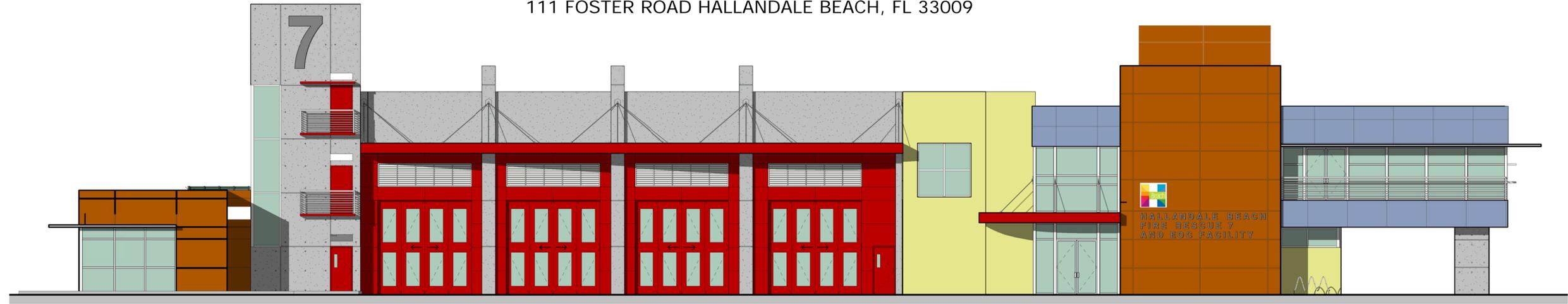


Revision Schedule		
Number	Date	Description

HALLANDALE BEACH FIRE STATION 7 & EOC FACILITY

111 FOSTER ROAD HALLANDALE BEACH, FL 33009



ARCHITECT

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FAX: 561-243-8184

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FAX: 561 921-0340

M.E.P. ENGINEER:

THOMPSON AND YOUNGROSS ENGINEERING CONSULTANTS

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FAX: 561 274-0222

CIVIL ENGINEER:

KEITH AND ASSOCIATES, INC.

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POMPANO BEACH, FLORIDA 33060
TEL: 954 788-3400
FAX: 954 788-3500

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POMPANO BEACH, FLORIDA 33060
TEL: 954 788-3400
FAX: 954 788-3500

SHEET

SHEET NAME

COVER SHEET

A1.01	SITE PLAN
A1.02	SITE DETAILS
A1.03	SOLAR STUDY
A2.01	FIRST FLOOR PLAN
A2.02	SECOND FLOOR
A2.03	ROOF PLAN
A3.01	ELEVATIONS
A3.02	ELEVATIONS
A7.01	SECTIONS
1 OF 1	SKETCH OF BOUNDARY AND TOPOGRAPHIC SURVEY
GI-001	LEGENDS AND NOTES
GI-002	CONSTRUCTION NOTES
CP-101	PRELIMINARY PAVING, GRADING, DRAINAGE PLAN
CU-101	PRELIMINARY WATER AND SEWER PLAN
CG-101	STORM WATER POLLUTION PREVENTION PLAN
DD-101	CONSTRUCTION DETAILS
DD-102	CONSTRUCTION DETAILS
CU-201	WATER & SEWER DETAILS
CU-202	WATER & SEWER DETAILS
CU-203	WATER & SEWER DETAILS
CU-204	WATER & SEWER DETAILS
TD-1	SITE PLAN TREE SURVEY- TREE DISPOSITION PLAN
L-1	LANDSCAPE PLANTING PLAN
LD-1	LANDSCAPE DETAILS
LN-1	LANDSCAPE NOTES
ES-0.1	ELECTRICAL DETAILS
ES-1.1	ELECTRICAL SITE PLAN PHOTOMETRICS



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ISSUED FOR :
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PROJECT TITLE
HALLANDALE BEACH FIRE STATION 7 & EOC FACILITY

111 FOSTER ROAD
 HALLANDALE BEACH, FL
 33009

NUM.	DESCRIPTION	DATE
1	DRC COMMENTS	11/14/14

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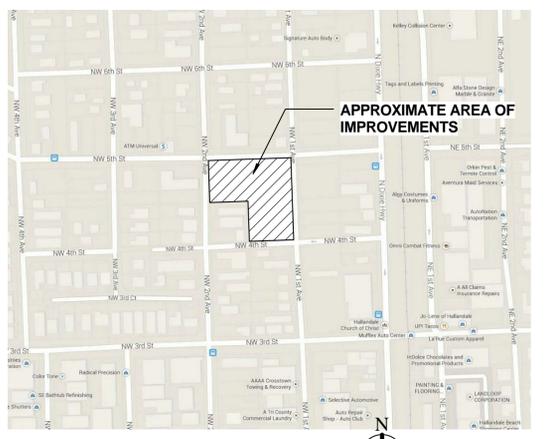
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 25-14-0003 HALLANDALE
 FIRE DRAWINGS VOID 2014-10-27
 (DRC) 14-0003-CENTRAL-114

DRAWING TITLE
SITE PLAN

DATE
 10/13/2014
 DRAWN BY
 IRG
 JOB NUMBER
 140403
 DRAWING NUMBER

A1.01

REVIEWING AUTHORITY



VICINITY MAP

GENERAL PROJECT DATA:

PROJECT LOCATION: 111 FOSTER ROAD
 HALLANDALE BEACH, FLORIDA

PROJECT SUMMARY: CONSTRUCTION OF NEW 2 STORY FIRE STATION AND EMERGENCY OPERATIONS FACILITY

LEGAL DESCRIPTION: SEE ATTACHED SURVEY

APPLICABLE BUILDING CODES

FLORIDA BUILDING CODE	2010	NFPA 101 LIFE SAFETY CODE, FL EDITION	2009
FLORIDA MECHANICAL CODE	2010		
NATIONAL ELECTRICAL CODE, FL EDITION	2008	NFPA 1 FIRE CODE, FL EDITION	2009
FLORIDA PLUMBING CODE	2010	FLORIDA ACCESSIBILITY CODE	2012
FLORIDA EXISTING BUILDING CODE	2010	LOCAL AMENDMENTS:	--

BUILDING INFORMATION

OCCUPANCY CLASSIFICATIONS: MIXED USE- A-3,B, S-2, R-2 (MOST RESTRICTIVE)

BUSINESS AREA	5,875 SF	
R-2 AREA	4,802 SF	
APPARATUS BAY	6,119 SF	
STORAGE AREA	4,243 SF	
TYPE OF CONSTRUCTION:	VB (SPRINKLERED)	
R2- MOST RESTRICTIVE	CODE MAX.	PROPOSED
BUILDING HEIGHT:	60 FEET	43 FEET
BUILDING AREA:	26,250 S.F./FL	FIRST FLOOR: 16,267 SF SECOND FLOOR: 8,910 SF TOTAL BUILDING AREA: 25,177 SF
NUMBER OF STORIES:	3	2

SITE DATA

ZONING CLASSIFICATIONS: CF - COMMUNITY FACILITIES

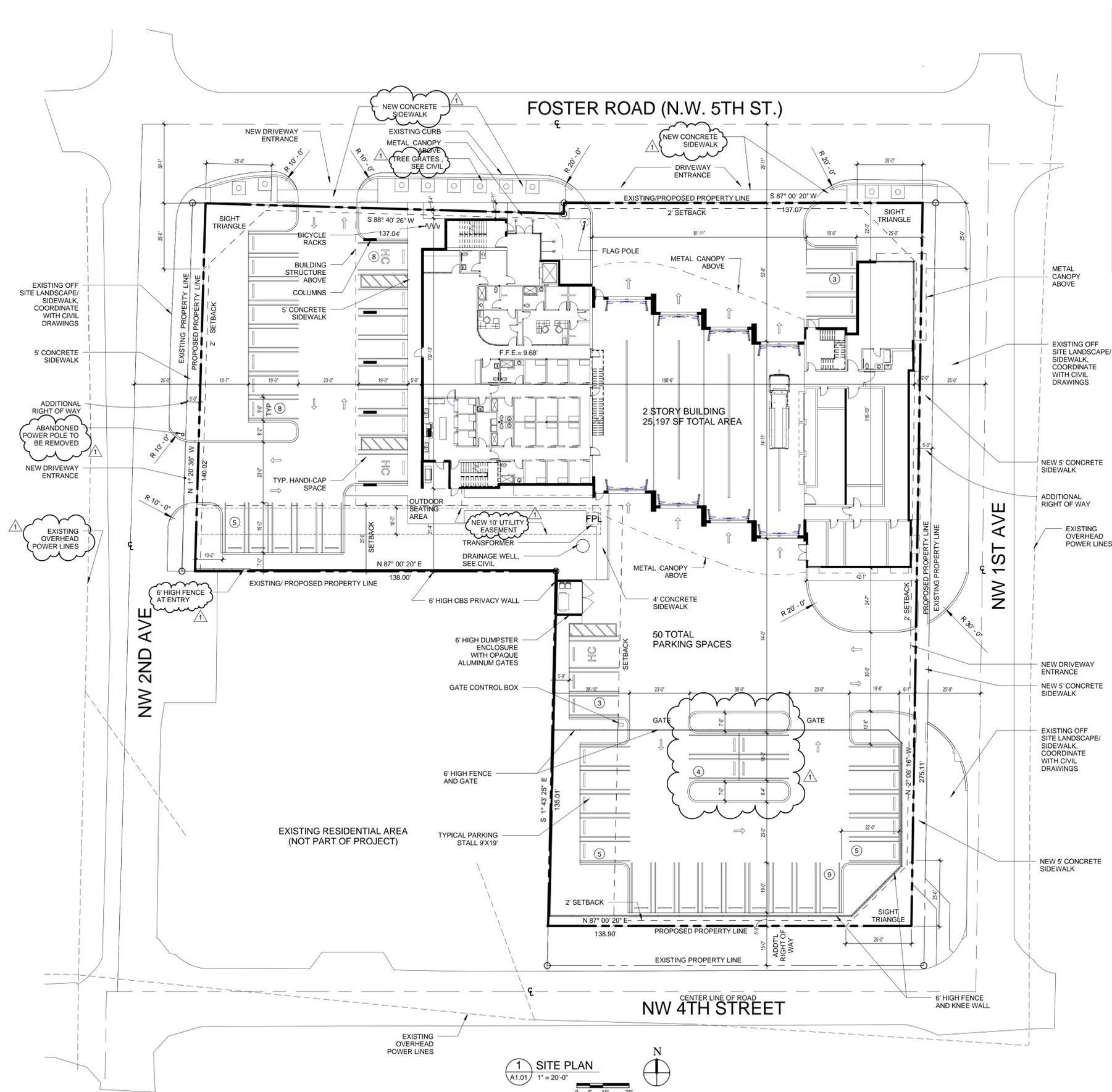
SETBACKS- COMMUNITY FACILITIES		
	REQUIRED	PROVIDED
FRONT YARD (FOSTER ROAD)	30 FEET 1ST STORY PLUS 5 FEET EACH STORY AFTER	SEE WAIVER REQ'D
REAR	20 FEET 1ST STORY PLUS 5 FEET EACH STORY AFTER	VARIES SEE PLAN
SIDE (CORNER)	25 FEET 1ST STORY PLUS 5 FEET EACH STORY AFTER	SEE WAIVER REQ'D
ADJACENT RESIDENTIAL	25 FEET 1ST STORY PLUS 5 FEET EACH STORY AFTER	25 FEET
BUILDING S.F.		25,197 SF

SITE AREA INFORMATION

	TOTAL AREA	IMPERVIOUS	PERVIOUS
STRUCTURAL COVERAGE	18,355 SF (33%)		
VEHICULAR USE AREA	25,483 SF (44%)		
TOTAL (STRUCTURAL + VEHICULAR)	43,852 SF		
LANDSCAPED AREA:	13,094 SF (23%)	13,094 SF	SEE WAIVER REQ'D
SITE AREA TOTAL	56,932 SF		

PARKING PROVIDED

THE AMOUNT OF PARKING SPACES IS BASED ON THE OCCUPANCY OF THE BUILDING PER SHIFT. THE FIRE STATION HAS 2 SHIFTS OF 18 PERSONNEL PER DAY (36 SPACES) AND THE EOC FACILITY ADMINISTRATIVE HAS 12 PERSONNEL FOR ONE 8 HOUR SHIFT (12 SPACES). AN ADDITIONAL 2 SPACES ARE FOR VISITORS. IN TOTAL 50 PARKING SPACES ARE PROVIDED FOR THE BUILDING.

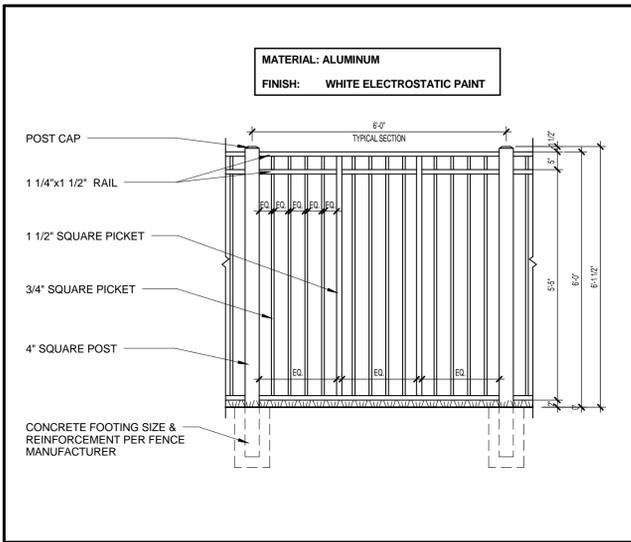


1 SITE PLAN
 A1.01 1" = 20'-0"
 0 5 10 20

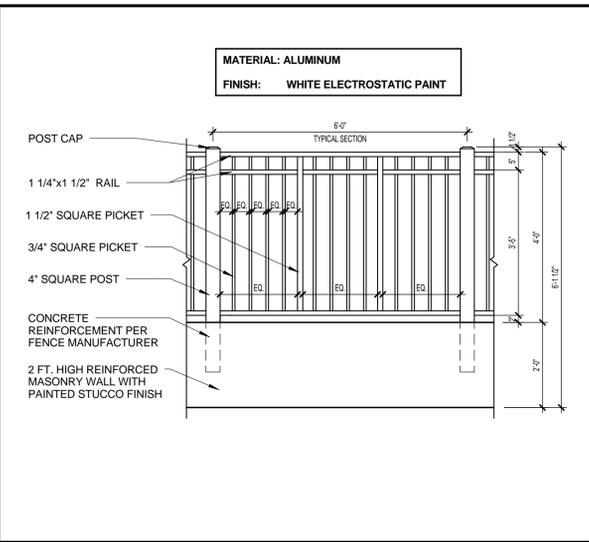
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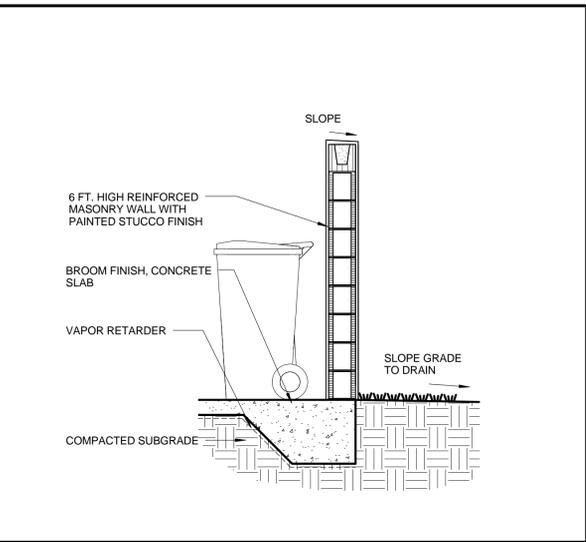
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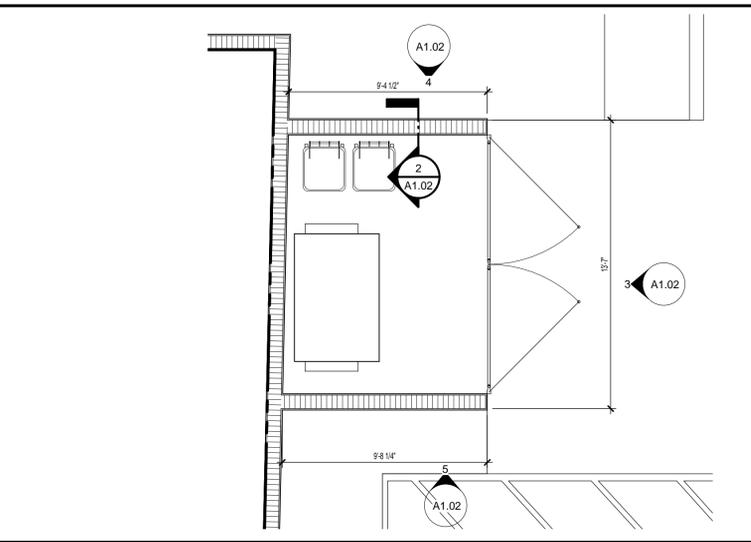
9 FENCE DETAIL
A1.02 1/2" = 1'-0"



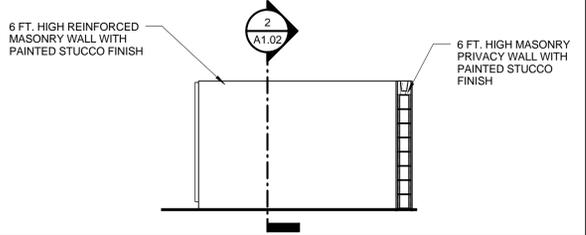
8 FENCE @ RETAINING WALL DETAIL
A1.02 1/2" = 1'-0"



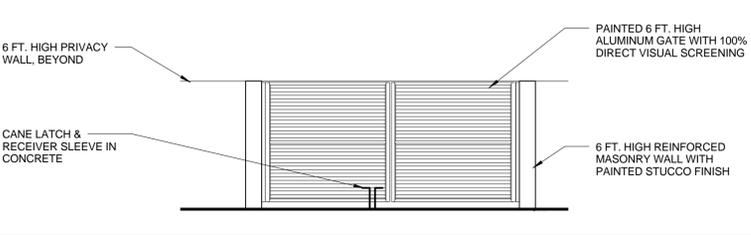
2 DUMPSTER ENCLOSURE WALL SECTION
A1.02 1/2" = 1'-0"



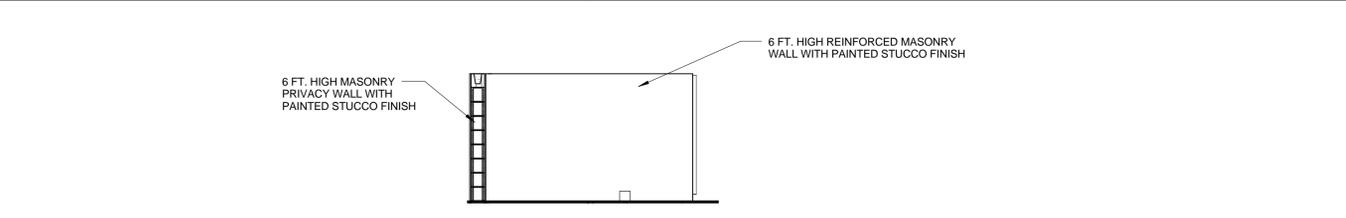
1 DUMPSTER ENCLOSURE ENLARGED PLAN
A1.02 1/4" = 1'-0"



4 DUMPSTER ENCLOSURE NORTH ELEVATION
A1.02 1/4" = 1'-0"



3 DUMPSTER ENCLOSURE EAST ELEVATION
A1.02 1/4" = 1'-0"

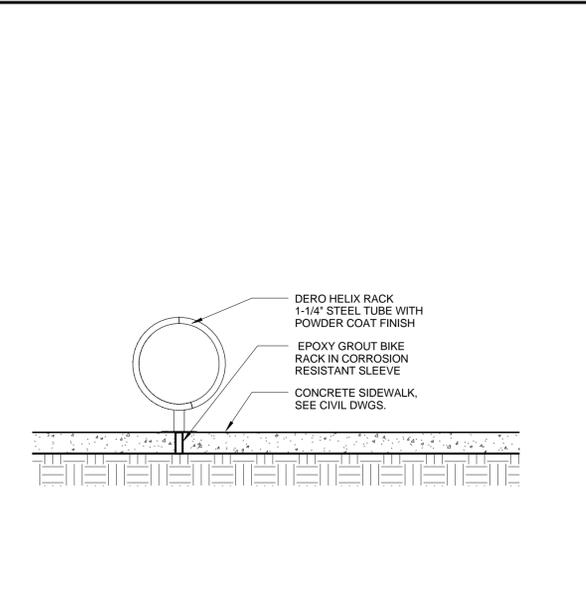


5 DUMPSTER ENCLOSURE SOUTH ELEVATION
A1.02 1/4" = 1'-0"

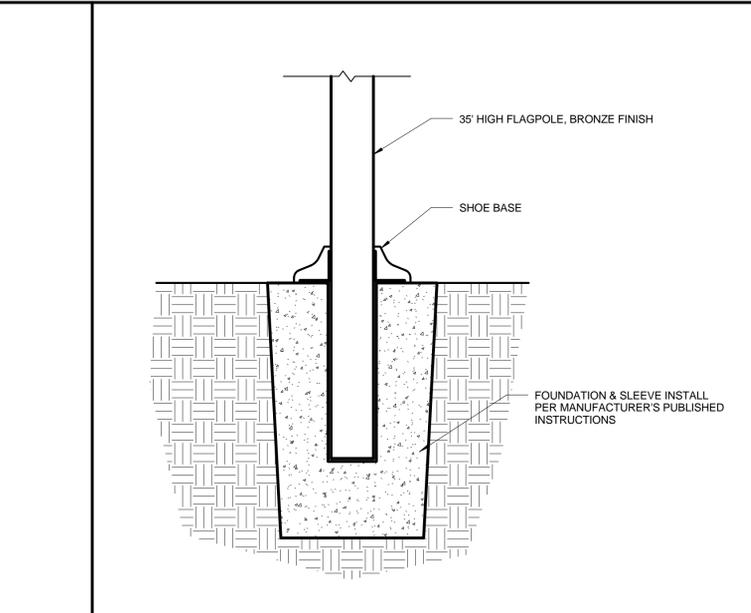
10 DRIVEWAY ROLLING GATE DETAIL
A1.02 1/4" = 1'-0"



11 HANDICAPPED PARKING SPACE
A1.02 1/4" = 1'-0"



7 BIKE RACK DETAIL
A1.02 1/2" = 1'-0"



6 FLAGPOLE DETAIL
A1.02 3/4" = 1'-0"



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PROJECT TITLE
HALLANDALE BEACH FIRE STATION 7 & EOC FACILITY

111 FOSTER ROAD
HALLANDALE BEACH, FL
33009

NUM.	DESCRIPTION	DATE

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FILE NUMBER: J:\140403_HALLANDALE FIRE DRAWINGS\VOID\2014-10-27 DRC\140403-CENTRAL.rvt
DRAWING TITLE

SITE DETAILS

DATE: 10/13/2014 DRAWN BY: WLM
JOB NUMBER: 140403
DRAWING NUMBER:

A1.02

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DRC_140403-CENTRAL.rvt

DRAWING TITLE
SOLAR STUDY

DATE
10/13/2014

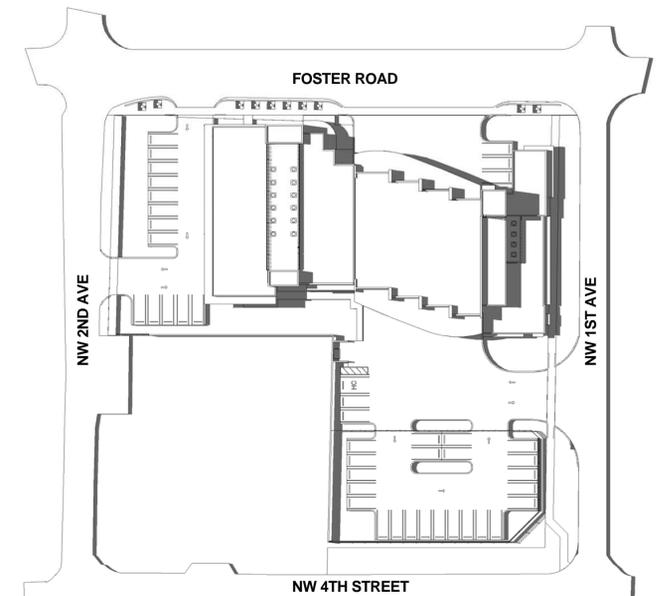
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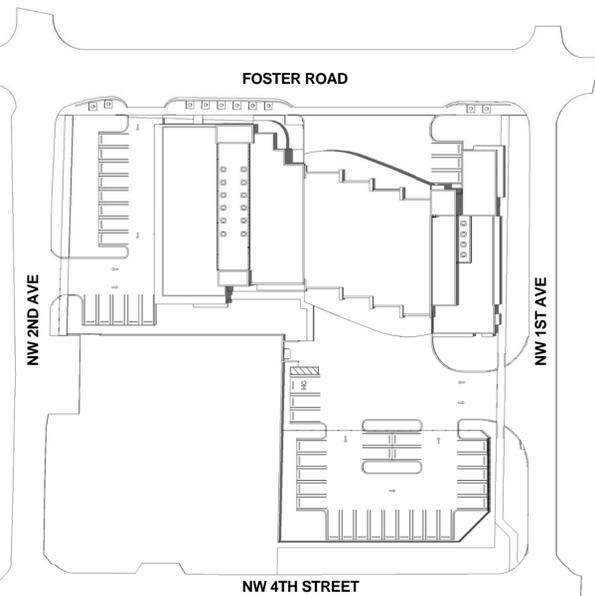
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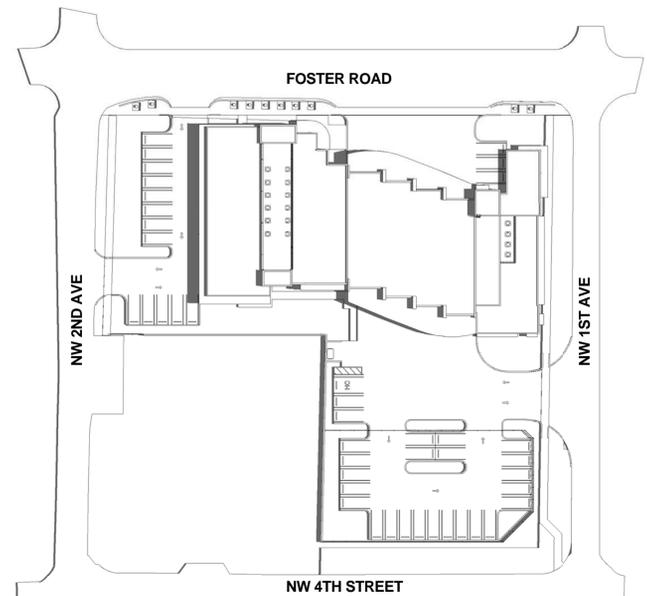
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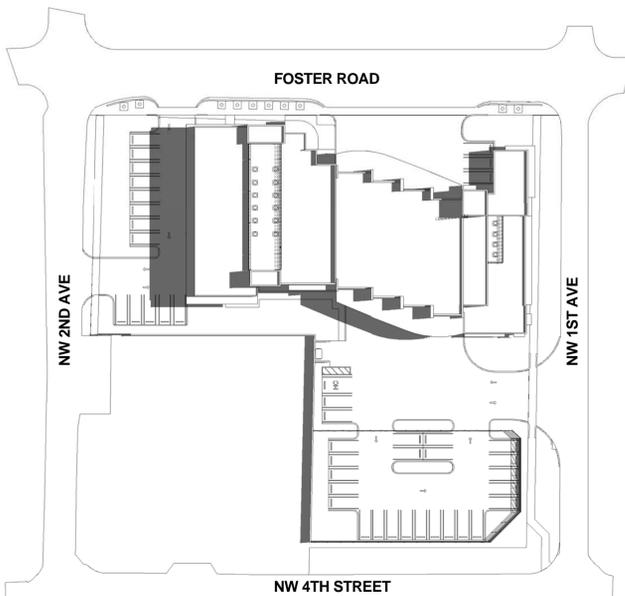
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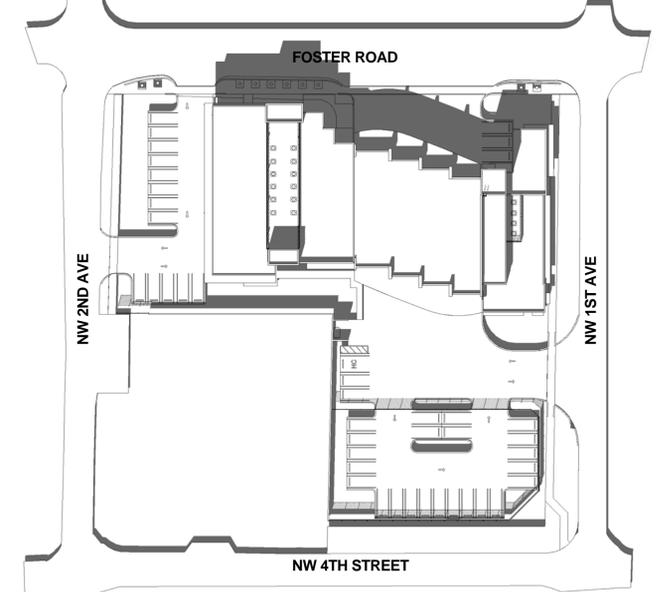
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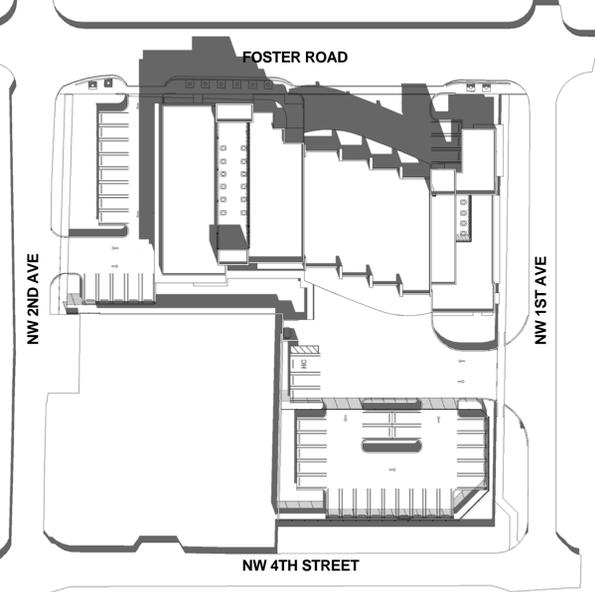
JUNE 21st, 11:00am



