DEP form 62-621.300(4)(b)) to FDEP notices center. The contractor will be responsible for (1) implementation of the storm water pollution prevention plan (SWPPP) that was required to be developed prior to NOI submittal, and (2) retention of records required by the permit, including retention of a copy of the SWPPP at the construction site from the date of project initiation to the date of final site stabilization. A "notice of termination (N.O.T.) of generic permit coverage" form (DEP form 62-621.300(6)) must be submitted to FDEP to discontinue permit coverage, subsequent to completion of construction. For additional information see FDEP website: http://www.dep.state.fl.us/water/ storm water/npdes.

4.6. Prior to construction or installation, 5 sets of shop drawings shall be submitted for review as required for the following items listed below, but not limited to:

- Drainage: Catch basins, manholes, headwalls, grates/tops, yard drains.
- Water: Fire hydrants, valves, backflow preventer, DDCV, meter box.
- Sewer: Manholes, lift stations (wetwell, hatches, valves, pump data, electrical panel)

4.0.1. Catalogue literature shall be submitted for drainage, water and sewer pipes, fittings, and appurtenances.

4.0.2. Prior to submitting shop drawings to the engineer, the contractor shall review and approve the drawings, and shall note in red any deviations from the engineer's plans or specifications.

4.0.3. Individual shop drawings for all precast structures are required. Catalogue literature will not be accepted for precast structures.

4.1. Contractor to submit maintenance of traffic plan(s) in accordance with FDOT and Broward county requirements, and submit for approval prior to beginning construction.

5. Inspections / Testing:

5.1. The contractor shall notify in writing the owner, City, County, engineer of record, and any other governmental agencies having jurisdiction at least 48 hours prior to beginning construction and prior to required inspections of the following items, where applicable:

- Clearing and earthwork
- Storm drainage systems
- Sanitary sewer systems
- Water distribution systems
- Subgrade
- Limerock base
- Asphalt or concrete pavement
- Sidewalks, concrete flatwork/curbing
- Landscaping
- Pavement marking and signage
- Signalization
- Site lighting
- Electrical and communication lines
- Utility conduits
- Irrigation
- Final

5.1. The owner, engineer, and jurisdictional permitting agencies may make inspections of the work at any time. The contractor shall cooperate fully with all inspections.

5.3. Testing - all testing required by the plans and specifications shall be performed by a licensed / FDOT qualified testing company. Required test for asphalt and limerock shall be taken at the direction of the engineer or the jurisdictional governmental agency in accordance with the plans and specifications.

6. Temporary Facilities

6.1. It shall be the contractor's responsibility to arrange for or supply temporary water service, sanitary facilities, communications, and electricity, for his operations and works, cost included under mobilization.

6.2. Contractor shall construct temporary fencing to secure construction areas at all times, cost included in mobilization.

6.3. Contractor to obtain a secure staging area and obtain all necessary approvals from the owner.

6.4. Contractor shall construct and maintain temporary lighting as required to light the construction project limits at all times, to at least the same lighting intensity levels as the existing conditions.

6.5. The contractor shall maintain access to adjacent properties at all times.

7. Project Progress and Closeout

7.1. During construction, the project site and all adjacent areas shall be maintained in a neat and clean manner, and upon final clean-up, the project site shall be left clear of all surplus material or trash. The paved areas shall be broom swept clean.

7.2. The contractor shall restore or replace any public or private property (such as highway, driveway, walkway, and landscaping), damaged by his work, equipment, or employees, to a condition at least equal to that existing immediately prior to the beginning of construction. Suitable materials and methods shall be used for such restoration.

7.3. Material or debris shall be hauled in accordance with NPDES permit and jurisdictional laws.

7.4. All land survey property monuments or permanent reference markers, removed or destroyed by the contractor during construction shall be restored by a State of Florida registered land surveyor at the contractor's expense.

7.5. All unpaved surfaces disturbed as a result of construction activities shall be graded, sodded, & restored to a condition equal to or better than that which existed before the construction.

8. Project record documents:

8.1. During the daily progress of the job, the contractor shall record on his set of construction drawings the location, length, material and elevation of any facility not built according to plans. This copy of the "as-built" shall be submitted to engineer for project record.

8.2. Upon completion of drainage improvements and limerock base construction (at least 48 hours before placing asphalt pavement) the contractor shall furnish the engineer of record "as-built" plans for these improvements, showing the locations and pertinent grades of all drainage installations and the finished rock grades of the road crown and edges of pavement at 50 foot intervals, including locations and elevations of all high and low points.

8.3. Upon completion of construction, and prior to final acceptance, the contractor shall submit to the engineer of record one complete set of all "as-built" contract drawings. These drawings shall be marked to show "as-built" construction changes, dimensions, locations, and elevations of all improvements.

8.4. "As-built" drawings of water lines and force mains shall include the following information:

8.4.1. Top of pipe elevations every 100 LF.

8.4.2. Locations and elevations of all fittings including bends, tees, gate valves, double detector check valves, fire hydrants, and appurtenances.

8.4.3. All connections to existing lines.

8.4.4. Ends of all water services at the buildings where the water service terminates.

8.5. "As-built" drawings of gravity sanitary sewer lines shall include the following information:

8.5.1. Rim elevations, invert elevations, length of piping between structures, and slopes.

8.5.2. The stub ends and cleanouts of all sewer laterals shall be located horizontally and vertically.

8.6. "As-built" drawings of all drainage lines shall include the following information:

8.6.1. Rim elevation, invert elevation, length of piping between structures, and control structure elevations if applicable.

8.6.2. The size of the lines.

8.6.3. Drainage well structure shall include, but not be limited to, top of casing elevation, top and bottom elevations of the structure and baffle walls, rim elevations and pipe inverts.

8.7. "As-built" drawings of construction areas shall include the following:

8.7.1. Rock elevations at all high, and low points, and at enough intermediate points to confirm slope consistency.

8.7.2. Rock elevations and concrete base elevations shall be taken at all locations where there is a finish grade elevation shown on the design plans.

8.7.3. All catch basin and manhole rim elevations.

8.7.4. Finish grade elevations in island areas.

8.7.5. "As-built" elevations shall be taken on all paved and unpaved swales, at enough intermediate points to confirm slope consistency and conformance to the plan details.

8.7.6. Lake and canal bank "as-built" drawings shall include a key sheet of the lake for the location of cross sections. Lake and canal bank cross sections shall be plotted at a minimum of every 100 lf, unless otherwise specified. "as-built" drawings shall consist of the location and elevation of the top of bank, edge of water, and the deep cut line, with the distance between each shown on the drawing.

8.7.7. Retention area "as-built" elevations shall be taken at the bottom of the retention area and at the top of bank. If there are contours indicated on the design plans, then they shall be included in "as-built" drawings as well.

8.8. Upon completion of the work, the contractor shall prepare "as-built" drawings on full size, 24" x 36" sheets. All "as-built" information shall be put on the latest engineering drawings. Eight (8) sets of blue or black line drawings shall be submitted. These drawings shall be signed and sealed by a Florida registered professional engineer or land surveyor.

8.9. An electronic copy of these "as-built" drawings shall be submitted to the engineer of record in AutoCAD, version 2008 or later.

9. Utility Notes

9.1. Contractor is responsible for utility verification prior to fabrication.

9.2. The contractor is advised that properties adjacent to the project have electric, telephone, gas, water and/or sewer service laterals which may not be shown in plans. The contractor must request the location of these lateral services from the utility companies.

9.3. The contractor shall use hand digging when excavating near existing utilities. Extreme caution shall be exercised by the contractor while excavating, installing, backfilling or compacting around the utilities.

9.4. The contractor shall notify and obtain an underground clearance from all utility companies and governmental agencies at least 48 hours prior to beginning any construction. The contractor shall obtain a Sunshine811.com Certification clearance number and field markings at least 48 hours prior to beginning any excavation.

- Prior to commencement of any excavation, the contractor shall comply with Florida statute 553.851 for the protection of underground gas pipelines.

9.1. For street excavation or closing or for alteration of access to public or private property, the contractor shall notify:

- Roadway jurisdictional engineering / public works authority.
- County transit authority
- School board transportation authority
- Jurisdictional fire department dispatch
- Jurisdictional police department(s)

9.1. The contractor shall use extreme caution working under, over, and around existing electric lines. The contractor shall contact the electric provider company to verify locations, voltage, and required clearances, onsite, in right-of-ways, and in easements, prior to any construction in the vicinity of existing lines.

9.2. Location and size of all existing utilities and topography (facilities) as shown on construction drawings are drawn from available records. The engineer assumes no responsibility for the accuracy of the facilities shown or for any facility not shown. It is the contractor's responsibility to determine the exact location (vertical & horizontal) of any existing utilities and topography prior to construction. The contractor shall verify the elevations and locations of all existing facilities, in coordination with all utility companies, prior to beginning any construction operations. If an existing facility is found to conflict with the proposed construction, the contractor shall immediately notify the engineer so that appropriate measures can be taken to resolve the conflict.

9.3. The contractor shall coordinate the work with other contractors in the area and any other underground utility companies required. The contractor shall coordinate relocation of all existing utilities with applicable utility companies.

10. Signing and Pavement Markings

10.1. All signing and pavement markings installed as part of these plans shall conform to the Federal highway administration (FHWA) "manual on uniform traffic control devices" (MUTCD), County Traffic Design Standards and FDOT design standards as a minimum criteria.

10.2. Match existing pavement markings at the limits of construction.

10.3. Removal of the existing pavement markings shall be accomplished by water blasting or other approved methods determined by the engineer.

10.4. Incorrectly placed paint or thermoplastic pavement markings over friction course will be removed by milling and replacing the friction course a minimum width of 18 in at the contractor's expense. The engineer may approve an alternative method if it can be demonstrated to completely remove the markings without damaging the asphalt.

10.5. Place all retro-reflective pavement markers in accordance with standard index 17352 and / or as shown in the plans.

