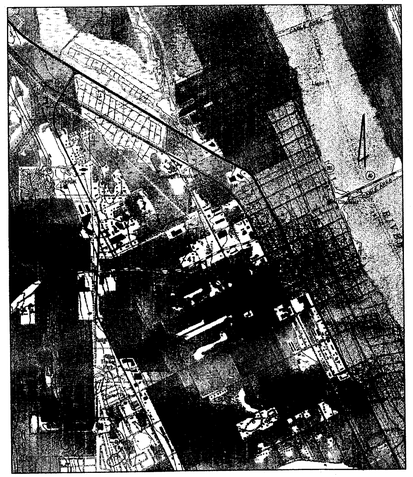
NOTES:
1. EROSION CONTROL SHALL BE INSTALLED PRIOR TO CLEARING.
2. THE CONTRACTOR SHALL REVIEW AND MAINTAIN A COPY OF THE SJRWMD PERMIT AT THE CONSTRUCTION SITE.
3. THE CONTRACTOR MUST CONSTRUCT AND MAINTAIN A PERMANENT PROTECTIVE COVER FOR EROSION AND SEDIMENT CONTROL ON ALL LAND SURFACES EXPOSED OR DISTURBED BY CONSTRUCTION OF THE PERMITTED PROJECT. SAID COVER MUST BE INSTALLED WITHIN 14 DAYS AFTER FINAL GRADING OF THE AFFECTED LAND SURFACE. A PERMANENT VEGETATIVE COVER MUST BE ESTABLISHED WITHIN 60 DAYS OF ITS INSTALLATION.
4. ALL AREAS TO BE DISTURBED WILL HAVE SILT FENCES AROUND PERIMETER OR OTHER EROSION CONTROL TO PROHIBIT EROSION AND SEDIMENT FROM DISCHARGING OFF SITE (SEE DETAILS).
5. SWALES, BERMS AND GRASSED AREAS WILL BE MOWED AS NECESSARY AND ARE TO BE CHECKED PERIODICALLY FOR EROSION , ALL TO BE MAINTAINED BY THE OWNER/APPLICANT.
6. ELEVATIONS REFER TO U.S.C. & G.S. DATUM (NGVD 1929) OBTAINED FROM FIELD SURVEY.
7. EXISTING SOILS, SEE DRAINAGE CALCULATIONSBELOW.
8. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE SODDED OR SEEDED.
9. EXISTING TREES ON THE SITE THAT ARE TO BE SAVED WILL BE PROTECTED BY TREE BARRICADES AND MUST BE LEFT INTACT INCLUDING TREE PRESERVATION AREAS.
10. ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH CITY OF ORMOND BEACH SPECIFICATIONS.
11. FOR ANY MODIFICATIONS TO STORMWATER DESIGN OR BUILDING LOCATION, CONTRACTOR IS TO CONSULT DESIGN ENGINEER AND OBTAIN PRIOR APPROVAL FROM CITY OF ORMOND BEACH.
12. A PORTION OF THIS SITE IS WITHIN THE 100 YEAR FLOOD PLAIN.
13. EXISTING TREES – SEE LANDSCAPE PLAN.
14. SANITARY SEWER IS PROVIDED BY CITY OF ORMOND BEACH.
15. POTABLE WATER IS PROVIDED BY CITY OF ORMOND BEACH.
16. A BACKFLOW PREVENTER SHALL BE INSTALLED ON PROPOSED WATER SERVICES, PER CITY SPECS.
17. ALL PROPOSED CLEANOUTS SHALL HAVE A "TRAFFIC" TYPE FRAME AND COVER.
18. BUSINESS SIGN BY SEPERATE SIGN PERMIT.
19. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ON AND ADJACENT TO THIS SITE, PRIOR TO ANY CONSTRUCTION.
20. THE OWNER WILL BE RESPONSIBLE FOR THE MAINTENACE OF ALL OPEN SPACES, LANDSCAPING, DRAINAGE RETENTION AREAS AND OTHER FACILITIES.
21. ALL PROPOSED UTILITIES WILL BE UNDERGROUND.
22. CONSTRUCTION TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR.
23. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE CITY STANDARD CONSTRUCTION DETAILS, LATEST VERSION, UNLESS OTHERWISE SPECIFICALLY APPROVED.
24. GRANADA BLVD. MEDIAN. THE PROPERTY OWNER SHALL BE REQUIRED TO CONSTRUCT THE CROSS EASEMENT WITH 500 GRANADA BLVD. WITHIN 1 YEAR OF NOTICE BY THE CITY IF THE FDOT CLOSES THE MEDIAN OR RESTRICTS U-TURNS ON GRANADA BLVD.

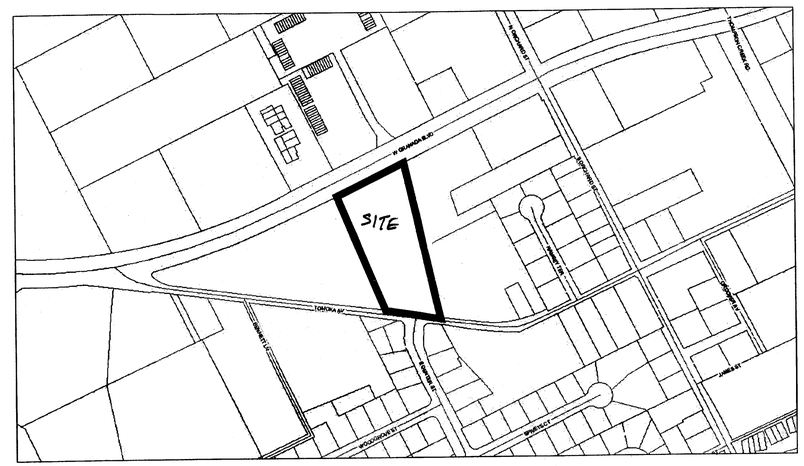
SITE DEVELOPMENT PLAN OF:

GRANADA MANAGEMENT, LLC

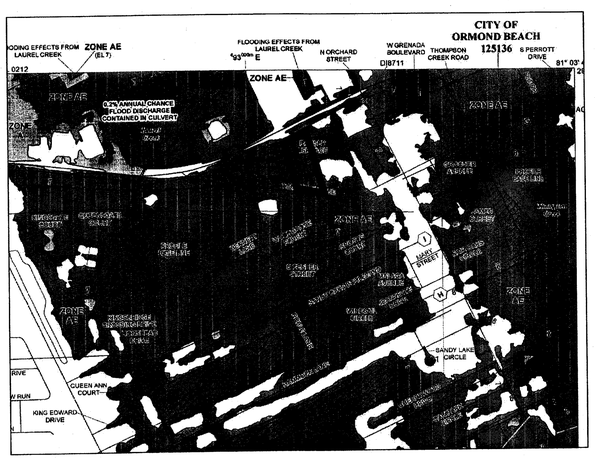
ORMOND BEACH, VOLUSIA COUNTY, FLORIDA



QUADRANGLE MAP



VICINITY MAP



FLOOD MAP, 2014 EDITION

NOTE:
THE 100 YEAR FLOOD ELEVATION SHOWN ABOVE IS 7.00' REFERENCED TO 1988 DATUM THIS EQUATES TO ELEVATION 8.14 WHEN REFERENCED TO 1929 DATUM OF THIS SITE.

OUTSIDE AGENCY PERMIT CHECK LIST

IN ORDER TO ENSURE THAT ALL WORK WITHIN THE CITY IS CONSTRUCTED IN ACCORDANCE WITH ALL RELEVANT FEDERAL, STATE AND COUNTY REGULATIONS, IN ADDITION TO THE CITY REGULATIONS, THE APPLICANT SHALL CHECK ALL OUTSIDE AGENCY PERMITS REQUIRED FOR THIS PROJECT ON THE LIST BELOW.

THIS LIST WILL ALSO BE USED BY CITY PERSONNEL TO VERIFY THAT ONE HARD COPY AND ONE PDF OF ALL REQUIRED PERMITS ARE SUBMITTED TO THE PLANNING DEPARTMENT PRIOR TO FINAL SITE PLAN REVIEW COMMITTEE (SPRC) SIGNOFF.

1 [ ] SJRWMD ENVIRONMENTAL RESOURCE PERMIT (ERP)
2 [ ] DEP WASTEWATER CONSTRUCTION/CONNECTION PERMIT
3 [ ] DEH WATER CONSTRUCTION/CONNECTION PERMIT
4 [ ] FDOT UTILITY PERMIT
5 [ ] FDOT DRIVEWAY CONNECTION PERMIT
6 [n/a] COUNTY USE PERMIT
7 [n/a] FDOT DRAINAGE CONNECTION PERMIT
8 [ ] DEP NPDES NOI
9 [n/a] OTHER (PLEASE SPECIFY)

	STANDARD CONSTRUCTION DETAIL OUTSIDE AGENCY PERMIT CHECK LIST NTS.	INDEX M-21 JAN. 2011

SITE DATA

SITE AREA = 3.00 ACRES
PROPOSED 3 STORY BUILDING FOOTPRINT = 10,928 S.F. = 8%
PROPOSED RESIDENTIAL UNITS FOOTPRINT = 20,906 S.F. = 16%
PROPOSED RESIDENTIAL GARAGES FOOTPRINT = 3200 S.F. = 2%
PROPOSED PARKING AREA/SIDEWALKS = 35,798 S.F. = 27%
TOTAL IMPERVIOUS SURFACE COVERAGE = 70,832 S.F. = 54%
OPEN AREA = 60,112 S.F. = 46%

RETENTION AREA COVERAGE = 19,000 S.F. = 15%
LANDSCAPED AREA COVERAGE = 40,074 S.F. = 30%
AREA TO REMAIN AT NATURAL GRADE = 30,574 S.F. = 23%

PARKING PROVIDED = 94 SPACES INCLUDES 4 HANDICAP, 3 MOTORCYCLE. 1 RESERVED FOR GATE
PARKING REQUIRED = 115 SPACES 10,000 S.F. COMMERCIAL /200 = 50; MEDICAL USE = 5; 30 RESIDENTIAL UNITS X 2 = 60
BIKE PARKING REQUIRED AT 5% = 5, 6 SPACES PROVIDED

PROPOSED PROPERTY USE IS COMMERCIAL AND RESIDENTIAL

EXISTING ZONING = B-9
TAX PARCEL 4241-01-13-0073

SETBACKS: COMMERCIAL/RESIDENTIAL BUILDING		
YARD	REQUIRED	PROVIDED
FRONT	75'	158'±
REAR	30'	340' ±
SIDE, WEST	20'	58'±
SIDE, EAST	20'	72'±

SETBACKS: MULTI-FAMILY BUILDING		
YARD	REQUIRED	PROVIDED
FRONT	75'	174'±
REAR	30'	30'±
SIDE, WEST	20'	20.31'±
SIDE, EAST	25'	37'±

ORMOND BEACH
SITE PLAN REVIEW COMMITTEE
FINAL APPROVAL
4.13.2015
Date

WATER AND SEWER DEMAND:
30 RESIDENTIAL UNITS @ 350 GPD = 10,500 G.P.D.
RETAIL AND OFFICE 10000 S.F. @ 0.1 G.P.D./S.F. = 1000 G.P.D.
TOTAL = 11,500 G.P.D.

PROPOSED TRAFFIC
RESIDENTIAL 30 UNITS = 300 TRIPS
OFFICE MEDICAL 10000 S.F. = 361
TOTAL 661 TRIPS AVERAGE DAILY

EXISTING SOILS ARE #69 - TUSCAWILLA FINE SAND PER VOLUSIA COUNTY GIS

Drawing Index

sheet #	description
1	Vicinity Map
2	Survey
3	Site Plan
4	Composite Utility Map
5	Granada Blvd. Driveway
6-12	Construction Details
13-14	Landscape Plan
15-16	Irrigation Plan
17	Tree Removal & Erosion Control
18-31	Architect Plans

OWNER/DEVELOPER
GRANADA MANAGEMENT, LLC
P.O. BOX 1797
ORMOND BEACH, FL. 32175
386-316-4042
DRGONZALES@CFL.RR.COM

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386-756-8582
DANJOHNS@DJENGINEERS.COM

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BEN@BUTERADESIGNS.COM

LANDSCAPE ARCHITECT
RICHARD POORE
300 GATEWOOD CT.
ORMOND BEACH, FL. 32174
386-212-8491
THEPOORFAM@GMAIL.COM

STATEMENT OF INTENT:
THESE PLANS ARE FOR THE APPROVAL OF A MULTI STORY COMMERCIAL BUILDING AND 30 RESIDENTIAL UNITS THAT ARE RESTRICTED TO 55 YEARS AND OLDER RESIDENTS

CITY PROJECT NUMBER: 2014-028
ADDRESS: 550 W. GRANADA

Revised	Description of Revision	By
4-6-15	traffic gates	dj
12-17-14	city comments	dj

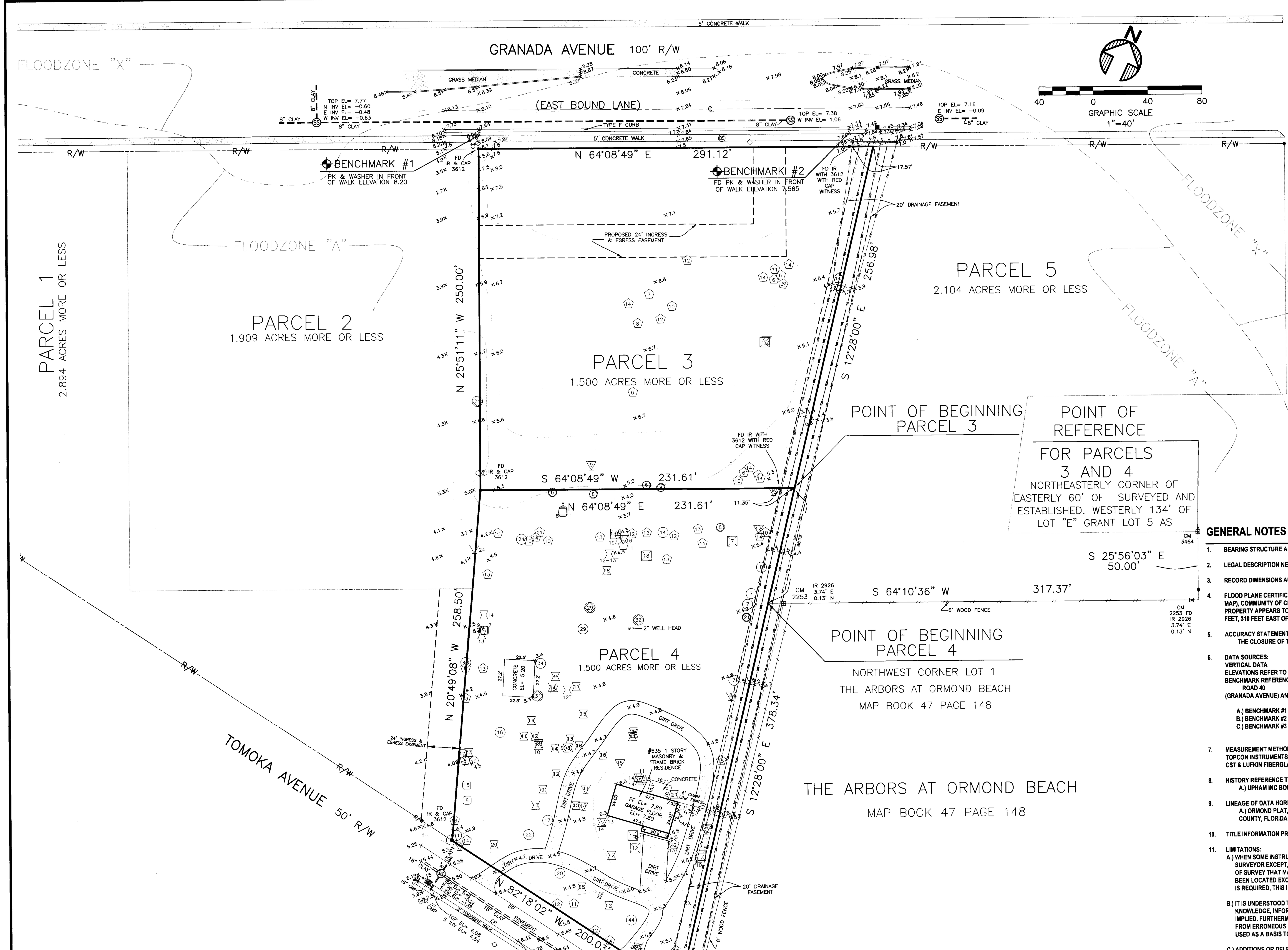
Daniel Johns, P.E.
Professional Engineer No. 54037
3869 S. Nova Rd. - Suite 4 * Port Orange, Florida 32127
phone 386-756-8582 * e-mail danjohns@djengineers.com

VICINITY MAP

GRANADA MANAGEMENT, LLC

Ormond Beach, Volusia County, Florida

file: * | date: 11-2014 | scale: NTS | sheet 1 of 31



TREE LEGEND / SYMBOLS / COUNT

SEE LIMITATIONS: 11(F)(1)

Tree	Symbol	Count
ASH TREE	9	8
ELM TREE	10	7
CEDAR TREE	6	6
CHINA BERRY TREE	10	1
HACKBERRY TREE	13	15
LIVE OAK TREE	43	4
OAK TREE	11	18
PALM TREE	12	51
SWEETGUM TREE	12	40
		108 TOTAL

LEGAL DESCRIPTION:

PARCEL 3:

BEING A PORTION OF LOT J OF GRANT LOT 6, A PORTION OF LOT G OF GRANT LOT 6 AND A PORTION OF LOT F OF GRANT LOT 6 1/2, ORMOND, PER MAP BOOK 2, PAGE 118, ALSO RECORDED IN MAP BOOK 12, PAGE 24 OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA AND BEING THOSE LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 2275, PAGES 0531, 0532 AND 0537, OFFICIAL RECORDS BOOK 2316, PAGE 0780 AND THE NORTHERLY 50 FOOT OF OFFICIAL RECORDS BOOK 2275, PAGE 0533, OFFICIAL RECORDS BOOK 2561, PAGE 0475, OFFICIAL RECORDS BOOK 2573, PAGE 0011 AND OFFICIAL RECORDS BOOK 2606, PAGE 1354 AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

AS A POINT OF REFERENCE COMMENCE AT THE NORTHEASTERLY CORNER OF THE EASTERLY 60 FEET OF THE WESTERLY 134 FEET OF LOT "E" OF GRANT LOT 5, ORMOND AS RECORDED IN MAP BOOK 2, PAGE 118 AS NOW ESTABLISHED, SAID POINT BEING A CONCRETE MONUMENT #3464; RUN THENCE SOUTH 25 DEGREES 56 MINUTES 03 SECONDS EAST ALONG THE WEST LINE OF THE WESTERLY 271 FEET OF THE EASTERLY 371 FEET OF SAID LOT "E", A DISTANCE OF 50.00 FEET TO THE NORTHEAST CORNER OF LOT 2, ARBORS AT ORMOND BEACH, AS RECORDED IN MAP BOOK 47, PAGE 148, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE SOUTH 64 DEGREES 10 MINUTES 36 SECONDS WEST ALONG THE NORTH LINE OF SAID ARBORS AT ORMOND BEACH, A DISTANCE OF 317.37 FEET TO THE NORTHWEST CORNER OF LOT 1 OF SAID ARBORS AT ORMOND BEACH; THENCE NORTH 12 DEGREES 28 MINUTES 00 SECONDS WEST, A DISTANCE OF 86.79 FEET FOR THE POINT OF BEGINNING; THENCE SOUTH 64 DEGREES 08 MINUTES 49 SECONDS WEST, A DISTANCE OF 231.61 FEET; THENCE NORTH 25 DEGREES 51 MINUTES 11 SECONDS WEST, A DISTANCE OF 250.00 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF GRANADA AVENUE (A 100 FOOT RIGHT-OF-WAY); THENCE NORTH 64 DEGREES 08 MINUTES 49 SECONDS EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 291.12 FEET; THENCE DEPARTING THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID GRANADA AVENUE SOUTH 12 DEGREES 28 MINUTES 00 SECONDS EAST, A DISTANCE OF 256.98 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL CONTAINS 1.500 ACRES MORE OR LESS.

PARCEL 4:

BEING A PORTION OF LOT F OF GRANT LOT 5, A PORTION OF LOT K OF GRANT LOT 5, A PORTION OF LOT G OF GRANT LOT 6 AND A PORTION OF LOT J OF GRANT LOT 6, ORMOND, PER MAP BOOK 2, PAGE 118, ALSO RECORDED IN MAP BOOK 12, PAGE 24 OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA AND BEING THOSE LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 2275, PAGES 0531, 0532 AND 0537, OFFICIAL RECORDS BOOK 2316, PAGE 0780 AND THE NORTHERLY 50 FOOT OF OFFICIAL RECORDS BOOK 2275, PAGE 0533, OFFICIAL RECORDS BOOK 2561, PAGE 0475, OFFICIAL RECORDS BOOK 2573, PAGE 0011 AND OFFICIAL RECORDS BOOK 2606, PAGE 1354 AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

AS A POINT OF REFERENCE COMMENCE AT THE NORTHEASTERLY CORNER OF THE EASTERLY 60 FEET OF THE WESTERLY 134 FEET OF LOT "E" OF GRANT LOT 5, ORMOND AS RECORDED IN MAP BOOK 2, PAGE 118 AS NOW ESTABLISHED, SAID POINT BEING A CONCRETE MONUMENT #3464, RUN THENCE SOUTH 25 DEGREES 56 MINUTES 03 SECONDS EAST ALONG THE WEST LINE OF THE WESTERLY 271 FEET OF THE EASTERLY 371 FEET OF SAID LOT "E", A DISTANCE OF 50.00 FEET TO THE NORTHEAST CORNER OF LOT 2, ARBORS AT ORMOND BEACH, AS RECORDED IN MAP BOOK 47, PAGE 148, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE RUN SOUTH 64 DEGREES 10 MINUTES 36 SECONDS WEST ALONG THE NORTH LINE OF SAID ARBORS AT ORMOND BEACH, A DISTANCE OF 317.37 FEET TO THE NORTHWEST CORNER OF LOT 1 OF SAID ARBORS AT ORMOND BEACH, SAID POINT BEING THE POINT OF BEGINNING; THENCE SOUTH 12 DEGREES 28 MINUTES 00 SECONDS EAST ALONG THE WEST LINE OF SAID ARBORS AT ORMOND BEACH, A DISTANCE OF 291.55 FEET TO THE SOUTHWEST CORNER OF LOT 1 OF SAID ARBORS AT ORMOND BEACH, SAID POINT BEING ON THE NORTHERLY RIGHT-OF-WAY LINE OF TOMOKA AVENUE (A 50 FOOT RIGHT-OF-WAY); THENCE NORTH 82 DEGREES 18 MINUTES 02 SECONDS WEST ALONG THE NORTHERLY RIGHT-OF-WAY LINE OF SAID TOMOKA AVENUE, A DISTANCE OF 200.03 FEET; THENCE DEPARTING NORTHERLY RIGHT-OF-WAY LINE OF SAID TOMOKA AVENUE NORTH 20 DEGREES 49 MINUTES 08 SECONDS WEST, A DISTANCE OF 258.50 FEET; THENCE NORTH 64 DEGREES 08 MINUTES 49 SECONDS EAST, A DISTANCE OF 231.61 FEET; THENCE SOUTH 12 DEGREES 28 MINUTES 00 SECONDS EAST, A DISTANCE OF 86.79 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL CONTAINS 1.500 ACRES MORE OR LESS.

GENERAL NOTES AND SURVEY REPORT:

1. BEARING STRUCTURE ASSUMED (N 82°18'02" W) ALONG THE NORTH RIGHT-OF-WAY LINE OF TOMOKA AVENUE (A 50 FOOT RIGHT-OF-WAY).
2. LEGAL DESCRIPTION NEW PER UPHAM INC.
3. RECORD DIMENSIONS ARE SHOWN IN PARENTHESIS ( ), WHEN DIFFERS FROM MEASURED.
4. FLOOD PLANE CERTIFICATION ACCORDING TO THE FEMA (FEDERAL EMERGENCY MANAGEMENT AGENCY) F.I.R.M (FEDERAL INSURANCE RATE MAP), COMMUNITY OF CITY OF ORMOND BEACH, FLORIDA NUMBER 125136, PANEL NUMBER 12127C0214 H, DATED: FEBRUARY 19,2003. THE PROPERTY APPEARS TO BE FLOOD ZONE "A" THE BASE 100 YEAR FLOOD ELEVATION IS NONE. THE NEAREST BASE FLOOD ELEVATION IS 8 FEET, 310 FEET EAST OF PARCEL 3 ALONG EAST BOUND GRANADA AVENUE.
5. ACCURACY STATEMENT: THE EXPECTED ACCURACY OF THE CONTROL TO ESTABLISH THE BOUNDARY OF THE SUBJECT PROPERTY IS. THE CLOSURE OF THE TRAVERSE FOR THIS PROJECT IS : 1 : 65,398
6. DATA SOURCES:
   VERTICAL DATA
   ELEVATIONS REFER TO (NGVD 29) NATIONAL GEODETIC VERTICAL DATUM 1929. FEET AND DECIMAL PART THEREOF.
   BENCHMARK REFERENCE NGVD DATUM OF 1929. BENCHMARK, DESIGNATION HPR-109 SOUTHEAST QUARTER OF THE INTERSECTION OF STATE ROAD 40 (GRANADA AVENUE) AND TOMOKA AVENUE, BRASS DISK IN CONCRETE WALK ELEVATION = 7.93.
   A.) BENCHMARK #1 PARKER KALON AND WASHER IN FRONT OF WALK ELEVATION= 8.20.
   B.) BENCHMARK #2 PARKER KALON AND WASHER IN FRONT OF WALK ELEVATION= 7.565.
   C.) BENCHMARK #3 PARKER KALON AND WASHER IN NORTH EDGE OF PAVEMENT ALONG TOMOKA AVENUE ELEVATION= 6.61.
7. MEASUREMENT METHODS: HORIZONTAL AND VERTICAL MEASURES MADE BY ONE OR MORE OF THE FOLLOWING INSTRUMENTS: TOPCON INSTRUMENTS GPT-3003W, SOKKIA GRX-1 GPS INSTRUMENTS, PAL-2 LUFKIN STEEL TAPE, CST STEEL TAPE, STEEL HIGHWAY CHAIN, CST & LUFKIN FIBERGLASS TAPE FOR DIMENSIONS FOR BUILDINGS.
8. HISTORY REFERENCE TO PREVIOUS SURVEY OR HELPER SURVEYS:
   A.) UPHAM INC BOUNDARY & TOPOGRAPHIC SURVEY, FILE 26B-137, DATED
9. LINEAGE OF DATA HORIZONTAL DATA REFERENCES, DATE OF ORIGINAL PLAT.
   A.) ORMOND PLAT, AS RECORDED IN MAP BOOK 2, PAGE 118, ALSO RECORDED IN MAP BOOK 12, PAGE 24, PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
10. TITLE INFORMATION PROVIDED: NONE
11. LIMITATIONS:
   A.) WHEN SOME INSTRUMENTS OF RECORD REFLECTING EASEMENTS, RIGHT-OF-WAY AND OR OWNERSHIP WERE FURNISHED TO THIS SURVEYOR EXCEPT, AS SHOWN. THERE MAY BE ADDITIONAL RESTRICTIONS AND/OR OTHER MATTERS THAT ARE NOT SHOWN ON THIS PLAT OF SURVEY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY, NO UNDERGROUND INSTALLATIONS OR IMPROVEMENTS HAVE BEEN LOCATED EXCEPT AS SHOWN. IF LOCATION OF EASEMENTS OR RIGHT-OF-WAY OF RECORD, OTHER THAN THOSE ON RECORD PLATS, IS REQUIRED, THIS INFORMATION MUST BE FURNISHED TO THE SURVEYOR AND MAPPER. PER FLORIDA STATUES RULE 5J-17.052(2)(d)(4)
   B.) IT IS UNDERSTOOD TO BE THE PROFESSIONAL OPINION OF THIS SURVEYOR AND THE FIRM, FROM WHICH IS FORMULATED ON HIS BEST KNOWLEDGE, INFORMATION AND BELIEF, AND AS SUCH, DOES NOT CONSTITUTE A GUARANTEE OR WARRANTY, EITHER EXPRESSED OR IMPLIED. FURTHERMORE, THIS SURVEYOR AND FIRM, DOES NOT ASSUME RESPONSIBILITY AND SHALL NOT BE LIABLE FOR CLAIMS ARISING FROM ERRONEOUS OR INCORRECT INFORMATION FURNISHED BY THE OWNER, LENDER, OR OWNER'S CONTRACTORS OR OTHERS, WHICH IS USED AS A BASIS TO FORMULATE THIS SURVEYORS OPINION.
   C.) ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTY IS PROHIBITED WITHOUT WRITTEN CONSENT OF THE PARTY. PER FLORIDA STATUTES CHAPTER RULE 5J-17.051(3)(b(6)
   D.) THE ACCEPTANCE OF THIS SURVEY AS CERTIFIED FOR THE EXCLUSIVE USE OF NAMES SHOWN HEREON SHALL CONSTITUTE FULFILLMENT OF MY CONTRACTUAL OBLIGATION. ADDITIONAL SEALED ORIGINALS MAY BE PURCHASED UP TO SIX MONTHS AFTER THE DATE OF THE INVOICE. "ORIGINAL" AS DEFINED HEREON REFERS TO THE SIGNED AND SEALED GRAPHIC REPRESENTATION OF THE FIELD SURVEY. CAD FILES ARE NOT THE SURVEY AND THERE WILL BE A SURCHARGE FOR THEM.
   E.) TAX PARCEL IDENTIFICATION NUMBERS, ADJACENT OWNERS NAMES AND ADDRESS WHEN SHOWN SHOWN IS EITHER SUPPLIED BY CLIENT AND/OR TAKEN FROM COUNTY APPRAISER'S INTERNET WEB PAGE AND MAY NOT BE THE MOST CURRENT.
   F.) SPECIAL PURPOSE SURVEYS WHEN IDENTIFIED AS TYPE OF SURVEY:
      1.) WHEN TREES AS SHOWN ON THE SURVEY IT IS FOR THE LOCATION OF THE TREES 6" INCHES DIAMETER AND ABOVE TREES TAKEN APPROXIMATELY 4 TO 4-1/2 FEET ABOVE GROUND LEVEL TREE IDENTIFICATION OTHER THAN LOCATION AND SIZE, SEE AN ARBORIST.
      2.) JURISDICTIONAL WETLANDS WHEN SHOWN WERE LOCATED FROM FLAGS/MARKS BY BIOLOGIST / ENVIRONMENTALIST. AND THE DETERMINATION OF WETLANDS ARE OUT OF THE EXPERTISE OF THIS SURVEYOR AND MAPPER.
      3.) ARCHAEOLOGICAL FEATURES WHEN SHOWN WERE LOCATED FROM OBJECTS IDENTIFIED BY OTHERS AND THE DETERMINATION OF WHAT CONSTITUTES A ARCHAEOLOGICAL FEATURES IS OUT OF THE EXPERTISE OF THIS SURVEYOR AND MAPPER.
      4.) WILDLIFE CORRIDORS OR HABITATS WHEN SHOWN WERE LOCATED FROM OBJECTS IDENTIFIED BY OTHERS AND THE DETERMINATION OF WHAT CONSTITUTES A WILDLIFE CORRIDORS OR HABITATS IS OUT OF THE EXPERTISE OF THIS SURVEYOR AND MAPPER.
      5.) GEOTECHNICAL BORINGS SHOWN AS MARKED AND FIELD LOCATED.
   G.) AS-BUILT / RECORD SURVEYS WHEN IDENTIFIED AS TYPE OF SURVEY:
      1.) WHEN UNDERGROUND UTILITIES, SUCH AS UNDERGROUND CABLES, GAS MAINS, WATER MAINS, SANITARY SEWER SYSTEMS AND STORM COLLECTIONS SYSTEMS ARE SHOWN. THE LIMITS OF THIS SURVEY INCLUDE VISIBLE STRUCTURES / IMPROVEMENTS IN COMBINATION WITH AS-BUILT / RECORD DRAWINGS SUPPLIED BY OTHERS.
      2.) WHEN THE PERCENTAGE OF SLOPES ARE SHOWN IT IS BASED ON THE INVERTS BETWEEN VISIBLE STRUCTURES. THIS SURVEY DOES NOT INCLUDE VIDEO PIPELINE INSPECTIONS. VERIFICATION OF LINE OF SITE HAS NOT BEEN VERIFIED. THIS SURVEYOR SUGGESTS VIDEO PIPELINE INSPECTION BY A PROFESSIONALS PROVIDING SERVICE OF THAT SPECIALTY
      3.) THIS SURVEYOR SUGGEST VIDEO PIPELINE INSPECTION BY A PROFESSIONAL PROVIDING SERVICE OF THAT SPECIALTY.
   H.) TOPOGRAPHIC SURVEY:
      1.) CONTOURS ARE ON ONE FOOT INTERVALS, INTERPOLATED BETWEEN 100 FOOT GRIDS, VISIBLE GRADE BREAKS, ALONG WITH RANDOM GROUND \ ELEVATIONS.
      2.) OFFSITE TOPOGRAPHIC INFORMATION SHOWN IS BASED ON THE REQUEST BY THE CLIENT AND OR THE CLIENTS AGENT, BEING AN ARCHITECT OR ENGINEER.

