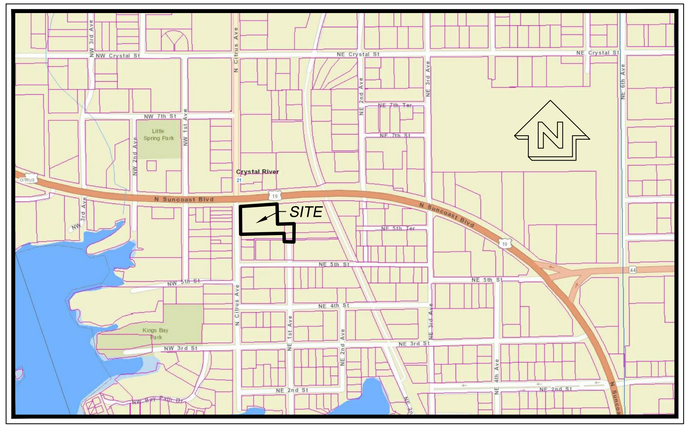
SITE IMPROVEMENT PLANS FOR CRYSTAL RIVER TOWN SQUARE



N.T.S. SECTION 21 – TOWNSHIP 18S – RANGE 17E

NOTES

1. ALL CONSTRUCTION COVERED BY THESE PLANS SHALL COMPLY WITH THE MATERIAL REQUIREMENTS AND QUALITY CONTROL STANDARDS CONTAINED IN CITY OF CRYSTAL RIVER LAND DEVELOPMENT CODE.
2. THE ELEVATIONS SHOWN HEREON ARE BASED ON G.P.S. (GLOBAL POSITIONING SYSTEM) OBSERVATION AND ARE IN NAVD 88.
3. TOPOGRAPHIC SURVEY INFORMATION TAKEN FROM BOUNDARY TOPOGRAPHIC SURVEY FOR THE CITY OF CRYSTAL RIVER PROVIDED BY WALLACE L. HIGGINS, PSM FOR GULFWEST SURVEYING, INC. DATED 04–16–19. JOB NO. 19117.
4. CONTRACTOR SHALL IMMEDIATELY CONTACT PROJECT ENGINEER, BURRELL ENGINEERING, INC. IF PLANS ARE UNCLEAR, REQUIRING INTERPRETATION OR CONFLICTING INFORMATION IS DISCOVERED.
5. SEED AND MULCH ALL DISTURBED AREAS WITHIN THE PROJECT UNLESS OTHERWISE NOTED.
6. IF PREHISTORIC OR HISTORIC ARTIFACTS, SUCH AS POTTERY OR CERAMICS, STONE TOOLS, OR METAL IMPLEMENTS, DUGOUT CANOES, OR ANY OTHER PHYSICAL REMAINS THAT COULD BE ASSOCIATED WITH NATIVE AMERICAN CULTURES, OR EARLY COLONIAL OR AMERICAN SETTLEMENT ARE ENCOUNTERED WITHIN THE PROJECT AREA, THE CONTRACTOR SHALL CEASE ALL CONSTRUCTION ACTIVITIES IN THE IMMEDIATE VICINITY OF SUCH DISCOVERIES AND CONTACT THE OWNER OR HIS REPRESENTATIVE AS SOON AS POSSIBLE. WORK IN THE AFFECTED AREA SHALL NOT RESUME UNTIL THE CONTRACTOR IS AUTHORIZED TO PROCEED BY THE OWNER. IN THE EVENT THAT UNMARKED HUMAN REMAINS ARE ENCOUNTERED DURING CONSTRUCTION. ALL WORK SHALL STOP AND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF THE DISCOVERY.
7. THE FOLLOWING ARE ABBREVIATIONS AS USED IN THESE CONSTRUCTION PLANS:

A.C.C.M.P.A	=	ASPHALT COATED CORRUGATED METAL PIPE ARCH
A.C.C.M.P	=	ASPHALT COATED CORRUGATED METAL PIPE
TYP.	=	TYPICAL
R	=	RADIUS
STA.	=	STATION
INV.	=	INVERT
ELEV.	=	ELEVATION
R/W	=	RIGHT–OF–WAY
HORZ.	=	HORIZONTAL
VERT.	=	VERTICAL
V.C.	=	VERTICAL CURVE
P.V.I.	=	POINT OF VERTICAL INTERSECTION
P.R.C.	=	POINT OF REVERSE CURVATURE
LT.	=	LEFT
RT.	=	RIGHT
P.I.	=	POINT OF INTERSECTION
P.C.	=	POINT OF CURVE
P.T.	=	POINT OF TANGENCY
I.N.T.	=	INTERSECTION
SMH.	=	STORM MANHOLE
M.E.	=	MATCH EXISTING GRADE

WETLAND NOTES:

1. THE WETLAND JURISDICTION LINE(S) SHOWN THEREON WERE ESTABLISHED IN THE FIELD ON MARCH 18, 2019 IN ACCORDANCE WITH CHAPTER 62–340 FLORIDA ADMINISTRATIVE CODE AND THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (JANUARY 1987) BY MICHAEL G. CZERWINSKI, P.G., PROFESSIONAL WETLAND SCIENTIST AND U.S. ARMY CORP OF ENGINEERS CERTIFIED WETLAND DELINEATOR AND REPRESENT THE CONDITIONS PRESENT ON THAT DATE.
2. THE WETLAND LINE(S) REPRESENTING THE LIMITS OF WETLANDS AND/OR SURFACE WATERS OF THE STATE HAVE NOT BEEN INSPECTED OR APPROVED BY ANY PERTINENT WETLAND REGULATORY AGENCY AND THEREFOR MAY BE SUBJECT TO CHANGE.

FLOOD STATEMENT:
THE LAND BOUND BY THIS SURVEY IS LOCATED IN FLOOD ZONE AE WITH A BASE FLOOD ELEVATION OF 8.0 FEET NAVD 88, PER FLOOD INSURANCE RATE MAP NUMBER 12017C 0189D, EFFECTIVE DATE: 09–26–2014

LEGAL DESCRIPTION:

A parcel of land, lying in Section 21, Township 18 South, Range 17 East, Citrus County, Florida, being comprised of Parcels A and B and a portion of Parcel C, as recorded in Official Records Book 2512, page 821 of the Public Records of said Citrus County, being more particularly described as follows: Commence at the Southwest corner of the Northeast ¼ of said Section 21; thence N 00°07'41" E, along the West line of said Northeast ¼ and along the East right-of-way line of Citrus Avenue, 333.00 feet, to the POINT OF BEGINNING; thence continue N 00°07'41" E, along said lines 187.12 feet, to the South right-of-way line of US Highway 19/State Road 55; thence N 86°21'57" E, along said South right-of-way line, 250.54 feet; thence S 00°07'41" W, 135.82 feet; thence N 89°07'02" E, 49.38 feet; thence S 00°014'31" E 63.32 feet; thence S 89°06'56" W, 299.59 feet, to the POINT OF BEGINNING.
Containing 1.180 acres, more or less.
TOGETHER WITH a 15 foot wide easement beginning at the East boundary line of this parcel, lying immediately South of and adjacent to the South right-of-way of aforementioned US Highway 19/State Road and extending East to the Westerly right-of-way of the rails to trails, formerly Atlantic Coastline Railroad.
AND
A parcel of land lying in Section 21, Township 18 South, Range 17 East, Citrus County, Florida, being comprised of a portion of Parcel C and Parcel D as recorded in Official Records Book 2512, page 821 of the Public Records of said Citrus County, being more particularly described as follows:
Commencing at the Southwest corner of the Northeast ¼ of said Section 21; thence N 00°07'41" E along the West line of said Northeast ¼ and along the East right-of-way line of Citrus Avenue, 520.12 feet, to the South right-of-way of US Highway 19/State Road 55; thence N 86°21'57" E, along said South right-of-way line, 250.54 feet, to the POINT OF BEGINNING; thence continue N 86°21'57" E, along said South right-of-way line, 208.28 feet, to the Point of Curvature of a circular curve concave to the South and having a radius of 2814.95 feet; thence continue along said right-of-way line and curve, Easterly, an arc distance of 98.49 feet, through a central angle of 02°00'17" and a chord bearing & distance of N 87°21'14" E, 98.49 feet, to an intersection with the Westerly right-of-way line of the rails to trails, formerly Atlantic Coastline Railroad, said Westerly right-of-way line being a circular curve, concave Easterly and having a radius of 1932.52 feet; thence continue along said Westerly right-of-way line and curve, Southerly, an arc distance of 91.22 feet, through a central angle of 02°42'17" and a chord bearing and distance of S 22°20'36" E, 91.22 feet, to the Point of Tangency thereof; thence continue along said Westerly right-of-way line; S 23°55'24" E, 69.48 feet; thence S 89°07'02" W, 369.44 feet; thence N 00°07'41" E, 135.82 feet, to the POINT OF BEGINNING.
SUBJECT TO a 1.00 foot wide easement across the North 15 feet thereof.
AND
TOWN OF CRYSTAL RIVER, UNRECORDED SUBDIVISION: Commence at the SW corner of the NE ¼ of Section 21, Township 18S, Range 17E; thence North along the West line of the NE ¼ 292 feet; thence N 89°1'50" E 300 feet to the POINT OF BEGINNING; thence continue N 89°1'50" E 365.57 feet; thence N 23°51'55" W 43.41 feet; thence S 89°1'50" W 348.05 feet; thence S along the West line 40 feet to the POINT OF BEGINNING, described in Official Records Book 557 page 763, Public Records of Citrus County, Florida.
AND
Commencing 396 feet and 4 inches North of the Southwest corner of the NE 1/4 of Section 21, Township 18 South, Range 17 East for a Point of Beginning, running thence South 25 feet, thence East 170 feet, thence South 38 feet and 4 inches, thence East approximately 490 feet to the Atlantic Coast Line Railroad Company's Right-of-Way, thence in a Northwesterly direction along said Right-of-Way about 65 feet to a point Due East of the Point of Beginning, thence West approximately 660 feet to the Point of Beginning.
AND
Lots 9, 10, 11, 12, 13, 14 and 15, HARTMAN'S ADDITION TO CRYSTAL RIVER, according to plat thereof as recorded in Plat Book 2, Page 2, public records of Citrus County,Florida.

INDEX:

OWNER:
CITY OF CRYSTAL RIVER
123 NORTHWEST HIGHWAY 19
CRYSTAL RIVER, FL 34428

BEI BURRELL ENGINEERING, INC.
CIVIL ENGINEERING

COMMUNITIY LAND DESIGN
PAUL GIBBS
DATE _____

DONNELLY ARCHITECTURE, INC.
CHRIS DONNELLY
STATE OF FLORIDA
DATE _____

BURRELL ENGINEERING, INC.: CA # 7973
TROY BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE _____

ENGINEER'S CERTIFICATION NOTE:
THIS CERTIFICATION IS PROVIDED AS CONFIRMATION THAT THE SITE DESIGN, ROADWAYS, DRAINAGE, WATER AND/OR SEWER FACILITIES DEPICTED ON THESE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES AND THE REQUIREMENTS OF PERMITTING AGENCIES HAVING JURISDICTION OVER SUCH FACILITIES. IT IS NOT INTENDED TO CERTIFY THE ACCURACY OF EXISTING SURFACE FEATURES OR SUBSURFACE CONDITIONS, WHICH MAY HAVE BEEN USED FOR DESIGN, BUT WERE CERTIFIED BY OTHER PROFESSIONALS.

DRAWN K.L.W.
CHECKED T.E.B.
DRAWING BASE19–18
LAYOUT CVR
DATE JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
BEI 12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741

CRYSTAL RIVER TOWN SQUARE
CITY OF CRYSTAL RIVER, FLORIDA

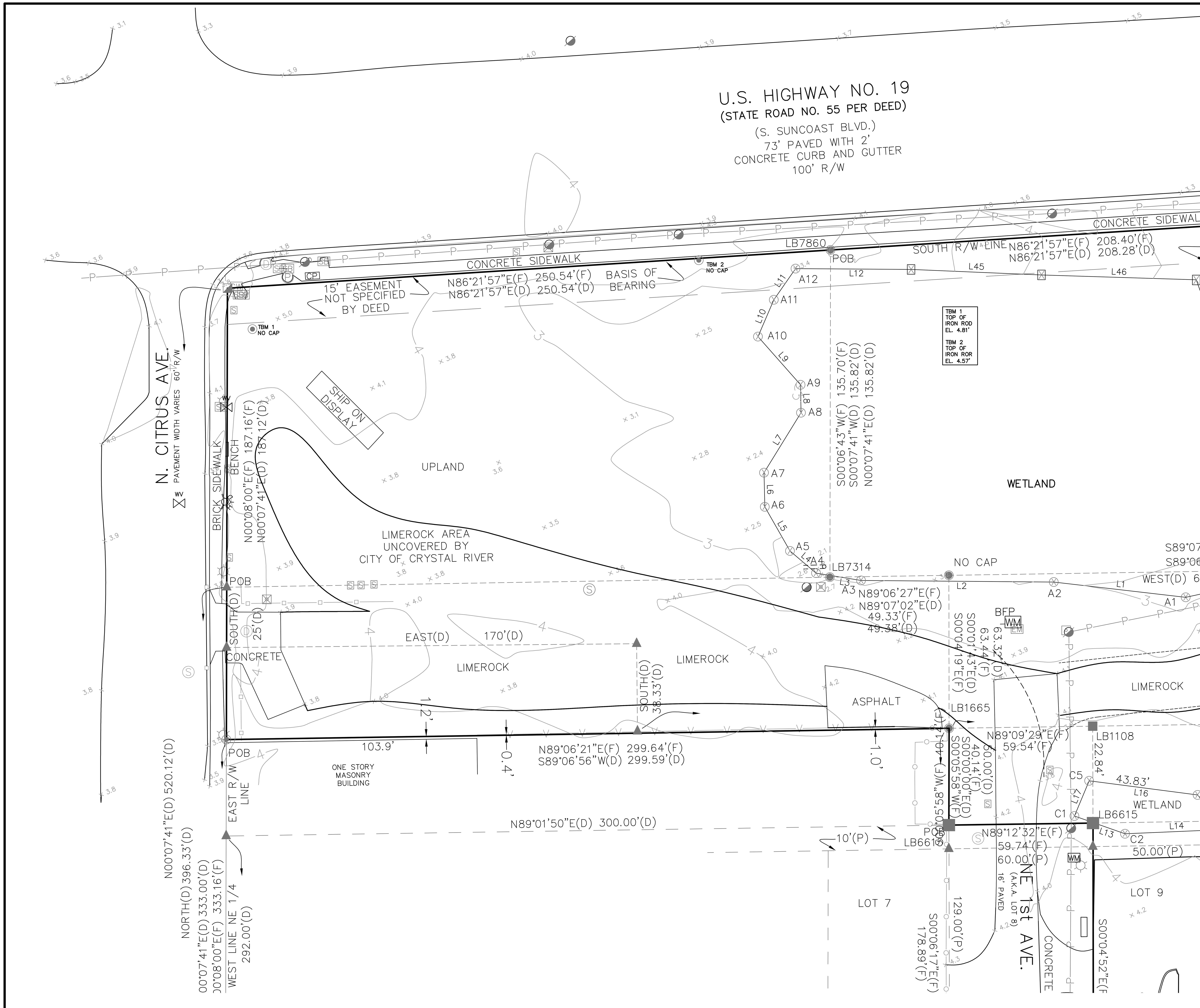
COVER SHEET

NO.	REVISION	DATE

30% SUBMITTAL

JOB NO. 19–18
F.B. NO. _____
FILE NO. 0–98
SEC 21 TWP 18S RGE 17E

SHT C1 OF C13


U.S. HIGHWAY NO. 19
(STATE ROAD NO. 55 PER DEED)
(S. SUNCOAST BLVD.)
73' PAVED WITH 2' CONCRETE CURB AND GUTTER
100' R/W
CONCRETE SIDEWALK
SOUTH R/W LINE
N86°21'57"E(F) 208.40'(F)
N86°21'57"E(D) 208.28'(D)
LB7860
POB
15' EASEMENT NOT SPECIFIED BY DEED
N86°21'57"E(F) 250.54'(F)
N86°21'57"E(D) 250.54'(D)
BASIS OF BEARING
TBM 2 NO CAP
TBM 1 NO CAP
TBM 1 TOP OF IRON ROD EL. 4.81'
TBM 2 TOP OF IRON ROR EL. 4.57'
N. CITRUS AVE.
PAVEMENT WIDTH VARIES 60' R/W
BRICK SIDEWALK
BENCH
SHIP ON DISPLAY
UPLAND
WETLAND
N00°08'00"E(F) 187.16'(F)
N00°07'41"E(D) 187.12'(D)
S00°06'43"W(F) 135.70'(F)
S00°07'41"W(D) 135.82'(D)
N00°07'41"E(D) 135.82'(D)
LIMEROCK AREA UNCOVERED BY CITY OF CRYSTAL RIVER
LB7314
NO CAP
N89°06'27"E(F)
N89°07'02"E(D)
49.33'(F)
49.38'(D)
S89°07'
S89°06'
WEST(D) 66
BFP
WM
EAST(D) 170'(D)
SOUTH(D) 25'(D)
SOUTH(D) 38.33'(D)
CONCRETE
LIMEROCK
ASPHALT
LB1665
LB1108
N89°09'29"E(F) 59.54'(F)
N89°06'21"E(F) 299.64'(F)
S89°06'56"W(D) 299.59'(D)
103.9'
ONE STORY MASONRY BUILDING
EAST R/W LINE
N89°01'50"E(D) 300.00'(D)
10'(P)
LB6615
N89°12'32"E(F) 59.74'(F) 60.00'(P)
43.83'
50.00'(P)
LOT 7
LOT 9
NE 1st AVE.
(A.K.A. LOT 8)
16' PAVED
CONCRETE
129.00'(P)
S00°06'17"E(F) 178.89'(F)
S00°04'52"E(F)
N00°07'41"E(D) 520.12'(D)
NORTH(D) 396.33'(D)
N00°07'41"E(D) 333.00'(D)
N00°08'00"E(F) 333.16'(F)
WEST LINE NE 1/4 292.00'(D)

LEGEND

INDICATES BUILDING TO BE REMOVED

INDICATES PROPOSED CONCRETE

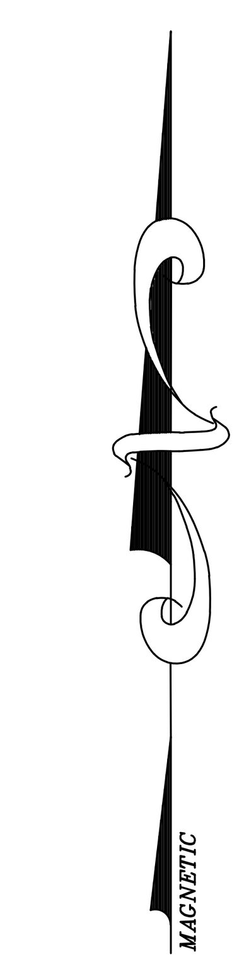
DEMOLITION NOTES:

1. THERE IS AN ABUNDANCE OF EXISTING UNDERGROUND UTILITIES ON THIS SITE, SOME OF WHICH MAY NOT BE SHOWN ON THESE PLANS. CONTRACTOR SHALL USE EXTREME CAUTION WHEN EXCAVATING.
2. CONTRACTOR SHALL COORDINATE DEMOLITION AND/OR REROUTING OF ALL UNDERGROUND LINES ENCOUNTERED WITH THE DESIGNATED REPRESENTATIVE OF THE UTILITY PROVIDER HAVING JURISDICTION OF THE UTILITY LINES ENCOUNTERED.
3. A MINIMUM 15 FOOT CLEAR WORK ZONE SHALL BE MAINTAINED DURING CONSTRUCTION.
4. ALL PAVEMENT TO BE REMOVED SHALL BE SAW CUT FIRST IN THE AREAS SHOWN. IF ADDITIONAL PAVEMENT REMOVAL IS REQUIRED, GRADING SHALL MATCH EXISTING GRADES AT SAWCUT OR AS NOTED ON GRADING PLAN.
5. ALL EXISTING MATERIALS AND DEBRIS DEMOLISHED FROM THE SITE SHALL BE REMOVED TO AN APPROVED CONSTRUCTION DEBRIS LANDFILL AND SHALL BE TRANSPORTED IN AN APPROPRIATE MANNER.
6. ANY DEBRIS LEFT ON SITE OVERNIGHT SHALL BE COVERED AND/OR FENCED UNTIL ITS REMOVAL TO AN APPROVED CONSTRUCTION DEBRIS LANDFILL.
7. CONTRACTOR SHALL COORDINATE RELOCATION OF PUBLIC UTILITIES WITH THE RESPECTIVE UTILITY PROVIDER.
8. TREES WHICH ARE EXISTING AND TO REMAIN SHALL BE PROTECTED DURING DEMOLITION & CONSTRUCTION PER DETAILS ON THE LANDSCAPE PLANS. CONTRACTOR TO REFER TO LANDSCAPE PLAN FOR TREES TO REMAIN.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.



DRAWN K.L.W.
CHECKED T.E.B.
DRAWING BASE19-18
LAYOUT DEMO
DATE JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741
BEI

CRYSTAL RIVER TOWN SQUARE
CITY OF CRYSTAL RIVER, FLORIDA

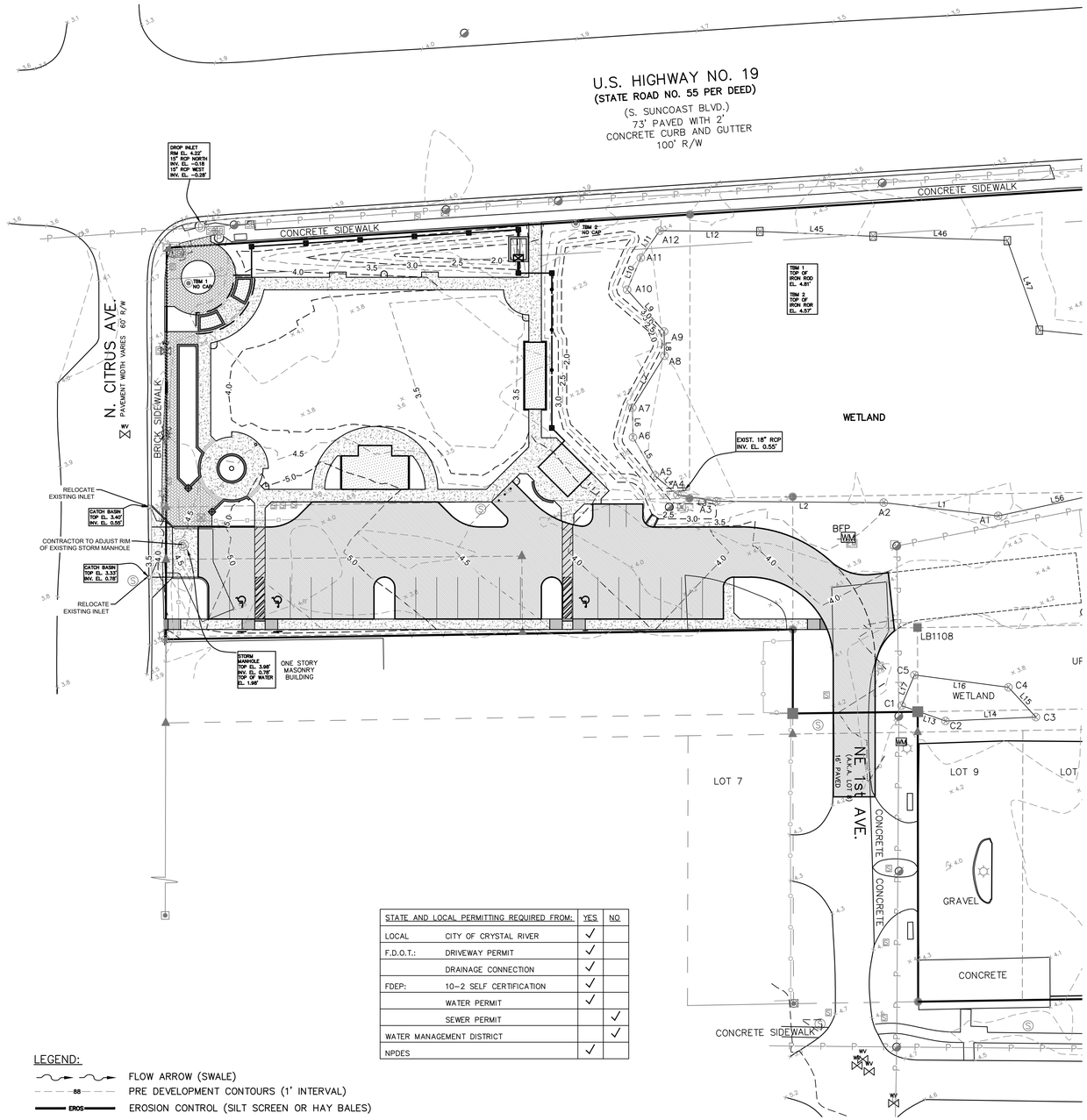
DEMOLITION PLAN

NO.	REVISION	DATE

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE ________

JOB NO. 19-18
F.B. NO.
FILE NO. Q-98
SEC 21 TWP 18S RGE 17E

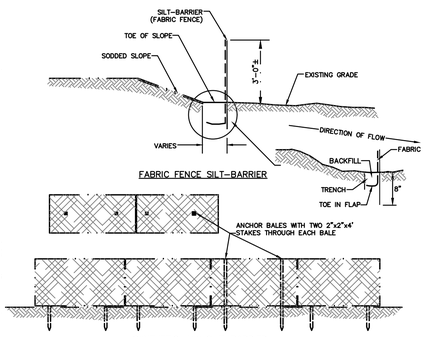
SHT C2 OF^C^



STATE AND LOCAL PERMITTING REQUIRED FROM:		YES	NO
LOCAL	CITY OF CRYSTAL RIVER	✓	
F.D.O.T.:	DRIVEWAY PERMIT	✓	
	DRAINAGE CONNECTION	✓	
FDEP:	10-2 SELF CERTIFICATION	✓	
	WATER PERMIT	✓	
	SEWER PERMIT		✓
WATER MANAGEMENT DISTRICT			✓
NPDES		✓	

LEGEND:

- FLOW ARROW (SWALE)
- 88 PRE DEVELOPMENT CONTOURS (1' INTERVAL)
- EROS EROSION CONTROL (SILT SCREEN OR HAY BALES)
- SHED WATER SHED LINES
- INLET AND PIPES
- INDICATES 4:1 SLOPES



FABRIC FENCE SILT-BARRIER

SYNTHETIC HAY SILT-BARRIER

NOTES:

1. CONTRACTOR IS REQUIRED TO PREVENT ANY SEDIMENT TRANSPORT FROM THE PROJECT SITE ON TO ADJACENT PROPERTY. INSTALLATION OF EITHER SYNTHETIC HAY OR FABRIC FENCE TYPE SILT BARRIER IS ACCEPTABLE. THE BARRIER MUST REMAIN IN PLACE UNTIL UPLAND VEGETATION IS ESTABLISHED.
2. BEFORE REMOVING SILT BARRIER, CONTRACTOR SHALL COLLECT AND DISPOSE OF ANY ACCUMULATED SILT.
3. CONTRACTOR SHALL FOLLOW THE FLORIDA STORMWATER, EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL DATED JULY, 2008.

PERIMETER EROSION AND SEDIMENT CONTROL

N.T.S.

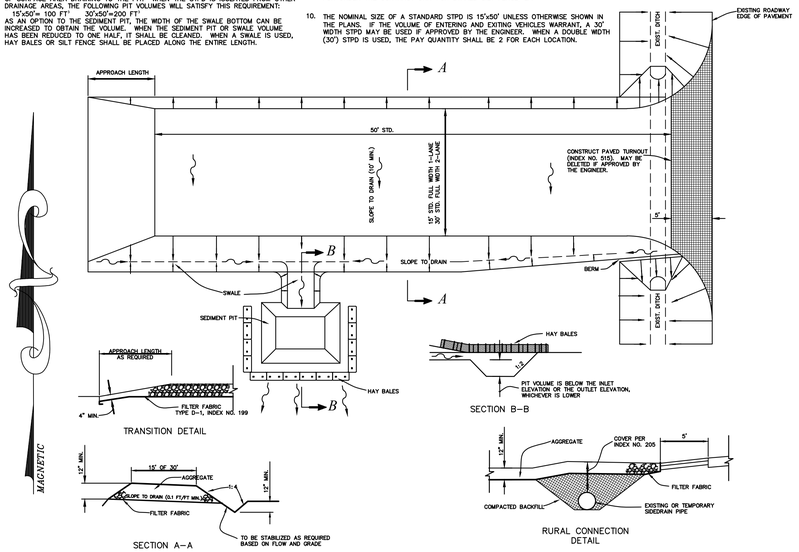
GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

GENERAL NOTES

1. A SOIL TRACKING PREVENTION DEVICE (STPD) SHALL BE CONSTRUCTED AT LOCATIONS DESIGNATED BY THE ENGINEER FOR POINTS OF EGRESS FROM UNSTABILIZED AREAS OF THE PROJECT TO PUBLIC ROADS WHERE OFFSITE TRACKING OF MUD COULD OCCUR. TRAFFIC FROM UNSTABILIZED AREAS OF THE CONSTRUCTION PROJECT SHALL BE DIRECTED THRU A STPD. BARRIERS, FLAGGING, OR OTHER POSITIVE MEANS SHALL BE USED AS REQUIRED TO LIMIT AND DIRECT VEHICULAR EGRESS ACROSS THE STPD.
2. THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE TECHNIQUE TO MINIMIZE OFFSITE TRACKING OF SEDIMENT. THE ALTERNATIVE MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ITS USE.
3. ALL MATERIALS SPILLED, DROPPED, OR TRACKED ONTO PUBLIC ROADS (INCLUDING THE STPD AGGREGATE AND CONSTRUCTION MUD) SHALL BE REMOVED DAILY, OR MORE FREQUENTLY IF SO DIRECT BY THE ENGINEER.
4. AGGREGATES SHALL BE AS DESCRIBED IN SECTION 901 EXCLUDING 901-2.3. AGGREGATES SHALL BE FDOT SIZE #1. IF THIS SIZE IS NOT AVAILABLE, THE NEXT AVAILABLE SMALLER SIZE AGGREGATE MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER. SIZES CONTAINING EXCESSIVE SMALL AGGREGATE WILL TRACK OFF THE PROJECT AND ARE UNSUITABLE.
5. THE SEDIMENT PIT SHOULD PROVIDE A RETENTION VOLUME OF 3600 CUBIC FEET/ACRE OF SURFACE AREA DRAINING TO THE PIT. WHEN THE STPD IS ISOLATED FROM OTHER DRAINAGE AREAS, THE FOLLOWING PIT VOLUMES WILL SATISFY THIS REQUIREMENT:
   15'x50'= 100 FT. 30'x50'=200 FT.
   AS AN OPTION TO THE SEDIMENT PIT, THE WIDTH OF THE SWALE BOTTOM CAN BE INCREASED TO OBTAIN THE VOLUME. WHEN THE SEDIMENT PIT OR SWALE VOLUME HAS BEEN REDUCED TO ONE HALF, IT SHALL BE CLEANED. WHEN A SWALE IS USED, HAY BALES OR SILT FENCE SHALL BE PLACED ALONG THE ENTIRE LENGTH.
6. THE SWALE DITCH DRAINING THE STPD SHALL HAVE A 0.3% MINIMUM AND A 1.0% MAXIMUM GRADE ALONG THE STPD AND TO THE SEDIMENT PIT.
7. MITERED END SECTIONS ARE NOT REQUIRED WHEN THE SIDEDRAIN PIPE SATISFIES THE CLEAR ZONE REQUIREMENTS.
8. THE STPD SHALL BE MAINTAINED IN A CONDITION THAT WILL ALLOW IT TO PERFORM ITS FUNCTION. TO PREVENT OFFSITE TRACKING, THE STPD SHALL BE RINSED (DAILY WHEN IN USE) TO MOVE ACCUMULATED MUD DOWNWARD THRU THE STONE. ADDITIONAL STABILIZATION OF THE VEHICULAR ROUTE LEADING TO THE STPD MAY BE REQUIRED TO LIMIT THE MUD TRACKED.
9. A STPD SHALL BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR SOIL TRACKING PREVENTION DEVICE, EA. THE UNIT PRICE SHALL CONSTITUTE FULL COMPENSATION FOR CONSTRUCTION, MAINTENANCE, REPLACEMENT OF MATERIALS, REMOVAL, AND RESTORATION OF THE AREA UTILIZED FOR THE STPD; INCLUDING BUT NOT LIMITED TO EXCAVATION, GRADING, TEMPORARY PIPE (INCLUDING MES WHEN REQUIRED), FILTER FABRIC, AGGREGATE, PAVED TURNOUT (INCLUDING ASPHALT AND BASE CONSTRUCTION), DITCH STABILIZATION, APPROACH ROUTE STABILIZATION, SEDIMENT REMOVAL AND DISPOSAL, WATER, RINSING AND CLEANING OF THE STPD AND CLEANING OF PUBLIC ROADS, GRASSING AND SOD. HAY BALES SHALL BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR HAY OR STRAW BALLED, EA. SILT FENCE SHALL BE PAID FOR UNDER THE CONTRACT UNIT FOR STAKED SILT FENCE, LF.
10. THE NOMINAL SIZE OF A STANDARD STPD IS 15'x50' UNLESS OTHERWISE SHOWN IN THE PLANS. IF THE VOLUME OF ENTERING AND EXITING VEHICLES WARRANT, A 30' WIDTH STPD MAY BE USED IF APPROVED BY THE ENGINEER. WHEN A DOUBLE WIDTH (30') STPD IS USED, THE PAY QUANTITY SHALL BE 2 FOR EACH LOCATION.



SOIL TRACKING PREVENTION DEVICE - TYPE A

N.T.S.
(FDOT INDEX NO. 106)

NOTES

1. THE NATURE OF THIS PROJECT IS A **PROJECT TYPE**.
2. THE CONTRACTOR SHALL INSTALL ALL SILT FENCE/EROSION CONTROL MEASURES BEFORE BEGINNING CLEARING OR GRUBBING OPERATIONS AND SHALL PERFORM BEST MANAGEMENT PRACTICES TO INSURE EROSION FROM THE PROJECT CONSTRUCTION DOES NOT GET INTO STORM SEWERS OR OFFSITE.
3. THIS SITE CONTAINS **X.XX** ACRES.
4. THE AREA OF THIS SITE THAT IS TO UNDERGO EXCAVATION IS **X.XX** AC.
5. THE POST DEVELOPMENT RUNOFF CURVE NUMBER OF THIS SITE IS **XX.XX**.
6. ACCORDING TO THE CITRUS COUNTY NRCS SOIL SURVEY, THE SOIL TYPES FOUND ON THIS SITE ARE **CANDLER FINE SAND, (3), 0 TO 5 PERCENT SLOPES**.
7. THIS SITE WAS DESIGNED TO CONTROL STORM WATER RUNOFF FOR A **100 YR.,** 24 HOUR STORM WHICH CONSISTS OF **11.5** INCHES OF RAINFALL.
8. STABILIZATION WILL OCCUR IN ALL AREAS.
9. CONTRACTOR TO MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES UNTIL CONSTRUCTION IS COMPLETE.
10. CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE NPDES NOI AND SUBMIT TO APPROPRIATE AGENCIES (IF APPLICABLE) AS WELL AS PERFORM CONSTRUCTION MONITORING AND CLOSE OUT DOCUMENTS IN ACCORDANCE WITH SECTION 403.0885, FLORIDA STATUTES.
11. EROSION CONTROL SHOWN OUTSIDE THE PROPERTY LINE FOR CLARITY PURPOSES ONLY. EROSION CONTROL TO BE INSTALLED ON OR WITHIN PROPERTY BOUNDARY.
12. CONTRACTOR IS RESPONSIBLE FOR CONTROL OF WIND BORN SEDIMENT TRANSPORT. SHOULD DRY WINDY CONDITIONS OCCUR DURING CONSTRUCTION THAT CREATE THE POTENTIAL FOR WIND BORN SEDIMENT TRANSPORT, THE CONTRACTOR SHALL TAKE NECESSARY STEPS TO MINIMIZE ADVERSE EFFECTS, INCLUDING PROVIDING WATER FOR SEDIMENT CONTROL AND/OR TEMPORARY SODDING.
13. CONTRACTOR SHALL MAKE WEEKLY INSPECTIONS OR WITH 24 HOURS AFTER A RAINFALL EVENT OF 1/2 INCHES OR MORE AND SUBMIT COPIES OF STORM WATER POLLUTION PREVENTION PLAN INSPECTION REPORT TO ENGINEER. ORIGINALS TO BE KEPT ONSITE.
14. IF CONSTRUCTION ACTIVITY CEASES FOR MORE THAN SEVEN DAYS THE CONTRACTOR SHALL STABILIZE THE AREA WITH SEED OR SOD.
15. CONTRACTOR SHALL REVIEW AND BE FAMILIAR WITH THE STORM WATER POLLUTION PREVENTION PLAN AND MAKE MODIFICATIONS WHEN WARRANTED AND APPROVED BY THE ENGINEER.

DRAWN K.L.W.
CHECKED T.E.B.
DRAWING BASE19-18
LAYOUT SWPP
DATE JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
BEI
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741

CRYSTAL RIVER TOWN SQUARE
CITY OF CRYSTAL RIVER, FLORIDA

SURFACE WATER POLLUTION PREVENTION PLAN

NO.	REVISION	DATE

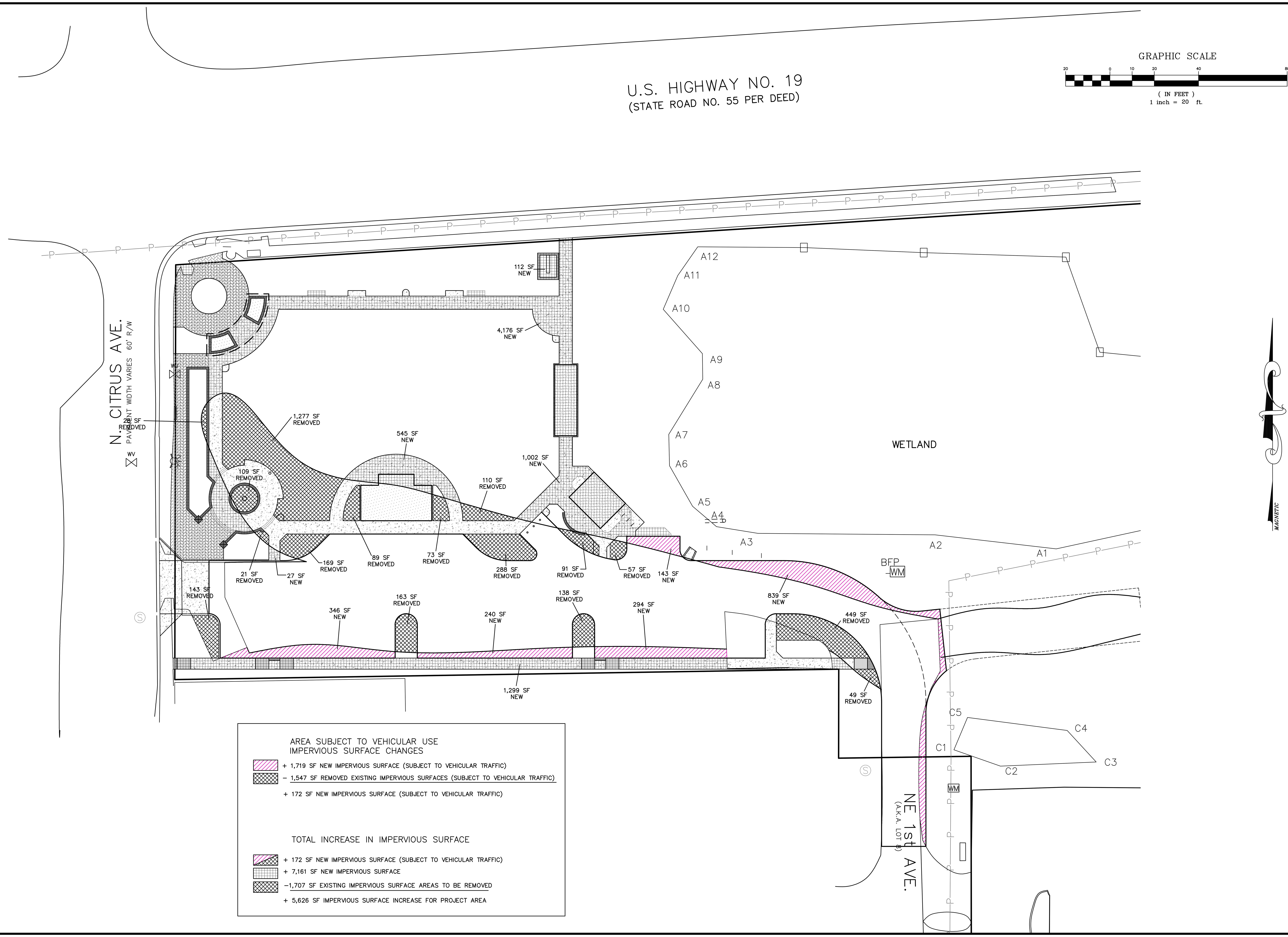
30% SUBMITTAL

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE

JOB NO. 19-18
F.B. NO.
FILE NO. 0-98
SEC 21 TWP 18S RGE 17E

SHT C3 OF C13

W:\Crystal River Town Square\Production\Drawings\Base19-18.dwg, 7/2/2019 12:39:27 PM



AREA SUBJECT TO VEHICULAR USE
IMPERVIOUS SURFACE CHANGES

- + 1,719 SF NEW IMPERVIOUS SURFACE (SUBJECT TO VEHICULAR TRAFFIC)
- − 1,547 SF REMOVED EXISTING IMPERVIOUS SURFACES (SUBJECT TO VEHICULAR TRAFFIC)
- + 172 SF NEW IMPERVIOUS SURFACE (SUBJECT TO VEHICULAR TRAFFIC)

TOTAL INCREASE IN IMPERVIOUS SURFACE

- + 172 SF NEW IMPERVIOUS SURFACE (SUBJECT TO VEHICULAR TRAFFIC)
- + 7,161 SF NEW IMPERVIOUS SURFACE
- −1,707 SF EXISTING IMPERVIOUS SURFACE AREAS TO BE REMOVED
- + 5,626 SF IMPERVIOUS SURFACE INCREASE FOR PROJECT AREA

DRAWN K.L.W.
CHECKED T.E.B.
DRAWING BASE19-18
LAYOUT IMP
DATE JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741
BEI

CRYSTAL RIVER TOWN SQUARE
CITY OF CRYSTAL RIVER, FLORIDA

IMPERVIOUS AREA CALCULATION PLAN

NO.	REVISION	DATE

30% SUBMITTAL

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE

JOB NO. 19-18
F.B. NO.
FILE NO. Q-98
SEC 21 TWP 18S RGE 17E

U.S. HIGHWAY NO. 19
(STATE ROAD NO. 55 PER DEED)

N. CITRUS AVE.
PAVEMENT WIDTH VARIES 60' R/W

DROP INLET
RIM EL. 4.22'
15" RCP NORTH
INV. EL. -0.18
15" RCP WEST
INV. EL. -0.28'

INFO KIOSK SIGN

TBM 1
NO CAP

6' WIDE CONC. SIDEWALK

RAISED FOUNTAINS OR PLANTERS

GATEWAY STRUCTURE

RAISED PLANTER & SEATWALL

RAISED FOUNTAIN

FLAGPOLE

SHADE PAVILION (16'X 32'±)

SHADE STRUCTURE (10'X 32'±)

3 REMOVABLE BOLLARDS @ 4' O.C.

SIGN & PLANTER

TBM 2
NO CAP

PROPOSED 4' ORNAMENTAL METAL FENCE

TBM 1
TOP OF IRON ROD
EL. 4.81'

TBM 2
TOP OF IRON ROR
EL. 4.57'

WETLAND

EXIST. 18" RCP
INV. EL. 0.55'

SERVICE DRIVE

TROLLY STOP & CAR DROP OFF

GOLF CART PARKING

POSSIBLE FUTURE DRIVEWAY IMPROVEMENTS

RELOCATE EXISTING INLET

CATCH BASIN
TOP EL. 3.40'
INV. EL. 0.55'