JUNE 21st, 9:00am



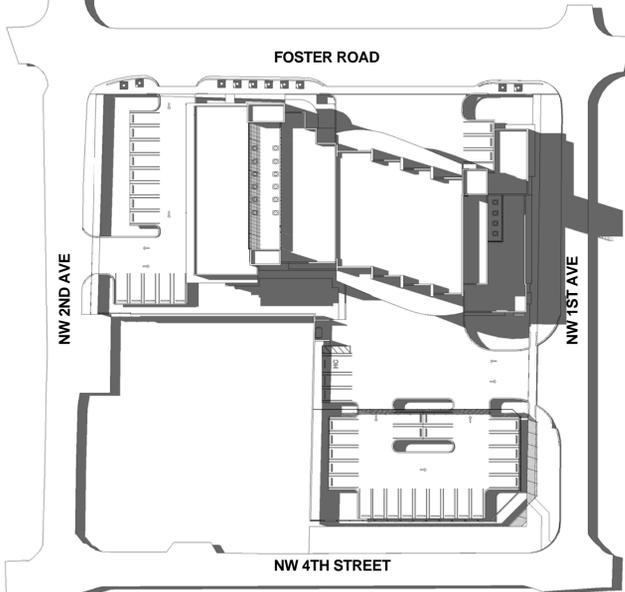
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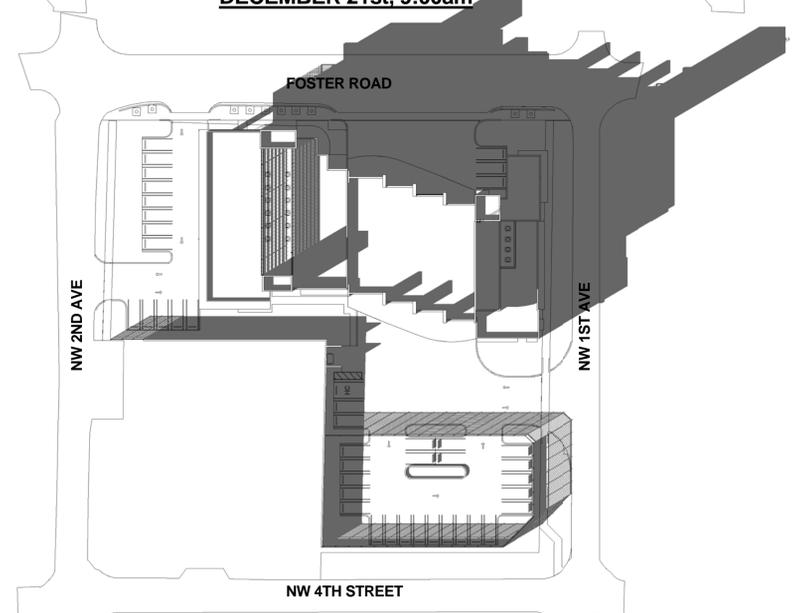
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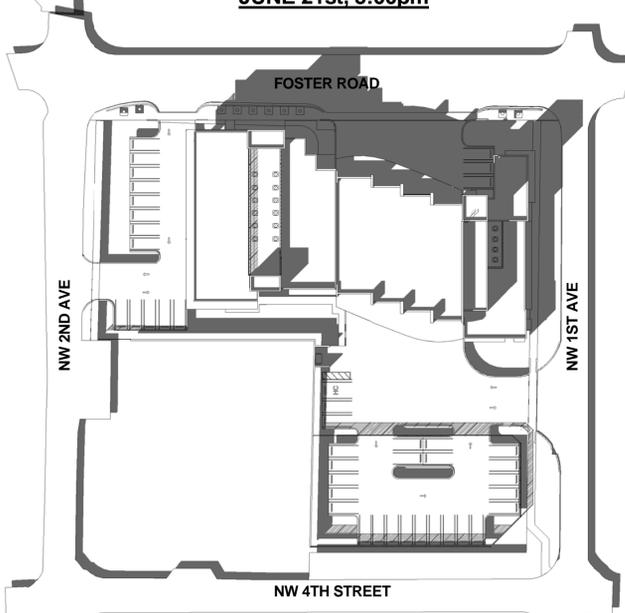
DECEMBER 21st, 9:00am



JUNE 21st, 5:00pm



DECEMBER 21st, 5:00pm



DECEMBER 21st, 3:00pm



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PROJECT TITLE

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STATION 7 & EOC
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DRAWING TITLE

**FIRST FLOOR
PLAN**

DATE

10/13/2014

DRAWN BY

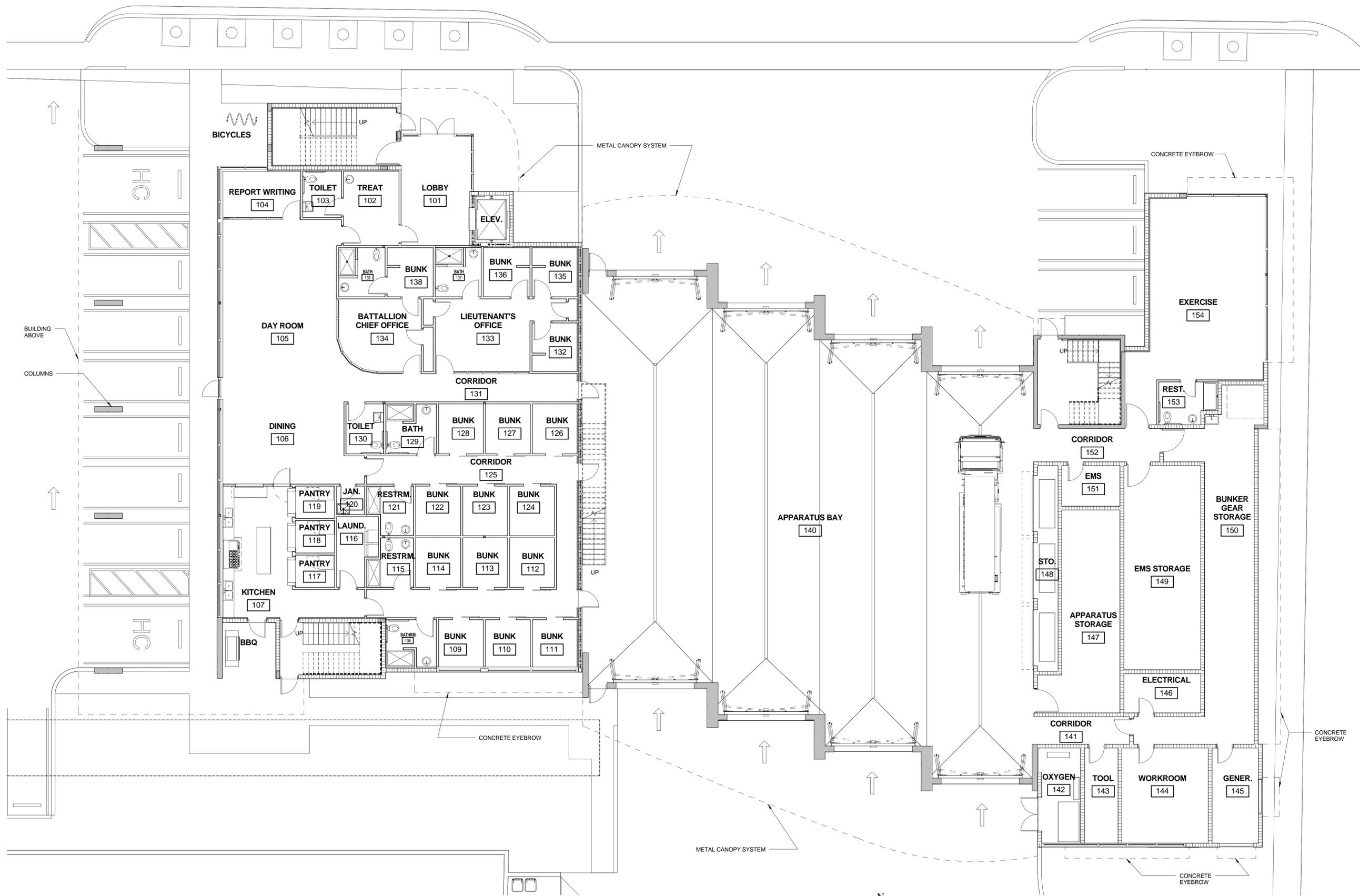
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J:\140403 HALLANDALE

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DRAWING TITLE

SECOND FLOOR

DATE

10/13/2014

DRAWN BY

IRG

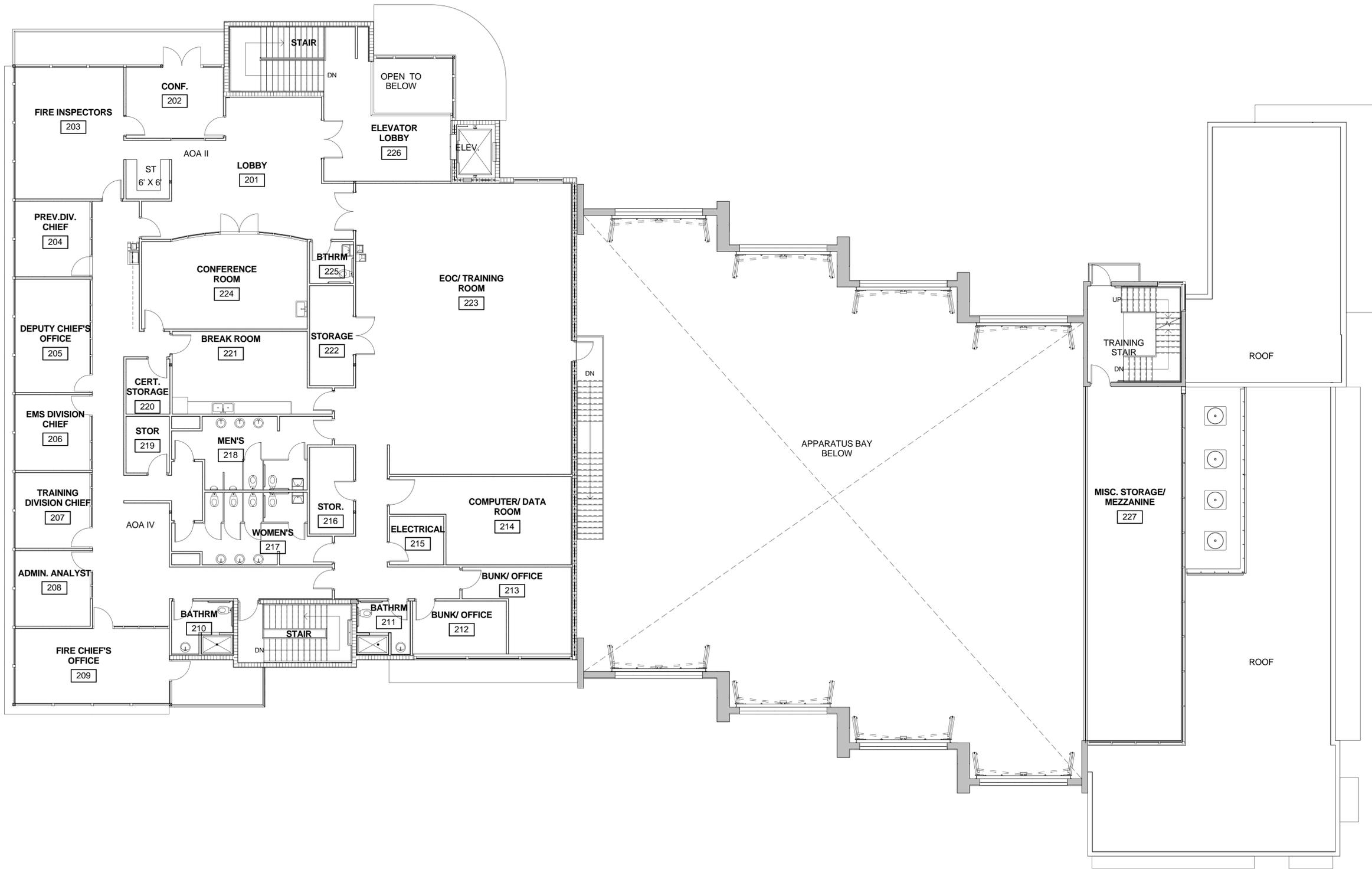
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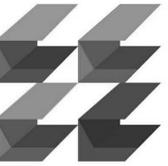
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1 SECOND FLOOR PLAN
 A2.02
 1/8" = 1'-0"
 0 1 2 4 8 16'

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DRC\140403-CENTRAL.rvt

DRAWING TITLE

ROOF PLAN

DATE

10/13/2014

DRAWN BY

WLM

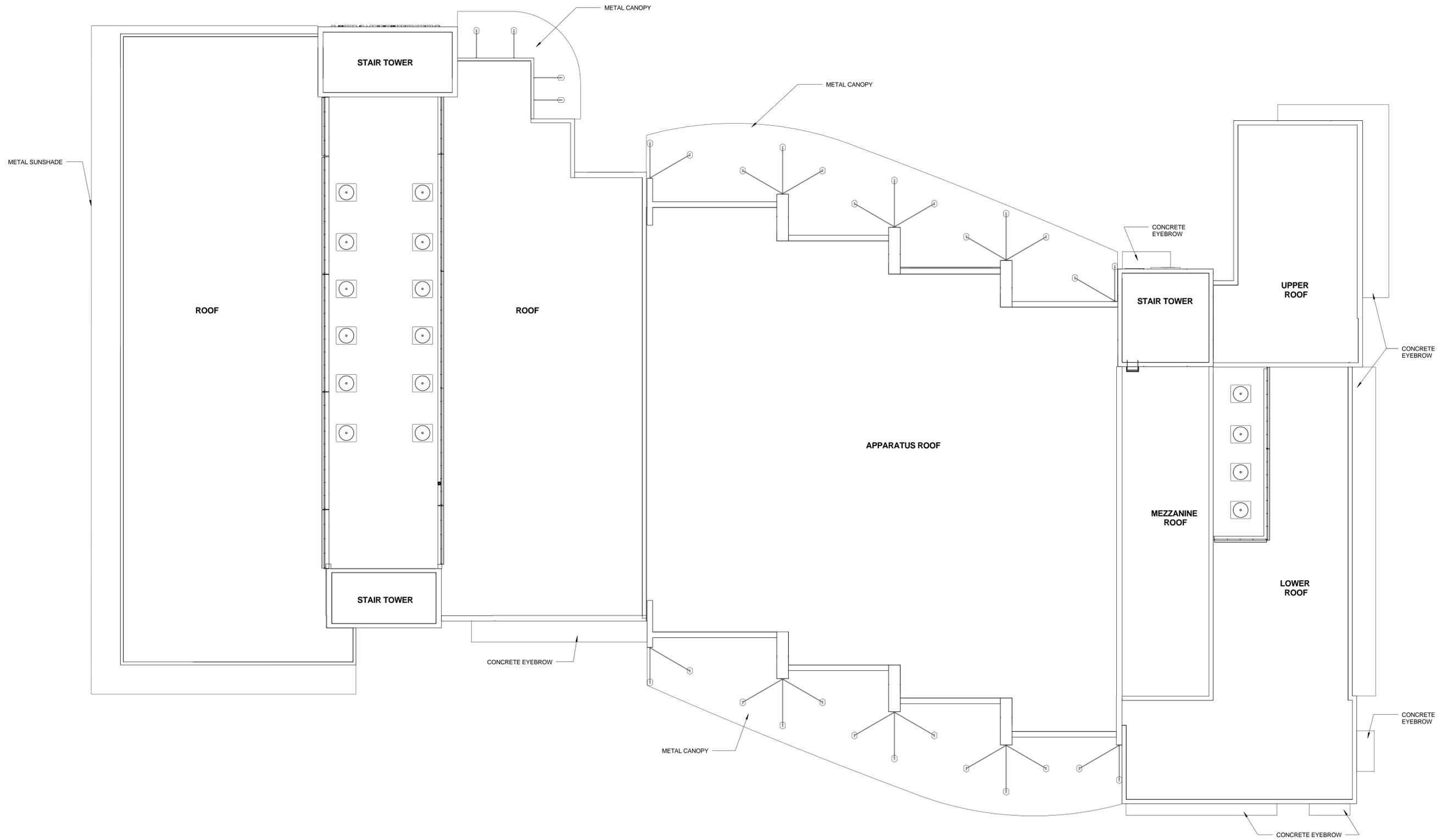
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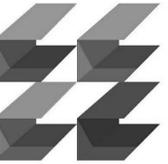
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A2.03

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1	DRC COMMENTS	11/14/14

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TITLE NUMBER
2144003 HALLANDALE
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DRC\140403-CENTRAL.rvt

DRAWING TITLE

ELEVATIONS

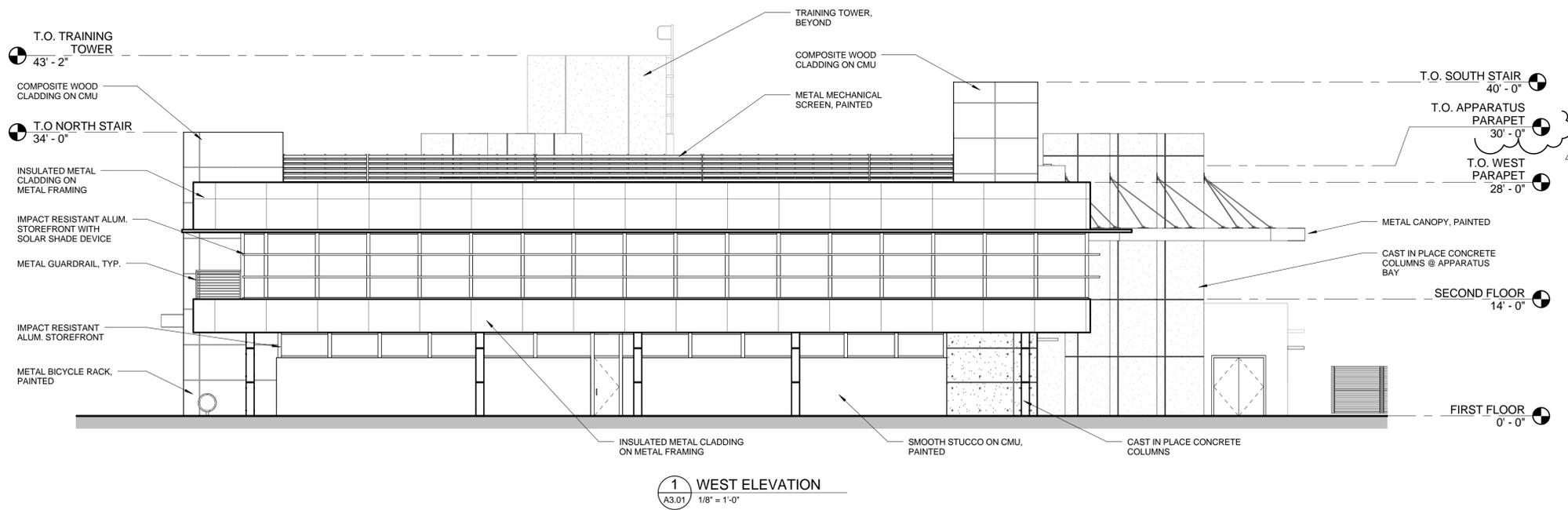
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DATE 10/13/2014 DRAWN BY WLM

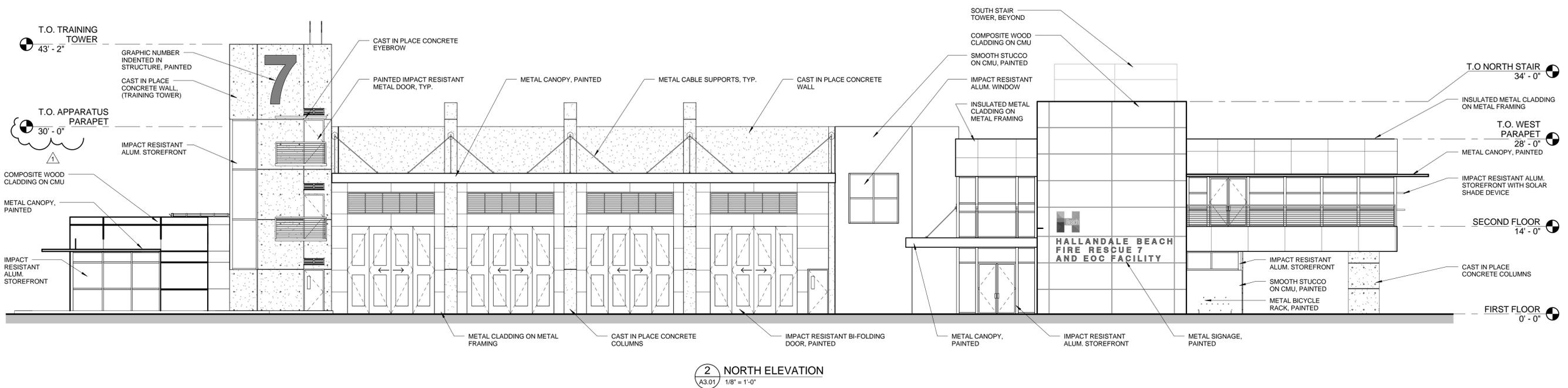
JOB NUMBER 140403

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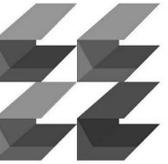
A3.01



1 WEST ELEVATION
A3.01 1/8" = 1'-0"



2 NORTH ELEVATION
A3.01 1/8" = 1'-0"



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Sustainable Design

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ISSUED FOR :
DRC 10/13/2014
P&Z 11/14/2014
PERMIT
CONSTRUCTION
SEAL

PROJECT TITLE
**HALLANDALE
BEACH FIRE
STATION 7 & EOC
FACILITY**

111 FOSTER ROAD
HALLANDALE BEACH, FL
33009

REVISIONS		
NUM.	DESCRIPTION	DATE
1	DRC COMMENTS	11/14/14

THESE DRAWINGS ARE PREPARED PER ESTABLISHED INDUSTRY STANDARDS AND REPRESENT THE ARCHITECT AND ENGINEERS DESIGN CONCEPT. THEY ARE NOT INTENDED TO PROVIDE EVERY DETAIL OR CONDITION REQUIRED TO CONSTRUCT THE BUILDING. THE CONTRACTOR THROUGH SUBMITTALS AND OTHER COORDINATION EFFORTS IS FULLY RESPONSIBLE FOR PROVIDING A COMPLETE AND OPERATIONAL BUILDING WHETHER INDICATED ON THE PLANS OR NOT.

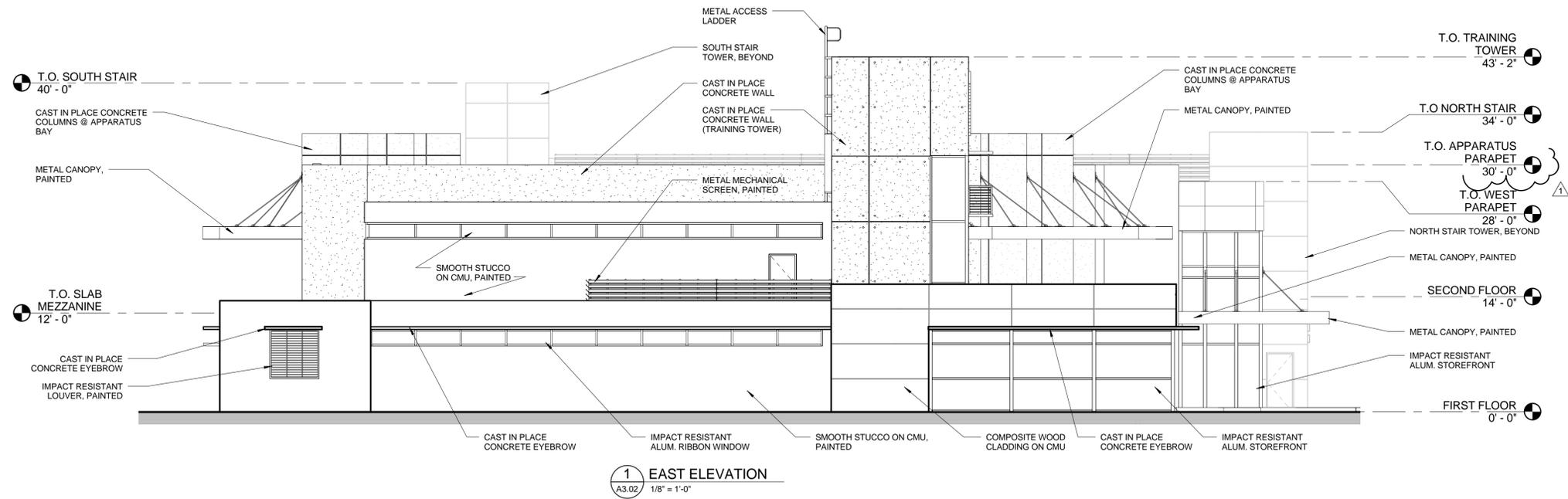
TITLE NUMBER
2144003 HALLANDALE
FIRE DRAWINGS VOID 2014-10-27
DRC:V:0003-3-ENTR-114

DRAWING TITLE
ELEVATIONS

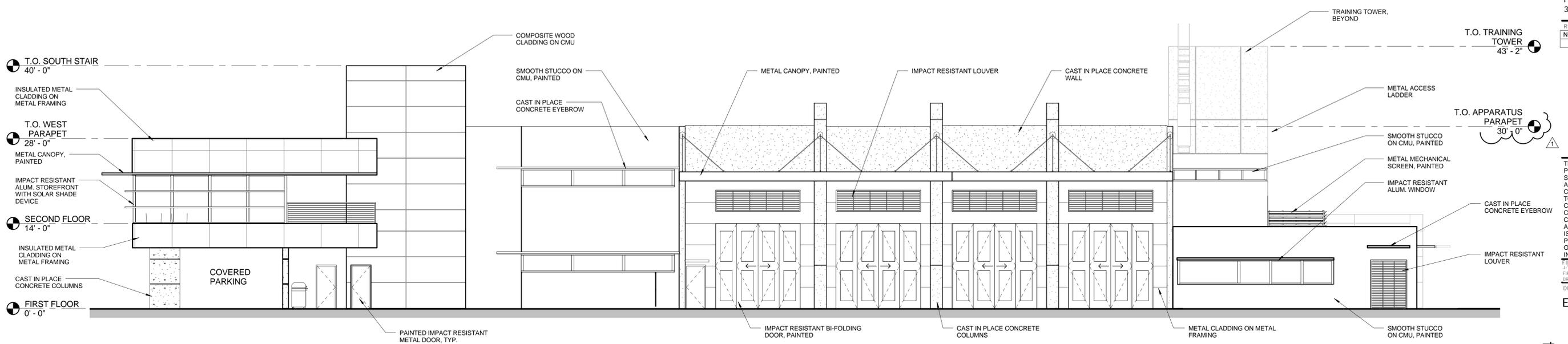
DATE
10/13/2014
JOB NUMBER
140403
DRAWING NUMBER

A3.02

P&Z 11-14-2014

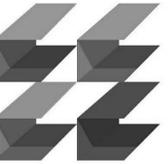


1 EAST ELEVATION
A3.02 1/8" = 1'-0"



2 SOUTH ELEVATION
A3.02 1/8" = 1'-0"

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**HALLANDALE
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111 FOSTER ROAD
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FILE NUMBER
P:\140403_HALLANDALE
FIRE\DRAWINGS\VOID\2014-10-27
0001\40403-CENTRAL.rvt

DRAWING TITLE

SECTIONS

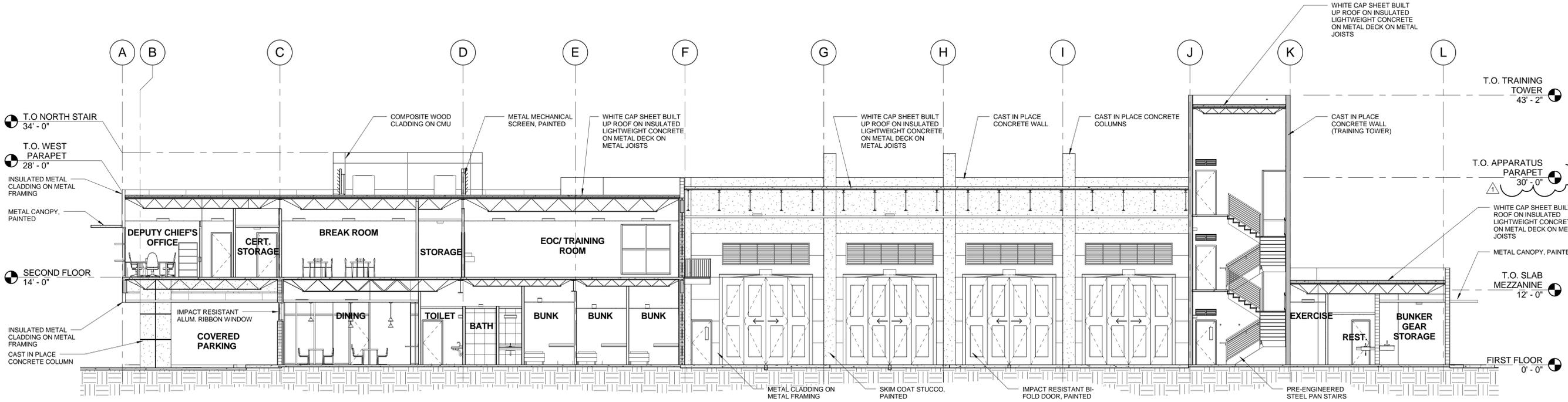
P&Z 11-14-2014

DATE 10/13/2014 DRAWN BY WLM

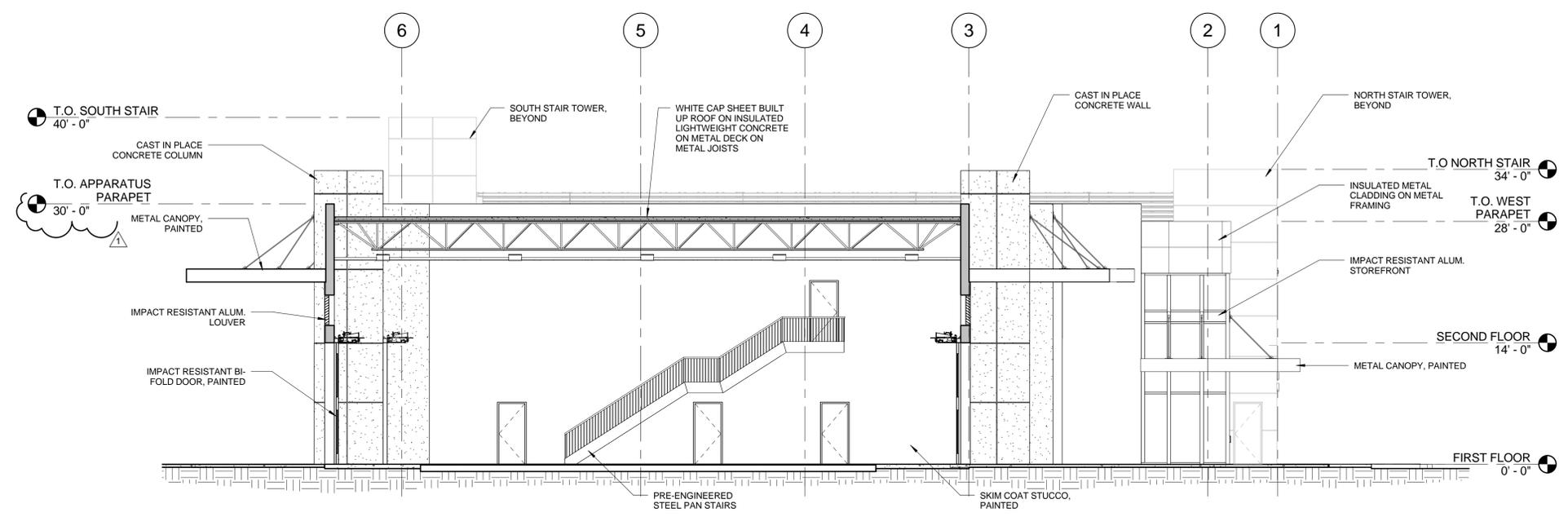
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DRAWING NUMBER