SHEET 1 OF 1

SPECIAL PURPOSE SURVEY FOR TREE LOCATION ON 6 INCHES DIAMETER AND ABOVE ON SPECIMEN TREES

ABBREVIATIONS / LEGEND:

A/C	AIR CONDITIONER
BM	BENCHMARK
(C)	CALCULATED
CMP	CORRUGATED METAL PIPE
C/O	CARE OF
(D)	DESCRIPTION OR DEED
DWG	DRAWING
EP	EDGE OF PAVEMENT
EL	ELEVATION
FAX	FACSIMILE
F.F.	FINISH FLOOR
FD	FOUND
FDEP	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
F.I.R.M	FLOOD INSURANCE RATE MAP
FL	FLORIDA
ID	IDENTIFICATION
INC.	INCORPORATED
INV	INVERT
LB	LICENSED BUSINESS
LC	LICENSED CORPORATION
LF	LINEAL FEET
LLC	LIMITED LIABILITY COMPANY
LS	LICENSED SURVEYOR
(M)	MEASURED
MES	MITERED END SECTION
N/A	NOT APPLICABLE AND/OR NOT AVAILABLE
NAVD	NORTH AMERICAN VERTICAL DATUM
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NO	NUMBER
N/P	NOT POSTED ON PANEL
OA	OVERALL
(M)	PLAT
P.F.	PROFESSIONAL ASSOCIATION
PCP	PERMANENT CONTROL POINT
PG	PAGE
INC.	PAGES
PKW	PARKER KALON NAIL & WASHER
P.O.	POST OFFICE
PRM	PERMANENT REFERENCE MONUMENT
PVC	POLY VINYL CHLORIDE
(R)	RECORD
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT-OF-WAY
S.O.	STATE ROAD
WO#	WORK ORDER NUMBER
WWW.UPHAMINC.COM	WORLD WIDE WEB. UPHAM INCORPORATED. COMMERCIAL
CM	CONCRETE MONUMENT FOUND (AS NOTED)
IRC	IRON ROD & CAP (AS NOTED)
	PARKER KALON NAIL & DISK
	CENTERLINE
	FIRE HYDRANT
	WATER VALVE
	WATER METER
	WOOD POWER POLE
	CONCRETE POWER POLE
BS	BELLSOUTH MANHOLE
	CATCH BASIN / STORM INLET
SS	SANITARY SEWER MANHOLE
×4.7	EXISTING GROUND ELEVATION
×6.48	EXISTING HARD ELEVATION
TOB	TOP OF BANK
TOS	TOE OF SLOPE
	WOOD FENCE
	CONTOUR LINE

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THE FOREGOING PLAT IS CERTIFIED TO MEET THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS AS PER CHAPTER 5J17-6, FLORIDA ADMINISTRATIVE CODE, AS PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

01/16/2013

WILLIAM S HART

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

SURVEY MAP AND SURVEY REPORT

CERTIFIED FOR THE EXCLUSIVE USE OF:
- GRANADA MANAGEMENT, LLC
-
-

TYPE OF SURVEY:
BOUNDARY, TOPOGRAPHIC & SPECIAL PURPOSE

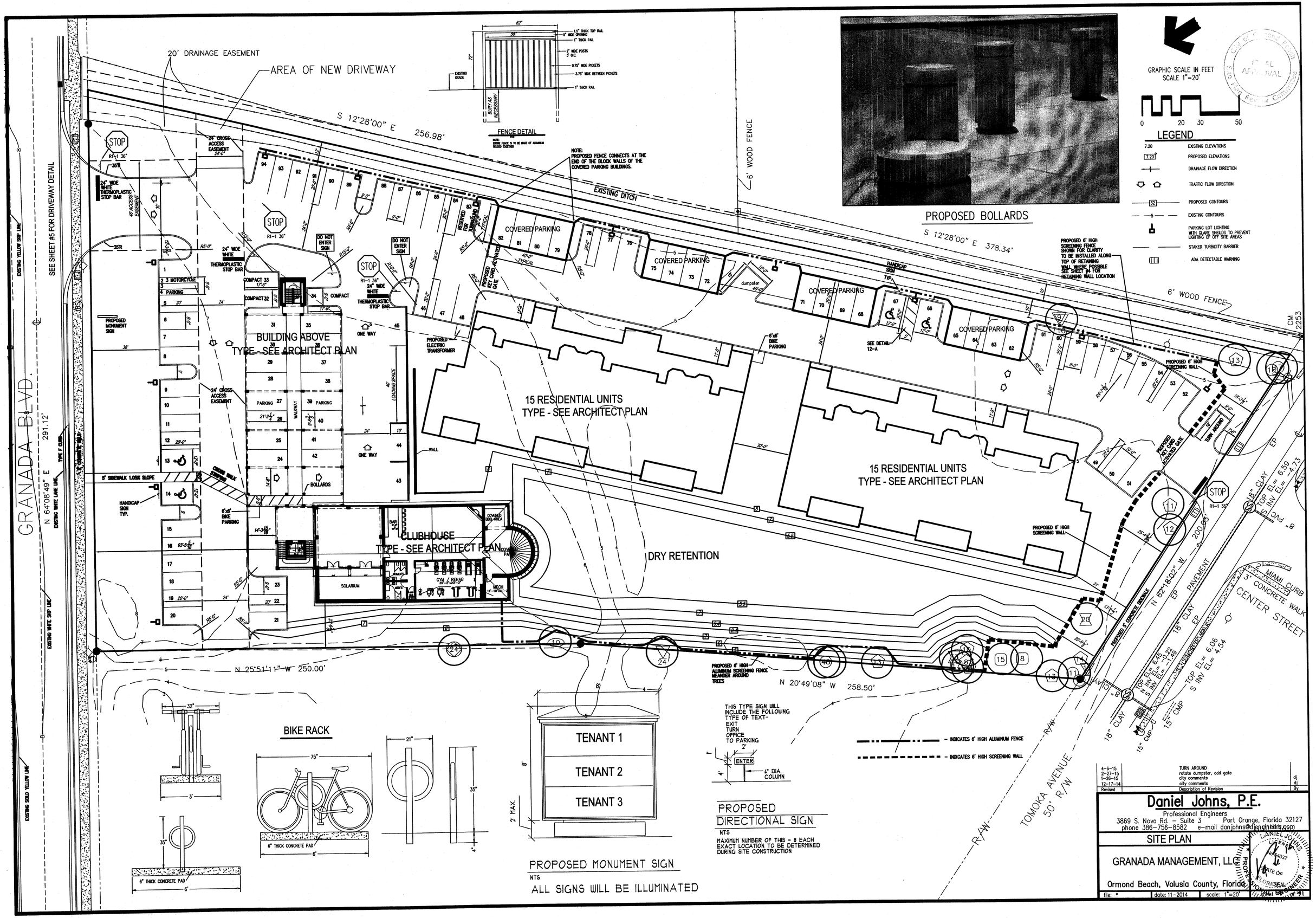
MAP SUBJECT:
#535 TOMOKA AVENUE

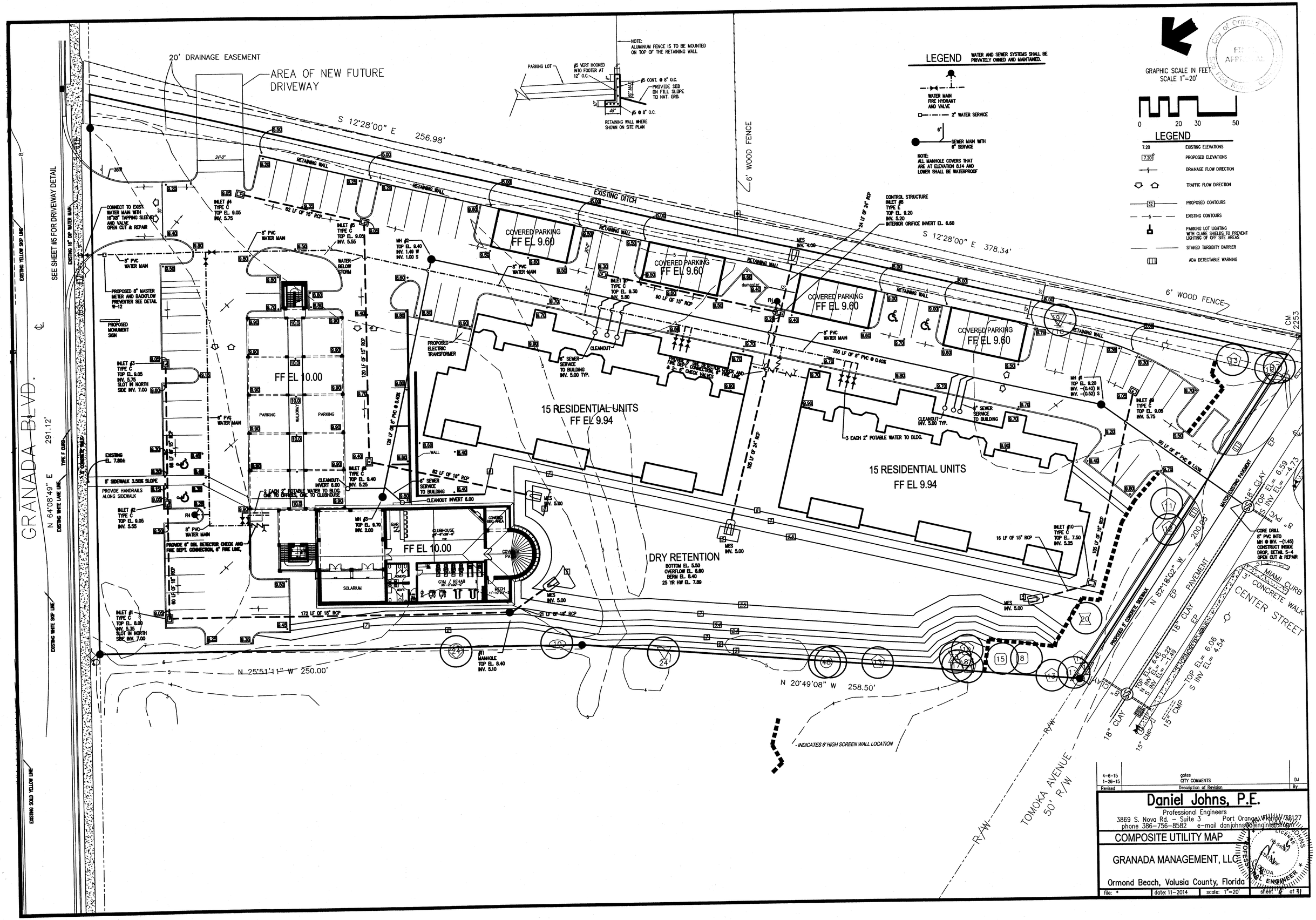
ADDRESS:
535 TOMOKA AVENUE
ORMOND BEACH, FL. 32174

PROJECT No:	130103
FIELD WORK BY:	WSH
DATE:	01/09/2013
OFFICE WORK BY:	AM
DATE:	01/15/2013
FIELD BOOK - PAGE:	NONE
SCALE:	1" = 40'

DRAWING FILE:

26B-142


20' DRAINAGE EASEMENT
AREA OF NEW DRIVEWAY
S 12°28'00" E 256.98'
FENCE DETAIL
NOTE: PROPOSED FENCE CONNECTS AT THE END OF THE BLOCK WALLS OF THE COVERED PARKING BUILDINGS.
6' WOOD FENCE
EXISTING DITCH
PROPOSED BOLLARDS
S 12°28'00" E 378.34'
GRAPHIC SCALE IN FEET
SCALE 1"=20'
LEGEND
EXISTING ELEVATIONS
PROPOSED ELEVATIONS
DRAINAGE FLOW DIRECTION
TRAFFIC FLOW DIRECTION
PROPOSED CONTOURS
EXISTING CONTOURS
PARKING LOT LIGHTING WITH GLARE SHIELDS TO PREVENT LIGHTING OF OFF SITE AREAS
STAKED TURBIDITY BARRIER
ADA DETECTABLE WARNING
GRANADA BLVD
SEE SHEET #5 FOR DRIVEWAY DETAIL
N 64°08'49" E 291.12'
BUILDING ABOVE
TYPE - SEE ARCHITECT PLAN
15 RESIDENTIAL UNITS
TYPE - SEE ARCHITECT PLAN
CLUBHOUSE
TYPE - SEE ARCHITECT PLAN
DRY RETENTION
COVERED PARKING
PROPOSED ELECTRIC TRANSFORMER
PROPOSED MONUMENT SIGN
24' CROSS ACCESS EASEMENT
PROPOSED 6' HIGH SCREENING FENCE SHOWN FOR CLARITY TO BE INSTALLED ALONG TOP OF RETAINING WALL WHERE POSSIBLE SEE SHEET #4 FOR RETAINING WALL LOCATION
PROPOSED 6' HIGH SCREENING WALL
PROPOSED 6' CONCRETE SIDEWALK
N 82°18'02" W 200.93'
N 25°51'11" W 250.00'
N 20°49'08" W 258.50'
CENTER STREET
MIAMI CURB
5' CONCRETE WALK
TOMOKA AVENUE
50' R/W
CM 2253
BIKE RACK
6" THICK CONCRETE PAD
TENANT 1
TENANT 2
TENANT 3
PROPOSED MONUMENT SIGN
NTS
ALL SIGNS WILL BE ILLUMINATED
THIS TYPE SIGN WILL INCLUDE THE FOLLOWING TYPE OF TEXT- EXIT TURN OFFICE TO PARKING
ENTER
6" DIA. COLUMN
PROPOSED DIRECTIONAL SIGN
NTS
MAXIMUM NUMBER OF THIS = 8 EACH
EXACT LOCATION TO BE DETERMINED DURING SITE CONSTRUCTION
- INDICATES 6' HIGH ALUMINUM FENCE
- INDICATES 6' HIGH SCREENING WALL
Revised | Description of Revision | By
12-17-14 | city comments | dj
1-26-15 | city comments | dj
2-27-15 | rotate dumpster, add gate | dj
4-6-15 | TURN AROUND
Daniel Johns, P.E.
Professional Engineers
3869 S. Nova Rd. - Suite 3 Port Orange, Florida 32127
phone 386-756-8582 e-mail danjohns@engineers.com
SITE PLAN
GRANADA MANAGEMENT, LLC
Ormond Beach, Volusia County, Florida
file: * | date: 11-2014 | scale: 1"=20' | sheet 5 of 7



Revised	Description of Revision	By
4-6-15	gates CITY COMMENTS	DJ
1-26-15		

Daniel Johns, P.E.
Professional Engineers
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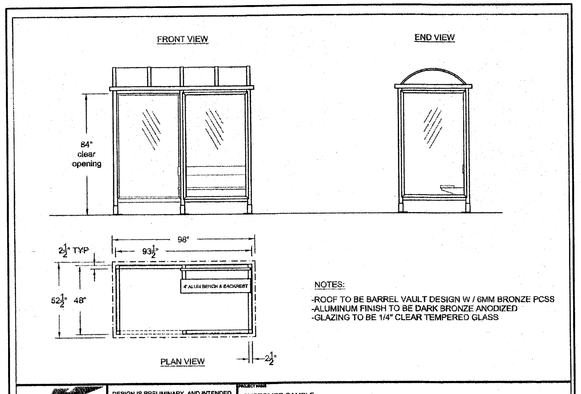
COMPOSITE UTILITY MAP

GRANADA MANAGEMENT, LLC

Ormond Beach, Volusia County, Florida

file: *	date: 11-2014	scale: 1"=20'	sheet 2 of 3

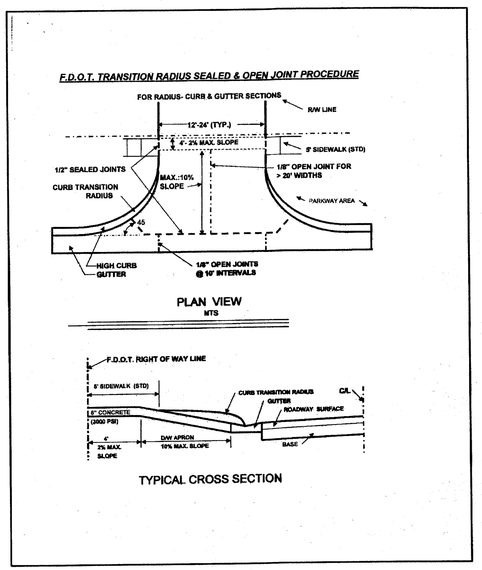


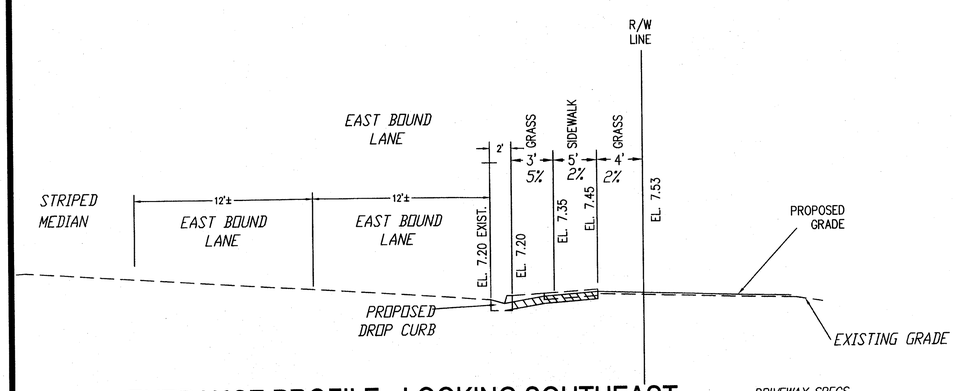
NOTES:
-ROOF TO BE BARREL VAULT DESIGN W / 6MM BRONZE PCSS
-ALUMINUM FINISH TO BE DARK BRONZE ANODIZED
-GLAZING TO BE 1/4" CLEAR TEMPERED GLASS

DUO-GARD
TOMOKA INDUSTRIES
Duo-Gard Industries, Inc.
Tel (734) 397-8700 Fax (734) 397-7905
www.duo-gard.com

DESIGN IS PRELIMINARY, AND INTENDED TO COMPLY WITH SPECIFICATIONS IN ALL ASPECTS, AND PENDING CUSTOMER APPROVAL. ANY DEVIATION FROM SPECIFICATIONS IS UNINTENTIONAL AND MAY BE DISREGARDED.

PROJECT NAME	CUSTOMER SAMPLE						
DESCRIPTION	4' X 8' TRANSIT STYLE SHELTER						
DRAWN BY	PROJ MGR	PREP DATE	REV	REV	SCALE	PAGE OF	DRAWING #
RGC		11/4/10			NTS	1 1	

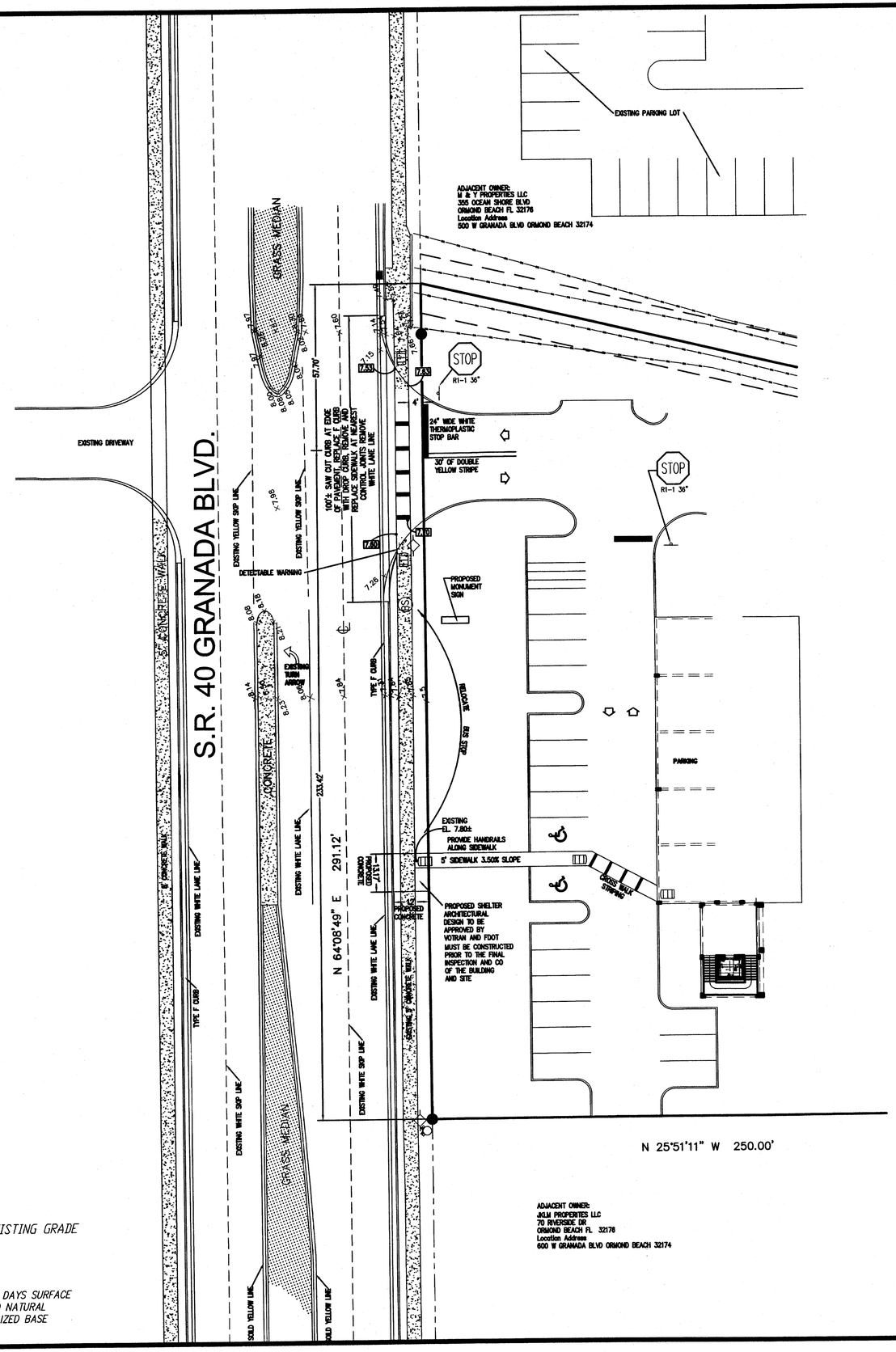




ENTRANCE PROFILE - LOOKING SOUTHEAST

n.t.s.

DRIVEWAY SPECS
6" CONCRETE
3000 P.S.I. @ 28 DAYS SURFACE
OVER COMPACTED NATURAL
EARTH OR STABILIZED BASE



GRAPHIC SCALE IN FEET
SCALE 1"=20'

0 20 30 50

LEGEND

7.20	EXISTING ELEVATIONS
7.2	PROPOSED ELEVATIONS
	DRAINAGE FLOW DIRECTION
	TRAFFIC FLOW DIRECTION
32	PROPOSED CONTOURS
5	EXISTING CONTOURS
	PARKING LOT LIGHTING WITH GLARE SHIELDS TO PREVENT LIGHTING OF OFF SITE AREAS
	STAKED TURBIDITY BARRIER
	ADA DETECTABLE WARNING

NOTE:
1. ELEVATIONS REFER TO NGVD 1929.
2. ALL CONSTRUCTION WITHIN FDOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST EDITIONS OF THE FDOT STANDARD INDEXES, THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE FDOT UTILITY ACCOMODATIONS MANUAL.

Revised	Description of Revision	By
1-26-15	city comments	e
12-17-14	city comments	d

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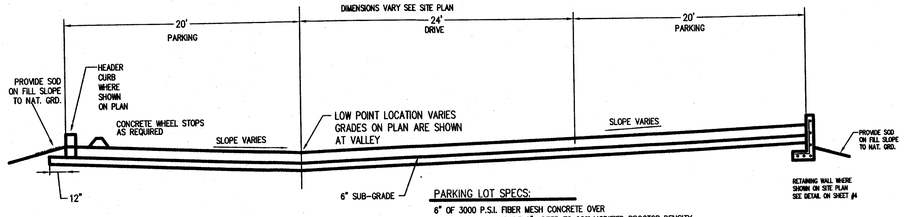
GRANADA ENTRANCE DRIVE

GRANADA MANAGEMENT, LLC

Ormond Beach, Volusia County, Florida

DANIEL JOHNS LICENSE No. 45037 STATE OF FLORIDA SEAL PROFESSIONAL ENGINEER

file: *	date: 11-2014	scale: 1"=20'	SHEET 1 OF 1

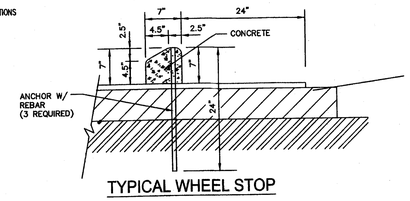


SECTION THRU PARKING LOT

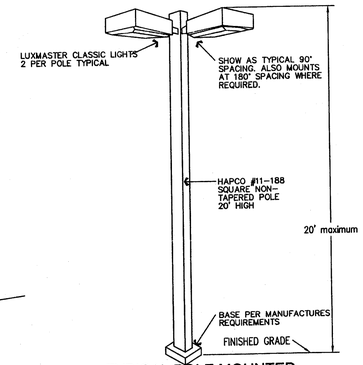
N.T.S.

PARKING LOT SPECS:

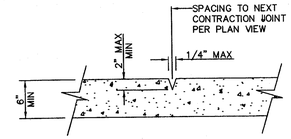
6" OF 3000 P.S.I. FIBER MESH CONCRETE OVER
COMPACTED SUB-GRADE 6" DEEP TO 98% MODIFIED PROCTOR DENSITY
CONCRETE TEST CYLINDERS REQUIRED FOR EACH 30 C.Y. OR 1 DAYS PRODUCTION WHICHEVER IS LESS
PROPOSED DRIVEWAY WILL BE CONSTRUCTED THESE SPECIFICATIONS



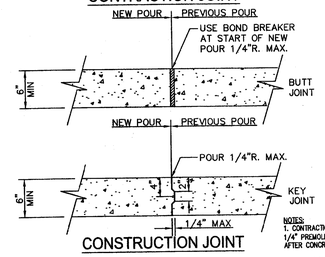
TYPICAL WHEEL STOP



TYPICAL POLE MOUNTED EXTERIOR PARKING AREA LIGHTING



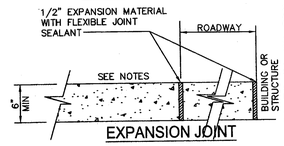
CONTRACTION JOINT



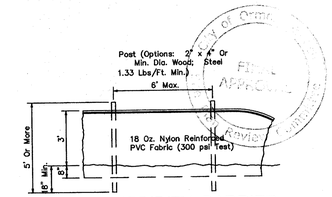
CONSTRUCTION JOINT

NOTES:

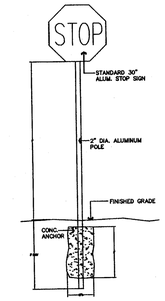
1. CONTRACTION JOINTS MAY BE HAND FORMED, SAWED OR CONSTRUCTED USING A 1/4" PREMOLDED FILLER JOINT. JOINTS MUST BE SAWED BETWEEN 4 AND 18 HOURS AFTER CONCRETE HAS BEEN PLACED.
2. EXPANSION JOINTS ARE TO BE PLACED BETWEEN PAVEMENT (PARKING AREA) AND ANY PERMANENT STRUCTURE ABUTTING OR WITHIN THE PAVED AREA, INCLUDING CURBS, DRAINAGE INLETS AND SIDEWALKS.
3. USE OF WOOD IS NOT AN ACCEPTABLE ALTERNATIVE TO FLEXIBLE JOINT SEALANTS.
4. FINAL DETERMINATION OF CONSTRUCTION JOINT SELECTION AND APPLICATION SHALL BE MADE BY THE ENGINEER OF RECORD BASED ON FIELD REQUIREMENTS.
5. CONSTRUCTION JOINTS WITHIN THE SLAB AREA SHOULD NOT CONTAIN PREMOLDED EXPANSION JOINT FILLER.
6. CONCRETE PAVEMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH A.C.I. PUBLICATION A.C.I. 330R-87.



EXPANSION JOINT

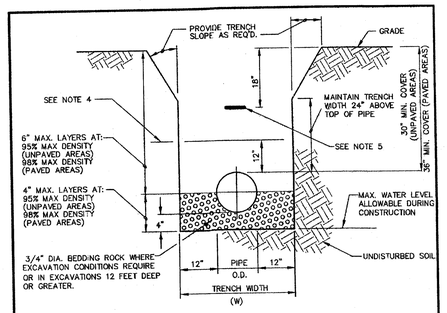


STAKED TURBIDITY BARRIER



TYPICAL STOP SIGN DETAIL

N.T.S.



PIPE INSTALLATION DETAIL

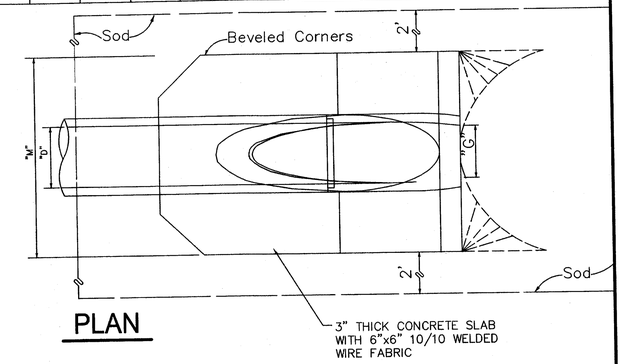
NOTES:

1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
3. COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COPIES OF CERTIFIED TEST REPORTS TO CITY INSPECTOR.
4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
5. INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.

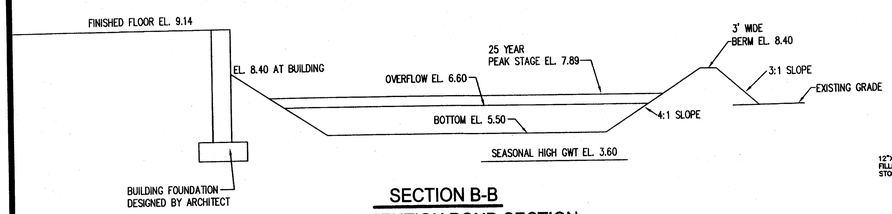
CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL PIPE INSTALLATION NTS	INDEX M-9 MARCH 2014

DIMENSIONS AND QUANTITIES

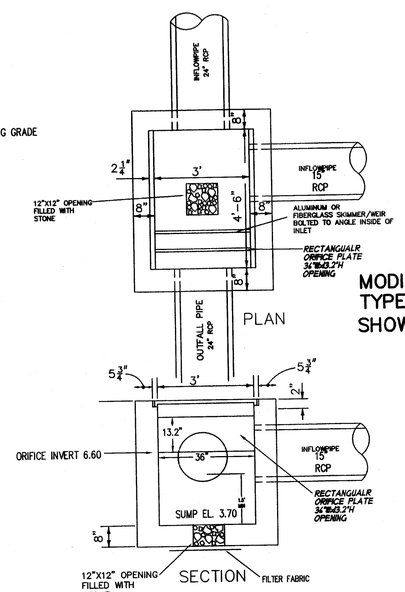
	D	X	A	B	C	E	F	G	M Single Pipe	M Double Pipe	M Triple Pipe	M Quad. Pipe	N
4:1 Slope	15"	2'-7"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.63'	7.21'	9.79'	12.37'	1.19'
	18"	2'-10"	2.36'	5.12'	7.48'	5.03'	9'	1.41'	4.92'	7.75'	10.58'	13.42'	1.21'
	24"	3'-5"	2.53'	7.18'Δ	9.71'	7.03'Δ	11'	1.73'	5.50'	8.92'	12.33'	15.75'	1.25'
	30"	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	6.08'	10.33'	14.58'	18.83'	1.29'



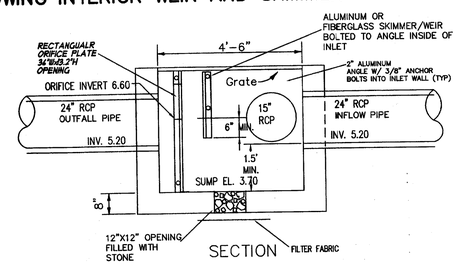
PLAN

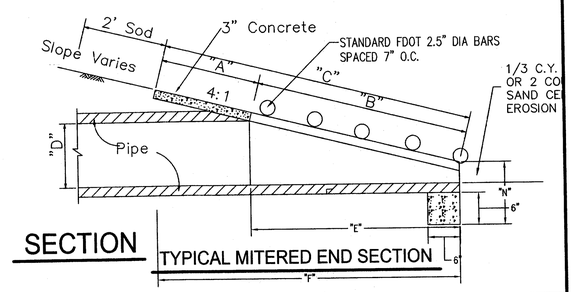


SECTION B-B
DRY RETENTION POND SECTION
LOOKING SOUTH



MODIFIED TYPE E INLET SHOWING INTERIOR WEIR AND SKIMMER





SECTION
TYPICAL MITERED END SECTION

Revised	Description of Revision	By
12-17-14	CITY COMMENTS	DJ

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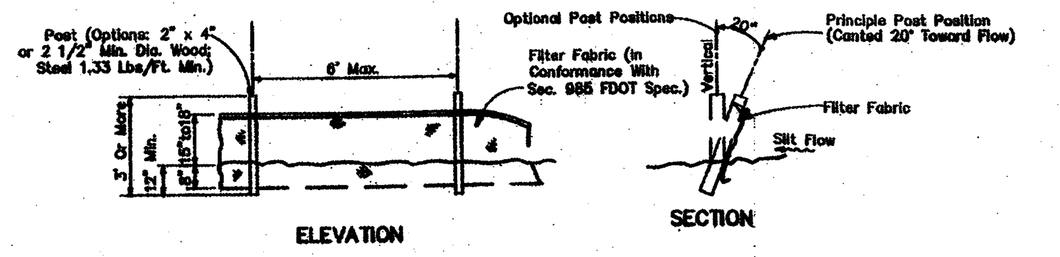
Professional Engineer #54037
3869 S. Nova Rd. - Suite 4 * Port Orange, Florida 32127
phone 386-756-8582 * e-mail danjohns@djengineers.com

CONSTRUCTION DETAILS

GRANADA MANAGEMENT, LLC

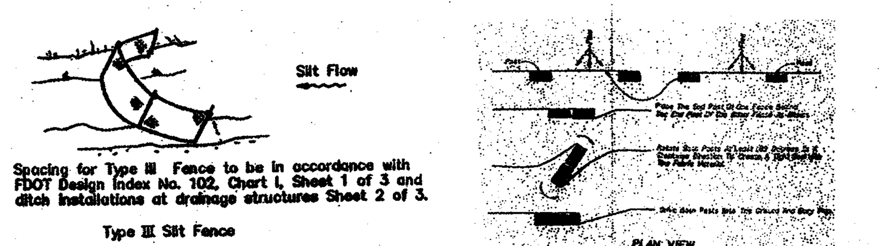
Ormond Beach, Volusia County, Florida

file: * | date: 11-2014 | scale: varies | Sheet 2 of 3



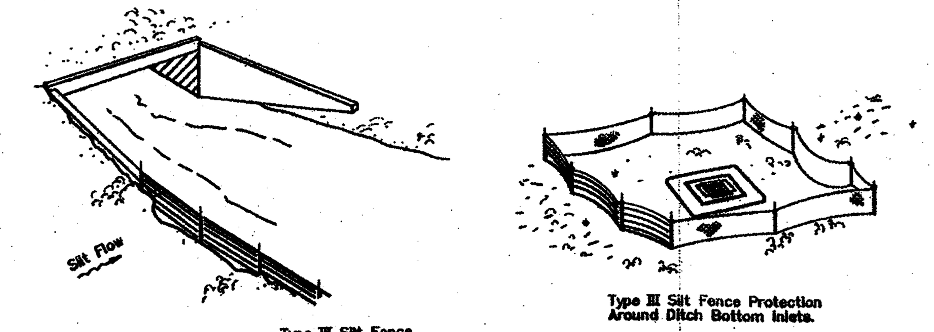
Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).

TYPE III SILT FENCE



Note: Spacing for Type III Fence to be in accordance with FDOT Design Index No. 102, Chart I, Sheet 1 of 3 and ditch installations at drainage structures Sheet 2 of 3.

Type III Silt Fence



Type III Silt Fence

Type III Silt Fence Protection Around Ditch Bottom Inlets.

Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

SILT FENCE APPLICATIONS

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL **EROSION CONTROL – SILT FENCE** NTS	INDEX M–15 MACH 2014

CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES

THE FOLLOWING MEASURES REPRESENT MINIMUM STANDARDS TO BE ADHERED TO BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION OF A PROJECT. THE CITY RESERVES THE RIGHT TO REQUIRE ADDITIONAL MEASURES TO BE EMPLOYED WHEN WARRANTED BY EXTREME CONDITIONS AND/OR THE FAILURE OF THE CONTRACTOR TO EMPLOY THE APPROPRIATE EROSION CONTROL BEST MANAGEMENT PRACTICES. FAILURE TO COMPLY WITH THESE PROVISIONS SHALL RESULT IN THE ISSUANCE OF A "STOP WORK ORDER".

1. NO DISTURBANCE OF PROPOSED CONSERVATION EASEMENTS, NATURAL BUFFERS, OR WATER BODIES IS PERMITTED. THE CONTRACTOR SHALL LOCATE THESE AREAS ON SITE AND BARRICADE THEM TO AVOID ANY UNAUTHORIZED CLEARING. BARRICADES AND OTHER PROTECTIVE FENCING ARE TO BE LOCATED AT THE DRIP LINE OF EXISTING NATIVE TREES OR AT THE EDGE OF THE NATIVE UNDER– STORY HABITAT, WHICHEVER IS NEAREST TO THE CONSTRUCTION ACTIVITY.
2. SPECIMEN AND HISTORIC TREES, CONSERVATION EASEMENTS, NATURAL VEGETATION BUFFERS, AND SIMILAR AREAS MUST BE PROTECTED BY BARRICADES OR FENCING PRIOR TO CLEARING. BARRICADES ARE TO BE SET AT THE DRIP LINE OF THE TREES AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. BARBED WIRE IS NOT PERMITTED AS A PROTECTIVE BARRIER.
3. WHERE A CHANGE OF GRADE OCCURS AT THE DRIP LINE OF A SPECIMEN TREE, SILT FENCES WILL BE REQUIRED DURING CONSTRUCTION AND RETAINING WALLS MUST BE INSTALLED PRIOR TO FINAL ACCEPTANCE BY THE CITY.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL PROTECTIVE VEGETATION BARRICADES AND EROSION CONTROL STRUCTURES AND MEASURES IN PLACE PRIOR TO THE COMMENCEMENT OF ANY EARTHWORK, INCLUDING PRELIMINARY GRUBBING. THESE MEASURES INCLUDE, BUT ARE NOT LIMITED TO, TEMPORARY CONSTRUCTION FENCES, SYNTHETIC JUTE BALES, WATTLES, &/OR HAVE BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED, SILT FENCES, AND FLOATING TURBIDITY BARRIERS. FURTHER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL EROSION CONTROL DEVICES THROUGHOUT THE DURATION OF THE ENTIRE PROJECT. MAINTENANCE SHALL INCLUDE PERIODIC INSPECTION AND REMOVAL OF DEBRIS ABUTTING EROSION CONTROL DEVICES.
5. PRIOR TO THE INSTALLATION OF ANY FILL MATERIALS ON SUBJECT SITE, SILT FENCES SHALL BE INSTALLED (1) ALONG SUBJECT SITE BOUNDARY AND PROPERTY LINES, (2) AT THE EDGE OF CONSERVATION EASEMENTS AND WETLANDS, (3) ADJACENT TO NATURAL LANDSCAPE BUFFERS, (4) AROUND THE PERIMETER OF EXISTING STORM WATER TREATMENT FACILITIES, AND (5) AT ANY ADDITIONAL AREAS THAT THE CITY DEEMS NECESSARY TO BE PROTECTED FROM POTENTIAL EROSION IMPACTS DURING CONSTRUCTION. THESE CONDITIONS SHALL APPLY IN ALL INSTANCES WHERE FILL MATERIAL IS BEING INSTALLED WITHIN 25 FEET OF ANY OF THE AFOREMENTIONED LOCATIONS. WHILE THESE ITEMS REPRESENT THE MINIMUM REQUIREMENTS, THE CITY RESERVES THE RIGHT TO IMPOSE ADDITIONAL PROTECTIVE MEASURES, AS DETERMINED DURING ACTUAL SITE VISITS CONDUCTED AS PART OF THE STANDARD REVIEW OF THE SITE THROUGHOUT PROJECT CONSTRUCTION.
6. AT A MINIMUM, THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS. SUFFICIENT GRASS COVERAGE IS TO BE ESTABLISHED WITHIN TWO WEEKS.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR THROUGH SCHEDULING, TO MINIMIZE THE DISTURBANCE OF SITE AREAS THAT HAVE BEEN BROUGHT TO THEIR PROPOSED FINAL GRADE. WITHIN SEVEN (7) DAYS OF BRINGING A SUBJECT AREA TO ITS FINAL GRADE OR INACTIVITY IN CONSTRUCTION, THE CONTRACTOR SHALL INSTALL SEED AND MULCH OR SOD, AS REQUIRED. ANY PROJECT THAT IS INACTIVE FOR A PERIOD OF 30 DAYS OR MORE SHALL BE STABILIZED TO THE SATISFACTION OF THE CITY OF ORMOND BEACH
8. ONCE AN AREA IS SEEDED OR SODDED, IT MUST BE MAINTAINED BY THE CONTRACTOR TO ALLOW THE GRASS TO BECOME ESTABLISHED. IF THE GRASS IS NOT ESTABLISHED WITHIN TWO WEEKS THE CITY MAY REQUIRE THE CONTRACTOR TO RE–SEED OR A NON–VEGETATIVE OPTION MAY BE EMPLOYED.

A. 9. ABSOLUTELY NO BURYING OF CLEARED MATERIALS IS PERMITTED.

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL **CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES** NTS	INDEX M–16A MARCH 2014

CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES

10. THE REMOVAL OF ALL VEGETATION AND TOPSOIL ON THE FUTURE ROADWAY, PARKING AND BUILDING LOT AREAS IS REQUIRED TO BE COMPLETED PRIOR TO THE PLACEMENT OF FILL ON THOSE AREAS. THE TOPSOIL MAY BE TEMPORARILY STOCKPILED AND USED AS TOPSOIL OVER OVER PROPOSED GREEN AREAS SUCH AS PLANT BEDS, SODDED AREAS, AND WHERE TREES ARE TO BE INSTALLED OR RELOCATED.
11. A SIGNED, DATED, AND SEALED LETTER FROM A SOILS ENGINEER OR THE ENGINEER OF RECORD CERTIFYING THAT THE AREAS TO BE FILLED HAVE BEEN STRIPPED OF ORGANIC MATERIALS, MUST BE SUBMITTED TO THE CITY PRIOR TO FILLING.
10. FILL MATERIAL IS TO BE PLACED IN ONE FOOT LIFTS AND COMPACTED TO THE APPROPRIATE DENSITY (98% FOR PAVED AREAS AND 95% FOR BUILDING PADS AND ALL OTHER AREAS AS PER AASHTO T–180).
11. DURING SUBDIVISION DEVELOPMENT WHEN FUTURE BUILDING LOTS ARE FILLED AS PART OF THE OVERALL SUBDIVISION IMPROVEMENTS, COMPACTION TEST REPORTS MUST BE PERFORMED ON THE BUILDING LOTS AT 300 FOOT INTERVALS. THESE TESTS ARE TO BE PERFORMED IN ONE–FOOT VERTICAL INCREMENTS. THE RESULTS OF THESE TESTS ARE TO BE SUBMITTED TO THE CITY UPON COMPLETION OF THE TESTS.
12. IF ANY MUCK MATERIAL IS DISCOVERED, IT SHALL BE REQUIRED TO BE REMOVED AND REPLACED WITH A SUITABLE MATERIAL THAT IS PROPERLY BACKFILLED, COMPACTED AND TESTED USING AASHTO T–180 MODIFIED PROCTOR METHOD.
13. STOCKPILING IS NOT GENERALLY PERMITTED BY THE CITY. WHEN ALLOWED, STOCKPILES SHALL NOT EXCEED SIX FEET IN HEIGHT MEASURED FROM THE ORIGINAL GRADE. AT A MINIMUM, STOCK PILES THAT WILL REMAIN IN PLACE IN EXCESS OF TWENTY DAYS SHOULD BE SEEDED AND MULCHED IMMEDIATELY UPON PLACEMENT OF THE FINAL LIFT.
14. SOILS ARE TO BE STABILIZED BY WATER OR OTHER MEANS DURING CONSTRUCTION. THIS IS INTENDED TO REDUCE SOIL EROSION AND THE IMPACT TO NEIGHBORING COMMUNITIES. ADEQUATE WATERING METHODS SHOULD BE EMPLOYED TO ALLOW DAILY COVERAGE OF THE ENTIRE LIMITS OF ALL AREAS THAT DO NOT HAVE AN ESTABLISHED VEGETATIVE COVER. METHODS TO BE EMPLOYED INCLUDE, BUT ARE NOT LIMITED TO, WATER TRUCKS, PERMANENT IRRIGATION SYSTEMS, TEMPORARY SPRINKLER SYSTEMS OPERATED BY PUMPING UNITS CONNECTED TO WET RETENTION PONDS, WATER CANNONS, TEMPORARY IRRIGATION SYSTEMS MOUNTED ATOP STOCKPILE AREAS, AND OTHER METHODS AS DEEMED NECESSARY BY THE CITY.
15. ALL FILL MATERIALS LOCATED BENEATH STRUCTURES AND PAVEMENT SHALL CONSIST OF CLEAN GRANULAR SAND FREE FROM ORGANICS AND SIMILAR MATERIAL THAT COULD DECOMPOSE.
16. ALL FILL TO BE PLACED IN LANDSCAPED AREAS SHALL HAVE A Ph RANGE BETWEEN 5.5 AND 7.5, BE ORGANIC IN NATURE, FREE OF ROCKS AND DEBRIS, OR MATCH NATIVE EXISTING SOILS.
17. OWNER SHALL FILE A "NOTICE OF INTENT TO USE GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS REQUIRED BY DEP. CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH ALL PROVISIONS OF THE GENERIC PERMIT INCLUDING BUT NOT LIMITED TO:
    - A. PROVIDE SUCH EROSION AND SEDIMENT CONTROL MEASURES AS MAY BE NECESSARY TO PREVENT DISCHARGE OF POLLUTANTS FROM THE SITE FROM THE START OF CONSTRUCTION UNTIL THE FINAL GROUND COVER HAS BEEN ESTABLISHED.
    - B. EMPLOY A DEP CERTIFIED INSPECTOR TO MAKE WEEKLY INSPECTIONS / REPORTS OF THE CONDITION OF EROSION AND SEDIMENT CONTROL MEASURES.
    - C. EMPLOY A DEP CERTIFIED INSPECTOR TO MAKE INSPECTIONS / REPORTS OF THE CONDITION OF EROSION AND SEDIMENT CONTROL MEASURES WITHIN 24 HOURS OF EVERY RAINFALL EVENT EXCEEDING ONE–HALF INCH.
    - D. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
    - E. ADD EROSION AND SEDIMENT CONTROL MEASURES AS SITE CONDITIONS CHANGE.