CONTRACTOR TO ADJUST RIM OF EXISTING STORM MANHOLE

CATCH BASIN
TOP EL. 3.33'
INV. EL. 0.78'

RELOCATE EXISTING INLET

STORM MANHOLE
TOP EL. 3.98'
INV. EL. 0.78'
TOP OF WATER
EL. 1.98'

5' WIDE CONC. SIDEWALK

NE 1st AVE.
(A.K.A. LOT 8)

LEGEND:

- FLOW ARROW
- 20' PREDEVELOPMENT CONTOURS
- 20 PROPOSED CONTOURS
- INLET AND PIPES
- CONC. MITERED END
- 23.29SW PROPOSED SIDEWALK GRADE
- 23.32CC PROPOSED CONCRETE GRADE
- 23.45EP PROPOSED PAVEMENT GRADE
- 23.59EP / 24.09TC PROPOSED PAVEMENT GRADE / PROPOSED TOP OF CURB GRADE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

Section A

6						6
4	9:1	8:1	4:1	JURISDICTION LINE	6:1	4
2						2
0				PROPOSED SIDEWALK		0

Section B

6				PROPERTY BOUNDARY		6
4		8:1	4:1			4
2						2
0	8:1			8:1		0

SCALE: HOR. 1"=20'
VER. 1"=10'

DRAWN K.L.W.
CHECKED T.E.B.
DRAWING BASE19-18
LAYOUT DRN
DATE JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741

CRYSTAL RIVER TOWN SQUARE
CITY OF CRYSTAL RIVER, FLORIDA

GRADING AND DRAINAGE PLAN

NO.	REVISION	DATE

30% SUBMITTAL

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE _____

JOB NO. 19-18
F.B. NO. _____
FILE NO. 0-98
SEC 21 TWP 18S RGE 17E

SHT C5 OF C13

W:\Crystal River Town Square\Production\Drawing\Base19-18.dwg, 7/2/2019 12:27:39 PM

U.S. HIGHWAY NO. 19
(STATE ROAD NO. 55 PER DEED)
(S. SUNCOAST BLVD.)
73' PAVED WITH 2'
CONCRETE CURB AND GUTTER
100' R/W

CONCRETE SIDEWALK

N. CITRUS AVE.
PAVEMENT WIDTH VARIES 60' R/W

BRICK SIDEWALK

INFO KIOSK SIGN

LSP TBM 1 NO CAP

RAISED FOUNTAINS OR PLANTERS

GATEWAY STRUCTURE

RAISED PLANTER & SEATWALL

6' WIDE CONC. SIDEWALK

RAISED FOUNTAIN

FLAGPOLE

WIDEN BRICK WALKWAY AS SHOWN

CONSTRUCT 53 LF OF HEADER CURB

CONSTRUCT CONC. FLARED TURNOUT

CONSTRUCT 34 LF OF HEADER CURB

SHADE PAVILION (16' X 32'±)

6' WIDE CONC. SIDEWALK

TROLLY STOP & CAR DROP OFF

SIGN & PLANTER

TBM 2 NO CAP

PROPOSED 4' ORNAMENTAL METAL FENCE

SHADE STRUCTURE (10' X 32'±)

25' WETLAND SETBACK LINE

3 REMOVABLE BOLLARDS @ 4' O.C.

16' SEATWALL

SERVICE DRIVE

BIKE PARKING

GOLF CART PARKING

SOD

5' WIDE CONC. SIDEWALK

HANDICAP RAMPS

ONE STORY MASONRY BUILDING

CONSTRUCT 317 LF OF 5' WIDE RAISED CONC. SIDEWALK

HANDICAP RAMPS

TBM 1
TOP OF IRON ROD
EL. 4.81'

TBM 2
TOP OF IRON ROR
EL. 4.57'

WETLAND

BFP

POSSIBLE FUTURE DRIVEWAY IMPROVEMENTS

LB1108

WETLAND

LOT 7

LOT 9

NE 1st AVE.
(A.K.A. LOT 8)
16' PAVED

CONCRETE

LEGEND

- INDICATES NORMAL PAVEMENT
- INDICATES PROPOSED CONCRETE
- INDICATES PROPOSED BUILDING
- INDICATES GRASSED AREA
- WHEELSTOP
- 24" THERMOPLASTIC STOP BAR

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

MAGNETIC

DRAWN K.L.W.
CHECKED T.E.B.
DRAWING BASE19-18
LAYOUT SITE
DATE JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741

CRYSTAL RIVER TOWN SQUARE

CITY OF CRYSTAL RIVER, FLORIDA

SITE PLAN

NO.	REVISION	DATE

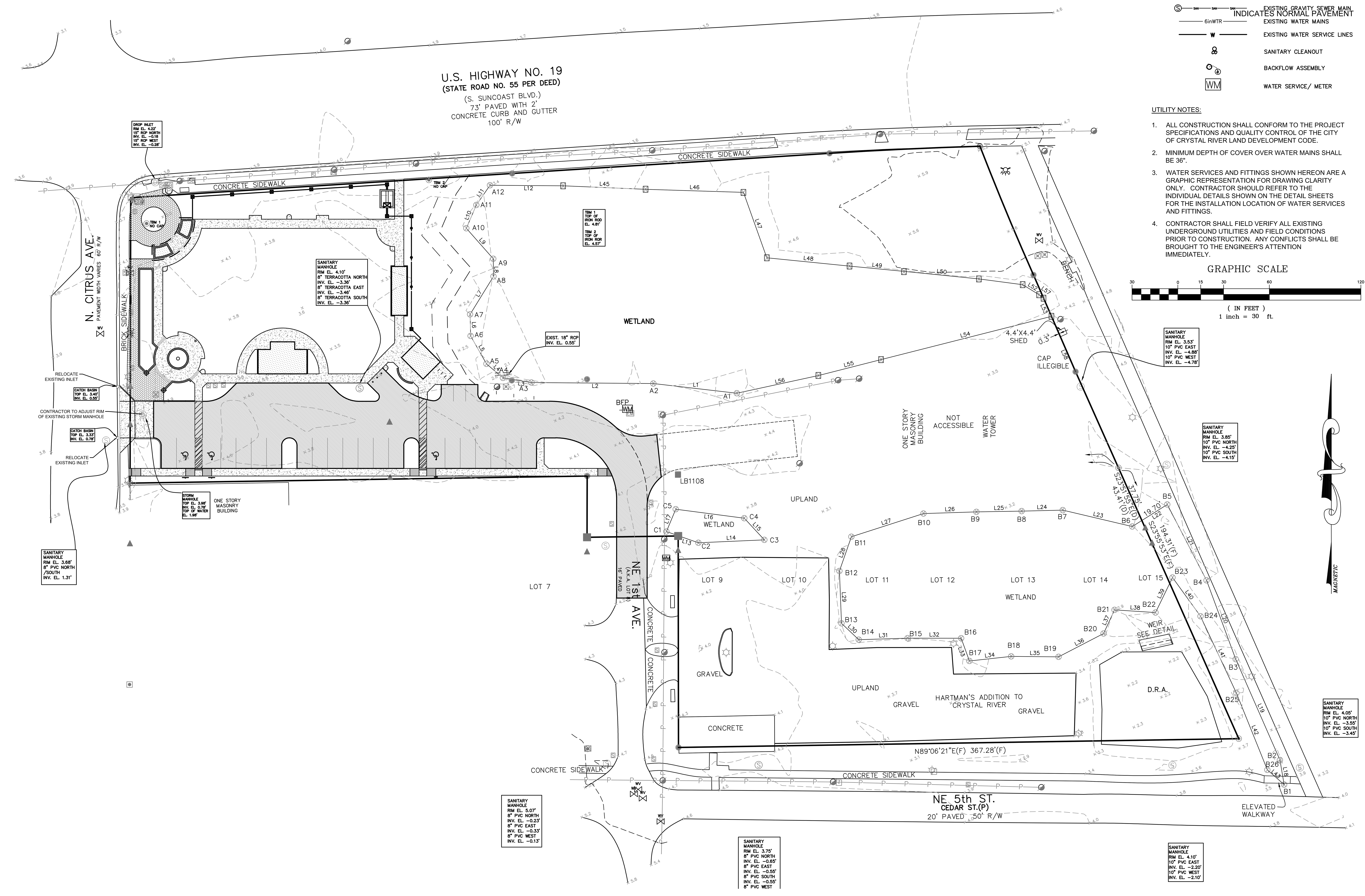
30% SUBMITTAL

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE _____

JOB NO. 19-18
F.B. NO. _____
FILE NO. 0-98
SEC 21 TWP 18S RGE 17E

SHT C6 OF C13

W:\Crystal River Town Square\Production\Drawings\Base19-18.dwg, 7/2/2019 1:23:19 PM



LEGEND

S — SAN —	EXISTING GRAVITY SEWER MAIN
— 6inWTR —	EXISTING WATER MAINS
— W —	EXISTING WATER SERVICE LINES
	SANITARY CLEANOUT
	BACKFLOW ASSEMBLY
WM	WATER SERVICE/ METER

INDICATES NORMAL PAVEMENT

UTILITY NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE PROJECT SPECIFICATIONS AND QUALITY CONTROL OF THE CITY OF CRYSTAL RIVER LAND DEVELOPMENT CODE.
2. MINIMUM DEPTH OF COVER OVER WATER MAINS SHALL BE 36".
3. WATER SERVICES AND FITTINGS SHOWN HEREON ARE A GRAPHIC REPRESENTATION FOR DRAWING CLARITY ONLY. CONTRACTOR SHOULD REFER TO THE INDIVIDUAL DETAILS SHOWN ON THE DETAIL SHEETS FOR THE INSTALLATION LOCATION OF WATER SERVICES AND FITTINGS.
4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES AND FIELD CONDITIONS PRIOR TO CONSTRUCTION. ANY CONFLICTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY.

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

DRAWN K.L.W.
CHECKED T.E.B.
DRAWING BASE19-18
LAYOUT UTIL
DATE JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741

CRYSTAL RIVER TOWN SQUARE
CITY OF CRYSTAL RIVER, FLORIDA

UTILITY PLAN

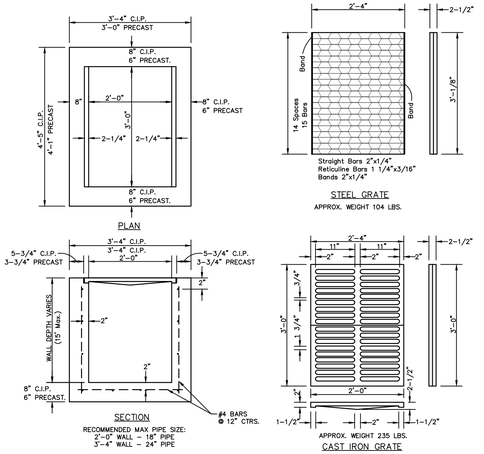
NO.	REVISION	DATE

30% SUBMITTAL

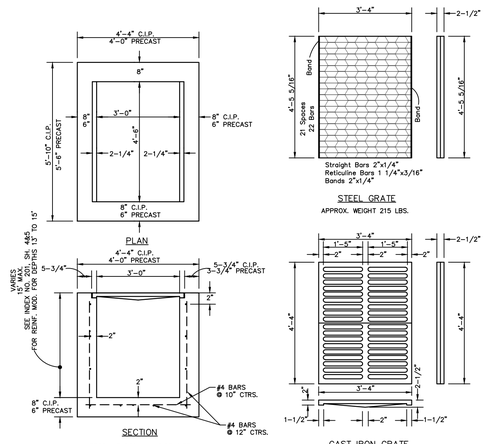
TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE

JOB NO. 19-18
F.B. NO.
FILE NO. Q-98
SEC 21 TWP 18S RGE 17E

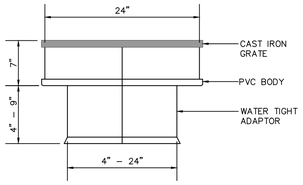
SHT C7 OF C13



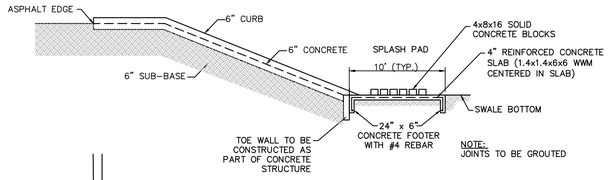
DITCH BOTTOM
TYPE "C" INLET
FDOT INDEX 232
N.T.S.



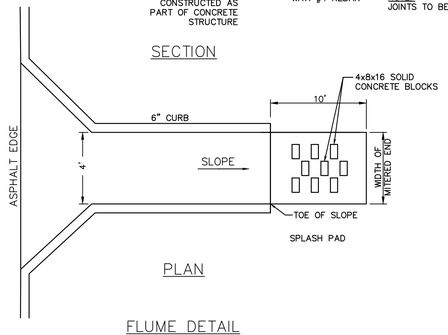
DITCH BOTTOM
TYPE "E" INLET
FDOT INDEX 232
N.T.S.



YARD DRAIN DETAIL

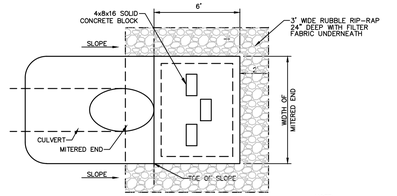


SECTION

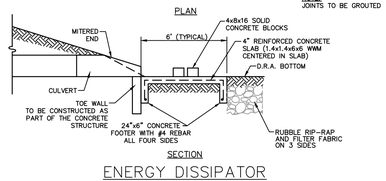


PLAN

FLUME DETAIL
N.T.S.



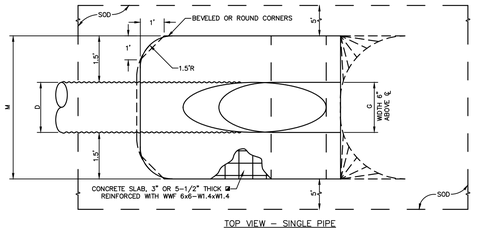
PLAN



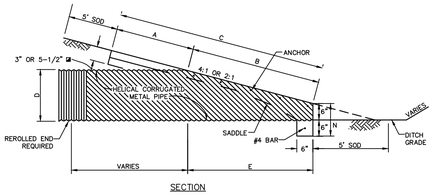
SECTION

ENERGY DISSIPATOR
N.T.S.

	DIMENSIONS AND QUANTITIES																					
									M						5-1/2" CONCRETE SLAB (CY) ◪				SODDING (SQ. YDS.)			
	D	X	A	B	C	E	F	G	Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	N	Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe
2:1 SLOPE	15"	2'-7"	2.5'	1.68'	4.18'	1.50'	5.00'	1.23'	4.33'	6.92'	9.50'	12.08'	1.04'	0.35	0.54	0.74	0.94	21	24	27	29
	18"	2'-10"	2.5'	2.24'	4.74'	2.00'	6.00'	1.41'	4.58'	7.42'	10.25'	13.08'	1.04'	0.38	0.62	0.87	1.12	22	25	28	31
	24"	3'-1"	2.5'	3.35'	5.80'	3.00'	7.00'	1.73'	5.08'	8.50'	11.92'	15.33'	1.04'	0.47	0.76	1.05	1.34	23	27	31	35
	30"	4'-1"	2.5'	4.47'	6.97'	4.00'	8.00'	2.00'	5.58'	9.83'	14.08'	18.33'	1.04'	0.57	0.96	1.37	1.77	25	30	36	39
	36"	5'-1"	2.5'	5.59'	8.09'	5.00'	9.00'	2.24'	6.08'	11.17'	16.25'	21.33'	1.04'	0.67	1.19	1.72	2.26	27	33	38	44
	42"	6'-1"	2.5'	6.71'	9.21'	6.00'	10.00'	2.45'	6.58'	12.58'	18.58'	24.58'	1.04'	0.78	1.48	2.17	2.87	29	36	42	48
	48"	6'-9"	2.5'	7.83'	10.33'	7.00'	11.00'	2.65'	7.08'	13.83'	20.58'	27.33'	1.04'	0.89	1.71	2.54	3.36	31	38	46	53
	54"	7'-8"	2.5'	8.94'	11.44'	8.00'	12.00'	2.83'	7.58'	15.25'	22.92'	30.58'	1.04'	1.02	2.06	3.10	4.14	33	41	50	58
	60"	8'-4"	2.5'	10.06'	12.56'	9.00'	13.00'	3.00'	8.08'	16.58'	25.08'	33.58'	1.04'	1.14	2.38	3.63	4.89	34	44	53	63
4:1 SLOPE	15"	2'-7"	2.5'	3.09'	5.59'	3.00'	7.00'	1.23'	4.33'	6.92'	9.50'	12.08'	1.04'	0.44	0.68	0.91	1.15	22	25	28	31
	18"	2'-10"	2.5'	4.12'	6.62'	4.00'	8.00'	1.41'	4.58'	7.42'	10.25'	13.08'	1.04'	0.49	0.77	1.03	1.31	24	27	30	33
	24"	3'-1"	2.5'	6.18'	8.68'	6.00'	10.00'	1.73'	5.08'	8.50'	11.92'	15.33'	1.04'	0.65	1.09	1.38	1.77	27	30	34	38
	30"	4'-1"	2.5'	8.25'	10.75'	8.00'	12.00'	2.00'	5.58'	9.83'	14.08'	18.33'	1.04'	0.81	1.34	1.90	2.44	29	34	39	44
	36"	5'-1"	2.5'	10.31'	12.81'	10.00'	14.00'	2.24'	6.08'	11.17'	16.25'	21.33'	1.04'	0.97	1.68	2.41	3.14	32	38	44	49
	42"	6'-1"	2.5'	12.37'	14.87'	12.00'	16.00'	2.45'	6.58'	12.58'	18.58'	24.58'	1.04'	1.13	2.08	3.06	4.02	35	42	48	55
	48"	6'-9"	2.5'	14.43'	16.93'	14.00'	18.00'	2.65'	7.08'	13.83'	20.58'	27.33'	1.04'	1.29	2.49	3.69	4.88	38	46	53	60
	54"	7'-8"	2.5'	16.49'	18.99'	16.00'	20.00'	2.83'	7.58'	15.25'	22.92'	30.58'	1.04'	1.48	2.98	4.47	5.98	41	49	58	66
	60"	8'-4"	2.5'	18.55'	21.05'	18.00'	22.00'	3.00'	8.08'	16.58'	25.08'	33.58'	1.04'	1.66	3.49	5.31	7.13	44	53	63	72

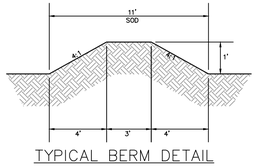


TOP VIEW - SINGLE PIPE

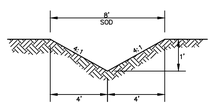


SECTION

MITERED END DETAIL
N.T.S.



TYPICAL BERM DETAIL



SWALE DETAIL

DRAWN	K.L.W.
CHECKED	T.E.B.
DRAWING	BASE19-18
LAYOUT	DDT
DATE	JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
BEI
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741

CRYSTAL RIVER TOWN SQUARE

CITY OF CRYSTAL RIVER, FLORIDA

DRAINAGE DETAILS

NO.	REVISION	DATE

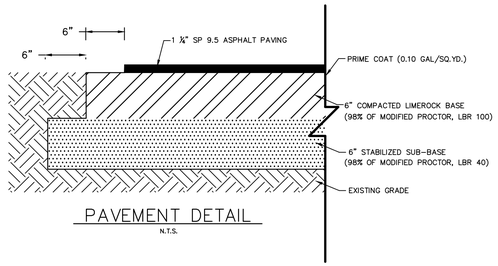
30% SUBMITTAL

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE _____

JOB NO. 19-18
F.B. NO. _____
FILE NO. 0-98
SEC 21 TWP 18S RGE 17E

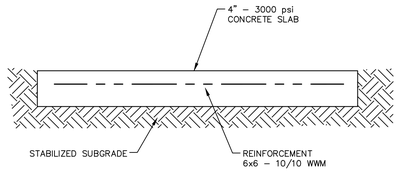
SHT C8 OF C13

W:\Crystal River Town Square\Production Drawings\Base19-18.dwg 6/28/2019 9:45:01 AM

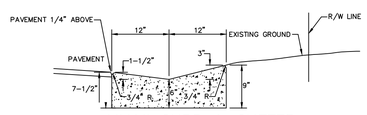


PAVEMENT DETAIL
N.T.S.

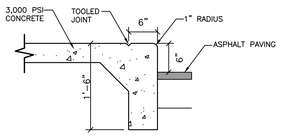
NOTE:
If unsuitable material is encountered Contractor shall undercut all proposed paved area a minimum of 2' and replace with clean fill.



CONCRETE SIDEWALK DETAIL
N.T.S.

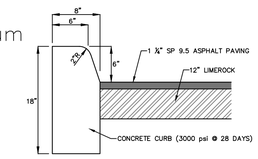


MIAMI CURB & GUTTER
N.T.S.
CONCRETE TO BE 3000 P.S.I.

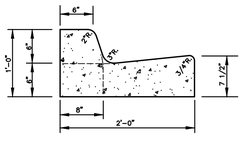


SECTION THRU CURB

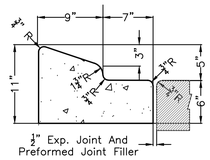
RAISED SIDEWALK DETAIL
N.T.S.



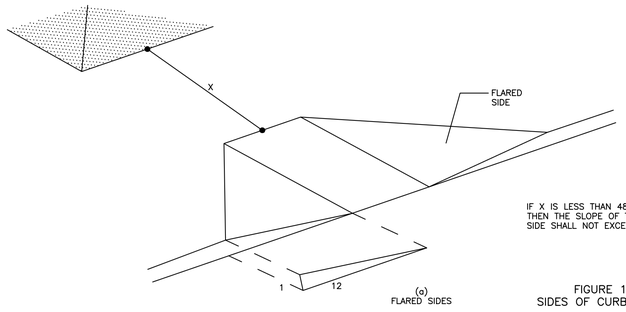
TYPE "D" CURB
N.T.S.



TYPE "F" CURB
N.T.S.

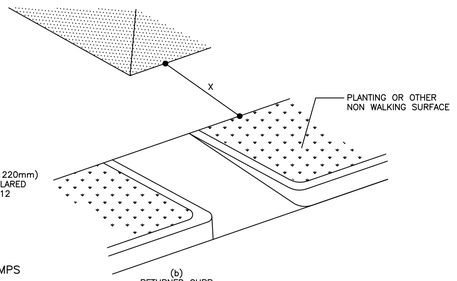


TYPE A CURB



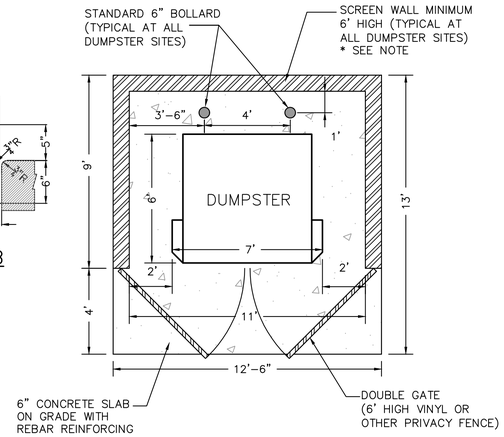
(a)
FLARED SIDES

IF X IS LESS THAN 48in. (1220mm)
THEN THE SLOPE OF THE FLARED
SIDE SHALL NOT EXCEED 1:12

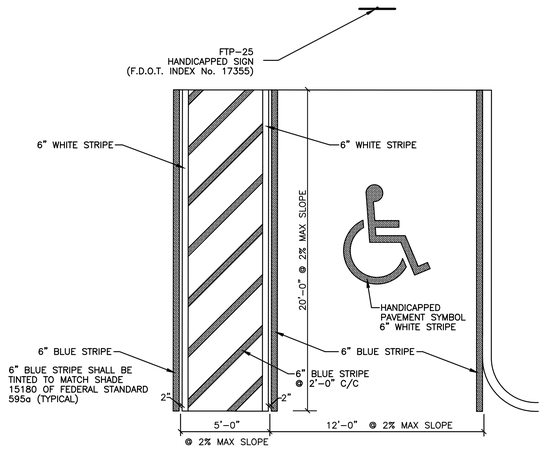


(b)
RETURNED CURB

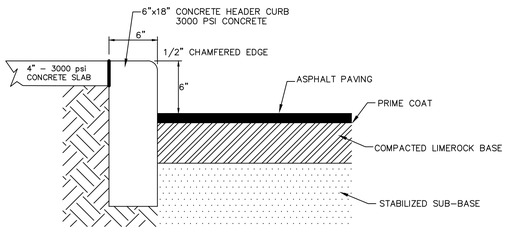
FIGURE 12
SIDES OF CURB RAMPS



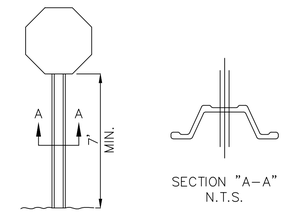
HANDICAP RAMP DETAILS
N.T.S.



HANDICAP SPACE/STRIPING DETAIL
N.T.S.



HEADER CURB at SIDEWALK
N.T.S.

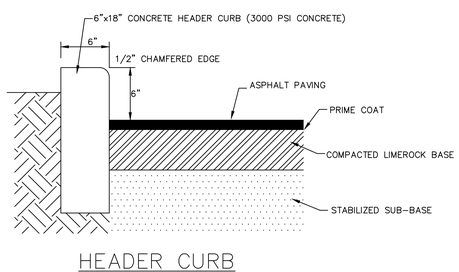


SECTION "A–A"
N.T.S.

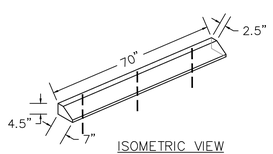
TYPICAL TRAFFIC CONTROL SIGN
N.T.S.

OUTDOOR SERVICE AREA:
DUMPSTER PAD ONLY
N.T.S.

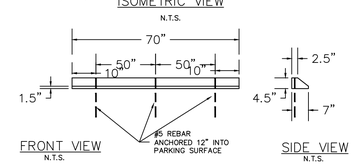
NOTES:
1. SCREEN WALL MAY BE BLOCK WALL WITH STUCCO TO MATCH BUILDING; PVC OR OTHER DECORATIVE FENCING AT OWNER'S OPTION.



HEADER CURB
N.T.S.



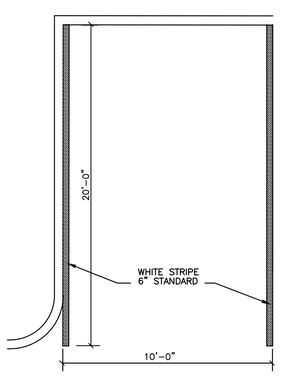
ISOMETRIC VIEW
N.T.S.



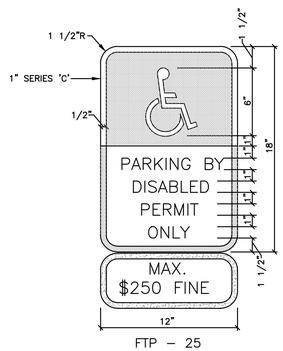
FRONT VIEW
N.T.S.

SIDE VIEW
N.T.S.

WHEEL STOP DETAIL
N.T.S.



STRIPING DETAIL



FTP – 25

NOTES:
1. TOP PORTION OF FTP 25 SHALL HAVE A REFLECTIVE BLUE BACKGROUND WITH WHITE REFLECTIVE SYMBOL AND BORDER.
2. BOTTOM PORTION SHALL HAVE A REFLECTIVE WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.
3. FTP 25 MAY BE FABRICATED ON ONE PANEL OR TWO.
4. SIGNS ARE TO BE MOUNTED AT STANDARD HEIGHT. (7'–0" FROM PAVEMENT TO BOTTOM OF SIGN).

HANDICAPPED SIGN DETAIL
N.T.S.

DRAWN K.L.W.
CHECKED T.E.B.
DRAWING BASE19-18
LAYOUT SDT
DATE JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741

CRYSTAL RIVER TOWN SQUARE
CITY OF CRYSTAL RIVER, FLORIDA

SITE DETAILS

NO.	REVISION	DATE

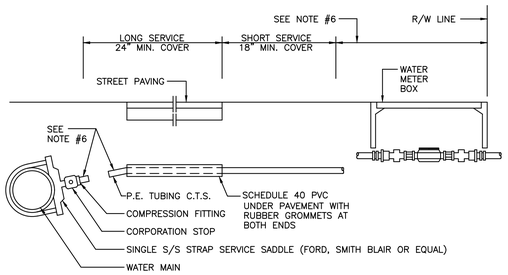
30% SUBMITTAL

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE _____

JOB NO. 19-18
F.B. NO. _____
FILE NO. Q-98
SEC 21 TWP 18S RGE 17E

SHT C9 OF C13

W:\Crystal River Town Square\Production Drawings\Base19-18.dwg 5/28/2019 9:42:03 AM

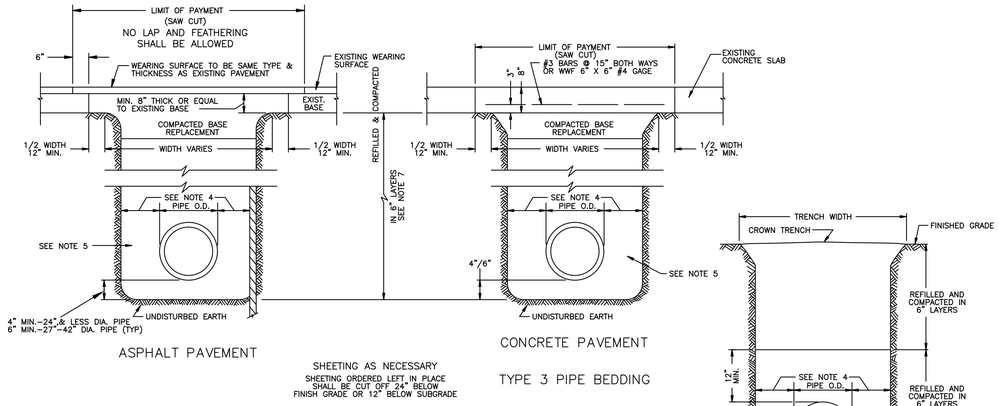


NOTES:

1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED NOT LESS THAN 18" APART ON CENTER AND MINIMUM OF 18" FROM JOINTS AND FITTINGS.
2. SERVICE PIPE SHALL BE THE SAME SIZE AS THE WATER METER USED EXCEPT THAT NO SERVICE PIPE SHALL BE SMALLER THAN 1".
3. CASING PIPE SHALL HAVE A DIAMETER AT LEAST 1" GREATER THAN SERVICE LINE DIAMETER.
4. ALL CASING PIPE SHALL EXTEND A MIN. OF 2' BEYOND THE EDGE OF PAVED STREETS.
5. WATER SERVICE TO BE P.E. CONFORMING TO A.S.T.M. 3408, PHILLIPS 66 DRISCO PIPE#5100 ONLY, OR COPPER.
6. FOR 1" SERVICE LINES, THE MINIMUM RADIUS SHALL BE 14", FOR ALL OTHER SERVICE LINES, THE MINIMUM RADIUS SHALL BE 21".

WATER MAIN SERVICE CONNECTION DETAIL

DETAIL No. IV–22 N.T.S.
REVISED SEPT. 2004



SHEETING AS NECESSARY
SHEETING ORDERED LEFT IN PLACE SHALL BE CUT OFF 24" BELOW FINISH GRADE OR 12" BELOW SUBGRADE

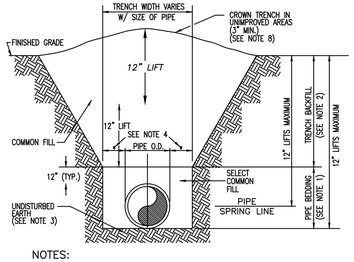
TYPE 3 PIPE BEDDING

NOTES:

1. USE OF TYPE 4, 4A & 5 PIPE BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE ENGINEER.
2. WATER SHALL NOT BE PERMITTED IN TRENCH DURING CONSTRUCTION.
3. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO DIRECTION OF FLOW.
4. 10" MAX. FOR PIPE DIAMETER LESS THAN 24", 12" MAX. FOR PIPE DIAMATER 24" AND LARGER.
5. CLEAN EARTH FROM ORIGINAL TRENCH EXCAVATION OR IN CASES OF UNSUITABLE NATURAL MATERIAL, SELECTED FILL MATERIAL SHALL BE USED.
6. TYPE 2 BEDDING PERMITTED WHEN EARTH AT BELL IS HAND EXCAVATED, WITH ENGINEER'S APPROVAL.
7. COMPACTION SHALL BE CARRIED OUT ONLY WITH MECHANICAL COMPACTION EQUIPMENT TO OBTAIN A DENSITY OF AT LEAST 95% MAXIMUM DRY DENSITY AS MEASURED BY ASTM D–1557, UNLESS OTHERWISE PROVIDED FOR IN SPECIFICATIONS.

TYPICAL TRENCH EXCAVATION AND PAVEMENT REPLACEMENT

JULY 23, 2004 DETAIL No. III–1 N.T.S.

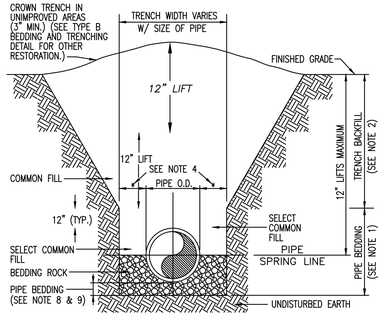


NOTES:

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T–180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T–180.
3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY THE COUNTY.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. SHEETING AND BRACING IN EXCAVATIONS AS REQUIRED BY O.S.H.A. IN EXCAVATIONS.
8. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN CITRUS COUNTY RIGHT–OF–WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT–OF–WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

TYPE B BEDDING AND TRENCHING DETAIL

DETAIL No.III–3
REVISED SEPTEMBER 2004

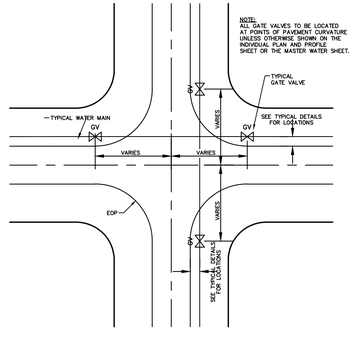


NOTES:

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T–180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T–180.
3. USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE COUNTY.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. SHEETING AND BRACING IN EXCAVATION AS REQUIRED BY O.S.H.A.
8. GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING, IF REQUIRED BY THE COUNTY. BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER LESS THAN 15", AND 6" MINIMUM FOR PIPE DIAMETER 16" AND LARGER.
9. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. COUNTY SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.

TYPE A BEDDING AND TRENCHING DETAIL

JULY 23, 2004 DETAIL No. III–2 N.T.S.



TYPICAL VALVE LOCATION

N.T.S.

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741

DRAWN K.L.W.
CHECKED T.E.B.
DRAWING BASE19–18
LAYOUT UDT
DATE JULY 2019

CRYSTAL RIVER TOWN SQUARE

CITY OF CRYSTAL RIVER, FLORIDA

UTILITY DETAILS

NO.	REVISION	DATE

30% SUBMITTAL

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE _____

JOB NO. 19–18
F.B. NO. _____
FILE NO. Q–98
SEC 21 TWP 18S RGE 17E

SHT C10 OF C13

W:\Crystal River Town Square\Production Drawings\Base19-18.dwg 6/28/2019 9:41:20 AM

SECTION 1
GENERAL REQUIREMENTS

1. SCOPE

WORK UNDER THIS CONTRACT INCLUDES THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO CONSTRUCT THE SITE IMPROVEMENTS AS SHOWN ON THE PLANS AND SPECIFIED HEREIN; COMPLETE, TESTED AND READY FOR SERVICE.

2. PRE-CONSTRUCTION MEETING

IT SHALL BE THE RESPONSIBILITY OF THE ENGINEER TO CALL FOR, ARRANGE AND COORDINATE A PRE-CONSTRUCTION CONFERENCE PRIOR TO THE START OF THE PROJECT. THIS MEETING SHALL BE ATTENDED BY REPRESENTATIVES OF THE OWNER, THE ENGINEER, THE CONTRACTOR AND REGULATORY AGENCY REPRESENTATIVES. THE PURPOSE OF THIS MEETING IS TO OUTLINE THE CONSTRUCTION METHODS AND SCHEDULING.

3. SAFETY AND HEALTH REGULATIONS

THE CONTRACTOR SHALL AT ALL TIMES CONDUCT HIS WORK AS TO INSURE THE LEAST POSSIBLE OBSTRUCTION TO TRAFFIC AND INCONVENIENCE TO THE GENERAL PUBLIC AND THE RESIDENTS IN THE VICINITY OF THE WORK, AND TO PROTECT PERSONS FROM INJURY AND TO AVOID PROPERTY DAMAGE. ADEQUATE LIGHTING, SIGNS, BARRICADES AND GUARDS, AS REQUIRED, SHALL BE PLACED AND MAINTAINED DURING THE PROGRESS OF THE WORK.

ALL EQUIPMENT AND MATERIALS FURNISHED AND INSTALLED UNDER THIS CONTRACT SHALL COMPLY WITH THE REQUIREMENTS OF THE DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OCCUPATIONAL SAFETY AND HEALTH STANDARDS, AND OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION.

4. SURVEYS

HORIZONTAL AND VERTICAL CONTROL NECESSARY TO LAYOUT THE WORK IN AN ORDERLY WORKMANLIKE MANNER SHALL BE PROVIDED, AS OUTLINED IN THE INVITATION TO BID.

HORIZONTAL CONTROL SHALL CONSIST OF ADEQUATELY MARKED CENTERLINE CONTROL. VERTICAL CONTROL WILL CONSIST OF BENCH MARKS ESTABLISHED WITHIN THE LIMITS OF THE WORK.

THE CONTRACTOR SHALL MAINTAIN AND PRESERVE ALL STAKES AND MARKS ESTABLISHED AND SHOULD SUCH STAKES OR MARKS BE DESTROYED OR DAMAGED, SAID STAKES OR MARKS SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR. THE CONTRACTOR SHALL PRESERVE ALL EXISTING SURVEY MONUMENTS AND ANY MONUMENTS DISTURBED OR REMOVED SHALL BE REPLACED BY A REGISTERED SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.

5. SUBSURFACE INFORMATION

WHEN SOIL BORINGS ARE TAKEN BY THE ENGINEER THEY WILL BE MADE AVAILABLE UPON REQUEST.

6. EXISTING UTILITY LOCATION

EXISTING UTILITIES AND FACILITIES ARE SHOWN ON THE DRAWINGS ONLY FOR THE CONVENIENCE OF ALL PARTIES CONCERNED AND WERE ESTABLISHED WITHOUT GUARANTEE AS TO THEIR ACCURACY OR COMPLETENESS OR LOCATION. PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL DETERMINE, BY SITE INSPECTION OR OTHERWISE, ALL PERTINENT DATA CONCERNING THE EXISTING UTILITIES, STRUCTURES, AND FACILITIES, INCLUDING THE REQUEST TO EACH UTILITY AGENCY TO ADVISE HIM OF THE LOCATION OF THEIR FACILITIES IN THE WORK VICINITY.

THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR THE RELOCATION, AS REQUIRED, OF EXISTING UTILITIES AND STRUCTURES WITH SUCH WORK ACCOMPLISHED AT NO ADDITIONAL COST TO THE OWNER. THE OWNER AND ENGINEER WILL ASSUME NO LIABILITY FOR DAMAGES SUSTAINED OR COSTS INCURRED BECAUSE OF THE CONTRACTOR'S OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. THE CONTRACTOR SHALL SCHEDULE HIS WORK IN SUCH A MANNER THAT HE IS NOT DELAYED BY THE UTILITY COMPANIES RELOCATING OR SUPPORTING THEIR UTILITIES. NO COMPENSATION SHALL BE MADE FOR SUCH LOSS OF TIME.

ALL OVERHEAD, SURFACE, OR UNDERGROUND STRUCTURES ENCOUNTERED IN TRENCHING, WHETHER SHOWN ON THE PLANS OR NOT SHOWN ON THE PLANS, ARE TO BE CAREFULLY PROTECTED FROM INJURY OR DISPLACEMENT, AND ALL DAMAGE TO SUCH STRUCTURES IS TO BE COMPLETELY REPAIRED WITHIN A REASONABLE TIME; OTHERWISE, THE ENGINEER MAY GIVE TWENTY-FOUR HOURS NOTICE TO THE CONTRACTOR, THEN REPAIR THE DAMAGE AT THE CONTRACTOR'S EXPENSE. ALL SUCH REPAIRS MADE BY THE CONTRACTOR ARE TO BE MADE TO THE SATISFACTION OF THE ENGINEER; ALL DAMAGED PIPES MUST BE REPLACED OR PREVENTED FROM LEAKING. ALSO, ALL SUCH REPAIRS ARE TO BE INSPECTED BY THE ENGINEER PRIOR TO BACKFILLING.

THE CONTRACTOR MUST CAREFULLY PROTECT FROM DISTURBANCE OR INJURY, ALL MONUMENTS, STAKES, AND BENCH MARKS, AND SHALL NOT EXCAVATE NEARER THAN FIVE FEET TO ANY OF THEM UNTIL THEY HAVE BEEN REMOVED, WITNESSED OR OTHERWISE DISPOSED OF BY THE ENGINEER.

7. SALVAGED MATERIAL

UNLESS OTHERWISE STATED HEREIN OR NOTED ON THE DRAWINGS, ALL MATERIALS SALVAGED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE OWNER. SALVAGED MATERIALS MAY NOT BE REUSED IN THE WORK EXCEPT UPON WRITTEN APPROVAL OF THE ENGINEER. ALL SALVAGED MATERIALS NOT REUSED SHALL BE TURNED OVER TO THE OWNER OR REMOVED FROM THE SITE OF WORK.

8. ELECTRICITY

ALL ELECTRIC CURRENT REQUIRED BY THE CONTRACTOR SHALL BE FURNISHED AT HIS OWN EXPENSE. ALL TEMPORARY CONNECTIONS FOR ELECTRICITY SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. IN THE EVENT THE ELECTRICITY IS MADE AVAILABLE BY THE OWNER, THE CONTRACTOR SHALL AT HIS OWN EXPENSE, INSTALL A METER TO DETERMINE THE AMOUNT OF CURRENT USED BY HIM AND SUCH ELECTRICITY WILL BE PAID FOR BY, OR CHARGED TO THE CONTRACTOR AT PREVAILING RATES OR AT REASONABLE RATES AS DETERMINED BY THE ENGINEER. ALL TEMPORARY LINES WILL BE FURNISHED, INSTALLED, CONNECTED AND MAINTAINED BY THE CONTRACTOR IN A WORKMANLIKE MANNER, SATISFACTORY TO THE ENGINEER AND SHALL BE REMOVED BY THE CONTRACTOR IN LIKE MANNER AT HIS EXPENSE PRIOR TO COMPLETION OF THE CONSTRUCTION.

9. MATERIAL APPROVAL AND SHOP DRAWINGS

ALL MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE NEW AND AS SPECIFIED AND SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL, IF REQUIRED, FURNISH SATISFACTORY EVIDENCE FOR THE APPROVAL OF THE ENGINEER, AS TO THE KIND AND QUALITY OF MATERIALS. BEFORE BEGINNING WORK, THE CONTRACTOR SHALL ADVISE AND SHALL OBTAIN THE APPROVAL OF THE ENGINEER, IN WRITING, FOR ANY OPTIONAL MATERIALS ALLOWABLE UNDER THE VARIOUS HEADINGS, WHICH HE PROPOSED TO USE. ALL EQUIPMENT SHALL BE INSTALLED IN COMPLETE ACCORD WITH THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL SUBMIT FOR THE APPROVAL OF THE ENGINEER, PRIOR TO START OF CONSTRUCTION, DETAILED OR SHOP DRAWINGS OF EQUIPMENT AND MATERIALS HE CONTEMPLATES FURNISHING UNDER THIS CONTRACT. EQUIPMENT SHALL NOT BE FABRICATED OR MATERIALS SHIPPED UNTIL SHOP DRAWINGS AND MATERIAL SUBMITTALS HAVE BEEN APPROVED. FIVE (5) COPIES OF SHOP DRAWINGS AND MATERIAL SUBMITTALS SHALL BE SUBMITTED. SHOP DRAWINGS AND MATERIAL SUBMITTALS SHALL BE CHECKED, SIGNED, DATED AND STAMPED BY THE CONTRACTOR BEFORE SUBMISSION TO THE ENGINEER.