A7.01

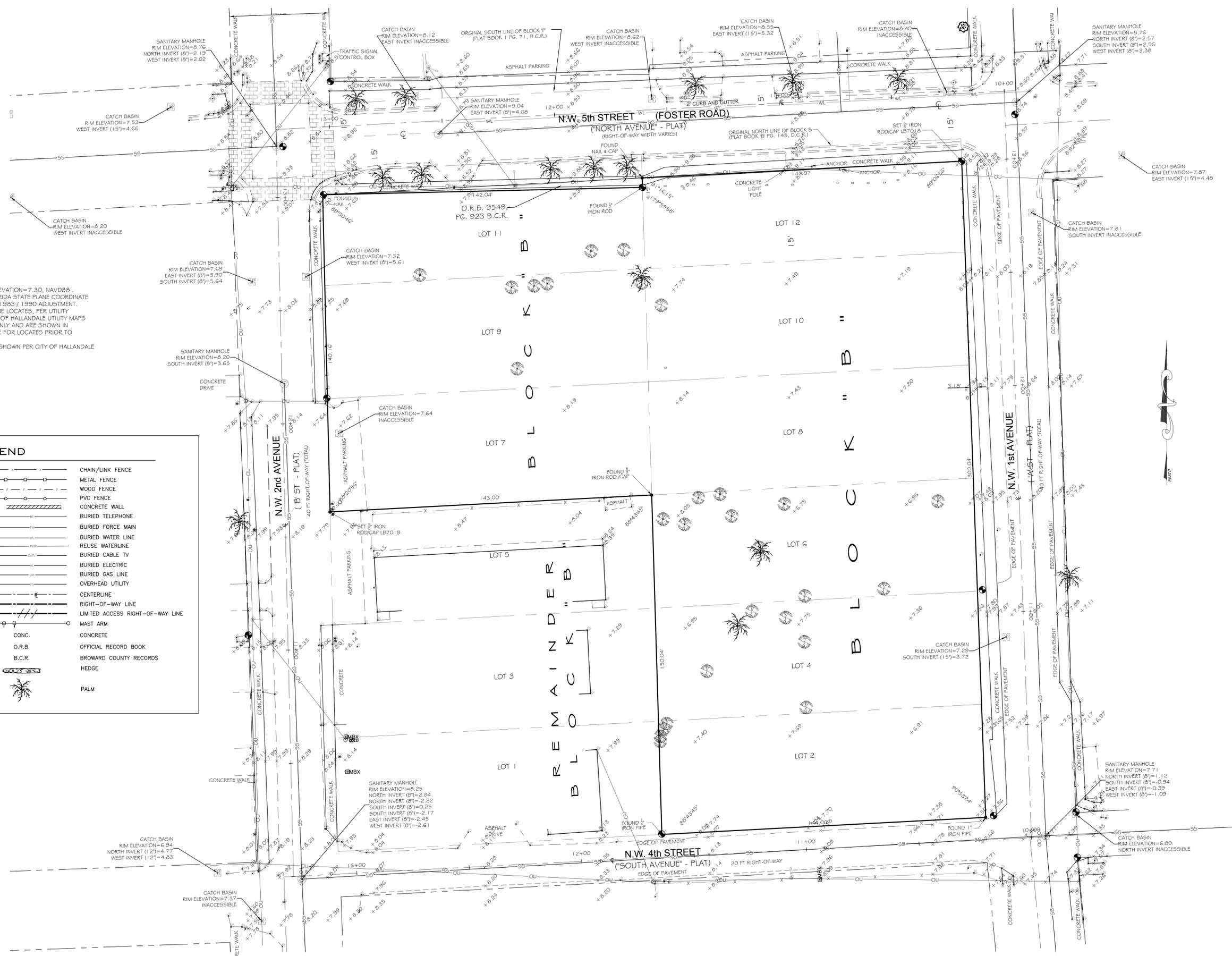


1 EAST/WEST SECTION
A7.01 1/8" = 1'-0"



2 NORTH/SOUTH ELEVATION @ APPARATUS BAY
A7.01 1/8" = 1'-0"

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- NOTES
- 1) BENCHMARK NCS MONUMENT PID AC4694, ELEVATION=7.30, NAVD85.
 - 2) HORIZONTAL CONTROL DATA RELATIVE TO FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 / 1990 ADJUSTMENT.
 - 3) UNDERGROUND UTILITIES SHOWN PER SUNSHINE LOCATES, PER UTILITY DRAWINGS PROVIDED TO THIS OFFICE AND PER CITY OF HALLANDALE UTILITY MAPS AND ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE SHOWN IN APPROXIMATE LOCATION. CALL SUNSHINE STATE ONE FOR LOCATES PRIOR TO CONSTRUCTION FOR EXACT LOCATIONS.
 - 4) UNDERGROUND UTILITY PIPE SIZES AND TYPES SHOWN PER CITY OF HALLANDALE UTILITY DRAWINGS.

LEGEND

	FLAG POLE		CHAIN/LINK FENCE
	CABLE TV RISER		METAL FENCE
	TELEPHONE RISER		WOOD FENCE
	ELECTRIC BOX		PVC FENCE
	BACKFLOW PREVENTOR		CONCRETE WALL
	SIAMESE CONNECTION		BURIED TELEPHONE
	BOLLARD		BURIED FORCE MAIN
	METAL LIGHT POLE		BURIED WATER LINE
	GATE VALVE		REUSE WATERLINE
	WATER METER		BURIED CABLE TV
	FIRE HYDRANT ASSEMBLY		BURIED ELECTRIC
	MANHOLE - SEE SURVEY		BURIED GAS LINE
	CB		OVERHEAD UTILITY
	WOOD POWER POLE		CENTERLINE
	CONCRETE POWER POLE		RIGHT-OF-WAY LINE
	ANCHOR/GUY WIRE		LIMITED ACCESS RIGHT-OF-WAY LINE
	CONCRETE LIGHT POLE		MAST ARM
	TRAFFIC SIGN POST		CONCRETE
	CLEANOUT		OFFICIAL RECORD BOOK
	MAIL BOX		BROWARD COUNTY RECORDS
	TREE		HEDGE
	BUSH		PALM

ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE TO BE CONSIDERED APPROXIMATE & SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF WORK OPERATIONS

Call 48 hours before you dig
It's the Law!
-800-432-4770
Sunshine State One Call of Florida, Inc.

- NOTES
- 1) THE LAND DESCRIPTION SHOWN HEREON WAS PROVIDED BY THE CLIENT, EASEMENTS AND RIGHTS-OF-WAY PER RECORD PLAT HAVE BEEN SHOWN HEREON. NO FURTHER SEARCH FOR MATTERS OF RECORD HAS BEEN MADE BY THIS FIRM.
 - 2) THERE MAY EXIST ADDITIONAL RIGHT-OF-WAY FOR N.W. 5 STREET FOUND IN THE PUBLIC RECORDS OF BROWARD COUNTY.
 - 3) ELEVATIONS SHOWN HEREON ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1985.
 - 4) NORTH ARROW RELATIVE TO ASSUMED NORTH ALONG THE CENTERLINE OF NW 1 AVENUE.
 - 5) ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE SIGNING PARTY.

FEMA FLOOD INSURANCE RATE MAP COMMUNITY NO.		CITY OF HALLANDALE BEACH		BROWARD COUNTY, FLORIDA		N/A	
PANEL NO.	SUFFIX	ZONE	FIRM DATE	BASE ELEV. FLR. ELEV.	LOWEST GRD.	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

REVISION	DATE	BY

SKETCH OF BOUNDARY & TOPOGRAPHIC SURVEY		
JOB #: RN8340	DATE: 06/14	DRAWN BY: CM
SCALE: 1"=20'	SHEET: 1 of 1	CHECKED BY: SKS
NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF THE FLORIDA LICENSED SURVEYOR AND MAPPER		

STEPHEN K. SEELEY, FOR THE FIRM
PROFESSIONAL SURVEYOR & MAPPER
FLORIDA REGISTRATION NO. 4574

GIBBS LAND SURVEYORS
2131 HOLLYWOOD BOULEVARD, SUITE 204
HOLLYWOOD, FL 33020 (954) 923-7666
LICENSED BUSINESS NO. 7018

GENERAL NOTES:

- CONTRACTOR IS RESPONSIBLE FOR CLEARING/GRUBBING WITHIN THE PROJECT LIMITS. REFER TO LANDSCAPE PLANS FOR VEGETATION AND TREE REMOVAL REQUIREMENTS.
- ALL WASTE MATERIAL/DEBRIS TO BE PROPERLY DISPOSED OF OFF-SITE BY CONTRACTOR.
- ALL AREAS OUTSIDE THE PROJECT LIMITS DAMAGED BY THE CONSTRUCTION WORK MUST BE RESTORED TO ITS ORIGINAL CONDITION, INCLUDING AREAS COVERED WITH SOD, CONCRETE, AND PAVEMENT.
- DEMOLITION WORK TO BE PERFORMED IN ACCORDANCE WITH THE MINIMUM STANDARDS OF THE REGULATORY AGENCIES HAVING JURISDICTION.
- SPECIFIC DEMOLITION NOTES/ITEMS ARE NOT TO BE CONSIDERED ALL INCLUSIVE OR COMPLETE IN THEMSELVES. ADDITIONAL DEMOLITION MIGHT REASONABLY BE REQUIRED FOR THE COMPLETION OF THE PROJECT.
- DEMOLITION WORK TO BE CLOSELY COORDINATED WITH PROPOSED IMPROVEMENTS TO MINIMIZE ANY POSSIBLE DELAYS AND/OR INCONVENIENCES.
- THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK TO MINIMIZE INCONVENIENCE/DISTURBANCE TO ADJACENT OCCUPIED AREAS. DEMOLITION WORK SHALL BE COMPLETED IN AN ORDERLY AND CAREFUL MANNER AS REQUIRED TO ACCOMMODATE PROPOSED IMPROVEMENTS AND PREVENT DAMAGE AND EXCESSIVE NOISE/VIBRATION SO AS NOT TO DISTURB ADJACENT OCCUPIED AREAS. ANY OPERATION THAT MAY CAUSE DISTURBANCE SHALL BE COORDINATED WITH THE CITY/COUNTY. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING THE DEMOLITION WORK WITH THE CITY/COUNTY PRIOR TO START OF WORK TO MINIMIZE THE DISRUPTION OF SERVICES AND PROVIDE CONTINUOUS MAINTENANCE OF TRAFFIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NO UTILITY SERVICE IS INTERRUPTED AT ANY TIME TO ANY ADJACENT PROPERTIES.
- THE CONTRACTOR SHALL MAINTAIN CONTINUOUS SAFE AND ADEQUATE PEDESTRIAN AND VEHICULAR ACCESS THROUGHOUT CONSTRUCTION OPERATIONS.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING MAINTENANCE OF TRAFFIC THROUGHOUT CONSTRUCTION. THE MOT SHALL BE PERFORMED IN ACCORDANCE TO THE MUTCD AND FDOT STANDARDS AND SHALL BE APPROVED BY THE COUNTY, CITY, THE ENGINEER AND ANY OTHER APPLICABLE AGENCIES PRIOR TO STARTING CONSTRUCTION OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND FAMILIARIZING THEMSELVES WITH ALL OF THE PERMITS PREVIOUSLY ACQUIRED FOR THIS PROJECT. THE CONDITIONS OUTLINED IN THE PERMITS ARE IN FORCE AND FULL EFFECT AS PART OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR IS RESPONSIBLE TO ENSURE ALL WORK ASSOCIATED WITH THIS PROJECT IS IN COMPLIANCE WITH ALL OF THE REQUIREMENTS OF THESE PERMITS AS WELL AS ANY GOVERNING AGENCY HAVING JURISDICTION OVER THE PROJECT.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ACQUIRING A VALID NPDES PERMIT, UNLESS SUCH PERMIT IS DETERMINED TO BE NON-APPLICABLE BY REGULATORY AGENCY HAVING PROPER JURISDICTION REGARDING THIS MATTER. REGARDLESS OF WHETHER AN NPDES PERMIT IS REQUIRED, THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO CONTAIN ALL UNCONFINED PARTICULATE MATTER WITHIN THE PROJECT BOUNDARIES.
- CONTRACTOR SHALL ADJUST/RESTORE ALL STRUCTURE/BOX FRAMES & COVERS, AND EXISTING SIGNAGE/PAVEMENT MARKINGS AFFECTED BY THE PROPOSED IMPROVEMENTS & NEW LAYOUT. CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY RELOCATION AND GRADE ADJUSTMENTS WITHIN PROJECT LIMITS AND FOR COORDINATION WITH APPLICABLE UTILITY COMPANIES PRIOR TO ADJUSTMENTS. CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. AT 811.
- INFORMATION AS THE LOCATION OF EXISTING UTILITIES HAS BEEN COLLECTED FROM VARIOUS SOURCES. THE RESULTS OF SUCH INVESTIGATIONS AS SHOWN ON THE DRAWINGS ARE NOT GUARANTEED AS TO THE ACCURACY. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO SATISFY HIMSELF AS TO THE EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO SAID UTILITIES AS A RESULT OF CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING CONFLICTS BETWEEN ALL EXISTING UTILITIES WITH PROPOSED UTILITIES/STRUCTURES AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ALL CONFLICTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE NECESSARY RECORD DRAWINGS TO THE ENGINEER OF RECORD. ONCE THE RECORD DRAWINGS ARE APPROVED BY THE ENGINEER OF RECORD, THE ENGINEER WILL SUBMIT FINAL CERTIFICATION PACKAGES WITH COPIES OF THE RECORD DRAWINGS TO THE AGENCIES FOR CERTIFICATION APPROVALS AND PERMIT CLOSE-OUTS. THE RECORD DRAWINGS SHALL INDICATE ALL INFORMATION REQUIRED BY THE CITY, ENGINEER OF RECORD AND ALL AGENCIES HAVING JURISDICTION. THE RECORD DRAWINGS PROVIDED BY THE CONTRACTOR SHALL BE SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR CURRENTLY REGISTERED IN THE STATE OF FLORIDA AND SHALL BE FIRST REVIEWED BY THE CONTRACTOR TO ASSURE THEY ARE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE ENGINEER OF RECORD AND ALL PERMITTING AGENCIES IN ORDER TO OBTAIN FINAL CERTIFICATION APPROVALS AND PERMIT CLOSE-OUTS. THE PROJECT WILL NOT BE CONSIDERED COMPLETE UNTIL ALL FINAL CERTIFICATIONS HAVE BEEN APPROVED AND PERMITS HAVE BEEN CLOSED-OUT.

GENERAL NOTES - PAVEMENT MARKING AND SIGNAGE:

- EXISTING MARKINGS SHALL BE REMOVED BY WATER BLASTING OR SANDBLASTING ONLY.
- ALL EXISTING TRAFFIC CONTROL SIGNAGE AND PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED TRAFFIC CONTROL SIGNAGE AND PAVEMENT MARKINGS WILL BE REMOVED OR RELOCATED BY THE CONTRACTOR.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND CURRENT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS.
- ALL MARKINGS WITHIN R/W SHALL BE THERMOPLASTIC. MARKINGS SHALL CONFORM TO FDOT STANDARD SPECIFICATIONS, SECTION 711, DESIGN STANDARDS, INDEX 17346, AND THE BROWARD COUNTY TRAFFIC ENGINEERING DEPARTMENT STANDARDS AND SPECIFICATIONS.
- ALL ON-SITE MARKINGS SHALL BE PAINT EXCEPT 24" SOLID WHITE STOP BAR WHICH SHALL BE THERMOPLASTIC.
- VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF SIGN POSTS.
- ALL PAVEMENT MARKINGS AND SIGNING DAMAGED DURING CONSTRUCTION, SHALL BE RESTORED TO BROWARD COUNTY TRAFFIC ENGINEERING STANDARD (CURRENT ADDITION).
- THE CONTRACTOR SHALL PROVIDE A COPY OF THEIR BROWARD COUNTY CERTIFICATE OF COMPETENCY PRIOR TO SUBMITTING FINAL INSPECTION REQUEST TO BROWARD COUNTY TRAFFIC ENGINEERING DIVISION.
- ALL SIGNS TO FOLLOW FDOT INDEX 17302 - CASE V (LOCATION IN BUSINESS OR RESIDENTIAL AREAS) AND INDEX 11860 - MIN. INSTALLATION REQUIREMENTS.

GENERAL NOTES - EROSION CONTROL:

- THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN FLORIDA (HEREAFTER REFERRED TO AS FL GUIDELINES).
- MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION SHALL BE MADE OF ALL INSTALLED EROSION CONTROL MEASURES AND REPAIRS SHALL BE CONDUCTED TO ENSURE THEIR CONTINUING FUNCTION AS DESIGNED.
- CATCH BASIN, INLETS, STORM SEWER MANHOLES STRUCTURES, ETC. SHALL BE PROTECTED DURING CONSTRUCTION OPERATIONS FROM SEDIMENT RUNOFF AND DEBRIS BY PLACING A FILTER FABRIC MATERIAL IN THE FRAME AND GRATE/MANHOLE COVER. PREVENTIVE METHODS MUST BE UTILIZED AROUND THESE STRUCTURES (DURING CONSTRUCTION OPERATIONS) BY GRADING TO DRAIN AWAY FROM STRUCTURES AND ANY OTHER METHODS APPROVED BY THE AGENCY HAVING JURISDICTION OR DESIGN ENGINEER OF RECORD.
- THE CONTRACTOR SHALL INSTALL A SOIL TRACKING PREVENTION DEVICE AS PER FDOT DESIGN STANDARDS 2010 INDEX 106 AND/OR THE FLORIDA EROSION SEDIMENT CONTROL INSPECTOR'S MANUAL. THE CONTRACTOR SHALL TAKE MEASURES TO INSURE THE CLEANUP OF SEDIMENTS THAT HAVE BEEN TRACKED BY VEHICLES OR HAVE BEEN TRANSPORTED BY WIND OR STORM WATER ABOUT THE SITE OR ONTO NEARBY ROADWAYS. STABILIZED CONSTRUCTION ENTRANCES AND CONSTRUCTION ROADS, IF APPROPRIATE, SHALL BE IMPLEMENTED IN ORDER TO REDUCE OFFSITE TRACKING.
- ALL AREAS OF DISTURBANCE THAT ARE NOT WITHIN BUILDING OR PAVEMENT LIMITS SHALL BE SODDED, REFER TO LANDSCAPE PLANS FOR SOD SPECIFICATION AND REQUIREMENTS.
- REMOVE ALL EROSION CONTROL IMPROVEMENTS AFTER ALL DISTURBED AREAS ARE STABILIZED WITH THE FINAL GROUND COVER.

LEGEND

	EXISTING CONCRETE
	PROPOSED CONCRETE
	PROPOSED TRUNCATED DOMES
	PROPOSED GRADE ELEVATION (NAVD 1988)
	PROPOSED TOP OF CURB ELEVATION (NAVD 1988)
	PROPOSED PAVEMENT ELEVATION (NAVD 1988)
	PROPOSED FLOW DIRECTIONAL ARROW
	PROPOSED TRENCH DRAIN
	PROPOSED CATCH BASIN
	PROPOSED MANHOLE
	PROP. CATCH BASIN W/ EXFILTRATION TRENCH
	PROPOSED YARD DRAIN (GRATE/SOLID LID)
	PROPOSED STORMWATER WELL
	PROPOSED FIRE HYDRANT
	PROPOSED FDC
	PROPOSED GATE VALVE
	PROPOSED SANITARY SEWER LATERAL
	PROPOSED CATCH BASIN WITH FILTER FABRIC INSERT
	PROPOSED SILT FENCE
	PROPOSED SOIL TRACKING PREVENTION DEVICE (REFER TO DETAIL)
	EXISTING FLAG POLE
	EXISTING CABLE TV RISER
	EXISTING TELEPHONE RISER
	EXISTING ELECTRIC BOX
	EXISTING BACKFLOW PREVENTOR
	EXISTING SIAMESE CONNECTION
	EXISTING BOLLARD
	EXISTING METAL LIGHT POLE
	EXISTING GATE VALVE
	EXISTING WATER METER
	EXISTING FIRE HYDRANT ASSEMBLY
	EXISTING MANHOLE
	EXISTING CATCH BASIN
	EXISTING WOOD POWER POLE
	EXISTING CONCRETE POWER POLE
	EXISTING ANCHOR/GUY WIRE
	EXISTING CONCRETE LIGHT POLE
	EXISTING TRAFFIC SIGN POST
	EXISTING CLEANOUT
	EXISTING MAIL BOX
	EXISTING TREE
	EXISTING BUSH
	EXISTING SANITARY SEWER LINE
	EXISTING OVERHEAD WIRE
	EXISTING WATER MAIN
	EXISTING GAS LINE
	EXISTING STORM DRAINAGE LINE
	EXISTING RIGHT-OF-WAY LINE
	PROPERTY LINE
	UTIL
	CBL
	TEL
	EB

ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE CITY OF HALLANDALE BEACH.

IF ANY OF THE GENERAL NOTES LISTED ABOVE ARE IN CONFLICT WITH THE CITY OF HALLANDALE BEACH, BROWARD COUNTY AND/OR FLORIDA DEPARTMENT OF TRANSPORTATION IT IS THE CONTRACTOR'S RESPONSIBILITY TO TIMELY NOTIFY THE ENGINEER. HOWEVER, AT A MINIMUM THE MORE STRINGENT STANDARD SHALL CONTROL.

**PRELIMINARY PLAN
NOT FOR CONSTRUCTION**

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

Date: 11/14/2014
KEITH & ASSOCIATES, INC.

DATE: 09/17/2014
SCALE: AS INDICATED
DRAWN BY: M.A.
DESIGN BY: S.B.
CHECKED BY: J.T.

REVISION	DATE

JAMES A. THEILE, P.E.
FLORIDA REG. NO. 33296
(FOR THE FIRM)

KEITH & ASSOCIATES, INC.
consulting engineers

301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7928

HALLANDALE BEACH FIRE STATION 7 & EOC FACILITY LEGENDS AND NOTES

CITY OF HALLANDALE BEACH BROWARD COUNTY

SHEET NO. **GI-001**

PROJECT NO. **08735.00**

N:\08735.00 Hallandale Fire Station - C&A\Engineering\CAD\dwg\08735.00-GI-001.dwg

P&Z 11-14-2014

GENERAL NOTES

- 1. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES AND TOPOGRAPHY HAVE BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THIS INFORMATION IS NOT GUARANTEED AND IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ANY EXISTING UTILITIES AND TOPOGRAPHY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY ALL UTILITIES, BY ELECTRIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES, PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL GIVE TIMELY NOTIFICATION TO ALL UTILITY COMPANIES WITH FACILITIES IN THE AREA.
3. THE TOPOGRAPHIC SURVEY INCLUDED WITH THIS SET OF PLANS REFLECTS PREDEMOLITION CONDITIONS AND DOES NOT REFLECT THE SITE CONDITIONS AFTER DEMOLITION. THE CONTRACTOR IS FULLY AND SOLELY RESPONSIBLE IN DETERMINING THE REQUIRED EARTHWORK FOR THE PROPOSED DEVELOPMENT OF THE SITE. THIS INCLUDES, BUT IS NOT LIMITED TO, ANY EXCAVATION/DREDGE AND FILL ACTIVITIES REQUIRED AT ANY PHASE OF THE PROJECT. THE CONTRACTOR SHALL USE THE FINAL APPROVED (RELEASED FOR CONSTRUCTION) PLANS, SURVEYING GEOTECHNICAL REPORTS, AND ANY OTHER AVAILABLE INFORMATION FOR DETERMINING THE AMOUNT OF EXCAVATION/DREDGING AND FILLING REQUIRED. ANY QUANTITIES INCLUDED IN THE APPROVED PERMITS WERE ESTIMATED BY THE ENGINEER FOR PURPOSES OF OBTAINING THE PERMIT AND UNDER NO CIRCUMSTANCES SHALL BE USED BY THE CONTRACTOR IN LIEU OF PERFORMING THEIR OWN EARTHWORK CALCULATIONS REQUIRED FOR COST ESTIMATING AND BIDDING THE PROJECT.
4. THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR READING AND FAMILIARIZING THEMSELVES WITH ANY AND ALL AVAILABLE GEOTECHNICAL REPORTS PREPARED BY OTHERS AND/OR ANY RECOMMENDATIONS WRITTEN OR IMPLIED BY THE GEOTECHNICAL ENGINEER FOR THIS PROJECT. THE GEOTECHNICAL CONDITIONS AND RECOMMENDATIONS OUTLINED IN THESE REPORTS ARE IN FORCE AND IN FULL EFFECT UNTIL THE REQUIRED EARTHWORK FOR THE PROPOSED DEVELOPMENT OF THE PROJECT IS COMPLETED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL THE WORK ASSOCIATED WITH THIS PROJECT IS IN COMPLIANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. KEITH & ASSOCIATES, INC. IS NOT RESPONSIBLE FOR THE SUITABILITY OR UNSUITABILITY OF SOILS ENCOUNTERED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE MEANS AND METHODS OF CONSTRUCTION USED CAN AND WILL ALLOW FOR THE SUCCESSFUL COMPLETION OF THE REQUIRED SITE IMPROVEMENTS.
5. THE CONTRACTOR SHALL ENSURE THAT THE AVAILABLE GEOTECHNICAL INFORMATION IS SUFFICIENT FOR HIS COMPLETE UNDERSTANDING OF THE SITE. IF ADDITIONAL GEOTECHNICAL INVESTIGATION IS REQUIRED BY THE CONTRACTOR, THIS ADDITIONAL WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. HOWEVER, IF THE CONTRACTOR CONSIDERS A CHANGE ORDER IS REQUIRED IT SHALL BE SUBMITTED TO THE OWNER AND/OR ENGINEER. THE OWNER AND/OR ENGINEER WILL AT THEIR OWN DISCRETION REVIEW AND APPROVE THE CHANGE ORDER, UNLESS THE WORK IS CONSIDERED INCIDENTAL TO THE SUCCESSFUL COMPLETION OF THE PROJECT.
6. THE CONTRACTOR AND/OR CONTRACTOR'S SURVEYOR SHALL VERIFY ALL SITE GEOMETRY SHOWN AND/OR REFERENCED IN THE ENGINEERING PLANS BY PREPARING A GEOMETRIC CONTROL PLAN PRIOR TO TAKE-OUT. IF AND WHEN DISCREPANCIES ARE ENCOUNTERED THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.

I. APPLICABLE CODES

- A. GENERAL
ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF HALLANDALE BEACH, BROWARD COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT (BCEPD), BROWARD COUNTY HEALTH DEPARTMENT (BCHRS), SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) AND ALL OTHER LOCAL AND NATIONAL CODES WHERE APPLICABLE.
B. CONSTRUCTION SAFETY
ALL CONSTRUCTION SHALL BE DONE IN CONFORMANCE WITH THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
C. TRENCH SAFETY ACT
CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLIANCE WITH THE STATE OF FLORIDA TRENCH SAFETY ACT.
D. SURVEY DATA
1. ALL ELEVATIONS ON THE PLANS OR REFERENCED IN THE SPECIFICATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD).
2. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO SAFEGUARD ALL EXISTING STRUCTURES, UTILITIES, AND SURVEY MARKERS.

II. PRECONSTRUCTION RESPONSIBILITIES

- A. UPON RECEIPT OF NOTICE TO AWARD AND PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENT AGENCIES, ALL AFFECTED UTILITY OWNERS, THE ENGINEER AND CONTRACTOR.
B. THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE ONE CALL CERTIFICATION NUMBER AT 811 AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH HE FAILS TO REQUEST LOCATIONS FROM THE UTILITY OWNER. HE IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.
D. CONTRACTOR MUST RETURN THE AREA IMPACTED BY PROPOSED IMPROVEMENTS TO PRE-CONSTRUCTION CONDITIONS INCLUDING ALL LANDSCAPE, IRRIGATION, PAVEMENT MARKINGS, CURB AND GUTTER, DRIVEWAYS, AND PAVEMENT.
E. CONTRACTOR TO SUBMIT MAINTENANCE OF TRAFFIC PLAN(S) IN ACCORDANCE WITH FDOT AND BROWARD COUNTY REQUIREMENTS, AND SUBMIT FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.

III. INSPECTIONS

- A. THE CONTRACTOR SHALL NOTIFY THE CITY OF HALLANDALE BEACH, BROWARD COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT (BCEPD), BROWARD COUNTY HEALTH DEPARTMENT (BCHRS) AND THE ENGINEER OF RECORD AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS:
1. STORM DRAINAGE
2. SANITARY SEWER
3. WATER SYSTEM
4. SUBGRADE - SUBMIT AND HAVE APPROVED DENSITIES PRIOR
5. LIMEROCK BASE - SUBMIT AND HAVE APPROVED DENSITIES AND AS-BUILTS PRIOR TO THE PLACEMENT OF ANY ASPHALT.
6. CONCRETE FLOW/CURBING
7. ASPHALTIC CONCRETE
8. FINAL INSPECTION
B. FINAL INSPECTION/WALK THROUGH MUST BE CONDUCTED AND ALL PUNCH LIST ITEMS MUST BE COMPLETED AND APPROVED PRIOR TO THE APPROVAL OF THE SYSTEM.

IV. SHOP DRAWINGS

- A. PRIOR TO THEIR CONSTRUCTION OR INSTALLATION, SHOP DRAWINGS SHALL BE SUBMITTED TO AND REVIEWED BY THE CITY OF HALLANDALE BEACH AND THE ENGINEER OF RECORD FOR THE ITEMS LISTED BELOW BUT NOT BE LIMITED TO:
DRAINAGE WATER SEWER
1. STRUCTURES: 1. FIRE HYDRANTS 1. MANHOLES
2. CATCH BASINS 2. VALVES 2. LIFT STATION:
MANHOLES 3. BACK FLOW PREVENTOR WETWELL
HEADWALLS 3. DDCV HATCHES
2. GRATES/TOPS 4. METER BOX VALVES
3. YARD DRAINS 5. METER BOX PUMP DATA
ELECTRICAL PANEL
CATALOGUE LITERATURE SHALL BE SUBMITTED FOR DRAINAGE, WATER AND SEWER PIPES, FITTINGS, AND APPURTENANCES.
B. PRIOR TO SUBMITTING SHOP DRAWINGS TO THE ENGINEER, THE CONTRACTOR SHALL REVIEW AND APPROVE THE DRAWINGS, AND SHALL NOT IN RED ANY DEVIATIONS FROM THE ENGINEER'S PLANS OR SPECIFICATIONS.
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
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER, SANITARY SEWERS, AND ELECTRICITY TO HIS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING CONSTRUCTION.

- B. TRAFFIC REGULATION
ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
C. 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 SWEEP BROOM CLEAN TO THE DIRECTION OF THE ENGINEER.
D. WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR BEEN PLACED IN WATER COURSES, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED, SATISFACTORILY DISPOSED OF DURING PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION TO THE DIRECTION OF THE ENGINEER.

VI. SIGNING AND MARKING

- A. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
B. REFLECTIVE PAVEMENT MARKERS SHALL BE CLASS B MARKERS MANUFACTURED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES.
C. ALL MARKINGS WITHIN R/W SHALL BE THERMOPLASTIC. ALL ON-SITE MARKINGS SHALL BE PAINT EXCEPT 24" SOLID WHITE STOP MARKS WHICH SHALL BE THERMOPLASTIC.