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL **CONTRACTOR REQUIREMENTS FOR SITE CLEARING, GRADING, AND EROSION CONTROL DESIGN AND CONSTRUCTION NOTES** NTS	INDEX M–16B MARCH 2014

PIPED UTILITY INSTALLATION REQUIREMENTS

ITEM	TEST	FREQUENCY	STANDARD	TEST METHOD
PIPE TRENCH SUBBASE (IF SPECIFIED)	IN–PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR	ASTM D–2937 D–2922 D–1556
PIPED BACKFILL IN PAVED AREAS	IN–PLACE DENSITY	ONE (1) TEST/300 LF PER ONE (1) FOOT VERTICAL LIFT OF FILL	98% MODIFIED PROCTOR	ASTM D–2937 D–2922 D–1556
PIPED BACKFILL IN GREEN AREAS	IN–PLACE DENSITY	ONE (1) TEST/300 LF PER ONE (1) FOOT VERTICAL LIFT OF FILL	90% MODIFIED PROCTOR	ASTM D–2937 D–2922 D–1556
SOIL OPTIMUM MOISTURE/DENSITY	PROCTOR TEST	ONE (1) PER SOIL OR BASE TYPE		ASTM D–2937 (MODIFIED) ASTM D–558 (STANDARD) AASHTO T–180 (MODIFIED) AASHTO T–99 (STD.)

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL **TECHNICAL SPECIFICATIONS FOR TESTING REQUIREMENTS**	INDEX R–6B MARCH 2014

A. SCOPE OF WORK – THE WORK IN THIS SECTION CONSISTS OF FURNISHING AND COMPLETELY INSTALLING SEED AND MULCH OVER THE LIMITS CALLED FOR ON THE CONSTRUCTION DRAWINGS.

B. MATERIALS – GRASS SEED SHALL BE A MIXTURE OF:

PENSACOLA BAHIA (50% SCARIFIED SEED)	80 LBS/ACRE
HULLED BERMUDA	20 LBS/ACRE
BROWN TOP MILLET	30 LBS/ACRE

IN THE FALL AND WINTER MONTHS (OCT. THRU FEB.) AND WITH THE APPROVAL OF THE CITY, ANNUAL RYE GRASS SHALL BE SUBSTITUTED IN EQUAL AMOUNTS FOR THE BROWN TOP MILLET. SEED SHALL BE PREMIXED BY A SEED COMPANY TO THE PROPORTIONS DESCRIBED ABOVE, WITH CERTIFICATION FROM THE SUPPLIER PROVIDED TO THE CITY, PRIOR TO USE. MULCH USED SHALL BE STRAW OR HAY CONSISTING OF OATS, RYE OR WHEAT STRAW OF PANGOLA, PEANUT, COASTAL BERMUDA OR BAHIA GRASS HAY. MULCH SHALL BE FREE FROM UNDESIRABLE WEED AND OTHER UNDESIRABLE GRASS.

C. METHODS – GRASSING SHALL BE DONE IMMEDIATELY UPON COMPLETION OF THE FINE GRADING OPERATION. HOWEVER, NO SEEDING SHALL BE DONE WHEN THE GROUND IS FROZEN OR UNDULY WET. THE RATE OF SPREAD FOR THE SEED MATERIAL SHALL BE ONE HUNDRED AND THIRTY (130) POUNDS PER ACRE. APPROXIMATELY TWO INCHES (2"), LOOSE THICKNESS, OF MULCH MATERIAL SHALL BE APPLIED INFORMALLY OVER THE GRASSED AREAS (APPROXIMATELY 1 1/2 BALES PER 1000 SQUARE FEET). THE MULCH MATERIAL SHALL BE CUT INTO THE SOIL WITH A DISC HARROW OR OTHERWISE ANCHORED DOWN.

D. FERTILIZER –
1. ANALYSIS OF SOILS SHALL BE OBTAINED BY SUBMITTAL OF SAMPLES TO VOLUSIA COUNTY AGRICULTURAL DEPARTMENT (PHONE: 258–7000). ALL APPLICATION RATES WILL BE BASED ON THIS REPORT. SUBMIT A COPY OF THIS REPORT TO THE CITY PRIOR TO COMMENCING ANY SOIL MODIFICATION.

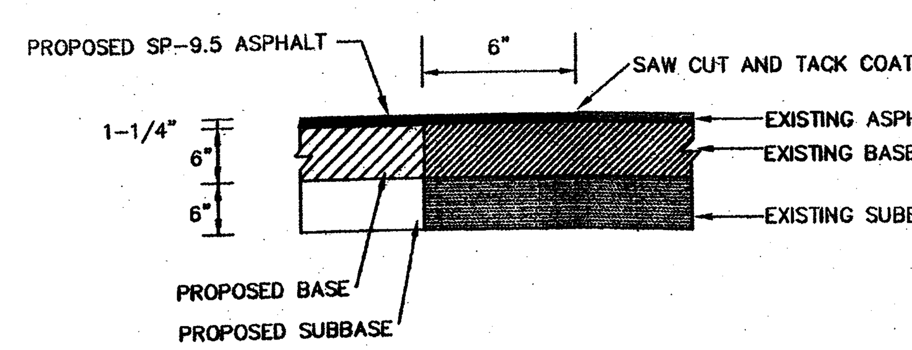
2. THE FERTILIZER SHALL BE A COMMERCIAL GRANULAR TYPE WITH A CHEMICAL DESIGNATION AS RECOMMENDED IN THE SOILS ANALYSIS REPORT.

3. THE NUMERICAL DESIGNATIONS FOR FERTILIZER INDICATE THE MINIMUM PERCENTAGES (RESPECTIVELY) OF (1) TOTAL NITROGEN, (2) AVAILABLE PHOSPHORIC ACID AND (3) WATER SOLUBLE POTASH CONTAINED IN THE FERTILIZER.
a) AT LEAST 50 PERCENT (50%) OF THE PHOSPHORIC ACID SHALL BE FROM A NORMAL SUPER PHOSPHATE OR AN EQUIVALENT SOURCE WHICH WILL PROVIDE A MINIMUM OF TWO UNITS OF SULFUR.
b) THE AMOUNT OF SULFUR SHALL BE INDICATED ON THE QUANTITIVE ANALYSIS CARD ATTACHED TO EACH BAG OR CONTAINER.

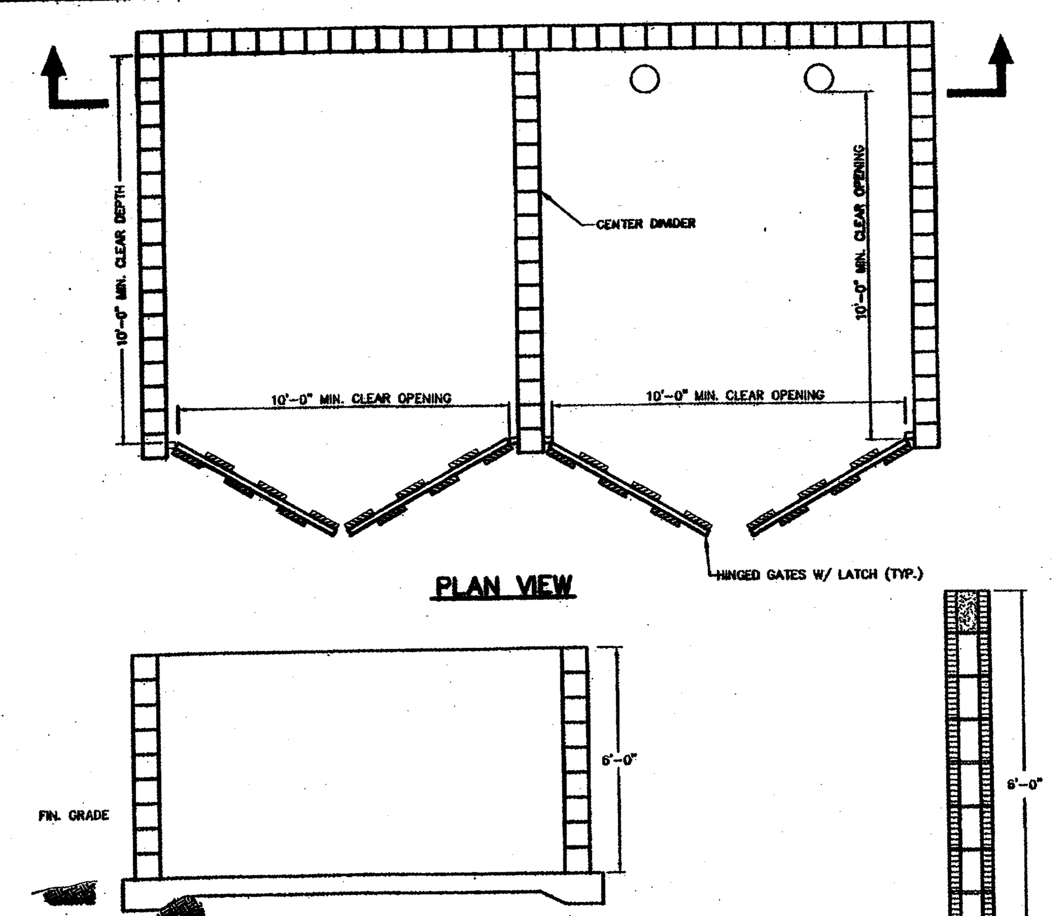
4. COMMERCIAL FERTILIZERS SHALL COMPLY WITH THE STATE FERTILIZER LAWS.

5. FERTILIZER MAY, AT THE DISCRETION OF THE ENGINEER/ARCHTECT, UPON THE PRESENTATION BY THE MANUFACTURE OF SATISFACTORY FACTORY EVIDENCE OF ITS FEASIBILITY, BE APPLIED IN LIQUID FORM.

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL **SEEDING AND MULCHING**	INDEX R–7 MARCH 2014



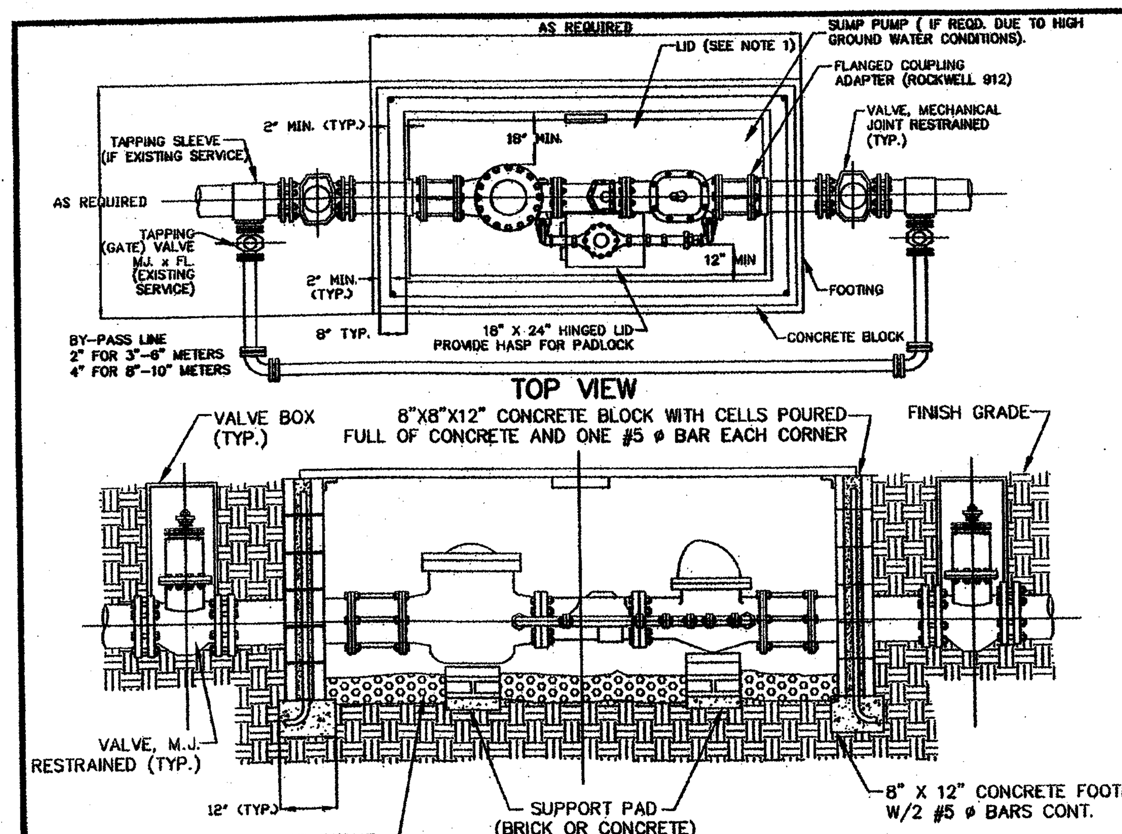
CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL **PAVEMENT BUTT JOINT** NTS	INDEX R–9 MARCH 2014

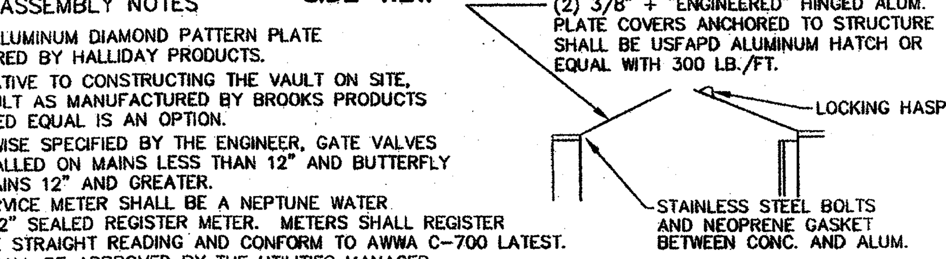


NOTES:
1. BLOCK MUST BE FINISHED WITH STUCCO OR BRICK VENEER PAINTED TO MATCH BUILDING.
2. DUMPSTER STRUCTURE SHALL MEET THE REQUIREMENTS OF CHAPTER 2, ARTICLE 3, 2–50, J OF THE LAND DEVELOPMENT CODE (LDC).
3. SHRUB PLANTINGS REQUIRED (MIN. 3–FOOT WIDE PLANTING AREA) AROUND PERIMETER WALLS (EXCEPT OPENING).
4. GATES TO BE CONSTRUCTED OF PRESSURE–TREATED WOOD, OR APPROVED EQUAL.
5. THE CITY HAS A CONTRACTOR FOR ROLL OFF SERVICE. NO OTHER CONTRACTOR SHALL BE PERMITTED TO PROVIDE THIS SERVICE. VERIFY COMPANY UNDER CONTRACT WITH THE CITY.
6. DUMPSTER ENCLOSURE HEIGHT MAY BE INCREASED TO A MAXIMUM HEIGHT OF EIGHT (8) FEET.
7. IF BOLLARDS ARE INSTALLED CLEAR DEPTH MUST BE MEASURED FROM BOLLARDS TO GATES.

NOTE TO DESIGNER:
1. THIS DETAIL REFLECTS CITY DIMENSIONAL REQUIREMENTS FOR THE DUMPSTER ENCLOSURE ONLY.
2. PROVIDE PROPOSED WALL MATERIAL AND HORIZONTAL AND VERTICAL WALL REINFORCING REQUIREMENTS.
3. PROVIDE PROPOSED SLAB DESIGN REQUIREMENTS INCLUDING REINFORCING.
4. PROVIDE ANY OTHER CONSTRUCTION DETAILS THAT MAY BE REQUIRED.

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL **DUAL–USE DUMPSTER ENCLOSURE** NTS.	INDEX M–6 MARCH 2014





WATER METER ASSEMBLY NOTES
1. LID SHALL BE ALUMINUM DIAMOND PATTERN PLATE AS MANUFACTURED BY HALLIDAY PRODUCTS.
2. AS AN ALTERNATIVE TO CONSTRUCTING THE VAULT ON SITE, A PRECAST VAULT AS MANUFACTURED BY BROOKS PRODUCTS OR AN APPROVED EQUAL IS AN OPTION.
3. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, GATE VALVES SHALL BE INSTALLED ON MAINS LESS THAN 12" AND BUTTERFLY VALVES FOR MAINS 12" AND GREATER.
4. THE WATER SERVICE METER SHALL BE A NEPTUNE WATER METER WITH A 2" SEALED REGISTER METER. METERS SHALL REGISTER IN GALLONS, BE STRAIGHT READING AND CONFORM TO AWWA C–700 LATEST. METER TYPE SHALL BE APPROVED BY THE UTILITIES MANAGER.
5. WATER SERVICE METERS SERVICING A FIRE PROTECTION SYSTEM SHALL BE NEPTUNE HIGH PERFORMANCE PROTECTUS III FIRE SERVICE METER.
6. METERS 3" AND LARGER TO HAVE A 2" TEST PORT.
7. WATER METER REGISTER SHALL BE THE TOUCH READ ECR TYPE.
8. TOUCH READ DEVICE SHALL BE MOUNTED IN VAULT LID AS RECOMMENDED BY THE MANUFACTURER.
9. USE DIP OR PVC PIPE IN ACCORDANCE WITH LDC. NO GIP ALLOWED.
10. METER TO BE SUPPLIED BY THE CITY AND INSTALLED BY CONTRACTOR.
11. ALL ITEMS EXCEPT METER TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.

INSIDE VAULT DIMENSIONS SHALL BE AS FOLLOWS:

3" METERS	4' X 5'
4" METERS	4' X 6'
6" METERS	5' X 8'
8" METERS	6' X 8'
10" METERS	7' X 8'

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL **WATER METER ASSEMBLY 3" AND ABOVE** NTS	INDEX W–12 MARCH 2014

DANIEL JOHNS LICENSE No 54037 STATE OF FLORIDA PROFESSIONAL ENGINEER

Daniel Johns, P.E.
Professional Engineers
3869 S. Nova Rd. – Suite 3 Port Orange, Florida 32127
phone 386–756–8582 e–mail danjohns@djengineers.com

SANITARY SEWER CONSTRUCTION GENERAL NOTES

1. THE CITY'S PUBLIC UTILITY DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY SEWER CONSTRUCTION.
2. ALL SANITARY SEWER MAIN LINES SHALL BE A MINIMUM OF 8" IN DIAMETER. SERVICE LATERALS SHALL BE A MINIMUM OF 4" DIAMETER (RESIDENTIAL) OR A MINIMUM OF 6" DIAMETER (COMMERCIAL)
3. ALL SANITARY SEWER LINES SHALL BE PVC SDR 26. IN PLACES WHERE A MINIMUM COVER OF 4.0' CANNOT BE MAINTAINED, C-900 GREEN PVC DR-25, CLASS 100 OR CONCRETE ENCASEMENT SHALL BE USED.
4. MINIMUM ALLOWABLE SANITARY SEWER SLOPES ALLOWED ARE:
   - 8" PIPE 0.40%
   - 10" PIPE 0.30%
   - 12" PIPE 0.22%
5. SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS PREVIOUSLY APPROVED BY THE CITY.
6. THE CONTRACTOR SHALL AT ALL TIMES, DURING PIPE LAYING, DEWATER THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING LAID WITHIN THE AREA OF THE TRENCH.
7. ALL PIPES SHALL BE LAID ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES WILL NOT BE ACCEPTED. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY.
8. EXCAVATION AND BACKFILL: THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING OF EXCAVATION WORK OR USE OF TRENCH BOX IN ORDER TO PROVIDE FOR THE SAFETY OF WORKMEN, AS WELL AS REPRESENTATIVES OF THE CITY, THE DESIGN ENGINEER, AND THE DEVELOPER.
9. THE CONTRACTOR SHALL INSTALL A METALLIZED FOIL LOCATER TAPE, OR SIMILAR DEVICE, AS MAY BE APPROVED BY THE CITY FOR THE FULL LENGTH OF ALL PVC WATER, RECLAIMED WATER AND SEWAGE FORCE MAINS. THIS PIPE LOCATER AID SHALL BE INSTALLED (15) INCHES BELOW FINISHED GRADE OR AS DIRECTED BY THE MANUFACTURER AND IS IN ADDITION TO THE LOCATER WIRE REQUIRED IN THE UTILITY PIPE LOCATION MATERIALS DETAIL (MISCELLANEOUS DETAILS SECTION – M10).
10. MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
11. MANHOLE RIMS SHALL MATCH FLUSH WITH THE FINISH GRADE ELEVATION IN PAVED AREAS AND A MINIMUM OF 0.2 FEET ABOVE GRADE IN UNPAVED AREAS.

STANDARD CONSTRUCTION DETAIL GENERAL NOTES SANITARY SEWER CONSTRUCTION	INDEX S-1A MARCH 2014

SANITARY SEWER CONSTRUCTION GENERAL NOTES

12. THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
13. RUBBER BOOTS AND STAINLESS STEEL BANDS SHALL BE UTILIZED IN THE CONNECTION OF THE SEWER MAIN TO THE MANHOLES (SEE RUBBER BOOT AND PRECAST JOINT CONNECTION DETAIL).
14. NO DOGHOUSE TYPE MANHOLES ARE PERMITTED WITHIN THE CITY OF ORMOND BEACH
15. INDIVIDUAL SANITARY SERVICE CONNECTORS ON NEW CONSTRUCTION SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES, BUT TO SEWER MAIN LINES BY USE OF WYE CONNECTIONS.
16. FOR SINGLE FAMILY HOMES, SINGLE FOUR INCH SEWER SERVICES SHALL BE CONSTRUCTED AT EACH LOT OR UNIT AND LOCATED ON THE DOWNSTREAM SIDE OF THE LOT CENTER LINE. THESE SERVICES SHALL BE EXTENDED 4 FEET ABOVE GROUND AT THE PROPERTY LINE WITH A PVC RISER AND PLUG BEING EASILY VISIBLE FROM THE ROAD. RUBBER SEAL FITTINGS TO BE USED ON ALL LINES, NO GLUED JOINTS.
17. FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
18. SANITARY SEWER LATERALS LONGER THAN 70 FEET, MEASURED FROM THE SEWER MAIN TO THE RIGHT-OF-WAY LINE MAY BE APPROVED ON A CASE BY CASE BASIS. SUCH LATERALS SHALL BE D.I.P. EPOXY LINED OR C-900 PVC.
19. SANITARY SEWER MANHOLES WHICH HAVE SEWER FORCE MAINS DISCHARGING DIRECTLY INTO THEM, OR ANY MANHOLE WITHIN 200 FEET OF A LIFT STATION, SHALL BE FIBERGLASS OR PVC LINED. RETRO-FITTING OF MANHOLES WITH LINERS SHALL BE REQUIRED WHEN NEW CONNECTIONS SUCH AS THIS ARE MADE. FIBERGLASS SHALL BE A MINIMUM 1/2" THICKNESS UNLESS APPROVED OTHERWISE BY THE CITY. LINING SHALL BE AGRU SURE-GRIP OR PRE-APPROVED EQUAL.
20. SEE CHART ON DETAIL INDEX S-1C FOR FORCE MAIN AND REUSE PIPE SIZE AND MATERIALS.
21. THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELEVISE ANY AND ALL SANITARY SEWER MAIN LINES AND LATERALS PRIOR TO ANY FINAL ACCEPTANCE, AND RESERVES THE RIGHT TO REQUEST WATER AND AIR TESTING.
22. ALL SEWER MAINS PRIOR TO ACCEPTANCE BY THE CITY SHALL BE TELEVISED BY A REPUTABLE COMPANY THAT ENGAGES IN THIS TYPE OF WORK. THE DVD SHALL BE NON-STOP WITH AUDIO DESCRIBING WHAT IS BEING REVIEWED. WRITTEN DVD LOGS DESCRIBING THE CONDITION OF THE LINES SHALL ACCOMPANY THE DVD SUBMISSION TO THE CITY.
23. CONTRACTORS SHALL BE REQUIRED TO TELEVISE ALL SEWER LINES IN THE PRESENCE OF CITY PERSONNEL AND PROVIDE COPIES OF THE DVD TO THE PUBLIC UTILITY DEPT. ANY DEFECTS NOTED SHALL BE CORRECTED PRIOR TO ACCEPTANCE BY THE CITY.

STANDARD CONSTRUCTION DETAIL GENERAL NOTES SANITARY SEWER CONSTRUCTION	INDEX S-1B MARCH 2014

SANITARY SEWER CONSTRUCTION GENERAL NOTES

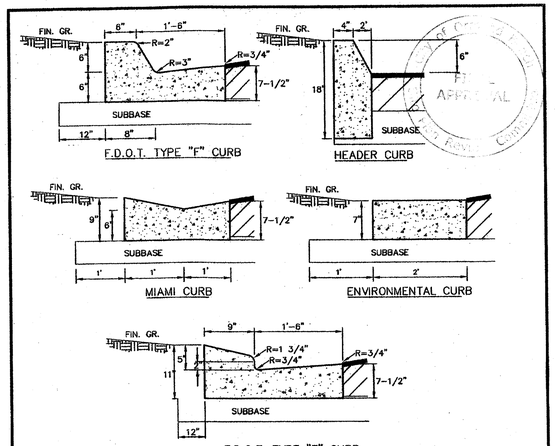
24. ALL MANHOLES CONSTRUCTED IN SIDE YARDS, BACKYARDS, AND EASEMENTS OFF THE RIGHT-OF-WAY SHALL BE OUTFITTED WITH FIBERGLASS LINERS OR OTHER TYPES OF LINERS OR COATINGS APPROVED BY THE CITY. IN ADDITION THE CITY MAY REQUIRE LINERS OR COATINGS TO BE INSTALLED IN OTHER AREAS WHERE THE PUBLIC UTILITY DEPARTMENTS BELIEVE THE NEED IS JUSTIFIED.
25. ALL SEWER LINES WHICH ARE CONSTRUCTED OFF PUBLIC RIGHTS-OF-WAY WITHIN SIDEYARDS, BACKYARDS, AND OTHER POORLY ACCESSIBLE AREAS SHALL BE CONSTRUCTED OF C-900 PVC, OR EPOXY LINED DUCTILE IRON PIPE. ABSOLUTELY NO USE OF PLASTIC STYRENE FITTINGS SHALL BE ALLOWED.
26. SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAW CUT V OR BY A METAL TAB SET INTO THE PAVEMENT.
27. EZ-WRAP PLASTIC, AS MANUFACTURED BY PRESS-SEAL GASKET CORPORATION OR APPROVED EQUAL, SHALL BE USED ON THE OUTSIDE OF ALL MANHOLE AND WET WELL JOINTS. APPLY ONE LAYER OF 9" WRAP CENTERED ON EACH JOINT. A CITY INSPECTOR SHALL PERSONALLY INSPECT ALL JOINT SEALS PRIOR TO BACKFILLING OPERATIONS .
28. ALL PROPOSED SEWER MAINS, 4" OR GREATER, SHALL BE FLUSHED AND CLEANED WITH A POLY PIG IN ACCORDANCE WITH LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
29. ALL SEWER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER. DUCTILE IRON CLASS 350 OR CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY.
30. SEWER SYSTEMS SHALL BE PRESSURE TESTED AT 100 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS. TESTS SHALL BE CONDUCTED BEFORE FINAL PAVING AND IN THE PRESENCE OF THE CITY'S INSPECTOR.

FORCE MAIN & REUSE MAIN STANDARDS

DIAMETER	MATERIAL	STANDARD
2" – 4"	PVC 1120 / SDR 21	ASTM D 2241
> 4" – 12"	PVC 1120 / CLASS 100	AWWA C 900
14" – 36" (16"– 24" ⟶ DR – 18) (30"– 36" ⟶ DR – 21)	PVC 1120	AWWA C 905
ALL SIZES	HDPE (DIPS) DR 13.5	ASTM F 714

NOTE: PVC PIPE COLOR SHALL BE GREEN OR WHITE FOR SEWER FORCE MAIN, AND PURPLE FOR REUSE MAIN.

STANDARD CONSTRUCTION DETAIL GENERAL NOTES SANITARY SEWER CONSTRUCTION	INDEX S-1C MARCH 2014



NOTES:

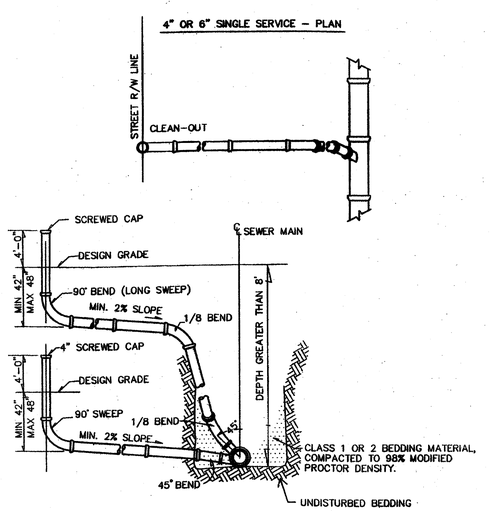
1. ALL CURBS TO BE CONSTRUCTED OF 28 DAY, 2500 P.S.I. CONCRETE
2. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED EVERY 500', CONSTRUCTION JOINT REQUIRED EVERY 10' MAXIMUM (4' MINIMUM).
3. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED AT EACH SIDE OF ALL STORM INLET STRUCTURES AND AT ALL RADIUS POINTS.
4. 6" SUBBASE TO BE COMPACTED AND TESTED TO 98% DENSITY WITH MINIMUM L.B.R. 40 BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.
5. EXPANSION JOINT MATERIAL MUST COVER THE ENTIRE CROSS SECTION OF CURB.
6. ALL EXPOSED CORNERS TO BE ROUNDED AT 3/4" MIN. RADIUS.
7. ALL CURB ENDS THAT DO NOT TIE INTO OTHER FACILITIES SHALL TRANSITION DOWN TO PAVEMENT GRADE IN 24 INCHES.

STANDARD CONSTRUCTION DETAIL STANDARD CURB CONSTRUCTION NTS	INDEX R-4 MARCH 2014

ROADWAY COMPACTION AND DENSITY TESTING REQUIREMENTS

ITEM	TEST	FREQUENCY	STANDARD	TEST METHOD
ROADWAY SUBBASE (BOTTOM OF SUBBASE DOWN 1 FOOT)	IN-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180)	ASTM D-2937 D-2922 D-1556
STABILIZED SUBBASE	IN-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180)	ASTM D-2937 D-2922 D-1556
STABILIZED SUBBASE	FLORIDA BEARING VALUE (FBV)	ONE (1) TEST/300 LF	FBV = 75	
STABILIZED SUBBASE	LIMEROCK BEARING RATIO (LBR)	ONE (1) TEST/SOIL TYPE	LBR = 40	
LIMEROCK BASE	IN-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180)	ASTM D-2937 D-2922 D-1556
LIMEROCK BASE	LIMEROCK BEARING RATIO (LBR)	PROVIDE CERTIFICATE FROM PLANT	LBR 100	FM 5-515
CRUSHED CONCRETE BASE	IN-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180)	ASTM D-2937 D-1556
CRUSHED CONCRETE BASE	LIMEROCK BEARING RATIO (LBR)	(1) PER VISIBLE CHANGE IN MATERIAL BLEND	LBR 100	
ASPHALT	EXTRACTION AND GRADATION	(1) PER DAY PER MIX	PER MIX DESIGN	D-2922
ASPHALT	THICKNESS AND DENSITY	(1) PER 300 LF ROADWAY	PER MIX DESIGN AND JOB SPECS	CORING OR NUCLEAR (DENSITY ONLY)
SOIL OPTIMUM MOISTURE/DENSITY	PROCTOR TEST	(1) PER SOIL OR BASE TYPE		ASTM D-1557 (MODIFIED) ASTM D-558 (STANDARD) AASHTO T-180 (MODIFIED) AASHTO T-99 (STANDARD)
CURB SUBBASE	IN-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180)	
CURB SUBBASE (LBR)	LIMEROCK BEARING RATIO (LBR)	(1) TEST/SOIL CHANGE	LBR 40	

STANDARD CONSTRUCTION DETAIL TECHNICAL SPECIFICATIONS FOR TESTING REQUIREMENTS	INDEX R-6A MARCH 2014



4" – 6" SINGLE SERVICE – ELEVATION

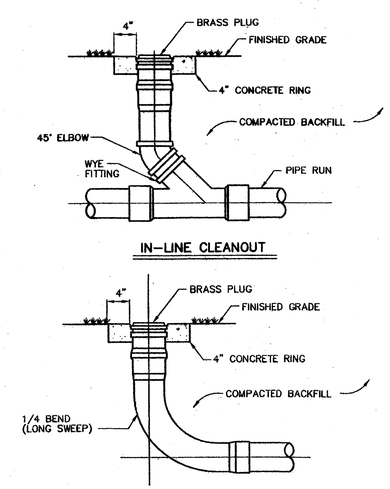
SEWER LATERAL

NOTE: USE OF STYRENE MATERIAL WILL NOT BE PERMITTED.