10.6. Caution should be exercised while relocating existing signs to prevent unnecessary damage to signs. If the sign is damaged beyond use, as determined by the engineer, signs shall be replaced by the contractor at his expense.

10.7. All existing signs that conflict with construction operations shall be removed, stockpiled, and relocated by the contractor. Sign removal shall be directed by the engineer.

10.8. Relocated sign support system must meet the current design standard.

10.9. The contractor shall provide an inventory of existing signs to remain or to be relocated prior to starting the job and forward this list to the engineer. Contractor shall notify if there are any missing or damage signs that the plans show to remain or to be relocated.

10.10. All roadway pavement markings shall be thermoplastic in accordance with FDOT specifications section 711.

10.11. Hand dig the first four feet of sign foundation.

10.12. All signs shall meet all of the following:

- Meet the criteria outlined in Section 2A.08 of the 2009 MUTCD
- Meet the specifications outlined in Section 700 and 994 of the latest FDOT Standard Specifications.
- Consist of materials certified to meet the retroreflective sheeting requirements outlined in the current version of ASTM D4956 for type-XI retroreflective sheeting materials made with prisims, except for school zone and pedestrian signs which shall be comprised of retroreflective fluorescent yellow-green sheeting certified to meet ASTM D4956 Type IV retroreflective sheeting materials.
- Consist of retroreflective sheeting materials that have a valid FDOT Approved Product List (APL) certification for specification 700 Highway Signing for FDOT sheeting Type XI (or type IV for school and pedestrian signs).

10.13. Patch attachment hardware, such as countersunk screws or rivet heads, with retro reflective buttons that match the color and sheeting material of the finished sign panel including the background, legend or border.

10.14. Ensure the outside corner of sign is concentric with border. Ensure white borders are mounted parallel to the edge of the sign. Ensure black borders are recessed from the edge of the sign.

10.15. Layout permanent final striping that leaves no visible marks at time of final acceptance.

KEITH
301 East Atlantic Boulevard
Pompano Beach, FL 33060
PH: (954) 788-3400
Florida Certificate of Authorization # - 7928

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#34798
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THOMAS F. DONAHUE, P.E.
FLORIDA REG. NO. 60529
(FOR THE FIRM)

SHEET TITLE

GENERAL NOTES

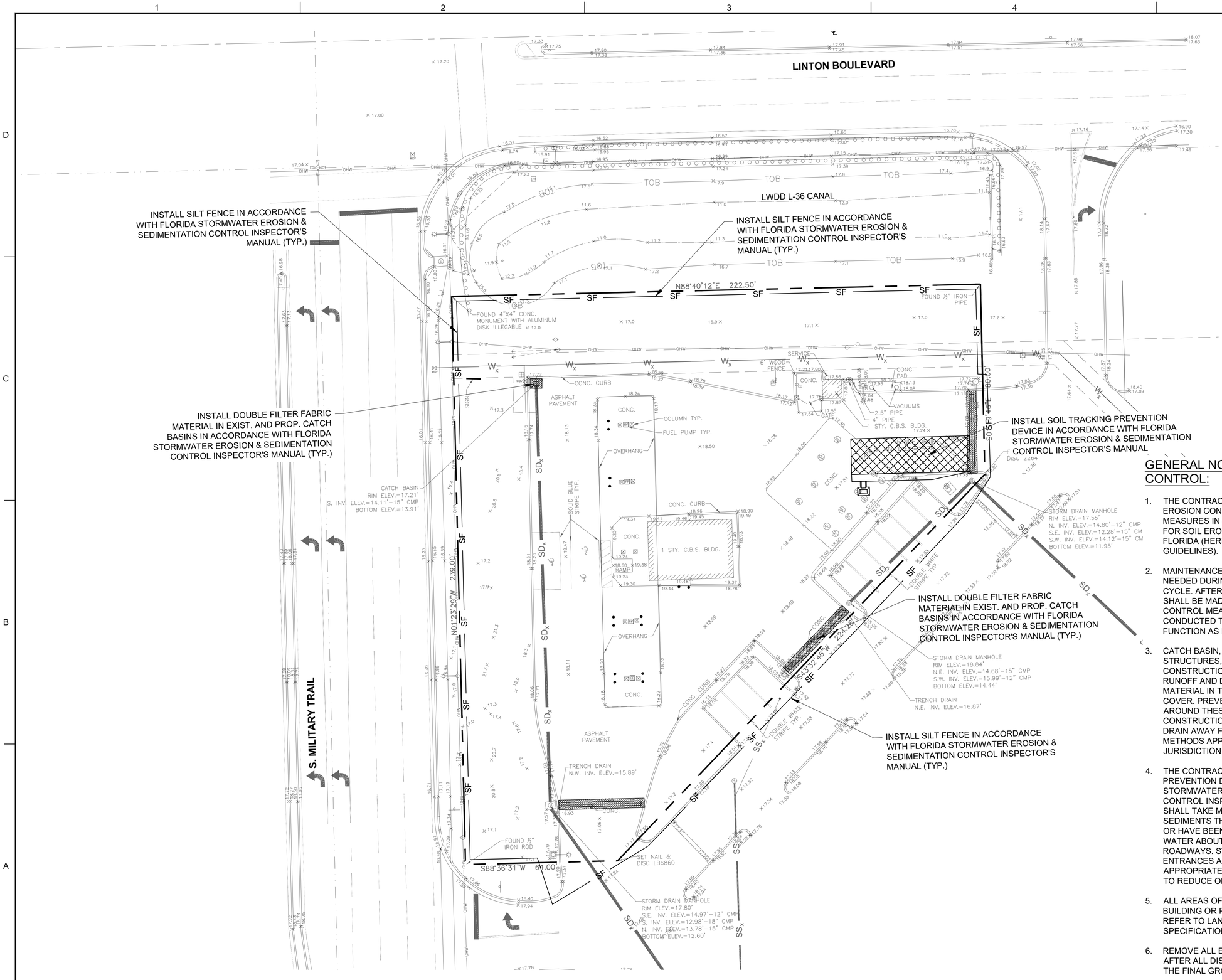
SHEET NUMBER

GI-003

SHEET 04 of 12

PROJECT NO. 09725.24

Drawing name: N:\09\09725.24 - 7-11 16000 S Military Trail Delray Beach - Creighton\Engineering\Cadd\09725.24-GI-XXX.dwg Layout Name: GI-003 Plotted by: amizrahi Plotted on: Jan 09, 2019 - 9:58am



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GRAPHIC SCALE

0 20 40

SCALE: 1"=20'

NOTE: PRINTED DRAWING SIZE MAY HAVE CHANGED FROM ORIGINAL. VERIFY SCALE USING BAR SCALE ABOVE.

GENERAL NOTES - EROSION CONTROL:

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN FLORIDA (HEREAFTER REFERRED TO AS FL GUIDELINES).
2. MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION SHALL BE MADE OF ALL INSTALLED EROSION CONTROL MEASURES AND REPAIRS SHALL BE CONDUCTED TO ENSURE THEIR CONTINUING FUNCTION AS DESIGNED.
3. CATCH BASIN, INLETS, STORM SEWER MANHOLES STRUCTURES, ETC. SHALL BE PROTECTED DURING CONSTRUCTION OPERATIONS FROM SEDIMENT RUNOFF AND DEBRIS BY PLACING A FILTER FABRIC MATERIAL IN THE FRAME AND GRATE/MANHOLE COVER. PREVENTIVE METHODS MUST BE UTILIZED AROUND THESE STRUCTURES (DURING CONSTRUCTION OPERATIONS) BY GRADING TO DRAIN AWAY FROM STRUCTURES AND ANY OTHER METHODS APPROVED BY THE AGENCY HAVING JURISDICTION OR DESIGN ENGINEER OF RECORD.
4. THE CONTRACTOR SHALL INSTALL A SOIL TRACKING PREVENTION DEVICE AS PER THE FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL. THE CONTRACTOR SHALL TAKE MEASURES TO INSURE THE CLEANUP OF SEDIMENTS THAT HAVE BEEN TRACKED BY VEHICLES OR HAVE BEEN TRANSPORTED BY WIND OR STORM WATER ABOUT THE SITE OR ONTO NEARBY ROADWAYS. STABILIZED CONSTRUCTION ENTRANCES AND CONSTRUCTION ROADS, IF APPROPRIATE, SHALL BE IMPLEMENTED IN ORDER TO REDUCE OFFSITE TRACKING.
5. ALL AREAS OF DISTURBANCE THAT ARE NOT WITHIN BUILDING OR PAVEMENT LIMITS SHALL BE SODDED, REFER TO LANDSCAPE PLANS FOR SOD SPECIFICATION AND REQUIREMENTS.
6. REMOVE ALL EROSION CONTROL IMPROVEMENTS AFTER ALL DISTURBED AREAS ARE STABILIZED WITH THE FINAL GROUND COVER.