VII. PROJECT CLOSEOUT

- A. CLEANING UP
THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED BY THE ENGINEER OR CITY OF HALLANDALE BEACH, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, EMPLOYEES OR THOSE OF HIS SUBCONTRACTORS AT A COST NOT TO EXCEED THAT EXISTING. WORK SHALL BE IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS. TO THIS END, THE CONTRACTOR SHALL DO AS REQUIRED ALL NECESSARY HIGHWAY OR DRIVEWAY WALK AND LANDSCAPING WORKS. SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.
B. PROJECT RECORD DOCUMENTS
1. THE CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPLETE RECORDS OF WORK ITEMS COMPLETED.
2. PRIOR TO THE PLACEMENT OF ANY ASPHALT OR CONCRETE PAVEMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER "AS-BUILT" PLANS SHOWING LIMEROCK BASE GRADES, AND ALL DRAINS, WATER, AND SEWER IMPROVEMENTS. PAVING OPERATIONS SHALL NOT COMMENCE UNTIL THE ENGINEER AND THE APPROVING AGENCY HAS REVIEWED / APPROVED THE "AS-BUILTS".
3. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR SUBGRADE SHALL BE PROVIDED TO THE ENGINEER AND/OR THE CITY OF HALLANDALE BEACH PRIOR TO PLACING LIMEROCK BASE MATERIAL.
4. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR LIMEROCK BASE SHALL BE PROVIDED TO THE ENGINEER AND/OR THE CITY OF HALLANDALE BEACH PRIOR TO PLACING ASPHALT.
5. ALL "AS-BUILT" INFORMATION SUBMITTED TO THE ENGINEER SHALL FIRST BE REVIEWED BY THE CONTRACTOR TO ASSURE THEY ARE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE ENGINEER THAT THE INFORMATION PROVIDES A TRUE REPRESENTATION OF THE IMPROVEMENTS CONSTRUCTED.
6. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD ONE COMPLETE SET OF "AS-BUILT" CONSTRUCTION DRAWINGS AND A DIGITAL COPY. THESE DRAWINGS SHALL BE MADE TO SHOW "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONED LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR.
7. ALL "AS-BUILT" INFORMATION ON ELEVATIONS OF WATER, SANITARY SEWAGE, PAVING, AND DRAINAGE SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR.
8. "AS-BUILT" DRAWINGS ARE TO REPRESENT ACTUAL FIELD CONSTRUCTION OF THE IMPROVEMENTS. THEY ARE TO BE SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR ALONG WITH THE PROPER CERTIFICATION STATEMENT (FURTHER DESCRIBED BELOW), THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE FIRM OF THE CERTIFYING SURVEYOR ALONG WITH THE OWNER/DEVELOPER WILL ALSO BE INCLUDED.
9. THE AS-BUILT DRAWINGS ARE TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION:
- "AS-BUILT" IN LARGE BOLD LETTERS.
- APPLICABLE SCALES: PLANS, PROFILES, DETAILS.
- LOCATION SKETCH AND NORTH ARROW. SPECIFY SECTION, TOWNSHIP, AND RANGE.
- IDENTIFY RIGHT-OF-WAY LINES AND CLEARLY SHOW PROPERTY BOUNDARY LINES. GIVE THE NAMES OF STREETS AND PUBLIC RIGHTS-OF-WAY ALONG WITH WIDTHS OF PROPOSED STREETS.
- LOCATION AND ELEVATION OF BENCH MARKS AND SOURCE.
- UTILITY SECTION LINES/REFERENCE POINTS.
- LOCATION OF BUILDING LINES, ADDRESS OF BUILDING(S) (BUILDING NUMBER) AND LOT/BLOCK OF EACH UNIT. SHOW BUILDING FINISH FLOOR ELEVATIONS.
- FULLY IDENTIFY ALL EASEMENTS WITH THEIR WIDTHS AS SHOWN ON THE APPROVED DESIGN DRAWINGS. CLEARLY SHOW ALL UTILITIES TO BE COVERED BY AN EASEMENT AND VERIFY THEY ARE WITHIN THE REQUIRED EASEMENT.
- ALL PLANNED INSTALLATIONS PER THE APPROVED DESIGN DRAWINGS SHALL BE SHOWN ON THE "AS-BUILT" DRAWINGS, INCLUDING TOILET BUILDING, STORM DRAINAGE, OTHER UTILITIES, ASPHALT ROADWAYS, CONCRETE WALKS, ETC.
- ANY CHANGES TO THE PLANNED INSTALLATIONS MADE DURING CONSTRUCTION MUST BE SHOWN ON THE AS-BUILT DRAWINGS.
- DISTANCES FROM RIGHT-OF-WAY LINES TO UTILITIES.
- SERVICE LINES TO BE LOCATED AT MAIN AND TERMINUS.
- TYPE OF PIPE - SIZE AND MATERIAL.
- METER SIZE AND LOCATION.
- UNLESS INSTRUCTED BY THE ENGINEER OR UTILITY PROVIDER, THE WATER AND SEWER SYSTEM WILL BE LOCATED WITH STATION AND OFFSET FROM A BASELINE USING THE MANHOLES OF THE SEWER SYSTEM AS THE BASELINE. IF IT IS NOT PRACTICAL TO UTILIZE THE SEWER SYSTEM MANHOLES AS A BASELINE THEN THE SURVEYOR WILL CONTACT THE ENGINEER OF RECORD SO THAT A SUBSTITUTE BASELINE MAY BE CHOSEN.
- ELEVATIONS OF THE WATER SYSTEM WILL BE TAKEN AND SHOWN AT THE:
A. TOP OF PIPE EVERY 100 FEET AND AT ALL DEFLECTION POINTS OR CHANGES IN DIRECTION.
B. TOP OF WALL FITTINGS INCLUDING THE BENDS, TEES, GATE VALVES, BACKFLOW PREVENTORS, DDCV, FIRE HYDRANTS, ETC.
C. TIE-INS TO EXISTING LINES.
D. THE ENDS OF ALL WATER SERVICES TO THE BUILDING OR HOMES OR WHERE THE WATER LINE TERMINATES.
- ELEVATIONS OF THE SEWER SYSTEM WILL BE TAKEN AND SHOWN AT:
A. ALL STRUCTURES TO INCLUDE THE LIM AND INVERTS
B. THE SUBJ ENDS OF ALL SEWER LATERALS INCLUDING THE INVERTS AT ALL CLEANOUTS.
- THE LENGTH, SIZE, MATERIAL AND SLOPE OF ALL SEWER MAINS WILL BE SHOWN.
- DRAINAGE STRUCTURES SHALL SHOW THE RIM/GRATE ELEVATION AND INVERTS OF ALL PIPES. PIPE INFORMATION WILL INCLUDE THE SIZE, MATERIAL AND LENGTH AND IF IT IS PERFORATED OR NON-PERFORATED. THE LENGTH AND WIDTH WILL ALSO BE SHOWN FOR ANY ADJOINING EXFILTRATION TRENCH.
- ROADWAY ELEVATIONS WILL BE SHOWN AT THE CROWN, EDGE OF PAVEMENT, HIGH POINTS, AND POINTS OF VERTICAL CURVE AT 100' (MAX.) OR FRACTION THEREOF AND AT EVERY LOCATION ON THE APPROVED DESIGN DRAWINGS SHOWN WITH AN ELEVATION. IF THE AS-BUILT ROADWAY ELEVATIONS SHOWN WERE NOT TAKEN ON FINISH ASPHALT OR CONCRETE, A NOTE WILL BE BOLDLY SHOWN INDICATING WHAT STAGE OF CONSTRUCTION THE ELEVATIONS WERE TAKEN, (SUCH AS FINISH CURB, FIRST LIFT OF ASPHALT, ETC.)

- LAKE, POND, CANAL, AND/OR WATERWAYS SHALL BE CROSS-SECTIONED AT 100 FOOT (MAX.) INTERVALS OR FRACTIONS THEREOF. THE CROSS SECTION LOCATIONS SHALL BE REFERENCED TO A PROPERTY LINE OR EASEMENT LINE IF POSSIBLE OR PRACTICAL. ELEVATIONS WILL BE SHOWN AT THE TOP OF BANK, EDGE OF WATER, PLANTED WETLAND VEGETATION, SLOPE BREAKPOINTS), AND BOTTOM. THE DESIGN TEMPLATE SHALL BE SHOWN SUPERIMPOSED ON EACH SECTION.
- PERIMETER BERMS SHALL BE CROSS-SECTIONED AT 100 FOOT (MAX.) INTERVALS OR FRACTIONS THEREOF. THE CROSS SECTION SHALL BE REFERENCED TO THE PROPERTY LINE WITH ELEVATIONS SHOWN AT THE TOP OF BERM, PROPERTY LINE, AND TOE OF BERM.
- DRAINAGE SWALES SHALL HAVE FLOWLINE ELEVATIONS SHOWN AT 100 FOOT (MAX.) INTERVALS OR FRACTION THEREOF.
- DRY RETENTION AREAS SHALL SHOW TOP AND BOTTOM ELEVATIONS AT 100 FOOT (MAX.) GRID POINTS OR FRACTION THEREOF.
- IDENTIFY PRIVATE SYSTEMS SUCH AS LIFT STATIONS, SEWER, WATER AND DRAINAGE LINES AND FORCE MAINS, NOT MAINTAINED BY THE CITY OF HALLANDALE BEACH OR UTILITY PROVIDERS.
- LOCATE AND IDENTIFY ANY ABANDONED UTILITY LINES.
- THE FOLLOWING CERTIFICATION STATEMENT SHALL APPEAR ON ALL AS-BUILT SUBMITTALS:
SURVEYOR'S CERTIFICATION:
I HEREBY CERTIFY THAT THE AS-BUILT MEASUREMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AS SURVEYED IN THE FIELD UNDER MY DIRECTION ON _____ P.L.S. # _____
"RECORD DRAWING"
THE INFORMATION SHOWN ON THIS RECORD DRAWING WAS SUPPLIED BY: _____ REGISTERED LAND SURVEYOR # _____ IN THE STATE OF FLORIDA.
THE ENGINEER'S SIGNATURE AND SEAL AFFIXED TO THIS DRAWING IS ONLY TO BE INTERPRETED TO CONFIRM THAT THE INFORMATION PROVIDED HAS BEEN REVIEWED FOR CONFORMANCE WITH ALL APPLICABLE ENGINEERING DESIGN STANDARDS

VIII. STORM DRAINAGE

- A. CONTRACTOR SHALL UTILIZE THE PIPE MATERIAL SPECIFIED ON THE PLANS, AS FURTHER SPECIFIED ON THE BELOW.
1. ALUMINUM (CAP)
a. PIPE SHALL BE ALUMINUM, MANUFACTURED IN CONFORMANCE WITH ASTM B-209.
b. PIPE SHALL BE SPIRAL RIB DRAINAGE PIPE WITH 3/8" X 8" RIBS, APPROXIMATELY 7-1/2" ON CENTER. GAUGE THICKNESS SHALL MEET FDOT STANDARD 945-1.
c. PIPE COUPLING BANDS SHALL BE 12" WIDE (MIN.) 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 PIPE.
2. REINFORCED CONCRETE (RPC)
a. CONCRETE PIPE FOR STORM SEWERS SHALL CONFORM TO ASTM C76 (AASHTO M170) OR LATEST REVISION; CLASS 1 OR AS SHOWN ON PLANS. ALL PIPE SHALL HAVE MODIFIED TONGUE AND GROOVE JOINTS, AND HAVE RUBBER GASKETS, UNLESS OTHERWISE SPECIFIED.
3. HIGH DENSITY POLYETHYLENE (HDPE) CORRUGATED AND SMOOTH
4. BEDDING AND INITIAL BACKFILL OVER DRAINAGE PIPE SHALL BE SAND WITH NO ROCK LARGER THAN 1" DIAMETER.
5. BACKFILL MATERIAL UNDER PAVED AREAS SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
6. BACKFILL MATERIAL UNDER AREAS NOT TO BE PAVED SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
7. CATCH BASINS SHALL BE PRECAST WITH 3,000 PSI (MIN.) CONCRETE STRENGTH (28 DAY COMPRESSIVE STRENGTH) WITH GRADE 40 REINFORCING STEEL.
8. TRENCH WIDTH SHALL BE SUFFICIENT TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIALS.
9. FOUNDATION AND BEDDING SHALL MEET THE REQUIREMENTS OF AASHTO M 145, A-1, A-2-4, A-2-5, A-3, OR AS REQUIRED BY THE CITY OF HALLANDALE BEACH. A STABLE AND UNIFORM BEDDING SHALL BE PROVIDED FOR THE PIPE AND ANY PROTRUDING FEATURES OF ITS JOINT AND/OR FITTINGS.
10. STRUCTURAL BACKFILL SHALL ALSO MEET THE REQUIREMENTS OF AASHTO M 145, A-1, A-2-4, A-2-5, A-3, OR AS REQUIRED BY THE CITY OF HALLANDALE BEACH.

IX. PAVING

- A. GENERAL
1. ALL UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO THE CONSTRUCTION OF THE LIMEROCK BASE AND PRIOR TO THE PLACEMENT OF THE PAVEMENT.
2. ALL STREET CORNER PAVEMENT RADI SHALL BE 35 FEET UNLESS OTHERWISE NOTED ON THE PLANS.
B. MATERIALS
1. LIMEROCK BASE MATERIAL SHALL HAVE A MINIMUM OF 70% CARBONATES (CALCIUM AND MAGNESIUM) WITH A MINIMUM LBR OF 100.
2. PRIME COAT AND TACK COAT SHALL MEET FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARDS.
3. ASPHALTIC CONCRETE SHALL BE EQUAL TO FDOT TYPE S-III AND A MINIMUM OF 1 1/2" COMPACTED THICKNESS, PLACED IN TWO (2) 3/4" LIFTS OR AS SPECIFIED ON PLANS.
C. INSTALLATION
1. LIMEROCK BASE MATERIAL SHALL BE 8" THICK AND SHALL BE COMPACTED TO 98% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T-180, PLACED IN TWO OR MORE EQUAL LIFTS, AND SHALL HAVE A MINIMUM OF 70% CARBONATES (CALCIUM AND MAGNESIUM) WITH A MINIMUM LBR OF 100.
2. 12" STABILIZED SUBGRADE, MINIMUM LBR 40, COMPACTED TO 100% MAXIMUM DRY DENSITY PER AASHTO T-99C.
3. PRIME COAT SHALL BE PLACED ON ALL FINAL COURSE LIMEROCK BASES IN ACCORDANCE WITH FDOT STANDARDS.
4. TACK COAT SHALL BE PLACED AS REQUIRED IN ACCORDANCE WITH FDOT STANDARDS.
5. ALL PAVED AREAS SHALL BE DEMUCKED. REMOVE ALL SOIL OF TYPE A-5, A-7, AND A-8.
6. REPLACE MUCK IN SWALE AND RETENTION AREAS WITH CLEAN FILL. USE 2" TOPSOIL AND SOD.
D. TESTING
ALL SUBGRADE, LIMEROCK AND ASPHALT TESTS REQUIRED SHALL BE TAKEN AT THE DIRECTION OF THE ENGINEER.

X. UTILITY OWNERS

- A. CITY OF HALLANDALE BEACH (954) 457-1607
B. FLORIDA POWER AND LIGHT (800) 868-9554
C. TECO PEOPLES GAS COMPANY (954) 453-0824
D. AT&T DISTRIBUTION (954) 723-2540
E. COMCAST (954) 447-8405

GENERAL SPECIFICATIONS FOR SEWER SYSTEMS

- 1. PVC FOR FORCE MAINS (8" MAX. SIZE) SHALL CONFORM TO ANSI/AWWA C900-97 AND C902-88 AND HAVE A DR OF 18 FOR CLASS 150 AND A DR OF 14 FOR CLASS 200.
2. DIP SHALL BE EPOXY-LINED AND SEAL COATED IN ACCORDANCE WITH ANSI/AWWA C151/A21.51-02 AND C104/A21.4-95. PRESSURE CLASS 350 FOR PIPE 4" THRU 24" IN DIAMETER.
3. FITTINGS FOR FORCE MAINS SHALL BE CAST IRON OR DUCTILE IRON, MECHANICAL JOINT, MEETING ANSI/AWWA C110/A21.10-98 AND EPOXY-LINED AND SEAL COATED PER ANSI/AWWA C151/A21.51-02 AND ANSI/AWWA C104/A21.4-95.
4. VALVES 4" AND LARGER SHALL BE RESILIENT SEAT WITH NON-RISING STEM AND COMPLY WITH ANSI/AWWA C509-01.
5. THE MINIMUM DEPTH OF COVER FROM TOP OF PIPE TO FINISH GRADE IS 36" FOR PVC AND 30" FOR DIP.
6. ALL INSTALLATION AND TESTING SHALL COMPLY WITH ANSI/AWWA C600-99.
7. MAXIMUM FORCE MAIN PIPE DEFLECTION IS 75% OF MANUFACTURER'S MAXIMUM ALLOWABLE DEFLECTION.
8. FORCE MAINS, FITTINGS AND VALVES SHALL BE TESTED UNDER AN AVERAGE PRESSURE GREATER THAN 150 PSI FOR A MINIMUM PERIOD OF 2 HOURS AND SHALL NOT EXCEED THE LEAKAGE PER THE FOLLOWING FORMULA:
Q = LD (P)^1/2
Q = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
L = TOTAL LENGTH OF PIPE TESTED IN FEET
D = DIAMETER OF THE PIPE TESTED IN INCHES
P = AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH

- 9. GRAVITY LINES SHALL BE LAMPED TO DETERMINE ALIGNMENT AND TIGHTNESS OF THE JOINTS AND TESTED FOR EXFILTRATION OR AS REQUIRED BY CITY. ALL TESTING SHALL BE WITNESSED BY THE CITY, ENGINEER AND OWNERS REPRESENTATIVE.
10. LEAKAGE TESTS ARE SPECIFIED REQUIRING THAT: 1) THE LEAKAGE EXFILTRATION OR INFILTRATION DOES NOT EXCEED 200 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM; 2) EXFILTRATION OR INFILTRATION TESTS BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET; AND 3) AIR TESTS AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828 FOR CLAY PIPE, ASTM C 924 FOR CONCRETE PIPE, ASTM F-1417 FOR PLASTIC PIPE, AND FOR OTHER MATERIALS APPROPRIATE TEST PROCEDURE. THE ALLOWABLE LIMITS OF INFILTRATION OR EXFILTRATION OF MANHOLES SHALL NOT EXCEED A RATE OF 4 GALLONS PER MANHOLE PER 24 HOURS.
11. APPROPRIATE GRAVITY SEWER DEFLECTION TESTS ARE SPECIFIED FOR ALL FLEXIBLE PIPE. TESTING IS REQUIRED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE 72 HOURS TO PERMIT STABILIZATION OF THE SOIL PRIOR TO SYSTEM TESTING. TESTING REQUIREMENTS SPECIFY: 1) NO PIPE SHALL EXCEED A DEFLECTION OF 5%; 2) USING A RIGID BALL OR MANDREL FOR THE DEFLECTION TEST WITH A DIAMETER NOT LESS THAN 90% OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE, DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATIONS, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED; AND 3) PERFORMING THE TEST WITHOUT MECHANICAL PULLING DEVICES.

- 12. PRECAST CONCRETE STRUCTURES SHALL BEAR THE STAMP OF A CERTIFIED ENGINEERING TESTING LABORATORY, SIGNED AND DATED, CERTIFYING THAT THEY MEET THE REQUIREMENTS OF ASTM C-478 FOR CONCRETE STRENGTH, STEEL REINFORCEMENT AREA AND PLACEMENT. STRUCTURES MUST BE INSPECTED BY THE CITY PRIOR TO INSTALLATION.
13. CONCRETE FOR PRECAST STRUCTURES OR CAST-IN-PLACE STRUCTURES SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. CEMENT USED IN STRUCTURES SHALL BE TYPE II.
14. MINIMUM WALL/BASE THICKNESS FOR PRECAST STRUCTURES SHALL BE 8 INCHES.
15. REINFORCING STEEL FOR STRUCTURES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-618 AND A-36. ALL REINFORCING STEEL SHALL HAVE A MINIMUM LAP OF 24 BAR DIAMETERS. MINIMUM COVER OVER REINFORCEMENT SHALL BE 2 INCHES.
16. OPENINGS IN PRECAST STRUCTURES SHALL BE CAST AT THE TIME OF MANUFACTURE.
17. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (PIPE, PRECAST STRUCTURE, ETC.) TO THE ENGINEER OF RECORD, THE CITY FOR APPROVAL.
18. ALL STRUCTURES SHALL BE SET PLUMB TO LINE AND GRADE AND REST ON A FIRM SUBGRADE, PROVIDING UNIFORM BEARING UNDER THE BASE.
19. MANHOLE SECTIONS SHALL BE JOINED WITH A MASTIC COMPOUND PRODUCING A WATERIGHT SEAL. THE REMAINING SPACE SHALL BE FILLED WITH CEMENT MORTAR AND FINISHED SO AS TO PRODUCE A SMOOTH CONTINUOUS SURFACE INSIDE AND OUTSIDE THE WALL JOINT.
20. ALL SPACES AROUND PIPES ENTERING OR LEAVING MANHOLES SHALL BE COMPLETELY FILLED WITH NON-SHRINKING GROUT.
21. ALL GRAVITY SEWER PIPE SHALL BE PVC OR DIP. PVC PIPE SHALL CONFORM TO ASTM D-3034, SDR 35 (UNLESS OTHERWISE SPECIFIED), WITH PUSH-ON RUBBER GASKET JOINTS. DIP SHALL CONFORM TO THE SPECIFICATIONS FOR FORCE MAINS.
22. PVC LINES ENTERING OR LEAVING STRUCTURES SHALL HAVE MANHOLE ADAPTER COUPLINGS PER CITY OF HALLANDALE BEACH.

- 23. CONNECTIONS TO EXISTING MAINS, AND OPENING/CLOSING OF EXISTING VALVES SHALL BE MADE UNDER THE DIRECTION AND/OR SUPERVISION OF THE UTILITIES DEPARTMENT.
24. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF HALLANDALE BEACH "MINIMUM DESIGN AND CONSTRUCTION STANDARDS" AND APPLICABLE CODES.
25. TWO COATS OF KOPPER'S 300M OR APPROVED EQUAL SHALL BE APPLIED TO THE OUTSIDE AND TWO COATS OF SEWER COAT OR APPROVED EQUAL TO THE INSIDE OF THE MANHOLES (MINIMUM 10 MILS. THICK PER COAT).
26. DUCTILE IRON SEWER PIPE FOR GRAVITY MAINS SHALL BE PRESSURE CLASS 350 EPOXY-LINED.
27. LENGTHS SHALL BE INSTALLED AT ALL SEWER SERVICES EXCEEDING 75' IN CLEAR (EVERY 75' MAX.) WITH A CLEANOUT AT THE PROPERTY LINE, EASEMENT LINE, OR 5' FROM LINE OF BUILDING. THE CONTRACTOR SHALL COORDINATE THE LOCATION THE BUILDING CLEANOUT (5' FROM THE BUILDING) AND ELEVATION OF THE END OF THE SEWER SERVICE WITH THE BUILDING PLUMBING CONTRACTOR.
28. AT SEWER MAINS AND SERVICES, UP TO AND INCLUDING THE END OF THE SERVICE, SHALL BE CONSTRUCTED WITH UTILITY EASEMENTS AS SPECIFIED ON PLANS.
29. THE ENTIRE SYSTEM SHALL BE CLEANED PRIOR TO LAMPING OF THE LINES.
30. THE CONTRACTOR, AT NO EXPENSE TO THE OWNER, CITY OR COUNTY, SHALL PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS AND SHALL CONDUCT ALL TESTING REQUIRED, UNDER THE DIRECTION OF THE ENGINEER.
31. LABORATORY AND FIELD DENSITY TESTS, WHICH, IN THE OPINION OF THE ENGINEER ARE NECESSARY TO ESTABLISH COMPLIANCE WITH THE COMPACTION REQUIREMENTS OF THESE SPECIFICATIONS, SHALL BE CONDUCTED AT THE EXPENSE OF THE CITY. TESTS SHALL BE MADE AT SUCH DEPTHS AND LOCATIONS AS SELECTED BY THE ENGINEER.
32. TRENCH BACKFILL WHICH DOES NOT COMPLY WITH THE SPECIFIED DENSITIES, AS INDICATED BY SUCH TESTS, SHALL BE REWORKED AND RECOMPACTED UNTIL THE REQUIRED COMPACTION IS ACHIEVED, WITH ANY RESULTING COST BORNE BY THE CONTRACTOR.
33. AFTER ALL OTHER TESTING HAS BEEN SUCCESSFULLY COMPLETED, A TELEVISION INSPECTION OF ANY OR ALL LINES SHALL BE MADE. ANY DEFECTIVE WORK OR NECESSARY CORRECTIONS BROUGHT OUT DURING THIS INSPECTION MUST BE CORRECTED BY THE CONTRACTOR, AT HIS EXPENSE, BEFORE THE LINES CAN BE ACCEPTED FOR MAINTENANCE BY THE OWNER/CITY. ALL MUD, SAND, DEBRIS AND OTHER DEPOSITS SHALL BE REMOVED BY APPROVED METHODS.

- 34. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEANS TO ISOLATE ALL NEW WATER MAIN CONSTRUCTION FROM EXISTING MAINS UNTIL THE TESTING OF THE NEW MAINS HAS BEEN SATISFACTORILY COMPLETED AND ACCEPTED.
35. FINAL INSPECTION MUST BE ARRANGED WITH THE ENGINEER BY WRITTEN NOTIFICATION A MINIMUM OF 48 HOURS IN ADVANCE.
36. ALL JOINTS TO BE RESTRAINED USING "MEGALUG" (OR APPROVED EQUAL) IN COMPLIANCE WITH ALL APPLICABLE AWWA STANDARDS.
37. ALL WORK SHALL COMPLY WITH THE TRENCH SAFETY PROGRAM.
38. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (PIPE, FITTINGS, FIRE HYDRANTS, ETC.) TO THE ENGINEER OF RECORD AND/OR THE CITY FOR APPROVAL.
39. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF HALLANDALE BEACH "MINIMUM DESIGN AND CONSTRUCTION STANDARDS" AND OTHER APPLICABLE CODES.
40. DEFLECT WATER MAINS AS NECESSARY TO AVOID CONFLICTS WITH OTHER UTILITIES.
41. THE CONTRACTOR SHALL COORDINATE THE LOCATION AND ELEVATION OF THE ENDS OF THE WATER SERVICES WITH THE BUILDING PLUMBING CONTRACTOR.
42. PIPE AND PIPE FITTINGS SHALL BE COLOR CODED OR MARKED IN ACCORDANCE WITH 62-555.320(21)(b)3, F.A.C., USING BLUE AS A FREEDOMIAN COLOR.

WATER AND SEWER SEPARATION NOTES

- 1. 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 12 INCHES BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHENEVER POSSIBLE.
WHERE SANITARY SEWERS AND FORCE MAINS MUST CROSS A WATER MAIN WITHIN 12 INCHES OF THE CROSSING, BOTH THE PERMITTING PROCESS, SEWER/FORCE MAIN AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 6 FEET BETWEEN ANY TWO JOINTS. THE JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.

- ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING. CENTERED ON THE CROSSING. THERE A NEW PIPE OR CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 12 INCHES VERTICAL CLEARANCE. THE FOOT PIPE SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.
2. A MINIMUM 6 FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.
IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 6 FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELVE LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE THE TOP OF THE SEWER/FORCE MAIN.
WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 12 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SANITARY SEWER OR THE 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 JOINTS).
3. ALL DIP SHALL BE PRESSURE CLASS 350 (4" THRU 24"). ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED.

GENERAL SPECIFICATIONS FOR WATER SYSTEMS

- 1. PIPE SHALL BE PVC C-900, CLASS 150 (OR APPROVED EQUIVALENT) AND CONFORM TO ANSI/AWWA C900-07 AND C902-88 (LATEST REVISION). DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENTS OF AWWA C-151 ANSI STANDARD A21.51-02 (LATEST REVISION) W/ 4" TO 24" BEING OF PRESSURE CLASS 350 AND 30" TO 64" BEING OF PRESSURE CLASS 250.
2. FITTINGS SHALL BE DUCTILE IRON, MECHANICAL JOINT, OR EQUIVALENT, MEETING ANSI/AWWA C110/A21.10-98 AND CEMENT-MORTAR AND SEAL COATED PER ANSI/AWWA C151/A21.51-02 AND ANSI/AWWA C104/A21.4-03 (OR LATEST REVISION).
3. VALVES 4" AND LARGER SHALL BE RESILIENT SEAT WITH NON-RISING STEM AND COMPLY WITH ANSI/AWWA C509-01.
4. THE MINIMUM DEPTH FROM TOP OF PIPE TO FINISHED GRADE IS 36" FOR PVC AND 30" FOR DIP.
5. ALL PIPE, FITTINGS AND VALVES SHALL BE TESTED UNDER AN AVERAGE PRESSURE GREATER THAN 150 PSI FOR A MINIMUM PERIOD OF 2 HOURS AND SHALL NOT EXCEED THE LEAKAGE PER THE FOLLOWING FORMULA:
Q = LD (P)^1/2
Q = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
L = TOTAL LENGTH OF PIPE TESTED IN FEET
D = DIAMETER OF THE PIPE TESTED IN INCHES
P = AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH

- 6. ALL INSTALLATION AND TESTING SHALL COMPLY WITH ANSI/AWWA C600-05.
7. DISINFECTION SHALL COMPLY WITH ANSI/AWWA C651-05.
8. MAXIMUM PIPE/JOINT DEFLECTION AT 75% OF MANUFACTURER'S MAXIMUM ALLOWABLE DEFLECTION.
9. ALL FIRE HYDRANTS SHALL BE OF THE DRY-BARREL TYPE AND SHALL CONFORM IN DESIGN, MATERIAL AND WORKMANSHIP TO AWWA C502-05. HYDRANTS SHALL HAVE A FIVE AND ONE-QUARTER INCH MAIN VALVE OPENING AND A THREE-WAY NOZZLE ARRANGEMENT.
THE DEPTH OF BURY, MEASURED FROM THE BOTTOM OF THE CONNECTING PIPE TO THE GROUND LINE OF THE HYDRANT SHALL BE THREE FEET SIX INCHES (MINIMUM). EXACT DEPTH AT EACH LOCATION SHALL BE DETERMINED BY DEPTH OF LINE TO WHICH THE HYDRANT IS CONNECTED.
TWO - 2 1/2 INCH HOSE NOZZLES AND ONE - 4 1/2 INCH PUMP NOZZLE CONNECTION THREADS SHALL CONFORM TO NFPA NO. 194 (ANSI B26) STANDARD FOR SCREW THREADS AND GASKETS FOR FIRE HOSE COUPLINGS.

