

PLANNING DIVISION



File No. (internal use only):_____

2600 Hollywood Boulevard Room 315 Hollywood, FL 33022

GENERAL APPLICATION



Tel: (954) 921-3471 Fax: (954) 921-3347

This application must be completed in full and submitted with all documents to be placed on a Board or Committee's agenda.

The applicant is responsible for obtaining the appropriate checklist for each type of application.

Applicant(s) or their authorized legal agent must be present at all Board or Committee meetings.

At least one set of the submitted plans for each application must be signed and sealed (i.e. Architect or Engineer).

Documents and forms can be accessed on the City's website at

http://www.hollywoodfl.org/DocumentCenter/Home/View/21



APPLICATION TYPE (CHECK ONE):
☐ Technical Advisory Committee ☐ Historic Preservation Board
☐ City Commission ☐ Planning and Development Board
Date of Application: October 4th, 2016
Location Address: 121 South 24th Avenue, Hollywood, FL 33020
Location Address: 121 South 24th Avenue, Flohywood, FE 33020 Lot(s): 10 & 11 Block(s): 6 Subdivision: Hollywood Little Ranche
Folio Number(s): 5142 16 01 2840
Zoning Classification: TC-1 Land Use Classification: RAC
Existing Property Use: Place of Worship/ School Sq Ft/Number of Units: 6,250 Sq.Ft.
Is the request the result of a violation notice? () Yes (x) No If yes, attach a copy of violation.
Has this property been presented to the City before? If yes, check all that apply and provide File
Number(s) and Resolution(s): No
☐ Economic Roundtable ☐ Technical Advisory Committee ☐ Historic Preservation Board
☐ City Commission ☐ Planning and Development
Explanation of Request: Building demolition, existing church renovations & new two story charter
school building
16,003 g.s.f. new school building
Number of units/rooms: 12 classrooms & support spaces Sq Ft: 3,440 s.f. renovated church
Value of Improvement: \$2,400,000.00 Estimated Date of Completion: July 2019
Will Project be Phased? () Yes (X)No If Phased, Estimated Completion of Each Phase
Name of Current Property Owner: Faith & Life Fellowship Ministries, Inc. & Carol Gardner, CPA.
Address of Property Owner: 121 South 24th Avenue, Hollywood, FL 33020
Telephone: (305) 775-2181 Fax: Email Address: cgardner@tedcmiami.org
Name of Consultant/Representative/Tenant (circle one): Frank Costoya, Jr., R.A., A.I.A., NCARB
Address: 600 N. Pine Island Rd. St #175 Plantation,FL 33324 Telephone: (954) 680-4440
Fax: (954) 680-4441 Email Address: joseph@fcarchitect.com
Date of Purchase: N/A Is there an option to purchase the Property? Yes () No (X)
If Yes, Attach Copy of the Contract.
List Anyone Else Who Should Receive Notice of the Hearing: Frank Costoya Architect, P.A.
Address: 600 N. Pine Island Road. Suite #175 Plantation,FL 33324 Email Address: joseph@fcarchitect.com
Email Address: Josephieroarchitect.com

2600 Hollywood Boulevard Room 315 Hollywood, FL 33022

GENERAL APPLICATION

CERTIFICATION OF COMPLIANCE WITH APPLICABLE REGULATIONS

The applicant/owner(s) signature certifies that he/she has been made aware of the criteria, regulations and guidelines applicable to the request. This information can be obtained in Room 315 of City Hall or on our website at www.hollywoodfl.org. The owner(s) further certifies that when required by applicable law, including but not limited to the City's Zoning and Land Development Regulations, they will post the site with a sign provided by the Office of Planning and Development Services. The owner(s) will photograph the sign the day of posting and submit photographs to the Office of Planning and Development Services as required by applicable law. Fallure to post the sign will result in violation of State and Municipal Notification Regulrements and Laws.

(I)(We) certify that (I) (we) understand and will comply with the provisions and regulations of the City's Zoning and Land Development Regulations, Design Guidelines, Design Guidelines for Historic Properties and City's Comprehensive Plan as they apply to this project. (I)(We) further certify that the above statements and drawings made on any paper or plans submitted herewith are true to the best of (my)(our) knowledge. (I)(We) understand that the application and attachments become part of the official public records of the City and are not returnable. Signature of Current Owner: Han PRINT NAME: HAMILIO Date Signature of Consultant/Representative: Date: PRINT NAME: Francisco Costoya, Jr., R.A. NCARB Date: Signature of Tenant: Date: PRINT NAME: Date: **CURRENT OWNER POWER OF ATTORNEY** I am the current owner of the described real property and that I am aware of the nature and effect the request for (project description) Renovations & New School Building to my property, which is hereby made by me or I am hereby authorizing (name of the representative) Francisco Costoya, Jr., R.A., A.I.A., NCARB to be my legal representative before the TAC, PDB & City Council (Board and/or Committee) relative to all matters concerning this application. Hamilton W. Tartt Sworn to and subscribed before me SIGNATURE OF CURRENT OWNER HAMILTON W. TAITT Notary Public State of Florida PRINT NAME Personally known to me; OR



600 N. Pine Island Road • Suite 175

Lakeside Office Center

Plantation, Florida 33324

November 30, 2017

ES P Member American Institute of Architects

Attn:

performing arts.

City of Hollywood

Department of Development Services

Planning Division

Planning & Development Board 2600 Hollywood Blvd., Room 315

Hollywood, FL 33022 Phone: 954-921-3471

Re:

Criteria Statement:

Variance Criteria

Alpha International Academy

121 south 24th Avenue Hollywood, FL 33020

File Number:

16-DP-44 - Faith & Life Fellowship Ministries and Alpha International Academy

FCA Project No .:

FCA-1615

Responses following by:

Frank Costoya Jr., R.A., A.I.A., NCARB President • Principal Architect of Record

VARIANCE CRITERIA

The Planning and Development Board shall have the authority to consider petitions relating to variances for all development outside the Historic District and Historic Sites.

- a. That the requested Variance maintains the basic intent and purpose of the subject regulations, particularly as it affects the stability and appearance of the city; and
 - R/: Requested variance is for shared parking by different uses in order to meet code and city requirements. Proposed design meets and exceeds individual use requirements by adding ADA parking, landscaped islands and a dumpster enclosure within the same footprint of the existing parking lot bringing the project to current codes. The proposed building and parking lot will embellish and improve the neighborhood by adding new landscaping all around the main roads as a buffer while also controlling inner traffic through improved vehicular circulation and points of access in addition to pedestrian connection from public sidewalk to property and new high efficiency LED site lighting.
- b. That the requested Variance is otherwise compatible with the surrounding land uses and would not be detrimental to the community; and
 - R/: Requested variance for shared parking meets land use requirements while also meeting code requirements with substantial site improvements. Please note that proposed uses are the same as existing uses and will not be detrimental to the community, in the contrary, will improve the neighborhood.

- c. That the requested Variance is consistent with and in furtherance of the Goals, Objectives and Policies of the adopted Comprehensive Plan, as amended from time to time, the applicable Neighborhood Plan and all other similar plans adopted by the city; and
 - R/: Requested variance for shared parking allows for the proposed design to meet goals, objectives and policies adopted by the City of Hollywood's Comprehensive plan.
- d. That the need for the requested Variance is not economically based or self-imposed; or
 - R/: Requested variance for shared parking is not economically based or self-imposed and rather needed to comply city requirements considering that proposed parking meets and exceeds individual uses. School and Church will have opposite hours of operation to avoid any parking conflict.
- e. That the variance is necessary to comply with State or Federal Law and is the minimum Variance necessary to comply with the applicable law.
 - R/: Requested variance for shared parking is needed to meet required parking by allowing two different uses to share the parking lot. This will be achieved by having different hours of operation; therefore the School and the Church will have opposite hours of operation.

These items are considered according to quasi-judicial procedures.

QUASI-JUDICIAL

The application regarding your property has been interpreted by Florida courts to be quasi-judicial in nature. This means that the City's decision is to be supported by competent, substantial evidence in the record regarding your application. In quasi-judicial procedures all witnesses are sworn in, subject to cross-examination, and the applicant, the City and any other interested party (e.g. a neighbor) are allowed opening and closing statements. However, the City's adopted quasi-judicial procedures allow you to waive this process and have your application heard and considered in a more informal manner, or legislatively, if you so wish and elect, and staff present agrees. You may identify your choice at the time of the meeting.

End of Responses

Sincerely.

Frank Costoya, Jr., A.I.A., NCARB Architect of Record - President Frank Costoya Architect, P.A.

Frank Costoya, Jr., R.A., A.I.A., NCARB – Frank Costoya Architect – Frank@fcarchitect.com – (954) 680-4440





600 N. Pine Island Road • Suite 175 Lakeside Office Center Plantation, Florida 33324

November 30, 2017

performing arts

Attn: City of Hollywood

Department of Development Services

Planning Division

Planning & Development Board 2600 Hollywood Blvd., Room 315

Hollywood, FL 33022 Phone: 954-921-3471

Re: Criteria Statement:

Design Review Criteria

<u> Alpha International Academy</u>

121 south 24th Avenue Hollywood, FL 33020

File Number:

16-DP-44 - Faith & Life Fellowship Ministries and Alpha International Academy

FCA Project No.:

FCA-1615

Responses following by: Frank Costoya Jr., R.A., A.I.A., NCARB

President • Principal Architect of Record

DESIGN REVIEW CRITERIA

Design Review encompasses the examination of architectural drawings for consistency with the General Criteria, Criteria as they appear in Design Guidelines Manual, and the Neighborhood Specific Design Review Criteria all of which is approved by the Board with regard to the aesthetics, appearances, safety, and function of the structure in relation to the site, adjacent structures and surrounding community.

The Board and the Office Planning and Development Services Director shall review plans based upon the aforementioned Criteria (See above paragraph). If the Board and the Director determines that an application is not consistent with the criteria, it shall set forth in writing the reasons substantiating its finding.

General Criteria. The architectural style of the building, accessory structures and landscaping shall be evaluated in terms of the following criteria (1-4):

DESIGN CRITERIA

- Architectural and Design components. Architecture refers to the architectural elements of exterior building surfaces. Architectural details should be commensurate with the building mass. The use of traditional materials for new architectural details is recommended. Design of the building(s) shall consider aesthetics and functionality, including the relationship of the pedestrian with the built environment.
 - R/: The new two story building offers a clean contemporary design made out of concrete, glass, metals and commercial fabrics that interact through an orthogonal grid accentuated by horizontal and vertical planes. These planes are accentuated on the main façade as horizontal elements moving along with the pedestrian flow and end in a subtle fold highlighting the new main entry that introduces the user to "Via de Alpha", a private open air linear plaza that connects the existing church and the new school.
- Compatibility. The relationship between existing architectural styles and proposed construction, including how
 each building along the street relates to the whole and the pattern created with adjacent structures and the
 surrounding neighborhood. Buildings should contain architectural details that are characteristic of the
 surrounding neighborhood.
 - R/: The building is composed by a clean modular design accentuated by some angular lines connecting the modular profile of the commercial buildings along Hollywood Bldv and the pitch roofs by the immediate church and the adjacent residential area. The building has a base white color to peacefully interact with its surroundings, yet it incorporates some primary colors on strategic areas like the front triangular accent wall that symbolizes the initials of the institution, "AiA Alpha International Academy". In addition the sides and rear of the building also incorporate primary colors on linear, round and rectangular elements around areas like the playground and exterior staircases creating geometric interaction with children. The new building stands in the middle of the block opening up the south corner as a parking lot keeping a clear visual of the intersection with new landscaping.
- 3. Scale/Massing. Buildings shall be proportionate in scale, with a height which is consistent with the surrounding structures. Building mass shall reflect a simple composition of basic architectural details in relation to its length, width, height, lot coverage, and setting of the structure in context with adjacent buildings. Architectural details include, but are not limited to, banding, molding, and fenestration.
 - R/: The new building embraces the two story profile found on the adjacent properties and has been placed in the middle of the block creating an inwards gradual elevation of the vertical profile by keeping the one story, pitch roof building of the church on one side and an open parking lot on the other side. This design creates a clean visual point of hierarchy by having the new two story school building in the middle of the block opening the corners for better interaction with its surroundings.

 The building incorporates several cantilevered slabs and metal sunshades extruding from the building creating a horizontal language intersected at strategic points by vertical elements like round columns and walls accentuated in primary colors. The modular design allows for the extrusion elements generating spaces like the exterior play area and the exterior staircases. In addition, the covered vehicular drive-thru drop-off area for students has been created by subtracting the bottom part of the building mass while leaving the top part as classroom spaces.



 Landscaping. Landscaped areas should contain a variety of native and other compatible plant types and forms, and be carefully integrated with existing buildings and paved areas. Existing mature trees and other significant plants on the site should be preserved.

R/: The property which encompasses the whole block, has been redesigned at the site plan level introducing large landscaped spaces around the whole perimeter accentuating areas along the main streets. The design also introduces several new landscaped islands around the parking lot meeting code and creating a smooth transition between the building and the street. Native species have been used around the whole property accentuating strategic areas and blending in with preserved trees embellishing the whole block and bringing the whole community to a new improved standard.

These items are considered according to quasi-judicial procedures.

QUASI-JUDICIAL

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End of Statement

Sincerely,

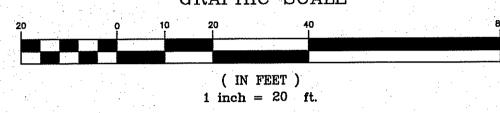
Frank Costoya, Jr., A.I.A., NCARB Architect of Record - President Frank Costoya Architect, P.A.

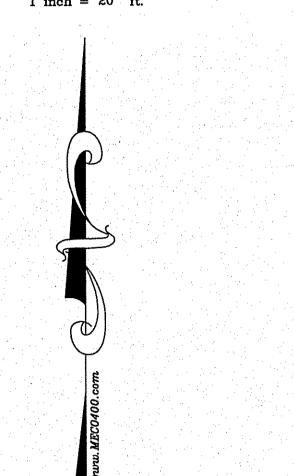


prepared by: McLAUGHLIN ENGINEERING COMPANY (LB#285)

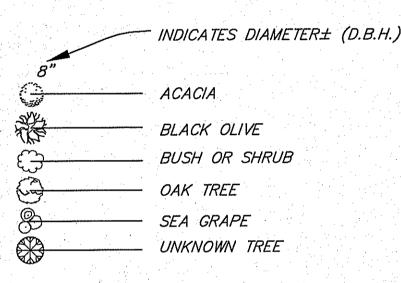
1700 N.W. 64th STREET, SUITE 400, FORT LAUDERDALE, FLORIDA, 33309 PHONE: (954) 763-7611 FAX: (954) 763-7615

GRAPHIC SCALE





TREE SYMBOLS



TITLE NOTES:

There are no easements, road reservations or rights of way of record affecting this property per Ownership and Encumbrance Report issued by Attorney's Title Fund Services, LLC, dated November 17, 2017 at 11:00 PM.

Notes corresponding to Special Exceptions in the above referenced Ownership and Encumbrance Report;

- 1. Matters per Plat Book 1, Page 26, B.C.R. affect this property and
- 2. Easement per Official Records Book 4517, Page 374, B.C.R. affects this property and as shown.
- 6. Ordinance No. 2005–19 per O.R. 40082, Page 1789, B.C.R. affects this property (no easements contained therein). Ordinance No. 2005–18 per O.R. 40082, Page 1783, B.C.R. affects this property (no easements contained therein). Ordinance No. 2002–61 per O.R. 34145, Page 1891, B.C.R. affects this property (Property is not delineated as containing Wetlands) Ordinance No. 76 per O.R. 8136, Page 244, B.C.R. affects this property (no easements contained therein).
- 7. Resolution per 0-7-50025, Official Records Book 50025, Page 1835 and Instrument Number 113284742, B.C.R. affects this property (nothing plottable).

NOTES:

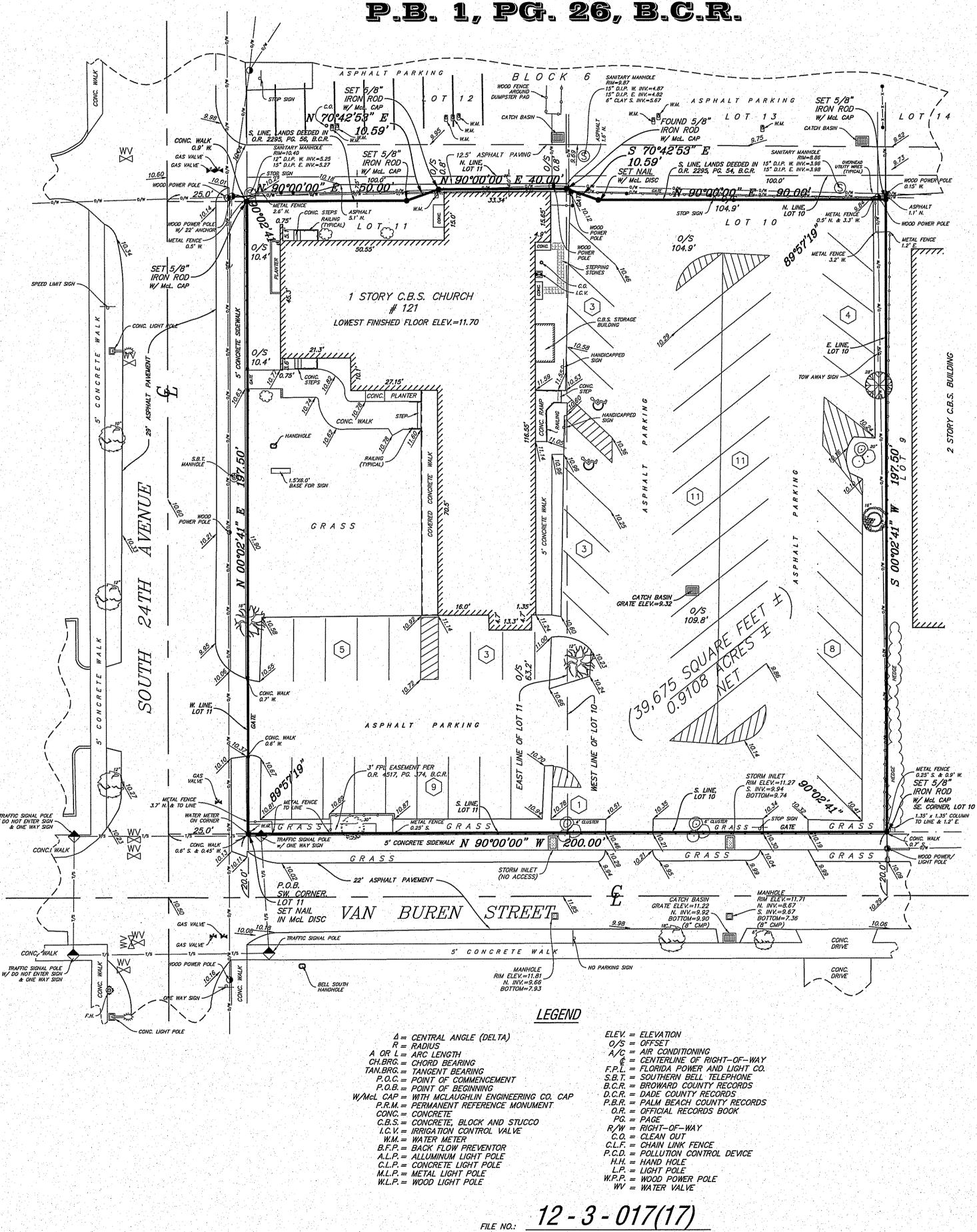
- 1) This survey reflects all easements and rights—of—way, as shown on above referenced record plat(s). The subject property was not abstracted for other easements road reservations or rights—of—way of record by McLaughlin Engineering Company.
- 2) Underground improvements if any not located.
- 3) This drawing is not valid unless sealed with an embossed surveyors seal.
 4) Boundary survey information does not infer Title or Ownership.
- 5) All iron rods 5/8", unless otherwise noted.
- 6) Reference Bench Mark: City of Hollywood Benchmark-Box Cut © P.I. of conc. sidewalk © NW corner of 24th Ave & Van Buren Street. Elev.=12.12(NGVD 29) converted to 10.52(NAVD 88).
- 7) Elevations shown refer to North American Vertical Datum (1988), and are indicated thus: \$\infty\$, Elev. = 11.85
- 8) This property lies in Flood Zone "X", Elev.=0.2% Annual Chance of Flood Hazard Per Flood Insurance Rate Map No. 12011C0569 H Dated: August 18, 2014. Community Panel No. 125113.

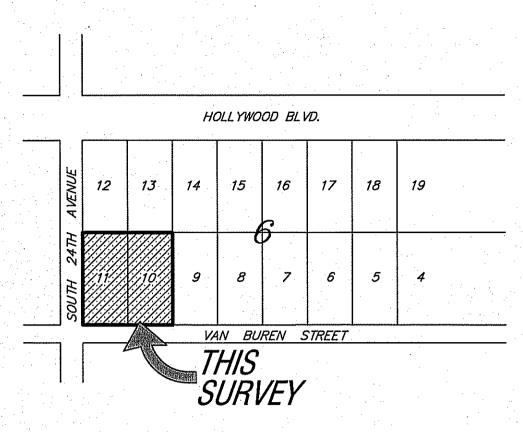
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FIELD BOOK NO.	TDS, LB# 311/23,	Print		
JOB ORDER NO.	U-7183, V-2613			
CHECKED BY:				
DOAWAL OV	RDR, EJJ3, RT		e e e e e e e e e e e e e e e e e e e	

RECORD LAND SURVEY

Lots 10 and 11, Block 6, AMENDED PLAT OF HOLLYWOOD LITTLE RANCHES





Location Sketch

Legal Description

That portion of Lots 10 and 11, Block 6, AMENDED PLAT OF HOLLYWOOD LITTLE RANCHES, according to the plat thereof as recorded in Plat Book 1, Page 26 of the public records of Broward County, Florida, lying South of and adjacent to lands deeded to the City of Hollywood, Broward County Florida in Official Records Book 2295, Pages 54 and 56 of the public records of Broward County, Florida and being more fully described as follows:

Beginning at the Southwest corner of said Lot 11, thence North 00°02'41" East on the West line of said Lot 11, a distance of 197.50 feet to a point on the South line of said deeded lands; thence Easterly on the South line of said deeded lands in Official Records Book 2295, Pages 54 and 56 of the public records of Broward County, Florida the following Five (5) courses and distances; thence North 90°00'00" East, on a line 7.50 feet South of and parallel with the North line of said Lot 11, a distance of 50.00 feet; thence North 70°42'53" East, a distance of 10.59 feet; feet; thence South 70°42'53" East, a distance of 10.59 feet; parallel with the North line of said Lot 10, a distance of 90.00 feet to a point on the East line of said Lot 10 and the point of termination of said Five (5) courses and distances; thence South 00°02'41" West on the said East line of Lot 10, a distance of 197.50 feet to the Southeast corner of said Lot 10; thence North 90°00'00" West on the South line of said Lots 10 and 11, a distance of 200.00 feet to the Point of Beginning.

Said lands situate lying and being in the City of Hollywood, Broward County, Florida And containing 39,675 square feet or 0.9108 acres more or less.

<u>CERTIFICATION</u>

We hereby certify that this survey meets the "Standards of Practice" as set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 5J–17.05 Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

Dated at Fort Lauderdale, Florida, this 7th day of March, 2012.
Inverts added South of property this 25th day of August, 2017.
Revised title commitment notes and legal description this 28th day of November, 2017.

MCLAUGHLIN-ENGINEERING COMPANY

JERALD A McLAUGHLIN
Registered Land Surveyor No. 5269
State of Florida.

Site Plan Approval Documents for:

Existing Church Renovations and New Two Story Charter School Building for:

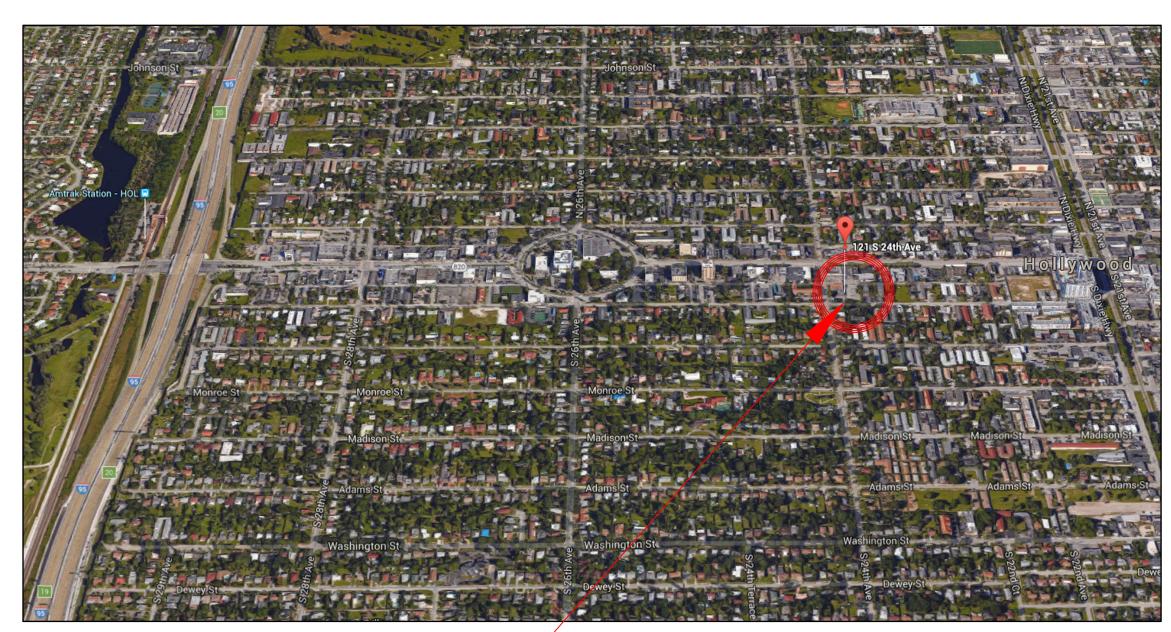
FAITH and LIFE FELLOWSHIP MINISTRIES, INC.

AND ALPHA INTERNATIONAL ACADEMY

CHARTER SCHOOL

121 SOUTH 24TH AVENUE HOLLYWOOD, FLORIDA 33020 BROWARD COUNTY

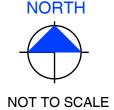
- OCCUPANCY TYPE "A-3" "PLACES OF RELIGIOUS WORSHIP" AND "E" "EDUCATIONAL"
 - TYPE III B CONSTRUCTION EXPOSURE C
 - FULLY SPRINKLERED BUILDING •



PROJECT LOCATION 121 SOUTH 24TH AVENUE

HOLLYWOOD, FLORIDA 33020

BROWARD COUNTY





• CITY OF HOLLYWOOD FILE No. 16-DP-44 • • PLANNING & DEVELOPMENT BOARD •

> SUBMITTAL MEETING DATE • JANUARY 16th, 2018 •

OWNER

■ PROJECT OWNER / DEVELOPER

Faith and Life Fellowship Ministries, Inc. Ministry Representatives: Bishop Hamilton Taitt Rev. Vincent S. Joseph Rev. Ethelence Taitt 121 South 24th Avenue Hollywood, FL 33020 Ph: 954 922 5422 Email: church@flfm.org

CONSULTANTS

■ CIVIL ENGINEER / SURVEYOR McLaughlin Engineering Company Lou Campanile 1700 N.W. 64th Street

Suite 400 Fort Lauderdale, FL 33309 Ph: 954 763 7611 Email: Lou@meco400.com

■ STRUCTURAL ENGINEERING

PLF Structural Engineers Structural Engineering Pedro L. Fiallo, P.E. 4960 SW 52nd Street, Suite #407 Town of Davie, FL 33314 Off: 954 533 3237 Fax: 954 533 2117

FRANK COSTOYA ARCHITECT. P.A.

