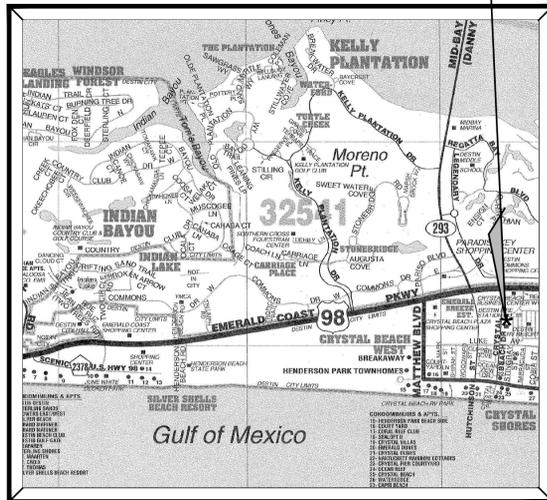


CONSTRUCTION PLANS FOR:

# Crystal Beach Townhomes

Destin, Florida

PROJECT LOCATION



VICINITY MAP



**DIRECTIONS TO LOCATE SITE:**

LATITUDE = 30°23'13.75"N	THE PROJECT SITE IS LOCATED IN DESTIN,
LONGITUDE = 86°25'17.62"W	OKALOOSA COUNTY, FLORIDA, APPROXIMATELY
SECTION = N/A	0.16 MILE SOUTH OF THE INTERSECTION OF
TOWNSHIP = 2 SOUTH	U.S. HIGHWAY 98 (EMERALD COAST PKWY) AND
RANGE = 22 WEST	CRYSTAL BEACH DRIVE, ON THE EAST SIDE OF
COUNTY = OKALOOSA	CRYSTAL BEACH DRIVE.
CITY = DESTIN	

**DESCRIPTION (AS FURNISHED):**

(OFFICIAL RECORD BOOK 3138, PAGE 2095)

COMMENCE AT THE NW CORNER OF BLOCK 35, CRYSTAL BEACH S/D AS RECORDED IN PLAT BOOK 1, PAGE 17, OKALOOSA COUNTY, FLORIDA; THENCE NORTH 87°45'00" EAST, ALONG EAST R/W OF THE CONTINUATION OF EIGHTH STREET (75' R/W) A DISTANCE OF 262.79 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE NORTH 07°45'00" EAST ALONG THE AFORESAID EAST RIGHT OF WAY LINE OF EIGHTH STREET, A DISTANCE OF 367.78 FEET TO THE SOUTH LINE OF AN EXISTING 60' WIDE ROAD EASEMENT; THENCE ALONG THE SOUTH LINE OF SAID EASEMENT, SOUTH 82°15'00" EAST, A DISTANCE OF 315.77 FEET TO A POINT OF CURVATURE OF CURVE BEING CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 322.94 FEET; THENCE GO SOUTHEASTERLY ALONG SAID CURVE AN ARC DISTANCE OF 14.24 FEET (CH.=14.24', CB= S 83°30'52" E) THENCE DEPARTING SAID SOUTH LINE OF EASEMENT GO SOUTH 07°45'00" WEST, A DISTANCE OF 517.92 FEET TO THE NORTH LINE OF SAID GULF POWER EASEMENT; THENCE NORTH 82°16'36" WEST ALONG SAID NORTH LINE, A DISTANCE OF 180.00 FEET, THENCE LEAVING SAID NORTH LINE OF EASEMENT GO NORTH 07°45'00" EAST, DISTANCE OF 150.00 FEET; THENCE NORTH 82°16'36" WEST, A DISTANCE OF 150.00 FEET TO THE AFORESAID EAST RIGHT-OF-WAY LINE OF EIGHTH STREET AND THE POINT OF BEGINNING.

PREPARED FOR:

**MB Real Estate Partners, LLC**  
**4393 Commons Drive East**  
**Destin, Florida 32541**  
**Phone: (850) 259-8556**

PREPARED BY:



**Gustin, Cothorn & Tucker, Inc.**  
**Civil Engineering/Land Surveying**  
 121 Hart Street Niceville, FL 32578 (850) 678-5141  
 Certification No. EB-0003456

**INDEX OF SHEETS:**

- |         |                                   |
|---------|-----------------------------------|
|         | TITLE SHEET                       |
| 1.....  | EROSION CONTROL & DEMOLITION PLAN |
| 2.....  | SITE PLAN                         |
| 3.....  | GRADING & DRAINAGE PLAN           |
| 4.....  | UTILITY PLAN                      |
| 5.....  | SANITARY SEWER PROFILE            |
| 6.....  | SANITARY SEWER PROFILE            |
| 7.....  | SANITARY SEWER PROFILE            |
| 8.....  | MISCELLANEOUS DETAILS             |
| 9.....  | MISCELLANEOUS DETAILS             |
| 10..... | MISCELLANEOUS DETAILS             |
| 11..... | SANITARY SEWER DETAILS            |
| 12..... | POTABLE WATER DETAILS             |
| 13..... | SPECIFICATIONS                    |
| 14..... | SPECIFICATIONS                    |
| 15..... | SPECIFICATIONS                    |

**APPROVED**  
**December 15, 2014**  
**Destin City Council**  
**14-29-SP**

No changes shall be made to, and construction shall not deviate from, these approved plans without prior written approval from the City of Destin. Unapproved deviations may result in the revocation of building permits and the inability to secure a Certificate of Occupancy.

DATED: 11/04/14

Crystal Beach Townhomes E14016

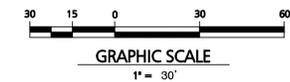
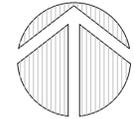
NOT RELEASED FOR CONSTRUCTION

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**NORTH**



**LEGEND:**

- EOP = EDGE OF PAVEMENT
- ⊙ = SANITARY SEWER MANHOLE
- ⊖ = POWER POLE
- = GUY ANCHOR
- ⊕ = WATER METER
- E-FM = EXISTING FORCE MAIN
- GAS = EXISTING GAS MAIN
- WL = EXISTING WATER LINE
- TEL = EXISTING TELEPHONE LINE
- UFO = EXISTING UNDERGROUND FIBER OPTIC LINE
- ⊙ = CENTERLINE
- TYP = TYPICAL
- ⊕ = FIRE HYDRANT
- ⊕ = TELEPHONE BOX
- ⊕ = TELEVISION/CABEL BOX
- ⊕ = SHORT NEEDLE PINE

- PROPERTY LINE
- EX. GRADE CONTOUR (1' INTERVALS)
- FINISHED GRADE CONTOUR
- CROSS SECTION LOCATION SHOWING DRAWING NUMBER AND PAGE NUMBER
- SILT FENCE LOCATION
- EROSION CONTROL
- EXISTING DRAINAGE DIRECTION OF FLOW

**NOTES:**

1. THE LOCATION OF EXISTING FEATURES SHOWN HEREON IS APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO BEGINNING CONSTRUCTION.
2. THE CONTRACTOR SHALL COORDINATE THE RELOCATION OF ALL UTILITIES WITH EACH UTILITY COMPANY.
3. ALL EXCESS SOIL MATERIAL, IF ANY, SHALL BE STORED ON-SITE IN THE LOCATION SHOWN FOR LATER USE OR REMOVED FROM THE SITE AND DISPOSED OF PROPERLY IN A MANNER APPROVED BY THE CITY OF DESTIN. LOCATION OF TEMPORARY DISPOSAL SITE TO BE FIELD DETERMINED BY CONTRACTOR AND CAN SHIFT TO ACCOMMODATE CONSTRUCTION SEQUENCING AS LONG AS PROPER EROSION CONTROLS ARE MAINTAINED.
4. THE DEVELOPER, MB REAL ESTATE PARTNERS, LLC, SHALL BE RESPONSIBLE FOR:
  - a. MONITORING CONSTRUCTION
  - b. ENSURING THAT FORMS 62-346.900(3) CONSTRUCTION COMMENCEMENT NOTICE IS FILED WITH THE NWFWD PRIOR TO CONSTRUCTION
  - c. ENSURING THAT FORMS 62-346.900(4) AS-BUILT CERTIFICATION BY A REGISTERED PROFESSIONAL, ALONG WITH AS BUILT PLANS, ARE PROVIDED AT SUCH TIME THAT CONSTRUCTION HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND PERMIT DOCUMENTS.
5. A COPY OF THE NWFWD ERP PERMIT IS TO BE OBTAINED PRIOR TO COMMENCEMENT OF SITE WORK AND IS TO BE KEPT ON SITE AT ALL TIME.
6. AN FDEP NPDES (NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM) PERMIT IS REQUIRED FOR THIS PROJECT AREA AND IS THE RESPONSIBILITY OF THE OWNER. VERIFY WITH OWNER THAT THE PERMIT HAS BEEN OBTAINED PRIOR TO COMMENCEMENT OF SITE WORK.
7. CONTRACTOR TO ERECT SILT/SEDIMENTATION CONTROLS, AS DEPICTED HEREIN, PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL EROSION CONTROL MEASURES, INCLUDING PERIMETER CONTROLS, SITE ENTRANCE, INLET PROTECTION, AND SEDIMENT BASINS ARE TO BE REGULARLY INSPECTED AND MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION. IN ADDITION TO THE NPDES PERMITTEE'S INSPECTIONS, CITY OF DESTIN ALSO INSPECT AND MONITOR THE EROSION CONTROL MEASURES AND PROVIDE RESULTS TO THE NPDES PERMITTEE.
8. THE CONTRACTOR SHALL VERIFY THAT ALL APPLICABLE PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
9. TOPOGRAPHIC INFORMATION BY GUSTIN, COTHERN, & TUCKER, INC., BOUNDARY AND TOPOGRAPHIC SURVEY, DATED 03-27-2014. ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1988.
10. IF THE SITE CONTRACTOR IS THE SOLE NPDES PERMITTEE AND THE PERMIT IS CLOSED UPON COMPLETION OF THE SITE WORK, IT WILL BE THE RESPONSIBILITY OF THE DEVELOPER TO INSURE THAT EACH INDIVIDUAL BUILDER PROVIDES ADEQUATE EROSION CONTROL DURING LOT CLEARING AND CONSTRUCTION ACTIVITIES.
11. THE SITE CONTRACTOR WILL CONDUCT WEEKLY OR MORE OFTEN INSPECTIONS OF THE EROSION CONTROL MEASURES AS REQUIRED BY NPDES. THESE INSPECTION REPORTS WILL BE PROVIDED TO THE CITY OR MADE AVAILABLE ON SITE.
12. LOCATION OF CONSTRUCTION ENTRANCE AND SEDIMENT BERM TO BE FIELD DETERMINED BY CONTRACTOR AND CAN SHIFT ALONG PROPERTY LINE TO ACCOMMODATE CONSTRUCTION SEQUENCING.
13. ANY SILT FENCE SHOWN OUTSIDE OF THE PROPERTY LINE IS FOR ILLUSTRATIVE PURPOSES ONLY. SILT FENCE TO BE INSTALLED INSIDE OR ALONG PROPERTY BOUNDARY.
14. NO CHANGES SHALL BE MADE TO, AND CONSTRUCTION SHALL NOT DEVIATE FROM, THESE APPROVED PLANS WITHOUT THE WRITTEN APPROVAL OF THE CITY OF DESTIN. UNAPPROVED DEVIATIONS MAY RESULT IN THE CANCELLATION OF CONSTRUCTION PERMITS AND THE INABILITY TO SECURE A Certificate of Occupancy.
15. CONTRACTOR SHALL INSTALL CONSTRUCTION SCHEDULE IN CONFORMANCE WITH DESTIN CODE OF ORDINANCES SECTION 6-51.

CONSTRUCTION SCHEDULE	
0-30 DAYS	INSTALL EROSION CONTROLS, CLEAR EXISTING VEGETATION, CONSTRUCT STORMWATER RETENTION BASIN
30-90 DAYS	CONSTRUCT UNDERGROUND UTILITIES
90-150 DAYS	GRADING AND CONSTRUCTION OF DRIVE
150-180 DAYS	COMPLETION - STABILIZE SITE, TESTING, FINAL CLEANUP, REMOVAL OF TEMPORARY SILT FENCES

— PRIOR TO CLEARING, SILT FENCING SHALL BE INSTALLED ACCORDING TO DETAIL 1/9 OF THE CONSTRUCTION PLANS. THE LOCATIONS ARE DEPICTED ON DWG NO.S 1 AND 3 OF THE CONSTRUCTION PLANS.

— AFTER THE CLEARING AND GRUBBING OF THE SITE, CONSTRUCTION OF THE RETENTION BASIN, AND A ROUGH FINISHED GRADE IS ESTABLISHED, ALL AREAS THAT HAVE BEEN DISTURBED SHALL BE STABILIZED WITH GRASS APPLIED AT MANUFACTURER'S RECOMMENDATIONS. ALL SLOPES 3:1 OR GREATER SHALL BE STABILIZED WITH SOD AS INDICATED IN THE CONSTRUCTION PLANS.

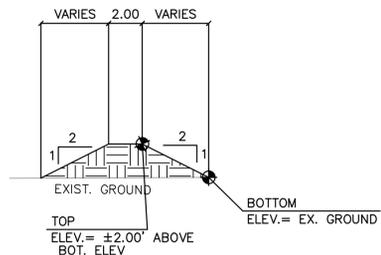
— AS INLETS OR MANHOLES ARE INSTALLED ON SITE, THEY ARE TO BE PROTECTED FROM EROSION AND SEDIMENT RUNOFF BY THE USE OF FILTER FABRIC AND PROPERLY INSTALLED SILT FENCING.

— ALL INSTALLATION OF INLETS, PAVING, ROADWAYS, AND EROSION CONTROL DEVICES SHALL CONFORM TO THE APPROVED CIVIL ENGINEERING CONSTRUCTION PLANS.

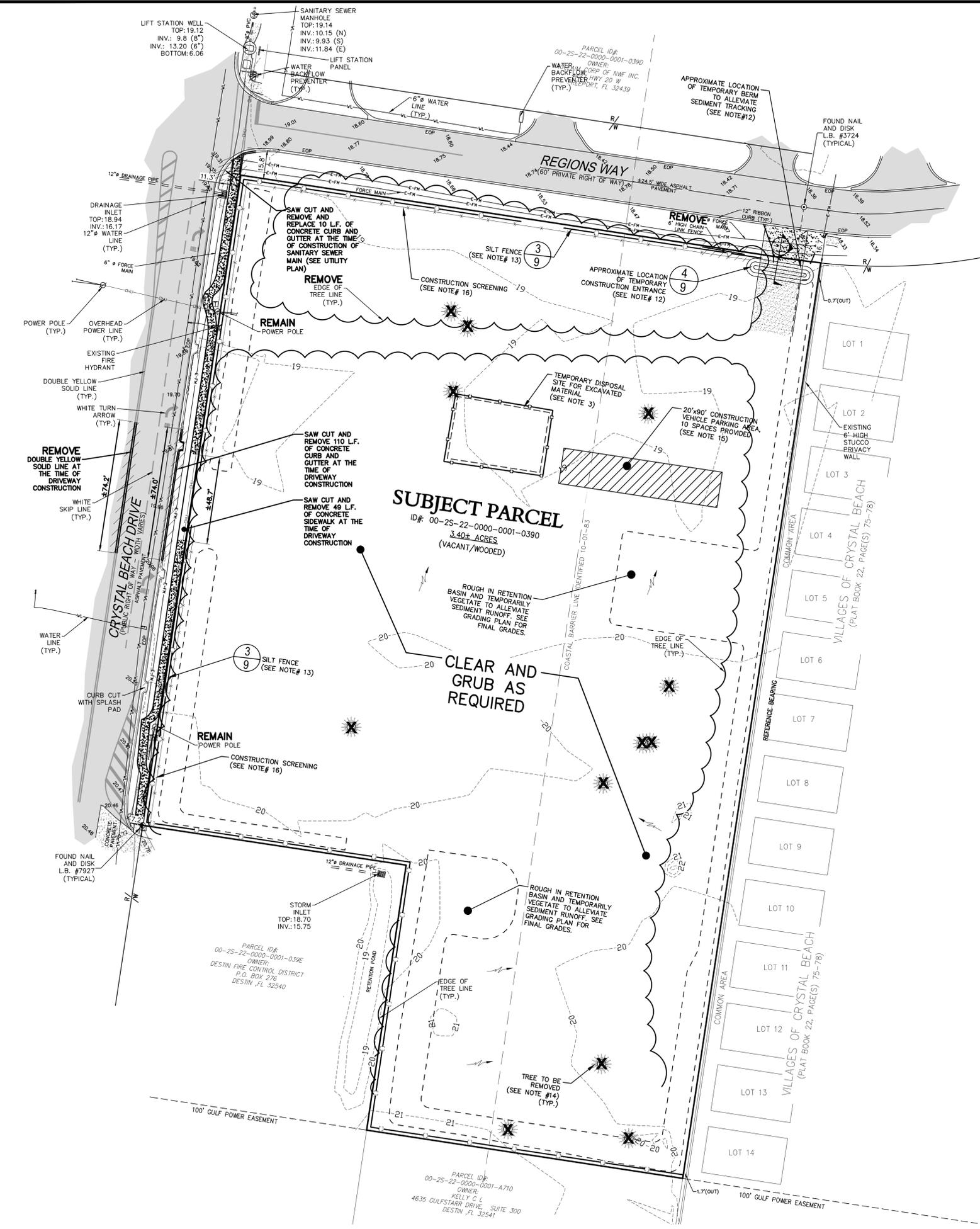
**PROTECTED TREE STATISTICS**

PER LDC SECTION 12.04.05

TOTAL SITE AREA	3.37 ACRES
THE NUMBER OF REFORESTATION TREES REQUIRED (ONE TREE FOR EACH ONE-TENTH OF AN ACRE)	34 TREES
TOTAL CREDITS FOR PROTECTED TREES PRESERVED	0 TREES
TOTAL NUMBER OF REFORESTATION TREES REQUIRED	34 TREES



**SEDIMENT TRAP BERM SECTION**  
NOT TO SCALE



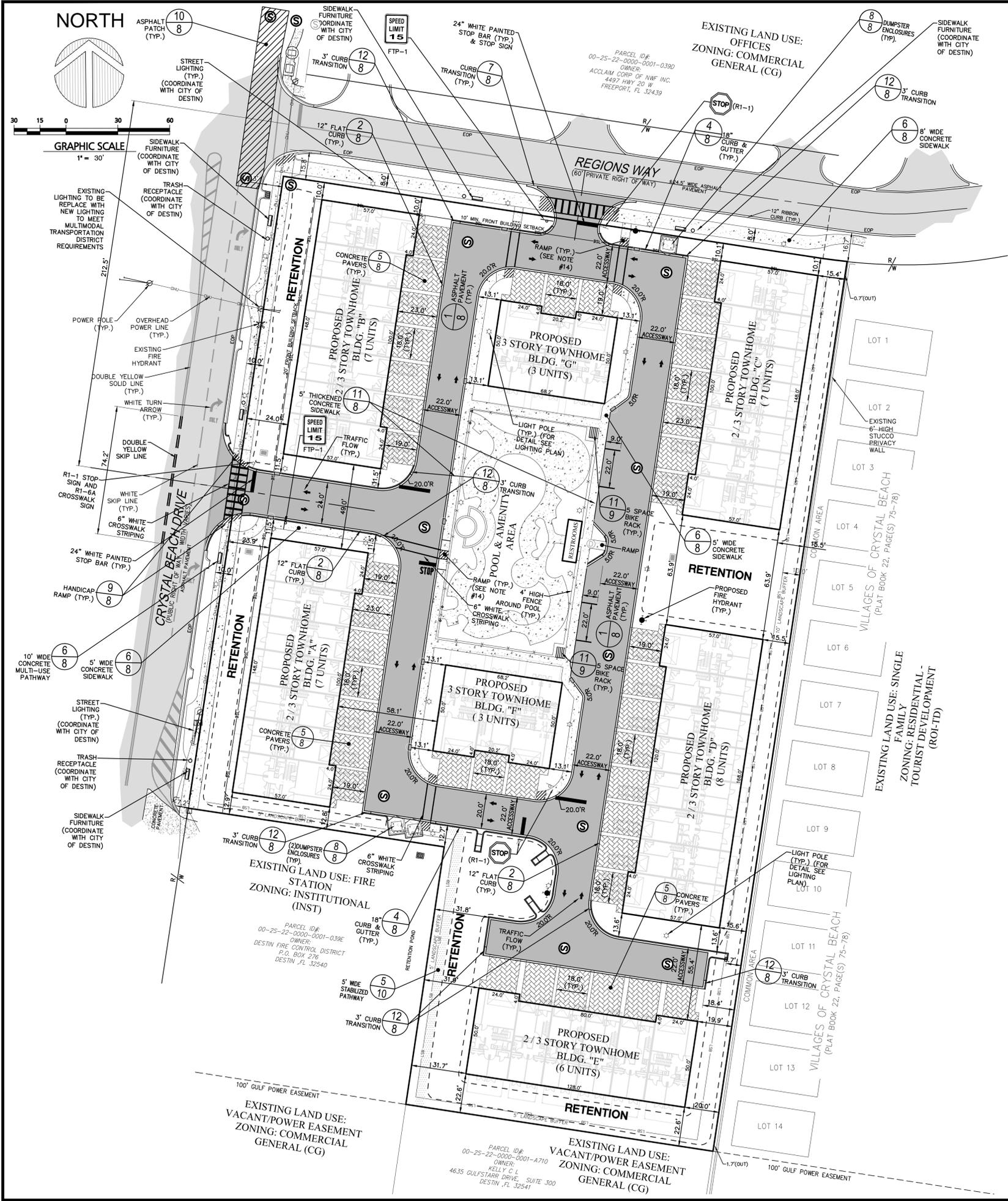
NOT RELEASED FOR CONSTRUCTION

**CRYSTAL BEACH TOWNHOMES  
EROSION CONTROL & DEMOLITION PLAN**

**Gustin, Cothern & Tucker, Inc.**  
Civil Engineering/Land Surveying  
121 Hart Street, Niceville, FL 32578  
Certificate of Authorization No. EB-0003456  
Matthew H. Zinke P.E.# 57612  
DRAWN: M.SCOTTKA CHECKED: M.ZINKE, P.E. APPROVED: M.ZINKE, P.E.

REVISIONS:  
10-03-2014 REVISED PER CITY OF DESTIN COMMENTS DATED 08-26-2014  
SCALE: 1"=30'  
FILE # E14016  
F.B. # 14-07  
DATE: 07-14-2014

**APPROVED**  
December 15, 2014  
Destin City Council  
14-29-SF



**LEGEND:**

- RIGHT-OF-WAY LINE
- PROPERTY LINE
- LOT LINE
- CENTERLINE OF DRIVES & R/W
- EASEMENT LINE
- BUILDING SETBACK LINE (B.S.L.)
- ASPHALTIC CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- BRICK PAVERS PAVEMENT

**SITE DATA TABLE:**

PARCEL IDENTIFICATION: 00-25-22-0000-0001-0390

EXISTING LAND USE: VACANT  
 FUTURE LAND USE: COMMERCIAL GENERAL (CG)  
 ZONING: COMMERCIAL GENERAL (CG) (TIER 1)

DESCRIPTION: 41 SHORT-TERM MULTI-FAMILY ATTACHED DWELINGS

TOTAL SITE AREA: 147,006 ± SF / 3.37 AC  
 BUILDINGS AREA: 45,966 ± SF / 1.05 AC  
 ROAD/DRIVEWAY AREA: 43,491 ± SF / 0.99 AC  
 POOL/AMENITY AREA: 11,527 ± SF / 0.26 AC  
 SIDEWALK AREA: 2,854 ± SF / 0.06 AC  
 TOTAL IMPERVIOUS AREA: 103,838 ± SF / 2.38 AC

DENSITY  
 MAXIMUM DENSITY: 40.0 UNITS/ACRE  
 PROPOSED DENSITY: 12.2 UNITS/ACRE

SETBACKS (TIER 1 - FOOT NOTES M)  
 FOR BUILDING HEIGHTS OF 40 FEET OR LESS

	REQUIRED	PROVIDED
FRONT:	10' MIN. TO 20' MAX.	10'/20'
SIDE:	0'	12.6'
REAR:	0'	11'

MINIMUM DISTANCE BETWEEN BUILDINGS: 15' (REQUIRED) / 49' (PROVIDED)

BUILDING HEIGHT: (TIER 1) MAX. 50' OR 4 STORIES (REQUIRED) / 2/3 STORY AND 3 STORY (PROPOSED)

MINIMUM OPEN SPACE (TIER 1): 25% (REQUIRED) / 31.7% (PROVIDED)

PARKING STATISTICS: REQUIRED

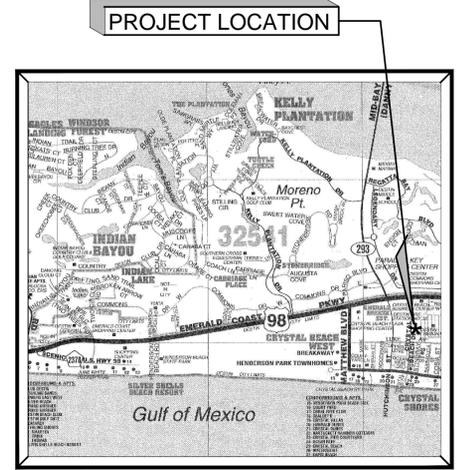
	REQUIRED	PROVIDED
MULTI-FAMILY ATTACHED DWELLING		
SEASONAL OR SHORT-TERM RESIDENTIAL USES		
(31) 4 BEDROOM UNITS 2.5 SPACES PER DWELLING UNIT	77.5	
(10) 3 BEDROOM UNITS 2.0 SPACES PER DWELLING UNIT	20	
TOTAL PARKING SPACES REQUIRED	97.5	
		PROVIDED
DRIVEWAY SPACES		82
OVERFLOW PARKING SPACES		6
GARAGE PARKING SPACES		55
TOTAL PARKING SPACES PROVIDED		143
	REQUIRED	PROVIDED
BIKE SPACES	9.75	10

**NOTES:**

- PAVEMENT DIMENSIONS ARE MEASURED TO THE FACE OF CURB.
- DISTANCES SHOWN ALONG CURVES ARE ARC LENGTHS.
- RETURN RADIUS IS 25' UNLESS OTHERWISE DIMENSIONED.
- ALL STREET STRIPING WILL BE THE RESPONSIBILITY OF THE DEVELOPER.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL SIGNAGE, INCLUDING STREET, STOP, AND SPEED LIMIT SIGNAGE.
- BUILDING SETBACK IS MINIMUM HORIZONTAL DISTANCE PERMITTED AND MEASURED FROM FACE OF BUILDING TO THE NEAREST PROPERTY LINE.
- ALL COVERED/ENCLOSED STRUCTURES ARE SUBJECT TO SETBACK REQUIREMENTS.
- FLOOD STATEMENT: PANEL NO. 12091C0493 H, DATED 12-06-2002, FLOOD ZONE X. PORTION OF THE SITE IS LOCATED IN COSTAL BARRIER ZONE IDENTIFIED OCTOBER 01, 1983.
- CONTRACTOR SHALL INSTALL CONSTRUCTION SCREENING IN COMPLIANCE WITH DESTIN CODE OF ORDINANCES SECTION 6-51.
- ALL RIGHT OF WAY (PUBLIC OR PRIVATE) STRIPING SHALL BE THERMOPLASTIC.
- ALL INTERNAL CROSSWALKS AND STOP BAR SHALL BE THERMOPLASTIC.
- ALL SIDEWALK LANDINGS SHALL INCLUDE THE TRUNCATED DOME DETECTABLE WARNING SURFACES IN ACCORDANCE WITH FDOT SPECIFICATIONS.

**APPROVED**  
 December 15, 2014  
 Destin City Council  
 14-29-SP

No changes shall be made to this construction shall not deviate from these approved plans without prior written approval from the City of Destin. Unapproved deviations may result in the revocation of building permits and the inability to secure a Certificate of Occupancy.



**Gustaf, Cothran & Tucker, Inc.**  
 Civil Engineering/Land Surveying  
 121 Hart Street, Destin, FL 32578 (850) 678-5141  
 Certificate of Authorization No. EB-0003456  
 Matthew H. Zinke PE# 57612

CHECKED: M. ZINKE, P.E. APPROVED: M. ZINKE, P.E.

REVISIONS:  
 10-03-2014 REVISED PER CITY OF DESTIN COMMENTS DATED 08-26-2014  
 11-04-2014 REVISED PER DOW COMMENTS DATED 10-28-2014 (MS)  
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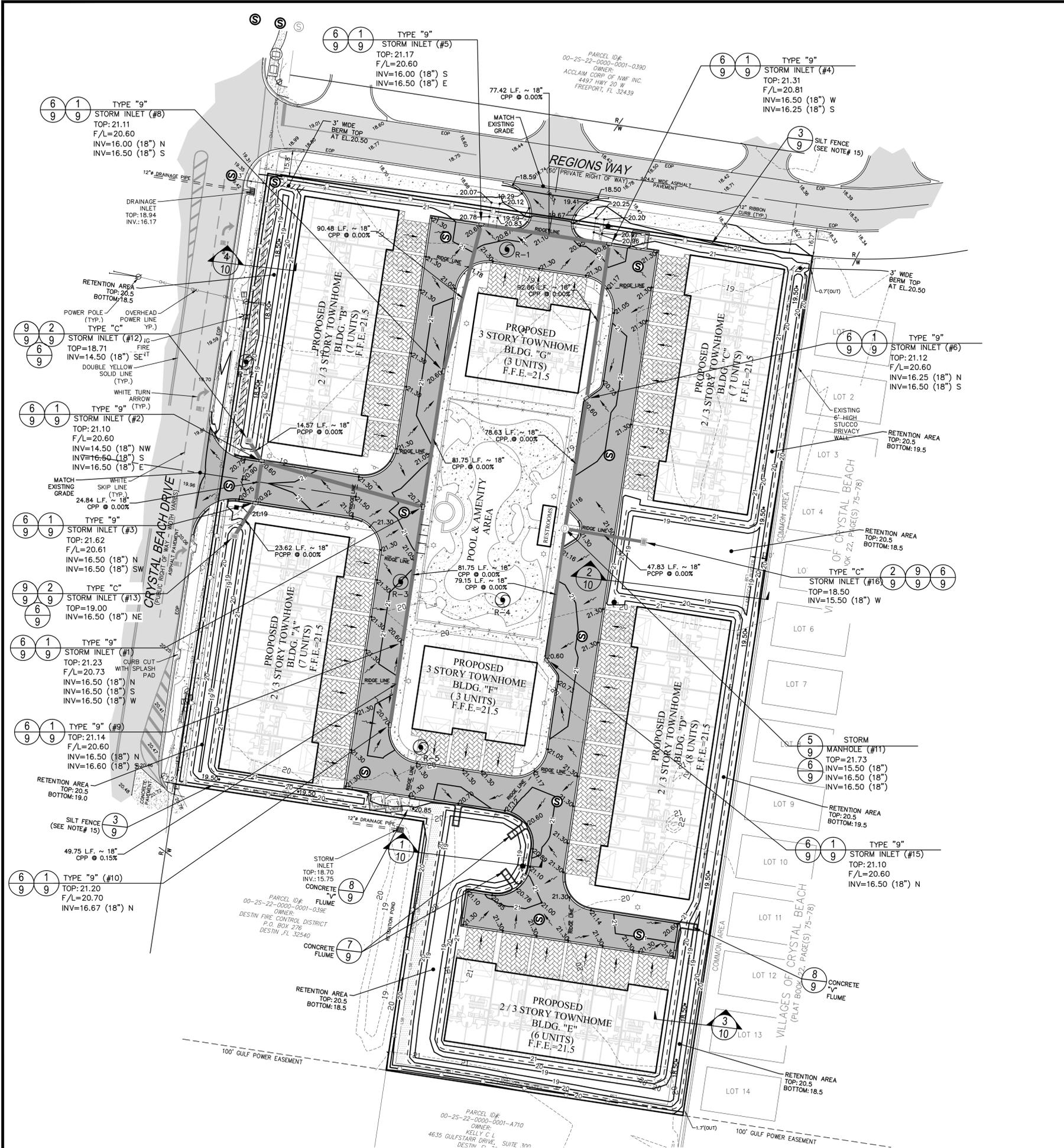
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 FILE # E14016  
 F.B. # 14-07  
 DATE: 07-14-2014

**CRYSTAL BEACH TOWNHOMES**  
**SITE PLAN**

SHEET 3 OF 16  
 DWG. NO.