- HYDRANTS SHALL BE SUPPLIED WITH ACCESSORIES TO INCLUDE MECHANICAL JOINT FOLLOWER RINGS WITH SETSCREWS AND AT LEAST ONE ADJUSTABLE BALL BEARING, PROVIDING UNIFORM BEARING UNDER THE BASE. HYDRANTS SUPPLIED, BARREL EXTENSION SECTIONS SHALL NOT BE ALLOWED ON NEW FIRE HYDRANTS, EXCEPT BY SPECIAL PERMISSION FROM THE UTILITY DEPARTMENT.
MANUFACTURERS: MUELLER MODEL SUPER CENTURION 250 5/8" SIZE (REFERENCE CATALOG NO. A-423) AND AMERICAN-DARLING (MODEL B-62B AND B-84B, CLOG 2500) OR APPROVED EQUAL.
PAINTING: COLOR TO BE SPECIFIED BY CITY AND/OR UTILITY PROVIDER. THE OUTSIDE OF THE HYDRANT ABOVE FINISHED GRADE SHALL BE THOROUGHLY CLEANED USING COMMERCE-GRANDED SAND BLASTING TO BARE METAL AND PRIMED WITH RUST-OLEUM No. 1060 HEAVY DUTY RUST INHIBITIVE PRIME.
PAVEMENT REFLECTORS: ONE BI-DIRECTIONAL BLUE TRAFFIC REFLECTOR SHALL BE AFFIXED TO THE PAVEMENT BY AN EPOXY ADHESIVE. REFLECTORS ARE 4" X 4" X 3/4" REFLECTIVE IN TWO DIRECTIONS; REFLECTORS SHALL BE AFFIXED TO THE PAVEMENT OPPOSITE EACH FIRE HYDRANT IN THE CENTER OF THE TRAFFIC LANE DIRECTLY IN FRONT OF AND IN THE CLOSEST TRAFFIC LANE TO THE HYDRANT.
THERE SHALL BE NO SHRUBBERY PLANTED WITHIN 6 FEET OF ANY FIRE HYDRANT.
10. NO ALLOWABLE LEAKAGE FOR FIRE HYDRANTS.
11. CONNECTIONS TO EXISTING MAINS, OPENING/CLOSING OF EXISTING VALVES SHALL BE MADE UNDER THE DIRECTION AND/OR SUPERVISION OF THE UTILITIES DEPARTMENT.
12. ALL WATER SERVICES SHALL BE CONSTRUCTED TO WITHIN 5' OF THE BUILDING OR TO THE PROPERTY LINE, UNLESS OTHERWISE SHOWN.
13. THE ENTIRE SYSTEM SHALL BE FLUSHED AND SHALL BE CLEAN PRIOR TO DISINFECTION PROCEDURES.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEANS TO ISOLATE ALL NEW WATER MAIN CONSTRUCTION FROM EXISTING MAINS UNTIL THE TESTING OF THE NEW MAINS HAS BEEN SATISFACTORILY COMPLETED AND ACCEPTED.
15. FINAL INSPECTION MUST BE ARRANGED WITH THE ENGINEER BY WRITTEN NOTIFICATION A MINIMUM OF 48 HOURS IN ADVANCE.
16. ALL JOINTS TO BE RESTRAINED USING "MEGALUG" (OR APPROVED EQUAL) IN COMPLIANCE WITH ALL APPLICABLE AWWA STANDARDS.
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PRELIMINARY PLAN NOT FOR CONSTRUCTION

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Date: 11/14/2014 KEITH & ASSOCIATES, INC.

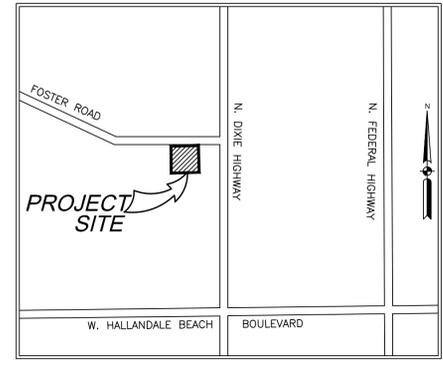
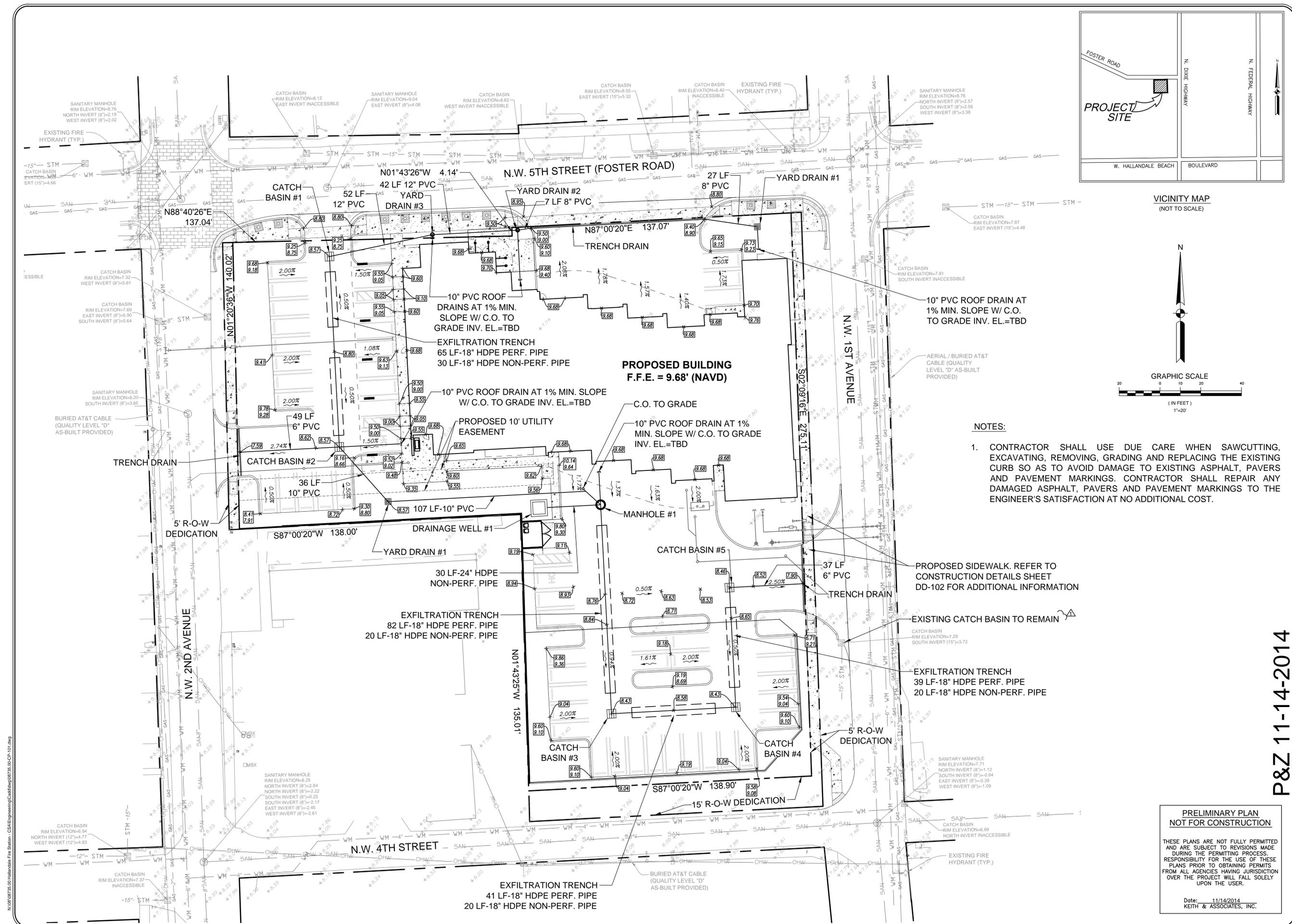
DATE: 08/17/2014
SCALE: AS INDICATED
DRAWN BY: M.A.
DESIGN BY: S.B.
CHECKED BY: J.T.

REVISION
DATE

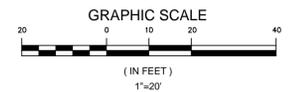
VALUES & TITLES TO BE USED FOR THE FINAL

K&A consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPAN0 BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7928

PAINTING: COLOR TO BE SPECIFIED BY CITY AND/OR UTILITY PROVIDER. THE OUTSIDE OF THE HYDRANT ABOVE FINISHED



VICINITY MAP
(NOT TO SCALE)



NOTES:

- CONTRACTOR SHALL USE DUE CARE WHEN SAWCUTTING, EXCAVATING, REMOVING, GRADING AND REPLACING THE EXISTING CURB SO AS TO AVOID DAMAGE TO EXISTING ASPHALT, PAVERS AND PAVEMENT MARKINGS. CONTRACTOR SHALL REPAIR ANY DAMAGED ASPHALT, PAVERS AND PAVEMENT MARKINGS TO THE ENGINEER'S SATISFACTION AT NO ADDITIONAL COST.

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Date: 11/14/2014
KEITH & ASSOCIATES, INC.

DATE:	09/17/2014
SCALE:	AS INDICATED
DRAWN BY:	A.L.
DESIGN BY:	S.E.
CHECKED BY:	J.T.

REVISION	DATE	DESCRIPTION

JAMES A. THELLE, P.E.
FLORIDA REG. NO. 33266
(FOR THE FIRM)

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STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7928

**HALLANDALE BEACH FIRE STATION 7
& EOC FACILITY
PAVING, GRADING, DRAINAGE PLAN
CITY OF HALLANDALE BEACH
BROWARD COUNTY**

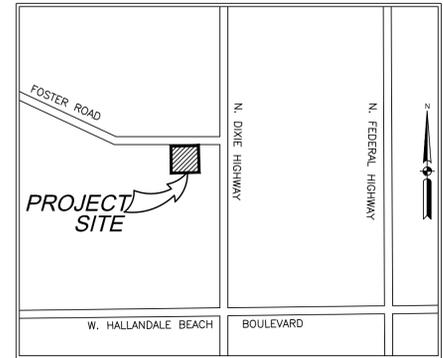
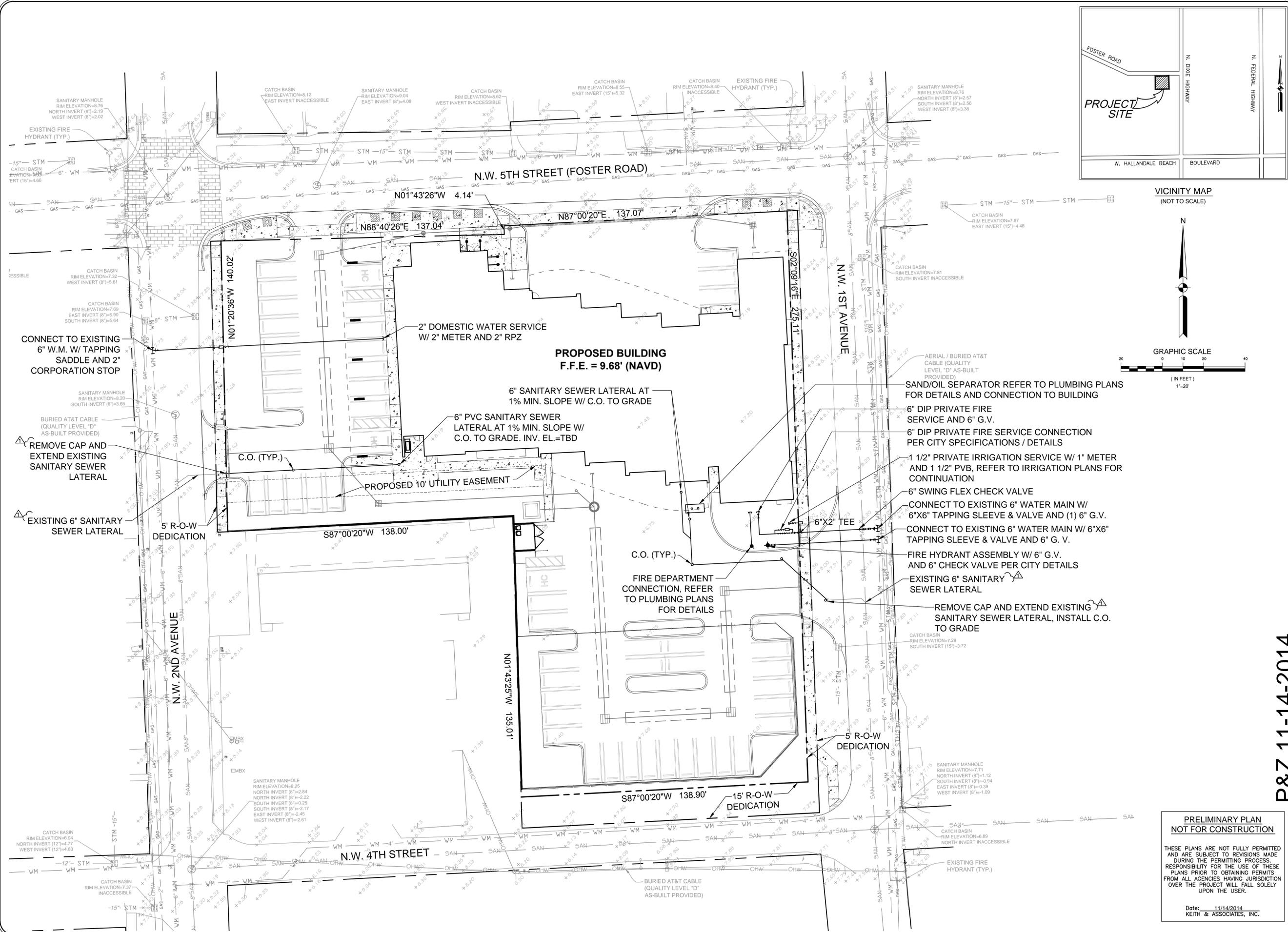
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PROJECT NO. 08735.00

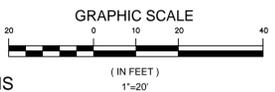
P&Z 11-14-2014

N:\08735.00 Hallandale Fire Station - CSA\Engineering\Cadd\p08735.00-CP-101.dwg

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VICINITY MAP (NOT TO SCALE)



**PROPOSED BUILDING
F.F.E. = 9.68' (NAVD)**

2" DOMESTIC WATER SERVICE
W/ 2" METER AND 2" RPZ

6" SANITARY SEWER LATERAL AT
1% MIN. SLOPE W/ C.O. TO GRADE

6" PVC SANITARY SEWER
LATERAL AT 1% MIN. SLOPE W/
C.O. TO GRADE. INV. EL.=TBD

PROPOSED 10' UTILITY EASEMENT

FIRE DEPARTMENT
CONNECTION, REFER
TO PLUMBING PLANS
FOR DETAILS

SAND/OIL SEPARATOR REFER TO PLUMBING PLANS
FOR DETAILS AND CONNECTION TO BUILDING

6" DIP PRIVATE FIRE
SERVICE AND 6" G.V.

6" DIP PRIVATE FIRE SERVICE CONNECTION
PER CITY SPECIFICATIONS / DETAILS

1 1/2" PRIVATE IRRIGATION SERVICE W/ 1" METER
AND 1 1/2" PVB, REFER TO IRRIGATION PLANS FOR
CONTINUATION

6" SWING FLEX CHECK VALVE

CONNECT TO EXISTING 6" WATER MAIN W/
6"X6" TAPPING SLEEVE & VALVE AND (1) 6" G.V.

CONNECT TO EXISTING 6" WATER MAIN W/ 6"X6"
TAPPING SLEEVE & VALVE AND 6" G. V.

FIRE HYDRANT ASSEMBLY W/ 6" G.V.
AND 6" CHECK VALVE PER CITY DETAILS

EXISTING 6" SANITARY
SEWER LATERAL

REMOVE CAP AND EXTEND EXISTING
SANITARY SEWER LATERAL, INSTALL C.O.
TO GRADE

**PRELIMINARY PLAN
NOT FOR CONSTRUCTION**

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DURING THE PERMITTING PROCESS.
RESPONSIBILITY FOR THE USE OF THESE
PLANS PRIOR TO OBTAINING PERMITS
FROM ALL AGENCIES HAVING JURISDICTION
OVER THE PROJECT WILL FALL SOLELY
UPON THE USER.

Date: 11/14/2014
KEITH & ASSOCIATES, INC.

DATE:	09/17/2014
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DRAWN BY:	A.L.
DESIGN BY:	S.E.
CHECKED BY:	J.T.

REVISION	DATE	DESCRIPTION
	11/14/14	DRG COMMENTS

JAMES A. THELE, P.E.
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STATE OF FLORIDA CERTIFICATE OF
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**HALLANDALE BEACH FIRE STATION 7
& EOC FACILITY
WATER AND SEWER PLAN**

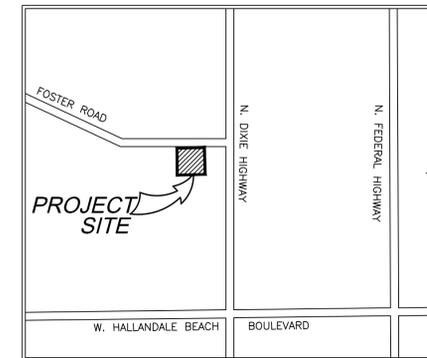
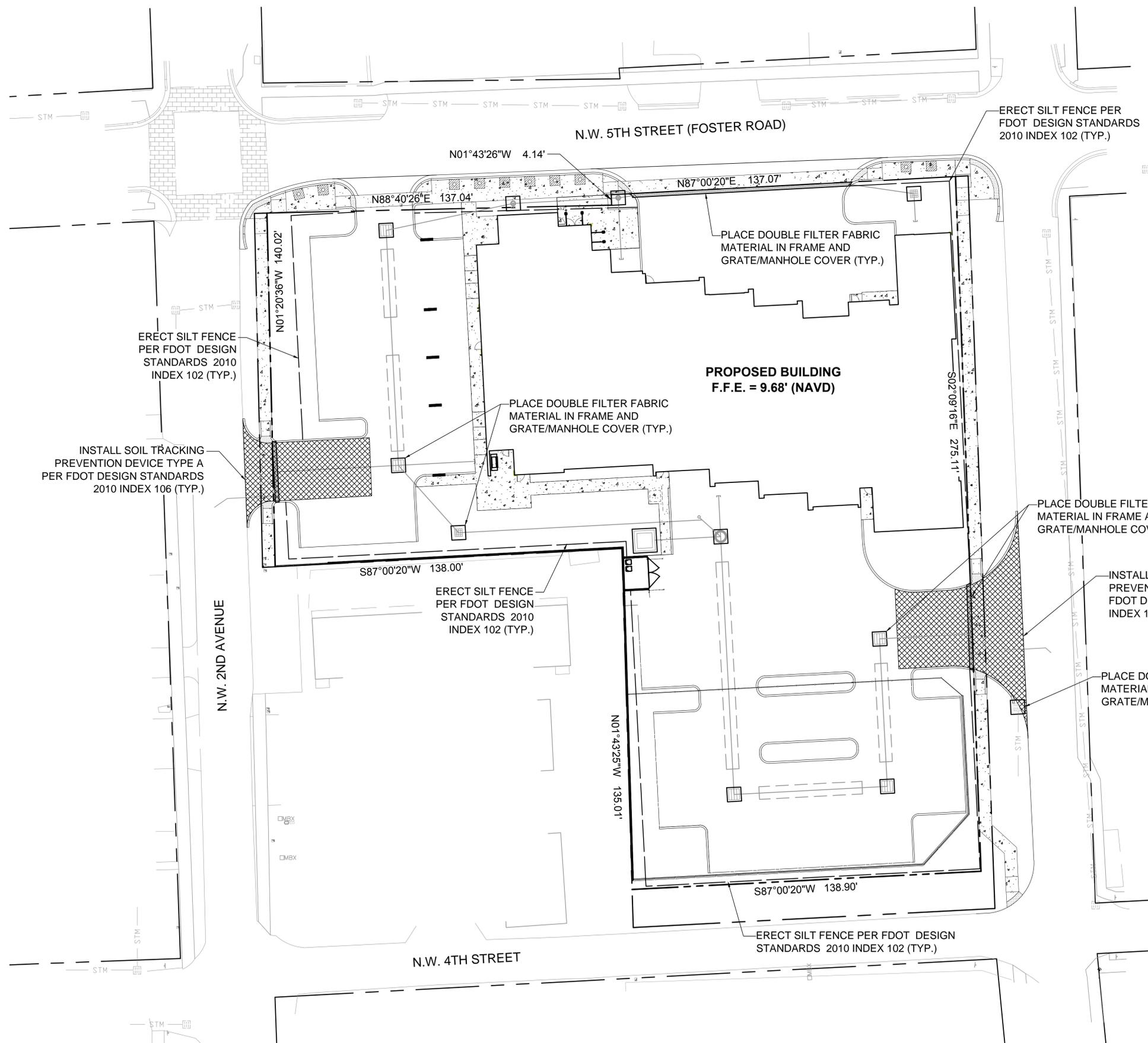
BROWARD COUNTY
CITY OF HALLANDALE BEACH

SHEET NO. **CU-101**

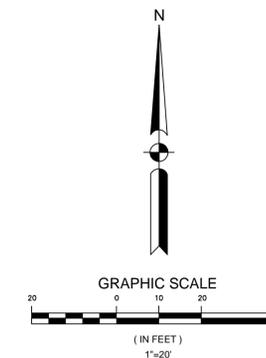
PROJECT NO. **08735.00**

P&Z 11-14-2014

N:\08\08735.00 Hallandale Fire Station - CSA\Engineering\Cadd\08735.00-CG-101.dwg



VICINITY MAP
(NOT TO SCALE)



DATE: 09/17/2014
 SCALE: AS INDICATED
 DRAWN BY: A.L.
 DESIGN BY: S.E.
 CHECKED BY: J.T.

REVISION	DATE

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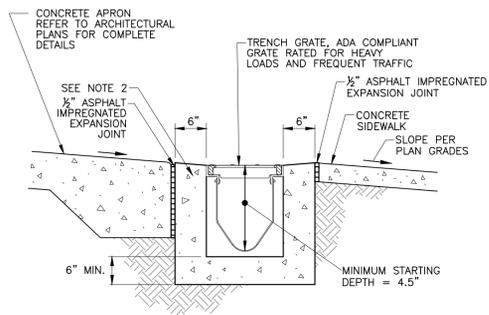
**PRELIMINARY PLAN
 NOT FOR CONSTRUCTION**

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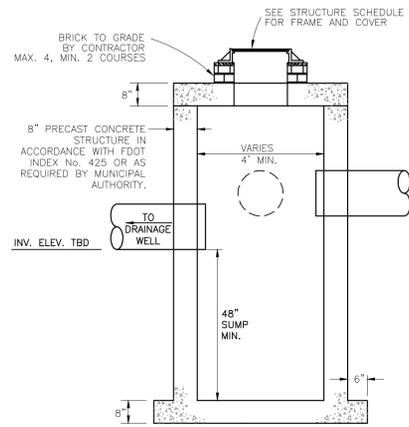
**HALLANDALE BEACH FIRE STATION 7
 & EOC FACILITY
 STORM WATER POLLUTION PREVENTION
 PLAN**
 CITY OF HALLANDALE BEACH BROWARD COUNTY

SHEET NO. **CG-101**
 PROJECT NO. **08735.00**



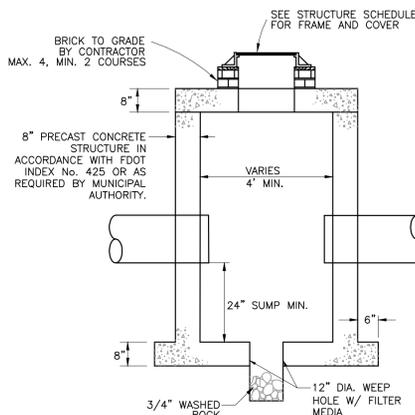
- NOTES:
1. TRENCH DRAIN BY ACO - KS100S HEAVY DUTY, Q.E.
 2. 3,000 PSI MIN. CONCRETE STRENGTH, CONCRETE TO BE VIBRATED TO ELIMINATE AIR POCKETS.
 3. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR COMPLETE DETAILS.

TRENCH DRAIN DETAIL
N.T.S.



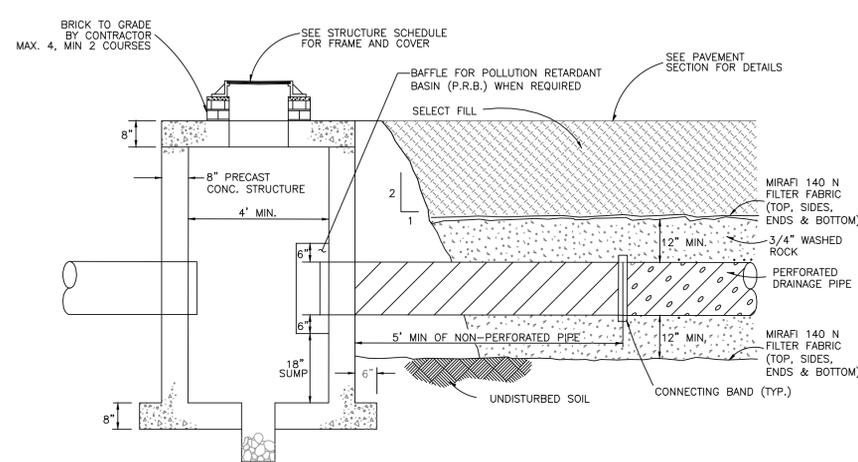
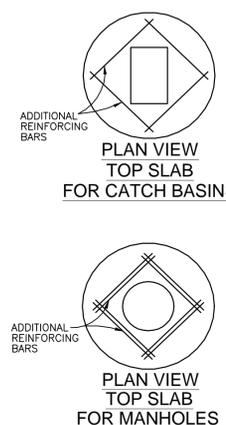
- NOTE:
- STRUCTURE MANUFACTURER AND/OR CONTRACTOR SHALL CONFIRM ALL STEEL REINFORCEMENT MEETS FDOT STANDARDS PER INDEX 200, SECTION 415 AND 425 PRIOR TO SUBMITTING ANY SHOP DRAWINGS FOR APPROVAL.

MANHOLE #1
N.T.S.

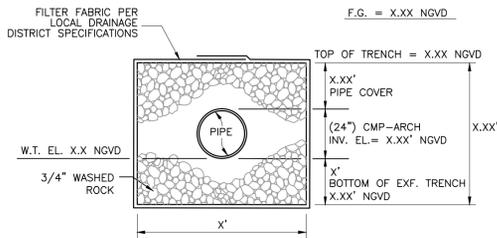


- NOTES:
1. STRUCTURE MANUFACTURER AND/OR CONTRACTOR SHALL CONFIRM ALL STEEL REINFORCEMENT MEETS FDOT STANDARDS PER INDEX 200, SECTION 415 AND 425 PRIOR TO SUBMITTING ANY SHOPDRAWINGS FOR APPROVAL.
 2. USE WEEP HOLE ONLY WHEN BOTTOM OF STRUCTURE IS ABOVE THE WATER TABLE ELEVATION.

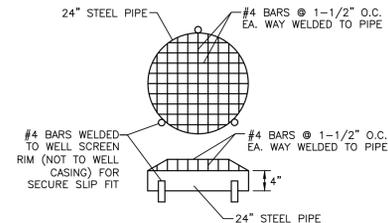
TYPICAL CATCH BASIN / MANHOLE
N.T.S.



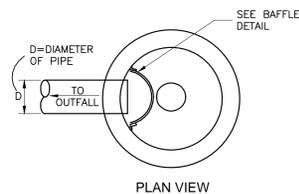
CATCH BASIN W/P.R.B. AND EXFILTRATION TRENCH
N.T.S.



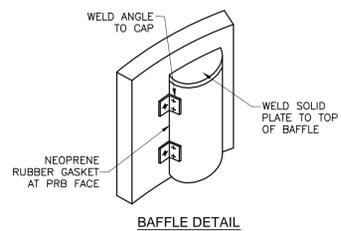
EXFILTRATION TRENCH SECTION
N.T.S.



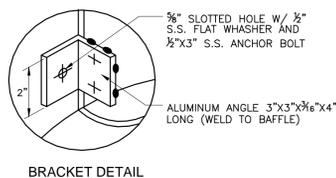
WELL SCREEN DETAIL
N.T.S.



PLAN VIEW



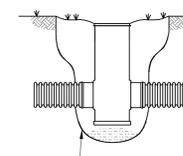
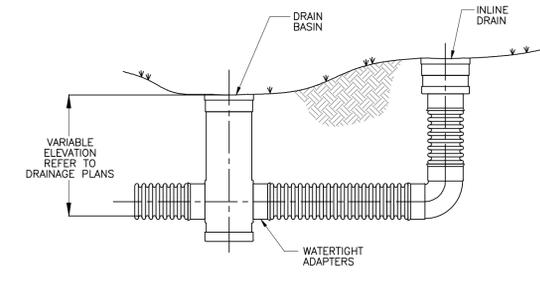
BAFFLE DETAIL



BRACKET DETAIL

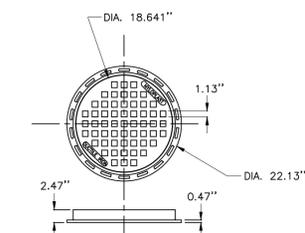
- NOTE:
- BAFFLE TO BE A SECTION OF CAP CUT IN HALF. CAP FOR BAFFLE SHALL BE THE NEXT STANDARD PIPE DIAMETER LARGER THAN THE INFLOW/OUTFLOW PIPE.

POLLUTION RETARDANT BAFFLE DETAIL
N.T.S.



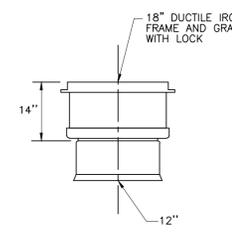
DRAIN BASIN

- BACKFILL MATERIAL SHALL BE CRUSHED STONE OR GRAVEL MATERIAL MEETING CLASS 1 OR 2 AS SPECIFIED IN ASTM D2321. BACKFILL MATERIAL SHALL BE PLACED UNIFORMLY IN 12" LIFTS AND COMPACTED TO 90 - 95% DENSITY.

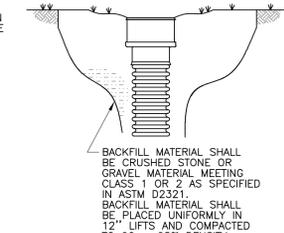


- NOTES:
1. STANDARD GRATE HAS H-25 HEAVY DUTY RATING
 2. QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
 3. MATERIAL: DUCTILE IRON
 4. PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
 5. NYLOPLAST LOCKING OPTION ALTERNATIVE: USE 3/8" HEX BOLT & NUT IN 3 OR 4 EQUALLY SPACED PLACES TO SECURE FRAME TO BASIN BODY (FIELD DRILL SIDE WALL OF CASTING FRAME & DRAIN BASIN FOR FIELD INSTALLATION OF BOLTS).

STANDARD GRATE/COVER WITH NYLOPLAST LOCKING OPTION



INLINE DRAIN



INLINE DRAIN

- BACKFILL MATERIAL SHALL BE CRUSHED STONE OR GRAVEL MATERIAL MEETING CLASS 1 OR 2 AS SPECIFIED IN ASTM D2321. BACKFILL MATERIAL SHALL BE PLACED UNIFORMLY IN 12" LIFTS AND COMPACTED TO 90 - 95% DENSITY.

