

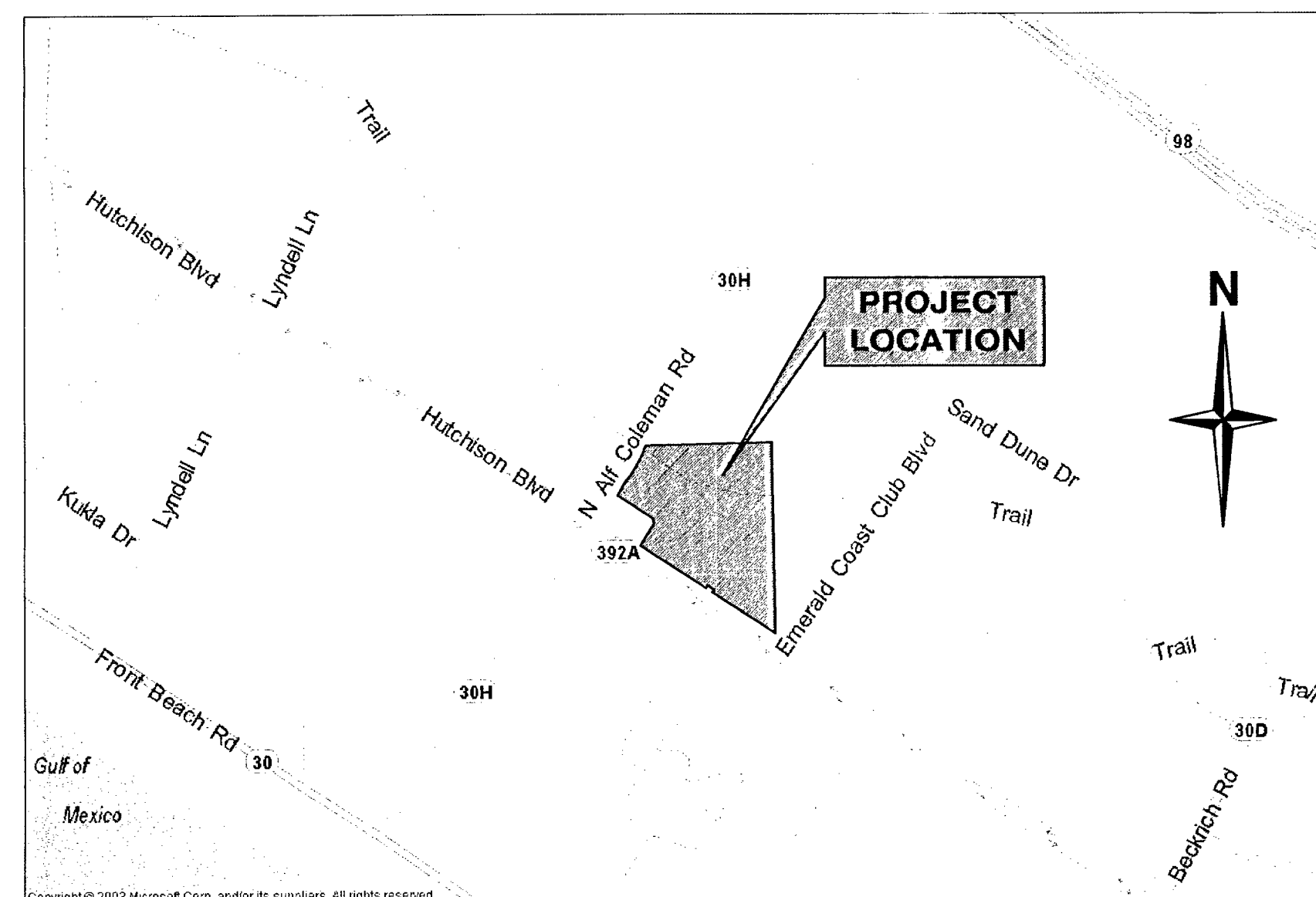
MIRACLE POINT SUBDIVISION

FOR:
MIRACLE STRIP PARTNERS, LLC.
 4321 JAN COOLEY DRIVE
 PANAMA CITY BEACH, FLORIDA

PREPARED BY:

MCNEIL — CARROLL ENGINEERING, INC. <i>Professional Engineering Consultants</i> <small>STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288</small>	17800 Panama City Beach Parkway Panama City Beach, Florida 32413
	Phone: 850-234-1730
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PROJECT 60201B



