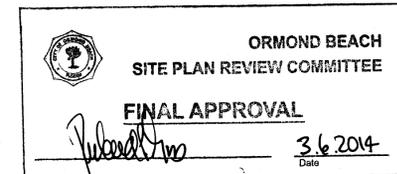


# McNAMARA WAREHOUSE

## SITE PLAN ORMOND BEACH, FLORIDA



### LAND USE TABULATION

SITE AREA = 14,470 S.F. = .338 ACRES (100%)  
 BUILDING = 4,580 S.F. = 31.6% COVERAGE  
 IMPERVIOUS AREA = 4,580 S.F.  
 BUILDING = 4,580 S.F.  
 PARKING/DRIVES = 5,566 S.F.  
 TOTAL = 10,146 S.F. = 70% COVERAGE

LANDSCAPE AREA = 4,324 S.F. = 30% COVERAGE  
 EXISTING ZONING: I-1  
 FLOOD ZONE: X  
 PROJECT ADDRESS: 480 ANDALUSIA AVENUE  
 TAX PARCEL NUMBER: 4242-10-02-0420

### MINIMUM SETBACKS:

FRONT = 20'  
 SIDE = 10'  
 REAR = 20'

### STATEMENT OF INTENT:

CONSTRUCT 4,580 S.F. WAREHOUSE & OFFICE AND ASSOCIATED PARKING

### PARKING CALCULATION:

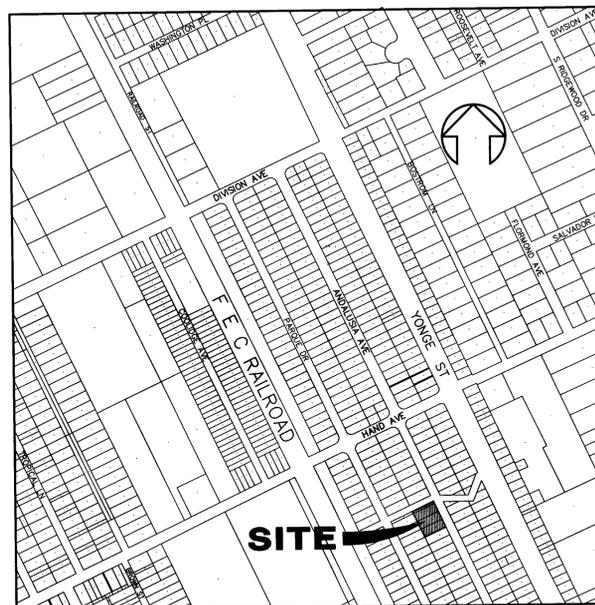
PARKING REQUIRED:  
 WAREHOUSE (BUSINESS/STORAGE) = 2  
 A. 2 SPACES/FIRST 1,000 S.F.  
 B. 1 SPACE/750 S.F. (NEXT 3,000 S.F.) = 4  
 C. 1 SPACE/200 S.F. OFFICE = 1  
 TOTAL REQUIRED = 7

### PARKING PROVIDED:

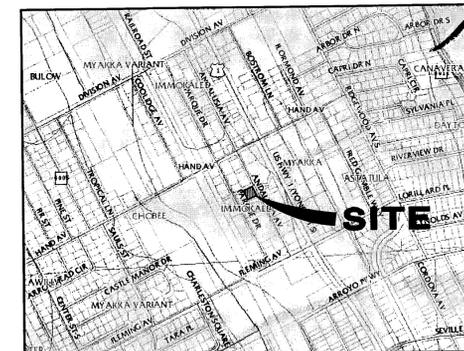
STANDARD PARKING = 6 SPACES  
 HANDICAPPED PARKING = 1 SPACE  
 TOTAL = 7 SPACES

### GENERAL NOTES:

- 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.
- NO LAND SHALL BE CLEARED, EXCAVATED OR FILLED AND NO STRUCTURE SHALL BE ERRECTED, REPAIRED OR DEMOLISHED WITHOUT PROPER PERMIT(S) AS REQUIRED BY THE CITY OF ORMOND BEACH.
- NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION AT 676-3269 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ANY CONSTRUCTION CHANGES TO APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH FOR APPROVAL PRIOR TO PERFORMING THE WORK.
- 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.
- A PRE-PAVING UTILITY INSPECTION MUST BE REQUESTED AND COMPLETED PRIOR TO THE PAVING OF ALL ROADS, STREETS, AND PARKING AREAS.
- 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.
- 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.
- COVERAGE UNDER THE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES, IN ACCORDANCE WITH THIS REQUIREMENT, A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MUST BE SUBMITTED TO THE CITY'S ENGINEERING DIVISION PRIOR TO CONSTRUCTION TO BE IN COMPLIANCE WITH THE PERMIT.



VICINITY MAP



SOILS MAP

TABLE OF CONTENTS	
SHEET NO.	DESCRIPTION
1	COVER SHEET, VICINITY MAP
2	BOUNDARY, TOPOGRAPHIC & TREE SURVEY
3	SITE PLAN
4	LANDSCAPE PLAN
5	IRRIGATION PLAN
6	LANDSCAPE DETAILS
7	IRRIGATION DETAILS
8-9	PAVING & DRAINAGE DETAILS
10-11	WATER DETAILS
12	SEWER DETAILS
13	BUILDING ELEVATIONS
14	BUILDING FLOOR PLAN

### PARKER MYNCHENBERG & ASSOCIATES, INC.

PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER: 00003910

### GENERAL INFORMATION

#### OWNER/DEVELOPER:

McNAMARA CONSTRUCTION LLC  
 DENNIS McNAMARA, MANAGING MEMBER  
 350 PARQUE DRIVE  
 ORMOND BEACH, FL 32174  
 (386) 672-9488

#### ENGINEER & LANDSCAPE ARCHITECT:

PARKER MYNCHENBERG & ASSOC., INC.  
 PARKER MYNCHENBERG, P.E. #32645 L.A. #1553  
 1729 RIDGEWOOD AVENUE  
 HOLLY HILL, FLORIDA 32117  
 (386) 677-6891 FAX (386) 677-2114

#### SURVEYOR:

SPRUCE CREEK LAND SURVEYORS  
 KENNETH E. BLIZZARD P.L.S. #3865  
 3869 SOUTH NOVA ROAD  
 PORT ORANGE, FLORIDA 32127  
 (386) 767-0740

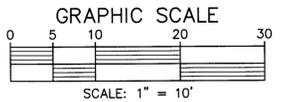
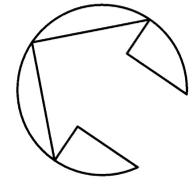
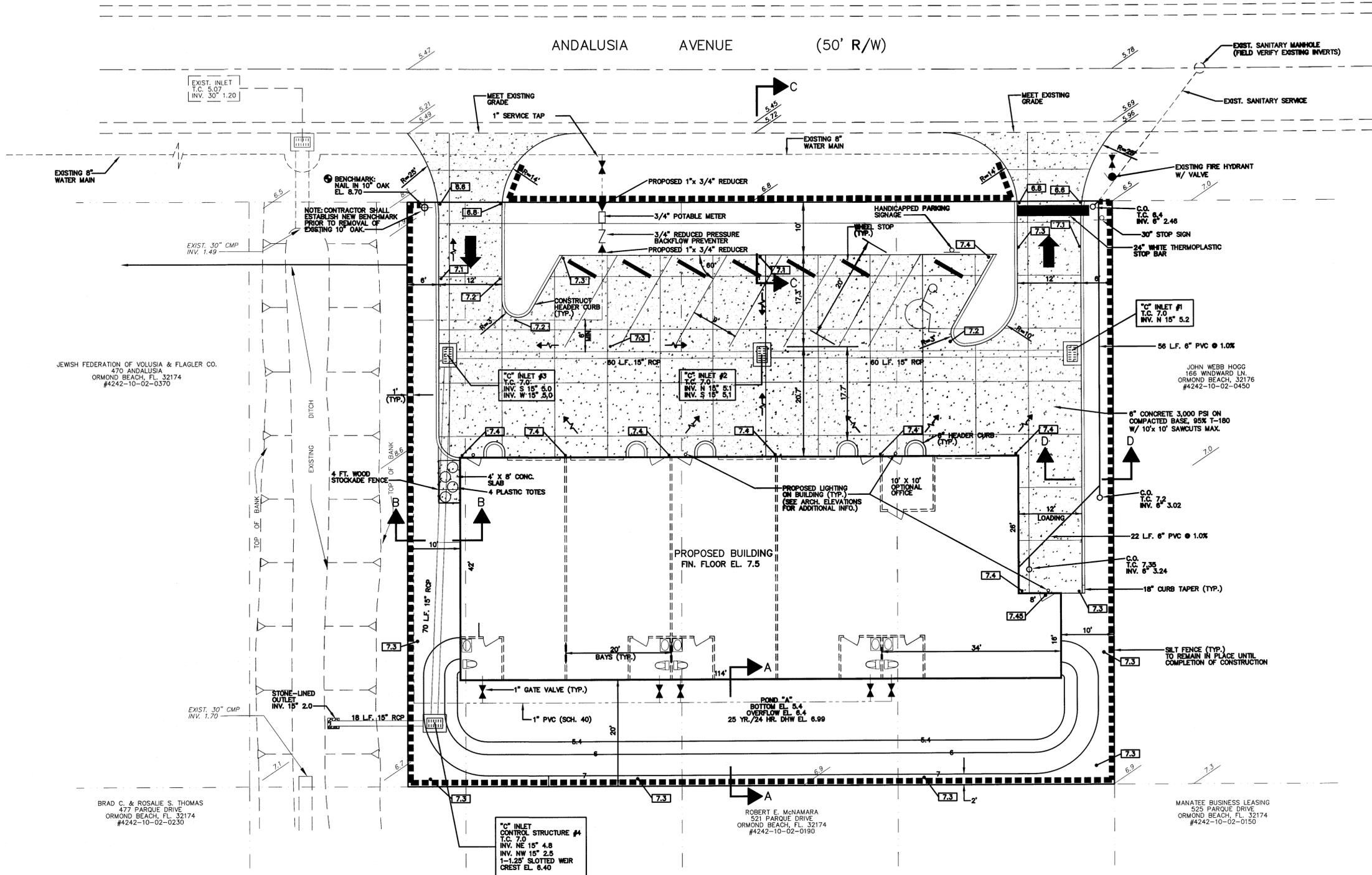
LEGAL DESCRIPTION:  
 ALL OF LOTS 42, 43, 44, AND THE SOUTH 11 FEET OF LOT 41, RIO VISTA GARDENS,  
 ACCORDING TO THE MAP OR PLAT THEREOF AS RECORDED IN MAP BOOK 9, PAGE  
 38, OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.

NO.	DATE	DESCRIPTION	BY
5	12-04-14	REVISED CITY STANDARD DETAILS	DRF
4	12/10/10	REVISED CITY STANDARD DETAILS	JD
3	10/10/07	REVISED WATER AND SEWER SERVICES	BVB
2	8/24/06	REVISED PER SPRC	BVB
1	7/28/06	REVISED PER SPRC	BVB

REVISIONS	
COVER SHEET	
McNAMARA WAREHOUSE	
ORMOND BEACH * FLORIDA	
FILE NO. 10-59CS.DWG	DESIGNER: P. MYNCHENBERG
DATE: 5/8/06	CADD TECH: B. BERGSTROM
SCALE: NONE	SHEET 1 OF 14





**LEGEND**

	EXISTING GRADE
	EXISTING CONTOUR
	PROPOSED GRADE
	PROPOSED CONTOUR
	PROPOSED DRAINAGE FLOW PATTERN

NO.	DATE	DESCRIPTION	BY
5	2-04-14	REVISED CITY STANDARD DETAILS	DRF
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**REVISIONS**

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER: 00003910

**SITE PLAN**

McNAMARA WAREHOUSE

ORMOND BEACH \* FLORIDA

FILE NO. 10-59SP.DWG DESIGNER: P.MYNCHENBERG  
 DATE: 5/8/06 CADD TECH: B. BERGSTROM  
 SCALE: 1" = 10' SHEET 3 OF 14

STEVEN R. BUSWELL  
 No. 53985  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER

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ANDALUSIA AVENUE (50' R/W)

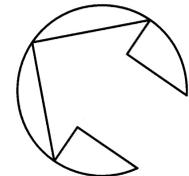
LANDSCAPE CALCULATIONS

SITE REQUIREMENTS:  
 LANDSCAPE AREA = 4,324 S.F.  
 1 TREE/400 S.F. = 4,324 S.F./400 = 11 TREES REQUIRED  
 EXISTING TREES TO REMAIN = 6  
 PROPOSED TREES = 17  
 TOTAL TREES PROVIDED = 23

PLANT LIST

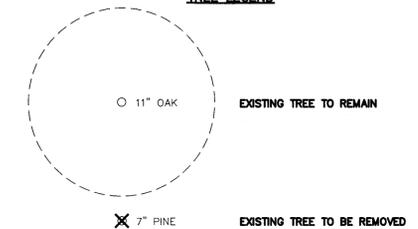
SYMBOL	ABB.	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
○	QV	6	QUERCUS VIRGINIANA	LIVE OAK	85 GAL.; 10'-12" HT., 2.5" MIN. CAL. @ 6"
○	QVI	1	QUERCUS VIRGINIANA	LIVE OAK	85 GAL.; 10'-12" HT., 3.5" MIN. CAL. @ 6"
●	LI	4	LAGERSTROEMIA INDICA	CREPE MYRTLE	30 GAL., MULTI-TRUNK 2.5" MIN. CAL. @ 6" (SEE NOTE A)
■	JP	56	JUNIPEROUS "PARSONII"	PARSON'S JUNIPER	1 GAL., 12"-15" SPD., 18" O.C.
⊗	RI	32	RAPHIOLEPIS INDICA	INDIAN HAWTHORN	3 GAL., 24" O.C. 10" HT., MIN.
⊕	PT	22	PITTIOSPORUM TOBIRA "GREEN"	GREEN PITTIOSPORUM	3 GAL., 30" O.C. 24" HT., MIN.
⊗	VS	88	VIBURNUM SUSPENSUM	SANDANKA VIBURNUM	3 GAL., 30" O.C. 24" HT., MIN.
○	PM	25	PODOCARPUS MACROPHYLLUS	YEW PODOCARPUS	3 GAL., 30" O.C. 24" HT., MIN.
○	LJ	50	LIGUSTRUM JAPONICUM	LIGUSTRUM	3 GAL., 30" O.C. 24" HT., MIN.
*	ZP	15	ZAMIA PUMILA	COONTIE FERN	2 GAL., 18" O.C.
○	IA	6	ILEX X ATTENUATA "EAST PALATKA"	EAST PALATKA HOLLY	30 GAL., 2.5" CAL. @ 6"
SOD			ARGENTINE BAHIA SOD (SQ. FT.), UNLESS NOTED OTHERWISE ON PLANS		

NOTE:  
 A. TOTAL TRUNK DIAMETERS SHALL BE MIN. 2.5" CAL.