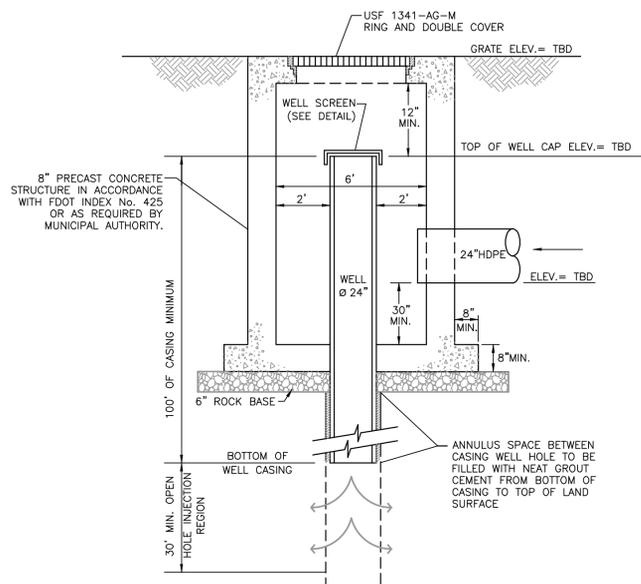
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THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS. RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE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

Date: 11/14/2014
KEITH & ASSOCIATES, INC.

- DRAINAGE WELL NOTES:
- 1) 24" DIAMETER WELL, CONTRACTOR TO DEVELOP WELL CAPABLE OF DISCHARGING A TBD GPM PER FOOT OF HEAD. FINAL WELL DIMENSIONS TO BE DETERMINED BY A LICENSED WELL CONTRACTOR. FINAL DEPTH OF CASING TO BE FIELD DETERMINED BY WELL CONTRACTOR. THE WELL CASING SHALL PENETRATE A ZONE CONTAINING A MINIMUM OF 10,000 mg/L TOTAL DISSOLVED SOLIDS (TDS).
 - 2) DRAINAGE WELL TO BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE REGULATORY STANDARDS AND PERMITS.
 - 3) 8" MINIMUM PRECAST CONCRETE STRUCTURE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 425 OR AS REGULATED BY MUNICIPAL AUTHORITY. STRUCTURE TO BE 6' X 6' (MIN.).
 - 4) LIDS TO BE BOLTED DOWN (PENTA HEAD BOLTS, 4 ON INNER COVER AND 4 ON OUTER COVER).
 - 5) THE CONTRACTOR IS SOLELY RESPONSIBLE TO PREVENT ANY FLUID FROM DISCHARGING INTO THE DRAINAGE WELL WITHOUT WRITTEN AUTHORIZATION FROM FDEP TO USE THE WELL.
 - 6) THE WELL CASING SHALL BE 24" DIAMETER AND IN ACCORDANCE WITH RULE 62-532.500(1)(A), FAC WHICH SPECIFIES ALL WELL CASING SHALL BE NEW AND CONFORM TO AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) A53/A53M-99b, A135-01, A252-98, A589-96, OR AMERICAN PETROLEUM INSTITUTE (API) 5L-2000. REFER TO RULE FOR MORE DETAILS.
 - 7) THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT FOR CONDUCTING THE WELL TEST AND SATISFACTORILY DISPOSING OF THE WATER PUMPED FROM THE WELL. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE TO THE CITY, ENGINEER AND/OR REGULATORY AGENCIES PRIOR TO THE START OF THE TEST.
 - 8) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SECURE THE NECESSARY WELL DRILLING PERMITS AND COMPLY WITH ALL PROVISIONS THEREOF. THIS SHALL INCLUDE (BUT NOT LIMITED TO) SECURING THE FINAL CONSTRUCTION/CLEARANCE PERMIT FOR A CLASS V WELL BY COMPLETING AND PROCESSING THE REQUIRED APPLICATION FORM (62-528.900.3) THROUGH FDEP. IN ADDITION, THE CONTRACTOR IS REQUIRED TO PREPARE/PROVIDE THE REASONABLE ASSURANCE REPORT IN ACCORDANCE WITH FDEP REQUIREMENTS. THE CONTRACTOR SHALL HIRE A QUALIFIED FLORIDA LICENSED PROFESSIONAL GEOLOGIST/ENGINEER WITH THE REQUIRED HYDROGEOLOGICAL EXPERTISE TO DEVELOP THIS REPORT AND PROVIDE THE NECESSARY SIGNED AND SEALED COPIES.

DRAINAGE WELL DETAIL
N.T.S.



N:\08\08735.00 Hallandale Fire Station - CSA\Engineering\Cad\dwg\08735.00-DD-301.dwg

DATE:	09/17/2014
SCALE:	AS INDICATED
DRAWN BY:	M.A.
DESIGN BY:	S.E.
CHECKED BY:	J.T.

REVISION	
DATE	

JAMES A. THELLE, P.E.
FLORIDA REG. NO. 33266
(FOR THE FIRM)

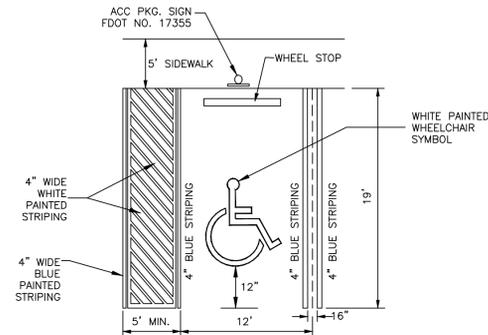
KEITH & ASSOCIATES, INC.
consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-9400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7928

HALLANDALE BEACH FIRE STATION 7 & EOC FACILITY
CONSTRUCTION DETAILS
CITY OF HALLANDALE BEACH
BROWARD COUNTY

SHEET NO. DD-101

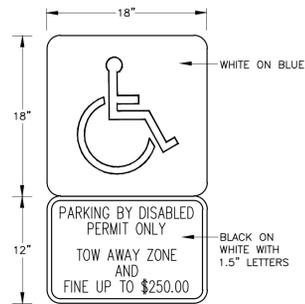
PROJECT NO. 08735.00

P&Z 11-14-2014



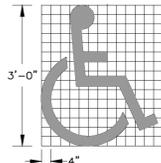
NOTE
HANDICAP PARKING SPACES SHALL BE PROMINENTLY OUTLINED WITH PAINT AND POSTED WITH A FIXED POLE SIGN (NOT LESS THAN 5 FT. FROM THE GROUND IN HEIGHT) CLEARLY MARKED "HANDICAPPED PARKING" OR THE INTERNATIONAL WHEELCHAIR SYMBOL AND CAPTION "PARKING BY DISABLED PERMIT ONLY - \$250 FINE". PROVIDE 4" BLUE STRIPING AS INDICATED.

TYPICAL HANDICAP PARKING
N.T.S.



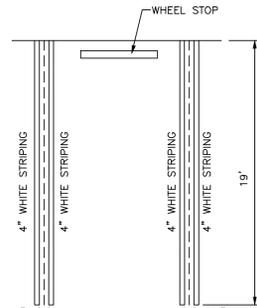
- TOP PORTION OF SIGN SHALL HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL.
- BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
- SIGN MAY BE FABRICATED ON ONE PANEL OR TWO.
- SIGNS ARE TO BE MOUNTED AT A HEIGHT OF 5 FT. MINIMUM FROM PAVEMENT TO BOTTOM OF SIGN.

HANDICAP PARKING SIGN
N.T.S.

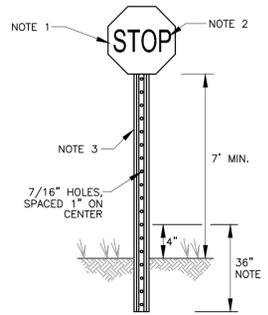


USE OF PAVEMENT SYMBOL IN HANDICAP PARKING SPACES IS REQUIRED, THE SYMBOL SHALL BE AN OPTIONAL 3 FT. OR 5 FT. HIGH AND WHITE IN COLOR.

HANDICAP PAVEMENT SYMBOL
N.T.S.

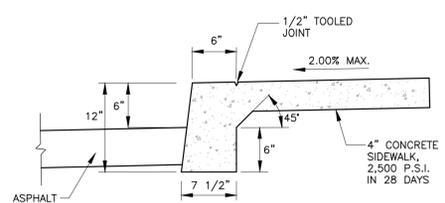


PARKING STALL DETAILS
N.T.S.

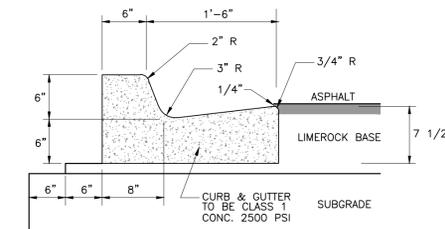


- NOTES:
- REGULATORY SIGN RT-1 (30"x30") DEPICTED. THE TOP OF THE STOP SIGN SHALL BE MOUNTED FLUSH TO THE TOP OF THE POST WHEN NO STREET ID IS PRESENT. ANY SIGN INSTALLED BACK TO BACK WITH THE STOP SIGN SHALL BE SMALLER THAN THE STOP SIGN.
 - STOP DO NOT ENTER OR YIELD DIAMOND GRADE (3M WP 3990 WHITE) OR EQUIVALENT, PRESSURE SENSITIVE RED TRANSLUCENT INK SILK SCREENED CLEAR COATED OR EC FILM 1172 RED OR EQUIVALENT OVER DIAMOND GRADE.
 - SQUARE TUBE SIGN POST THE SQUARE TUBE SIGN POST SHALL BE 2" SQUARE AND INSERTED WITHIN THE SQUARE TUBE ANCHOR POST. THE SIGN SHALL BE SECURED TO THE ANCHOR POST WITH A #18 GRADE FIVE THREADED STEEL ZINC BOLT 5/16" BY 2.5" WITH A 3/16" FLAT WHASER AND NUT.
 - SQUARE TUBE ANCHOR BASE POST THE SQUARE TUBE ANCHOR BASE POST SHALL BE 12 GAUGE STEEL, 2.25" SQUARE AND 36" IN LENGTH. THE BASE MUST BE DRIVEN INTO THE GROUND WITH 4" REMAINING ABOVE THE SURFACE.
 - POST SPECIFICATIONS ALL POST SHALL BE QUICK PUNCH, 14 GAUGE, GRADE 50 STEEL. THE POSTS SHALL BE HOT-DIPPED IN GALVANIZED ZINC COATING AND FINISHED WITH CONVERSION COATING AND A CLEAR ORGANIC TOP COAT.

STOP SIGN DETAIL
N.T.S.

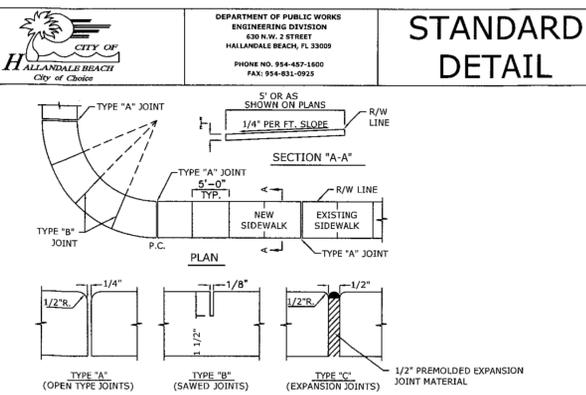


MONOLITHIC CURB AND SIDEWALK DETAIL
N.T.S.



NOTE:
ALL TYPE F-CURB SHALL BE IN ACCORDANCE WITH THE STANDARD REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT).

TYPE 'F' CURB & GUTTER
N.T.S.



SIDEWALK JOINTS
* AT THE DISCRETION OF THE ENGINEER

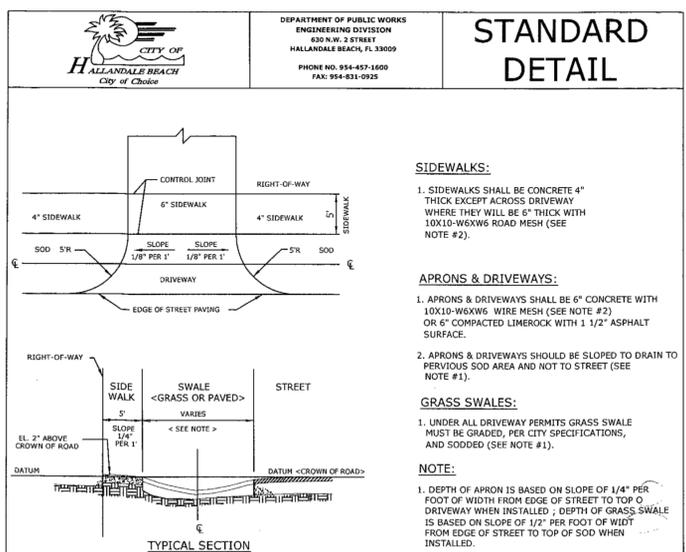
TYPE	LOCATION
"A"	P.C. AND R.T. OF CURVES JUNCTION OF EXIST. AND NEW SIDEWALKS
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS
"C"	*WHERE SIDEWALK ABUTS CONC. CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES.

LOCATION	"T"
RESIDENTIAL AREAS	4"
@ DRIVEWAYS & OTHER AREAS	6"
LAST SECTION ADJACENT TO STREET PAVEMENT	6"

NOTE:
WHEN CONSTRUCTING A SIDEWALK APPROACHING A DRIVEWAY OR ROAD FOLLOW FDOT SPECIFICATIONS AND CREATE RAMP PER ADA REQUIREMENT.

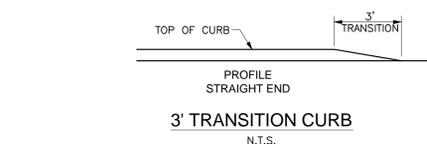
SIDEWALK DETAIL
N.T.S.

- NOTES:
- SIDEWALK THICKNESS SHALL COMPLY WITH CITY STANDARDS, SEE TABLE ABOVE.
 - THE USE OF REINFORCEMENT IS NOT PERMITTED.
 - SIDEWALK RAMP PER FDOT INDEX # 304.
 - CONCRETE TO BE 3,000 PSI IN 28 DAYS.
 - CURE ALL CONCRETE WITH CLEAN SAND, PLASTIC MEMBRANE OR OTHER APPROVED METHOD.
 - SIDEWALK FOUNDATION SHALL BE COMPACTED TO A FIRM, EVEN SURFACE, TRUE TO GRADE AND CROSS SECTION, AND SHALL BE MOIST AT THE TIME CONCRETE IS PLACED.
 - ALL CONSTRUCTION SHALL CONFORM TO LOCAL CONSTRUCTION CODES AND STANDARDS.
 - SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. MINIMUM TRANSVERSE SLOPE 0.01 FT./FT. AND MAXIMUM TRANSVERSE SLOPE 0.02 FT./FT. TOWARD SWALE OR GUTTER. LONGITUDINAL SLOPE SHALL CONFORM TO ADA "GREENBOOK".
 - THE VERTICAL DEVIATION FOR A NEW SIDEWALK SHALL NOT BE MORE THAN 1/8".
 - THE VERTICAL DEVIATION FOR A NEW MAINTENANCE ACCESS STRUCTURE COVER SHALL NOT BE MORE THAN 1/4".
 - STAMPED CONCRETE IS NOT ALLOWED IN LIEU OF TRUNCATED DOMES.
 - SEE CITY OF HALLANDALE BEACH APPROVED PRODUCT LIST FOR ACCEPTABLE MATERIALS FOR TRUNCATED DOMES.
 - SIDEWALK SHALL HAVE A TRANSVERSE HAIR BROOM FINISH.

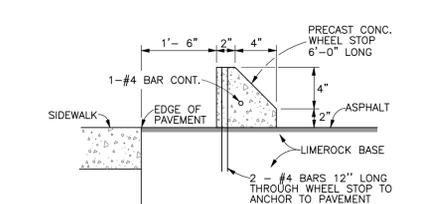


TOTAL WIDTH OF GRASS SWALE	DEPTH FROM EDGE OF STREET TO TOP OF SOD AT CENTERLINE OF SWALE	DEPTH FROM EDGE OF STREET AT CENTERLINE OF SWALE TO PLACE OF SOD
5'	1.50'	3.50'
6'	1.75'	3.75'
7'	2.00'	4.00'
8'	2.25'	4.25'
9'	2.50'	4.50'
10'	2.75'	4.75'
11'	3.00'	5.00'
12'	3.25'	5.25'
13'	3.50'	5.50'
14'	3.75'	5.75'
15'	4.00'	6.00'
16'	4.25'	6.25'
17'	4.50'	6.50'
18'	4.75'	6.75'
19'	5.00'	7.00'

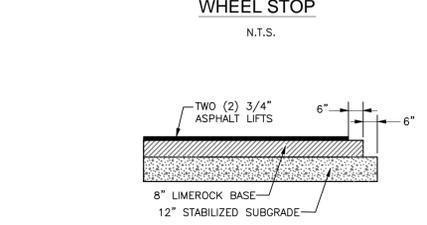
SWALE DETAIL
N.T.S.



3' TRANSITION CURB
N.T.S.



WHEEL STOP
N.T.S.



ASPHALTIC CONCRETE VEHICULAR:
2-3/4" LIFTS, FDOT TYPE S-III ASPHALT SURFACE COURSE SHALL CONFORM TO THE REQUIREMENTS OF FDOT STANDARDS SPECIFICATIONS SECTIONS 320 AND 330.
SECOND LIFT OF ASPHALT SHALL NOT BE PLACED UNTIL FINAL LANDSCAPE/HARDSCAPE HAS BEEN INSTALLED.

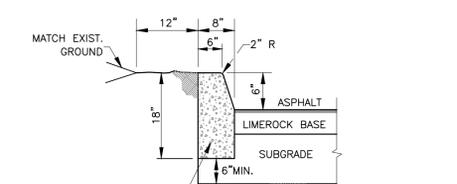
PRIME AND TACK COAT:
LIMEROCK BASE COURSE SHALL CONFORM TO THE REQUIREMENTS OF FDOT STANDARDS SPECIFICATIONS SECTION 300.
APPLICATION RATES:
PRIME COAT - 0.10 GALLONS PER SQ. YD.
TACK COAT - 0.08 GALLONS PER SQ. YD.

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

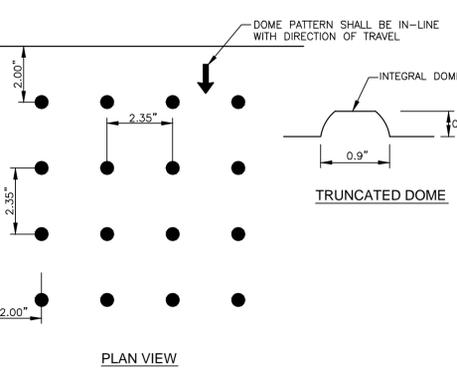
SUBGRADE:
12" STABILIZED SUBGRADE COMPACTED TO 98% OF MAXIMUM DENSITY (AASHTO T-180); MINIMUM LBR = 40.

GROUND ADJACENT TO PAVEMENT HAVING RUNOFF SHALL BE GRADED TWO INCHES LOWER THAN THE EDGE OF PAVEMENT TO ALLOW FOR THE PLACEMENT OF SOD.

ASPHALT PAVEMENT DETAIL (TYP.)
N.T.S.



TYPE 'D' CURB
N.T.S.



NOTES:

- ALL SIDEWALK CURB RAMPS SHALL HAVE DETECTABLE WARNING SURFACES THAT EXTEND THE FULL WIDTH OF THE RAMP AND IN THE DIRECTION OF TRAVEL 24 INCHES MINIMUM FROM THE BACK OF CURB OR EDGE OF PAVEMENT.
- GROOVES NOT PERMITTED.
- REFER TO FBC AND ANY OTHER APPLICABLE CODES

DETECTABLE WARNING DETAIL ("TRUNCATED DOMES")
N.T.S.

PRELIMINARY PLAN
NOT FOR CONSTRUCTION

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

Date: 11/14/2014
KEITH & ASSOCIATES, INC.

DATE:	09/17/2014
SCALE:	AS INDICATED
DRAWN BY:	M.A.
DESIGN BY:	S.E.
CHECKED BY:	J.T.

REVISION	
DATE	11/14/14
DRC COMMENTS	

JAMES A. THELLE, P.E.
FLORIDA REG. NO. 33266
(FOR THE FIRM)

KEITH & ASSOCIATES, INC.
CONSULTING ENGINEERS
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-0643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7928

HALLANDALE BEACH FIRE STATION 7 & EOC FACILITY
CONSTRUCTION DETAILS
BROWARD COUNTY
CITY OF HALLANDALE BEACH

SHEET NO. DD-102

PROJECT NO. 08735.00

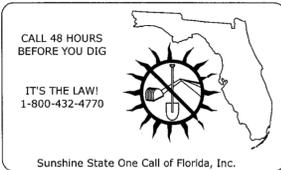
N:\08735.00 Hallandale Fire Station - CSA\Engineering\Cadd\08735.00-DD-102.dwg

P&Z 11-14-2014



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 3 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-457-1600
FAX: 954-831-0925

STANDARD DETAIL



- NOTES:
1. PRIOR TO BEGINNING ANY WORK, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES THAT HAVE FACILITIES WITHIN THE PROJECT AREA.
 2. THE ABOVE NOTICE SHALL APPEAR ON THE COVER SHEET OF ALL CONSTRUCTION PLANS SUBMITTED TO THE COUNTY.

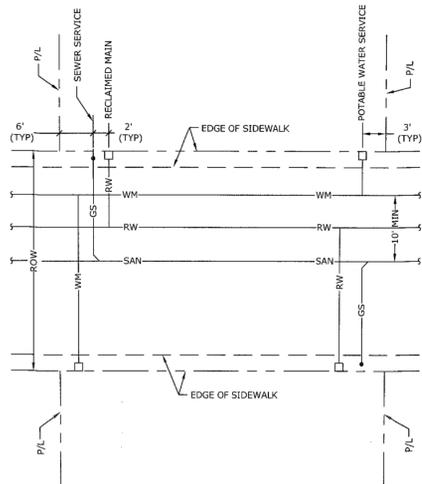
CAD FILE:
G100
SCALE:
N.T.S.
DATE:
MAY 2008

SUNSHINE STATE
ONE CALL OF FLORIDA, INC.



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 3 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-457-1600
FAX: 954-831-0925

STANDARD DETAIL



LEGEND
GS - GRAVITY SEWER
RW - RECLAIMED WATER
SAN - SANITARY SEWER
WM - POTABLE WATER MAIN

CAD FILE:
G101
SCALE:
N.T.S.
DATE:
MAY 2008

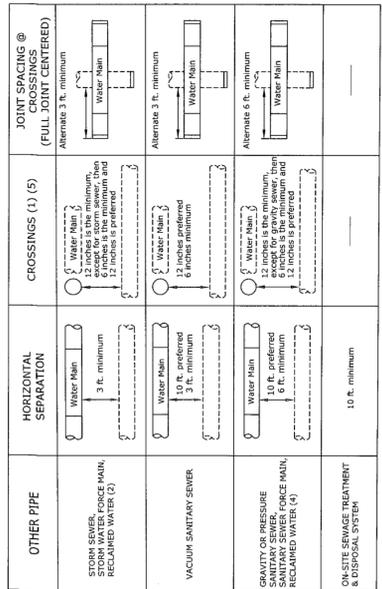
UTILITY LOCATIONS



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 3 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-457-1600
FAX: 954-831-0925

STANDARD DETAIL

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



- NOTES:
1. WATER MAIN SHALL CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
 2. RECLAIMED WATER SHALL CROSS ABOVE OTHER PIPE.
 3. 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.
 4. RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-510, F.A.C.
 5. 18" MINIMUM SEPARATION REQUIRED BY HALLANDALE BEACH, UNLESS OTHERWISE APPROVED.

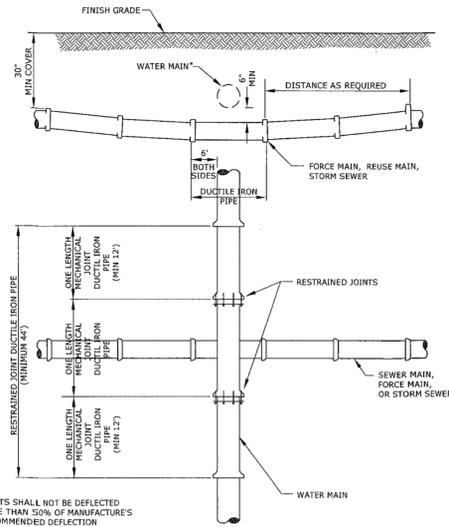
CAD FILE:
G102
SCALE:
N.T.S.
DATE:
MAY 2008

WATER MAIN
SEPARATION



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 3 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-457-1600
FAX: 954-831-0925

STANDARD DETAIL



JOINTS SHALL NOT BE DEFLECTED MORE THAN 50% OF MANUFACTURER'S RECOMMENDED DEFLECTION

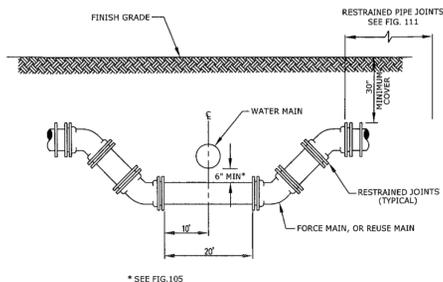
CAD FILE:
G103
SCALE:
N.T.S.
DATE:
MAY 2008

STANDARD UTILITY
CROSSING



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 3 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-457-1600
FAX: 954-831-0925

STANDARD DETAIL



WHEREVER POSSIBLE DEFLECTION OF THE PIPE WILL BE USED TO AVOID EXISTING OBSTRUCTIONS THIS CROSSING SHALL BE USED ONLY WHEN APPROVED BY HALLANDALE BEACH.

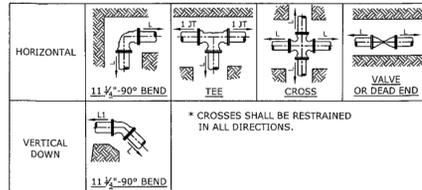
CAD FILE:
G104
SCALE:
N.T.S.
DATE:
MAY 2008

SPECIAL UTILITIES
CROSSING



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 3 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-457-1600
FAX: 954-831-0925

STANDARD DETAIL



* CROSSES SHALL BE RESTRAINED IN ALL DIRECTIONS.

Diameter	HORIZONTAL/VERTICAL UP L, (FEET)				VERTICAL DOWN LI, (FEET)					
	1 1/2"	2 1/2"	4"	90°	1 1/2"	2 1/2"	4"	90°		
4	2	5	10	24	50	50	5	10	21	50
6	3	7	14	34	70	70	7	14	29	70
8	4	9	18	43	90	90	9	18	37	90
10	5	10	21	52	109	109	11	22	45	109
12	6	12	25	60	127	127	12	25	52	127
16	7	15	31	75	161	161	16	32	67	161
18	8	16	34	82	177	177	17	35	73	177
20	9	18	37	89	192	192	19	38	80	192
24	10	20	42	102	223	223	22	44	92	223
30	12	24	50	120	264	264	26	53	110	264
36	13	24	56	135	302	302	30	60	125	302
42	15	30	62	149	336	336	33	67	139	336

NOTE:
THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH "THRUST RESTRAINT FOR DUCTILE IRON PIPE," VERSION 3.3 BY DIPRA, WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SAND/SILT
LAYING CONDITION: 3
MINIMUM COVER: 2.5 FT
SAFETY FACTOR: 1.5
BARE PIPE
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY HALLANDALE BEACH DPW.

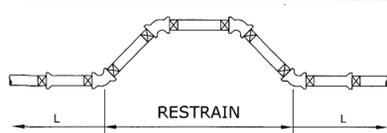
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G105
SCALE:
N.T.S.
DATE:
MAY 2008

SINGLE FITTING RESTRAINT JOINT
DUCTILE IRON PIPE 150 PSI TEST PRESSURE



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 3 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-457-1600
FAX: 954-831-0925

STANDARD DETAIL



Diameter	1 1/2"	2 1/2"	4"	90°
4"	5	10	20	50
6"	7	13	28	70
8"	8	17	36	90
10"	10	21	43	109
12"	12	24	50	127
16"	15	30	62	161
18"	16	33	68	177
20"	18	35	74	192
24"	20	41	85	223
30"	24	48	99	264
36"	27	54	112	302
42"	29	59	123	336

NOTE:
THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH "THRUST RESTRAINT FOR DUCTILE IRON PIPE," VERSION 3.3 BY DIPRA, WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SAND/SILT
LAYING CONDITION: 3
MINIMUM COVER: 2.5 FT
SAFETY FACTOR: 1.5
BARE PIPE
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY HALLANDALE BEACH DPW.

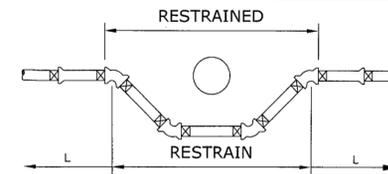
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G106
SCALE:
N.T.S.
DATE:
MAY 2008

RESTRAINED JOINT REQUIREMENTS
COMBINED HORIZONTAL OFFSET



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 3 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-457-1600
FAX: 954-831-0925

STANDARD DETAIL



Diameter	1 1/2"	2 1/2"	4"	90°
4"	10	20	41	50
6"	14	28	58	70
8"	18	36	75	90
10"	21	43	90	109
12"	25	50	105	127
16"	32	64	133	161
18"	35	70	147	177
20"	38	77	159	192
24"	44	89	185	223
30"	52	105	219	264
36"	59	120	250	302
42"	66	134	278	336

NOTE:
THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH "THRUST RESTRAINT FOR DUCTILE IRON PIPE," VERSION 3.3 BY DIPRA, WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SAND/SILT
LAYING CONDITION: 3
MINIMUM COVER: 2.5 FT
SAFETY FACTOR: 1.5
BARE PIPE
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY HALLANDALE BEACH DPW.

CAD FILE:
G107
SCALE:
N.T.S.
DATE:
MAY 2008

RESTRAINED JOINT REQUIREMENTS
COMBINED VERTICAL OFFSET

PRELIMINARY PLAN
NOT FOR CONSTRUCTION

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

Date: 11/14/2014
KEITH & ASSOCIATES, INC.

DATE: 09/17/2014
SCALE: AS INDICATED
DRAWN BY: M.A.
DESIGN BY: S.E.
CHECKED BY: J.T.

REVISION	DATE

JAMES A. THELE, P.E.
FLORIDA REG. NO. 33256
(FOR THE FIRM)

KEITH & ASSOCIATES, INC.
consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPANNO BEACH, FLORIDA 33060-0643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF
AUTHORIZATION NUMBER - 7928

HALLANDALE BEACH FIRE STATION 7
& EOC FACILITY
WATER & SEWER DETAILS
CITY OF HALLANDALE BEACH
BROWARD COUNTY

SHEET NO. CU-201

PROJECT NO. 08735.00

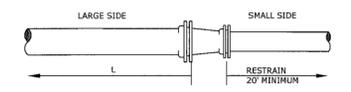
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P&Z 11-14-2014



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 2 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-657-1600
FAX: 954-831-0925

STANDARD DETAIL



REDUCERS - REQUIRED LENGTH OF RESTRAINT AT LARGE SIDE (FEET)*

DIAMETER	4"	6"	8"	10"	12"	16"	18"	20"	24"	30"	36"	42"
4"	36	65	88	110	149	166	183	215	258	297	332	
6"		38	67	92	135	155	173	207	252	292	328	
8"			36	67	117	139	159	196	243	285	322	
10"				37	95	120	142	182	233	277	315	
12"					68	96	120	165	219	266	306	
16"						36	68	122	186	240	284	
18"							36	96	166	234	271	
20"								67	144	206	257	
24"									93	165	223	
30"										91	162	
36"											87	
42"												87

NOTE: THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH THRUST RESTRAINT FOR DUCTILE IRON PIPE, VERSION 3.3 BY CIPRA, WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SAND/SILT
LAYING CONDITION: 3
MINIMUM COVER: 2.5 FT
SAFETY FACTOR: 1.5
BARE PIPE
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY ENGINEER.