NOTE
SINGLE SERVICES SHALL BE MIN:
4" DIA. RESIDENTIAL
6" DIA. COMMERCIAL

ALL JOINTS TO BE RUBBER GASKET (NO GLUED FITTINGS)

STANDARD CONSTRUCTION DETAIL SEWER LATERAL DETAIL NTS.	INDEX S-6 MARCH 2014



NOTE: CONCRETE COLLAR REQUIRED IN UNPAVED AREAS

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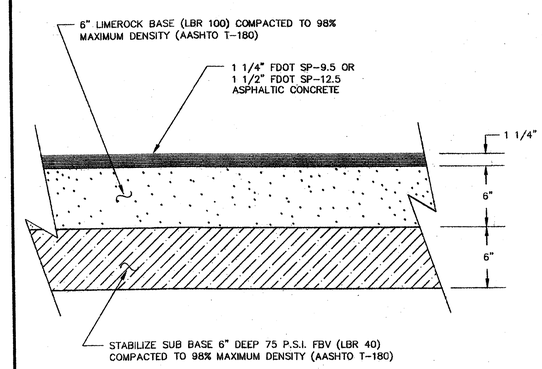

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GENERAL NOTES
WATER SYSTEM CONSTRUCTION

1. THE CITY'S PUBLIC UTILITIES DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY WATER SYSTEM CONSTRUCTION.
2. DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW WATER MAIN BEING LAID.
3. ALL WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
4. TRENCHES SHALL BE BACKFILLED WITH CLEAN GRANULAR MATERIAL IN MAX. 1' LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180) IN PAVED AREAS AND 90 PERCENT IN UNPAVED AREAS.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY INSPECTOR.
6. METALLIZED PIPE LOCATION TAPE SHALL BE LOCATED 15 INCHES BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES. MARKER TAPE SHALL BE USED ON ALL DUCTILE IRON PIPE.
7. WATER SERVICES (SINGLE 1") SHALL BE POLYETHYLENE TUBING (BLUE IN COLOR) ; POLYBUTYLENE SHALL NOT BE ALLOWED.
8. ALL WATER SERVICE ENDINGS SHALL BE MARKED WITH 4" X 4" LUMBER (PRESSURE TREATED) EXTENDING 4 FEET ABOVE GRADE, WITH WATER SERVICES SECURED 24" ABOVE THE GROUND. WIRE TIES SHALL BE USED TO SECURE THE CURB STOPS TO SUPPORT POSTS.
9. WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACING OF 500 FEET.
10. AT ALL WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE.
11. APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
    - A. STANDARD GATE VALVES LESS THAN 48" DIAMETER RESILIENT SEAT GATE VALVES (AWWA C-509 OR C-515).
    - B. TAPPING VALVES AND MECHANICAL TAPPING SLEEVE SHALL BE STAINLESS STEEL. (AWWA C - 509)

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES WATER SYSTEM CONSTRUCTION
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GENERAL NOTES
WATER SYSTEM CONSTRUCTION

12. ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISH GRADE AND THE LIDS PAINTED BLUE TO MAKE THEM PLAINLY VISIBLE.
13. WATER VALVES SHALL BE COMPLETELY OPENED BY THE CONTRACTOR UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS IN THE PRESENCE OF UTILITY DEPARTMENT PERSONNEL.
14. HYDRANTS SHALL BE PLACED AT 500 FEET MAXIMUM SPACING IN RESIDENTIAL DEVELOPMENTS AND AT 300 FEET MAXIMUM SPACING IN BUSINESS AND INDUSTRIAL DEVELOPMENTS. ALL WATER MAIN TO WHICH HYDRANTS ARE CONNECTED SHALL BE 8 INCHES MINIMUM.
15. ALL FIRE HYDRANTS SHALL BE CONSTRUCTED TO MAKE THEM EASILY ACCESSIBLE TO FIRE PERSONNEL IN CASE OF FIRE. THE MAIN NOZZLE CONNECTION SHOULD ALWAYS FACE THE STREET AND BE 18-24" ABOVE GRADE.
16. AS STANDARD PRACTICE, WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF CURB OR AS APPROVED BY THE CITY.
17. ALL WATER MAINS SHALL BE NSF-APPROVED FOR POTABLE WATER USE, AND SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON CLASS 350 OR CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY.
18. ALL PROPOSED WATER MAINS SHALL BE FLUSHED, CLEANED WITH A POLY PIG, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
19. WATER MAINS SHALL BE AWWA C-900 CL 150, OR D.I.P. CLASS 350 STANDARD CEMENT LINED.
20. UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE HEALTH DEPARTMENT, AND THAT CERTIFIED AS-BUILT DRAWINGS (24"x36") ARE PROVIDED TO THE CITY PRIOR TO PAVING AND ANY USE OF THE SYSTEM. PROVIDE THREE (3) BLUELINE COPIES, ONE (1) MYLAR OF AS-BUILT DRAWINGS AND A DIGITAL COPY.
21. MEGALUG OR EQUIVALENT, RESTRAINED JOINT SYSTEM MAY BE USED ON ALL RESTRAINED FITTINGS, VALVES, ETC. MINIMUM DEPTH OF BURY ON PIPES NOT MEETING REQUIRED COVER REQUIREMENTS SHALL FOLLOW THE MOST RECENT DIPRA THRUST RESTRAINT DESIGN GUIDELINES.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES WATER SYSTEM CONSTRUCTION
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GENERAL NOTES
WATER SYSTEM CONSTRUCTION

22. WATER SYSTEMS SHALL BE PRESSURE TESTED AT 150 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS. TESTS SHALL BE CONDUCTED BEFORE FINAL PAVING AND IN THE PRESENCE OF THE CITY'S INSPECTOR.
23. ALL WATER SERVICES SHALL BE MARKED WITH A "Λ" SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT.
24. ALL WATER VALVES AND BLOW-OFFS SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT. LOCATION OF METAL TABS IN INCHES FROM EDGE OF PAVEMENT SHALL EQUAL DISTANCE IN FEET FROM EDGE OF PAVEMENT TO VALVE.
25. UNIFLANGE 1300 SERIES PIPE RESTRAINTS AS MANUFACTURED BY FORD OR APPROVED EQUAL MAY BE USED AS APPROPRIATE FOR RESTRAINING IN-LINE PRESSURE PIPE EACH SIDE OF PIPE JOINT. AS REQUIRED BY RESTRAINT TABLE.
26. TRACING WIRE SHALL BE INSTALLED IN ACCORDANCE WITH UTILITY PIPE LOCATION MATERIALS DETAIL.
27. NO GALVANIZED PIPE, FITTINGS, ETC. ARE ACCEPTED.
28. ALL WATER METERS SHALL BE INSTALLED AT THE RIGHT OF WAY LINE ONLY REGARDLESS OF SIZE.
29. SUBMIT ASSEMBLY CERTIFICATION FOR ALL BACKFLOW PREVENTERS TO THE CITY'S ENGINEERING DEPARTMENT BEFORE FINAL INSPECTION.
30. PIPING FOR RAW WATER SHALL BE OLIVE GREEN FOR ABOVE GROUND PIPING, BURIED PVC PIPING SHALL BE BLUE WITH WHITE COLOR BACKGROUND LOCATOR TAPE PLACED DIRECTLY ON TOP OF THE PIPE AND AT 12" TO 18" ABOVE THE PIPE. THE TAPE SHALL CONTINUOUSLY READ "CAUTION - RAW WATER MAIN BURIED BELOW" OR WHITE WITH LOCATOR TAPE PLACED 12" TO 18" ABOVE THE TOP OF THE PIPE.
31. SEE CHART BELOW FOR WATER MAIN SIZE AND MATERIALS.

MATERIALS		
DIAMETER	MATERIAL	STANDARD
2" - 4"	PVC 1120 / SDR 21	ASTM D 2241
> 4" - 12"	PVC 1120 / CLASS 150	AWWA C 900
> 4" - 12" DEDICATED FIRE LINE	PVC 1120 / CLASS 150	AWWA C 900
14" - 36" (16"- 24" — DR - 18) (30"- 36" — DR - 21)	PVC 1120	AWWA C 905
ALL SIZES	HDPE DIPS DR 11	ASTM F 714

NOTE: PVC PIPE COLOR SHALL BE BLUE FOR POTABLE WATER MAINS, BLUE WITH WHITE LOCATOR TAPE OR WHITE WHITE LOCATOR TAPE FOR RAW WATER MAIN.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES WATER SYSTEM CONSTRUCTION
INDEX W-1C
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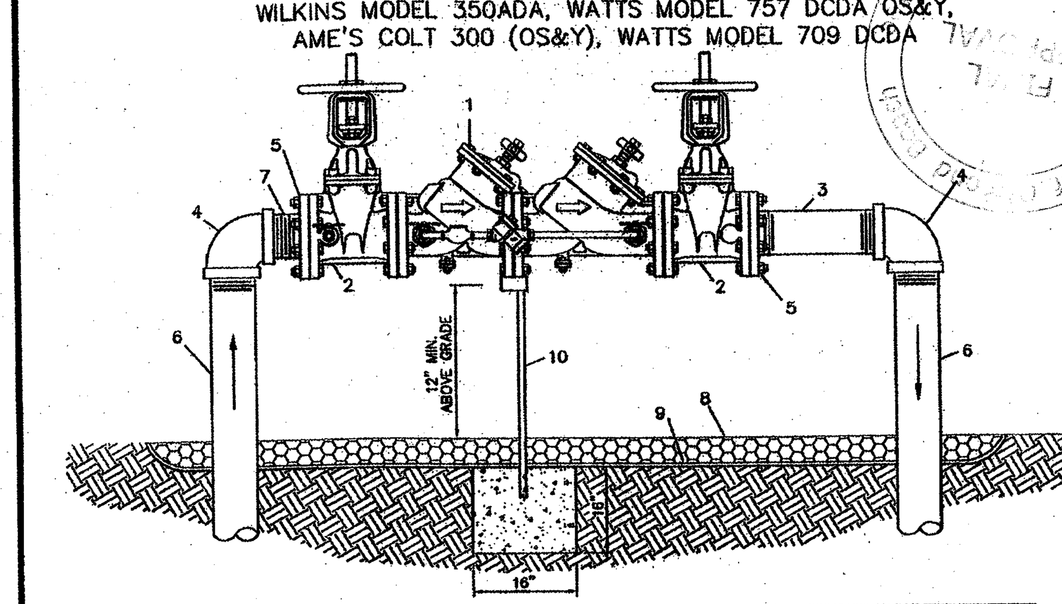
ACCEPTABLE MANUFACTURERS: HERSEY MODEL 6CM, WILKINS MODEL 350ADA, WATTS MODEL 757 DCDA OS&Y, AME'S COLT 300 (OS&Y), WATTS MODEL 709 DCDA



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	4", 6", 8", 10" VALVE, DOUBLE CHECK BACKFLOW PREVENTER
2	2	4", 6", 8", 10" VALVE, GATE, C.I., F-F
3	1	4", 6", 8", 10" NIPPLE, PVC., BRASS, OR D.I., (12" LONG) (OPT.)
4	2	4", 6", 8", 10" ELBOW, PVC., BRASS, OR D.I., - 90°
5	2	4", 6", 8", 10" FLANGE, STEEL PIPE, SCREW-TYPE
6	2	4", 6", 8", 10" PIPE, PVC., BRASS, OR D.I. (42" LONG)
7	1	4", 6", 8", 10" NIPPLE, PVC., BRASS, OR D.I. (6" LONG)
8	*	PEA GRAVEL
9	*	PLASTIC LINER
10	1	PIPE SUPPORT / CONCRETE FOUNDATION

NOTE:
- FIELD ADJUST AND CUT ITEM 6 TO THE PROPER LENGTH.
- NO GALVANIZED FITTINGS OR PIPE ALLOWED.
- A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE CITY'S ENGINEERING DEPARTMENT BEFORE FINAL INSPECTION.
- ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBSCURE VIEW.
- ASSEMBLY SHALL BE PAINTED FOREST GREEN.

STANDARD CONSTRUCTION DETAIL
DOUBLE CHECK DETECTOR BACKFLOW PREVENTER (DEDICATED FIRE LINE) 2 1/2" - 10"
NTS
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MARCH 2014

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORM WATER FORCE MAIN, RECLAIMED WATER (2)	3 FT. MINIMUM	12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES PREFERRED	ALTERNATE 3 FT. MINIMUM
VACUUM SANITARY SEWER	10 FT. PREFERRED 3 FT. MINIMUM	12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY FORCE MAIN, RECLAIMED WATER (4)	10 FT. PREFERRED 6 FT. MINIMUM (3)	12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES PREFERRED	ALTERNATE 6 FT. MINIMUM
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM	—	—

(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 18 INCHES.
(2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(3) 3 FT. FOR GRAVITY SEWER WHERE 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 62-610, F.A.C.
DISCLAIMER - THIS DOCUMENT WAS PROVIDED FOR YOUR CONVENIENCE ONLY. PLEASE REFER TO F.A.C. RULE 62-555.314 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS

STANDARD CONSTRUCTION DETAIL
WATER MAIN SEPARATION
NTS
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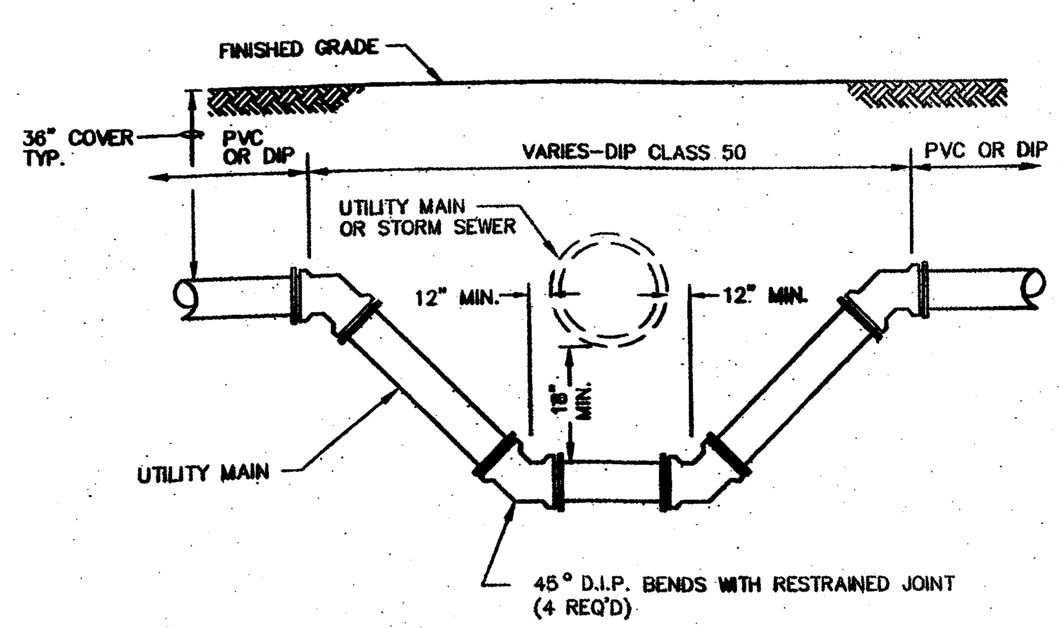

NOTE: ABOVE DETAIL TO BE UTILIZED IF CONTRACTOR CANNOT MAINTAIN 18" CLEAR BETWEEN MAINS BY DEFLECTING PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

STANDARD CONSTRUCTION DETAIL
PIPE CROSSING
NTS.
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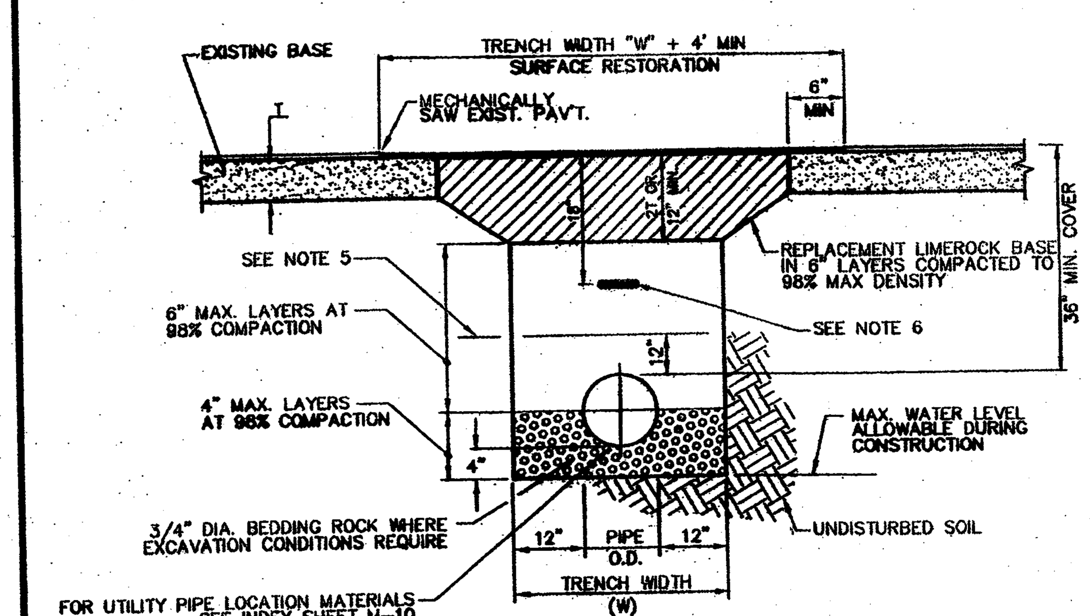
MARCH 2014



PAVEMENT CUT AND PATCH DETAIL

NOTES:
1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
3. NEW SURFACING MATERIALS SHALL BE CONSISTENT WITH EXISTING AND SHALL HAVE LAPPED & FEATHERED JOINTS (1 1/2" MIN. THK.)
4. COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COMPACTION TEST REPORTS TO CITY INSPECTOR.
5. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
6. INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.
7. EIGHT INCHES (8") OF HIGH EARLY-STRENGTH CONCRETE MAY BE SUBSTITUTED FOR LIMEROCK UPON APPROVAL BY CITY ENGINEER.

STANDARD CONSTRUCTION DETAIL
PAVEMENT CUT AND PATCH
NTS
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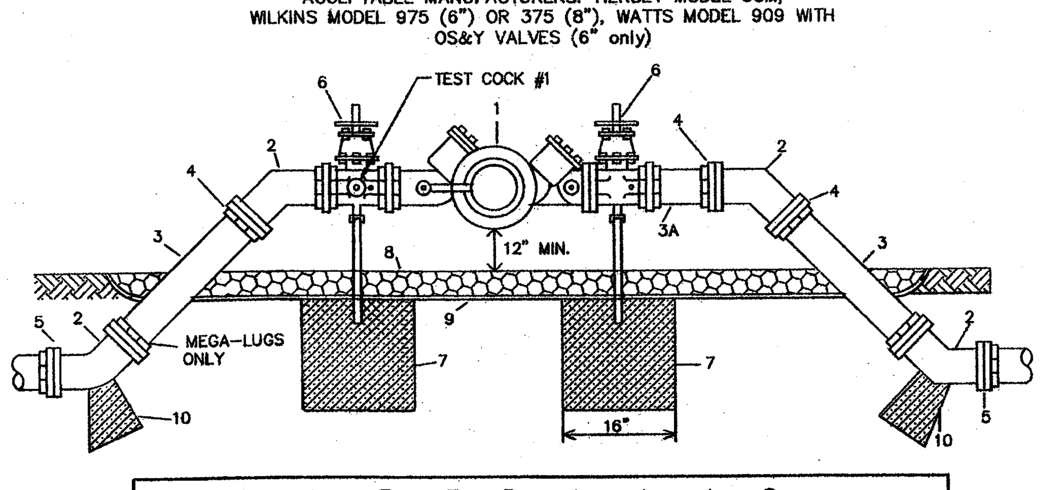
ACCEPTABLE MANUFACTURERS: HERSEY MODEL 6CM, WILKINS MODEL 975 (6") OR 375 (8"), WATTS MODEL 909 WITH OS&Y VALVES (6" only)



MATERIALS			
ITEM	QUANT.	DESCRIPTION	
1	1	6", 8"	VALVE, REDUCED PRESSURE BACKFLOW PREVENTER.
2	4	6", 8"	BEND -45°
3	2	6", 8"	ADAPTER, C.I. F - PE
3A	1	6", 8"	ADAPTER, C.I. F - PE (OPT.)
4	3	6", 8"	ADAPTER FLANGE D.I.P.
5	2	6", 8"	ADAPTER FLANGE P.V.C. (DR - 18)
6	2	6", 8"	VALVE, GATE, C.I., F-F (OS&Y STYLE ONLY)
7	1 or 2	2"	IRON PIPE/CONCRETE FOUNDATION
8	*		PEA GRAVEL
9	*		PLASTIC LINER
10	2		REACTION BLOCK

NOTE:
- FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.
- DO NOT INTERCHANGE ITEMS 4 AND 5.
- ASSEMBLY SHALL BE PAINTED FOREST GREEN.
- NO GALVANIZED PIPE OR FITTINGS ALLOWED.
- A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE CITY'S ENGINEERING DEPARTMENT BEFORE FINAL INSPECTION
- ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBSCURE VIEW.

STANDARD CONSTRUCTION DETAIL
REDUCED PRESSURE BACKFLOW PREVENTER (POTABLE WATER) 6" OR 8"
NTS
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MARCH 2014

DANIEL JOHNS LICENSE No 54037 STATE OF FLORIDA PROFESSIONAL ENGINEER

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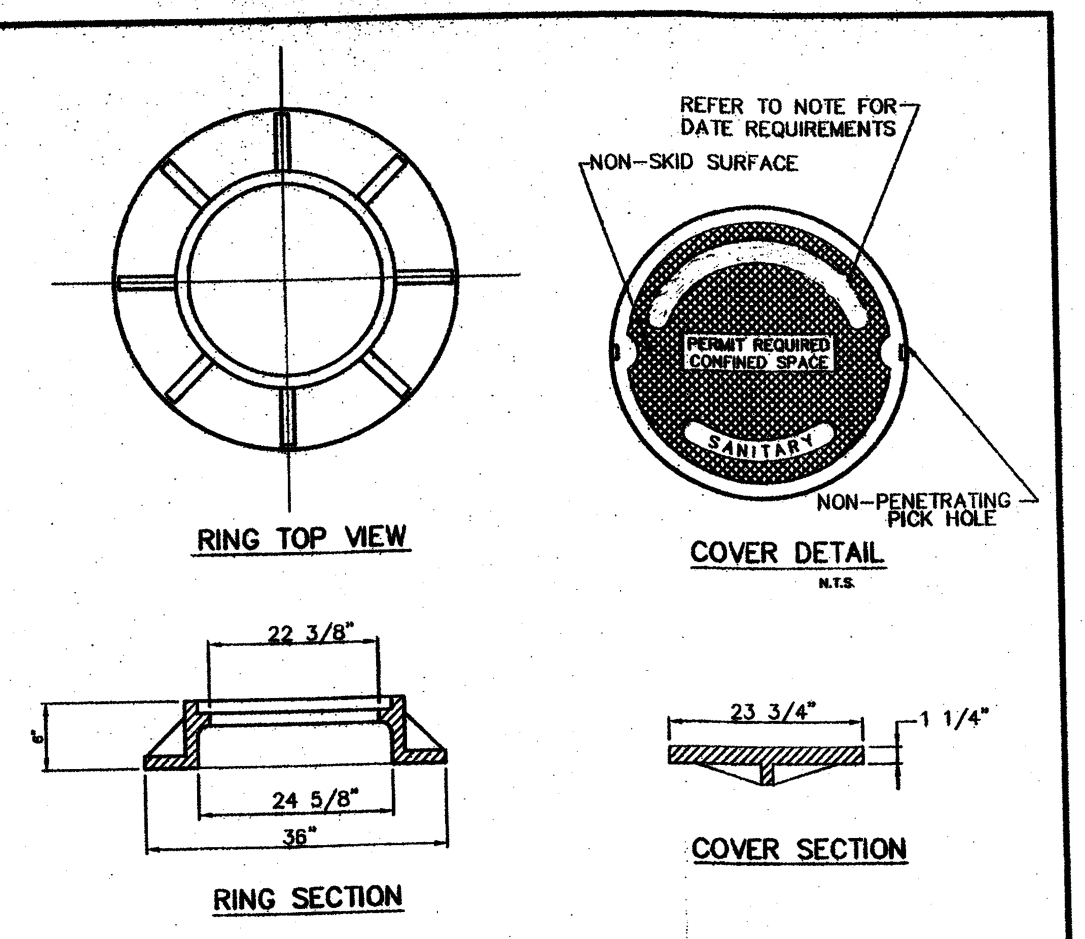

NOTE: MANHOLE RING AND COVER SHALL CONFORM TO FDOT STANDARD INDEX 201, SHEET 1 OF 6, AS SHOWN IN ROADWAY TRAFFIC DESIGN STANDARDS.

NOTE: YEAR STAMP TO MATCH CASTING YEAR

U. S. FOUNDRY 195E-ORS ("O" RING SEAL) OR APPROVED EQUAL

COVER TYPE	LOAD RATING	COVER WEIGHT	TOTAL WEIGHT
BJ	HEAVY DUTY	200	350

FOR MANHOLES IN FL. D.O.T. R/W OR AS DETERMINED BY THE CITY. THE COVER TYPE SHALL BE – BJ HEAVY DUTY 200 LBS W/ ORS.

STANDARD CONSTRUCTION DETAIL
MANHOLE RING AND COVER DETAIL
NTS.

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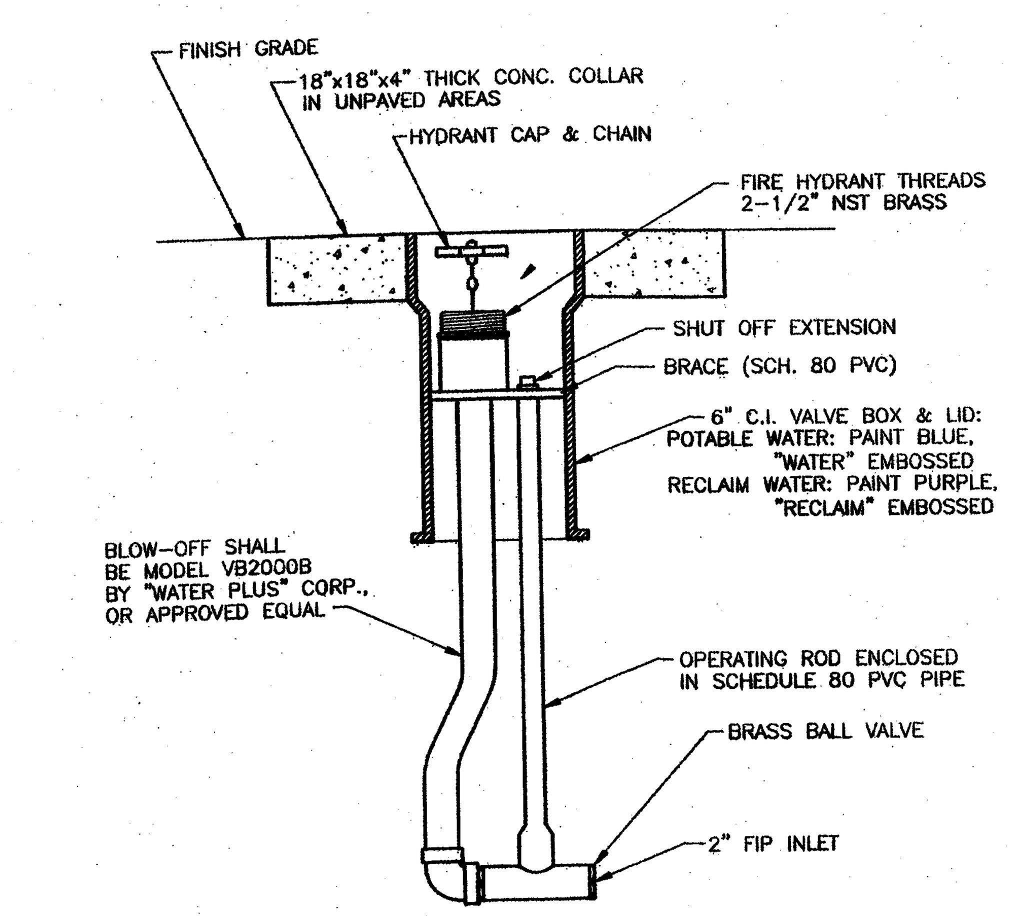

1. WRENCH AND DISCHARGE SPOUT AS SUPPLIED BY MANUFACTURER SHALL BE TURNED OVER TO THE CITY DURING FINAL INSPECTION.

STANDARD CONSTRUCTION DETAIL
BLOW-OFF ASSEMBLY WITH CONCRETE COLLAR
NTS.

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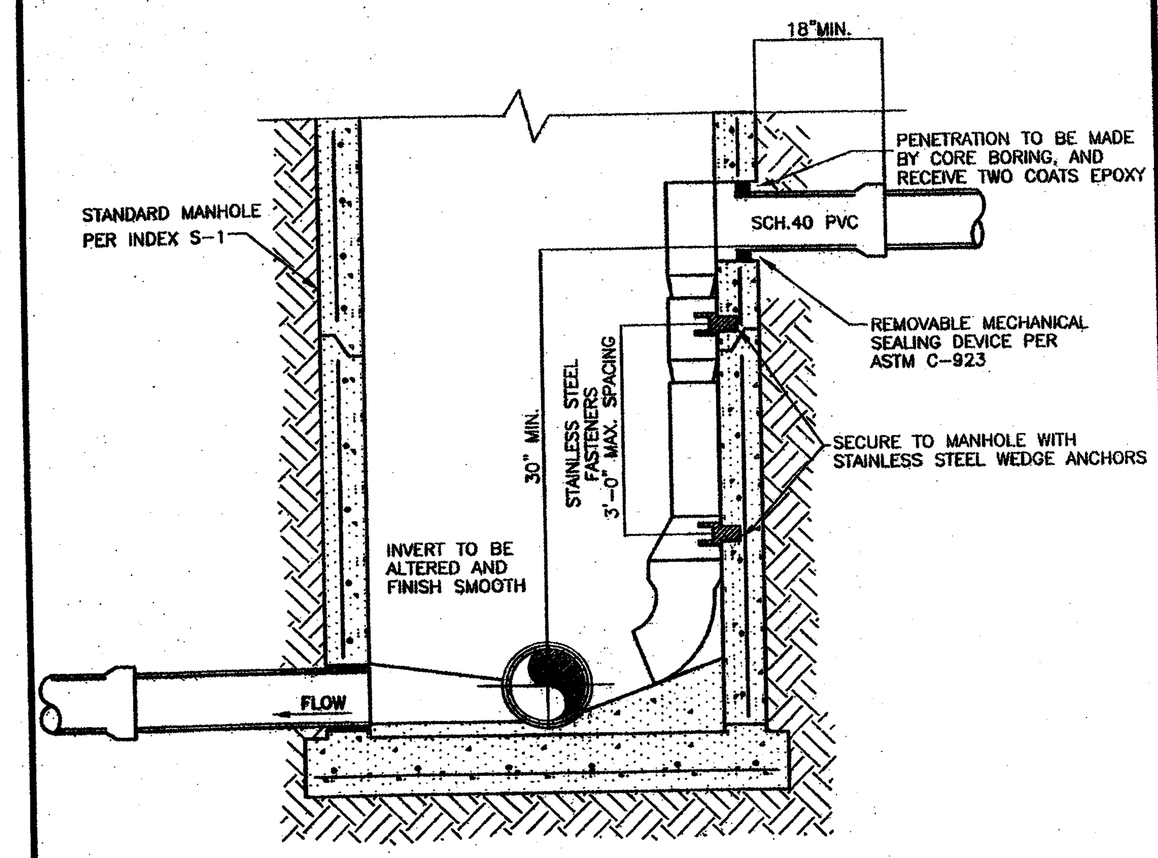

NOTES:

1. ALL PIPING ENTERING EXISTING STRUCTURES SHALL BE ACCOMPLISHED BY MECHANICAL ROTARY CORE BORING THE MANHOLE RISER. AFTER INSTALLATION OF PIPING, THE ANNULAR SPACE BETWEEN PIPING AND CONCRETE, SHALL BE SEALED WITH LINK-SEAL, THUNDERLINE SEALS, OR APPROVED EQUAL.
2. ALL FITTINGS SHALL BE SCH.40 PVC AS WELL AS DROP PIPE
3. FOR INSIDE DROPS UP TO 12" DIA USE INTRAFLOW LOW PROFILE INSIDE DROP SYSTEM AS MANUFACTURED BY ROYAL ENVIRONMENTAL SYSTEMS OR APPROVED EQUAL.
4. FOR INSIDE DROPS LARGER THAN 12" DIA ALL FERROUS MATERIALS SHALL BE FULLY COATED IN AND OUT WITH 2 COATS OF KOPPERS 300-M EPOXY 8 MILS DFT, TOGETHER WITH THE PENETRATION THROUGH THE STRUCTURE WALL STAINLESS STEEL SHALL NOT BE COATED.
5. ADAPTORS CONNECTING DIFFERENT PIPING MUST BE MANUFACTURED FOR THIS PURPOSE; SUBMIT DETAILS TO ENGINEER FOR APPROVAL.
6. FOR USE WHERE FREE DROP IS GREATER THAN 30". FOR GRAVITY SEWER AND FORCE MAINS.

STANDARD CONSTRUCTION DETAIL
INSIDE DROP CONNECTION (FOR EXISTING MANHOLES)
NTS

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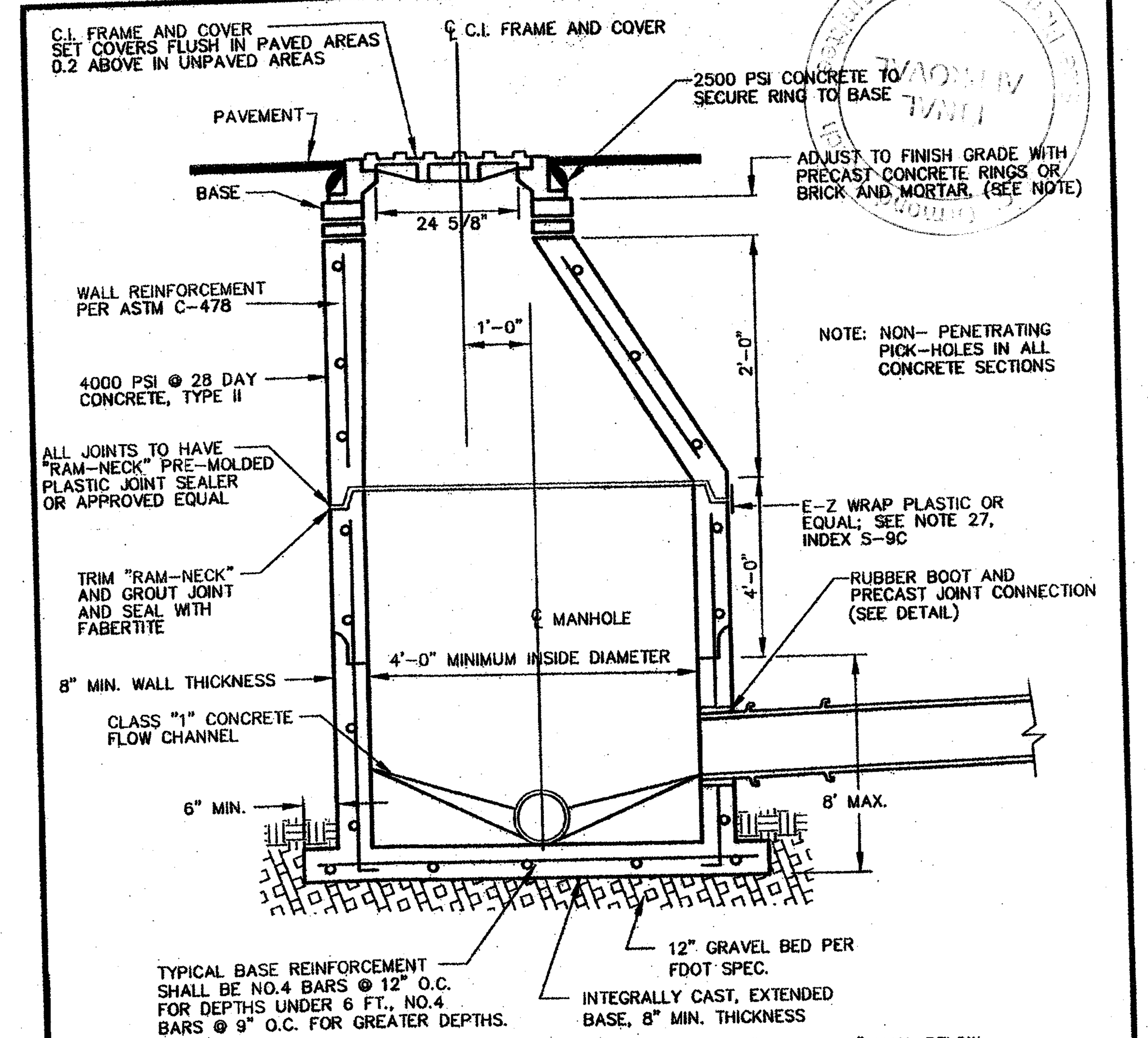

NOTES:
1. THE TOP OF THE CONE SHOULD BE SET 2 1/2" MIN. – 12" MAX. BELOW THE BOTTOM OF THE MANHOLE COVER FRAME TO ACCOMMODATE FUTURE GRADE CHANGES (USE BRICK AND MORTAR OR PRECAST CONCRETE RINGS).
2. THE INSIDE OR OUTSIDE OF MANHOLES SHALL NOT BE COATED, EXCEPT MANHOLES WHICH RECEIVE DISCHARGE FROM A FORCE MAIN AND ANY MANHOLES LOCATED WITHIN 200' OF A LIFT STATION OR ANY MANHOLES OUTSIDE OF THE RIGHT-OF-WAY. A SULFIDE CORROSION-RESISTANT MATERIAL SHALL BE USED AS LINER FOR THOSE MANHOLES THAT MEET THE CONDITIONS STATED ABOVE. THE LINER SHALL BE EITHER FIBERGLASS OR PVC OR AS APPROVED BY THE CITY ENGINEER.
3. NO DOGHOUSE TYPE MANHOLES SHALL BE PERMITTED WITHIN THE CITY OF ORMOND BEACH.

STANDARD CONSTRUCTION DETAIL
TYPE "A" PRECAST MANHOLE
NTS

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IN ORDER TO ENSURE THAT NEW DEVELOPMENTS WITHIN THE CITY ARE CONSTRUCTED SUBSTANTIALLY IN ACCORDANCE WITH CITY REGULATIONS AND THE APPROVED DRAWINGS "AS-BUILT" DRAWINGS ARE REQUIRED:

THE FOLLOWING INFORMATION IS REQUIRED ON ALL PAVING AND DRAINAGE "AS-BUILT" DRAWINGS:

1. PAVEMENT AND CURB WIDTHS SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET AT EACH BLOCK. ALL RADII AT INTERSECTIONS SHALL BE VERIFIED AND DIMENSIONED. THIS INFORMATION TO CLEARLY INDICATE IT AS AS BEING "AS-BUILT" INFORMATION.
2. ROADWAY ELEVATIONS SHALL BE RECORDED AT ALL GRADE CHANGES OR OTHER INTERVALS AS NEEDED ALONG ALL STREETS. STREET CENTERLINE AND CURB INVERT ELEVATIONS SHALL BE RECORDED AS NOTED. THE "AS-BUILT" CENTERLINE PROFILE OF ALL STREETS SHALL ALSO BE SHOWN ON THE PLAN AND PROFILE SO IT MAY BE COMPARED TO THE EXISTING AND DESIGNED PROFILE GRADE LINES. ALL STREET CENTERLINES ON "AS-BUILTS" SHALL BE LABELED WITH STREET NAME AND RIGHT-OF-WAY WIDTH ON EVERY PAGE.
3. STORM DRAINAGE STRUCTURES SHALL BE LOCATED AND/OR DIMENSIONED FROM CENTERLINES OR LOT LINES AS APPROPRIATE.
4. STORM DRAINAGE PIPE INVERT AND STRUCTURE TOP AND BOTTOM ELEVATIONS SHALL BE RECORDED AND CLEARLY DENOTED AS "AS-BUILT" INFORMATION. DESIGN ELEVATIONS SHALL BE CROSSED OUT AND "AS-BUILT" INFORMATION WRITTEN NEXT TO IT.
5. STORM DRAINAGE PIPE MATERIAL, LENGTH, AND SIZE SHALL BE MEASURED AND/OR VERIFIED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
6. ALL APPLICABLE TOPOGRAPHIC INFORMATION, PERTINENT TO THE ON SITE DRAINAGE SYSTEM SUCH AS DITCHES, LAKES, CANALS, ETC. THAT ARE DEEMED APPROPRIATE BY THE CITY SHALL BE NOTED. NORMALLY, RECORDING ELEVATIONS EVERY 100 FEET AT THE TOP OF BANK AND TOE OF SLOPE WILL BE REQUIRED. MEASUREMENTS SHALL BE TAKEN AND RECORDED IN ORDER TO ACCURATELY TIE DOWN THESE FEATURES TO THE ROADWAY CENTERLINES AND TO PLAT LINES. WHENEVER POSSIBLE, CONTOUR LINES SHALL BE UTILIZED TO GRAPHICALLY DESCRIBE THESE TOPOGRAPHIC FEATURES.
7. RETENTION AREAS SHALL HAVE THEIR TOP-OF-BANK AND BOTTOM ELEVATIONS RECORDED. ACTUAL MEASUREMENTS SHALL BE TAKEN AND DIMENSIONS RECORDED OF THE SIZE OF ALL RETENTION AREAS. MEASUREMENTS SHALL BE DONE FROM TOP-OF-BANK TO TOP-OF-BANK WITH SIDE SLOPES INDICATED. SEPARATE CALCULATIONS SHALL BE SUBMITTED TO INDICATE REQUIRED AND PROVIDED RETENTION VOLUMES.
8. STORM DRAINAGE SWALE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE SHALL BE RECORDED EVERY 100 FEET.
9. ANY SPECIAL FEATURES SUCH AS CONCRETE FLUMES, LAKE BANKS, WALLS, FENCING, ETC., WHICH WERE A PART OF THE APPROVED CONSTRUCTION DRAWINGS SHOULD ALSO BE LOCATED AND DIMENSIONED.
10. ACTUAL MATERIALS USED AND ELEVATIONS AND DIMENSIONS OF OVERFLOW WEIR STRUCTURES AND SKIMMERS SHALL BE NOTED ON THE "AS-BUILT".