10. MOBILIZATION

THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE PREPARATORY WORK AND OPERATIONS IN MOBILIZING FOR BEGINNING WORK ON THE PROJECT, BUT NOT LIMITED TO, THOSE OPERATIONS NECESSARY FOR THE MOVEMENT OF PERSONNEL, EQUIPMENT, SUPPLIES AND INCIDENTALS TO THE PROJECT SITE, AND FOR THE ESTABLISHMENT OF TEMPORARY OFFICES, BUILDINGS, SAFETY EQUIPMENT AND FIRST AID SUPPLIES, SANITARY AND OTHER PROVISIONS AS REQUIRED BY THESE SPECIFICATIONS AND LOCAL AND STATE LAWS AND REGULATIONS. THE COSTS OF INSURANCE AND ANY OTHER PRECONSTRUCTION EXPENSE NECESSARY FOR THE START OF THE WORK, EXCLUDING ANY CONSTRUCTION MATERIALS, SHALL BE INCLUDED.

11. SPECIAL CONSIDERATIONS

ALL WORK UNDER THIS CONTRACT SHALL BE PERFORMED WITH MINIMAL INTERRUPTION OF THE SURROUNDING COMMUNITY. WHERE IT IS NECESSARY TO MAKE CONNECTIONS TO OR CHANGES IN EXISTING FACILITIES, THE REQUIRED INTERRUPTION SHALL BE KEPT TO A MINIMUM.

12. TRAFFIC REGULATION

A. GENERAL

THE WORK UNDER THIS CONTRACT SHALL BE IN STRICT ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:

(1) LOCAL, COUNTY AND MUNICIPAL CODES.

(2) FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS

B. TRAFFIC AND VEHICULAR ACCESS

EMERGENCY VEHICLES: NO MULTI-FAMILY RESIDENCE, APARTMENT, COMMERCIAL BUILDING OR PLACE OF EMPLOYMENT SHALL BE WITHOUT ACCESS TO EMERGENCY VEHICLES FOR A PERIOD LONGER THAN THREE HOURS. THE CONTRACTOR SHALL NOTIFY IN WRITING THE ENGINEER, THE POLICE, FIRE AND OTHER EMERGENCY DEPARTMENTS AND AGENCIES WHEN AND WHERE WORK IS TO BE ACCOMPLISHED THAT WILL AFFECT THEIR OPERATIONS AT LEAST TWO DAYS IN ADVANCE OF SUCH WORK.

MAJOR ROADS AND STREETS: NO MAJOR ROADS OR STREETS SHALL BE BLOCKED TO TRAFFIC WITHOUT ADEQUATE DETOUR FACILITIES FOR A PERIOD OF MORE THAN 30 MINUTES OR AS DIRECTED BY THE GOVERNING AUTHORITY.

C. CONSTRUCTION IN STATE HIGHWAY RIGHT-OF-WAY

CONSTRUCTION WITHIN ALL STATE HIGHWAY RIGHT-OF-WAY SHALL BE MADE IN FULL COMPLIANCE WITH ALL REQUIREMENTS AND TO THE SATISFACTION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION. ALL NECESSARY BARRICADES, DETOURS, LIGHTS AND OTHER PROTECTIVE MEASURES SHALL BE PROVIDED FOR THE PROTECTION OF BOTH PEDESTRIAN AND VEHICULAR TRAFFIC.

D. CONSTRUCTION IN OTHER THAN STATE HIGHWAY RIGHT-OF-WAY

CONSTRUCTION WITHIN RIGHT-OF-WAY OTHER THAN STATE HIGHWAY SHALL BE MADE IN FULL COMPLIANCE WITH ALL REQUIREMENTS FLORIDA DEPARTMENT OF TRANSPORTATION AND TO THE SATISFACTION OF THE OF THE LOCAL GOVERNING BODIES. ALL NECESSARY BARRICADES, DETOURS, LIGHTS AND OTHER PROTECTIVE MEASURES SHALL BE PROVIDED FOR THE PROTECTION OF BOTH PEDESTRIAN AND VEHICULAR TRAFFIC.

13. SITE AND MISCELLANEOUS RESTORATION

THE CONTRACTOR SHALL REPAIR AND REPLACE ALL EXISTING STRUCTURES, PAVEMENT, DRIVEWAYS, PAVED AREAS, CURBS AND GUTTERS, SIDEWALKS, SHRUBBERY, GRASS, TREES, UTILITY POLES, UTILITY PIPELINES, CONDUITS, CABLES, DRAINS, CATCH BASINS, FLAGSTONES, ROCKED, GRAVELED OR STABILIZED AREAS OR DRIVEWAYS AND INCLUDING ALL UNDERGROUND OBSTRUCTIONS NOT SPECIFICALLY NAMED HEREIN WHICH MAY BE DAMAGED OR DESTROYED AS A RESULT OF CONSTRUCTION OPERATIONS UNDER THIS CONTRACT. THIS ITEM SHALL BE INCLUDED IN THE BID.

14. PAVEMENT RESTORATION

THE CONTRACTOR SHALL REPAIR OR REPLACE ALL PAVEMENT OR PARTIAL PAVEMENT DAMAGED OR DESTROYED DURING OR AS A RESULT OF CONSTRUCTION OPERATIONS UNDER THIS CONTRACT. THE REPAIR OR REPLACEMENT SHALL BE EQUAL TO OR BETTER THAN THE CONDITION OF THE PAVEMENT EXISTING AT THE TIME OF BIDDING AND SHALL BE REQUIRED TO MATCH THE ORIGINAL SURFACE MATERIAL AND ORIGINAL GRADE UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE PLANS. THE REPAIR SHALL CONFORM TO APPLICABLE CITY, COUNTY, OR STATE REQUIREMENTS FOR PAVEMENT REPAIR.

ALL PIPE CROSSING UNDER STATE OR COUNTY HIGHWAYS OR WITHIN THE HIGHWAY RIGHT-OF-WAY SHALL BE INSTALLED IN ACCORDANCE WITH THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION (D.O.T.) REQUIREMENTS. THE D.O.T. WILL GOVERN THE METHOD AND MATERIALS OF CONSTRUCTION UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY AND ALL EXPENSE THE D.O.T. INCURS IN PROTECTING ITS HIGHWAY WHILE PIPES ARE BEING PLACED UNDER SAME, AND FOR ANY DAMAGE TO THE HIGHWAY. THE CONTRACTOR SHALL ARRANGE WITH THE D.O.T. FOR THE PROPER BRACING, SHORING AND OTHER NECESSARY PROTECTION OF THE HIGHWAY BEFORE EXCAVATION BENEATH ANY OF SAID HIGHWAY.

15. TESTS

THE CONTRACTOR SHALL PAY FOR ALL REQUIRED TESTS, UNLESS OTHERWISE SPECIFIED. GENERALLY, TESTS WILL BE COMPACTION AND DENSITY TESTS, LIMEROCK QUALITY TESTS AND CONCRETE QUALITY TESTS (CYLINDER BREAKS) OR MARSHALL STABILITY. ON ASPHALTIC CONCRETE, THE MANUFACTURER'S OR SUPPLIER'S CERTIFICATE THAT THE MATERIAL MEETS THE REQUIREMENTS OF THE SPECIFICATIONS WILL BE ACCEPTED SUBJECT TO VERIFICATION BY OWNER'S ENGINEER OF TEST METHODS USED.

16. CLEAN-UP

THE CONTRACTOR SHALL KEEP THE CONSTRUCTION SITE FREE OF RUBBISH AND WASTE MATERIALS AND RESTORE TO THEIR ORIGINAL CONDITIONS THOSE PORTIONS OF THE SITE NOT DESIGNATED FOR ALTERATIONS BY THE CONTRACT DOCUMENTS. CLEAN-UP AND RESTORATION SHALL BE ACCOMPLISHED ON A CONTINUING BASIS THROUGHOUT THE CONTRACT PERIOD IN SUCH A MANNER AS TO MAINTAIN A MINIMUM OF NUISANCE AND INTERFERENCE TO THE RESIDENTS AND WORKERS IN THE AREA. THE CONTRACTOR SHALL ALSO REMOVE, WHEN NO LONGER NEEDED, ALL TEMPORARY STRUCTURES AND EQUIPMENT USED IN HIS OPERATIONS. IT IS THE INTENT OF THIS SPECIFICATION THAT THE CONSTRUCTION AREA OF THOSE OTHER AREAS NOT DESIGNATED FOR ALTERATION BY THE CONTRACT DOCUMENTS SHALL BE RESTORED TO AN EQUAL OR BETTER CONDITION THAN ORIGINALLY EXISTED.

ALL BACKFILLING, COMPACTION, SEEDING AND MULCHING SHALL BE MADE IN ACCORDANCE WITH APPLICABLE CITY, COUNTY AND STATE REQUIREMENTS FOR REPLACEMENT OR REPAIR.

17. RECORD DRAWINGS

THE CONTRACTOR SHALL MAINTAIN DURING THE PROGRESS OF THE PROJECT ACCURATE RECORDS OF THE LOCATION, LENGTH AND ELEVATION OF ALL PIPELINES AND PIPING INSTALLED AND OF ALL FEATURES OF THE CONTRACT. CONTRACTOR TO GPS ANY FITTINGS AS JOB PROGRESSES. A SET OF DRAWINGS WILL BE PROVIDED TO THE CONTRACTOR TO BE KEPT AT THE JOB SITE FOR THIS PURPOSE. PROMPTLY AFTER COMPLETION OF ANY PORTION OF THE WORK PROVIDED, AS PAID FOR IN THIS CONTRACT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER THE DRAWING WITH ACCURATE NOTATIONS RECORDED THEREON AS NECESSARY TO REVISE THE DRAWINGS TO AN AS-BUILT CONDITION. INFORMATION TO BE SHOWN FOR PIPELINES SHALL INCLUDE THE LOCATION OF VALVES, FITTINGS, AND LATERALS DIMENSIONED TO THE NEAREST PERMANENT OBJECT OR MONUMENT, INCLUDING BUT NOT LIMITED TO, LENGTHS, DEPTHS AND OFFSETS OF LATERALS. THE CONTRACTOR SHALL ALSO RECORD THE ACTUAL SEPARATION BETWEEN WATER MAIN AND SANITARY SEWER OR STORM SEWER MAIN WHEN THE CLEAR SEPARATION IS LESS THAN 18". THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE ACCURACY OF SUCH DATA AND SHALL BEAR ANY COSTS INCURRED IN FINDING UTILITIES AS A RESULT OF INCORRECT DATA FURNISHED BY HIM.

THE PROJECT SHALL NOT BE CONSIDERED TO BE IN SUBSTANTIAL COMPLETION UNTIL RECORD DRAWINGS HAVE BEEN SUBMITTED AND ACCEPTED BY THE ENGINEER. PRIOR TO FINAL PAYMENT THE RECORD DRAWINGS SHALL BE REVISED BY THE CONTRACTOR TO REFLECT ANY CHANGES WHICH HAVE OCCURRED SINCE THE SUBSTANTIAL COMPLETION SUBMITTAL.

18. BASIS OF PAYMENT

THE CONTRACTOR SHALL RECEIVE AND ACCEPT COMPENSATION AS OUTLINED IN THE CONTRACT DOCUMENTS AS FULL PAYMENT FOR FURNISHING ALL MATERIALS, LABOR, TOOLS, AND EQUIPMENT AND FOR PERFORMING ALL OPERATIONS NECESSARY TO COMPLETE THE WORK AS OUTLINED IN THE CONTRACT DOCUMENTS, AND ALSO IN FULL PAYMENT FOR ALL LOSS OR DAMAGES ARISING FROM THE NATURE OF THE WORK OR FROM THE ACTION OF THE ELEMENTS, OR FROM ANY UNFORESEEN DIFFICULTIES WHICH MAY BE ENCOUNTERED DURING THE PROSECUTION OF THE WORK UNTIL THE FINAL ACCEPTANCE BY THE OWNER.

THE PRICES STATED IN THE PROPOSAL INCLUDE ALL COSTS AND EXPENSES FOR OVERHEAD, LABOR, EQUIPMENT, MATERIALS, COMMISSIONS, TRANSPORTATION CHARGES AND EXPENSES, PATENT FEES AND ROYALTIES, LABOR FOR HANDLING MATERIALS DURING UNLOADING AND INSPECTION, TOGETHER WITH ANY AND ALL OTHER COSTS AND EXPENSES FOR PERFORMING AND COMPLETING THE WORK AS SHOWN ON THE PLANS AND SPECIFIED HEREIN. THE BASIS OF PAYMENT FOR AN ITEM AT THE UNIT PRICE SHOWN IN THE PROPOSAL SHALL BE IN ACCORDANCE WITH THE DESCRIPTION OF THAT ITEM AND SHALL BE USED FOR PURPOSES OF DETERMINING PROGRESS PAYMENTS TO THE CONTRACTOR.

THE CONTRACTOR'S ATTENTION IS AGAIN CALLED TO THE FACT THAT THE QUOTATIONS FOR THE VARIOUS ITEMS OF WORK ARE INTENDED TO ESTABLISH A TOTAL COST FOR COMPLETING THE WORK IN ITS ENTIRETY. SHOULD THE CONTRACTOR FEEL THAT THE COST OF ANY ENTIRETY. SHOULD THE CONTRACTOR FEEL THAT THE COST OF ANY ITEM OF WORK HAS NOT BEEN ESTABLISHED BY THE BID FORM FOR BASIS OF PAYMENT, HE SHALL INCLUDE THE COST FOR THE WORK IN SOME OTHER APPLICABLE BID ITEM OR THAT ITEM MAY BE HANDWRITTEN INTO THE BID FORM SO HIS PROPOSAL FOR THE PROJECT DOES REFLECT HIS TOTAL COST FOR COMPLETING THE WORK IN ITS ENTIRETY.

SECTION 2
SPECIFICATIONS FOR SITE WORK

1. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF THE PROPOSED DATE OF THE BEGINNING OF CONSTRUCTION OF THE SITE IMPROVEMENTS. ANY TIME THAT WORK IS TO STOP FOR A PERIOD OF TIME IN EXCESS OF TWO (2) WORKING DAYS, THE OWNER SHALL BE NOTIFIED OF SUCH INTERRUPTION.

2. THE CONTRACTOR SHALL PROVIDE DOWNSTREAM SILTATION PROTECTION DURING CONSTRUCTION. IN THE EVENT SUCH PROTECTION IS INADEQUATE, THE CONTRACTOR SHALL REMOVE ANY DOWNSTREAM SILTATION PRIOR TO THE TIME OF FINAL INSPECTION.

3. CERTIFICATES OF COMPLIANCE WITH THE SPECIFICATIONS FURNISHED BY THE MATERIAL SUPPLIER SHALL BE SUBMITTED ON ALL MATERIALS USED IN THE COMPLETION OF THIS WORK.

4. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTED BEFORE COMMENCING CONSTRUCTION WORK, UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. COST TO BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION TO BE ALLOWED.

5. ALL AREAS DESIGNATED TO RECEIVE STRUCTURAL FILL SHALL BE PROOFROLLED USING A LARGE VIBRATORY ROLLER (DYNAPAC CA-25 OR EQUIVALENT). PROOFROLLING OF THIS AREA SHALL CONSIST OF TWELVE (12) OVERLAPPING PASSES IN EACH OF TWO (2) PERPENDICULAR DIRECTIONS. THIS PROCESS SHALL BE REVIEWED AND INSPECTED BY THE PROJECT ENGINEER. ANY MATERIALS WHICH YIELD EXCESSIVELY DURING THE PROOFROLLING SHALL BE UNDERCUT AND REPLACED WITH WELL-COMPACTED STRUCTURAL FILL.

6. ALL SUBGRADES RECEIVING FILL SHALL BE COMPACTED TO A MINIMUM NINETY-FIVE PERCENT (95%) OF THE SOILS MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557) FOR A DEPTH OF TWELVE (12) INCHES.

7. ALL STRUCTURAL FILL SHALL CONSIST OF INORGANIC, NON-PLASTIC GRANULAR SOIL WHICH CONTAINS LESS THAN TEN PERCENT (10%) FINES PASSING THE NO. 200 SIEVE (CLEAN SAND). ALL FILL MATERIAL SHALL BE PLACED IN LEVELS NOT TO EXCEED TWELVE (12) INCHES. COMPACTION SHALL CONTINUE UNTIL THE SOIL AT TWELVE (12) INCHES BELOW THE COMPACTION SURFACE ATTAINS A MINIMUM DENSITY OF NINETY-FIVE PERCENT (95%) OF THE MAXIMUM MODIFIED PROCTOR DENSITY (ASTM D-1557).

8. CONTRACTOR SHALL INSTALL TEMPORARY RETENTION PONDS, SWALES AND/OR BERMS NECESSARY TO PREVENT DISCHARGE OF STORMWATER RUNOFF FROM THE SITE DURING CONSTRUCTION.

9. UTILITY CONTACTS

CONTRACTOR TO CONTACT TELEPHONE COMPANY PRIOR TO AND DURING CONSTRUCTION FOR LINE RELOCATION, PROTECTION, AND SLEEVE INSTALLATION WHERE NEEDED.

CONTRACTOR TO CONTACT POWER COMPANY PRIOR TO AND DURING CONSTRUCTION FOR LINE RELOCATION, PROTECTION AND SLEEVE INSTALLATION WHERE NEEDED.

CONTRACTOR TO CONTACT CABLE COMPANY PRIOR TO AND DURING CONSTRUCTION FOR LINE RELOCATION, PROTECTION AND SLEEVE INSTALLATION WHERE NEEDED.

CONTRACTOR TO CONTACT GAS COMPANY PRIOR TO AND DURING CONSTRUCTION FOR LINE RELOCATION, PROTECTION AND SLEEVE INSTALLATION WHERE NEEDED.

THE CONTRACTOR WILL BE EXPECTED TO MEET ALL REQUIREMENTS OF THE APPLICABLE REGULATORY AGENCY INCLUDING A FORTY-EIGHT (48) HOUR ADVANCE NOTIFICATION TO THE APPLICABLE REGULATORY AGENCY AND THE ENGINEER SO THAT THEY CAN WITNESS ALL REQUIRED TESTS.

SECTION 3
SITE GRADING, PAVING AND DRAINAGE

1. SITE GRADING

THE SITE SHALL BE BROUGHT TO THE ELEVATIONS SHOWN ON THE DRAWINGS. IF THERE IS EXCESS EXCAVATION IT SHALL BE SPREAD ON SITE AS DIRECTED BY THE ENGINEER. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED AND MULCHED.

2. ROADWAY EARTHWORK

EARTHWORK FOR ROADS SHALL CONFORM TO THE PROVISIONS OF SECTION 120 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION.

3. WATER RETENTION AREAS

WATER RETENTION AREAS SHALL BE CONSTRUCTED TO THE LINES AND GRADES SHOWN ON THE PLANS.

4. PAVING WORK

A. SCOPE

THE WORK SPECIFIED IN THIS SECTION CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO CONSTRUCT A STABILIZED SUBGRADE, A LIMEROCK BASE AND ASPHALT SURFACE COURSE, AS SPECIFIED HEREIN AND IN CONFORMITY WITH THE LINES, GRADES, NOTES, AND TYPICAL CROSS-SECTIONS SHOWN ON THE DRAWINGS.

B. PAVING

(1) STABILIZED SUBGRADE

A SUBGRADE OF THICKNESS AND TYPE AS SHOWN ON THE DRAWING SHALL BE CONSTRUCTED AND COMPACTED, AS NECESSARY, TO OBTAIN NO LESS THAN NINETY-EIGHT (98%) PERCENT OF THE MAXIMUM DENSITY AS OBTAINED BY AASHTO METHOD T-180 AND A LIMEROCK BEARING RATIO OF 40. THE WORK SHALL COMPLY WITH SECTION 160 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION. STABILIZATION MATERIAL, IF REQUIRED, SHALL BE BROUGHT IN TO COMPLETE THE STABILIZATION AND PAID FOR BY THE CONTRACTOR. SUBGRADE SHALL HAVE ALL UNSUITABLE MATERIAL REMOVED TO A DEPTH OF 2 FEET BELOW TOP OF SUBGRADE AND 3 FEET BEYOND BACK OF CURB OR EDGE OF PAVEMENT. SUITABLE MATERIAL IS DEFINED AS NON-PLASTIC, INORGANIC, GRANULAR SOIL CONTAINING LESS THAN 10 PERCENT MATERIAL PASSING THE NO. 200 MESH SIEVE (I.E., RELATIVELY CLEAN FINE SAND).

(2) LIMEROCK BASE

A LIMEROCK BASE OF THICKNESS AND TYPE AS SHOWN ON THE DRAWINGS SHALL BE CONSTRUCTED ON THE PREPARED SUBGRADE IN ACCORDANCE WITH THE PROVISIONS OF SECTION 200 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION. COMPACTION SHALL NOT BE LESS THAT 98% OF MAXIMUM DENSITY AS OBTAINED BY AASHTO METHOD OF TEST T-180 AND A LBR OF 100.

(3) PRIME AND TACK COATS FOR BASE COURSE

A PRIME AND TACK COAT OF BITUMINOUS MATERIAL SHALL BE APPLIED TO THE PREPARED LIMEROCK BASE IN ACCORDANCE WITH THE PROVISIONS OF SECTION 300 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION.

(4) SURFACE COURSE

AN ASPHALTIC CONCRETE SURFACE COURSE OF THICKNESS AND TYPE AS SHOWN ON THE DRAWING SHALL BE CONSTRUCTED ON THE PREPARED BASE IN ACCORDANCE WITH THE PROVISIONS OF THE APPLICABLE SECTION(S) OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION.

THE FINISHED SURFACE SHALL BE SUCH THAT IT WILL NOT VARY MORE THAN 3/16 INCH FROM A 15 FOOT STRAIGHTEDGE APPLIED PARALLEL TO THE CENTERLINE OF THE PAVEMENT. ANY IRREGULARITIES OF THE SURFACE EXCEEDING THE ABOVE LIMITS SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE.

(5) ASPHALT RESURFACING

AN ASPHALTIC CONCRETE SURFACE COURSE OF THICKNESS AND TYPE AS SHOWN ON THE DRAWING SHALL BE CONSTRUCTED ON THE EXISTING SURFACE IN ACCORDANCE WITH THE PROVISIONS OF THE APPLICABLE SECTION(S) OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION.

WHERE THE EXISTING SURFACE IS IRREGULAR THE EXISTING SURFACE SHALL BE BROUGHT TO PROPER GRADE AND CROSS SECTION BY THE APPLICATION OF PATCHING OR LEVELING COURSES.

(6) TESTING

THE CONTRACTOR SHALL PROVIDE LABORATORY TESTS AND/OR FIELD MEASUREMENTS FOR THE FOLLOWING:

(a) SUBGRADE
DEPTH, DENSITY AND LIMEROCK BEARING RATIO.

(b) BASE
DEPTH, DENSITY AND LIMEROCK BEARING RATIO.

(c) SURFACE
WIDTH, DEPTH, EXTRACTION AND STABILITY.

(d) LOT FILL
STRUCTURAL FILL AREA IN PROPOSED LOTS SHALL OBTAIN DENSITY TESTS ON AT LEAST EVERY THIRD LOT.

THE FREQUENCY OF THESE TESTS SHALL CONFORM TO THE WRITTEN SPECIFICATION BOOK BUT NOT LESS THEN ONE SPECIFIED TEST PER 10,000 SF UNLESS AUTHORIZED BY THE ENGINEER.

5. CONCRETE STRUCTURES

A. CONCRETE

CONCRETE FOR ALL STRUCTURES SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 4,000 PSI AT TWENTY-EIGHT (28) DAYS, AS MEASURED BY THE STANDARD SIX (6) INCH TEST CYLINDER AND SHALL CONFORM TO THE PROVISIONS OF SECTION 400 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION, EXCEPT THAT READY-MIX CONCRETE CONFORMING TO THE PROVISIONS OF SECTION 345 OF THE SAME SPECIFICATIONS MAY BE USED, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

B. REINFORCING STEEL

REINFORCING STEEL USED IN CONCRETE STRUCTURES SHALL CONFORM TO THE PROVISIONS OF SECTION 415 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION.

6. CURB WORK

ALL CONCRETE GUTTERS AND CURB ELEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 520 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION, AND IN ACCORDANCE WITH THE LINES AND GRADE AS SHOWN ON THE DESIGNATED PLANS.

7. STORM DRAINAGE

A. SCOPE

THE WORK SPECIFIED IN THIS SECTION CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO CONSTRUCT STORM INLETS, STORM SEWERS, AND CULVERTS, AS SPECIFIED HEREIN AND IN CONFORMITY WITH THE LINES, GRADES, NOTES AND TYPICAL CROSS-SECTION SHOWN ON THE DRAWINGS.

B. CATCH BASINS

CATCH BASINS FOR THE STORM DRAINAGE SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 425 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION, EXCEPT THAT THE CONCRETE COMPRESSIVE STRENGTH SHALL BE AT LEAST 4000 psi.

C. STORM SEWER

(1) REINFORCED CONCRETE PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 430 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION.

(2) BITUMINOUS COATED CORRUGATED METAL PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 430 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION. PIPE THICKNESS SHALL MEET THE REQUIREMENTS OF SECTION 943 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION.

(3) ALUMINUMIZED PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 430 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION. PIPE THICKNESS SHALL BE BASED ON FLORIDA DEPARTMENT OF TRANSPORTATION INDEX 205, LATEST REVISION.

(4) ALL JOINTS SHALL BE WATER/SOIL TIGHT

8. STREET NAME MARKERS

STREET MARKERS SHALL MEET FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS FOR APPEARANCE AND SHALL BE INSTALLED AS DESIGNATED ON THE PLANS.

9. TRAFFIC STRIPES

TRAFFIC STRIPES SHALL BE DONE AS SHOWN ON THE DRAWINGS, AND IN ACCORDANCE WITH SECTION 711 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING AREAS IN FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY WHERE ALL STRIPING SHALL CONFORM TO SECTION 711 OF SAID DOCUMENT.

SECTION 4
GRASSING AND SODDING MATERIALS

1. THE FDOT (FLORIDA DEPARTMENT OF TRANSPORTATION) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTIONS 570 AND 575, RESPECTIVELY FOR GRASSING AND SODDING WILL APPLY TO ALL SEEDING AND SODDING WORK WITHIN THIS PROJECT.

2. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE SEEDED AND MULCHED, UNLESS OTHERWISE INDICATED.

SECTION 5
MILLING OF EXISTING ASPHALT PAVEMENT

1. WHEN MILLING TO IMPROVE RIDEABILITY OR CROSS SLOPE, REMOVE THE EXISTING PAVEMENT TO THE AVERAGE DEPTH SPECIFIED IN THE PLANS, IN A MANNER THAT WILL RESTORE THE PAVEMENT SURFACE TO A UNIFORM CROSS-SECTION AND LONGITUDINAL PROFILE.

2. ENSURE THAT THE FINAL CROSS SLOPE OF THE MILLED SURFACE PARALLELS THE SURFACE CROSS SLOPE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ESTABLISH THE CROSS SLOPE OF THE MILLED SURFACE BY A SECOND SENSING DEVICE NEAR THE OUTSIDE EDGE OF THE CUT OR BY AN AUTOMATIC CROSS SLOPE CONTROL MECHANISM.

3. PROVIDE POSITIVE DRAINAGE OF THE MILLED SURFACE AND THE ADJACENT PAVEMENT. PERFORM THIS OPERATION ON THE SAME DAY AS MILLING. REPAVE ALL MILLED SURFACES NO LATER THAN THE DAY AFTER THE SURFACE WAS MILLED UNLESS OTHERWISE STATED IN THE PLANS.

4. IF TRAFFIC IS TO BE MAINTAINED ON THE MILLED SURFACE PRIOR TO THE PLACEMENT OF THE NEW ASPHALT CONCRETE, PROVIDE SUITABLE TRANSITIONS BETWEEN AREAS OF VARYING THICKNESS TO CREATE A SMOOTH LONGITUDINAL RIDING SURFACE. PRODUCE A PATTERN OF STRIATIONS THAT WILL PROVIDE AN ACCEPTABLE RIDING SURFACE.

5. PRIOR TO OPENING AN AREA WHICH HAS BEEN MILLED TO TRAFFIC, SWEEP THE PAVEMENT WITH A POWER BROOM OR OTHER APPROVED EQUIPMENT TO REMOVE, TO THE GREATEST EXTENT PRACTICABLE, FINE MATERIAL WHICH WILL CREATE DUST UNDER TRAFFIC. SWEEP IN A MANNER THAT WILL MINIMIZE THE POTENTIAL FOR CREATION OF A TRAFFIC HAZARD AND TO MINIMIZE AIR POLLUTION.

6. SWEEP THE MILLED SURFACE WITH A POWER BROOM AND PRIME SURFACE PRIOR TO PLACING ASPHALT CONCRETE.

ALL CONSTRUCTION COVERED BY THESE PLANS SHALL COMPLY WITH THE MATERIAL REQUIREMENTS AND QUALITY CONTROL STANDARDS CONTAINED IN THE COUNTY LAND DEVELOPMENT CODE AND MANUAL.

NOTE: 'MANUAL' USED IN THESE PLANS REFERS TO THE COUNTY UTILITIES DIVISION MINIMUM STANDARDS AND CONSTRUCTION MANUAL FOR WATER AND WASTEWATER SYSTEMS.

IN THE EVENT OF A DISCREPANCY BETWEEN PLANS AND THE LAND DEVELOPMENT CODE OR MANUAL, THE CODE AND MANUAL SHALL TAKE PRECEDENCE. IN ACCORDANCE WITH SECTION 1, SUB-SECTION 5 OF MANUAL, NO WORK SHALL BE COVERED UNTIL OBSERVED BY A UTILITIES DIVISION REPRESENTATIVE.

DRAWN	K.L.W.
CHECKED	T.E.B.
DRAWING	BASE19-18
LAYOUT	SP1
DATE	JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741
BEI

CRYSTAL RIVER TOWN SQUARE
CITY OF CRYSTAL RIVER, FLORIDA

INSTALLATION SPECIFICATIONS

NO.	REVISION	DATE

30% SUBMITTAL

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE ________

JOB NO. 19-18
F.B. NO. ________
FILE NO. Q-98
SEC 21 TWP 18S RGE 17E

SHT C11 OF C13

SECTION 6

UTILITY EXCAVATION, TRENCHING AND BACKFILLING

1. GENERAL

THE PROVISIONS SET FORTH IN THIS SECTION SHALL BE APPLICABLE TO ALL UNDERGROUND WATER AND/OR SEWER PIPING INSTALLATIONS, REGARDLESS OF LOCATION, UNLESS PRIOR APPROVAL IS RECEIVED FROM THE OWNER AND THE ENGINEER.

FOR NEW CONSTRUCTION UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, SANITARY SEWER, TELEPHONE, GAS, ELECTRIC, PHONE, CABLE), AND STORMWATER MANAGEMENT SYSTEM COMPONENTS THAT INVOLVE ROADWAY CROSSINGS SHOULD BE COMPLETED PRIOR TO CONSTRUCTION OF ROADWAY BASE MATERIAL.

2. MATERIALS

A. SHEETING AND BRACING

(1) WOOD SHEETING TO BE LEFT IN PLACE SHALL BE PRESSURE TREATED WITH PRESERVATIVE IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF THE AMERICAN WOOD PRESERVERS ASSOCIATION MANUAL OF RECOMMENDED PRACTICE. THE CREOSOTE OIL USED SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST REVISION, WHEN TESTED IN ACCORDANCE WITH AASHTO T-60.

(2) STEEL SHEETING TO BE LEFT IN PLACE SHALL BE AS SPECIFIED IN ASTM DESIGNATION A-328.

B. CONCRETE

(1) REQUIRED CONCRETE FOR ANCHORS, THRUST BLOCKS, ENCASEMENTS OR PROTECTIVE SLABS SHALL HAVE A MINIMUM 2,500 POUNDS PER SQUARE INCH (P.S.I.) COMPRESSIVE STRENGTH.

3. WORKMANSHIP

A. CONSTRUCTION METHODS

(1) VERTICAL CLEARANCE AT CROSSINGS:

ANY NEW OR RELOCATED WATER MAINS THAT CROSS ANY GRAVITY OR VACUUM-TYPE SANITARY SEWER, STORM SEWER, OR RECLAIMED WATER MAIN SHALL CROSS ABOVE (PREFERRED) OR BELOW SUCH PIPELINES WITH A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE OUTSIDE OF THE WATER MAINS AND THE OUTSIDE OF SUCH PIPELINES. SUCH CROSSINGS SHALL BE ARRANGED SO THAT ALL PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN FEET BETWEEN ANY TWO JOINTS (OR ALTERNATIVELY, THE MAINS AT SUCH CROSSINGS SHALL BE PLACED IN SLEEVES TO OBTAIN THE EQUIVALENT OF THE TEN-FOOT SEPARATION BETWEEN JOINTS).

WHERE THERE IS NO ALTERNATIVE TO SEWER PIPES CROSSING OVER WATER MAINS, THE PIPES SHALL BE CENTERED AT THE CROSSING AS INDICATED ABOVE, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE FOR 20 FEET CENTERED ON THE POINT OF CROSSING. ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

(2) HORIZONTAL SEPARATION BETWEEN PARALLEL LINES:

ALL NEW AND RELOCATED WATER MAINS SHALL BE LOCATED AT LEAST SIX FEET (PREFERABLY 10 FEET) HORIZONTALLY FROM ALL GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS OR RECLAIM WATER MAINS. IF THE BOTTOM OF A POTABLE WATER MAIN IS LOCATED 6 INCHES MINIMUM ABOVE THE TOP OF A GRAVITY TYPE SEWER MAIN, THE HORIZONTAL DISTANCE CAN BE REDUCED TO 3 FEET MINIMUM. ALSO, ALL NEW AND RELOCATED WATER MAINS SHALL BE LOCATED AT LEAST 3 FEET HORIZONTALLY FROM ALL STORM SEWERS, STORMWATER FORCE MAINS, RECLAIMED WATER LINES CARRYING RECLAIMED WATER FOR NURSERIES AND VACUUM--TYPE SANITARY SEWERS.

FORCE MAINS SHALL BE INSTALLED AT LEAST 6 FT. (10 PREFERABLY) HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.

(3) MINIMUM COVER OVER ALL PIPE SHALL BE 36" TO FINISH GRADE FROM TOP OF PIPE.

(4) COMPLETE "AS-BUILT" INFORMATION RELATIVE TO LOCATION OF ALL VALVES, FITTINGS, MAINS AND SERVICES, SHALL BE ACCURATELY RECORDED ON FIELD DRAWINGS BY THE CONTRACTOR AND SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL INSPECTION OF WORK.

B. TRENCH DIMENSIONS

THE MINIMUM WIDTH OF THE TRENCH SHALL BE EQUAL TO THE OUTSIDE DIAMETER OF THE PIPE AT THE JOINT PLUS EIGHT (8) INCHES FOR UNSHEETED TRENCH, OR TWELVE (12) INCHES FOR SHEETED TRENCH, AND THE MAXIMUM WIDTH OF TRENCH, MEASURED AT THE TOP OF THE PIPE, SHALL NOT EXCEED THE OUTSIDE PIPE DIAMETER PLUS TWO (2) FEET, UNLESS OTHERWISE SHOWN ON DRAWING DETAILS OR APPROVED BY THE APPLICABLE REGULATORY AGENCY AND THE ENGINEER. TRENCH WALLS SHALL BE MAINTAINED VERTICAL FROM THE BOTTOM OF THE TRENCH TO A LINE MEASURED ONE (1) FOOT ABOVE THE TOP OF THE PIPE. FROM ONE (1) FOOT ABOVE THE TOP OF THE PIPE TO THE SURFACE, THE TRENCH WALLS SHALL BE APPROXIMATELY VERTICAL.

C. TRENCH GRADE

STANDARD TRENCH GRADE SHALL BE DEFINED AS THE BOTTOM SURFACE OF THE UTILITY TO BE CONSTRUCTED OR PLACED WITHIN THE TRENCH. TRENCH GRADE FOR UTILITIES IN ROCK OR OTHER NON-CUSHIONING MATERIAL, SHALL BE DEFINED AS SIX (6) INCHES BELOW THE OUTSIDE OF THE BOTTOM OF THE UTILITY, WHICH SIX (6) INCHES SHALL BE BACKFILLED WITH EXTRA UTILITY BEDDING MATERIAL. EXCAVATION BELOW TRENCH GRADE THAT IS DONE IN ERROR SHALL BE BACKFILLED TO TRENCH GRADE AND COMPACTED.

D. UTILITY BEDDING

CLASS B (MINIMUM UTILITY BEDDING): THE BOTTOM OF THE TRENCH SHALL BE SHAPED TO PROVIDE A FIRM BEDDING FOR THE UTILITY PIPE. THE UTILITY SHALL BE FIRMLY BEDDED IN UNDISTURBED FIRM SOIL, OR HAND-SHAPED UNYIELDING MATERIAL. THE BEDDING SHALL BE SHAPED SO THAT THE PIPE WILL BE IN CONTINUOUS CONTACT THEREWITH FOR ITS FULL LENGTH AND SHALL PROVIDE A MINIMUM BOTTOM SEGMENT SUPPORT FOR THE PIPE EQUAL TO 0.6 OF THE OUTSIDE DIAMETER OF THE BARREL.

CLASS A (SPECIAL UTILITY BEDDING): SHOULD SPECIAL BEDDING BE REQUIRED, DUE TO DEPTH OF COVER, IMPACT LOADINGS, OR OTHER CONDITIONS, "CLASS A" BEDDING SHALL BE INSTALLED, CONSISTING OF SAND OR SUITABLE CRUSHED ROCK. "CLASS A" BEDDING SHALL RECEIVE PRIOR APPROVAL BY THE ENGINEER OR REGULATORY AGENCY.

E. UNSUITABLE MATERIAL BELOW TRENCH GRADE

SOIL UNSUITABLE FOR A PROPER FOUNDATION ENCOUNTERED AT OR BELOW TRENCH GRADE, SUCH AS MUCK OR OTHER DELETERIOUS MATERIAL, SHALL BE REMOVED FOR THE FULL WIDTH OF THE TRENCH AND TO THE DEPTH REQUIRED TO REACH SUITABLE FOUNDATION MATERIAL, UNLESS SPECIAL DESIGN CONSIDERATIONS RECEIVE PRIOR APPROVAL FROM THE APPLICABLE REGULATORY AGENCY AND ENGINEER. BACKFILLING BELOW TRENCH GRADE SHALL BE IN COMPLIANCE WITH THE APPLICABLE PROVISIONS OF SUB-SECTION N, "BACKFILL", WITH MATERIAL AS SPECIFIED UNDER PARAGRAPHS N (1) AND N (2) OF THAT SECTION. BACKFILL LAYERS SHALL NOT EXCEED SIX (6) INCHES IN THICKNESS FOR THE FULL TRENCH WIDTH AND COMPACTION SHALL EQUAL NINETY-EIGHT (98) PERCENT OF MAXIMUM DENSITY, AS DETERMINED BY AASHTO SPECIFICATION T-180. COMPACTION DENSITY TESTS SHALL BE MADE AT ALL SUCH BACKFILL AREAS WITH SPACING NOT TO EXCEED FIFTY (50) FEET APART.

F. EXTRA UTILITY-BEDDING MATERIAL

WHEN ROCK OR OTHER NON-CUSHIONING MATERIAL IS ENCOUNTERED AT TRENCH GRADE, EXCAVATION SHALL BE EXTENDED TO SIX (6) INCHES BELOW THE OUTSIDE OF THE BOTTOM OF THE UTILITY, AND A CUSHION OF SAND OR SUITABLE CRUSHED ROCK SHALL BE PROVIDED. UTILITY-BEDDING MATERIAL SHALL BE AS SPECIFIED UNDER PARAGRAPH N (2).

G. SHEETING AND BRACING

IN ORDER TO PREVENT DAMAGE TO PROPERTY, INJURY TO PERSONS, EROSION, CAVE-INS, OR EXCESSIVE TRENCH WIDTHS, ADEQUATE SHEETING AND BRACING SHALL BE PROVIDED, AS REQUIRED, AND/OR DIRECTED BY THE APPLICABLE OWNER AND ENGINEER, IN ACCORDANCE WITH ACCEPTED STANDARD PRACTICE. SHEETING SHALL BE REMOVED WHEN THE TRENCH HAS BEEN BACKFILLED TO AT LEAST ONE-HALF (1/2) ITS DEPTH, OR WHEN REMOVAL WOULD NOT ENDANGER THE CONSTRUCTION OF ADJACENT STRUCTURES. WHEN REQUIRED, TO ELIMINATE EXCESSIVE TRENCH WIDTH OR OTHER DAMAGE, SHEETING, BRACING OR SHORING SHALL BE LEFT IN PLACE AND THE TOP CUT OFF AT AN ELEVATION OF 2.5 FEET BELOW FINISHED GRADE, UNLESS OTHERWISE DIRECTED.

H. EXCAVATED MATERIAL

EXCAVATED MATERIAL TO BE USED FOR BACKFILL SHALL BE NEATLY DEPOSITED AT THE SIDES OF THE TRENCHES WHERE SPACE IS AVAILABLE. WHERE STOCKPILING OF EXCAVATED MATERIAL IS REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE SITES TO BE USED AND SHALL MAINTAIN HIS OPERATIONS TO PROVIDE FOR NATURAL DRAINAGE AND NOT PRESENT AN UNSIGHTLY APPEARANCE.

I. MATERIAL DISPOSAL

EXCESS, UNSUITABLE, OR CLEARED AND GRUBBED MATERIAL, RESULTING FROM THE UTILITY INSTALLATION, SHALL BE IMMEDIATELY REMOVED FROM THE WORK SITE AND DISPOSED OF AT LOCATION(S) APPROVED BY THE OWNER AND ENGINEER. EXCESS EXCAVATED MATERIAL SHALL BE SPREAD ON THE DISPOSAL SITE AND GRADED IN A MANNER TO DRAIN PROPERLY AND NOT DISTURB EXISTING DRAINAGE CONDITIONS, AS APPROVED BY THE ENGINEER. DISPOSAL OF CLEARED AND GRUBBED MATERIALS SHALL COMPLY WITH CITY AND/OR COUNTY REQUIREMENTS AS TO BURNING OR DEPOSIT AT DESIGNATED LANDFILL SITE(S).

J. BORROW

SHOULD THERE BE INSUFFICIENT SATISFACTORY MATERIAL FROM THE EXCAVATIONS TO MEET THE REQUIREMENTS FOR FILL MATERIAL, BORROW SHALL BE OBTAINED FROM PITS SECURED BY THE CONTRACTOR AND APPROVED BY THE OWNER AND THE ENGINEER.

K. ROCK EXCAVATION

ROCK EXCAVATION SHALL BE DEFINED AS EXCAVATION OF ANY HARD NATURAL SUBSTANCE WHICH REQUIRES THE USE OF EXPLOSIVES AND/OR SPECIAL IMPACT TOOLS SUCH AS JACK HAMMERS, SLEDGES, CHISELS OR SIMILAR DEVICES SPECIFICALLY DESIGNED FOR USE IN CUTTING OR BREAKING ROCK, BUT EXCLUSIVE OF TRENCH EXCAVATING MACHINERY.