GRAPHIC SCALE  
 SCALE: 1" = 10'

TREE LEGEND



NOTE: NUMBER INDICATES DIAMETER

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 CERTIFICATE OF AUTHORIZATION NUMBER: 00003910

LANDSCAPE PLAN	
McNAMARA WAREHOUSE	
ORMOND BEACH * FLORIDA	
FILE NO. 10-59SP.DWG	DESIGNER: P.MYNCHENBERG
DATE: 5/8/06	CADD TECH: B. BERGSTROM
SCALE: 1" = 10'	SHEET 4 OF 14

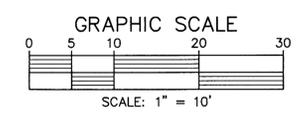
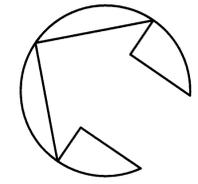
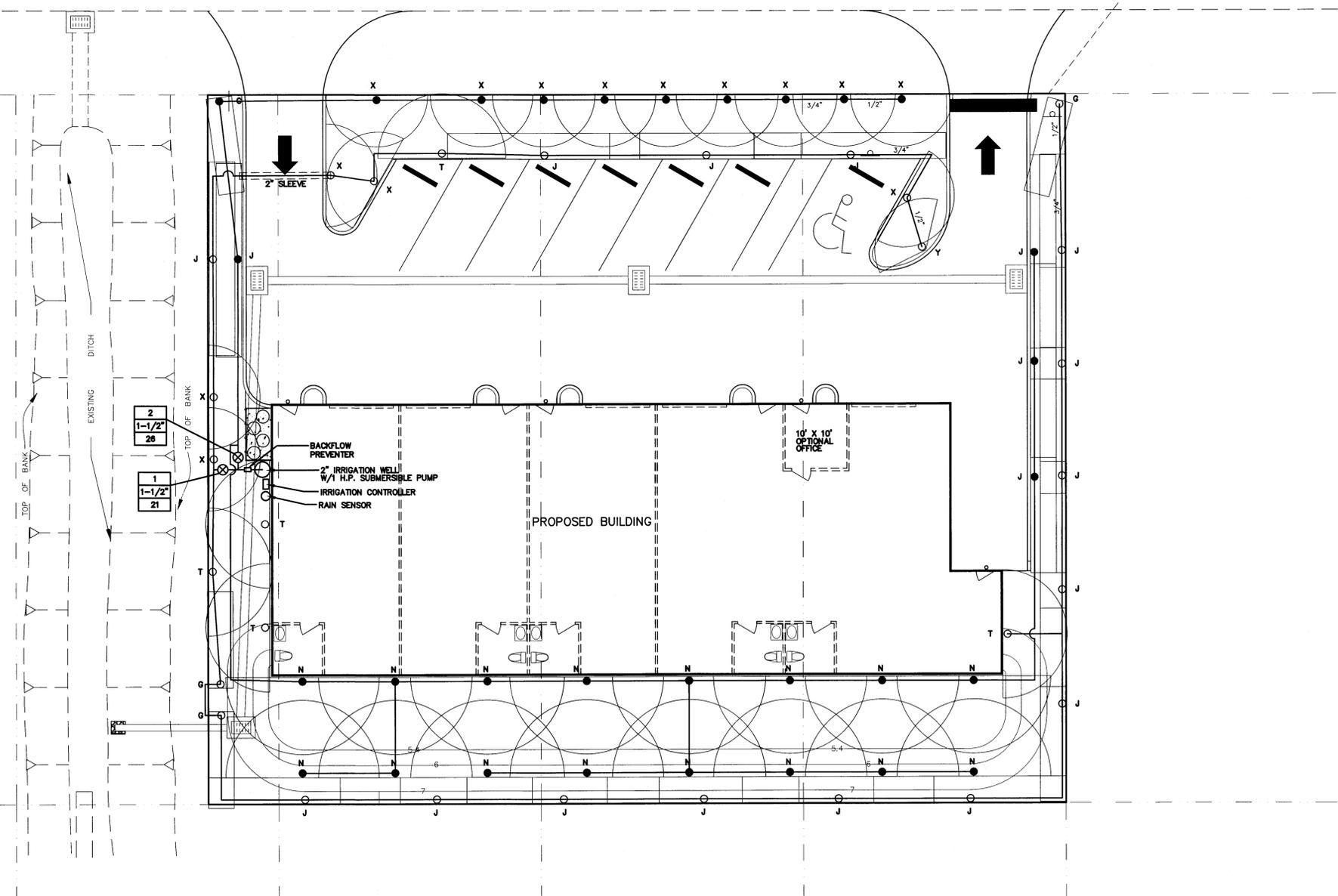
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FEB 25 2014

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ANDALUSIA AVENUE (50' R/W)



NO.	DATE	DESCRIPTION	BY
5	2-04-14	REVISED CITY STANDARD DETAILS	DRF
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**REVISIONS**

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**IRRIGATION PLAN**

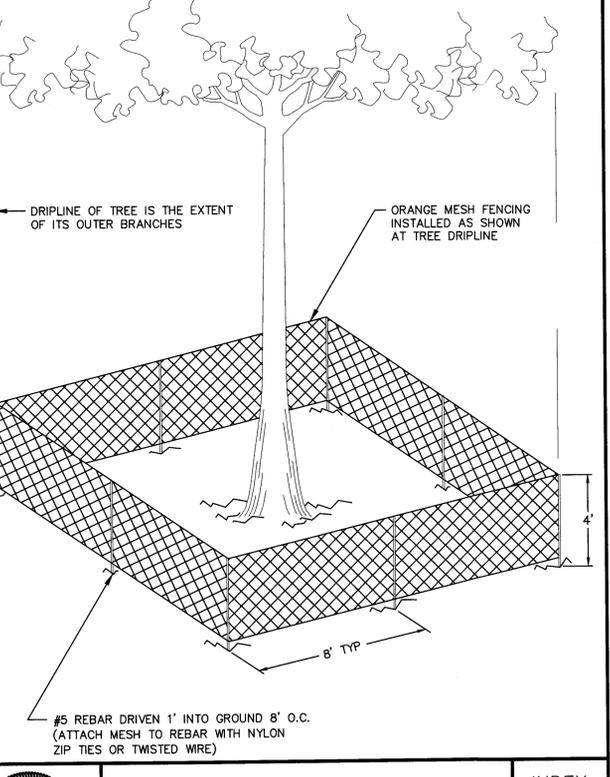
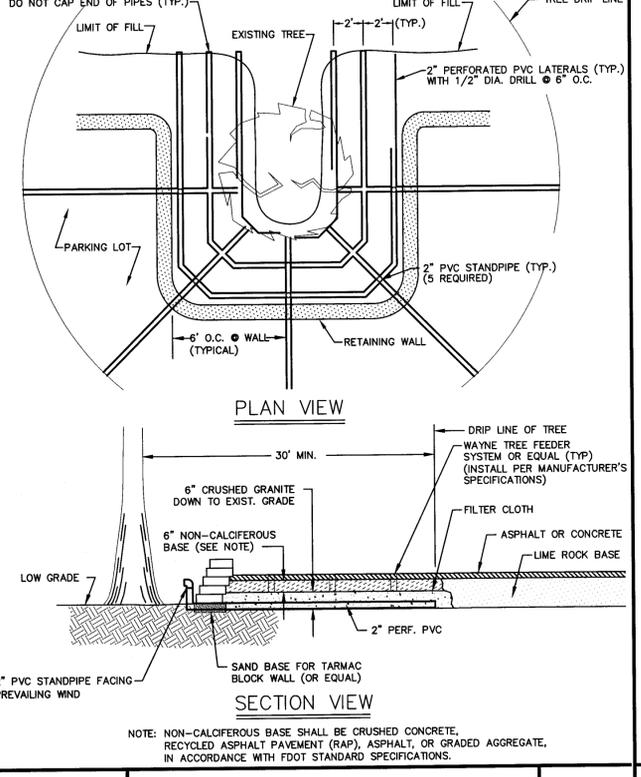
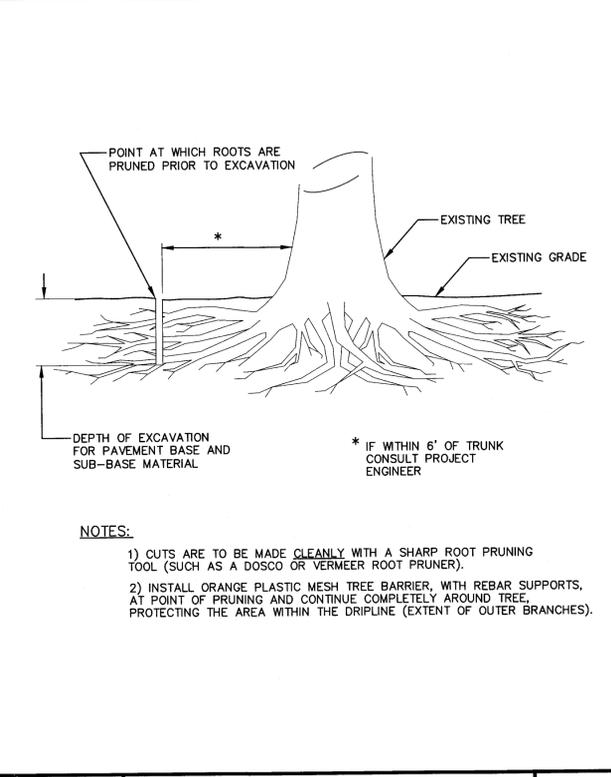
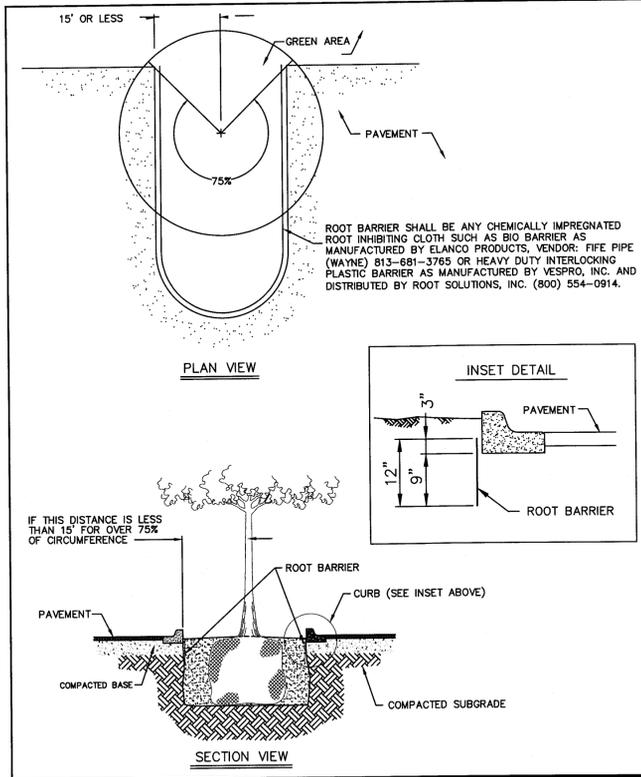
McNAMARA WAREHOUSE

ORMOND BEACH \* FLORIDA

FILE NO. 10-59SP.DWG	DESIGNER: P. MYNCHENBERG
DATE: 5/8/06	CADD TECH: B. BERGSTROM
SCALE: 1" = 10'	SHEET 5 OF 14

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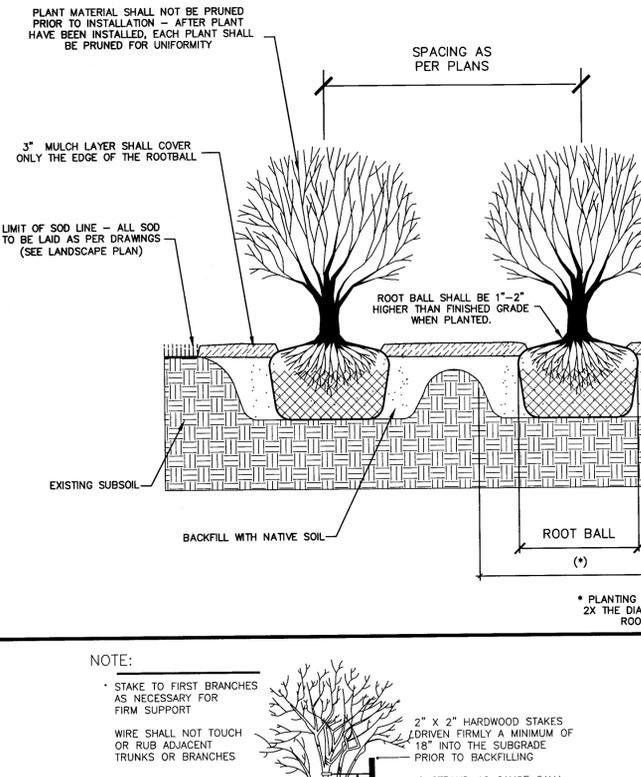
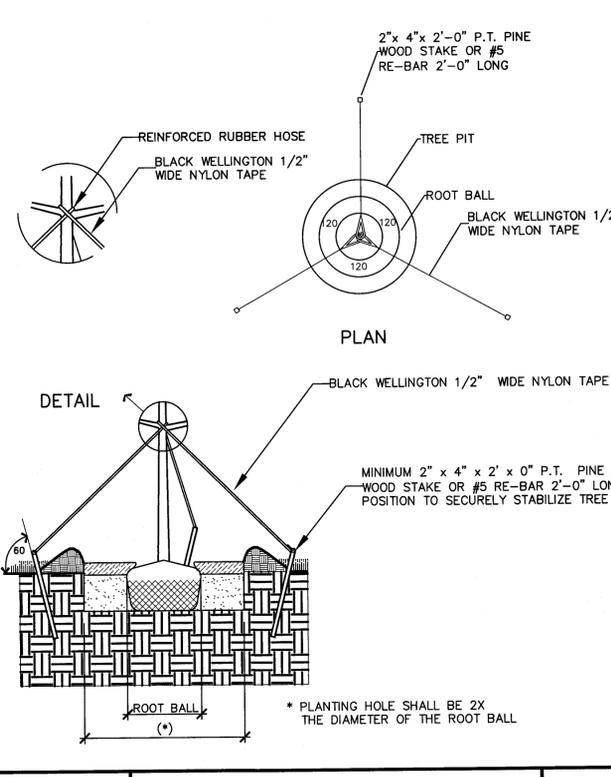
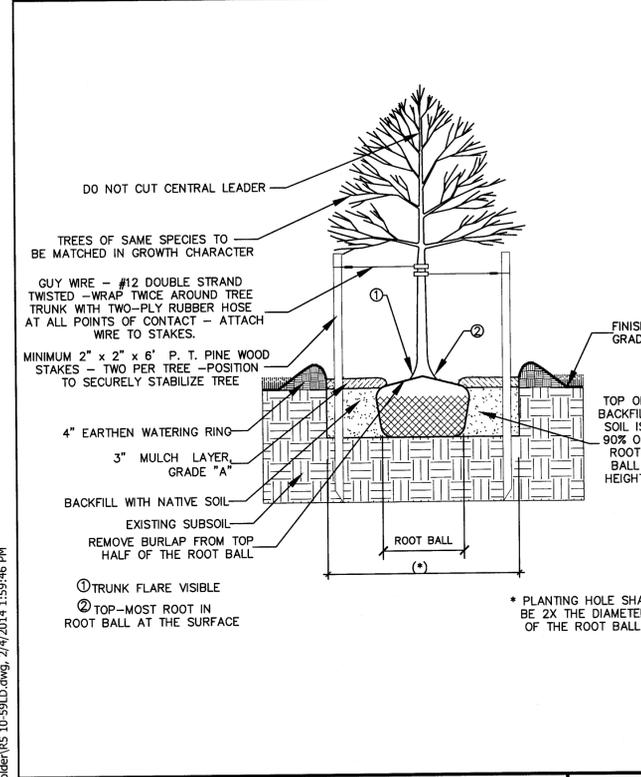