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PH: (954) 788-3400
Florida Certificate of Authorization # - 7928

BID / CONTRACT NO. :

REVISIONS

NO.	DESCRIPTION	DATE

PRELIMINARY PLAN
NOT FOR CONSTRUCTION
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#34798
16000 S. MILITARY TRAIL
DELRAY BEACH, FL 33484

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 2018
DRAWN BY:	AM
DESIGNED BY:	AM
CHECKED BY:	TD

THOMAS F. DONAHUE, P.E.
FLORIDA REG. NO. 60529
(FOR THE FIRM)

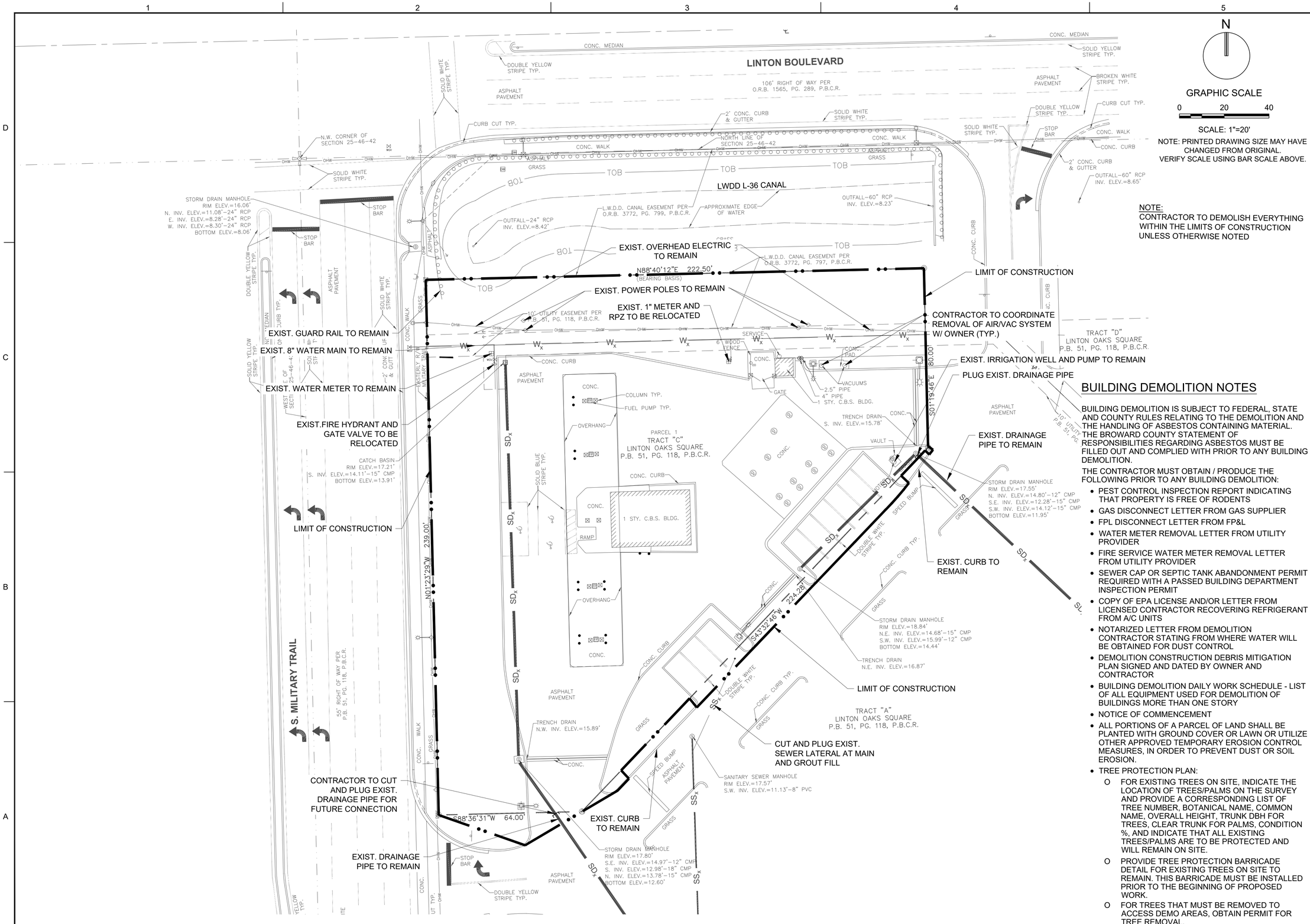
SHEET TITLE
EROSION AND SEDIMENTATION CONTROL PLAN

SHEET NUMBER
CG-101

SHEET 5 of 12

PROJECT NO. 09725.24

Drawing name: N:\09\09725.24 - 7-11 16000 S Military Trail Delray Beach - Creighton\Engineering\Cadd\09725.24-CG-1XX.dwg Layout Name: CG-101 Plotted by: amiznahl Plotted on: Jan 09, 2019 - 9:58am



N

GRAPHIC SCALE

0 20 40

SCALE: 1"=20'

NOTE: PRINTED DRAWING SIZE MAY HAVE CHANGED FROM ORIGINAL. VERIFY SCALE USING BAR SCALE ABOVE.

NOTE:
CONTRACTOR TO DEMOLISH EVERYTHING WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE NOTED

BUILDING DEMOLITION NOTES

BUILDING DEMOLITION IS SUBJECT TO FEDERAL, STATE AND COUNTY RULES RELATING TO THE DEMOLITION AND THE HANDLING OF ASBESTOS CONTAINING MATERIAL. THE BROWARD COUNTY STATEMENT OF RESPONSIBILITIES REGARDING ASBESTOS MUST BE FILLED OUT AND COMPLIED WITH PRIOR TO ANY BUILDING DEMOLITION.

THE CONTRACTOR MUST OBTAIN / PRODUCE THE FOLLOWING PRIOR TO ANY BUILDING DEMOLITION:

- PEST CONTROL INSPECTION REPORT INDICATING THAT PROPERTY IS FREE OF RODENTS
- GAS DISCONNECT LETTER FROM GAS SUPPLIER
- FPL DISCONNECT LETTER FROM FP&L
- WATER METER REMOVAL LETTER FROM UTILITY PROVIDER
- FIRE SERVICE WATER METER REMOVAL LETTER FROM UTILITY PROVIDER
- SEWER CAP OR SEPTIC TANK ABANDONMENT PERMIT REQUIRED WITH A PASSED BUILDING DEPARTMENT INSPECTION PERMIT
- COPY OF EPA LICENSE AND/OR LETTER FROM LICENSED CONTRACTOR RECOVERING REFRIGERANT FROM A/C UNITS
- NOTARIZED LETTER FROM DEMOLITION CONTRACTOR STATING FROM WHERE WATER WILL BE OBTAINED FOR DUST CONTROL
- DEMOLITION CONSTRUCTION DEBRIS MITIGATION PLAN SIGNED AND DATED BY OWNER AND CONTRACTOR
- BUILDING DEMOLITION DAILY WORK SCHEDULE - LIST OF ALL EQUIPMENT USED FOR DEMOLITION OF BUILDINGS MORE THAN ONE STORY
- NOTICE OF COMMENCEMENT
- ALL PORTIONS OF A PARCEL OF LAND SHALL BE PLANTED WITH GROUND COVER OR LAWN OR UTILIZE OTHER APPROVED TEMPORARY EROSION CONTROL MEASURES, IN ORDER TO PREVENT DUST OR SOIL EROSION.
- TREE PROTECTION PLAN:
  - O FOR EXISTING TREES ON SITE, INDICATE THE LOCATION OF TREES/PALMS ON THE SURVEY AND PROVIDE A CORRESPONDING LIST OF TREE NUMBER, BOTANICAL NAME, COMMON NAME, OVERALL HEIGHT, TRUNK DBH FOR TREES, CLEAR TRUNK FOR PALMS, CONDITION %, AND INDICATE THAT ALL EXISTING TREES/PALMS ARE TO BE PROTECTED AND WILL REMAIN ON SITE.
  - O PROVIDE TREE PROTECTION BARRICADE DETAIL FOR EXISTING TREES ON SITE TO REMAIN. THIS BARRICADE MUST BE INSTALLED PRIOR TO THE BEGINNING OF PROPOSED WORK.
  - O FOR TREES THAT MUST BE REMOVED TO ACCESS DEMO AREAS, OBTAIN PERMIT FOR TREE REMOVAL.

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#34798
16000 S. MILITARY TRAIL
DELRAY BEACH, FL 33484

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DATE ISSUED:	FEBRUARY 2018
DRAWN BY:	AM
DESIGNED BY:	AM
CHECKED BY:	TD

THOMAS F. DONAHUE, P.E.
FLORIDA REG. NO. 60529
(FOR THE FIRM)