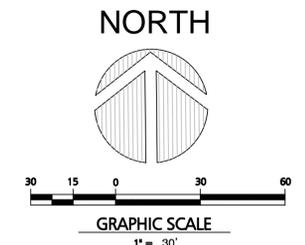
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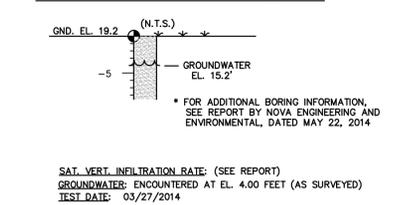


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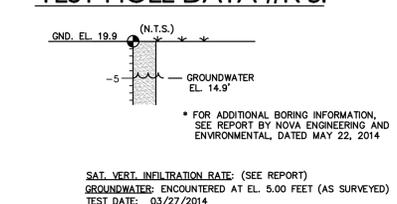
- PROPERTY LINE
- EX. GRADE CONTOUR (1' INTERVALS)
- FINISHED GRADE CONTOUR
- FINISHED GRADE SPOT ELEVATION
- CROSS SECTION LOCATION SHOWING DRAWING NUMBER AND PAGE NUMBER
- SILT FENCE LOCATION
- EROSION CONTROL
- PERFORATED, CORRUGATED POLYETHYLENE PIPE
- TEST HOLE LOCATION AND NUMBER



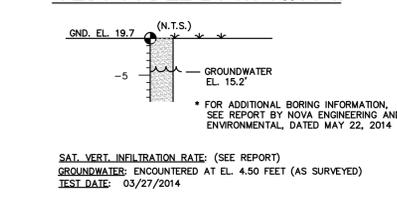
**TEST HOLE DATA #R-2:**



**TEST HOLE DATA #R-5:**



**TEST HOLE DATA #R-4:**



**NOTES:**

- TOPOGRAPHIC INFORMATION BY GUSTIN, COTHERN, & TUCKER, INC., BOUNDARY AND TOPOGRAPHIC SURVEY, DATED 03-27-2014. ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1988.
- BENCHMARKS: AS SHOWN.
- CONTOUR INTERVAL= ONE FOOT
- PROPOSED CONTOURS AND SPOT ELEVATIONS REPRESENT FINISHED GRADE.
- STORMWATER RUNOFF, SEDIMENT, AND EROSION SHALL BE CONTROLLED DURING ALL PHASES OF CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE A TEMPORARY COVER OF FILTER CLOTH FOR EACH INLET STRUCTURE TO PREVENT ENTRANCE OF SOIL INLET STRUCTURES ARE TO REMAIN COVERED UNTIL AN ACCEPTABLE STAND OF GRASS IS ACHIEVED. CONTRACTOR TO CLOSELY MONITOR THE TEMPORARY COVERINGS ON DRAINAGE INLETS DURING CONSTRUCTION.
- MATCH EXISTING EDGE OF PAVEMENT GRADE WHEREVER NEW PAVEMENT EDGE MEETS THE EXISTING EDGE.
- CONTRACTOR SHALL PROVIDE SOLID SODDING WITHIN THE RETENTION BASIN AND ALL OTHER CLEARED AND GRUBBED AREAS WITH SIDE SLOPES OF 3:1 OR STEEPER. ALL OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED. ALL SOD AND SEEDED AREAS AND RETENTION BASIN MUST BE ESTABLISHED AND PROPERLY MAINTAINED.
- ALL SILT SHALL BE REMOVED FROM THE RETENTION BASIN AFTER CONSTRUCTION IS COMPLETE AND THE BASIN IS STABILIZED WITH SOLID SOD.
- FINISHED FLOOR ELEVATIONS SHALL BE SET AS SHOWN BY CONTRACTOR SO THAT SEWER SERVICES WILL GRAVITY INTO SEWER MAIN.
- IF SOIL CONDITIONS ARE NOT CONSISTENT WITH SOIL BORINGS, OR IF MUCK IS ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
- ALL PROPOSED BERMS OR BASIN BACKSLOPES SHALL BE STABILIZED WITH SOLID SOD IMMEDIATELY UPON COMPLETION OF GRADING.
- CONTRACTOR TO BE ADVISED THAT GROUNDWATER WILL MOST LIKELY BE ENCOUNTERED DURING CONSTRUCTION OF THE PROJECT. IF DEWATERING WILL BE REQUIRED, COMPLETE DETAILS OF TEMPORARY DIKES, DISCHARGE LOCATIONS, TIME PERIODS, AND METHODS FOR PREVENTING TURBID DISCHARGES WILL BE PROVIDED BY THE CONTRACTOR TO THE REQUIRED AGENCIES. SEE REPORT BY NOVA ENGINEERING AND ENVIRONMENTAL, DATED MAY 22, 2014 FOR DETAILS.
- PRIOR TO FINAL APPROVAL BY THE CITY OF DESTIN OVERALL STORMWATER MANAGEMENT SYSTEM WILL BE INSPECTED REGARDING CONFORMANCE WITH THE APPROVED STORMWATER MANAGEMENT PLAN INCLUDING EROSION, GRADING, RUNOFF CONVEYANCE AND RETENTION BASIN RECOVERY TIME WILL BE ALSO VERIFIED.
- SILT FENCE SHOWN OUTSIDE OF PROPERTY LINE FOR ILLUSTRATIVE PURPOSES ONLY. SILT FENCE TO BE INSTALLED INSIDE OR ALONG PROPERTY BOUNDARY.
- BUILDING CONTRACTOR TO DIRECT ROOF AND POOL/AMENITY AREAS RUNOFF TO STORMWATER COLLECTION SYSTEM.

**APPROVED**  
December 15, 2014  
Destin City Council  
14-29-SP

No changes shall be made to, and construction shall not deviate from, these approved plans without prior written approval from the City of Destin. Unapproved deviations may result in the revocation of building permits and the inability to secure a Certificate of Occupancy.

NOT RELEASED FOR CONSTRUCTION

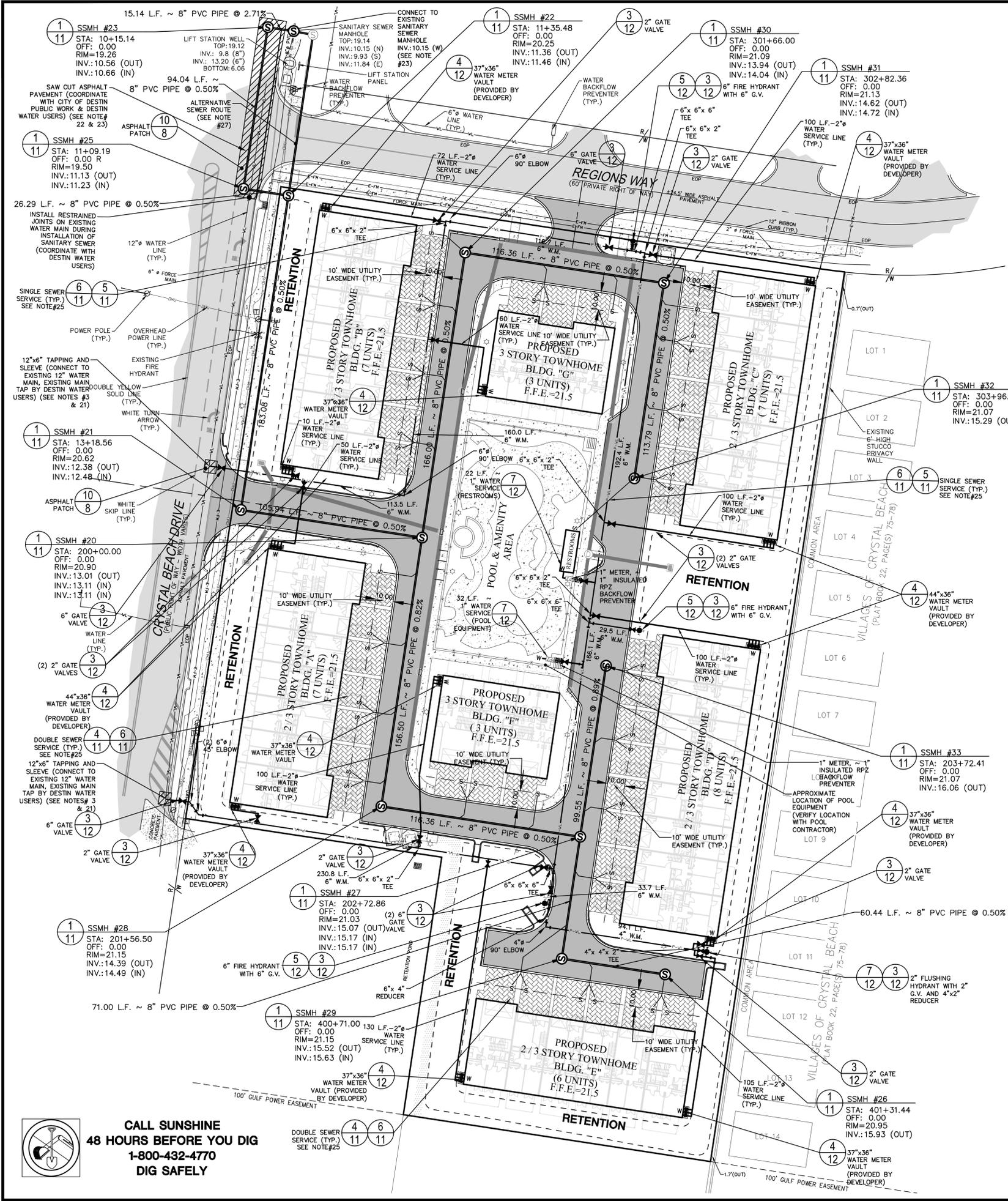
**CRYSTAL BEACH TOWNHOMES GRADING AND DRAINAGE PLAN**

**Gustin, Cothern & Tucker, Inc.**  
Civil Engineering/Land Surveying  
121 Hart Street, Niceville, FL 32578 (850) 678-5141  
Certificate of Authorization No. EB-0009456  
Matthew H. Zinke P.E.# 57642  
DRAWN: M.SCOTTKA CHECKED: M.ZINKKE, P.E. APPROVED: M.ZINKKE, P.E.

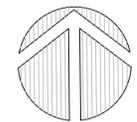
REVISIONS:

10-03-2014	REVISED PER CITY OF DESTIN COMMENTS DATED 08-26-2014
11-03-2014	REVISED PER CITY OF DESTIN COMMENTS DATED 08-26-2014
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SCALE: 1"=30'  
FILE # E14016  
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NORTH

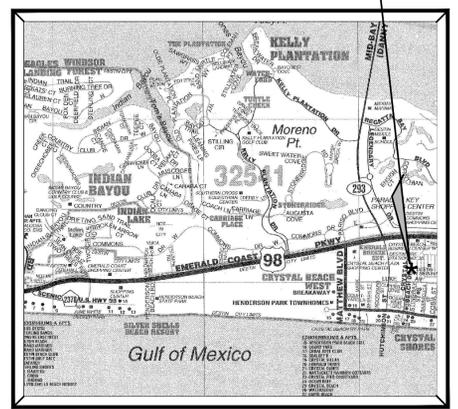


GRAPHIC SCALE  
1" = 30'

LEGEND:

- UTILITY EASEMENT (TYP.) .....
- REUSE MAIN (R.M.) .....
- WATER LINE (W.M.) .....
- SEWER LINE .....
- GATE VALVE .....
- FIRE HYDRANT .....
- FLUSHING HYDRANT .....
- SANITARY SEWER MANHOLE .....
- SINGLE WATER SERVICE .....
- SINGLE SEWER SERVICE .....

PROJECT LOCATION



VICINITY MAP



UTILITY COMPANIES:

COMPANY	PHONE NO.
GULF POWER	(850) 678-4115
COX COMMUNICATIONS	(850) 862-4144
CENTURY LINK	(850) 664-3751
DESTIN FIRE CONTROL DISTRICT	(850) 837-8413
OKALOOSA GAS DISTRICT	(850) 729-4880
DESTIN WATER USERS	(850) 837-6146

NOTES:

- THE LOCATION OF UTILITIES IS APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO BEGINNING CONSTRUCTION. IF THE LOCATION OR ELEVATION IS SUBSTANTIALLY DIFFERENT FROM THAT SHOWN ON THE PLANS OR IF CONFLICTS EXIST, THE ENGINEER SHALL BE NOTIFIED.
- THE CONTRACTOR SHALL HAVE ALL APPLICABLE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND LOCAL PERMITS PRIOR TO BEGINNING CONSTRUCTION.
- TAPS TO EXISTING WATER AND SEWER UTILITIES SHALL BE COORDINATED WITH THE DESTIN WATER USERS AND 48 HOUR NOTICE SHALL BE PROVIDED PRIOR TO THE START OF ANY WORK. ALL TAPS SHALL BE MADE IN AN EXPEDITIOUS MANNER TO MINIMIZE INTERRUPTION OF SERVICE.
- WHERE SEWER SERVICES TIE DIRECTLY INTO SANITARY SEWER MANHOLES, MATCH INVERTS OF THE ENTERING SERVICE WITH THE CROWN OF THE EXISTING MAIN TO ENSURE SOLIDS FLOW INTO THE SEWER MAIN. THE SERVICE PIPE SHALL BE LAID AT A MINIMUM SLOPE OF 1.00 PERCENT TO THE RIGHT-OF-WAY.
- SEWER MAIN LENGTHS ARE MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
- SEWER MANHOLE STATIONS ARE TO CENTER OF MANHOLE.
- WATER MAIN LENGTHS ARE MEASURED FROM FITTING TO FITTING.
- ALL 2 INCH WATER SERVICE TUBING CROSSING PAVED AREAS SHALL BE INSTALLED WITHIN A 4 INCH SCHEDULE 40 PVC CHASE PIPE TO 5' BEYOND EOP AND BE FREE OF COUPLINGS OR SPLICES.
- ALL POTABLE WATER STRUCTURES AND SERVICES DEPICTED IN THE UTILITY LEGEND ALONG WITH THEIR DETAILS ARE LOCATED ON THE POTABLE WATER DETAILS SHEET.
- ALL SANITARY SEWER STRUCTURES AND SERVICES DEPICTED IN THE UTILITY LEGEND ALONG WITH THEIR DETAILS ARE LOCATED ON THE SANITARY SEWER DETAILS SHEET.
- IT IS THE RESPONSIBILITY OF THE UTILITY CONTRACTOR TO MOVE ANY UTILITY SERVICES, STRUCTURES OR STUB-OUTS THAT CONFLICT WITH DRIVEWAYS AND SIDEWALKS. SEE TYPICAL SECTIONS SHEET FOR CONCRETE SIDEWALK PLACEMENT AND DIMENSIONS.
- WATER MAINS CROSSING OVER SANITARY SEWER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. IF LESS THAN 12 INCHES, SEE DETAIL 6/12.
- CONTRACTOR SHALL MAINTAIN A 3' MINIMUM HORIZONTAL SEPARATION BETWEEN WATER MAINS AND REUSE MAINS AND A 3' MINIMUM HORIZONTAL SEPARATION BETWEEN FORCE MAIN AND REUSE MAINS.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR INSURING ALL UTILITIES ARE PROPERLY SPACED DURING INSTALLATION.
- EXCAVATION AND BACKFILLING OF WATER MAIN TRENCHES SHALL CONFORM TO SPECIFICATIONS. PROVIDE A MINIMUM OF 36 INCHES OF COVER OVER WATER MAINS AND A MAXIMUM DEPTH OF 48 INCHES. DEPTHS BEYOND 48 INCHES MUST BE PRE-APPROVED BY THE DESTIN WATER USERS.
- TESTING OF THE SANITARY SEWER SYSTEM IS REQUIRED PRIOR TO PAVING STREETS.
- WHERE CONFLICTS ARE NOTED, A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE SHALL BE MAINTAINED IF POSSIBLE.
- WATER MAINS ARE SHOWN CURVED FOR GRAPHICAL REPRESENTATION ONLY. APPROPRIATE ELBOWS SHALL BE PLACED WHERE NECESSARY TO PROHIBIT EXCESSIVE PIPE BEND.
- FIRE HYDRANTS TO BE PLACED AT LEAST 6' OFF FROM EDGE OF THE ROAD WAY TO MAINTAIN CLEAR ZONE DISTANCE.
- ALL UTILITY EASEMENTS WILL BE CLEARED OF DEBRIS AND VEGETATION PRIOR TO INSTALLATION OF UTILITIES.
- COORDINATE RELOCATION AND INSTALLATION OF UTILITIES AND WORK WITHIN RIGHT OF WAY WITH EFFECTED UTILITY COMPANIES.
- COORDINATE AND RECEIVE PLAN APPROVAL FROM CITY OF DESTIN PUBLIC WORKS PRIOR TO ANY ROAD CLOSURE OR PROPOSED CONSTRUCTION OF SEWER SYSTEM.
- TIE-IN INVERT ELEVATION OF EXISTING SEWER MAIN AND CORRESPONDING SLOPE OF EXISTING SEWER MAIN TO BE VERIFIED PRIOR TO CONSTRUCTION OF SEWER SYSTEM.
- SEWER SERVICE LOCATION SHOW FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR TO LOCATE SERVICE AT EDGE OF EASEMENT OUTSIDE OF DRIVEWAY.
- ALL NEW DEVELOPMENT PROJECTS SHALL REQUIRE TO EXPLORE ALTERNATIVE SANITARY SEWER ROUTE AND COORDINATE WITH DESTIN WATER USERS AND CITY OF DESTIN PUBLIC SERVICES AS PER PUBLIC SERVICES RECOMMENDATION DATE ON JULY 29, 2014.
- SEWER CONNECTION TO EXISTING MANHOLE MUST BE COORDINATED WITH DESTIN WATER USERS (DWM) 48 HOURS PRIOR TO CONSTRUCTION. CONNECTION SHALL BE CORE BORED WITH BOOT.
- DEVELOPER/CONTRACTOR TO EXPLORE ALTERNATIVE SANITARY SEWER ROUTE AND COORDINATE WITH DESTIN WATER USERS AND CITY OF DESTIN PUBLIC SERVICES AS PER PUBLIC SERVICES RECOMMENDATION DATE ON JULY 29, 2014.

APPROVED  
December 15, 2014  
Destin City Council  
14-29-SP

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CALL SUNSHINE  
48 HOURS BEFORE YOU DIG  
1-800-432-4770  
DIG SAFELY

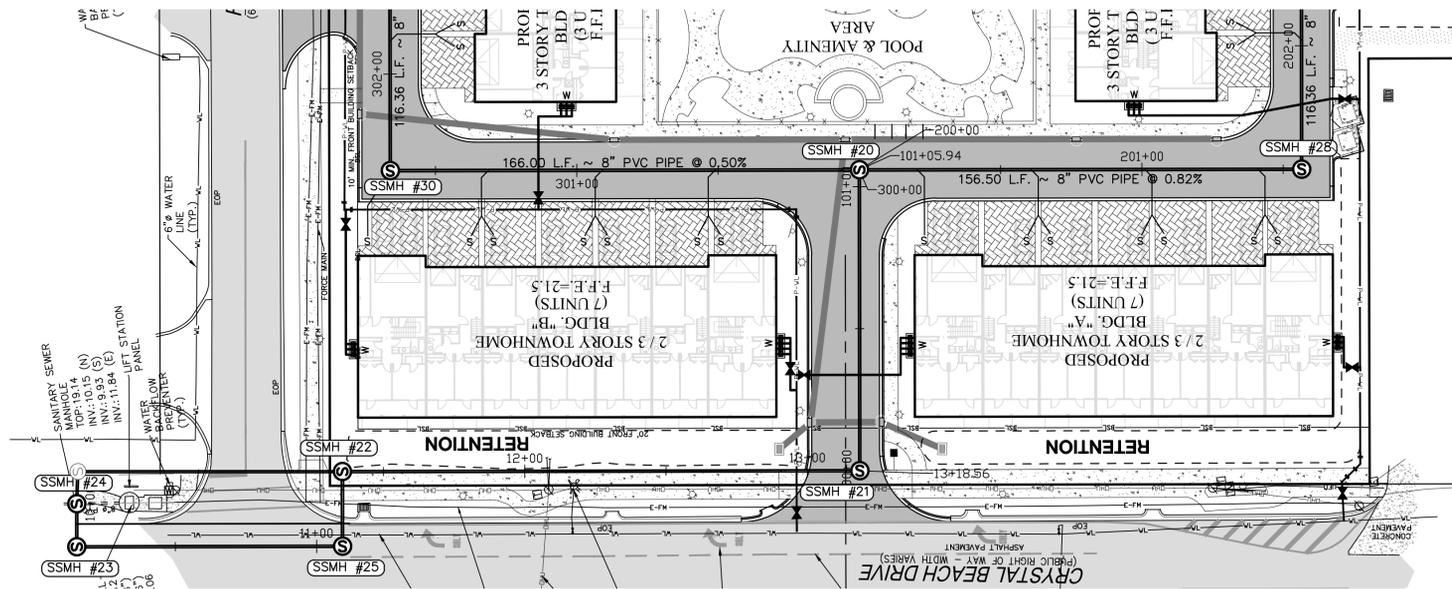
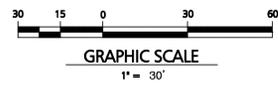
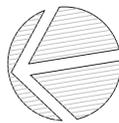
NOT RELEASED FOR  
CONSTRUCTION

CRYSTAL BEACH TOWNHOMES  
UTILITY PLAN

Gustaf, Cothran & Tucker, Inc.  
Civil Engineering/Land Surveying  
121 Hart Street, Niceville, FL 32578 (850) 678-5141  
Certificate of Authorization No. EB-0003456  
Matthew H. Zinke PE# 57612  
DRAWN: M.SCOTTKA CHECKED: M.ZINKE, P.E. APPROVED:

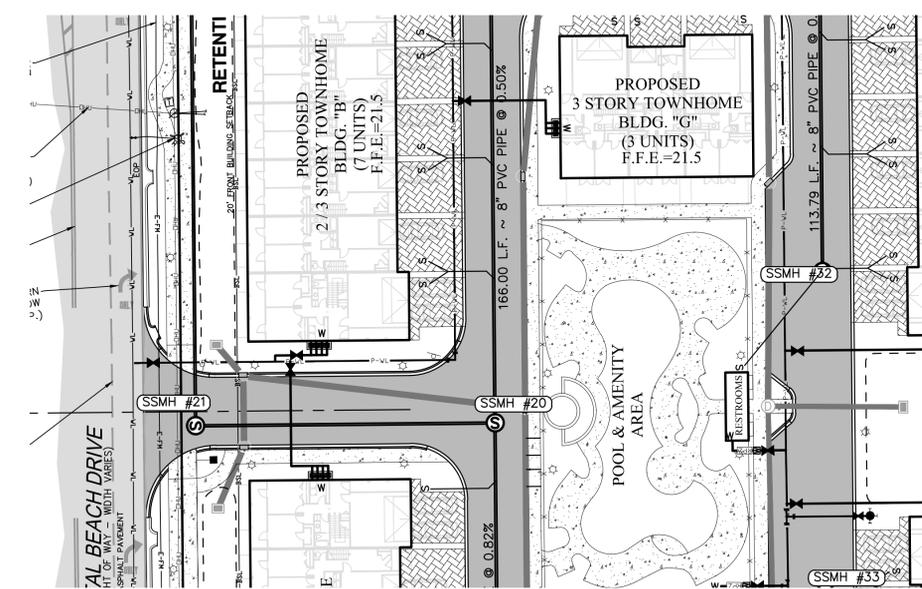
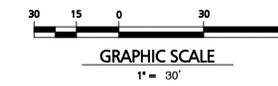
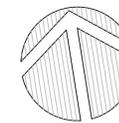
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10-03-2014 REVISED PER CITY OF DESTIN COMMENTS DATED 08-26-2014  
11-04-2014 REVISED PER DWM COMMENTS DATED 10-28-2014 (MS)  
SCALE: 1"=30'  
FILE # E14016  
F.B. # 14-07  
DATE: 07-14-2014

NORTH

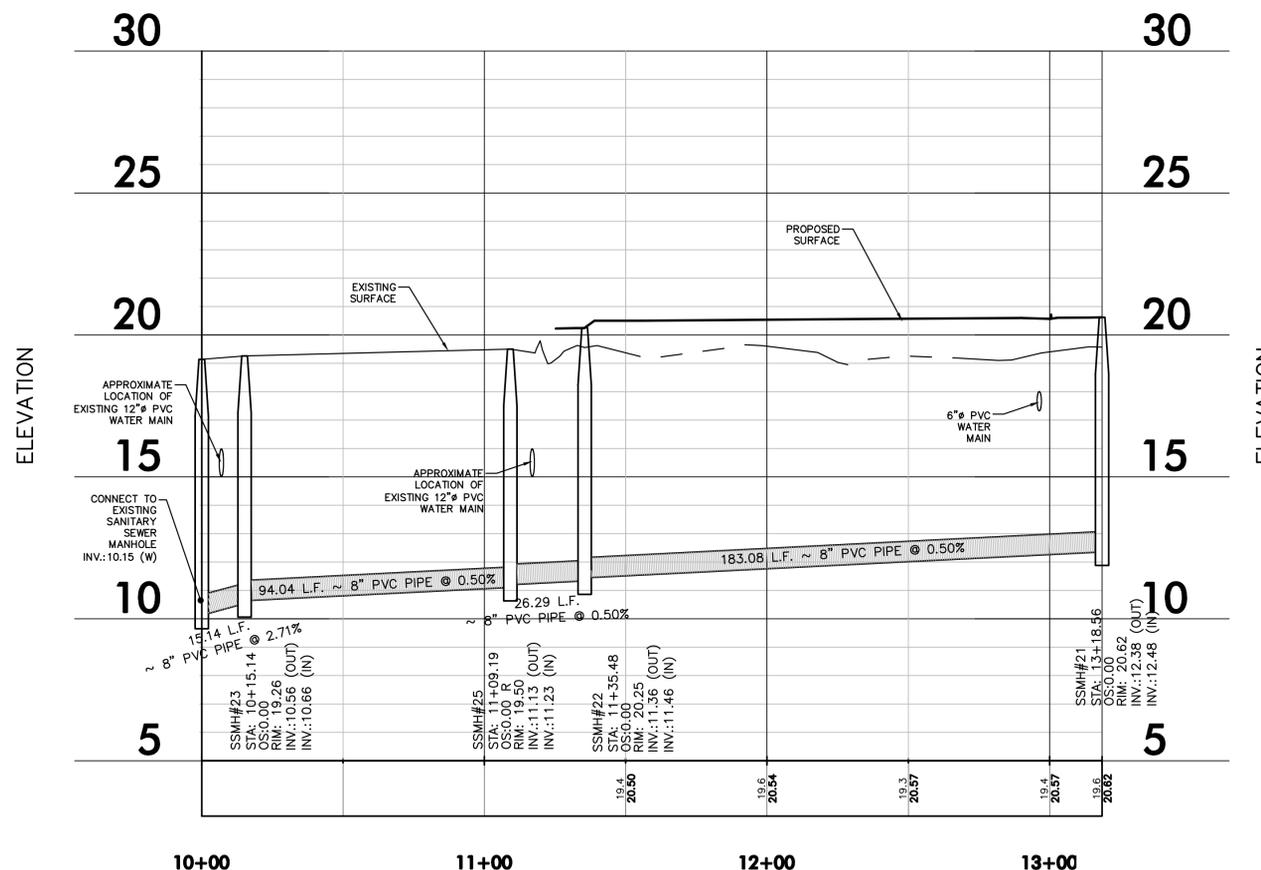


PLAN

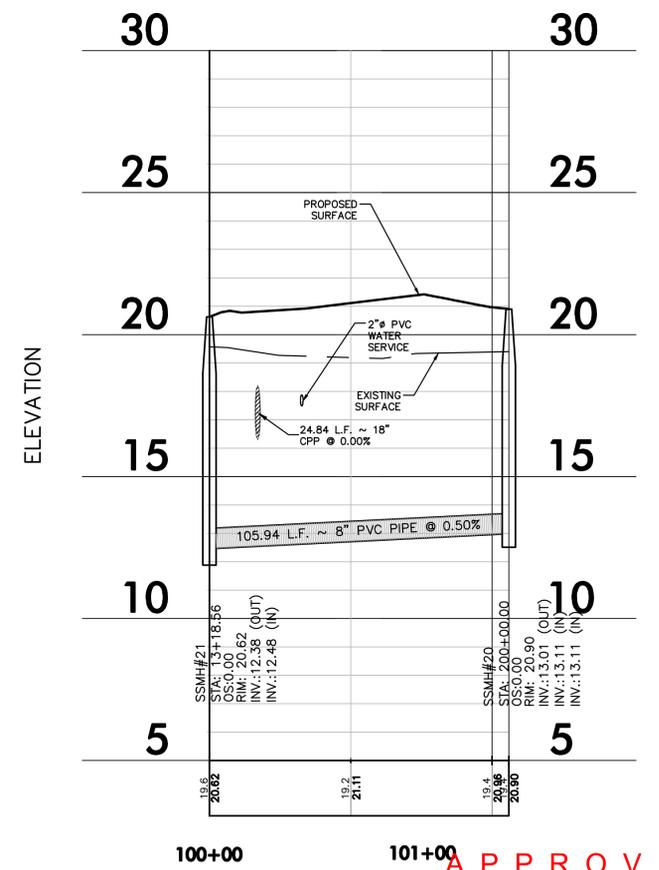
NORTH



PLAN



PROFILE



ELEVATION

CALL SUNSHINE  
48 HOURS BEFORE YOU DIG  
1-800-432-4770  
DIG SAFELY

10+00.00 TO 13+18.56

APPROVED  
December 15, 2014  
City Council  
14-29-SP

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DRAWN: M.SCOTKA CHECKED: M.ZINKE, P.E. APPROVED: M.ZINKE, P.E.