	STANDARD CONSTRUCTION DETAIL	INDEX
	ROOT BARRIER	LS-1
	NTS	JAN. 2012

	STANDARD CONSTRUCTION DETAIL	INDEX
	ROOT PRUNING	LS-2
	NTS	JAN. 2012

	STANDARD CONSTRUCTION DETAIL	INDEX
	TREE PRESERVATION ON FILLED SITE WITH RETAINING WALL	LS-3A
	NTS	JAN. 2012

	STANDARD CONSTRUCTION DETAIL	INDEX
	TREE BARICADE	LS-4
	NTS	JAN. 2012

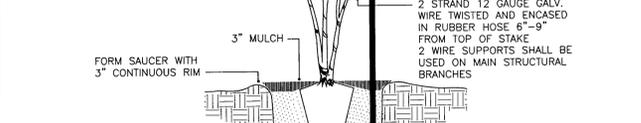


	STANDARD CONSTRUCTION DETAIL	INDEX
	TYPICAL SHRUB PLANTING DETAIL	LS-8
	NTS	JAN. 2012

LANDSCAPE NOTES	
LANDSCAPE REQUIREMENTS:	
1.) ALL PLANT MATERIALS SHALL BE FLORIDA NO. 1 GRADE, OR BETTER, ACCORDING TO THE CURRENT "GRADES AND STANDARDS FOR NURSERY PLANTS", STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE, TALLAHASSEE. TREES AND SHRUBS ARE TO BE CONTAINER GROWN, NO BALL AND BURLAP OR NON-CONTAINERIZED PLANTS WILL BE ALLOWED.	6.) THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR STABILITY AND PLUMB CONDITION OF ALL PLANTS AND SHALL BE LEGALLY LIABLE FOR ANY DAMAGE CAUSED BY INSTABILITY OF PLANT MATERIALS.
A. TREES: TREE SPECIES SHALL BE A MINIMUM OF 10 FT. IN HEIGHTS, IMMEDIATELY AFTER PLANTING. PALMS SHALL BE CONSIDERED TREES. ALSO, TREES PLANTED WITHIN 12' OF PUBLICLY-MAINTAINED STREETS OR OTHER PUBLIC IMPROVEMENTS SHALL BE SELECTED FROM A "LIST OF TREES" AVAILABLE AT THE ENGINEERING DEPARTMENT.	7.) THE CONTRACTOR SHALL DISPOSE OF STUMPS AND MAJOR ROOTS OF ALL PLANTS TO BE REMOVED.
B. SHRUBS AND HEDGES: SHRUBS AND HEDGES SHALL BE A MINIMUM OF 2' FT. IN HEIGHT, IMMEDIATELY AFTER PLANTING. PLANTS SHALL BE SPACED NO MORE THAN 3' FT. APART MEASURED FROM CENTER TO CENTER.	8.) THE LANDSCAPE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH ALL OTHER WORK TO BE DONE ON SITE, PRIOR TO LANDSCAPE INSTALLATION.
C. GROUND COVERS: GROUND COVERS MAY INCLUDE ANY PLANT MATERIALS THAT REACH AN AVERAGE HEIGHT OF NOT MORE THAN 12 INCHES. THEY MAY BE USED IN LEV OF GRASS. GROUND COVERS MUST PRESENT A FINISHED APPEARANCE AND PROVIDE REASONABLY COMPLETE COVERAGE AT TIME OF PLANTING.	9.) THE CONTRACTOR SHALL INSURE ADEQUATE VERTICAL DRAINAGE IN ALL PLANT PITS. TEST HOLES FOR THE VISUAL INSPECTION OF DRAINAGE SHALL BE DUG PRIOR TO INSTALLATION OF ANY PLANTS. THE CONTRACTOR SHALL AMEND POOR DRAINAGE UNTIL ACCEPTABLE FOR PLANT SURVIVABILITY.
D. LAWN GRASS: GRASS AREAS SHALL BE PLANTED WITH ST. AUGUSTINE SOLID SOO. SOO IS REQUIRED IN SWALES OR OTHER AREAS SUBJECT TO SOIL EROSION.	10.) PLANTING BACKFILL MIX SHALL BE 1/4 PEAT, 1/4 COMPOSTED COW MANURE, 1/2 CLEAN SOIL.
E. ALL PLANTER AREAS SHALL BE EXCAVATED PER DETAIL OF ALL PAVEMENT, COMPACTED BASE MATERIAL, ETC. TO NATURAL SOIL DEPTH BACKFILLED TO DEPTH TO ACCEPT PROPOSED TREE AND INSURE MINIMUM OF 12" BACKFILL ALL AROUND BALL WITH CLEAN FILL DIRT TO FINISHED GRADE. ELEVATIONS, FINISH SOIL ELEVATION SHALL BE 2-3 INCHES BELOW EDGE OF ADJACENT PAVEMENT OR CURB TO ALLOW FOR PLACEMENT OF MULCH.	11.) THE CONTRACTOR SHALL REPLACE ALL PLANTS WHICH ARE NOT IN A HEALTHY GROWING CONDITION PRIOR TO ACCEPTANCE. ALL PLANTS SHALL BE MAINTAINED AND GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF 90 DAYS FOLLOWING ACCEPTANCE BY THE OWNER. ANY PLANTS FOUND NOT TO BE IN A HEALTHY GROWING CONDITION AT THE END OF THE GUARANTEE PERIOD SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
F. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING PROJECT SOILS. THE CONTRACTOR SHALL PROVIDE A CERTIFIED SOILS REPORT TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL VERIFY THAT ON-SITE SOILS ARE ACCEPTABLE FOR PROPER GROWTH OF THE PROPOSED PLANT MATERIAL. SHOULD THE CONTRACTOR FIND POOR SOIL CONDITIONS, THE OWNER'S REPRESENTATIVE SHALL BE CONSULTED PRIOR TO PLANTING.	12.) SOO SHALL BE STRONG, SOLID SOO PLACED EVENLY AND WITHOUT GAPS BETWEEN BE PLACED TO LIMITS SHOWN AND TO THE EXTENT OF DAMAGED EXISTING SOO. EXISTING GROUND SHALL BE STRIPPED BEFORE PLACING NEW SOO.
G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS AND WORK CALLED FOR IN THE LANDSCAPE PLAN DOCUMENTS. THE PLANT LIST QUANTITIES SHALL BE USED AS A GUIDE ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES AND REPORT ANY DISCREPANCIES.	13.) THE LIVE OAKS SHALL BE CONTAINER GROWN AND NOT BAG AND BURLAP TYPE. LIVE OAKS SHALL BE PLANTED 2' ABOVE GRADE.
H. ALL PLANT BEDS AND ALL EXISTING AND PROPOSED PARKING LOT ISLANDS SHALL BE DRESSED WITH 3" MINIMUM SHREDDED CYPRESS MULCH.	14.) THE APPLICANT SHALL MARK HARMLESSLY, WITHOUT PAINTING OR NAILING, FOR IDENTIFICATION PURPOSES, THOSE TREES TO BE RETAINED. ADHESIVE BACKED STICKERS GOVERNING TREE REMOVAL SHALL BE AFFIXED TO EACH INDIVIDUAL BARICADE, SUCH THAT THERE IS ONE (1) STICKER EVERY FIFTEEN (15') FEET ALONG THE LENGTH OF THE BARICADE. THE STICKERS SHALL CONTAIN THE FOLLOWING WORDS:
	<p style="text-align: center;"><b>PROTECTED TREES</b></p> <p>ALL TREES MARKED TO BE SAVED ARE PROTECTED BY CITY ORDINANCE. ANY PERSON DAMAGING ANY MARKED TREE IS SUBJECT TO A \$300.00 FINE AND/OR 60 DAYS IMPRISONMENT. IF BARICADES NEED TO BE REMOVED FOR ANY PURPOSE, CALL THE CITY ENGINEERING DEPARTMENT AT 678-3269.</p> <p>STICKERS WILL BE MADE AVAILABLE AT THE BUILDING DIVISION, AND CAN BE PURCHASED AT THE TIME THE PERMIT IS APPLIED FOR.</p>

	STANDARD CONSTRUCTION DETAIL	INDEX
	SMALL TREE PLANTING DETAIL	LS-9
	NTS	JAN. 2012

	STANDARD CONSTRUCTION DETAIL	INDEX
	TYPICAL TREE GUYING DETAIL	LS-7
	NTS	JAN. 2012



	STANDARD CONSTRUCTION DETAIL	INDEX
	TYPICAL SHRUB PLANTING DETAIL	LS-8
	NTS	JAN. 2012

REVISIONS		
5	2-04-14 REVISED CITY STANDARD DETAILS	DRF
4	12/10/10 REVISED CITY STANDARD DETAILS	JD
3	10/10/07 REVISED WATER AND SEWER SERVICES	BVB
2	8/24/06 REVISED PER SPRC	BVB
1	7/28/06 REVISED PER SPRC	BVB
NO.	DATE	DESCRIPTION

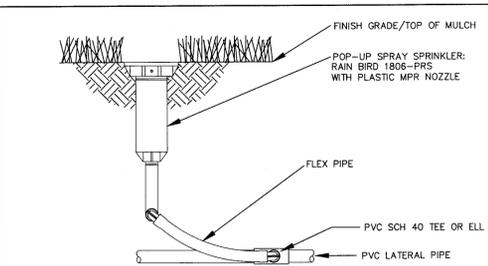
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6581 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER: 00003910

**LANDSCAPE DETAILS**

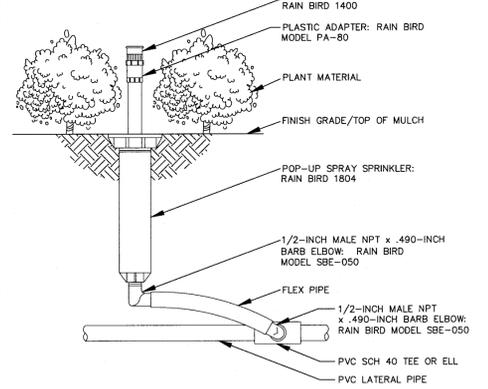
**McNAMARA WAREHOUSE**  
 ORMOND BEACH \* FLORIDA

FILE NO. 10-59LD.DWG    DESIGNER: P. MYNCHENBERG  
 DATE: 5/8/06    CADD TECH. B. BERGSTROM  
 SCALE: NONE    SHEET 6 OF 14

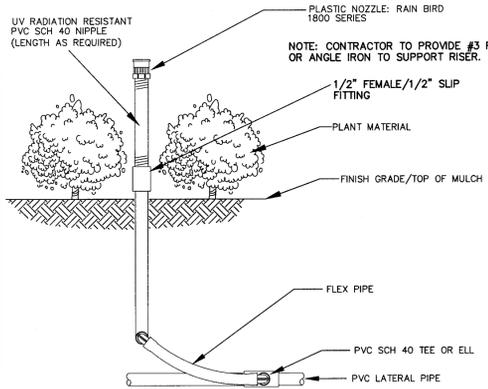
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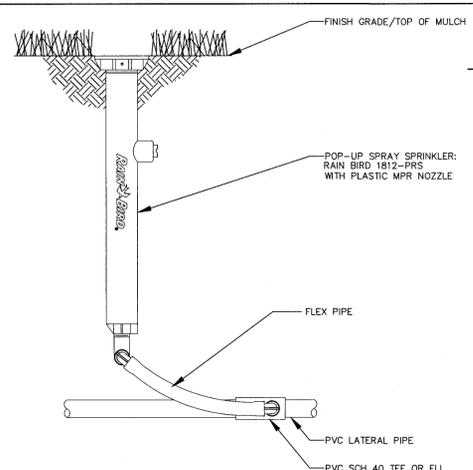
**MODEL 1806-PRS 6" POP-UP**  
FIXED-SPRAY (MPR SERIES), FLEX PIPE, PRESSURE REGULATING



**SPRINKLERS: PRESSURE COMPENSATING FULL-CIRCLE BUBBLER**  
RAIN BIRD N-1400 BUBBLER (MPR SERIES) ON 1804 POP-UP, FLEX PIPE