THE FOLLOWING INFORMATION IS REQUIRED ON ALL WATER AND SEWER "AS-BUILT" DRAWINGS:

11. SANITARY SEWER MANHOLES SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPRROPRIATE. ALL RIM AND INVERT ELEVATIONS SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
12. SANITARY SEWER LINE LENGTHS, SIZES, MATERIAL, SLOPE, ETC., SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.

STANDARD CONSTRUCTION DETAIL
REQUIREMENTS FOR "AS-BUILT" DRAWINGS

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13. SEWER LATERALS SHALL BE VERIFIED AND RECORDED AT THEIR CLEAN-OUT LOCATIONS. STATIONING AND OFFSET DISTANCES SHALL BE MEASURED FROM DOWNSTREAM MANHOLES TOWARDS UPSTREAM MANHOLES.
14. LIFT STATIONS AND FORCE MAINS SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. FORCE MAIN DEPTH AND LOCATION INCLUDING VALVES WILL BE PROVIDED AND TIED TO PERMANENT ABOVE GRADE FEATURES EVERY 500 FEET. DIMENSIONAL AND ELEVATION INFORMATION INDICATED ON THE APPROVED PLAN SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION. BURIED ELECTRICAL SERVICE LINE SHALL BE CLEARLY DIMENSIONED, LOCATED AND LABELED.
15. CURB CUTS OR METAL TABS, USED TO MARK SEWER LATERALS, WATER SERVICES AND WATER VALVES, SHALL BE VERIFIED FOR PRESENCE AND ACCURACY OF LOCATION.
16. WATER MAIN LINES SHALL BE DIMENSIONED OFF THE BACK OF CURB OR EDGE OF PAVEMENT IF NO CURB IS PRESENT. WATER MAIN LINE MATERIAL, SIZE, LENGTH AND DEPTH PLACED SHALL ALSO BE NOTED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
17. WATER VALVES, TEES, ALL SERVICES, BLOW – OFFS AND FIRE HYDRANTS SHALL BE LOCATED BY TYING THEM TO SANITARY SEWER MANHOLES. STATIONING AND OFFSET DISTANCES SHALL BE MEASURED FROM DOWNSTREAM MANHOLES TO UPSTREAM MANHOLES.

THE FOLLOWING INFORMATION IS GENERAL REQUIREMENTS OF ALL "AS-BUILT" DRAWINGS:

18. FOR PERPENDICULAR CROSSINGS OF STORM WATER, SANITARY SEWER, POTABLE WATER, OR RECLAIMED WATER, THE "AS-BUILT" PLANS SHALL CLEARLY INDICATE WHICH UTILITIES ARE LOCATED OVER OR UNDER OTHER UTILITIES, AS NECESSARY.
19. WHEN STORM WATER, POTABLE WATER, RECLAIMED WATER, OR SANITARY SEWER IMPROVEMENTS ARE LOCATED WITHIN AN EASEMENT, THE "AS-BUILT" SHALL ACCURATELY DEPICT THE LOCATION OF THE EASEMENT ITSELF AS WELL AS THE EXACT LOCATION OF THE IMPROVEMENTS WITHIN THE EASEMENT. THIS IS REQUIRED IN ORDER TO VERIFY THAT THE IMPROVEMENTS HAVE BEEN PROPERLY LOCATED AND TO ENSURE THAT FUTURE SUBSURFACE EXCAVATION TO PERFORM REMEDIAL REPAIR CAN BE ACCOMPLISHED WITHOUT DISTURBANCE BEYOND THE EASEMENT. SUCH DOCUMENTATION AND THE ASSOCIATED PROPOSED EASEMENT DOCUMENT WITH LEGAL DESCRIPTION SHALL BE SUBMITTED FOR CITY REVIEW AND APPROVAL PRIOR TO RECORDING OF SAID EASEMENT. UPON CITY APPROVAL, THE EASEMENT SHALL BE RECORDED VIA A SEPARATE LEGAL INSTRUMENT AND SHALL NOT BE INCLUDED AS PART OF HOMEOWNER COVENANTS AND RESTRICTIONS.
20. SUBMIT CERTIFIED PAPER PRELIMINARY "AS-BUILT" (24"x36") WITH REQUEST FOR FINAL INSPECTION. SUBMIT 3 SETS SHOWING WATER FACILITIES, 3 SETS WITH SEWER FACILITIES, AND 3 SETS WITH PAVING AND DRAINAGE FACILITIES. FOLLOWING FINAL INSPECTION AND COMMENTS, THE CONTRACTOR SHALL REVISE AS-BUILTS TO ADDRESS CITY COMMENTS AND SUBMIT 3 SETS CERTIFIED FINAL "AS-BUILTS" ALONG WITH 1 SET CERTIFIED MYLARS AND 1 CD-ROM CONTAINING AUTO-CAD FILES AND PDF VERSIONS SHOWING ALL "AS-BUILT" SHEETS. ALL "AS-BUILT" DRAWINGS SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR AND ENGINEER OF RECORD.
21. INDICATE VERTICAL DATUM REFERENCE ON ALL SHEETS.
22. CAD FILE OF "AS-BUILTS" SHALL BE IN STATE PLANE COORDINATES; FILE SHOULD INCLUDE REFERENCE TO PROJECTION. (FLORIDA EAST, NAD83)
23. ALL "AS-BUILT" DRAWINGS SHALL BE PREPARED BY A FLORIDA REGISTERED LAND SURVEYOR USING THE FINAL APPROVED SITE DESIGN PREPARED BY THE ENGINEER OF RECORD. LINE WEIGHTS, LINETYPES, AND ANNOTATION SHALL BE MANAGED IN A MANNER THAT CLEARLY DISTINGUISHES DESIGN INFORMATION FROM "AS-BUILT" INFORMATION.
24. ALL "AS-BUILT" SHEETS SHALL INCLUDE A TITLE BLOCK AND CLEARLY STATE PROJECT NAME, PROJECT SURVEYOR, DATE OF FIELD WORK, AS WELL AS PROJECT CERTIFICATION BLOCK FROM THE ENGINEER OF RECORD.

NOTE: REFERENCES TO WATER SHALL MEAN BOTH POTABLE AND RECLAIMED WATER.

STANDARD CONSTRUCTION DETAIL
REQUIREMENTS FOR AS BUILT DRAWINGS

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MARCH 2014

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ORMOND BEACH'S LAND DEVELOPMENT CODE REQUIREMENTS, AND THE STANDARD CONSTRUCTION DETAILS AND CONSTRUCTION SPECIFICATIONS (SCDCS). AN ENGINEERING PERMIT AND TREE REMOVAL PERMIT IS REQUIRED PRIOR TO STARTING CONSTRUCTION.
2. NO LAND SHALL BE CLEARED, EXCAVATED OR FILLED AND NO STRUCTURE SHALL BE ERECTED, REPAIRED OR DEMOLISHED WITHOUT PROPER PERMIT(S) AS REQUIRED BY THE CITY OF ORMOND BEACH.
3. NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION AT 676-3269 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
4. ANY CONSTRUCTION CHANGES TO APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH FOR APPROVAL PRIOR TO PERFORMING THE WORK.
5. ROAD CONSTRUCTION AND PIPE INSTALLATION COMPACTION AND DENSITY TESTING SHALL CONFORM TO THE CITY OF ORMOND BEACH'S MINIMUM REQUIREMENTS. CERTIFIED COPIES OF TEST REPORTS SHALL BE SUBMITTED TO THE CITY INSPECTOR AND THE CITY'S ENGINEERING DIVISION.
6. A PRE-PAVING UTILITY INSPECTION MUST BE REQUESTED AND COMPLETED PRIOR TO THE PAVING OF ALL ROADS, STREETS, AND PARKING AREAS.
7. A FINAL INSPECTION, TO BE CONDUCTED BY THE CITY OF ORMOND BEACH, SHALL BE PERFORMED ON ALL CONSTRUCTION. THE DESIGN ENGINEER SHALL NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION 676-3269 WHEN REQUESTING A FINAL INSPECTION.
8. THREE COMPLETE SETS OF AS-BUILT DRAWINGS (5 FOR SUBDIVISIONS) ARE REQUIRED TO BE SUBMITTED TO THE CITY OF ORMOND BEACH PRIOR TO REQUESTING A FINAL INSPECTION.
9. THE CITY HAS A CONTRACTOR FOR ROLL OFF SERVICE. NO OTHER CONTRACTOR SHALL BE PERMITTED TO PROVIDE THIS SERVICE. VERIFY COMPANY UNDER CONTRACT WITH THE CITY.
10. CONSTRUCTION SITES THAT DISTURB ONE ACRE OR MORE WILL BE REQUIRED TO SEEK COVERAGE UNDER THE GENERIC PERMIT FOR STORM WATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. IN ACCORDANCE WITH THIS REQUIREMENT, A STORM WATER POLLUTION PREVENTION PLAN (SWPP) MUST BE SUBMITTED TO THE CITY'S ENGINEERING DIVISION PRIOR TO CONSTRUCTION TO BE IN COMPLIANCE WITH THE PERMIT.
11. CONTRACTOR WILL FOLLOW REQUIRED WASTE MANAGEMENT PRACTICES
12. SEEDING OR SODDING SHALL BE INITIATED FOR EROSION AND SEDIMENT CONTROL ON DISTURBED AREAS AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.
13. ANY FIELD MODIFICATIONS OR DEVIATIONS TO THIS CONSTRUCTION PLAN REQUIRES WRITTEN APPROVAL BY BOTH THE ENGINEER OF RECORD AND THE CITY OF ORMOND BEACH ENGINEERING DIVISION.

STANDARD CONSTRUCTION DETAIL
GENERAL CONSTRUCTION NOTES

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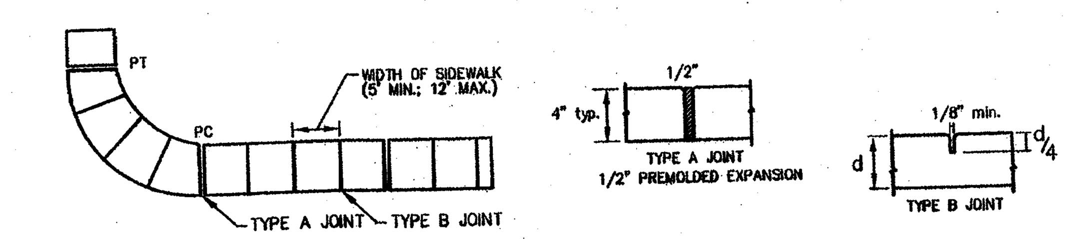
MARCH 2014



1. SIDEWALKS, BIKEPATHS, RAMPS, AND DRIVEWAY APRONS SHALL BE CONSTRUCTED OF PLAIN PORTLAND CEMENT CONCRETE WITH A MAXIMUM SLUMP OF 3 INCHES, A MINIMUM DEVELOPED COMPRESSIVE STRENGTH OF 2500 P.S.I. IN 28 DAYS, AND A MINIMUM UNIFORM THICKNESS OF 4 INCHES WHERE INTENDED SOLELY FOR PEDESTRIAN TRAFFIC, AND 6 INCHES THICK WHERE MOTOR VEHICLES ARE LIKELY TO CROSS. SIDEWALKS SHALL BE 5 FOOT WIDE UNLESS OTHERWISE SHOWN ON PLANS.
2. SIDEWALKS AND BIKE PATHS SHALL BE PLACED PARALLEL TO, AND ONE FOOT WITHIN THE RIGHT-OF-WAY LINE EXCEPT THAT THE CITY MAY APPROVE DEVIATIONS TO SAVE SPECIMEN TREES PROVIDED THAT THE PAVEMENT REMAINS WITHIN THE RIGHT-OF-WAY, IS NOT DIMINISHED IN WIDTH, AND REMAINS AT LEAST 4 FEET FROM THE EDGE OF THE STREET PAVEMENT, UNLESS OTHERWISE APPROVED BY THE CITY.
3. THE TOP OF THE CONCRETE SHALL BE AT AN ELEVATION NO LOWER THAN THE CROWN OF THE ADJACENT ROADWAY, AND NO HIGHER THAN 6 INCHES ABOVE THE CROWN UNLESS APPROVED BY THE CITY TO MAKE A MORE NATURAL TRANSITION WITH THE ADJACENT LAND.
4. ALL WALKS SHALL HAVE A CROSS SLOPE OF 1/4 INCH PER FOOT AND SHALL NOT EXCEED A LONGITUDINAL SLOPE OF 1:20, EXCEPT AT DESIGNATED RAMPS THAT SHALL NOT EXCEED 1:12. PROVIDE A TACTIBLE WARNING SURFACE AT ALL RAMPS PER A.D.A. THE CONTRACTOR SHALL INSURE THAT ALL PROVISIONS OF A.D.A AND FLORIDA ACCESSIBILITY CODE ARE MET.*
5. ISOLATION JOINTS (TYPE A JOINTS) SHALL BE PROVIDED BETWEEN EXISTING SLABS OR STRUCTURES AND FRESH CONCRETE, TO SEPARATE PEDESTRIAN SECTIONS FROM SECTIONS WHICH WILL ENCOUNTER VEHICLE TRAFFIC, TO SEPARATE FRESH PLACEMENT FROM CONCRETE WHICH HAS SET FOR MORE THAN 60 MINUTES, AND NO FARTHER APART THAN 100 FEET IN SIDEWALKS AND BIKEPATHS. JOINT MATERIAL SHALL BE SPECIFIED IN FDOT STANDARDS AND SPECIFICATIONS AND SHALL BE RUBBER, PLASTIC OR OTHER APPROVED NON-BIODEGRADABLE ELASTOMERIC MATERIAL. WOOD IS PROHIBITED.
6. CONTROL JOINTS (TYPE B JOINTS) SHALL BE TOOLED INTO THE FRESH CONCRETE TO A DEPTH EQUAL TO 1/4 THE SLAB THICKNESS AND SPACED APART A DISTANCE EQUAL TO THE WIDTH OF THE SLAB, AT MINIMUM SPACING OF 5', MAX SPACING OF 12'.
7. THE SLAB SURFACE SHALL BE BROOM FINISHED TO BE SLIP RESISTANT, AND SHALL MATCH AS CLOSELY AS POSSIBLE THE FINISH OF THE EXISTING ADJACENT SLABS AND ALL EDGES SHALL BE TOOLED TO ELIMINATE SHARP CORNERS.
8. THE BEARING SUBSURFACE SHALL HAVE ALL ORGANIC, LOOSE, AND DELETERIOUS MATTER REMOVED, AND THE REMAINING CLEAN SOIL SHALL BE SMOOTH, SOUND, AND SOLID. ANY FILL MATERIAL SHALL BE COMPACTED WITH A VIBRATORY OR IMPACT COMPACTION MACHINE IN MAXIMUM 12 INCH LIFTS OR COMPACTED WITH A HAND TAMPER IN MAXIMUM 4 INCH LIFTS. THE CITY SHALL REQUIRE A COMPACTION TEST FOR EACH LIFT IF THE TOTAL FILLED SECTION IS MORE THAN 12 INCHES DEEP OR IF THE SUBSURFACE HAS BEEN DISTURBED MORE THAN 12 INCHES DEEP. WHERE SUCH TEST IS REQUIRED, THE RESULTS SHALL SHOW A MINIMUM PROCTOR FIELD DENSITY OF 95 PERCENT.
9. ALL CONCRETE WORK IN THE RIGHT-OF-WAY SHALL BE INSPECTED BY THE CITY AFTER THE SUBSOIL IS PREPARED AND THE FORMS ARE SET, BUT BEFORE THE CONCRETE PLACEMENT BEGINS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE FINISHED SLAB FROM ALL DAMAGE AND VANDALISM UNTIL THE CITY ACCEPTS OR APPROVES THE SLAB, AFTER WHICH TIME THE OWNER OF THE ABUTTING LAND SHALL BE RESPONSIBLE FOR THE SLAB IN ACCORDANCE WITH THE CITY CODE. ANY SLAB SECTION DAMAGED OR VANDALIZED PRIOR TO ACCEPTANCE OR APPROVAL SHALL BE CUT OUT BETWEEN JOINTS AND REPLACED. REPAIRS ARE NOT ACCEPTABLE.
11. SIDEWALKS LOCATED WITHIN THE RIGHT-OF-WAY SHALL NOT BE TINTED, STAINED, COLORED, OR COATED.
12. ALL FORMS SHALL BE REMOVED PRIOR TO ACCEPTANCE OR APPROVAL AND THE DISTURBED GROUND SHALL BE BACKFILLED, REGRADED, AND SODDED SO THAT THE WEAR SURFACE OF THE CONCRETE IS REASONABLY FLUSH WITH THE ADJACENT GRADE.

STANDARD CONSTRUCTION DETAIL
SIDEWALK, RAMP, AND DRIVEWAY APRON CONSTRUCTION REQUIREMENTS
NTS

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MARCH 2014

DANIEL JOHNS LICENSE No 54807 STATE OF FLORIDA PROFESSIONAL ENGINEER

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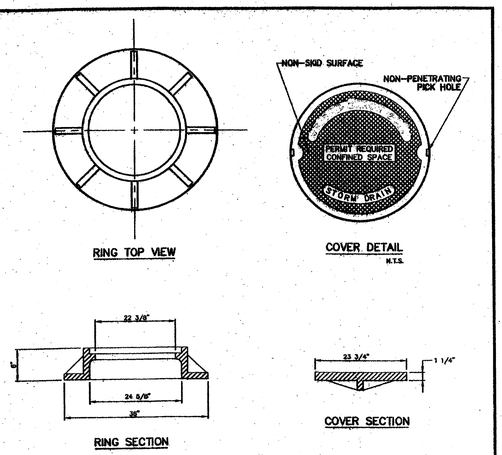
1. CONSTRUCTION STANDARDS FOR ALL DRAINAGE SYSTEM COMPONENTS SHALL CONFORM TO THE LATEST EDITION OF THE "FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND AS SPECIFIED HEREIN.
2. ALL STORM WATER PIPES AND STRUCTURES SHALL BE INSTALLED ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
3. DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW THE COMPONENT BEING INSTALLED.
4. ALL PIPES AND STRUCTURES SHALL BE PLACED TRUE TO LINES AND GRADES AS DEPICTED ON THE APPROVED PLANS.
5. ALL PIPE JOINTS SHALL BE PROPERLY HONED AND FILTER FABRIC LINED USING A METHOD TO HOLD THE FABRIC IN PLACE DURING BACKFILL.
6. BACKFILL AND COMPACT TO THE SPRING-LINE (CENTER OF PIPE) ELEVATION AND REQUEST CITY INSPECTION AND APPROVAL BEFORE CONTINUING.
7. ALL WORK COVERED WITHOUT CITY INSPECTION WILL BE REQUIRED TO BE EXCAVATED AND INSPECTED AT THE CONTRACTOR'S EXPENSE.
8. TRENCHES SHALL BE BACKFILLED AND COMPACTED WITH CLEAN GRANULAR MATERIAL IN MAX 6" LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180) IN PAVED AREAS AND 95 PERCENT (AASHTO-T180) IN UNPAVED AREAS.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS AT POINTS 1' ABOVE THE PIPE AND AT A MAX. 1' VERTICAL INTERVALS TO FINISH GRADE, AT A MAXIMUM SPACING OF 100 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY'S INSPECTOR.
10. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE (RCP), HIGH DENSITY POLYETHYLENE (HDPE), POLYVINYL CHLORIDE (PVC) OR ALUMINUM CORRUGATED METAL PIPE (ACMP), AS SHOWN ON THE PLANS.
11. STORM DRAINAGE PIPES WITHIN PUBLIC RIGHT-OF-WAY SHALL BE A MINIMUM OF FIFTEEN (15) INCH RCP DIAMETER OR EQUIVALENT.
12. STORM INLETS, MANHOLES, AND CATCH BASINS SHALL BE EITHER POURED IN PLACE OR PRECAST REINFORCED CONCRETE. STRUCTURES SHALL BE REQUIRED AT EACH CHANGE OF PIPE SIZE OR CHANGE IN PIPE DIRECTION.

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL STORM DRAINAGE CONSTRUCTION NOTES	INDEX ST-1A MARCH 2014

26. ADEQUATE MAINTENANCE ACCESS AS APPROVED BY THE CITY SHALL BE PROVIDED AROUND THE ENTIRE PERIMETER OF ALL PONDS AND ASSOCIATED OUTFALLS DISCHARGING INTO AND OUT OF PONDS.
27. IN GENERAL, ALL RETENTION/DETENTION PONDS MUST BE CONSTRUCTED PRIOR TO ANY ROAD, PARKING LOT, OR BUILDING CONSTRUCTION COMMENCING OR AS CURRENT PERMIT CONDITIONS DICTATE.
28. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ANY DEWATERING PERMITS THAT MAY BE REQUIRED.
29. CULVERTS CROSSING RIGHT-OF-WAYS SHALL EXTEND FROM RIGHT-OF-WAY LINE TO RIGHT-OF-WAY LINE UNDER THE ROADWAY.
30. ALL STORM WATER DISCHARGE FROM RETENTION/DETENTION PONDS ARE REQUIRED TO BE CHANNELED INTO DEFINED DRAINAGE PATHS TO EXISTING WATER BODIES, WETLANDS, DITCHES, ETC.
31. THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELEVISE ANY AND ALL STORM SEWER PIPE SYSTEMS IN THE PRESENCE OF THE CITY INSPECTOR BY A REPUTABLE COMPANY THAT ENGAGES IN THIS TYPE OF WORK. THE DVD SHALL BE IN HIGH QUALITY STANDARD RESOLUTION USING A CAMERA WITH SUITABLE LIGHTING TO ALLOW A CLEAR FOCUSED PICTURE OF THE ENTIRE INSIDE PIPE CIRCUMFERENCE. THE DVD SHALL BE NON-STOP WITH AUDIO DESCRIBING WHAT IS BEING VIEWED. COPIES OF DVD SHALL BE SUBMITTED IN DVD FORMAT ACCOMPANIED BY WRITTEN LOGS DESCRIBING THE CONDITION OF THE LINES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO REQUESTING FINAL INSPECTIONS. ANY DEFECTS NOTED SHALL BE CORRECTED PRIOR TO ACCEPTANCE BY THE CITY OR ISSUANCE OF CERTIFICATE OF OCCUPANCY.

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL STORM DRAINAGE CONSTRUCTION NOTES	INDEX ST-1C MARCH 2014



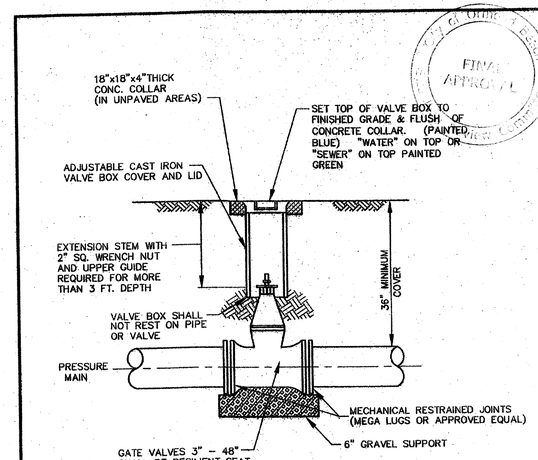
NOTE: YEAR STAMP TO MATCH CASTING YEAR

U. S. FOUNDRY 195E OR APPROVED EQUAL

COVER TYPE	LOAD RATING	COVER WEIGHT	TOTAL WEIGHT
E	HEAVY DUTY	130	325

FOR MANHOLES IN FL. D.O.T. R/W OR AS DETERMINED BY THE CITY. THE COVER TYPE SHALL BE – BJ HEAVY DUTY 200 LBS W/ ORS.

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL MANHOLE RING AND COVER DETAIL NTS.	INDEX ST-6 MARCH 2014



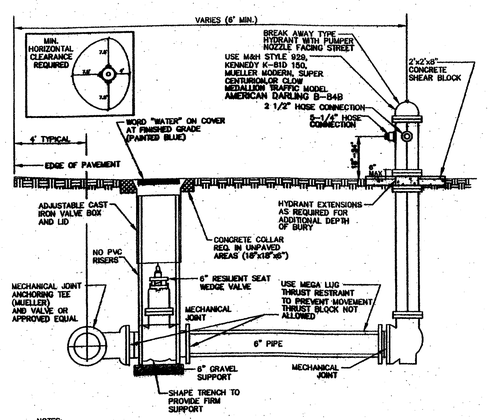
CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL GATE VALVE AND VALVE BOX NTS.	INDEX W-2 MARCH 2014

13. STORM INLETS SHALL BE SPACED IN SUCH A MANNER AS TO ACCEPT ONE HUNDRED (100) PERCENT OF THE DESIGN STORM RUNOFF.
14. WET DETENTION PONDS SHALL BE EIGHT (8) FEET MINIMUM TO TWELVE (12) FEET MAXIMUM DEPTH BELOW THE DESIGN LOW OR NORMAL WATER STAGE.
15. MAXIMUM DISTANCES BETWEEN INLETS AND/OR JUNCTION BOXES:

PIPES SIZE (INCHES)	LENGTH OF RUN (FEET)
15	150
18	300
24 OR GREATER	400

16. ALL SWALES, DITCHES, AND DRY RETENTION POND SIDE SLOPES SHALL BE NO STEEPER THAT 4:1 (H:V) AND SHALL BE SODDED.
17. ALL RETENTION POND BACKSLOPES SHALL BE NO STEEPER THAN 3:1 (H:V) AND SHALL BE SODDED.
18. NORMAL ROADSIDE SWALES SHALL BE CONSTRUCTED TO A MAXIMUM DEPTH OF 18" BELOW THE OUTSIDE EDGE OF PAVEMENT OR CONCRETE CURB.
19. CONCRETE EROSION CONTROL MUST BE PROVIDED WHERE SWALES OR CULVERTS INTERCEPT DRAINAGE DITCHES.
20. A MINIMUM ONE FOOT (1') FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND WET RETENTION PONDS.
21. A MINIMUM SIX INCH (6") FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND DRY RETENTION PONDS.
22. POND INFLOW SHALL GENERALLY BE CONSTRUCTED WITH REINFORCED CONCRETE AND SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
23. OUTLET STRUCTURES ARE REQUIRED ON ALL PONDS. ALL OUTLET STRUCTURES SHALL BE PERMANENT CONCRETE OVERFLOW WEIRS OR CONCRETE OUTLET CONTROL STRUCTURES. NO SODDED WEIRS OR OTHER NON-PERMANENT OVERFLOW STRUCTURES SHALL BE ALLOWED.
24. SOIL EROSION CONTROL MEASURES SATISFACTORY TO THE CITY, SHALL BE EMPLOYED DURING CONSTRUCTION AND UPON COMPLETION OF THE POND.
25. THE CITY MAY REQUEST THAT THE DEVELOPER SUBMIT A REPORT BY A QUALIFIED HYDROLOGIST ON THE IMPACT THE POND WILL HAVE ON NEIGHBORING WATER TABLE ELEVATIONS BOTH DURING CONSTRUCTION AND AFTER POND COMPLETION. THE CITY MAY REQUIRE GROUNDWATER MONITORING DURING THE POND EXCAVATION.

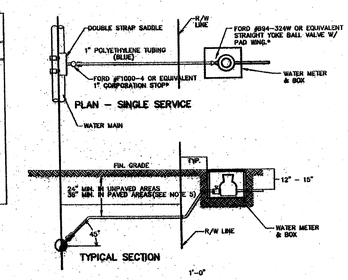
CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL STORM DRAINAGE CONSTRUCTION NOTES	INDEX ST-1B MARCH 2014



NOTES:
1. ALL JOINTS SHALL BE RESTRAINED
2. HYDRANTS TO BE PAINTED SAFETY YELLOW (PUBLIC) OR RED (PRIVATE).
3. HYDRANT BONNET AND CAP TO BE PAINTED ACCORDING TO THE FOLLOWING SCHEME:
   CLASS AA – 1500 GPM AND GREATER – LIGHT BLUE
   CLASS A – 1000 GPM TO 1499 GPM – GREEN
   CLASS B – 500 GPM TO 999 GPM – ORANGE
   CLASS C – LESS THAN 500 GPM – RED
4. HYDRANTS INSTALLED ON THE PENINSULA SHALL BE PAINTED WITH A CATALYZED TWO PART PRIMER (DURAPLATE #235) OR EPOXY BATH SOLUTION, ELECTROSTATICALLY CHARGED AND A CATALYZED URETHANE TOP COAT (ACHOLON 218), OR TWO COMPONENT POLYURETHANE PAINT.
5. HOSE CONNECTIONS TO BE AMERICAN STANDARD THREADS.
6. THE HYDRANT SHOE WILL BE COATED INSIDE WITH FUSION BONDED EPOXY. 6 MIL MINIMUM
7. ADJUSTMENTS OR REPAIRS TO THE HYDRANT AFTER INSTALLATION SHALL BE DONE BY AN UNDERGROUND UTILITY CONTRACTOR OR THE CITY AND ALL COST SHALL BE CHARGED TO THE DEVELOPER. PAVEMENT SHALL BE MADE PRIOR TO CERTIFICATE OF OCCUPANCY OF PROPERTY.
8. RESTRAINED JOINTS REQUIRED. THRUST BLOCKS NOT PERMITTED.
9. BOLTS SHALL BE 316 STAINLESS STEEL.
10. INSTALL BLUE REFLECTIVE MARKER IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL FIRE HYDRANT ASSEMBLY NTS	INDEX W-8 MARCH 2014

VALVE SCHEDULE FORD OR EQUIVALENT	
WATER SERVICES	
VALVES AT MAIN	
1"	F1000-4
1 1/2" (REQ. C84-66 PACK JOINT COUPLING)	B81-666
2" (REQ. C84-77 PACK JOINT COUPLING)	B81-777
VALVES AT METER	
1" 1 1/2"-2"	B94-324W BF43-777W



NOTES:
1. HDPE SHALL BE 200 PSI, NSF APPROVED, SDR 9, MEETING ASTM D1248. TUBING SHALL BE ENDOT ENDOTRACE (OR APPROVED EQUAL).
2. REDUCED PRESSURE BACKFLOW PREVENTERS ARE REQUIRED FOR ALL COMMERCIAL SERVICES. TO BE INSTALLED BY A CERTIFIED TECHNICIAN AT OWNERS EXPENSE
3. ALL SERVICE TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVAL OR WITHIN 2'-0" OF BELL OR SPIGOT ENDS.
4. METERS 3" AND LARGER SHALL BE PLACED IN A VAULT TO BE CONSTRUCTED BY DEVELOPER IN ACCORDANCE WITH ARTICLE 4.04B4 LDC.
5. IN AREAS TO BE PAVED PROVIDE A 2" MIN. PVC SCHEDULE 40 SLEEVE FOR PE-TUBING. SLEEVE SHALL EXTEND A MIN. OF 2' BEHIND BACK OF CURB AT EACH SIDE OF ROAD.
6. ALL IRRIGATION SERVICES (WATER) MUST HAVE AN APPROVED BACKFLOW PREVENTION DEVICE INSTALLED ON CUSTOMERS SIDE OF WATER METER. THE CUSTOMER IS RESPONSIBLE FOR INSTALLATION AND CERTIFICATION COST. A COPY OF THE CERTIFICATION MUST BE SENT TO THE CITY OF ORMOND BEACH ENGINEERING DEPARTMENT, PRIOR TO FINAL INSPECTION
7. WATER METERS INSTALLED IN AREAS SERVED BY RECLAIMED WATER OR AN ALTERNATE IRRIGATION SUPPLY SHALL BE EQUIPPED WITH DUAL CHECK BACKFLOW PREVENTERS.
7. WATER METERS SHALL BE RADIO READ.

CITY OF ORMOND BEACH FLORIDA	STANDARD CONSTRUCTION DETAIL WATER LATERAL SERVICE 5/8", 3/4", 1", 1-1/2", 2" METERS NTS	INDEX W-3 MARCH 2014

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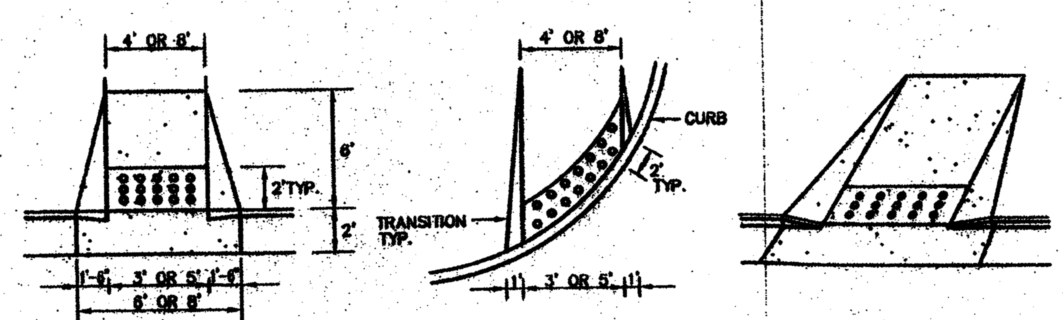
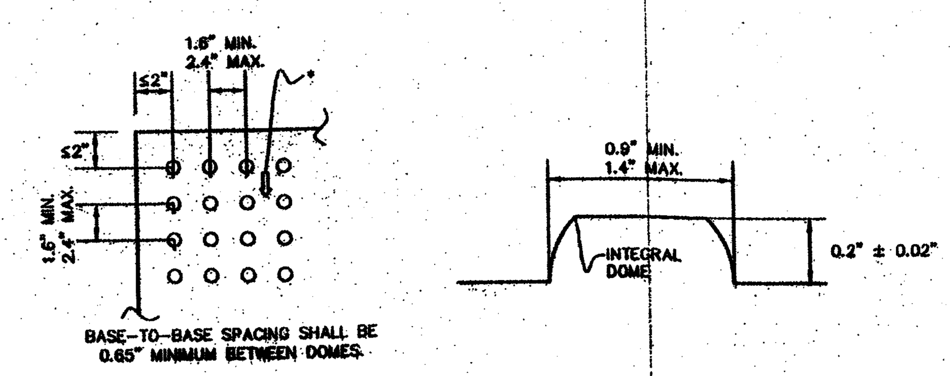


NOTES:

1. RAMP LOCATIONS ARE TO BE COORDINATED WITH AND IN CONFORMANCE WITH CROSSWALK MARKING DETAILS SHOWN IN THE PLANS.
2. CURBED RAMPS SHALL HAVE FLARED SIDES WITH A MAXIMUM SLOPE OF 12:1.
3. RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE AS SHOWN.
4. RAMPS ARE TO BE CONSTRUCTED AT ALL LOCATIONS SHOWN IN THE PLANS EVEN WHEN A SIDEWALK IS NOT CONSTRUCTED CONCURRENTLY.
5 NO CURB TRANSITION IS NEEDED FOR MIAMI CURBS.
6. ALL RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX NO. 304 AND HANDICAPPED ACCESSIBILITY REQUIREMENTS IN ACCORDANCE WITH THE AMERICAN DISABILITIES ACT.



BASE–TO–BASE SPACING SHALL BE 0.65" MINIMUM BETWEEN DOMES.

NOTES:

* ON RAMPS THAT ARE PERPENDICULAR WITH THE CURB LINE, THE DOME PATTERN SHALL BE IN-LINE WITH THE DIRECTION OF TRAVEL. ON RAMPS INTERSECTING CURBS ON A RADIUS, THE DOME PATTERN SHALL BE IN-LINE WITH THE DIRECTION OF TRAVEL TO THE EXTENT PRACTICAL.

STANDARD CONSTRUCTION DETAIL
SIDEWALK AND BIKE PATH RAMP
NTS

INDEX M–4
MARCH 2014

TABLE APPLIES TO PVC PIPE FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 2.5 FEET
SAFETY FACTOR: 1.5
TRENCH TYPE: 3

SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)

FITTING / PIPE SIZE (IN.) :	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
4"	20	18	18	18	45
6"	28	18	18	18	63
8"	36	18	18	18	82
10"	44	28	18	18	98
12"	51	21	18	18	116
14"	57	24	18	18	132
16"	63	26	18	18	148
18"	69	29	18	18	163
20"	75	31	18	18	179
24"	87	36	18	18	208
30"	102	42	20	18	248

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.

TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

TABLE APPLIES TO D.I.P. FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 2.5 FEET
SAFETY FACTOR: 1.5
TRENCH TYPE: 2

SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)

FITTING / PIPE SIZE (IN.) :	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (55)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (63)	22 (26)	18 (18)	18 (18)	94 (141)
14"	60 (72)	25 (30)	18 (18)	18 (18)	107 (160)
16"	66 (80)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (87)	31 (36)	18 (18)	18 (18)	132 (198)
20"	80 (94)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	38 (45)	18 (22)	18 (18)	167 (250)
30"	106 (128)	44 (53)	21 (25)	18 (18)	199 (298)
36" *	69 (82)	28 (34)	18 (18)	18 (18)	170 (204)
42" *	76 (92)	31 (37)	18 (18)	18 (18)	191 (229)
48" *	90 (106)	40 (46)	18 (18)	18 (18)	212 (254)

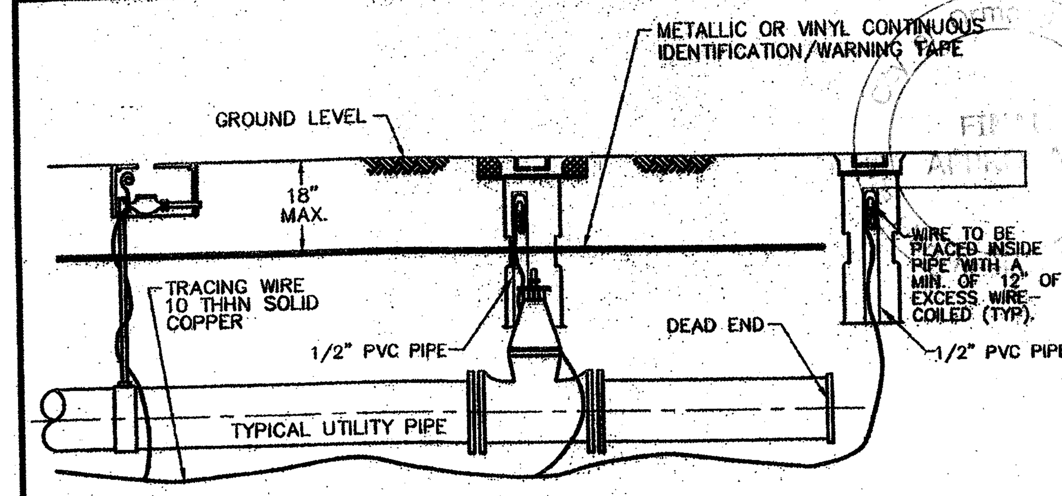
LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.

TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

VALUES IN PARENTHESIS ARE FOR PIPE ENCASED IN POLYETHYLENE.

STANDARD CONSTRUCTION DETAIL
PVC AND D.I.P. RESTRAINED JOINT TABLE

INDEX W–5
MARCH 2014



ALL PVC PIPE, OR OTHER CITY APPROVED NONMETALLIC PIPE INSTALLED WITHIN THE CITY'S WATER, SANITARY SEWER, OR RECLAIMED WATER SYSTEMS, SHALL BE INSTALLED WITH 10 THHN SOLID COPPER TRACING WIRE. IF PIPE IS INSTALLED BY DIRECTIONAL BORE, USE (2) 10 THHN SOLID COPPER TRACING WIRE.