Architecture • Land Planning Member of the American Institute of Architects Member of the American Planning Association Member of the Urban Land Institute Member of the National Council of Architectural Registration Board AR0012198 • AA26000696

> 600 N. Pine Island Road - Suite 175 Lakeside Office Center Plantation, FL 33324 Telephone: 954.680.4440 . Facsimile: 954.680.4441 E.mail: frank@fcarchitect.com

LANDSCAPE ARCHITECTURE

M.L.A. Group Inc. Landscape & Irrigation Design Scott Mc Clure, R.L.A 1016 Northeast 45th Street Oakland Park, Florida 33334 Off: 954 763 4071 Fax: 954 639 9668 E mail: mlagroupinc@yahoo.com

M.E.P ENGINEERING

P.M.E. Engineering Carlos Morales, Robert Germain, P.E. 5230 South University Drive Suite 101 Town of Davie, FL 33328 Off: 954 680 3166 Fax: 954 680 9266 E mail: cm_pme@bellsouth.net

CONSULTANTS

ILLUSTRATIONS Francisco Costoya JR, A.I.A, NCARB

Paula Casal Costoya, Architect

BOUNDARY SURVEY

COVER SHEET - CIVIL

EXISTING/ DEMOLITION SITE PLAN

PAVING AND DRAINAGE PLAN PAYING AND DRAINAGE DETAILS

STANDARD WATER DETAILS

STANDARD SEWER DETAILS

EROSION CONTROL PLAN DEMOLITION PLAN - CIVIL

LANDSCAPE PLANTING PLAN

EXISTING SANCTUARY CHURCH

NEW SITE PLAN - PARTIAL AREA ZONING MAF

PAVEMENT MARKING AND SIGNAGE PLAN

STANDARD WATER AND SEWER DETAILS

GENERAL NOTES AND SPECIFICATIONS GENERAL NOTES AND SPECIFICATIONS CITY OF HOLLYWOOD GENERAL NOTE

LANDSCAPED SITE PLAN - COLOR

EXISTING TREE DISPOSITION PLAN

EXISTING/ DEMOLITION FLOOR PLAN EXISTING/ DEMOLITION ELEVATIONS

SECOND FLOOR PLAN - NEW SCHOOL

RENDERED EXTERIOR ELEVATIONS

EXTERIOR RENDERINGS

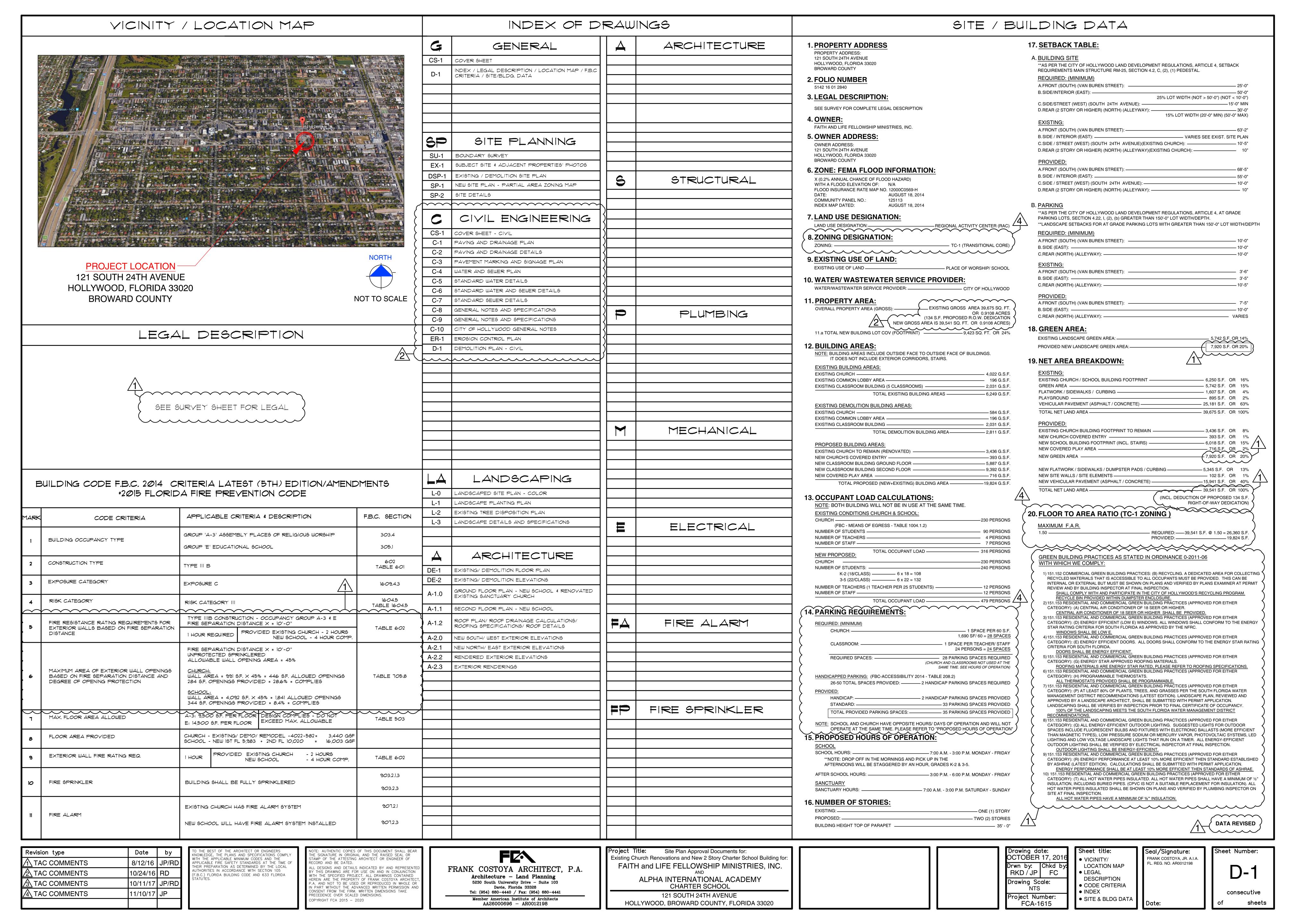
LANDSCAPE DETAILS AND SPECIFICATIONS

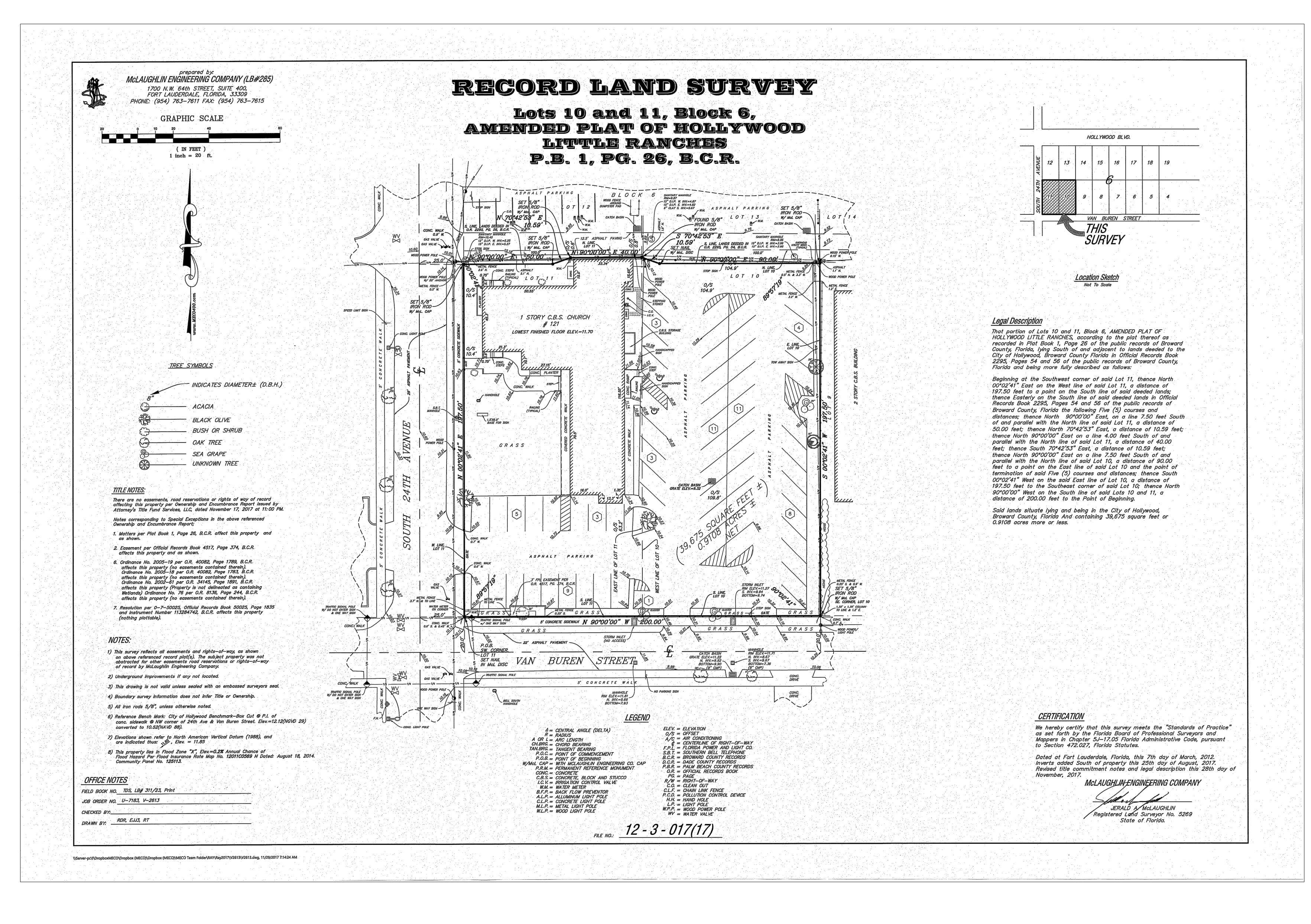
GROUND FLOOR PLAN - NEW SCHOOL & RENOVATED

ROOF PLAN / ROOF DRAINAGE CALCULATIONS/

ROOFING SPECIFICATIONS/ ROOF DETAILS NEW SOUTH / WEST EXTERIOR ELEVATIONS NEW NORTH / EAST EXTERIOR ELEVATIONS

FCA-1615





Revision type	Date	by
⚠ TAC COMMENTS	8/12/16	JP/I
⚠ TAC COMMENTS	10/24/16	RD
⚠ TAC COMMENTS	10/11/17	JP/
⚠ TAC COMMENTS	11/10/17	JP

TO THE BEST OF THE ARCHITECT OR ENGINEERS KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AT THE TIME OF THEIR PREPARATION AS DETERMINED BY THE LOCAL AUTHORITIES IN ACCORDANCE WITH SECTION 105 (F.B.C.) FLORIDA BUILDING CODE AND 633 FLORIDA STATUTES.

THE SIGNATURE IN ORIGINAL AND THE RAISED SEAL OR STAMP OF THE ATTESTING ARCHITECT OR ENGINEER OF RECORD AND BE DATED.

ALL DESIGNS AND DETAILS INDICATED BY AND REPRESENTED BY THIS DRAWING ARE FOR USE ON AND IN CONJUNCTION WITH THE SPECIFIED PROJECT. ALL DRAWINGS CONTAINED HEREIN ARE THE PROPERTY OF FRANK COSTOYA ARCHITECT, P.A. AND NOT TO BE USED OR REPRODUCED IN WHOLE OR IN PART WITHOUT THE ADVANCED WRITTEN PERMISSION AND CONSENT FROM THE FIRM. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.



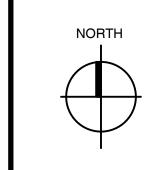
AA26000696 - AR0012198

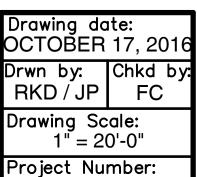
Project Title: Site Plan Approval Documents for:
Existing Church Renovations and New 2 Story Charter School Building for
FAITH and LIFE FELLOWSHIP MINISTRIES, INC.

AND
ALPHA INTERNATIONAL ACADEMY



HOLLYWOOD, BROWARD COUNTY, FLORIDA 33020



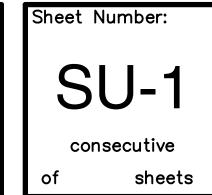


FCA-1615

Sheet title:

● ALTA SURVEY

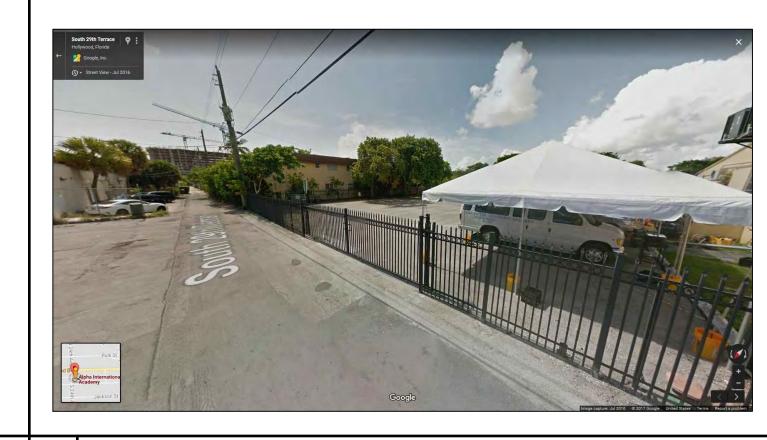
Seal/Signature: FRANK COSTOYA, JR. A.I.A. FL. REG. NO. AR0012198











SOUTH VIEW OF HOLLYWOOD BLVD. & SOUTH 24th AVE. INTERSECTION

NW VIEW OF SOUTH 24th AVE. & VAN BUREN ST. INTERSECTION

NW VIEW ALONG SOUTH 24th AVE. SOUTH OF VAN BUREN ST.

WEST VIEW ALONG VAN BUREN ST. (EAST OF ALPHA INTERNATIONAL ACADEMY)

EAST VIEW OF S. 29th TERRACE (NORTH SIDE OF FAITH & LIFE FELLOWSHIP MINISTRIES)











VIEW OF PARKING LOT @ CORNER OF SOUTH 24th AVE. & SOUTH 29th TERRACE

NE VIEW OF SOUTH 24th AVE. & VAN BUREN ST. INTERSECTION

EAST VIEW OF VAN BUREN ST. & S. 24th AVE. INTERSECTION (SOUTH OF ALPHA INTERNATIONAL ACADEMY)

WEST VIEW ALONG S. 29tH TERRACE (NORTH OF FAITH & LIFE FELLOWSHIP MINISTRIES)

WEST VIEW OF S. 29th TERRACE (NORTH SIDE OF FAITH & LIFE FELLOWSHIP MINISTRIES)











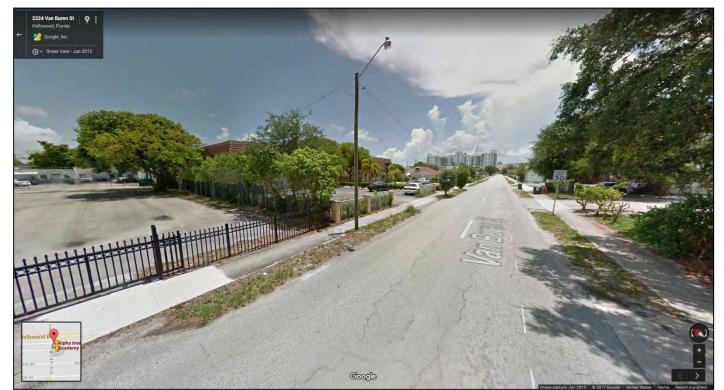
SE VIEW @ SOUTH 24th AVE & SOUTH 29th TERRACE INTERSECTION NW SIDE OF FAITH & LIFE FELLOWSHIP MINISTRIES)

SE VIEW OF S. 24th AVE. & VAN BUREN ST. INTERSECTION (SW CORNER OF ALPHA INTERNATIONAL ACADEMY)

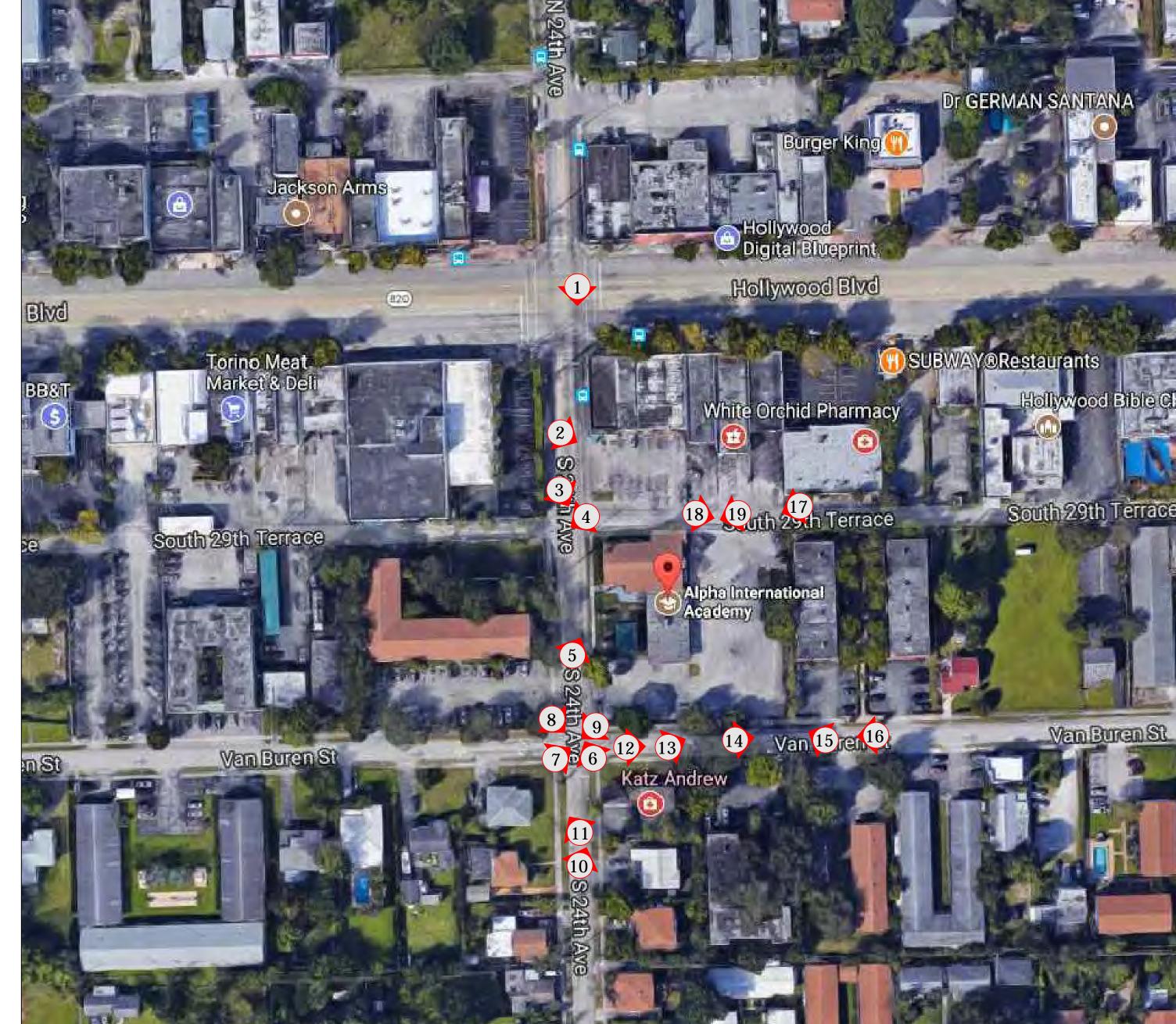
EAST VIEW ALONG VAN BUREN ST. (SOUTH SIDE OF ALPHA INTERNATIONAL ACADEMY)











VIEW OF SOUTH 24th AVE. & SOUTH 29th TERRACE INTERSECTION

SW VIEW OF SOUTH 24th AVE. & VAN BUREN ST. INTERSECTION

EAST VIEW OF VAN BUREN ST. INTERSECTION (SOUTH OF ALPHA INTERNATIONAL ACADEMY)







NE VIEW OF S. 24th AVE BETWEEN S. 29Tth TERR. & VAN BUREN ST. (WEST SIDE OF ALPHA INTERNATIONAL ACADEMY)

NORTH VIEW ALONG SOUTH 24th AVE. SOUTH OF VAN BUREN ST.

EAST VIEW ALONG VAN BUREN ST. (SOUTH OF ALPHA INTERNATIONAL ACADEMY)

AERIAL VIEW KEYPLAN

	_	
Revision type	Date	by
⚠ TAC COMMENTS	8/12/16	JP/F
<u>∕</u> TAC COMMENTS	10/24/16	RD
⚠ TAC COMMENTS	10/11/17	JP/F
⚠ TAC COMMENTS	11/10/17	JP

KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AT THE TIME OF THEIR PREPARATION AS DETERMINED BY THE LOCAL AUTHORITIES IN ACCORDANCE WITH SECTION 105
(F.B.C.) FLORIDA BUILDING CODE AND 633 FLORIDA

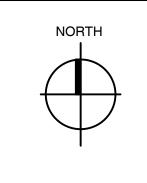
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Davie, Florida 33328 Tel: (954) 680-4440 / Fax: (954) 680-4441 Member American Institute of Architects

AA26000696 - AR0012198

Project Title: Site Plan Approval Documents for: Existing Church Renovations and New 2 Story Charter School Building for: FAITH and LIFE FELLOWSHIP MINISTRIES, INC. ALPHA INTERNATIONAL ACADEMY CHARTER SCHOOL

121 SOUTH 24TH AVENUE HOLLYWOOD, BROWARD COUNTY, FLORIDA 33020

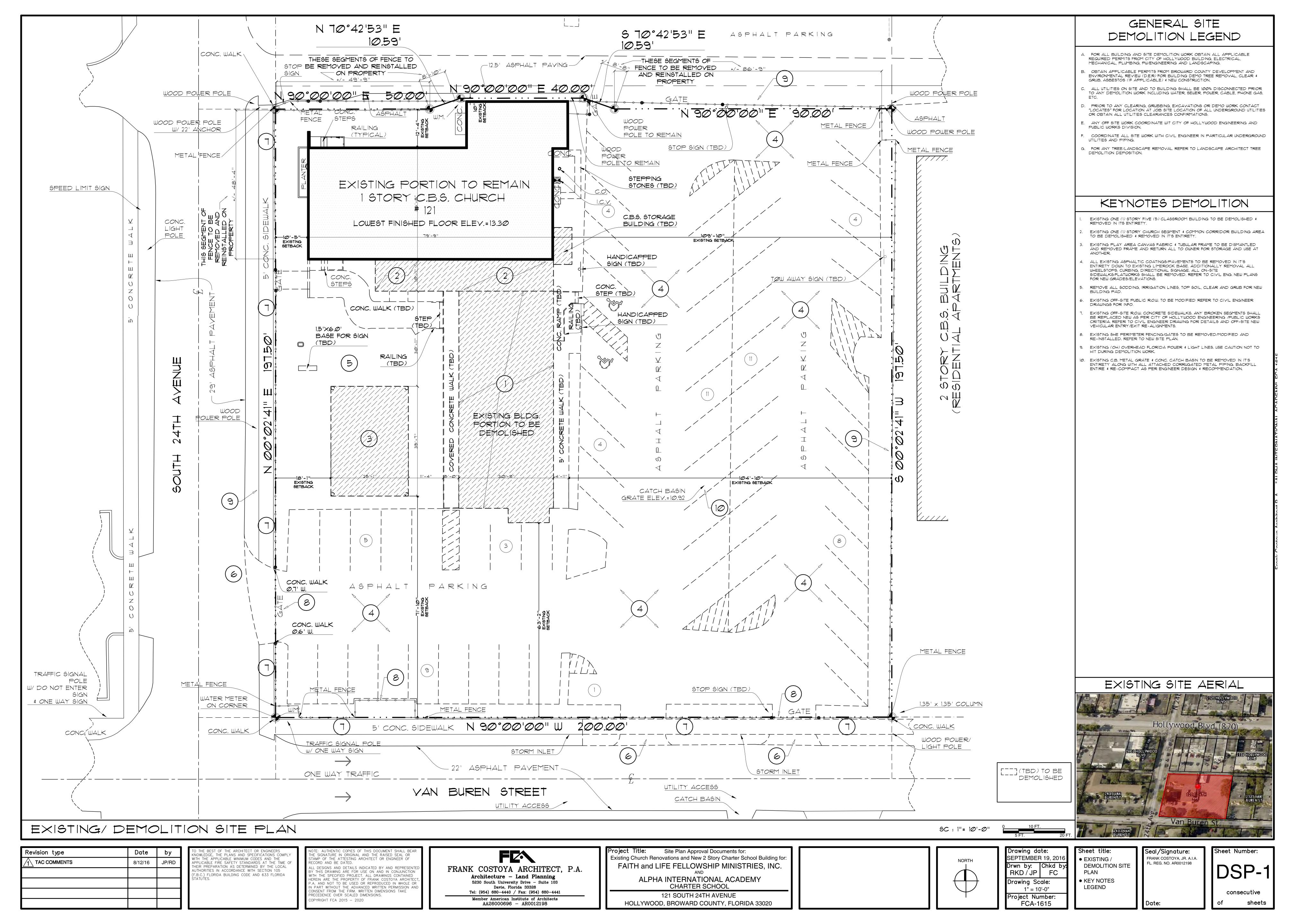


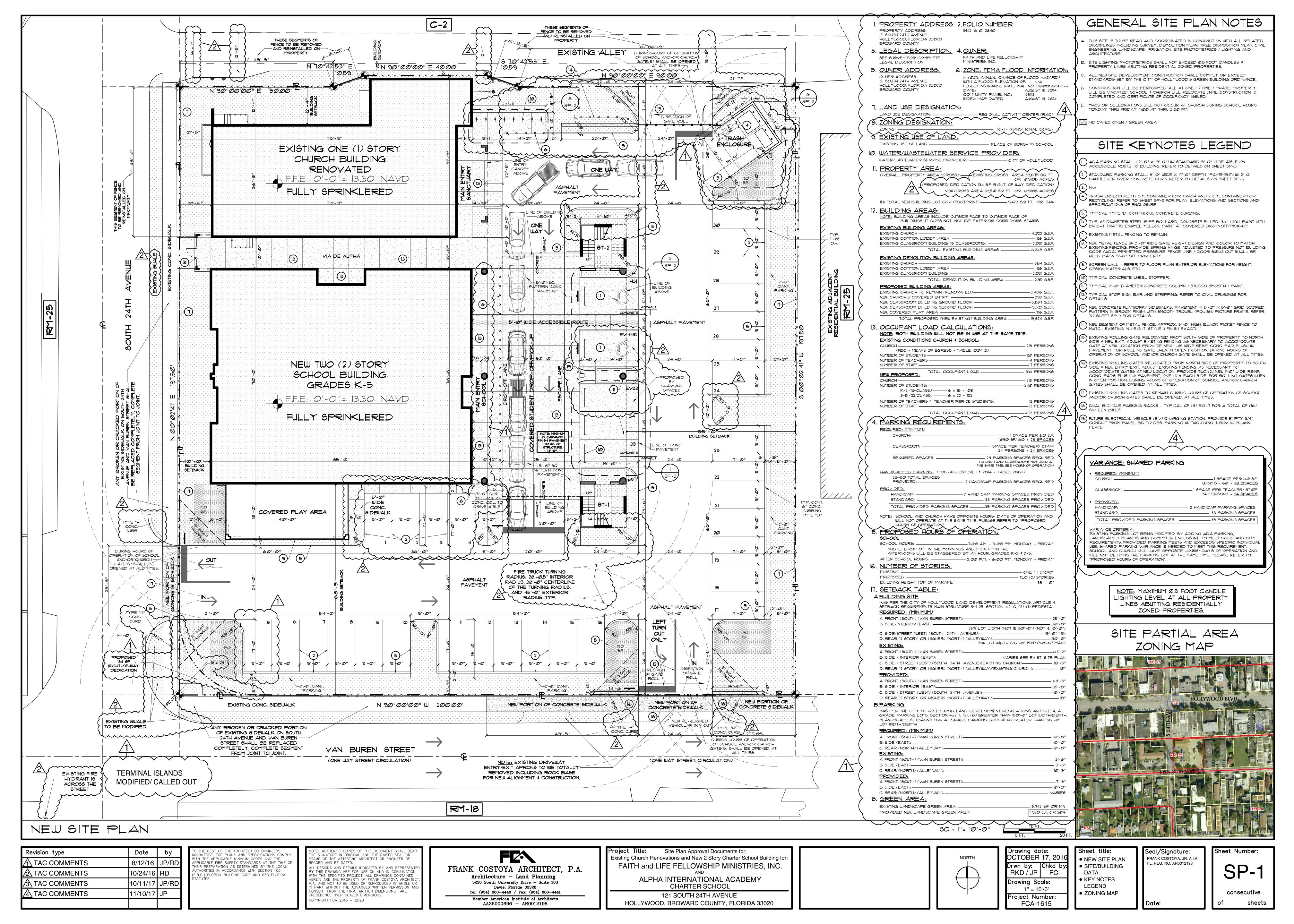
Drawing date: OCTOBER 17, 2016 RKD/JP FC Drawing Scale: NTS Project Number: FCA-1615

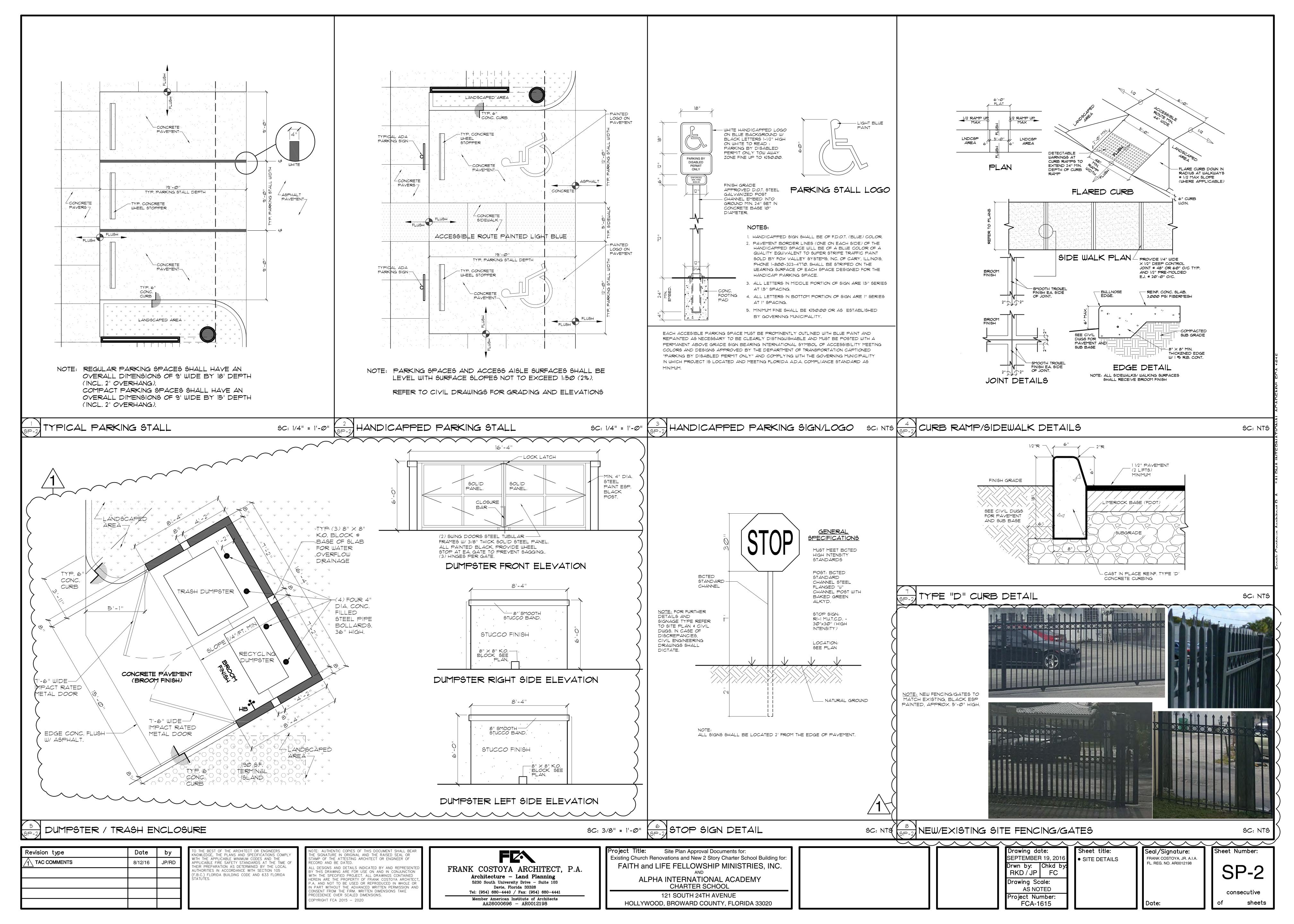
SUBJECT SITE & **ADJACENT PROPERTIES**

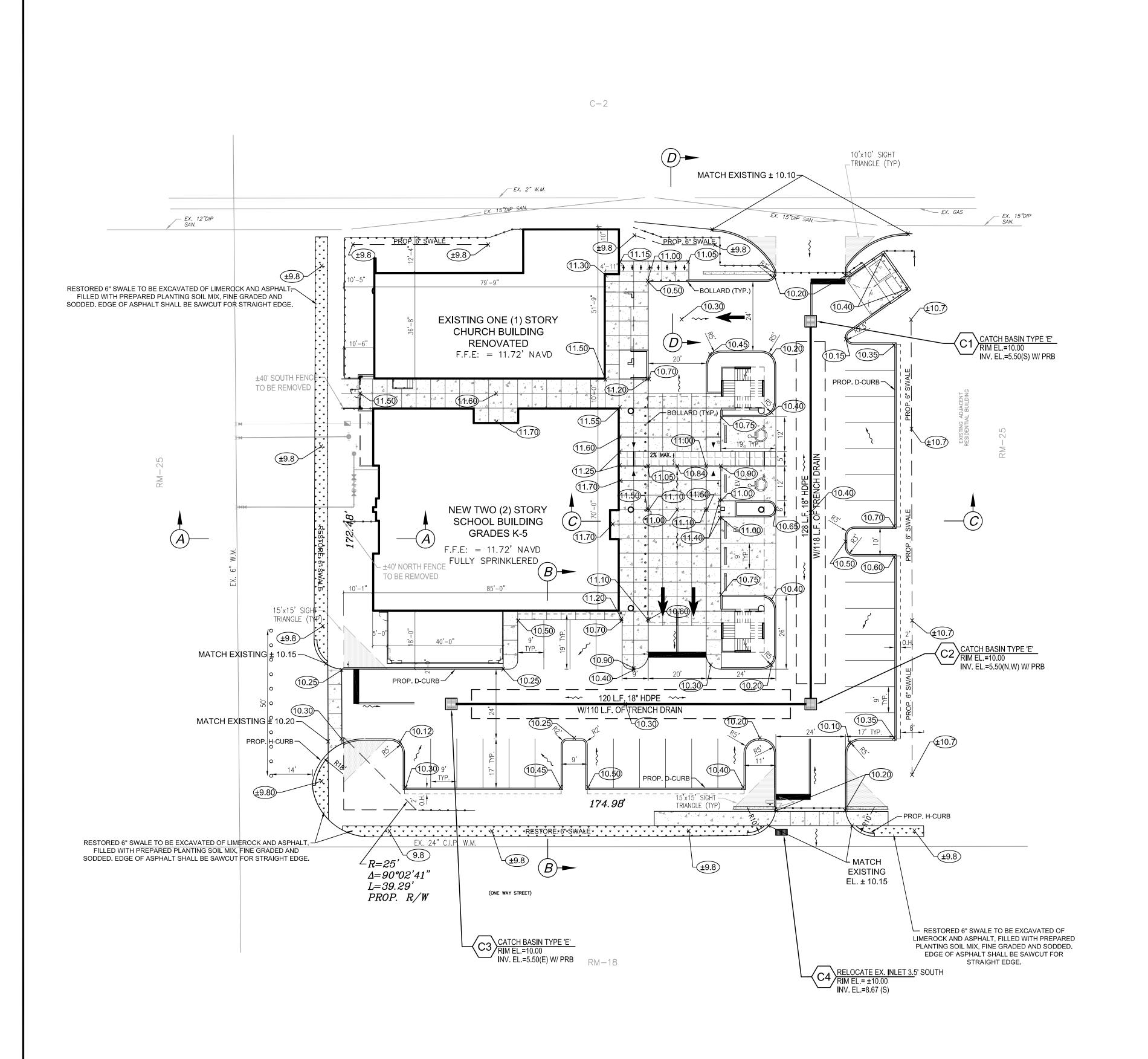
Sheet Number: Seal/Signature: FRANK COSTOYA, JR. A.I.A. FL. REG. NO. AR0012198

EX-1 consecutive sheets











1 inch = 20 ft.