**MODEL 1800 NOZZLE ON RISER**  
FIXED SPRAY, FLEX PIPE



**MODEL 5500 SERIES POP-UP ROTOR**  
GEAR DRIVE (5500 NOZZLE), FLEX PIPE, PRESSURE REGULATING

**MODEL 1812-PRS 12" POP-UP**  
FIXED-SPRAY (MPR SERIES), FLEX PIPE, PRESSURE REGULATING

**RAIN BIRD MPR SERIES NOZZLE SELECTION CHART**

SYM	SPEC	P.S.I.	G.P.M.	RADIUS	PATTERN
A	15F	30	3.7	15'	FULL
B	15TQ	30	2.78	15'	THREE QUARTER
C	N/A	-	-	1 1/4"	HALF
D	15H	30	1.85	15'	THIRD
E	15T	30	1.23	15'	QUARTER
F	15ST	30	0.92	15'	END STRIP
G	15SST	30	0.61	4'x15'	CENTER STRIP
H	15CST	30	1.21	4'x30'	SIDE STRIP
J	15SST	30	1.21	4'x30'	FULL
K	12F	30	2.6	12'	THREE QUARTER
L	12TQ	30	1.95	12'	HALF
M	N/A	-	-	N/A	HALF
N	12H	30	1.3	12'	BUBBLER
O	50-B	30	0.50	5'	THIRD
P	12T	30	0.87	12'	QUARTER
R	12Q	30	0.65	12'	QUARTER
S	10F	30	1.58	10'	FULL
T	10H	30	0.79	10'	HALF
Z	8Q	30	0.26	8'	QUARTER
W	8F	30	1.05	8'	FULL
X	8H	30	0.52	8'	HALF
Y	8T	30	0.35	8'	THIRD
8Q	30	0.26	8'	QUARTER	
5F	30	0.41	5'	FULL	
5H	30	0.20	5'	HALF	
5T	30	0.13	5'	THIRD	
5Q	30	0.10	5'	QUARTER	

**5500 NOZZLE PERFORMANCE DATA CHART**

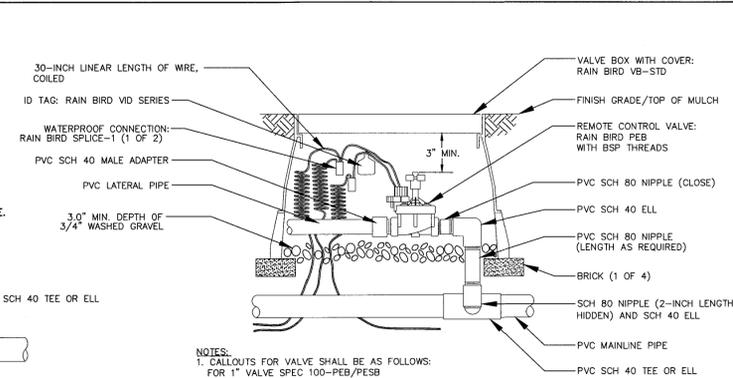
NOZZLE NO.	PSI	GPM	RADIUS
2	40	1.6	37'
3	40	2.7	39'
4	40	2.9	41'
5	40	3.5	41'
6	40	4.8	45'
8	40	6.4	45'
10	40	7.5	41'
12	40	10.1	39'

**5500 SHORT RADIUS NOZZLE PERFORMANCE DATA CHART**

NOZZLE NO.	PSI	GPM	RADIUS
18S	40	1.5	19'
22S	40	1.6	21'
26S	40	1.9	25'
30S	40	1.8	29'

**GENERAL IRRIGATION NOTES**

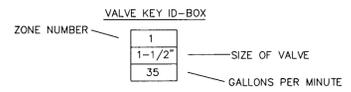
1. THE CONTRACTOR SHALL REFER TO THE LANDSCAPING PLAN WHEN TRENCHING TO LAY PIPE TO AVOID NEW & EXISTING TREES & LARGE SHRUBS.
2. ALL WIRING FROM THE IRRIGATION CONTROLLER TO THE REMOTE CONTROL VALVES SHALL BE UF-14/1 DIRECT BURIAL CABLE. ALL WIRE SPIRES SHALL BE MADE IN VALVE BOXES USING ONLY RAIN BIRD CONNECTORS & SEALANT.
3. UNLESS OTHERWISE INDICATED, PIPING TO A SINGLE SPRAY HEAD SHALL BE 1/2" PVC PIPING. UNLESS OTHERWISE INDICATED, PIPING TO A SINGLE ROTOR HEAD SHALL BE 3/4" PVC PIPING.
4. ALL MAIN LINE PIPING SHALL BE BURIED TO HAVE A MINIMUM COVER OF 18". ALL LATERAL PIPING DOWNSTREAM OF THE MAIN LINE SHALL BE BURIED TO HAVE A MINIMUM COVER OF 12".
5. THE CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE ARCHITECT ON THE EXACT LOCATION OF THE IRRIGATION CONTROLLERS.
6. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS & DIMENSIONS SHOWN ON PLANS AT THE SITE PRIOR TO COMMENCEMENT OF WORK UNDER THIS CONTRACT.
7. ALL IRRIGATION INSTALLATION SHALL CONFORM TO LOCAL CODES & REGULATIONS.
8. ALL PIPING ON THE PLANS IS DIAGRAMMATICALLY ROUTED FOR CLARITY & SHALL BE ROUTED TO AVOID PLANTS. DESIGN MODIFICATIONS SHALL ONLY BE MADE AS NECESSARY TO MEET FIELD CONDITIONS & ONLY UPON APPROVAL OF THE LANDSCAPE ARCHITECT. PIPING SHOWN RUNNING PARALLEL UNDER SIDEWALKS ADJACENT TO PLANTED AREAS IS FOR DESIGN CONVENIENCE ONLY & SHALL BE INSTALLED WITHIN THE PLANTED AREA.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL ADJUSTMENT OF THE SPRINKLERS ARC & RADIUS TO ASSURE 100 PERCENT COVERAGE.
10. 115 VOLT, SINGLE PHASE ELECTRICAL POWER FOR THE IRRIGATION CONTROLLERS SHALL BE COORDINATED BY THE IRRIGATION CONTRACTOR WITH THE ELECTRICAL ENGINEERING DRAWINGS. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE ELECTRICAL HOOK-UP INCLUDING ELECTRICAL MATERIALS.
11. VALVES LOCATED OUTSIDE OF RIGHT-OF-WAY ARE FOR DESIGN PURPOSES ONLY & SHALL BE LOCATED INSIDE OF RIGHT-OF-WAY.
12. ANY CHANGES TO IRRIGATION ZONE PIPING TO BE APPROVED BY THE CITY LANDSCAPE ARCHITECT PRIOR TO WORK BEING DONE.
13. ALL XERIC IRRIGATION ZONES SHALL HAVE RUN TIMES REDUCED OR ELIMINATED AFTER SUFFICIENT PLANT ESTABLISHMENT. THIS NOTE TO APPEAR INSIDE THE CONTROLLER FOR MAINTENANCE PERSONNEL INFORMATION.



**VALVES: PEB OR PESB SERIES**  
PLASTIC VALVE, ELECTRIC (MODEL PEB SHOWN)

**IRRIGATION LEGEND**

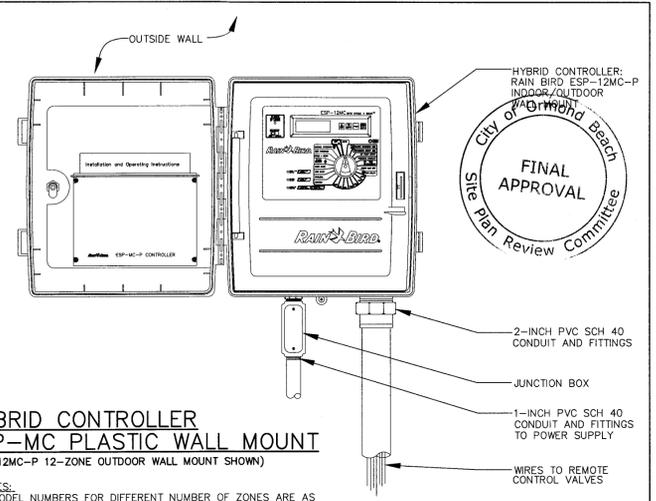
- RAIN BIRD 1812-PRS SERIES - 12" POP-UP SPRAY HEAD, INSTALLED AS SHOWN, SEE NOZZLE CHART
- RAIN BIRD 1806-PRS SERIES - 6" POP-UP SPRAY HEAD, INSTALLED AS SHOWN, SEE NOZZLE CHART
- ⊙ RAIN BIRD MODEL 5500 SERIES SPRINKLER-GEAR DRIVE, FULLY ADJUSTABLE
- ⊗ RAIN BIRD PEB OR PESB SERIES - ELECTRIC CONTROL VALVE INSTALLED IN VB-STD VALVE BOX
- ▶ DENOTES PROPOSED VALVE (SIZE AS SHOWN)
- DENOTES PROPOSED IRRIGATION MAIN, SCH. 40 (SIZE AS SHOWN)
- - - DENOTES PROPOSED IRRIGATION LATERAL SCH. 40 (SIZE AS SHOWN)
- ==== P.V.C. SLEEVE SIZE AS SHOWN
- DENOTES PROPOSED RAIN SENSOR, RAIN BIRD RSD SERIES
- DENOTES PROPOSED RAIN BIRD ESP-MC SERIES CONTROLLER



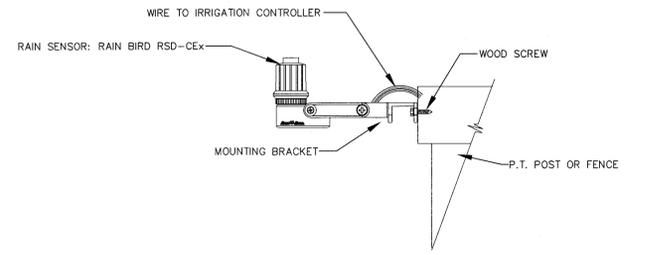
**SPECIFIC IRRIGATION NOTES**

1. IRRIGATION SPRAY HEADS SHALL BE PRESSURE REGULATING.
2. SYSTEM SUPPLY REQUIREMENTS ARE: 40 GPM @ 40 PSI AT WATER SOURCE. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF DESIGN FLOW RATE AND PRESSURE DOES NOT EXIST.
3. LATERAL PIPES SHALL BE SIZED SUCH THAT THE WATER VELOCITY DOES NOT EXCEED 5 FEET/SECOND. CONTRACTOR SHALL APPLY THE FOLLOWING TABLE:

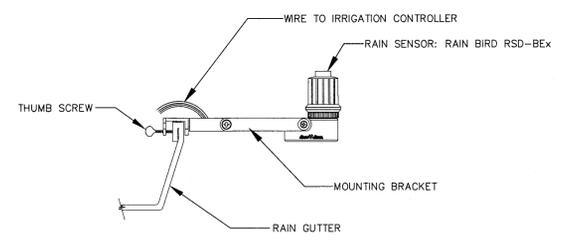
PIPE SIZE (MIN)	FLOW
1/2"	<6 GPM
3/4"	<10 GPM
1"	<15 GPM
1 1/4"	<26 GPM
1 1/2"	<36 GPM
2"	<50 GPM
2 1/2"	<80 GPM
3"	<120 GPM
4"	<200 GPM



**HYBRID CONTROLLER**  
ESP-MC PLASTIC WALL MOUNT  
(ESP-12MC-P 12-ZONE OUTDOOR WALL MOUNT SHOWN)

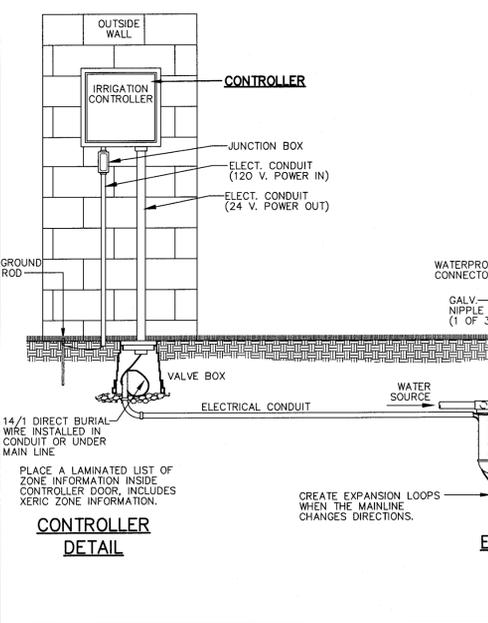


**MODEL RSD-CEx POST/FENCE MOUNTING**

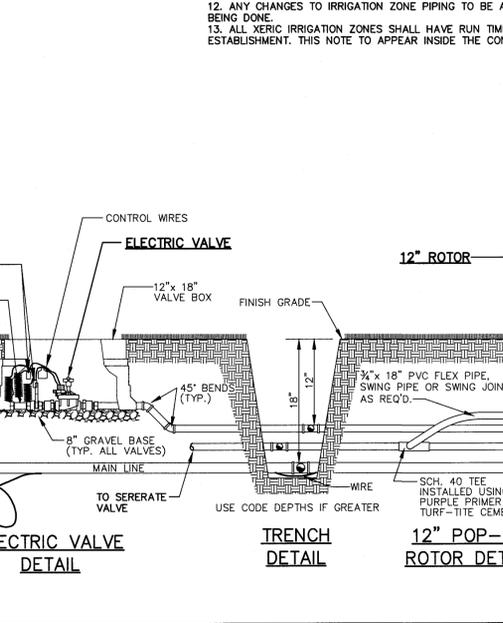


**MODEL RSD-BEx GUTTER MOUNTING**

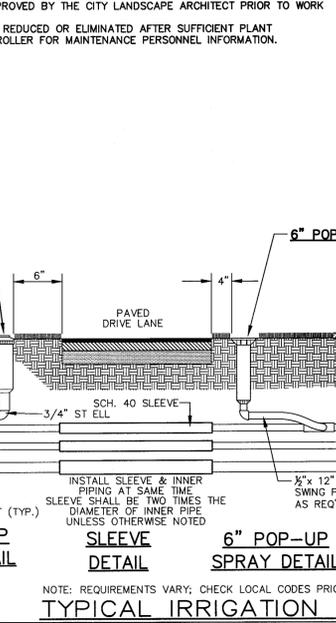
**RAIN SENSOR MOUNTING DETAILS**



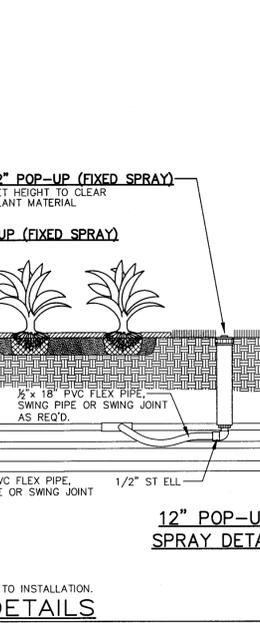
**CONTROLLER DETAIL**



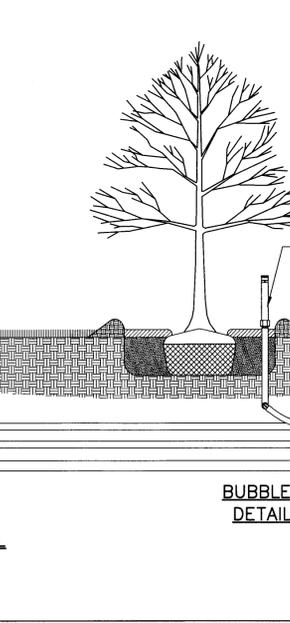
**ELECTRIC VALVE DETAIL**



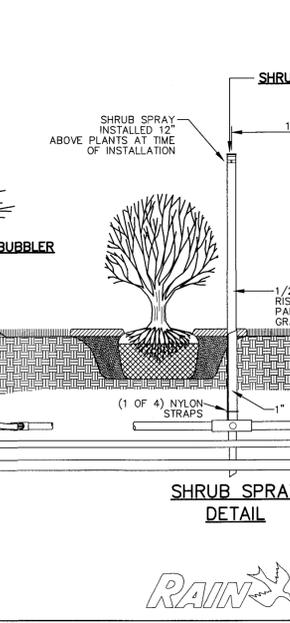
**TRENCH DETAIL**



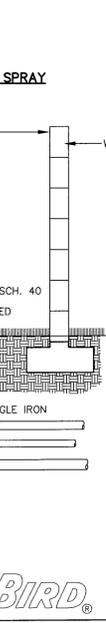
**12" POP-UP ROTOR DETAIL**



**6" POP-UP SPRAY DETAIL**



**12" POP-UP SPRAY DETAIL**



**BUBBLER DETAIL**

**SHRUB SPRAY DETAIL**

**TYPICAL IRRIGATION DETAILS**

NOTE: REQUIREMENTS VARY; CHECK LOCAL CODES PRIOR TO INSTALLATION.