PIPE RESTRAIN DUCTILE IRON PIPE-REDUCING FITTING
150 PSI TEST PRESSURE

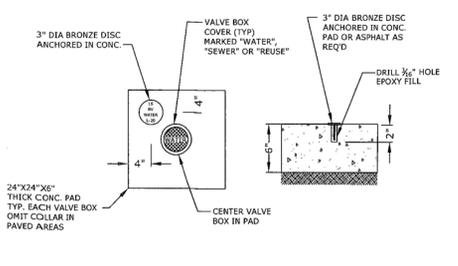
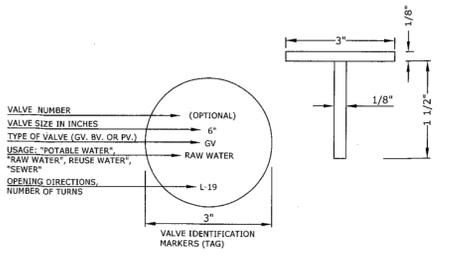
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SCALE: N.T.S.
DATE: MAY 2008

RESTRAINED JOINT REQUIREMENTS
REDUCING FITTING



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STANDARD DETAIL



NOTE: VALVE BOX, COVER AND EXTENSION PER APPROVED MATERIALS LIST

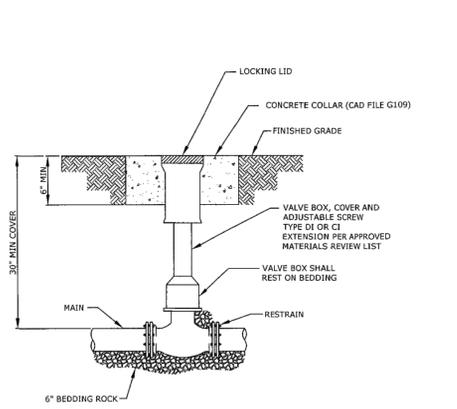
CAD FILE: G109
SCALE: N.T.S.
DATE: MAY 2008

VALVE COLLAR
AND
IDENTIFICATION MARKER



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630 N.W. 2 STREET
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STANDARD DETAIL



NOTES:
1. WHEN VALVE IS NOT LOCATED IN PAVEMENT, PLACE A WHITE PAVEMENT REFLECTOR MARKER IN THE DRIVE LANE, ADJACENT TO THE VALVE.
2. OPERATOR EXTENSION SHAFT SHALL BE PROVIDED WHEN OPERATING NUT IS MORE THAN 24" BELOW TOP OF VALVE BOX.
3. PVC OR DUCTILE IRON PIPE IS NOT ACCEPTABLE FOR VALVE BOX RISER.

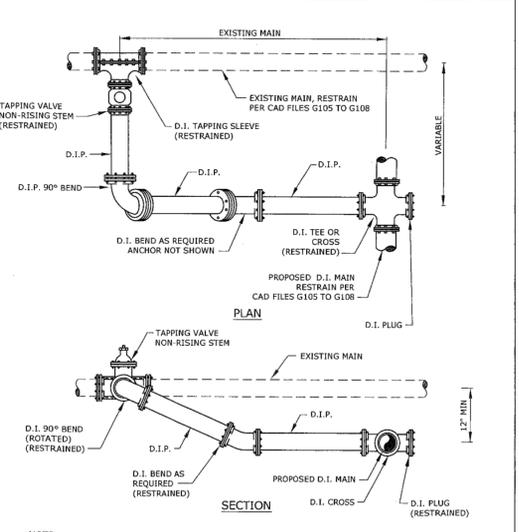
CAD FILE: G110
SCALE: N.T.S.
DATE: MAY 2008

VALVE BOX DETAIL



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STANDARD DETAIL



NOTES:
1. TAPPING SLEEVE PER MATERIALS REVIEW LIST.
2. ALL JOINTS TO BE RESTRAINED BY APPROVED METHODS.

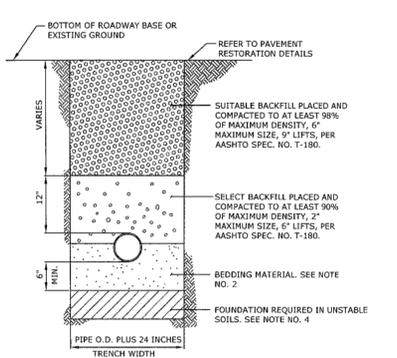
CAD FILE: G112
SCALE: N.T.S.
DATE: MAY 2008

TYPICAL CONNECTION
TO EXISTING MAIN



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 2 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-657-1600
FAX: 954-831-0925

STANDARD DETAIL



NOTES:
1. FOR EXCAVATION AND BACKFILL AROUND MANHOLES, APPURTENANCES, OR IN WATER, REFER TO PROVISIONS WITHIN THE SPECIFICATIONS.
2. UNLESS OTHERWISE SPECIFIED, BEDDING MATERIAL SHALL CONSIST OF SELECT BACKFILL MATERIAL 2" MAX. SIZE, OR WASHED AND GRADED LIMEROCK (3/8" - 3/16"), COMPACTED TO AT LEAST 90% OF MAX. DENSITY, 6" LIFTS PER AASHTO SPEC. NO. T-180.
3. WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.
4. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS, A FOUNDATION IS REQUIRED, COMPACTED TO AT LEAST 90% OF MAX. DENSITY, 6" LIFTS PER AASHTO SPEC. NO. T-180. FOUNDATION MATERIAL SHALL BE SELECT BACKFILL MATERIAL, 2" MAXIMUM SIZE, 6" LIFTS. EXTEND EXCAVATION UNTIL A SUITABLE MATERIAL IS FOUND.

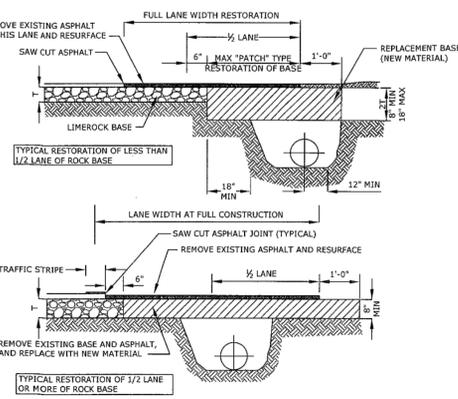
CAD FILE: G122
SCALE: N.T.S.
DATE: MAY 2008

TYPICAL TRENCH BACKFILL



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 2 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-657-1600
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STANDARD DETAIL



NOTES:
1. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 AND A MINIMUM CARBONATE CONTENT OF 70% (60% FOR LOCAL STREETS).
2. BASE SHALL BE PLACED IN 6" MAXIMUM THICKNESS LAYERS WITH EACH LAYER COMPACTED AS REQUIRED AND TESTED PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.
3. SURGRADE MATERIAL SHALL BE GRANULAR AND ANGULAR AND SHALL HAVE A MINIMUM LBR OF 40.
4. BACK FILL SHALL BE PLACED AND COMPACTED IN 6" LAYERS, BUT TESTING WILL BEGIN 12" ABOVE THE INSTALLED FACILITY.
5. ALL EDGES OF EXISTING ASPHALT PAVEMENT THAT ADJUT RESURFACING SHALL BE SAW CUT IN STRAIGHT LINES PARALLEL TO OR PERPENDICULAR TO THE ROADWAY, PRIOR TO RESURFACING.
6. RESURFACING MATERIAL SHALL BE CONSISTENT WITH SURROUNDING SURFACE, AND SHALL BE APPLIED IN 2" LIFTS, A MINIMUM OF 1/2 INCH AND A MAXIMUM OF 2" IN THICKNESS.
7. TRAFFIC STRIPES SHALL NOT BE PLACED DIRECTLY ON TOP OF THE JOINT.

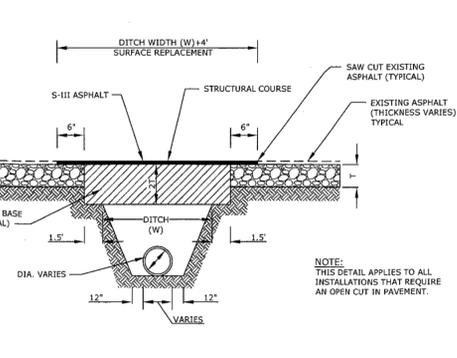
CAD FILE: G123
SCALE: N.T.S.
DATE: MAY 2008

RESTORATION OF ROADWAY CUT
FOR
PARALLEL UTILITY INSTALLATION



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 2 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-657-1600
FAX: 954-831-0925

STANDARD DETAIL



GENERAL NOTES:
1. BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL.
2. BASE MATERIAL SHALL BE PLACED IN 6" MAXIMUM LAYERS (LOOSE MEASUREMENT) AND EACH LAYER THOROUGHLY ROLLED OR TAMPOD TO 98% OF MAXIMUM DENSITY, PER AASHTO T-180.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAW CUT.
4. SURFACE MATERIAL SHALL BE CONSISTENT WITH THE SURROUNDING SURFACE MATERIAL.
5. BASE MATERIAL SHALL HAVE A MINIMUM CARBONATE OF 70% (60% FOR LOCAL STREETS).
6. SUB GRADE MATERIAL SHALL BE GRANULAR AND ANGULAR AND SHALL HAVE A MINIMUM LBR OF 40.
7. IF THE DITCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" THICK ASPHALT CONCRETE PATCH TO KEEP THE FILL MATERIAL FROM RAVELING, UNTIL REPLACED WITH A PERMANENT PATCH.

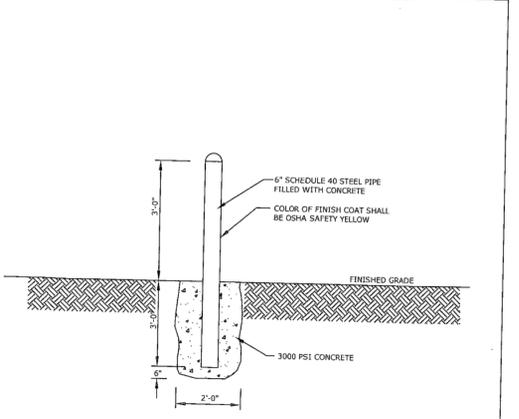
CAD FILE: G124
SCALE: N.T.S.
DATE: MAY 2008

RESTORATION OF ROADWAY CUT
FOR
PERPENDICULAR UTILITY INSTALLATION



DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
630 N.W. 2 STREET
HALLANDALE BEACH, FL 33009
PHONE NO. 954-657-1600
FAX: 954-831-0925

STANDARD DETAIL



CAD FILE: G125
SCALE: N.T.S.
DATE: MAY 2008

BOLLARD

PRELIMINARY PLAN
NOT FOR CONSTRUCTION

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KEITH & ASSOCIATES, INC.

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REVISION	DATE

JAMES A. THELE, P.E.
FLORIDA REG. NO. 33266
(FOR THE FIRM)

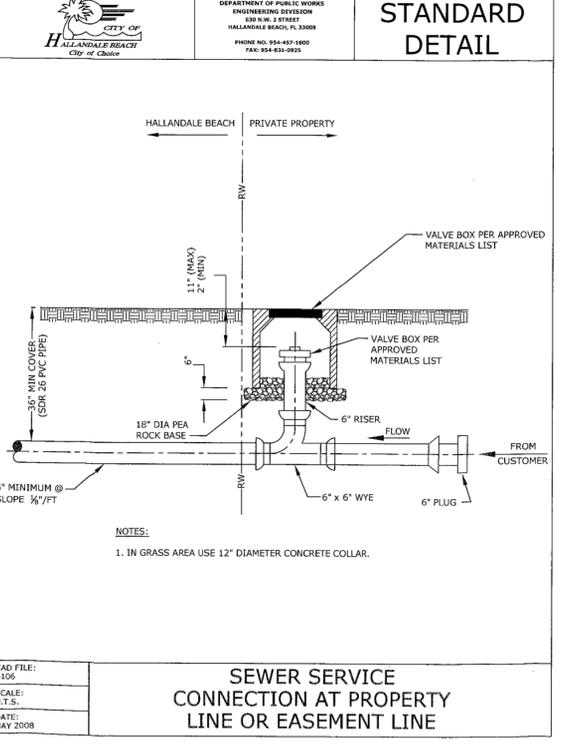
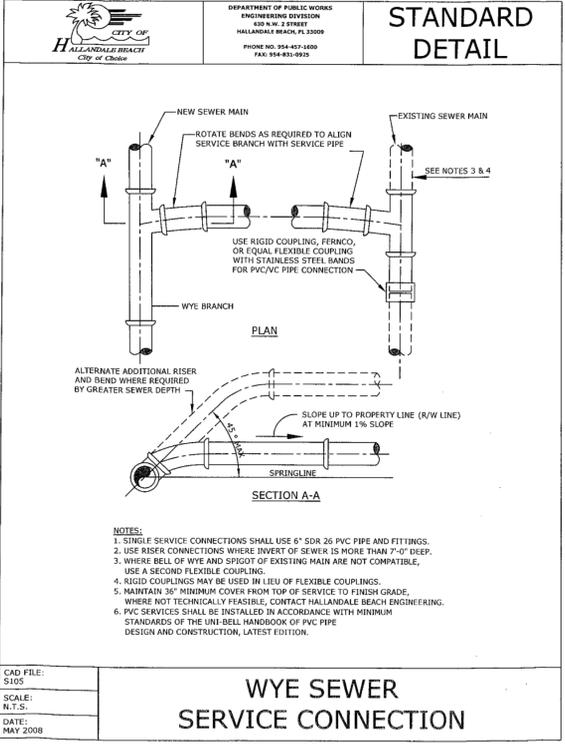
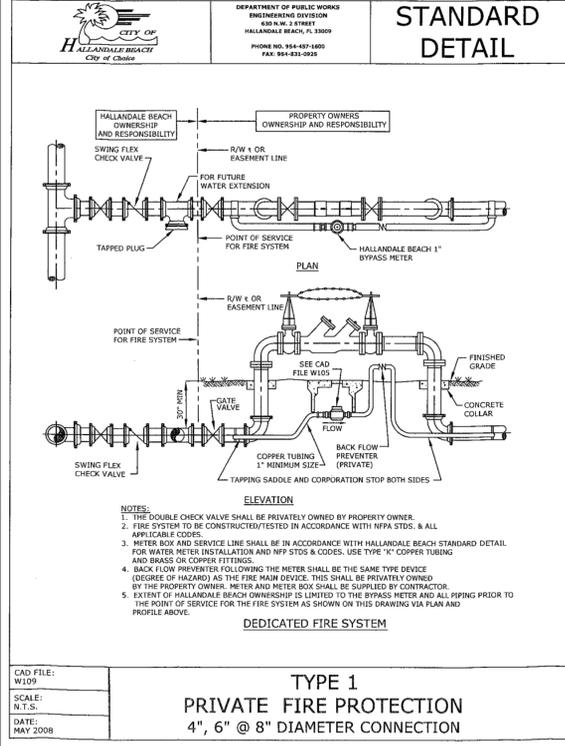
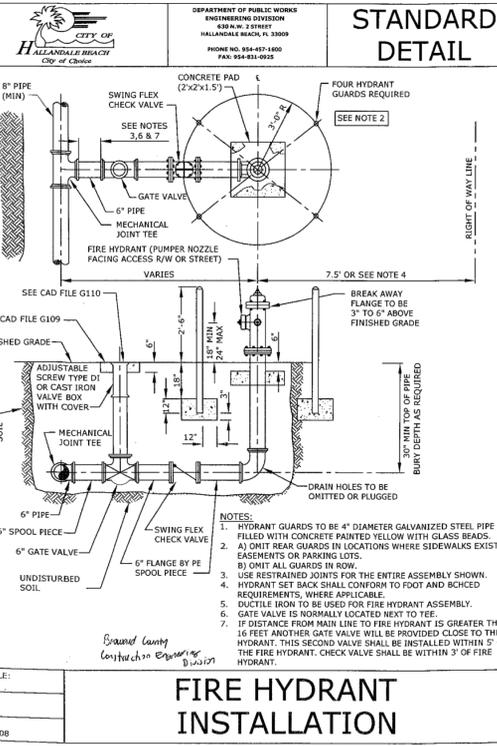
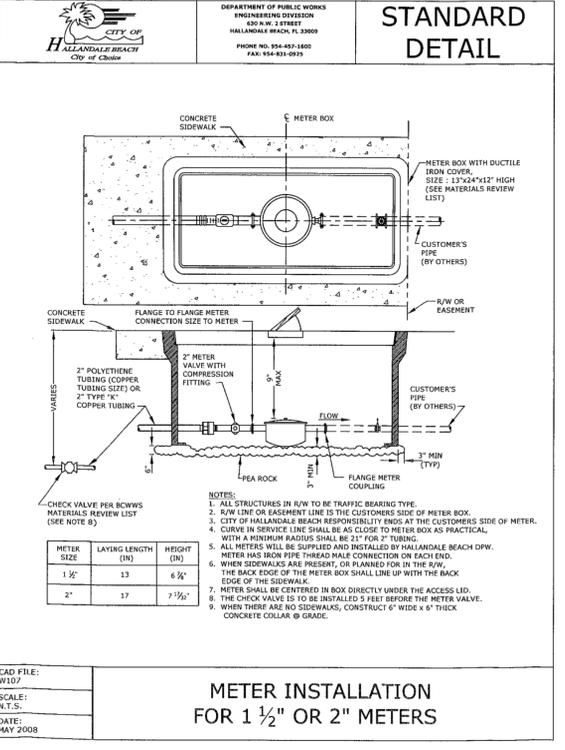
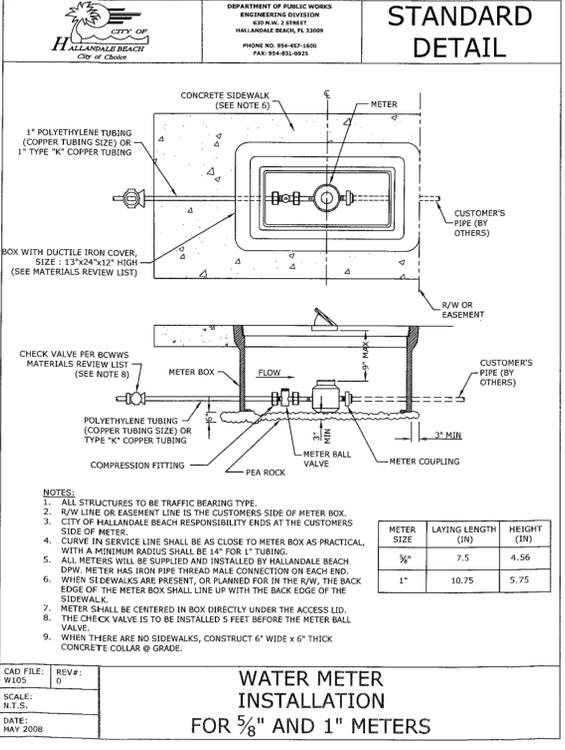
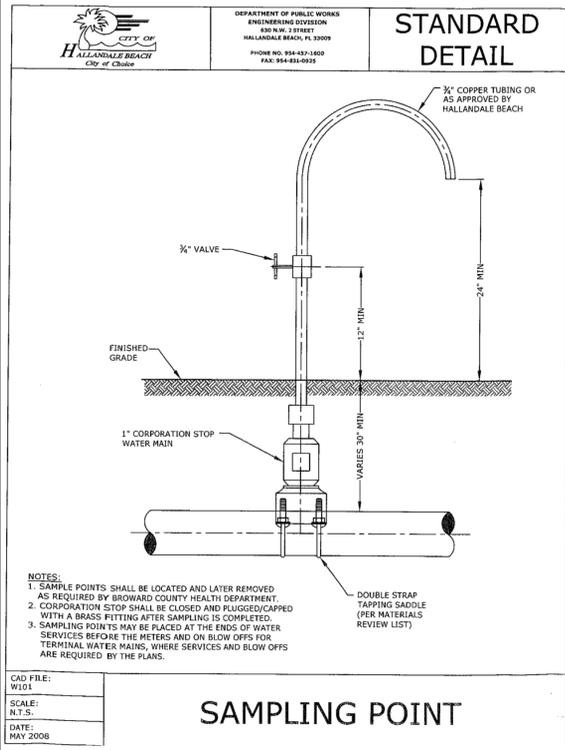
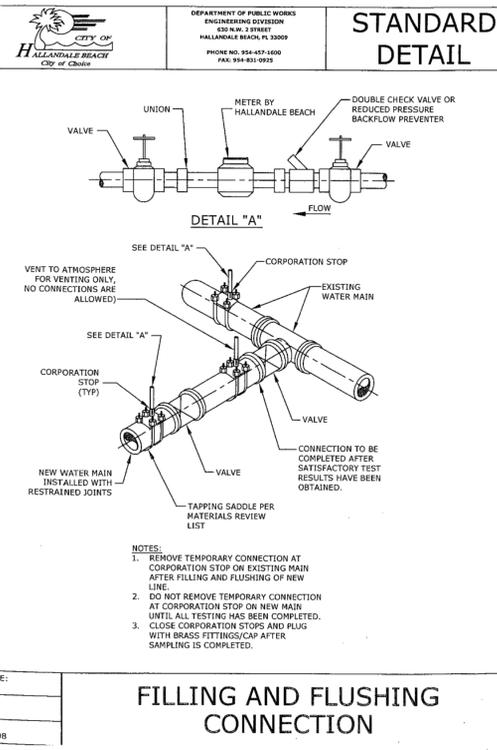
KEITH
consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-0643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF
AUTHORIZATION NUMBER - 7928

**HALLANDALE BEACH FIRE STATION 7
& EOC FACILITY**
WATER & SEWER DETAILS
CITY OF HALLANDALE BEACH
BROWARD COUNTY

SHEET NO. CU-202

PROJECT NO. 08735.00

P&Z 11-14-2014



PRELIMINARY PLAN NOT FOR CONSTRUCTION

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KEITH & ASSOCIATES, INC.

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DRAWN BY: M.A.
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REVISION	DATE

JAMES A. THELLE, P.E.
FLORIDA REG. NO. 33266
(FOR THE FIRM)

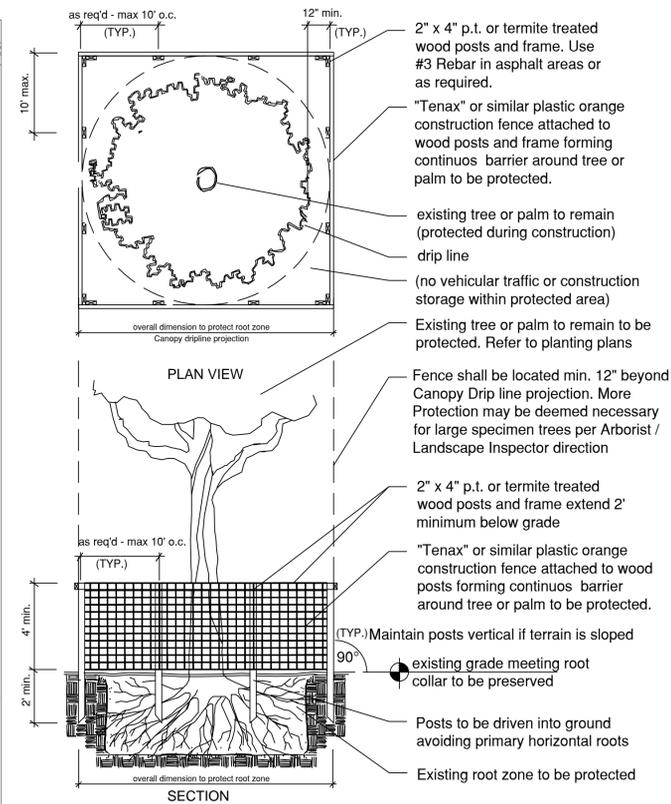
KEITH & ASSOCIATES, INC.
consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-0643
(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7928

HALLANDALE BEACH FIRE STATION 7 & EOC FACILITY WATER & SEWER DETAILS
CITY OF HALLANDALE BEACH
BROWARD COUNTY

SHEET NO. CU-203
PROJECT NO. 08735.00

N:\08735.00 Hallandale Fire Station - CSA\Engineering\CadDrawings\08735-LS-CU-203.dwg

P&Z 11-14-2014



Temporary tree protection detail for existing trees. NTS

TREE DISPOSITION LEGEND:

Tree/Palm Number (TYP.)

Existing TREE/PALM TO REMAIN
Refer To Tree Protection during construction - Detail
(Refer To Tree Survey /Disposition Plan List For Species and Canopy Sizes)
Symbol may be enlarged to include more than one tree

Existing TREE/PALM TO BE RELOCATED
Refer To Landscape Plan for new location
(All Sabal Palms on site in conflict with proposed development will be relocated)
Whether noted on plans or not.
Symbol may be enlarged to include more than one tree

Existing TREE/PALM TO BE REMOVED
Mitigated with Replacement Trees - Refer To Landscape Plan
(Refer To Tree Survey /Disposition Plan List For Species and Canopy Sizes)
Symbol may be enlarged to include more than one tree

Existing INVASIVE nuisance Tree. **MUST BE REMOVED**
No Mitigation required
(Refer To Tree Survey /Disposition Plan List For Species and Canopy Sizes)
Symbol may be enlarged to include more than one tree

SYMBOLS MAY BE SHOWN OFFSET FROM ACTUAL TREE LOCATION FOR CLARITY. ALWAYS CROSS CHECK WITH TREE DISPOSITION LIST FOR DISPOSITION STATUS. CONTACT LANDSCAPE ARCHITECT / ISA CERTIFIED ARBORIST FOR CLARIFICATION ON ANY DISCREPANCIES.

TREE REMOVAL NOTES:

- ALL TREES AND PLANT MATERIAL TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION. CONTRACTOR SHALL INSTALL PROTECTIVE BARRIERS SUCH AS "TENAX" ORANGE SAFETY FENCING OR SIMILAR, TO BE INSTALLED AT THE BEGINNING OF THE PROJECT. BARRIERS SHALL BE LOCATED TO INCLUDE THE DRIP LINE OF THE TREES, PALMS AND PLANT MATERIAL. THE CONTRACTOR SHALL TAKE EXTRA CAUTION TO PREVENT ANY DAMAGE TO THE TRUNK, ROOT ZONES AND GRADE. SEE TREE PROTECTION DETAIL.
- EXISTING TREES TO REMAIN SHALL BE TRIMMED PER ANSI-A300 STANDARDS, REMOVING WEAKEST RUBBING BRANCHES AND DEAD BRANCHES, BUT RETAINING 80% OF FOLIAGE UNLESS OTHERWISE NOTED. LARGE TREES SHALL HAVE LOWER BRANCHES CLEARED UP TO 8'.
- TRIMMING AND ANY NECESSARY ROOT PRUNING SHALL BE PERFORMED OR SUPERVISED BY A CERTIFIED ARBORIST TO INSURE QUALITY WORK AND MAXIMIZE SURVIVAL RATE.
- REMOVAL OF ANY TREES OR PALMS WILL REQUIRE A WRITTEN "TREE REMOVAL PERMIT" FROM THE LOCAL GOVERNING AGENCY PRIOR TO REMOVAL. NON-NATIVE TREES CLASSIFIED AS NUISANCE TREES MAY BE EXEMPT FROM THE PERMIT. REFER TO TREE DISPOSITION LIST AND ALSO CONFIRM WITH LOCAL GOVERNING AGENCY.

TREE DISPOSITION EXHIBIT LIST - FIRE STATION, HALLANDALE, FL

TREE NUMBER	COMMON NAME	SCIENTIFIC NAME SPECIES	DIA(DBH) IN.	HT. FT.	CNPKY Dia FT.	CONDITION (%)	COMMENTS REMARKS
001	Mango Tree	Mangifera indica	17.5	25	22	75	NO MITIGATION REQUIRED FOR FRUIT TREES
002	Mango Tree	Mangifera indica	5.5	15	10	30	TREE DECLINING, NO MITIGATION REQUIRED
003	Mango Tree	Mangifera indica	10.5	20	15	50	NO MITIGATION REQUIRED FOR FRUIT TREES
004	Mango Tree	Mangifera indica	13.5	20	15	60	NO MITIGATION REQUIRED FOR FRUIT TREES
005	Seagrape	"Coccoloba uvifera"	50	20	23	70	MITIGATION REQUIRED
006	Unknown n Hardw ood	#N/A	3	12	4	20	TREE DECLINING, NO MITIGATION REQUIRED
007	Mango Tree	Mangifera indica	28	30	15	75	NO MITIGATION REQUIRED FOR FRUIT TREES
008	Brazilian Pepper	"Schinus terebinthifolius"	6	12	4	60	INVASIVE TREE - MUST REMOVE - NO PERMIT OR MITIGATION REQ'D
009	Sabal Palm	"Sabal palmetto"	12	8	10	40	RELOCATE
010	Mango Tree	Mangifera indica	11	18	12	40	NO MITIGATION REQUIRED FOR FRUIT TREES
011	Mango Tree	Mangifera indica	14	15	15	40	NO MITIGATION REQUIRED FOR FRUIT TREES
012	Seagrape	"Coccoloba uvifera"	22.5	20	10	40	TREE DECLINING, NO MITIGATION REQUIRED
013	Strangler Fig	"Ficus aurea"	40	30	25	60	NO MITIGATION REQUIRED
014	Unknown n Hardw ood	#N/A	17	20	14	30	TREE DECLINING, NO MITIGATION REQUIRED
015	Mango Tree	Mangifera indica	12.5	18	15	60	NO MITIGATION REQUIRED FOR FRUIT TREES
016	Unknown n Hardw ood	#N/A	10	15	10	dead	NO MITIGATION REQUIRED
017	Live Oak	"Quercus virginiana"	15	30	25	75	MITIGATION REQUIRED
018	Seagrape	"Coccoloba uvifera"	40	20	25	60	MITIGATION REQUIRED
019	Seagrape	"Coccoloba uvifera"	60	40	40	70	MITIGATION REQUIRED
020	Mango Tree	Mangifera indica	20	25	15	40	NO MITIGATION REQUIRED FOR FRUIT TREES
021	Sabal Palm	"Sabal palmetto"	10	10	10	70	RELOCATE
022	Gumbo Limbo	"Bursera simaruba"	14	18	15	50	RELOCATE
023	Mango Tree	Mangifera indica	23	20	20	50	NO MITIGATION REQUIRED FOR FRUIT TREES
024	Mango Tree	Mangifera indica	13	20	15	60	NO MITIGATION REQUIRED FOR FRUIT TREES
025	Mango Tree	Mangifera indica	10	15	5	40	NO MITIGATION REQUIRED FOR FRUIT TREES
026	Sabal Palm	"Sabal palmetto"	16	12	15	60	RELOCATE
027	Mango Tree	Mangifera indica	13	18	15	75	NO MITIGATION REQUIRED FOR FRUIT TREES
028	Mango Tree	Mangifera indica	2	10	5	75	NO MITIGATION REQUIRED FOR FRUIT TREES
029	Brazilian Pepper	"Schinus terebinthifolius"	20	22	15	60	INVASIVE TREE - MUST REMOVE - NO PERMIT OR MITIGATION REQ'D
030	Gumbo Limbo	"Bursera simaruba"	10	14	12	40	TREE DECLINING, NO MITIGATION REQUIRED
031	Foxtail Palm	"Wodyetia bifurcata"	8	15	8	50	NO MITIGATION REQUIRED FOR PALMS
032	Foxtail Palm	"Wodyetia bifurcata"	8	15	8	50	NO MITIGATION REQUIRED FOR PALMS
033	Foxtail Palm	"Wodyetia bifurcata"	8	15	8	50	NO MITIGATION REQUIRED FOR PALMS
034	Foxtail Palm	"Wodyetia bifurcata"	8	15	8	50	NO MITIGATION REQUIRED FOR PALMS
035	Foxtail Palm	"Wodyetia bifurcata"	8	15	8	50	NO MITIGATION REQUIRED FOR PALMS

HALLANDALE BEACH LANDSCAPE SCHEDULE

GENERAL LANDSCAPE REQUIREMENTS	REQUIRED	PROVIDED	UNIT
1 TREE PER 1500 SF OF TOTAL SITE	38	38	#
50% OF REQUIRED TREES SHALL BE NATIVE DROUGHT TOLERANT	50	50	%
6' CW PALMS USED WHERE TRAFFIC VISIBILITY MAY BE IMPAIRED			
21-51 TREES REQ. MINIMUM OF 4 TREE SPECIES	4	6	#
2 OR 3 PALMS EQUAL 1 TREE (15' MATURE SPREAD) - CLUSTERED		12 = 4 TREES	#
15' HT / INSTALL PALMS, NO MORE THAN 50% OF TOTAL REQ. TREES - NON-RES.			#
PALM 1 CREDIT F 20' HT (NON-RES); 15' HT (RES)		25	#
HEDGES			
30% OF REQ. HEDGE SHALL BE NATIVE DROUGHT TOLERANT		50	%
TREE CREDIT FORMULA FOR EXISTING TREES TO REMAIN			
12-24 INCH DBH 3 TREES			#
PERIMETER LANDSCAPE REQUIREMENTS			
50% OF REQ. OF REQUIRED PERIMETER SHALL BE SHADE TREES		50	%
INTERIOR LANDSCAPE REQUIREMENTS			
50% OF REQ. TERMINAL AND INTERIOR ISLAND TREES SHALL BE SHADE		80	%
TOTAL TREES/PALMS 38 REQ + 29 CODE = 67			

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KEITH & ASSOCIATES, INC.