THE TRACING WIRE MUST BE INSTALLED DIRECTLY BELOW THE PIPE AND BROUGHT TO THE SURFACE AT 500' MINIMUM INTERVALS. WIRE SHALL EXTEND A MINIMUM OF 12" ABOVE GRADE AT EACH INTERVAL AND BE COILED AND PLACED IN A VALVE BOX, METER BOX, MANHOLE, CLEANOUT OR OTHER APPLICABLE STRUCTURE.

TRACING WIRE BETWEEN INTERVALS SHALL BE INSTALLED SO AS TO PROVIDE CONTINUOUS CURRENT WHEN LINE LOCATION EQUIPMENT IS CONNECTED TO THE TRACING WIRE. WIRE BRANCHING FROM MAIN LINES SHALL BE LINKED BY A CITY APPROVED CONNECTOR SUCH AS KING # 2011 SAFETY SEALED CONNECTORS OR APPROVED EQUAL.

COLOR CODING:

POTABLE WATER SYSTEM:	BLUE
RECLAIMED WATER SYSTEM:	LAVENDER
SANITARY SEWER FORCE MAIN SYSTEM:	GREEN

1. POTABLE WATER AND RECLAIMED WATER SYSTEMS: WIRE SHALL BE INSTALLED BELOW ALL MAINS AND SERVICE LINES AND ATTACHED TO VALVES, HYDRANTS AND FITTINGS. WIRE INSTALLED WITH SERVICE LINES SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE CURB STOP.
2. FIRE SPRINKLER LINES: WIRE SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE RISER CONNECTION.
3. SANITARY SEWER FORCE MAINS: WIRE SHALL BE INSTALLED BELOW THE FORCE MAIN AND ATTACHED TO ALL VALVES AND FITTINGS AND BROUGHT TO THE SURFACE AND PLACED IN A METAL, CITY APPROVED, VALVE BOX.
4. DEAD END MAINS: WIRE SHALL BE PLACED IN A PROPERLY IDENTIFIED METAL VALVE BOX AT THE END OF THE RUN.
5. WIRE SHALL NOT BE FASTENED OR COILED TO VALVE OPERATING NUT.

STANDARD CONSTRUCTION DETAIL
UTILITY PIPE LOCATION MATERIALS
NTS

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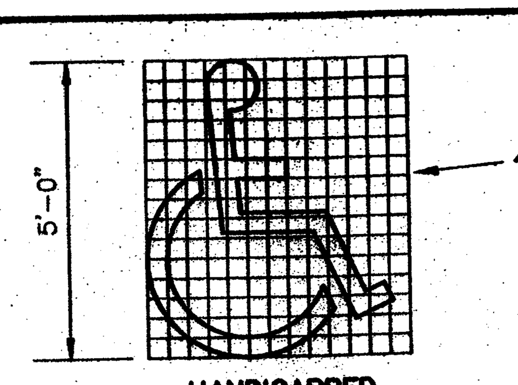
MARCH 2014



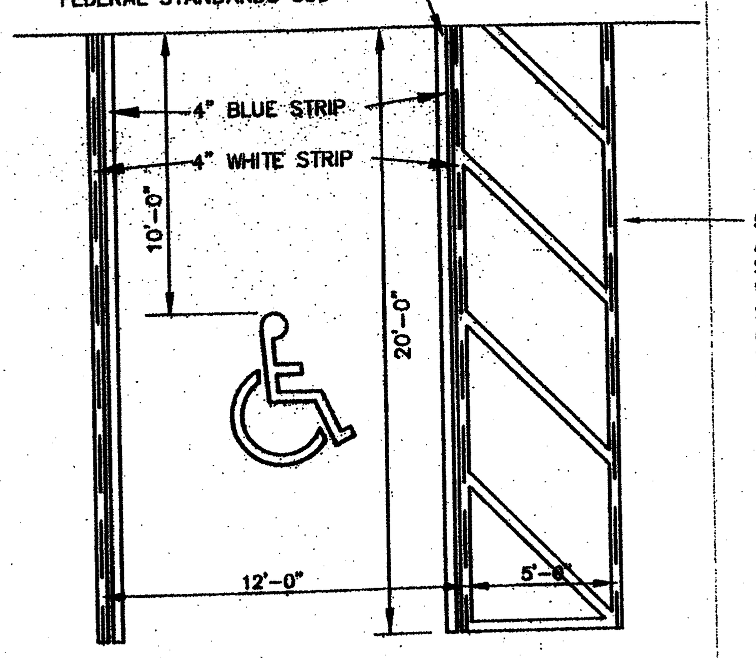
HANDICAPPED PAVEMENT SYMBOL

USE OF PAVEMENT SYMBOL IN HANDICAPPED PARKING SPACES IS REQUIRED. WHEN USED THE SYMBOL SHALL BE 5 FT. HIGH AND WHITE IN COLOR. TO BE INSTALLED IN ACCORDANCE WITH FDOT STANDARD INDEX #17346

NOTES:

1. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2.0% IN ALL DIRECTIONS.
2. IF ACCESSIBLE AISLE CROSSES THE TOP OF THE HANDICAP SPACE, WHEEL STOP SHALL BE USED TO MAINTAIN MINIMUM 44 INCH CLEAR ACCESSIBLE ROUTE.
3. IF WHEEL STOP IS USED, PARKING SHALL HAVE 18' CLEAR SPACE.
4. ACCESSIBLE PARKING SIGN SHALL BE PLACED AS TO NOT ENCROACH INTO THE ACCESSIBLE AISLE MINIMUM 44 INCH CLEAR ACCESSIBLE ROUTE.
5. NUMBER OF ACCESSIBLE PARKING SPACES SHALL MEET REQUIREMENT OF THE LATEST ISSUE OF THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION

BLUE STRIP IS TO BE TINTED TO MATCH SHADE 15180 OF FEDERAL STANDARDS 595



5 FT WIDE ACCESS AISLES ARE DIAGONALLY STRIPED AT 45 DEGREES WITH 4" WIDE SOLID WHITE STRIPING AT 4 FT. ON CENTERS AND OUTLINED ON THREE SIDES WITH 4" WIDE SOLID WHITE STRIPING.

STANDARD CONSTRUCTION DETAIL
TYPICAL MARKINGS FOR HANDICAPPED PARKING
NTS

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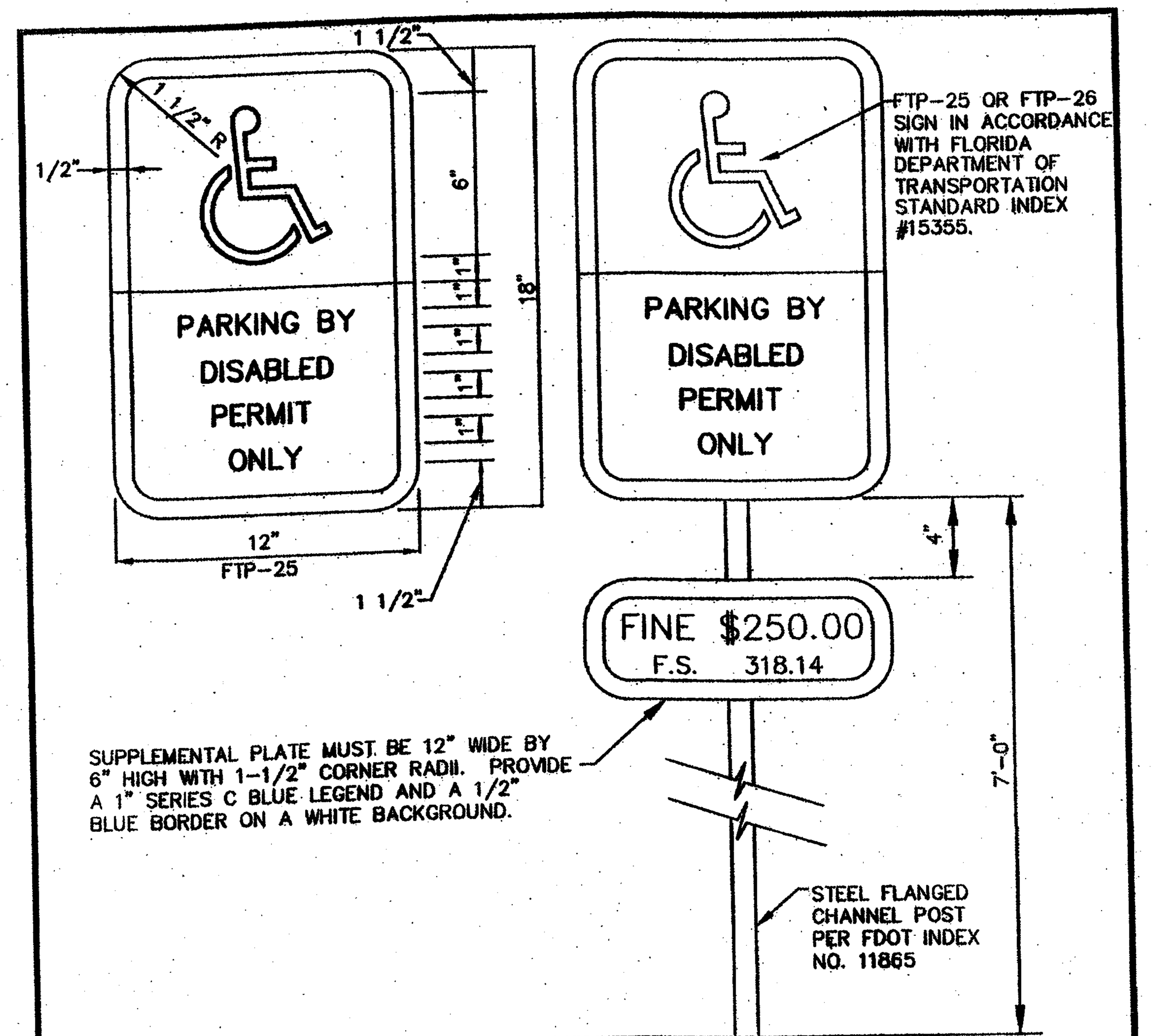


SUPPLEMENTAL PLATE MUST BE 12" WIDE BY 6" HIGH WITH 1–1/2" CORNER RADII. PROVIDE A 1" SERIES C BLUE LEGEND AND A 1/2" BLUE BORDER ON A WHITE BACKGROUND.

1.) TOP PORTION OF SIGN TO HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER.
2.) BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
3.) SIGN MAY BE FABRICATED ON ONE PANEL OR TWO.
4.) SIGNS ARE TO BE MOUNTED AT STANDARD HEIGHT. (7' FROM PAVEMENT TO BOTTOM OF SIGN.)

STANDARD CONSTRUCTION DETAIL
HANDICAP PARKING SIGN DETAIL
NTS

INDEX M–12B
MARCH 2014

ES BMP 1.01

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

DEFINITION

A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE.

PURPOSE

TO REDUCE THE AMOUNT OF SEDIMENT TRANSPORTED ONTO PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.

CONDITIONS WHERE PRACTICE APPLIES

WHEREVER TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND MOVES DIRECTLY ONTO A PUBLIC ROAD OR OTHER PAVED AREA.

PLANNING CONSIDERATIONS

CONSTRUCTION ENTRANCES PROVIDE AN AREA WHERE MUD CAN BE REMOVED FROM CONSTRUCTION VEHICLE TIRES BEFORE THE ENTER A PUBLIC ROAD. IF THE ACTION OF THE VEHICLE TRAVELING OVER THE GRAVEL PAD IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF THE MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLE ENTERS A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF-SITE. CONSTRUCTION ENTRANCES SHOULD BE USED IN CONJUNCTION WITH THE STABILIZATION OF CONSTRUCTION ROADS TO REDUCE THE AMOUNT OF MUD PICKED UP BY CONSTRUCTION VEHICLES.

DESIGN CRITERIA

AGGREGATE SIZE

FDOT AGGREGATE NO. 1 (1.5 – 3.5 INCH STONE) SHOULD BE USED.

ENTRANCE DIMENSIONS

AGGREGATE LAYER MUST BE AT LEAST 6 INCHES THICK. IT MUST EXTEND THE FULL WIDTH OF THE VEHICULAR INGRESS AND EGRESS AREA. THE LENGTH OF THE ENTRANCE MUST BE AT LEAST 50 FEET. (SEE DETAIL).

WASHING

IF CONDITIONS OF THE SITE ARE SUCH THAT THE MAJORITY OF THE MUD IS NOT REMOVED BY THE VEHICLES TRAVELING OVER THE GRAVEL, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING A PUBLIC ROAD. WASH WATER MUST BE CARRIED AWAY FROM THE ENTRANCE TO A SETTLING AREA TO REMOVE SEDIMENT. A WASH RACK MAY ALSO BE USED TO MAKE WASHING MORE CONVENIENT AND EFFECTIVE. SEE DETAIL.

LOCATION

THE ENTRANCE SHOULD BE LOCATED TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES.

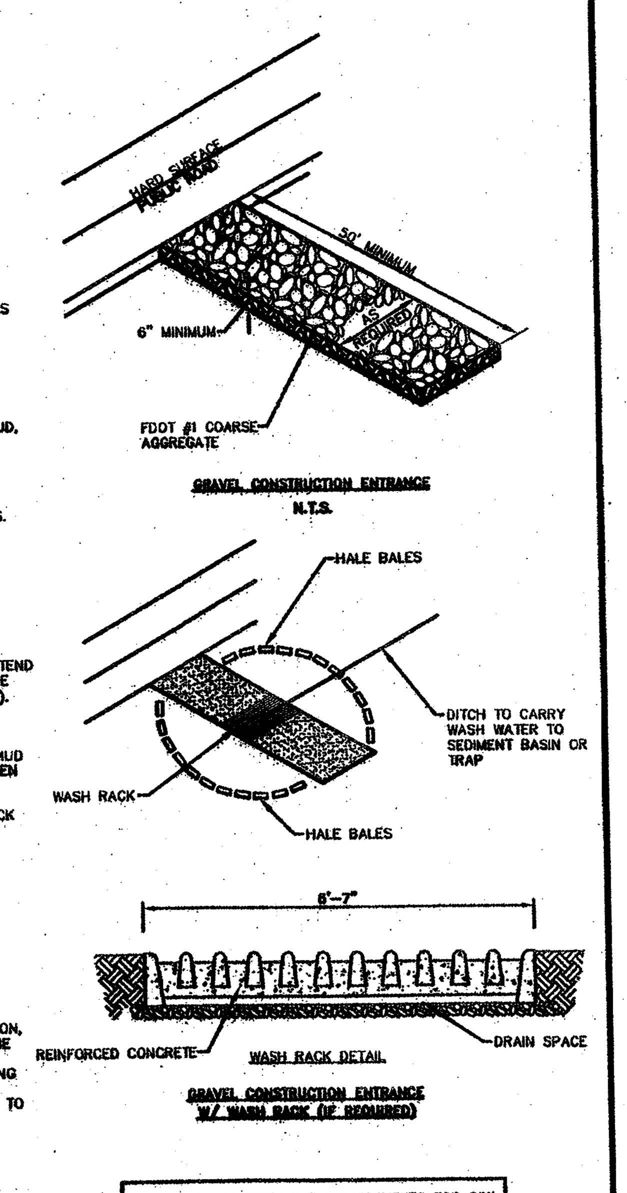
INDICATE PROPOSED LOCATION OF GRAVEL CONSTRUCTION ENTRANCE ON THE GRADING PLAN.

CONSTRUCTION SPECIFICATIONS

THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL. THE GRAVEL SHALL BE PLACED TO THE SPECIFIED DIMENSIONS. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS. IF WASH RACKS ARE USED, THEY SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS. IF WASH RACKS ARE TO MANUFACTURER'S SPECIFICATIONS.

MAINTENANCE

THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE, AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.



NOTE: COMPLY WITH FDOT REQUIREMENTS FOR SOIL TRACKING PREVENTION DEVICE IN FDOT ROADWAY ROW (INDEX NO. 106)

STANDARD CONSTRUCTION DETAIL
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
NTS

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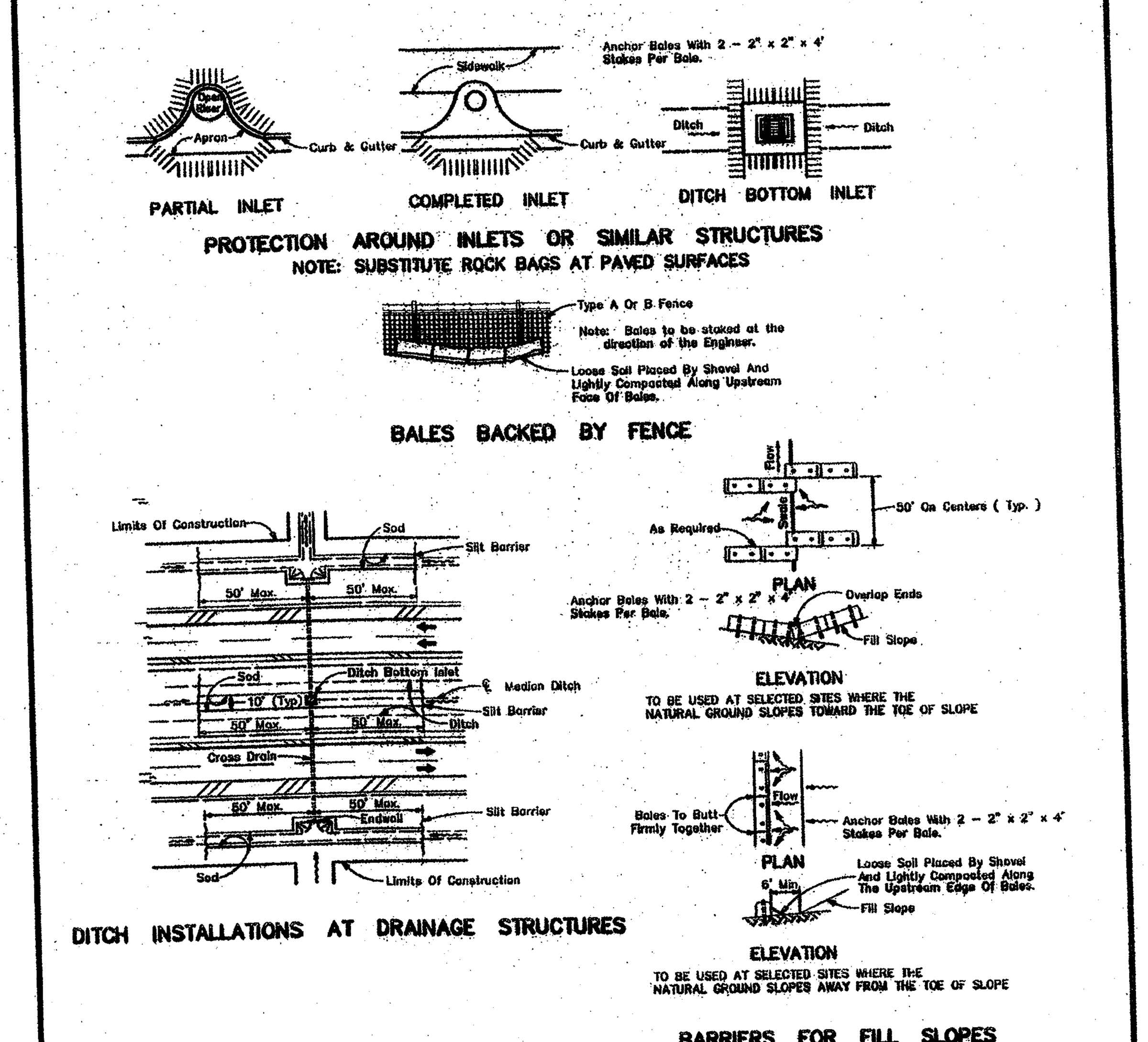
MARCH 2014



STANDARD CONSTRUCTION DETAIL
EROSION CONTROL – SYNTHETIC BALES
NT

INDEX M–14A
MARCH 2014

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Professional Engineers
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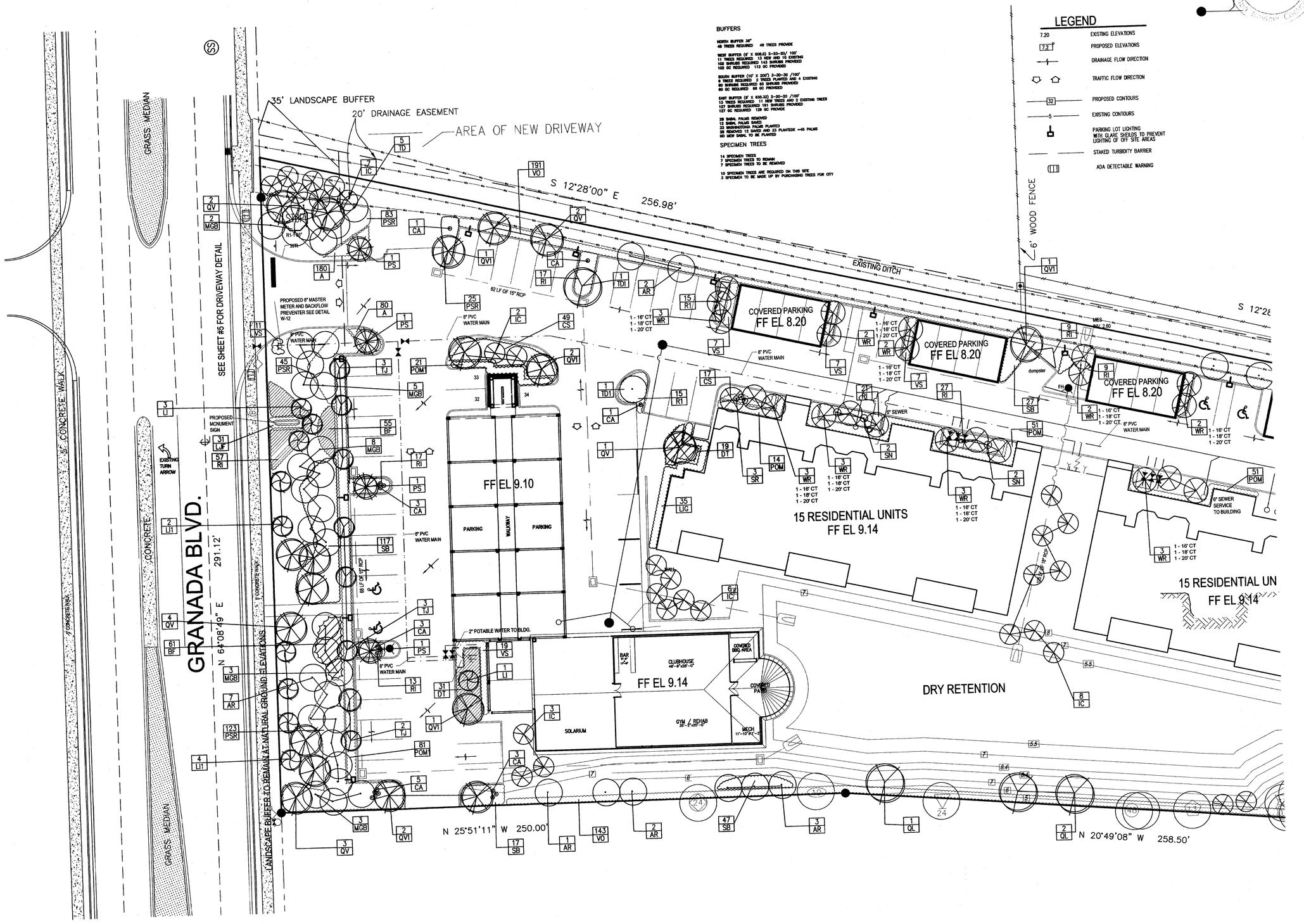
phone 386–756–8582 e–mail danjohns@djengineers.com



BUFFERS

NORTH BUFFER 36'
48 TREES REQUIRED 48 TREES PROVIDE

WEST BUFFER (6' X 808.5) 2-20-30/ 100'
11 TREES REQUIRED 13 NEW AND 10 EXISTING
102 SHRUBS REQUIRED 142 SHRUBS PROVIDED
102 OC REQUIRED 112 OC PROVIDED

SOUTH BUFFER (10' X 200') 3-20-30 /100'
8 TREES REQUIRED 3 TREES PLANTED AND 4 EXISTING
80 SHRUBS REQUIRED 65 SHRUBS PROVIDED
80 OC REQUIRED 66 OC PROVIDED

EAST BUFFER (6' X 835.32) 2-20-30 /100'
13 TREES REQUIRED 11 NEW TREES AND 2 EXISTING TREES
127 SHRUBS REQUIRED 191 SHRUBS PROVIDED
127 OC REQUIRED 129 OC PROVIDE

28 SABAL PALMS REMOVED
12 SABAL PALMS SAVED
30 WASHINGTONIA PALMS PLANTED
28 REMOVED 12 SAVED AND 33 PLANTEDE =45 PALMS
10 NEW SABAL TO BE PLANTED

SPECIMEN TREES

14 SPECIMEN TREES
7 SPECIMEN TREES TO REMAIN
7 SPECIMEN TREES TO BE REMOVED

10 SPECIMEN TREES ARE REQUIRED ON THIS SITE
3 SPECIMEN TO BE MADE UP BY PURCHASING TREES FOR CITY

LEGEND

7.20	EXISTING ELEVATIONS
7.2	PROPOSED ELEVATIONS
	DRAINAGE FLOW DIRECTION
	TRAFFIC FLOW DIRECTION
32	PROPOSED CONTOURS
5	EXISTING CONTOURS
	PARKING LOT LIGHTING WITH GLARE SHIELDS TO PREVENT LIGHTING OF OFF SITE AREAS
	STAKED TURBIDITY BARRIER
	ADA DETECTABLE WARNING

City of Ormond Beach
FINAL APPROVAL
Development Services Department

RICHARD L. POORE, LA
PLANNER & LANDSCAPE ARCHITECT
130 GATEWOOD COURT - ORMOND BEACH, FLORIDA 32174
(386)677-7510 - CELL (386)255-0401 - RLP@BRIGHT
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REVISIONS

MARK	DATE	DESCRIPTION

LANDSCAPING PLAN

PROJECT TITLE:

REGISTERED LANDSCAPE ARCHITECT
RICHARD L. POORE
12/22/2014
LA533
STATE OF FLORIDA
RICHARD L. POORE
SEAL

DRAWN BY: RL POORE	
CHECKED: RP	
DATE: 11/15/2014	
SCALE: 1"=20'	
JOB NO: 2014-1115	
DRAWING NUMBER: L - 1 OF 4	

13 of 31

LEGEND

7.20	EXISTING ELEVATIONS
7.2	PROPOSED ELEVATIONS
	DRAINAGE FLOW DIRECTION
	TRAFFIC FLOW DIRECTION
32	PROPOSED CONTOURS
5	EXISTING CONTOURS
	PARKING LOT LIGHTING WITH GLARE SHIELDS TO PREVENT LIGHTING OF OFF SITE AREAS
	STAKED TURBIDITY BARRIER
	ADA DETECTABLE WARNING

NOTE: AREA FROM PROPERTY LINE TO EDGE OF ROADWAY TO BE SODDED WITH BAHIA

NOTE: ALL A/C UNITS & BACKFLOW PREVENTERS ARE TO BE SCREENED WITH PLANT MATERIAL

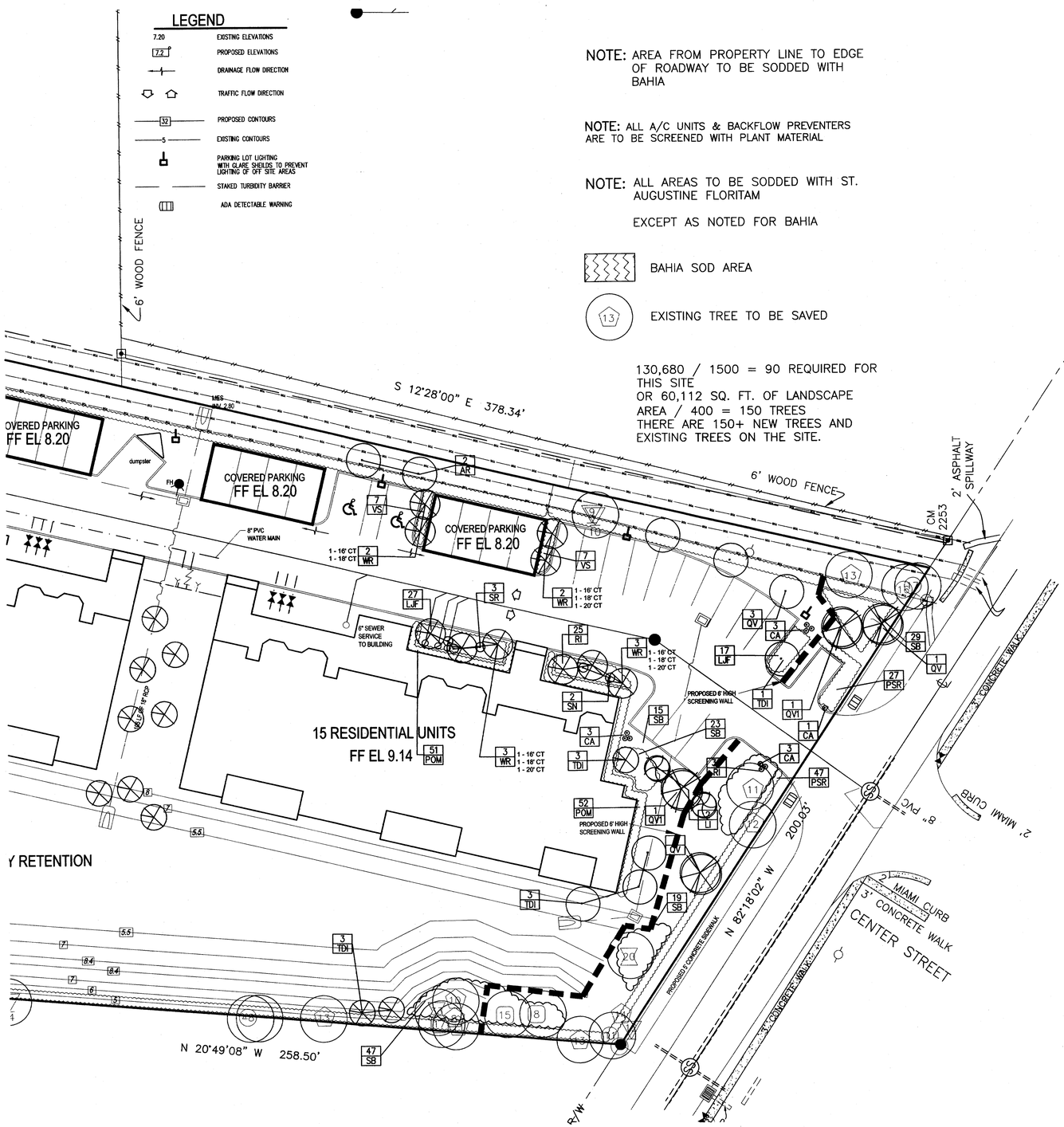
NOTE: ALL AREAS TO BE SODDED WITH ST. AUGUSTINE FLORITAM

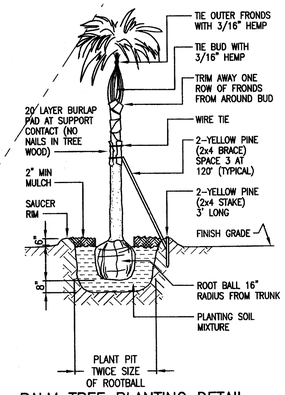
EXCEPT AS NOTED FOR BAHIA

BAHIA SOD AREA

EXISTING TREE TO BE SAVED

130,680 / 1500 = 90 REQUIRED FOR THIS SITE
OR 60,112 SQ. FT. OF LANDSCAPE AREA / 400 = 150 TREES
THERE ARE 150+ NEW TREES AND EXISTING TREES ON THE SITE.





PALM TREE PLANTING DETAIL

NOT TO SCALE

NOTE: ALL SOD IS TO BE ST. AUGUSTINE SOD.

PLANTING SCHEDULE

QUANTITY	CODE	BOTANICAL NAME	COMMON NAME	SPECIFICATIONS	XERIC
260	A	ANNUALS	ANNUALS (PLAN)	1 GAL., FULL	NO
18	AR	ACER RUBRUM	RED MAPLE	12 -14' HGT., FULL 2.5" CAL.	YES
116	BF	BULBINE FRUTESCENS	BULBINE	1 GAL., 12" HGT., FULL	NO
66	CS	CAMELLIA SASANQUA	SASANQUA	3 GAL., 20" HGT, FULL, 36" O.C.	NO
27	CA	CRINUM SSP.	CRINUM LILY	7 GAL., 30" HGT., FULL	YES
50	DT	DANELLA TASMANICA	FLAX LILLY	1 GAL., 14" HGT., 36" O.C.	NO
27	IC	ILEX CASSINE	DAHOON HOLLY	10' - 12' HGT., FULL, 2.5" CAL.	YES
3	LI	LAGERSTROEMIA INDICA	CRAPE MYRTLE (PURPLE) SSP	10'-12' HGT., FULL, 2.5" CAL.	YES
7	LI1	LAGERSTROEMIA INDICA	CRAPE MYRTLE (PURPLE) STD.	10'-12' HGT., FULL, 2.5" CAL.	YES
44	LIG	LIGUSTRUM JAPONICUM	GREEN LIGUSTRUM TREE	10' HGT., 8" SPR., 2.5" CAL.	YES
75	LJF	LIGUSTRUM SSP.	JACK FROST LIGUSTRUM	3 GAL., 18" HGT., 36" O.C.	NO
21	MGB	MAGNOLIA GRANDIFLORA	D.D. BLANCHARD	12-14' HGT., FULL, 2.5" CAL.	-
219	POM	PODOCARPUS MACROPHYLLUS	YEW PODOCARPUS	3 GAL., 20" HGT., 30" O.C.	YES
102	POM1	PODOCARPUS MACROPHYLLUS	YEW PODOCARPUS	3 GAL., 20" HGT., 30" O.C.	YES
4	PS	PHOENIX SYLVESTRIS	WILD DATE PALM	14'C.T., FULL	YES
305	PSR	PENNISETUMSETACEUM RUBRUM	RED FOUNTAIN GRASS	3 GAL., 24" HGT., FULL, 3' O.C.	YES
3	QL	QUERCUS LAURIFOLIA	LAUREL OAK	10 -12' HGT.,FULL, 2.5" CAL.	YES
16	QV	QUERCUS VIRGINIANA	LIVE OAK	12' - 14' HGT., FULL, 3.5" CAL.	YES
9	QV1	QUERCUS VIRGINIANA	LIVE OAK	12' - 14' HGT., FULL, 3.5" CAL.	YES
256	RI	RAPHIOLEPIS INDICA	INDIAN HAWTHORNE	3 GAL., 16" HGT., FULL	YES
341	SB	SPARTINA BAKERI	SAND CORDGRASS	3 GAL., 18" HGT., 36" O.C.	YES
6	SN	STRELITZIA NICOLAI	GIANT WHITE BIRD OF PARADISE	10 GAL., 5' HGT., FULL	YES
6	SR	STRELITZIA REGINAE	BIRD OF PARADISE	10 GAL., 48" HGT., FULL	YES
11	TD1	TAXODIUM DISTICHUM	BALD CYPRESS	12' - 14' HGT., FULL, 3.5" CAL.	YES
8	TJ	JUNIPERUS CHINENSIS 'TORULOSA'	TWISTED JUNIPER	10 GAL., 8-9' HGT., FULL	YES
334	VO	VIBURNUM ODERATISSIMUM	SWEET VIBURNUM	3 GAL., 20" HGT., 3' O.C.	YES
72	VS	VIBURNUM SUSPENSUM	SANDANKWA	3 GAL., 20" HGT., 3' O.C.	YES
33	WR	WASHINGTONIA ROBUSTA	WASHINGTONIA PALM	SEE PLAN	YES

NOTE:

1. ALL TREES (NEW AND EXISTING) ARE TO HAVE A 3' DIAMETER MULCHED CIRCLE AROUND THE BASE UNLESS IT IS IN A PLANTING BED.
2. 62% OF THE LANDSCAPE MATERIAL IS XERIC.

LANDSCAPE NOTES:

1. ALL PLANT MATERIAL SHALL CONFORM TO THE STANDARDS FOR FLORIDA #1 OR BETTER AS DESCRIBED IN THE CURRENT "GRADES AND STANDARDS FOR NURSERY PLANTS", STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE, TALLAHASSEE, OR THEIR EQUAL AS DETERMINED BY THE LANDSCAPE ARCHITECT.
2. MULCH SHALL BE 100% SHREDDED HARDWOOD , GRADE "A", INSTALLED A MINIMUM OF 3" THICK IN ALL PLANTING AREAS.
3. SOD IS TO BE 95% WEED-FREE ST. AUGUSTINE "FLORITAM", INSTALLED WITH TIGHT JOINTS, ROLLED AND FERTILIZED
4. ALL DIMENSIONS SHALL BE FIELD-CHECKED BY THE LANDSCAPE CONTRACTOR PRIOR TO CONSTRUCTION, WITH ANY DISCREPANCIES REPORTED IMMEDIATELY TO THE LANDSCAPE ARCHITECT.
5. THE PLANT MATERIALS SCHEDULE IS PROVIDED FOR THE CONVENIENCE OF THE LANDSCAPE CONTRACTOR; SHOULD THERE BE ANY DISCREPANCY BETWEEN THE PLAN AND THE PLANT LIST, THE PLAN WILL PREVAIL.
6. ALL MATERIALS MUST BE AS SPECIFIED ON THE LANDSCAPE PLAN. IF MATERIALS OR LABOR DO NOT ADHERE TO THE SPECIFICATIONS, THEY WILL BE REJECTED AT NO ADDITIONAL COST TO THE OWNER.
7. ALL PLANTING BEDS SHALL BE TREATED WITH 'ROUND-UP' AND 'RONSTAR'. USE AS DIRECTED BY MANUFACTURERS.
8. NO SUBSTITUTIONS OR CHANGES OF ANY KIND WILL BE ALLOWED AT THE TIME OF BIDDING SO AS TO PROVIDE FOR FAIR COMPARISON.
9. 100% AUTOMATIC IRRIGATION SYSTEM SHALL BE INSTALLED ACCORDING TO THE IRRIGATION PLAN AND SPECIFICATIONS.
10. THE CONTRACTOR SHALL VERIFY EXISTENCE AND LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND CONDITIONS PRIOR TO HIS COMMENCEMENT OF THE ANY WORK.
11. ALL BUILDING MATERIALS AND LABOR SHALL CONFORM TO THE SOUTHERN BUILDING CODE AND ALSO TO ALL LOCAL CODES THAT HAVE JURISDICTION.
12. ALL PERMIT AND VARIANCE APPLICATIONS SHALL BE MADE BY THE CONTRACTOR.
13. PRIOR TO CONSTRUCTION OF PLANTING BEDS, ALL AREAS ARE TO HAVE SOIL TESTS CONDUCTED TO DETERMINE pH AND SOIL FERTILITY. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO AMEND THE SOIL TO MEET ADEQUATE FERTILITY AND pH FOR CORRESPONDING PLANT MATERIAL. ALL TEST RESULTS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT.
14. PRIOR TO THE LAND CLEARING STAGE, THE CONTRACTOR SHALL CLEARLY MARK ANY TREE OR TREE GROUPS TO BE MAINTAINED IN THE PROXIMITY OF ANY AREA WHERE LAND CLEARING EQUIPMENT IS TO BE OPERATED. THE MARKINGS SHALL REMAIN IN PLACE DURING CONSTRUCTION. SAID EQUIPMENT SHALL BE OPERATED IN A MANNER AS NOT TO INJURE OR DESTROY ANY TREES IN ACCORDANCE WITH THE PLANS. DURING THE CONSTRUCTION STAGE OF DEVELOPMENT, A TEMPORARY BARRIER OF AT LEAST THREE (3) FEET IN HEIGHT SHALL BE FORMED, A MINIMUM RADIUS OF SIX (6) FEET FROM THE BASE OF THE TREE OR TREES, AND THE DEVELOPER SHALL NOT CAUSE OR ALLOW THE CLEANING OF EQUIPMENT OR MATERIAL WITHIN THE DRIP LINE OF ANY TREE OR GROUPS OF TREES TO BE MAINTAINED. NEITHER SHALL THE DEVELOPER CAUSE OR ALLOW THE DISPOSAL OF WASTE MATERIAL, SUCH AS PAINT, OIL SOLVENTS, ASPHALT, CONCRETE, MORTAR OR ANY OTHER MATERIAL HARMFUL TO THE LIFE OF A TREE WITHIN THE DRIP LINE OF ANY TREE OR GROUP OF TREES. NO ATTACHMENT, WIRES (OTHER THAN PROTECTIVE GUY WIRES), SIGNS, OR PERMITS MAY BE FASTENED TO A TREE.
15. THE OWNER OR HIS AGENT SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPING WHICH SHALL BE MAINTAINED IN GOOD CONDITION SO AS TO PRESENT A HEALTHY, NEAT AND ORDERLY APPEARANCE AND SHALL BE KEPT FREE FROM REFUSE AND DEBRIS. THE OWNER SHALL REPLACE ALL LANDSCAPE MATERIALS REQUIRED IF, FOR ANY REASON, THEY DIE OR ARE SEVERELY DAMAGED. THE OWNER IS RESPONSIBLE TO MAINTAIN THE LANDSCAPING IN A HEALTHY MANNER.
ALL QUESTIONS CONCERNING THE PLAN AND/OR SPECIFICATIONS SHALL BE DIRECTED TO THE LANDSCAPE ARCHITECT (386) 212-8491.