NO.	DATE	DESCRIPTION	BY
5	12-04-14	REVISED CITY STANDARD DETAILS	DRF
4	12/10/10	REVISED CITY STANDARD DETAILS	JD
3	10/10/07	REVISED WATER AND SEWER SERVICES	BVB
2	8/24/06	REVISED PER SPRC	BVB
1	7/28/06	REVISED PER SPRC	BVB

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
(386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com  
CERTIFICATE OF AUTHORIZATION NUMBER: 00003910

**IRRIGATION DETAILS**

McNAMARA WAREHOUSE  
ORMOND BEACH \* FLORIDA

FILE NO. 10-591D.DWG	DESIGNER: P.MYNCHENBERG
DATE: 5/8/06	CADD TECH. DE CILLA
SCALE: NONE	SHEET 7 OF 14

SEAL

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:

- PAVEMENT AND CURB WIDTHS SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET AT EACH BLOCK. ALL RADI AT INTERSECTIONS SHALL BE VERIFIED AND DIMENSIONED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
- 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.
- STORM DRAINAGE STRUCTURES SHALL BE LOCATED AND/OR DIMENSIONED FROM CENTERLINES OR LOT LINES AS APPROPRIATE.
- 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.
- STORM DRAINAGE PIPE MATERIAL, LENGTH, AND SIZE SHALL BE MEASURED AND/OR VERIFIED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
- 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.
- 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.
- STORM DRAINAGE SWALE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE SHALL BE RECORDED EVERY 100 FEET.
- 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.
- 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:

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

- 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.
- ALL STORMWATER 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.
- DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW THE COMPONENT BEING INSTALLED.
- ALL PIPES AND STRUCTURES SHALL BE PLACED TRUE TO LINES AND GRADES AS DEPICTED ON THE APPROVED PLANS.
- ALL PIPE JOINTS SHALL BE PROPERLY HONED AND FILTER FABRIC LINED USING A METHOD TO HOLD THE FABRIC IN PLACE DURING BACKFILL.
- BACKFILL AND COMPACT TO THE SPRING-LINE (CENTER OF PIPE) ELEVATION AND REQUEST CITY INSPECTION AND APPROVAL BEFORE CONTINUING.
- ALL WORK COVERED WITHOUT CITY INSPECTION WILL BE REQUIRED TO BE EXCAVATED AND INSPECTED AT THE CONTRACTOR'S EXPENSE.
- 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.
- 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.
- 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.
- STORM DRAINAGE PIPES WITHIN PUBLIC RIGHT-OF-WAY SHALL BE A MINIMUM OF FIFTEEN (15) INCH RCP DIAMETER OR EQUIVALENT.
- 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.

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

PIPES SIZE (INCHES)	LENGTH OF RUN (FEET)
15	150
18	300
24 OR GREATER	400
- ALL SWALES, DITCHES, AND DRY RETENTION POND SIDE SLOPES SHALL BE NO STEEPER THAN 4:1 (H:V) AND SHALL BE SODDED.
- ALL RETENTION POND BACKSLOPES SHALL BE NO STEEPER THAN 3:1 (H:V) AND SHALL BE SODDED.
- NORMAL ROADSIDE SWALES SHALL BE CONSTRUCTED TO A MAXIMUM DEPTH OF 18" BELOW THE OUTSIDE EDGE OF PAVEMENT OR CONCRETE CURB.
- CONCRETE EROSION CONTROL MUST BE PROVIDED WHERE SWALES OR CULVERTS INTERCEPT DRAINAGE DITCHES.
- A MINIMUM ONE FOOT (1') FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND WET RETENTION PONDS.
- A MINIMUM SIX INCH (6") FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND DRY RETENTION PONDS.
- POND INFLOW SHALL GENERALLY BE CONSTRUCTED WITH REINFORCED CONCRETE AND SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
- 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.
- SOIL EROSION CONTROL MEASURES SATISFACTORY TO THE CITY, SHALL BE EMPLOYED DURING CONSTRUCTION AND UPON COMPLETION OF THE POND.
- 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.

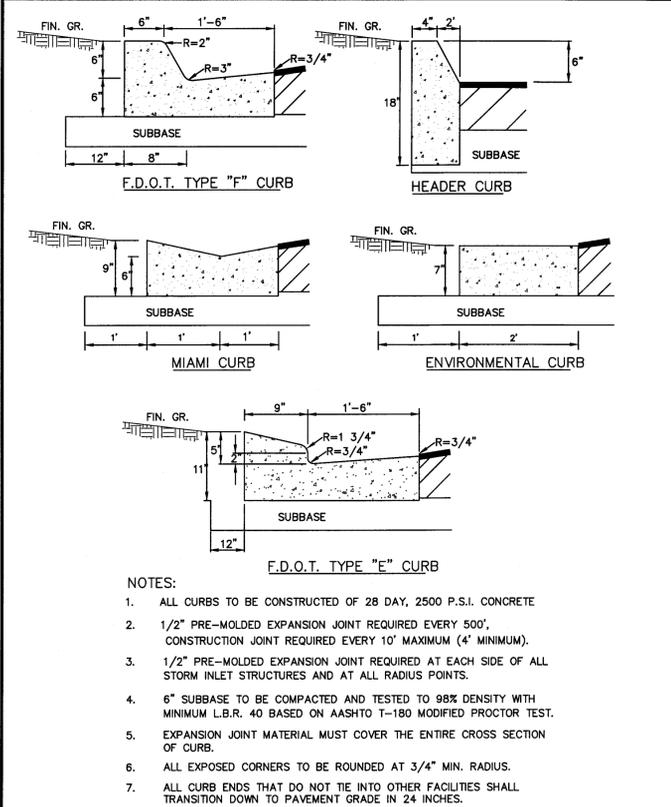
- ADEQUATE MAINTENANCE ACCESS AS APPROVED BY THE CITY SHALL BE PROVIDED AROUND THE ENTIRE PERIMETER OF ALL PONDS AND ASSOCIATED OUTFALLS DISCHARGING INTO AND OUT OF PONDS.
- IN GENERAL, ALL RETENTION/DETENTION PONDS MUST BE CONSTRUCTED PRIOR TO ANY ROAD, PARKING LOT, OR BUILDING CONSTRUCTION COMMENCING OR AS CURRENT PERMIT CONDITIONS DICTATE.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ANY DEWATERING PERMITS THAT MAY BE REQUIRED.
- CULVERTS CROSSING RIGHT-OF-WAYS SHALL EXTEND FROM RIGHT-OF-WAY LINE TO RIGHT-OF-WAY LINE UNDER THE ROADWAY.
- ALL STORMWATER DISCHARGE FROM RETENTION/DETENTION PONDS ARE REQUIRED TO BE CHANNELLED INTO DEFINED DRAINAGE PATHS TO EXISTING WATER BODIES, WETLANDS, DITCHES, ETC.
- THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELEWISE 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 VIDEO 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 VIDEO SHALL BE NON-STOP WITH AUDIO DESCRIBING WHAT IS BEING VIEWED. COPIES OF VIDEO 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.



**STANDARD CONSTRUCTION DETAIL**  
REQUIREMENTS FOR "AS-BUILT" DRAWINGS

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M-1A

JAN 2012



**STANDARD CONSTRUCTION DETAIL**  
STANDARD CURB CONSTRUCTION

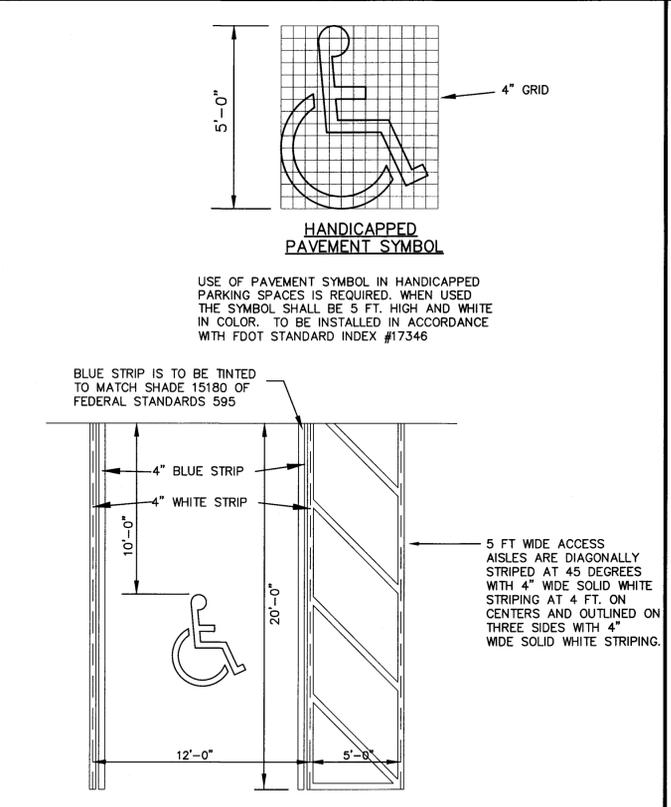
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JAN 2012

**STANDARD CONSTRUCTION DETAIL**  
STORM DRAINAGE CONSTRUCTION NOTES

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ST-1A

JAN 2012



**STANDARD CONSTRUCTION DETAIL**  
TYPICAL MARKINGS FOR HANDICAPPED PARKING

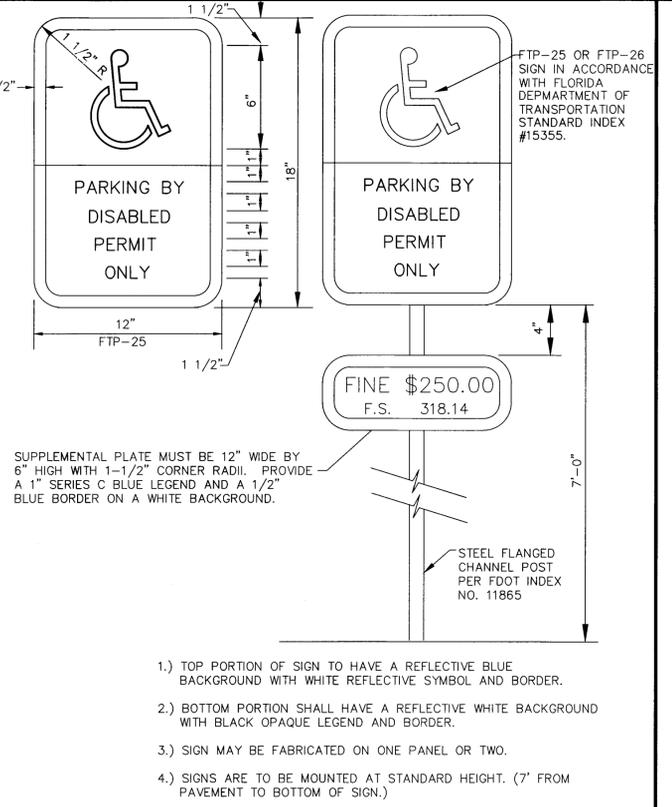
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JAN 2012

**STANDARD CONSTRUCTION DETAIL**  
STORM DRAINAGE CONSTRUCTION NOTES

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JAN 2012



**STANDARD CONSTRUCTION DETAIL**  
HANDICAP PARKING SIGN DETAIL

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JAN 2012

**STANDARD CONSTRUCTION DETAIL**  
STORM DRAINAGE CONSTRUCTION NOTES

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ST-1C

JAN 2012

NO.	DATE	DESCRIPTION	BY
5	2-04-14	REVISED CITY STANDARD DETAILS	DRF
4	12/10/10	REVISED CITY STANDARD DETAILS	JD
3	10/10/07	REVISED WATER AND SEWER SERVICES	BVB
2	8/24/06	REVISED PER SPRC	BVB
1	7/28/06	REVISED PER SPRC	BVB

REVISIONS

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
(386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com  
CERTIFICATE OF AUTHORIZATION NUMBER: 00003911

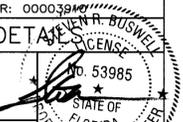
PAVING & DRAINAGE DETAILS

McNAMARA WAREHOUSE  
ORMOND BEACH \* FLORIDA  
DESIGNER: P.MYNCHENBERG  
DATE: 5/8/06 CADD TECH. DE GILLA  
SCALE: NONE SHEET 8 OF 14