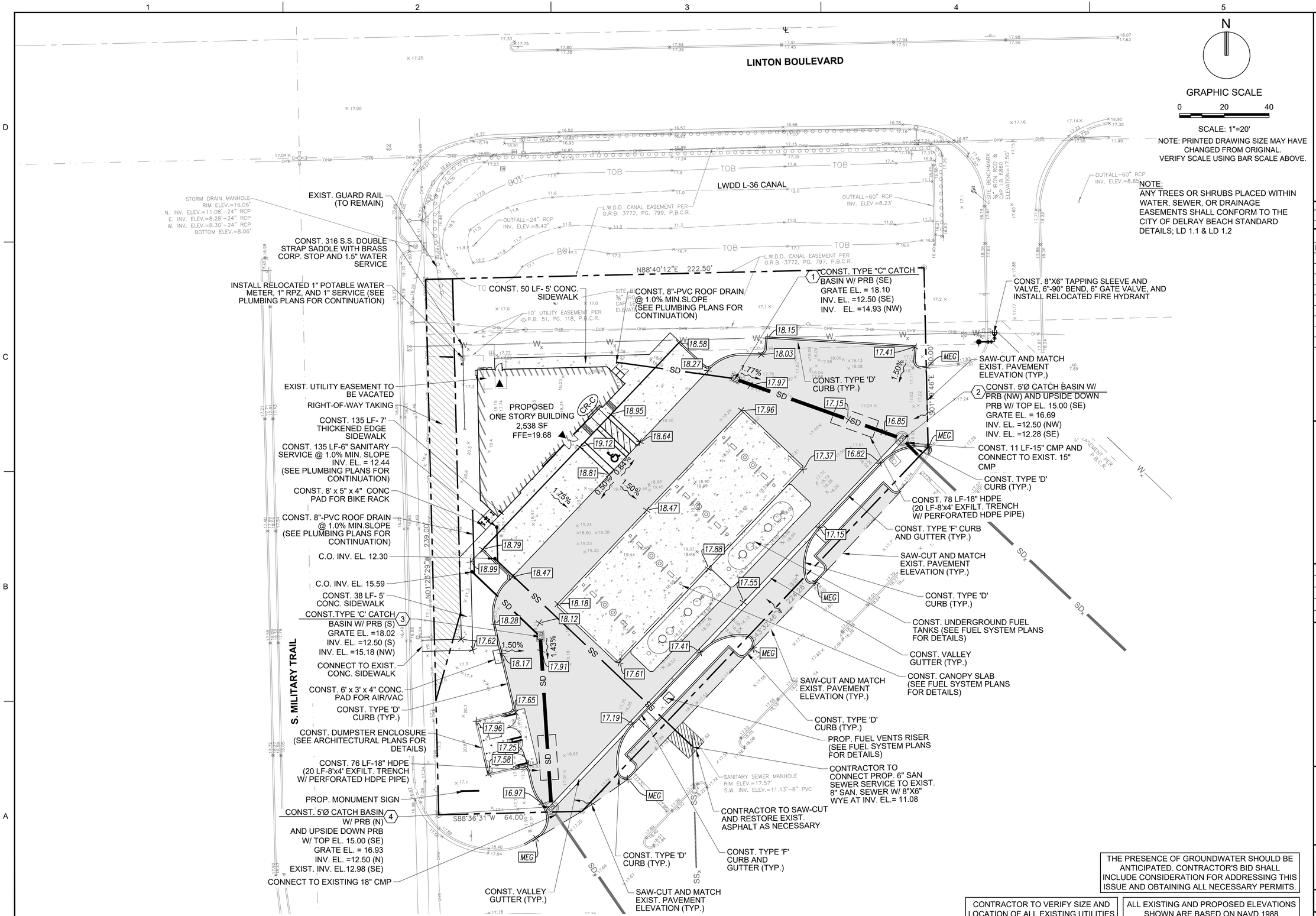
SHEET TITLE
DEMOLITION PLAN

SHEET NUMBER
CD-101

SHEET 6 of 27

PROJECT NO. 09725.24

Drawing name: N:\09\09725.24 - 7-11 16000 S Military Trail Delray Beach - Creighton\Engineering\Cadd\09725.24-CD-1XX.dwg Layout Name: CD-101 Plotted by: amizrahi Plotted on: Jan 10, 2019 - 3:27pm



N

GRAPHIC SCALE

0 20 40

SCALE: 1"=20'

NOTE: PRINTED DRAWING SIZE MAY HAVE CHANGED FROM ORIGINAL. VERIFY SCALE USING BAR SCALE ABOVE.

NOTE:
ANY TREES OR SHRUBS PLACED WITHIN WATER, SEWER, OR DRAINAGE EASEMENTS SHALL CONFORM TO THE CITY OF DELRAY BEACH STANDARD DETAILS; LD 1.1 & LD 1.2

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

CONTRACTOR TO VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES

ALL EXISTING AND PROPOSED ELEVATIONS SHOWN ARE BASED ON NAVD 1988

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BID / CONTRACT NO. :

REVISIONS

NO.	DESCRIPTION	DATE
1	PER DRC COMMENTS	06/20/2018
2	SITE PLAN REVISION	01/11/2019
3	PER DRC COMMENTS	02/04/2019

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FLORIDA REG. NO. 60529
(FOR THE FIRM)

SHEET TITLE

PAVING, GRADING, DRAINAGE, AND UTILITY PLAN

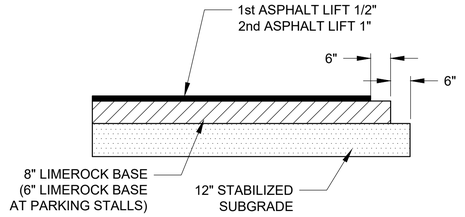
SHEET NUMBER

CP-101

SHEET 07 of 27

PROJECT NO. 09725.24

Drawing name: N:\09\09725.24 - 7-11 16000 S Military Trail Delray Beach - Creig\tech\Engineering\Cadd\09725.24-CP-1XX.dwg Layout Name: CP-101 Plotted by: amitzahi Plotted on: Feb 14, 2019 - 1:12pm



ASPHALTIC CONCRETE VEHICULAR:
FIRST LIFT - 1/2" FDOT - SP 9.5 (FINE MIX)
SECOND (FINAL) LIFT - 1" FDOT - SP 9.5 (FINE MIX)
ASPHALT SURFACE COURSE SHALL CONFORM TO THE REQUIREMENTS OF FDOT STANDARDS SPECIFICATIONS SECTION 330.
SECOND LIFT OF ASPHALT SHALL NOT BE PLACED UNTIL FINAL LANDSCAPE/HARDSCAPE HAS BEEN INSTALLED.

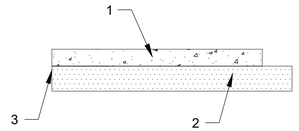
PRIME AND TACK COAT:
LIMEROCK BASE COURSE SHALL CONFORM TO THE REQUIREMENTS OF FDOT STANDARDS SPECIFICATIONS SECTION 300.
APPLICATION RATES:
PRIME COAT - 0.10 GALLONS PER SQ. YD.
TACK COAT - 0.08 GALLONS PER SQ. YD.

BASE:
8"/ 6" LIMEROCK BASE COMPACTED TO 98% OF MAXIMUM DENSITY (AASHTO T-180), LIMEROCK BASE TO CONFORM WITH THE REQUIREMENTS OF FDOT SPECIFICATIONS SECTIONS 200 AND 911.

SUBGRADE:
12" STABILIZED SUBGRADE COMPACTED TO 98% OF MAXIMUM DENSITY (AASHTO T-180); MINIMUM LBR = 40.

1 ASPHALT PAVEMENT DETAIL

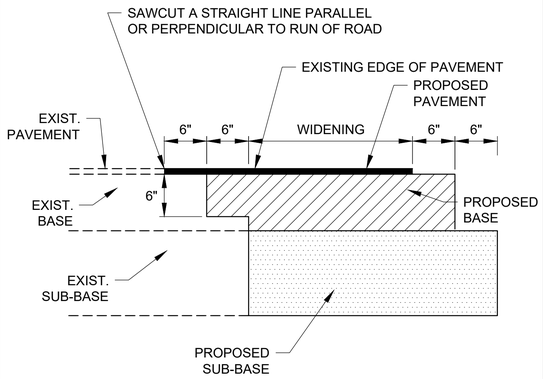
SCALE: NOT TO SCALE



1. CONCRETE VEHICULAR COURSE:
   8" - 3,000 PSI CONCRETE PER FDOT SECTION 346 AND 350.
2. STABILIZED SUBGRADE:
   12" SUBGRADE COMPACTED TO 98% OF MAXIMUM DENSITY (AASHTO T-180).
   MINIMUM LBR = 40. GROUND ADJACENT TO PAVEMENT HAVING RUNOFF SHALL BE GRADED TWO INCHES LOWER THAN THE EDGE OF PAVEMENT TO ALLOW FOR THE PLACEMENT OF SOD.
3. SAWED JOINTS:
   3/16" SAW CUT, 1½" DEEP (WITHIN 12 HOURS), MAX. 15' O.C., AND MIN.3' PARALLEL TO THE EDGE OF PAVEMENT.

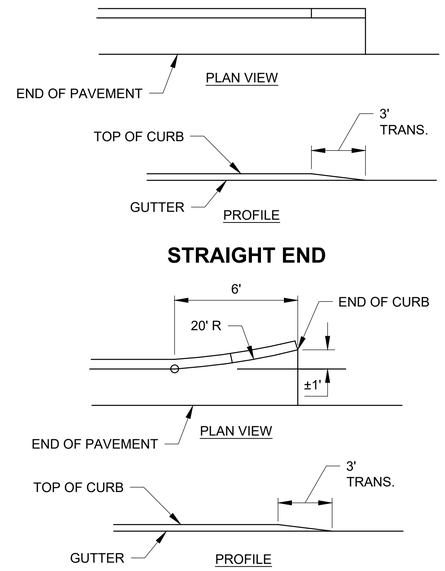
3 CONCRETE PAVEMENT DETAIL

SCALE: NOT TO SCALE



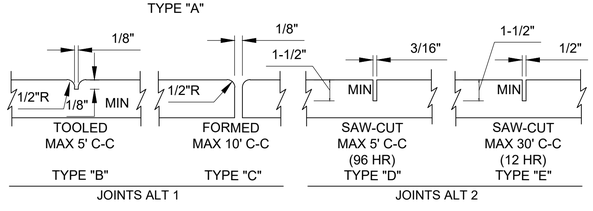
6 SAWCUT / WIDENING DETAIL

SCALE: NOT TO SCALE

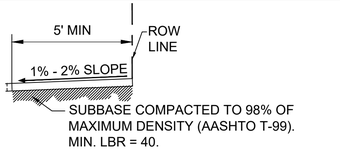


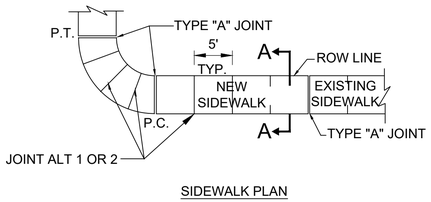
8 CURB & GUTTER FLARED AND STRAIGHT ENDS

SCALE: NOT TO SCALE



CONCRETE PAVEMENT & SIDEWALK JOINTS



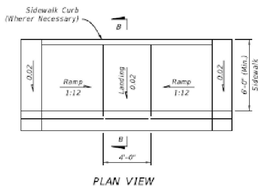


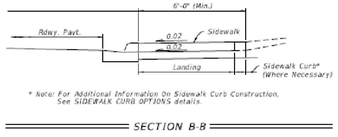
SIDEWALK PLAN

NOTES:
1. Sidewalk construction is to comply with the latest FDOT standards for sidewalks and ADA curb ramps, per FDOT index 304 and 310.
2. Provide either joint alternate 1 or 2. If using joint alternate 2: construct type "E" joints at not more than 30' intervals - within 12 hours after finishing, construct 1/2" expansion, provide joint type "A", with non-rising performed joint filler at not more than 120' intervals, construct remaining joints within 96 hours after finishing.
3. Provide 1/2" expansion joint type "A", with non-rising performed joint filler where concrete pavement abuts concrete curbs, driveways and other fixed objects.
4. Sidewalk thickness shall be 4" thick unless otherwise noted. Thickness shall be 6" through driveways and on all commercial sidewalk applications.
5. The use of steel reinforcement is not permitted.
6. Concrete to be 2,500 psi in 28 days.
7. Cure all concrete with clean sand, plastic membrane or other approved method.
8. Sidewalk foundation shall be compacted to a firm, even surface, true to grade and cross section, and shall be moist at the time concrete is placed.
9. All construction shall conform to local construction codes and standards.
10. Sidewalk slopes shall meet the requirements of the Americans with Disabilities Act. Minimum transverse slope 0.01 ft./ft. And maximum transverse slope 0.02 ft./ft. toward swale or gutter. Longitudinal slope shall conform to ADA requirements.
11. The vertical deviation for a new sidewalk shall not be more than ½".
12. The vertical deviation for a new maintenance access structure cover shall not be more than ¼".
13. Where truncated domes are used, stamped concrete is not permitted.
14. Sidewalk shall have a transverse hair broom finish.