L. DEWATERING

UTILITIES SHALL BE LAID "IN THE DRY", UNLESS OTHERWISE APPROVED. TRENCH EXCAVATIONS MAY BE DEWATERED BY USING ONE OR MORE OF THE FOLLOWING METHODS: WELL POINT SYSTEM; SUMPS WITH PUMPS; OR OTHER METHOD(S) AS APPROVED BY THE OWNER AND ENGINEER. DEWATERING SYSTEMS SHALL BE UTILIZED IN ACCORDANCE WITH GOOD STANDARD PRACTICE AND MUST BE EFFICIENT ENOUGH TO LOWER THE WATER LEVEL IN ADVANCE OF THE EXCAVATION AND MAINTAIN IT CONTINUOUSLY TO KEEP THE TRENCH BOTTOM AND SIDES FIRM AND DRY. IF THE MATERIAL ENCOUNTERED AT TRENCH GRADE IS SUITABLE FOR THE PASSAGE OF WATER WITHOUT DESTROYING THE SIDES OR UTILITY FOUNDATION OF THE TRENCH, SUMPS MAY BE PROVIDED AT INTERVALS AT THE SIDE OF THE MAIN TRENCH EXCAVATION, WITH PUMPS USED TO LOWER THE WATER LEVEL BY TAKING THEIR SUCTION FROM SAID PUMPS. DISCHARGE FROM DEWATERING SHALL BE DISPOSED OF IN SUCH A MANNER THAT IT WILL NOT INTERFERE WITH THE NORMAL DRAINAGE OF THE AREA IN WHICH THE WORK IS BEING PERFORMED, CREATE A PUBLIC NUISANCE, OR FORM PONDING.

THE OPERATIONS SHALL NOT CAUSE INJURY TO ANY PORTION OF THE WORK COMPLETED, OR IN PROGRESS, OR TO THE SURFACE OF STREETS, OR TO PRIVATE PROPERTY. THE PROPOSED DEWATERING METHOD(S) AND SCHEDULE SHALL BE COORDINATED WITH, AND APPROVED BY, THE OWNER AND THE ENGINEER AND OTHER NECESSARY REGULATORY AGENCIES PRIOR TO CONSTRUCTION. ADDITIONALLY, WHERE PRIVATE PROPERTY WILL BE INVOLVED, ADVANCE PERMISSION SHALL BE OBTAINED BY THE CONTRACTOR.

M. OBSTRUCTIONS

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ACQUAINT HIMSELF WITH ALL EXISTING CONDITIONS AND TO LOCATE ALL STRUCTURES AND UTILITIES ALONG THE PROPOSED UTILITY ALIGNMENT IN ORDER TO AVOID CONFLICTS. WHERE ACTUAL CONFLICTS ARE UNAVOIDABLE, WORK SHALL BE COORDINATED WITH THE FACILITY OWNER AND PERFORMED SO AS TO CAUSE AS LITTLE INTERFERENCE AS POSSIBLE WITH THE SERVICE RENDERED BY THE FACILITY DISTURBED. FACILITIES OR STRUCTURES DAMAGED IN THE PROSECUTION OF THE WORK SHALL BE REPAIRED AND/OR REPLACED IMMEDIATELY, IN CONFORMANCE WITH CURRENT STANDARD PRACTICES OF THE INDUSTRY, OR ACCORDING TO THE DIRECTION OF THE OWNER OF SUCH FACILITY, AT THE CONTRACTOR'S EXPENSE.

N. BACKFILL

(1) GENERAL

BACKFILL MATERIAL SHALL BE CLEAN EARTH FILL COMPOSED OF SAND, CLAY AND SAND, SAND AND ROCK, CRUSHED ROCK, OR AN APPROVED COMBINATION THEREOF. BACKFILLING SHALL BE ACCOMPLISHED UNDER TWO (2) SPECIFIED REQUIREMENTS: FIRST LIFT, FROM TRENCH GRADE TO A POINT TWELVE (12) INCHES ABOVE THE TOP OF THE UTILITY; AND, SECOND LIFT, FROM THE TOP OFF THE FIRST LIFT TO THE GROUND SURFACE. WHERE THRUST BLOCKS, ENCASEMENTS, OR OTHER BELOW GRADE CONCRETE WORK HAVE BEEN INSTALLED, BACKFILLING SHALL NOT PROCEED UNTIL THE CONCRETE HAS OBTAINED SUFFICIENT STRENGTH TO SUPPORT THE BACKFILL LOAD.

(2) FIRST LIFT

FINE MATERIAL SHALL BE CAREFULLY PLACED AND TAMPED AROUND THE LOWER HALF OF THE UTILITY. BACKFILLING SHALL BE CAREFULLY CONTINUED IN LAYERS NOT EXCEEDING SIX (6) INCHES IN THICKNESS FOR THE FULL TRENCH WIDTH, UNTIL THE FILL IS TWELVE (12) INCHES ABOVE THE TOP OF THE UTILITY, USING THE BEST AVAILABLE MATERIAL FROM THE EXCAVATION, IF APPROVED. THE MATERIAL FOR THESE FIRST LAYERS OF BACKFILL SHALL BE LOWERED TO WITHIN TWO (2) FEET ABOVE THE TOP OF PIPES BEFORE IT IS ALLOWED TO FALL UNLESS THE MATERIAL IS PLACED WITH APPROVED DEVICES THAT PROTECT THE PIPES FROM IMPACT. THE "FIRST LIFT" SHALL BE THOROUGHLY COMPACTED AND COMPLETED BEFORE THE "SECOND LIFT" IS PLACED. COMPACTION SHALL EQUAL NINETY-EIGHT (98) PERCENT OF MAXIMUM DENSITY, AS DETERMINED BY AASHTO SPECIFICATION T-180 (ASTM D-1557). THE "FIRST LIFT" BACKFILL SHALL EXCLUDE STONES, OR ROCK FRAGMENTS LARGER THAN THE FOLLOWING:

PIPE SIZE	FRAGMENT SIZE (GREATEST DIMENSION - INCHES)
CONCRETE	3
STEEL	3
CAST IRON	3
DUCTILE IRON	3
CORRUGATED METAL	3
VITRIFIED CLAY	1-1/2
PLASTIC (PVC, ABS, ETC.)	3/4

(3) SECOND LIFT

THE REMAINDER OF THE TRENCH, ABOVE THE "FIRST LIFT", SHALL BE BACKFILLED IN LAYERS NOT EXCEEDING NINE (9) INCHES. THE MAXIMUM DIMENSION OF A STONE, WHEN TRENCHES ARE CUT IN PAVEMENTS OR AREAS TO BE PAVED, COMPACTION, AS DETERMINED BY AASHTO SPECIFICATION T-180 (ASTM D-1557), SHALL BE ACCOMPLISHED TO NOT LESS THAN NINETY-EIGHT (98) PERCENT OF MAXIMUM DENSITY, WITH COMPACTION IN OTHER AREAS NOT LESS THAN NINETY (90) PERCENT MAXIMUM DENSITY.

(4) COMPACTION METHODS

THE ABOVE SPECIFIED COMPACTION SHALL BE ACCOMPLISHED USING ACCEPTED STANDARD METHODS (POWERED TAMPERS, VIBRATORS, ETC.), WITH THE EXCEPTION THAT THE FIRST TWO (2) FEET OF BACKFILLING OVER THE PIPE SHALL BE COMPACTED BY HAND-OPERATED TAMPING DEVICES. FLOODING OR PUDDLING WITH WATER TO CONSOLIDATE BACKFILL IS NOT ACCEPTABLE, EXCEPT WHERE SAND IS ENCOUNTERED AND THE OPERATION HAS BEEN APPROVED BY THE OWNER AND THE ENGINEER.

(5) TESTING

DENSITY TESTS FOR DETERMINATION OF THE ABOVE SPECIFIED COMPACTION SHALL BE MADE BY A TESTING LABORATORY APPROVED BY THE OWNER AND AT THE EXPENSE OF THE CONTRACTOR. TEST LOCATIONS WILL BE DETERMINED BY THE APPLICABLE REGULATORY AGENCY AND THE ENGINEER, BUT IN ANY CASE, SHALL BE SPACED NOT MORE THAN 300 FEET APART WHERE THE TRENCH CUT IS CONTINUOUS IN PAVEMENTS OR AREAS TO BE PAVED. TESTS SHALL ALSO BE MADE WHERE A TRENCH CROSSES A PAVED ROADWAY OR FUTURE PAVED ROADWAY. IF ANY TEST RESULTS ARE UNSATISFACTORY, THE CONTRACTOR SHALL RE-EXCAVATE AND RE-COMPACT THE BACKFILL AT HIS EXPENSE UNTIL THE DESIRED COMPACTION IS OBTAINED. ADDITIONAL COMPACTION TESTS SHALL BE MADE TO EACH SIDE OF AN UNSATISFACTORY TEST, AS DIRECTED, TO DETERMINE THE EXTENT OF RE-EXCAVATION AND RE-COMPACTION NECESSARY.

O. PROTECTIVE CONCRETE SLAB

PROTECTIVE CONCRETE SLABS SHALL BE INSTALLED OVER THE TOP OF TRENCHES, WHERE REQUIRED ON THE PLANS AND DETAILED THEREON, TO PROTECT THE INSTALLED UTILITY AGAINST EXCESSIVE LOADS, OR WHERE INSUFFICIENT COVER EXISTS.

P. SIDEWALK AND DRIVEWAY RESTORATION

EXISTING SIDEWALKS AND DRIVEWAYS REMOVED, DISTURBED OR DESTROYED BY CONSTRUCTION, SHALL BE REPLACED OR REPAIRED. THE FINISHED WORK SHALL BE EQUAL IN ALL RESPECTS TO THE ORIGINAL AND SHALL BE APPROVED BY THE APPLICABLE REGULATORY AGENCY AND THE ENGINEER.

Q. ROADWAY AND PAVEMENT RESTORATION

(1) GENERAL

PAVEMENT OR ROADWAY SURFACES CUT OR DAMAGES SHALL BE REPLACED BY THE CONTRACTOR IN EQUAL OR BETTER CONDITION THAN THE ORIGINAL, INCLUDING STABILIZATION, BASE COURSE, SURFACE COURSE, CURB AND GUTTER, OR OTHER APPURTENANCES. THE CONTRACTOR SHALL PROVIDE ADVANCE NOTICE TO THE APPROPRIATE AUTHORITY, AS REQUIRED, PRIOR TO CONSTRUCTION OPERATIONS.

(2) ROADWAY RESTORATION

RESTORATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN THESE STANDARDS. THE MATERIALS OF CONSTRUCTION AND METHOD OF INSTALLATION, ALONG WITH THE PROPOSED RESTORATION DESIGN FOR ITEMS NOT REFERRED OR SPECIFIED HEREIN, SHALL RECEIVE PRIOR APPROVAL FROM THE REGULATORY AGENCY AND THE ENGINEER.

(a) WHERE EXISTING PAVEMENT IS TO BE REMOVED, THE SURFACING SHALL BE MECHANICALLY SAW CUT PRIOR TO TRENCH EXCAVATION LEAVING A UNIFORM AND STRAIGHT EDGE, WITH MINIMUM DISTURBANCE TO THE REMAINING ADJACENT SURFACING. THE WIDTH OF CUT FOR THIS PHASE OF EXISTING PAVEMENT REMOVAL SHALL BE MINIMAL AND PARALLEL.

(b) IMMEDIATELY FOLLOWING THE SPECIFIED BACKFILLING AND COMPACTION, A TEMPORARY SAND SEAL COAT SURFACE SHALL BE APPLIED TO THE CUT AREAS. THIS TEMPORARY SURFACING SHALL PROVIDE A SMOOTH TRAFFIC SURFACE WITH THE EXISTING ROADWAY AND SHALL BE MAINTAINED UNTIL FINAL RESTORATION. SAID SURFACING SHALL REMAIN FOR TEN (10) DAYS IN ORDER TO ASSURE THE STABILITY OF THE BACKFILL UNDER NORMAL TRAFFIC CONDITIONS. FOLLOWING THIS PERIOD AND PRIOR TO FIFTEEN (15) DAYS AFTER APPLICATION, THE TEMPORARY SURFACING SHALL BE REMOVED AND FINAL ROADWAY SURFACE RESTORATION ACCOMPLISHED.

(c) IN ADVANCE OF FINAL RESTORATION, THE TEMPORARY SURFACING SHALL BE REMOVED AND THE EXISTING PAVEMENT MECHANICALLY SAWED STRAIGHT AND CLEAN TO THE STIPULATED DIMENSIONS. FOLLOWING THE ABOVE OPERATION, THE CONTRACTOR SHALL PROCEED IMMEDIATELY WITH FINAL PAVEMENT RESTORATION IN ACCORDANCE WITH THESE STANDARDS.

(3) ROADWAY RESTORATION (OTHER LOCATIONS)

WORK WITHIN THE RIGHTS-OF-WAY OF PUBLIC THOROUGH FARES SHALL CONFORM TO THE REQUIREMENTS OF THE GOVERNMENTAL AGENCY HAVING JURISDICTION AND THE ENGINEER.

R. PROTECTION AND RESTORATION OF PROPERTY

DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL TAKE SPECIAL CARE AND PROVIDE ADEQUATE PROTECTION IN ORDER TO MINIMIZE DAMAGE TO VEGETATION, SURFACED AREAS AND STRUCTURES WITHIN THE CONSTRUCTION RIGHT-OF-WAY, EASEMENT OR SITE, AND TAKE FULL RESPONSIBILITY FOR THE REPLACEMENT OR REPAIR THEREOF. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY DAMAGE TO PRIVATE PROPERTY CREATED BY ENCROACHMENT THEREON. SHOULD THE REMOVAL OR TRIMMING OF VALUABLE TREES, SHRUBS OR GRASS BE REQUIRED TO FACILITATE THE INSTALLATION WITHIN THE DESIGNATED CONSTRUCTION AREA, THIS WORK SHALL BE DONE IN COOPERATION WITH THE REGULATORY AGENCY AND THE ENGINEER AND/OR AUTHORITY FROM THE LOCAL COMMUNITY IN WHICH THE WORK TAKES PLACE. SAID VALUABLE VEGETATION, REMOVED OR DAMAGED, SHALL BE REPLANTED, IF POSSIBLE, OR REPLACED BY ITEMS OF EQUAL QUALITY, AND MAINTAINED UNTIL GROWTH IS RE-ESTABLISHED. TOP SOIL DAMAGED IN THE COURSE OF WORK SHALL BE REPLACED WITH AT LEAST A FOUR (4) INCH LAYER OF SUITABLE MATERIAL. FOLLOWING CONSTRUCTION COMPLETION, THE WORK AREA ALONG THE ROUTE OF THE INSTALLATION SHALL BE FINISH GRADED TO ELEVATIONS COMPATIBLE WITH THE ADJACENT SURFACE, WITH GRASSING OR HAND RAKING REQUIRED WITHIN DEVELOPED AREAS.

S. CLEAN-UP

WORK SITE CLEAN-UP AND PROPERTY RESTORATION SHALL FOLLOW BEHIND CONSTRUCTION OPERATIONS WITHOUT DELAY. IN ORDER TO FACILITATE AN ACCEPTABLE CONSTRUCTION SITE, DEBRIS AND WASTE MATERIALS SHALL BE REMOVED FROM THE SITE IMMEDIATELY, AND DAILY TRENCHING LENGTH VERSUS PIPE LAYING SHALL BE COORDINATED TO PROVIDE THE MINIMUM OVERNIGHT TRENCH OPENING. CONSTRUCTION SITE MAINTENANCE, ALONG WITH ON-GOING CLEAN-UP AND FINAL PROPERTY RESTORATION ACCEPTANCE, SHALL BE AS DIRECTED AND APPROVED BY THE REGULATORY AGENCY AND THE ENGINEER.

SECTION 7

PIPE, FITTINGS, VALVES AND APPURTENANCES

1. INSTALLATION

A. GENERAL REQUIREMENTS

(1) PIPING, FITTINGS VALVES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THESE STANDARDS.

(2) PIPING SHALL BE INSTALLED ALONG STRAIGHT LINE AND GRADE BETWEEN FITTINGS, MANHOLES, OR OTHER DEFINED POINTS, UNLESS DEFINITE LINES OF ALIGNMENT, DEFLECTION OR GRADE CHANGE HAVE BEEN ESTABLISHED. MODIFICATION TO APPROVED ALIGNMENT OR GRADE DURING CONSTRUCTION SHALL RECEIVE PRIOR APPROVAL FROM THE ENGINEER AND ALL RESULTING DESIGN CONSIDERATIONS SHALL BE RESOLVED BY THE CONTRACTOR.

(3) MATERIALS SHALL BE CLEANED AND MAINTAINED CLEAN, WITH ALL COATINGS PROTECTED FROM DAMAGE. THE INTERIOR OF THE PIPE SHALL BE FREE OF DIRT AND DEBRIS, AND WHEN WORK IS NOT INS PROGRESS, ALL OPEN ENDS SHALL BE PLUGGED.

(4) PIPE, VALVES, FITTINGS, OR OTHER ITEMS SHALL BE INSPECTED PRIOR TO INSTALLATION, AND ANY ITEMS SHOWING A FRACTURE OR OTHER DEFECT SHALL BE REJECTED. HOWEVER, CAST OR DUCTILE IRON PIPE SHOWING AN END CRACK, WITH NO FRACTURE INDICATED BEYOND THAT VISIBLE, MAY BE SALVAGED BY CUTTING OFF THE DAMAGED SECTION TWELVE (12) INCHES PAST, PROVIDING THE REMAINING PIPE IS SOUND.

(5) UNDERGROUND PIPING SHALL NOT BE DRIVEN TO GRADE BY STRIKING IT WITH AN UNYIELDING OBJECT. WHEN THE PIPE HAS BEEN PROPERLY BEDDED, ENOUGH COMPACTED BACKFILL SHALL BE PLACED TO HOLD THE PIPE IN CORRECT ALIGNMENT. IF NECESSARY, PRECAUTION SHOULD BE TAKEN TO PREVENT FLOTATION.

(6) JOINTING SHALL BE BY AN APPROVED METHOD AND SHALL NOT REQUIRE UNDUE FORCE TO ACCOMPLISH FULL SATISFACTORY SEATING AND ASSEMBLY. CONNECTIONS AT STRUCTURES SHALL BE CUT ACCURATELY AND WORKED INTO PLACE WITHOUT FORCING AND SHALL ALIGN WITH THE CONNECTING POINT.

(7) UNDERGROUND PRESSURE PIPING SYSTEMS SHALL BE RESTRAINED WITH MECHANICAL RESTRAINT DEVICES IN ACCORDANCE WITH THE CITRUS COUNTY SPECIFICATIONS SHEET SP-1 SECTION 2.4.9.

(8) SUBAQUEOUS PIPE LAYING MAY BE PERMITTED WHERE CONDITIONS MAKE IT IMPRACTICAL TO LAY PIPE IN THE "DRY", PROVIDED THE CONTRACTOR SUBMITS HIS PLANS FOR LAYING PIPE UNDER WATER TO THE ENGINEER AND OBTAINS ADVANCE APPROVAL THEREOF.

(9) DISINFECTING OF ALL POTABLE WATER PIPES SHALL BE ACCOMPLISHED BY THE CONTRACTOR FOLLOWING APPROVED PRESSURE TESTING. UNLESS ALTERNATE PROCEDURES ARE SET FORTH UNDER THE APPLICABLE SERVICE STANDARD, SAID DISINFECTING PROCEDURES SHALL BE IN ACCORDANCE WITH AWWA STANDARDS C651.

(10) CAST AND DUCTILE IRON PIPE (CI & DI) INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE LATEST AWWA STANDARDS.

(11) POLYVINYL CHLORIDE (PVC) PIPE-LUBRICATION AND/OR SOLVENT FOR PIPE AND FITTING JOINTS SHALL BE NON-TOXIC (NSF APPROVED FOR POTABLE WATER). FOLLOWING MAKING, SOLVENT TYPE JOINTS SHALL NOT BE DISTURBED FOR FIVE (5) MINUTES AND SHALL NOT HAVE INTERNAL PRESSURE APPLIED FOR 24 HOURS, OR AS RECOMMENDED BY THE PIPE MANUFACTURER.

SECTION 8

WATER DISTRIBUTION SYSTEMS

1. GENERAL

THIS SECTION SETS FORTH THE GENERAL REQUIREMENTS FOR THE INSTALLATION OF WATER DISTRIBUTION SYSTEMS FOR POTABLE SERVICE.

2. STANDARD REQUIREMENTS

A. GENERAL

THE MATERIALS OF CONSTRUCTION AND GENERAL INSTALLATION PROCEDURES, WITH THE EXCEPTION OF FIRE HYDRANTS, SHALL COMPLY WITH THE SPECIFIC APPLICABLE STANDARDS SET FORTH UNDER SECTION 5, "UTILITY EXCAVATION, TRENCHING AND BACKFILLING", SECTION 6, "PIPE, FITTINGS, VALVES AND APPURTENANCES", AS WELL AS "STANDARD DETAILS-WATER DISTRIBUTION SYSTEMS". ALL FITTINGS SHALL BE MECHANICAL JOINTS.

B. FIRE HYDRANTS

(1) HYDRANTS SHALL BE INSTALLED PLUMB AND IN TRUE ALIGNMENT WITH THE CONNECTION PIPES TO THE WATER MAIN. THEY SHALL BE SECURELY BRACED AGAINST THE END OF THE TRENCH (UNDISTURBED SOIL) WITH CONCRETE THRUST BLOCKS. THE GRAVEL OR CRUSHED STONE FOR THE DRAIN SUMP, FOLLOWED BY BACKFILLING, SHALL BE CAREFULLY PLACED AND COMPACTED. INSTALLED HYDRANTS SHALL BE PAINTED AS DIRECTED BY THE LOCAL FIRE DEPARTMENT HAVING JURISDICTION.

(2) HYDRANT PLACEMENT SHALL NOT BE AT A DISTANCE GREATER THAN SIX TO NINE FEET FROM THE PAVED STABILIZED AREA OR CURB AREA WHICH CAN WITHSTAND THE WEIGHT OF A CLASS A PUMPER UNLESS OTHERWISE SPECIFIED IN THE PLANS. THE CENTER OF THE STEAMER PORT SHALL BE EIGHTEEN (18) INCHES ABOVE FINAL GRADE. STEAMER PORT SHALL BE CORRECTLY POSITIONED FOR THE PROPER CONNECTIONS.

C. JOINT RESTRAINING

ALL JOINTS SHALL BE RESTRAINED WITH MECHANICAL RESTRAINT DEVICES IN ACCORDANCE WITH THE CITRUS COUNTY SPECIFICATIONS SHEET SP-1 SECTION 2.4.9.

D. PIPE DEPTH AND PROTECTION

THE STANDARD MINIMUM COVER FOR WATER DISTRIBUTION SYSTEMS SHALL BE THIRTY-SIX (36) INCHES FROM THE TOP OF THE PIPE TO FINISH GRADE, UNLESS OTHERWISE INDICATED ON THE DETAILS. HOWEVER, SHOULD THIS DESIGN NOT BE FEASIBLE, PROTECTIVE CONCRETE SLABS SHALL BE PROVIDED OVER THE PIPE WITHIN THE LIMITS OF THE LESSER COVER.

E. CONNECTIONS AT STRUCTURES

WHERE PIPES ARE TO EXTEND INTO OR THROUGH STRUCTURES, FLEXIBLE JOINTS ARE TO BE PROVIDED AT THE WALL FACE.

F. AIR VENTING AND BLOW OFFS

WHERE THE WATER MAIN PROFILE IS SUCH THAT AIR POCKETS OR ENTRAPMENT COULD OCCUR, RESULTING IN FLOW BLOCKAGE, METHODS FOR AIR RELEASE SHALL BE PROVIDED. AIR VENTING CAPABILITIES SHALL BE PROVIDED FOR DISTRIBUTION MAINS BY APPROPRIATELY PLACING FIRE HYDRANTS, BLOW-OFFS, OR OTHER MANUAL DEVICES. AT CRITICAL POINTS ON MAJOR MAINS, AUTOMATIC AIR RELEASE ASSEMBLIES SHALL BE INSTALLED. ALL DEAD-END WATER MAINS, TEMPORARY OR PERMANENT, SHALL BE EQUIPPED WITH A MANUALLY OPERATED BLOW-OFF AT THE TERMINAL.

G. SERVICE CONNECTIONS

CONNECTIONS TO WATER MAINS FOUR (4) INCHES AND LARGER SHALL BE MADE BY DRILLING THE APPROPRIATE SIZE HOLE AND INSTALLATION OF SERVICE SADDLES, WITH SERVICES TO SMALLER SIZES ACCOMPLISHED BY IN-LINE FITTINGS. THE SERVICE LINE SHALL BE EXTENDED TO THE PROPERTY OR EASEMENT LINE AS SHOWN ON THE DETAILS, PERPENDICULAR TO SAID LINE, TERMINATING WITH A PLUGGED LOCKWING CURB STOP AND METER BOX, PENDING METER INSTALLATION. ON CURBED STREETS THE EXACT LOCATION FOR EACH INSTALLED SERVICE SHALL BE MARKED BY ETCHING OR CUTTING A "W" IN THE CONCRETE CURB. WHERE NO CURB EXISTS OR IS PLANNED, LOCATIONS SHALL BE ADEQUATELY MARKED BY A METHOD APPROVED BY THE REGULATORY AGENCY.

ALL CONSTRUCTION COVERED BY THESE PLANS SHALL COMPLY WITH THE MATERIAL REQUIREMENTS AND QUALITY CONTROL STANDARDS CONTAINED IN THE COUNTY LAND DEVELOPMENT CODE AND MANUAL.

NOTE: 'MANUAL' USED IN THESE PLANS REFERS TO THE COUNTY UTILITIES DIVISION MANUAL OF MINIMUM STANDARDS AND CONSTRUCTION SPECIFICATIONS FOR WATER AND WASTEWATER SYSTEMS.

IN THE EVENT OF A DISCREPANCY BETWEEN PLANS AND THE LAND DEVELOPMENT CODE OR MANUAL, THE CODE AND MANUAL SHALL TAKE PRECEDENCE. IN ACCORDANCE WITH SECTION 1, SUB-SECTION 5 OF MANUAL, NO WORK SHALL BE COVERED UNTIL OBSERVED BY A UTILITIES DIVISION REPRESENTATIVE.

DRAWN K.L.W.
CHECKED T.E.B.
DRAWING BASE19-18
LAYOUT SP3
DATE JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
BEI
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741

CRYSTAL RIVER TOWN SQUARE
CITY OF CRYSTAL RIVER, FLORIDA

INSTALLATION SPECIFICATIONS

NO.	REVISION	DATE

30% SUBMITTAL

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE ________

JOB NO. 19-18
F.B. NO. ________
FILE NO. Q-98
SEC 21 TWP 18S RGE 17E

SHT C12 OF C13

W:\Crystal River Town Square\Production Drawings\Base19-18.dwg, 6/28/2019 9:39:51 AM

3. TESTING

A. THE CONTRACTOR SHALL PERFORM HYDROSTATIC TESTING OF ALL WATER DISTRIBUTION SYSTEMS, AS SET FORTH IN THE FOLLOWING, AND SHALL CONDUCT SAID TESTS IN THE PRESENCE OF REPRESENTATIVES FROM THE REGULATORY AGENCY AND ENGINEER AND/OR OTHER AUTHORIZED AGENCIES, WITH FORTY-EIGHT (48) HOURS ADVANCE NOTICE PROVIDED IN WRITING.

B. PIPING AND APPURTENANCES TO BE TESTED SHALL BE WITHIN SECTIONS BETWEEN VALVES NOT EXCEEDING 1500 FEET, UNLESS ALTERNATE METHODS HAVE RECEIVED PRIOR APPROVAL FROM THE REGULATORY AGENCY. TESTING SHALL NOT PROCEED UNTIL CONCRETE THRUST BLOCKS ARE IN PLACE AND CURED, OR OTHER RESTRAINING DEVICES INSTALLED. ALL PIPING SHALL BE THOROUGHLY CLEANED AND FLUSHED PRIOR TO TESTING THE PIPING IS BEING FILLED WITH WATER, CARE SHALL BE EXERCISED TO PERMIT THE ESCAPE OF AIR FROM EXTREMITIES OF THE TEST SECTION, WITH ADDITIONAL RELEASE COCKS PROVIDED IF REQUIRED.

C. HYDROSTATIC TESTING SHALL BE PERFORMED AT 150 P.S.I. FOR ALL SIZES OF WATER MAINS. THE TESTING PROCEDURE SHALL CONTINUE FOR AN UNINTERRUPTED PERIOD OF NOT LESS THAN TWO (2) HOURS. TESTING SHALL BE IN ACCORDANCE WITH THE APPLICABLE AWWA PROVISIONS. FOR PVC – AWWA PUBLICATION M-23, C-605, AND FOR D.I.P. – AWWA STANDARD C600 SECTION 4. THE ALLOWABLE RATE OF LEAKAGE SHALL BE LESS THAN THE NUMBER OF GALLONS PER HOUR DETERMINED BY THE FOLLOWING FORMULAS:

PVC	DIP
$L = \frac{ND\sqrt{P}}{7400}$	$L = \frac{SD\sqrt{P}}{133{,}200}$

L = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
S = LENGTH OF PIPE IN SECTION TESTED, IN FEET
N = NUMBER OF JOINTS IN THE SECTION TESTED
D = NOMINAL DIAMETER OF THE PIPE IN INCHES
P = AVERAGE TEST PRESSURE MAINTAINED DURING THE LEAKAGE TEST IN POUNDS PER SQUARE INCH GAUGE.

D. THE TESTING PROCEDURE SHALL INCLUDE THE CONTINUED APPLICATION OF THE SPECIFIED PRESSURE TO THE TEST SYSTEM, FOR THE TWO (2) HOURS PERIOD, BY WAY OF A PIPE TAKING SUPPLY FROM A CONTAINER SUITABLE FOR MEASURING WATER LOSS. THE AMOUNT OF LOSS SHALL BE DETERMINED BY MEASURING THE VOLUME DISPLACED FROM SAID CONTAINER.

E. SHOULD THE TEST FAIL, NECESSARY REPAIRS SHALL BE ACCOMPLISHED BY THE CONTRACTOR AND THE TEST REPEATED UNTIL WITHIN THE ESTABLISHED LIMITS. THE CONTRACTOR SHALL FURNISH THE NECESSARY LABOR, WATER, PUMPS, GAUGES AND ALL OTHER ITEMS REQUIRED TO CONDUCT THE REQUIRED WATER DISTRIBUTION SYSTEM TESTING AND PERFORM NECESSARY SYSTEM REPAIRS REQUIRED TO COMPLY WITH THE SPECIFIED HYDROSTATIC TEST.

4. DISINFECTING

A. FOLLOWING THE PRESSURE TESTING: THE CONTRACTOR SHALL DISINFECT ALL SECTIONS OF THE WATER DISTRIBUTION SYSTEM, AND RECEIVE APPROVAL THEREOF FROM THE APPROPRIATE AGENCIES, PRIOR TO PLACING IN SERVICE. ADVANCE NOTICE SHALL BE PROVIDED TO THE REGULATORY AGENCY AND THE ENGINEER BEFORE DISINFECTING PROCEDURES START. THE DISINFECTING SHALL BE ACCOMPLISHED BY THE APPLICABLE PROVISIONS OF AWWA STANDARD C651, "DISINFECTING WATER MAINS", AND ALL APPROPRIATE AGENCY APPROVALS.

(1) CARE SHALL BE TAKEN TO PROVIDE DISINFECTION TO THE TOTAL SYSTEM AND EXTREMITIES SHALL BE CAREFULLY FLUSHED TO ACCOMPLISH THIS END. AFTER DISINFECTION HAS BEEN ACCOMPLISHED, SAMPLES OF WATER FOR BACTERIOLOGICAL ANALYSIS SHALL BE COLLECTED AND SUBMITTED TO AND AS DIRECTED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATIONS OR OTHER APPROPRIATE APPROVAL AGENCY. SHOULD THESE SAMPLES OR SUBSEQUENT SAMPLES PROVE TO BY UNSATISFACTORY, THEN THE PIPING SHALL BE DISINFECTED UNTIL A SUFFICIENT NUMBER OF SATISFACTORY SAMPLES ARE OBTAINED.

(2) THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIALS AND PERFORM THE WORK NECESSARY FOR THE DISINFECTING PROCEDURES, INCLUDING ADDITIONAL DISINFECTION AS REQUIRED.

SECTION 9
BORING AND JACKING

1. GENERAL

A. THE PROVISIONS OF THIS SECTION SHALL BE THE MINIMUM STANDARDS FOR THE INSTALLATION OF CASING PIPE BY THE BORING AND JACKING METHOD FOR PLACEMENT OF SEWER AND WATER PIPELINES.

B. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT THE NECESSARY PERMIT DOCUMENTS AND DATA TO THE APPROPRIATE AUTHORITIES AND RECEIVE APPROVAL THEREOF.

C. ALL UNDERGROUND PIPELINES CROSSING EXISTING ROADWAYS, AND RAILROADS SHALL BE INSTALLED UNDER THESE TRAFFIC-WAYS WITHIN BORED AND JACKED STEEL CASING PIPE. SPECIFIC CROSSING REQUIREMENTS SHALL BE OBTAINED IN ADVANCE FROM AUTHORITY HAVING JURISDICTION.

D. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT THE NECESSARY DOCUMENTS AND DATA, IF REQUIRED BY THE PERMITS, TO THE APPROPRIATE AUTHORITY AND RECEIVE APPROVAL THEREOF.

2. CASING PIPE MATERIALS AND INSTALLATION

A. **DIMENSIONS AND MATERIALS**

CASING PIPES CROSSING UNDER ANY ROADWAY SHALL BE LOCATED AT SUITABLE APPROVED ALIGNMENTS IN ORDER TO ELIMINATE POSSIBLE CONFLICT WITH EXISTING OR FUTURE UTILITIES AND STRUCTURES, WITH A MINIMUM THIRTY-SIX (36) INCHES DEPTH OF COVER BETWEEN THE TOP OF THE CASING PIPE AND SURFACE OF THE ROADWAY WHERE PRACTICABLE. CASINGS SHALL BE NEW.

B. **WORKMANSHIP**

(1) THE BORING AND JACKING OPERATIONS SHALL BE DONE SIMULTANEOUSLY WITH CONTINUOUS INSTALLATION UNTIL THE PIPE CASING IS IN FINAL POSITION. CORRECT LINE AND GRADE SHALL BE CAREFULLY MAINTAINED. ADD-ON SECTIONS OF CASING PIPE SHALL BE FULL-RING WELDED TO THE PRECEDING LENGTH, DEVELOPING WATER-TIGHT TOTAL PIPE STRENGTH JOINTS. THE CASING INSTALLATION SHALL PRODUCE NO UPHEAVAL, SETTLEMENT, CRACKING, MOVEMENT OR DISTORTION OF THE EXISTING ROADBED OR OTHER FACILITIES. FOLLOWING PLACEMENT OF THE CARRIER PIPE WITHIN THE STEEL CASING, MASONRY OR BITUMINOUS PLUGS ARE TO BE INSTALLED AT EACH OPEN END.

(2) CASING PIPE HOLES SHALL BE MECHANICALLY BORED THROUGH THE SOIL BY A CUTTING HEAD ON A CONTINUOUS AUGER MOUNTED INSIDE THE PIPE. THE AUGER SHALL EXTEND A MINIMUM DISTANCE BEYOND THE END OF THE PIPE CASING TO PRECLUDE FORMATION OF VOIDS OUTSIDE OF THE PIPE SHELL.

(3) THE CASING PIPE SHALL BE ADEQUATELY PROTECTED TO PREVENT CRUSHING OR OTHER DAMAGE UNDER JACKING PRESSURES.

(4) REQUIRED BORING AND JACKING PITS OR SHAFTS SHALL BE EXCAVATED AND MAINTAINED TO THE MINIMUM DIMENSION. SAID EXCAVATIONS SHALL BE ADEQUATELY BARRICADED, SHEETED, BRACED AND DEWATERED AS REQUIRED.

(5) THE CARRIER PIPE SHALL BE MINIMUM CLASS 50 DUCTILE IRON PIPE WITH RESTRAINED JOINTS. THE CARRIER PIPES SHALL BE SUPPORTED BY WOODEN SKIDS WITHIN THE CASING PIPE. REFER & CONFORM TO D.O.T. & RAILROAD PERMIT REQUIREMENTS & MANUAL DETAIL III-7.

SECTION 10
SANITARY SEWAGE FORCE MAIN

1. GENERAL

A. THIS SECTION INCLUDES THE GENERAL REQUIREMENTS FOR INSTALLATION OF FORCE MAIN SYSTEMS SERVING SANITARY SEWAGE PUMPING STATIONS.

B. THE RELEVANT PROVISIONS OF OTHER SECTIONS OF THIS SPECIFICATION SHALL BE APPLICABLE TO THIS SECTION UNLESS OTHERWISE INDICATED HEREIN OR APPROVED BY THE APPLICABLE REGULATORY AGENCY.

2. STANDARD REQUIREMENTS

A. **GENERAL**

THE GENERAL INSTALLATION PROCEDURES SHALL COMPLY WITH THE SPECIFIC APPLICABLE STANDARDS SET FORTH UNDER SECTION 5, "UTILITY EXCAVATION, TRENCHING AND BACKFILLING" AND SECTION 6, "PIPE, FITTINGS, VALVES AND APPURTENANCES". ALL FITTINGS SHALL BE MECHANICAL JOINTS.

B. **JOINT RESTRAINING**

ALL JOINTS SHALL BE RESTRAINED WITH MECHANICAL RESTRAINT DEVICES IN ACCORDANCE WITH THE CITRUS COUNTY SPECIFICATIONS SHEET SP-6 SECTION 2.3.8

C. **PIPE DEPTH AND PROTECTION**

THE STANDARD MINIMUM COVER FOR SEWAGE FORCE MAIN SYSTEMS SHALL BE THIRTY-SIX (36) INCHES FROM THE TOP OF THE PIPE TO FINISH GRADE. WHERE THIS CONDITION CANNOT BE MET, SPECIAL CONSIDERATION WILL BE GIVEN.

D. **AIR AND VACUUM VENTING**

WHERE THE FORCE MAIN PROFILE IS SUCH THAT AIR POCKETS OR ENTRAPMENT COULD OCCUR RESULTING IN FLOW BLOCKAGE, PROVISIONS FOR AIR RELEASE SHALL BE PROVIDED. WHERE FREE FLOW WILL OCCUR DURING OPERATION OR AFTER PUMPING STOPS, COMBINED AIR RELEASE AND VACUUM VALVE ASSEMBLIES SHALL BE PROVIDED.

E. **VALVE LOCATIONS**

VALVES SHALL BE INSTALLED ON ALL SUBSIDIARY FORCE MAINS AT THE POINT OF CONNECTION TO THE MAJOR MAIN AND WHERE FORCE MAINS ARE TO BE EXTENDED. AT FUTURE CONNECTION BRANCHES OR ENDS, THE VALVES SHALL BE RESTRAINED BY METHODS OTHER THAN THRUST BLOCKING IN ORDER TO FACILITATE SAID CONNECTION WITHOUT SYSTEM SHUT DOWN.

F. **BRANCH CONNECTIONS**

TEE FITTING CONNECTIONS ARE ACCEPTABLE PROVIDED THE CONNECTION IS ADEQUATELY BLOCKED OR OTHERWISE RESTRAINED.

G. **CLEAN OUT CONNECTION**

SHOULD FORCE MAINS APPEAR TO BE SUSCEPTIBLE TO SEDIMENTATION CLOGGING, AS CREATED BY DEPRESSED CROSSINGS OR EXTENDED LOW FLOW (VELOCITY) PERIODS, SUITABLE CLEAN OUT CONNECTIONS SHALL BE PROVIDED.

H. **TERMINAL DISCHARGE**

FORCE MAINS SHALL ENTER THE TERMINAL FACILITY (GRAVITY SEWER MANHOLE, PUMPING STATION WET WELL, OR OTHER,) AT A POINT EQUAL TO THE OPERATIONAL WATER LEVEL OF SAID RECEIVING UNIT. SHOULD AN ELEVATION DROP BE REQUIRED TO OBTAIN THE OUTLET CONNECTION, THE PRIOR DOWN-SLOPE OF THE FORCE MAIN SHALL NOT EXCEED 45 DEGREES, AND ADEQUATE AIR VENTING SHALL BE PROVIDED AT THE PROFILE BREAKPOINT.

I. **IDENTIFICATION**

IN ORDER TO PRECLUDE POSSIBLE DOMESTIC WATER TAPPING, ALL INSTALLED UNDERGROUND SANITARY SEWAGE FORCE MAINS SHALL BE MARKED WITH A CONTINUOUS GREEN STRIPE LOCATED WITHIN THE TOP 90 DEGREES OF WHITE PVC PIPE AND DUCTILE IRON PIPE OR GREEN PIPE MAY BE USED.

J. **LIFT STATION**

THE CONTRACTOR WILL BE REQUIRED TO CONDUCT AN IN PLACE PUMP DOWN TEST OF THE COMPLETED LIFT STATION TO MEASURE THE ACTUAL PUMPING RATE OF EACH PUMP FURNISHED AND ACTUAL T.D.H. ON EACH PUMP AS WELL AS THE AMPERAGE BEING DRAWN. INFLOW TO THE WET WELL IS TO BE BLOCKED AND THE TIME OF PUMPING AND DIFFERENCE IN WET WELL LEVEL WILL BE UTILIZED TO DETERMINE THE PUMPING RATE. PRESSURE TAPS AND GAUGES ARE TO BE USED TO DETERMINE THE HEAD. ALL COSTS TO CONDUCT THE TEST ARE TO BE INCLUDED IN THE CONTRACTOR'S BID. THE PUMP TEST IS THE CONTRACTOR'S RESPONSIBILITY BUT MUST BE WITNESSED BY THE APPLICABLE REGULATORY AGENCY AND THE ENGINEER. THE REGULATORY AND/OR ENGINEER WILL BE THE JUDGE OF THE ACCEPTABILITY OF THE TEST AND THE RESULTS.

3. TESTING

A. THE CONTRACTOR SHALL PERFORM HYDROSTATIC TESTING OF ALL SANITARY SEWAGE FORCE MAINS, AS SET FORTH IN THE FOLLOWING, AND SHALL CONDUCT SAID TESTS IN THE PRESENCE OF REPRESENTATIVES FROM THE APPLICABLE REGULATORY AGENCY, OTHER AUTHORIZED AGENCIES, AND ENGINEER WITH FORTY-EIGHT (48) HOURS ADVANCE NOTICE PROVIDED.

B. PIPING AND APPURTENANCES TO BE TESTED SHALL BE WITHIN SECTIONS BETWEEN VALVES OR ADEQUATE PLUGS, WITH PRIOR APPROVAL FROM THE APPLICABLE REGULATORY AGENCY. TESTING SHALL NOT PROCEED UNTIL CONCRETE THRUST BLOCKS ARE IN PLACE AND CURED, OR OTHER RESTRAINING DEVICES INSTALLED. ALL PIPING SHALL BE THOROUGHLY CLEANED AND FLUSHED PRIOR TO TESTING TO CLEAR THE LINES OF ALL FOREIGN MATTER. WHILE THE PIPING IS BEING FILLED WITH WATER, CARE SHALL BE EXERCISED TO PERMIT THE ESCAPE OF AIR FROM EXTREMITIES OF THE TEST SECTION, WITH ADDITIONAL RELEASE COCKS PROVIDED IF REQUIRED.

C. HYDROSTATIC TESTING SHALL BE PERFORMED AT 150 P.S.I. FOR ALL SIZES OF FORCE MAINS. THE TESTING PROCEDURE SHALL CONTINUE FOR AN UNINTERRUPTED PERIOD OF NOT LESS THAN TWO (2) HOURS. TESTING SHALL BE IN ACCORDANCE WITH THE APPLICABLE AWWA PROVISIONS. FOR PVC – AWWA PUBLICATION M-23 AND FOR D.I.P. – AWWA STANDARD C600 SECTION 4. THE ALLOWABLE RATE OF LEAKAGE SHALL BE LESS THAN THE NUMBER OF GALLONS PER HOUR DETERMINED BY THE FOLLOWING FORMULAS:

PVC	DIP
$L = \frac{ND\sqrt{P}}{7400}$	$L = \frac{SD\sqrt{P}}{133{,}200}$

L = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
S = LENGTH OF PIPE IN SECTION TESTED, IN FEET
N = NUMBER OF JOINTS IN SECTION TESTED
D = NOMINAL DIAMETER OF THE PIPE IN INCHES
P = AVERAGE TEST PRESSURE MAINTAINED DURING THE LEAKAGE TEST IN POUNDS PER SQUARE INCH GAUGE

D. THE TESTING PROCEDURE SHALL INCLUDE THE CONTINUED APPLICATION OF THE SPECIFIED PRESSURE TO THE TEST SYSTEM, FOR THE TWO (2) HOUR PERIOD BY WAY OF A PUMP TAKING SUPPLY FROM A CONTAINER SUITABLE FOR MEASURING WATER LOSS. THE AMOUNT OF LOSS SHALL BE DETERMINED BY MEASURING THE VOLUME DISPLACED FROM SAID CONTAINER.