LEGEND:

BROWARD COUNTY RECORDS DCR DADE COUNTY RECORDS PLAT BOOK

OFFICIAL RECORDS BOOK CENTERLINE RIGHT-OF-WAY R/W

SECTION SEC CONCRETE BLOCK STRUCTURE CBS WOOD POWER POLE WPP

CONCRETE LIGHT POLE CLP ANCHOR ANC TYPICAL TYP

FIRE HYDRANT GATE VALVE WATER METER

SANITARY SEWER MANHOLE CATCH BASIN EXISTING ELEVATION

PROPOSED ELEVATION FLOW DIRECTION ~~-

REMOVE EXISTING CONCRETE DRIVE

- 1. STORM DRAINAGE SYSTEM AND SANITARY SEWER SYSTEM ARE PRIVATE.
- 2. CONTRACTOR TO BE CAUTIOUS OF EXISTING UNDERGROUND UTILITIES GIVEN EXISTING BUILDINGS ONSITE.
- 3. SURVEY PREPARED BY MCLAUGHLIN ENGINEERING COMPANY (LB#285). 400 J.W. MCLAUGHLIN AVENUE (N.E. 3RD AVENUE), FORT LAUDERDALE, FLORIDA 33301.
- 4. SEE ARCHITECTURAL PLANS FOR DUMPSTER DETAILS.
- 5. SEE ARCHITECTURAL PLANS FOR SPECIFICATIONS OF BOLLARDS FENCES & GATES.
- 6. SEE ARCHITECTURAL PLANS FOR BIKE RACKS.
- 7. CONTRACTOR TO VERIFY DEPTH OF EXISTING SEWER CLEAN OUT POINT OF CONNECTION TO BE SURE THERE IS AMPLE FALL TO SERVICE THE NEW BUILDING.

INC CONSULTANTS, \simeq PILL

REVISIONS

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ENGINEER'S SEAL NOT VALID WITHOUT ORIGINAL SIGNATURE SHEET TITLE

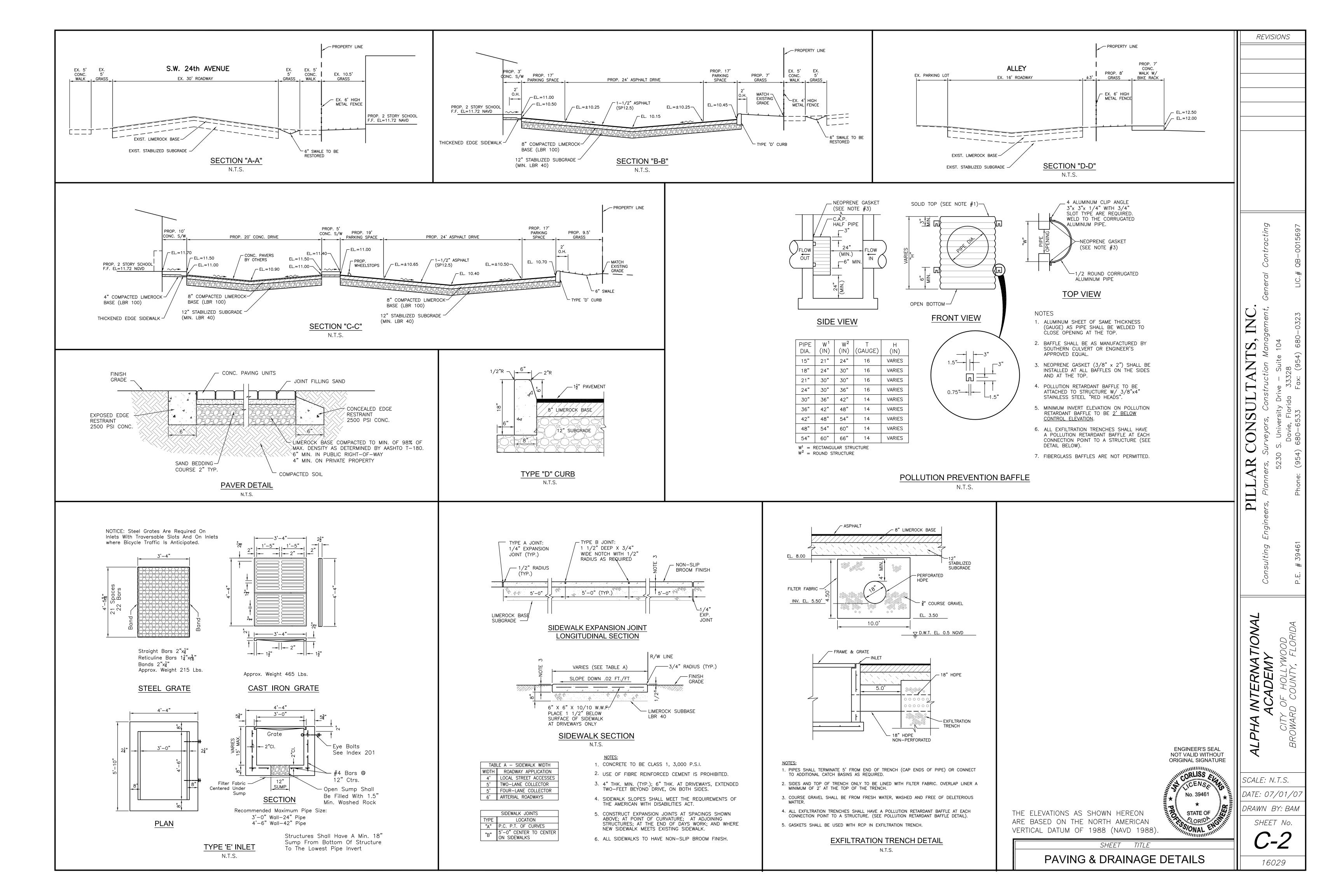
THE ELEVATIONS AS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988)

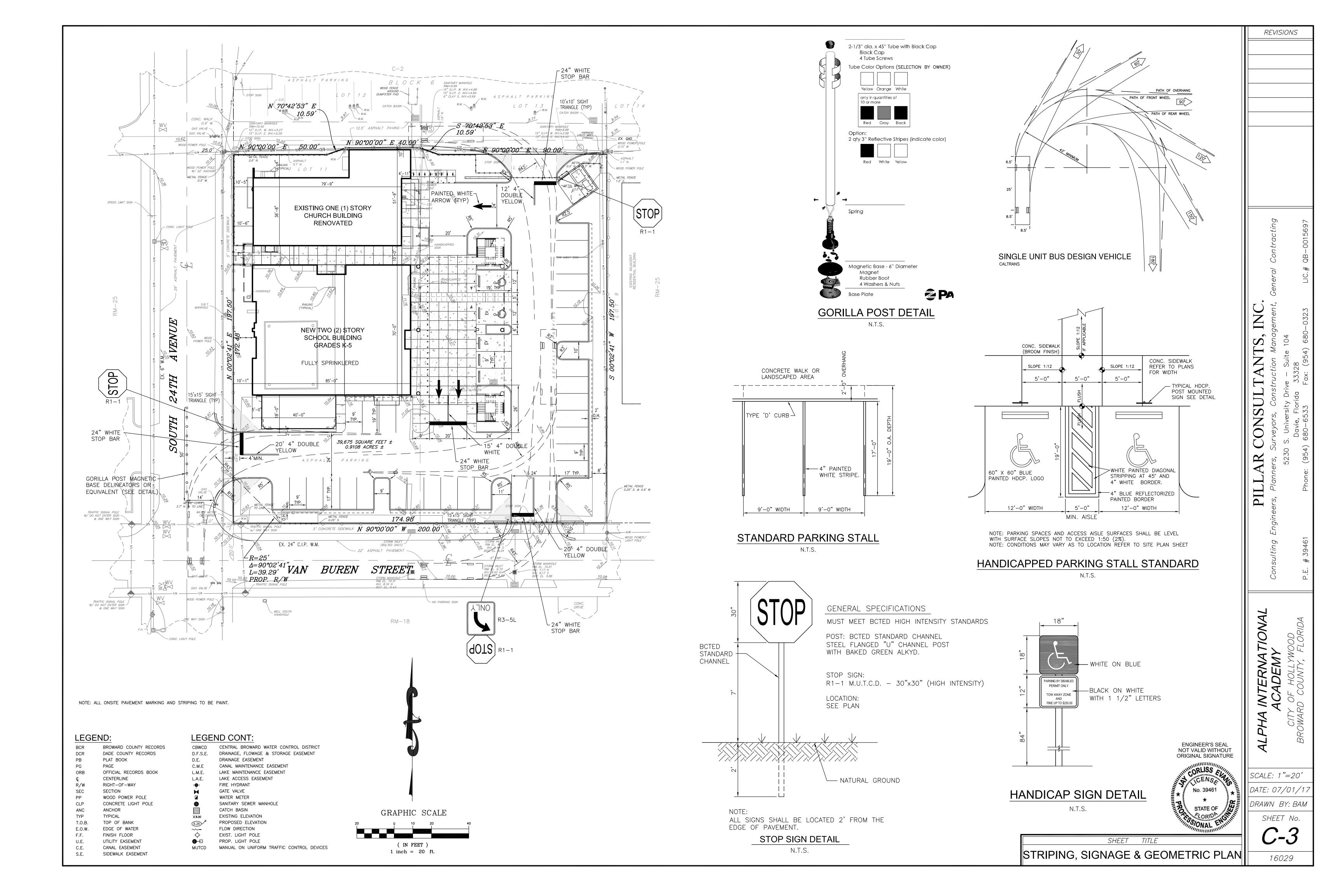
SCALE: 1"=20' DATE: 07/01/17

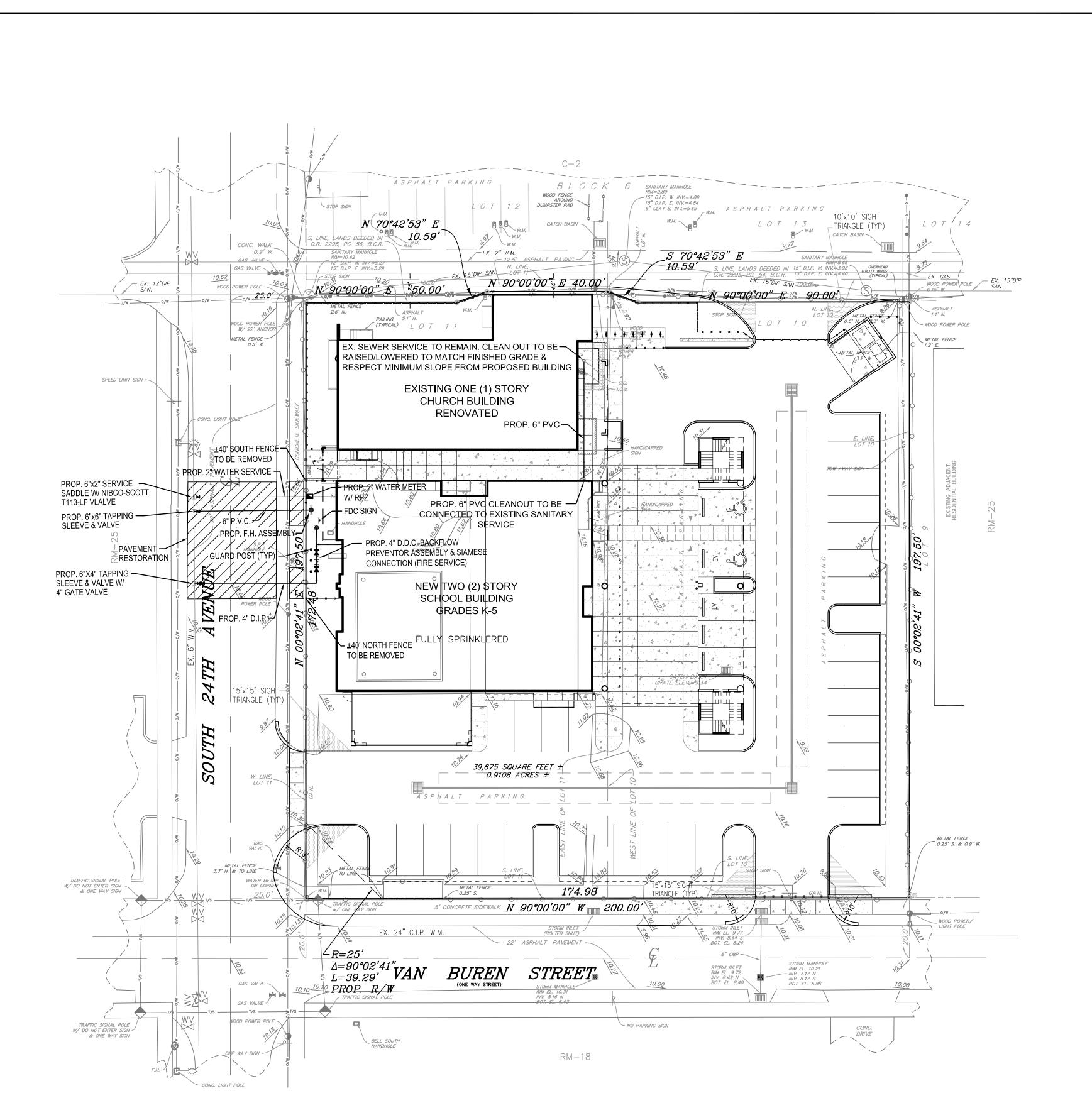
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PAVING AND DRAINAGE PLAN









DCR DADE COUNTY RECORDS
PB PLAT BOOK
PG PAGE
ORB OFFICIAL RECORDS BOOK

ORB OFFICIAL RECORD
© CENTERLINE
R/W RIGHT-OF-WAY

SEC SECTION

CBS CONCRETE BLOCK STRUCTURE

WPP WOOD POWER POLE

CLP CONCRETE LIGHT POLE

BROWARD COUNTY RECORDS

ANC ANCHOR

TYP TYPICAL

FIRE HYDRANT

GATE VALVE

WATER METER

SANITARY SEWER MANHOLE
CATCH BASIN

NOTES

- 1. STORM DRAINAGE SYSTEM AND SANITARY SEWER SYSTEM ARE PRIVATE.
- 2. CONTRACTOR TO BE CAUTIOUS OF EXISTING UNDERGROUND UTILITIES GIVEN EXISTING BUILDINGS ONSITE.
- 3. SURVEY PREPARED BY MCLAUGHLIN ENGINEERING COMPANY (LB#285). 400 J.W. MCLAUGHLIN AVENUE (N.E. 3RD AVENUE), FORT LAUDERDALE, FLORIDA 33301.
- 4. SEE ARCHITECTURAL PLANS FOR DUMPSTER DETAILS.
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- 6. SEE ARCHITECTURAL PLANS FOR BIKE RACKS.
- 7. CONTRACTOR TO VERIFY DEPTH OF EXISTING SEWER CLEAN OUT POINT OF CONNECTION TO BE SURE THERE IS AMPLE FALL TO SERVICE THE NEW BUILDING.

	PROPOSED SCHOOL WITH CAFETERIA DESIGN FLOW				
# OF PUPILS		UNIT DESIGN FLOW	TOTAL DESIGN FLOW		
	240	15 GPD PER PUPIL	3,600 GPD (WEEKDAY)		

EXISTING CHURCH DESIGN FLOW		
# OF SEATS	UNIT DESIGN FLOW	TOTAL DESIGN FLOW
230	3 GPD PER SEAT	690 GPD (WEEKEND)

PILLAR CONSULTANTS, INC g Engineers, Planners, Surveyors, Construction Management,

REVISIONS

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PHA INTERNATIOI
ACADEMY

SCALE: 1"=20'

DATE: 07/01/1

DRAWN BY: BAM

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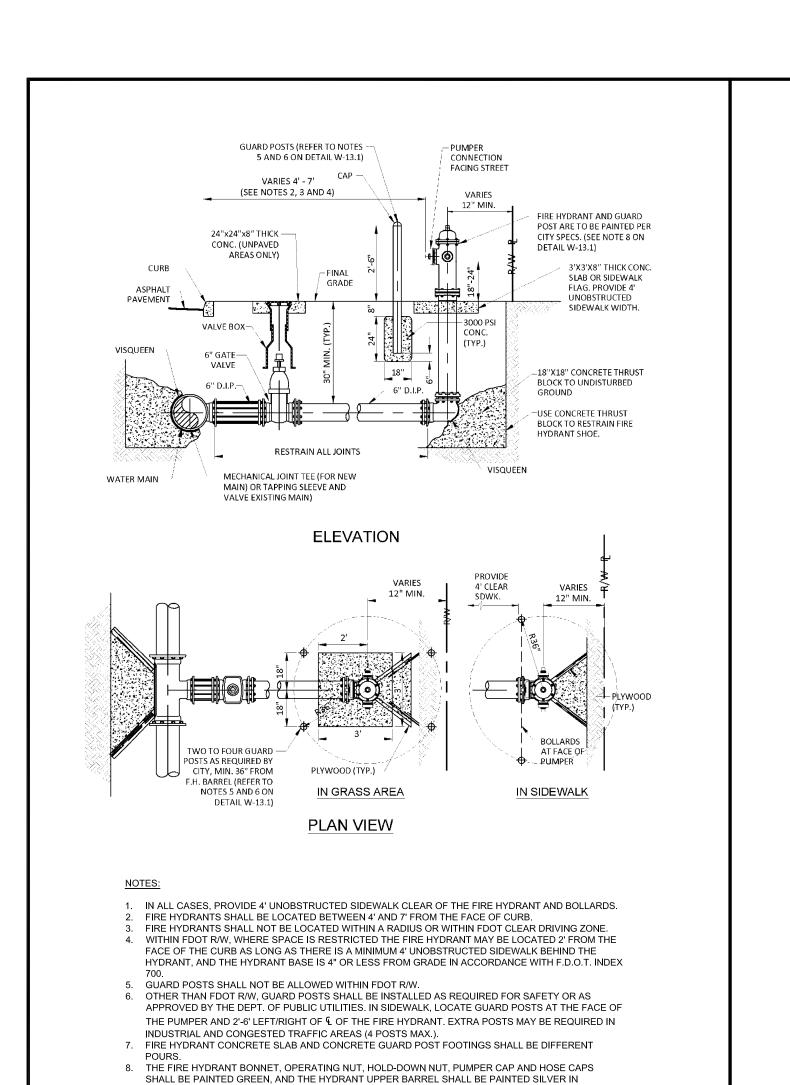
WATER AND SEWER PLAN

SHEET TITLE

GRAPHIC SCALE

0 10 20 40

(IN FEET)
1 inch = 20 ft.



ACCORDANCE WITH CITY SPECIFICATIONS.

TYPICAL FIRE HYDRANT

N.T.S.

N.T.S. **RESILIENT SEATED GATE VALVE SPECIFICATIONS:** 4" THROUGH 12" SIZE (WATER AND FORCE MAIN)

MIN.

24"x24"x8" THICK-

CONCRETE COLLAR

ALL AROUND FOR

UNPAVED AREAS ONLY

FINISHED-

GRADE OR

PAVEMENT

1. GATE VALVES SHALL BE RESILIENT SEATED, MANUFACTURED TO MEET OR EXCEED THE REQUIREMENTS OF AWWA C509 (LATEST REVISION) AND IN ACCORDANCE WITH THE FOLLOWING

TYPICAL GATE VALVE AND

VALVE BOX SETTING

-SAW-CUT AND MATCH

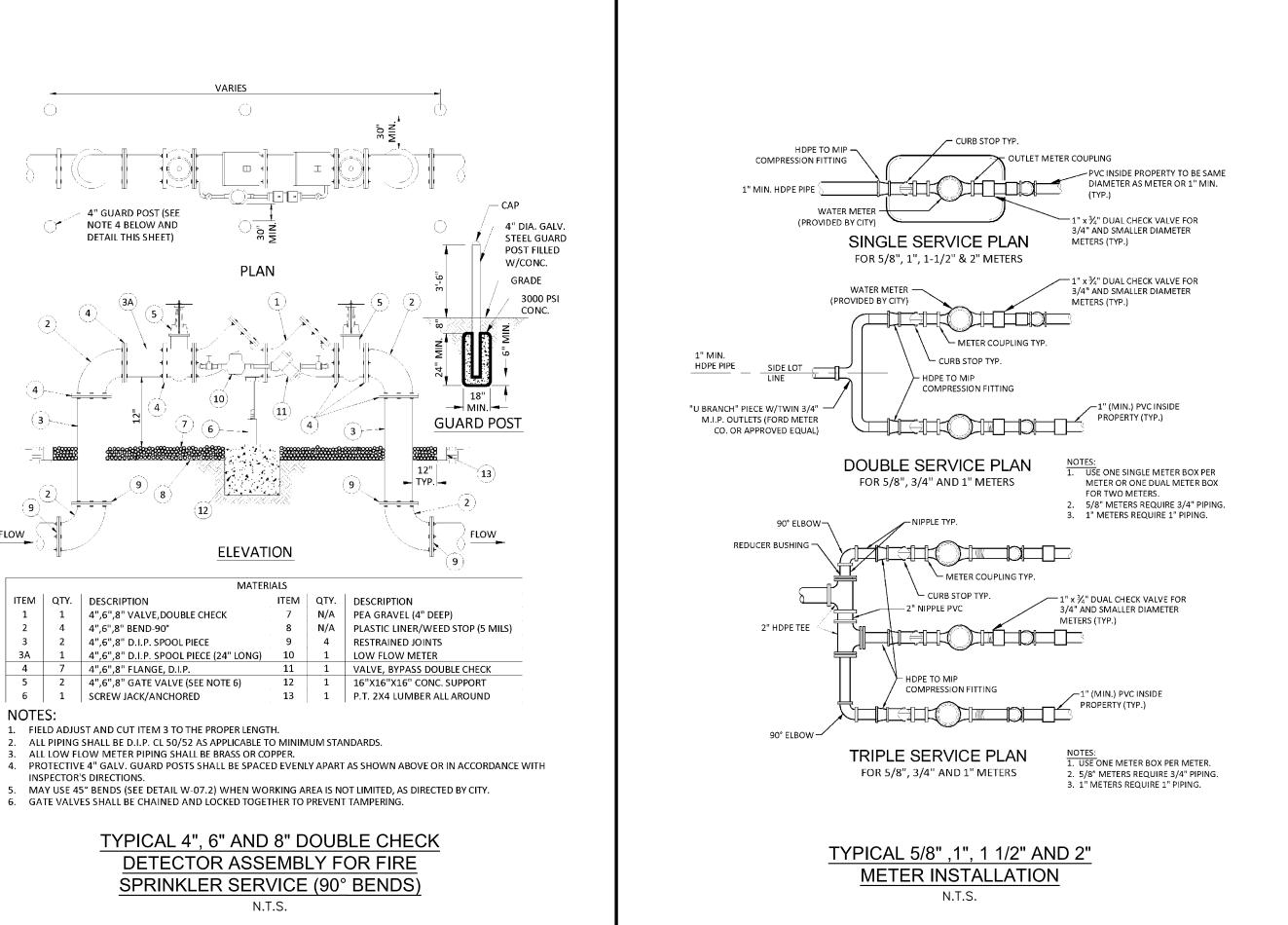
EXISTING PAVEMENT

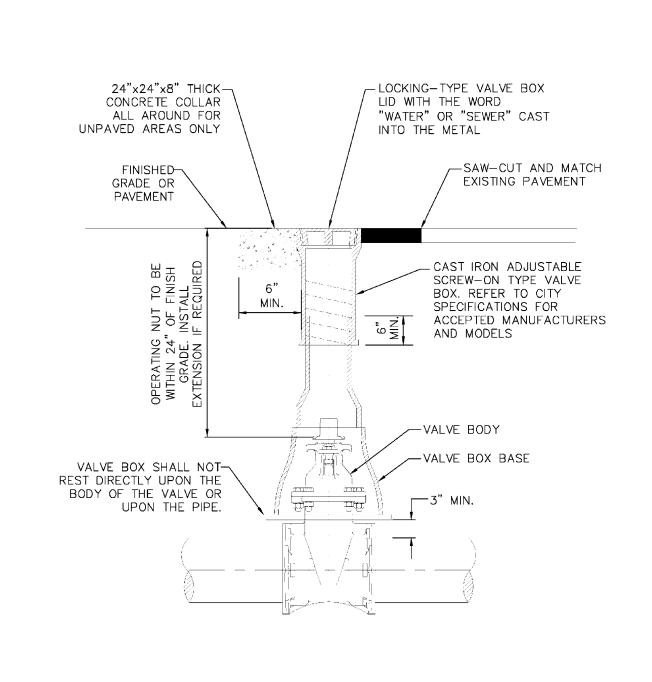
VALVE BOX (REFER TO

STANDARD DETAIL G-05)

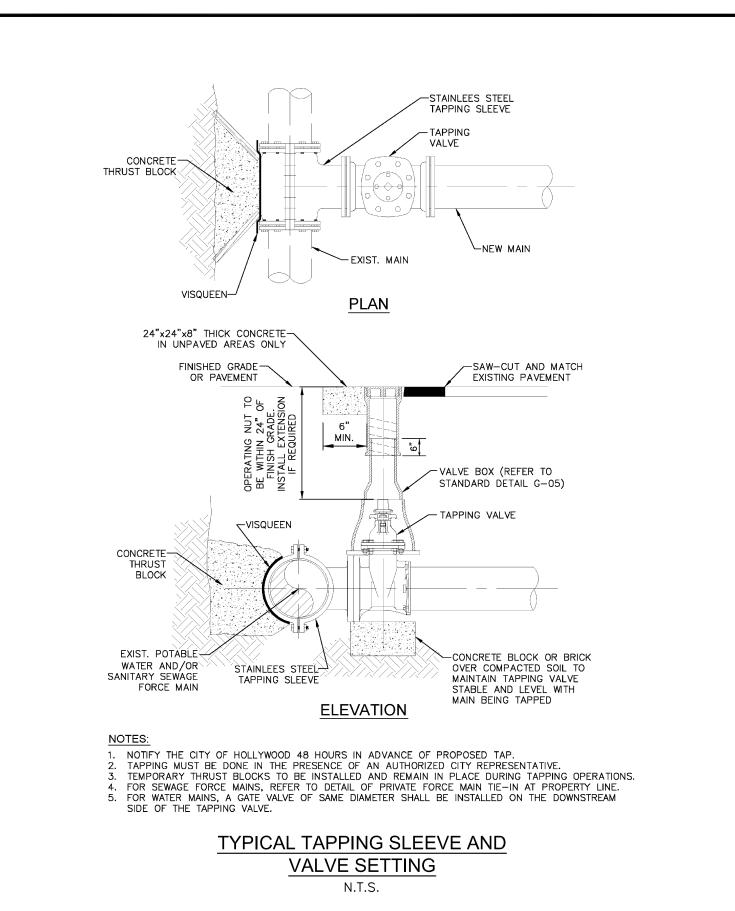
GATE VALVE (MECHANICAL JOINTS)

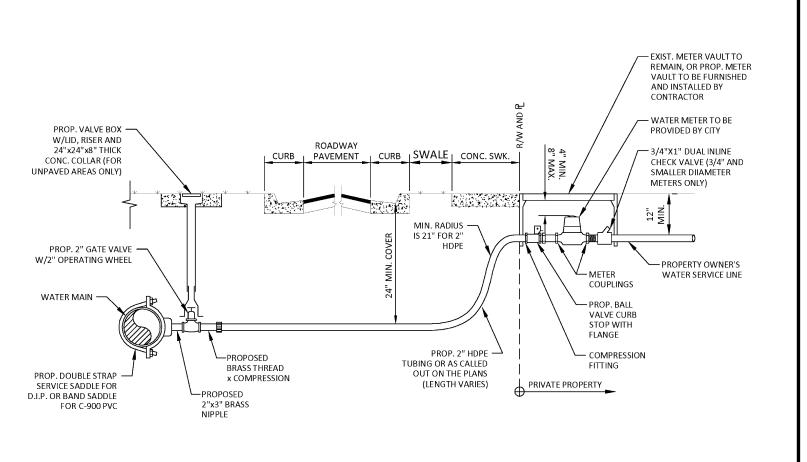
- SPECIFICATIONS:
- 1.1. VALVES SHALL HAVE AN UNOBSTRUCTED WATERWAY EQUAL TO OR GREATER THAN THE FULL NOMINAL DIAMETER OF THE VALVE. 1.2. THE VALVES ARE TO BE NON-RISING STEM WITH THE STEM MADE OF CAST, FORGED OR ROLLED
- BRONZE SHOWN IN AWWA C509, TWO STEM SEALS SHALL BE PROVIDED AND SHALL BE OF THE O-RING TYPE, ONE ABOVE AND ONE BELOW THE THRUST COLLAR WITH LUBRICANT BETWEEN
- 1.3. THE STEM NUT, ALSO MADE OF BRONZE, MAY BE INDEPENDENT OF THE GATE OR CAST INTEGRALLY WITH THE GATE. IF THE STEM NUT IS CAST INTEGRALLY, THE THREADS SHALL BE
- STRAIGHT AND TRUE WITH THE AXIS OF THE STEM TO AVOID BINDING DURING THE OPENING OR
- 1.4. THE SEALING MECHANISM SHALL CONSISTS OF A CAST IRON GATE HAVING A VULCANIZED SYNTHETIC RUBBER COATING OR A RUBBER SEAT MECHANICALLY RETAINED ON THE GATE, THE
- RESILIENT SEALING MECHANISM SHALL PROVIDE ZERO LEAKAGE AT THE WATER WORKING PRESSURE WHEN INSTALLED WITH THE LINE FLOW IN EITHER DIRECTION.
- A 2-INCH SQUARE WRENCH NUT SHALL BE PROVIDED FOR OPERATING THE VALVE. ALL VALVES ARE TO BE SUPPLIED COMPLETE AND READY FOR INSTALLATION INCLUDING, BUT
- NOT LIMITED TO ALL NUTS, BOLTS RINGS AND RUBBERS. 1.7. ALL VALVES ARE TO BE TESTED IN STRICT ACCORDANCE WITH AWWA C509 LATEST REVISION).