7 SIDEWALK DETAIL

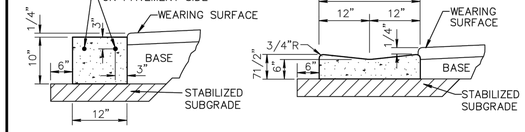
SCALE: NOT TO SCALE



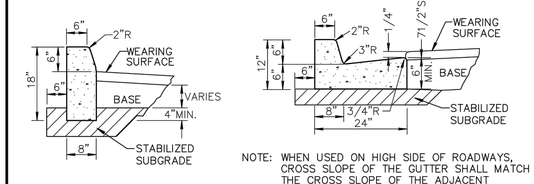


19 ADA CR-C RAMP DETAIL PER FDOT INDEX No. 522-002

SCALE: NOT TO SCALE



NOTE: SAWCUTS REQUIRED AT 10' CENTERS.



NOTE: WHEN USED ON HIGH SIDE OF ROADWAYS, CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT AND THE THICKNESS OF THE LIP SHALL BE 6" MIN.

NOTES: 1. ROADWAY SUBGRADE SHALL IN ALL CASES EXTEND BELOW CURBING.
2. SAWCUTS AT 10' CENTERS SHALL BE MADE WITHIN 24 HOURS OF CONCRETE PLACEMENT.

CITY of DELRAY BEACH
ENVIRONMENTAL SERVICES DEPARTMENT
434 SOUTH SWINTON AVENUE, DELRAY BEACH, FLORIDA 33444

CURB AND GUTTER SECTIONS

DATE: 04-08-08
RT 6.1

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THOMAS F. DONAHUE, P.E.
FLORIDA REG. NO. 60529
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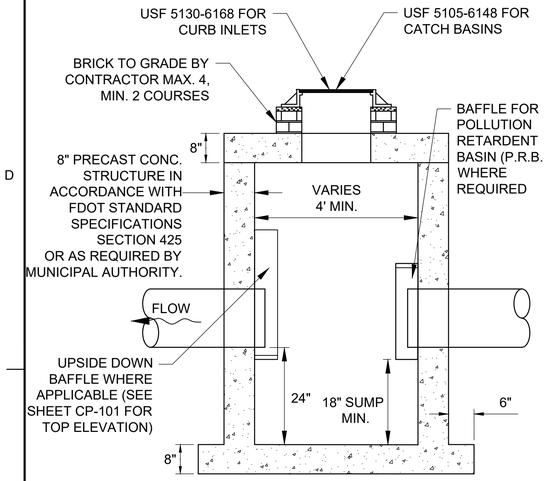
SHEET TITLE
PAVING, GRADING, AND DRAINAGE DETAILS

SHEET NUMBER
CP-501

SHEET 08 of 12

PROJECT NO. 09725.24

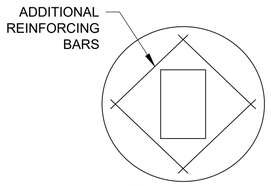
Drawing name: N:\09\09725.24 - 7-11 16000 S Military Trail Delray Beach - Cvr\ghost\Engineering\Cad\09725.24-CP-SXX.dwg Layout Name: CP-501 Plotted by: amzirahi Plotted on: Jan 09, 2019 - 9:59am



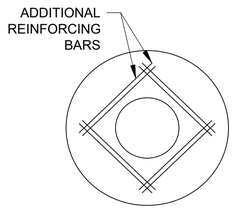
NOTE:
1. STRUCTURE MANUFACTURER AND/OR CONTRACTOR SHALL CONFIRM ALL STEEL REINFORCEMENT MEETS FDOT STANDARDS PER INDEX 200, SECTION 415 AND 425 PRIOR TO SUBMITTING ANY SHOP DRAWINGS FOR APPROVAL.
2. LOCKING GRATES TO BE PROVIDED.

9 CATCH BASIN / MANHOLE DETAIL

SCALE: NOT TO SCALE



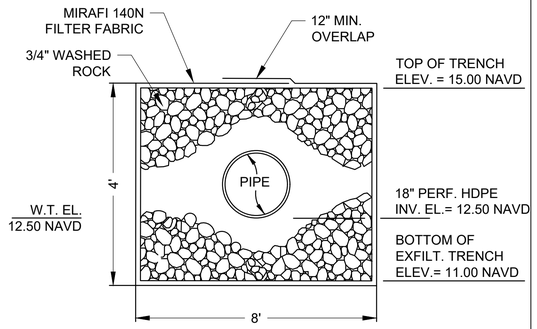
PLAN VIEW
TOP SLAB
FOR CATCH BASINS



PLAN VIEW
TOP SLAB
FOR MANHOLES

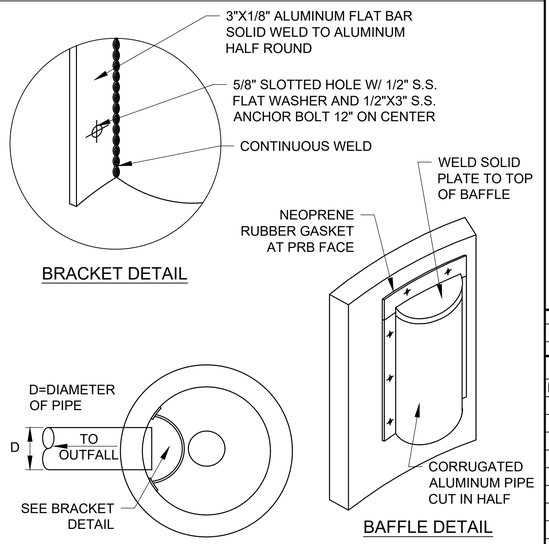
10 CATCH BASIN / MANHOLE FRAME DETAIL

SCALE: NOT TO SCALE



11 EXFILTRATION TRENCH DETAIL

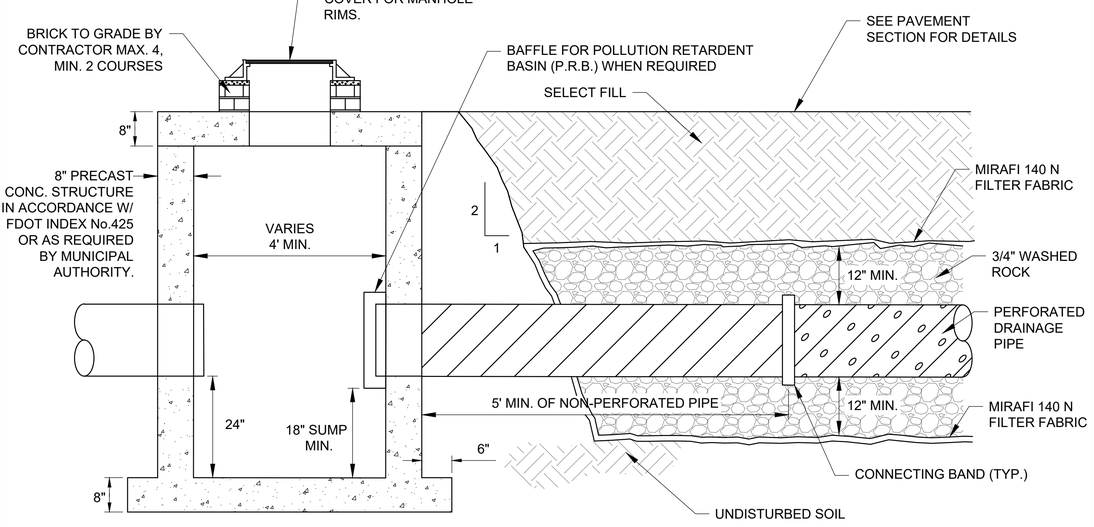
SCALE: NOT TO SCALE



NOTE:
BAFFLE TO BE A SECTION OF CAP CUT IN HALF.
CAP FOR BAFFLE SHALL BE THE NEXT STANDARD
PIPE DIAMETER LARGER THAN THE INFLOW/ OUTFLOW PIPE.

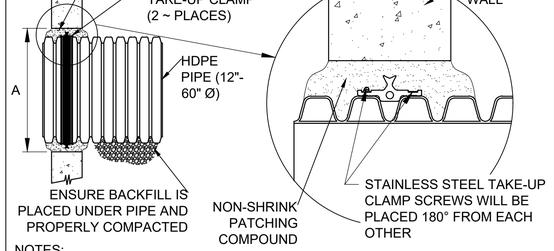
12 POLLUTION RETARDANT BAFFLE DETAIL

SCALE: NOT TO SCALE



13 CATCH BASIN W/ P.R.B. AND EXFILTRATION TRENCH

SCALE: NOT TO SCALE



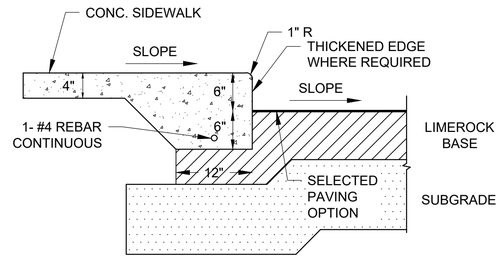
NOTES:
PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

SEE ADS STANDARD DETAIL STD-201 AND ADS INSTALLATION GUIDE 1.05: WATERSTOP INSTALLATION FOR INSTALLATION RECOMMENDATIONS.