E. SHOULD THE TEST FAIL, NECESSARY REPAIRS SHALL BE ACCOMPLISHED BY THE CONTRACTOR AND THE TEST REPEATED UNTIL WITHIN THE ESTABLISHED LIMITS. THE CONTRACTOR SHALL FURNISH THE NECESSARY LABOR, WATER, PUMPS, GAUGES, AND ALL OTHER ITEMS REQUIRED TO CONDUCT THE REQUIRED SANITARY SEWAGE FORCE MAIN TESTING AND PERFORM THE NECESSARY SYSTEM REPAIRS REQUIRED TO COMPLY WITH THE SPECIFIED HYDROSTATIC TEST.

SECTION 11
SANITARY GRAVITY SEWERS

1. STANDARD REQUIREMENTS

A. **GENERAL**

THE MATERIALS OF CONSTRUCTION AND GENERAL INSTALLATION PROCEDURES SHALL COMPLY WITH THE SPECIFIC APPLICABLE STANDARDS SET FORTH UNDER SECTION 5, "UTILITY EXCAVATION, TRENCHING AND BACKFILLING" SECTION 6, "PIPE, FITTINGS, VALVES AND APPURTENANCES", SECTION 8, "BORING AND JACKING" AND SECTION 9, "SANITARY SEWAGE FORCE MAIN" AS WELL AS INFORMATION SHOWN ON THE PLANS.

B. **SANITARY MANHOLES**

(1) MANHOLE FLOW CHANNELS SHALL HAVE SMOOTH AND CAREFULLY SHAPED BOTTOMS, BUILT UP SIDES AND BENCHING CONSTRUCTED FROM CONCRETE. CHANNELS SHALL CONFORM TO THE DIMENSION OF THE ADJACENT PIPE AND PROVIDE CHANGES IN SIZE, GRADE AND ALIGNMENT EVENLY.

(2) WHERE ADDITIONAL PIPE CONNECTIONS OR MODIFICATION OF EXISTING FACTORY MADE OPENINGS ARE REQUIRED ON NEW OR EXISTING PRECAST CONCRETE MANHOLES, ALL CUTTING RELATIVE THERETO SHALL BE PERFORMED ONLY BY A POWER DRIVEN CORING MACHINE. IT IS SPECIFICALLY NOTED THAT SUCH CONNECTIONS TO EXISTING MANHOLES SHALL BE MADE WITH FLEXIBLE CONNECTORS OR CAULKED WATER TIGHT WITH NON-SHRINKING GROUT IF PRIOR WRITTEN APPROVAL FROM THE ENGINEER IS GRANTED.

(3) SEWER CLEANOUTS NOT IN THE PAVEMENT SHALL HAVE AROUND THEIR TOPS CONCRETE PADS, WHICH WILL BE FLUSH WITH THE TOP OF THE CURB, AS SHOWN ON THE DETAILS.

C. **PIPE DEPTH AND PROTECTION**

THE MINIMUM ALLOWABLE COVER FOR GRAVITY SEWERS SHALL BE THREE (3) FEET FROM THE TOP OF THE PIPE TO FINISH GRADE. WHERE WATERWAYS ARE CROSSED, CAST OR DUCTILE IRON PIPE AND PROTECTIVE CONCRETE SLABS SHALL BE INSTALLED ACROSS AND TO TEN (10) FEET EACH SIDE OF THE BOTTOM. ADDITIONALLY, APPROVED UTILITY CROSSING SIGNS SHALL BE PLACED ON THE PIPE ALIGNMENT AT EACH SIDE OF THE WATERWAY.

D. **PIPE BEDDING**

SPECIAL CARE SHALL BE EXERCISED DURING INSTALLATION TO PROVIDE ADEQUATE BEDDING FOR THE TYPE OF PIPE USED, TAKING INTO CONSIDERATION TRENCH WIDTH AND DEPTH, SUPERIMPOSED LOADINGS ABOVE GRADE AND THE MATERIAL BELOW TRENCH GRADE. PIPE LOADING CAPABILITIES SHALL BE COMPUTED IN ACCORDANCE WITH ESTABLISHED DESIGN CRITERIA AND SPECIAL SUPPORTING BEDDING OR FACILITIES SHALL BE PROVIDED AS REQUIRED.

E. **CONNECTIONS AT STRUCTURES**

WHERE SANITARY SEWERS CONNECT TO STRUCTURES, PIPE JOINT BELL SHALL NOT BE INSTALLED WITHIN WALL FACES AND FURTHER, WHERE SAID CONNECTION IS TO WET WELLS OR OTHER INSTALLATIONS WHERE BACKFILL EXISTS BELOW TRENCH GRADE, ONE (1) JOINT, EIGHTEEN (18) FEET OF DUCTILE IRON PIPE SHALL EXTEND OUTWARD FROM THE STRUCTURE. WHEN IT IS NECESSARY TO EXTEND SEWERS THROUGH STRUCTURES, SUCH AS CONFLICTING ELEVATION STORM DRAIN BY-PASSING CHAMBERS, THE PIPE WITHIN SHALL BE DUCTILE IRON WITH NO INSIDE JOINTS.

F. **TRANSITION CONNECTIONS**

WHERE PIPES OF ALTERNATE MATERIALS ARE TO BE CONNECTED BETWEEN MANHOLES, SUITABLE APPROVED TRANSITION COUPLING SHALL BE INSTALLED.

G. **PIPE CUTTING**

THE CUTTING OF PIPE FOR INSTALLATION LENGTH ADJUSTMENT, OR CONNECTIONS FOR FUTURE SERVICES TO EXISTING SEWERS, SHALL BE IN STRICT COMPLIANCE WITH THE METHODS RECOMMENDED BY THE MANUFACTURER FOR THE SPECIFIC PIPE TYPE.

H. **SERVICE CONNECTIONS**

INSTALLATION SHALL BE AS SHOWN ON THE PLANS, INCLUDING THE WYE BRANCHES INSTALLED IN THE SEWER MAIN AT THE POINT OF CONNECTION, AND THE SERVICE PIPE AND REQUIRED FITTINGS EXTENDED TO THE PROPERTY OR EASEMENT LINE, PERPENDICULAR TO SAID LINE, TERMINATING WITH PLUGGED OR CAPPED ENDS. THE MINIMUM SERVICE PIPE SIZE SHALL BE SIX (6) INCHES. ON CURBED STREETS THE EXACT LOCATION FOR EACH INSTALLED SERVICE SHALL BE MARKED BY ETCHING OR CUTTING AN "S" IN THE CONCRETE CURB. WHERE NO CURB EXISTS OR IS PLANNED, LOCATIONS SHALL BE ADEQUATELY MARKED BY A METHOD APPROVED BY THE APPLICABLE REGULATORY AGENCY.

I. **PROTECTION OF WATER SYSTEMS**

SEE SECTION 5, 3.A.(1) AND (2) "UTILITY EXCAVATION, TRENCHING AND BACKFILLING."

2. POLYVINYL CHLORIDE (PVC) SEWERS

A. **NON-SHRINK MORTAR**

ALL HOLES IN MANHOLES AND/OR WETWELLS, PROVIDED FOR THEIR HANDLING, AND THE ANNULAR SPACE BETWEEN THE WALL AND THE PIPE COUPLING ADAPTER SHALL BE THOROUGHLY PLUGGED WITH EMBECO NO. 157 MORTAR, OR APPROVED EQUAL NON-SHRINKING MORTAR, APPLIED AND CURED IN STRICT CONFORMITY WITH THE MANUFACTURER'S RECOMMENDATIONS SO THERE WILL BE ZERO LEAKAGE THROUGH OPENINGS AND AROUND PIPES. THE MORTAR SHALL BE FINISHED SMOOTH AND FLUSH WITH THE ADJOINING INTERIOR AND EXTERIOR MANHOLE AND/OR WETWELL WALL SURFACES.

B. **SPECIAL BACKFILL**

WHERE THE SOIL IN THE EXCAVATED TRENCH BOTTOM IS UNSUITABLE (UNSTABLE), THE CONTRACTOR SHALL OVER-EXCAVATE THE TRENCH BOTTOM AND BACKFILL WITH CRUSHED STONE OR GRAVEL DEFINED AS CLASS I, EXCEPT SIZING SHALL BE 1/4" TO 3/4", UNDER THE U.S.C.S. SOIL CLASSIFICATION SYSTEM (FHA BULLETIN NO. 373), OR CRUSHED SHELL. IN DRY CONDITIONS, GRADED SANDS MAY BE USED.

C. **PVC PIPE LAYING AND BACKFILLING**

(1) **DEWATERING REQUIRED**

WATER SHALL NOT BE ALLOWED IN THE TRENCHES WHILE THE PIPES ARE LAID. THE USE OF A WELLPOINT DEWATERING SYSTEM IS A REQUIREMENT ON ANY RUNS OF PIPE WHERE SUCH PIPE WILL BE BELOW THE GROUND WATER ELEVATION AT THE SPECIFIC SITE. SUMP AND PUMP TYPE TRENCHING MAY BE USED ONLY ON SHORT SHALLOW RUNS WHERE WELLPOINTS WOULD BE IMPRACTICAL AND EXCESSIVELY EXPENSIVE, AND ONLY WITH THE PRIOR APPROVAL OF THE APPLICABLE REGULATORY AGENCY. IN ALL CASES, DENSITY TESTING UP TO A POINT AT LEAST ONE (1) FOOT ABOVE THE WATER TABLE SHALL BE COMPLETED PRIOR TO REMOVAL OF DEWATERING EQUIPMENT. ON SEWER LINES INSTALLED USING WELLPOINTS, SERVICE LATERALS SHALL BE INSTALLED WHILE THE WELLPOINTS ARE IN OPERATION.

(2) **PIPE ALIGNMENT**

CARE MUST BE TAKEN TO FIT THE JOINTS TOGETHER PROPERLY SO THAT THE CENTERS OF THE PIPES SHALL BE IN A STRAIGHT LINE. ALL ADJUSTMENTS TO LINE AND GRADE MUST BE MADE BY SCRAPING AWAY OR FILLING IN UNDER THE BARREL OF THE PIPE AND NOT BY WEDGING OR BLOCKING UP ANY PORTION OF THE PIPE. IN NO CASE SHALL THE PIPE BE WALKED ON EITHER BEFORE OR AFTER THE JOINTS HAVE BEEN MADE. ANY PIPE THAT HAS ITS GRADE ALIGNMENT OR JOINTS DISTURBED WILL BE TAKEN UP AND RELAID. PIPE SHALL NOT BE DRIVEN TO GRADE BY STRIKING IT WITH ANY UNYIELDING OBJECT.

(3) **BACKFILL AND DEFLECTION**

IMMEDIATELY AFTER THE PIPE HAS BEEN JOINTED AND INSPECTED, BACKFILLING SHALL BE PLACED TO A MINIMUM OF TWELVE (12) INCHES ABOVE THE CROWN OF THE PIPE TO ADEQUATELY PROTECT THE PIPE FROM INJURY AND MOVEMENT. BEFORE AND DURING THE BACKFILLING OF ANY TRENCH PRECAUTION SHOULD BE TAKEN AGAINST FLOTATION OF PIPE LINES THEREIN DUE TO ENTRY OF LARGE QUANTITIES OF WATER INTO THE TRENCH WHICH COULD CAUSE UPLIFT OF THE PIPE LINE. AFTER INSTALLATION PIPE SHALL BE TESTED FOR DEFORMATION AND DEFLECTION IN ACCORDANCE WITH SECTION 10, ITEM 3 E OF THESE SPECIFICATIONS.

(4) **COMPACTION**

THE MECHANICAL COMPACTION OF BACKFILL OVER PVC SEWER LINES AND APPURTENANCES SHALL BE ACCOMPLISHED BY PLACING MATERIAL IN 6 INCH COMPACTED THICKNESS LAYERS COMPACTED TO NINETY-EIGHT (98) PERCENT OF ITS MAXIMUM DENSITY TO A POINT ONE (1) FOOT ABOVE THE CROWN OF THE PIPE. THE REMAINING BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 12 INCH COMPACTED THICKNESS AND COMPACTED TO MATCH EXISTING CONDITIONS BUT NOT LESS THAN NINETY (95) PERCENT OF ITS MAXIMUM DENSITY. MAXIMUM DENSITY REFERS TO MAXIMUM LABORATORY MODIFIED DRY DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D1557.

3. TESTING

A. THE CONTRACTOR SHALL PERFORM TESTING OF ALL SANITARY GRAVITY SEWERS, AS SET FORTH IN THE FOLLOWING, AND SHALL CONDUCT SAID TESTS IN THE PRESENCE OF THE APPLICABLE REGULATORY AGENCY AND/OR OTHER AUTHORIZED AGENCIES, WITH FORTY-EIGHT (48) HOURS ADVANCE NOTICE PROVIDED.

B. THE INSTALLED SEWERS SHALL BE VIDEO TAPED BETWEEN MANHOLES OR OTHER STRUCTURES IN ORDER TO ASCERTAIN THAT THEY ARE CLEAR AND TO CORRECT ALIGNMENT. ALL PERTINENT DATA RECORDED ON THE AUDIO TAPE TO INCLUDE: SUBDIVISION NUMBER AND PHASE, MANHOLE NUMBER, DATE, SIZE AND MATERIAL OF PIPE, SERVICE CONNECTIONS, DISTANCES BETWEEN MANHOLES, AND LOCATIONS OF SUSPECTED AND OBVIOUS PIPE DEFICIENCIES.

C. SANITARY SEWERS TO BE TESTED SHALL BE WITHIN SECTIONS AS PREVIOUSLY APPROVED BY THE APPLICABLE REGULATORY AGENCY. TESTING SHALL NOT PROCEED UNTIL ALL FACILITIES ARE COMPLETE IN PLACE AND CONCRETE CURED. ALL PIPING SHALL BE THOROUGHLY CLEANED PRIOR TO TESTING TO CLEAR THE LINES OF ALL FOREIGN MATTER.

D. THE CONTRACTOR MAY UTILIZE LOW-PRESSURE AIR TESTING IN ACCORDANCE WITH UNI-BELL PVC PIPE ASSOCIATION, UNI-B-6-90, "RECOMMENDED PRACTICE FOR LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE," LATEST REVISIONS.

E. PIPE SHALL BE INSPECTED FOR DEFORMATION OR DEFLECTION. ANY PIPE FOUND TO BE DEFORMED AND/OR DEFLECTED IN EXCESS OF 7.5% OF THE NOMINAL DIAMETER OF THE PIPE SHALL BE REMOVED AND REPLACED WITH NEW PIPE AT NO ADDITIONAL COST. RESULTS OF THE TEST SHALL BE SUBMITTED TO COUNTY. THE COST OF THIS SERVICE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PARTICULAR ITEM TO WHICH IT IS RELATED.

F. SHOULD THE TEST FAIL, NECESSARY REPAIRS SHALL BE ACCOMPLISHED BY THE CONTRACTOR AND THE TEST REPEATED UNTIL WITHIN THE ESTABLISHED LIMITS. THE CONTRACTOR SHALL FURNISH THE NECESSARY LABOR, WATER AND ALL OTHER ITEMS REQUIRED TO CONDUCT THE REQUIRED TESTING AND SHALL PERFORM THE NECESSARY SYSTEM REPAIRS REQUIRED TO COMPLY WITH THE SPECIFIED TEST.

ALL CONSTRUCTION COVERED BY THESE PLANS SHALL COMPLY WITH THE MATERIAL REQUIREMENTS AND QUALITY CONTROL STANDARDS CONTAINED IN THE COUNTY LAND DEVELOPMENT CODE AND MANUAL.

NOTE: 'MANUAL' USED IN THESE PLANS REFERS TO THE CITY UTILITIES DIVISION MANUAL OF MINIMUM STANDARDS AND CONSTRUCTION SPECIFICATIONS FOR WATER AND WASTEWATER SYSTEMS.

IN THE EVENT OF A DISCREPANCY BETWEEN PLANS AND THE LAND DEVELOPMENT CODE OR MANUAL, THE CODE AND MANUAL SHALL TAKE PRECEDENCE. IN ACCORDANCE WITH SECTION 1, SUB-SECTION 5 OF MANUAL, NO WORK SHALL BE COVERED UNTIL OBSERVED BY A UTILITIES DIVISION REPRESENTATIVE.

DRAWN	K.L.W.
CHECKED	T.E.B.
DRAWING	BASE19-18
LAYOUT	SP2
DATE	JULY 2019

BURRELL ENGINEERING, INC.
CIVIL ENGINEERING C.A. No. 7973
BEI
12005 N. FLORIDA AVE DUNNELLON, FL 34434 PH. 352-489-4144 FAX 352-489-4741

CRYSTAL RIVER TOWN SQUARE

CITY OF CRYSTAL RIVER, FLORIDA

INSTALLATION SPECIFICATIONS

NO.	REVISION	DATE

TROY E. BURRELL, JR., P.E.
REG. ENGINEER NO. 36044
STATE OF FLORIDA
DATE _____

JOB NO. 19-18
F.B. NO. _____
FILE NO. 0-98
SEC 21 TWP 18S RGE 17E

SHT C13 OF C13

W:\Crystal River Town Square\Production\Drawings\Base19-18.dwg, 6/28/2019 9:39:47 AM

CRYSTAL RIVER TOWN SQUARE

CRYSTAL RIVER, FLORIDA

CONSTRUCTION DOCUMENTS

SHEET INDEX

CONTACT INFORMATION:

OWNER:
CITY OF CRYSTAL RIVER
123 N WEST HIGHWAY 19
CRYSTAL RIVER, FLORIDA 34428

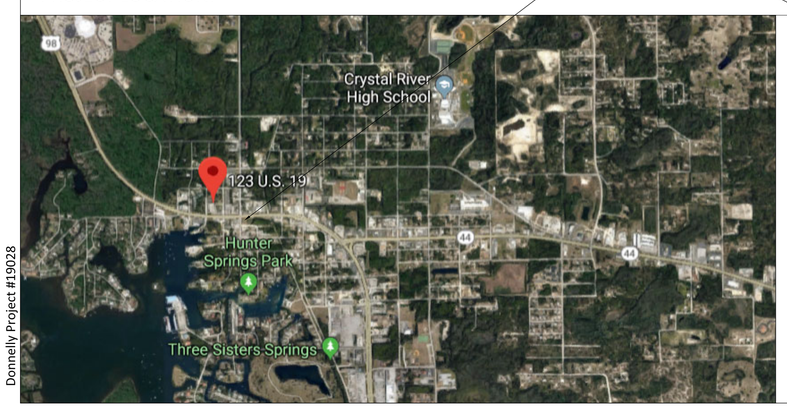
ARCHITECT:
DONNELLY ARCHITECTURE, INCORPORATED
1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428
PHONE: 352.249.1166

STRUCTURAL ENGINEER:
DEVLEN ENGINEERING, INC.
145 EAST WILBUR AVENUE
LAKE MARY, FLORIDA 32746
PHONE: 407.324.5300

MEP ENGINEER:
JOSEPH, LAWRENCE & CO., LLC
1180 HARWOOD AVENUE
SUITE 3000
ALTAMONTE SPRINGS, FLORIDA 32714
PHONE: 321.972.4466

CIVIL ENGINEER:
BURRELL ENGINEERING
12005 N. FLORIDA AVE
DUNNELLON, FLORIDA 34465
PHONE: 352.489.4144

PROJECT LOCATION:



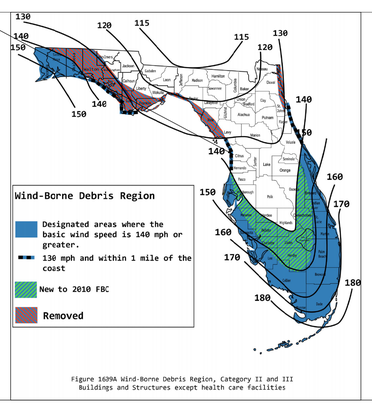


Figure 1609A Wind-Borne Debris Region, Category II and III Buildings and Structures except health care facilities

PROJECT DESCRIPTION:

CREATION OF A NEW TOWN SQUARE IN CRYSTAL RIVER, FLORIDA

DONNELLY Architecture, AA 26001888 INCORPORATED
1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428
825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601
352.249.1166
WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE
Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

FLORIDA ARCHITECT AR 92950

NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

JULY 7, 2019
DESIGN DEVELOPMENT

COVER SHEET AND CONTENTS

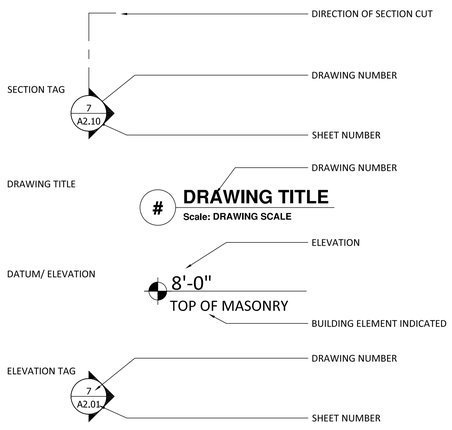
A0.00

Donnelly Project #19028

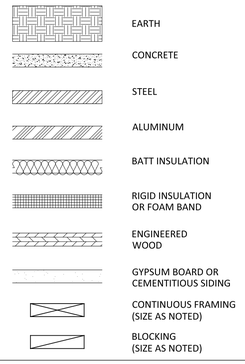
ABBREVIATIONS:

ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
&	AND
ARCH.	ARCHITECT, ARCHITECTURAL
C.I.P.	CAST IN PLACE
CL	CENTER LINE
CFM	CUBIC FEET PER MINUTE
CMU	CONCRETE MASONRY UNIT
Ø	DIAMETER
EA.	EACH
ELEC.	ELECTRIC, ELECTRICAL
FT OR '	FOOT, FEET
GYP.	GYPSUM BOARD
GWB	GYPSUM WALL BOARD
IN OR "	INCH, INCHES
I.D.	INSIDE DIAMETER
MECH.	MECHANICAL
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OPP.	OPPOSITE
OPP. HAND	OPPOSITE HAND
O.D.	OUTSIDE DIAMETER
P. LAM.	PLASTIC LAMINATE
PLUMB.	PLUMBING
PVC	POLYVINYL CHLORIDE
LBS	POUNDS
PSF	POUNDS PER SQUARE FOOT
R.O.W.	RIGHT OF WAY
SIM.	SIMILAR
S.F., SQ. FT.	SQUARE FOOT (FEET)
STRCT.	STRUCTURAL
T & G	TONGUE AND GROOVE
T.O.M.	TOP OF MASONRY
T.O.S.	TOP OF STEEL
TYP.	TYPICAL
UL	UNDERWRITER'S LIMITED
U.N.O.	UNLESS NOTED OTHERWISE
VTR	VENT THRU ROOF
V.I.F.	VERIFY IN FIELD
VCT	VINYL COMPOSITE TILE
W/	WITH

DRAWING SYMBOLS LEGEND



GRAPHIC MATERIAL SYMBOLS



GENERAL NOTES:

1. THE FOLLOWING DRAWINGS ARE PROVIDED FOR THE BENEFIT OF THE OWNER FOR THE SOLE PROJECT NAMED AND DESCRIBED IN THE ATTACHED DRAWINGS AND SPECIFICATIONS, AND MAY NOT BE REPRODUCED WITHOUT WRITTEN CONSENT OF DONNELLY ARCHITECTURE, INCORPORATED AND SHALL NOT BE USED FOR ANY ENDEAVOR OTHER THAN THE SPECIFIC PROJECT DESCRIBED IN THE ATTACHED DOCUMENTS.
2. CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE BUILDING CODES.
3. DO NOT SCALE OFF OF DRAWINGS. USE ONLY WRITTEN DIMENSIONS.
4. DIMENSIONS ARE FROM FACE OF MASONRY, FACE OF GYPSUM BOARD, FACE OF ALUMINUM STOREFRONT/ CURTAIN WALL FRAME, AND FINISHED FLOOR SURFACE UNLESS NOTED OTHERWISE. CLEAR DIMENSIONS INDICATE THE REQUIRED DIMENSION AFTER ALL FINISH MATERIALS HAVE BEEN INSTALLED. DIMENSIONS INDICATED AS ± DESCRIBE AN APPROXIMATE DIMENSION WHERE THERE IS FLEXIBILITY WITHIN REASONABLE CONSTRUCTION TOLERANCES TO ALLOW OTHER DIMENSIONS TO REMAIN CONSTANT. DIMENSIONS INDICATED AS MINIMUM OR MIN. INDICATE THAT THE FINAL DIMENSION AFTER ALL FINISHES AND FIXTURES HAVE BEEN INSTALLED SHALL NOT BE LESS THAN THE DIMENSION LISTED. DIMENSIONS INDICATED AS MAXIMUM OR MAX. INDICATE THAT THE FINAL DIMENSION AFTER ALL FINISHES AND FIXTURES HAVE BEEN INSTALLED SHALL NOT BE GREATER THAN THE DIMENSION LISTED.
5. THE GENERAL CONTRACTOR DETERMINES THE DIVISION OF WORK BETWEEN TRADES. THE ATTACHED DOCUMENTS ARE NOT TO BE USED FOR THE DIVISION OF WORK BETWEEN TRADES.
6. PRIOR TO SUBMITTING A BID TO THE OWNER, THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL REVIEW THE COMPLETE SET OF DRAWINGS AND SPECIFICATIONS, SHALL EXAMINE AND VERIFY ALL EXISTING CONDITIONS AT THE PROJECT SITE. SUBCONTRACTORS SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY AND ALL CONFLICTS OR DISCREPANCIES. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY OF ANY CONFLICTS OR DISCREPANCIES.
7. ALL COMPONENTS REQUIRED FOR THE PROPER COMPLETION AND OPERATION OF THE WORK SHALL BE INCLUDED.
8. THE WORK DESCRIBED IN THE ATTACHED DOCUMENTS AND SPECIFICATIONS SHALL ALSO INCLUDE ANY WORK REASONABLY INFERRED AS BEING REQUIRED TO COMPLETE THE WORK.
9. ALL MATERIALS, FIXTURES, AND EQUIPMENT TO BE INSTALLED SHALL BE NEW, UNLESS NOTED OTHERWISE.
10. CONTRACTOR SHALL OBTAIN AND PAY COSTS OF PERMITS AND LICENSES NECESSARY FOR COMPLETION OF THIS WORK.
11. PRIOR TO DIGGING CONTRACTOR SHALL NOTIFY LOCAL UTILITY COMPANIES.
12. PROVIDE ACCESS DOORS/ PANELS WHERE ACCESS IS REQUIRED FOR MECHANICAL, ELECTRICAL, OR PLUMBING EQUIPMENT AND FIXTURES. ACCESS DOORS/ PANELS IN FIRE RATED WALLS OR CEILINGS SHALL BE RATED AS REQUIRED.
13. ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE CONSTRUCTED ACCORDING TO THE RATED PENETRATION DETAILS (UL OR OTHER) INDICATED IN THE DOCUMENTS. IF SUBCONTRACTOR FINDS THAT A MATERIAL OR SIZE PENETRATIONS NOT LISTED UNDER THE PENETRATION DETAILS, THE GENERAL CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR INFORMATION PROVIDING THE PENETRATING MATERIALS AND SIZES ALONG WITH A PROPOSED PENETRATION DETAIL (UL OR OTHER).
14. ANY BUILDING AREAS LISTED ON THE ATTACHED DOCUMENTS ARE PROVIDED FOR THE PERMITTING AUTHORITY TO ILLUSTRATE COMPLIANCE WITH BUILDING CODES AND ARE NOT TO BE RELIED UPON FOR CONTRACTOR'S MATERIAL ESTIMATES OR "TAKEOFFS". ARCHITECT ASSUMES NO RESPONSIBILITY FOR DIFFERENCES BETWEEN THE LISTED AREAS AND THE AREA OF MATERIALS REQUIRED TO COMPLETE THE WORK DESCRIBED HEREIN.
15. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS, SHALL VERIFY EXISTING TOPOGRAPHY AND GRADE ELEVATIONS, AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK.
16. ANY SITE VISITS BY THE ARCHITECT ARE TO REVIEW GENERAL CONFORMANCE TO THE CONSTRUCTION DOCUMENTS AND DO NOT RELIEVE THE GENERAL CONTRACTOR FROM HIS RESPONSIBILITY OF BUILDING ACCORDING TO THE APPROVED DRAWINGS AND BUILDING CODES.
17. THESE DRAWINGS DO NOT INCLUDE WARRANTY OR GUARANTEE INCLUDING BUT NOT LIMITED TO WARRANTY FOR WATER INTRUSION OR MILDEW/ MOLD DAMAGE.
18. ARCHITECT IS NOT RESPONSIBLE FOR DISTRIBUTION OF DRAWINGS, SPECIFICATIONS, OR INFORMATION TO SUBCONTRACTORS. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE SET OF CONTRACT DOCUMENTS AND ANY ADDENDA OR REVISIONS. CONTRACTOR IS ALSO RESPONSIBLE FOR ENSURING THAT ALL SUBCONTRACTORS ARE WORKING FROM THE MOST CURRENT SET OF DOCUMENTS.

SUBSTITUTIONS:

ANY PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED FOR ARCHITECT'S / ENGINEER'S APPROVAL AS PART OF THE CONTRACTOR'S BIDDING PROCESS, PRIOR TO THE OWNER'S NOTICE OF COMMENCEMENT. CONTRACTOR SHALL PROVIDE ARCHITECT/ ENGINEER WITH ALL REQUIRED DATA SHEETS, SAMPLES, AND/OR TEST DATA REQUIRED FOR PROPOSED MATERIAL OR SYSTEM AS WELL AS SAME FOR SPECIFIED SYSTEM.

TESTING LABORATORY SERVICES:

TESTS OF MATERIALS, EQUIPMENT, AND SYSTEMS REQUIRED AS PART OF THE CONSTRUCTION DOCUMENTS SHALL BE PAID FOR BY THE CONTRACTOR. THREE COPIES OF ALL TEST REPORTS SHALL BE PROVIDED TO ARCHITECT.

OPERATION AND MAINTENANCE MANUALS:

CONTRACTOR SHALL PREPARE AND FURNISH TWO (2) OPERATION AND MAINTENANCE MANUALS FOR BUILDING OPERATING SYSTEMS, EQUIPMENT, AND FOR CARE AND MAINTENANCE OF PRODUCTS AND FINISHES. MANUALS SHALL INCLUDE:

NAME, ADDRESS, TELEPHONE NUMBER OF INSTALLER
COPIES OF ALL APPLICABLE SHOP DRAWINGS AND MANUFACTURER'S PRODUCT DATA
SYSTEM EQUIPMENT IDENTIFICATION INCLUDING NAME, MANUFACTURER, MODEL NUMBER, AND SERIAL NUMBER OF EACH COMPONENT, AS APPLICABLE
OPERATION, MAINTENANCE, AND REPAIR INSTRUCTIONS
EMERGENCY INSTRUCTIONS
WIRING DIAGRAMS
COPIES OF WARRANTIES/ GUARANTEES AND SERVICE CONTRACTS
SPARE PARTS LIST
NAMES AND ADDRESSES OF SOURCES OF MAINTENANCE PARTS, MATERIALS AND SERVICE FOR EACH ITEM

SUBMITTALS:

CONTRACTOR SHALL PREPARE SUBMITTALS, SHOP DRAWINGS, AND SAMPLES FOR REVIEW AND APPROVAL BY THE ARCHITECT/ ENGINEER. THE CONTRACTOR SHALL REVIEW AND STAMP HIS/ HER APPROVAL AND SUBMIT TO THE ARCHITECT FOR REVIEW. SUBMITTALS SHALL BE ACCOMPANIED BY A COVER LETTER STATING:
TITLE OF THE PROJECT
NAME OF THE CONTRACTOR
TITLE OF SUBMITTAL
CONTRACTOR SHALL SUBMIT THREE (3) COPIES OF ALL REQUIRED SUBMITTALS. ARCHITECT/ ENGINEER WILL REVIEW AND STAMP EACH COPY TO BE RETURNED TO THE CONTRACTOR, ARCHITECT RETAINING ONE (1) RECORD COPY ONLY. CONTRACTOR SHALL COMPLY WITH ALL NOTATION ON STAMPED AND REVIEWED SUBMITTALS, OR MAKE REQUIRED CORRECTIONS AT CONTRACTOR'S EXPENSE

ARCHITECT/ ENGINEER WILL REVIEW AND DESIGNATE (STAMP) EACH COPY TO BE RETURNED TO THE CONTRACTOR, RETAINING (1) RECORD COPY. REVIEW SHALL BE CONSIDERED TIMELY IF RETURNED TO CONTRACTOR WITHIN 14 DAYS OF RECEIPT OF COMPLETE SUBMITTAL BY THE ARCHITECT. IT MAY BE NECESSARY, HOWEVER, TO DELAY REVIEW IF COORDINATION IS REQUIRED WITH OTHER SUBMITTALS NOT YET RECEIVED.
NO WORK REQUIRING SHOP DRAWINGS OR SAMPLE SUBMISSION MAY BE COMMENCED UNTIL SUBMISSION HAS BEEN REVIEWED AND APPROVED.
REVIEW OF SHOP DRAWINGS BY ARCHITECT/ ENGINEER SHALL NOT BE CONSTRUED AS A COMPLETE CHECK BUT WILL INDICATE THAT THE GENERAL METHOD OF CONSTRUCTION AND DETAILING IS IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. REVIEW OF SUBMITTALS DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ANY ERROR WHICH MAY EXIST IN THE SUBMITTALS.

SUBMITTALS REQUIRED:
ALL SUBMITTALS AND SHOP DRAWINGS REQUESTED BY STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING DRAWINGS
ROOFING SYSTEM (INCLUDE ROOF SHINGLE MATERIAL SAMPLE)
STONE VENEER (INCLUDE MATERIAL SAMPLE)
CEMENTITIOUS SIDING AND TRIM (INCLUDE MATERIAL SAMPLES)
EXTERIOR FRAME DOOR SHOP DRAWINGS
EXTERIOR PAINT, INTERIOR PAINT
FLOORING (INCLUDE MATERIAL SAMPLES)
TOILET PARTITIONS (INCLUDE MATERIAL SAMPLES)

SAMPLES SHALL BE PROVIDED TO THE ARCHITECT WITH MATERIAL DATA AND SPECIFICATIONS AND IN FULL RANGE OF TEXTURE AND COLORS FOR MATERIALS SPECIFIED HEREIN. COST OF SAMPLES, TOGETHER WITH TRANSPORTATION, DELIVERY, AND ANY OTHER COSTS SHALL BE CONTRACTOR'S RESPONSIBILITY.

SCHEDULES:

CONTRACTOR SHALL MAINTAIN AND DELIVER TO ARCHITECT COPY OF CURRENT PROGRESS SCHEDULE AT THE BEGINNING OF THE PROJECT AND SHALL UPDATE MONTHLY.

DONNELLY Architecture, INC.
AA 26001888
1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428
825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601
352.249.1166
WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE

Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428
FLORIDA ARCHITECT AR 92950

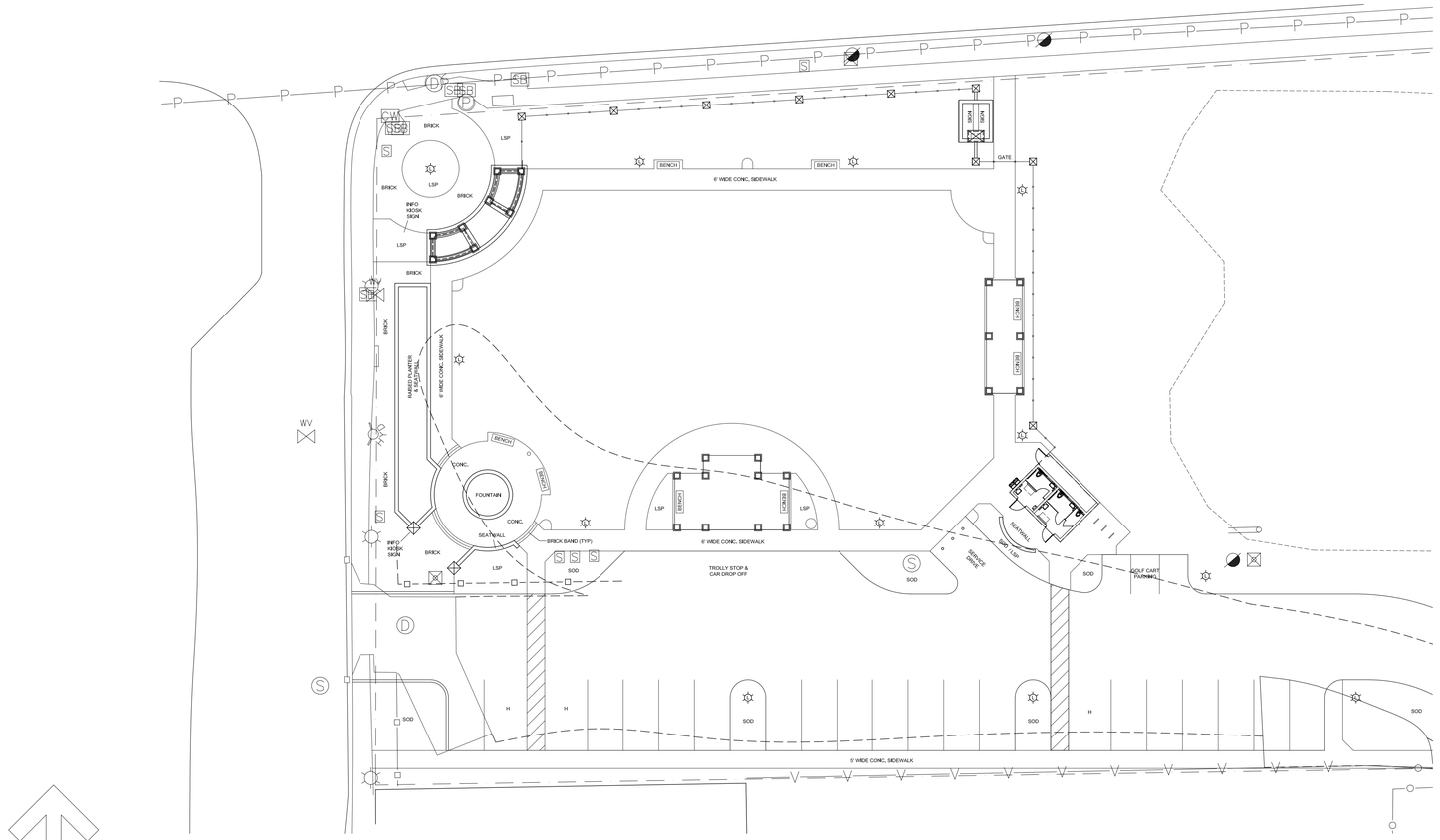
NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

JULY 7, 2019
DESIGN DEVELOPMENT

GENERAL NOTES AND LEGENDS

A0.05

Donnelly Project #19028



1 **Architectural Site Plan (For information only - site boundary, building location per owner provided survey)**
Scale: 1" = 20'-0"

DONNELLY Architecture, INCORPORATED
AA 26001588

1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601

352.249.1166

WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE

Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

FLORIDA ARCHITECT AR 92950

NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

JULY 7, 2019

DESIGN DEVELOPMENT

ARCHITECTURAL SITE PLAN

A0.07

Donnelly Project #19028

ROOF SYSTEM SPECIFICATIONS

CODE	SYSTEM	MANUFACTURER/ PRODUCT SELECTION	SUBSTRATE	FLASHING	ROOF/ ATTIC VENTILATION SYSTEM	SOFFIT SYSTEM	INSULATION SYSTEM
MT-1	METAL ROOF SYSTEM	STANDING SEAM METAL ROOF ON SELF-ADHERING SHEET WATER PROOFING EQUAL TO ENGLERT, INC. "SERIES 1300" 24 GAUGE ON SELF-ADHERING SHEET WATERPROOFING ON WOOD ROOF SHEATHING PER FLORIDA PRODUCT APPROVAL #FL11727.1-R5. COLOR SHALL BE SELECTED FROM MANUFACTURER'S FULL STANDARD LINE OF COLORS. (20 YEAR WARRANTY)	ROOF SHEATHING SHALL BE EXTERIOR EXPOSURE-1" PLYWOOD OR 7/16" OSB. 1/4" WITH H-CLIPS, SEE ROOF SHEATHING NOTES ON SHEET A0.41 FOR FASTENER TYPE AND SPACING. SEE EXTERIOR WALL SYSTEM SPECIFICATIONS FOR GABLE END SHEATHING AND FASTENER TYPE AND SPACING.	0.032 INCH (0.8 MM) ALUMINUM SHEET, COMPLYING WITH ASTM B 209. USE METAL FLASHINGS AT EAVE EDGES, RAKE EDGES, STEP FLASHING AT CHIMNEYS, SIDE WALLS AND DORMERS. VALLEYS SHALL HAVE LEAK BARRIER AT LEAST 36 INCHES WIDE CENTERED ON VALLEY; LAP ENDS 8 INCHES (203 MM) AND SEAL.	RIDGE VENT SHALL BE FLEXIBLE RIDGE VENTILATOR DESIGNED TO ALLOW THE PASSAGE OF AIR FROM ATTICS. COBRA RIDGE VENT, BY GAF-ELK OR APPROVED EQUAL.	CEMENTITIOUS SOFFIT EQUAL TO HARDIE SOFFIT PANELS (VENTED).	R-30 BATTS (8 1/4" THICKNESS) EQUAL TO OWENS CORNING ECOTOUCH

FASCIA:
1. PRESSURE TREATED 2X8.
2. PROVIDE ALUMINUM PAINTED FASCIA WRAPS.