PROFESSIONAL  
ENGINEER  
SEAL

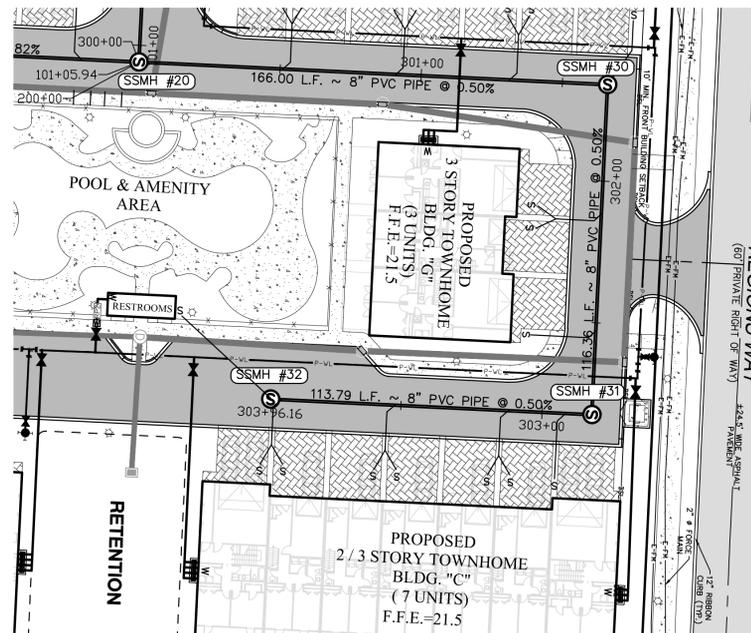
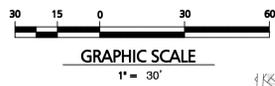
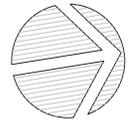
REVISIONS:  
SCALE: 1"=30'/3'  
FILE # E14016  
F.B. # 14-07  
DATE: 07-14-2014  
10-03-2014 REVISED PER CITY OF DESTIN COMMENTS DATED 08-26-2014

NOT RELEASED FOR  
CONSTRUCTION  
CRYSTAL BEACH TOWNHOMES  
SANITARY SEWER PROFILE

SHEET 6 OF 16  
DWC. NO.

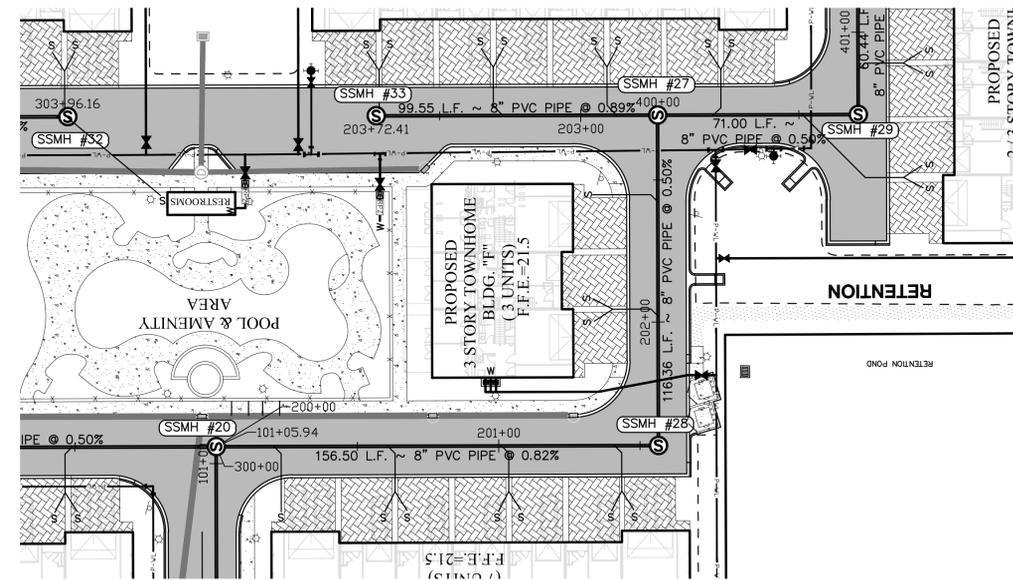
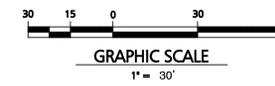
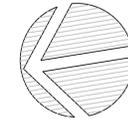
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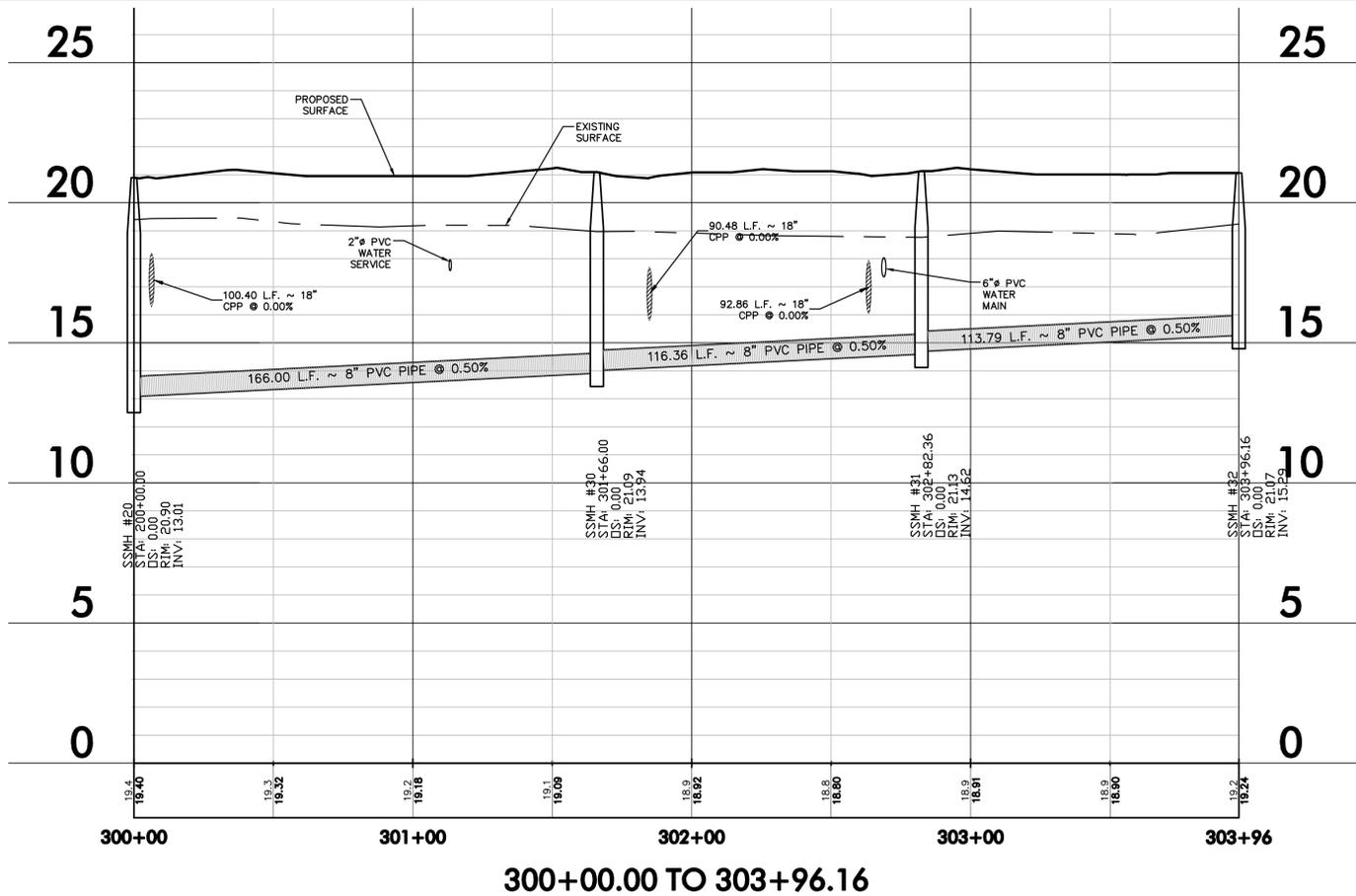


PLAN

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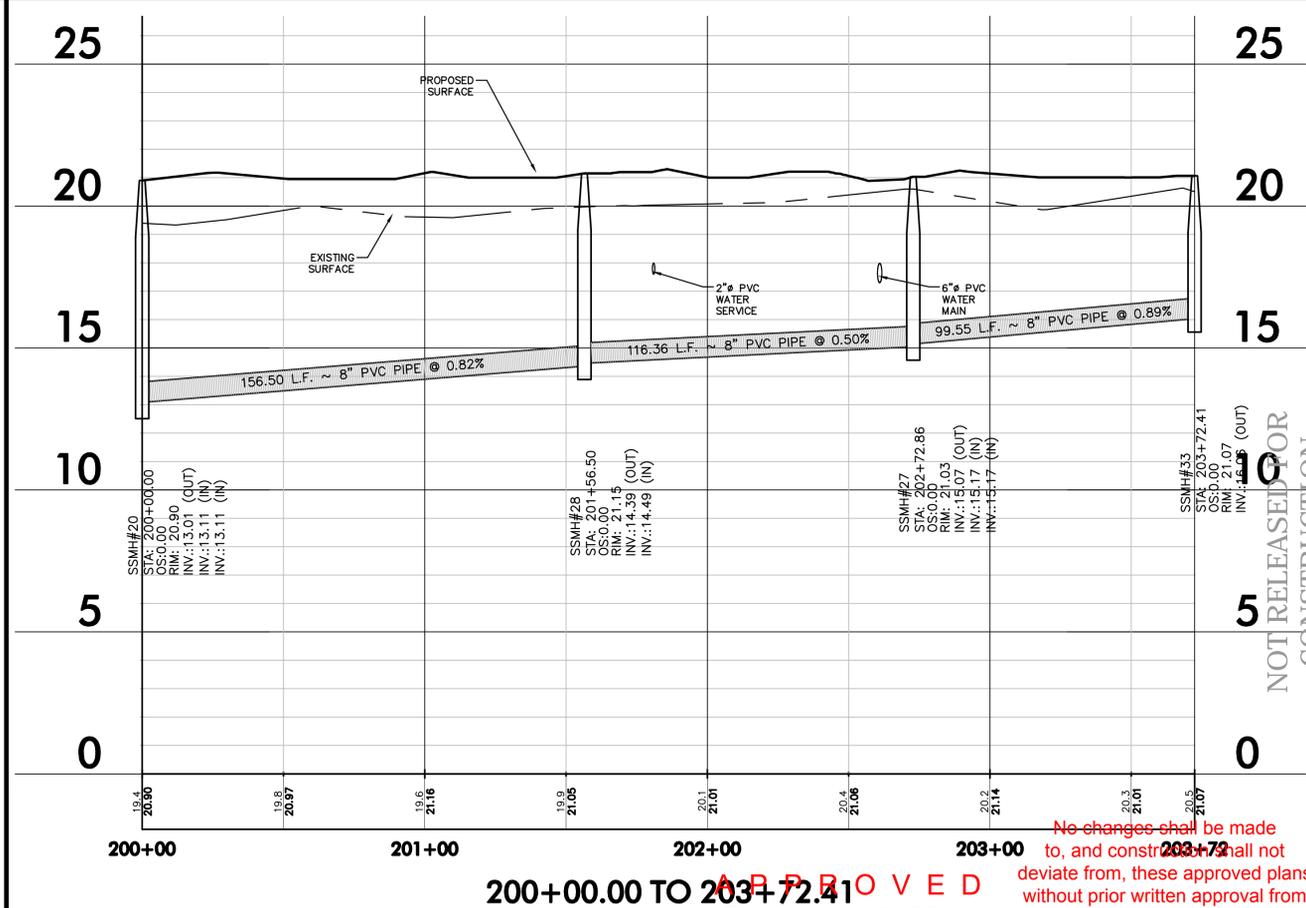


PLAN



300+00.00 TO 303+96.16

PROFILE



200+00.00 TO 203+72.41

PROFILE

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(850) 678-5141  
Certificate of Authorization No. EB-0003456  
Matthew H. Zinke PE# 57642  
DRAWN: M.SCOTKA CHECKED: M.ZINKE, P.E. APPROVED: M.ZINKE, P.E.

PROFESSIONAL  
ENGINEER  
SEAL

REVISIONS:

10-03-2014 REVISED PER CITY OF DESTIN COMMENTS DATED 08-26-2014

SCALE: 1"=30'/3'

FILE # E14016

F.B. # 14-07

DATE: 07-14-2014

CRYSTAL BEACH TOWNHOMES

SANITARY SEWER PROFILE

NOT RELEASED FOR CONSTRUCTION

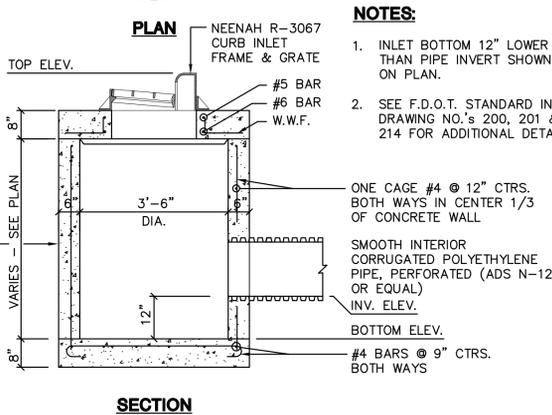
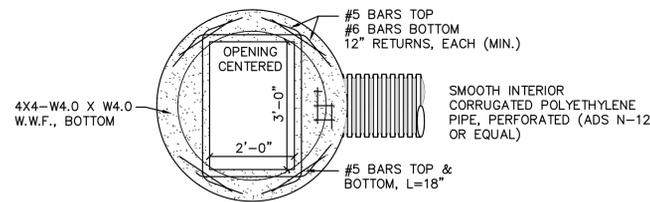
SHEET 7 OF 16

DWC. NO.

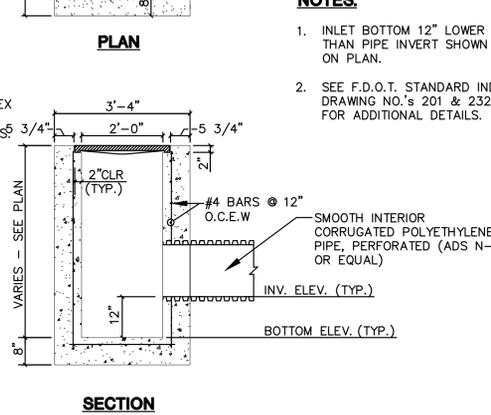
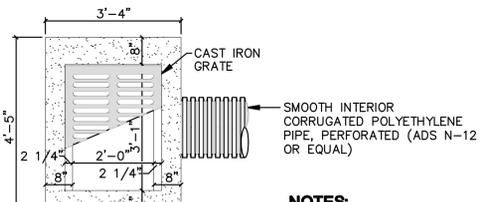
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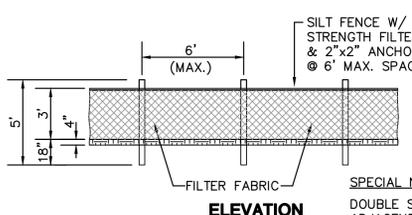
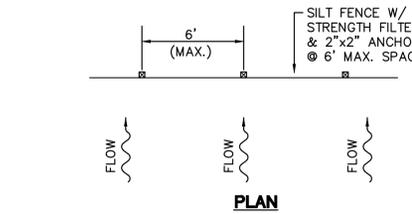




**1 TYPE "9" CURB INLET**  
SCALE: 1/2" = 1'-0"



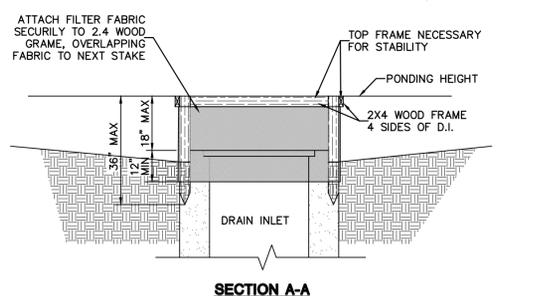
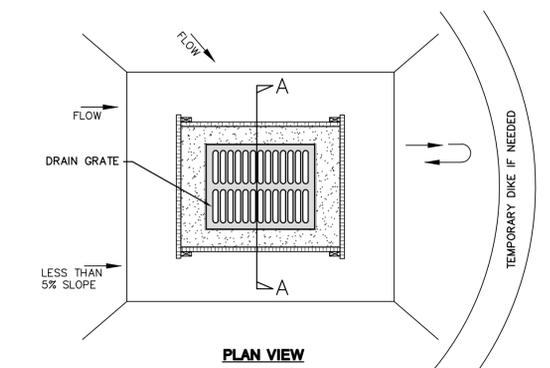
**2 TYPE "C" STORM INLET**  
SCALE: 1/2" = 1'-0"



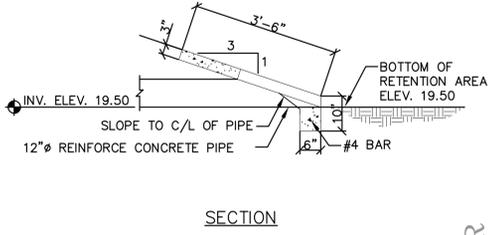
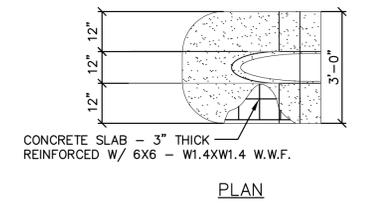
**3 SILT FENCE DETAIL**  
SCALE: 1" = 5'-0"

**CONSTRUCTION NOTE:**  
INSTALL 2"X2" WOOD POSTS ALONG BARRIER LINE (6' MAX. SPACING, 18" MIN. EMBEDMENT). EXCAVATE 4" WIDE BY 4" DEEP TRENCH ALONG POST LINE, UPSLOPE OF BARRIER. FASTEN FILTER FABRIC TO 2"X2" POSTS WITH HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. EXTEND 8" OF FABRIC INTO TRENCH AND BACKFILL.

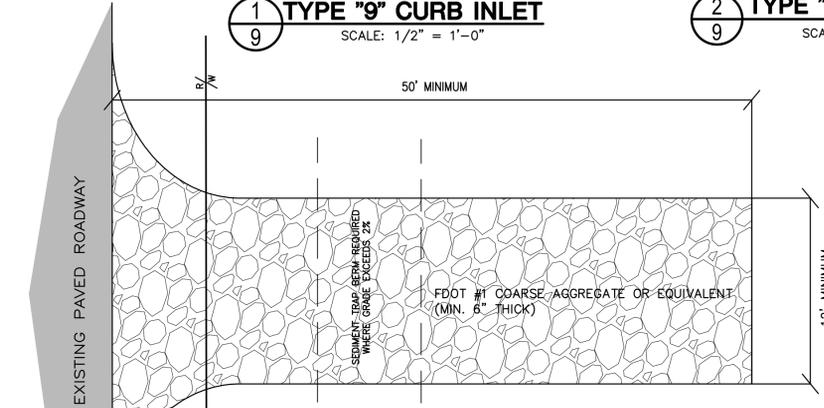
**SPECIAL NOTE:**  
DOUBLE SILT FENCE TO BE INSTALLED ADJACENT TO ALL WETLAND LINES



**6 INLET PROTECTION DETAIL**  
N.T.S.

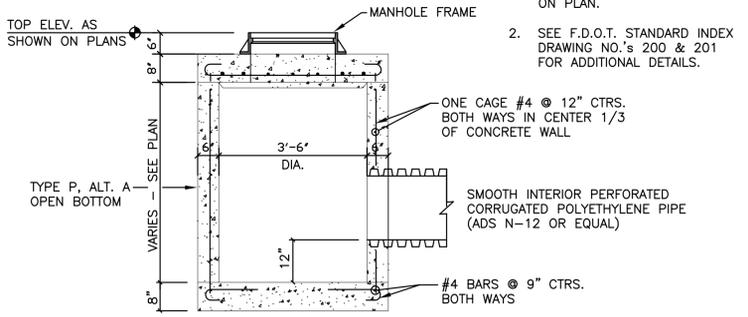
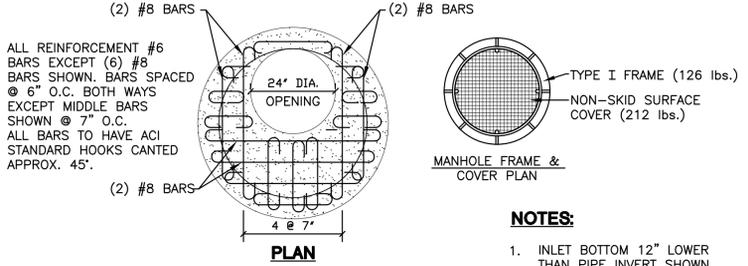


**10 MITERED END SECTION**  
SCALE: 1/2" = 1'-0"



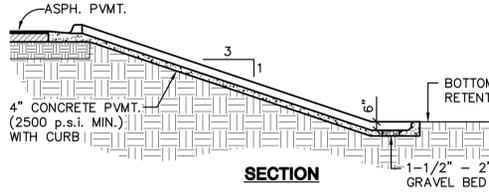
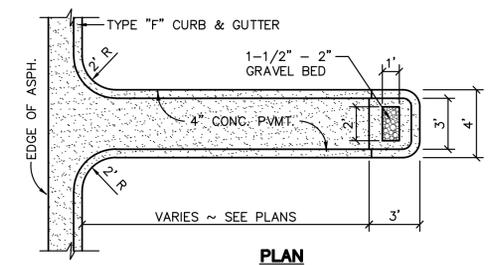
**NOTE:**  
1. CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE CONTRACTOR'S STAGING YARD AND/OR STOCKPILE AREAS TO PREVENT OFF-SITE TRACKING SEDIMENT BY CONSTRUCTION VEHICLES ONTO PUBLIC ROADS.  
2. THE ENTRANCE SHALL BE MAINTAINED IN CONDITION THAT WILL PREVENT TRACKING OR FLOWING SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY.  
3. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.  
4. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH FOOT #1 COARSE AGGREGATE OR EQUIVALENT THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

**4 STABILIZED CONSTRUCTION ENTRANCE**  
N.T.S.

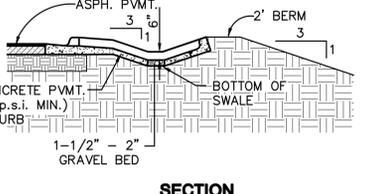
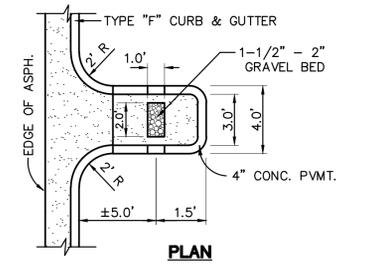


**5 STORM MANHOLE**  
SCALE: 1/2" = 1'-0"

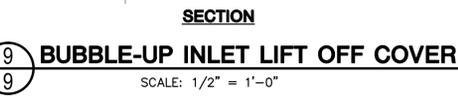
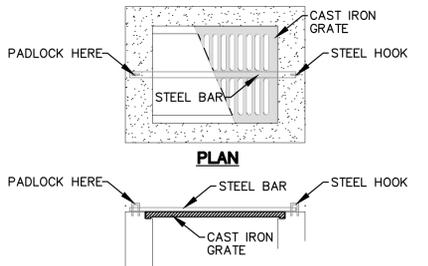
**NOTES:**  
1. INLET BOTTOM 12" LOWER THAN PIPE INVERT SHOWN ON PLAN.  
2. SEE F.D.O.T. STANDARD INDEX DRAWING NO.'s 200 & 201 FOR ADDITIONAL DETAILS.



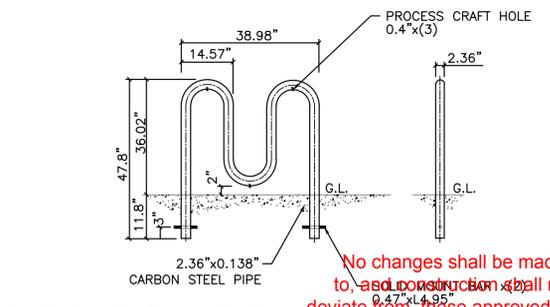
**7 CONCRETE FLUME DETAIL**  
SCALE: 1" = 5'-0"



**8 CONCRETE "V" FLUME DETAIL**  
SCALE: 1" = 5'-0"



**9 BUBBLE-UP INLET LIFT OFF COVER**  
SCALE: 1/2" = 1'-0"



**11 HEAVY DUTY BIKE RACK**  
SCALE: 1/2" = 1'-0"

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**APPROVED**  
December 13, 2014  
Destin City Council  
14-29-SP

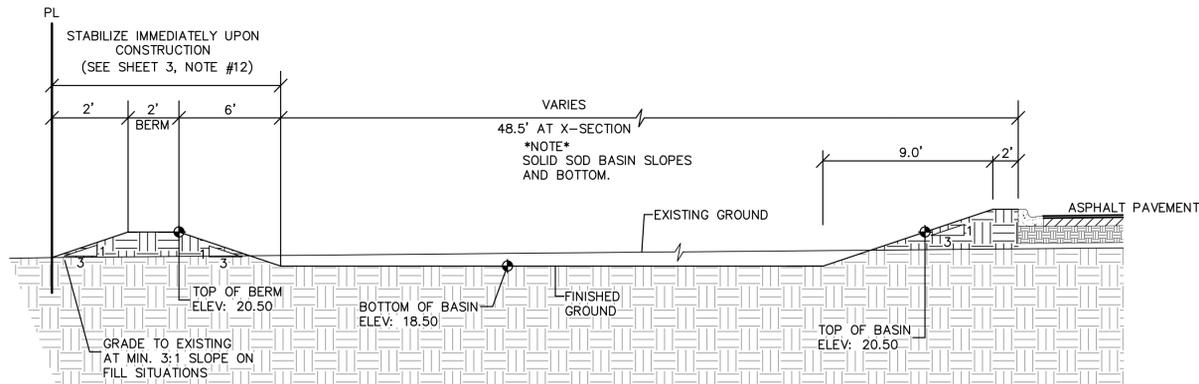
**Gustaf, Cothran & Tucker, Inc.**  
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Matthew H. Zinke PE# 57642  
CHECKED: M. ZINKE, P.E. APPROVED: M. ZINKE, P.E.

REVISIONS:  
10-03-2014 REVISED PER CITY OF DESTIN COMMENTS DATED 08-26-2014  
SCALE: AS SHOWN  
FILE # E14016  
F.B. # 14-07  
DATE: 07-14-2014

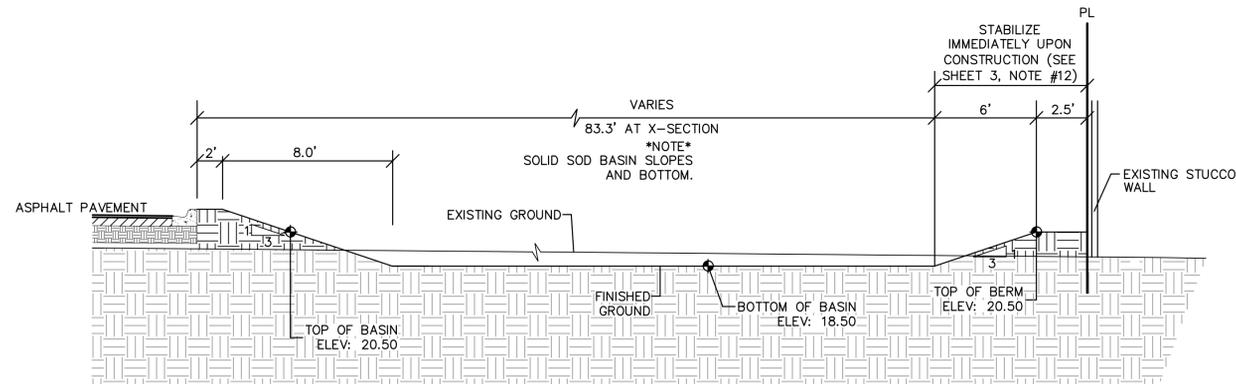
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**CRYSTAL BEACH TOWNHOMES**  
**MISCELLANEOUS DETAILS**

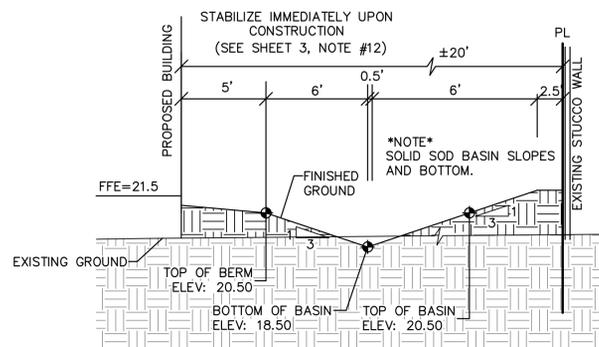
SHEET 10 OF 16  
DWG. NO. **9**



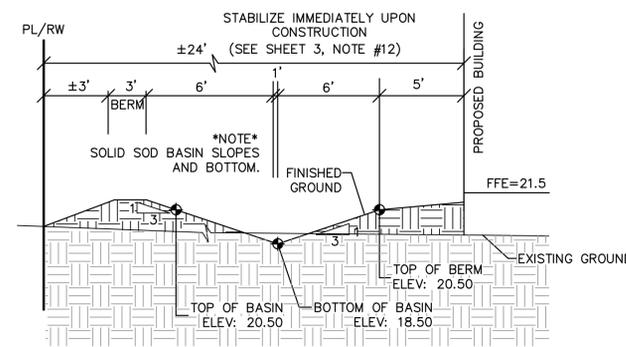
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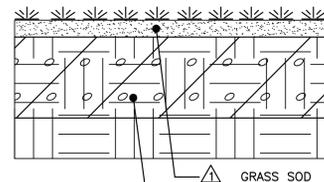
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RETENTION BASIN  
NOT TO SCALE