TYPICAL VALVE BOX SETTING N.T.S.





TYPICAL 2" HDPE WATER SERVICE FOR SINGLE/DUAL 5/8" TO 1" METERS AND ANY SINGLE 1 1/2" TO 2" METERS

WATER METER SERVICE NOTES:

DURING THE SERVICE INSTALLATION.

- SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED NOT LESS THAN 18" ON CENTER. 2. P.E. TUBING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AWWA STANDARD C901 "POLYETHYLENE (PE) PRESSURE PIPE AND TUBING, 1/2 IN. (13mm) THROUGH 3 IN. (76 mm), FOR
- WATER SERVICE" 3. MINIMUM SERVICE PIPE DIAMETER SHALL BE 1" FOR SINGLE OR DUAL 5/8" OR 1" DIAMETER
- 4. MINIMUM SERVICE PIPE DIAMETER SHALL BE 2" FOR 1-1/2" OR 2" DIAMETER METERS.
- 5. FOR METER DIAMETERS LARGER THAN 2", THE MINIMUM SERVICE PIPE DIAMETER SHALL BE THE SAME AS THE METER DIAMETER. 6. APPROVED TYPE COPPER TUBING MAY BE USED AT THE CITY'S DISCRETION. 7. FOR NEW METER INSTALLATIONS, ALL SADDLES, VALVES, PIPING, FITTINGS, CURB STOPS, METER
- VALVES, METER COUPLINGS, METER VAULTS AND COVERS SHALL BE FURNISHED AND INSTALLED
- 8. THE WATER METERS WILL BE PROVIDED BY THE CITY OF HOLLYWOOD AND INSTALLED BY THE CONTRACTOR
- 9. FOR METER RELOCATIONS, ALL SADDLES, VALVES, PIPING, FITTINGS, CURB STOPS, METER VALVES, METER COUPLINGS, METER VAULTS AND COVERS SHALL BE FURNISHED AND INSTALLED
- BY THE CONTRACTOR. 10. THE EXISTING WATER METER TO BE RELOCATED AND INSTALLED BY CONTRACTOR. 11. FOR EXISTING METERS ABUTTING THE RIGHT-OF-WAY THAT ARE BEING DISCONNECTED FROM EXISTING MAINS AND RECONNECTED TO NEW MAINS, THE CONTRACTOR SHALL:
- a. CUT AND PLUG THE EXISTING SERVICE LINE AT THE MAIN AND AT THE METER, AND REMOVE THE EXISTING BALL VALVE CURB STOP. b. FURNISH AND INSTALL SERVICE SADDLE, CORPORATION STOP OR SERVICE VALVE AND VALVE BOX, PIPING AND FITTINGS UP TO AND INCLUDING THE BALL VALVE CURB STOP.
- 12. THE ELEVATION AT THE TOP OF THE METER BOX SHALL MATCH THE ELEVATION OF THE BACK OF 13. AS PART OF THE SERVICE INSTALLATION, THE CONTRACTOR SHALL RESTORE THE RIGHT-OF-WAY TO MATCH EXISTING CONDITIONS, INCLUDING ROADWAY PAVEMENT, PAVEMENT MARKINGS AND RPMs, CONCRETE CURBS, SIDEWALKS, RAMPS (INCLUDING DETECTABLE

WARNING SURFACE), SODDING, AND ALL OTHER IMPROVEMENTS REMOVED OR DAMAGED

14. FOR UNPAVED AREAS, THE MINIMUM GROUND COVER ACCEPTED BY THE CITY IS SODDING.

SHEET TITLE

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REVISIONS

SCALE: N.T.S. DATE: 07/01/: DRAWN BY: BAN

SHEET No.

16029

FURNISHED AND INSTALLED BY - WATER SERVICE RISER TO BE CONTRACTOR (REFER TO NOTE 4). INSTALLED PARALLEL TO WALL WATER METER WITH MTU - PROP. BACKFLOW PREVENTER TO BE PROVIDED BY CITY (RPZ) SAME DIAMETER AS W/PIPE CLAMPS, CONNECT TO EXIST. BUILDING SERVICE LINE. SUPPORT W/UNISTRUTS AND R/W D PROPERTY RELIEF VALVE (100 BRASS ⅓-TURN ~ BALL VALVE SAME EXISTING DIA. AS METER OR STRUCTURE ¾" MIN. 1'Ø X 1.5' DEEP ► PACK-JOIN - BRASS ELBOW - BRASS FIBOW — PROPERTY OWNER'S WATER SERVICE LINE SCH. — MFTFR -COUPLING 80 PVC SAME DIAMETER AS METER OR ¾" MIN. FLANGE COUPLINGS - PACK-JOINT COUPLING FOR 1", 1-1/2" & 2" RESIDENTIAL METERS, AND FOR ALL COMMERCIAL PROPERTIES REGARDLESS OF METER DIAMETER WATER SERVICE RISER TO BE INSTALLED -PROP. METER VAULT PARALLEL TO WALL AND BE SECURED TO AND INSTALLED BY WALL W/PIPE CLAMPS, CONNECT TO (REFER TO NOTE 4).

R/W PROPERTY - WATER METER RELIEF VALVE (100 WITH MTU TO BE PSI SETTING) PROVIDED BY CITY BRASS 1/2-TURN — - 3/4"X1" DUAL INLINE EXISTING BALL VALVE SAME CHECK VALVE WITH DIA. AS METER OR STRUCTURE ¾" MIN. CONC. SLAB IS USED SPACERS — PROPERTY OWNER'S WATER PROP. BALL -- PACK-IOINT SERVICE LINE (1" SCH. 80 PVC) COUPLING INTO VALVE CURB CHECK VALVE FLANGE FOR 5/8" RESIDENTIAL METERS ONLY

SPACERS ______

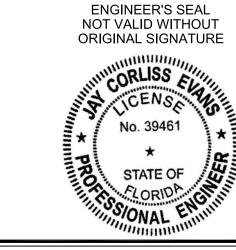
PROP. BALL -

VALVE CURB

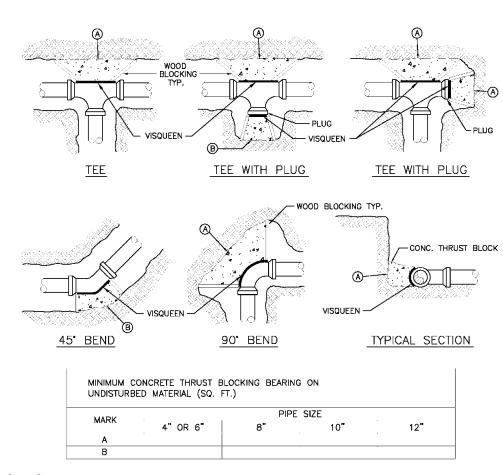
NOTES FOR ALL SERVICES: 1. IF EXISTING HOSE BIB IS REMOVED, DAMAGED, OR NO HOSE BIB EXISTS, ONE MUST BE INSTALLED. 2. THREADED PVC FITTINGS (MALE OR FEMALE) NOT ALLOWED. ALL TRANSITIONS FROM PVC TO METAL PIPING/FITTINGS SHALL USE COMPRESSION PACK-JOINT COUPLINGS. THIS INCLUDES PVC CONNECTIONS TO INLINE CHECK VALVE AND BACKFLOW PREVENTER. 3. PIPE CLAMPS FOR ATTACHING WATER SERVICE RISER TO WALL SHALL BE HOT-DIPPED GALVANIZED, WITH ISOLATION MATERIAL BETWEEN THE PIPE AND 4. IF EXISTING CONCRETE METER VAULT IS IN ACCEPTABLE CONDITION (AS DETERMINED BY ECSD) IT MAY BE RE-USED. 5. IF EXISTING BACKFLOW PREVENTER IS DETERMINED TO BE IN ACCEPTABLE CONDITION IT MAY BE RE-USED PROVIDED IT IS RE-CERTIFIED.

6. ALL PRIVATE SERVICE LINE INSTALLATIONS SHALL COMPLY WITH THE LATEST REVISION OF THE FLORIDA BUILDING CODE.

TYPICAL WATER SERVICE FROM METER TO STRUCTURE FOR 5/8" THROUGH 2" METERS N.T.S.



STANDARD WATER DETAILS



NOTES:

- 1. THRUST BLOCKS ARE TO BE USED IN COMBINATION WITH, AND NOT IN LIEU OF, MECHANICAL JOINT RESTRAINTS AS REQUIRED BY THE CITY. REFER TO THRUST RESTRAINT DESIGN TABLE IN STANDARD DETAIL G-10.
- 2. THE AREAS IN THE TABLE ARE BASED ON _____ POUNDS PER SQUARE FOOT SOIL BEARING AGAINST THE UNDISTURBED TRENCH WALL AND ARE TO REPRESENT THE MINIMUM VERTICAL PROJECTED AREA AT THE THRUST BLOCK IN A PLANE PERPENDICULAR TO THE LINE BISECTING THE INCLUDING ANGLE OF THE FITTING.
- 3. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EVACUATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL.
- 4. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
- DO NOT COVER COUPLING OR JOINTS WITH CONCRETE.
- 6. CONCRETE TO BE 2500 P.S.I. MINIMUM 28 DAY STRENGTH.
- 7. TABLE TO BE COMPLETED BY DESIGN ENGINEER.

THRUST RESTRAINT NOTES:

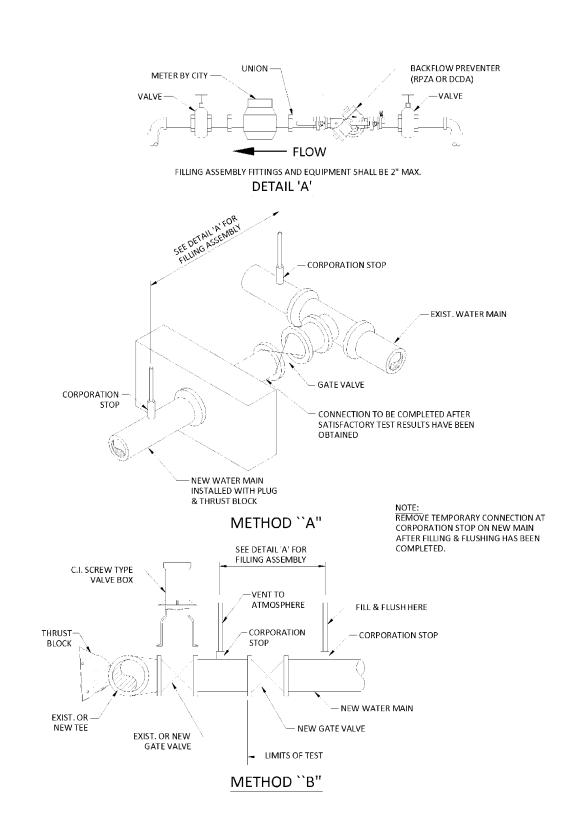
- 1. ALL JOINTS BETWEEN BENDS AT HORIZONTAL & VERTICAL OFFSETS SHALL BE RESTRAINED. MECHANICAL THRUST RESTRAINTS FOR D.I.P. FITTINGS ON D.I.P. OR P.V.C. PIPE SHALL BE MEGALUG AS
- MANUFACTURED BY EBAA IRON, INC., OR APPROVED EQUAL. 3. DUCTILE IRON FITTINGS UP TO 20-INCHES IN DIAMETER SHALL BE RESTRAINED BY MECHANICAL MEANS, I.E., MEGALUGS OR APPROVED EQUAL.
- 4. DUCTILE IRON FITTINGS 24-INCH IN DIAMETER AND ABOVE SHALL BE RESTRAINED BY MECHANICAL MEANS, I.E., MEGALUGS OR APPROVED EQUAL, WITH THE ADDITION OF THRUST BLOCKS AND CONCRETE ANCHORS AT THE DISCRETION OF THE ENGINEER OF RECORD.

5. ANY THRUST BLOCKS AND ANCHORS ARE TO BE DESIGNED BY THE ENGINEER OF RECORD. SIGNED

AND SEALED CALCULATIONS SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO 6. THRUST BLOCKS CONSISTING OF POURED-IN-PLACE CONCRETE SHALL HAVE A MINIMUM

THRUST BLOCK DESIGN

COMPRESSIVE STRENGH OF 2,500 PSI AFTER 28 DAYS.



FILLING AND FLUSHING DETAILS

N.T.S.

TACK COAT ALL SURFACES, AND PROVIDE 2" MIN. SUPERPAVE ASPHALTIC CONC. OVERLAY AS SHOWN ON THE PAVEMENT RESTORATION PLANS TRENCH WIDTH (W) + 4' SURFACE REPLACEMENT SAW CUT ALONG A -- SUPERPAVE ASPHALTIC NEAT AND STRAIGHT CONC.(SP 9.5) TO BE FLUSH FDGF, TACK COAT W/EXIST. ASPHALT. 1" MIN. ALL SURFACES AND THICK IF MILLING IS NOT EDGES. REQUIRED. 2" THICK IF EXIST. MILLING IS REQUIRED EXIST. ASPHALT ASPHALT SURFACE SURFACE -UNDISTURBED 12" THICK (MIN.) LIMEROCK — EXISTING BASE - TACK COAT BASE W/MIN. LBR 100 ALL EDGES COMPACTED TO NO LESS THAN 98% OF MAX. DENSITY PER ASHTO T-180 12" TYPE "B" STABILIZED — ✓ IF THE DISTANCE TO SUBGRADE W/MIN. LBR 40 THE EDGE OF THE COMPACTED TO 98% OF MAX. EXISTING LIMEROCK DENSITY PER ASHTO T-180 BASE IS 2' OR LESS, EXTEND THE LIMEROCK COMPACTED FILL PIPE BASE RECONSTRUCTION (REFER TO DETAILS MAX. O.D. MAX. TO THE EDGE. G-02 AND G-03)

FLEXIBLE PAVEMENT RESTORATION NOTES:

1. THE ABOVE DETAILS APPLY ONLY TO ASPHALT PAVEMENT RESTORATION OVER UTILITY TRENCHES CUT WITHIN CITY OF HOLLYWOOD RIGHTS-OF-WAY. FOR PAVEMENT RESTORATION WITHIN BROWARD COUNTY OR FDOT RIGHTS-OF-WAY REFER TO THE CORRESPONDING DETAILS FOR THOSE AGENCIES. 2. LIMEROCK BASE MATERIAL SHALL HAVE A MINIMUM L.B.R. OF 100 AND A MINIMUM CARBONATE CONTENT OF 70%. REPLACED BASE MATERIAL OVER TRENCH SHALL BE A MINIMUM OF 12" THICK".

TRENCH WIDTH

- 3. LIMEROCK BASE MATERIAL SHALL BE PLACED IN 6" MAXIMUM (LOOSE MEASUREMENT) THICKNESS LAYERS WITH EACH LAYER THOROUGHLY ROLLED OR TAMPED AND COMPACTED TO 98% OF MAXIMUM DENSITY, PER AASHTO T-180, PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS. 4. STABILIZED SUBGRADE MATERIAL SHALL BE GRANULAR AND SHALL HAVE A MINIMUM L.B.R. OF 40. 5. BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE PIPE LAYING CONDITION TYPICAL SECTIONS IN DETAILS G-02 AND G-03, AND THE SPECIFICATIONS, BUT TESTING WILL BEGIN 12"
- ABOVE THE INSTALLED FACILITY. 6. ALL EDGES AND JOINTS OF EXISTING ASPHALT PAVEMENT SHALL BE SAW CUT TO STRAIGHT LINES, PARALLEL TO OR PERPENDICULAR TO THE ROADWAY, PRIOR TO THE RESURFACING. 7. RESURFACING MATERIAL SHALL BE FDOT SUPERPAVE, AND SHALL BE APPLIED A MINIMUM OF TWO
- INCH IN THICKNESS. 8. SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED FOR A SMOOTH, FLUSH
- TRANSITION TO EXISTING PAVEMENT. 9. IF THE TRENCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH
- TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL REPLACED WITH A PERMANENT PATCH. 10. REFER TO SPECIFICATIONS FOR DETAILED PROCEDURES. 11. WHERE THE UTILITY TRENCH CROSSES EXISTING ASPHALT DRIVEWAYS, THE LIMEROCK BASE THICKNESS
- MAY BE A MINIMUM OF 6 INCHES THICK, REGARDLESS OF THE EXTENT OF IMPACT. THE ENTIRE DRIVEWAY SURFACE BETWEEN THE EDGE OF THE ROADWAY PAVEMENT AND PROPERTY LINE OR FRONT OF SIDEWALK SHALL BE OVERLAID USING 2-INCH THICK MINIMUM ASPHALTIC CONCRETE SURFACE COURSE WHERE INDICATED ON THE PLANS OR AS DIRECTED BY THE CITY/ENGINEER.

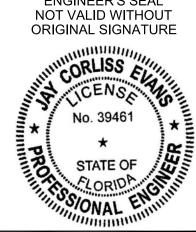
FLEXIBLE PAVEMENT RESTORATION FOR TRENCHES CUT PERPENDICULAR AND PARALLEL TO THE ROADWAY

FOR PAVEMENT RESTORATION COUNTY PUBLIC WORKS, OR BOTTOM OF ROADWAY BASE RIGHT-OF-WAY OWNER'S OR EXISTING GROUND PAVEMENT RESTORATION DETAILS GENERAL BACKFILL SHALL BE -PLACED IN LAYERS NOT TO EXCEED 12" IN THICKNESS. EACH LAYER SHALL BE COMPACTED TO 100% OF MAXIMUM DRY DENSITY SELECT BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 6" IN THICKNESS. BACKFIL EACH LAYER SHALL BE COMPACTED TO 98% OF MAXIMUM DRY DENSITY (SEE NOTE 1 BELOW). - FLAT OR RESTORED UNSUITABLE PIPE O.D. + 2' MAXIMUM TRENCH BOTTOM PIPE O.D. + 1' MINIMUM TRENCH WIDTH

- 1. WHEN PIPE INSTALLATION IS ABOVE THE GROUND WATER TABLE ELEVATION, OR WHENEVER BEDDING COPPER PIPE UNDER ANY CONDITION, BEDDING MATERIAL SHALL BE CLEAN SANDY SOIL IF AVAILABLE WITHIN THE LIMITS OF CONSTRUCTION. IMPORTED BEDDING SHALL BE WELL GRADED. WASHED CRUSHED STONE (OR DRAINFIFI D LIMEROCK). CRUSHED STONE SHALL CONSIST OF HARD, DURABLE, SUB-ANGULAR PARTICLES OF PROPER SIZE AND GRADATION, AND SHALL BE FREE FROM ORGANIC
- MATERIALS. 2. ALL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY BEFORE ANY PIPE IS LAID. FOR ADDITIONAL MATERIAL SPECIFICATIONS REFER TO SPECIFICATION

4. BACKFILL TO COMPLY WITH FDOT DESIGN STANDARDS 125-8.

SECTION (D.I.P.)



SHEET TITLE

STANDARD WATER & SEWER DETAILS

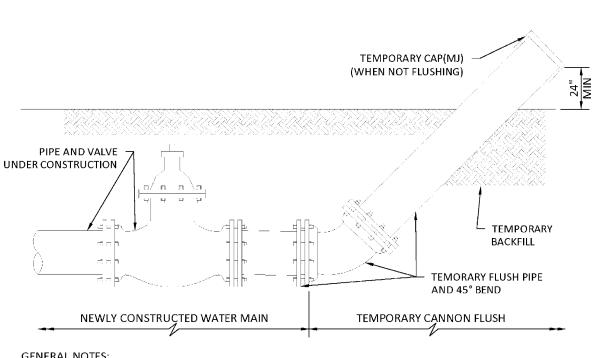
WATER MAIN SEPARATION IN ACCORDANCE WITH F.A.C. RULE 62-555.314

WATER WAIN SELARATION IN ACCORDANCE WITH LA.C. ROLL 02-333.314					
OTHER PIPE	HORIZONTAL SEPARATION	CROSSING (1), (4)	JOINT SPACING @ CROSSING (FULL JOINT CENTERED) (8)		
STORM SEWER, STORM WATER FORCE MAIN, RECLAIMED WATER (2)	3 ft minimum	WATER MAIN 12 inches is the minimum except for storm sewer, then 6 inches is the minimum and 12 inched is preferred	Alternate 3 ft minimum		
GRAVITY SANITARY SEWER, (3) SANITARY SEWER FORCE MAIN, RECLAIMED WATER	WATER MAIN 10 ft prefered 6 ft minimum	WATER MAIN 12 inches is the minimum except for gravity sewer, then 6 inches is the minimum and 12 inched is preferred	Alternate 6 ft minimum		
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 ft minimum				

WATER MAIN SHOULD CROSS ABOVE OTHER PIPE, WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.

- RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE
- TOP OF THE GRAVITY SANITARY SEWER. 18" VERTICAL MINIMUM SEPARATION REQUIRED BY CITY OF HOLLYWOOD, UNLESS OTHERWISE APPROVED.
- A MINIMUM 6 FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. 6. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT
- SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 18 INCHES IN A PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SANITARY SEWER OR FORCE MAIN SHALL BE CONSTRUCTED OF DIP WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER, JOINTS ON THE
- WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED 8. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALY RESTRAINED.

SEPARATION REQUIREMENTS OF F.D.E.P./F.D.N.R.P.



- 1. FLUSHING LOCATIONS ARE TO BE PROPOSED BY CONTRACTOR AND APPROVED BY CITY.
- 2. UPON COMPLETION OF THE PIPE INSTALLATION FOR ANY SECTION, THE MAIN SHALL BE CANNON FLUSHED TO REMOVE DIRT AND ANY OTHER FOREIGN MATTER.
- 3. INSTALL A TEMPORARY 45° BEND AND ASSOCIATED TEMPORARY PIPING AS SHOWN TO DIRECT THE FLUSHING WATER AWAY FROM THE IMMEDIATE WORK AREA AND EXERCISE DUE CARE SO AS TO ENSURE THAT THE WATER USED IN FLUSHING DOES NOT CAUSE A NUISANCE OR INFLICT PROPERTY DAMAGE.
- 4. BENDS AND PIPING SHALL BE THE SAME SIZE OR LARGER AS THE LINE BEING FLUSHED. 5. PRIOR TO THE ACTUAL LINE FLUSHING OPERATION THE CONTRACTOR SHALL PROPERLY NOTIFY CITY
- INSPECTOR OF SUCH INTENDED WATER USE. NO EXISTING VALVE SHALL BE OPERATED, EXCEPT BY AUTHORIZED CITY PERSONNEL.
- 7. FLUSHING SHALL NOT BE ACCOMPLISHED WITHOUT THE ACTUAL PRESENCE OF THE CITY INSPECTOR. 8. AFTER THE LINE UNDER CONSTRUCTION HAS BEEN SUCCESSFULLY FLUSHED, THE CONTRACTOR SHALL REMOVE THE TEMPORARY PIPING ARRANGEMENT AND PROCEED WITH THE REMAINING CONSTRUCTION AS
- 9. ALL PIPING SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH CITY STANDARDS.
- 10. IF REQUIRED BY CITY, WATER MAINS SHALL BE CLEANED BY PIGGING. 11. CONTRACTOR WILL INSTALL A PRESSURE GAUGE AT OR NEAR THE FILL AND FLUSH LOCATION AND MAINTAIN A MINIMUM PRESSURE OF 40 PSI AT ALL TIMES. THE FILL VALVE WILL BE OPENED AND CLOSED SLOWLY TO AVOID RAPID PRESSURE CHANGES IN THE WATER SYSTEM.
- 12. CONTRACTOR IS CAUTIONED THAT GOVERNING AGENCIES OR UTILITIES MAY HAVE REGULATIONS LIMITING OR PROHIBITING DISCHARGE INTO SEWERS, SURFACE WATERS, CANALS, DITCHES AND OTHER CONVEYANCES/RETENTION AREA. ALL COMPLIANCE WITH GOVERNING AGENCIES REQUIREMENTS
- (INCLUDING PERMITTING, IF REQUIRED) IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. 13. CANNON FLUSHING TO PROCEED AFTER HEALTH DEPARTMENT CLEARANCE IS RECEIVED.

EXCEED 6" IN THICKNESS. BACKFILL EACH LAYER SHALL BE COMPACTED TO 98% OF MAXIMUM DRY DENSITY HAUNCHING (BEDDING MATERIAL PLACED UP TO SPRINGLINE OF PIPE (SEE NOTE 1 BELOW). PIPE O.D. + 2' MAXIMUM - FLAT OR RESTORED TRENCH BOTTOM PIPE O.D. + 1' MINIMUM TRENCH WIDTH 1. WHEN PIPE INSTALLATION IS ABOVE THE GROUND WATER TABLE ELEVATION, OR WHENEVER BEDDING COPPER PIPE UNDER ANY CONDITION, BEDDING MATERIAL SHAL BE CLEAN SANDY SOIL IF AVAILABLE WITHIN THE LIMITS OF CONSTRUCTION. IMPORTED

BOTTOM OF ROADWAY BASE

GENERAL BACKELL SHALL B

EXCEED 12" IN THICKNESS. EACH

LAYER SHALL BE COMPACTED TO

100% OF MAXIMUM DRY DENSITY

SELECT BACKFILL SHALL BE

PLACED IN LAYERS NOT TO

OR EXISTING GROUND

BEDDING SHALL BE WELL GRADED, WASHED CRUSHED STONE (OR DRAINFIELD LIMEROCK), CRUSHED STONE SHALL CONSIST OF HARD, DURABLE, SUB-ANGULAR PARTICLES OF PROPER SIZE AND GRADATION, AND SHALL BE FREE FROM ORGANIC MATERIAL, WOOD, TRASH, SAND, LOAM, CLAY, EXCESS FINES, AND OTHER DELETERIOUS MATERIALS.

2. ALL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY BEFORE

ANY PIPE IS LAID. FOR ADDITIONAL MATERIAL SPECIFICATIONS REFER TO SPECIFICATION SECTION 02222, "EXCAVATION AND BACKFILL FOR UTILITIES".

3. DENSITY TESTING SHALL BE IN ACCORDANCE WITH AASHTO T-180 AND ASTM 4. BACKFILL TO COMPLY WITH FDOT DESIGN STANDARD 125-8.

> PIPE LAYING CONDITION TYPICAL SECTION (P.V.C.) N.T.S.

- MATERIAL, WOOD, TRASH, SAND, LOAM, CLAY, EXCESS FINES, AND OTHER DELETERIOUS
- SECTION 02222, "EXCAVATION AND BACKFILL FOR UTILITIES".

 3. DENSITY TESTING SHALL BE IN ACCORDANCE WITH AASHTO T-180 AND ASTM D-3017.

PIPE LAYING CONDITION TYPICAL

ENGINEER'S SEAL

REVISIONS

NTS

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PII

- FOR PAVEMENT RESTORATION

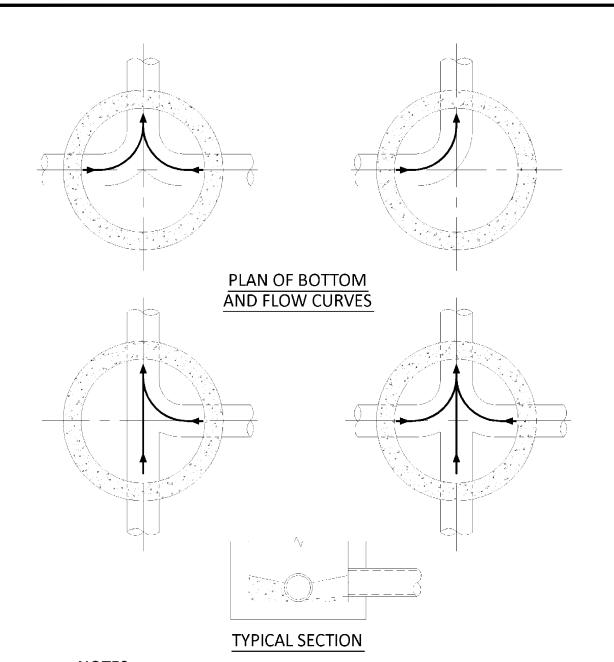
REFER TO FDOT, BROWARD COUNTY PUBLIC WORKS, OR CITY OF HOLLYWOOD PAVEMENT

RESTORATION DETAILS

SCALE: N.T.S. DATE: 07/01/: DRAWN BY: BAM

SHEET No.

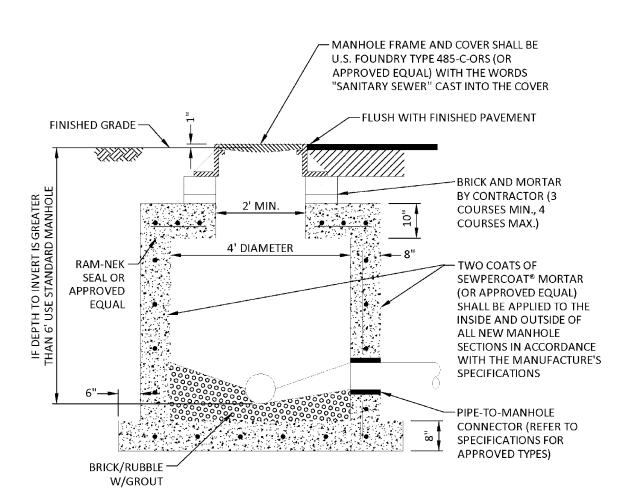
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NOTES:

- 1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO
- OBSTRUCTIONS. 2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT
- ELEVATIONS PROVIDING SMOOTH FLOWS.
- 3. CHANNELS FOR FUTURE CONNECTIONS (STUBS) SHALL BE CONSTRUCTED FILLED WITH SAND & COVERED WITH 1" OF MORTAR.
- 4. WHEN FLOW LINE DEFLECTS MORE THAN 45°, A DROP OF 0.10' IS REQUIRED.

MANHOLE FLOW PATTERNS N.T.S.



SECTION

1. SHOP DRAWINGS, SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER, SHOWING ALL DIMENSIONS AND CALCULATIONS, INCLUDING CONCRETE REINFORCEMENT, SHALL BE SUBMITTED TO THE CITY PRIOR TO INSTALLATION.