FLOOR SYSTEM SPECIFICATIONS

CODE	SYSTEM	SPECIFICATION	VAPOR BARRIER	SUBSTRATE	INSULATION
FS-1	CONCRETE SLAB ON GRADE	SEE STRUCTURAL DRAWINGS	MINIMUM 6 MIL. CONTINUOUS SHEET VAPOR BARRIER	SEE STRUCTURAL DRAWINGS	N/A

EXTERIOR WALL SYSTEM SPECIFICATIONS

CODE	SYSTEM	MANUFACTURER/ PRODUCT SELECTION	PAINT	WEATHER RESISTIVE BARRIER	SUBSTRATE	INSULATION
CS-1	CEMENTITIOUS SIDING	PANEL SIDING EQUAL TO HARDIE PANEL SMOOTH INSTALLED PER FL#13223.2.	EQUAL TO SHERWIN WILLIAMS 3 COAT SYSTEM. FIRST COAT: S-W LOXON EXTERIOR ACRYLIC MASONRY PRIMER. SECOND, THIRD COATS: S-W A-100 EXTERIOR LATEX SATIN	FLUID APPLIED WEATHER BARRIER EQUAL TO DUPONT TYVEK FLUID APPLIED WB	CMU BLOCK PER STRUCTURAL DRAWINGS	R-7.5 EQUAL TO 1.5" FOAMULAR 250 RIGID INSULATION ON 1.5" Z-FURRING ON INTERIOR FACE OF CMU
ST-1	STUCCO	DIRECT APPLIED ACRYLIC MODIFIED (SYNTHETIC) STUCCO SYSTEM ON CMU (MIN. 3/8" THREE COAT SYSTEM THICKNESS)	EQUAL TO SHERWIN WILLIAMS 3 COAT SYSTEM. FIRST COAT: S-W LOXON EXTERIOR ACRYLIC MASONRY PRIMER. SECOND, THIRD COATS: S-W A-100 EXTERIOR LATEX SATIN	-	CMU BLOCK PER STRUCTURAL DRAWINGS	N/A
SV-1	STONE VENEER	EQUAL TO EL DORADO STONE WITH 1/2" POLYMER MODIFIED MORTAR BED (SCRATCH COAT) STYLE: COASTAL REEF, COLOR: SANIBEL PROVIDE PRE-MANUFACTURED CORNER PIECES. MARK WALLS WITH HORIZONTAL CHALK GUIDELINES AT 8" O.C.	NOT APPLICABLE (DO NOT SEAL STONE)	-	CMU BLOCK PER STRUCTURAL DRAWINGS	N/A

Donnelly Project #19028

DONNELLY Architecture, AA 26001588 INCORPORATED
1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428
825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601
352.249.1166
WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE

Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

FLORIDA ARCHITECT AR 92950

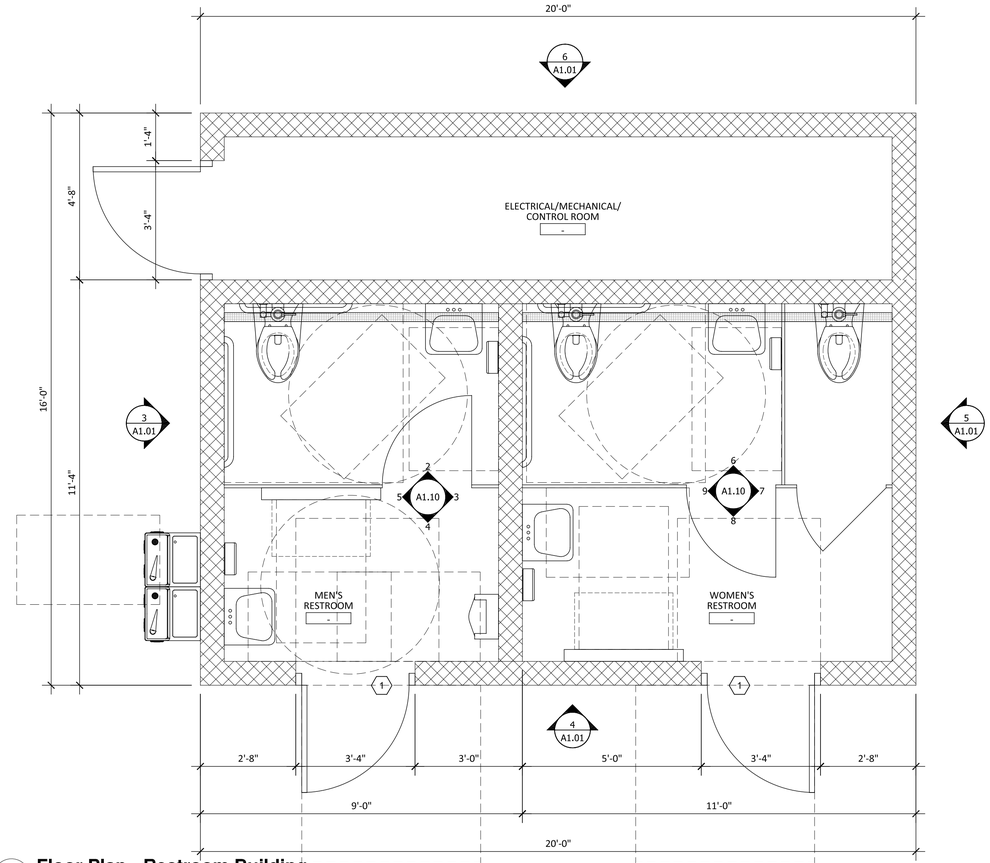
NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

JULY 7, 2019

DESIGN DEVELOPMENT

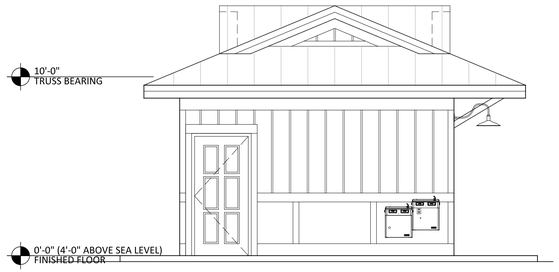
BUILDING SYSTEM SPECIFICATIONS

A0.25



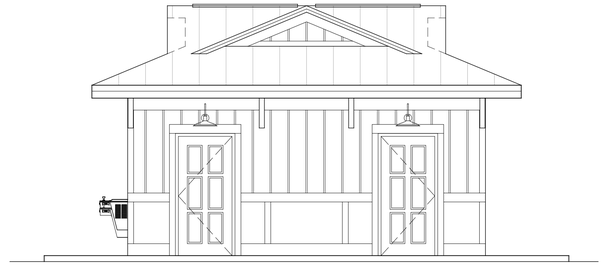
1 Floor Plan - Restroom Building

Scale: 1/2" = 1'-0"



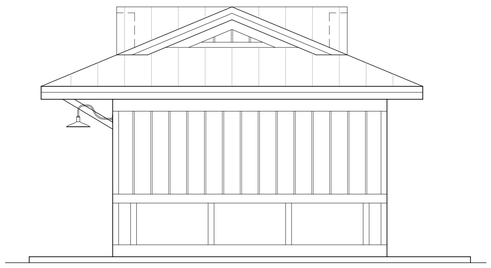
3 Restroom Building - Side Elevation

Scale: 1/4" = 1'-0"



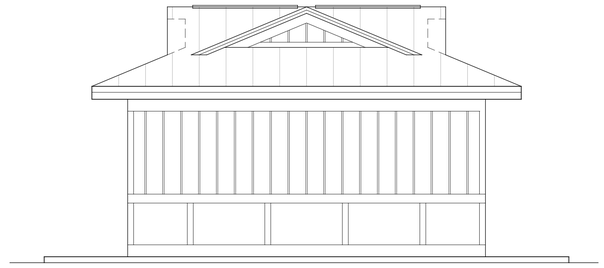
4 Restroom Building - Front Elevation

Scale: 1/4" = 1'-0"



5 Restroom Building - Side Elevation

Scale: 1/4" = 1'-0"



6 Restroom Building - Rear Elevation

Scale: 1/4" = 1'-0"

ELEVATION NOTES:

1. SEE A0.25 FOR BUILDING SECTIONS AND EXTERIOR BUILDING SYSTEM SPECIFICATIONS.

FLOOR PLAN WALL LEGEND:

8" CMU WITH GWB ON FURRING (SEE A0.25 AND A4.10)

FLOOR PLAN LEGEND:

2 — WALL TYPE, SEE SHEET A4.10

1 — OPENING TYPE, SEE SHEET A3.00

NOTES:
1. PROVIDE SIGN (ACCESSIBLE IN TYPE AND LOCATION) EQUAL TO ASI SYSTEMS 390R SERIES 6" X 6" AT TOILET ROOMS, MECHANICAL AREAS. INSTALL AT 5'-0" TO CENTER OF SIGN ON WALL ADJACENT TO LATCH SIDE. INSTALL SQUARE AND PLUMB.

REFLECTED CEILING PLAN LEGEND:

GB-1 — CEMENTITIOUS PANEL SOFFIT (SEE A0.25)

1'X4' SURFACE MOUNTED FIXTURE

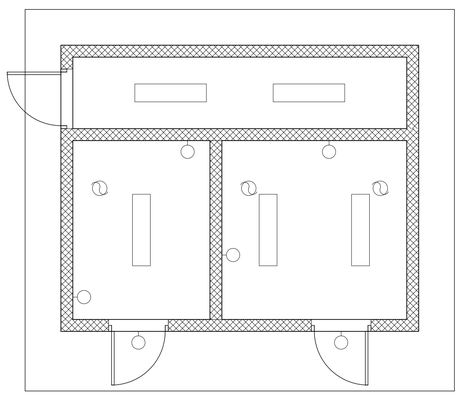
RECESSED CAN LIGHT FIXTURE

CEILING FAN

WALL MOUNTED LIGHT FIXTURE

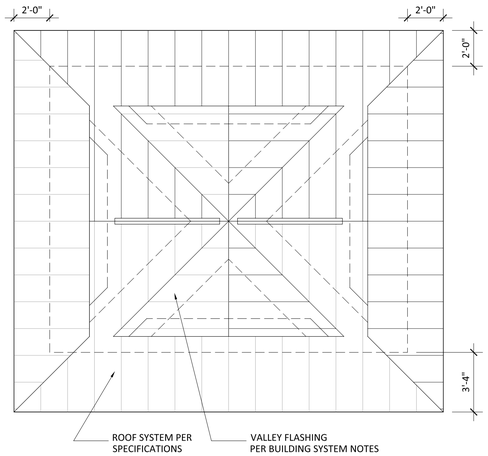
EXHAUST FAN

NOTES:
1. SEE A1.50 FOR INTERIOR FINISHES.



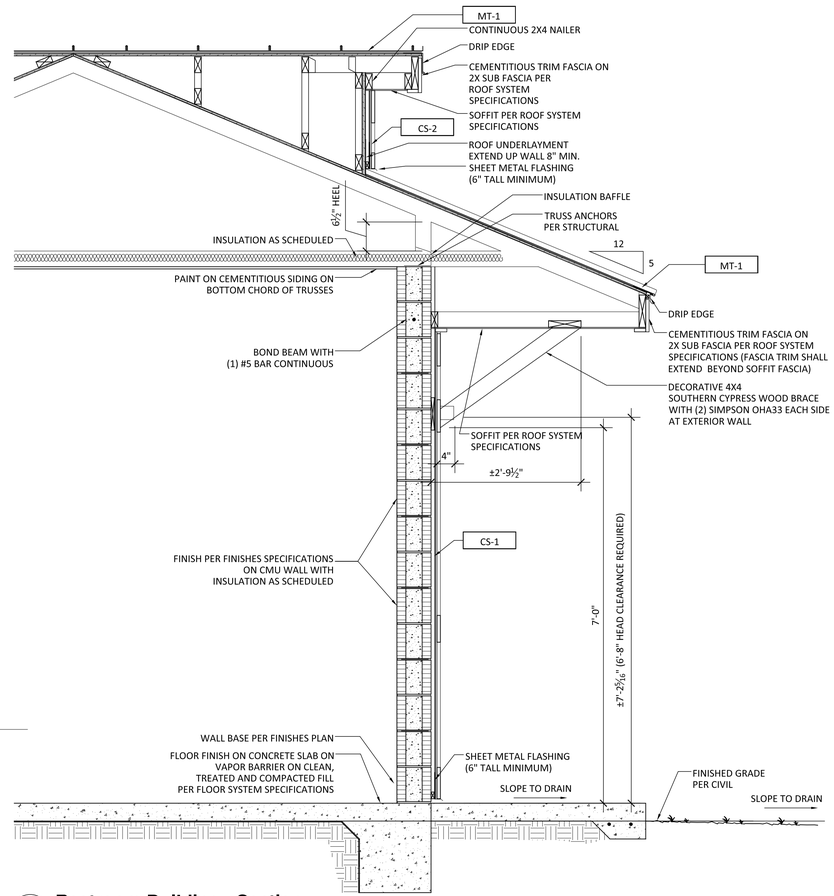
2 Reflected Ceiling Plan - Restroom Building

Scale: 1/4" = 1'-0"



3 Roof Plan - Restroom Building

Scale: 1/4" = 1'-0"



7 Restroom Building - Section

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

CEILING FINISH SPECIFICATIONS

NOTE: SEE REFLECTED CEILING PLAN FOR FINISH LOCATIONS.

CODE	MATERIAL	MANUFACTURER	PRODUCT NO	PRODUCT INFO	TEXTURE	FASTENERS AND FRAMING
GB-1	PAINT ON GWB	SHERWIN-WILLIAMS (BASIS OF DESIGN), BENJAMIN MOORE, PITTSBURGH PAINTS, APPROVED EQUAL	WHITE	FLAT FINISH, 3 COAT SYSTEM	NONE	SEE INTERIOR WALL SECTIONS AND INTERIOR WALL NOTES

DONNELLY Architecture, AA 26001588 INCORPORATED

1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601

352.249.1166

WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE

Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

FLORIDA ARCHITECT AR 92950

NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

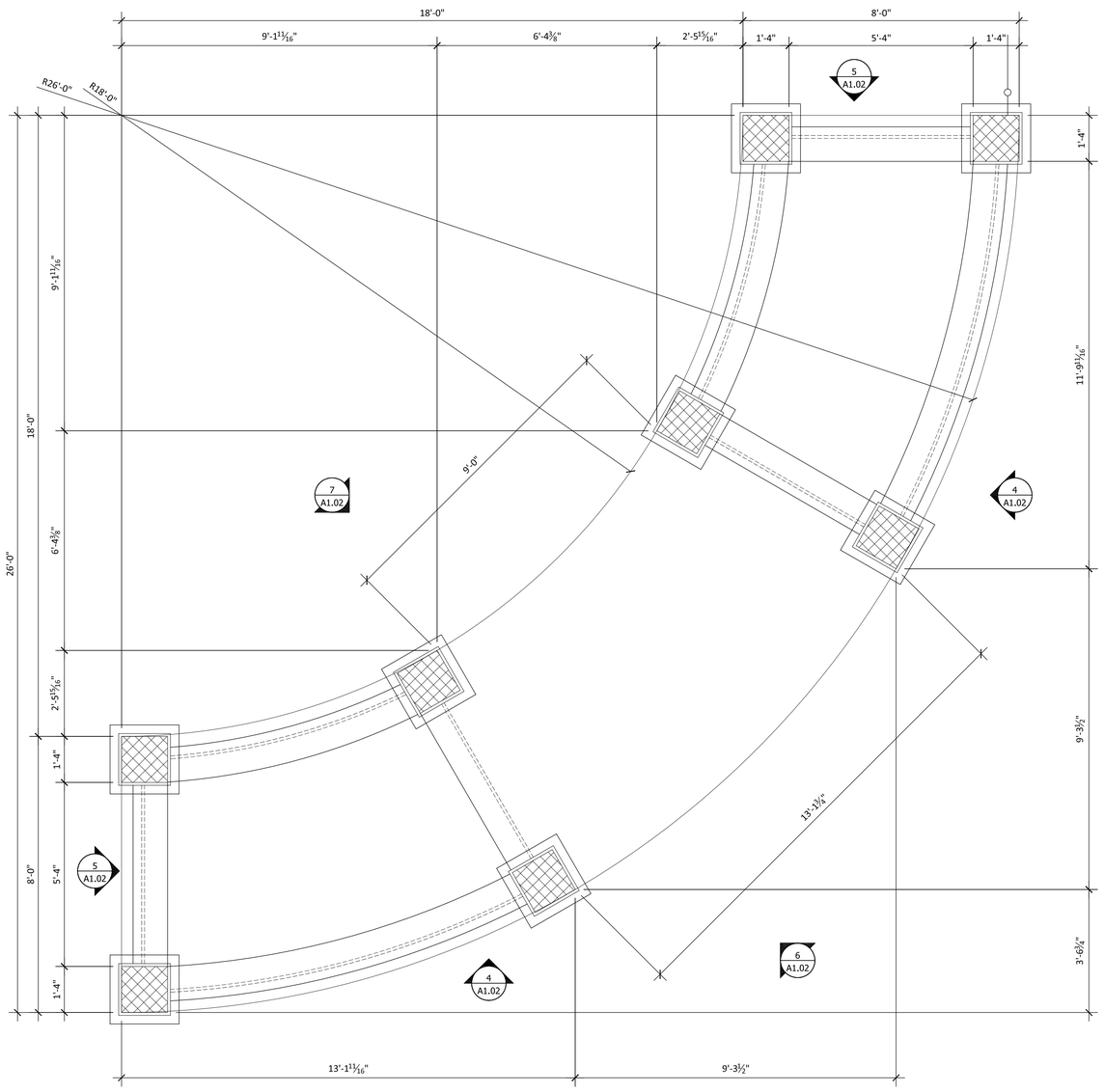
JULY 7, 2019

DESIGN DEVELOPMENT

FLOOR PLAN AND NOTES

A1.01

Donnelly Project #19028



1 Floor Plan - Entry Structure

Scale: 1/2" = 1'-0"

FLOOR PLAN WALL LEGEND:

8" CMU WITH GWB ON FURRING (SEE A0.25 AND A4.10)

FLOOR PLAN LEGEND:

2 — WALL TYPE, SEE SHEET A4.10

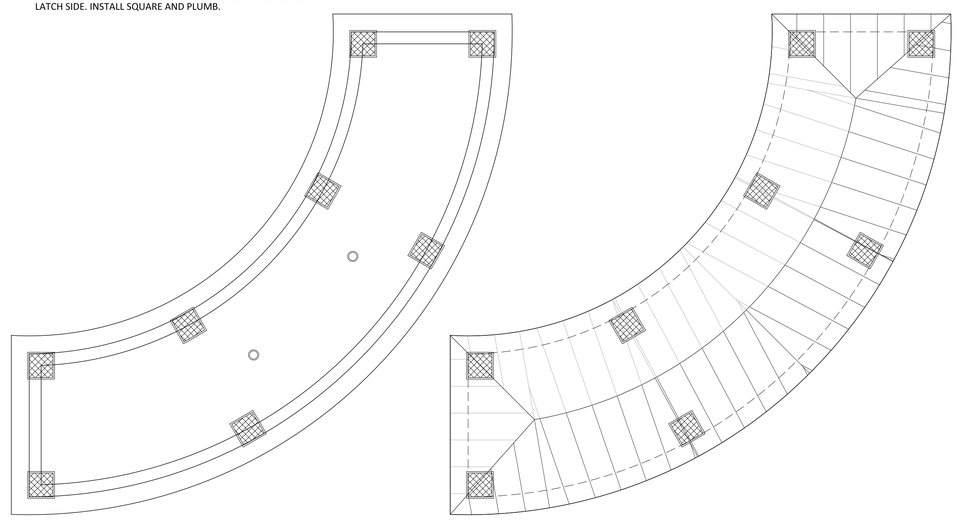
1 — OPENING TYPE, SEE SHEET A3.00

NOTES:
1. PROVIDE SIGN (ACCESSIBLE IN TYPE AND LOCATION) EQUAL TO ASI SYSTEMS 390R SERIES 6" X 6" AT TOILET ROOMS, MECHANICAL AREAS. INSTALL AT 5'-0" TO CENTER OF SIGN ON WALL ADJACENT TO LATCH SIDE. INSTALL SQUARE AND PLUMB.

REFLECTED CEILING PLAN LEGEND:

- GB-1
- CEMENTITIOUS PANEL SOFFIT (SEE A0.25)
- 1'X4' SURFACE MOUNTED FIXTURE
- RECESSED CAN LIGHT FIXTURE
- CEILING FAN
- WALL MOUNTED LIGHT FIXTURE
- EXHAUST FAN

NOTES:
1. SEE A1.50 FOR INTERIOR FINISHES.

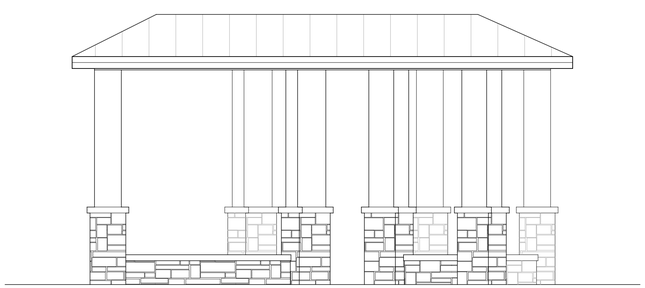


2 Reflected Ceiling Plan - Entry Structure

Scale: 1/4" = 1'-0"

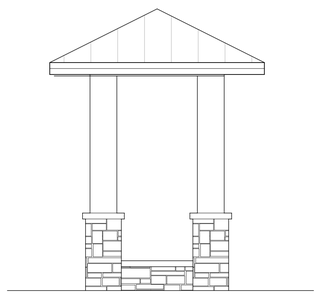
3 Roof Plan - Entry Structure

Scale: 1/4" = 1'-0"



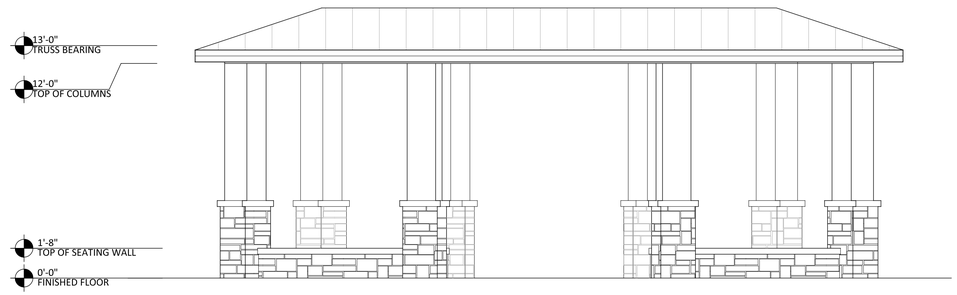
4 Gateway Structure - Front Elevation

Scale: 1/4" = 1'-0"



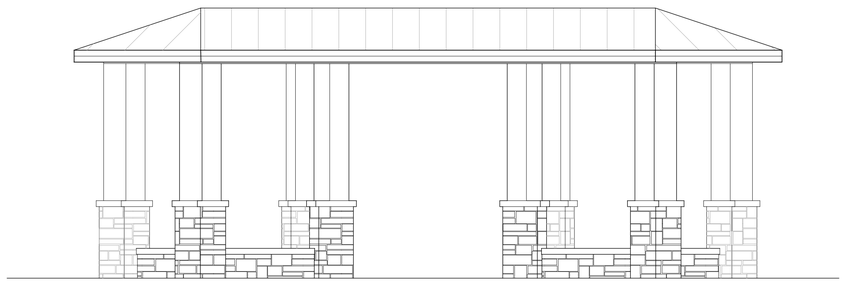
5 Gateway Structure - Front Elevation

Scale: 1/4" = 1'-0"



6 Gateway Structure - Front Elevation

Scale: 1/4" = 1'-0"



7 Gateway Structure - Front Elevation

Scale: 1/4" = 1'-0"

DONNELLY Architecture, AA 26005888 INCORPORATED

1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601

352.249.1166

WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE

Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

FLORIDA ARCHITECT AR 92950

NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

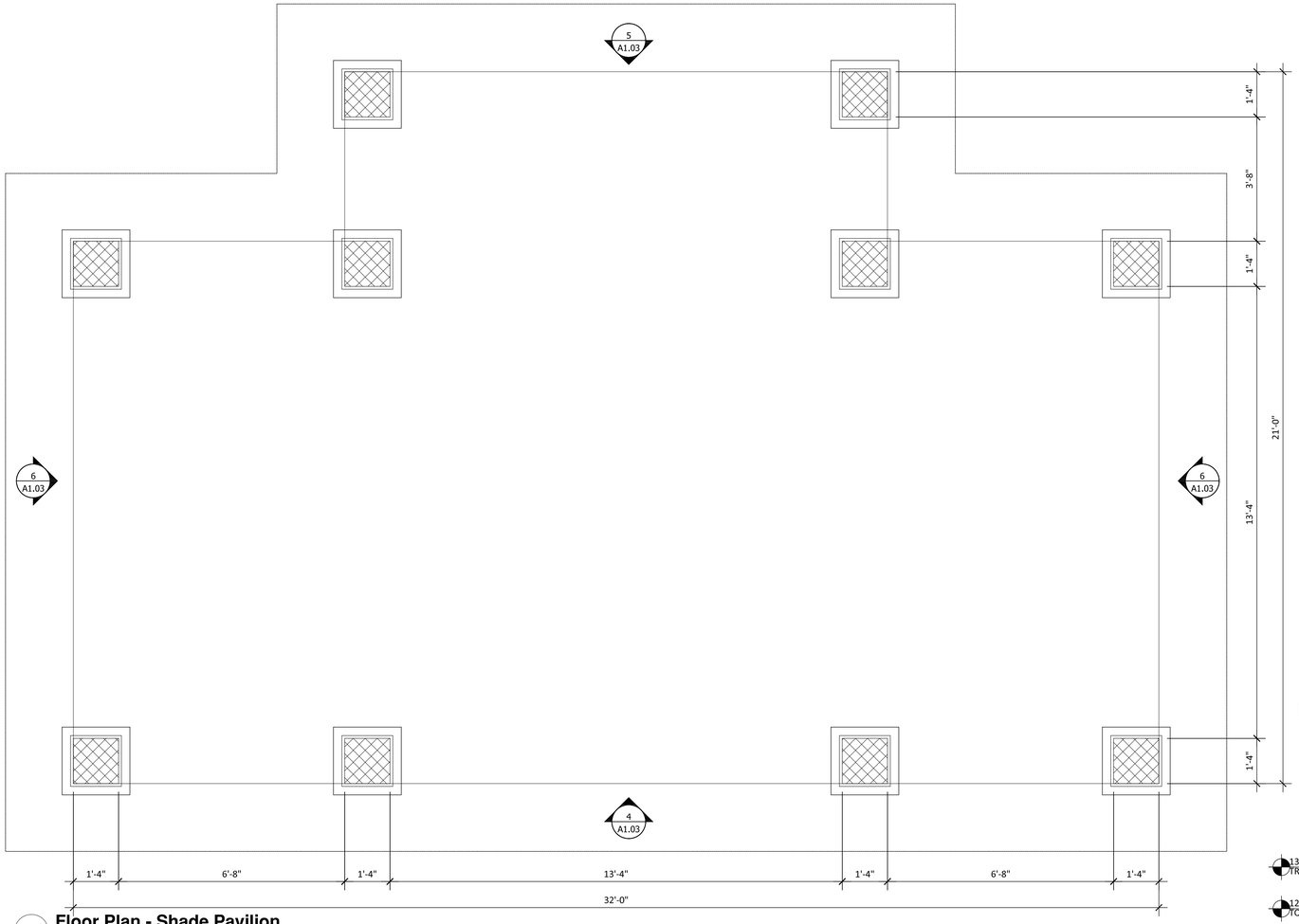
JULY 7, 2019

DESIGN DEVELOPMENT

FLOOR PLAN AND NOTES

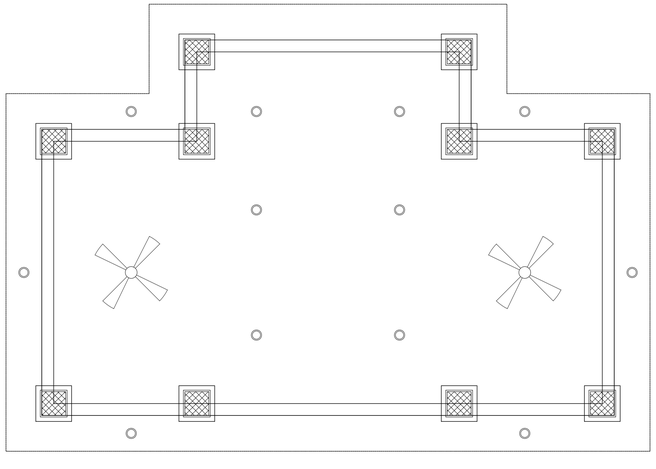
A1.02

Donnelly Project #19028



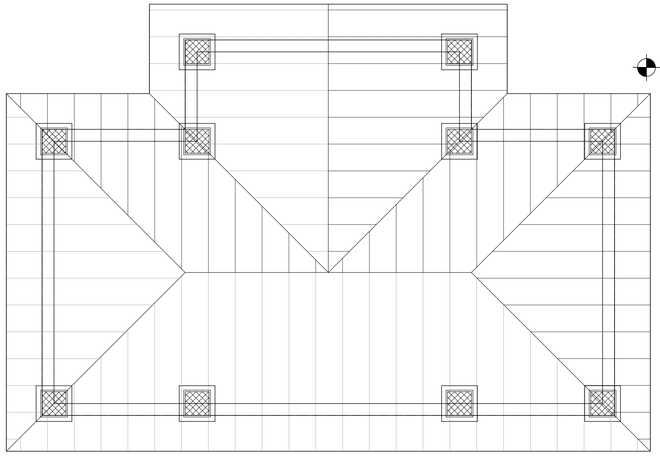
1 Floor Plan - Shade Pavilion

Scale: 1/2" = 1'-0"



2 Ceiling Plan - Shade Pavilion

Scale: 1/4" = 1'-0"



3 Roof Plan - Shade Pavilion

Scale: 1/4" = 1'-0"

REFLECTED CEILING PLAN LEGEND:

- GB-1
- CEMENTITIOUS PANEL SOFFIT (SEE A0.25)
- 1'X4' SURFACE MOUNTED FIXTURE
- RECESSED CAN LIGHT FIXTURE
- CEILING FAN
- WALL MOUNTED LIGHT FIXTURE
- EXHAUST FAN

NOTES:
1. SEE A1.50 FOR INTERIOR FINISHES.

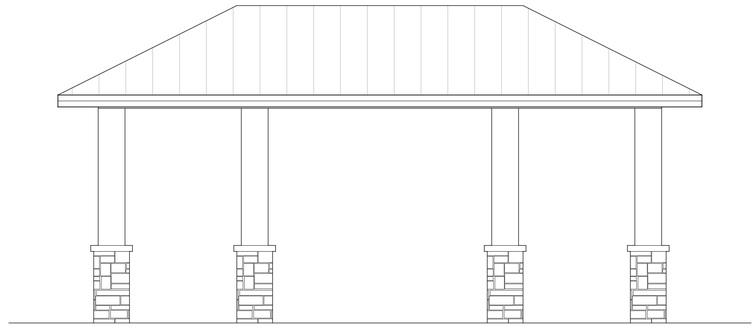
FLOOR PLAN WALL LEGEND:

- 8" CMU WITH GWB ON FURRING (SEE A0.25 AND A4.10)

FLOOR PLAN LEGEND:

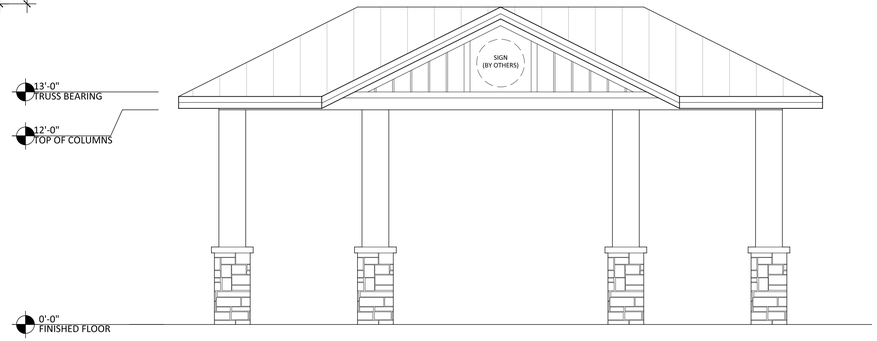
- 2 — WALL TYPE, SEE SHEET A4.10
- 1 — OPENING TYPE, SEE SHEET A3.00

NOTES:
1. PROVIDE SIGN (ACCESSIBLE IN TYPE AND LOCATION) EQUAL TO ASI SYSTEMS 390R SERIES 6" X 6" AT TOILET ROOMS, MECHANICAL AREAS. INSTALL AT 5'-0" TO CENTER OF SIGN ON WALL ADJACENT TO LATCH SIDE. INSTALL SQUARE AND PLUMB.



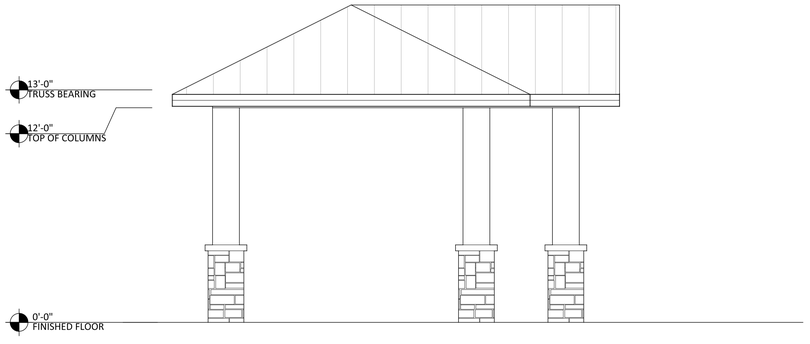
4 Pavilion - Front Elevation

Scale: 1/4" = 1'-0"



5 Pavilion - Front Elevation

Scale: 1/4" = 1'-0"



6 Pavilion - Front Elevation

Scale: 1/4" = 1'-0"

DONNELLY Architecture, AA 26001888 INCORPORATED
1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428
825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601
352.249.1166
WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE

Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

FLORIDA ARCHITECT AR 92950

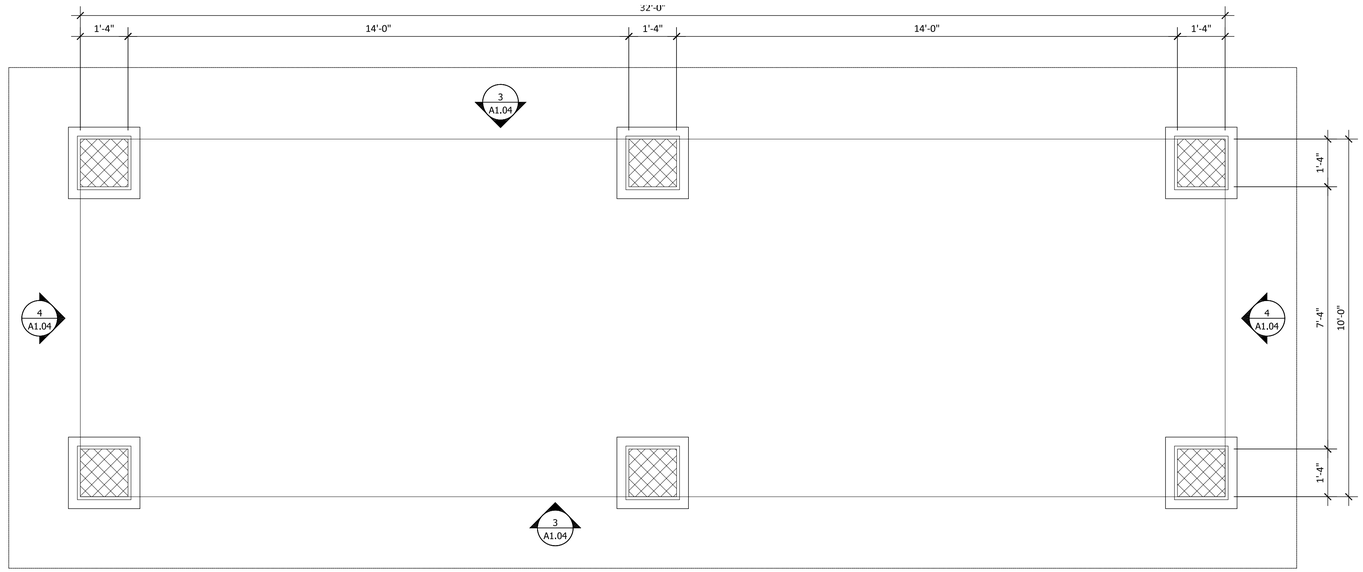
NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

JULY 7, 2019
DESIGN DEVELOPMENT

FLOOR PLAN AND NOTES

A1.03

Donnelly Project #19028



1 Floor Plan - Shade Structure

Scale: 1/2" = 1'-0"

REFLECTED CEILING PLAN LEGEND:

- GB-1
- CEMENTITIOUS PANEL SOFFIT (SEE A0.25)
- 1'X4' SURFACE MOUNTED FIXTURE
- RECESSED CAN LIGHT FIXTURE
- CEILING FAN
- WALL MOUNTED LIGHT FIXTURE
- EXHAUST FAN

NOTES:
1. SEE A1.50 FOR INTERIOR FINISHES.

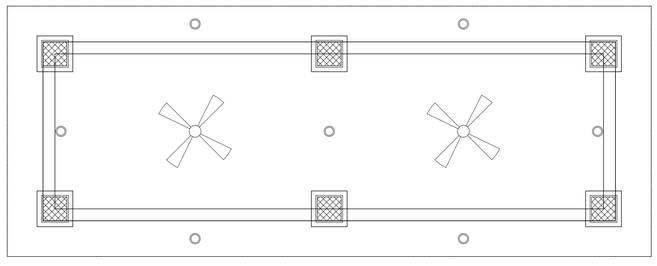
FLOOR PLAN WALL LEGEND:

- 8" CMU WITH GWB ON FURRING (SEE A0.25 AND A4.10)

FLOOR PLAN LEGEND:

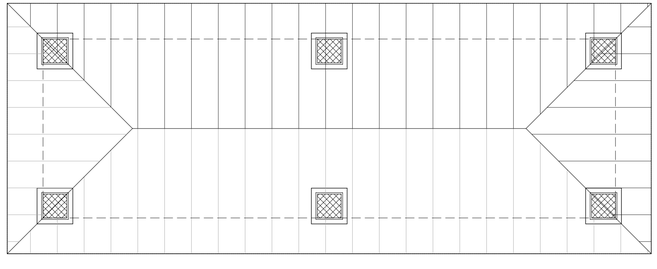
- 2 — WALL TYPE, SEE SHEET A4.10
- 1 — OPENING TYPE, SEE SHEET A3.00

NOTES:
1. PROVIDE SIGN (ACCESSIBLE IN TYPE AND LOCATION) EQUAL TO ASI SYSTEMS 390R SERIES 6" X 6" AT TOILET ROOMS, MECHANICAL AREAS. INSTALL AT 5'-0" TO CENTER OF SIGN ON WALL ADJACENT TO LATCH SIDE. INSTALL SQUARE AND PLUMB.



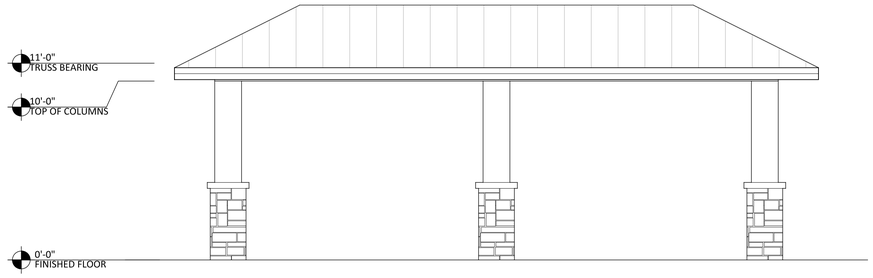
2 Reflected Ceiling Plan - Shade Structure

Scale: 1/4" = 1'-0"



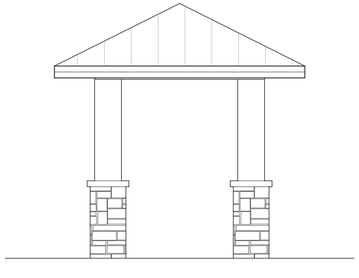
3 Roof Plan - Shade Structure

Scale: 1/4" = 1'-0"



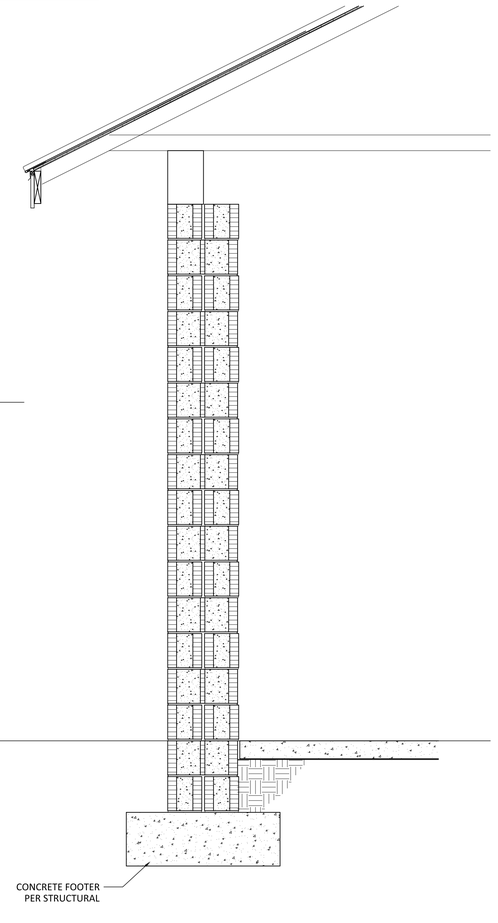
3 Shade Structure - Front Elevation

Scale: 1/4" = 1'-0"



4 Shade Structure - Side Elevation

Scale: 1/4" = 1'-0"



5 Shade Structure - Section

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

DONNELLY Architecture, AA 26005888 INCORPORATED

1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601

352.249.1166

WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE

Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

FLORIDA ARCHITECT AR 92950

NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

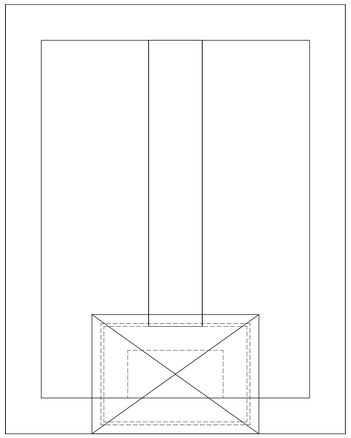
JULY 7, 2019

DESIGN DEVELOPMENT

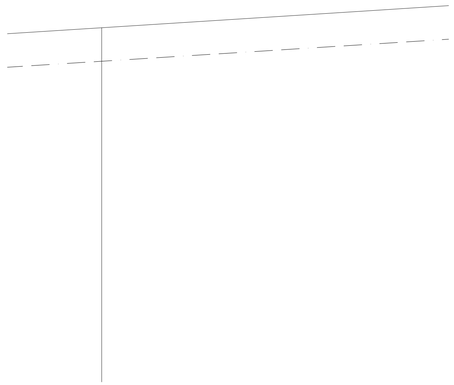
FLOOR PLAN AND NOTES

A1.04

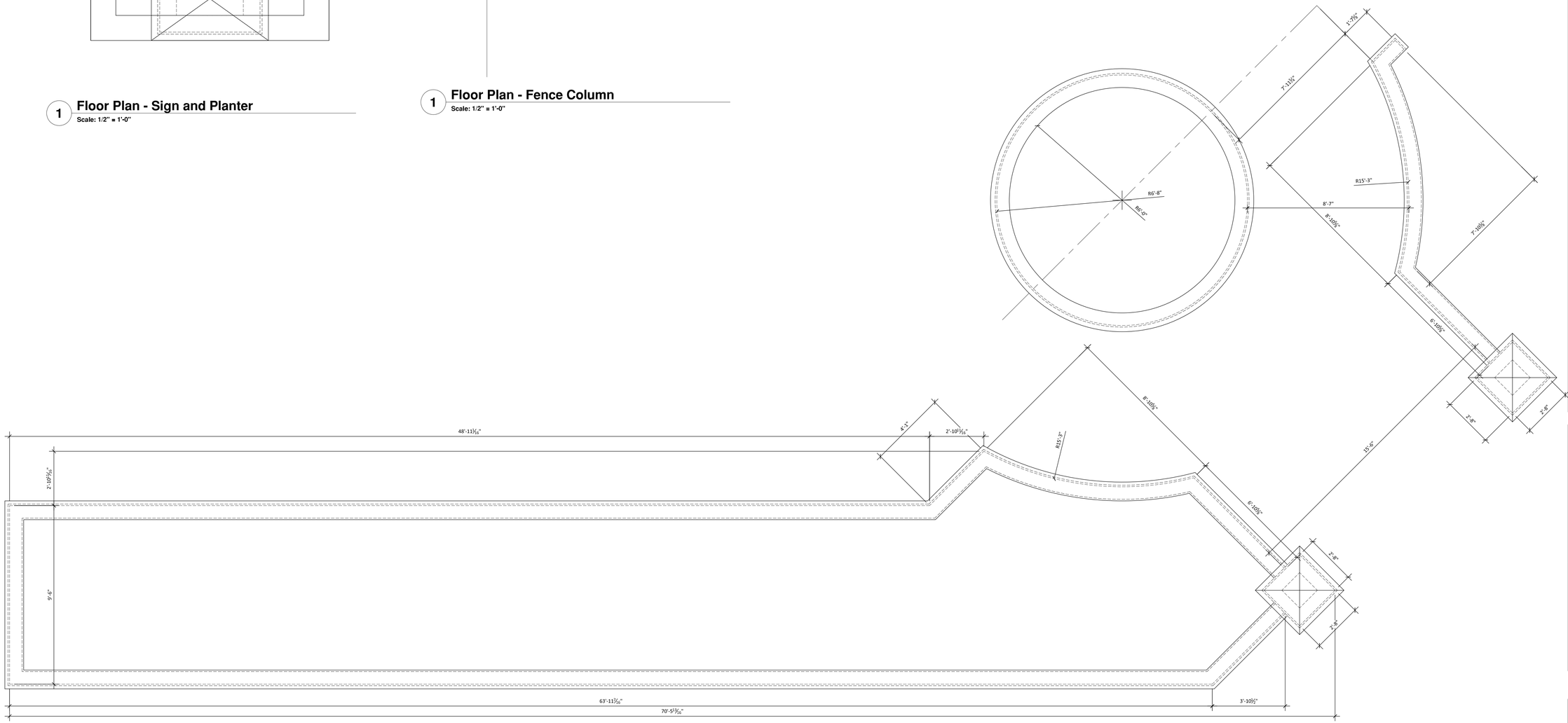
Donnelly Project #19028



1 **Floor Plan - Sign and Planter**
Scale: 1/2" = 1'-0"



1 **Floor Plan - Fence Column**
Scale: 1/2" = 1'-0"



1 **Floor Plan - Planter Walls and Fountain**
Scale: 1/2" = 1'-0"

DONNELLY Architecture, INCORPORATED
AA 26001588

1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601

352.249.1166

WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE

Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428

FLORIDA ARCHITECT AR 92950

NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

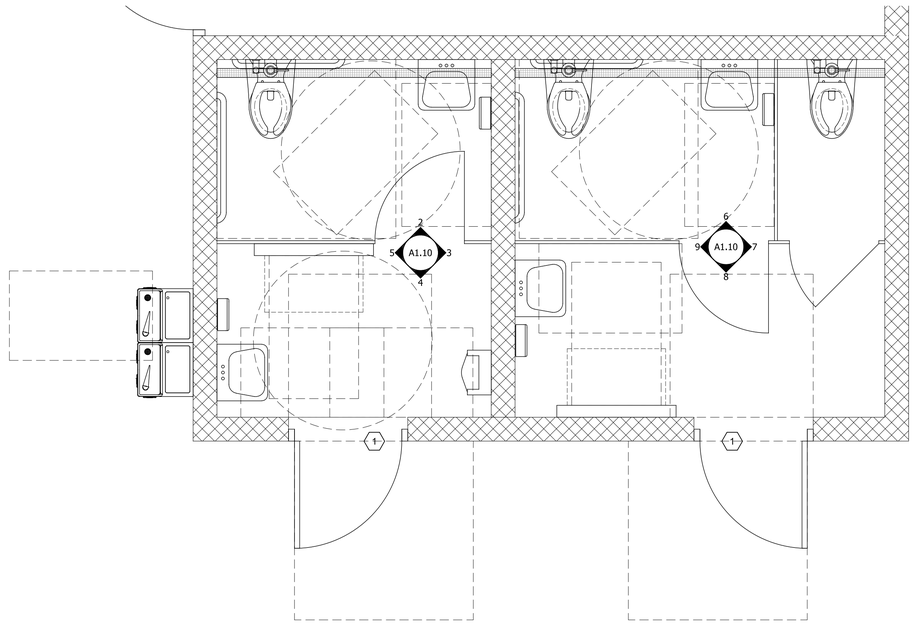
JULY 7, 2019

DESIGN DEVELOPMENT

DIMENSION FLOOR PLAN AND NOTES

A1.05

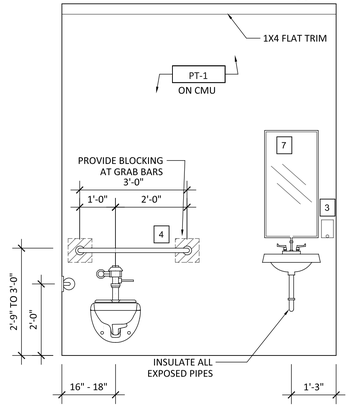
Donnelly Project #19028



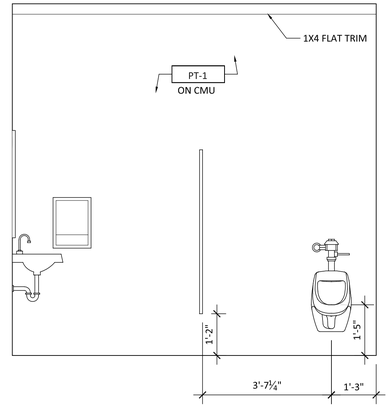
1 Enlarged Floor Plan
Scale: 1/2" = 1'-0"

	TOILET ACCESSORIES		
#	DESCRIPTION	SPEC.	MANUFACTURER/ NOTES
1	PAPER TOWEL DISPENSER	B-262	BOBRICK (SURFACE)
2	TOILET PAPER DISPENSER	9031	AMERICAN SPECIALTIES INC
3	SOAP DISPENSER	B-2111	BOBRICK (SURFACE)
4	GRAB BAR - 36"	B-6806 x 36	BOBRICK
5	GRAB BAR - 42"	B-6806 x 42	BOBRICK
6	TRASH RECEPTACLE	-	BY OWNER
7	MIRROR	B-165 1836	BOBRICK
8	BABY CHANGING STATION	KB200 HORIZ.	KOALA CARE
9	SANITARY NAPKIN DISPOSAL	B-270	BOBRICK

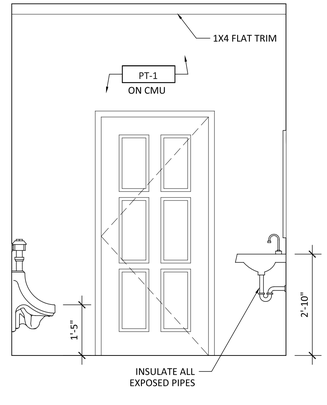
NOTES:
1. MOUNT ALL TOILET ROOM ACCESSORIES IN COMPLIANCE WITH FLORIDA BUILDING CODE, ACCESSIBILITY.
2. CONTRACTOR MAY PROVIDE OWNER/ ARCHITECT APPROVED EQUAL FOR ANY ITEM SCHEDULED ABOVE.
3. PROVIDE OPEN TOILET SEAT FOR ALL COMMERCIAL WATER CLOSETS.
4. FLUSH CONTROLS SHALL BE AUTOMATIC OR, WHERE HAND OPERATED, SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET COMPARTMENT.