PIPE SIZE	PIPE OD		"A" MIN. HOLE DIA.	MIN. DISTANCE PIPE INVERT TO STRUCTURE INVERT
	A-PROFILE	H-PROFILE		
12"	14.5"	N/A	19.5"	3.7"
15"	17.6"	N/A	23.00"	4.0"
18"	21.2"	N/A	26.50"	4.2"
24"	27.8"	N/A	33.25"	4.5
30"	35.1"	N/A	40.50"	5.2"
36"	41.1"	41.1"	47.00"	5.5"
42"	47.7"	48.0"	53.00"	5.7"
48"	53.6"	54.0"	59.00"	5.7"
60"	66.3"	67.3"	72.00"	6.4"

15 GROUTED MANHOLE CONNECTION (HDPE PIPE) DETAIL

SCALE: NOT TO SCALE



18 THICKENED EDGE SIDEWALK

SCALE: NOT TO SCALE

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Pompano Beach, FL 33060
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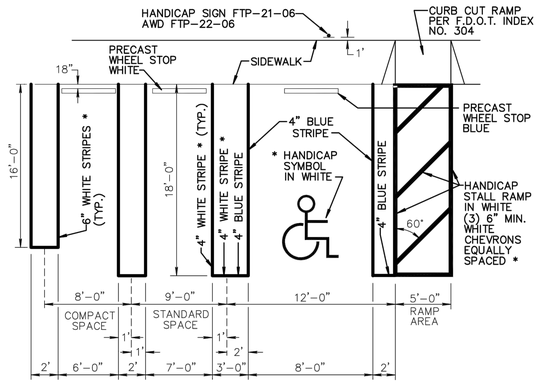
SHEET TITLE
PAVING, GRADING, AND DRAINAGE DETAILS

SHEET NUMBER
CP-502

SHEET 09 of 12

PROJECT NO. 09725.24



PARKING STALL DIMENSIONS:

STANDARD	9'x 18'
COMPACT	8'x 16'
HANDICAP	12'x 18' PLUS 5' RAMP AREA

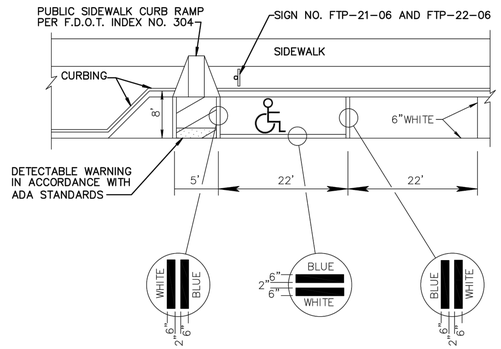
* NOTES:

1. ON LIGHT COLORED SURFACE I.E. CONCRETE ALL HANDICAP MARKINGS SHALL BE BLUE AND STANDARD PARKING STRIPING SHALL BE 3" WHITE WITH 1" BLACK BORDER.
2. ALL STRIPPING WITHIN PUBLIC RIGHT-OF-WAY SHALL BE 6 INCHES.
3. ALL MEASUREMENTS ARE FROM CENTER LINE.
4. ALL COMPACT SPACES MUST HAVE "COMPACT" STENCILED WITH BLACK PAINT ON WHEEL STOP.
5. BLUE STRIPE & H/C SYMBOL AND WALKWAY ON CONCRETE
6. 24" STOP BAR BETWEEN ALL PARKING LOTS AND PUBLIC R/W SHALL BE THERMOPLASTIC AND PER FDOT SPECIFICATIONS AND STOP SIGN R1-1

CITY of DELRAY BEACH
ENVIRONMENTAL SERVICES DEPARTMENT
434 SOUTH SWINTON AVENUE, DELRAY BEACH, FLORIDA 33444

TYPICAL PARKING SPACES (1 OF 3)

DATE:07-02-2014
RT 4.2a



NOTE:

1. HANDICAPPED PARKING SPACE MUST BE FIRST OR LAST PARALLEL PARKING SPACE IN THE ROW. ADJACENT TO LANDSCAPE ISLAND. IF SPACE, IS AT THE FRONT OF PARKING ROW ACCESS PANEL MUST BE IN FRONT OF CAR AND IF SPACE IS AT THE END OF PARKING ROW ACCESS PANEL MUST BE AT THE REAR OF CAR.
2. WHEN PARKING SPACE IS ADJACENT TO LANDSCAPE ISLAND SPACE MAYBE REDUCED TO 20' FROM THE STANDARD 22' LENGHT.

CITY of DELRAY BEACH
ENVIRONMENTAL SERVICES DEPARTMENT
434 SOUTH SWINTON AVENUE, DELRAY BEACH, FLORIDA 33444

TYPICAL PARKING SPACES (3 OF 3)

DATE:07-08-2014
RT 4.2c

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301 East Atlantic Boulevard
Pompano Beach, FL 33060
PH: (954) 788-3400
Florida Certificate of Authorization # - 7928

BID / CONTRACT NO. :

REVISIONS

NO.	DESCRIPTION	DATE

PRELIMINARY PLAN
NOT FOR CONSTRUCTION
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#34798
16000 S. MILITARY TRAIL
DELRAY BEACH, FL 33484

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 2018
DRAWN BY:	AM
DESIGNED BY:	AM
CHECKED BY:	TD

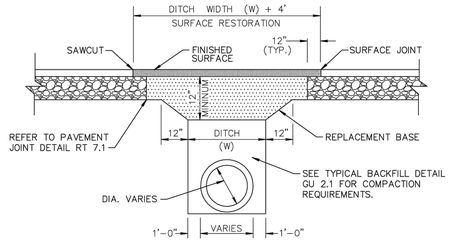
THOMAS F. DONAHUE, P.E.
FLORIDA REG. NO. 60529
(FOR THE FIRM)

SHEET TITLE
PAVING, GRADING, AND DRAINAGE DETAILS

SHEET NUMBER
CP-503

SHEET 10 of 12

PROJECT NO. 09725.24



1. REPLACEMENT BASE TO BE AT MIN. 12" THICK.

2a. BASE MATERIAL SHALL BE PLACED IN TWO LIFTS AND EACH LIFT COMPACTED TO 98% MAXIMUM DENSITY PER AASHTO T-180 (MAX. LIFT THICKNESS = 6").

2b. 12" EXCAVATABLE FLOWABLE FILL MIN. 100 P.S.I. MAY BE USED IN LIEU OF 12" BASE.

3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.

4. ALL DISTURBED PAVEMENT MARKINGS SHALL BE RESTORED IN ACCORDANCE WITH CITY STANDARDS.

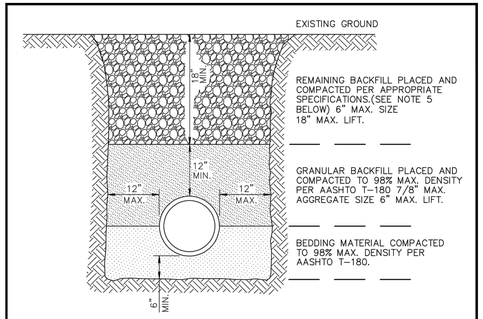
5. SURFACE MATERIAL SHALL BE F.D.O.T. TYPE S-I OR S-III ASPHALTIC CONC. (MIN. THICKNESS 1 1/2").

6. ANY PAVT. CUTS SHALL BE COLD PATCHED AT END OF EACH WORKING DAY TO FACILITATE UNHINDERED TRAFFIC FLOW.

CITY of DELRAY BEACH
ENVIRONMENTAL SERVICES DEPARTMENT
434 SOUTH SWINTON AVENUE, DELRAY BEACH, FLORIDA 33444

PAVEMENT REPAIR DETAIL

DATE: 02-13-2008
GU 1.1



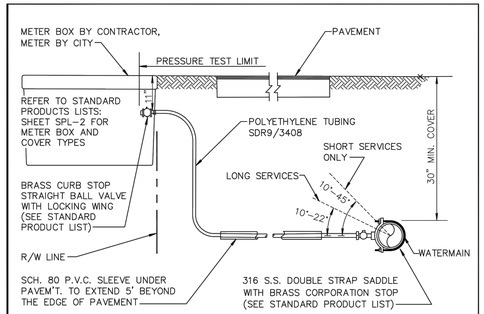
NOTES:

1. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGE ROCKS SHALL BE REMOVED; BEDDING MATERIAL AND BACKFILL CONSISTING OF WASHED AND GRADED LIMEROCK 3/8" -7/8" SIZING.
2. THE PIPE AND/OR STRUCTURE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
3. THE PIPE AND/OR STRUCTURE SHALL BE PLACED IN A DRY TRENCH.
4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK, AND DEBRIS.
5. COMPACT BACKFILL TO 98% DENSITY UNDER PAVEMENT AND TO 95% DENSITY ELSEWHERE.(AASHTO T-180)
6. COMPACTION AND DENSITY TESTS SHALL BE COMPLETED DURING BACKFILL OPERATIONS, CONTRACTORS NOT FOLLOWING THIS PROCEDURE, FOR WHATEVER REASONS, SHALL BE REQUIRED TO RE-EXCAVATE THE AREA IN QUESTION, DOWN TO THE BEDDING MATERIAL, THEN BACKFILL FOLLOWING THE ABOVE PROCEDURES.