SHALLOW MANHOLE

2. THE BOTTOM SLAB SHALL BE CAST MONOLITHICALLY WITH THE LOWER WALL SECTION.

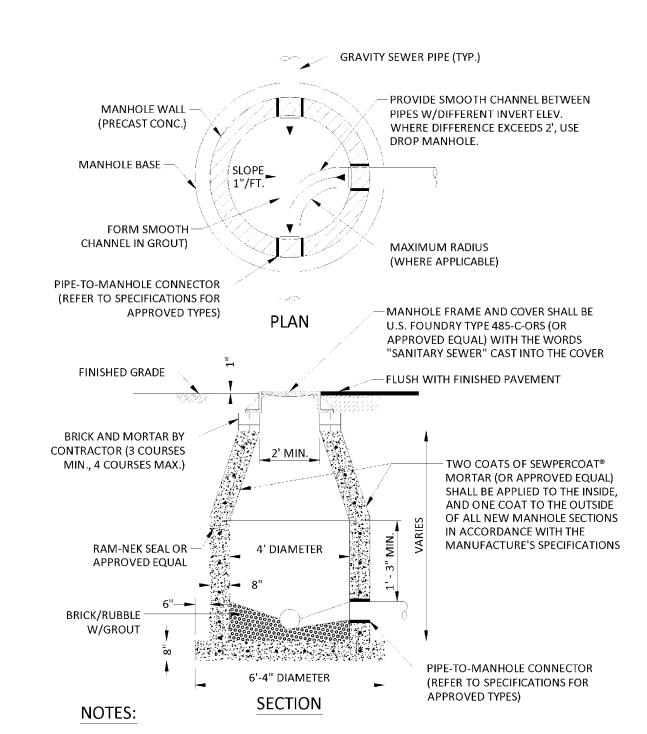
SEWER NOTES:

- THE MINIMUM DEPTH OF COVER OVER D.I.P. SANITARY SEWER GRAVITY OR FORCE MAINS IS 30". THE MINIMUM
- DEPTH OF COVER OVER PVC SANITARY SEWER OR FORCE MAINS IS 36". ALL CONNECTIONS TO EXISTING MAINS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. LEAKAGE TESTS AND ALIGNMENT (LAMPING) TESTS SHALL BE PERFORMED ON ALL NEW SEWER LINES UP TO THE
- CONNECTION POINT WITH THE EXISTING SEWER SYSTEM. THESE TESTS SHALL BE REQUESTED AND PAID FOR BY LAMPING TESTS SHALL BE PERFORMED ON GRAVITY SEWERS FROM MANHOLE TO MANHOLE UP TO AND INCLUDING
- THE POINT OF CONNECTION TO THE EXISTING SEWER SYSTEM. LEAKAGE TESTS SHALL BE PERFORMED ON ALL SEGMENTS OF A GRAVITY SEWER SYSTEM, INCLUDING SERVICE LATERALS AND MANHOLES, FOR A CONTINUOUS PERIOD OF NO LESS THAN 2 HOURS. AT THE END OF THE TEST. THE TOTAL MEASURED LEAKAGE SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER

DAY FOR ANY SECTION OF THE SYSTEM, WITH ZERO ALLOWABLE LEAKAGE FOR LATERALS AND MANHOLES. AN

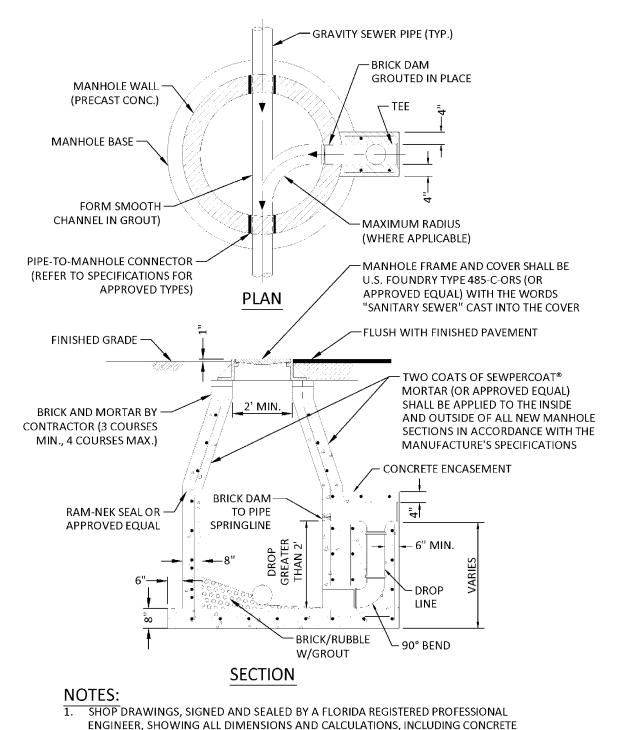
EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET ON THE FORCE MAINS SHALL BE PRESSURE-TESTED IN ACCORDANCE WITH RULE 62-555.330 (FAC). THE PRESSURE TEST SHALL CONSIST OF HOLDING A TEST PRESSURE OF 150 PSI ON THE PIPELINE FOR A CONTINUOUS PERIOD OF 2 HOURS THE MAXIMUM ALLOWABLE LEAKAGE SHALL BE DETERMINED BY THE FOLLOWING FORMULA:

- L = ALLOWABLE LEAKAGE FOR SYSTEM IN GALLONS PER HOUR
- D = PIPE DIAMETER IN INCHES S = LENGTH OF LINES IN LINEAL FEET
- CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTYFYING CONFLICTS WITH FORCE MAINS PLACED AT MINIMUM COVER. IN CASE OF CONFLICT, FORCE MAIN SHALL BE LOWERED TO PASS UNDER CONFLICTS WITH 12" MINIMUM
- SEPARATION FROM WATER MAINS AND 6" MINIMUM SEPARATION FROM OTHER UTILITIES. NO ADDITIONAL PAYMENT SHALL BE DUE TO CONTRACTOR FOR LOWERING THE MAIN OR THE ADDITIONAL FITTINGS USED
- WHENEVER IT IS NECESSARY, IN THE INTEREST OF SAFETY, TO BRACE THE SIDES OF A TRENCH, THE CONTRACTOR SHALL FURNISH, PUT IN PLACE AND MAINTAIN SUCH SHEETING OR BRACING AS MAY BE NECESSARY TO SUPPORT THE SIDES OF THE EXCAVATION TO ENSURE PERSONNEL SAFETY, AND TO PREVENT MOVEMENT WHICH CAN IN ANY WAY DAMAGE THE WORK OR ENDANGER ADJACENT STRUCTURES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SEQUENCE, METHODS AND MEANS OF CONSTRUCTION, AND FOR THE IMPLEMENTATION OF ALL OSHA AND OTHER SAFETY REQUIREMENTS.



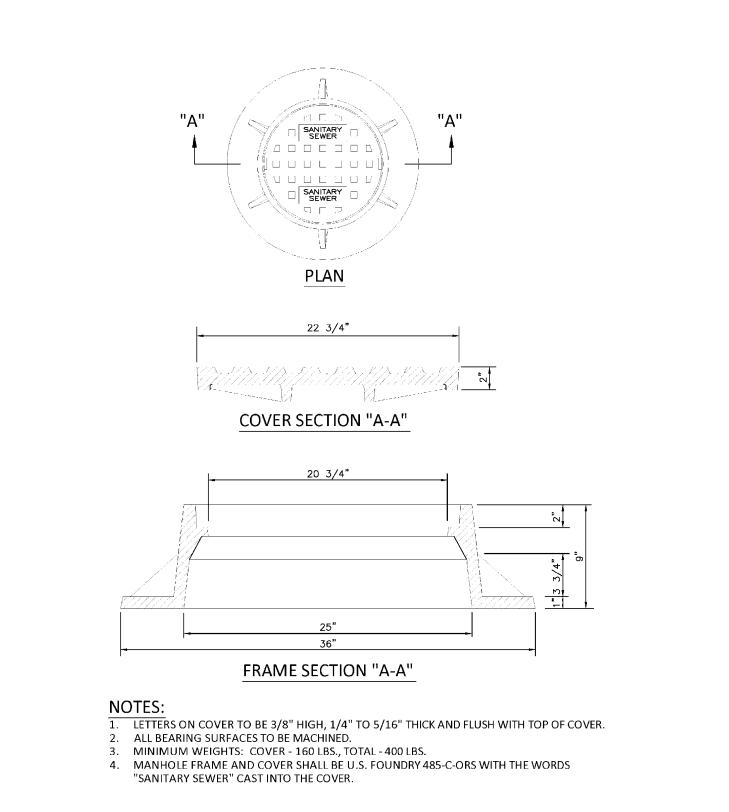
1. SHOP DRAWINGS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER SHOWING ALL DIMENSIONS AND CALCULATIONS, INCLUDING CONCRETE REINFORCEMENT AND BUOYANCY, SHALL BE SUBMITTED TO THE CITY PRIOR TO INSTALLATION. 2. THE BOTTOM SLAB SHALL BE CAST MONOLITHICALLY WITH THE LOWER WALL SECTION.

STANDARD PRECAST MANHOLE N.T.S.



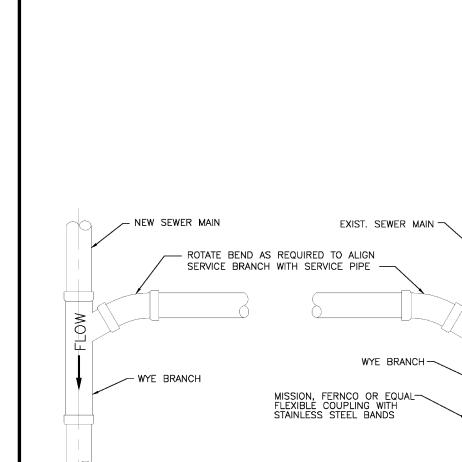
ENGINEER, SHOWING ALL DIMENSIONS AND CALCULATIONS, INCLUDING CONCRETE REINFORCEMENT, SHALL BE SUBMITTED TO THE CITY PRIOR TO INSTALLATION. 2. THE BOTTOM SLAB SHALL BE CAST MONOLITHICALLY WITH THE LOWER WALL SECTION.

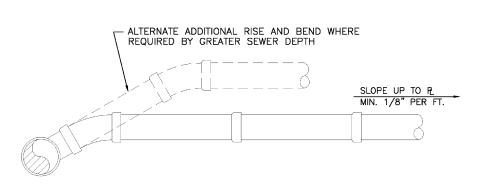
> DROP MANHOLE N.T.S.



MANHOLE FRAME AND COVER

N.T.S.





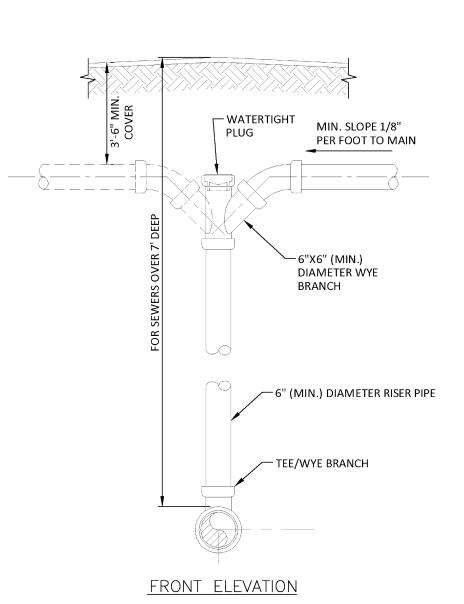
<u>PLAN</u>

ELEVATION

1. SINGLE SERVICE CONNECTIONS SHALL USE 6" PIPE AND FITTINGS. 2. USE RISER CONNECTIONS WHERE INVERT OF SEWER IS GREATER THAN 7'-0" DEEP. 3. WHERE BELL OF WYE AND SPIGOT OF EXISTING MAIN ARE NOT COMPATIBLE, USE A SECOND FLEXIBLE COUPLING.

WYE BRANCH CONNECTION

N.T.S.

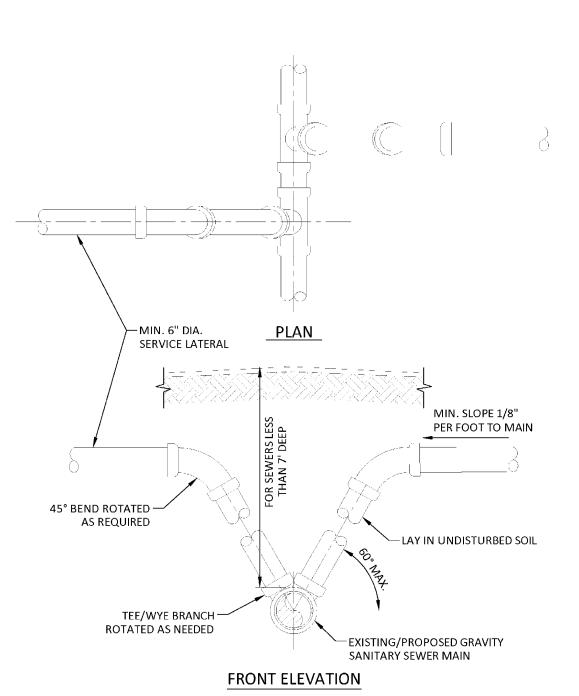


NOTES:

- 1. RISER CONNECTION TO BE USED ONLY WHEN SANITARY SEWER IS MORE THAN 7'-0" DEEP OR WHEN DIRECTED BY THE CITY.
- 2. NO. 57 ROCK OR $\frac{3}{4}$ " DRAINFIELD LIMEROCK MAY BE USED AS BEDDING OVER UNDISTURBED SOIL WITH PVC PIPE.

3. SINGLE SERVICE CONNECTIONS SHALL USE 6" (MIN.) DIAMETER PIPE AND FITTINGS.

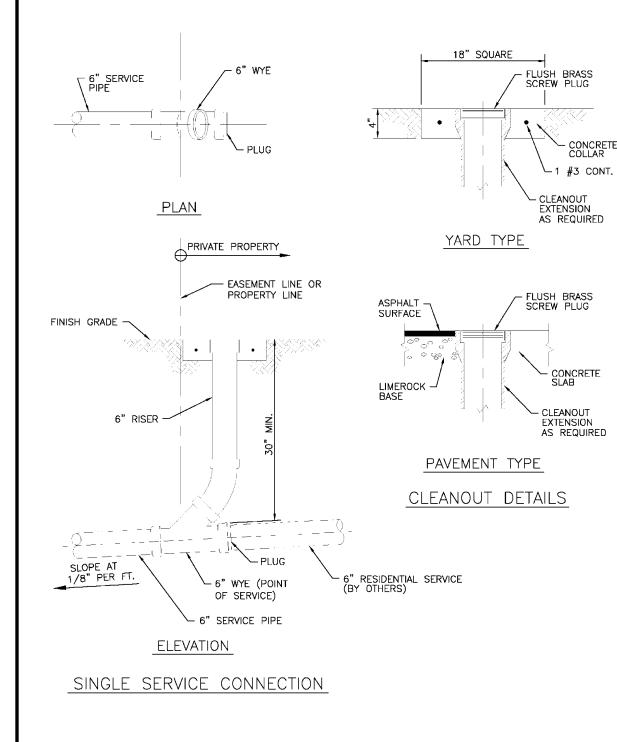
SANITARY SEWER LATERAL VERTICAL CONNECTION



NOTES:

- MODIFIED RISER CONNECTION TO BE USED ONLY WHEN DIRECTED BY THE CITY.
- NO. 57 ROCK OR $\frac{3}{4}$ " DRAINFIELD LIMEROCK MAY BE USED AS BEDDING OVER UNDISTURBED SOIL WITH PVC PIPE. 3. SINGLE SERVICE CONNECTIONS SHALL USE 6" (MIN.) DIAMETER PIPE AND FITTINGS.

SANITARY SEWER LATERAL MODIFIED RISER



SEWER SERVICE CONNECTION AND **CLEANOUT AT PROPERTY LINE** N.T.S.

> ENGINEER'S SEAL NOT VALID WITHOUT ORIGINAL SIGNATURE

SHEET TITLE STANDARD SEWER DETAILS

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REVISIONS

SCALE: N.T.S. DATE: 07/01/1 DRAWN BY: BAM

SHEET No.

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GENERAL:

ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE LOCAL MUNICIPALITY, UTILITY SERVICE PROVIDER, COUNTY DEPARTMENT ENVIRONMENTAL PROTECTION, COUNTY HEALTH DEPARTMENT, LOCAL WATER CONTROL DISTRICT, SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), AND ALL OTHER LOCAL AND NATIONAL CODES WHERE APPLICABLE.

B. CONSTRUCTION SAFETY:

ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER, SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE STRICTLY OBSERVED.

C. TRENCH SAFETY ACT:

- 1. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLIANCE WITH THE STATE OF FLORIDA TRENCH SAFETY ACT.
- 2. WHERE EXCAVATIONS TO A DEPTH IN EXCESS OF FIVE FEET (5') ARE REQUIRED THE CONTRACTOR SHALL
- a. REFERENCE TO THE SAFETY STANDARDS THAT WILL BE IN EFFECT DURING THE PERIOD OF CONSTRUCTION OF THE PROJECT.
- b. WRITTEN ASSURANCES BY THE CONTRACTOR PERFORMING THE TRENCH EXCAVATION THAT SUCH CONTRACTOR WILL COMPLY WITH THE APPLICABLE TRENCH SAFETY STANDARDS.
- c. A SEPARATE ITEM IDENTIFYING THE COST OF COMPLIANCE WITH THE APPLICABLE TRENCH SAFETY
- 3. WHERE A BID IS NOT SUBMITTED, THE CONTRACTOR SHALL SUBMIT THE INFORMATION LISTED IN ITEM 2, TO THE ENGINEER PRIOR TO STARTING WORK.

ALL ELEVATIONS ON THE PLANS OR REFERENCED IN THE SPECIFICATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD).

II. PRECONSTRUCTION RESPONSIBILITY

INCLUDE THE FOLLOWING INFORMATION IN THE BID:

- A. UPON RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION CONFERENCE TO INCLUDE THE LOCAL MUNICIPALITY ENGINEERING DIVISION, THE UTILITY SERVICE PROVIDER, THE OWNER, AND THE ENGINEER OF RECORD, AFTER OBTAINING A CONSTRUCTION PERMIT FROM THE ENGINEERING
- B. THE CONTRACTOR SHALL OBTAIN A "SUNSHINE CERTIFICATION NUMBER" AT LEAST 48 HOURS PRIOR TO
- C. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, ELEVATION, AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE AREA OF CONSTRUCTION.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH HE FAILS TO REQUEST LOCATIONS, SUNSHINE CERTIFICATION NUMBER. HE IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.
- E. IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO BE OF A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER, WHO WILL IN TURN NOTIFY THE LOCAL MUNICIPALITY ENGINEERING DIVISION AND/OR THE UTILITY SERVICE PROVIDER.

III. INSPECTIONS

- A. THE CONTRACTOR SHALL NOTIFY THE LOCAL MUNICIPALITY ENGINEERING DIVISION, THE UTILITY SERVICE PROVIDER, THE LOCAL WATER CONTROL DISTRICT, AND THE ENGINEER OF RECORD AT LEAST 24 HOURS PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS:
- STORM DRAINAGE.
- SANITARY SEWER.
- WATER SYSTEM.
- 4. SUBGRADE; SUBMIT AND HAVE APPROVED DENSITIES PRIOR TO PLACEMENT OF ROCK.
- 5. LIMEROCK BASE; SUBMIT AND HAVE APPROVED DENSITIES AND AS-BUILTS PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ASPHALTIC CONCRETE.

B. ALL INSPECTIONS MADE BY THE LOCAL MUNICIPALITY, THE UTILITY SERVICE PROVIDER, LOCAL WATER CONTROL DISTRICT, AND FDOT, THE ENGINEER OF RECORD WILL PROVIDE CONSTRUCTION OBSERVATION

IV. SHOP DRAWINGS

- A. PRIOR TO ISSUANCE OF A CONSTRUCTION PERMIT, A MATERIAL LIST SHALL BE SUBMITTED TO AND REVIEWED BY THE ENGINEER OF RECORD AND THE UTILITY SERVICE PROVIDER FOR SANITARY MANHOLES, HYDRANTS, VALVES, PIPING, LIFT STATIONS AND OTHER ACCESSORIES. CATALOGUE LITERATURE SHALL BE SUBMITTED FOR WATER AND SEWER PIPES, FITTINGS AND APPURTENANCES.
- B. ANY PRODUCT THAT IS NOT ON THIS LIST MUST BE APPROVED IN ADVANCE BY THE ENGINEER OF RECORD AND THE UTILITY SERVICE PROVIDER. SUCH APPROVAL REQUIRES THE SUBMISSION OF A SHOP DRAWING (SIX COPIES) FOR EACH PRODUCT. SHOP DRAWINGS WILL ALSO BE REQUIRED FOR ALL NON-STANDARD
- C. INDIVIDUAL SHOP DRAWINGS FOR ALL PRECAST STRUCTURES ARE REQUIRED. CATALOGUE LITERATURE WILL NOT BE ACCEPTED FOR PRECAST STRUCTURES.
- V. TEMPORARY FACILITIES
- A. TEMPORARY UTILITIES:
- 1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO HIS EMPLOYEE AND SUBCONTRACTORS FOR THEIR USE
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A WATER METER FROM THE UTILITY SERVICE PROVIDER, PAYING FOR ALL WATER USED FOR CONSTRUCTION AND PREVENTING USE OF UN-METERED WATER. NO WATER SERVICE OR FIRE HYDRANT SHALL BE USED UNTIL ACCEPTED AND APPROVED FOR SERVICE BY THE APPROPRIATE AGENCIES. WATER SERVICES SHALL BE LOCKED UNTIL METERS ARE SET. FIRE HYDRANTS SHALL BE COVERED AND TAGGED 'OUT OF SERVICE' UNTIL THE WATER SYSTEM IS APPROVED AND PRESSURIZED FOR SERVICE.

B. TRAFFIC REGULATION:

- 1. MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MUTCD
- 2. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
- 3. NO TRENCHES OR HOLES NEAR WALKWAYS OR IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESS PERMISSION OF THE LOCAL MUNICIPALITY.
- VI. PROJECT CLOSE OUT
- A. CLEANING UP:
- 1. DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER. UPON FINAL CLEAN UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE SWEPT BROOM CLEAN.
- 2. THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED BY THE ENGINEER OR THE LOCAL MUNICIPALITY, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, EMPLOYEES OR THOSE OF HIS SUBCONTRACTORS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS. TO THIS END, THE CONTRACTOR SHALL DO AS REQUIRED. ALL NECESSARY HIGHWAY OR DRIVEWAY, SIDEWALK AND LANDSCAPING WORK. SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.
- 3. WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR BEEN PLACED IN WATER COURSES GRAVITY SEWER, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.
- 4. WHEN WORKING IN AND AROUND EXISTING DRAINAGE CANALS, APPROPRIATE SILT BARRIERS SHALL BE INSTALLED AS REQUIRED BY LOCAL WATER CONTROL DISTRICT.
- B. PROJECT RECORD DOCUMENTS:
- 1. THE CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPLETE RECORDS OF ALL WORK ITEMS COMPLETED.
- 2. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR SUBGRADE SHALL BE PROVIDED TO AND APPROVED BY THE ENGINEER AND THE LOCAL MUNICIPALITY PRIOR TO THE PLACING THE LIMEROCK BASE MATERIAL.
- 3. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR LIMEROCK SHALL BE PROVIDED TO AND APPROVED BY THE ENGINEER AND THE LOCAL MUNICIPALITY PRIOR TO PLACING ASPHALT.
- 4. PRIOR TO PLACEMENT OF ANY ASPHALT OR CONCRETE PAVEMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER "AS-BUILT" PLANS SHOWING LIMEROCK BASE GRADES AND ALL DRAINAGE, WATER, AND SEWER IMPROVEMENTS. PAVING OPERATIONS SHALL NOT COMMENCE UNTIL THE ENGINEER AND THE LOCAL MUNICIPALITY HAVE REVIEWED AND APPROVED THE "AS-BUILTS"

- 5. ALL "AS-BUILT" INFORMATION SUBMITTED TO THE ENGINEER SHALL BE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE ENGINEER THAT THE INFORMATION PROVIDED IS A TRUE REPRESENTATION OF THE IMPROVEMENTS CONSTRUCTED.
- 6. "AS-BUILT" INFORMATION ON THE WATER SYSTEM SHALL INCLUDE, BUT IS NOT LIMITED TO LOCATIONS OF ALL VALVES, FITTINGS, FIRE HYDRANTS AND WATER SERVICES AND TOP-OF-PIPE ELEVATION ON
- 7. ALL "AS-BUILT" INFORMATION ON ELEVATIONS, STATIONING OFFSETS AND TIES OF THE WATER, SANITARY SEWER, PAVING AND DRAINAGE SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR.
- 8. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD ONE COMPLETE SET OF "AS-BUILT" CONSTRUCTION DRAWINGS. THESE DRAWINGS SHALL BE MARKED TO SHOW "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONED LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE SIGNED BY THE CONTRACTOR.
- 9. PRIOR TO A FINAL INSPECTION BY THE LOCAL MUNICIPALITY, THE ENGINEER SHALL SUBMIT TWO (2) SETS OF BLUEPRINTS OF "AS-BUILT" CONSTRUCTION DRAWINGS.
- 10. THE FOLLOWING SUBMITTALS TO THE LOCAL MUNICIPALITY ARE REQUIRED AFTER THE PROJECT IS COMPLETED AND APPROVED BY THE MUNICIPALITY'S ENGINEER:
- a. TWO (2) COMPLETE "AS-BUILT" SETS OF BLUEPRINTS SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR AND THE ENGINEER.
- b. ONE (1) COMPLETE "AS-BUILT" SET OF MYLAR.
- c. ONE (1) "AS-BUILT" CD IN AUTOCAD.
- VII. WATER DISTRIBUTION AND/OR SEWAGE FORCE MAIN SYSTEM

- 1. THE CONTRACTOR SHALL NOTIFY THE UTILITY SERVICE PROVIDER AND THE ENGINEER OF RECORD NO LATER THAN 24 HOUR PRIOR TO MAKING CONNECTIONS TO EXISTING SYSTEMS. A REPRESENTATIVE FROM THE UTILITY SERVICE PROVIDER AND THE ENGINEER OF RECORD MUST BOTH BE PRESENT.
- 2. SEPARATION OF WATER AND SEWER MAINS:
- a. PARALLEL WATER AND SEWER MAINS SHALL HAVE A MINIMUM 10 FEET HORIZONTAL SEPARATION. WHERE THIS IS NOT POSSIBLE, THE SEWER MAIN SHALL BE IN A SEPARATE TRENCH AND BE AT LEAST 18 INCHES BELOW THE WATER MAIN OR BOTH MAINS SHALL BE DUCTILE IRON WITH A MINIMUM 12' CLEARANCE, PER PRESSURE PIPE SPECIFICATIONS
- b. THE SEWER MAIN SHALL CROSS BELOW ALL WATER MAINS WITH A MINIMUM OF 18 INCHES VERTICAL CLEARANCE. WHERE THE CLEARANCE IS LESS THAN 18 INCHES, THE SEWER MAIN AND THE WATER MAIN SHALL BE DUCTILE IRON PIPE, WITH A MINIMUM 12" CLEARANCE, FOR 20 FEET CENTERED ON THE POINT OF CROSSING. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING
- c. IF A SEWER MAIN MUST CROSS ABOVE A WATER MAIN, REGARDLESS OF VERTICAL CLEARANCE, THE PRECAUTION IN ITEM (b.) ABOVE SHALL BE TAKEN.
- 3. NO CONNECTIONS TO THE EXISTING LINES SHALL BE MADE UNTIL PRESSURE TESTS FOR THE WATER MAINS AND SEWER FORCE MAINS, AND BACTERIOLOGICAL TESTS HAVE BEEN PERFORMED AND THE SYSTEM IS ACCEPTABLE TO THE UTILITY SERVICE PROVIDER AND THE COUNTY HEALTH DEPARTMENT.
- 4. CLEANING OF NEWLY INSTALLED PIPING SYSTEMS SHALL BE ACCOMPLISHED USING PIPE PIGGING METHODS. OPEN FLUSHING SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL OF THE UTILITIES
- DEPARTMENT. ALL WATER WILL BE ACCOUNTED FOR. 5. ALL EFFORTS SHALL BE MADE SO THAT WATER AND FORCE MAINS CROSS ABOVE DRAINAGE LINES WITH
- ADEQUATE COVER AND SEPARATION. IF THIS IS NOT POSSIBLE, IT SHALL BE INDICATED ON THE PLANS.
- 6. A THREE (3) FOOT LATERAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER/SEWER LINES AND OBSTRUCTIONS (I.E., CATCH BASINS, CONCRETE POLES, ETC.), FIVE (5) FEET FROM TREES.
- 7. THE MAXIMUM DEPTH TO THE BOTTOM OF THE PRESSURE MAIN INSTALLED SHALL NOT EXCEED SIX (6) FEET UNLESS APPROVED BY THE UTILITY SERVICE PROVIDER UTILITIES DEPARTMENT.
- 8. ALL WATER DISTRIBUTION AND SEWER COLLECTION RELATED WORK AND INSPECTIONS WILL BE INSPECTED AND APPROVED BY THE UTILITY SERVICE PROVIDER UTILITIES DEPARTMENT.
- 9. WATER MAIN INSTALLATION SHALL MEET THE COLOR CODING REQUIREMENTS OF 62-555.320 (FAC).
- B. MATERIAL

THE WATER MAIN AND/OR SEWAGE FORCE MAIN SHALL BE EITHER POLYVINYL CHLORIDE (PVC) OR

- a. PVC PIPE SHALL BE ASTM 1120 PRESSURE PIPE WITH IRON O.D., CLASS 150 (DR 18), CONFORMING TO ANSI/AWWA C900-97 OR C905-97 AND SHALL HAVE PUSH RUBBER GASKET JOINTS.
- b. DIP SHALL BE CLASS 350 WALL THICKNESS (UP TO 12"), CLASS 300 (14"-18"), CLASS 250 (20" OR GREATER) WITH INTERIOR CEMENT LINING AND EXTERIOR COAL TAR COATING CONFORMING TO ANSI/AWWA C151/A21.51-02, OR LATEST REVISION. SEWAGE PIPE SHALL BE EITHER DOUBLE CEMENT CONFORMING TO ANSI/AWWA C104/A21.4-03 OR LATEST REVISION, OR EPOXY LINED CONFORMING TO ANSI/AWWA C105/A21.5-05 OR LATEST REVISION, OR APPROVED EQUAL. THE PIPE SHALL WITHSTAND A WORKING PRESSURE OF 350 PSI. THE JOINTS SHALL BE BELL AND SPIGOT PUSH ON TYPE, MECHANICAL JOINT OR FLANGED. FLANGED PIPE SHALL CONFORM WITH THE PHYSICAL AND CHEMICAL REQUIREMENTS AS SET FORTH IN THE HANDBOOK OF DUCTILE IRON PIPE OF THE CAST IRON PIPE RESEARCH ASSOCIATION. ALL DIP FORCE MAIN SHALL BE EPOXY LINED.
- 2. FITTINGS:

FITTINGS SHALL BE DUCTILE IRON COMPACT MECHANICAL JOINT AND SHALL BE CLASS 350 THROUGH 24" CONFORMING TO ANSI/AWWA C153/A21.53-00, OR LATEST REVISION, AND CLASS 250 IN SIZES 24" AND LARGER, CONFORMING TO ANSI/AWWA C110/A21.10-03, OR LATEST REVISION, COMPLETE WITH GLANDS. GASKETS, BOLTS AND NUTS. ALL FITTINGS SHALL BE CEMENT LINED AND SEAL COATED WITH THE SAME AS PIPE.