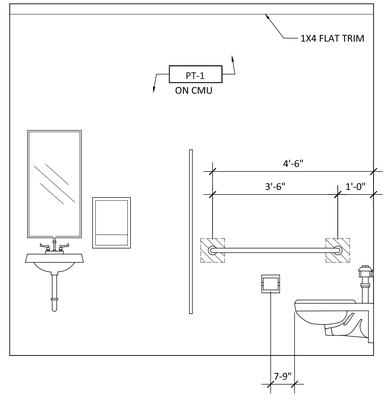
2 Interior Elevation
Scale: 1/2" = 1'-0"



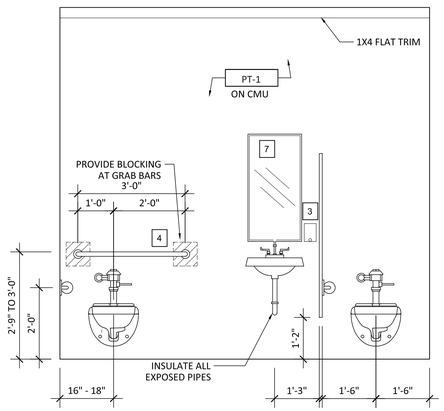
3 Interior Elevation
Scale: 1/2" = 1'-0"



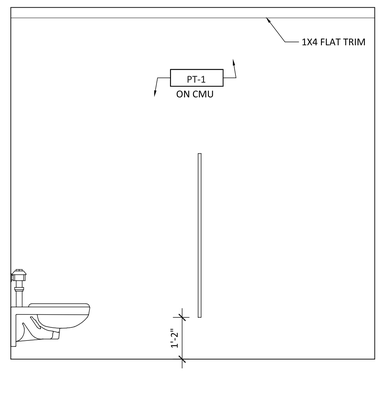
4 Interior Elevation
Scale: 1/2" = 1'-0"



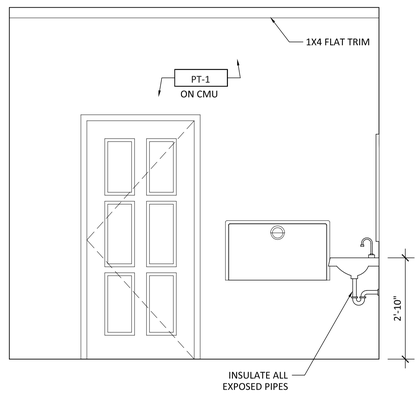
5 Interior Elevation
Scale: 1/2" = 1'-0"



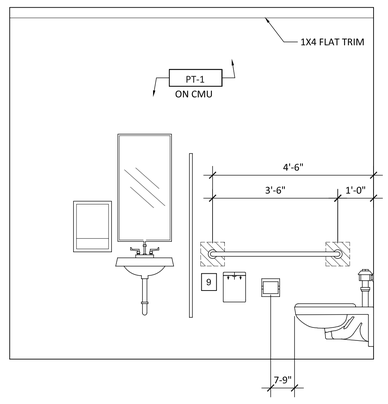
6 Interior Elevation
Scale: 1/2" = 1'-0"



7 Interior Elevation
Scale: 1/2" = 1'-0"



8 Interior Elevation
Scale: 1/2" = 1'-0"



9 Interior Elevation
Scale: 1/2" = 1'-0"

DONNELLY Architecture, AA 26001888 INCORPORATED
1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428
825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601
352.249.1166
WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE
Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428
FLORIDA ARCHITECT AR 92950

NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

JULY 7, 2019
DESIGN DEVELOPMENT

ENLARGED FLOOR PLANS AND NOTES

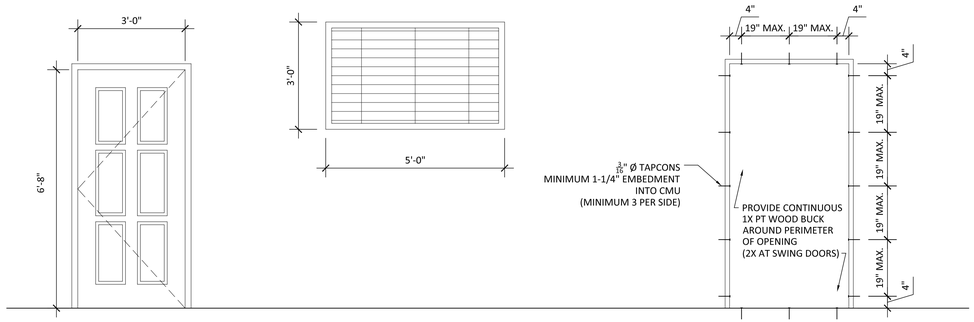
A1.10

Donnelly Project #19028

EXTERIOR OPENING NOTES:

1. PRE HUNG EXTERIOR FIBERGLASS DOORS SHALL BE EQUAL TO THERMA-TRU SMOOTH STAR OR CLASSIC CRAFT SERIES INSTALLED PER FL#5891 (SINGLE DOOR) OR FL#7347 (DOUBLE DOOR). (U-VALUE 0.30, SHGC 0.28 MIN.)
2. EXTERIOR LOUVER EQUAL TO GREENHECK MODEL ESD INSTALLED PER FL#6876.3.

* NOTE: PROVIDE LABEL AT EACH EXTERIOR OPENING LISTING MANUFACTURER, MODEL, PRODUCT APPROVAL NUMBER, AND U-FACTOR



1 Exterior Opening Types
Scale: 1/2" = 1'-0"

EXTERIOR OPENING & HARDWARE SCHEDULE

#	ROOM NAME	OPENING TYPE/ DETAIL GROUP	DOOR AND HARDWARE RATING	DOOR HARDWARE FUNCTION
###	ROOM NAME	#	##	GROUP A
###	ROOM NAME	#	##	GROUP A
###	ROOM NAME	#	##	GROUP A
###	ROOM NAME	#	##	GROUP A
###	ROOM NAME	#	##	GROUP A
###	ROOM NAME	#	##	GROUP A
###	ROOM NAME	#	##	GROUP A
###	ROOM NAME	#	##	GROUP A
###	ROOM NAME	#	##	GROUP A
###	ROOM NAME	#	##	GROUP A
###	ROOM NAME	#	##	GROUP A

EXTERIOR DOOR HARDWARE NOTES:

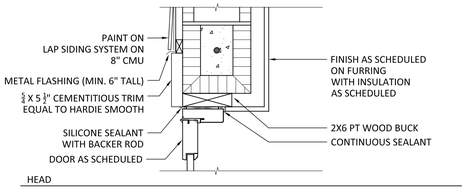
PROVIDE DOOR HARDWARE AS FOLLOWS:

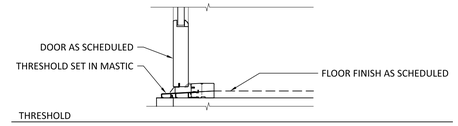
GROUP A: EXTERIOR ENTRANCES
ENTRY FUNCTION, CLOSER, ADA THRESHOLD

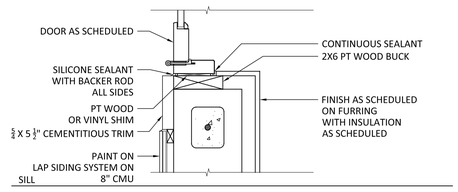
PROVIDE CYLINDRICAL LEVER LOCK SETS EQUAL TO SCHLAGE AL-SERIES COMMERCIAL STANDARD DUTY LOCK SETS WITH JUPITER STYLE LEVER HANDLES, SATIN NICKEL FINISH

LEVER LOCKSETS, CLOSERS, AND MOUNTING HEIGHTS OF ALL DOOR HARDWARE SHALL COMPLY WITH FLORIDA BUILDING CODE, ACCESSIBILITY.

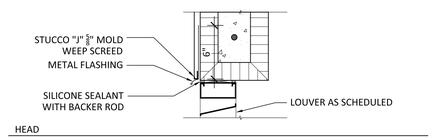
NOTE:
1. DOOR HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERABLE PARTS SHALL BE MOUNTED 34" MINIMUM AND 48" MAXIMUM ABOVE FINISHED FLOOR OR GROUND.
2. CLOSERS SHALL BE ADJUSTED SO THAT FROM OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MINIMUM.
3. OPENING OR CLOSING A DOOR SHALL NOT REQUIRE A FORCE GREATER THAN 5 POUNDS.
4. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST.

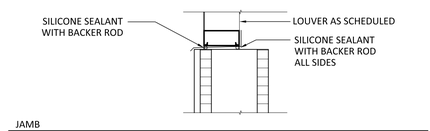


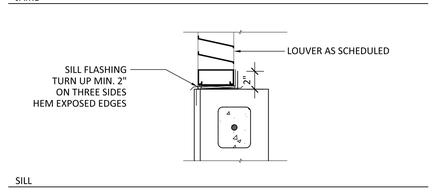




1 Exterior Opening Detail - Pre-Hung Door
Scale: 1-1/2" = 1'-0"







2 Exterior Opening Detail - Louver
Scale: 1-1/2" = 1'-0"

DONNELLY Architecture, AA 26001588 INCORPORATED
1384 NORTH CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428
825 NW 13TH STREET
GAINESVILLE, FLORIDA 32601
352.249.1166
WWW.DONNELLYARCHITECTURE.COM

CRYSTAL RIVER TOWN SQUARE

Crystal River, Florida

PROJECT LOCATION:
CRYSTAL RIVER TOWN SQUARE
US 19 AND CITRUS AVENUE
CRYSTAL RIVER, FLORIDA 34428
FLORIDA ARCHITECT AR 92950

NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

JULY 7, 2019
DESIGN DEVELOPMENT

EXTERIOR OPENING TYPES AND NOTES

A3.00

Donnelly Project #19028

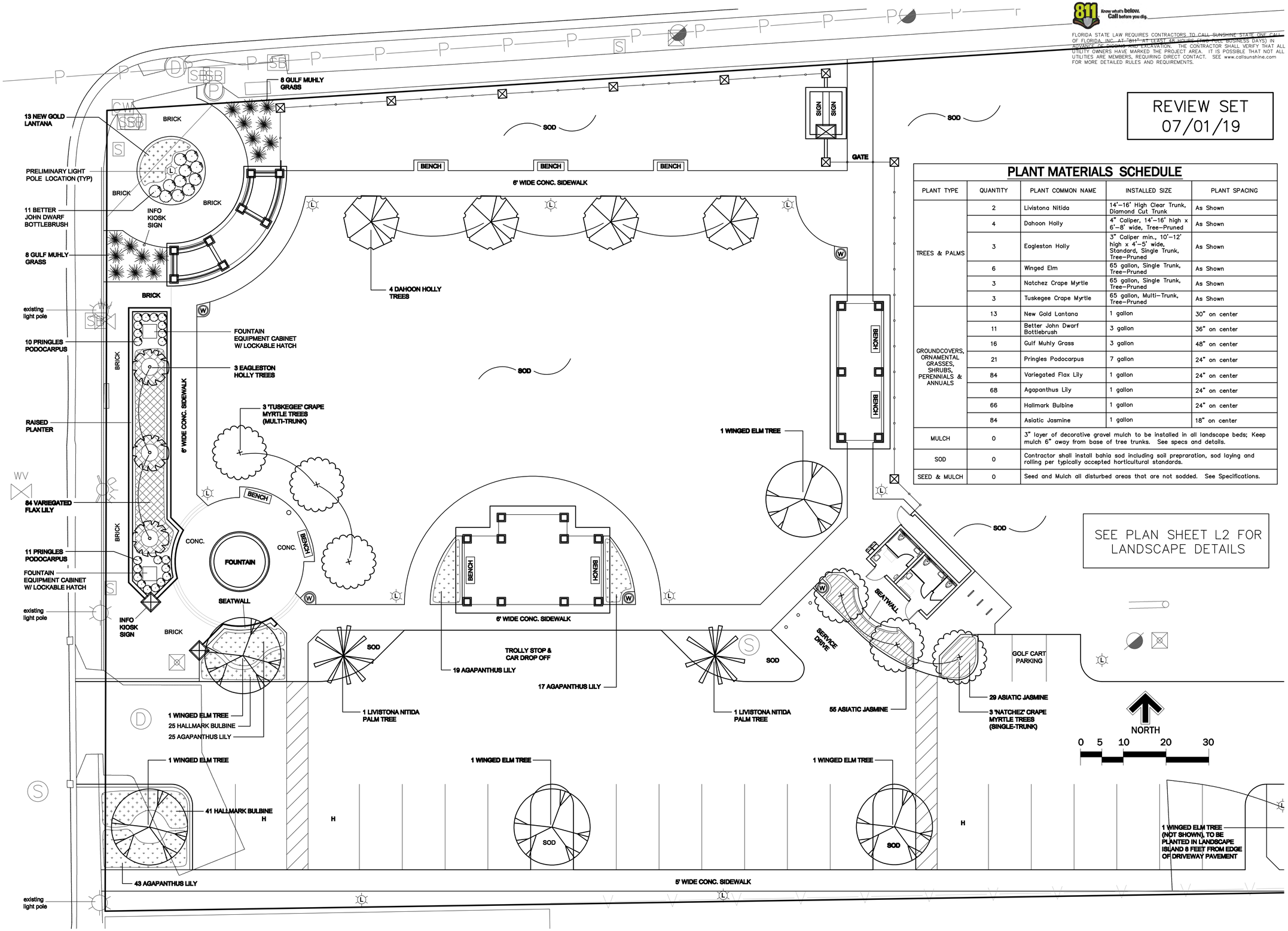
811 Know what's below. Call before you dig.

FLORIDA STATE LAW REQUIRES CONTRACTORS TO CALL SUNSHINE STATE ONE CALL OF FLORIDA, INC. AT "811" AT LEAST 48 HOURS (TWO FULL BUSINESS DAYS) IN ADVANCE OF DIGGING AND EXCAVATION. THE CONTRACTOR SHALL VERIFY THAT ALL UTILITY OWNERS HAVE MARKED THE PROJECT AREA. IT IS POSSIBLE THAT NOT ALL UTILITIES ARE MEMBERS, REQUIRING DIRECT CONTACT. SEE www.callsunshine.com FOR MORE DETAILED RULES AND REQUIREMENTS.

REVIEW SET
07/01/19

PLAN REVISIONS:

DESCRIPTION	DATE



PLANT MATERIALS SCHEDULE

PLANT TYPE	QUANTITY	PLANT COMMON NAME	INSTALLED SIZE	PLANT SPACING
TREES & PALMS	2	Livistona Nitida	14'–16' High Clear Trunk, Diamond Cut Trunk	As Shown
	4	Dahoon Holly	4" Caliper, 14'–16' high x 6'–8' wide, Tree–Pruned	As Shown
	3	Eagleston Holly	3" Caliper min., 10'–12' high x 4'–5' wide, Standard, Single Trunk, Tree–Pruned	As Shown
	6	Winged Elm	65 gallon, Single Trunk, Tree–Pruned	As Shown
	3	Natchez Crape Myrtle	65 gallon, Single Trunk, Tree–Pruned	As Shown
	3	Tuskegee Crape Myrtle	65 gallon, Multi–Trunk, Tree–Pruned	As Shown
GROUNDCOVERS, ORNAMENTAL GRASSES, SHRUBS, PERENNIALS & ANNUALS	13	New Gold Lantana	1 gallon	30" on center
	11	Better John Dwarf Bottlebrush	3 gallon	36" on center
	16	Gulf Muhly Grass	3 gallon	48" on center
	21	Pringles Podocarpus	7 gallon	24" on center
	84	Variegated Flax Lily	1 gallon	24" on center
	68	Agapanthus Lily	1 gallon	24" on center
	66	Hallmark Bulbine	1 gallon	24" on center
	84	Asiatic Jasmine	1 gallon	18" on center
MULCH	0	3" layer of decorative gravel mulch to be installed in all landscape beds; Keep mulch 6" away from base of tree trunks. See specs and details.		
SOD	0	Contractor shall install bahia sod including soil prepraration, sod laying and rolling per typically accepted horticultural standards.		
SEED & MULCH	0	Seed and Mulch all disturbed areas that are not sodded. See Specifications.		

SEE PLAN SHEET L2 FOR LANDSCAPE DETAILS

LANDSCAPE PLAN

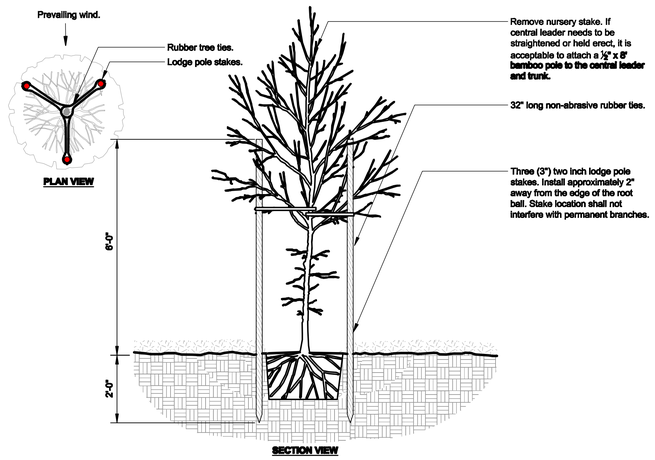
CRYSTAL RIVER TOWN SQUARE
CRYSTAL RIVER, FLORIDA

Community Land Design, Inc.
Landscape Architecture
LC26000227
1773 East Cleveland Street
Hernando, FL 34442
Phone: 352-637-1742
Email: paulcld2000@tampabay.rr.com

Registered Landscape Architect #1189
Signature: Paul C. Gibbs
Date:

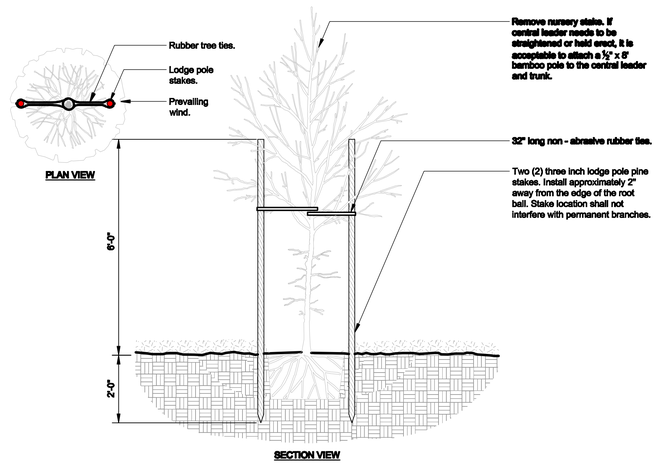
DRAWN BY:	PCG
DATE:	07/01/19
SCALE:	1"=10'

SHEET
L1 OF 8



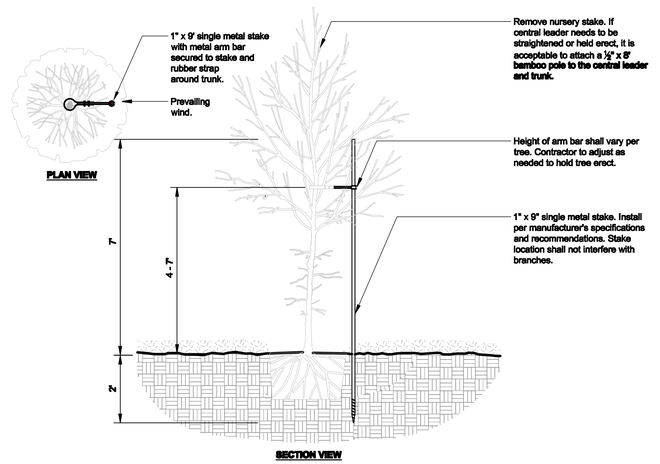
P-X **TREE STAKING - LODGE POLES (3)**

L_tree staking_lodgepoles x 3



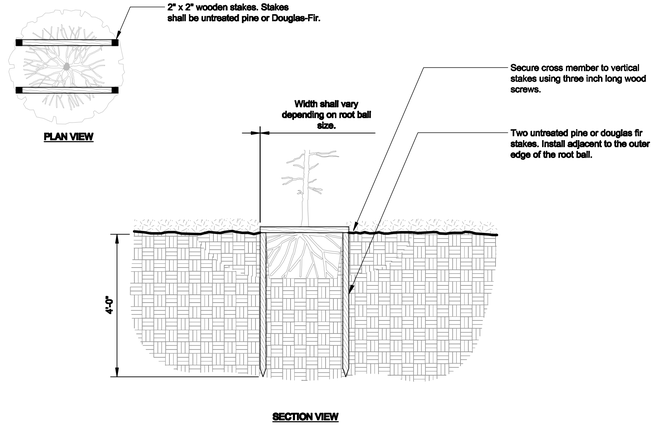
P-X **TREE STAKING - LODGE POLES (2)**

L_tree staking_lodgepole x 2



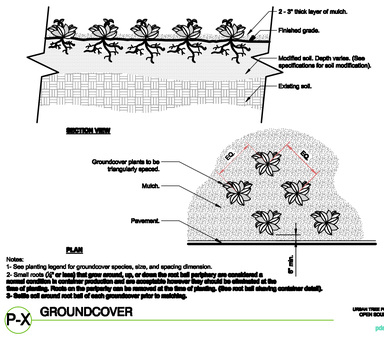
P-X **TREE STAKING - SINGLE METAL STAKE**

L_tree staking_reddy stake



P-X **TREE STAKING - STAPLE**

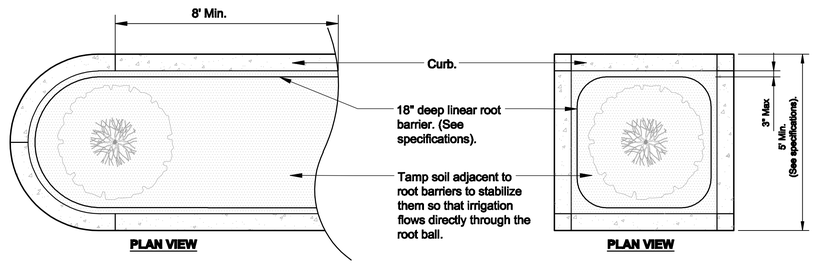
L_tree staking_lodgepole x 2

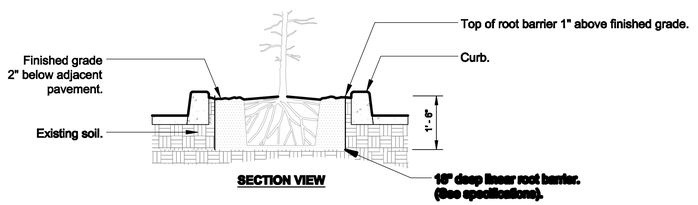


Notes:
1- See planting legend for groundcover species, size, and spacing dimension.
2- Small roots (¼" or less) that grow around, up, or down the root ball periphery are considered a normal condition in container production and are acceptable however they should be eliminated at the time of planting. Roots on the periphery can be removed at the time of planting. (See root ball shaving container detail).
3- Settle soil around root ball of each groundcover prior to mulching.

P-X **GROUNDCOVER**

pdst_groundcover



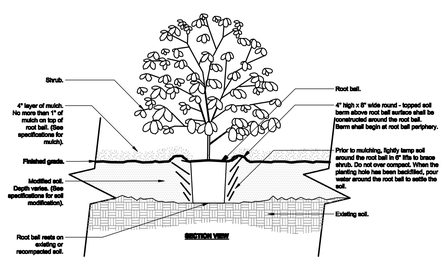


Notes:
1- Root barriers shall be installed per manufacturer's specifications and recommendations.

2- Root barriers shall be installed when root ball is located within 8' of pavement.

S-X **ROOT BARRIERS - PARKING LOT ISLANDS**

L_site preparation_rootbarriers_parking lot islands

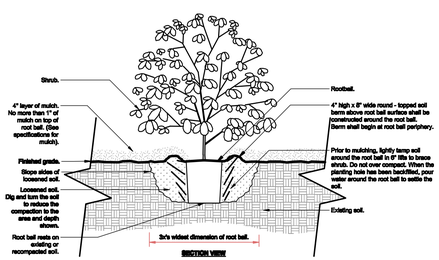


Notes:
1- Shrubs shall be of quality prescribed in the root observations detail and specifications.

2- See specifications for further requirements related to this detail.

P-X **SHRUB - MODIFIED SOIL**

pdst_shrub_modified soil



Notes:
1- Shrubs shall be of quality prescribed in the root observations detail and specifications.

2- See specifications for further requirements related to this detail.

P-X **SHRUB - UNMODIFIED SOIL**

pdst_shrub_unmodified soil

REVIEW SET
07/01/19

PLAN REVISIONS:

DATE	DESCRIPTION
.	.
.	.
.	.
.	.

LANDSCAPE DETAILS

CRYSTAL RIVER
TOWN SQUARE
CRYSTAL RIVER, FLORIDA

Community Land Design, Inc.
Landscape Architecture
LC26000237
1773 East Cleveland Street
Hernando, FL 34442
Phone: 352-637-1742
Email: paulcld2000@tampabay.rr.com
Registered Landscape Architect #1189
Signature: Paul C. Gibbs
Date:

DRAWN BY:	PCG
DATE:	07/01/19
SCALE:	N.T.S.

SHEET
L2 OF 8

LANDSCAPING SPECIFICATIONS:

PART 1 – GENERAL

1.1 SUMMARY

A. This section covers furnishing and installing all landscape plants and nonplant materials covered by the drawings and these specifications. The work shall include materials, labor, equipment and services as described herein and indicated on the drawings. Also, the work shall include the maintenance of all plants and planting areas until acceptance by the Owner, and the fulfillment of all guarantee provisions as herein specified.

1.2 PLANTING LAYOUT

A. Before beginning work, the Contractor shall investigate and verify, in the field, the existence and location of all underground utilities, and take precautions to prevent their disturbance. It shall be the responsibility of the Contractor to obtain all such information as it is made available. Plans and specifications of related work may be obtained from the Owner.

B. The Contractor shall locate all general reference points; take precautions to prevent their disturbance; perform the layout work; be responsible for all lines, elevations and measurements of work executed under the contract; exercise proper precaution to verify figures on drawings before laying out work; and be responsible for any error resulting from failure to exercise such precaution. The Contractor shall make field measurements for his own work and be responsible for its accuracy.

C. Discrepancies between conditions existing on the site and conditions indicated on the drawings shall be called to the attention of the Owner before or at the time plant locations are staked out.

D. In the event of a variation between the plant list and the actual number of plants shown on the plans, the plans shall control.

1.3 HORTICULTURAL STANDARDS

A. Unless otherwise noted, plant material, including collected materials, shall be grade FLORIDA NO. 1 or better as outlined under Grades and Standards for Nursery Plants, Parts I and II, State Plant Board of Florida; and shall also conform to American Standard for Nursery Stock, ANSI (American National Standards Institute, Inc.) Z60.I–1986 as approved by the American Association of Nurserymen.

B. All plant names shall conform to the names given in Standardized Plant Names, 1942 Edition, prepared by the American Joint Committee on Horticultural Nomenclature. Names of varieties not included therein shall conform generally with names accepted in the nursery trade. All plant materials shall be true to botanical, common and variety name. Botanical name shall have precedence over common name.

C. The Landscape Architect or owner shall have the right, at any stage of the operations, to reject any and all work and materials that, in his opinion, do not meet with the requirements of these Specifications. Such rejected material shall be removed from the site and acceptable material substituted in its place.

1.4 CERTIFICATES OF INSPECTION

A. All plant material shall be inspected by the Florida Department of Agriculture, as required by state law. Plants of a grade less than that specified in the article titled HORTICULTURAL STANDARDS will not be accepted.

PART 2 – NONPLANT MATERIALS

2.1 SOIL BACKFILL

A. Soil for backfilling planting areas and plant pits shall be the existing surface soil, free from subsoil, objectionable weeds, litter, sods, stiff clay, stones, stumps, roots, trash, toxic substances, mortar, cement, or any other material that may be harmful to plant growth or hinder planting operations. Poorly drained soil shall not be used.

B. If additional soil is required, it shall be furnished by the Contractor and shall be a natural, friable soil representative of productive, well–drained soils in the vicinity. It shall be obtained from well–drained areas that have never been stripped before; and shall be free of admixture of subsoil and foreign matter, stones, toxic substances, and any material or substance that may be harmful to plant growth.

2.2 FERTILIZER

A. Commercial fertilizer shall be 14–14–14 formulation of Osmocote brand, 3–4 month release of which 60 percent of the nitrogen is in urea–formaldehyde form and shall conform to the applicable state fertilizer laws. Fertilizer shall be uniform in composition, dry and free flowing. Alternate fertilizer formulation may be used depending upon growing season.

2.3 DOLOMITIC LIMESTONE

A. Not used

2.4 PRE–EMERGENCE WEED CONTROL

A. Contractor shall submit suggested pre–emergence manufacturers name and product use information for review and approval prior to applying to project site.

2.5 WATER

A. Water for proposed plant materials shall be coordinated with Citrus County Utilities. See Plan Sheet L4 for proposed manual watering schedule. An irrigation system is not proposed for this project. Care shall be exercised to assure that water is kept free of harmful chemicals, acids, alkalies, or any substance that might be harmful to plant growth. Water source & location shall be coordinated with the Owner and / or General Site Contractor prior to usage.

2.8 MULCH

A. All mulch shall be cypress mulch. Mulch shall be applied having a minimum 3" depth.

2.9 GUYING AND STAKING MATERIAL

A. Stakes for supporting trees shall be as detailed on the drawings. Wire for fastening trees to duckbill and turnbuckle shall be as specified in the Tree Staking Detail. Wires in contact with trees shall be encased in two–ply reinforced garden hose. Material for wrapping tree trunks shall be burlap, heavy crepe paper, or other acceptable material in strips 6 to 10 inches wide. The contractor may proposed alternate guying and staking methods, however, those must be approved be approved prior to execution.

2.10 DRAINAGE GRAVEL

A. Where indicated on the drawings, or where soil conditions deem it necessary, the Contractor shall install gravel subdrains beneath trees and/or planting areas to aid in soil drainage and percolation. The subdrain shall be constructed as detailed on the drawings, or as directed by the Landscape Architect. Drainage gravel shall consist of washed, clean gravel 3/4 inch to 2 inches in size.

PART 3 – PLANT MATERIAL

3.1 QUALITY OF PLANT MATERIAL

A. During inspection, as set forth hereinafter, all plant material will be judged, and rejections shall be based upon these standards. All plants shall comply with federal and state law requiring inspection for plant diseases and infestations. Inspection certificates required by law shall be made available to the Owner or Owner's Representative at his/her request.

B. In determining the quality of plant material, the following elements will be valued:

1. Root condition
2. Plant size (above ground)
3. Insect and disease free condition
4. General appearance (color, shape, pruning)
5. A deficiency in one or more of these areas will be sufficient reason to reject selectively or by lot.

C. The Landscape Architect shall have the right, at any stage of the operations, to reject any and all work and materials that, in his opinion, do not meet with the requirements of these Specifications. Such rejected material shall be removed from the site and acceptable material substituted in its place.

3.2 SIZE AND MEASUREMENTS

A. Plants shall be measured when branches are in their normal position. Heights and spread dimensions specified refer to the main body of the plant and not to extreme branch tip to tip. The measurements specified are the minimum size acceptable and where pruning is required, these are measurements after pruning. When sizes are indicated as a range, the plant shall have the proper proportion as outlined in Florida Department of Agriculture, Grades and Standards for Nursery Plants Part I and II. Caliper of trees shall be taken 12 inches above the ground level and shall be the determining measurement for trees.

B. Plants that have been headed back to conform to the size specified will not be acceptable. Plants larger than specified may be used if approved by the Owner; however, the use of such plants shall not increase the contract price.

3.3 LABELS

A. Plant materials shall have durable, legible labels stating, in weather resistant ink, the correct botanical and common names and size as indicated in the Plant List. Each plant, or sufficient representative samples of each delivered shipment, shall have labels securely attached in a fashion that will not interfere with normal plant growth. Plant materials which have (or will have) a seasonal bloom shall be tagged with labels indicating the specific variety of that species' botanical and common name.

3.4 BALLED & BURLAPPED & WIRE BALLED & BURLAPPED PLANTS

A. All ball sizes shall be of a diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant after planting. All balls shall be firm, shall not be broken or cracked, and shall be wrapped and securely tied with heavy twine or wire. All trees shall be root pruned a minimum of 6 weeks before delivery.

B. When the tree is root pruned, the tree crown shall be selectively thinned to reduce the volume of the crown. This shall consist of thinning and shaping only. Care shall be taken to assure that the plant form will not be distorted and will remain typical of the species growth characteristics.

C. Plants designated B&B or WB&B in the Plant List shall be adequately balled with firm, natural balls of soil in sizes at least equal to those set forth in ANSI Z60.1–1986. Balls shall be firmly wrapped with jute burlap or equivalent cloth capable of rotting in the ground.

D. No balled plant shall be planted if the ball is cracked, mushroomed, or broken either before or during the process of planting. Trees grown in grow bags shall not be acceptable. Synthetic strings, straps, and burlap material shall be properly removed from the root ball. Synthetic burlap is to be totally removed from the root ball.

3.5 COLLECTED PLANTS

A. All plant material shall be nursery grown. Collected plants shall have been grown under climatic conditions similar to those in the locality of the project. All collected plants shall meet the requirements as specified and shall meet all specified grades and standards, unless otherwise qualified in the Plant List or these specifications. Root balls shall be increased in size one third greater than nursery grown plants.

3.6 CONTAINERIZED PLANTS

A. All container grown plants shall be well rooted and established in the container in which they are delivered to the site. The plants shall have been in that container sufficiently long for the fibrous roots to hold the soil together when the plant is removed from the container. Plants designated to be container grown may be furnished with ball and burlap provided they conform to the size and quality required and that the requirements for balled and burlapped plants are met. Container grown plants found to be root–bound during planting will not be acceptable. Containerized trees have a tendency to dry out quickly. The Contractor shall be responsible for hand watering the trees at time of delivery through the time of final acceptance at a rate consistent with the nursery watering schedule to assure that the tree does not go into shock.

3.7 SPECIMEN PLANTS

A. After receiving the Notice to Proceed, the Contractor shall locate all plants specified as specimen. The Contractor shall notify the Owner so they may agree on a time to mutually inspect the selected plants. The Owner will inspect and tag those plants that are acceptable for use. Expenses incurred by the Owner for any subsequent inspection of specimen plants, at any time, in addition to the mutually agreed time, shall be the responsibility of the Contractor.

3.8 SUBSTITUTIONS

A. The use of materials differing in kind, quality or size from those specified will be allowed only after the Owner is convinced that all means of obtaining the specified materials have been exhausted.

B. Where it is indicated that the Contractor may furnish or use a substitute that is equal to the material or equipment specified and if the Contractor is to furnish or use a proposed substitute, he shall, after the award of the contract, make written application to the Owner for acceptance of such a substitute. The substituted product or method shall be equal or superior in all respects to the specified product or method, shall perform adequately the duties imposed by the general design, shall be compatible with all other elements of the job, and shall be sufficient to complete the job. The substitution shall not add cost to the contract. Should it be necessary to accept a substitute of a quality less than specified, the unit price shall be used to adjust the contract price downward accordingly. No substitution shall be ordered or installed without the written permission of the Owner.

PART 4 – DELIVERY, STORAGE AND HANDLING

4.1 PLANT MATERIAL

A. The Contractor shall exercise care in handling, loading and unloading, storage and transporting all plant material and allied materials to prevent damage. The Contractor shall assume full responsibility for protection and safekeeping of products stored on the job.

B. The Contractor shall dig and prepare B&B and WB&B plant material for shipment in a manner that will not damage roots, branches, shape and future development after planting.

C. Trees indicated on the plans as WB&B and those where size, soil conditions and distance of transport to the site would warrant, shall be wireballed. Bottom wired baskets manufactured specifically for use in tree handling may be used.

D. The Contractor shall handle all plants so that roots and branches are protected at all times from drying out, heating and from other injury. All plants shall be handled by the ball or container.

E. When transporting plants to and at the site, the Contractor shall make provisions to protect plants from wind damage by avoiding high–speed highways, transporting in enclosed or partially enclosed vehicles, or covering the plants with burlap or other suitable material. Plants severely damaged by wind will be rejected.

F. Any plant with signs of insects, their eggs or larvae, or disease will be rejected and shall be removed from the project site.

G. Only the nursery stock intended for planting on a particular day shall be delivered and stored on the site during the day unless otherwise acceptable to the Owner. All plants shall be stored in one location as designated by the Owner, protected from wind and kept moist. The roots of all plants that cannot be planted immediately in soil shall be covered with mulch and other suitable material. No plants shall be taken from the temporary storage area for planting on the project until after the tree pits or holes for the plants in the section to be planted have been properly excavated and prepared ready to receive the trees and shrubs.

H. Trees moved by winch or crane shall be thoroughly protected from chain marks, girdling, or other bark slippage by means of burlap, wood battens or other acceptable method.

4.2 NONPLANT MATERIALS

A. Fertilizer shall be delivered to the site in original, unopened containers bearing manufacturer's guaranteed chemical analysis, name, trade name, trademark and conformance to state law. In lieu of containers and provided that it is to be applied at the time of delivery, fertilizer may be furnished in bulk, and a certificate indicating the above information shall accompany each delivery.

B. Pesticide and herbicide materials shall be delivered to the site in the original, unopened containers. Containers that do not have a legible label that identifies the Environmental Protection Agency registration number and the manufacturer's registered uses will be rejected.

C. Storage of materials shall be in the area designated for use by the Owner. All materials shall be kept in dry storage and away from contaminants.

PART 5 – INSTALLATION

5.1 PREPARATION BEFORE PLANTING

A. The Contractor shall verify that final grades have been established prior to beginning planting operations. All unsatisfactory grading shall be reported to the Owner, and the Contractor shall not proceed with the work until the unsatisfactory conditions have been corrected. When conditions detrimental to plant growth are encountered, such as rubble, fill or adverse drainage conditions, the Contractor shall notify the Owner for directions.

B. Should undesirable existing vegetation be present on the site at the time of installation, the Contractor shall prepare the site for planting by use of chemicals, when used as recommended by the manufacturer, and/or mechanical means acceptable to the Owner.

C. Care shall be exercised to avoid any misuse of chemicals that would create detrimental residual conditions. Care must also be used not to alter final grades that have been established or cause damage to previously established turf areas.