**3**  
RETENTION BASIN  
NOT TO SCALE



**4**  
RETENTION BASIN  
NOT TO SCALE



**5**  
GRASS WALKWAY SECTION  
NOT TO SCALE

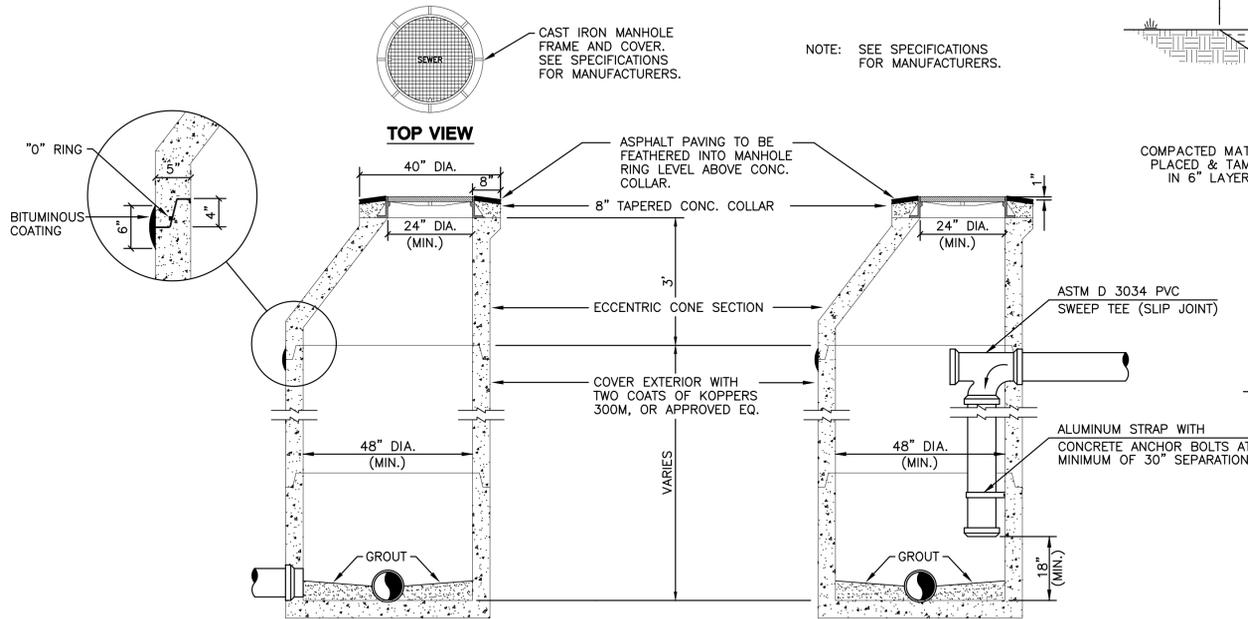
NOT RELEASED FOR  
CONSTRUCTION

**APPROVED**  
December 15, 2014  
Destin City Council  
14-29-SP

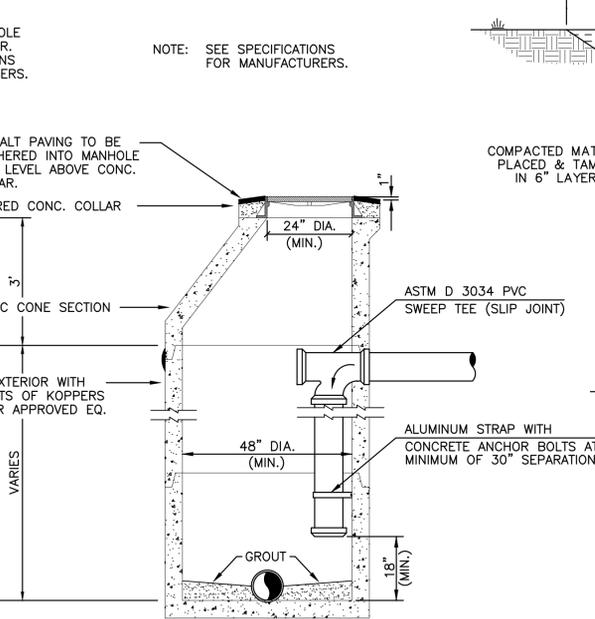
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REVISIONS:	SCALE: AS SHOWN
1-04-2014 REVISED PER DWG COMMENTS DATED 10-28-2014 (MS)	FILE # E14016
	F.B. # 14-07
	DATE: 07-14-2014

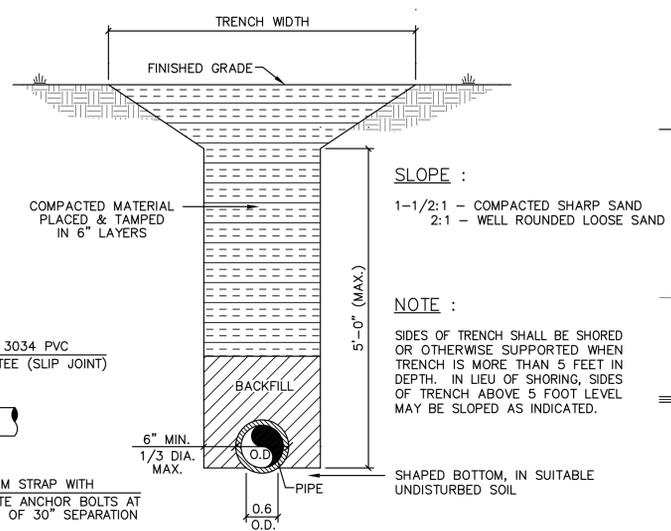
**CRYSTAL BEACH TOWNHOMES**  
**MISCELLANEOUS DETAILS**



**1 STANDARD MANHOLE DETAIL**  
SCALE: 1/2" = 1'-0"



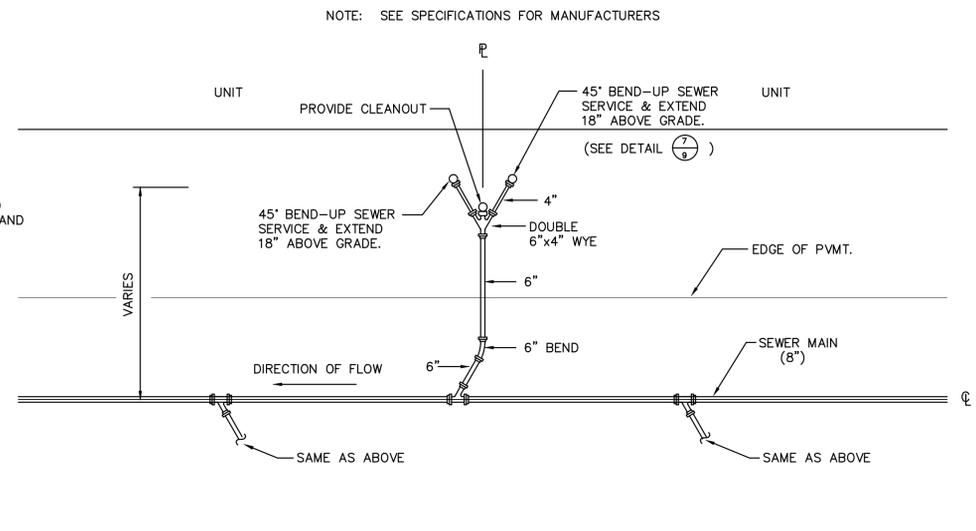
**2 DROP MANHOLE DETAIL**  
SCALE: 1/2" = 1'-0"



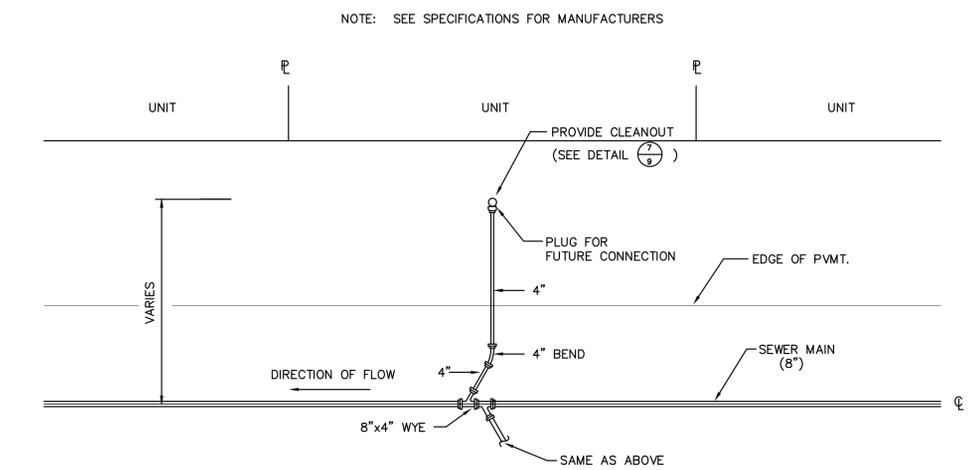
**3 PIPE BEDDING DETAIL**  
SCALE: 3/4" = 1'-0"

**GENERAL NOTES :**

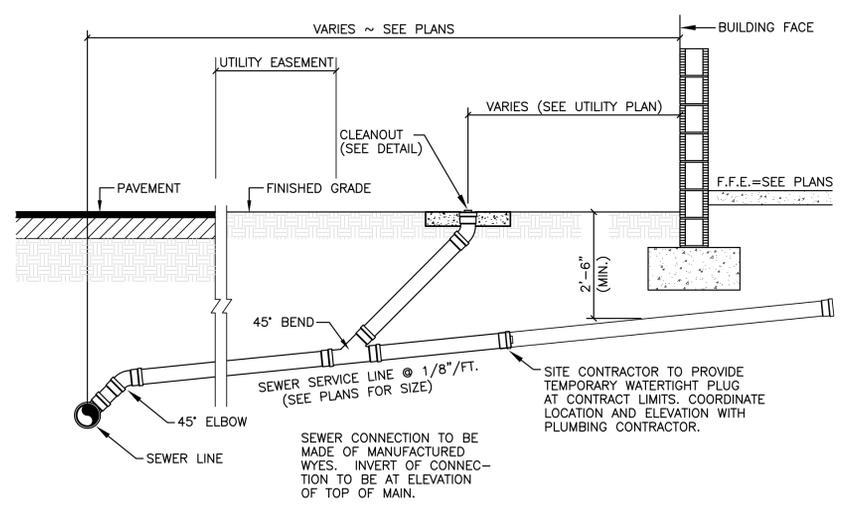
1. All concrete to have a 28 day compressive strength of 4000 p.s.i. unless otherwise noted.
2. Provide manhole steps for manholes with depths greater than 42 inches.
3. Grout all pipe entries and manhole inverts.
4. Invert grouting to be uniform and smooth - sloped to center-line of pipe.



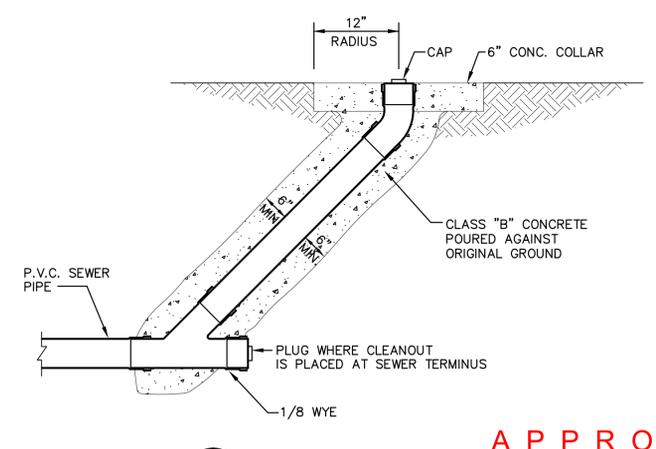
**4 DOUBLE SANITARY SEWER SERVICE CONNECTION PLAN**  
SCALE: 1" = 10'



**5 SINGLE SANITARY SEWER SERVICE CONNECTION PLAN**  
SCALE: 1" = 10'



**6 SEWER SERVICE DETAIL**  
SCALE: 1/2" = 1'-0"



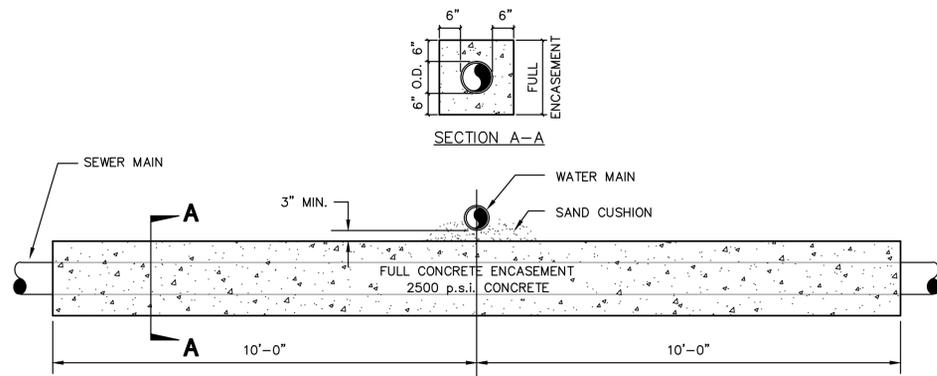
**7 CLEANOUT DETAIL**  
SCALE: 1" = 1'-0"

**APPROVED**  
December 15, 2014  
Destin City Council  
14-29-SP

No changes shall be made to, and construction shall not deviate from, these approved plans without prior written approval from the City of Destin. Unapproved deviations may result in the revocation of building permits and the inability to secure a Certificate of Occupancy.

NOT RELEASED FOR CONSTRUCTION

REVISIONS:	PROFESSIONAL ENGINEER SEAL
SCALE: 1"=30'	FILE # E14018
DATE: 07-14-2014	F.B. # 14-07



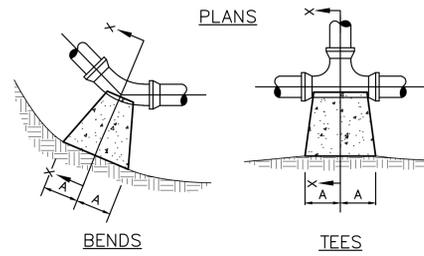
NOTE: FOR POTABLE WATER LINE CROSSING, 1-1/2" DIAMETER AND LARGER, WATER MAIN SHALL BE LOCATED ABOVE OR BELOW ENCASUREMENT AS SHOWN ON PLANS OR AS DETERMINED IN THE FIELD. USE ENCASUREMENT WHERE VERTICAL CLEARANCE BETWEEN WATER MAIN AND SEWER IS LESS THAN 18".

FOR ALTERNATE:

CAST IRON OR DUCTILE IRON PIPES MAY BE USED IN LIEU OF CONCRETE ENCASUREMENT AT WATER LINE CROSSING, WITH A LENGTH OF PIPE CENTERED AT THE POINT OF CROSSING, SO AS TO LOCATE JOINTS AT A MAXIMUM DISTANCE FROM THE WATER LINE.

1 ENCASUREMENT AT WATER LINE DETAIL  
SCALE: 1/2" = 1'-0"

NOTE: PLACE FELT PAPER OR PLASTIC BOND BREAKER BETWEEN BLOCK AND CONCRETE.



BENDS

TEES

SECTION "X-X" BENDS & TEES

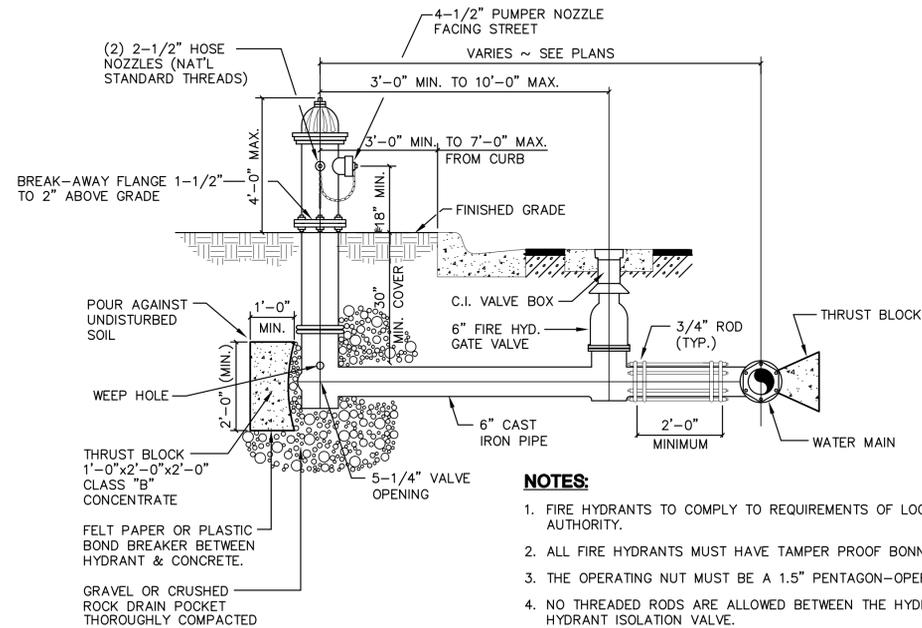
PLAN & ELEVATION PLUGS

PIPE SIZE	1/4 BEND	1/8 BEND	1/16 BEND	TEES	PLUGS			
	A	B	A	B	A	B	C	D
4"	8"	10"	6"	8"	4"	6"	8"	10"
6"	12"	14"	8"	10"	6"	8"	10"	12"
8"	16"	18"	10"	12"	8"	10"	12"	14"
					10"	12"	14"	16"
					12"	14"	16"	18"

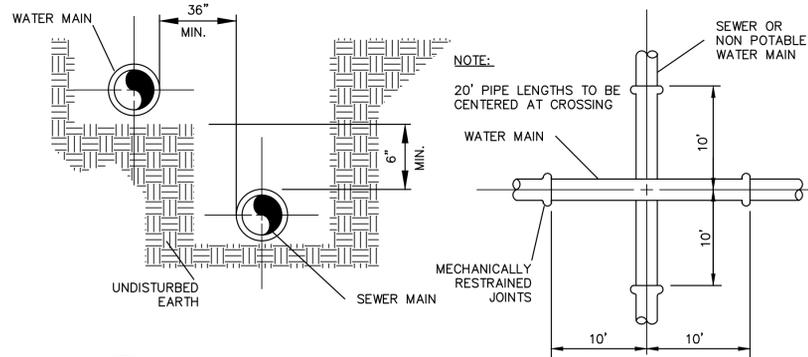
2 THRUST BLOCK DETAILS  
N.T.S.

3 GATE VALVE AND VALVE BOX DETAIL  
N.T.S.

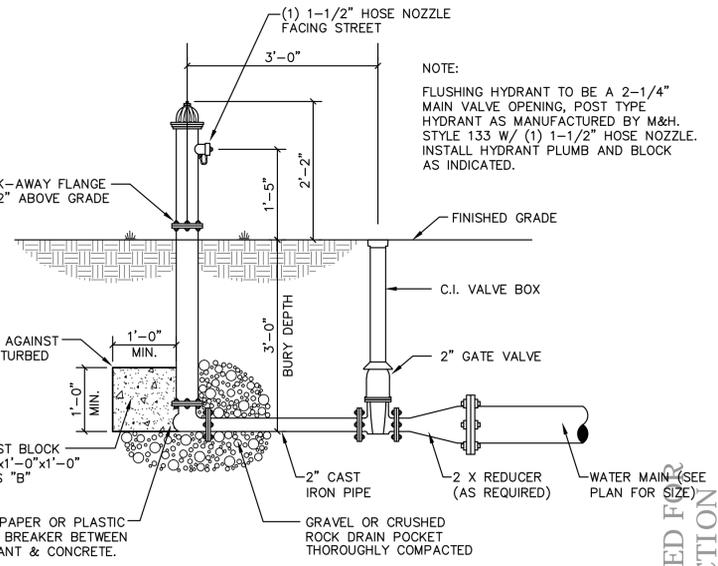
4 MULTIPLE WATER SERVICE DETAILS (WATER METER VAULT)  
N.T.S.



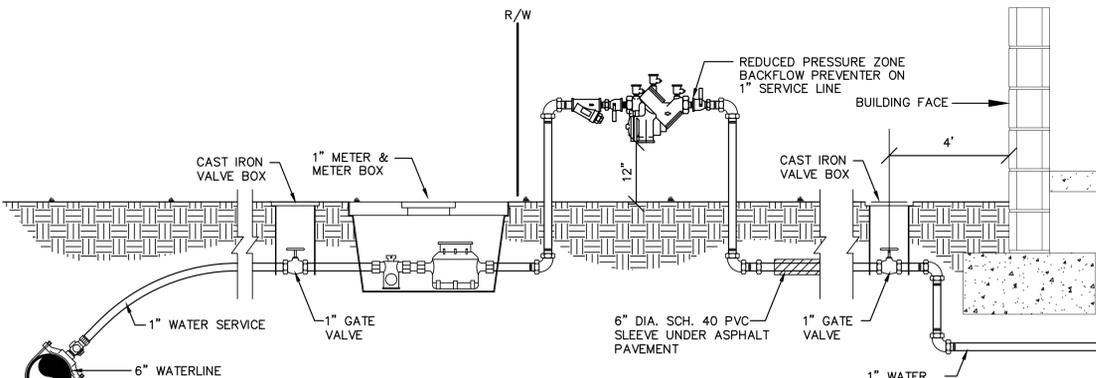
5 FIRE HYDRANT DETAIL  
SCALE: 1/2" = 1'-0"



6 WATER/SEWER SEPARATION DETAIL  
NOT TO SCALE



7 FLUSHING HYDRANT DETAIL  
SCALE: 3/4" = 1'-0"



7 WATER SERVICE  
SCALE: 3/4" = 1'-0"

GENERAL NOTES:

- The contractor shall be responsible for obtaining bacteriological examinations on all new water mains (as required by and to the satisfaction of the Department of Health and Rehabilitative Services. These requirements necessitate a satisfactory sample at each sample location for two consecutive days. If the examination is by persons other than the local health department, then the contractor shall be responsible for delivering the laboratory reports to the engineer for submittal to the State Department of Environmental Protection (D.E.P.).
- Installation of water mains and services shall comply with all applicable codes, ordinances, and regulations. No changes shall be made to, and construction shall not deviate from these approved plans without prior written approval from the City Engineer.
- The contractor shall verify all field dimensions on site before starting work. All dimensions shall be noted on the plans. All dimensions shall be marked with No. 14 insulated copper tracer wire to facilitate their location.
- The contractor shall be responsible for securing all necessary permits and approvals. Unapproved deviations may result in the revocation of building permits and the inability to secure a Certificate of Occupancy.
- The contractor shall provide a minimum of 36" of cover over water mains within paved and unpaved areas.

Gustaf, Cothran & Tucker, Inc.  
Civil Engineering/Land Surveying  
121 Hart Street, Jacksonville, FL 32278  
(850) 678-5141  
Certificate of Authorization No. EB-0003456  
Matthew H. Zinke PE# 57612  
DRAWN: M.SCOTTKA CHECKED: M.ZINKE, P.E. APPROVED: M.ZINKE, P.E.

REVISIONS:  
SCALE: 1"=30'  
FILE # E14016  
F.B. # 14-07  
DATE: 07-14-2014

CRYSTAL BEACH TOWNHOMES  
POTABLE WATER DETAILS

**SECTION 1  
CLEARING AND GRUBBING**

1-1 Description

The work specified in this Section consists of clearing and grubbing within the project limits. Included in the work under this Section is the removal and disposal of existing pavement, as well as all protruding objects such as trees, stumps, roots, etc., necessary to prepare the area for the proposed construction; and removal and disposal of all product and debris which are not required to be salvaged or not required to complete the construction.

1-2 Work Included

Clearing and grubbing shall consist of the complete removal and disposal of all timber, brush, stumps, roots, rubbish, and debris and all other structures existing on the site. The surface of the existing ground and the surface of excavated areas, and all other structures and obstructions necessary to be removed and for which the removal thereof is not specified to be done under other items of the contract. Unless otherwise shown in the plans, clearing and grubbing shall be done in the following areas:

- 1. All areas where excavation is to be done including borrow pits, lateral ditches, right-of-way ditches, etc.
2. All areas where embankments will be constructed.
3. All areas where structures will be constructed.
4. Any other areas specifically called for on the plans to be cleared and grubbed.

1-3 Depths of Removal of Roots, Stumps, and Other Debris

In all areas where excavation is to be done and where the excavated material is to be used in the construction of embankments, or roadway base; also in all areas where roadway embankment will be constructed; roots, and other debris shall be removed to a depth of at least one foot below ground surface. The surface shall then be plowed to a depth of at least six inches and all roots thereby exposed shall be removed to a depth of at least one foot. All stumps within the construction limits shall be removed and disposed of by the Contractor. Within other areas where clearing and grubbing is to be done, roots and other debris projecting through or appearing on the surface of the original ground shall be removed to a depth of one foot below the surface; no plowing and harrowing will be required in these areas.

1-4 Disposal of Materials

Timber, stumps, brush, roots, and other objectionable material resulting from the clearing and grubbing shall be disposed of by the Contractor in locations and by methods approved by Okaloosa County.

**SECTION 2  
EXCAVATION AND EMBANKMENT**

2-1 Description

The work specified in this Section consists of the excavation and embankment required for the roadway and ditches; the excavation and backfilling of pipe and utility trenches, and includes the preparation of subgrade; the construction of embankments, and other utilization or satisfactory disposal of the materials excavated; and the compaction and dressing of excavated areas and embankments.

2-2 Excavation

2-2.1 Classification of Excavation

All excavation is classified as regular excavation. Regular excavation shall consist of the excavation and the utilization or satisfactory disposal of all materials necessary for the construction of the roadway and side ditches, and the installation of pipe and utility trenches.

2-2.2 Excavation for Pipework

All excavation shall be made along straight lines by open cut unless otherwise authorized by the Engineer or otherwise shown on the plans. Holes for pipe bells shall be hand-excavated to insure that the pipe rests upon the bottom of the trench for its entire length. If the bottom of the excavation is found to consist of rock, or any material that cannot be excavated to give a uniform bearing pressure, the material shall be removed to a depth at least six inches below established bottom grade and backfilled to grade with thoroughly compacted sand at the Contractor's expense. Any excavation carried below the depths indicated, without specific direction from the Engineer, shall be backfilled in the same manner. Trench width measured at one foot above the top of pipe for all pipe other than that approved for assembly prior to installation in the trench shall be:

- 1. The outside diameter of the pipe plus 16 inches for pipe up to and including 30 inches inside diameter.
2. The outside diameter of the pipe plus 24 inches for pipe greater than 30 inches inside diameter.
3. Where sheeting or shoring is used the allowable width shall be measured between the inside face of the sheeting or shoring.

For all pressure line piping approved for complete assembly prior to installation in the trench, the minimum trench width shall be the outside diameter of the coupling or joint plus two inches. Excavated material to be used for backfill shall be neatly deposited at the sides of the trenches where space is available. Where stockpiling of the excavated material is required, the Contractor shall obtain the sites to be used and maintain operations so as to provide for natural drainage and not present an unsightly appearance. Rock, shell, or other base materials for roads shall be carefully selected and kept separate. Grade and line stakes shall be protected. No excavated material shall be placed on private property other than the Owner's.

2-2.3 Dewatering for Pipework

Dewatering, if required, shall be continued during construction to keep the ground water below the level of the back-fill at all times until the backfill is completed. Water setting may be approved or required, and shall consist of continuing the well points in service and applying water as directed to the excavation during backfill.

2-2.4 Shoring

When necessary to protect workmen, banks, adjacent paving, structures and utilities, excavations shall be shored and braced by members of suitable size and arrangement. Shoring, bracing and sheeting shall be removed as excavations are backfilled, in a manner to prevent injurious caving. Where directed by the Engineer, the sheeting shall be left in place in the backfill with proper bracing to provide lateral support.

2-3 Disposal of Unsuitable Materials

If not otherwise designated in the plans, unsuitable materials shall be disposed of by the Contractor in areas provided by him, to the satisfaction of the Engineer and Okaloosa County.

2-4 Disposal of Excess Useable Materials

Excess useable materials shall be disposed of by the Contractor in areas provided by the Owner, and to the satisfaction of the Owner. The determination whether material is classified as useable or unsuitable shall be up to the judgment of the Engineer.

2-5 Materials for Embankment

All suitable material resulting from the excavation shall be used as far as practical in the construction of the roadway. Embankment shall be constructed of material containing no muck, stumps, roots, brush, vegetable matter, rubbish or other material that will not compact into a suitable and enduring roadbed, and material designated as undesirable shall be removed as provided above. Material placed over the areas of the project which are to be grassed, seeded and mulched, or sodded shall be suitable for plant growth and free from appreciable quantities of hard clods, stiff clay, hardpan, gravel, brush, roots, refuse, or other deleterious materials and shall be of reasonably uniform quality.

2-6 Embankment Construction

Embankment shall be constructed true to lines, grades, and cross sections shown in the plans or as ordered by the Engineer within the tolerances specified herein.

2-7 Backfilling of Pipework

2-7.1 General

All fill and backfill shall be free from organic matter such as roots, stumps, trees, refuse, or other objectionable material. Except as specified otherwise, fill and backfill shall be placed in layers not more than 6 inches thick and each layer shall be compacted thoroughly and evenly. The moisture content of the fill material shall be such that proper compaction will be obtained. Backfill shall be not placed against concrete within seven days after it has been poured and only when directed by the Engineer.

2-7.2 Backfilling Trenches

The initial backfill shall be carefully deposited on both sides of the pipe at the same time and thoroughly compacted around the barrel of the pipe until enough backfill has been placed to provide a cover of one foot above the bell of the pipe. The remainder of the trench shall be backfilled in well compacted one-foot layers, except for trenches excavated in roads and streets the backfill shall be placed and compacted to the density specified in Article 2-8.4, with approved mechanical tampers in six inch layers to the top of the trench. Water setting may be used where approved and shall be used where directed by the Engineer. The top material shall be used last and the surface of the trench restored to its original elevation. Under no conditions is construction debris to be included with the backfill. Excavated material consisting of muck, mud, clay or other unsuitable material may not be utilized in the backfill. Where sheeting is withdrawn, all cavities remaining in or adjoining the trench shall be solidly filled and thoroughly compacted. Where sheeting is to remain in place, all cavities behind it shall be backfilled in the same manner as specified for trench backfill. No sheeting that has been driven below the pipe invert may be removed. Before backfilling is completed all sheeting to remain shall be cut off at a line three feet below finish grade.

2-8 Compaction Requirements

2-8.1 Compaction of Embankments

Each layer of the material used in the formation of the embankments shall be compacted to a density of at least 95 percent of the maximum density as determined by AASHTO T 180. Each layer shall be uniformly compacted, using equipment which will achieve the required density, and as compactive operations progress, each layer shall be shaped and manipulated as necessary to assure uniform density throughout the embankment.

2-8.2 Compaction of Subgrade

The subgrade in both cuts and fills shall be compacted to a density of at least 95 percent of the maximum density as determined by AASHTO T 180. It shall be the Contractor's responsibility to maintain the required density until the base or pavement, as applicable, is placed on the subgrade. Compaction tests shall be provided by the Contractor, at his expense, at intervals of no more than two hundred feet, staggered to the left, right, and on centerline to verify density. A copy of the density test results shall be provided to the Engineer for approval prior to beginning base operations.

2-8.3 Compaction of Grassed Areas

For the upper six-inch layer of areas to be grassed, no specific density will be required under this Section and compaction shall be only to the extent directed.

2-8.4 Compaction for Pipes, Culverts, Etc.

The backfill for trenches shall be compacted to a density of at least 95 percent of the maximum density as determined by AASHTO T 180 and in accordance with other sections of these specifications. Embankment over and around pipes and culverts shall be thoroughly compacted in a manner which will not place undue stress on the structures.

2-9 Final Dressing

As a final grading operation, the surface of the earth work shall be shaped to conform to the lines, grades, and cross sections shown in the plans, or as directed, within the tolerances specified below.

A tolerance of 0.3 foot above or below plan cross section will be allowed on the final earth work surface with the following exceptions:

- 1. The surface of shoulders shall be shaped to within 0.1 foot of the plan cross section.
2. Earth work shall be shaped to match adjacent pavement, curb, sidewalk, structures, etc.
3. Ditch bottoms shall be shaped so that no water will be impounded.

When dressing area adjacent to pavement, care shall be exercised to avoid possible damage to such pavements.

2-10 Inspection

The Contractor shall be responsible for notifying the County Engineer to arrange for inspections of the embankment and subgrade. The County Engineer shall be notified twenty-four (24) hours before the construction is ready for inspection.

**SECTION 3  
GRADED AGGREGATE BASE COURSE**

3-1 Description

The work specified in this Section consists of the construction of a base course composed of graded aggregate. The base shall be constructed on a prepared subgrade and in a single course, and shall be constructed in accordance with these specifications and in conformity with the lines, grades, thickness, and cross-section shown in the plans.