WHEN INSTALLING PLANT MATERIAL AROUND EXISTING TREE, DO NOT CUT TREE ROOTS 1/2" DIA. OR LARGER; INSTEAD MOVE PLANTS TO MISS ROOTS, KEEPING GENERAL DESIGN.

LEAVE AS MUCH NATURAL VEGETATION AS POSSIBLE.

RICHARD L. POORE, LA
PLANNER & LANDSCAPE ARCHITECT
[illegible] GATEWOOD COURT - ORMOND BEACH, FLORIDA 32174
(386)677-7510 - CELL (386)212-8491 - REG. 0000[illegible]

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REVISIONS

MARK	DATE	DESCRIPTION

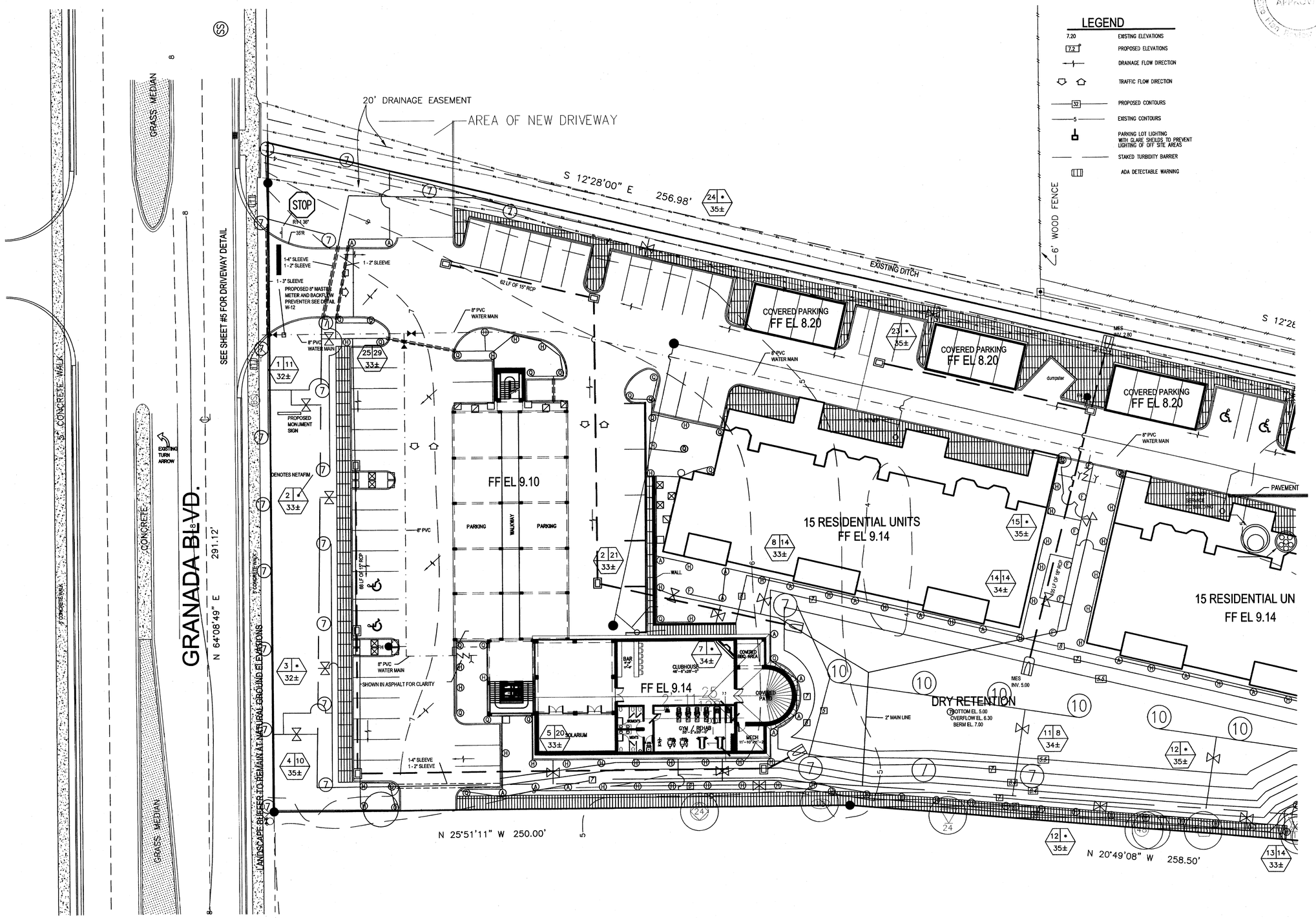
BUILDING LANDSCAPING

LANDSCAPING PLAN

PROJECT TITLE:
GRANADA MANAGEMENT
GRANADA BLVD.
ORMOND BEACH, FLORIDA

REGISTERED LANDSCAPE ARCHITECT
RICHARD L. POORE
12/22/2014
LA533
STATE OF FLORIDA
RICHARD L. POORE
REG. #533
SEAL

DRAWN BY: RL POORE	
CHECKED: RP	
DATE: 11/15/2014	
SCALE: 1" = 20'	
JOB NO: 2014-1115	
DRAWING NUMBER: L - 2 OF 4	



LEGEND

7.20	EXISTING ELEVATIONS
7.2	PROPOSED ELEVATIONS
	DRAINAGE FLOW DIRECTION
	TRAFFIC FLOW DIRECTION
32	PROPOSED CONTOURS
5	EXISTING CONTOURS
	PARKING LOT LIGHTING WITH GLARE SHEILDS TO PREVENT LIGHTING OF OFF SITE AREAS
	STAKED TURBIDITY BARRIER
	ADA DETECTABLE WARNING

City of Ormond Beach FINAL APPROVAL

RICHARD L. POORE, LA
PLANNER & LANDSCAPE ARCHITECT
200 GATEWOOD COURT - ORMOND BEACH, FLORIDA 32174
(386)677-7519 - CELL (386)212-0401 - REG# 0000533
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REVISIONS

MARK	DATE	DESCRIPTION

IRRIGATION PLAN

PROJECT TITLE:

REGISTERED LANDSCAPE ARCHITECT RICHARD L. POORE 12/22/2014 LA533 STATE OF FLORIDA

SEAL

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CHECKED:	RP
DATE:	11/15/2014
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DRAWING NUMBER:	L – 3 OF 4

15 of 31

LEGEND

7.20	EXISTING ELEVATIONS
7.2	PROPOSED ELEVATIONS
	DRAINAGE FLOW DIRECTION
	TRAFFIC FLOW DIRECTION
32	PROPOSED CONTOURS
5	EXISTING CONTOURS
	PARKING LOT LIGHTING WITH GLARE SHIELDS TO PREVENT LIGHTING OF OFF SITE AREAS
	STAKED TURBIDITY BARRIER
	ADA DETECTABLE WARNING

IRRIGATION LEGEND (USE THE FOLLOWING IRRIGATION EQUIPMENT)

TORO HEADS (6" POP – UP)
570 MPR PLUS SPRAY NOZZLE
15' SERIES WITH 27" TRAJECTORY

- FULL
- HALF
- ADJUSTABLE
- QUARTER
- THREE QUARTERS
- 15' EST
- 15' SST
- 15' SST
- 4' CST
- 10' REDUCE FULL

- 2" BACKFLOW PREVENTER
- RAINBIRD CONTROLLER ESP – 28 28 STATION ON PEDESTAL MOUNT (PED – DD16)
- RAIN CHECK VALVE
- IRRITROL VALVES 217B – 2" ANGLE VALVES
- 4" DEEP WELL
  STA RITE 5 HP PUMP END L50P4JH
  MOTOR 230 V P218 – 1329C
  CONTROL BOX P217–910
  PUMP START PSR52

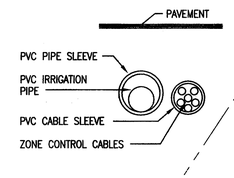
* PUMP MUST PROVIDE A MINIMUM OF 50 GALLON PER MINUTE @50 PSI
1. CONTRACTOR SHALL DRILL WELL TO A DEPTH OF GROUNDWATER TO ACHIEVE SPECIFIED FLOW.
2. GROUNDWATER SOURCE SHALL BE FREE OF STAIN PRODUCING IRON MINERALS.
3. EQUIPMENT SHALL BE PERMANENTLY MOUNTED TO CONCRETE SLAB & SCREENED WITH 7 – VIBURNUM SUSPENSUM.

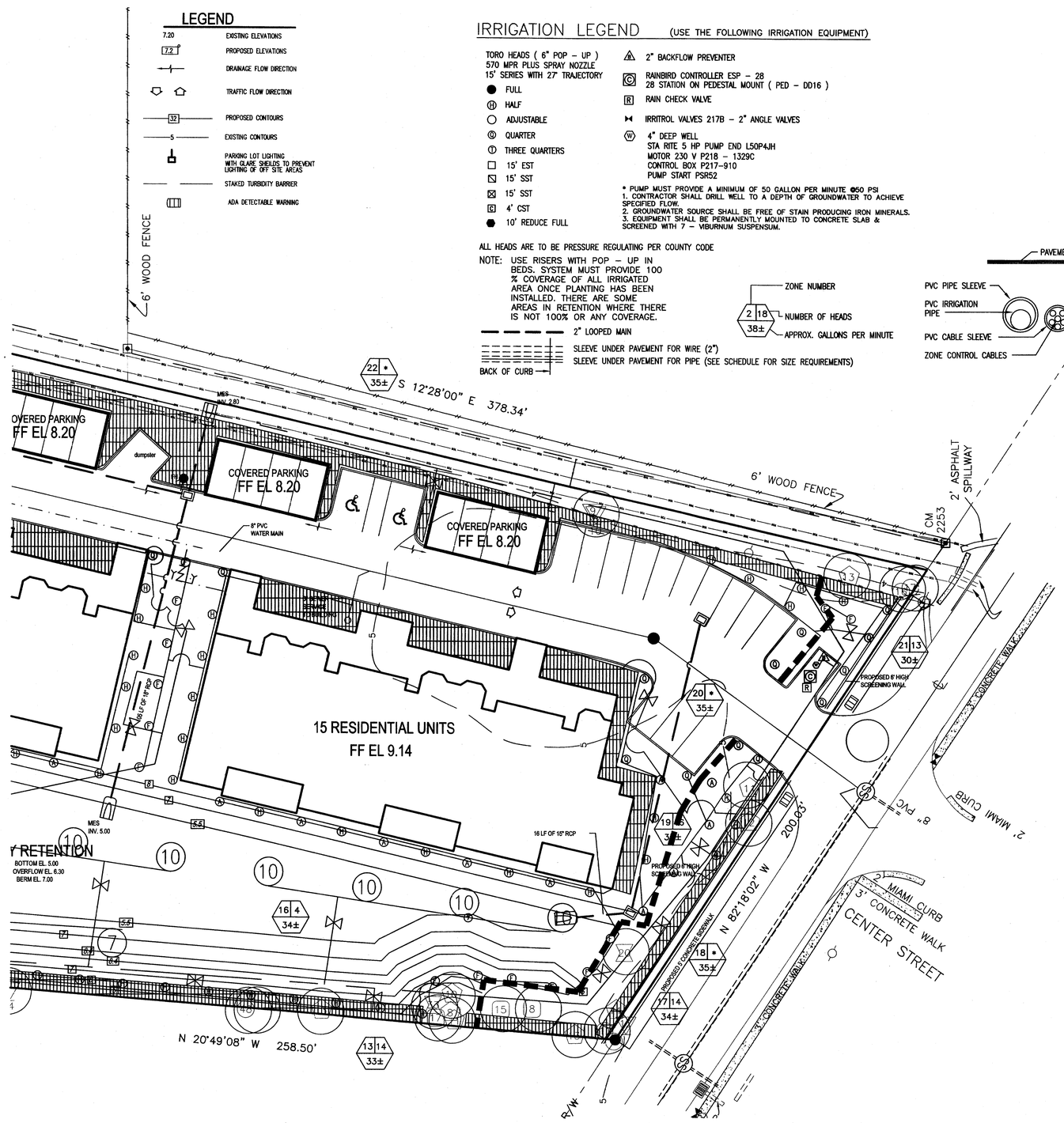
ALL HEADS ARE TO BE PRESSURE REGULATING PER COUNTY CODE

NOTE: USE RISERS WITH POP – UP IN BEDS. SYSTEM MUST PROVIDE 100 % COVERAGE OF ALL IRRIGATED AREA ONCE PLANTING HAS BEEN INSTALLED. THERE ARE SOME AREAS IN RETENTION WHERE THERE IS NOT 100% OR ANY COVERAGE.

- 2" LOOPED MAIN
- SLEEVE UNDER PAVEMENT FOR WIRE (2")
- SLEEVE UNDER PAVEMENT FOR PIPE (SEE SCHEDULE FOR SIZE REQUIREMENTS)
- BACK OF CURB

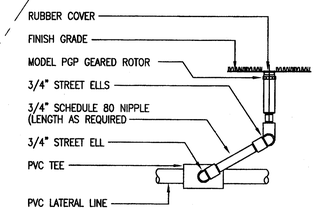
2 | 18 — ZONE NUMBER; NUMBER OF HEADS
38± — APPROX. GALLONS PER MINUTE





IRRIGATION NOTES:

1. THE CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OF ALL EXISTING UTILITIES AND CONDITIONS PRIOR TO HIS COMMENCEMENT OF THE IRRIGATION WORK.
2. CHECK PRESSURE AND GPM OF WATER SUPPLY BEFORE BEGINNING JOB AND REPORT FINDING TO LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT WILL MAKE ANY ADJUSTMENT NECESSARY TO MAKE SYSTEM WORK AT ITS BEST.
3. ***THE PLAN IS SCHEMATIC ONLY.*** THE CONTRACTOR SHALL INSTALL PIPING IN A MINIMUM NUMBER OF TRENCHES AND SHALL INSTALL PIPE IN A MINIMUM LENGTH.
4. QUANTITIES FOR IRRIGATION MATERIALS ARE NOT GIVEN. THE CONTRACTOR SHALL DETERMINE THIS FROM THE PLAN.
5. INSTALL SLEEVE PIPING WHERE SHOWN ON THE DRAWINGS AT THE PROPER DEPTH.
6. ALL SLEEVE PIPE SHALL BE SCHEDULE 40 PVC PIPE INSTALLED A MINIMUM OF 20" BELOW FINISHED PAVING GRADES.
7. ALL SLEEVES WHEN PLACED IN FIELD ARE TO BE LOCATED BY A METAL PIPE AT EACH END AND LOCATED FROM TWO STATIONARY POINTS BY TAPE MEASUREMENTS.
8. ALL PIPE SHALL BE INSTALLED A MINIMUM OF 20" BELOW GRADE.
9. ALL TRENCHING SHALL BE KEPT OUT OF THE DRIP LINE AREA OF ALL EXISTING TREES. USE RADIAL LINES OR TUNNELING WHEN NECESSARY TO ENCROACH INTO THE DRIP LINE AREA OF TREES.
10. LOCATE ALL VALVES AND OTHER IRRIGATION EQUIPMENT IN PLANT BED AREAS WITHIN THE PROJECT LIMITS FOR CONCEALMENT PURPOSES.
11. RISERS ARE TO BE HIDDEN COMPLETELY IN SHRUBBERY OR PAINTED BLACK AND IN NO CASE BE HIGHER THAN THE SHRUBBERY INSTALLED.
12. ALL PIPE EXPOSED ABOVE GRADE AND TO VIEW SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE OF THE NOTED SIZE.
13. ALL IRRIGATION EQUIPMENT (PUMP, CONTROLLER, ETC.) SHALL BE PLACED WITHIN FENCED ENCLOSURE.
14. ALL VALVES SHALL BE INSTALLED IN METER TYPE SIZE BOXES EQUAL TO AMETEK POLY–IRON.
15. PROVIDE A 6" GRAVEL SUMP AT THE BOTTOM OF ALL METER BOXES AND INSTALL 1/2" TO 1" DIAMETER GRAVEL AT THE BOTTOM OF THE VALVE PIT.
16. IRRIGATION SHALL MEET ALL APPLICABLE CURRENT MUNICIPAL, COUNTY, STATE OR FEDERAL CODES, ORDINANCES AND REGULATIONS THAT HAVE JURISDICTION.
17. ALL PIPE 1/2" TO 2 1/2" IN SIZE SHALL BE PRESSURE RATED 160 PVC. (EXCEPT FOR RECLAIM SYSTEM)
18. ALL FITTINGS SHALL BE SCHEDULE 40 PVC. (EXCEPT FOR RECLAIM SYSTEM)
19. ALL SPRAY HEADS ARE TO BE A MINIMUM OF 6" POP–UP AND ALL HEADS IN PLANTING AREAS TO BE 12" POP–UP OR RISERS. RISERS SHALL BE PAINTED GREEN OR BLACK.
20. SEE PIPE SIZE SCHEDULE THIS SHEET.
21. ELECTRICAL TO CONTROLLER SHALL BE SUPPLIED BY ELECTRICAL CONTRACTOR (NOT IRRIGATION CONTRACTOR)



GEAR DRIVE INSTALLATION DETAIL

NOT TO SCALE

CENTER FEED LAYOUTS:

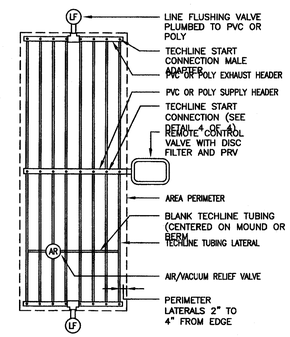
WHERE LAYOUT FLEXIBILITY EXISTS, IT IS RECOMMENDED THAT CENTER FEED LAYOUTS BE USED. THIS ALLOWS FOR THE MOST EVEN FLOW OF WATER THROUGHT THE ZONE.

CENTER FEED LAYOUTS ALSO ALLOW YOU TO MAXIMIZE THE LENGTHS OF TECHLINE THAT CAN BE RUN.

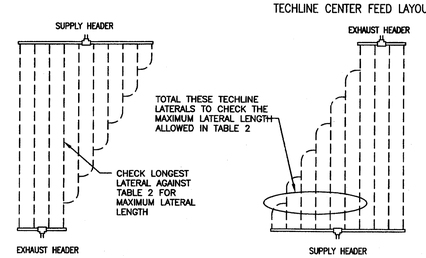
OTHER PIPING LAYOUTS:

WHEN BRANCHING OUT, OR JOINING TECHLINE, ONE OF TWO RULES APPLY. RULE 1 – WHEN BRANCHING OUT TECHLINE FROM THE SUPPLY HEADER, TOTAL ALL "BRANCHED OUT" DRIPPERLINE AND CHECK THE SUM AGAINST THE MAXIMUM LATERAL LENGTH IN TABLE 2. RULE 2 – WHEN JOINING DRIPPERLINE LATERALS FROM THE SUPPLY HEADER, CHECK ONLY THE LONGEST LATERAL AGAINST THE MAXIMUM ALLOWABLE IN TABLE 2.

TO REDUCE THE NUMBER OF GLUE JOINTS, SADDLES OR INSERT FITTINGS IN A HEADER, TRANSITION TO TECHLINE AND TECHLINE FITTINGS TO MAKE UP SUB–HEADERS, MAKING SURE TO FOLLOW THE GUIDELINE OF A MAXIMUM OF 0.5 GPM IN THE "SUB–HEADER" ZONE.

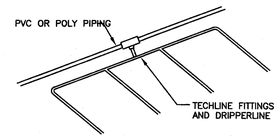


TECHLINE CENTER FEED LAYOUT



JOINING TECHLINE TUBING

BRANCHING OUT TECHLINE TUBING



CREATING SUB–HEADERS TO REDUCE GLUE/SADDLE JOINTS

ZONE WATER REQUIREMENTS:

ONCE YOU HAVE LAID OUT THE TECHLINE, YOU NEED TO IDENTIFY HOW MANY DRIPPERS THERE ARE, AND THEIR TOTAL OUTPUT. THIS WILL HELP YOU DETERMINE MAINLINE, SUBMAIN AND SUPPLY/EXHAUST HEADER SIZING. VALVE, FILTER, AND REGULATOR SELECTION.,

PIPE SIZE SCHEDULE

PIPE SIZE	SLEEVE SIZE
2 1/2"	6"
2"	6"
1" THRU 1 1/2"	4"
1/2" AND 3/4"	3"

PIPE SIZING INFORMATION:

0–6 GPM	1/2" PIPE
7–10 GPM	3/4" PIPE
11–16 GPM	1" PIPE
17–28 GPM	1 1/4" PIPE
19–35 GPM	1 1/2" PIPE
36–55 GPM	2" PIPE

NOTE: DO NOT TRENCH THROUGH EXISTING TREE ROOT ZONE GO AROUND.

NOTES:

1. IRRIGATION LINES ARE SHOWN DIAGRAMATICALLY AND ARE INTENDED TO SHOW DISTRIBUTION ZONES ONLY. ALL VALVES SHALL BE LOCATED WITHIN PLANTING AREAS (NOT WITHIN PAVEMENT). LINES LOCATED UNDER PAVEMENT SHALL BE KEPT TO A MINIMUM AND ALL PIPING UNDER PAVED AREAS SHALL BE SLEEVED.

RICHARD L. POORE, LA
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[illegible] GATEWAY COURT - OSBORNE BEACH, FLORIDA 32176
(386)677-7510 - CELL (386)212-0401 - REG 0000532

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REVISIONS

MARK	DATE	DESCRIPTION

IRRIGATION PLAN

PROJECT TITLE:

REGISTERED LANDSCAPE ARCHITECT
RICHARD L. POORE
12/22/2014
LA533
STATE OF FLORIDA
SEAL

DRAWN BY: RL POORE	
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SCALE: 1" = 20'	
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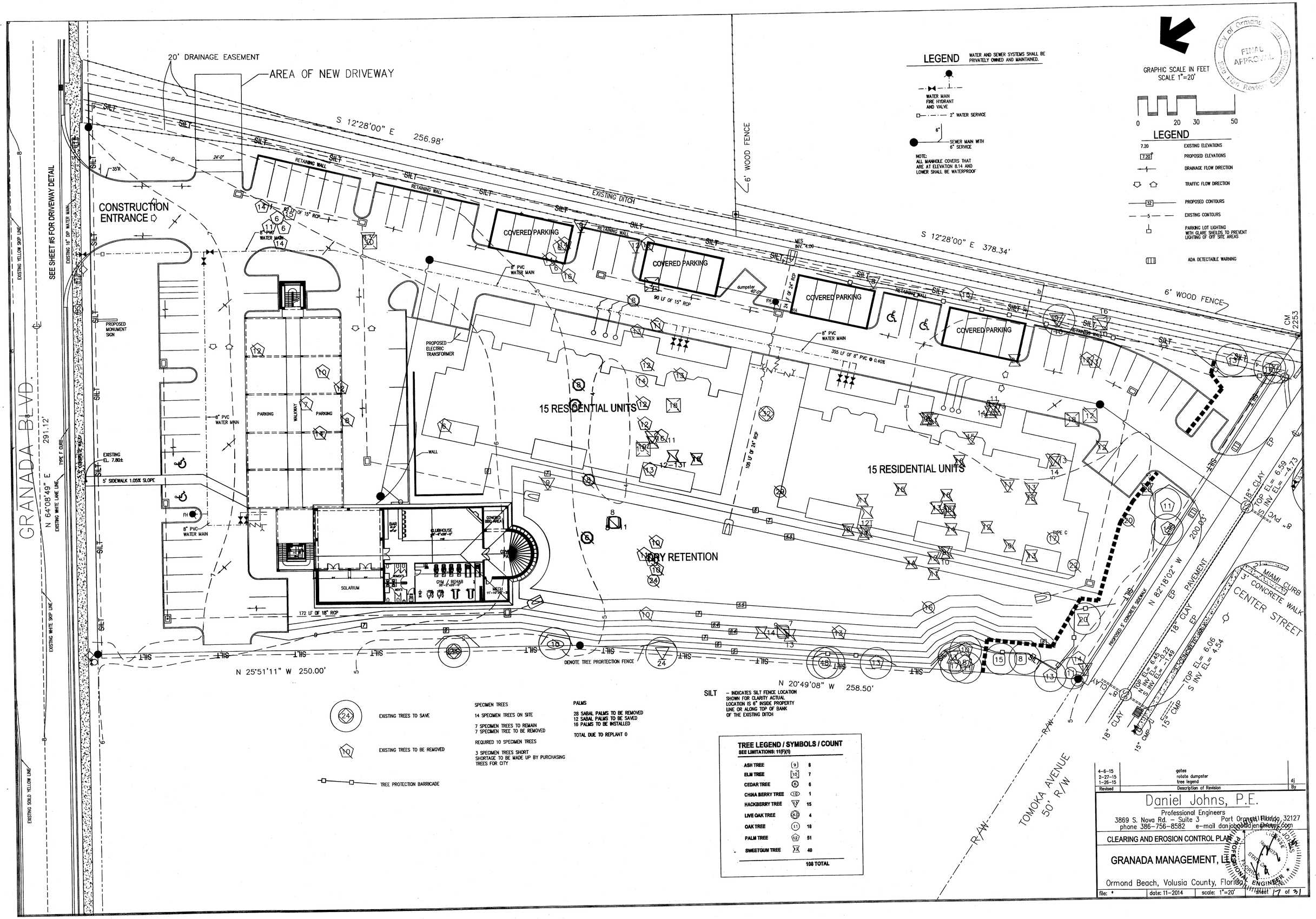
DRAWING NUMBER: L – 4 OF 4	

16 of 31



LEGEND

WATER AND SEWER SYSTEMS SHALL BE PRIVATELY OWNED AND MAINTAINED.

WATER MAIN FIRE HYDRANT AND VALVE

2" WATER SERVICE

SEWER MAIN WITH 6" SERVICE

NOTE: ALL MANHOLE COVERS THAT ARE AT ELEVATION 8.14 AND LOWER SHALL BE WATERPROOF

GRAPHIC SCALE IN FEET
SCALE 1"=20'

0 20 30 50

LEGEND

7.20	EXISTING ELEVATIONS
7.20	PROPOSED ELEVATIONS
	DRAINAGE FLOW DIRECTION
	TRAFFIC FLOW DIRECTION
32	PROPOSED CONTOURS
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	ADA DETECTABLE WARNING

City of Ormond Beach FINAL APPROVAL Plan Review Committee

EXISTING TREES TO SAVE

EXISTING TREES TO BE REMOVED

TREE PROTECTION BARRICADE

SPECIMEN TREES

14 SPECIMEN TREES ON SITE

7 SPECIMEN TREES TO REMAIN
7 SPECIMEN TREE TO BE REMOVED

REQUIRED 10 SPECIMEN TREES

3 SPECIMEN TREES SHORT
SHORTAGE TO BE MADE UP BY PURCHASING TREES FOR CITY

PALMS

28 SABAL PALMS TO BE REMOVED
12 SABAL PALMS TO BE SAVED
16 PALMS TO BE INSTALLED

TOTAL DUE TO REPLANT 0

SILT – INDICATES SILT FENCE LOCATION SHOWN FOR CLARITY ACTUAL LOCATION IS 6" INSIDE PROPERTY LINE OR ALONG TOP OF BANK OF THE EXISTING DITCH

TREE LEGEND / SYMBOLS / COUNT

SEE LIMITATIONS: 11(F)(1)

ASH TREE	9	8
ELM TREE	10	7
CEDAR TREE	6	6
CHINA BERRY TREE	10	1
HACKBERRY TREE	13	15
LIVE OAK TREE	43	4
OAK TREE	11	18
PALM TREE	12	51
SWEETGUM TREE	24	40
		108 TOTAL

Revised	Description of Revision	By
4-6-15	gates	
2-27-15	rotate dumpster	
1-26-15	tree legend	dj

Daniel Johns, P.E.
Professional Engineers
3869 S. Nova Rd. – Suite 3 Port Orange, Florida 32127
phone 386-756-8582 e-mail danjohns@djengineers.com

CLEARING AND EROSION CONTROL PLAN

GRANADA MANAGEMENT, LLC

Ormond Beach, Volusia County, Florida

DANIEL JOHNS LICENSE NO. 47 STATE OF FLORIDA PROFESSIONAL ENGINEER

file: *	date: 11-2014	scale: 1"=20'	sheet 17 of 31

OFFICE BUILDING CONCEPTUAL RENDERING

ALL BUILDINGS TO BE TYPE 1 CONSTRUCTION

MULTI-FAMILY RESIDENTIAL UNITS ARE AGE RESTRICTED TO 55 AND OLDER

INDEX OF DRAWINGS

DWG #	DESCRIPTION
A1a	RENDERING OFFICE BUILDING
A1b	RENDERING CLUBHOUSE
A1c	RENDERING RESIDENTIAL
A2	OFFICE BUILDING ELEVATIONS
A3	OFFICE BUILDING 1ST LEVEL
A4	OFFICE BUILDING 2ND AND 3RD LEVEL
A5	RESIDENTIAL - ELEVATIONS
A6	RESIDENTIAL - 1ST FLOOR
A7	RESIDENTIAL - 2ND AND THIRD FLOOR
A8	RESIDENTIAL - PENTHOUSE FLOOR

FINAL APPROVAL

City of Ormond Beach Planning Department

SHEET NO. A1a OF SHEETS

DRAWN: DG
DATE: 11-10-14
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PROJECT #: 14009

GRANADA MANAGEMENT GRANADA BLVD. ORMOND BEACH FL

BENJAMIN P. BUTERA A.I.A.
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REVISIONS
1 SPRC REVIEW 12/14

AA26001445 BENJAMIN P. BUTERA STATE OF FLORIDA ARCHITECT

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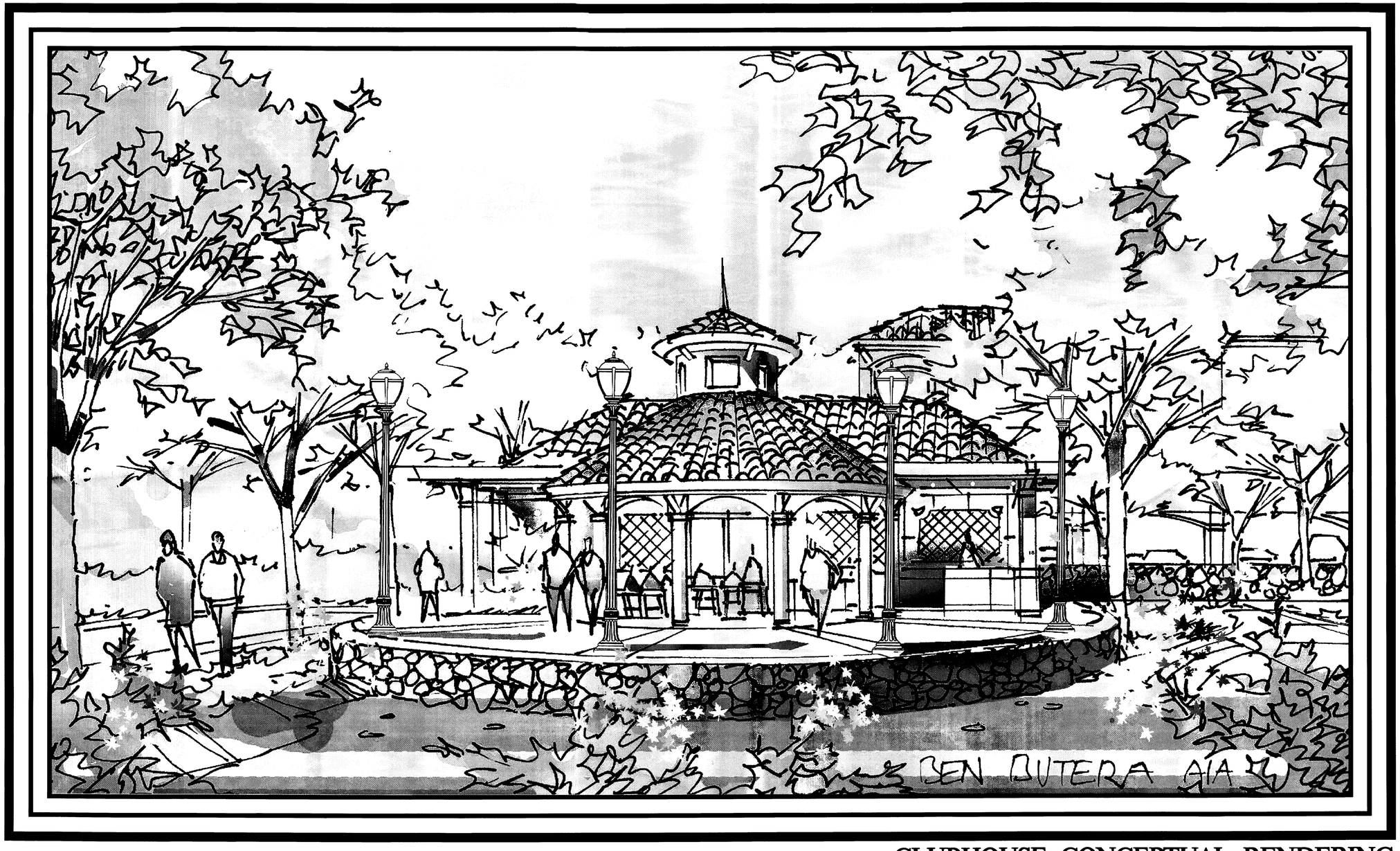

CLUBHOUSE CONCEPTUAL RENDERING

SHEET NO.
A1b
OF SHEETS

DRAWN: BS
DATE: 11-10-14
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PROJECT #: 1009

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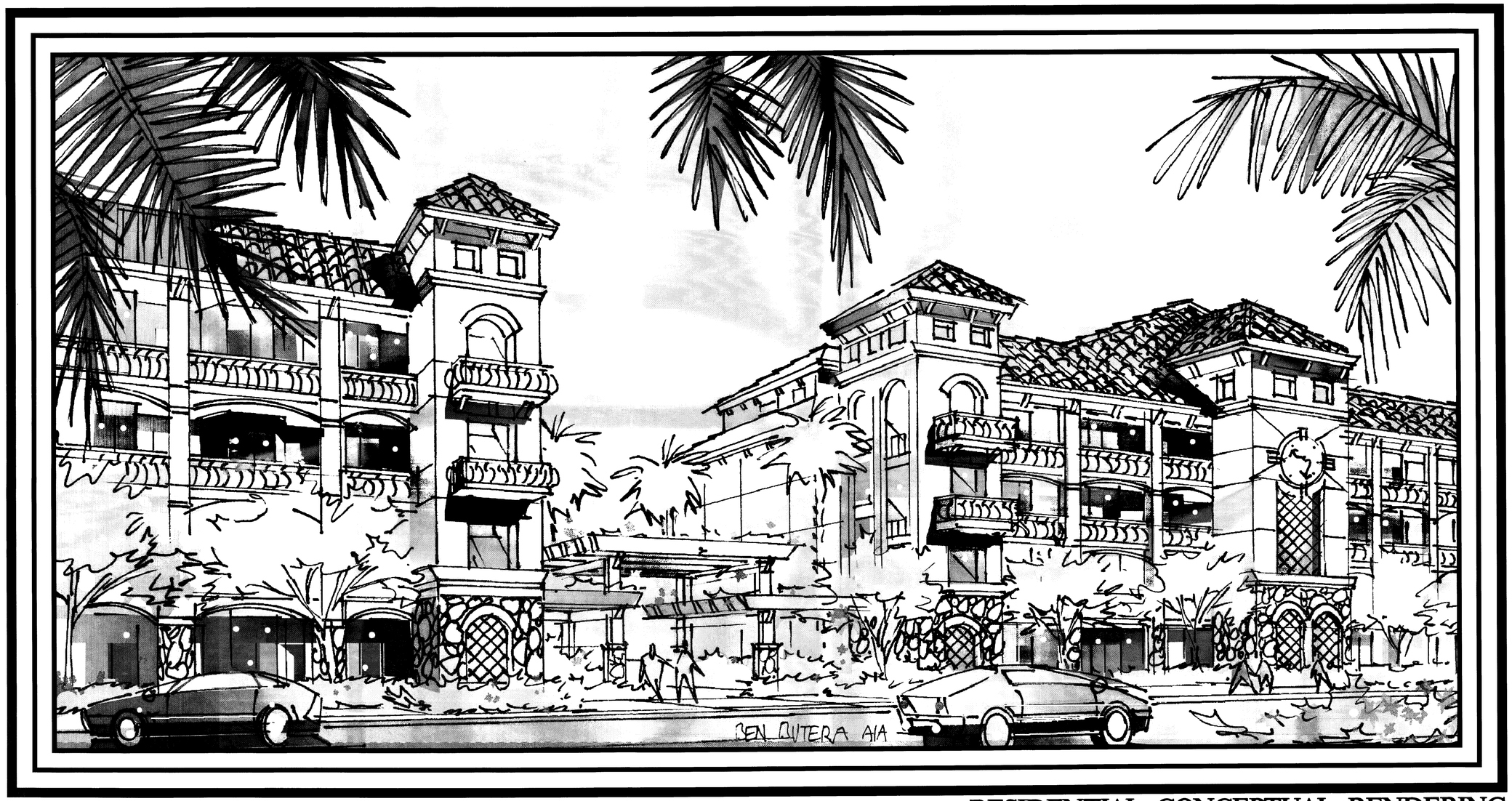

RESIDENTIAL CONCEPTUAL RENDERING

SHEET NO.