- a. VALVES SHALL BE GATE VALVES FOR WATER (4"-12" SIZE), BUTTERFLY VALVES FOR WATER (16" AND UP SIZE), OR PLUG VALVES FOR FORCE MAIN (ALL SIZES).
- i. GATE VALVES SHALL BE IRON BODY, FULLY RESILIENT SEAT, BRONZE MOUNTED NON-RISING STEM, DOUBLE DISC, RATED AT 200 PSI AND CONFORMING TO ANSI/AWWA C509-01 OR LATEST REVISION. EXPOSED VALVES SHALL BE OUTSIDE.
- ii. BUTTERFLY VALVES AND OPERATORS SHALL CONFORM TO ANSI/AWWA C504-00 STANDARD FOR RUBBER SEATED BUTTERFLY VALVES, OR LATEST REVISIONS. VALVES SHALL BE CLASS 150 A OR B.
- iii. PLUG VALVES SHALL BE SEMI-STEEL BODY, NON-LUBRICATED, ECCENTRIC TYPE, WITH RESILIENT FACED PLUGS, AND CAPABLE OF DRIP-TIGHT SHUT OFF AT THE RATED PRESSURE IF APPLIED AT EITHER PORT. VALVES ARE TO BE EQUIPPED WITH ACTUATING NUTS, CAST IRON HANDWHEELS OR CHAIN OPERATORS, WITH GALVANIZED STEEL CHAINS, AS APPROPRIATE FOR THE INSTALLATION AND TYPE OF OPERATOR.
- b. AIR RELEASE VALVES
- i. SEWER FORCE MAIN AIR RELEASE VALVES SYSTEM SHALL BE A COMBINATION OF ONE SEWAGE AIR RELEASE VALVE AND ONE SEWAGE AIR/VACUUM VALVE WITH DUAL ISOLATION PLUG VALVES. BOTH VALVE BODIES AND COVERS SHALL BE OF CAST IRON CONSTRUCTION, ASTM A126-B. ALL INTERNAL PARTS SHALL BE STAINLESS STEEL, ASTM A-240 TYPE 304 AND ASTM A276 TYPE 303. THE VENTING ORIFICE SHALL BE 5/16" IN DIAMETER WITH STAINLESS STEEL SEAT. THE INLET OPENINGS SHALL BE A MINIMUM OF 2" NPT SCREWED CONNECTION FOR BOTH VALVES. THE VALVES SHALL FULLY CAPABLE OF OPERATION IN SEWAGE FORCE MAIN. BOTH VALVES SHALL INCLUDE A BACK-FLUSHING FEATURE FOR PERIODIC CLEANING OF THE INTERNAL MECHANISM. THE OVERALL HEIGHT SHALL NOT EXCEED 22-1/2 INCHES.
- ii. WATER MAIN AIR RELEASE VALVES VALVE BODY AND COVER SHALL BE OF CAST IRON CONSTRUCTION, ASTM A126-B, ALL INTERNAL WORKING PARTS SHALL BE OF STAINLESS STEEL ASTM A240. TYPE 303 FOR THE FLOAT AND ASTM A296 TYPE 316 FOR THE LINKAGE. THE VENTING ORIFICE SHALL BE 3/16' IN DIAMETER WITH BRASS SEAT. THE INLET OPENING SHALL BE A 2" NPT SCREWED CONNECTION. THE OVERALL HEIGHT SHALL NOT EXCEED 13 INCHES.
- c. A REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT ADJACENT TO ALL VALVE LOCATIONS OUTSIDE THE ROAD PAVEMENT. WATER MARKERS SHALL BE WHITE, SEWER MARKERS SHALL BE GREEN.
- 4. FIRE HYDRANTS:
- a. FIRE HYDRANTS SHALL HAVE A MINIMUM 5 1/4" VALVE OPENING AND SHALL OPEN AGAINST THE PRESSURE AND CLOSE WITH THE FLOW. HYDRANTS SHALL MEET OR EXCEED ANSI/AWWA C502-05, C503-05 OR LATEST REVISION, AND SHALL COMPLY WITH FACTORY MUTUAL RESEARCH CORPORATION AND UNDERWRITERS LABORATORIES UL246 STANDARD.
- b. ALL FIRE HYDRANTS ARE TO BE INSTALLED WITHIN SIX FEET (6') FROM THE OUTSIDE CURB LINE OR EDGE OF THE PAVEMENT.
- c. ALL STREAMER 4-1/2" CONNECTION SHALL FACE THE ROADWAY, AND NOT THE PARKING SPACES.
- d. ALL FIRE HYDRANTS SHALL BE ERECTED SO AS TO HAVE THE CENTER OF THE STEAMER CONNECTION A MINIMUM OF 18" ABOVE THE CROWN OF THE NEAREST ROADWAY, OR 18" ABOVE SURROUNDING
- e. VISIBILITY AND ACCESS TO FIRE HYDRANTS: NO FIRE HYDRANT(S) SHALL BE SUBSTANTIALLY OBSCURED FROM THE ADJACENT ROADWAY OR ACCESS WAY BY PLANTINGS, WALLS, OR OTHER VISUAL SCREENING WITHIN SEVEN AND ONE-HALF FEET (7.5') OF THE REAR AND SIDES, AND NO OBSTRUCTIONS IN FRONT OF THE FIRE HYDRANT(S).

- f. ONE OR MORE BLUE DOUBLE REFLECTIVE D.O.T. TYPE ROAD MARKER ARE TO BE ADHERED TO THE HARD SURFACE ROADWAY IN THE MIDDLE OF THE LANE NEAREST TO AND DIRECTLY IN FRONT OF NEWLY INSTALLED FIRE HYDRANT. (TWO (2) REFLECTORS ON CORNER HYDRANT AND FOR EACH
- g. ALL FIRE HYDRANTS ARE TO BE PAINTED YELLOW. (RUSTOLEUM #944 SAFETY YELLOW OR APPROVED
- h. ALL FIRE HYDRANTS THAT ARE NOT IN SERVICE (NOT ABLE TO FLOW WATER), SHALL BE COVERED WITH A PLASTIC BAG, AND THE BAG IS TO BE SECURED TO THE HYDRANT WITH TAPE.
- i. (LOCATION APPROVAL REQUIRED BY FIRE DEPARTMENT) SIAMESE FIRE DEPARTMENT CONNECTION SHALL BE FREE STANDING WITHIN TWENTY-FIVE FEET (25') OF NEAREST FIRE HYDRANT, WITHIN SIX FEET (6') FROM OUTSIDE CURB OR EDGE OF PAVEMENT. THERE SHALL BE A SPACE, FOUR FEET (4') ON BOTH SIDES OF THE CENTER LINE OF THE SIAMESE THAT MUST BE KEPT OPEN AT ALL TIMES, AND POSTED "NO PARKING, FIRE DEPARTMENT CONNECTION", THIRTY—SIX INCHES HIGH.
- . HYDRANT PERMIT SHALL BE PULLED AT THE FIRE DEPARTMENT. \$25.00 PERMIT FEE PLUS \$25.00
- k. ALL FIRE HYDRANTS ARE TO BE FLOW TESTED BY THE FIRE DEPARTMENT UPON ACCEPTANCE OF SYSTEM BY THE UTILITIES DEPARTMENT. HYDRANTS SHALL BE COMPLETED AND ACCEPTED PRIOR TO THE START OF ANY STRUCTURAL CONSTRUCTION ON SITE.
- 5. DETECTOR TAPE:
- a. DETECTOR TAPE SHALL BE 3" WIDE BLUE TAPE FOR WATER MAIN AND BROWN TAPE FOR FORCE MAIN, WITH A METALLIZED FOIL CORE LAMINATED BETWEEN 2 LAYERS OF PLASTIC FILM. THE WORDS "CAUTION WATER LINE BURIED BELOW" OR "CAUTION FORCE MAIN BURIED BELOW" SHALL BE PRINTED AT 30" INTERVALS ALONG THE TAPE. TAPE SHALL BE PLACED 18" BELOW GRADE ABOVE ALL PVC MAINS AND SERVICES OR AS RECOMMENDED BY MANUFACTURER. NONMETALLIC TAPE SHALL BE
- b. LOCATOR WIRE 14-STRAND COLOR CODED SHALL BE USED IN CONJUNCTION WITH LOCATOR TAPE AND SHALL BE AFFIXED TO PIPE.

6. SERVICE CONNECTIONS:

- a. SERVICE SADDLES SHALL BE DUCTILE IRON EPOXY OR NYLON COATED WITH DOUBLE STAINLESS STEEL STRAPS OR SINGLE WIDE STRAP. SADDLES SHALL CONFORM TO ANSI/AWWA C111/21.11-00 AND ASTM A-588 OR LATEST REVISION.
- b. SERVICE LINES SHALL BE POLYETHYLENE (PE) TUBING AS DESCRIBED IN ANSI/AWWA C901-02 OR LATEST REVISION, WITH A WORKING PRESSURE OF 200 PSI (DR 9). PIPE JOINTS SHALL BE OF THE COMPRESSION TYPE TOTALLY CONFINED GRIP SEAL AND COUPLING NUT. POLYETHYLENE SHALL BE EXTRUDED FROM PE 3408 HIGH MOLECULAR WEIGHT MATERIAL AND MUST CONFORM TO ASTM D-2737. WATER SERVICE 2" AND UNDER SHALL BE PE AND SLEEVED UNDER ROADWAY WITH 4"
- c. CORPORATION STOPS SHALL BE MANUFACTURED OF BRASS ALLOY IN ACCORDANCE ASTM B-62 WITH
- d. METER STOPS SHALL BE THE 90 DEGREE LOCKWING TYPE AND SHALL BE OF BRONZE CONSTRUCTION IN ACCORDANCE WITH ASTM B-62. METER STOPS SHALL BE CLOSED BUTTON DESIGN AND RESILIENT "O" RING SEALED AGAINST EXTERNAL LEAKAGE AT THE TOP. STOPS SHALL BE EQUIPPED WITH A METER COUPLING NUT ON THE OUTLET SIDES.
- e. METER AND METER BOXES 2" OR LESS ARE SUPPLIED BY THE UTILITY SERVICE PROVIDER AT THE OWNER'S EXPENSE
- 7. TAPPING SLEEVES:

TAPPING SLEEVES SHALL BE DUCTILE IRON, ASTM GRADE 65-45-12.

- a. VALVE BOXES FOR WATER MAINS AND SEWER FORCE MAINS SHALL BE ADJUSTABLE SCREW TYPE WITH 5-1/4" SHAFT, 18 TO 24 INCH EXTENSION, CAST IRON ASTM-A48 CLASS 30 MARKED WATER OR
- b. VALVE BOXES FOR BLOW-OFF ASSEMBLY SHALL BE CAST IRON ASTM A-48 CLASS 30 MARKED "W".
- RETAINER GLANDS SHALL CONFORM TO ANSI/AWWA C111/A21.11-00 OR LATEST REVISION. ALL GLANDS SHALL BE MANUFACTURED FROM DUCTILE IRON AS LISTED BY UNDERWRITERS LABORATORIES FOR 250 PSI
- 10. DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY:

FOUR PROPERLY PLACED RESILIENT-SEATED TEST COCKS.

THE ASSEMBLY SHALL CONFORM TO ANSI/AWWA C510-00, OR LATEST REVISION, AND CAPABLE OF WITHSTANDING A WORKING PRESSURE OF AT LEAST 150 PSI WITHOUT DAMAGE TO WORKING PARTS OR IMPAIRMENT OF FUNCTION. IT SHALL CONSIST OF TWO INTERNALLY LOADED, INDEPENDENTLY OPERATING CHECK VALVES, LOCATED BETWEEN TWO TIGHTLY CLOSING RESILIENT-SEATED SHUT OFF VALVES, WITH

- 11. RESTRAINTS:
- RESTRAINTS SHALL BE MEGA-LUG.

MINIMUM WATER PRESSURE RATING.

- C. INSTALLATION:
- GENERAL: CONNECTION OF ALL NEW SYSTEMS TO EXISTING MAINS SHALL BE DONE USING ONE OF THE THREE
- a. METHOD "A" PER COUNTY PUBLIC HEALTH UNIT STANDARDS, WHICH INVOLVES A REDUCED SIZE TEMPORARY CONNECTION BETWEEN THE EXISTING MAIN AND THE NEW MAIN.
- b. METHOD "B" PER COUNTY PUBLIC HEALTH UNIT STANDARDS, WHICH INVOLVES A DIRECT CONNECTION BETWEEN THE NEW AND EXISTING MAINS USING TWO GATE VALVES SEPARATED BY A SLEEVE WITH A

c. METHOD "C" APPROVED BY THE COUNTY PUBLIC HEALTH UNIT, WHICH INVOLVES A TAP WITH ONE

GATE VALVE REQUIRING DISINFECTION OF THE NEW SYSTEM PRIOR TO CONDUCTING THE PRESSURE

BEDDING:

BEDDING AND INITIAL BACKFILL (12 INCHES ABOVE PIPE) FOR ALL PIPES SHALL BE SAND WITH NO ROCK LARGER THAN 1" IN DIAMETER. PEAROCK OR 3/4" WASHED ROCK WILL BE IN WATER OR WHERE UNSUITABLE BEDDING EXISTS AT THE DISCRETION OF THE UTILITY SERVICE PROVIDER. ALL OTHER FILL SHALL NOT HAVE ROCK LARGER THAN 6" IN DIAMETER.

- 3. PVC PIPE:
- a. PVC PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE UNI-BELL PLASTIC PIPE PLASTIC PIPE ASSOCIATION'S GUIDE FOR INSTALLATION OF PVC PRESSURE PIPE FOR MUNICIPAL WATER DISTRIBUTION
- b. PVC PIPE SHALL BE INSTALLED WITH A MINIMUM OF 36" COVER.
- c. DETECTOR TAPE SHALL BE INSTALLED THE FULL LENGTH OF ALL PVC MAINS APPROXIMATELY 18" BELOW GRADE, COLOR SIDE UP.
- 4. DUCTILE IRON PIPE:
- a. DIP SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C600-05 OR LATEST REVISION.
- b. DIP SHALL BE INSTALLED WITH A MINIMUM OF 30" COVER.
- c. IDENTIFICATION TAPE SHALL BE INSTALLED THE FULL LENGTH OF ALL DIP MAINS APPROXIMATELY 18" ABOVE THE MAIN, COLOR SIDE UP.
- a. ALL VALVES SHALL BE INSTALLED WITH ADJUSTABLE CAST IRON VALVE BOXES WITH THE WORD "WATER" OR "SEWER" CAST IN THE COVER.
- b. MAIN VALVES SHALL BE LOCATED ON AN EXTENSION OF THE RIGHT-OF-WAY LINE UNLESS DIMENSIONED OTHERWISE
- c. MAIN VALVES SHALL BE INSTALLED AWAY FROM PARKING AREAS. IF THIS IS UNAVOIDABLE, PROPER MEASURES SHALL BE TAKEN TO AVOID THE PARKING OF VEHICLES OVER THE VALVES. HYDRANT VALVES SHALL BE INSTALLED AS CLOSE TO THE MAIN AS POSSIBLE. VALVES LOCATED IN NON-PAVED AREAS OR IN PARKING STALLS REQUIRE A REFLECTIVE PAVEMENT MARKER ON THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT. WHITE REFLECTORS FOR WATER MAIN VALVES, GREEN REFLECTORS FOR FORCE MAIN VALVES.
- d. THE DISTANCE FROM THE TOP OF THE VALVE ACTUATOR NUT TO FINAL GRADE SHALL BE A MINIMUM OF 12 INCHES AND A MAXIMUM OF 18 INCHES.

a. COVER OVER SERVICE LINES SHALL BE 18 INCHES MINIMUM, 24 INCHES MAXIMUM BELOW FINISHED

GRADE AND 24 INCHES UNDER PAVEMENT. b. POLYETHYLENE SHALL BE BEDDED IN BACKFILL OF SAND WITH NO ROCK GREATER THAN 1 INCH IN

- c. METER STOPS SHALL HAVE 8 INCHES TO 10 INCHES COVER OR AS REQUIRED FOR PROPER METER/BOX INSTALLATION.
- d. WATER SERVICES UNDER PAVEMENT SHALL BE ENCASED IN A SCHEDULE 80 PVC SLEEVE FOR THE FULL LENGTH OF THE PAVEMENT AND FOR 2 FEET BEYOND THE EDGE.
- e. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" x 4" TREATED STAKE, PAINTED BLUE, EXTENDING 18 INCHES (MINIMUM) ABOVE GRADE UNLESS INDICATED OTHERWISE.

- 1. THE PHYSICAL CONNECTION OF THE NEW SYSTEM TO THE EXISTING SYSTEM SHALL BE DONE IN ACCORDANCE WITH SECTION "C.-1". (THIS DOCUMENT) WHICH WILL DICTATE THE ORDER OF THE
- 2. THE COMPLETE WATER SYSTEM SHALL BE PRESSURE TESTED AND DISINFECTED. THE PRESSURE TEST SHALL BE FOR TWO HOURS AT 150 PSI MINIMUM TEST PRESSURE IN ACCORDANCE WITH ANSI/AWWA C600-05 OR LATEST REVISION. THE PRESSURE TEST SHALL NOT VARY MORE THAN 5 PSI DURING THE TEST. TEST MUST BE PERFORMED USING 2 POUND PSI GAUGE; 5 POUND PSI GAUGES WILL NOT BE PERMITTED. LEAKAGE ALLOWANCES WILL NOT BE MADE FOR FITTINGS OR VALVES.
- 3. ALLOWABLE LEAKAGE SHALL NOT EXCEED THE FORMULA OF:
 - $L (GALLONS PER HOUR) = \frac{S D (P)^{0.5}}{148.000}$ L = ALLOWABLE LEAKAGE IN GALS/HR (NO ALLOWABLE LEAKAGE FOR VALVES)
 - S = LENGTH OF PIPE TESTED IN FEET D = NOMINAL DIAMETER OF PIPE P = AVERAGE TEST PRESSURE DURING TEST IN LBS/SQ. IN.
- 4. THE PRESSURE TEST SHALL BE WITNESSED BY A REPRESENTATIVE OF THE UTILITY SERVICE PROVIDER UTILITIES DEPARTMENT AND THE ENGINEER OF RECORD.
- 5. SAMPLING POINTS SHALL BE PROVIDED AT THE LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE COUNTY HEALTH DEPARTMENT. IF NOT SPECIFIED, SAMPLING POINTS SHALL BE PROVIDED AT INTERVALS OF 1200 FEET MAXIMUM FOR LINES GREATER THAN 1200 FEET IN LENGTH. PROVIDE A MINIMUM OF TWO SAMPLING POINTS FOR ALL OTHER TEST SEGMENTS
- 6. BEFORE ACCEPTANCE FOR OPERATION, THE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH ANSI/AWWA C651-05 OR LATEST REVISION WITH APPROVED BACTERIOLOGICAL SAMPLES AND PROPER DOCÚMENTATION BY THE COUNTY HEALTH DEPARTMENT. COLLECTION OF SAMPLES IS THE CONTRACTOR'S RESPONSIBILITY AND WILL BE WITNESSED BY A UTILITY SERVICE PROVIDER UTILITIES DEPARTMENT REPRESENTATIVE.
- VIII. GRAVITY SEWAGE COLLECTION SYSTEM

PRESSURE TESTING AND DISINFECTION.

- A. MATERIALS:
- SEWER PIPE AND FITTINGS:
- a. PVC SEWER PIPE AND FITTINGS SHALL BE NON-PRESSURE POLYVINYL CHLORIDE PIPE CONFORMING TO ASTM D-3034, SDR 35, WITH PUSH-ON RUBBER GASKET JOINTS UNLESS OTHERWISE NOTED.
- b. DUCTILE IRON PIPE (DIP) SHALL BE DOUBLE CEMENT CONFORMING TO ANSI/AWWA C104/A21.4-95, OR LATEST REVISION, OR EPOXY LINED INSIDE CONFORMING TO ANSI/AWWA C105/A21.5-93, OR APPROVED EQUAL AND SHALL HAVE A COAL TAR EPOXY COATING, MANUFACTURED IN ACCORDANCE TO ANSI/AWWA C151/A21.51-96, OR LATEST REVISION, MINIMUM WALL THICKNESS CLASS 350 (UNLESS
- c. ALL FITTINGS AND ACCESSORIES SHALL BE AS MANUFACTURED OR SUPPLIED BY THE PIPE MANUFACTURER.
- a. MANHOLES SHALL BE PRECAST PER ASTM C-478 TYPE II WITH 4000 PSI CONCRETE AND GRADE 40 STEEL. MONOLITHICALLY POURED BASES ONLY.
- b. MANHOLE OPENINGS ARE TO BE SEALED WITH ANTI-HYDRO CEMENT OR APPROVED EQUAL. NO MOLDING PLASTER WILL BE ALLOWED. c. MANHOLE JOINTS SHALL BE SEALED WITH "RAMNEK" GASKETS OR APPROVED EQUAL AND WITH
- ANTI-HYDRO CEMENT ON THE INSIDE AND OUTSIDE. B. INSTALLATION
 - a. SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D-2321, AND THE UNI-BELL PLASTIC
 - PIPE ASSOCIATION'S "RECOMMENDED PRACTICE FOR THE INSTALLATION OF PVC SEWER PIPE"
- b. DIP SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C600-99, OR LATEST REVISION. c. BEDDING AND INITIAL BACKFILL 12 INCHES OVER SEWER MAINS AND SERVICES SHALL BE SAND WITH NO ROCK LARGER THAN 1 INCH IN DIAMETER. PEAROCK OR 3/4" WASHED ROCK WILL BE USED IN WATER OR WHERE UNSUITABLE BEDDING EXISTS AT THE DISCRETION OF THE UTILITY SERVICE
- PROVIDER. ALL OTHER FILL SHALL NOT HAVE ROCK LARGER THAN 6 INCH IN DIAMETER. d. PIPE CONNECTION INTO MANHOLE WALL SHALL BE DUCTILE IRON PIPE, GROUTED IN PLACE, OR
- CAST-IN NEOPRENE RUBBER BOOT, OR EQUAL AS APPROVED BY THE UTILITY SERVICE PROVIDER. e. GRAVITY SEWER MAINS INSTALLED DEEPER THAN TWELVE (12) FEET SHALL BE D.I.P. AND SHALL BE
- INSTALLED IN ACCORDANCE WITH ANSI/AWWA C600-99 OR LATEST REVISION.
- a. MANHOLES SHALL BE SET PLUMB TO LINE AND GRADE ON FIRM CLEAN SUBGRADE PROVIDING
- UNIFORM BEARING UNDER THE BASE.
- b. ALL OPENINGS AND JOINTS SHALL BE SEALED WATER-TIGHT. c. THE MANHOLES REQUIRE INTERIOR MAINSTAY COATING, 1/2-INCH MINIMUM, SPRAY APPLICATION OF MAINSTAY ML-72, MICROSILICA CEMENT MORTAR, OR APPROVED EQUAL, A MINIMUM APPLICATION OF 100 MIL, SPRAY APPLICATION OF MAINSTAY DS-5, ULTRA HIGH BUILD EPOXY COATING, OR APPROVED
- d. MANHOLES SHALL BE INSTALLED AWAY FROM PARKING AREAS ON THE CENTERLINE OF THE ROADWAY. IF THIS IS UNAVOIDABLE, PROPER MEASURES SHALL BE TAKEN TO PROHIBIT THE PARKING OF
- VEHICLES OVER MANHOLES. e. ORANGE REFLECTIVE PAVEMENT MARKERS SHALL BE PROVIDED ON THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT ADJACENT TO ALL MANHOLE LOCATIONS OUTSIDE THE ROAD PAVEMENT.
- f. ALL LIDS SHALL BE PROVIDED WITH A POLYETHYLENE WATER TIGHT MANHOLE INSERT.
- SERVICE: a. MINIMUM SLOPE OF ALL SERVICE LINES SHALL BE AS INDICATED IN THE "FLORIDA BUILDING CODE".
- b. SERVICE LATERALS SHALL TERMINATE AT A DEPTH 30" BELOW FINISHED GRADE. c. EACH SERVICE CONNECTION SHALL BE PLUGGED WATERTIGHT WITH AN APPROVED PLUG.
- d. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" x 4" TREATED STAKE PAINTED RED, EXTENDING 18 INCHES (MINIMUM) ABOVE GRADE.
- e. CONTRACTOR SHALL ROUGH IN RISER TO 1 FOOT ABOVE FINISHED GRADE AND PLUG. AT PROJECT COMPLETION, CUT BACK TO FINISHED GRADE. f. CONNECTION OF SERVICES TO BUILDING'S PLUMBING SHALL BE COORDINATED WITH THE CITY'S
- BUILDING AND ZONING DEPARTMENT, PLUMBING SECTION. g. ALL CLEANOUTS IN ROADWAY MUST BE INSTALLED IN BOXES MARKED SEWER.
- 1. AFTER CONSTRUCTION OF THE SEWER SYSTEM, THE ENTIRE SYSTEM SHALL BE LAMPED. SEWER LAMPING SHALL BE WITNESSED BY THE ENGINEER OF RECORD AND A REPRESENTATIVE FROM THE UTILITY SERVICE PROVIDER.

2. AFTER CONSTRUCTION OF THE SEWER SYSTEM, THE UTILITY SERVICE PROVIDER OR

EXFILTRATION TEST TO BE PERFORMED ON THE ENTIRE SYSTEM OR ANY PART 3. AN AIR TEST MAY BE SUBSTITUTED FOR THE WATER EXFILTRATION TEST, UPON

APPROVAL OF THE UTILITY SERVICE PROVIDER.

THE ENGINEER OF RECORD MAY REQUIRE A VISUAL INFILTRATION AND/OR

4. MANHOLE EXFILTRATION LEAKAGE SHALL NOT EXCEED 4 GALLONS PER DAY PER UNIT. 5. SEWER PIPE EXFILTRATION LEAKAGE SHALL NOT EXCEED 10 GALLONS PER DAY PER

INCH DIAMETER PER MILE IN A TWO HOUR TEST PERIOD FOR ANY SECTION TESTED.

6. VISIBLE MANHOLE AND SEWER PIPE INFILTRATION LEAKAGE SHALL NOT BE PERMITTED. 7. SANITARY SEWER SHALL BE TELEVISED, AT DEVELOPER'S EXPENSE, PRIOR TO FINAL APPROVAL OF CONSTRUCTION. VIDEO TAPE AND REPORT SHALL BE EXAMINED BY

THE LOCAL MUNICIPALITY. OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR IIISSIONAL Y CORRECTING OF ANY DEFICIENCIES PRIOR TO THE ENGINEER OF RECORD'S CERTIFICATION OF COMPLETION TO ANY AGENCY.

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IX. WET WELL MOUNTED WASTEWATER PUMPING STATION

 SCOPE OF WORK FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED AND INSTALL, PLACE IN OPERATION, AND FIELD TEST A TELEMETRY CONTROLLED WET WELL MOUNTED WASTEWATER PUMPING STATION AND A EMERGENCY GENERATOR OR BYPASS PUMP TO PROVIDE EMERGENCY SERVICE TO THE PUMP STATION. THE STATION SHALL BE COMPLETE WITH PUMPS, MOTORS, PIPING, VALVES, TELEMETRY, ELECTRICAL WORK (INCLUDING MOTOR CONTROLS), STRUCTURES OR CONNECTION AND APPURTENANCES, TESTED AND READY FOR SERVICE. THE GÉNERATOR OR PUMP SHALL BE TRAILER MOUNTED, DIESEL POWERED SIZED TO MAINTAIN THE PUMP STATION FLOW. REFER TO PLANS FOR OTHER SITE FEATURES.

2. DESCRIPTION OF SYSTEM:

- a. THE CONTRACTOR SHALL FURNISH AND INSTALL ONE FACTORY BUILT, AUTOMATIC PUMPING STATION THE STATION SHALL BE COMPLETE WITH ALL NEEDED EQUIPMENT, FACTORY-INSTALLED ON A WELDED STEEL BASE WITH FIBERGLASS COVER.
- b. THE PRINCIPAL ITEMS OF EQUIPMENT SHALL INCLUDE TWO VERTICAL, CLOSE-COUPLED, MOTOR DRIVEN, VACUUM PRIMED, NON-CLOG SEWAGE PUMPS: VALVES: INTERNAL PIPING: CENTRAL CONTROL PANEL WITH CIRCUIT BREAKERS: MOTOR STARTERS AND AUTOMATIC PUMPING LÉVEL CONTROLS; HEATER; VENTILATING BLOWER; PRIMING PUMPS AND APPURTENANCES; AND ALL INTERNAL WIRING.
- c. REFER TO PLANS FOR A COMPLETE LIST OF OPERATING CONDITIONS.
- d. THE PUMPING STATION SHALL PUMP RAW, UNSCREENED, DOMESTIC WASTEWATER INTO A FORCE MAIN, WHICH IS PUMPED TO A LOCAL MANHOLE OR TRANSMISSION SYSTEM.
- e. THE REMOTE TELEMETRY UNIT SHALL INCLUDE AN ENCLOSURE WITH POWER SUPPLY, CENTRAL PROCESSING UNIT, ANALOG AND DIGITAL OUTPUTS, RADIO, DIRECTIONAL ANTENNA AND APPURTENANCES
- f. THE CONTRACTOR SHALL FURNISH, AT THE UTILITY SERVICE PROVIDER'S DISCRETION, EITHER AN EMERGENCY GENERATOR OR EMERGENCY BYPASS PUMP. THE GENERATOR SHALL BE SIZED TO MEET THE STARTING AMPERAGE OF BOTH PUMPS SIMULTANEOUSLY. THE BYPASS PUMP SHALL BE MINIMUM SIX (6) INCH SELF-PRIMING PUMP. EITHER SHALL BE DIESEL POWERED, TRAILER MOUNTED WITH NECESSARY TOWING EQUIPMENT INCLUDING, LIGHTS AND HITCH. THE GENERATOR SHALL BE SUPPLIED WITH NECESSARY PLUG AND CABLE FOR SUPPLYING POWER TO THE PUMP STATION CONTROL PANEL. THE BYPASS PUMP SHALL BE SUPPLIED WITH THE NECESSARY HOSES AND CONNECTIONS TO PROVIDE BYPASSING OF THE PUMP STATION.

QUALIFICATIONS:

TO ASSURE UNITY OF RESPONSIBILITY, THE MOTORS AND CONTROL SYSTEM SHALL BE FURNISHED AND COORDINATED BY THE LOCAL PUMP MANUFACTURER REPRESENTATIVE. THE CONTRACTOR AND PUMP MANUFACTURER SHALL ASSUME RESPONSIBILITY FOR THE SATISFACTORY INSTALLATION AND OPERATION OF THE ENTIRE PUMPING SYSTEM INCLUDING PUMPS, MOTORS, CONTROLS, GENERATOR OR BYPASS AS SPECIFIED.