3-2 Materials

The material shall be a Group 1 graded aggregate from an FDOT approved source and meet the requirements of FDOT Standard Specifications for Road and Bridge Construction 2007, Section 204 Graded Aggregate Base. The Contractor is to provide laboratory results from a Florida registered Geotechnical Engineer indicating that material to be used meets or exceeds the above requirements.

3-2.1 Stockpiling Materials

Aggregate shall be stockpiled on the cleared and leveled areas designated by the Engineer. The material shall be placed in such a manner so as to prevent segregation and allow for drainage of water.

3-2.2 Mixing of Materials

The course and fine aggregates shall be mixed in a stationary plant, or in a traveling plant or bucket loader on an approved paved working area, and delivered as one mixture containing the fine and coarse aggregates. The supplier shall make such adjustments in mixing procedures or in equipment as may be directed to minimize segregation or degradation, and to ensure a satisfactory base course meeting all requirements of this specification.

3-3 Equipment

The crushed aggregate shall be spread by mechanical rock spreaders, equipped with a device which strikes off the rock uniformly to the laying thickness and capable of producing an even distribution of the rock.

3-4 Spreading, Shaping, and Compacting

3-4.1 General The crushed aggregate shall be spread uniformly as specified above. All segregated areas of fine or coarse aggregate shall be removed and replaced with properly graded aggregate. After the spreading is completed the entire surface shall be scarified and then shaped so as to produce the required grade and cross section after compaction.

3-4.2 Moisture Content

When the material does not have the proper moisture content to insure the required density, wetting or drying will be required. When water is added it shall be uniformly mixed-in by disking to the full depth of the course which is to be compacted. Wetting or drying operations shall involve manipulation, as a unit, of the entire width and depth of the course which is to be compacted.

3-4.3 Density Requirements

The base material shall be compacted to a density of not less than 98 percent of maximum density as determined AASHTO T 180 as soon as proper conditions of moisture are obtained.

3-4.4 Density Tests

Compaction tests shall be provided by the Contractor, at his expense, at intervals of no more than two hundred feet, staggered to the left, right, and on centerline to verify density. A copy of the density tests shall be provided to the Engineer for approval prior to beginning paving operations.

During final compacting operations, if blading of any areas is necessary to obtain the true grade and cross section, the compacting operations for such areas shall be completed prior to making the density tests on the finished base.

3-5 Testing Surface

The finished surface of the base course shall be checked with a 15-foot straightedge laid parallel to the center line of the road. All irregularities greater than 1/4 inch shall be corrected by scarifying and removing or adding crushed aggregate as required, after which the entire area shall be recompactd as specified herein before.

3-6 Thickness Requirements

The thickness of the base shall be measured at intervals of not more than 200 feet. Measurements shall be taken at various points on the cross section, through holes not less than three inches in diameter. Where the compacted base is deficient by more than 1/2 inch from the required thickness, the Contractor shall correct such areas by scarifying and adding aggregate. The base shall be scarified and aggregate added for a distance of 100 feet in each direction from the edge of the deficient area. The affected area shall then be brought to the required state of compaction and to the required thickness and cross section. A copy of the base thickness testings results shall be provided to the Engineer for approval prior to beginning paving operations. Verification thickness testing shall also be performed by the County Engineer. The Contractor shall be responsible for notifying the County Engineer for base inspection and base thickness testing. The County Engineer shall be notified twenty-four (24) hours before the construction is ready for inspection.

3-7 Maintenance

The Contractor shall be responsible for assuring that the true crown and grade are maintained, with no rutting or other distortion, and that the base meets all other requirements of these specifications at the time of paving.

END OF SECTION

**SECTION 4  
ASPHALTIC CONCRETE PAVING**

4-1 Description

The work specified in this Section consists of constructing an asphaltic concrete wearing surface to a uniform grade and cross-section. The work shall be in accordance with these specifications and in conformity with the lines, grades, notes, and typical sections shown in the plans.

4-2 Materials

4-2.1 Asphaltic Concrete Wearing Surface

The asphaltic concrete binder and surface course shall be an S I or S III Asphaltic Concrete conforming to the requirements of Section 331 of the Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, latest edition containing Marshall mixes, except as herein modified: The job mix formula shall produce a minimum Marshall Stability of 1500 pounds. An approved Superpave mix Type SP as per FDOT Standard Specifications for Road and Bridge Construction 2007, Section 334 Superpave Asphalt Concrete may be substituted for the Marshall mixes.

4-2.2 Prime & Tack Coats

Prime and tack coats should be applied during the construction of the pavement sections in accordance with FDOT Standard Specifications for Road and Bridge Construction 2007, Section 300 Prime and Tack Coats for Base Courses. Before applying any bituminous material which might prevent proper bond with the existing surface for the full width of the application should be removed. Particular care should be taken in cleaning the outer edges of the strip to be treated, to ensure that the prime or tack coat will adhere. Prior to applying prime coat, the moisture content of the base should be checked to make sure that it does not exceed the optimum moisture.

4-3 General Construction Requirements

The general construction requirements are as specified in FDOT Standard Specifications for Road and Bridge Construction 2007, Section 330 General Construction Requirements, except as may herein be modified.

4-3.1 Asphaltic Concrete Wearing Surface

The S-1 or equivalent asphaltic concrete shall be placed to a compacted depth of not less than one and one-half (1-1/2) inches and shall have a minimum compacted density of 108 lbs/N/SY. The S-III or equivalent asphaltic concrete surface shall be placed to a compacted depth of not less than three quarter (3/4) inches and shall have a minimum compacted density of 108 lbs/N/SY. Prior to laying the mixture, the surface of the base course shall be cleaned of all loose and deleterious material.

4-4 Testing

The thickness of pavement and pavement density shall be determined by the length of cores, at two inches in diameter, taken at random points on the cross-section and at intervals of no more than two hundred (200) feet, staggered to the left, right, and on center-line along the roadway. Asphaltic Concrete Wearing Surface deficient in thickness and/or density shall be corrected to the satisfaction of the Engineer. A copy of the asphalt thickness testing results shall be provided to the Engineer. Verification thickness testing shall also be performed by the Engineer of Okaloosa County. The Contractor shall be responsible for notifying the County Engineer for asphalt inspection and thickness testing. The County Engineer shall be notified twenty-four (24) hours before the construction is ready for inspection.

END OF SECTION

**SECTION 5  
CONCRETE PAVING**

5-1 Description

The work specified in this Section consists of the construction of concrete curbs in accordance with these specifications, and in conformity with the lines, grades, dimensions, and notes shown in the plans.

5-2 Materials

5-2.1 Concrete

The material shall be obtained from an approved plant having an approved design mix. All work under this Section shall be of concrete having a minimum strength of 2,500 psi in 28 days. Concrete shall not be mixed or placed under adverse weather conditions.

5-3 Forms

Forms for this work shall be made of either wood or metal and shall have a depth equal to the plan dimensions for the depth of concrete being deposited against them. They shall be straight, free from warp or bends, and of sufficient strength, when staked, to resist the pressure of the concrete without deviation from line and grade. Forms shall be cleaned each time they are used and shall be oiled or saturated with water prior to placing the concrete.

5-4 Foundation

Excavation shall be made to the required depth and the foundation material upon which the concrete curb is to be set shall be compacted as specified below, true to grade and cross section, and shall be moist at the time that the concrete is placed. Concrete curbs are to be constructed on a stabilized subgrade as designated in the plans. Compaction requirements for the stabilized subgrade shall be as specified in Article 2-8.

5-5 Joints

5-5.1 Expansion Joints

Expansion joints shall be 1/2 inch, formed with a pre-formed joint filler. Expansion joints shall be provided at all inlets and all radius points and shall be located at intervals of 75 feet between other expansion joints or at ends of run.

5-5.2 Contraction Joints

Except for machine placed items, at the option of the Contractor, joints may be formed by the use of dummy joints (either formed or sawed) or by the use of sheet metal templates. If sheet metal templates are used they shall be of the dimensions, and shall be set to the lines, shown in the plans. The templates shall be held firmly during the placing of the concrete and shall be left in place until the concrete has set sufficiently to hold its shape but shall be removed while the forms are still in place. For machine placed items, unless an alternate method is approved by the Engineer, contraction joints shall be sawed. The joints shall be sawed as soon as the concrete has hardened to the degree that excessive raveling will not occur and before uncontrolled shrinkage cracking begins. Contraction joints shall be spaced at intervals of fifteen feet except where a lesser interval is required for closure, but no section shall be less than four feet in length. Where curb is adjacent to concrete roadway pavement, the curb joints shall be made to align with the roadway joints.

5-6 Placing

The concrete shall be placed in the forms and tamped and spaded to prevent honeycomb and until the top of the structure can be floated smooth and the edges rounded to the required radius.

5-7 Finishing

5-7.1 Repair of Minor Defects

Repairs shall be removed within 24 hours after the concrete has been placed, and minor defects then filled with mortar composed of one part portland cement and two parts fine aggregate. Plastering will not be permitted on the face of the curb, and any rejected curb shall be removed and replaced without additional compaction.

5-7.2 Final Finish

All exposed surfaces shall be given a finish while the concrete is still green. In general, only a brush finish will be required. For any surface areas, however, which are too rough or where other surface defects make additional finishing necessary, the Engineer may require that the curb be rubbed to a smooth surface with a soft brick or wood block, with water used liberally. Also, if further necessary to provide a suitable surface, the Engineer may require additional rubbing, using a thin grout or mortar.

5-8 Curing

The concrete used for curbs shall be cured for 72 hours by a method approved by the Engineer.

END OF SECTION

**SECTION 6  
STORM DRAINAGE SYSTEM**

6-1 Description

The work specified in this Section consists of the construction of inlets and the furnishing and installation of drainage pipe. All work shall be constructed in conformity with these specifications and the sizes and dimensions shown in the plans.

6-2 Materials

6-2.1 Concrete

All inlet construction covered under this Section shall be of concrete that will have a minimum compressive strength of 3,000 psi in 28 days.

6-2.2 Reinforcement

6-2.2.1 Reinforcing steel

Shall comply with ASTM A 1015, Grade 40. Reinforcement placement shall conform to ACI 315 and with the plans.

6-2.2.2 Welded Wire Fabric shall comply with ASTM A 185.

6-2.3 Gratings

Gratings and frames fabricated from structural steel shall be galvanized in accordance with the requirements of ASTM A 123 or shall be painted with two coats of prime, followed by one coat of material meeting the requirements of Federal Specification TT-E-489, Class A Black. All joint may be applied in the shop by dipping, provided that each coat is thoroughly dry before the succeeding coat is applied. These requirements do not apply when A-588 steel is used.

6-2.4 Pipe

6-2.4.1 Concrete Pipe

Concrete Pipe shall be round reinforced concrete complying with ASTM C 76, Class III, with round rubber gasket complying with ASTM C 361.

6-2.4.2 Corrugated Polyethylene Pipe

Corrugated Polyethylene pipe shall be smooth interior complying with AASHTO M 294. Corrugated polyethylene pipe shall be N-12 as manufactured by Advance Drainage Systems (ADS) or approved equal. Where so designated on the plans, corrugated polyethylene pipe shall be provided with perforations and a sock filter.

6-2.5 Pre-Manufactured Drain Basins

Pre-manufactured Drain Basins shall be constructed of P.V.C. with cast iron as manufactured by Nyloplast, or approved equal. Basins shall be provided with corrugated polyethylene adapters, sized as indicated.

6-3 Forms

Forms shall be of wood or metal, so designed and constructed that they may be removed without injury to the concrete. They shall be built true to line and grade and braced in a substantial and unyielding manner, and shall be approved by the Engineer before being filled with concrete.

6-4 Precast Inlets

The Contractor may substitute precast inlets in lieu of cast-in-place units unless otherwise shown on the plans. When precast units are substituted the construction of such units may be in accordance with ASTM C 478. The design and fabrication of precast

units shall be in accordance with the drawings.

6-5 Construction Methods for Inlets

6-5.1 Excavation

Excavation shall conform with the requirements specified in Section 2 of these specifications.

6-5.2 Placing and Curing Concrete

The concrete shall be placed in the forms to the depth shown in the plans and thoroughly vibrated. After the concrete has hardened sufficiently it shall be covered with suitable material and kept moist for a period of three days.

6-5.3 Setting Manhole Castings

After the concrete has been cured as specified above, the frame of the casting shall be set in a full mortar bed composed of one part portland cement to two parts of fine aggregate.

6-5.4 Placing Pipe

Inlet and outlet pipes shall be of the same size and kind as the connecting pipe shown in the plans. They shall extend through the walls for a distance beyond the outside surface sufficient for the intended connections, and the concrete shall be constructed around them neatly so as to prevent leakage along their outer surface. The inlet and outlet pipes shall be flush with the inside of the wall.

6-5.5 Backfilling

Backfilling shall conform with the requirements specified in Section 2 of these specifications.

6-6 Laying Pipe

6-6.1 General

All pipe shall be carefully laid, true to the lines and grades given. Any pipe that is not in true alignment or which shows any settlement after laying shall be taken up and re-laid without additional compensation.

6-6.2 Concrete Pipe

Concrete pipe shall be laid with hubs up and tongue fully entered into the hub. When pipe with quadrant reinforcement or circular pipe with elliptical reinforcement is used, the pipe shall be installed in a position such that the manufacturer's marks designating "top" and "bottom" of the pipe shall not be more than five degrees from the vertical plane through the longitudinal axis of the pipe.

6-6.3 Corrugated Polyethylene Pipe

Corrugated polyethylene pipe shall be installed in accordance with the manufacturer's installation instructions.

6-6.4 Trench Excavation

The excavation of the trench for pipe culverts and storm sewers shall be as specified in Section 2 of these specifications.

6-6.5 Foundation

Where the foundation material is of inadequate supporting value a suitable foundation shall be provided, as directed by the Engineer, by the removal of unsuitable material and replacing with suitable material. Pipe shall not be laid on blocks or timbers, or on other unyielding material, except where the use of such devices is called for in the plans.

6-6.6 Sealing Joints

For all concrete pipe other than side drain pipe, the pipe joints shall be sealed by the use of round rubber gaskets. The gasket and the surface of the pipe joint, including the gasket recess, shall be clean and free from grit, dirt and other foreign matter, at the time the joints are made. In order to facilitate closure of the joint, application of an approved vegetable soap lubricant immediately prior to closing of the joint will be permitted.

6-6.7 Backfilling

The backfilling around the pipe shall be as specified in Section 2 of these specifications.

6-7 End Treatment

The end treatment requires at each cross drain, side drain, or storm sewer pipe end shall be as shown in the plans.

6-8 As-Built Drawings

The Contractor shall furnish the Engineer / City at the close of the project, with three (3) sets of marked-up construction plans depicting as-built conditions of the storm water system. Provide additional AUTOCAD as-built on state plane coordinates FL North US Survey Feet NAD 83. The as-built plans shall show the location of storm water structures, storm water pipes and retention areas. Engineering / City approval of the storm water system will not be made until accurate and legible as-built plans are received.

END OF SECTION

**SECTION 7  
GRASSING**

7-1 Description

The work specified in the Section consists of the establishing of a stand of grass, within the limits shown on the plans by sodding or seeding, mulching, fertilizing, watering, grading and maintaining the grassed areas until the completion of the project and final acceptance.

**SECTION 9  
POTABLE WATER SYSTEM**

- 9-1 Description
 

The work specified in this section consists of the construction of a potable water system, which includes the potable water distribution mains, valving, fire hydrants, and service piping. The potable water system shall be constructed in conformity with the plans and in accordance with these specifications, or the specifications and requirements of the Destin Water Users, Inc. (Utility Company), whichever is more stringent.
- 9-2 Codes and Standards
 

The Contractor shall comply with the requirements of Chapter 62-555 of the Florida Department of Environmental Protection Rules and the applicable portions of the National Standard Plumbing Code pertaining to the installation of potable water systems. Additionally, the Contractor shall comply with the requirements of the local Fire Marshall and Utility Company regulations pertaining to fire hydrants, including hose unit threading and similar matching of connections. The Contractor shall obtain required permits and inspections and shall coordinate tapping of existing water mains with the Utility Company.
- 9-3 Materials
  - 9-3.1 Detector Wire
 

No. 14 Copper tracer wire shall be required for all non-metallic water mains. Tracer wire shall be well connected to Fire Hydrants and shall be protected during backfilling operations to prevent breakage.
  - 9-3.2 Piping and Pipe Fittings
    - 9-3.2.1 Water Mains
 

Water main piping shall be Polyvinyl Chloride (PVC) pipe. Water main piping 1-1/2" through 3" in size shall conform to ASTM D 2241, SDR 26 (PVC material 12454-B) with push-on joints conforming to ASTM D 3139 and elastomeric gaskets conforming to ASTM F 477. Water main piping 4" through 12" in size shall conform to AWWA C 900-89, DR 18, and shall be furnished in cast-iron pipe equivalent outside diameters with rubber gasketed joints as AWWA C 900 listed. All water main piping shall be stamped "NSF-PW". All water main fittings shall be constructed of either ductile iron or cast iron conforming to AWWA C 110 or ANSI A 21.10, respectively. All fittings shall be thin cement lined as specified in ANSI A 21.4. The exterior of the fittings shall receive a coat of hot-dip coal-tar as specified in ANSI A 21.6. All bolts, nuts, studs and other non-coated parts of joints shall be coated with asphalt or coal-tar prior to backfilling.
    - 9-3.2.2 Water Service Piping
 

Water service piping shall be Polyethylene (PE) Tubing conforming to ASTM D 1248, Class 160, with brass or bronze barbed fittings with 2 strap-type stainless steel clamps over pipe at each insert.
    - 9-3.3 Valves
      - 9-3.3.1 Gate Valves
 

Gate valves shall be of cast iron body, fully bronze mounted, double-disc, and having parallel seats, with wide flanged, mechanical joint, or spigot ends depending on installation. Gate valves shall have a minimum working pressure of 175 psi, and shall comply with AWWA C 500. Gate valves shall open by counterclockwise rotation of the valve stem and shall be fitted with hub-type hand operators. Valves shall have a cast iron valve box installed concentrically over the valve. Gate valves shall be sized and located as indicated on the plans.
      - 9-3.3.2 Water Service Clamps and Stops
        - 9-3.3.2.1 Service Clamps
 

Service clamps shall be Clow-Vega Model F-6350 as manufactured by Clow, Wichita Falls, Texas, or Dresser Style 194 as manufactured by Dresser Manufacturing Co., Bradford, Pa., or approved equal.
        - 9-3.3.2.2 Corporation Stops
 

Corporation stops shall be Ford Model No. F-1000, or approved equal. Inlets shall have compression connections and outlets shall have iron pipe threads.
        - 9-3.3.2.3 Curb Stops
 

Curb stops shall be as manufactured by Ford, or approved equal. Inlets shall have compression connections and outlets shall have iron pipe threads.
        - 9-3.3.3 Valve Boxes
 

An adjustable cast-iron valve box of suitable size shall be provided at each gate valve. The head shall be round and the lid shall have the word "WATER" cast on it. The least dimension of the shaft of the box shall be 5-1/4 inches. A 2"-0" diameter by 6" concrete collar shall be poured around the shaft at the valve box surface. The valve boxes shall be Clow F-2452, or approved equal.
      - 9-3.4 Fire Hydrants
 

Fire hydrants shall be dry-barrel type conforming to AWWA C 502. Hydrants shall have 6 inch outlet, 5-1/4 inch valve opening, one 4-1/2 inch pumper connection, and two 2-1/2 inch hose connections. The size and shape of operating nuts and threads on hose and pumper connections shall be as required by the Utility Company. The hydrants shall be America Darling, or approved equal.
      - 9-3.5 Anchorages
 

The Contractor shall provide anchorages for tees, wyes, crosses, plugs, caps, bends, valves, and hydrants as required. After installation, apply full coat of bituminous material to surface of any ferrous anchorages. Anchorage types are as follows:

        - (1) Clamps, Straps, and Washers: Steel, ASTM A 506.
        - (2) Rods: Steel, ASTM A 575.
        - (3) Rod Couplings: Malleable-iron, ASTM A 197.
        - (4) Bolts: Steel, ASTM A 307.
        - (5) Thrust Blocks: Concrete, 2500 psi, sized as indicated.
    - 9-3.6 Water Meters
 

Water meters shall meet the requirements of Destin Water Users, Inc.
    - 9-4 Installation
      - 9-4.1 Pipe Laying and Jointing
 

Pipe, fittings, valves and accessories shall be carefully inspected before and after installation and those found defective shall be rejected and replaced. Before placing in position, contractor to clean pipe, fittings, valves and accessories and maintain in clean condition. Cut pipe accurately to measurements established at the site and work into place without springing or forcing. Support pipe at its proper elevation and grade, taking care to secure firm and uniform support. Lay pipe so that the full length of each section of pipe and each fitting will rest solidly on the pipe

- bedding; excavate recesses to accommodate bells, joints, and couplings. Provide anchors and supports where necessary for fastening work into place. Concrete reaction or thrust blocks shall be applied on all tees, plugs, caps and bends deflecting 22-1/2 degrees or more. Keep trenches free of water until joints have been properly made. At the end of each day's work, close open ends of pipe temporarily with wood blocks or bulkheads. Do not lay pipe when conditions of trench or weather are unsuitable. In addition to the above, PVC pipe and fittings installation shall conform to the requirements of UNI B-3.
- Water mains shall be laid at least 10 feet horizontally from any existing or proposed sewer. The distance shall be measured edge to edge. In cases where it is not practical to maintain a ten foot separation, and when approved by D.E.P. and the Engineer, the water main may be installed closer to the sewer, provided that the water main is laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer at such an elevation that the bottom of the water main is at least 18 inches above the top of the sewer.
- Water mains crossing over sanitary sewer mains shall be laid to provide a minimum vertical distance of 18 inches between the invert of the upper pipe and the crown of the lower pipe. Where this minimum separation cannot be maintained, the crossing shall be arranged so that the sewer pipe joints and water main joints are equidistant from the point of crossing with no less than 10 feet between joints. Alternatively, the sewer main be placed in a sleeve or encased in concrete to obtain the equivalent of the required 10-foot separation.
- Excavation and backfilling of water main trenches shall conform to Section 2 of these specifications. Provide a minimum of 36 inches of cover over water mains.
- 9-4.2 Gate Valves
 

Install gate valves in accordance with the requirements of AWWA C 600 for valve-and-fitting installation. Valve boxes shall be placed concentrically over the valve operating nut.
- 9-4.3 Fire Hydrants
 

Install fire hydrants in accordance with the requirements of AWWA C 600 and AWWA M 17, "Installation, Operation, and Maintenance of Fire Hydrants".
- 9-4.4 Connection to Existing Water System
 

Coordinate and make connections to the existing water system in a manner approved by the Utility Company, and with a minimum interruption of service on the existing system.
- 9-5 Field Testing
  - 9-5.1 General
 

Conduct piping tests before joints are covered, and after thrust blocks have sufficiently hardened. Fill pipeline with water 24 hours prior to testing, and apply test pressure to stabilized system.
  - 9-5.2 Hydrostatic Tests
    - 9-5.2.1 Pressure During Test: After the pipe has been laid and backfilled as specified, each valved section of newly laid pipe shall, unless otherwise specified, be subjected to a hydrostatic pressure equal to 150 psi. The Contractor shall record the testing by the use of a pressure recording gauge, and after all testing is complete, the recording shall be turned over to the Engineer for his files.
    - 9-5.2.2 Duration of Pressure Test
 

The duration of each pressure test shall be at least 2 hours.
    - 9-5.2.3 Procedure
 

Each section of pipe shall be slowly filled with water and the specified test pressure, measured at the lowest point of the elevation, shall be applied by means of a pump connected to the pipe in a satisfactory manner. The pump, pipe connection, gauges meter, and all necessary apparatus shall be furnished by the Contractor. The test shall be applied to each valved section in order to check the leakage through all valves.
    - 9-5.2.4 Expelling Air Before Test
 

Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, taps shall be made, if necessary, at points of highest elevation and afterwards tightly plugged.
    - 9-5.2.5 Definition of Leakage
 

Leakage is defined as the quantity of water to be supplied into the newly laid pipe, or any valved section of it, necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.
    - 9-5.2.6 Permissible Leakage
 

Suitable means shall be provided by the Contractor for determining the quantity of water lost by leakage under normal operating pressure. No pipe installation will be accepted until or unless this leakage (evaluated at 150 psi) is less than the figure stated below:

	Gal's/1000'/24 Hrs.	Gal's/1000'/1 Hr.
2"	3.8 gal.	0.16 gal.
3"	5.7 gal.	0.24 gal.
4"	7.6 gal.	0.32 gal.
6"	11.4 gal.	0.47 gal.
8"	15.2 gal.	0.63 gal.
10"	18.9 gal.	0.79 gal.
12"	22.7 gal.	0.95 gal.
    - 9-5.2.7 Variation From Permissible Leakage
 

Should any test of combined sections of pipe laid disclose leakage greater than the specified limit, the Contractor shall, at his expense, locate and repair the defective joints until the leakage is within the specified allowance.
    - 9-5.2.8 Water for Testing
 

Water for testing shall be provided by the Contractor at his expense.
    - 9-5.2.9 Time for Making Test
 

Pipe may be subjected to hydrostatic pressure, inspected, and tested for leakage at any convenient time after partial completion of backfill. The Contractor may test the system with joints exposed or with backfilling complete at his option. The Engineer and the Utility Company shall be notified at least 24 hours before beginning testing.
    - 9-5.3 Operating Tests
 

Open and close all valves and hydrants under system water pressure. Check dry barrel hydrants for proper drainage.

- 9-6 Disinfection
 

Flush and disinfect the new potable water system in accordance with AWWA C 601 to the satisfaction of the Engineer and the Utility Company. In the process of chlorinating water, all valves or other appurtenances shall be operated while the pipe line is filled with the chlorinating agent.
- 9-7 Final Flushing and Testing
 

Following disinfection, all treated water shall be thoroughly flushed from the newly laid pipe system at its extremities until the replacement water throughout its length shall upon test, both chemically and bacteriologically, be approved by the Florida Department of Environmental Protection. The Contractor shall be responsible for arranging and paying for the test samples.
- 9-8 As-Built Certification
 

In accordance with the Rules of Florida Department of Environmental Protection, Chapter 62-555, the Engineer of record will be responsible for observation of the construction of the potable water system to assure compliance with plans and specifications, and said Engineer will report to DEP upon completion of the construction and cleaning and disinfecting described above before the system can be placed into service. The Contractor shall notify the Engineer a minimum of 24 hours before beginning construction on the potable water system.
- 9-9 As-Built Drawings
 

The Contractor shall furnish the Engineer at the close of the project, with one (1) set of marked-up construction plans depicting as-built conditions of the potable water system. The as-built plans shall show the location of water services, water valves, and fire hydrants. Engineering approval of the potable water system will not be made until accurate and legible as-built plans are received.

**SECTION 10  
RECLAIMED WATER DISTRIBUTION SYSTEM  
(a.k.a. REUSE WATER)**

- Specifications for the relocation of the 16" reclaim main per the DWU Commons Drive Reclaimed Water Extension Phase III plans and specifications dated January 2011 and prepared by Baskerville-Donovan, Inc.
- 10-1 Description
 

The work specified in this section consists of the construction of reclaimed water services and other appurtenances, in conformity with the plans and in accordance with these specifications, or the General Utility Specifications of Destin Water Users, Inc. (Utility Company), whichever is more stringent.
- 10-2 Codes and Standards
 

The Contractor shall comply with the requirements of Chapter 62-604 and 62-610 of the Florida Department of Environmental Protection rules, the applicable portions of the National Standard Plumbing Code and Ten State Standards pertaining to the installation of reclaimed water systems, and the Utility Accommodation Manual of the Florida Department of Transportation, latest edition. The Contractor shall obtain required permits and inspections from the Utility Company.
- 10-3 Materials
  - 10-3.1 Detector Wire
 

No. 12 Copper tracer wire shall be required for all non-metallic services and shall be protected during backfilling operations to prevent breakage.
  - 10-3.2 Gate Valves - See Backerville-Donovan plans and specifications
  - 10-3.3 Piping and Pipe Fittings - See Backerville-Donovan plans and specifications
  - 10-3.3.1 Reclaimed Water Mains - See Backerville-Donovan plans and specifications
    - 10-3.3.2 Reclaimed Water Service Piping
 

Water service piping shall be Polyethylene (PE) Tubing conforming to ASTM D 1248, Class 160, with brass or bronze barbed fittings with 2 strap-type stainless steel clamps over pipe at each insert. All reclaimed water infrastructure (mains, services, etc.) shall be color coded using Pantone Purple 522C using light stable colorants.
    - 10-3.3.3 Reclaimed Water Service Clamps and Stops
      - 10-3.3.3.1 Service Clamps
 

Service clamps shall be Clow-Vega Model F-6350 as manufactured by Clow, Wichita Falls, Texas, or Dresser Style 194 as manufactured by Dresser Manufacturing Co., Bradford, Pa., or approved equal.
      - 10-3.3.3.2 Corporation Stops
 

Corporation stops shall be Ford Model No. F-1000, or approved equal. Inlets shall have compression connections and outlets shall have iron pipe threads.
      - 10-3.3.3.3 Curb Stops
 

Curb stops shall be as manufactured by Ford, or approved equal. Inlets shall have compression connections and outlets shall have iron pipe threads.
    - 10-3.3.4 Valve Boxes - See Backerville-Donovan plans and specifications
  - 10-3.4 Anchorages - See Backerville-Donovan plans and specifications
  - 10-5 Installation - See Backerville-Donovan plans and specifications
  - 10-6 Field Testing - See Backerville-Donovan plans and specifications
  - 10-7 As-Built Certification
 

In accordance with the Rules of Florida Department of Environmental Protection, Chapter 62-604, the Engineer of record will be responsible for observation of the construction of the reclaimed water system to assure compliance with plans and specifications, and said Engineer will report to DEP upon completion of the construction before the system can be placed into service. The Contractor shall notify the Engineer a minimum of 24 hours before beginning construction on the reclaimed water system.
  - 10-8 As-Built Drawings
 

The Contractor shall furnish the Engineer at the close of the project, with one (1) set of marked-up construction plans depicting as-built conditions of the reclaimed water system. The as-built plans shall show the location of water services, bends and valves. Engineering approval of the reclaimed water system will not be made until accurate and legible as-built plans are received.

**SECTION 11  
SANITARY SEWAGE SYSTEM**

- 11-1 Description
 

The work specified in this Section consists of the construction of a gravity sanitary sewer collection system, including sanitary sewer collection lines, service lines, sanitary sewer manholes, and other appurtenances, in conformity with the plans and in accordance with these specifications, or the specifications and requirements of the Destin Water Users, Inc. (Utility Company), whichever is more stringent.
- 11-2 Codes and Standards
 

The Contractor shall comply with the requirements of Chapter 62-604 of the Florida Department of Environmental Protection rules and the applicable portions of the National Standard Plumbing Code and Ten State Standards, pertaining to the installation of gravity sanitary sewer collection systems. The Contractor shall obtain required permits and inspections from the Utility Company.
- 11-3 Materials
  - 11-3.1 Gravity Sewer Collection Lines and Fittings
 

Gravity sewer collection line piping and fittings (6 inches through 12 inches) shall be Polyvinyl Chloride (PVC) conforming to ASTM D 3034, Type PSM, SDR 35. Jointing shall be accomplished by means of elastomeric gasket joints conforming to ASTM D 3212. Gasket material shall be suitable for use with domestic sewage and shall conform to ASTM F 477.
  - 11-3.2 Sewer Service Lines
 

Sewer service line piping and fittings (4 inches and smaller) shall be Polyvinyl Chloride (PVC) conforming to ASTM D 2466. Solvent cement for jointing piping shall conform to ASTM D 2565. Extend sewer service lines to right-of-way line and bend up at a 45° angle. Extend 18 inches above ground and cap.
  - 11-3.3 Manholes
 

Sanitary sewer manholes shall be constructed of precast reinforced concrete, sized as indicated, and complying with ASTM C 478. Manhole tops shall be eccentric cone type and manhole bases shall be base riser sections with integral floors. No steps shall be provided in any sanitary sewer manholes of any depth.