5.2 SITE PREPARATION

A. If so called for by the Owner, all plant locations and the areas of all planting beds shall be staked out on the ground, for acceptance by the Owner, before planting operations begin. The Contractor shall stake the location of the center of each tree and paint the outline of each shrub and groundcover bed. The stakes shall be oriented in a vertical manner so that they can be viewed and read from one direction. The Contractor shall give the Owner notice 24 hours prior to the completion of staking described herein.

B. The Contractor shall verify the location of underground utilities, and irrigation heads and valves, and provide markers or other suitable protection, where necessary, to prevent damage.

5.3 EXCAVATION OF PLANTING AREAS

A. No tree or shrub pit shall be dug or prepared until their location is acceptable to the Owner. Reasonable care shall be exercised to have pits dug and soil prepared prior to moving plants to their respective locations for planting to ensure that they will not be unnecessarily exposed to drying elements or to physical damage.

B. Circular pits with vertical sides shall be excavated for all plants. The depth of all plant pits shall be enough to accommodate the ball or roots and the prepared soil in the bottom of the pit. Diameter of pits for trees shall be at least 1 foot greater than the diameter of the ball.

C. Plant beds and pits shall be tested for proper drainage by filling with water twice in succession. Conditions permitting the retention of more than 6 inches of water in 1 hour shall be brought to the attention of the Owner. A written proposal and cost estimate for correction of such conditions shall be submitted to the Owner for acceptance, before proceeding with the work.

D. All tree pits in curbed planting islands, tree wells, or in areas in which the soil has been compacted to an undesirable density, shall be excavated to a depth at least two feet greater than the measured depth & diameter of the ball. The minimum depth & diameter of an excavation shall be four feet. It is the Contractor's responsibility to dispose of the unsuitable soil to an approved location.

E. In shrub and groundcover beds where soils have been compacted to a density which is detrimental to plant growth, the Contractor shall loosen soils to a depth of 18" minimum to allow root penetration beyond the planting pit.

F. If acceptable for use, existing topsoil in shrub and groundcover beds shall be treated with the specified soil amendments, at rates determined by soil tests. Amendments shall be incorporated into the soil to a depth of 12 inches. Where soil is not acceptable as determined by soil tests, the soil in the entire area shall be removed to a depth of 8 inches and replaced with the specified planting soil.

REVIEW SET
07/01/19

PLAN REVISIONS:

DATE	DESCRIPTION
. . . . .	

LANDSCAPE SPECIFICATIONS

CRYSTAL RIVER TOWN SQUARE
CRYSTAL RIVER, FLORIDA

Community Land Design, Inc.
Landscape Architecture
LC26000227
1773 East Cleveland Street
Hernando, FL 34442
Phone: 352–637–1742
Email: paulcld2000@tampabay.rr.com

Registered Landscape Architect #1189
Signature: Paul C. Gibbs
Date:

DRAWN BY:	PCG
DATE:	07/01/19
SCALE:	N.T.S.

SHEET
L3 OF 8

LANDSCAPE SPECIFICATIONS CONTINUED:

5.4 PLANTING

A. All plants, except as otherwise specified, shall be centered in their pits, faced for best effect and set plumb for backfilling.

B. Burlap on B&B and WB&B plants shall be removed from top one third of the ball. Burlap shall not be removed from under balls. If the ball is cracked or broken before or during planting process, the plant shall not be planted and shall be removed from the site. All synthetic strings, straps, and wire cages shall be removed from the top third of the root ball. Synthetic burlap shall be removed completely.

C. Plants shall be removed from cans by cutting two sides of a container with an acceptable can cutter. Sides shall not be cut with a spade. Sides of knockout cans shall not be cut. Plastic containers with slanted sides shall not require cutting. Plants shall be removed from the container carefully, without injury or damage to the plant and root system.

D. Bottom of plant boxes shall be removed before planting. Sides of the box shall be removed, without damage to the root ball, after positioning the plant and partially backfilling around it. The Contractor shall hand water containerized trees from the time of delivery until the time of final acceptance at a rate consistent with the nursery conditions from which the trees were obtained. Trees which go into shock due to insufficient water may be rejected.

E. Plants shall be set in the center of pits and shall be plumb and straight and at such a level that after settlement the root crown will be level with the surrounding grade.

F. Plant holes shall be backfilled with the specified planting mixture placed in layers around the roots or ball. Each layer shall be carefully tamped in place in a manner to avoid injury to the roots or ball or disturbing the position of the plant. When approximately two thirds of the plant hole has been backfilled, the hole shall be filled with water and the soil allowed to settle around the roots. Balled and burlapped plants shall have the burlap cut away or folded back from the top of the ball before applying the water. After the water has been absorbed, the plant hole shall be filled and tamped lightly to grade. Any subsequent settlement shall be brought to grade.

G. Immediately after each tree pit is backfilled, a shallow basin slightly larger than the pit shall be formed with a ridge of topsoil to facilitate watering. This soil saucer shall be formed in a circle and tamped around each tree so that the saucer will retain water. Where curbing occurs around plant pits, the saucer shall be omitted.

H. The Contractor shall include adding a water retentive additive Terra–Sorb AG for all shrubs, groundcovers, annuals, and trees at the manufacturers suggested rates.

5.5 FERTILIZING

A. Each tree and shrub shall be fertilized by placing the manufacturer's recommended amount around the base of the ball before backfilling unless plant material has recently been fertilized at the nursery.

5.6 STAKING AND GUYING

A. Staking or guying of trees shall be done immediately after they are planted. Each plant shall stand plumb after staking or guying has been completed. It shall be the Contractor's responsibility to ensure that all trees are plumb and secure after planting. Staking of trees of a 10 foot height or less shall be at the discretion of the Owner. All other trees shall be staked.

B. Immediately after planting, trees shall be staked and guyed for support. "Duck–bill" earth anchors as indicated shall be placed at sides of each tree, and shall be driven into undisturbed ground to a depth deep enough to sufficiently secure the tree. Care shall be taken when driving anchors to avoid damaging the tree roots. Except as otherwise indicated or directed, the tree shall be fastened to each anchor as indicated on the plans. The wires shall be encased in hose at the tree to prevent direct contact with the bark and shall be placed around the trunk in a single loop. Wires shall be tightened and kept taut by twisting the turnbuckle. A brightly colored flagging tape approximately 12" in length shall be securely tied to each guy wire immediately above the turnbuckles. See suggested Tree Staking Detail.

5.7 MULCHING

A. Immediately after planting operations are completed, all tree and shrub saucers, and shrub and groundcover beds shall be covered with a 3 inch layer of cypress mulch. Limits of the mulch shall include all planting areas or as otherwise indicated on the drawings and details.

5.8 PRUNING

A. Each tree and shrub shall be pruned in accordance with standard horticultural practice to preserve the natural character of the plant and in the manner fitting its use in the landscape design. Pruning shall be done with clean, sharp tools and as indicated on the drawings.

B. Shrubbery with extremely heavy tops shall have one fourth to one third of the weaker growth removed by thinning.

5.9 CLEANUP

A. During the course of planting, excess and waste materials shall be continuously and promptly removed daily, lawns kept clear, and all reasonable precautions taken to avoid damage to existing structures, plants and grass. After completion of the work, the entire site shall be cleared of excess soils, waste material, debris and all objects that may hinder maintenance and affect the visual appearance of the site.

B. Contractor shall clean all roads and walks of dirt film and soil clods. The Contractor shall also pressure clean and broom sweep all asphalt pavement prior to the final lift of asphalt to be laid.

5.10 DISTURBED AREAS

A. All areas outside of the limits of work that are disturbed by the Contractor's construction activities shall be repaired and replanted to its original condition.

PART 6 – GUARANTEES

6.1 GUARANTEED PROVING PERIOD

A. Plant materials including trees and shrubs shall be required to be guaranteed through the end of the 12 month period. An inspection of the trees / plants may be conducted at any time and shall be conducted at 3, 6, 9 and 11 months after planting. At any time should there be any tree / plant that is failing / failed to thrive (in the sole opinion of the county), the contractor shall be responsible to replace and replant the tree / plant of like size / type and water for the grow in period of one year. Unaccepted material shall be removed and replaced by the Contractor at his own expense. Material and method of replacement planting shall be the same as specified for the original planting unless otherwise directed. Replacement of plants necessary during this period shall be the responsibility of the Contractor, except for possible replacements of plants resulting from removal, vandalism, acts of neglect on the part of others, or acts of God.

B. Planting maintenance shall be provided by the landscape contractor from the time of initial plant material installation through the end of the 12 month maintenance period. This maintenance shall include all necessary watering, cultivation, weeding, pruning and spraying, mulching, straightening of plants which lean or sag and which develop more than a normal amount of settlement; such adjustments to include excavating around and leveling or raising the ball when so directed; and all other incidental work necessary for proper maintenance as directed by the Owner until substantial completion and written release. Sod maintenance shall be included as part of this maintenace period work.

6.2 FINAL INSPECTION AND ACCEPTANCE

A. The Contractor shall notify the Owner in writing at the end of the 12 month maintenance period and request an inspection. The Owner will make the inspection of the work and report findings as to acceptability and completeness. Any work remaining to be done shall be subject to reinspection before final acceptance. The Contractor will be notified in writing by the Owner of the final acceptance of the work.

6.3 OWNER'S RESPONSIBILITY AFTER ACCEPTANCE

A. The Owner may elect to assume maintenance of all work, at the time of acceptance, or may elect to contract for maintenance by others for a specified period.

B. The Owner shall be responsible for providing manual watering to all installed plant materials after acceptance. See recommended watering schedule on this page.

END OF SECTION

SOD SPECIFICATIONS:

1. See landscape plans for the location of new sod areas. Sod type shall be Argentine Bahia.
2. Sod shall be well matted with grass roots and shall be live, fresh and uninjured at the time of planting. Sod shall be reasonable free of weeds and other grasses and shall have a soil mat of sufficient thickness adhering firmly to the roots to withstand all necessary handling. The sod shall be planted as soon as possible after being dug and shall be protected from excessive drying until it is planted.
3. Sod shall not be installed unless proper finish grades have been established. sod shall be installed so that the finished surface is flush with the surface of the adjacent roadways, driveways, walkways and other hardscape surfaces. The finished sod grade shall not inhibit proper surface runoff from adjacent paved and hardscape surfaces.
4. The sod shall be placed on the prepared surface, with edges in close contact. Sod pieces shall be staggered to avoid a continuous seam in order to reduce erosion potential. The outer pieces of the sod perimeter shall be tamped so as to produce a featheredged effect. certain sod species such as bahia require rolling after installation. The sod shall be rolled per accepted industry standards.
5. Sodding shall not be performed when weather and soil conditions are unsuitable for proper results.
6. Existing lawn areas to remain shall be protected as much as is practical.
7. Sod shall not be installed without an operational irrigation system or other pre–arrange watering methods.

SEED & MULCH GRASSING SPECIFICATIONS:

1. SEED MIXTURE: Permanent grass seed shall be fresh, clean and new crop seed, and shall be certified as to varietal purity. All seed shall be mixed by a dealer, furnished in sealed standard containers and tagged with the dealer's guaranteed statement of composition of mixture and percentage of moisture, purity and germination. The seed shall be labeled in accordance with the State Department of Agriculture and Consumer Services Rules and Regulations, and in accordance with the Florida Certification Seed Law, in effect at the time of work.

Grass seed shall be 20% Bermuda Seed and 80% Argentine Bahia, having a minimum pure seed content of 97%, with a minimum germination rate of 85%. Temporary grass seed shall be rye grass, with 40% minimum germination.

2. MULCH: The mulch material used shall normally be dry mulch. Dry mulch shall be straw or hay, consisting of oat, rye or wheat straw, or of pangola, peanut, coastal Bermuda or Bahia grass hay. Only un–deteriorated mulch which can be readily cut into the soil shall be used.

IRRIGATION PERFORMANCE SPECIFICATIONS:

1. THE GENERAL CONTRACTOR SHALL SUBMIT AN IRRIGATION PLAN SHOP DRAWING FOR REVIEW AND APPROVAL BY THE CITY OF CRYSTAL RIVER PUBLIC WORKS DEPARTMENT AND THE PROJECT LANDSCAPE ARCHITECT. THIS IRRIGATION PLAN SHALL BE PREPARED BY AN IRRIGATION CONTRACTOR.
2. THE PROPOSED IRRIGATION SHALL PROVIDE 100% COVERAGE OF ALL NEW LANDSCAPE AND LAWN AREAS SHOWN ON THIS LANDSCAPE PLAN.
3. THE IRRIGATION WATER SOURCE SHALL BE THE CITY OF CRYSTAL RIVER WATER SYSTEM. IRRIGATION METER AND CONNECTION POINT WILL BE SHOWN ON THE CIVIL ENGINEERING UTILITY PLANS.
4. IRRIGATION OF ALL LAWN AREAS SHALL BE ON SEPARATE IRRIGATION ZONES FROM THE LANDSCAPE BED AREAS.
5. ALL NEW TREES SHALL HAVE BUBBLERS. THESE BUBBLERS SHALL BE ON SEPARATE ZONES FROM THE LAWN AND LANDSCAPE BED AREAS.
6. ALL NEW LANDSCAPE BED AREAS SHALL BE IRRIGATED USING DRIP IRRIGATION. DRIP IRRIGATION SHALL UTILIZE A CLEAN WATER SOURCE TO MINIMIZE CLOGGING.
7. ALL LAWN AREAS SHALL UTILIZE POP UP SPRAYS OR ROTORS. POP UP HEIGHT SHALL BE SUITABLE FOR THE EXISTING OR PROPOSED GRASS SPECIES.
8. PLACEMENT OF POP UP SPRAYS OR ROTORS IN THE CENTRAL EVENT LAWN AREA SHALL PRIMARILY BE PLACED ALONG THE EDGE OF THE SIDEWALKS WITH MINIMAL INTERNAL LAWN SPRAY OR ROTOR PLACEMENT.
9. PLACEMENT OF VALVE BOXES SHALL BE WITHIN LANDSCAPE BEDS WHERE POSSIBLE. NO VALVE BOXES SHALL BE PLACED INSIDE THE MAIN EVENT LAWN AREA.
10. NO FIXED RISERS SHALL BE UTILIZED ON THIS PROJECT.
11. THE IRRIGATION SYSTEM SHALL BE LAYED OUT AND ADJUSTED TO MINIMIZE EXCESS OVER–SPRAY ONTO THE DRIVEWAYS, WALKWAYS, AND OTHER HARDSCAPES. NO SPRAY HEADS SHALL BE UTILIZED ADJACENT TO THE STRUCTURES WHERE POSSIBLE.
12. THE IRRIGATION CONTROLLER LOCATION SHALL BE PLACED WITHIN THE RESTROOM STRUCTURE MECHANICAL ROOM. SEE ARCHITECTURAL PLANS.
13. UPON FINAL INSTALLATION AND ADJUSTMENTS, THE IRRIGATION CONTRACTOR SHALL REVIEW THE SYSTEM OPERATION WITH THE OWNER PRIOR TO FINAL ACCEPTANCE.

REVIEW SET
07/01/19

PLAN REVISIONS:

DESCRIPTION	DATE
.	.
.	.
.	.
.	.

LANDSCAPE SPECIFICATIONS

CRYSTAL RIVER TOWN SQUARE
CRYSTAL RIVER, FLORIDA

Community Land Design, Inc.
Landscape Architecture
LC26000227
1773 East Cleveland Street
Hernando, FL 34442
Phone: 352–637–1742
Email: paulcld2000@tampabay.rr.com

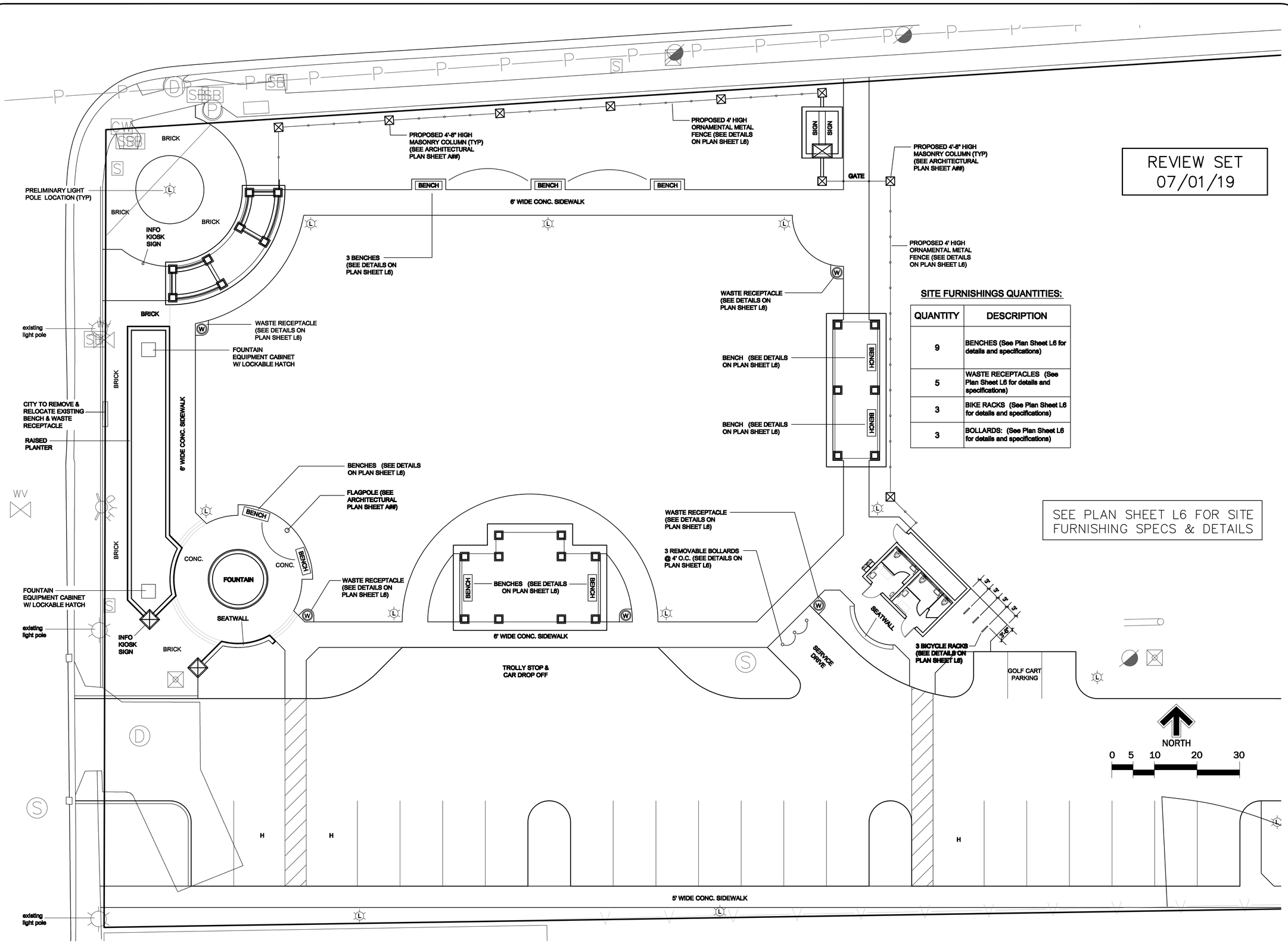
Registered Landscape Architect #1189

Signature: _____ Paul C. Gibbs

Date: _____

DRAWN BY:	PCG
DATE:	07/01/19
SCALE:	N.T.S.

SHEET
L4 OF 8



REVIEW SET
07/01/19

SEE PLAN SHEET L6 FOR SITE FURNISHING SPECS & DETAILS

SITE FURNISHINGS QUANTITIES:

QUANTITY	DESCRIPTION
9	BENCHES (See Plan Sheet L6 for details and specifications)
5	WASTE RECEPTACLES (See Plan Sheet L6 for details and specifications)
3	BIKE RACKS (See Plan Sheet L6 for details and specifications)
3	BOLLARDS: (See Plan Sheet L6 for details and specifications)

PLAN REVISIONS:

DATE	DESCRIPTION

SITE FURNISHINGS PLAN

CRYSTAL RIVER TOWN SQUARE
CRYSTAL RIVER, FLORIDA

Community Land Design, Inc.
Landscape Architecture
LC26000237
1773 East Cleveland Street
Hernando, FL 34442
Phone: 352-637-1742
Email: paulcld2000@tampabay.rr.com

Registered Landscape Architect #1189
Signature: Paul C. Gibbs
Date:

DRAWN BY:	PCG
DATE:	07/01/19
SCALE:	1"=10'

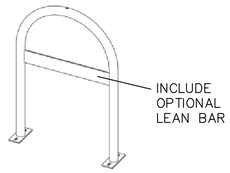
SHEET L5 OF 8

SOURCE: Barco Products; (800) 338-2697; www.barcoproducts.com
MODEL/DESCRIPTION: KBC1350, 6 Foot Long Bench
COLOR: Desert Tan Recycled Plastic "Lumber" with Black Cast Aluminum Frame
INSTALLATION METHOD: Surface Mount with Tamper Resistant Hardware to Concrete Pad

BENCH DETAILS

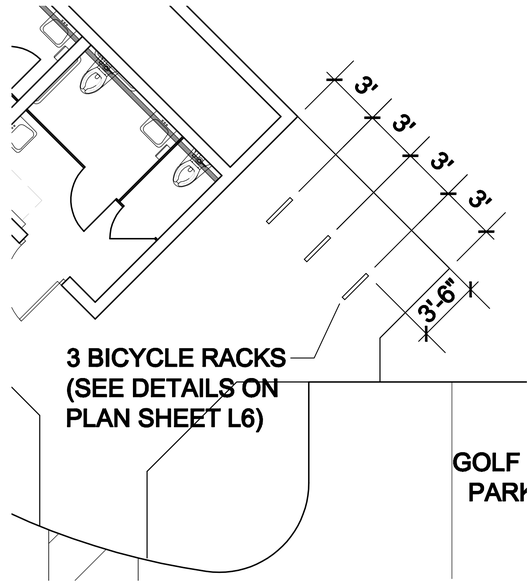
SOURCE: Barco Products; (800) 338-2697; www.barcoproducts.com
MODEL/DESCRIPTION: KTR2200, Ravinia Receptacle, 32 Gallon Capacity Includes Liner
COLOR: Desert Tan Recycled Plastic Slats
SELECTED OPTIONS: Round Receptacle Weather Lid, 32 Gallon; (KTR2080)
INSTALLATION METHOD: Surface Mount with Tamper Resistant Hardware to Concrete Pad

WASTE RECEPTACLE DETAILS

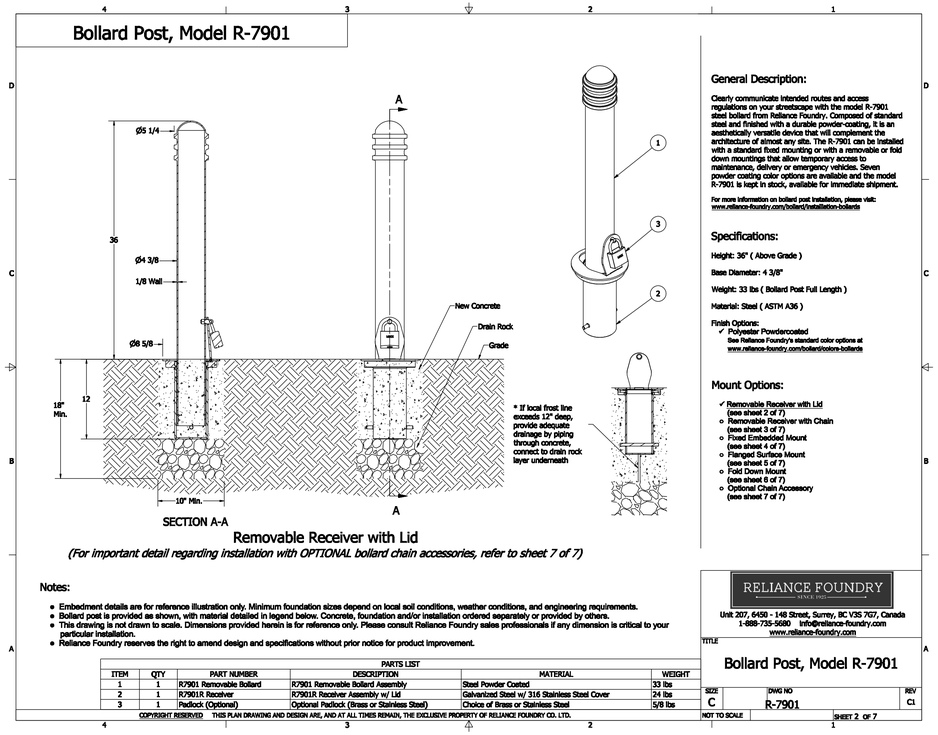


SOURCE: American Bicycle Security Company; (800) 245-3723; www.ameribike.com
MODEL/DESCRIPTION: Hoop Rack Heavy Duty; 2" Schedule 40 pipe (2.375" OD)
COLOR: Powder Coated, Black
SELECTED OPTIONS: Lean Bar
INSTALLATION METHOD: Surface Mount with Tamper Resistant Hardware to Concrete Pad

BIKE RACK DETAILS



BIKE RACK LAYOUT PLAN



BOLLARD DETAILS

REVIEW SET
07/01/19

PLAN REVISIONS:

DESCRIPTION	DATE
.	.
.	.
.	.
.	.

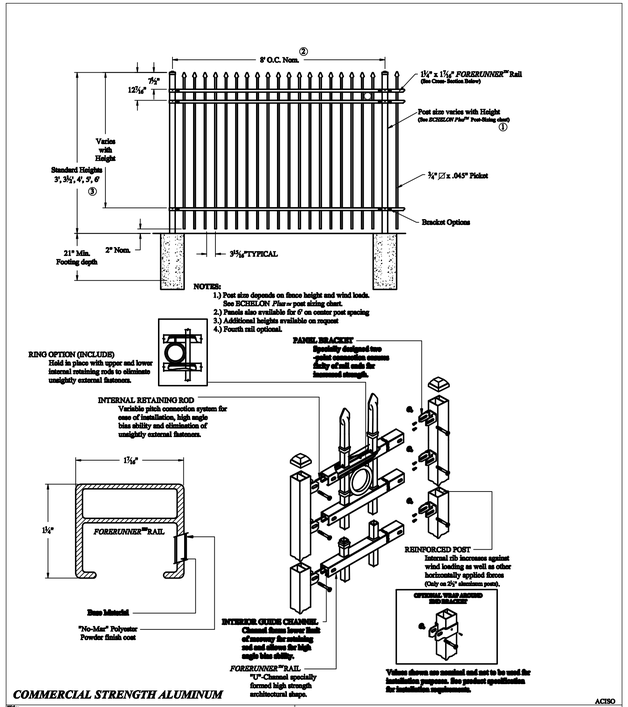
SITE FURNISHING DETAILS

CRYSTAL RIVER TOWN SQUARE
CRYSTAL RIVER, FLORIDA

Community Land Design, Inc.
Landscape Architecture
LC26000227
1773 East Cleveland Street
Hernando, FL 34442
Phone: 352-637-1742
Email: paulcld2000@tampabay.rr.com
Registered Landscape Architect #1189
Signature: Paul C. Gibbs
Date:

DRAWN BY:	PCG
DATE:	07/01/19
SCALE:	N.T.S.

SHEET L6 OF 8



COMMERCIAL STRENGTH ALUMINUM

AC150

Title: ECHELON PLUS CLASSIC 3/4-RAIL W/RING OPTION			
DR: LJM	SH . 1of 1	SCALE: DO NOT SCALE	
CK: BS	Date 10/19/17		REV: F

AMERISTAR®
1555 N. Mingo
Tulsa, OK 74116
1-888-333-3422
www.ameristarfence.com

AMERISTAR FENCE PRODUCTS●
ECHELON PLUS●– Aluminum Ornamental Fence System –Internally Secured
Construction Specification – SECTION 32 31 19

PART 1 – GENERAL
1.01 WORK INCLUDED
The contractor shall provide all labor, materials and all necessary items for the installation of the Echelon Plus● ornamental aluminum fence system defined herein at (specify project site).

1.02 RELATED WORK
Section _ _ _ – Earthwork
Section _ _ _ – Concrete

1.03 SYSTEM DESCRIPTION
The manufacturer shall supply a total ornamental aluminum fencing system of the Ameristar Echelon Plus● (specify Classic™, Majestic™, Genesis™, Warrior™, Conqueror™, Monarch Pool™, Majestic Pool™, Conqueror Pool™, Classic Puppy™, Majestic Puppy™, or Genesis Puppy™) design. The system shall include all components (i.e., pickets, posts, rails, gates and hardware) required.

1.04 QUALITY ASSURANCE
The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and the materials specified.

1.05 REFERENCES
- ASTM B117 – Practice for Operating Salt–Spray (Fog) Apparatus.
- ASTM B221 – Standard Specification for Aluminum and Aluminum–Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
- ASTM D523 – Test Method for Specular Gloss.
- ASTM D822 – Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open–Flame Carbon–Arc Light and Water Exposure Apparatus.
- ASTM D1654 – Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
- ASTM D2244 – Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.
- ASTM D2794 – Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
- ASTM D3359 – Test Method for Measuring Adhesion by Tape Test.

1.06 SUBMITTAL
The manufacturer's submittal package shall be submitted prior to installation to confirm compliance with all requirements for materials specified in this section.

1.07 PRODUCT HANDLING AND STORAGE
Upon receipt at the job site, all materials shall be checked to ensure that no damages occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage and to protect against damage, weather, vandalism and theft.

PART 2 – MATERIALS
2.01 MANUFACTURER
The ornamental fence system shall conform to Ameristar's Echelon Plus aluminum ornamental fencing, (specify Classic, Majestic, Genesis, Warrior, Conqueror, Monarch Pool, Majestic Pool, Conqueror Pool, Classic Puppy, Majestic Puppy, or Genesis Puppy) (specify 2–rail, 3–rail, 4–rail, 3–rail with rings, or 4–rail with rings) style manufactured by Ameristar Fence Products, Inc. in Tulsa, Oklahoma.

2.02 MATERIAL
A. Aluminum material for fence framework (i.e., tubular pickets, rails and posts) shall conform to the requirements of ASTM B221. The aluminum extrusions for posts and rails shall be Alloy and Temper Designation 6005–T52. The aluminum extrusions for pickets shall be Alloy and Temper Designation 6063–T52.

B. Pickets shall be 3/4" square x .045" thick. Horizontal rails shall be 1–1/4" x 1–7/16" Forerunner™ channel with .060" thick top & internal web wall, and .090" thick side walls and shall be punched to allow picket to pass through the top of the rail. The Forerunner rail shall be constructed with an internal web insert providing a raceway for the pickets to be retained with a 1/8"retaining rod. The number of rails shall vary with the style, height and strength as determined by manufacturer. Fence posts and gate posts shall meet the minimum size requirements of Table 1.

C. Accessories: Aluminum castings shall be used for all post caps, scrolls, finials, and other miscellaneous hardware. Hinges and latches shall be fabricated from aluminum, stainless steel or composite materials.

2.03 FABRICATION
A. Pickets, rails and posts shall be pre–cut to specified lengths. ForeRunner rails shall be pre–punched to accept pickets. Grommets shall be inserted into the pre–punched holes in the rails and pickets shall be inserted through the grommets so that pre–drilled picket holes align with the internal upper raceway of the ForeRunner rails (Note: This can best be accomplished by using an alignment template). Retaining rods shall be inserted into each ForeRunner rail so that they pass through the pre–drilled holes in each picket, thus completing the panel assembly.

B. The manufactured framework shall be subjected to the Ameristar thermal stratification coating process (high–temperature, in–line, multi–stage, and multi–layer) including, as a minimum, a six–stage pretreatment/wash and an electrostatic spray application of a polyester finish. The topcoat shall be a "no–mar"TGIC polyester powder coat finish with a minimum thickness of 2 mils (0.0508mm). The color shall be (specify Black, Bronze, or White). The stratification–coated framework shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2.

C. Finish: All fence components shall be subject to a six–stage pretreatment/wash followed by an electrostatic spray application of a "no–mar" TGIC polyester powder coat finish with a minimum thickness of 2–4 mils. The color shall be (specify black, bronze or white).

D. Completed panels shall be capable of supporting a 200 lb. load (applied at midspan) without permanent deformation. Panels without rings shall be biasable to a 12.5% change in grade.

E. Swing gates shall be fabricated using 1–1/4" x 1–7/16" Forerunner rail, 1.75"sq. x .125"gate ends, and 3/4"sq. x .080 pickets. Gates that exceed 6'in width will have a 1.75"sq. x .125"intermediate upright. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding.

PART 3 – EXECUTION
3.01 PREPARATION
All new installation shall be laid out by the contractor in accordance with the construction plans.

3.02 FENCE INSTALLATION
Fence post shall be spaced according to Table 3, plus or minus ½". For installations that must be raked to follow sloping grades, the post spacing dimension must be measured along the grade. Fence panels shall be attached to posts with brackets supplied by the manufacturer. Posts shall be set in concrete footers 33"depth recommended (Note: In some cases, local restrictions of freezing weather conditions may require a greater depth). The "Earthwork"and "Concrete"sections of this specification shall govern material requirements for the concrete footer. Posts setting by other methods such as plated posts or grouted core–drilled footers are permissible only if shown by engineering analysis to be sufficient in strength for the intended application.

3.03 FENCE INSTALLATION MAINTENANCE
When cutting/drilling rails or posts adhere to the following steps to seal the exposed surfaces; 1) Remove all metal shavings from cut area. 2) Apply custom finish paint matching fence color. Failure to seal exposed surfaces per steps 1 & 2 above will negate warranty. Ameristar spray cans or paint pens shall be used to finish exposed surfaces; it is recommended that paint pens be used to prevent overspray. Use of non–Ameristar parts or components will negate the manufactures'warranty.

3.04 GATE INSTALLATION
Gate posts shall be spaced according to the manufacturers'gate drawings, dependent on standard out–to–out gate leaf dimensions and gate hardware selected. Type and quantity of gate hinges shall be based on the application; weight, height, and number of gate cycles. The manufacturers'gate drawings shall identify the necessary gate hardware required for the application. Gate hardware shall be provided by the manufacture of the gate and shall be installed per manufacturer's recommendations.

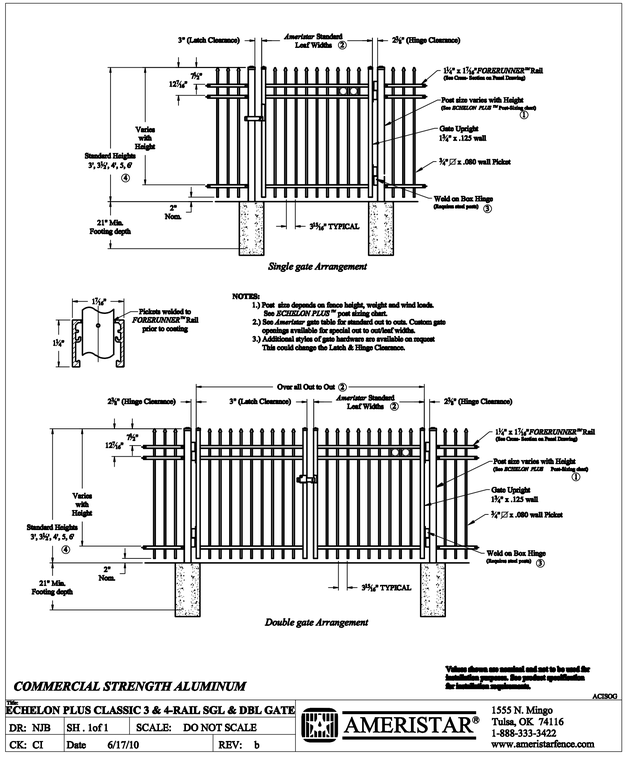
3.05 CLEANING
The contractor shall clean the jobsite of excess materials; post–hole excavations shall be scattered uniformly away from posts.

SEE MANUFACTURER'S WEBSITE FOR FULL SPECIFICATIONS FOR THE FOLLOWING:

Table 1 –Minimum Sizes for Echelon Plus Posts

Table 2 –Coating Performance Requirements

Table 3 –Echelon Plus –Post Spacing By Bracket Type



COMMERCIAL STRENGTH ALUMINUM

Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

AC150G

Title: ECHELON PLUS CLASSIC 3 & 4-RAIL SGL & DBL GATE			
DR: NJB	SH . 1of 1	SCALE: DO NOT SCALE	
CK: CI	Date 6/17/10		REV: b

AMERISTAR®
1555 N. Mingo
Tulsa, OK 74116
1-888-333-3422
www.ameristarfence.com

REVIEW SET
07/01/19

PLAN REVISIONS:

DATE	DESCRIPTION
. . . . .	

FENCE DETAILS

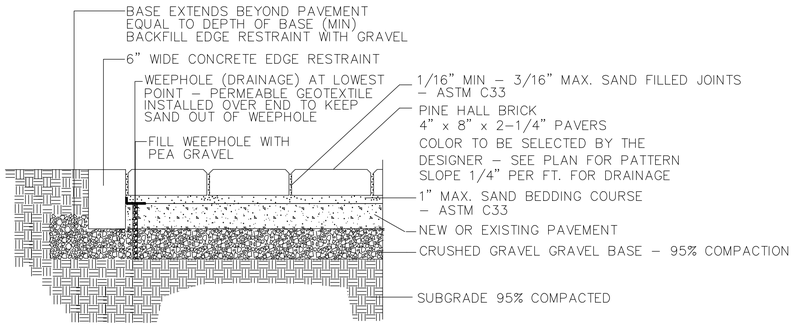
CRYSTAL RIVER TOWN SQUARE
CRYSTAL RIVER, FLORIDA

Community Land Design, Inc.
Landscape Architecture
LC26000227
1773 East Cleveland Street
Hernando, FL 34442
Phone: 352–637–1742
Email: paulcld2000@tampabay.rr.com
Registered Landscape Architect #1189
Signature: Paul C. Gibbs
Date:

DRAWN BY:	PCG
DATE:	07/01/19
SCALE:	N.T.S.

SHEET
L7 OF 8

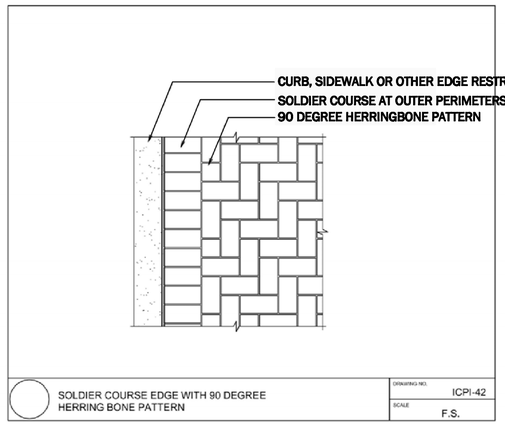
REVIEW SET
07/01/19



Pine Hall Brick - FLEXIBLE PAVING OVER A RIGID BASE

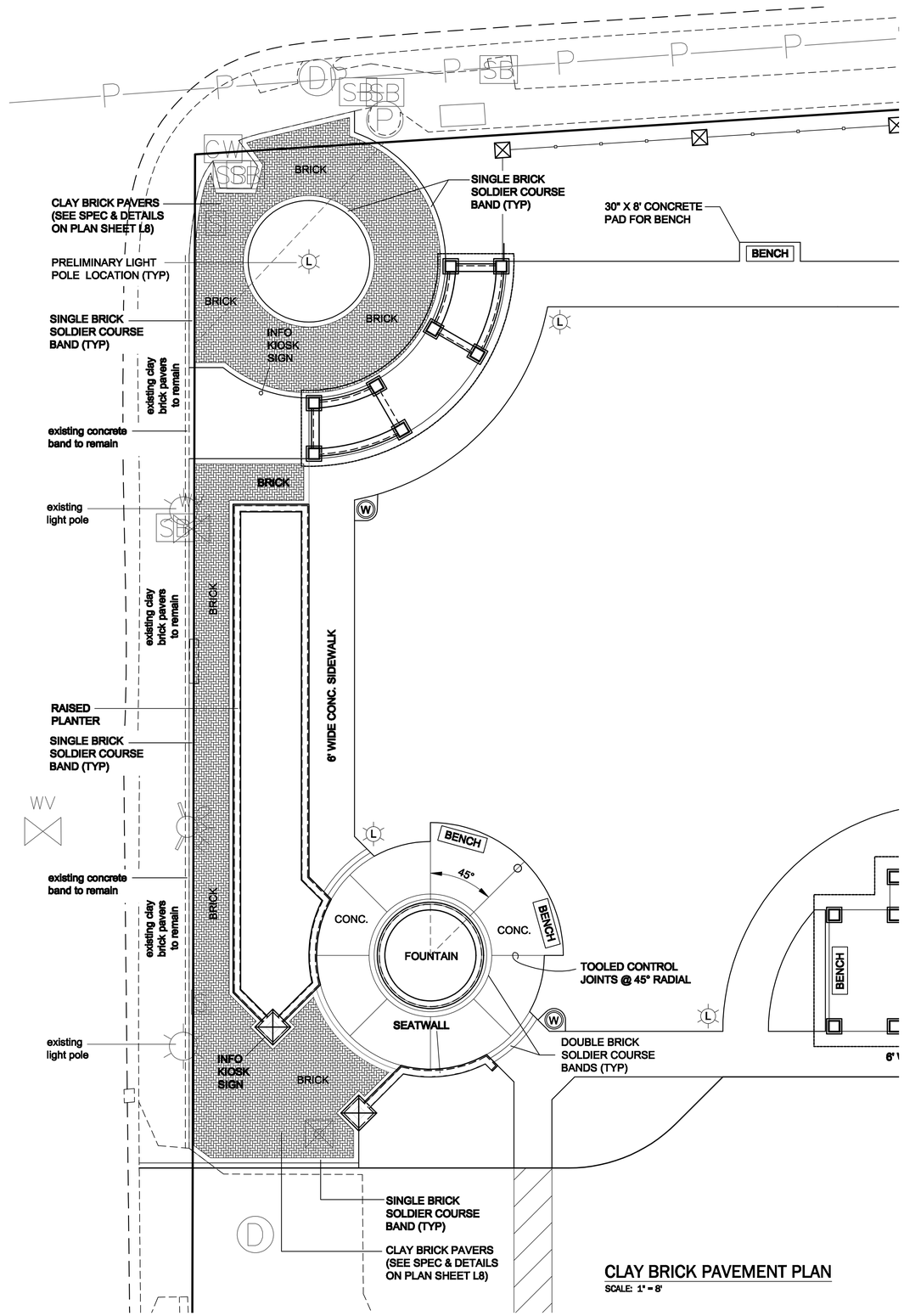
PHB–PV6

SCALE: NOT TO SCALE



Contractor shall install clay brick pavers at locations shown on the landscape and hardscape plan sheets. Where existing concrete pavers are removed, the base material shall remain in place for reuse. This existing base shall be regraded and compacted as necessary to provide a stable base. Where clay brick pavers are to be installed in existing grassed areas, the work shall include installation of suitable base material prior to installation of clay brick pavers. Brick materials shall be provided by Pine Hall Brick Company to match the South Citrus Avenue streetscape project. Brick pavers shall be from the Traditional Edge Series (2 1/4" x 4" x 8") and installed in a 90 degree herringbone pattern with a single soldier course perimeter edge. Color for field 90 degree herringone = Pathway Full Range; Color for Soldier Course Trim = Cocoa Full Range.

CLAY BRICK PAVEMENT DETAILS



CLAY BRICK PAVEMENT PLAN

SCALE: 1" = 8'

PLAN REVISIONS:

DATE	DESCRIPTION
. . . . .	

HARDSCAPE PLAN & DETAILS

CRYSTAL RIVER TOWN SQUARE

CRYSTAL RIVER, FLORIDA

Community Land Design, Inc.
Landscape Architecture
LC26000227
1773 East Cleveland Street
Hernando, FL 34442
Phone: 352-637-1742
Email: paulcld2000@tampabay.rr.com

Registered Landscape Architect #1189
Signature: Paul C. Gibbs
Date:

DRAWN BY:	PCG
DATE:	07/01/19
SCALE:	AS SHOWN

SHEET
L8 OF 8