SUBMITTALS:

- a. COPIES OF ALL MATERIALS REQUIRED ESTABLISHING COMPLIANCE WITH SPECIFICATIONS SHOULD BE SUBMITTED IN ACCORDANCE WITH PROVISIONS FOR THE GENERAL CONDITIONS. SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:
- i. SHOP ERECTION DRAWINGS SHOWING ALL-IMPORTANT DETAILS OF CONSTRUCTIONS, DIMENSIONS AND ANCHOR BOLT LOCATIONS.
- ii. DESCRIPTIVE LITERATURE, BULLETINS AND CATALOGS OF THE EQUIPMENT.
- iii. DATA ON THE CHARACTERISTICS AND PERFORMANCE OF EACH STATION PUMP, GENERATOR DATA SHALL INCLUDE A CERTIFIED PERFORMANCE TEST, BASED ON ACTUAL SHOP TESTS OF THE SALE UNITS, WHICH SHOW THAT THEY MEET THE SPECIFIED REQUIREMENTS FOR HEAD, CAPACITY, EFFICIENCY, AND HORSEPOWER. CURVES SHALL BE SUBMITTED ON 8 1/2 INCH BY 11 INCH SHEETS AT AS LARGE A SCALE AS PRACTICAL. CURVES SHALL BE PLOTTED FROM NO FLOW AT SHUT OFF HEAD TO PUMP CAPACITY AT MINIMUM SPECIFIED TOTAL DYNAMIC HEAD. CATALOG SHEETS SHOWING A FAMILY OF CURVES WILL NOT BE ACCEPTABLE.
- iv. COMPLETE MASTER WIRING DIAGRAMS, TELEMETRY OR CONTROL SCHEMATICS, INCLUDING COORDINATION WITH OTHER ELECTRICAL DEVICES OPERATING IN CONJUNCTION WITH THE PUMP CONTROL SYSTEM AND SUITABLE OUTLINE DRAWINGS SHALL BE FURNISHED FOR APPROVAL BEFORE PROCEEDING WITH MANUFACTURER, STANDARD PRE-PRINTED SHEETS OR DRAWINGS SIMPLY MARKED TO INDICATE APPLICABILITY TO THIS CONTRACT WILL NOT BE ACCEPTABLE.
- v. A DRAWING SHOWING THE LAYOUT OF THE PUMP CONTROL PANEL SHALL BE FURNISHED, THE LAYOUT SHALL INDICATE EVERY DEVICE MOUNTED ON THE DOOR WITH COMPLETE IDENTIFICATION.
- vi. THE TOTAL WEIGHT OF THE EQUIPMENT INCLUDING THE WEIGHT OF THE SINGLE LARGEST ITEM.
- vii. A COMPLETE TOTAL BILL OF MATERIALS OF ALL EQUIPMENT
- viii. A LIST OF THE MANUFACTURER'S RECOMMENDED SPARE PARTS TO BE SUPPLIED IN ADDITION TO THOSE SPECIFIED IN PARAGRAPH 6.A. WITH THE MANUFACTURER'S CURRENT PRICE FOR EACH ITEM. INCLUDE GASKETS, SEALS, ETC. ON THE LIST. LIST BEARING BY THE BEARING MANUFACTURER'S NUMBERS ONLY.
- ix. ALL SUBMITTAL DATES REQUIRED BY THE GENERAL CONDITIONS.
- x. COMPLETE MOTOR DATA.
- b. IN THE EVENT THAT IT IS IMPOSSIBLE TO CONFORM TO CERTAIN DETAILS OF THE SPECIFICATIONS DUE TO DIFFERENT MANUFACTURING TECHNIQUES, DESCRIBE COMPLETELY ALL NON-CONFORMING ASPECTS. c. UPON RECEIPT OF APPROVAL OF SUBMITTED MATERIAL, PROVIDE FIVE PRINTS.

5. OPERATING INSTRUCTIONS:

- a. OPERATING AND MAINTENANCE MANUALS SHALL BE FURNISHED WHICH WILL INCLUDE PARTS LISTS OF COMPONENTS AND COMPLETE SERVICE PROCEDURES AND TROUBLE-SHOOTING GUIDE. THE MANUALS SHALL BE PREPARED SPECIFICALLY FOR THE INSTALLATION AND SHALL INCLUDE ALL REQUIRED CUTS, DRAWINGS, EQUIPMENT LISTS, DESCRIPTION, ETC. THAT ARE REQUIRED TO INSTRUCT OPERATING AND MAINTENANCE PERSONNEL UNFAMILIAR WITH SUCH EQUIPMENT.
- b. A FACTORY TRAINED REPRESENTATIVE OF ALL MAJOR COMPONENT MANUFACTURERS, WHO HAS COMPLETE KNOWLEDGE OF PROPER OPERATION AND MAINTENANCE, SHALL BE PROVIDED FOR ONE (1) DAY AT THE STATION, TO INSTRUCT REPRESENTATIVES OF THE MUNICIPALITY AND THE ENGINEER ON PROPER OPERATION AND MAINTENANCE AND TO PERFORM INITIAL START-UP OF THE PUMP STATION. WITH PERMISSION OF THE CITY, THIS WORK MAY BE CONDUCTED IN CONJUNCTION WITH THE INSPECTION OF THE INSTALLATION AND TEST RUN. IF THERE ARE DIFFICULTIES IN OPERATION OF THE EQUIPMENT DUE TO THE MANUFACTURER'S DESIGN OR FABRICATION, ADDITIONAL SERVICE SHALL BE PROVIDED AT NO COST TO THE OWNER.

6. SPARE PARTS:

- a. A COMPLETE REPLACEMENT PUMP SHAFT SEAL ASSEMBLY SHALL BE FURNISHED WITH EACH PUMP STATION. THE SPARE SEAL SHALL BE PACKED IN A SUITABLE CONTAINER AND SHALL INCLUDE COMPLETE INSTALLATION INSTRUCTIONS. IN ADDITION, A SPARE SEAL GASKET SHALL BE PROVIDED.
- b. SPARE PARTS SHALL BE PROPERLY BOUND AND LABELED FOR EACH IDENTIFICATION WITHOUT OPENING THE PACKAGING AND SUITABLY PROTECTED FOR LONG TERM STORAGE.
- a. THE MANUFACTURER OF THE LIFT STATION SHALL GUARANTEE THE STRUCTURE AND ALL EQUIPMENT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF UP TO ONE YEAR FROM DATE OF START-UP, NOT TO EXCEED 18 MONTHS FROM THE DATE OF SHIPMENT.
- b. WARRANTIES AND GUARANTEES BY THE SUPPLIERS OF VARIOUS COMPONENTS IN LIEU OF SINGLE-SOURCE RESPONSIBILITY BY THE STATION MANUFACTURER WILL NOT BE ACCEPTED. THE STATION MANUFACTURER SHALL BE SOLELY RESPONSIBLE FOR THE GUARANTEE OF THE STATION AND ALL ITS COMPONENTS.
- c. THE REPAIR OR REPLACEMENT OF THOSE ITEMS NORMALLY CONSUMED IN SERVICE, SUCH AS SEALS, GREASE, LIGHT BULBS, ETC., SHALL BE CONSIDERED AS PART OF ROUTINE MAINTENANCE AND

B. EXECUTION:

1. INSTALLATION:

- a. INSTALLATION SHALL BE STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS IN THE LOCATIONS SHOWN ON THE DRAWINGS. INSTALLATION SHALL INCLUDE FURNISHING THE REQUIRED OIL AND GREASE FOR THE INITIAL OPERATION. THE GRADES OF OIL AND GREASE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- b. THE CONTRACTOR SHALL SUBMIT A CERTIFICATE FROM THE EQUIPMENT MANUFACTURER STATING THAT THE INSTALLATIONS OF THE EQUIPMENT IS SATISFACTORY, THAT THE EQUIPMENT IS READY FOR OPERATION, AND THAT THE OPERATION PERSONNEL HAVE BEEN SUITABLY INSTRUCTED IN THE OPERATION, LUBRICATION AND CARE OF EACH UNIT.
- c. INSTALLATION OF THE PUMP CHAMBER SHALL BE DONE IN ACCORDANCE WITH THE WRITTEN INSTRUCTIONS PROVIDED BY THE MANUFACTURER.

2. SHOP PAINTING:

- a. BEFORE EXPOSURE TO WEATHER AND PRIOR TO SHOP PAINTING, ALL SURFACES SHALL BE THOROUGHLY CLEANED, DRY AND FREE FROM ALL MILL-SCALE, RUST, GREASE, DIRT AND OTHER
- b. ALL PUMPS AND MOTORS SHALL BE SHOP COATED, WITH MANUFACTURER'S STANDARD COATING.

- c. ALL NAMEPLATES SHALL BE PROPERLY PROTECTED DURING PAINTING.
- d. GEARS. BEARING SURFACES AND OTHER SIMILAR SURFACES OBVIOUSLY NOT TO BE PAINTED SHALL BE GIVEN A HEAVY SHOP COAT OF GREASE OR OTHER SUITABLE RUST-RESISTANT COATING. THIS COATING SHALL BE MAINTAINED AS NECESSARY TO PREVENT CORROSION DURING PERIODS OF STORAGE AND ERECTION AND SHALL BE SATISFACTORY TO THE ENGINEER UP TO THE TIME OF THE FINAL ACCEPTANCE TEST.

3. INSPECTION AND TESTING:

a. GENERAL:

- i. THE ENGINEER SHALL HAVE THE RIGHT TO INSPECT, TEST OR WITNESS A TEST OF ALL MATERIALS OR EQUIPMENT TO BE FURNISHED UNDER THESE SPECIFICATIONS, PRIOR TO THEIR SHIPMENT FROM THE POINT OF MANUFACTURE.
- ii. THE ENGINEER SHALL BE NOTIFIED IN WRITING PRIOR TO INITIAL SHIPMENT IN AMPLE TIME SO THAT ARRANGEMENTS CAN BE MADE FOR INSPECTION BY THE ENGINEER.
- iii. THE ENGINEER OR HIS REPRESENTATIVE SHALL BE FURNISHED ALL FACILITIES, INCLUDING LABOR, AND SHALL BE ALLOWED PROPER TIME INSPECTION AND TESTING OF MATERIAL AND EQUIPMENT.
- iv. MATERIALS AND EQUIPMENT SHALL BE TESTED OR INSPECTED AS REQUIRED BY THE ENGINEER AND THE COST OF SUCH WORK SHALL BE INCLUDED IN THE COST OF THE EQUIPMENT. THE CONTRACTOR SHALL ANTICIPATE THAT DELAYS MAY BE CAUSED BECAUSE OF THE NECESSITY OF INSPECTION, TESTING AND ACCEPTING MATERIALS AND EQUIPMENT BEFORE THEIR USE IS
- v. THE SERVICE OF A FACTORY REPRESENTATIVE SHALL BE FURNISHED FOR ONE (1) DAY, FOR THE STATION. AND SHALL HAVE COMPLETE KNOWLEDGE OF PROPER OPERATION AND MAINTENANCE TO INSPECT THE FINAL INSTALLATION AND SUPERVISE THE TEST RUN OF THE EQUIPMENT.
- vi. FIELD TESTS SHALL NOT BE CONDUCTED UNTIL SUCH TIME THAT THE ENTIRE INSTALLATION IS COMPLETE AND READY FOR TESTING, INCLUDING PERMANENT ELECTRICAL POWER AND TELEMETRY
- vii. ALL COMPONENTS OF THE PUMP STATION SHALL BE GIVEN AN OPERATIONAL TEST AT THE PUMP STATION MANUFACTURER'S FACILITY TO CHECK FOR EXCESSIVE VIBRATION, FOR LEAKS IN THE PUMPING OR SEALS AND CORRECT OPERATION OF THE AUTOMATIC CONTROL AND VACUUM PRIMING SYSTEMS AND ALL AUXILIARY EQUIPMENT. INSTALLED PUMPS SHALL TAKE SUCTION FROM A DEEP WET WELL. SIMULATING ACTUAL SERVICE CONDITIONS. THE CONTROL PANEL SHALL UNDERGO BOTH A DRY LOGIC TEST AND A FULL OPERATIONAL TEST WITH ALL SYSTEMS OPERATING.
- viii. FACTORY TEST INSTRUMENTATION MUST INCLUDE FLOW MEASURING WITH INDICATOR; COMPOUND SUCTION GAUGE; BOURBON TUBE TYPE DISCHARGE PRESSURE GAUGE; ELECTRICAL METERS TO MEASURE AMPERES, VOLTS, KILOWATTS AND POWER FACTOR; SPEED INDICATOR AND VIBROMETER CAPABLE OF MEASURING BOTH AMPLITUDE AND FREQUENCY.
- b. PUMPS:
- i. AFTER ALL PUMPS HAVE BEEN COMPLETELY INSTALLED, WORKING UNDER THE DIRECTION OF THE MANUFACTURER, CONDUCT IN THE PRESENCE OF THE ENGINEER AND THE UTILITY SERVICE PROVIDER REPRESENTATIVE, SUCH TESTS AS ARE NECESSARY TO INDICATE THAT PUMPS CONFORM TO THE SPECIFICATIONS. FIELD TESTS SHALL INCLUDE ALL PUMPS INCLUDED UNDER THIS SECTION. SUPPLY ALL ELECTRICAL POWER, WATER OR WASTEWATER LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO COMPLETE THE FIELD TESTS.
- ii. IF THE PUMP PERFORMANCE DOES NOT MEET THE SPECIFICATIONS, CORRECTIVE MEASURES SHALL BE TAKEN OR PUMPS SHALL BE REMOVED AND REPLACED WITH PUMPS WHICH SATISFY THE CONDITIONS SPECIFIED.
- i. THE CONTRACTOR SHALL CHECK ALL MOTORS FOR CORRECT CLEARANCE AND ALIGNMENT AND FOR CORRECT LUBRICATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. THE CONTRACTOR SHALL CHECK DIRECTION OF ROTATION OF ALL MOTORS AND REVERSE CONNECTIONS IF
- i. THE CONTRACTOR SHALL DEMONSTRATE THAT THE TELEMETRY SYSTEM IS FUNCTIONAL AND HAS COMMUNICATIONS WITH THE BASE UNIT.
- i. THE CONTRACTOR SHALL PROVIDE FOR A LOAD TEST EQUAL TO THE START UP AMPERAGE OF

BOTH PUMPS.

- i. THE CONTRACTOR SHALL DEMONSTRATE THAT THE BYPASS PUMP IS CAPABLE OF MEETING ACTUAL SERVICE CONDITIONS.
- X. EARTHWORK AND COMPACTION

- 1. NONE OF THE EXISTING MATERIAL IS TO BE INCORPORATED IN THE LIMEROCK BASE.
- 2. ALL SUBGRADE UNDER PAVED AREAS SHALL HAVE A MINIMUM LBR VALUE OF 40 AND AND SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- 3. ALL FILL MATERIAL IN AREAS NOT TO BE PAVED SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- 4. A 2" BLANKET OF TOP SOIL SHALL BE PLACED OVER ALL AREAS TO BE SODDED.
- 5. SOD SHALL BE ST. AUGUSTINE, BITTER BLUE OR FLORATAM AND SHALL BE PLACED ON THE GRADED TOP SOIL AND WATERED TO INSURE SATISFACTORY CONDITION UPON FINAL ACCEPTANCE OF THE PROJECT.
- 6. WHEN WORKING IN AND AROUND EXISTING DRAINAGE CANALS OR LAKES, APPROPRIATE SILT BARRIERS SHALL BE INSTALLED.

B. ON-SITE:

- 1. ALL ORGANIC AND OTHER UNSUITABLE MATERIAL WITHIN THREE FEET OF AREAS TO BE PAVED SHALL BE REMOVED.
- 2. SUITABLE BACKFILL SHALL BE MINIMUM LBR 40 MATERIAL COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 FOR THREE (3) FEET BEYOND THE PERIMETER OF THE PAVING.
- XI. STORM DRAINAGE

A. CONTRACTOR MAY UTILIZE ONE OF THE FOLLOWING MATERIALS:

- a. PIPE SHALL BE ALUMINUM, MANUFACTURED IN CONFORMANCE WITH ASTM B209.
- b. PIPE SHALL BE SPIRAL RIB DRAINAGE PIPE WITH 3/4" BY 3/4" RIBS, APPROXIMATELY 7-1/2" ON CENTER. GAUGE THICKNESS SHALL MEET FDOT STANDARD 945-1.
- c. PIPE COUPLING BANDS SHALL BE 12" WIDE STANDARD SPLIT BANDS OF THE SAME ALLOY AS THE PIPE AND MAY BE ONE GAUGE LIGHTER THAN THE PIPE.
- d. POLYURETHANE OR OTHER SEALANT SHALL BE USED WITH COUPLING BANDS ON ALL NON-PERFORATED PIPE.
- 2. REINFORCED CONCRETE PIPE (RCP):

1" DIAMETER.

- a. CONCRETE PIPE FOR STORM SEWERS SHALL CONFORM TO ASTM L70-79, TABLE III, WALL B, OR LATEST REVISION. ALL PIPE SHALL HAVE MODIFIED TONGUE AND GROOVE JOINTS, AND HAVE RUBBER GASKETS, UNLESS OTHERWISE SPECIFIED.
- 3. HIGH DENSITY POLYETHYLENE (HDPE): a. HDPE 12 THROUGH 60 INCH (300 TO 1500 MM) SHALL MEET AASHTO M294, TYPE S OR SP OR
 - ASTM F2306.
- 4. MISCELLANEOUS: a. BEDDING AND INITIAL BACKFILL OVER DRAINAGE PIPES SHALL BE SAND WITH NO ROCK LARGER THAN
- b. BACKFILL MATERIAL UNDER PAVED AREAS SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- c. BACKFILL MATERIAL UNDER AREAS NOT TO BE PAVED SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- d. CATCH BASINS SHALL BE PRECAST MINIMUM 3000 PSI CONCRETE AND GRADE 40 REINFORCED STEEL.
- 5. INSTALLATION:
- a. PIPE SHALL BE PLACED ON STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION OTHER FOREIGN FORMATIONS, AND CONSTRUCTED TO UNIFORM GRADE AND LINE.
- b. BACKFILL MATERIAL SHALL BE WELL GRADED GRANULAR MATERIAL WELL TAMPED IN LAYERS NOT TO EXCEED SIX INCHES (6").
- c. PROVIDE A MINIMUM PROTECTIVE COVER OF 18 INCHES OVER STORM SEWER AND AVOID UNNECESSARY CROSSING BY HEAVY CONSTRUCTION VEHICLES DURING CONSTRUCTION.
- d. THE CONTRACTOR SHALL NOTIFY THE LOCAL WATER CONTROL DISTRICT AT LEAST 24 HOURS PRIOR TO THE START OF THE CONSTRUCTION AND INSPECTION.

XII. STORM DRAINAGE PRE-TREATMENT/EXFILTRATION SYSTEM

A. ANY CONFLICT WITH EXISTING OR PROPOSED UTILITIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER. ANY IMPERMEABLE MATERIAL ENCOUNTERED IN THE EXCAVATION FOR THE DRAIN FIELD SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.

CONTRACTOR SHALL TAKE EXTREME CARE IN BACKFILLING TO AVOID BUNCHING OF THE FABRIC.

- B. THE TRENCH LINER SHALL BE TYPAR SPUN BONDED POLYPROPYLENE FILTER FABRIC AS MANUFACTURED BY THE DUPONT COMPANY, OR APPROVED EQUAL. IT SHALL BE USED ON THE SIDES AND TOP OF DRAIN FIELD DITCH. THE TOP SECTION OF THE MATERIAL SHALL BE LAPPED A MINIMUM OF 24 INCHES AND THE
- C. PERFORATED PIPE WITHIN THE DRAIN FIELD SHALL HAVE 3/8 INCH PERFORATIONS 360° AROUND THE PIPE WITH APPROXIMATELY 120 PERFORATIONS PER FOOT OF PIPE.
- D. PERFORATED PIPE SHALL TERMINATE FIVE FEET (5') FROM THE DRAINAGE STRUCTURE. THE REMAINING FIVE FEET (5') SHALL BE NON-PERFORATED PIPE.
- E. PIPES SHALL TERMINATE TWO FEET (2') FROM THE END OF THE TRENCH OR CONNECT TO ADDITIONAL

XIII. PAVING

- 1. ALL UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO THE CONSTRUCTION OF OF LIMEROCK BASE AND PRIOR TO PLACEMENT OF THE PAVEMENT.
- 2. ALL EXISTING PAVEMENT CUT OR DAMAGED BY CONSTRUCTION SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE
- 3. WHERE PROPOSED PAVEMENT IS TO BE CONNECTED TO EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE SAW CUT.
- 4. ALL STREET CORNER PAVEMENT RADII SHALL BE 25 FEET UNLESS OTHERWISE NOTED ON THE PLANS.
- 5. UPON COMPLETION OF DRAINAGE IMPROVEMENTS AND LIMEROCK BASE CONSTRUCTION (AND BEFORE PLACING ASPHALT PAVEMENT) THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD AND THE LOCAL MUNICIPALITY "AS-BUILT" PLANS FOR THESE IMPROVEMENTS, SHOWING THE LOCATIONS AND THE PERTINENT GRADES OF ALL DRAINAGE INSTALLATIONS AND THE FINISHED ROCK GRADES OF THE ROAD CROWN AND EDGE OF PAVEMENT AT 50 FEET INTERVALS. THESE "AS-BUILTS" SHALL BE APPROVED BY THE MUNICIPALITY PRIOR TO THE PLACEMENT OF ASPHALT.

C. INSTALLATION:

- 1. BASE COURSE SHALL BE CRUSHED LIMEROCK MIAMI OOLITE WITH A MINIMUM OF 70% CARBONATES OF CALCIUM AND MAGNESIUM (60% FOR LOCAL STREETS AND PARKING AREAS) AND A MINIMUM LIMEROCK BEARING RATIO 100.
- 2. PRIME COAT AND TACK COAT SHALL MEET F.D.O.T. STANDARDS.
- 3. SURFACE COURSE SHALL BE EQUAL TO F.D.O.T. TYPE S-3 ASPHALT.
- 4. REINFORCED CONCRETE SLABS SHALL BE CONSTRUCTED OF CLASS I CONCRETE WITH A MINIMUM STRENGTH OF 3,000 PSI AND SHALL BE REINFORCED WITH A 6" x 6" No. 6 GAUGE WIRE MESH.
- 1. LIMEROCK BASE MATERIAL SHALL BE 8 INCHES THICK AND SHALL BE COMPACTED TO 98% OF THE
- MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180. 2. LIMEROCK BASE MATERIAL SHALL BE PLACED IN MAXIMUM 6" LIFTS. BASES GREATER THAN 6" SHALL BE
- PLACED IN TWO OR MORE EQUAL LIFTS. 3. ASPHALTIC CONCRETE SHALL BE A MINIMUM OF 1 1/2" THICK AND SHALL BE PLACED IN TWO 3/4" LIFTS. (NOTE: SECOND LIFT TO BE PLACED AFTER A MINIMUM OF 80% OF THE HOUSES HAVE BEEN
- COMPLETED OR AS DIRECTED BY THE MUNICIPALITY'S ENGINEER.
- 4. PRIME COAT SHALL BE PLACED ON ALL LIMEROCK BASES IN ACCORDANCE WITH F.D.O.T. STANDARDS. 5. TACK COAT SHALL BE PLACED AS REQUIRED IN ACCORDANCE WITH F.D.O.T. STANDARDS.
- ALL SUBGRADE, LIMEROCK AND ASPHALT TESTS REQUIRED SHALL BE TAKEN AT THE DIRECTION OF THE ENGINEER AND/OR THE LOCAL MUNICIPALITY.
- 1. THE FINISHED SURFACE OF THE BASE COURSE AND THAT OF THE WEARING SURFACE SHALL NOT VARY MORE THAN 1/4" FROM THE TEMPLATE. ANY IRREGULARITIES EXCEEDING THIS LIMIT SHALL BE
- 2. DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY, CERTIFIED BY THE STATE OF FLORIDA, AND TAKEN AS DIRECTED BY THE ENGINEER AND THE LOCAL MUNICIPALITY.
- 3. ALL TESTING COSTS (PAVING) SHALL BE PAID FOR BY THE OWNER EXCEPT THOSE TESTS FAILING TO MEEL THE SPECIFIED REQUIREMENTS, WHICH ARE TO BE PAID BY THE CONTRACTOR

XIV. SIGNING AND MARKING

- A. ALL PAVEMENT MARKINGS SHALL BE HOT APPLIED THERMOPLASTIC MANUFACTURED AND APPLIED IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATION'S SECTION 711 AND BROWARD COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS WHERE APPLICABLE
- B. ALL SIGNS SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE MANUAL ON UNIFORM
- TRAFFIC CONTROL DEVICES AND BROWARD COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS. C. REFLECTIVE PAVEMENT MARKERS SHALL BE CLASS B MARKERS MANUFACTURED IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS 706 AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES.

XV. ABANDONMENT/GROUTING OF EXISTING PIPING

A. GENERAL:

PIPING DESIGNATED TO BE "ABANDONED/GROUTED" IN PLACE SHALL BE PRESSURE GROUTED WITH A LIME/CEMENT/SAND SLURRY AND SEALED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL MUNICIPALITY AND/OR UTILITY SERVICE PROVIDER AND THE PROVISIONS SPECIFIED HEREIN AND, WHERE NECESSARY DUE TO CONFLICT WITH PROPOSED INSTALLATIONS OR REMOVAL OF UNSUITABLE MATERIAL, SECTIONS OF PIPE SHALL BE CUT OUT AS REQUIRED, REMOVED AND PROPERLY DISPOSED OF.

- B. HAZARDOUS MATERIALS:
- PIPING TO BE ABANDONED AND STABILIZED OR CUT AND REMOVED IS OF ASBESTOS-CEMENT MATERIAL COMPOSITION AND SHALL BE HANDLED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS OF THE AGENCIES HAVING JURISDICTION.
- 1. PROVIDE THE SERVICES OF A PROPERLY QUALIFIED, EXPERIENCED AND, WHERE MANDATORY, FLORIDA LICENSED ASBESTOS REMOVAL CONTRACTOR TO PERFORM THE REQUIRED WORK. PROVIDE FOR THE SAFETY AND PROPER PROTECTION OF PERSONS AGAINST EXPOSURE TO HAZARDOUS MATERIALS INVOLVED
- 2. DETERMINE AND COMPLY WITH APPLICABLE REGULATIONS, LAWS AND ORDINANCES CONCERNING REMOVAL CONTAINMENT, HANDLING, AND DISPOSAL OF HAZARDOUS MATERIAL. DISPOSAL METHOD FOR THIS PIPING SHALL BE TO CUT PIPE, DISLOCATE IT AND LEGALLY DISPOSE OF THE PIPING OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE STANDARDS.

- 1. SUBMIT DATA ON PROPOSED METHODS AND EQUIPMENT FOR LIME SLURRY INJECTION PROCESS.
- 2. SUBMIT MANUFACTURER'S CERTIFICATE INDICATING MATERIALS COMPLIANCE WITH SPECIFICATIONS.
- 3. SUBMIT CERTIFICATION OF APPLICATOR'S TRAINING AND EXPERIENCE (2 YEARS MINIMUM) USING PRESSURE GROUTING PROCESS

D. LIME SLURRY:

MATERIALS:

OF 50-150 PSI.

- a. HYDRATED LIME: ASTM C 141.
- b. PORTLAND CEMENT: ASTM C 150, TYPE 1
- c. WATER: POTABLE QUALITY.
- d. SURFACTANT: BIODEGRADABLE, NONIONIC DETERGENT (USAGE TO BE CONTRACTOR OPTION) e. SAND: CLEAN SAND WITH 100% PASSING THE 3/8" SIEVE AND NOT MORE THAN 10% PASSING THE
- 200 MESH.
- a. PROPORTION LIME SLURRY AT RATE OF 2.5 TO 3.0 POUNDS OF HYDRATED LIME PER GALLON OF WATER; CONTINUOUSLY AGITATE.
- b. SPECIFIC GRAVITY RANGE 1.14 TO 1.16 AT 60 F.
- c. ADD CEMENT TO LIME SLURRY AT THE RATE OF 2.0 POUNDS PER GALLON OF WATER. d. ADD SURFACTANT TO MIX NOT TO EXCEED THE RATE OF ONE UNDILUTED GALLON PER 3,000 GALLONS
- e. FLOWABLE FILL MATERIAL SHALL BE PROPORTIONED TO PRODUCE A 28-DAY COMPRESSIVE STRENGTH

- E. EQUIPMENT:
- 1. SLURRY TANK: MECHANICAL AGITATOR EQUIPPED TANK OF APPROPRIATE CAPACITY.
- 2. PRESSURE GAUGES: CALIBRATED TO INDICATE POUNDS PER SQUARE INCH IN APPROPRIATE RANGE AND
- 3. HOSES: RATED TO SPECIFIED PRESSURES.
- 4. PIPE TAP: INJECTION PORT SHALL CONSIST OF A 1-INCH TAPPING SADDLE DRILLED AND TAPPED TO RECEIVE A THREADED GALVANIZED PIPE NIPPLE TO RECEIVE THE PRESSURE HOSE FITTINGS.
- 5. INJECTION EQUIPMENT SHALL BE A SELF-CONTAINED MOBILE UNIT SPECIFIC TO THE WORK TO BE
- 6. INJECTION PORTS SHALL BE INSTALLED AT REGULAR INTERVALS ALONG THE PIPELINE, CORRESPONDING TO THE MAXIMUM CAPABILITY OF THE PUMPING EQUIPMENT IN SERVICE.
- 1. VERIFY THAT PIPELINE INJECTION PORTS ARE IN PLACE TO VENT AIR AND WATER PRIOR TO STARTING
- THE INJECTION PROCEDURES.
- 2. CORRECT ANY DEFECTS THAT WOULD PREVENT PROPER INJECTION OF THE SLURRY. 3. PERFORM GROUTING OF PIPELINE IN SEGMENTS FROM CLOSED VALVE TO CLOSED VALVE.
- 4. CONTINUOUSLY AGITATE SLURRY DURING INJECTION PROCESS; MAINTAIN SAME SPECIFIC GRAVITY AT THE
- 6. INJECT EACH SECTION UNTIL SLURRY IS EJECTED FROM THE FOLLOWING PORT.

5. RECORD INJECTION PRESSURES FOR EACH SECTION OF PIPELINE.

TO VALVE IS COMPLETED. 8. AS EACH SECTION OF PIPELINE IS GROUTED, EXCAVATED ACCESS HOLES SHALL BE BACKFILLED.

7. PLUG OR CAP THE INJECTION PORT USED AND REPEAT THE PROCESS UNTIL THE PIPELINE FROM VALVE

THE CONTRACTOR SHALL CONFORM TO THE MOST CURRENT AND MOST STRINGENT STANDARDS AND SPECIFICATION REQUIREMENTS FOR THE BROWARD COUNTY DEPARTMENT OF PLANNING AND ENVIRONMENTAL

PROTECTION AND THE LOCAL MUNICIPALITY, PERTAINING TO ALL UTILITY PIPE SEPARATIONS AND CLEARANCES.

<u>BROWARD COUNTY DEPARTMENT OF PLANNING AND ENVIRONMENTAL PROTECTION</u>

1. NOTES ON WATER SEWER SEPARATION:

THE LOWER PIPE WHENEVER POSSIBLE.