Sanitary sewer manhole frames and covers shall be of heavy-duty cast iron construction, sized as indicated. The manhole cover shall be of indented top design with lettering cast into the top reading "SEWER". Manhole frames and covers shall be Vulcan Foundry No. VM-37, Neenah Foundry No. R-1600, or approved equal. Manhole frames and covers are to be coated with coal-tar epoxy.
  - 11-3.4 Cleanouts
 

Sanitary sewer cleanouts shall be constructed of PVC pipe extended to the ground surface with PVC plugs.
  - 11-4 Installation
    - 11-4.1 Gravity Collection and Service Lines
 

Each section of pipe shall be carefully inspected before and after it is installed and defective pipe shall be rejected and removed. Sewer lines shall be laid beginning at the low point of the system, true to the grade and alignment indicated, with unbroken continuity of invert. Clear interior of piping of dirt and other superfluous material as work progresses. Maintain swab or drag in line and pull past each joint as it is completed. Open ends of pipe at the end of each day's work shall be closed temporarily with wood blocks or bulkheads. In addition to the above, PVC gravity sewer lines shall be installed in accordance with UNI-B-5.

Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge. In cases where it is not practical to maintain a ten foot separation, and when approved by D.E.P. and the Engineer, the sewer may be installed closer to the water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on one side of the sewer at an elevation so that the bottom of the water main is at least 18 inches above the top of the sewer.

Sewers crossing under water mains shall be laid to provide a minimum vertical distance of 18 inches between the invert of the upper pipe and the crown of the lower pipe. Where this minimum separation cannot be maintained, the crossing shall be arranged so that the sewer pipe joints and water main joints are equidistant from the point of crossing with no less than 10 feet between any two joints. Alternatively, the sewer main may be placed in a sleeve or encased in concrete to obtain the equivalent of the required 11-foot separation.
    - 11-4.2 Sewer Manholes
 

Excavation of pipe trenches shall conform to Section 2 of these specifications.

Sanitary sewer manholes shall be installed in accordance with ASTM C 891. Where manholes occur in pavements, set top of frames and covers flush with the finished surface. Elsewhere, set tops 3" above finished surface, unless otherwise indicated. Groat inverts of manholes to provide continuity of grade and direction change through manhole. The exterior of the manhole shall be given two coats of Koppers 300M, or equal, before backfilling operation.

Sewer Manholes shall be coated with a self-priming heavy duty cold applied coal tar material similar and equal to KOPPERS "Bitumastic Super Service Black". Provide a minimum of two (2) coats at a rate of 50 to 60 square feet per gallon per coat.
    - 11-5 Backfilling
 

Backfill pipe trenches and around structures in accordance with Section 2 of these specifications.
    - 11-6 Inspection and Testing
 

Inspect piping to determine whether line displacement or other damage has occurred. Make inspections after lines between manholes, or manhole locations, have been installed and approximately 2 feet of backfill is in place, and again at the completion of the project. If inspection indicates poor alignment, debris, displacement, or other defects, correct such defects and reinspect.

Leakage tests may include appropriate water or low pressure air testing. The leakage outward or inward (exfiltration or infiltration) shall not exceed 50 gallons per 100 feet of pipe diameter per mile per day for any section of the system. An exfiltration or infiltration test as appropriate shall be performed with a minimum positive head of two (2) feet. The water test, if used, shall be run continuously for a period of no less than 24 hours. The air test, if used, shall be run continuously for a period of no less than 24 hours. The minimum test reading taken at 20 minute intervals, by air test if used, shall, as a minimum, conform to the following:

**December 15, 2014  
Destin City Council  
14-29-SP**

**NO CHANGES SHALL BE MADE TO THESE APPROVED PLANS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY OF DESTIN. UNAPPROVED DEVIATIONS MAY RESULT IN THE REVOCATION OF BUILDING PERMITS AND THE INABILITY TO SECURE A CERTIFICATE OF OCCUPANCY.**

**NOT RELEASED FOR CONSTRUCTION**

**CRYSTAL BEACH TOWNHOMES SPECIFICATIONS**

**Gustafson, Cothorn & Tucker, Inc.**  
Civil Engineering/Land Surveying  
121 Hart Street, Niceville, FL 32578 (850) 678-5141  
Certificate of Authorization No. EB-0009456  
Matthew H. Zinke PE# 57612  
CHECKED: M.ZINKE, P.E. APPROVED: M.ZINKE, P.E.

REVISIONS:

SCALE: N/A  
FILE # E14016  
F.B. #: 14-07  
DATE: 07-14-2014

SHEET 15 OF 16  
DWG. NO.  
**14**

to the test procedure described in ASTM F1417-92 (1998) "Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air". All test times shall be calculated using Ramseier's equation  $T = 0.085 (DK/Q)$  Where  $T$  = Shortest time, in seconds allowed for the air pressure to drop 1.0 psig  $K = 0.000419$  DL, but not less than 1.0  $Q = 0.0015$  cubic feet/minute/ square feet of internal surface  $D$  = nominal pipe diameter in inches  $L$  = Length of pipe being tested in feet  
 For more efficient testing of long test sections and /or sections of larger diameter pipes a timed pressure drop of 0.5 psig may be used in lieu of the 1.0 psig drop. If 0.5 psig pressure drop is used, appropriate required test times shall be exactly half as long as those obtained using Ramseier's equation for  $T$  cited above.

The testing methods provided should take into consideration the range in groundwater elevations projected and the situation during the test.

The test shall be made by the Contractor with the Utility Company representative being present to verify the test accuracy. The Engineer and the Utility Company shall be notified 24 hours in advance. Where infiltration occurs in excess of the specified amount, the defective pipe or joints shall be located and repaired at the expense of the Contractor. If the defective portions cannot be so located, the Contractor, at his own expense, shall remove and reconstruct as much of the original work as necessary to obtain a sewer system within the allowable infiltration limits.

The sewer or sewers shall be pumped out and normal infiltration conditions prevail before testing shall be started.

All sewer mains and services shall be pressure tested as specified in this section or as required by the Florida Department of Environmental Protection and the Utility Company.

11-6.2 Sewer Manholes

Sanitary sewer manholes shall be inspected for water tightness prior to being placed into service. Leakage tests may include appropriate water or air pressure testing. The leakage outward or inward (exfiltration or infiltration) shall not exceed 3/4 gallons per hour for any manhole in the system. When an exfiltration or infiltration test is performed on the sewer mains and services, the Contractor may elect to include the sewer manholes in the section of sewer being tested. The air test if used shall conform to test procedures described in ASTM C1244-93 (2000) "Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure Test". The testing methods should take into consideration the range of groundwater elevations projected and the situation during the test.

The manhole shall be pumped out and normal infiltration conditions prevail before testing shall be started.

All sewer manholes shall be pressure tested as specified in this section or as required by the Florida Department of Environmental Protection and Destin Water Users, Inc.

The tests shall be made by the Contractor. The Engineer and the Utility Company shall be notified 24 hours in advance. Where exfiltration/ infiltration occurs in excess of the specified amount, the defective manhole shall be located and repaired at the expense of the Contractor. If the defect cannot be so located, the Contractor, at his own expense, shall remove and reconstruct as much of the original work as necessary to obtain a manhole within the allowable limits.

11-7 As-Built Certification

In accordance with the Rules of the Florida Department of Environmental Protection, Chapter 62-604, the Engineer of record will be responsible for observation of the construction of the sanitary sewer collection system to assure compliance with the plans and specifications, and said Engineer will report to DEP upon completion of the construction before the system can be placed into operation. The Contractor shall notify the Engineer a minimum of 24 hours before beginning construction on the sewer collection system.

11-8 As-Built Drawings

The Contractor shall furnish the Engineer at the close of the project, with three (3) sets of marked-up construction plans depicting as-built conditions of the sanitary sewer system. The as-built plans shall show the location of sanitary sewer services and the location and elevation of sanitary sewer manholes. Elevations shall be relative to project datum. Engineering approval of the sanitary sewer system will not be made until accurate and legible as-built plans are received.

END OF SECTION

**G. Gustin, Cothorn & Tucker, Inc.**  
 Civil Engineering/Land Surveying  
 121 Hart Street, Newville, FL 32578 (850) 678-5141  
 Certificate of Authorization No. EB-0003456  
 Matthew H. Zinke PE# 57612  
 DRAWN: M.SCOTKA CHECKED: M.ZINKE, P.E. APPROVED: M.ZINKE, P.E.

PROFESSIONAL  
 ENGINEER  
 SEAL

REVISIONS:	△	△	△	△
SCALE: N/A				
FILE # E14016				
F.B. # 14-07				
DATE: 07-14-2014				

NOT RELEASED FOR  
 CONSTRUCTION

CRYSTAL BEACH TOWNHOMES  
 SPECIFICATIONS

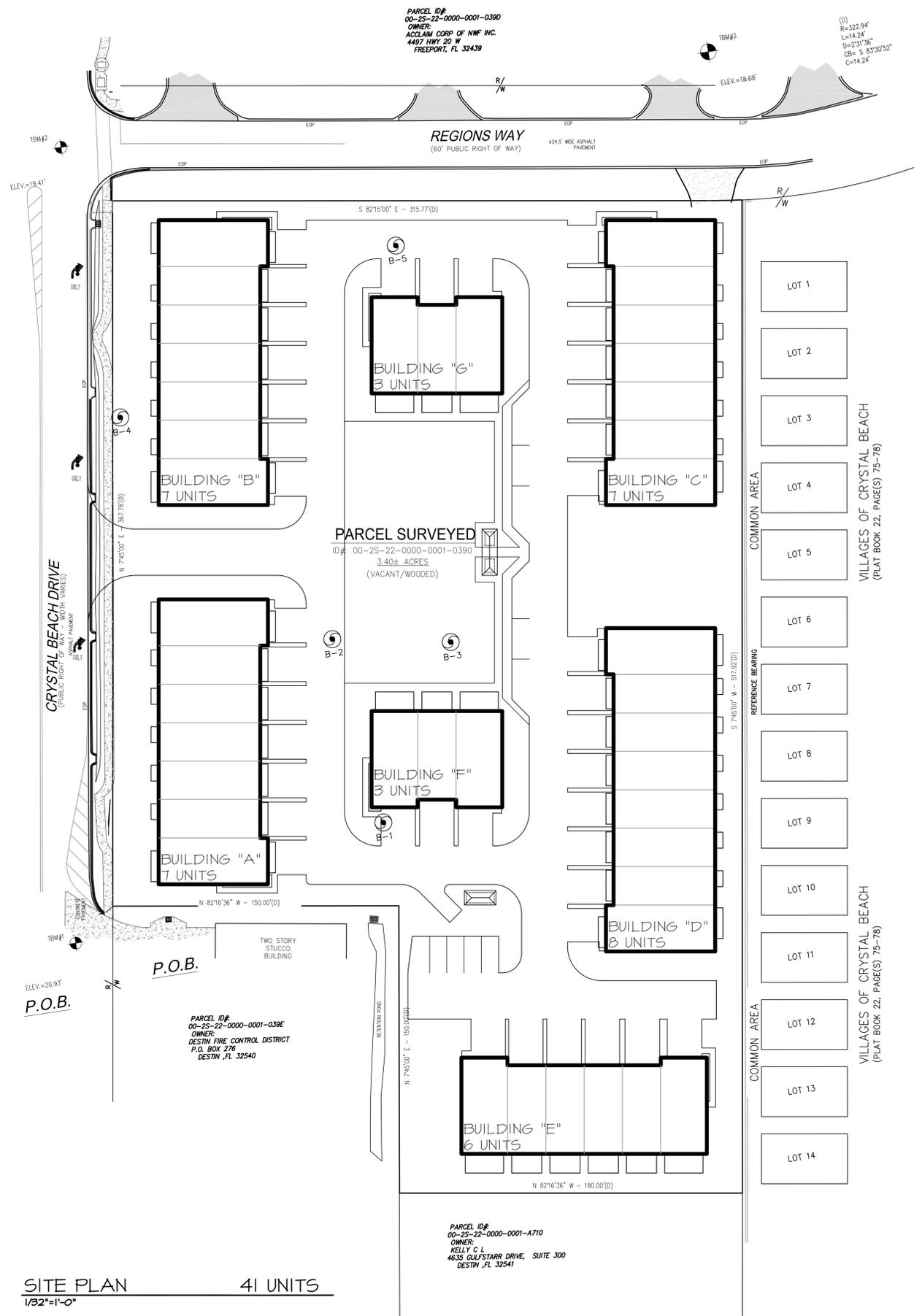
APPROVED  
 December 15, 2014  
 Destin City Council  
 14-29-SP

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**LOCATION MAP**  
 N.T.S.

REVISIONS	

PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**  
 DESTIN, FLORIDA

DWG. TITLE  
**ARCHITECTURAL SITE PLAN**

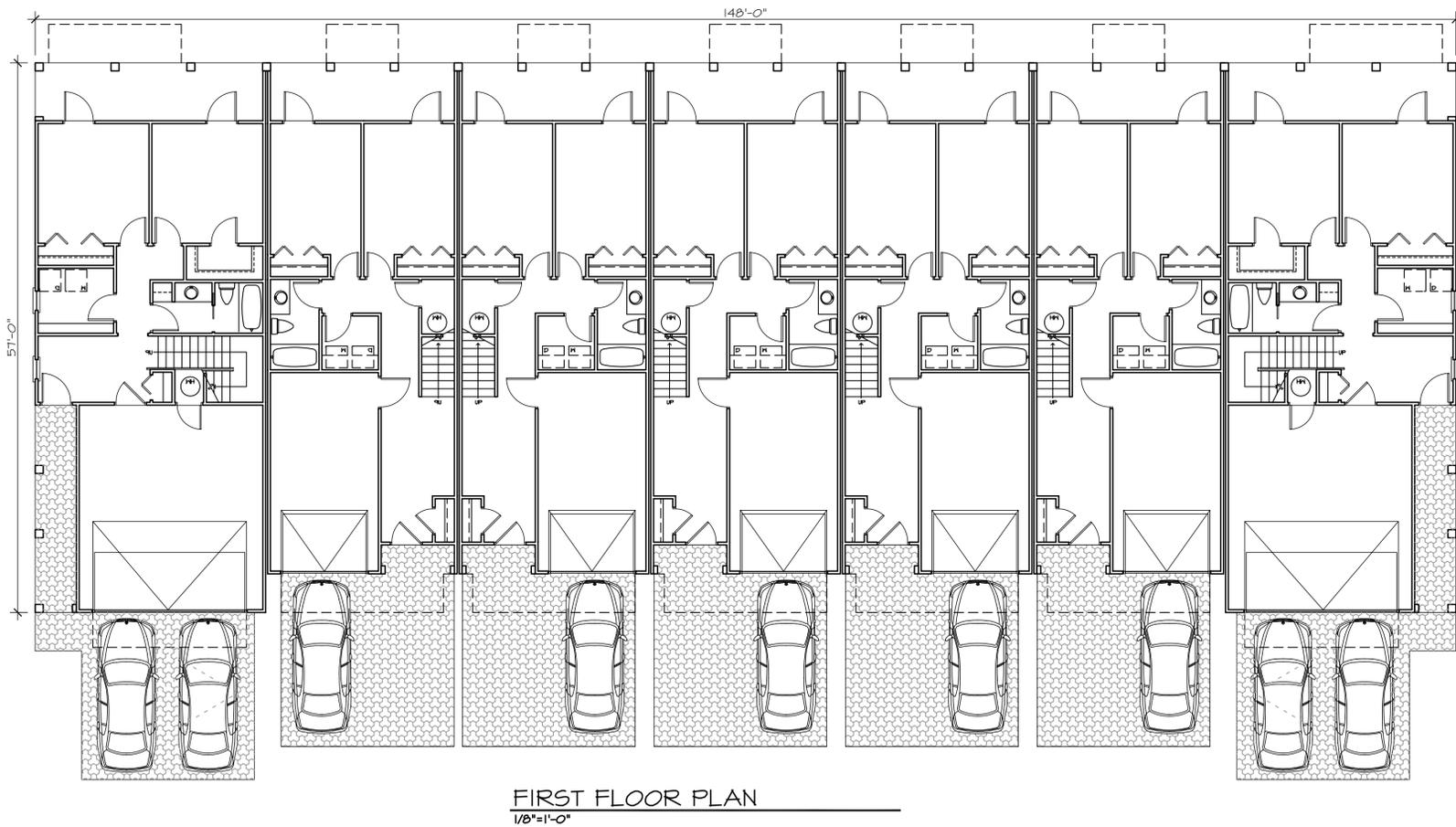
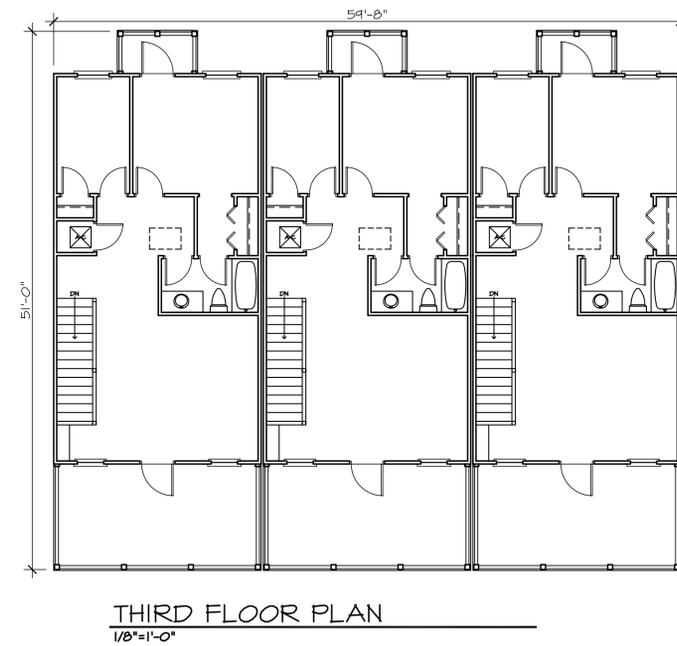
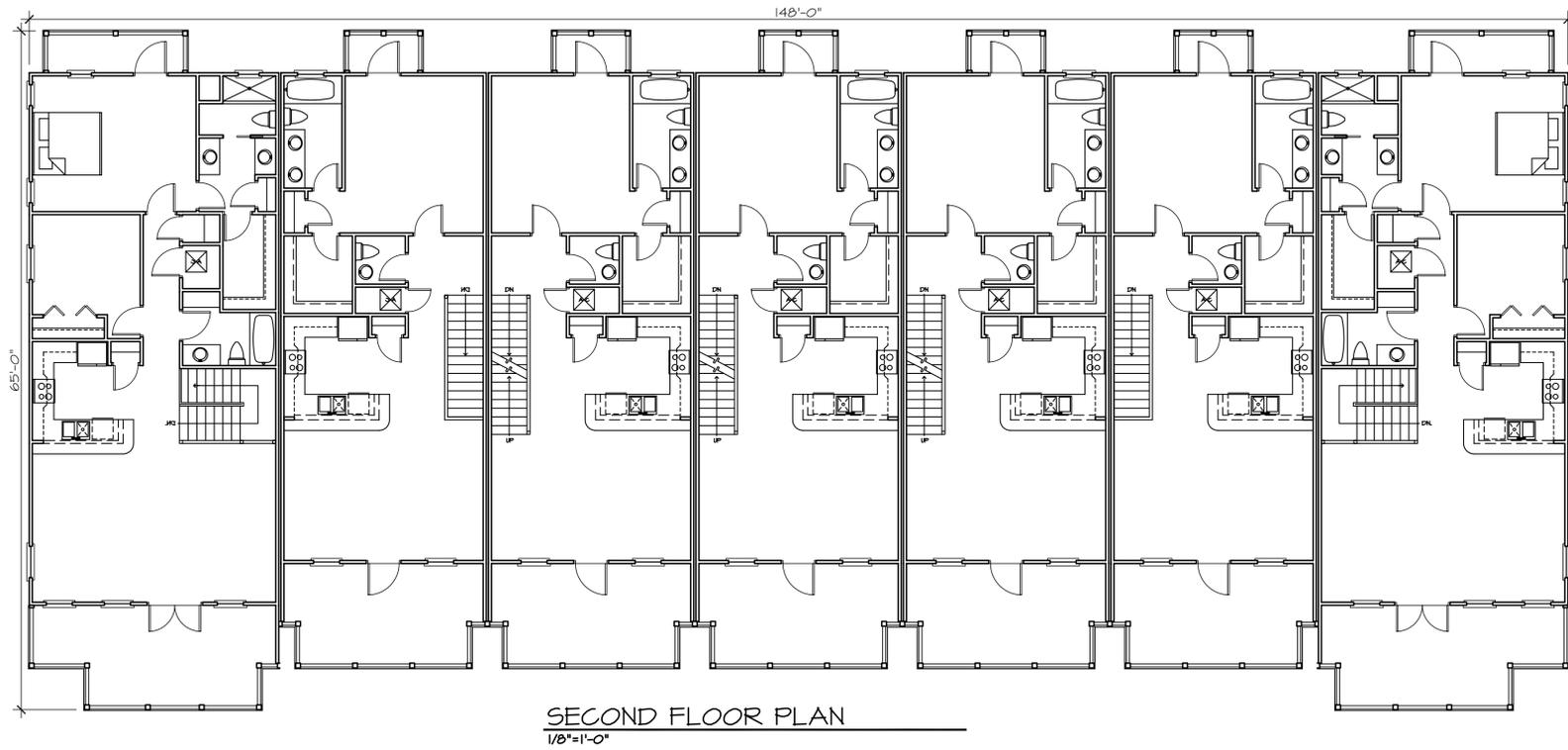
DRAWING INDEX	
ARCHITECTURAL DRAWINGS	
AS-1	ARCHITECTURAL SITE PLAN
A-100	BUILDING PLANS; BUILDINGS A, B & C
A-101	BUILDING PLANS; BUILDING D
A-102	BUILDING PLANS; BUILDING E
A-103	BUILDING PLANS; BUILDINGS F & G
A-200	FLOOR PLANS; UNIT A
A-201	FLOOR PLANS; UNIT B
A-202	FLOOR PLANS; UNIT C
A-203	FLOOR PLANS; UNIT D
A-204	FLOOR PLANS; UNIT E
A-205	FLOOR PLANS; UNIT F
A-300	ELEVATIONS; BUILDINGS A, B & C
A-301	ELEVATIONS; BUILDING D
A-302	ELEVATIONS; BUILDING E
A-303	ELEVATIONS; BUILDINGS F & G

**APPROVED**  
 December 15, 2014  
 Destin City Council  
 12-20-14

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CHECKED BY JP	DWG No. AS-1
------------------	-----------------

**SITE PLAN**  
 1/32"=1'-0"      41 UNITS



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REVISIONS


PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**

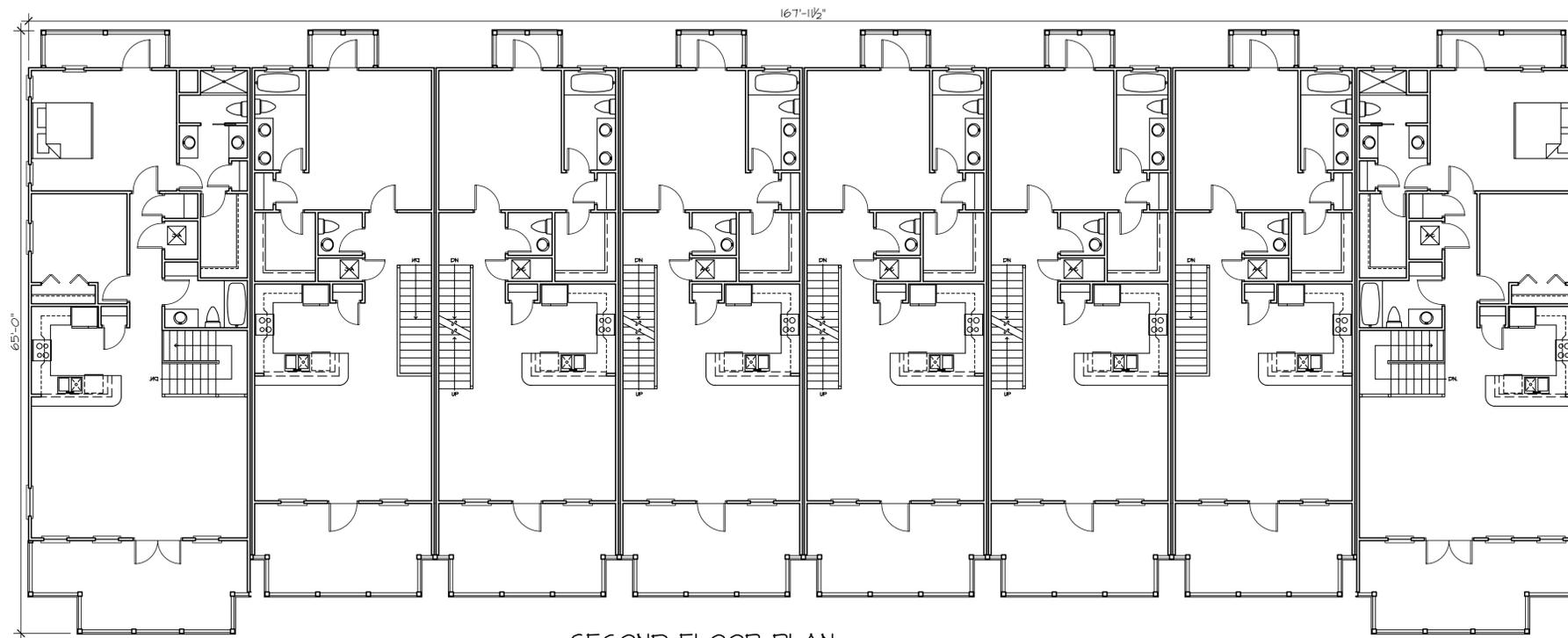
DESTIN, FLORIDA

DWG. TITLE  
**BUILDINGS A, B & C FLOOR PLANS**

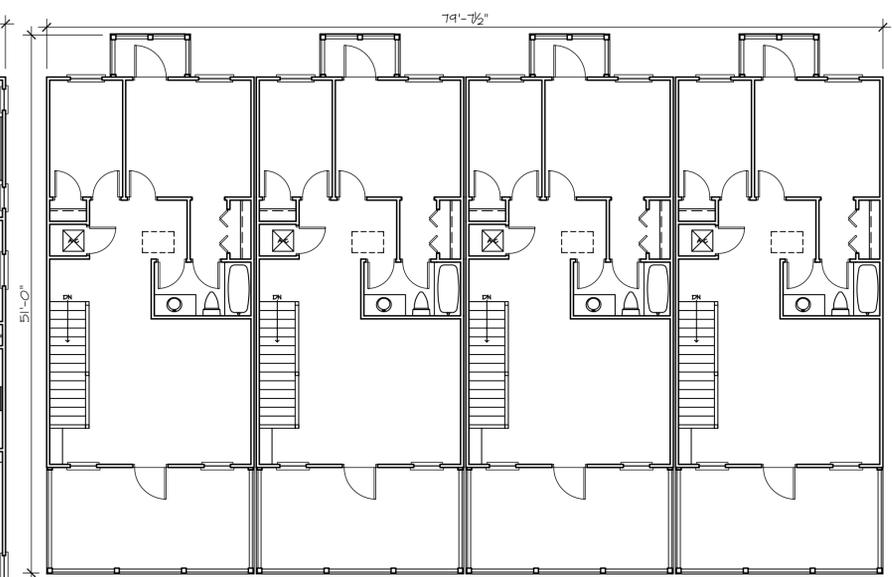
APPROVED  
 December 15, 2014  
 Destin City Council  
 12-20-14

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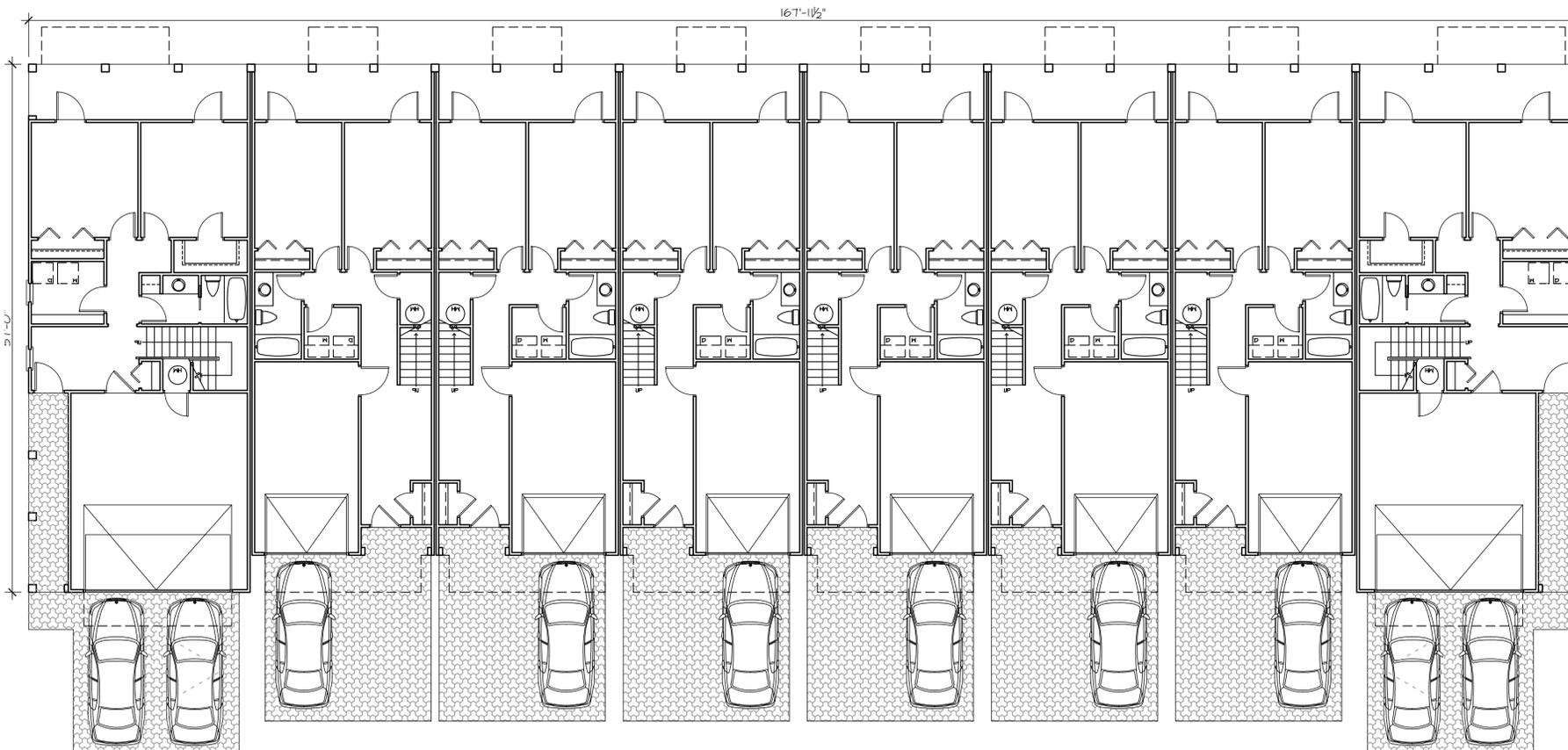
DATE: 12-15-14  
 DRAWN BY: [Signature]  
 CHECKED BY: JP  
 DWG No. A-100