**STANDARD CONSTRUCTION DETAIL**  
STANDARD CURB CONSTRUCTION

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R-4

JAN 2012

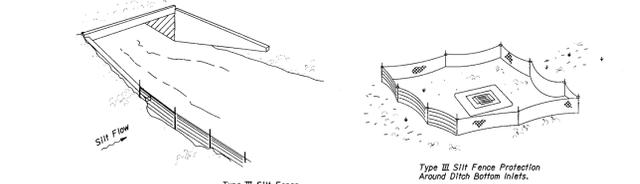
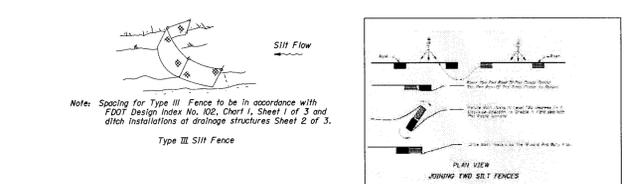
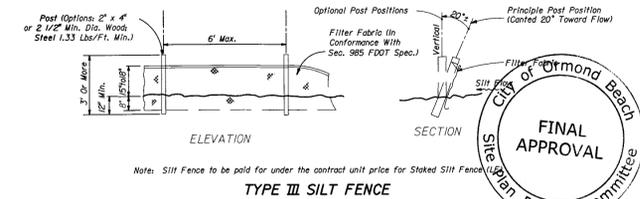


**EROSION & SEDIMENT CONTROL NOTES**

- ALL CONSTRUCTION ACTIVITIES SHALL INCORPORATE BEST MANAGEMENT PRACTICES (BMP'S) TO CONTROL EROSION, SEDIMENTATION, AND THE POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE OF NATURAL VEGETATION TO THE MAXIMUM EXTENT PRACTICAL DURING THE CONSTRUCTION PROCESS.
- SILT FENCE AND TURBIDITY BARRIERS SHALL BE INSTALLED PRIOR TO CONSTRUCTION ON SITE, TO BE INSPECTED WEEKLY AND CORRECTIVE ACTION TAKEN AS NECESSARY.
- STORMWATER RETENTION AND DETENTION STORAGE MUST BE EXCAVATED TO ROUGH GRADE PRIOR TO BUILDING CONSTRUCTION OR PLACEMENT OF IMPERVIOUS SURFACE WITHIN THE AREA SERVED BY THOSE SYSTEMS. ADEQUATE MEASURES MUST BE TAKEN TO PREVENT SILTATION OF THESE TREATMENT SYSTEMS AND CONTROL STRUCTURES DURING CONSTRUCTION OR SILTATION MUST BE REMOVED PRIOR TO FINAL GRADING AND STABILIZATION.
- CONTRACTOR SHALL SOD ALL SWALES AND STORMWATER PONDS IN ACCORDANCE WITH THE DETAIL PROVIDED AS SOON AS POSSIBLE AFTER CONSTRUCTION IN ORDER TO STABILIZE THE SLOPES AND MINIMIZE EROSION.
- DURING ANY CONSTRUCTION OF THE PERMITTED SYSTEM INCLUDING STABILIZATION AND REVEGETATION OF DISTURBED SURFACES, CONTRACTOR IS RESPONSIBLE FOR THE SELECTION, IMPLEMENTATION, AND OPERATION OF ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED TO RETAIN SEDIMENT ONSITE AND PREVENT VIOLATIONS OF THE WATER QUALITY STANDARDS IN ACCORDANCE WITH THE FLORIDA ADMINISTRATIVE CODE.
- THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN A PROTECTIVE COVER (VEGETATIVE OR SUITABLE ALTERNATIVE) FOR EROSION AND SEDIMENT CONTROL ON ALL LAND SURFACES EXPOSED OR DISTURBED BY CONSTRUCTION OF THE PERMITTED PROJECT. UNLESS MODIFIED BY ANOTHER CONDITION OF THE PERMIT OR OTHERWISE SPECIFIED ON A DISTRICT APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE PROTECTIVE COVER MUST BE INSTALLED WITHIN FOURTEEN (14) DAYS AFTER FINAL GRADING OF THE AFFECTED LAND SURFACE. A PERMANENT VEGETATIVE COVER MUST BE ESTABLISHED WITHIN 60 DAYS OF ITS INSTALLATION. THE PERMITTEE'S REQUIREMENT TO MAINTAIN COVER ON OFFSITE SURFACES SHALL NOT BE COMPLETE UNTIL AFTER THE DISTRICT RECEIVES THE PERMITTEE'S STATEMENT OF COMPLIANCE.
- AT A MINIMUM, TURBIDITY BARRIERS AND SILT FENCES SHALL BE INSTALLED PER PLAN. ADDITIONAL MEASURES MUST BE TAKEN TO MINIMIZE IMPACTS OF RECEIVING WATERS SUCH AS THE USE OF FILTER FABRIC AT INLETS, ADDITIONAL SILT FENCING, AND SODDING.

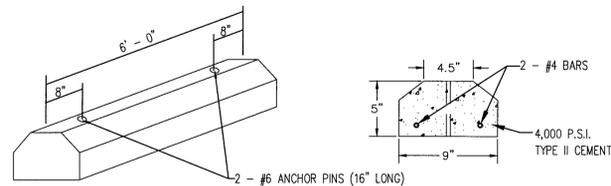
**GENERAL CONSTRUCTION NOTES**

- 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.
- 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.
- NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION AT 676-3269 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ANY CONSTRUCTION CHANGES TO APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH FOR APPROVAL PRIOR TO PERFORMING THE WORK.
- 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.
- A PRE-PAVING UTILITY INSPECTION MUST BE REQUESTED AND COMPLETED PRIOR TO THE PAVING OF ALL ROADS, STREETS, AND PARKING AREAS.
- 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.
- 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.
- 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.
- CONSTRUCTION SITES THAT DISTURB ONE ACRE OR MORE WILL BE REQUIRED TO SEEK COVERAGE UNDER THE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. IN ACCORDANCE WITH THIS REQUIREMENT, A STORMWATER POLLUTION PREVENTION PLAN (SWPP) MUST BE SUBMITTED TO THE CITY'S ENGINEERING DIVISION PRIOR TO CONSTRUCTION TO BE IN COMPLIANCE WITH THE PERMIT.

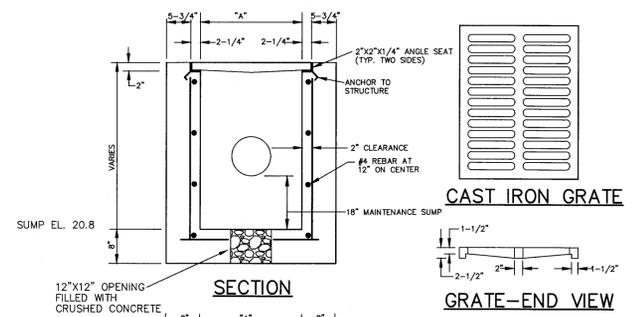


Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

**SILT FENCE APPLICATIONS**



**WHEELSTOP DETAIL**



**CAST IRON GRATE**

**GRATE-END VIEW**

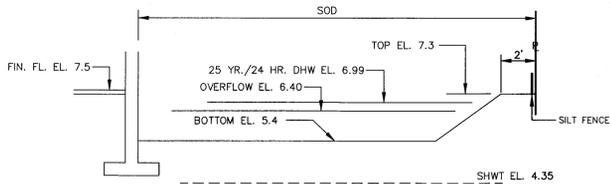
DIMENSIONS					
INLET TYPE	A	B	C	D	E
C	2'-0"	3'-1"	3'-0"	2'-4"	11"
E	3'-0"	4'-8"	4'-4"	3'-4"	1'-8"

**GENERAL NOTES:**

- ALL EXPOSED EDGES AND CORNERS TO BE CHAMFERED 3/4".
- CAST IRON GRATES TO BE IN ACCORDANCE WITH FLORIDA D.O.T. SPECS.
- TYPE "C" WOODEN INLET IS A TYPE "C" TURNED 90° TO RECEIVE R.C.P.'S UP TO 48" DIA. INLETS RECEIVING R.C.P.'S LARGER THAN 48" DIA. SHALL BE IN ACCORDANCE WITH FLORIDA D.O.T. STANDARDS, AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- INLET WALLS AND FOOTINGS MAY BE EITHER FORMED-IN-PLACE 2500 LB. CONCRETE OR PRECAST CLASS "A" 3000 LB. CONCRETE OR STANDARD MANHOLE BRICK (NO BLOCK) WITH 1/2" PLASTER (NO LIME) W/ 8" PRECAST CAP.
- GRATES FOR TYPE "C" AND "E" MOD. ARE TO BE CAST IN TWO SECTIONS.
- STEEL REINFORCING SHALL BE DESIGNED BY A FLA. REG. P.E., AND BE DESIGNED FOR EACH SPECIFIC STRUCTURE.
- SHOP DRAWINGS FOR ALL STRUCTURES SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

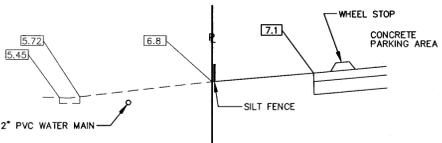
**TYPE "C" & "E" INLET**

NOTE: ALL INLETS TO BE PLYWOOD BLOCKED OR COVERED IN FILTER FABRIC UNTIL CONSTRUCTION OF IMPROVEMENTS ARE COMPLETE AND SOD IS IN PLACE.

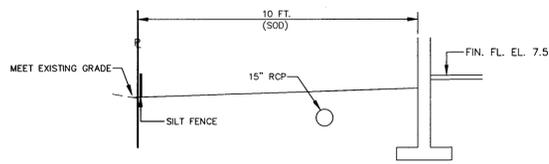


**SECTION "A-A"**

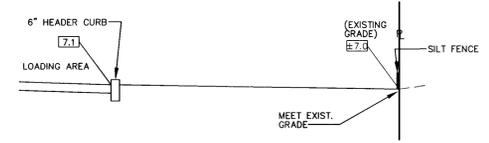
(POND "A")



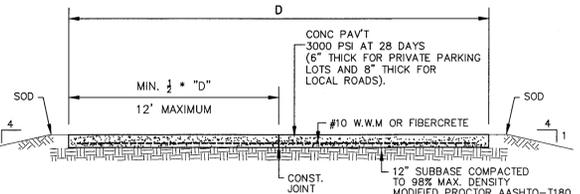
**SECTION "C-C"**



**SECTION "B-B"**

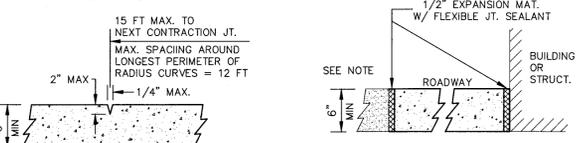


**SECTION "D-D"**



**TYPICAL PAVEMENT SECTION**

NOTE: FOR ROADWAYS, THE CROSSLOPE SHALL BE 1/4" PER FOOT. FOR PRIVATE PARKING AREAS THE MINIMUM ALLOWABLE PAVEMENT SLOPE SHALL BE NO LESS THAN 0.50% MEASURED FROM THE RECEIVING INLET, GUTTER, OR FLUME TO ANY PAVEMENT.

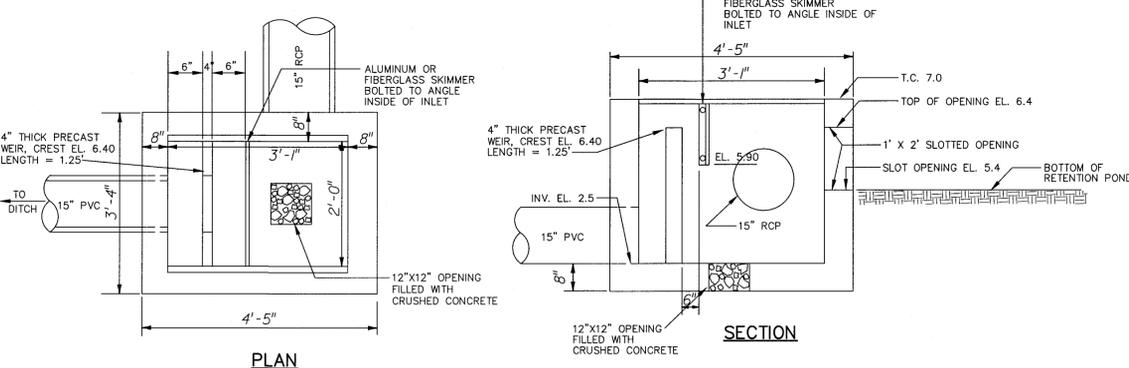


**NOTES: EXPANSION JOINT**

- CONTRACTION JTS. MAY BE HAND FORMED, SAWED OR CONSTRUCTED W/ A 1/4" PREMOLDED FILLER JT. JOINTS MUST BE SAWED BETWEEN 4 AND 18 HOURS AFTER CONCRETE HAS BEEN PLACED.
- EXPANSION JOINTS TO BE PLACED BETWEEN ROADWAY AND CURB. ALSO AT ANY PERMANENT STRUCTURE ABUTTING OR WITHIN THE PAVED AREA INCLUDING SIDEWALKS.
- USE OF WOOD IS NOT AN ACCEPTABLE ALTERNATIVE TO FLEXIBLE JOINT SEALANTS.
- FINAL DETERMINATION OF CONSTRUCTION JOINT SELECTION AND APPLICATION SHALL BE MADE BY THE ENGINEER OF RECORD BASED ON PROJECT REQUIREMENTS AND LOCATION.
- CONSTRUCTION JOINTS WITHIN THE SLAB AREA SHOULD NOT CONTAIN PREMOLDED EXPANSION JOINT FILLER.
- CONCRETE PAVEMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH A.C.I. PUBLICATION ACI 330R-87.

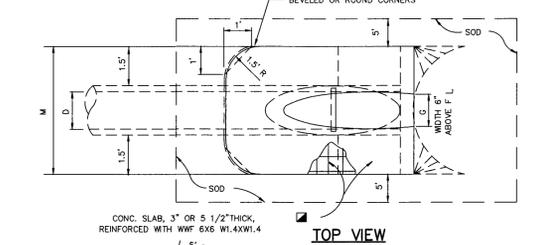
**CONTRACTION JOINT**

**CONSTRUCTION JOINT**

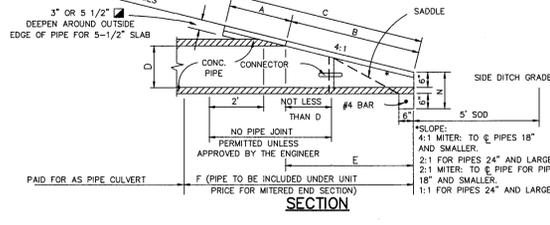


**CONTROL STRUCTURE #4**

W/TYPE "C" INLET  
SHOWING INTERIOR WEIR/SKIMMER



**TOP VIEW**



**SECTION**

**RCP MITERED END SECTION**

D	A	B	C	E	F	G	M	N
15"	2.27'	4.09'	6.36'	4.03'	8'	1.23'	4.63'	1.19'
18"	2.96'	5.12'	7.48'	5.03'	9'	1.41'	4.92'	1.31'
24"	3.95'	6.75'	9.75'	6.75'	11'	1.73'	6.50'	1.50'
30"	4.76'	8.25'	11.95'	8.03'	13'	2.00'	8.08'	1.79'
36"	5.28'	11.31'	14.18'	11.03'	15'	2.24'	9.67'	1.93'

**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	PER 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	PER 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.)