A1c

OF SHEETS

DRAWN:	G
DATE:	1-10-14
CHECKED:	PB
CHECKED:	
PROJECT #:	4009

GRANADA MANAGEMENT GRANADA BLVD. ORMOND BEACH FL

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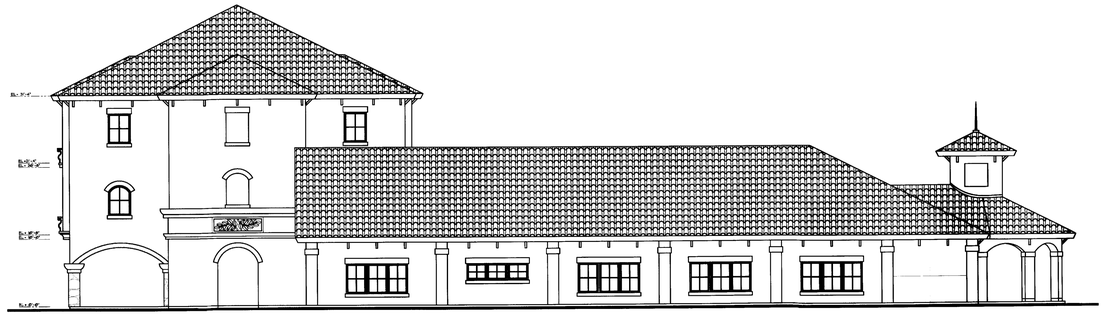
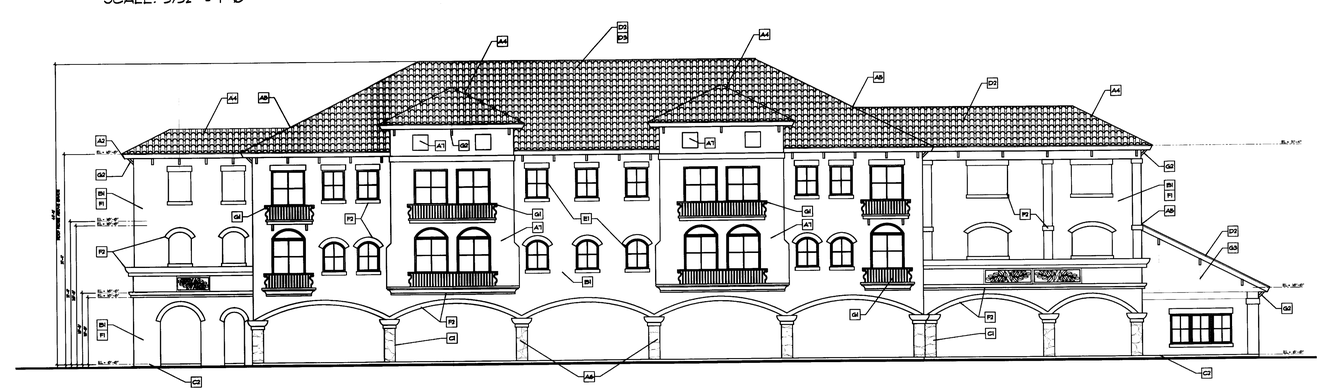


WEST ELEVATION
SCALE: 3/32" = 1'-0"

SOUTH ELEVATION
SCALE: 3/32" = 1'-0"

EAST ELEVATION
SCALE: 3/32" = 1'-0"



NORTH ELEVATION
SCALE: 3/32" = 1'-0"

ARCHITECTURAL DESIGN CRITERIA - NEO-ECLECTIC ARCHITECTURAL STYLE

A - MASSING
- A1 COVERED PORCH / WALKWAY
- A2 OVERHANGS
- A3 BUILDING WALL OFFSETS
- A4 TOWERS
- A5 VARIATIONS IN ROOF HEIGHT
- A6 COLONNADES
- A7 PROJECTS AND RECESSED SECTIONS

B - MASSING
- B1 STUCCO

C - MASSING
- C1 ENTRY FEATURES (COLUMNS, ARCHES, AWNINGS, OFFSETS)
- C2 ENTRYWAY DESIGN INCORPORATING LANDSCAPE (ALSO SEE LANDSCAPE PLAN)

D- ROOF DESIGN / MATERIALS
- D1 VERTICAL CHANGE FROM DOMINANT ROOF LINE
- D2 BARREL SHAPED ROOF MATERIAL W/ NATURAL APPEARANCE
- D3 ROOF STRUCTURE CONSISTANT W/ ARCHITECTURAL STYLE

E- WINDOWS
- E1 RECESSED WINDOWS (1/2" MIN)

F- COLORS
- F1 EARTH TONES OR PASTELS
- F2 ACCENT COLORS AND TRIM

G- OTHER ATTRIBUTES
- G1 OPEN RAILS
- G2 ROOF BRACKETS
- G3 SCORED STUCCO

H- BUILDING FACADES
- H1 EXPRESSION OF ARCHITECTURAL AND STRUCTURAL BAYS
- H2 BUILDING SETABCK

City of Ormond Beach
FINAL APPROVAL
Site Plan Review Committee

OFFICE BUILDING
GRANADA MANAGMENT GRANADA AVE. ORMOND BEACH FL 32174

BENJAMIN P. BUTERA A.I.A.
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DRAWN:	DG
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PROJECT #:	14009

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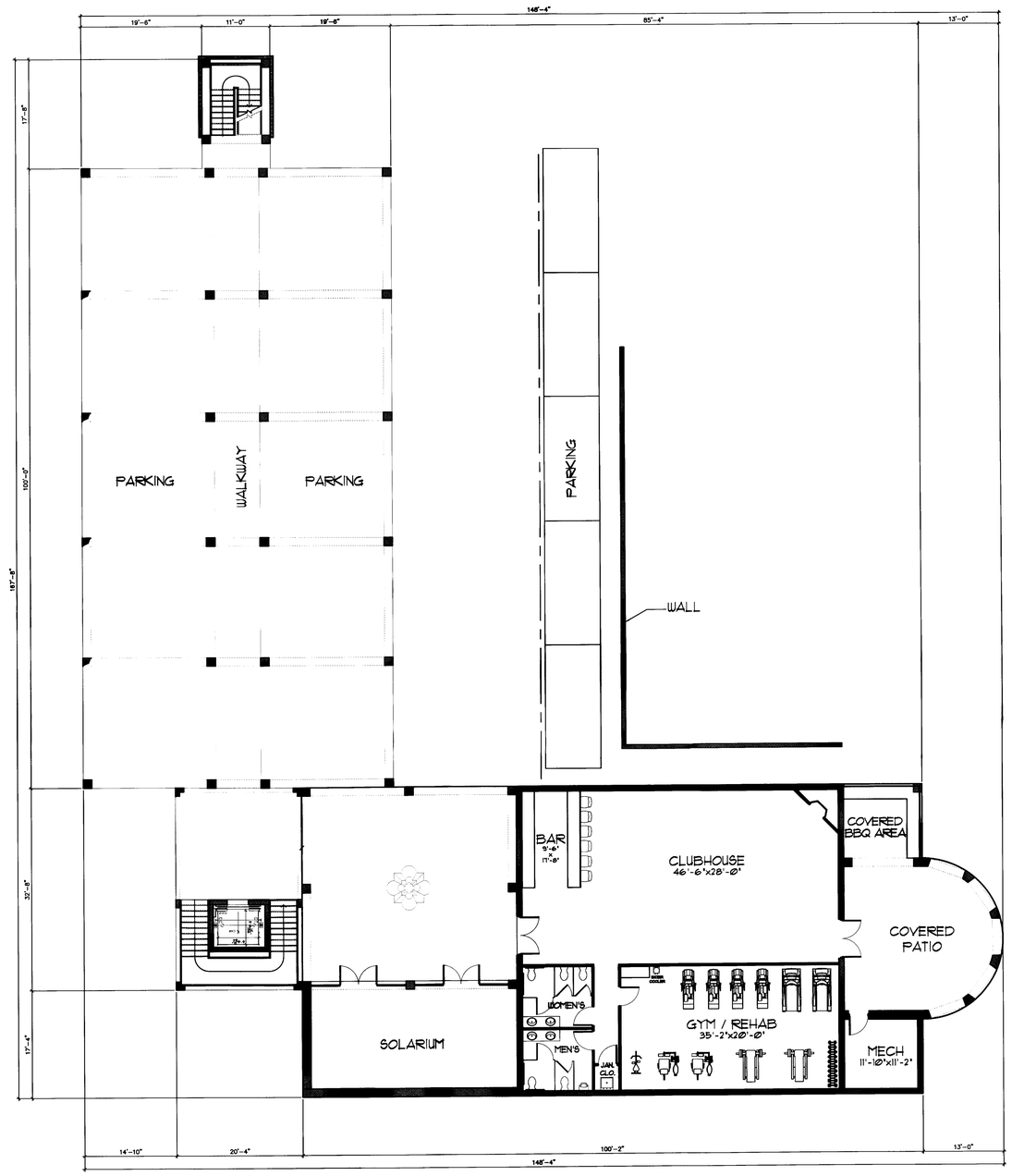

1ST FLOOR PLAN

SCALE: 3/32" = 1'-0"

City of Ormond Beach
FINAL APPROVAL

SHEET NO.
A3
OF SHEETS

DRAWN:	DG
DATE:	11-18-14
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CHECKED:	.
PROJECT #:	14009

OFFICE BUILDING
GRANADA MANAGMENT GRANADA AVE. ORMOND BEACH FL 32174

BENJAMIN P. BUTERA A.I.A.
51 W GRANADA BLVD ORMOND BEACH, FL 32174 BUTERADESIGNS.COM P 386 676 2789 AA26001445

REVISIONS

AA26001445
ARCHITECT
BENJAMIN P. BUTERA
STATE OF FLORIDA
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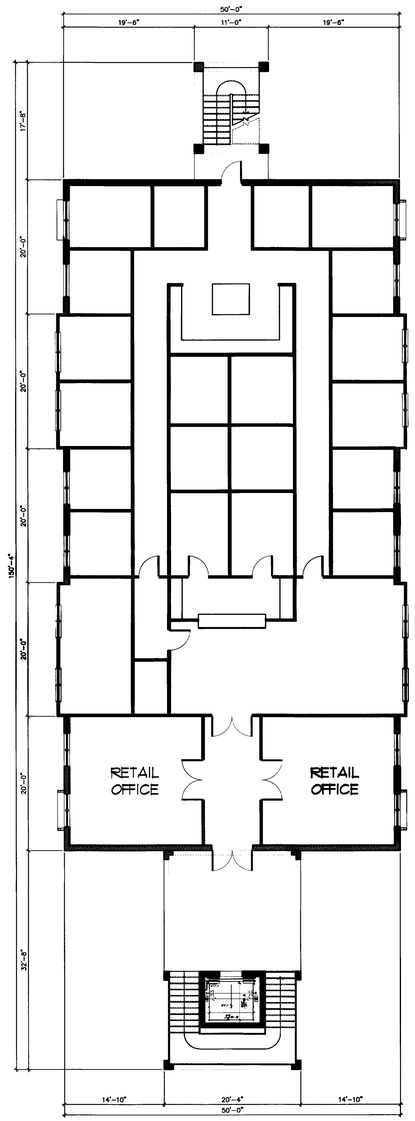
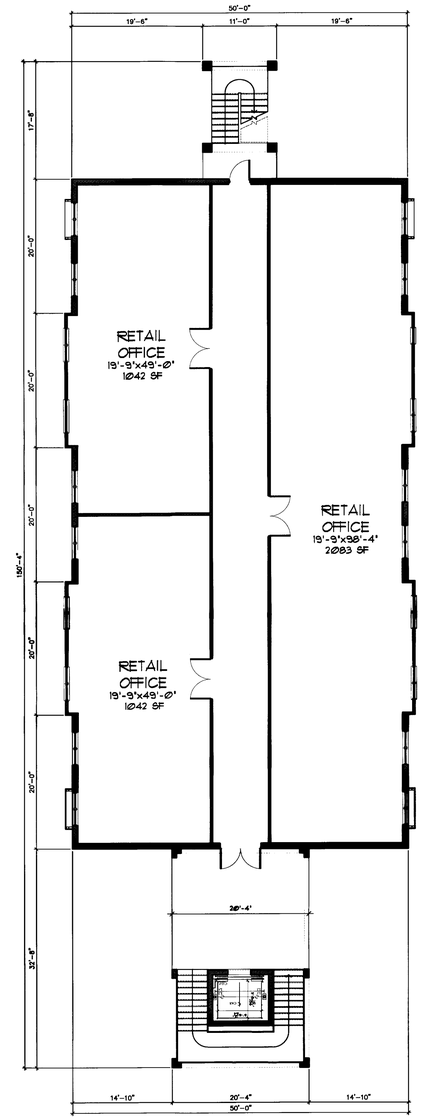


2nd FLOOR PLAN
SCALE: 3/32" = 1'-0"



3RD FLOOR PLAN
SCALE: 3/32" = 1'-0"

City of Ormond Beach
FINAL APPROVAL
BUILDING DIVISION

SHEET NO.
A4
OF SHEETS

DRAWN:	DG
DATE:	11-18-14
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CHECKED:	.
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OFFICE BUILDING
GRANADA MANAGMENT GRANADA AVE. ORMOND BEACH FL 32174

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51 W GRANADA BLVD ORMOND BEACH, FL 32174 BUTERADESIGNS.COM P 386 676 2789 AA26001445

REVISIONS

AA26001445
STATE OF FLORIDA
BENJAMIN P. BUTERA
LICENSED
ARCHITECT
ARCHITECT'S SEAL

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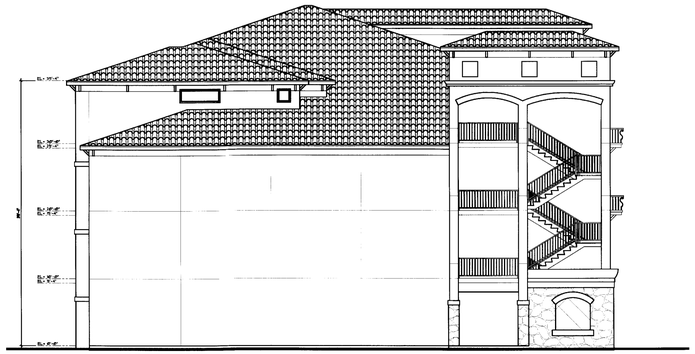
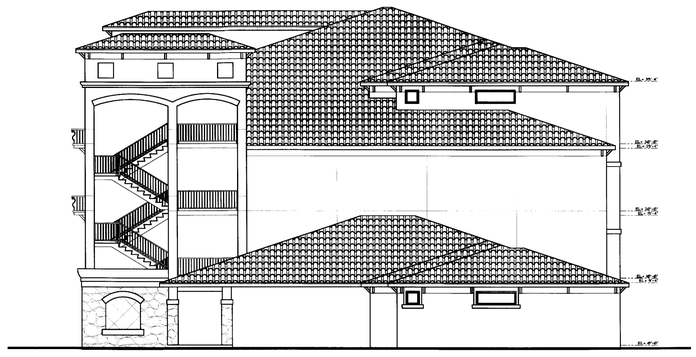
ARCH D

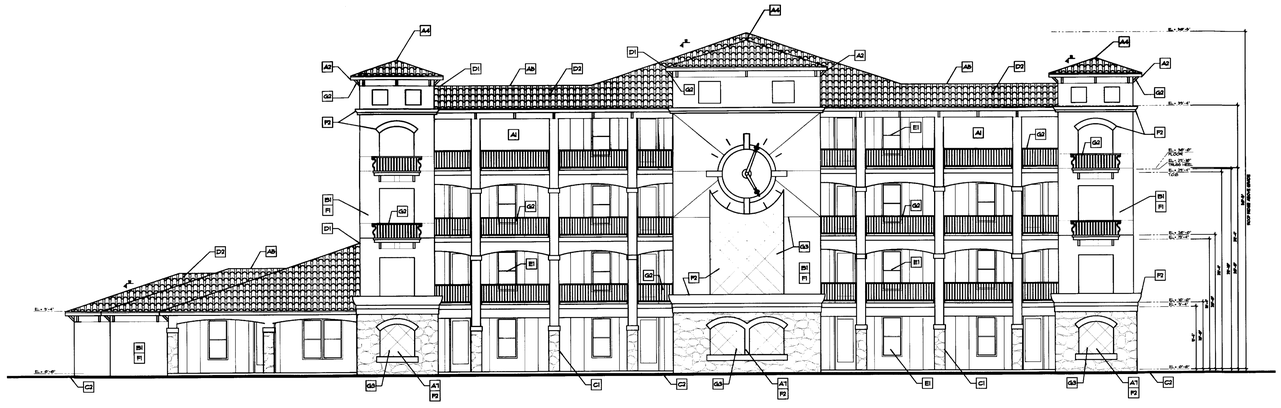


SOUTH ELEVATION
SCALE: 3/32" = 1'-0"

WEST ELEVATION
SCALE: 1/8" = 1'-0"



NORTH ELEVATION
SCALE: 3/32" = 1'-0"



EAST ELEVATION
SCALE: 3/32" = 1'-0"

ARCHITECTURAL DESIGN CRITERIA - NEO-ECLECTIC ARCHITECTURAL STYLE

A - MASSING
- A1 WALKWAY / BALCONY (REAR)
- A2 OVERHANGS
- A3 BUILDING WALL OFFSETS
- A4 TOWERS
- A5 VARIATIONS IN ROOF HIEGHT
- A6 COLONNADES
- A7 PROJECTS AND RECESSED SECTIONS

B - MASSING
- B1 STUCCO

C - MASSING
- C1 ENTRY FEATURES (COLUMNS, ARCHES, AWNINGS, OFFSETS)
- C2 ENTRYWAY DESIGN INCORPORATING LANDSCAPE (ALSO SEE LANDSCAPE PLAN)

D- ROOF DESIGN / MATERIALS
- D1 VERTICAL CHANGE FROM DOMINANT ROOF LINE
- D2 BARREL SHAPED ROOF MATERIAL W/ NATURAL APPEARANCE
- D3 ROOF STRUCTURE CONSISTANT W/ ARCHITECTURAL STYLE

E- WINDOWS
- E1 RECESSED WINDOWS (1/2" MIN)

F- COLORS
- F1 EARTH TONES OR PASTELS
- F2 ACCENT COLORS AND TRIM

G- OTHER ATTRIBUTES
- G1 OPEN RAILS
- G2 ROOF BRACKETS
- G3 SCORED STUCCO

H- BUILDING FACADES
- H1 EXPRESSION OF ARCHITECTURAL AND STRUCTURAL BAYS
- H2 BUILDING SETBACK

SPRC SUBMITTAL, ORMOND BEACH PLANNING DEPT.

RESIDENTIAL BUILDINGS
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SHEET NO. A5 OF SHEETS

DRAWN:	DG
DATE:	11-18-14
CHECKED:	BPB
CHECKED:	.
PROJECT #:	14009

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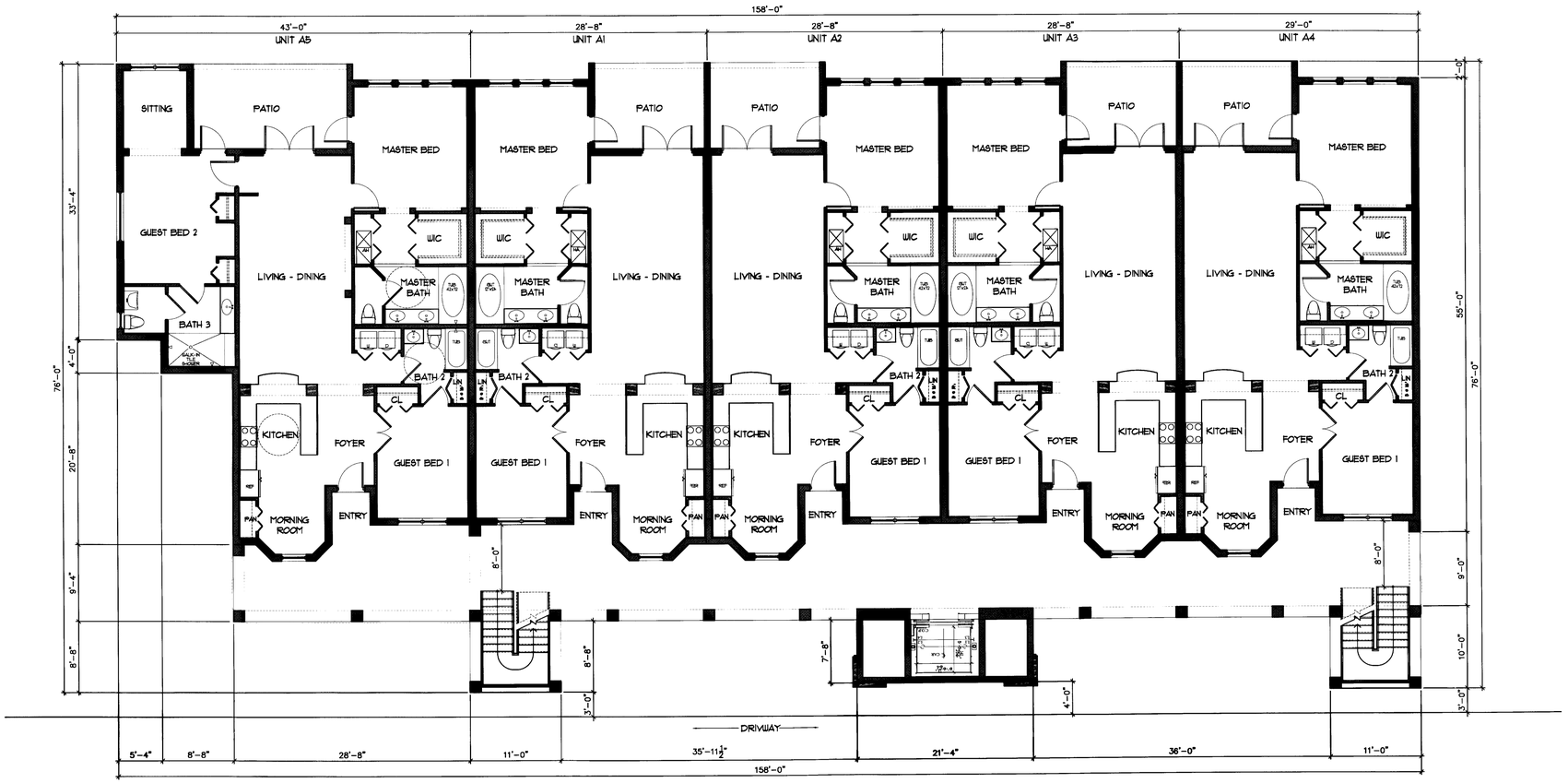
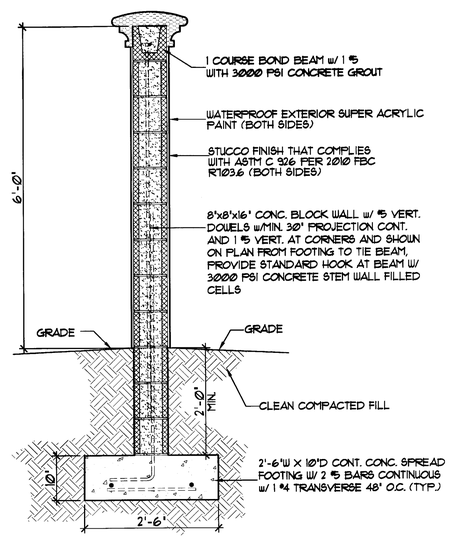


1ST LEVEL PLAN

SCALE: 1/8" = 1'-0"



CMU WALL DETAIL @ TOMOKA AVE.

SCALE: 3/4" = 1'-0"

NOTE:
ALL FOAM TRIM AND PROFILE BANDS w/ FIBERGLASS MESH w/ RESINOUS STUCCO FINISH. ALL HORIZONTAL SURFACES SHALL BE SLOPED 1/8" PER FOOT

FINAL APPROVAL

SHEET NO. A6 OF SHEETS

DRAWN: DC
DATE: 12-18-14
CHECKED: BPB
CHECKED: .
PROJECT #: 14009

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REVISIONS
1 SPRC REVIEW 12/14

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STATE OF FLORIDA
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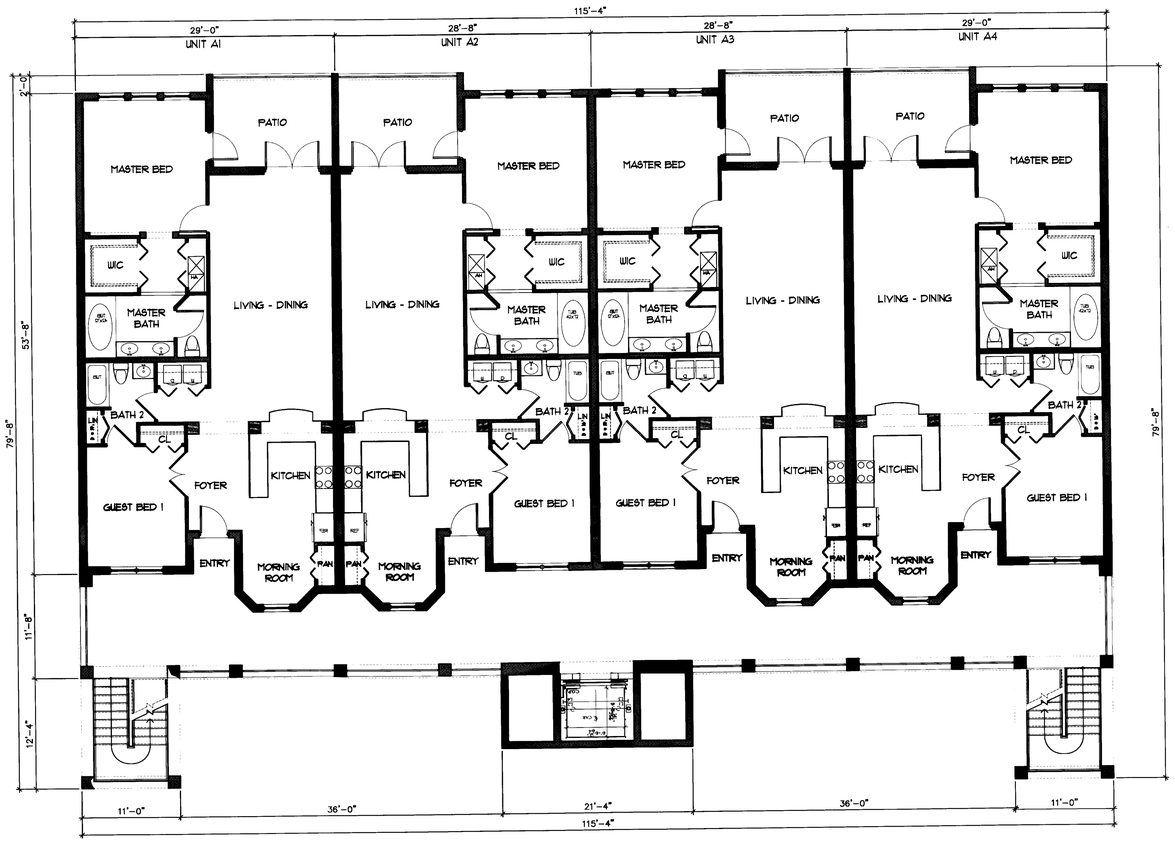

2ND AND 3RD FLOOR PLANS

SCALE: 1/8" = 1'-0"

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SHEET NO. A7 OF SHEETS

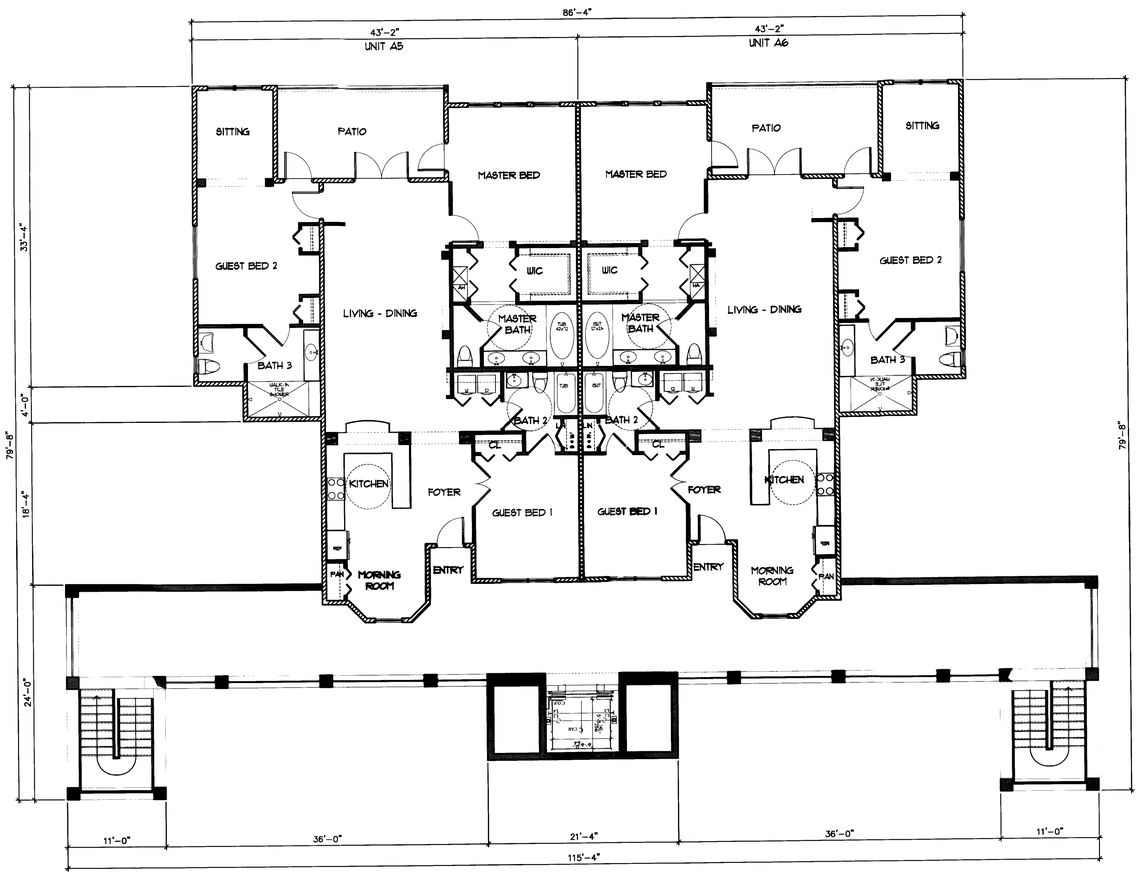
DRAWN: DG
DATE: 11-18-14
CHECKED: BPB
CHECKED: .
PROJECT #: 14009

FINAL APPROVAL

THIS PROJECT CONFORMS TO
THE FOLLOWING CODES

2010 FLORIDA BUILDING CODE RESIDENTIAL

City of Ormond Beach
FINAL APPROVAL



PENTHOUSE PLAN
SCALE: 1/8" = 1'-0"

SHEET NO.
A8
OF SHEETS

DRAWN:	DG
DATE:	11-18-14
CHECKED:	BPB
CHECKED:	.
PROJECT #:	14009

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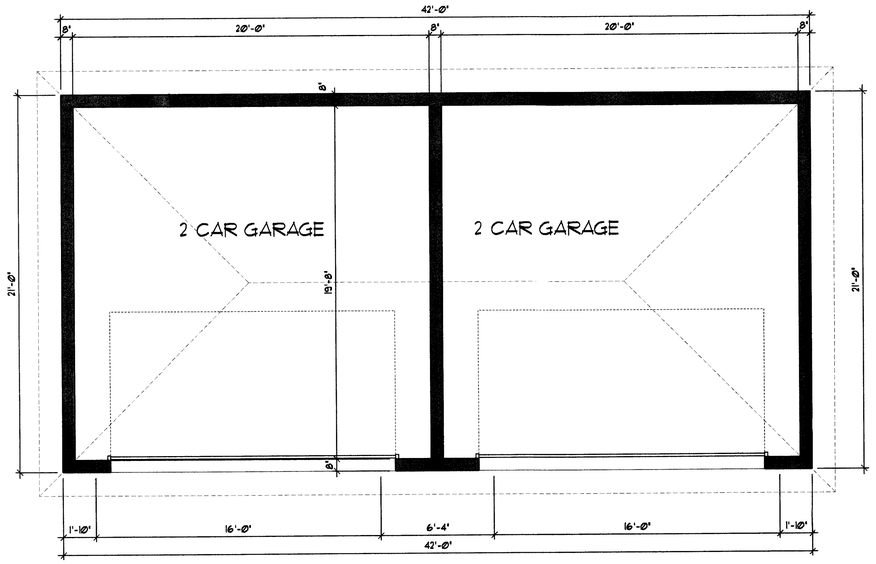
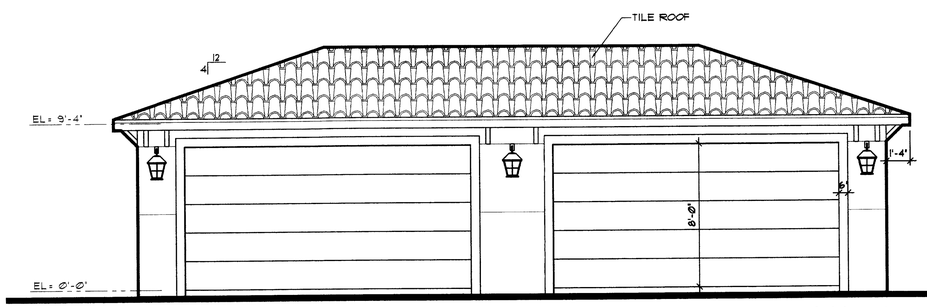
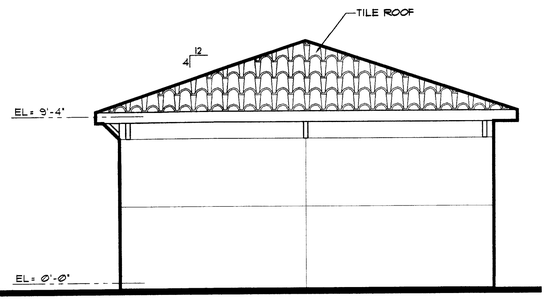


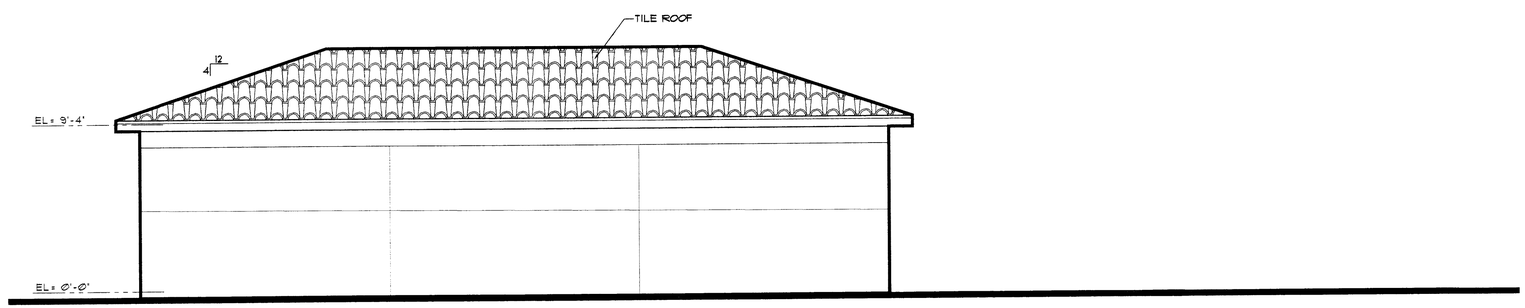
GARAGE PLAN
SCALE: 1/4" = 1'-0"



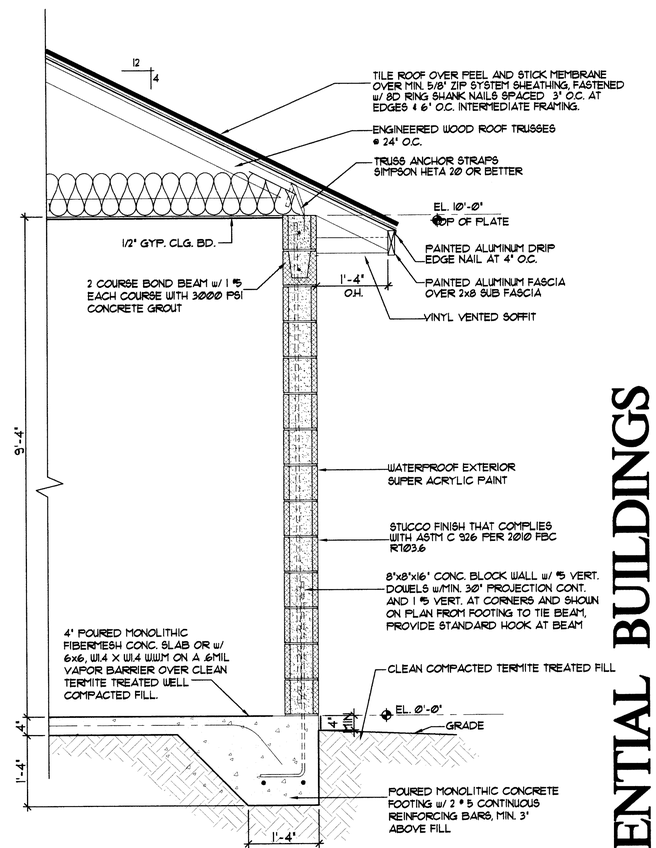
FRONT ELEVATION
SCALE: 1/4" = 1'-0"



RIGHT ELEVATION
LEFT SIMMILAR
SCALE: 1/4" = 1'-0"



REAR ELEVATION
SCALE: 1/4" = 1'-0"



GARAGE WALL SECTION
SCALE: 3/4" = 1'-0"

NOTE:
DOOR AND WINDOW TYPICAL CAST-CRETE LINTELS:
A. 8x8 w/1 #5 8F8-IB UP TO 6'-8" WIDE OPENINGS
B. 8x16 LINTEL w/2 #5 8F16-IB/IT FROM 6'-8" TO 16'-0"

FINAL APPROVAL

SHEET NO.
A5
OF SHEETS

DRAWN:	DG
DATE:	1-13-15
CHECKED:	BPB
CHECKED:	.
PROJECT #:	14009

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