SECOND FLOOR PLAN  
1/8"=1'-0"



THIRD FLOOR PLAN  
1/8"=1'-0"



FIRST FLOOR PLAN  
1/8"=1'-0"

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REVISIONS


PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**  
  
DESTIN, FLORIDA

DWG. TITLE  
**BUILDING D FLOOR PLANS**

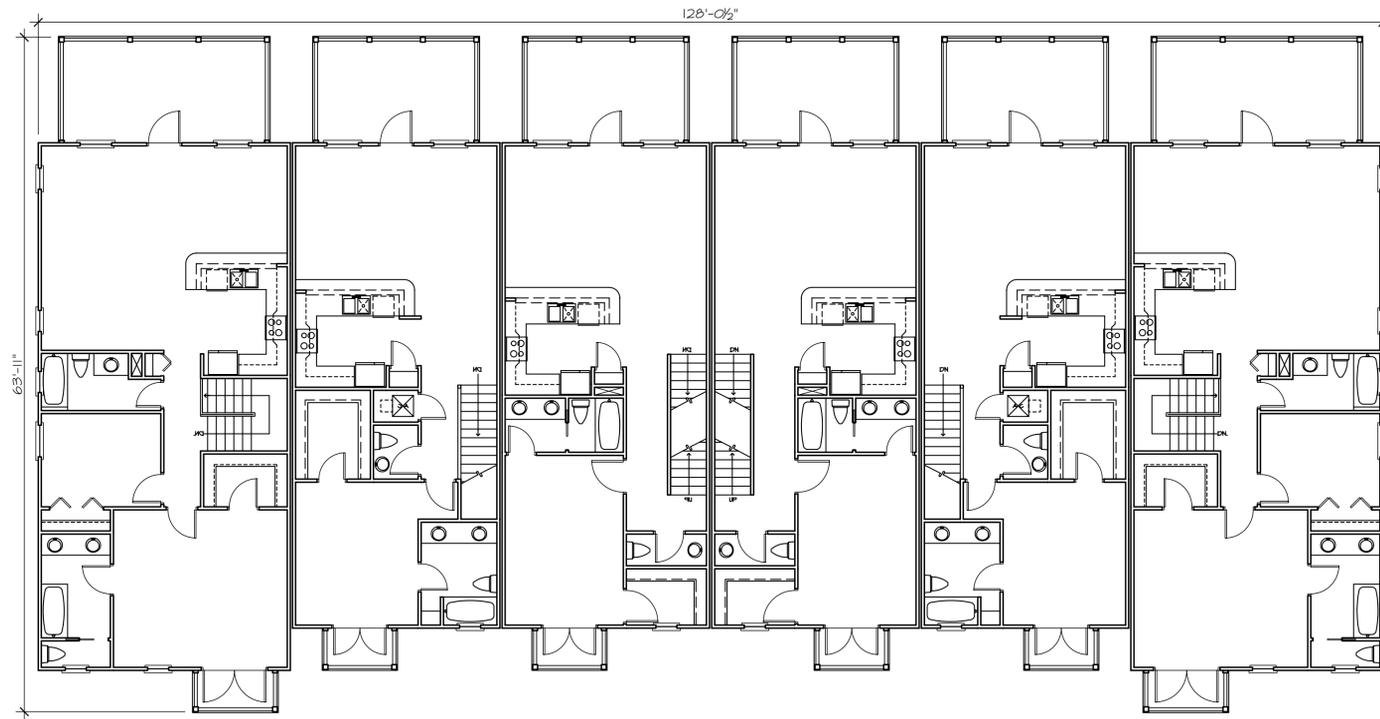
**APPROVED**  
December 15, 2014  
Destin City Council  
12-20-SP

No changes shall be made to, and construction shall deviate from, these approved plans without prior written approval from the City of Destin. Unapproved revisions may result in the revocation of building permits and the inability to secure a Certificate of Occupancy.

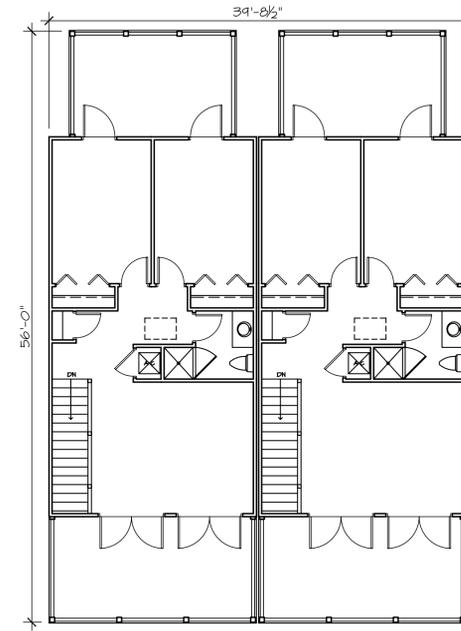
CHECKED BY  
JP

DWG No.  
A-101

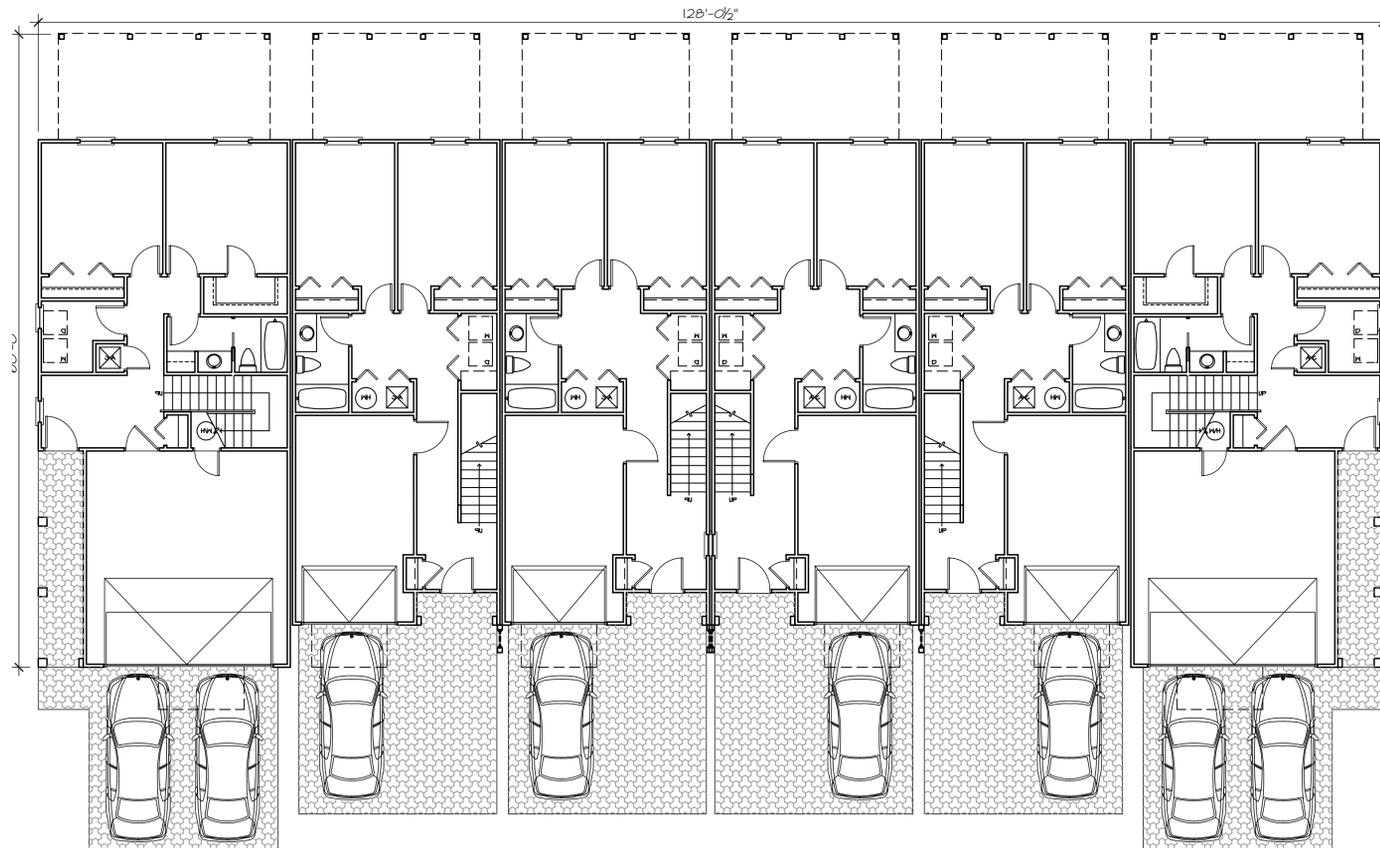
DATE  
07-02-14  
SCALE  
XXXX



SECOND FLOOR PLAN  
1/8"=1'-0"



THIRD FLOOR PLAN  
1/8"=1'-0"



FIRST FLOOR PLAN  
1/8"=1'-0"



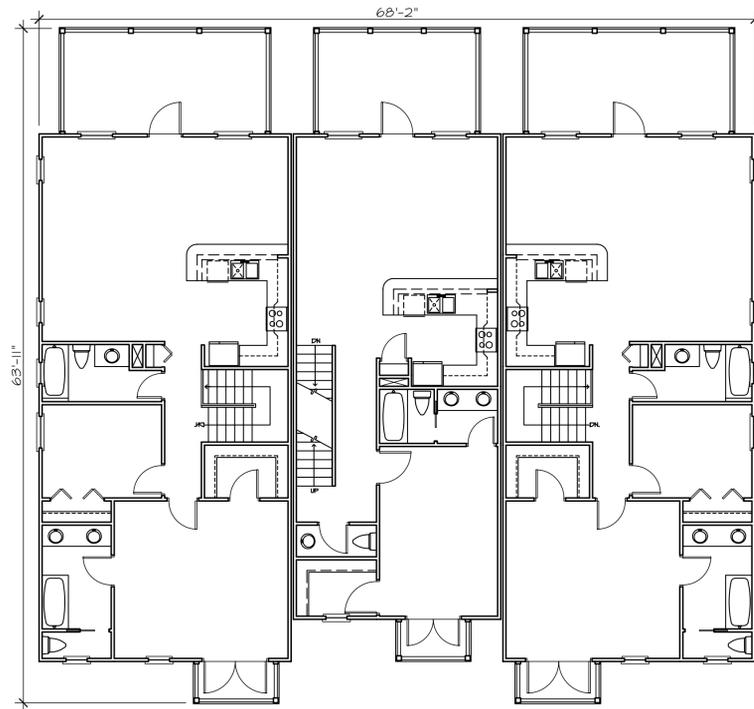
THESE PLANS AND THE IDEAS AND CONCEPTS CONTAINED HEREIN INCLUDING DIGITAL INFORMATION ARE THE PROPERTY OF PRESCOTT ARCHITECTS, INC. AND ARE NOT TO BE REPRODUCED, COPIED, MODIFIED, OR CHANGED IN ANY FORM OR MANNER WITHOUT THE EXPRESS WRITTEN PERMISSION AND CONSENT OF PRESCOTT ARCHITECTS, INC.

REVISIONS	

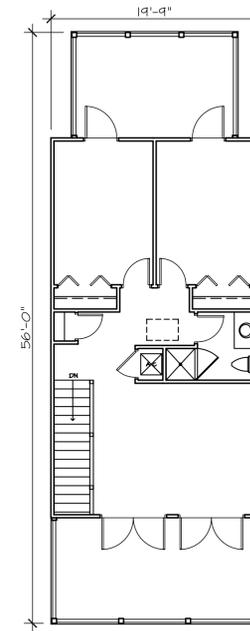
PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**  
  
DESTIN, FLORIDA

DWG. TITLE  
**BUILDING E FLOOR PLANS**

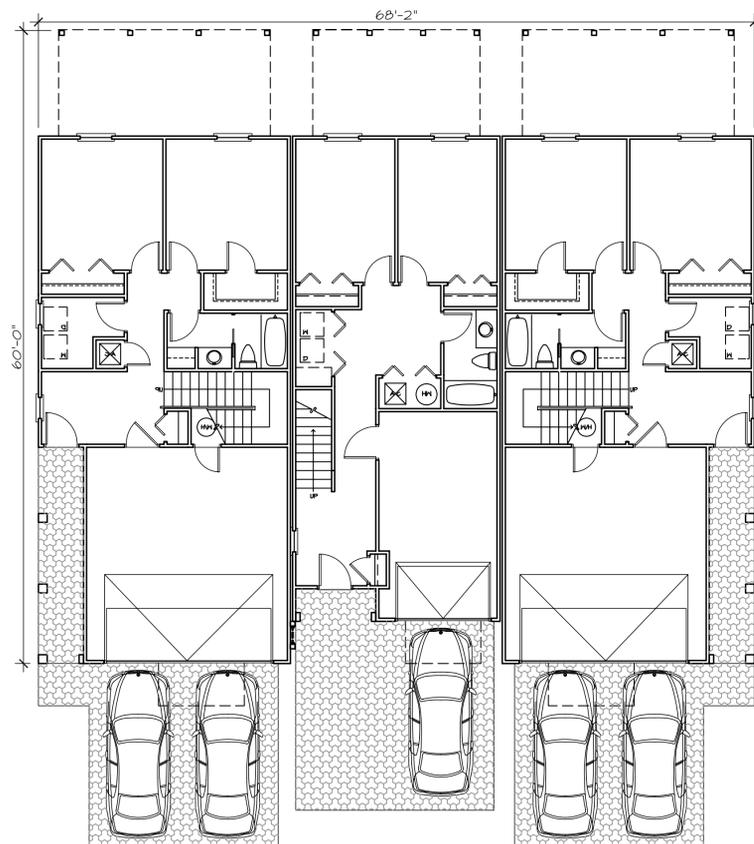
**APPROVED** December 15, 2014  
 DRAWN BY: [Signature] CHECKED BY: JP  
 DATE: 07-02-14  
 DWG No. A-102  
 No changes shall be made to, and construction shall deviate from, these approved plans without prior written approval from the City of Destin. If approved, the City of Destin, Florida, shall thoroughly review these plans and any errors, discrepancies or inconsistencies in the programming and notifying Prescott Architects, the general contractor assumes responsibility for the final product and any costs incurred. Certificate of Occupancy



SECOND FLOOR PLAN  
1/8"=1'-0"



THIRD FLOOR PLAN  
1/8"=1'-0"



FIRST FLOOR PLAN  
1/8"=1'-0"

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REVISIONS

NO.	DESCRIPTION

PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**

DESTIN, FLORIDA

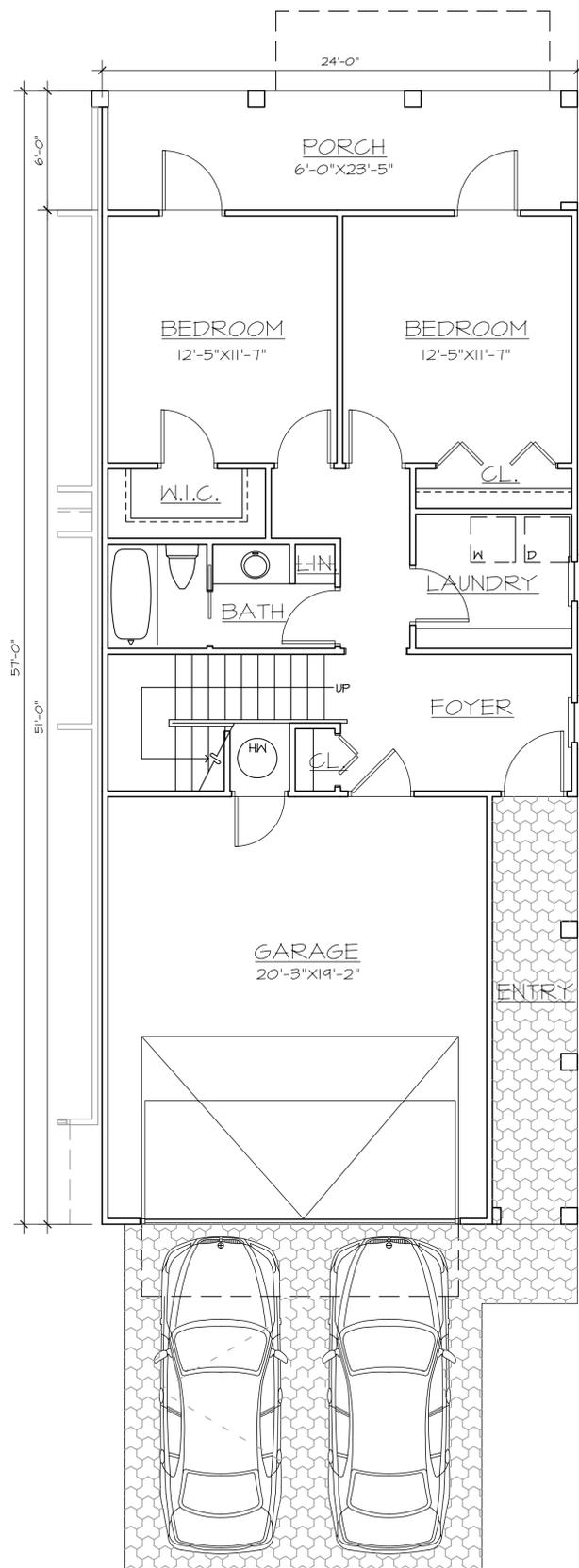
DWG. TITLE  
**BUILDINGS  
F & G FLOOR  
PLANS**

**APPROVED** December 15, 2014  
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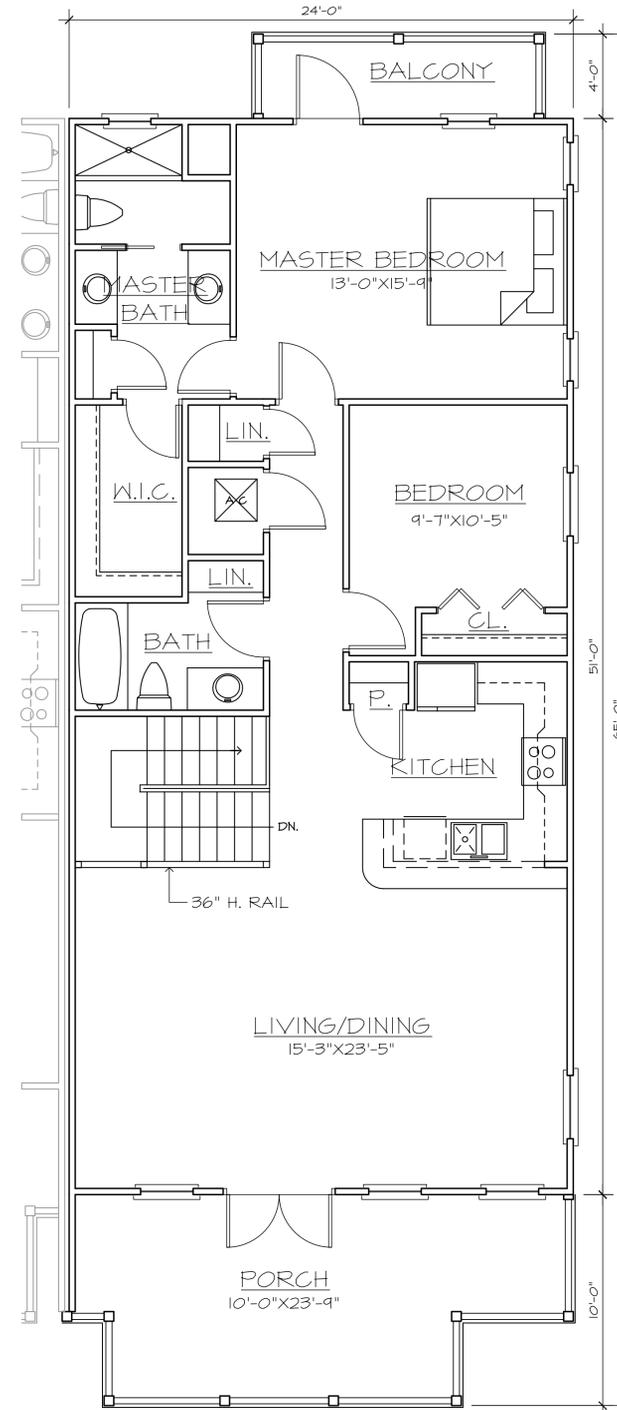
APPROVED BY: [Signature]  
 CHECKED BY: JP

DATE: 07-02-14  
 DWG No. A-103

SHALL THOROUGHLY REVIEW THESE PLANS AND SPECIFICATIONS FOR ANY ERRORS, DISCREPANCIES OR INCONSISTENCIES IN THE PROGRAMMING. BY NOTIFYING PRESCOTT ARCHITECTS, THE GENERAL CONTRACTOR ASSUMES RESPONSIBILITY FOR THE FINAL PRODUCT AND ANY COSTS INCURRED.



FIRST FLOOR PLAN  
1/4"=1'-0"



SECOND FLOOR PLAN  
1/4"=1'-0"

AREA SCHEDULE	
CONDITIONED	
FIRST FLOOR	708
SECOND FLOOR	1158
TOTAL CONDITIONED	1866 #
GARAGE	424
PORCHES	512
TOTAL GROSS	2802 #

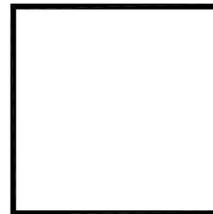
INDICATES LOCATION OF SIMPSON HD2A HOLDDOWNS, 60-BOLTS OR 5/8" TIE-BARS TO BE USED ON SIDE

**NO CHANGES SHALL BE MADE TO, AND CONSTRUCTION SHALL NOT DEVIATE FROM, THESE APPROVED PLANS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY OF DESTIN.**

**APPROVED BY:** [Signature]  
**DATE:** 07-02-14  
**BY:** [Signature]  
**FOR:** XXXX

SHALL THOROUGHLY REVIEW THESE PLANS AND NOTIFY PRESQUITT ARCHITECTS, INC. OF ANY ERRORS, DISCREPANCIES OR INCONSISTENCIES IN THE PROGRAMS, WITHIN 14 DAYS OF NOTIFYING PRESQUITT ARCHITECTS, INC. THE GENERAL CONTRACTOR ASSUMES RESPONSIBILITY FOR THE FINAL PRODUCT AND ANY COSTS INCURRED.

**APPROVED BY:** [Signature]  
**DATE:** 12-15-2014  
**BY:** [Signature]  
**FOR:** XXXX



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REVISIONS	

PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**

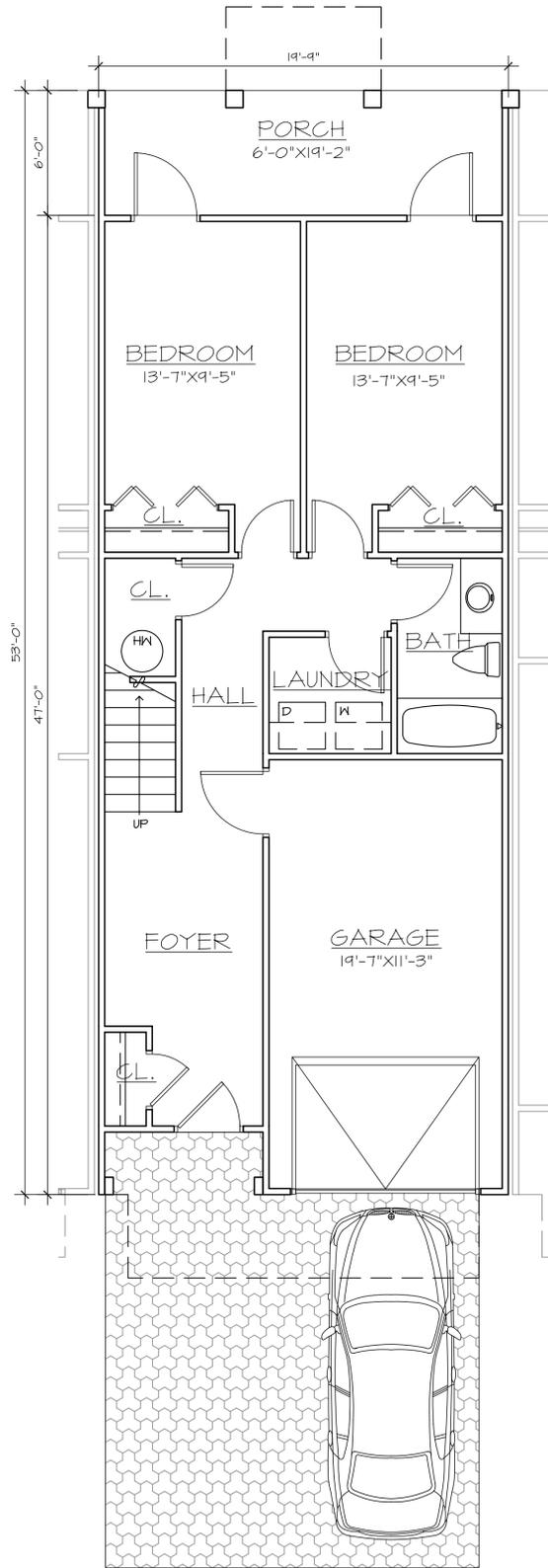
DESTIN, FLORIDA

DWG. TITLE  
**UNIT "A" FLOOR PLANS**

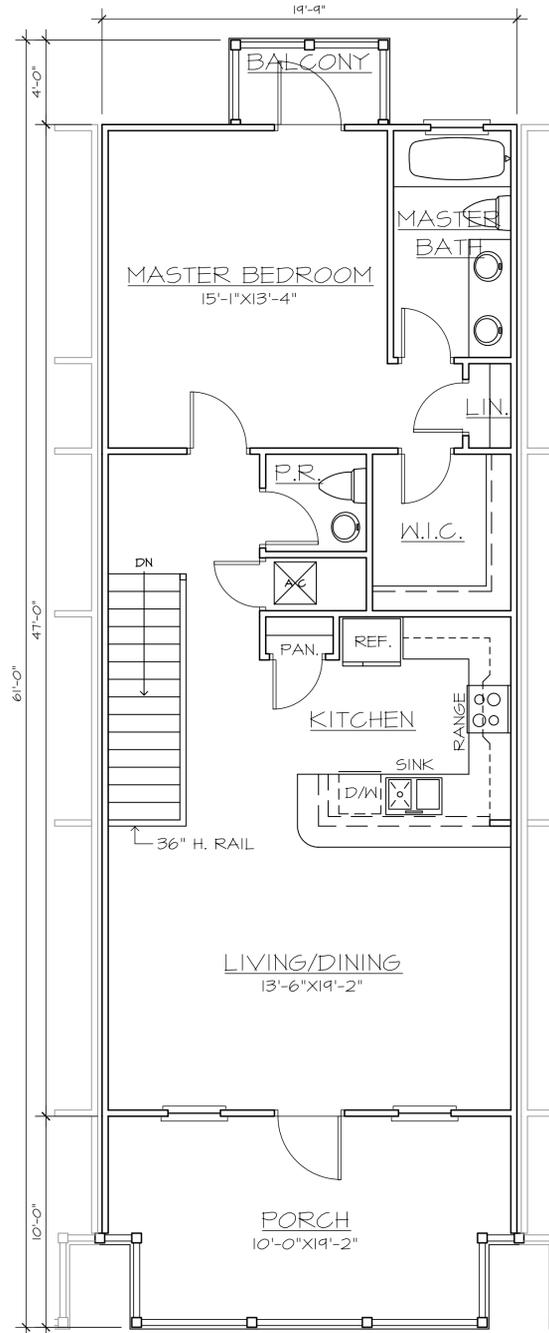
END UNIT

CHECKED BY  
 JP

DWG No.  
**A-200**



FIRST FLOOR PLAN  
1/4"=1'-0"



SECOND FLOOR PLAN  
1/4"=1'-0"

AREA SCHEDULE	
CONDITIONED	
FIRST FLOOR	663
SECOND FLOOR	880
TOTAL CONDITIONED	1543 ±
GARAGE	242
PORCHES	362
TOTAL GROSS	2147 ±



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REVISIONS	

PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**  
 DESTIN, FLORIDA

DWG. TITLE  
**UNIT "B" FLOOR PLANS**  
 INTERIOR 2 STORY UNIT

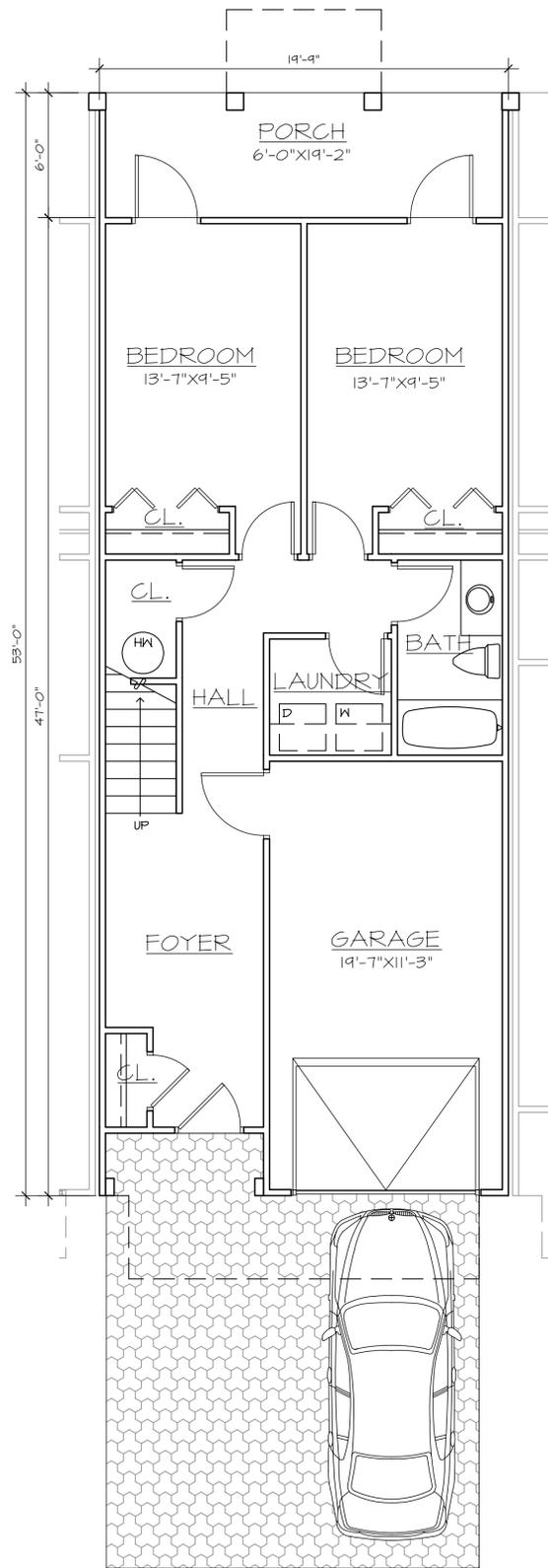
INDICATES LOCATION OF SIMPSON HD2A HOLDDOWNS, 60-BOLTS, OR 5/8" TREATED LGS

NO CHANGES SHALL BE MADE TO, AND CONSTRUCTION SHALL NOT DEVIATE FROM, THESE APPROVED PLANS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY OF DESTIN.