P&Z 11-14-2014

HALLANDALE BEACH FIRE STATION 7 & EOC FACILITY
TREE DISPOSITION
CITY OF HALLANDALE BEACH
BROWARD COUNTY

DATE: 09/17/2014
SCALE: AS INDICATED
DRAWN BY:
DESIGN BY:
CHECKED BY:

REVISION

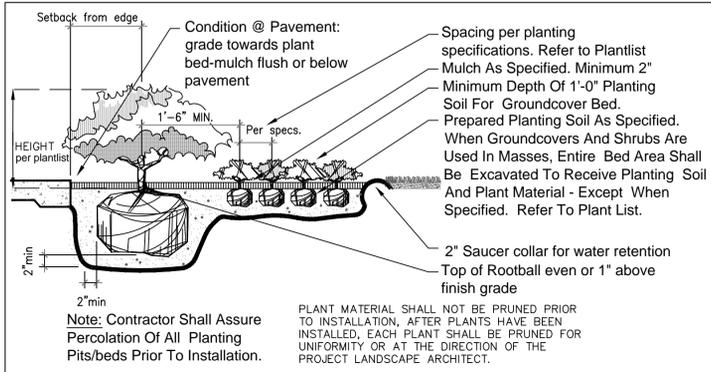
NO.	DATE	DESCRIPTION

DERICK LANGEL, RLA
FLORIDA REG. LANDSCAPE ARCHITECT
(P&Z TREE PLAN)

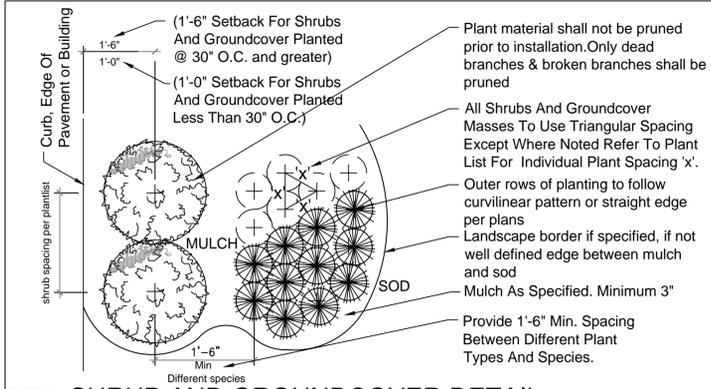
KEITH & ASSOCIATES, INC.
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301 EAST ATLANTIC BOULEVARD
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(954) 788-3400 FAX (954) 788-3500
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7526

SHEET NO. TD-1

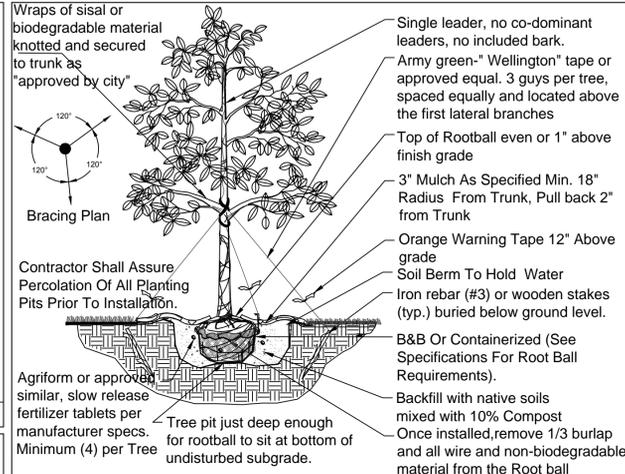
PROJECT NO. 08735.00



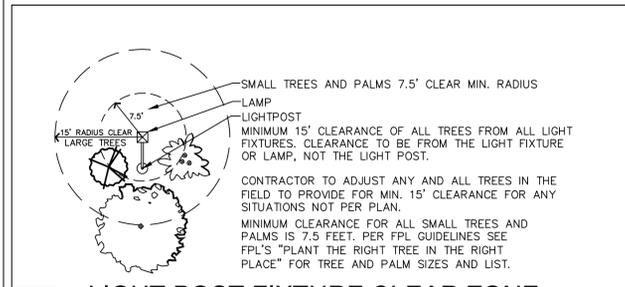
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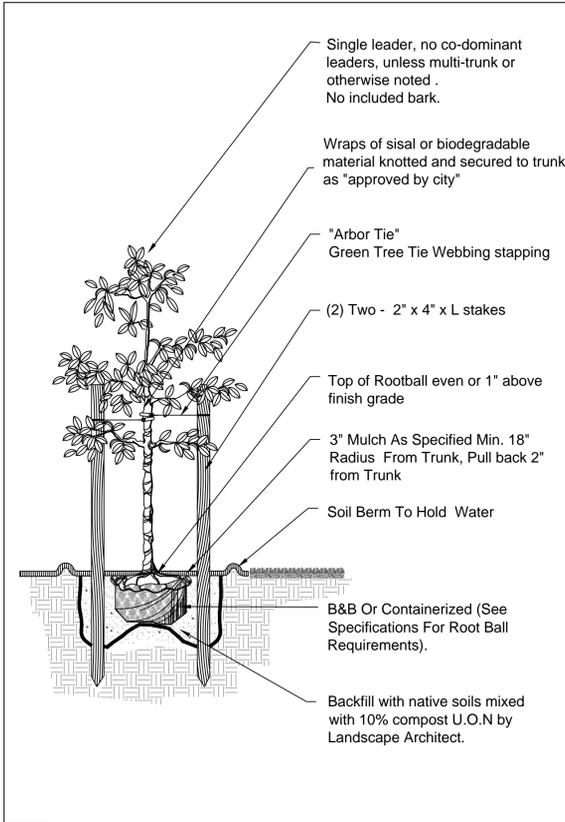
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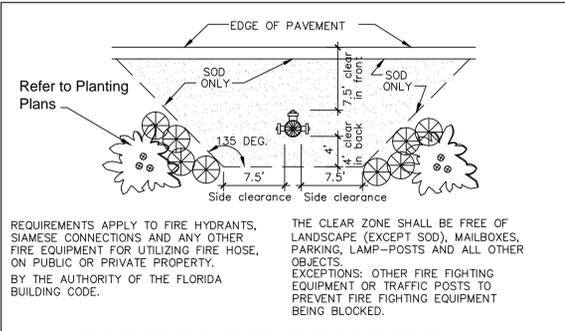
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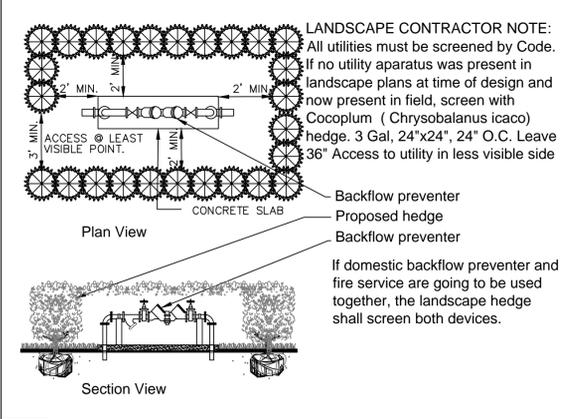
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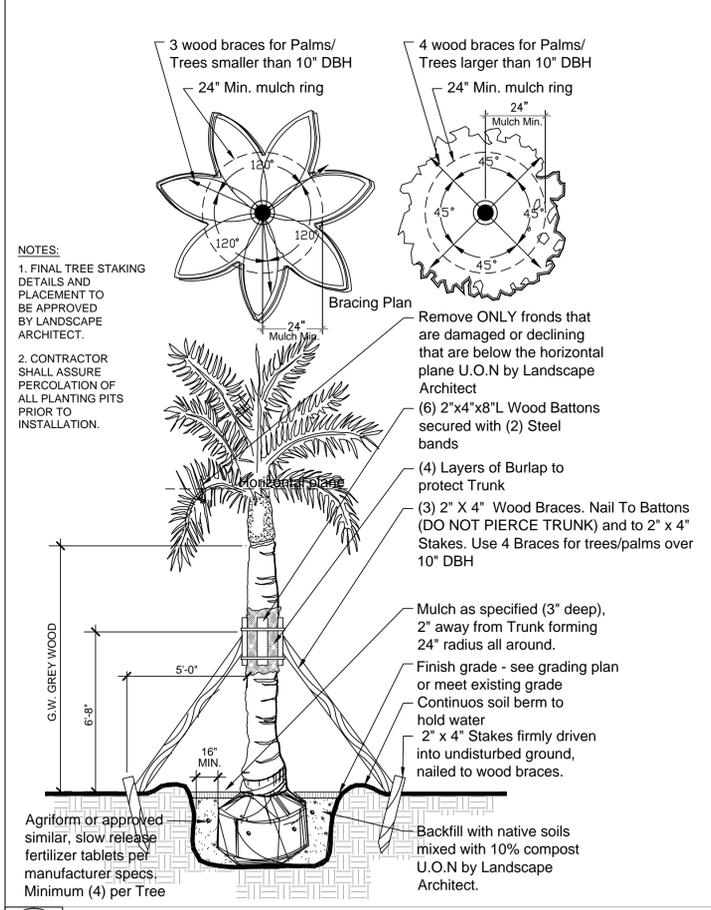
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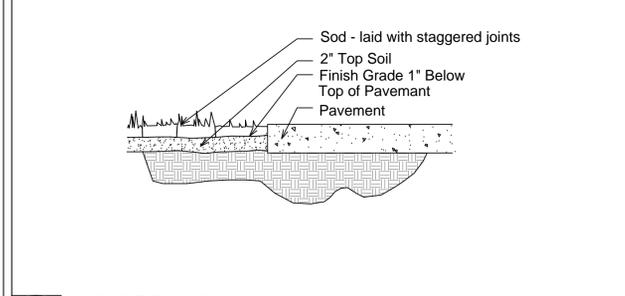
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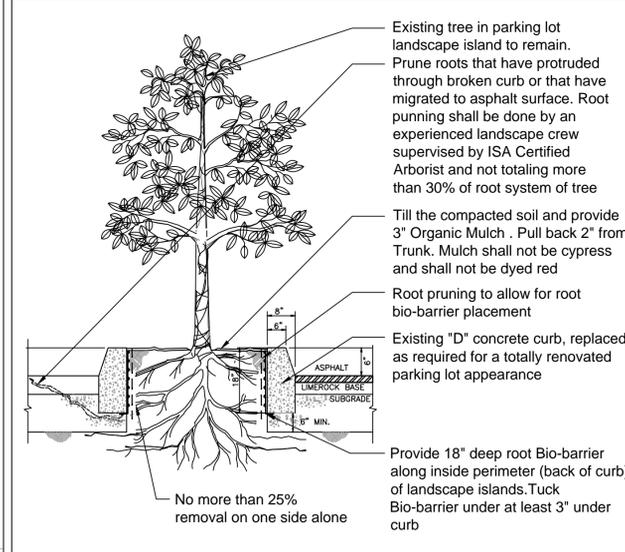
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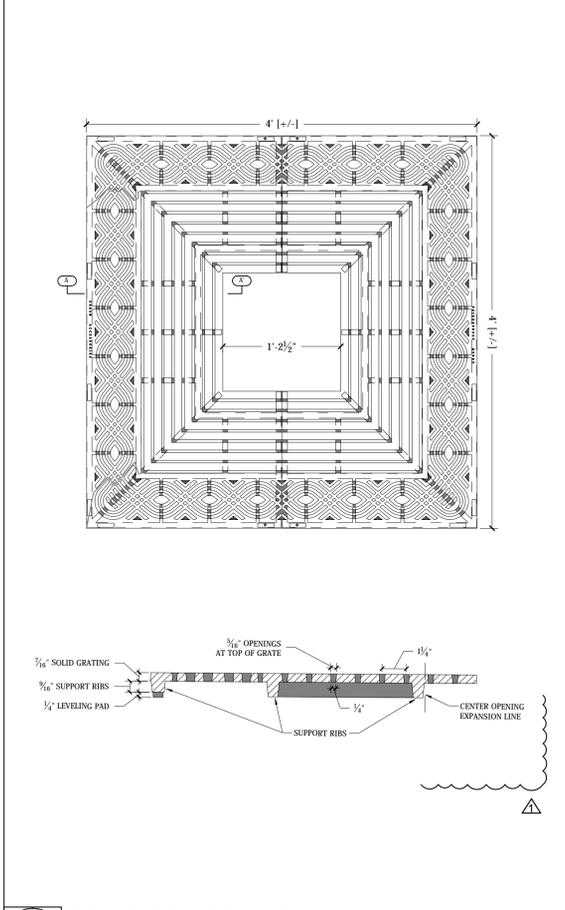
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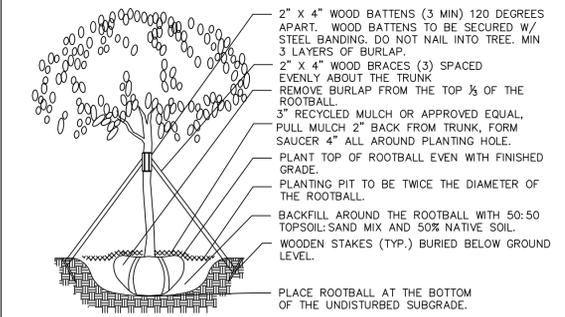
6 LD-1 Section Not To Scale



7 LD-1 Section - Existing Tree Not To Scale



9 LD-1 Plan / Section : By : Urban Accessories - Chinook Not To Scale



TREE RELOCATION PROCESS / NOTES:

- 1) Root prune in place 6 to 8 weeks before relocation. Then allow roots to regenerate
- 2) Water the root zones to field capacity for 5 continuous days before root pruning.
- 3) Root prune with proper equipment to sever roots, ensure roots are not torn or pulled apart. With hand tools, dig a 2'-0" wide by 3'-0" deep trench at the outer edge of the rootball (Size determined below) or as determined by the Arborist on site. Cut all roots 1.5" and larger in diameter with a clean, sharp pruning saw. Treat all cuts with a fungicidal barrier, backfill the trench, within 4 hours of digging, with a 1:1 mixture of site soil and sand/soil or other fine organic material. Do not compact.
- 4) Form a rootball of the following minimum sizes:
 - 24 inches by 12 inches deep for trees less than 5 inch caliper;
 - 36 inches by 18 inches deep for trees from 5 to 18 inch caliper; and
 - 48 inches by 24 inches deep for trees over 18 inch caliper.
- 6) Transplant operations to be supervised by an ISA certified arborist.
- 7) At the direction of a professional rigger, assemble slings, padding, guiding ropes and cables for attachment to the crane or backhoe. The professional rigger shall determine the size of machinery necessary to execute the lifting and moving operation.
- 8) Transplanting hole to be at least 2' larger than the rootball
- 9) Add Agriform Fertilization tablets or similar per manufacturer recommendation according to pruned tree size, but no less than 4 tablets.
- 10) Set the tree no deeper than its original condition.
- 11) Water to eliminate air pockets with water hose application of flood watering.
- 12) Post transplant watering to be daily for the first two weeks and later on sufficient to avoid root desiccation and support new growth.

12 LD-1 Section - Relocation Trees only - If applicable Not To Scale

PRELIMINARY PLAN NOT FOR CONSTRUCTION

Date: 11/14/2014
KEITH & ASSOCIATES, INC.

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

DATE: 09/17/2014
SCALE: AS INDICATED
DRAWN BY:
DESIGN BY:
CHECKED BY:

REVISION	DATE	DESCRIPTION

DERICK LANGELOTTA
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
(FOR THE FIRM)

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STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER - 7528

HALLANDALE BEACH FIRE STATION 7 & EOC FACILITY LANDSCAPE DETAILS
BROWARD COUNTY
CITY OF HALLANDALE BEACH

SHEET NO. LD-1

P&Z 11-14-2014

LANDSCAPE NOTES:

- A. SCOPE
1. The location of plants, as shown on the plans, is approximate. The final locations may be adjusted slightly to accommodate unforeseen field conditions, to comply with safety setback criteria, to avoid creating unsafe sight conditions, or as otherwise directed or approved by the Landscape Architect / owner in writing. All other location adjustments to the layout are to be approved in advance in writing by the Landscape Architect and owner.
2. Contractor understands that an important element of the design of this project is meeting landscape ordinances with a design flare that includes symmetry, alignment, focal points and / or smooth curvilinear forms where applied and contractor shall follow and instruct the working crews accordingly. In the event of any doubt as to how to execute the plans, Contractor shall immediately consult with Architect and/or Owner.
3. Landscape Contractor shall first verify the following notes and per plans; furnish and install all plants, shrubs, trees and / or palms meeting minimum requirements and brace them per details provided. Furnish and install sod,gravel,boulders, sod and mulch as specified in plans and notes below.
4. Landscape contractor shall furnish and install all trees, palms, shrubs, groundcover, sod, planting soil, fertilizer, herbicide, pre-emergence herbicide, seed, and mulch.

- G. TREE RELOCATION (These notes for relocation trees only and if applicable)
1. Flag all trees and palms to be transplanted with differentiating color that those to be saved or removed.
2. Tree Relocation process must be performed or supervised by ISA Certified Arborist.
3. Water the root zones to field capacity for 2 continuous days before root pruning. At a minimum soak the soil to a 4'-0" depth within a 6' radius.
4. Root prune a minimum of 6 weeks before relocation. Prune away all dead or damaged limbs or fronds. For trees, prune about 1/3 of the existing canopy by selectively removing small internal branches. For palms, gather fronds above the bud and tie them loosely with jute twine to avoid damage.
5. Brace root pruned trees awaiting relocation.
6. Root prune 1/3 of the root system,irrigate daily for two weeks then root prune another 1/3 rd,irrigate daily and prune last 1/3 rd on actual relocation date, no less than two weeks (6 weeks total minimum root pruning by stages). ISA Arborist on staff shall observe for intense shock. Canopy pruning may be deemed necessary by Arborist on staff to balance for intense root ball loss, canopy shall be trimmed only as necessary to increase survival.
7. Root prune with proper clean equipment to sever roots. Ensure roots are not torn or pulled apart.
8. With hand tools, dig a 2'-0" wide by 3'-0" deep trench at a minimum distance as determined by the consulting arborist to expose roots. Cut all roots 1.5" and larger in diameter with a clean, sharp pruning saw. treat all cuts with a fungicidal barrier. Backfill the trench, within 4 hours of digging, with a 1:1 mixture of site soil and sawdust or other fine organic material. Do not compact.
9. Form a rootball size in compliance with Florida grades and Florida standards number one or better.
10. Maintain the soil moisture at field capacity throughout the 6 weeks.
11. Allow the plant to regenerate roots over a period of six weeks.
12. At the end of six weeks, prepare the planting pit at the new location. overdig the hole diameter by 2" beyond the root ball at a minimum, but it is recommended that transplanting hole to be at least 1/3 larger than the area that was transplanted.
13. With the consulting arborist present, undercut the entire root ball of the plants to be transplanted at a depth specified by the arborist. The undercutting method may be a choker cable drawn through the root ball with heavy equipment.
14. At the direction of a professional rigger, assemble slings, padding, guiding ropes and cables for attachment to the crane or backhoe. The professional rigger shall determine the size of machinery necessary to execute the lifting and moving operation.
15. Install trees within 24 hours of removal from their original location to locations provided by Landscape Architect or Developer with approval of City / Landscape Inspector.
16. Experimented Tree Spade operator shall move tree or experimented tree mover shall choose best means and methods to strap and rig tree for transporting safely without damage to new location.
17. Maintain trees in a healthy and vigorous condition during installation and throughout the plant establishment period. Replace trees that do not meet this requirement with the same species, size, and quality or per mitigation requirements specific to the city with jurisdiction.
18. Fertilize the plant as directed by the consulting arborist.
19. When the plant is placed in the new location, backfill the planting pit with topsoil and water thoroughly to eliminate air pockets and compact the soil. Set the tree no deeper than its original condition.
20. Cover the root ball area with 3" depth of organic mulch.
21. Provide fungicide and fertility applications at the direction of the consulting arborist.
22. Post transplant watering to provide moisture and reduce any excessive stress due to root desiccation, watering to be adjusted according to conditions and at the supervision and direction of the ISA certified arborist.
23. The diameter of the root-pruning or transplanting circle shall be at a distance away from the trunk equal to 12 times each inch of trunk diameter at breast height.
24. For all palms except Sabal Palmetto, the lower fronds shall be pruned leaving 9-11 fronds that can be held without an extensive amount of weight that may damage the heart of the palm. The sabal palmetto shall have all fronds cut without damaging the bud.
25. Transplanting must occur within 24 hours after being dug for relocation. Trees/palms should be kept in shade and the canopy kept moist.
26. Digging and preparation of the new hole for the transplant shall be done prior to removing the tree from the existing location.
27. The landscape Contractor is to verify that all new holes have appropriate percolation.
28. Peding the sling may be necessary so that the trunk or "boots" are not damaged.
29. A 6" saucer shall be created around the edge of the plant pit to help hold water, using planting detail for additional information.
30. Over the guarantee period the Landscape contractor shall be responsible for resetting any trees/palms that are not vertical when caused by winds less than 74 mph.
31. After transplanting trees and palms, the landscape contractor shall be responsible for obtaining water and watering to maintain soil moisture during the guarantee period at a minimum of: First month- daily, Second month - 3 times per week, Third and Fourth months - 2 times per week, Last eight months - 1 time per week.
32. For trees over 4" in caliper at the time of planting, the schedule should be: First 6 weeks, daily, 1.5 months to 6 months - 3 times per week, last 6 months - 1 time per week.

- K. UTILITIES / CLEARANCES
1. The contractor shall be responsible for determining the location of and avoid and protect utility lines, buried cables, and other utilities. The owner or Landscape Architect shall not be responsible for damage to utility or irrigation lines.
2. Trees shall be placed a minimum of 5 ft. from underground utilities, unless otherwise approved in writing by Landscape Architect and Owner.
3. All canopy trees to be planted min. of 15' from light source/poles. Unless otherwise approved by the City / Landscape Architect and Owner.
4. Landscape contractor shall contact the county, city and/or utility companies to locate all underground utilities or structures prior to digging. Landscape contractor shall repair all damage to underground utilities, and/or construction caused by utility damage, at no cost to the owner.
5. All plant material symbols shown on landscape plan shall be considered diagrammatic and should be adjusted in the field by contractor to avoid all utilities, and all other obstructions.
6. If/ When digging in right of way needed: Two (2) full business days before digging, call toll free 1-800-432-4770, or 811, Sunshine State One Call of Florida, Inc. Notification Center. In addition, call the City's Utilities/Public Works Department. Contractors are responsible for coordinating with the owners and appropriate public agencies to assist in locating and verifying all underground utilities prior to excavation. All existing utilities shown on the plans are to be considered approximate and should be verified by the contractor prior to the start of work operations.
7. Above & below ground utilities shall be verified & located in the field by the contractor prior to commencing work in the project area. The contractor shall examine available utility plans & confirm conflicts between indicated or located utilities & landscape work. The contractor shall then notify the Project Engineer of said conflicts & the Engineer will coordinate any necessary adjustments with the utility provider. Tree locations will be adjusted as necessary when in conflict with existing utilities.
8. The final plant locations may be adjusted, as approved / directed by the Landscape Architect in writing, to accommodate utilities compliance. Excavations within 5' of known utilities should be done by hand.
9. Contractor shall familiarize himself with the location of and avoid and protect utility lines, buried cables, and all other utilities, noted or not, on plans.
10. Leave clearance and access to all above ground or at grade meters and equipment.
11. Landscaping shall be in conformance with FPL guidelines for setbacks from overhead utility lines.
12. Landscaping shall not interfere with light poles, fire hydrants, electrical/mechanical equipment access, signs, drainage structures, etc. Bring to the attention of Landscape Architect/any conflicts.

- L. ROOT BARRIERS
1. Root barriers will be installed to protect building foundations, curbing, walkways, paved areas, roadway base material and utilities from existing large trees or proposed new trees that are within 5' of existing or new approved construction or as may be deemed necessary as job progresses.
2. Mechanical Root barriers will be used for large existing Canopy Trees and chemical type barriers will be used for new trees.
3. Mechanical Root barriers will be "DeepRoot" and Chemical Root barriers will be "Biobarrier" . Substitutions must be of approved equal or better quality.
4. Root barriers will be installed per manufacturer specifications.
5. Root barrier depth will be determined by manufacturer recommended depth chart (http://www.geo-synthetics.com/pdf/BioBarrier/BioBarrierApplicationManual.pdf) and as required by on-site conditions in a case by case basis as deemed necessary by Landscape Architect / ISA Arborist and City Landscape Inspector.

- M. LANDSCAPE BACKFILL & SOIL AMENDMENT
1. 6" top soil required around & beneath all root ball.
2. All building construction material and foreign material shall be removed from the planting areas and void replaced with 50/50 mix of organic planting soil & 50% native sand from site fill soil or as per specifications on plans.
3. All Islands in Parking lots and around Building foundation shall be excavated to a depth of 30" Minimum and replaced with 50/50 mix.
4. Planting soil mix shall be delivered to the site in a clean loose and friable condition and is required around the root ball of all trees and palms, the top 6" of all shrubs and ground cover beds and top 2" of all sodded areas. This soil shall be tilled into the existing soil after the existing soil has been cleaned of all rocks, limestone and sticks. Recycled compost is encouraged as a soil amendment alternative.
5. Planting soil to be weed free. Groundcover planting beds: 6" depth planting soil spread in place - throughout. Shrub and hedge planting areas: 12" depth planting soil spread in place - throughout. Trees, palms, specimen plant material: 30" depth planting soil spread in place -or- to the depth of the root ball or container, whichever is greatest, throughout. Building foundation shall be the same for a width of 36" from the building base.
6. Do not allow air pockets to form when backfilling. All trees shall be "spiked" utilizing water and a tree bar.

- N. PLANT SIZE & QUALITY
1. All plant material must meet or exceed the minimum size requirements as specified on the plant list. Height specification governs over container size if both specifications given cannot be met. Any other requirements for plants shape or effect as noted on the plant list shall also be required for acceptance.
2. Material specified a balled & burlapped can be accepted in container if not available as B&B at the discretion of Landscape Architect; if not root banded and/or circling roots removed and root ball is proportionate to Tree / Palm.
3. U.O.N, All trees designated as single trunk shall have a single, relatively straight, dominant leader, proper structural branching and even branch distribution. Trunks on palms shall be uniform in thickness for the entire length of the palm and shall not taper off to disproportionate thinness towards the crown. Trees with bark inclusion, tipped branches, and co-dominant trunks will not be accepted. Trees with girdling, circling and/or plunging roots will be rejected.
4. Use nursery grown plant materials that complies with all required inspection, grading standards, and plant regulations in accordance with the latest edition of Florida Department of Agriculture, "Grade & Standards for Nursery Plants".
5. All trees and palms shall be free of open wounds and unsightly vascular scars.
6. All substitutions must be approved by the City if it is required Canopy and by Landscape Architect / Owner if supplementary accent material.
7. Contractor shall comply with Federal, State, and Local laws and regulations pertaining to the inspection for plant disease and insect infestation.
8. Trees, palms, shrubs, ground covers: Plant species and sizes shall conform to those indicated on the drawings. All nursery stock shall be in accordance with grades and standards for nursery plants parts 1 & 2, latest edition published by the Florida Department of Agriculture and Consumer Services, unless specified otherwise. All plants shall be Florida grade number 1 or better as determined by the Florida Division of Plant Industry and tightly knit plant, so trained or favored in its development that their first appearance is unquestionable, and it is outstandingly superior in form, number of branches, firmness and symmetry. All plants shall be freshly dug, sound, healthy, vigorous, well branched and free of disease and insect eggs and larvae and shall have adequate root systems. Trees and palms shall be uniform in size and shape. All materials shall be subject to approval by the Landscape architect. Plants shall be pruned prior to delivery only upon the approval of the Landscape Architect.
9. All containers grown material shall be healthy, vigorous, well-rooted plants and established in the container in which they are sold. The plants shall have tops of good quality and be in a healthy growing condition. An established container grown plant shall be transplanted into a container and grown in that container sufficiently long enough for the new fibrous roots to have developed so that the root mass will retain its shape and hold together when removed from the container.
10. Field grown trees and palms previously root pruned shall obtain a root ball with sufficient roots for continued growth without resulting shock.
11. Root suckers on any tree are not acceptable and must be properly pruned.
12. Contractor shall coordinate with Landscape Architect and Owner to obtain prior approval for the selection of the specific specimens of all palms and any trees of more than 6 feet in height. Contractor to supply photograph of trees prior to purchase and installation.

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Table with 2 columns: DATE, REVISION. Includes fields for DRAWN BY, DESIGN BY, and CHECKED BY.

DERICK LANGEL, RLA
FLORIDA REG. NO. LA0687046
(POR THE FIRM)

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HALLANDALE BEACH FIRE STATION 7 & EOC FACILITY
LANDSCAPE NOTES
CITY OF HALLANDALE BEACH
BROWARD COUNTY

P&Z 11-14-2014

Table with 2 columns: SHEET NO., LN-1

PROJECT NO. 08735.00