CITY of DELRAY BEACH
ENVIRONMENTAL SERVICES DEPARTMENT
434 SOUTH SWINTON AVENUE, DELRAY BEACH, FLORIDA 33444

TYPICAL BACKFILL DETAIL

DATE: 06-05-08
GU 2.1



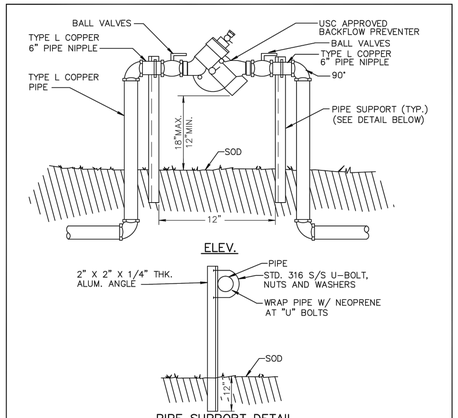
NOTES:

1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" ON CENTER.
2. SERVICE LINES SHALL NOT BE PLACED UNDER DRIVEWAYS.
3. ALL METERS REQUIRE A LOCKING BRASS CURB STOP WITH LOCK WING (1"MIN.).
4. NO FITTINGS BETWEEN CORPORATION STOP AND BRANCH ASSEMBLY.
5. MAXIMUM SERVICE LENGTH IS 100' TO METER.
6. CASING PIPE I.D. SHALL BE SERVICE O.D. PLUS 1" MINIMUM.
7. MINIMUM BEND RADIUS ON SERVICES SHALL BE 14" ON ALL SERVICES BEHIND METER.
8. METER SIZE WILL BE DETERMINED BY PUBLIC UTILITIES DEPT. UPON APPLICATION FOR SERVICE.
9. ALL VALVES TO BE BALL VALVES.
10. METER BOX SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.
11. ALL SERVICES UNDER ROADWAYS ARE TO BE INSTALLED BY TRENCHLESS METHOD, UNLESS OTHERWISE APPROVED.
12. ALL EXISTING SERVICES TO BE FIELD VERIFIED BY BUILDER/CONTRACTOR/DEVELOPER; IF EXISTING SERVICE IS GALVANIZED, BUILDER/CONTRACTOR/DEVELOPER SHALL REPLACE WITH POLYETHYLENE PIPING FROM MAIN TO THE METER.

CITY of DELRAY BEACH
ENVIRONMENTAL SERVICES DEPARTMENT
434 SOUTH SWINTON AVENUE, DELRAY BEACH, FLORIDA 33444

TYPICAL SERVICE CONNECTION

DATE: 11-19-2015
PW 9.1a



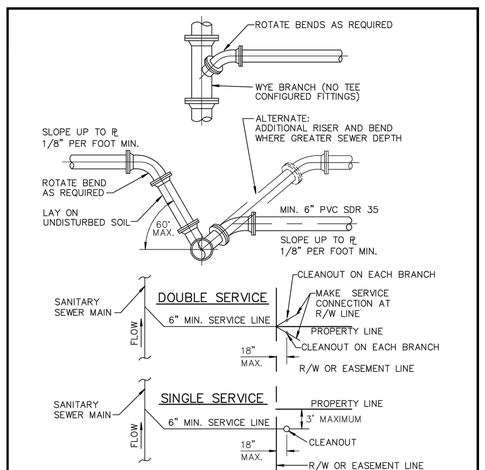
NOTES:

1. FOR ALL SERVICES LESS THAN OR EQUAL TO 2" DIA.
2. ABOVE GRADE PIPING SHALL BE BRASS OR TYPE "L" COPPER TUBING.
3. ALL COPPER JOINTS SHALL BE MADE WITH 95/5 SOLDER.
4. RPZ BACKFLOW PREVENTER IS REQUIRED IN ACCORDANCE WITH CITY OF DELRAY BEACH CODE OF ORDINANCES TITLE V, CHAPTER 52.80.
5. USE OF OTHER PIPE MATERIALS WITH APPROVAL OF DEPUTY DIRECTOR OF UTILITIES.
4. RPZ BACKFLOW PREVENTER IS REQUIRED FOR ALL COMMERCIAL PROPERTIES AND ALL RESIDENTAL PROPERTIES WITH FIRE SPRINKLER SYSTEMS.

CITY of DELRAY BEACH
ENVIRONMENTAL SERVICES DEPARTMENT
434 SOUTH SWINTON AVENUE, DELRAY BEACH, FLORIDA 33444

REDUCED PRESSURE ZONE BACKFLOW PREVENTER

DATE: 06-27-2014
PW 10.2



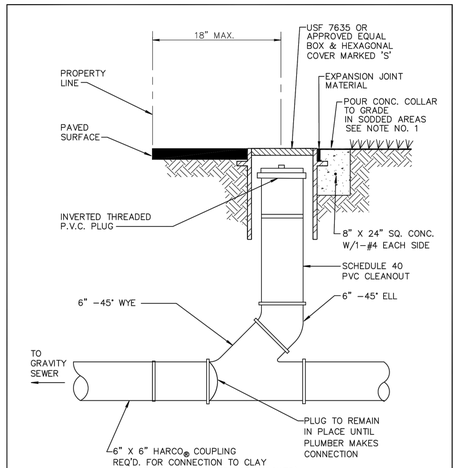
NOTE:

1. SERVICE LATERALS SHALL TERMINATE INSIDE PROPERTY LINE A DEPTH OF 3 FEET AND MARKED WITH A 2"X 4" TREATED STAKE.
2. CLEANOUT INSTALLATION SHALL BE PROPERTY OWNERS RESPONSIBILITY AND SHALL BE INSTALLED BY LICENSED PLUMBER.
3. SEE DETAIL PW 2.1 FOR SEPARATION REQUIREMENTS.

CITY of DELRAY BEACH
ENVIRONMENTAL SERVICES DEPARTMENT
434 SOUTH SWINTON AVENUE, DELRAY BEACH, FLORIDA 33444

SEWER SERVICE CONNECTION

DATE: 02-19-2008
WW 4.1



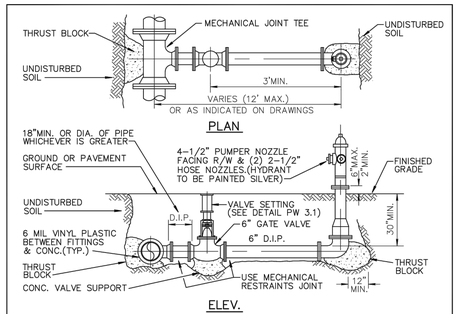
NOTE:

1. INVERTED BRASS CAP SHALL BE USED IN GRASS AREAS IN LIEU OF CASTING AND CONE COLLAR.
2. MINIMUM DEPTH OF SERVICE LATERAL SHALL BE 3 FEET.

CITY of DELRAY BEACH
ENVIRONMENTAL SERVICES DEPARTMENT
434 SOUTH SWINTON AVENUE, DELRAY BEACH, FLORIDA 33444

TYPICAL COMMERCIAL CLEANOUT

DATE: 06-27-2014
WW 5.2



NOTES:

1. HYDRANT SHALL BE INSTALLED PLUMB AND TRUE IN UNOBSTRUCTED LOCATION. (7.5' CLEARANCE ON THREE SIDES, 4' CLEARANCE AT REAR, WITH 3' ACCESS LANE)
2. NO BARREL EXTENSION SHALL BE PERMITTED WITHOUT PRIOR CONSENT OF CITY ENGINEER.
3. VALVE SHALL BE PLACED ADJACENT TO MAIN, TIED TO TEE.
4. ANCHOR TEES AND FITTINGS ARE PERMITTED.
5. HYDRANT SHALL BE MUELLER CENTURION, AMERICAN B-84B, CLOW MEDALLION OR KENNEDY K81A WITH TRAFFIC BREAKAWAY FLANGE AND 5-1/4" VALVE.
6. HYDRANTS SHALL NOT ENCROACH IN SIDEWALKS, ROADWAYS, OR BIKE PATHS.
7. ON RUNS LONGER THAN 20 FEET A SECOND VALVE IS REQUIRED AT THE HYDRANT.
8. ALL HYDRANT INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF DELRAY BEACH FIRE PREVENTION CODE SEC. 96.05.
9. IN CERTAIN SITUATIONS, PROTECTIVE BOLLARDS MAY BE REQUIRED AS DIRECTED BY THE ENGINEERING DEPT. (SEE BOLLARD DETAIL PW 5.2)
10. FIRE HYDRANTS INSTALLED BUT NOT YET IN SERVICE SHALL BE COVERED WITH A BURLAP, OR PLASTIC SACK, OR HAVE OUT OF SERVICE RING IN PLACE.
11. ALL HYDRANT LEADS GREATER THAN 20-FEET MUST HAVE AUTOMATIC FLUSHER INSTALLED AT HYDRANT END (HYDROGUARD HG-1 STANDARD).