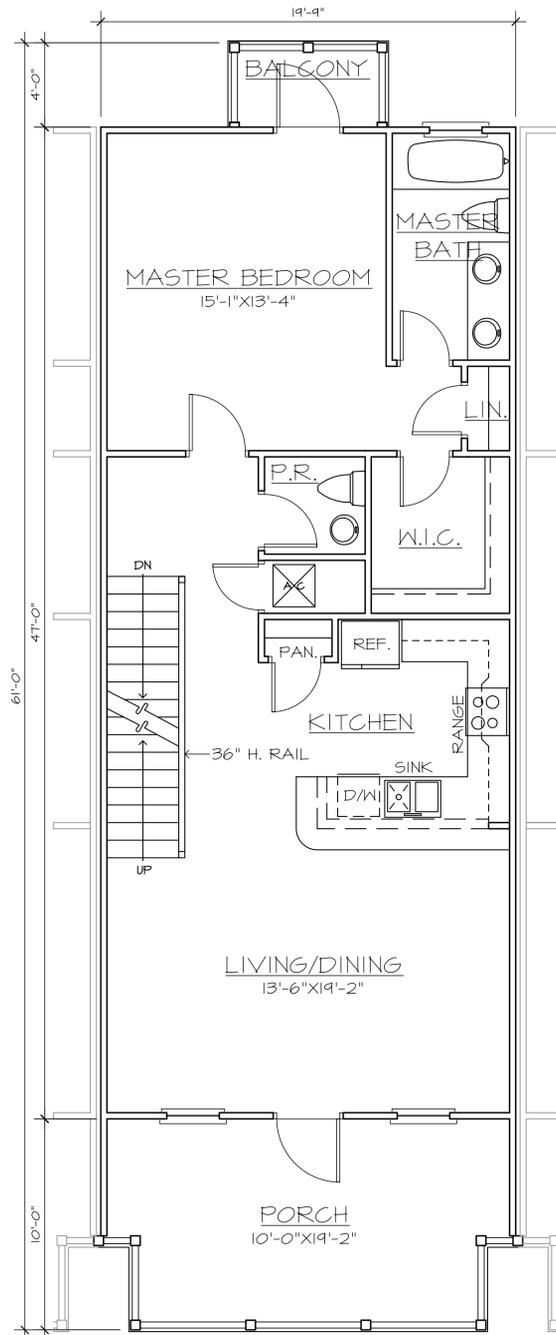
APPROVED BY: **JP** CHECKED BY: **JP**

DATE: 07-02-14 DWG No. A-201

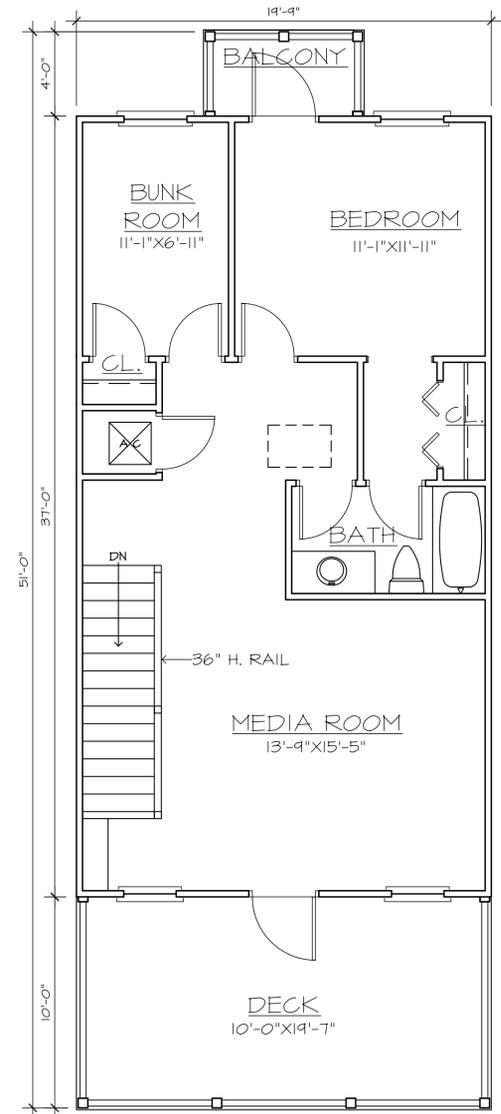
December 15, 2014  
 Destin City Council  
 4-20-SP  
 Certificate of Occupancy



FIRST FLOOR PLAN  
1/4"=1'-0"



SECOND FLOOR PLAN  
1/4"=1'-0"



THIRD FLOOR PLAN  
1/4"=1'-0"

AREA SCHEDULE	
CONDITIONED	
FIRST FLOOR	663
SECOND FLOOR	880
THIRD FLOOR	732
TOTAL CONDITIONED	2275 #
GARAGE	242
PORCHES	621
TOTAL GROSS	3138 #

REVISIONS	

PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**  
  
DESTIN, FLORIDA

DWG. TITLE  
**UNIT "C" FLOOR PLANS**  
  
**INTERIOR 3 STORY UNIT**

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**A P P R O V E D**  
December 15, 2014  
Destin City Council  
12-20-14

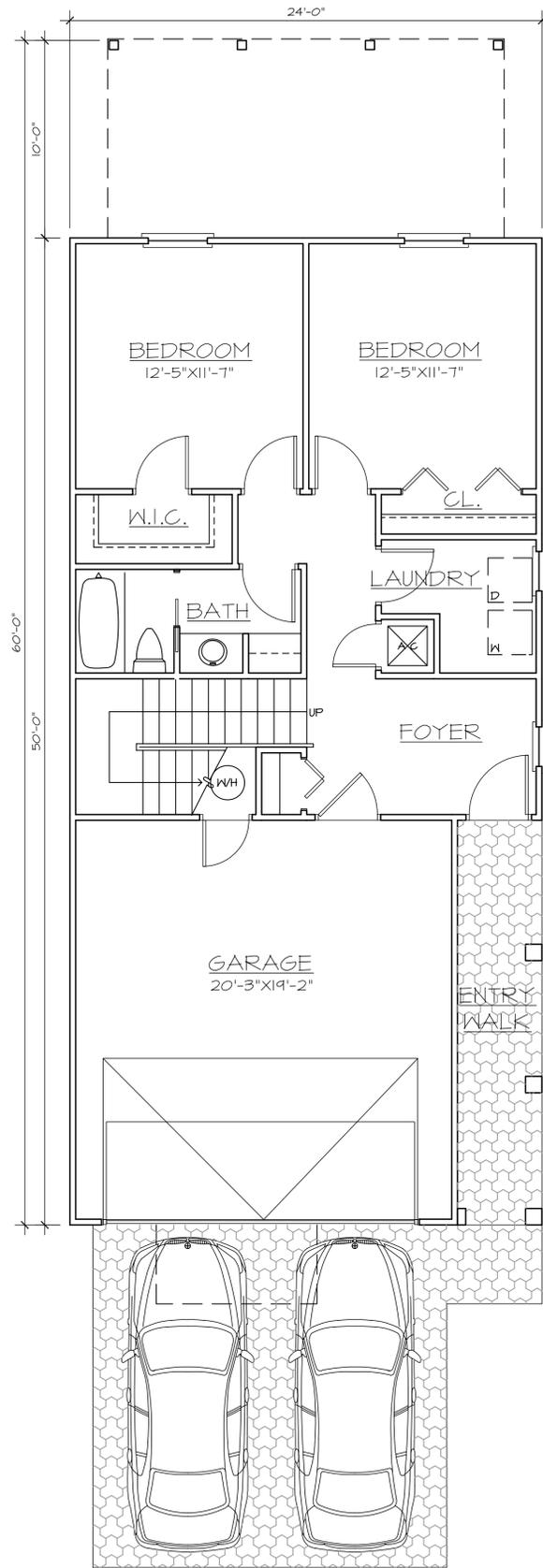
INDICATES LOCATION OF SIMPSON HD2A HOLDDOWNS, 60-BOLTS, OR 5/8" TIE BARS ON ONE SIDE

DATE	07-02-14	DWG. No.	A-202
CHECKED BY	JP	DATE	XXXX

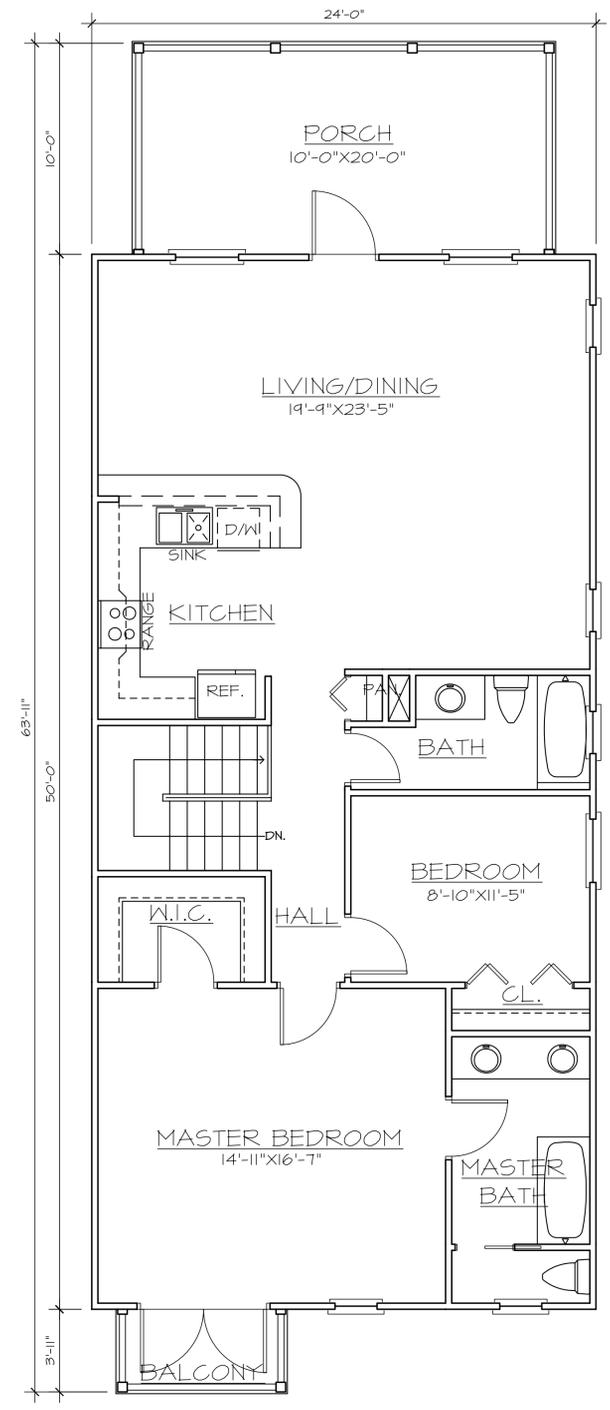
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FIRST FLOOR PLAN  
1/4"=1'-0"



SECOND FLOOR PLAN  
1/4"=1'-0"

AREA SCHEDULE	
CONDITIONED	
FIRST FLOOR	708
SECOND FLOOR	1141
TOTAL CONDITIONED	1849 ±
GARAGE	404
PORCHES	319
TOTAL GROSS	2572 ±

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REVISIONS	

PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**  
  
DESTIN, FLORIDA

DWG. TITLE  
**UNIT "D" FLOOR PLANS**  
  
END UNIT

INDICATES LOCATION OF SIMPSON HD2A HOLDDOWNS, 60-BOLTS OR 5/8" TREAD PLATES

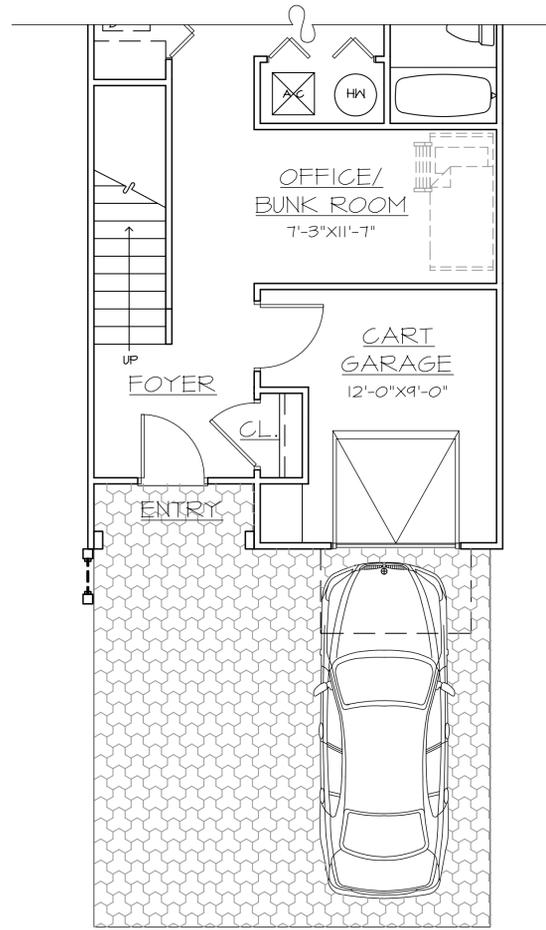
NO CHANGES SHALL BE MADE TO, AND CONSTRUCTION SHALL NOT DEVIATE FROM, THESE APPROVED PLANS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY OF DESTIN.

APPROVED BY: **JP** CHECKED BY: **JP**

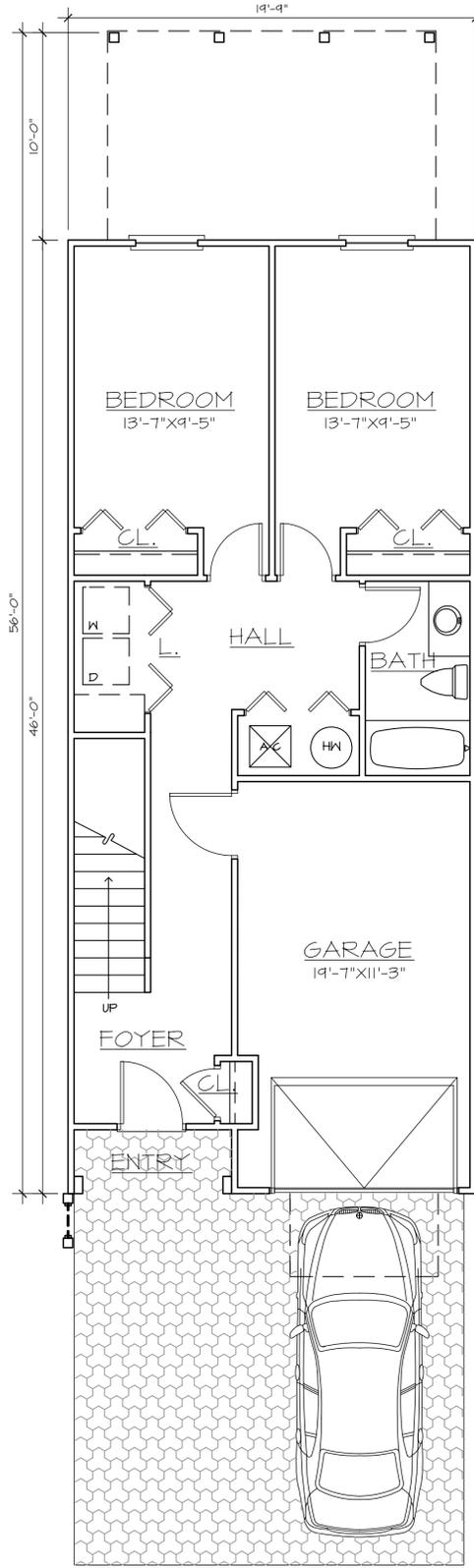
DATE: 07-02-14 DWG No. A-203

December 15, 2014  
Destin City Council  
11-20-SP

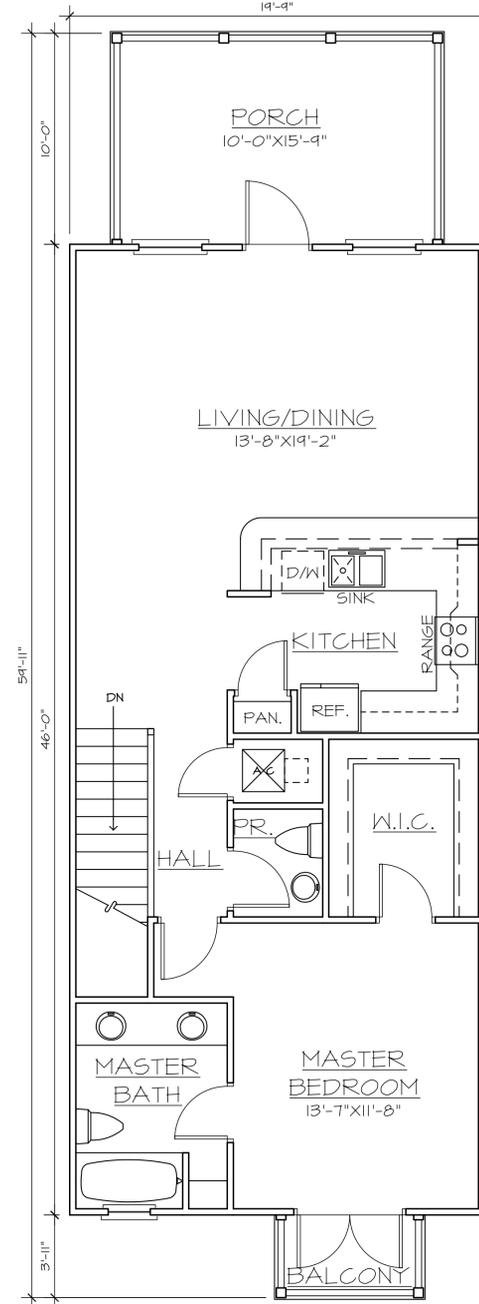
UNAPPROVED REVISIONS MAY RESULT IN THE REVOCATION OF BUILDING PERMITS AND THE INABILITY TO OBTAIN A Certificate of Occupancy.



ALTERNATE FIRST FLOOR PLAN  
1/4"=1'-0"



FIRST FLOOR PLAN  
1/4"=1'-0"



SECOND FLOOR PLAN  
1/4"=1'-0"

AREA SCHEDULE	
CONDITIONED	
FIRST FLOOR	657
SECOND FLOOR	858
TOTAL CONDITIONED	1515 ±
GARAGE	227
PORCHES	208
TOTAL GROSS	1950 ±



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REVISIONS	

PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**  
  
DESTIN, FLORIDA

DWG. TITLE  
**UNIT "E" FLOOR PLANS**  
  
**INTERIOR 2 STORY UNIT**

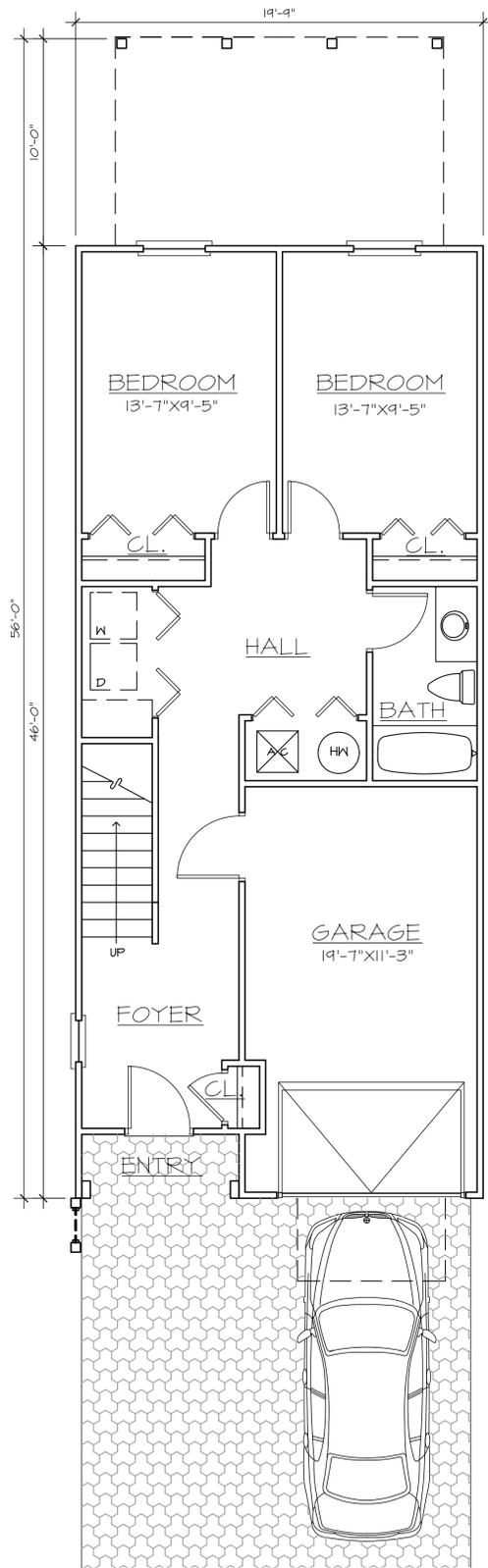
INDICATES LOCATION OF SIMPSON HD2A HOLDDOWNS, 60-BOLTS OR 5/8" TREAD BOLTS ON SIDE

NO CHANGES SHALL BE MADE TO, AND CONSTRUCTION SHALL NOT DEVIATE FROM, THESE APPROVED PLANS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY OF DESTIN.

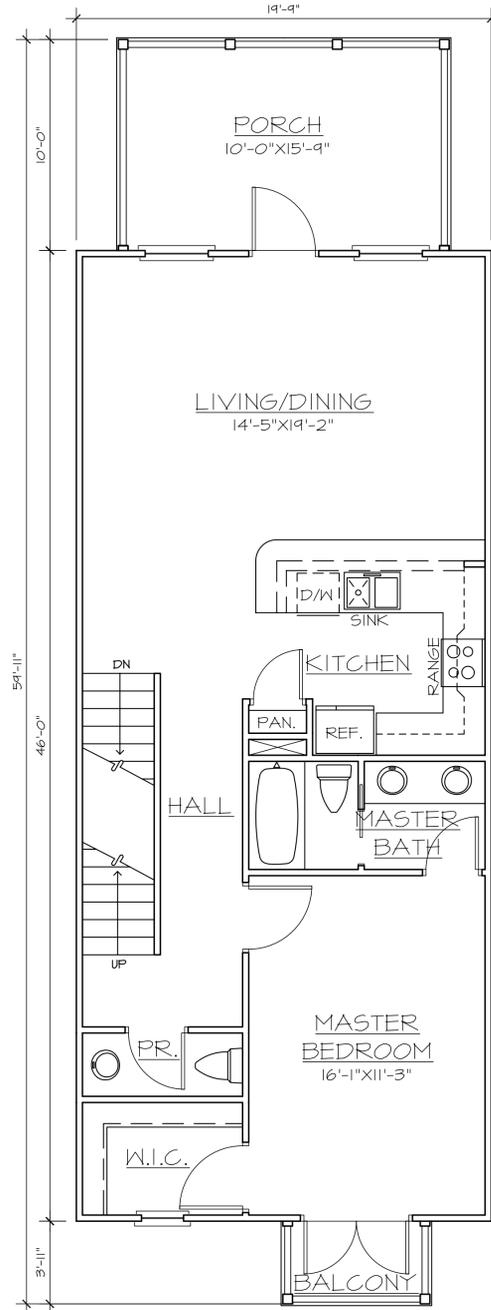
APPROVED BY: [Signature] DATE: 12-15-2014  
 DESTIN CITY COUNCIL DATE: 07-02-14

REVISIONS MAY RESULT IN THE REVOCATION OF BUILDING PERMITS AND THE INABILITY TO OBTAIN A CERTIFICATE OF OCCUPANCY.

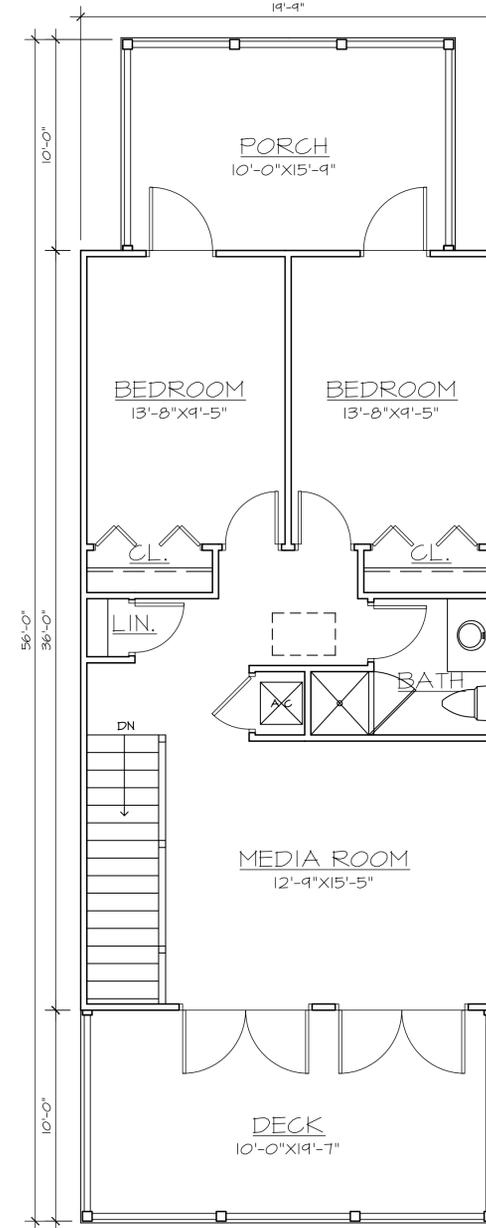
CHECKED BY JP	DWG No. A-204
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FIRST FLOOR PLAN  
1/4"=1'-0"



SECOND FLOOR PLAN  
1/4"=1'-0"



THIRD FLOOR PLAN  
1/4"=1'-0"

AREA SCHEDULE	
CONDITIONED	
FIRST FLOOR	657
SECOND FLOOR	855
THIRD FLOOR	711
TOTAL CONDITIONED	2223 ±
GARAGE	227
PORCHES	563
TOTAL GROSS	3013 ±

INDICATES LOCATION OF SIMPSON HD2A HOLDDOWNS, 60-BOLTS, OR 5/8" TIE-BARS TO BE USED TO ATTACH TO CONCRETE.

NO CHANGES SHALL BE MADE TO, AND CONSTRUCTION SHALL NOT DEVIATE FROM, THESE APPROVED PLANS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CITY OF DESTIN.

APPROVED BY: [Signature] DATE: 12-15-2014

December 15, 2014  
Destin City Council

APPROVED BY: [Signature] DATE: 07-02-14

December 15, 2014  
Destin City Council

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APPROVED BY: [Signature] DATE: 07-02-14

December 15, 2014  
Destin City Council

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APPROVED BY: [Signature] DATE: 07-02-14

December 15, 2014  
Destin City Council

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850-837-6494

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REVISIONS	

PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**  
  
DESTIN, FLORIDA

DWG. TITLE  
**UNIT "F" FLOOR PLANS**  
  
**INTERIOR 3 STORY UNIT**

CHECKED BY: JP  
DWG No. A-205



FRONT EXTERIOR ELEVATION  
1/8"=1'-0"



LEFT EXTERIOR ELEVATION  
1/8"=1'-0"



RIGHT EXTERIOR ELEVATION  
1/8"=1'-0"



REAR EXTERIOR ELEVATION  
1/8"=1'-0"

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REVISIONS


PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**

DESTIN, FLORIDA

DWG. TITLE  
**EXTERIOR ELEVATIONS BUILDINGS: A, B & C**

**APPROVED**  
December 15, 2014  
Destin City Council  
4-20-SP

No changes shall be made to, and construction shall deviate from, these approved plans without prior written approval from the City of Destin. If approved, the City of Destin, or its representatives, may result in the revocation of building permits and the inability to secure a Certificate of Occupancy.

CHECKED BY  
JP

DWG No.  
**A-300**



FRONT EXTERIOR ELEVATION  
1/8"=1'-0"



LEFT EXTERIOR ELEVATION  
1/8"=1'-0"



RIGHT EXTERIOR ELEVATION  
1/8"=1'-0"



REAR EXTERIOR ELEVATION  
1/8"=1'-0"

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**PRESCOTT ARCHITECTS**  
P.O. BOX 5178  
DESTIN, FL 32541  
850-837-6494

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REVISIONS


PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**

DESTIN, FLORIDA

DWG. TITLE  
**EXTERIOR ELEVATIONS BUILDING: D**

**APPROVED**  
December 15, 2014  
Destin City Council

No changes shall be made to, and construction shall deviate from, these approved plans without prior written approval from the City of Destin. If approved, the City of Destin, Florida, shall thoroughly review these plans and any errors, discrepancies or inconsistencies in the programming with the notifying prescott architects, the general contractor assumes responsibility for the final product and any costs incurred.

Certificate of Occupancy

DATE: 07-02-14  
BY: XXXX

CHECKED BY: JP

DWG No. A-301



FRONT EXTERIOR ELEVATION  
1/8"=1'-0"



LEFT EXTERIOR ELEVATION  
1/8"=1'-0"



RIGHT EXTERIOR ELEVATION  
1/8"=1'-0"



REAR EXTERIOR ELEVATION  
1/8"=1'-0"

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REVISIONS


PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**

**DESTIN, FLORIDA**

DWG. TITLE  
**EXTERIOR ELEVATIONS BUILDING: E**

**APPROVED**  
December 15, 2014  
Destin City Council  
12-20-14

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CHECKED BY  
JP

DWG No.  
**A-302**



FRONT EXTERIOR ELEVATION  
1/8"=1'-0"



LEFT EXTERIOR ELEVATION  
1/8"=1'-0"



RIGHT EXTERIOR ELEVATION  
1/8"=1'-0"



REAR EXTERIOR ELEVATION  
1/8"=1'-0"

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REVISIONS


PROJECT NAME  
**CRYSTAL BEACH TOWNHOMES**  
  
DESTIN, FLORIDA

DWG. TITLE  
**EXTERIOR ELEVATIONS BUILDINGS: F & G**

No changes shall be made to, and construction shall deviate from, these approved plans without prior written approval from the City of Destin. If approved, the City of Destin, or its representatives, may result in the revocation of building permits and the inability to secure a Certificate of Occupancy.

**APPROVED** December 15, 2014  
Destin City Council  
12-20-14

DRAWN BY	CHECKED BY
	JP
DATE	DWG No.
07-02-14	A-303