SHALL BE USED AS DETERMINED BY DESIGN.

- A. SANITARY SEWERS AND FORCE MAINS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS AND FORCE MAINS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF
- WHERE SANITARY SEWERS OR FORCE MAINS MUST CROSS A WATER MAIN WITH LESS THAN 18 INCHES OF VERTICAL DISTANCE, BOTH THE SEWER AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (D.I.P.) AT THE CROSSING. SUFFICIENT LENGTHS OF D.I.P. MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEFT BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM
- ALL CROSSING SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUAL DISTANCE FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING). WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 18 INCHES VERTICAL

VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.

- B. A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN 10-FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON
- MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 18 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF D.I.P. AND THE SANITARY SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF D.I.P. WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).

C. ALL D.I.P. SHALL BE CLASS 50 OR HIGHER. ADEQUATE PROTECTIVE MEASURE AGAINST CORROSION

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SHEET TITLE

GENERAL NOTES AND SPECIFICATIONS

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CLEARANCE, THE NEW PIPE SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE. ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER

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GENERAL NOTES:

- THE INFORMATION PROVIDED IN THESE DRAWINGS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF THE WORK. THE CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH BIDS WILL BE BASED.
- 2. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO APPLICABLE STANDARDS AND SPECIFICATIONS OF THE CITY OF HOLLYWOOD DEPARTMENT OF PUBLIC UTILITIES, ENGINEERING AND CONSTRUCTION SERVICES DIVISION (ECSD), AND ALL OTHER LOCAL, STATE AND NATIONAL CODES, WHERE APPLICABLE.
- LOCATIONS, ELEVATIONS, SIZES, MATERIALS, ALIGNMENTS, AND DIMENSIONS OF EXISTING FACILITIES, UTILITIES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS; AND DO NOT PURPORT TO BE ABSOLUTELY CORRECT. ALSO, THERE MAY HAVE BEEN OTHER IMPROVEMENTS, UTILITIES, ETC., WITHIN THE PROJECT AREA WHICH WERE CONSTRUCTED AFTER THE PREPARATION OF THESE PLANS AND/OR THE ORIGINAL SITE SURVEY. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND OTHER FEATURES AFFECTING HIS/HER WORK PRIOR TO CONSTRUCTION, AND NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICT BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ANY FACILITIES SHOWN OR NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL WORK AS NEEDED TO AVOID CONFLICT WITH EXISTING UTILITIES (NO ADDITIONAL COST SHALL BE PAID FOR THIS WORK). EXISTING UTILITIES SHALL BE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE RESPECTIVE UTILITY OWNER.
- 4. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES TO ARRANGE FOR THE RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC. AS NECESSARY TO COMPLETE THE WORK
- 5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ANY AND ALL EXISTING UTILITIES ON THIS PROJECT, AND TO ENSURE THAT EXISTING UTILITIES ARE MAINTAINED IN SERVICE DURING CONSTRUCTION UNLESS APPROVED OTHERWISE BY THE UTILITY OWNER.
- CONTRACTOR SHALL ADJUST ALL EXISTING UTILITY CASTINGS INCLUDING VALVE BOXES, MANHOLES, HAND-HOLES, PULL-BOXES, STORMWATER INLETS, AND SIMILAR STRUCTURES IN CONSTRUCTION AREA TO BE OVERLAID WITH ASPHALT PAVEMENT.
- 7. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL APPLICABLE CONSTRUCTION AND ENVIRONMENTAL PERMITS PRIOR TO THE START OF CONSTRUCTION.
- 8. THE CONTRACTOR SHALL NOTIFY ECSD AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION
- 9. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND INSTALLATION OF THE PROPOSED IMPROVEMENTS, SHOP DRAWINGS SHALL BE SUBMITTED TO ECSD IN ACCORDANCE WITH THE CONTRACT DOCUMENT'S REQUIREMENTS, FOR APPROVAL. IN ADDITION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY OTHER AGENCY SHOP DRAWING APPROVAL, IF REQUIRED.
- 10. THE CONTRACTOR SHALL NOTIFY ECSD IMMEDIATELY FOR ANY CONFLICT ARISING DURING CONSTRUCTION OF ANY IMPROVEMENTS SHOWN ON THESE DRAWINGS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
- 12. CITY OF HOLLYWOOD SHALL NOT PROVIDE STAGING / STORAGE AREA. CONTRACTOR SHALL SECURE STAGING / STORAGE AREA AS NECESSARY FOR CONSTRUCTION WORK.
- 13. CONTRACTOR SHALL HAUL AWAY EXCESSIVE STOCKPILE OF SOIL FOR DISPOSAL EVERY DAY. NO STOCKPILE SOIL IS ALLOWED TO BE LEFT ON THE CONSTRUCTION SITE OVER NIGHT
- 14. CONTRACTOR SHALL CLEAN / SWEEP THE ROAD AT LEAST ONCE DAY OR AS REQUIRED BY THE ENGINEER.
- 15. CONTRACTOR SHALL PROTECT CATCH BASINS WITHIN / ADJACENT TO THE CONSTRUCTION SITE WITH ULTRA-DRAIN GUARDS. CONTRACTOR SHALL MAINTAIN AND REMOVE DIRT TRAPPED IN THE ULTRA-DRAIN GUARDS AFTER EACH RAIN EVENT.
- 16. THE CITY OF HOLLYWOOD HAS A NOISE ORDINANCE (CHAPTER 100) WHICH PROHIBITS EXCAVATION AND CONSTRUCTION BEFORE 8:00 A.M. AND AFTER 6:00 P.M., MONDAY THROUGH SATURDAY AND ALL DAY SUNDAY.
- 17. SUITABLE EXCAVATED MATERIAL SHALL BE USED IN FILL AREAS. NO SEPARATE PAY ITEM FOR THIS WORK. INCLUDE COST IN OTHER ITEMS.
- 18. ALL ROAD CROSSINGS ARE OPEN CUT AS PER THE REQUIREMENTS OF THE ECSD UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 19. THE CONTRACTOR SHALL REPLACE ALL PAVING, STABILIZING EARTH, DRIVEWAYS, PARKING LOTS, SIDEWALKS, ETC. TO SATISFY THE INSTALLATION OF THE PROPOSED IMPROVEMENTS WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY ECSD FIELD ENGINEER.
- 20. THE CONTRACTOR SHALL NOT ENCROACH INTO PRIVATE PROPERTY WITH PERSONNEL, MATERIAL OR EQUIPMENT. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ACCESS AT ALL TIMES TO PRIVATE HOMES/BUSINESSES.
- 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE, REMOVAL OR MODIFICATION, CAUSED TO ANY IRRIGATION SYSTEM (PRIVATE OR PUBLIC) ACCIDENTALLY OR PURPOSELY. THE CONTRACTOR SHALL REPLACE ANY DAMAGED, REMOVED OR MODIFIED IRRIGATION PIPES, SPRINKLER HEADS OR OTHER PERTINENT APPURTENANCES TO MATCH OR EXCEED EXISTING CONDITIONS AT NO ADDITIONAL COST TO THE CITY.
- 22. MAIL BOXES, FENCES OR OTHER PRIVATE PROPERTY DAMAGED DURING THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE REPLACED TO MATCH OR EXCEED EXISTING CONDITION.
- 23. CONTRACTOR SHALL PROVIDE MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH FDOT STANDARDS AND CITY OF HOLLYWOOD DEPARTMENT OF PUBLIC UTILITIES STANDARDS.
- 24. NO TREES ARE TO BE REMOVED OR RELOCATED WITHOUT PRIOR APPROVAL FROM THE ECSD FIELD ENGINEER.
- 25. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE NECESSARY TREE REMOVAL OR RELOCATION PERMITS FROM THE CITY OF HOLLYWOOD BUILDING DEPARTMENT FOR TREES LOCATED IN THE PUBLIC RIGHT OF WAY.
- 26. IT IS THE INTENT OF THESE PLANS TO BE IN ACCORDANCE WITH APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. ANY DISCREPANCIES BETWEEN THESE PLANS AND APPLICABLE REGULATORY STANDARDS / REQUIREMENTS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF ECSD.

- 27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF AND MAKING THE REPAIRS TO EXISTING PAVEMENT, SIDEWALKS, PIPES, CONDUITS, CURBS, CABLES, ETC., WHETHER OR NOT SHOWN ON THE PLANS DAMAGED AS A RESULT OF THE CONTRACTORS OPERATIONS AND/OR THOSE OF HIS SUBCONTRACTORS, AND SHALL RESTORE THEM PROMPTLY AT NO ADDITIONAL EXPENSE TO THE OWNER. CONTRACTOR SHALL REPORT ANY DAMAGE TO SIDEWALK, DRIVEWAY, ETC., PRIOR TO BEGINNING WORK IN ANY AREA.
- 28. WHERE NEW PAVEMENT MEETS EXISTING, CONNECTION SHALL BE MADE IN A NEAT STRAIGHT LINE AND FLUSH WITH EXISTING PAVEMENT TO MATCH EXISTING CONDITIONS.
- 29. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR LEAVE EXCAVATED TRENCHES, OR PARTS OF, EXPOSED OR OPENED AT THE END OF THE WORKING DAY, WEEKENDS, HOLIDAYS OR OTHER TIMES, WHEN THE CONTRACTOR IS NOT WORKING, UNLESS OTHERWISE DIRECTED. ALL TRENCHES SHALL BE COVERED, FIRMLY SECURED AND MARKED ACCORDINGLY FOR PEDESTRIAN / VEHICULAR TRAFFIC.
- 30. ALL EXCAVATED MATERIAL REMOVED FROM THIS PROJECT SHALL BE DISPOSED OF OFF THE PROPERTY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- 31. ALL CAST IRON PRODUCTS SHALL BE HEAVY DUTY CLASSIFICATION SUITABLE FOR HIGHWAY TRAFFIC LOADS, OR 20,000 LB.
- 32. ALL GRASSED AREAS AFFECTED BY CONSTRUCTION SHALL BE RE-SODDED.
- 33. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION, INSTALLATION AND MAINTENANCE OF ALL TRAFFIC CONTROL AND SAFETY DEVICES, IN ACCORDANCE WITH SPECIFICATIONS OF THE LATEST REVISION OF FDOT DESIGN STANDARDS. IN ADDITION, THE CONTRACTOR IS RESPONSIBLE FOR THE RESETTING OF ALL TRAFFIC CONTROL AND INFORMATION SIGNAGE REMOVED DURING THE CONSTRUCTION PERIOD.
- 34. EXCAVATED OR OTHER MATERIAL STORED ADJACENT TO OR PARTIALLY UPON A ROADWAY PAVEMENT SHALL BE ADEQUATELY MARKED FOR TRAFFIC SAFETY AT ALL TIMES.
- 35. TEMPORARY PATCH MATERIAL MUST BE ON THE JOB SITE WHENEVER PAVEMENT IS CUT, OR THE CITY'S INSPECTOR WILL SHUT THE JOB DOWN.
- 36. CONTRACTOR MUST PROVIDE FLASHER ARROW SIGNAL FOR ANY LANE THAT IS CLOSED OR DIVERTED.
- 37. CONTRACTOR SHALL NOTIFY LAW ENFORCEMENT AND FIRE PROTECTION SERVICES TWENTY-FOUR (24) HOURS IN ADVANCE OF TRAFFIC DETOUR IN ACCORDANCE WITH SECTION 336.07 OF FLORIDA STATUTES.
- 38. CONTRACTOR TO RESTORE PAVEMENT TO ORIGINAL CONDITION AS REQUIRED.
- 39. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DEWATERING PER SPECIFICATION SECTION 02/40
- 40. THE CONTRACTOR SHALL GIVE AT LEAST 48 HOURS NOTICE TO UTILITY COMPANIES TO PROVIDE FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION. CONTACT UTILITIES NOTIFICATION CENTER AT 811 OR 1-800-432-4770 (SUNSHINE ONE-CALL OF FLORIDA).



- 41. WHEN PVC PIPE IS USED. A METALLIZED MARKER TAPE SHALL BE INSTALLED CONTINUOUSLY 18" ABOVE THE PIPE. THE MARKER TAPE SHOULD BE IMPRINTED WITH A WARNING THAT THERE IS BURIED PIPE BELOW. THE TAPE SHALL BE MAGNA TEC. AS MANUFACTURED BY THOR ENTERPRISES INC. OR APPROVED EQUAL.
- 42. ALL CONNECTIONS TO EXISTING MAINS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. WATER CONNECTIONS SHALL BE METERED, AND THE COST OF WATER AND TEMPORARY METER SHALL BE BORNE BY THE CONTRACTOR.
- 43. A COMPLETE AS-BUILT SURVEY SHALL BE ACCURATELY RECORDED OF THE UTILITY SYSTEM DURING CONSTRUCTION. AS-BUILT SURVEY SHALL BE SUBMITTED TO ECSD SIGNED AND SEALED BY A FLORIDA REGISTERED SURVEYOR PRIOR TO FINAL INSPECTION AND ACCEPTANCE OF PROJECT. THE COST OF SIGNED AND SEALED AS-BUILTS SHALL BE COVERED IN OVERALL BID. THE AS-BUILT SURVEY SHALL INCLUDE:
 - a. PLAN VIEW SHOWING THE HORIZONTAL LOCATIONS OF EACH MANHOLE, INLET, VALVE, FITTING, BEND AND HORIZONTAL PIPE DEFLECTIONS WITH COORDINATES AND IN REFERENCE TO A SURVEY BASELINE OR RIGHT-OF-WAY CENTERLINE.
 - THE PLAN VIEW SHALL ALSO SHOW SPOT ELEVATIONS OF THE TOP OF THE MAIN (WATER MAIN AND FORCE MAIN) OR PIPE INVERTS (GRAVITY MAINS) AT INTERVALS NOT TO EXCEED 100 FEET AS MEASURED ALONG MAIN. THE PLAN VIEW SHALL ALSO INCLUDE SPOT ELEVATIONS AT EACH MANHOLE, INLET, VALVE, FITTING, BEND AND VERTICAL PIPE DEFLECTION.
 - c. THE PLAN VIEW SHALL ALSO SHOW THE HORIZONTAL SEPARATION FROM UNDERGROUND UTILITIES IMMEDIATELY ADJACENT OR PARALLEL TO THE NEW MAIN.
 - PROFILE VIEW WITH SPOT ELEVATIONS OF THE TOP OF THE MAIN (WATER MAIN AND FORCE MAIN) OR PIPE INVERT (GRAVITY MAIN) AND OF THE FINISHED GRADE OR MANHOLE RIM DIRECTLY ABOVE THE MAIN AT INTERVALS NOT TO EXCEED 100 FEET AS MEASURED ALONG THE MAIN. THE PROFILE VIEW SHALL ALSO INCLUDE SPOT ELEVATIONS AT EACH MANHOLE, INLET, VALVE, FITTING, BEND AND VERTICAL PIPE DEFLECTION.
 - e. THE PROFILE VIEW SHALL SHOW ALL UNDERGROUND UTILITIES CROSSING THE NEW MAIN AND THE VERTICAL SEPARATION PROVIDED BETWEEN THAT UNDERGROUND UTILITY AND THE NEW MAIN.

WATER SYSTEM NOTES:

- 1. NEW OR RELOCATED UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT THAT WILL CROSS ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OTHER PIPELINE OR AT LEAST 12 INCHES BELOW THE OTHER PIPELINE.
- NEW OR RELOCATED UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT THAT WILL CROSS ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OTHER PIPELINE. [FAC 62-555.314(2); EXCEPTIONS ALLOWED
- UNDER FAC 62-555.314(5)]. 3. AT ALL UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE WILL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE, OR THE PIPES WILL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. [FAC 62-555.314(2); EXCEPTIONS ALLOWED UNDER FAC 62-555.314(5)].
- 4. NEW UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT TO BE DUCTILE IRON PIPE (D.I.P.) WHEN CROSSING BELOW SANITARY SEWER MAINS.
- POLYETHYLENE ENCASEMENT MATERIAL SHALL BE USED TO ENCASE ALL BURIED DUCTILE IRON PIPE, FITTINGS, VALVES, RODS, AND APPURTENANCES IN ACCORDANCE WITH AWWA C105, METHOD A. THE POLYETHYLENE TUBING SHALL BE CUT TWO FEET LONGER THAN THE PIPE SECTION AND SHALL OVERLAP THE ENDS OF THE PIPE BY ONE FOOT. THE POLYETHYLENE TUBING SHALL BE GATHERED AND LAPPED TO PROVIDE A SNUG FIT AND SHALL BE SECURED AT QUARTER POINTS WITH POLYETHYLENE TAPE. EACH END OF THE POLYETHYLENE TUBING SHALL BE SECURED WITH A WRAP OF POLYETHYLENE TAPE.
- 6. THE POLYETHYLENE TUBING SHALL PREVENT CONTACT BETWEEN THE PIPE AND BEDDING MATERIAL, BUT IS NOT INTENDED TO BE A COMPLETELY AIRTIGHT AND WATERTIGHT ENCLOSURE. DAMAGED POLYETHYLENE TUBING SHALL BE REPAIRED IN A WORKMANLIKE MANNER USING POLYETHYLENE TAPE, OR THE DAMAGED SECTION SHALL BE REPLACED. POLY WRAP WILL NOT BE PAID FOR AS A SEPARATE BID ITEM. IT SHALL BE CONSIDERED TO BE A PART OF THE PRICE BID FOR WATER MAINS.
- 7. FIRE HYDRANT BARRELS SHALL BE ENCASED IN POLY WRAP UP TO THE GROUND SURFACE AND THE WEEF HOLES SHALL NOT BE COVERED BY THE POLY WRAP.
- GATE VALVES FOR USE WITH PIPE LESS THAN THREE INCHES (3") IN DIAMETER SHALL BE RATED FOR TWO HUNDRED (200) PSI WORKING PRESSURE, NON-SHOCK, BLOCK PATTERN, SCREWED BONNET, NON-RISING STEM. BRASS BODY, AND SOLID WEDGE, THEY SHALL BE STANDARD THREADED FOR PVC PIPE AND HAVE A MALLEABLE IRON HANDWHEEL. GATE VALVES 3" THROUGH 16" IN DIAMETER SHALL BE RESILIENT SEAT AND BIDIRECTIONAL FLOW ONLY. VALVES FOR SPECIAL APPLICATIONS WILL REQUIRE CITY UTILITY APPROVAL.
- 9. VALVE BOXES AND COVERS FOR ALL SIZE VALVES SHALL BE OF CAST IRON CONSTRUCTION AND ADJUSTABLE SCREW-ON TYPE. THE LID SHALL HAVE CAST IN THE METAL THE WORD "WATER" FOR THE WATER LINES. ALL VALVE BOXES SHALL BE SIX INCH (6") NOMINAL DIAMETER AND SHALL BE SUITABLE FOR DEPTHS OF THE PARTICULAR VALVE. THE STEM OF THE BURIED VALVE SHALL BE WITHIN TWENTY-FOUR INCHES (24") OF THE FINISHED GRADE UNLESS OTHERWISE APPROVED BY THE CITY.
- 10. ALL WATER MAIN INSTALLATIONS SHALL COMPLY WITH THE COLOR CODING REQUIREMENTS OF CHAPTER
- 11. ALL WATER MAIN INSTALLATIONS SHALL COMPLY WITH THE COLOR CODING REQUIREMENTS OF CHAPTER 62-555.320 F.A.C.
- 12. ALL PVC PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA C900 LATEST REVISION AND CLASS DR 18. ALL DIP WATER MAINS SHALL BE DUCTILE IRON PRESSURE CLASS 350, WITH WALL THICKNESS COMPLYING WITH CLASS 52. ALL DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENTS OF

ANSI/AWWA C151/A21.51-02 AND BE CEMENT LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-03

- 13. FITTINGS SHALL BE DUCTILE IRON, MEETING ANSI/AWWA C153/A21.53-00 SPECIFICATIONS, WITH 350 PSI MINIMUM WORKING PRESSURE. FITTINGS MUST BE CEMENT LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-03. ALL DUCTILE IRON PIPE AND FITTINGS MUST BE MANUFACTURED IN THE UNITED STATES OF AMERICA
- 14. ALL DUCTILE IRON PIPE TO BE MECHANICAL JOINTS, WRAPPED IN POLY. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY DESIGN.
- PAVEMENT RESTORATION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY. 16. ALL TRENCHING, PIPE LAYING, BACKFILL, PRESSURE TESTING, AND DISINFECTING MUST COMPLY WITH THE CITY OF HOLLYWOOD SPECIFICATIONS
- 17. THE MINIMUM DEPTH OF COVER OVER WATER MAINS IS 30" (DIP) OR 36" (PVC).
- MINIMUM HORIZONTAL SEPARATION BETWEEN STORM STRUCTURES AND WATER MAINS SHALL BE 3'. 19. MAXIMUM DEFLECTION PER EACH JOINT SHALL BE 50% OF MANUFACTURES RECOMMENDATION
- (MAXIMUM) WHERE DEFLECTION IS REQUIRED.
- 20. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING CONFLICTS WITH WATER MAINS PLACED AT MINIMUM COVER. IN CASE OF CONFLICT, WATER MAIN SHALL BE LOWERED TO PASS UNDER CONFLICTS WITH 18" MINIMUM VERTICAL SEPARATION. NO ADDITIONAL PAYMENT SHALL BE DUE TO CONTRACTOR FOR LOWERING THE MAIN OR THE ADDITIONAL FITTINGS USED THEREON.
- 21. PIPE JOINT RESTRAINT SHALL BE PROVIDED BY THE USE OF DUCTILE IRON FOLLOWER GLANDS MANUFACTURED TO ASTM A 536-80. TWIST-OFF NUTS SHALL BE USED TO ENSURE PROPER ACTUATING OF THE RESTRAINING DEVICES. THE MECHANICAL JOINT RESTRAINING DEVICES SHALL HAVE A WORKING PRESSURE OF 250 PSI MINIMUM, WITH A MINIMUM SAFETY FACTOR OF 2:1, AND SHALL BE EBAA IRON INC., MEGALUG OR APPROVED EQUAL. JOINT RESTRAINTS SHALL BE PROVIDED AT A MINIMUM OF THREE JOINTS (60 FEET) FROM ANY FITTING.
- 22. WHENEVER IT IS NECESSARY, IN THE INTEREST OF SAFETY, TO BRACE THE SIDES OF A TRENCH, THE CONTRACTOR SHALL FURNISH, PUT IN PLACE AND MAINTAIN SUCH SHEETING OR BRACING AS MAY BE NECESSARY TO SUPPORT THE SIDES OF THE EXCAVATION TO ENSURE PERSONNEL SAFETY, AND TO PREVENT MOVEMENT WHICH CAN IN ANY WAY DAMAGE THE WORK OR ENDANGER ADJACENT STRUCTURES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SEQUENCE, METHODS AND MEANS OF CONSTRUCTION, AND FOR THE IMPLEMENTATION OF ALL OSHA AND OTHER SAFETY REQUIREMENTS.

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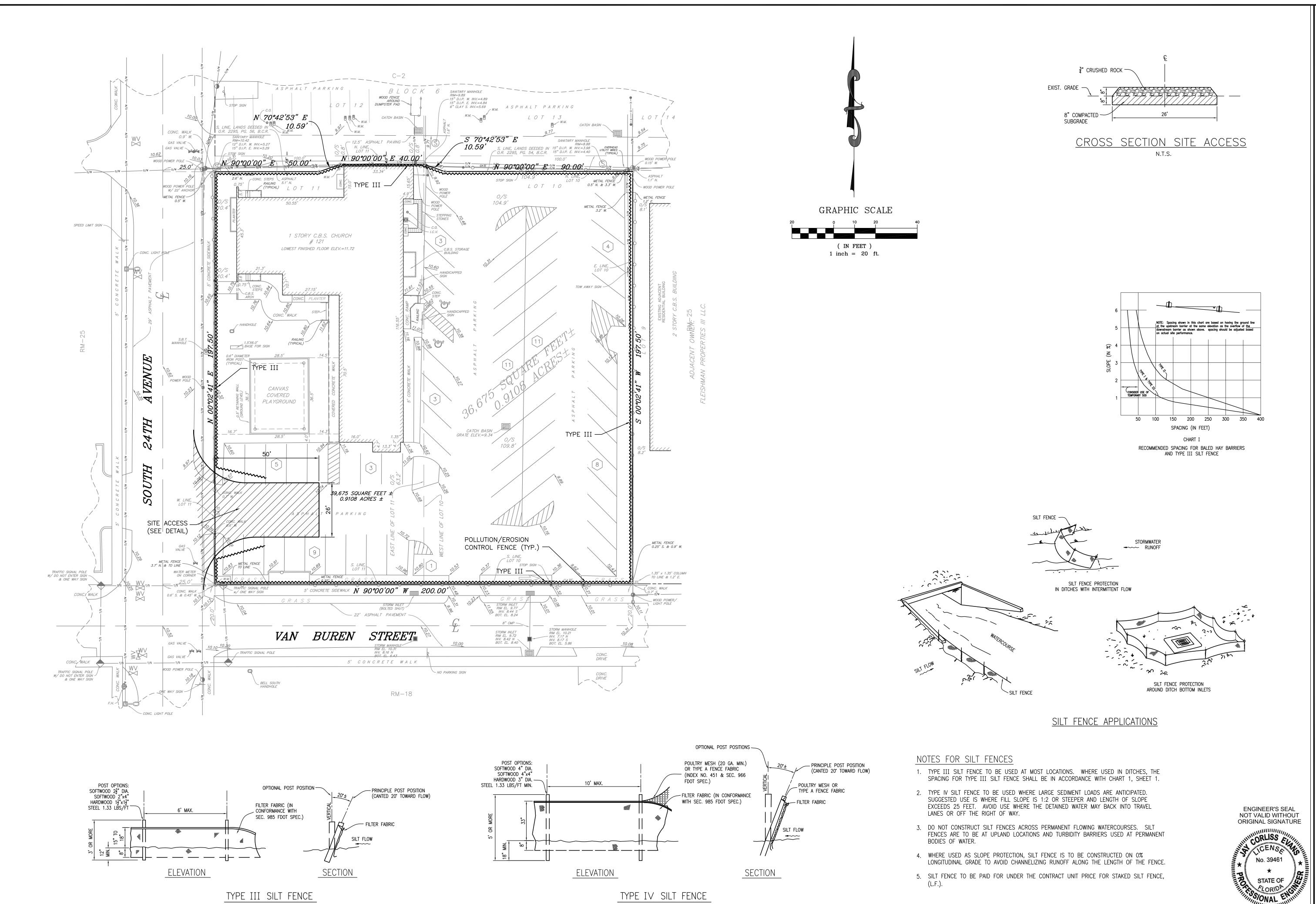
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CITY OF HOLLYWOOD GENERAL NOTES

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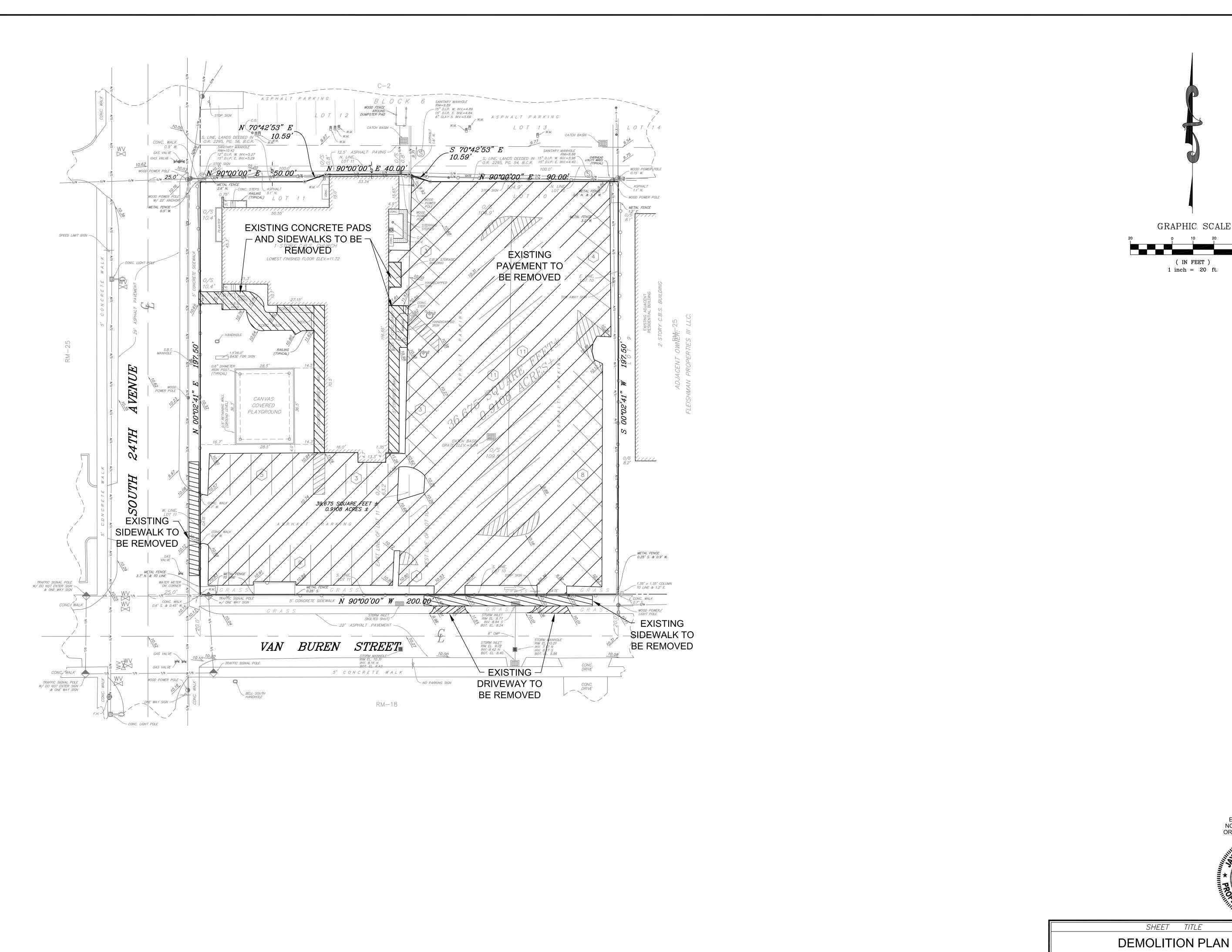
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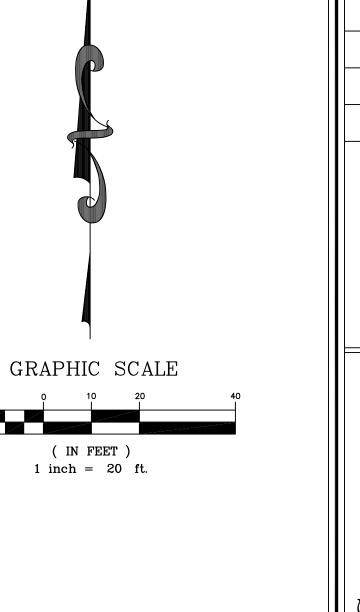
EROSION CONTROL PLAN

SHEET TITLE

POLLUTION/EROSION CONTROL DETAIL

SEE F.D.O.T. INDEX 102 SHEETS 1 & 3 OF 3





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