CITY of DELRAY BEACH
ENVIRONMENTAL SERVICES DEPARTMENT
434 SOUTH SWINTON AVENUE, DELRAY BEACH, FLORIDA 33444

TYPICAL FIRE HYDRANT INSTALLATION

DATE: 06-27-2014
PW 5.1

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Florida Certificate of Authorization # - 7928

BID / CONTRACT NO. :

REVISIONS

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PRELIMINARY PLAN
NOT FOR CONSTRUCTION
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7-ELEVEN

#34798
16000 S. MILITARY TRAIL
DELRAY BEACH, FL 33484

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 2018
DRAWN BY:	AM
DESIGNED BY:	AM
CHECKED BY:	TD

THOMAS F. DONAHUE, P.E.
FLORIDA REG. NO. 60529
(FOR THE FIRM)

SHEET TITLE

WATER AND SEWER DETAILS

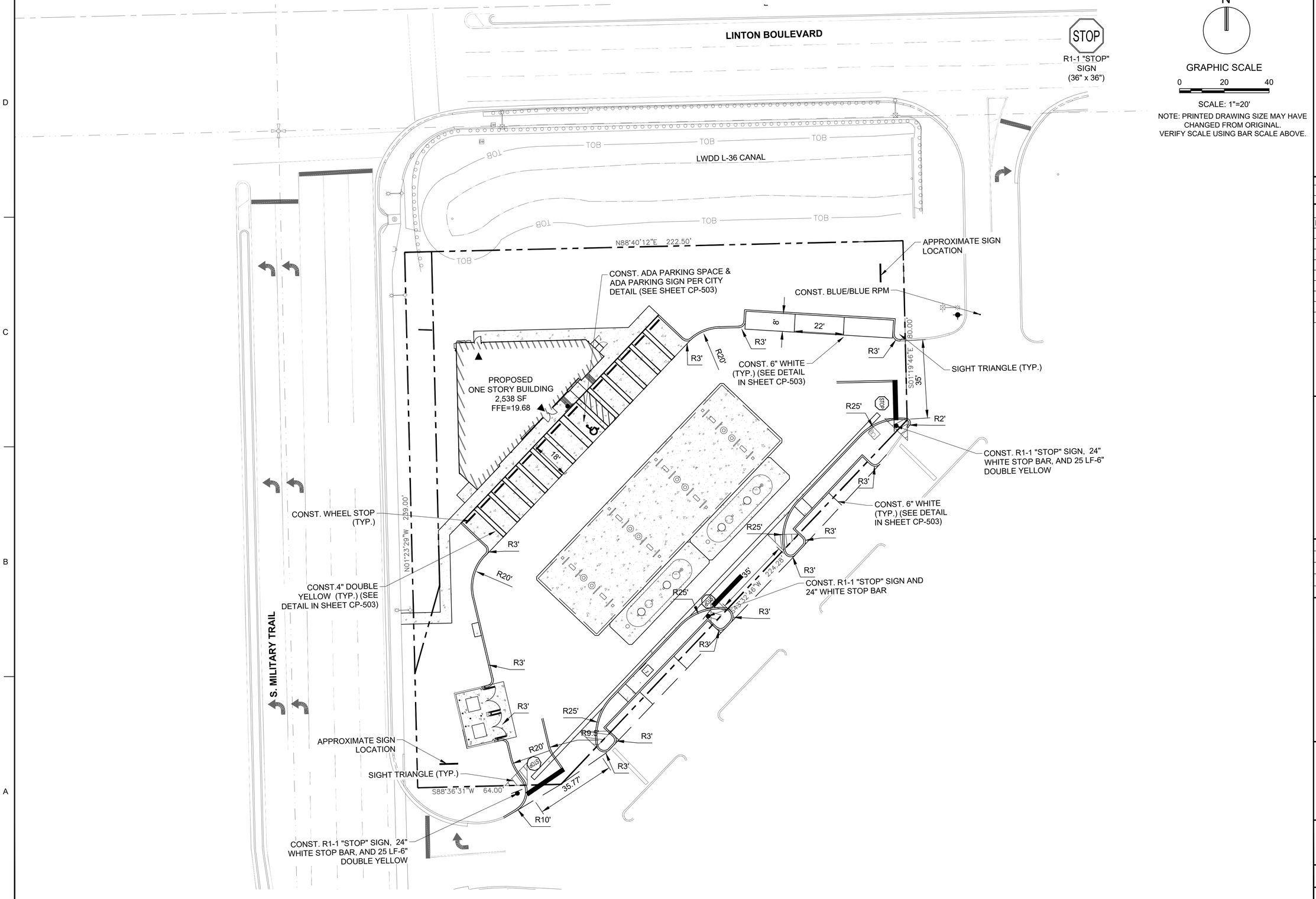
SHEET NUMBER

CU-501

SHEET 11 of 12

PROJECT NO. 09725.24

Drawing name: N:\09\09725.24 - 7-11 16000 S Military Trail Delray Beach - Creighton\Engineering\Cadd\09725.24-CU-5XX.dwg Layout Name: CU-501 Plotted by: amizrahi Plotted on: Jan 09, 2019 - 9:59am



N

GRAPHIC SCALE

0 20 40

SCALE: 1"=20'

NOTE: PRINTED DRAWING SIZE MAY HAVE CHANGED FROM ORIGINAL. VERIFY SCALE USING BAR SCALE ABOVE.

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Pompano Beach, FL 33060
PH: (954) 788-3400
Florida Certificate of Authorization # - 7928

BID / CONTRACT NO. :

REVISIONS

NO.	DESCRIPTION	DATE
1	PER DRC COMMENTS	06/20/2018
2	SITE PLAN REVISION	01/09/2019
3	PER DRC COMMENTS	02/04/2019

PRELIMINARY PLAN
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#34798
16000 S. MILITARY TRAIL
DELRAY BEACH, FL 33484

SCALE:	AS NOTED
DATE ISSUED:	FEBRUARY 2018
DRAWN BY:	AM
DESIGNED BY:	AM
CHECKED BY:	TD

THOMAS F. DONAHUE, P.E.
FLORIDA REG. NO. 60529
(FOR THE FIRM)

SHEET TITLE

PAVEMENT MARKING AND SIGNAGE PLAN

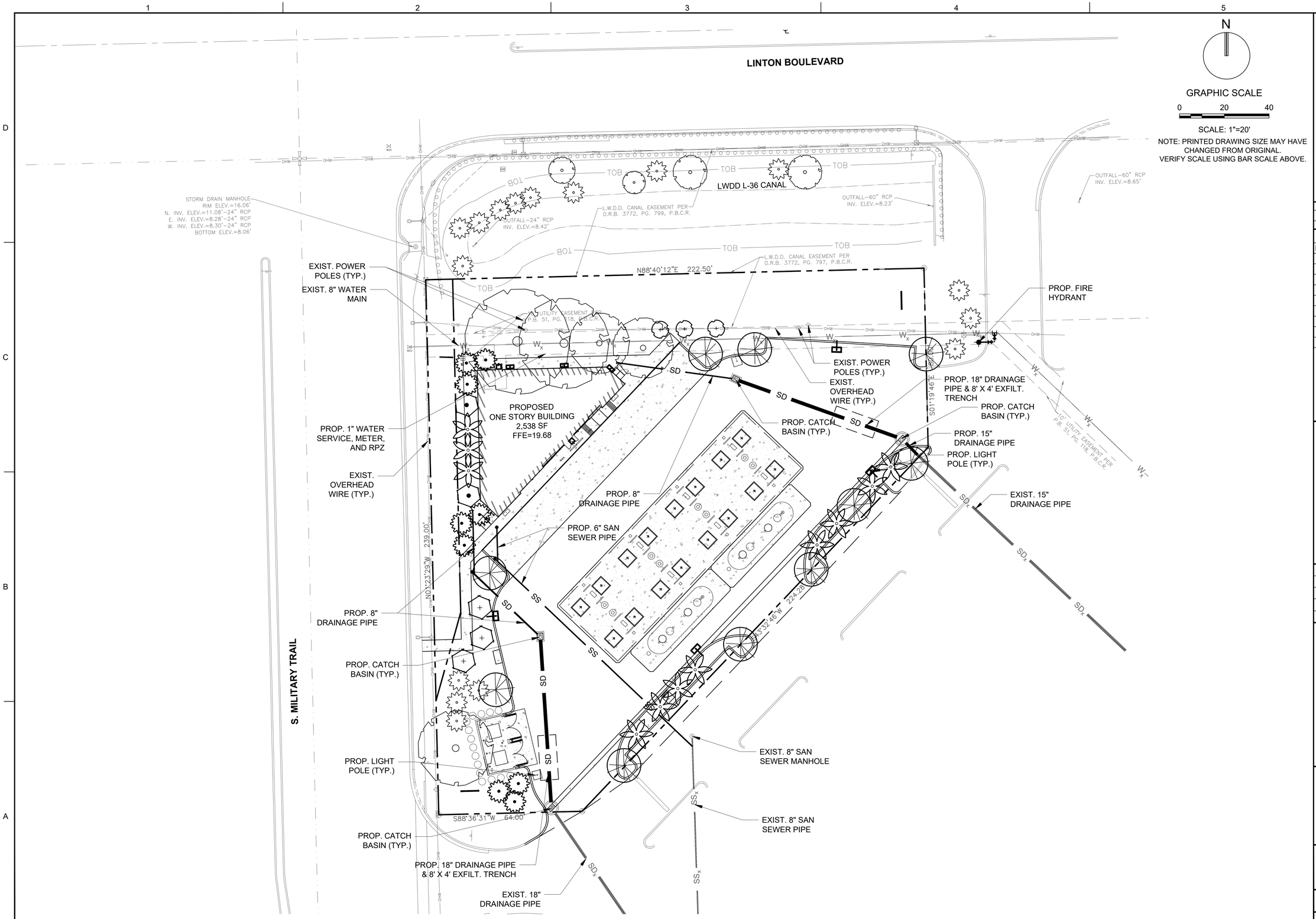
SHEET NUMBER

CM-101

SHEET 12 of 27

PROJECT NO. 09725.24

Drawing name: N:\09\09725.24 - 7-11 16000 S Military Trail Delray Beach - Creighton\Engineering\Cadd\09725.24-CM-1XX.dwg Layout Name: CM-101 Plotted by: amzirahi Plotted on: Feb 13, 2019 - 3:27pm



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GRAPHIC SCALE

0 20 40

SCALE: 1"=20'

NOTE: PRINTED DRAWING SIZE MAY HAVE CHANGED FROM ORIGINAL. VERIFY SCALE USING BAR SCALE ABOVE.

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SCALE:	AS NOTED
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DESIGNED BY:	AM
CHECKED BY:	TD

SHEET TITLE

COMPOSITE OVERLAY PLAN

SHEET NUMBER

CO-101

PROJECT NO. 09725.24