NO.	DATE	DESCRIPTION	BY
5	2-04-14	REVISED CITY STANDARD DETAILS	DRF
4	12/10/10	REVISED CITY STANDARD DETAILS	JD
3	10/10/07	REVISED WATER AND SEWER SERVICES	BVB
2	8/24/06	REVISED PER SPRC	BVB
1	7/28/06	REVISED PER SPRC	BVB

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386)677-6891 FAX(386)677-2114 E-MAIL: info@parkermynchenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER: 00003910

**PAVING & DRAINAGE DETAIL**

**McNAMARA WAREHOUSE**  
 ORMOND BEACH \* FLORIDA

FILE NO. 10-59PD.DWG DESIGNER: P.MYNCHENBERG  
 DATE: 5/8/06 CADD TECH. DE CILLA  
 SCALE: NONE SHEET 9 OF 14

STATE OF FLORIDA LICENSE No. 53985 PROFESSIONAL ENGINEER

GENERAL NOTES  
WATER SYSTEM CONSTRUCTION

- THE CITY'S PUBLIC UTILITIES DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY WATER SYSTEM CONSTRUCTION.
- DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW WATER MAIN BEING LAID.
- 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.
- 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.
- 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 ENGINEERING DEPARTMENT.
- 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.
- WATER SERVICES (SINGLE 1") SHALL BE POLYETHYLENE TUBING (BLUE IN COLOR) ; POLYBUTYLENE SHALL NOT BE ALLOWED.
- 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.
- WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACINGS OF 500 FEET.
- AT ALL WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE.
- APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
  - STANDARD GATE VALVES LESS THAN 48" DIAMETER RESILIENT SEAT GATE VALVES (AWWA C-509 OR C-515).
  - TAPPING VALVES AND MECHANICAL TAPPING SLEEVE SHALL BE STAINLESS STEEL. (AWWA C - 509)

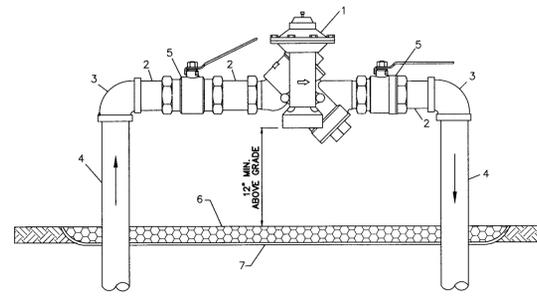
GENERAL NOTES  
WATER SYSTEM CONSTRUCTION

- 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.
- ALL WATER SERVICES SHALL BE MARKED WITH A "A" SAWCUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT.
- ALL WATER VALVES AND BLOW-OFFS SHALL BE MARKED WITH AN "X" SAWCUT 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.
- 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.
- TRACING WIRE SHALL BE INSTALLED IN ACCORDANCE WITH UTILITY PIPE LOCATION MATERIALS DETAIL.
- NO GALVANIZED PIPE, FITTINGS, ETC. ARE ACCEPTED.
- ALL WATER METERS SHALL BE INSTALLED AT THE RIGHT OF WAY LINE ONLY REGARDLESS OF SIZE.
- SUBMIT ASSEMBLY CERTIFICATION FOR ALL BACKFLOW PREVENTERS TO THE CITY'S ENGINEERING DEPARTMENT BEFORE FINAL INSPECTION.
- PIPING FOR RAW WATER SHALL BE OLIVE GREEN FOR ABOVE GROUND PIPING, BUIRED 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.
- SEE CHART BELOW FOR WATERMAIN SIZE AND MATERIALS.

M A T E R I A L S		
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" OR - 18) (30" - 36" OR - 21)	PVC 1120	AWWA C 900
ALL SIZES	HOPE DIPS DR 11	ASTM F 714

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

ACCEPTABLE MANUFACTURERS: HERSEY MODEL FRP II, WILKINS MODEL 975XL, WATTS MODEL 009 QTS



M A T E R I A L S		
ITEM	QUANT.	DESCRIPTION
1	1	3/4", 1", 1-1/2" OR 2" BACKFLOW PREVENTER ASSEMBLY
2	3	3/4", 1", 1-1/2" OR 2" x NOM. NIPPLES - BRASS
3	2	3/4", 1", 1-1/2" OR 2" x 90° ELBOWS - PVC, BRASS, OR COPPER
4	2	3/4", 1", 1-1/2" OR 2" x VARIES RISER - PVC, BRASS, OR COPPER
5	2	3/4", 1", 1-1/2" OR 2" BALL VALVE
6	*	PEA GRAVEL
7	*	PLASTIC LINER

NOTE: -FIELD ADJUST AND CUT ITEM 4 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  
GENERAL NOTES  
WATER SYSTEM CONSTRUCTION

INDEX  
W-1A  
JAN 2012



STANDARD CONSTRUCTION DETAIL  
GENERAL NOTES  
WATER SYSTEM CONSTRUCTION

INDEX  
W-1C  
JAN 2012



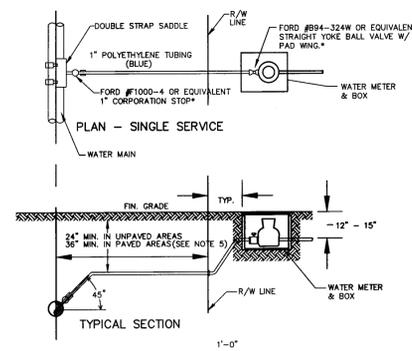
STANDARD CONSTRUCTION DETAIL  
REDUCED PRESSURE BACKFLOW PREVENTER  
(POTABLE WATER & IRRIGATION)  
3/4", 1", 1 1/2", OR 2"  
NTS

INDEX  
W-6D  
JAN. 2012

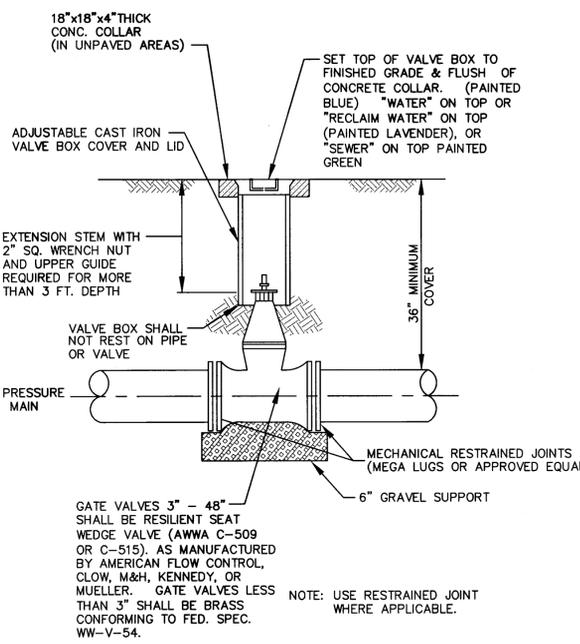
GENERAL NOTES  
WATER SYSTEM CONSTRUCTION

- ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISH GRADE AND THE LIDS PAINTED BLUE TO MAKE THEM PLAINLY VISIBLE.
- WATER VALVES SHALL BE COMPLETELY OPENED BY THE CONTRACTOR UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS IN THE PRESENCE OF UTILITY DEPARTMENT PERSONNEL.
- HYDRANTS SHALL BE PLACED AT 500 FEET MAXIMUM SPACINGS IN RESIDENTIAL DEVELOPMENTS AND AT 300 FEET MAXIMUM SPACINGS IN BUSINESS AND INDUSTRIAL DEVELOPMENTS. ALL WATER MAIN TO WHICH HYDRANTS ARE CONNECTED SHALL BE 8 INCHES MINIMUM.
- 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.
- AS STANDARD PRACTICE, WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF CURB OR AS APPROVED BY THE CITY.
- 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.
- 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.
- WATER MAINS SHALL BE AWWA C-900 CL 150, OR D.I.P. CLASS 350 STANDARD CEMENT LINED.
- 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 ARE PROVIDED TO THE CITY PRIOR TO PAVING AND ANY USE OF THE SYSTEM. PROVIDE THREE (3) BLUELINE COPIES AND ONE (1) MYLAR OF AS-BUILT DRAWINGS.
- 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.

VALVE SCHEDULE	
FORD OR EQUIVALENT	WATER SERVICES
VALVES AT MAIN	
1"	F1000-4
1 1/2"	B81-686 (REQ. C84-66 PACK JOINT COUPLING)
2"	B81-777 (REQ. C84-77 PACK JOINT COUPLING)
VALVES AT METER	
1"	B94-324W
1 1/2"-2"	BF43-777W
REUSE SERVICES	
VALVES AT MAIN AND R/W LINE	
1"	BRW41-444W
2"	BRW41-777W



- NOTES:
- PE TUBING SHALL BE 200 PSI, NSF APPROVED, SDR 9, MEETING ASTM D1248. TUBING SHALL BE ENDOT ENDOPIRE OR APPROVED EQUAL.
  - REDUCED PRESSURE BACKFLOW PREVENTERS ARE REQUIRED FOR ALL COMMERCIAL SERVICES. TO BE INSTALLED BY A CERTIFIED TECHNICIAN AT OWNERS EXPENSE
  - ALL SERVICE TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVAL OR WITHIN 2'-0" OF BELL OR SPIGOT ENDS.
  - METERS 3" AND LARGER SHALL BE PLACED IN A VAULT TO BE CONSTRUCTED BY DEVELOPER IN ACCORDANCE WITH ARTICLE 4.04B4 LOC.
  - 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.
  - 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
  - WATER METERS INSTALLED IN AREAS SERVED BY RECLAIMED WATER OR AN ALTERNATE IRRIGATION SUPPLY SHALL BE EQUIPT WITH DUAL CHECK BACKFLOW PREVENTERS.
  - WATER METERS SHALL BE RADIO READ.



UTILITY SEPARATION NOTES:

- NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, & PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN & THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS & GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, & PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- AT THE UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. & AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.



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WATER LATERAL SERVICE  
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GATE VALVE AND VALVE BOX  
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4	12/10/10	REVISED CITY STANDARD DETAILS	JD
3	10/10/07	REVISED WATER AND SEWER SERVICES	BVB
2	8/24/06	REVISED PER SPRC	BVB
1	7/28/06	REVISED PER SPRC	BVB

REVISIONS

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
(386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com  
CERTIFICATE OF AUTHORIZATION NUMBER: 00003910

WATER DETAILS

McNAMARA WAREHOUSE

ORMOND BEACH \* FLORIDA

FILE NO. 10-59WD.DWG DESIGNER: P.MYNCHENBERG  
DATE: 5/8/06 CADD TECH. B. BERGSTROM  
SCALE: NONE SHEET 10 OF 14

STEVEN R. BUSHEM LICENSE No. 53985 STATE OF FLORIDA PROFESSIONAL ENGINEER

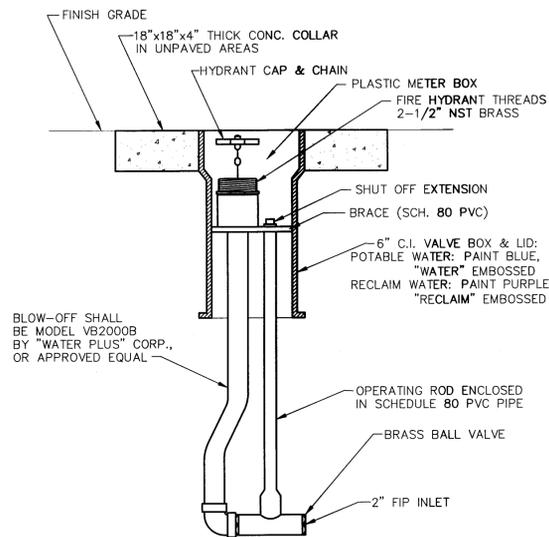
OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORM WATER FORCEMAIN, RECLAIMED WATER (2)	3 FT. MINIMUM	12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES PREFERRED	ALTERNATE 3 FT. MINIMUM
VACUUM SANITARY SEWER	10 FT. PREFERRED 3 FT. MINIMUM	12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM
GRAVITY OR PREASURE SANITARY SEWER, SANITARY FORCEMAIN, 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 62-910, 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 62-910, 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

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STANDARD CONSTRUCTION DETAIL  
WATER MAIN SEPARATION  
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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  
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REVISIONS

**PARKER MYNCHENBERG & ASSOCIATES, INC.**

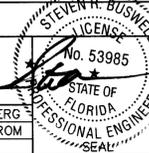
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WATER DETAILS

McNAMARA WAREHOUSE

ORMOND BEACH \* FLORIDA

FILE NO. 10-59WD.DWG DESIGNER: P.MYNCHENBERG  
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SCALE: NONE SHEET 11 OF 14



**SANITARY SEWER CONSTRUCTION GENERAL NOTES**

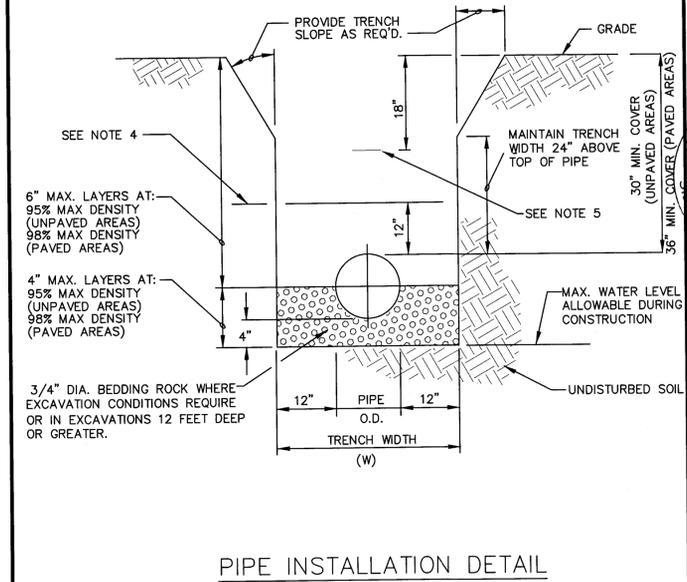
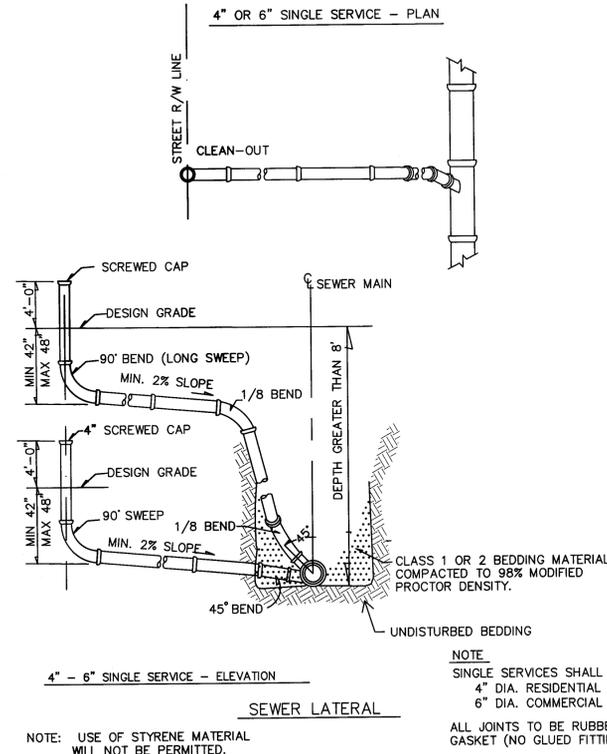
- THE CITY'S PUBLIC UTILITY DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY SEWER CONSTRUCTION.
- ALL SANITARY SEWER MAIN LINES SHALL BE A MINIMUM OF 8" IN DIAMETER. SERVICE LATERALS SHALL BE A MINIMUM OF 4" DIAMETER (RESIDENTIAL) OR A MINIMUM OF 6" DIAMETER (COMMERCIAL).
- ALL SANITARY SEWER LINES 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.
- MINIMUM ALLOWABLE SANITARY SEWER SLOPES ALLOWED ARE:  
8" PIPE 0.40%  
10" PIPE 0.30%  
12" PIPE 0.22%
- SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS PREVIOUSLY APPROVED BY THE CITY.
- 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.
- 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.
- 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.
- 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).
- MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
- 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.

**SANITARY SEWER CONSTRUCTION GENERAL NOTES**

- 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.
- 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.
- SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAWCUT V, OR BY A METAL TAB SET INTO THE PAVEMENT.
- EZ-WRAP PLASTIC, AS MANUFACTURED BY PRESS-SEAL GASKET CORPORATION OR APPROVED EQUAL, SHALL BE USED ON THE OUTSIDE OF ALL MANHOLE AND WETWELL JOINTS. APPLY ONE LAYER OF 9" WRAP CENTERED ON EACH JOINT. A CITY INSPECTOR SHALL PERSONALLY INSPECT ALL JOINT SEALS PRIOR TO BACKFILLING OPERATIONS.
- 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.
- 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.
- 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.



- NOTES:
- WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
  - SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
  - COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180.
  - MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
  - INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.



**STANDARD CONSTRUCTION DETAIL**  
GENERAL NOTES  
SANITARY SEWER CONSTRUCTION

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**STANDARD CONSTRUCTION DETAIL**  
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**STANDARD CONSTRUCTION DETAIL**  
SEWER LATERAL DETAIL  
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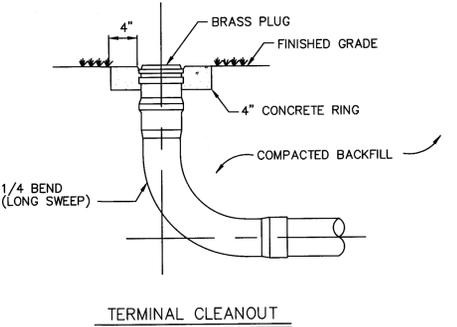
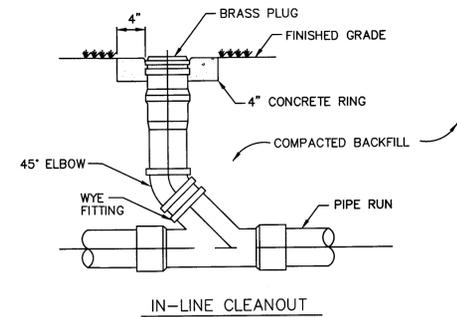
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**STANDARD CONSTRUCTION DETAIL**  
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**SANITARY SEWER CONSTRUCTION GENERAL NOTES**

- THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
- 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).
- NO DOGHOUSE TYPE MANHOLES ARE PERMITTED WITHIN THE CITY OF ORMOND BEACH
- INDIVIDUAL SANITARY SERVICE CONNECTORS ON NEW CONSTRUCTION SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES, BUT TO SEWER MAIN LINES BY USE OF WYE CONNECTIONS.
- 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.
- FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
- 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.
- 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.
- SEE CHART ON DETAIL INDEX S-1C FOR FORCEMAIN AND REUSE PIPE SIZE AND MATERIALS.
- THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELEVIEW ANY AND ALL SANITARY SEWER MAIN LINES AND LATERALS PRIOR TO ANY FINAL ACCEPTANCE, AND RESERVES THE RIGHT TO REQUEST WATER AND AIR TESTING.
- ALL SEWER MAINS PRIOR TO ACCEPTANCE BY THE CITY SHALL BE TELEVIEWED BY A REPUTABLE COMPANY THAT ENGAGES IN THIS TYPE OF WORK. THE VIDEO SHALL BE NON-STOP WITH AUDIO DESCRIBING WHAT IS BEING REVIEWED. WRITTEN VIDEO LOGS DESCRIBING THE CONDITION OF THE LINES SHALL ACCOMPANY THE TAPE SUBMISSION TO THE CITY.
- CONTRACTORS SHALL BE REQUIRED TO TELEVIEW ALL SEWER LINES IN THE PRESENCE OF CITY PERSONEL AND PROVIDE COPIES OF THE VIDEO TAPE TO THE PUBLIC UTILITY DEPT. ANY DEFECTS NOTED SHALL BE CORRECTED PRIOR TO ACCEPTANCE BY THE CITY.



NOTE: CONCRETE COLLAR REQUIRED IN UNPAVED AREAS

**UTILITY SEPARATION NOTES:**

- NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, & PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN & THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS & GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, & PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- AT THE UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. & AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

**STANDARD CONSTRUCTION DETAIL**  
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5	2-04-14	REVISED CITY STANDARD DETAILS	DRF
4	12/10/10	REVISED CITY STANDARDS	JD
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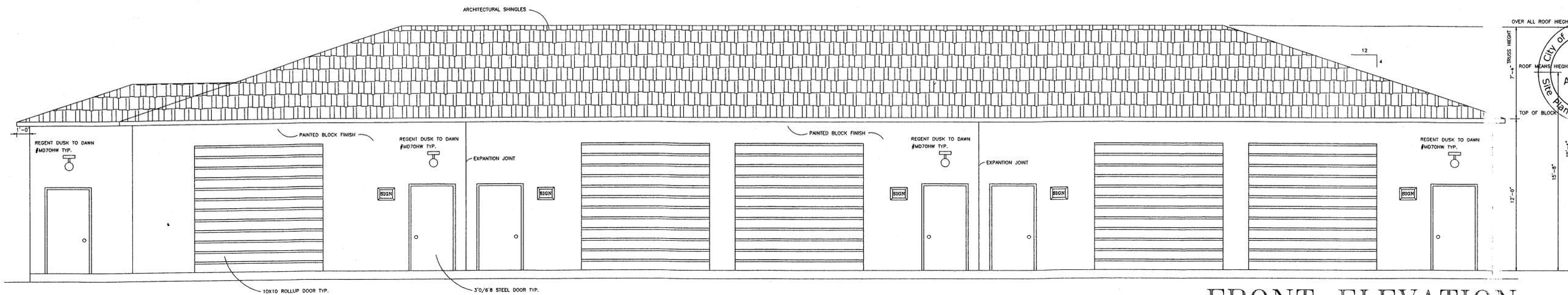
**SEWER DETAILS**

McNAMARA WAREHOUSE  
ORMOND BEACH \* FLORIDA

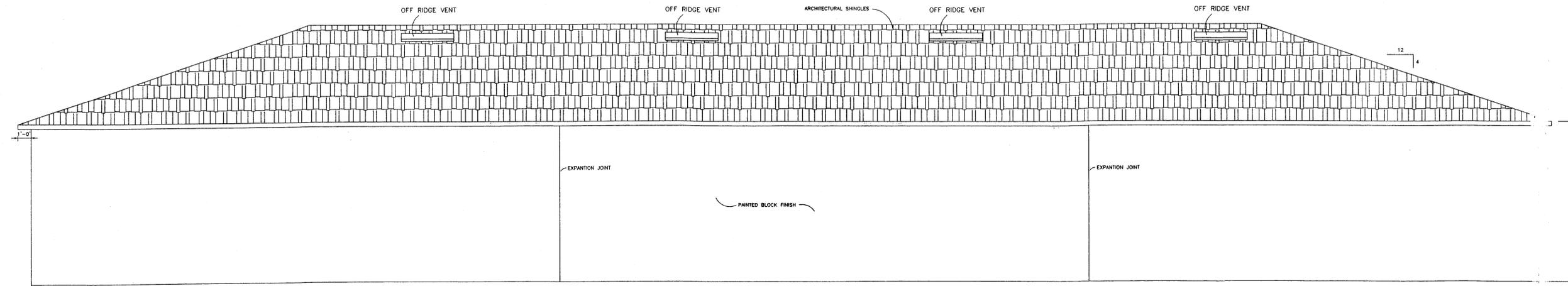
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SCALE: NONE SHEET 12 OF 14

STEVEN R. BUSHEL  
LICENSE No. 53985  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

X:\Doc Work\McNAMARA WAREHOUSE\New Folder\RS 10-595D.dwg, 2/4/2014 2:36:24 PM



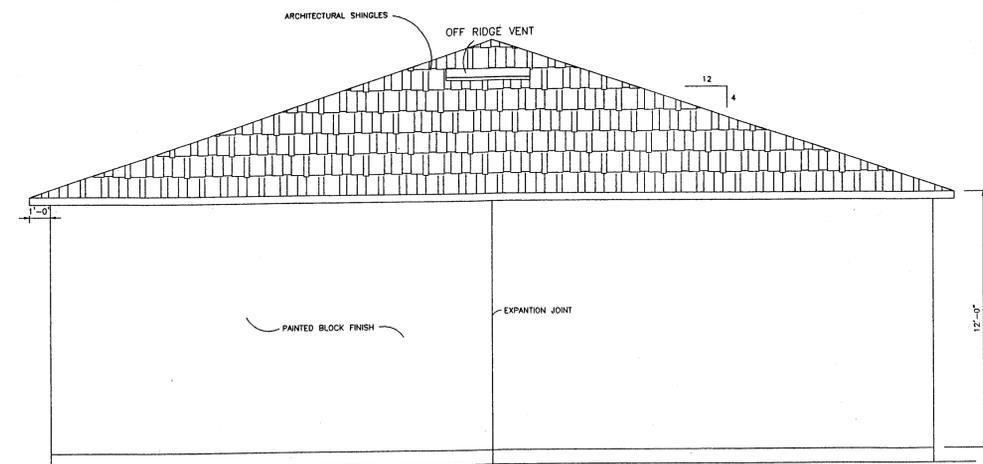
**FRONT ELEVATION**  
SCALE 1/4" = 1 FOOT



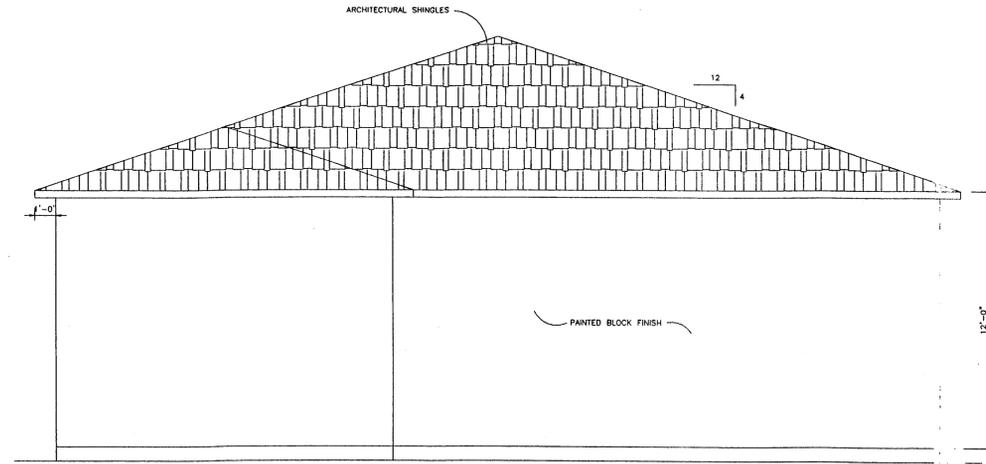
**REAR ELEVATION**  
SCALE 1/4" = 1 FOOT

**COLOR SELECTIONS**

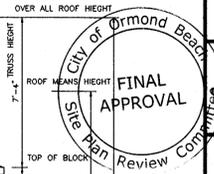
EXTERIOR PAINT (BUCKSKIN)  
SOFFIT AND FACIA (WHITE)  
OVER HEAD DOORS (BUCKSKIN)  
SHINGLES (WEATHER WOOD)



**RIGHT ELEVATION**  
SCALE 1/4" = 1 FOOT



**LEFT ELEVATION**  
SCALE 1/4" = 1 FOOT



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(386) 255-5600 EMAIL: WEL@WELHOMES.COM

CONTRACTOR'S NOTES:  
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*Mc Namara Construction*  
Customized For :  
DENNIS MC NAMARA  
480 ANDALUSIA AVE.  
ORMOND BEACH FL.

JOB:

ORIGINALS	5/26/06
REVISE	6/07/06
REVISE	7/19/06
REVISE	
REVISE	
REVISE	
FINAL	

THESE PLANS CONFORM TO THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2004 RESIDENTIAL AND ARE STRUCTURALLY ADEQUATE FOR 120MPH WINDLOADS.

BUILDING DATA	
WIND VELOCITY (mph)	= 120
IMPORTANCE FACTOR	= 1.00
EXPOSURE CATEGORY	= B
INTERNAL PRESSURE COEFFICIENT	= .55
MEAN ROOF HEIGHT (ft)	= 15.87
BUILDING WIDTH (ft)	= 114
BUILDING DEPTH (ft)	= 42
ROOF SLOPE (x:12)	= 4

PARTIALLY ENCLOSED

LOT:  
ELEVATIONS

SHEET  
1