VICINITY MAP
NOT TO SCALE

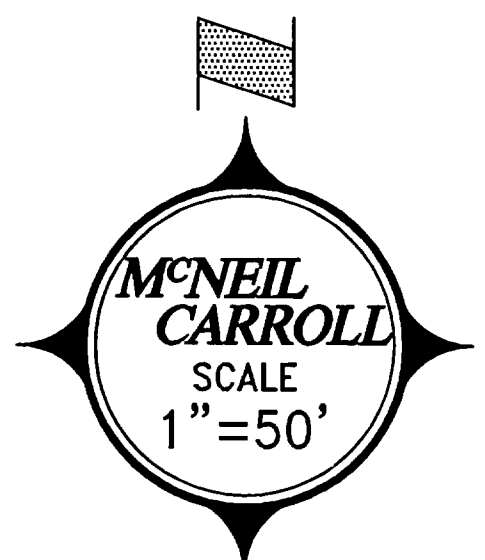
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DEF
 Tallahassee Branch Office
 SEP 11 2008

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Sept 15, 2008 - 03-021584-002-14
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 60201B - MIRACLE POINT SUBDIVISION

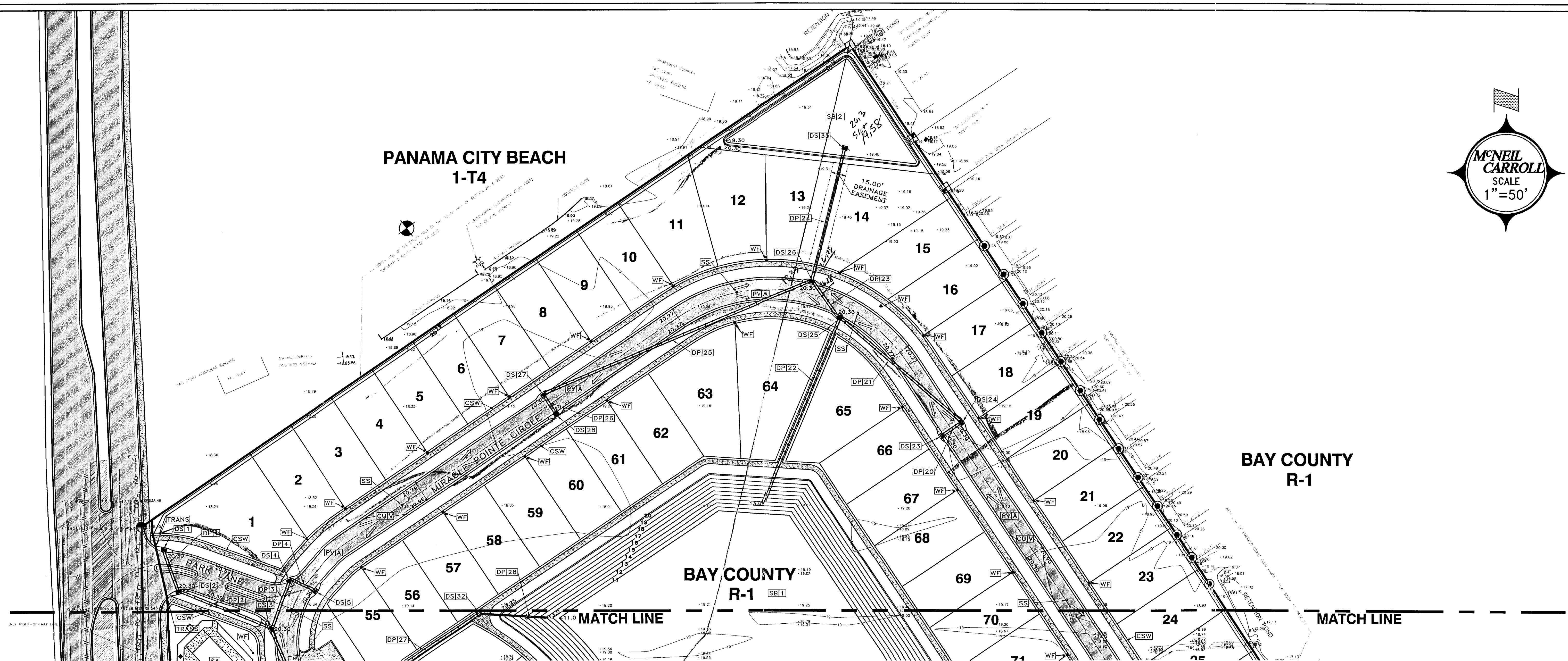
03-021584-002-14



**PANAMA CITY BEACH
1-T4**

**BAY COUNTY
R-1**

**BAY COUNTY
R-1**



SEE GENERAL NOTES IN CONSTRUCTION DETAILS.

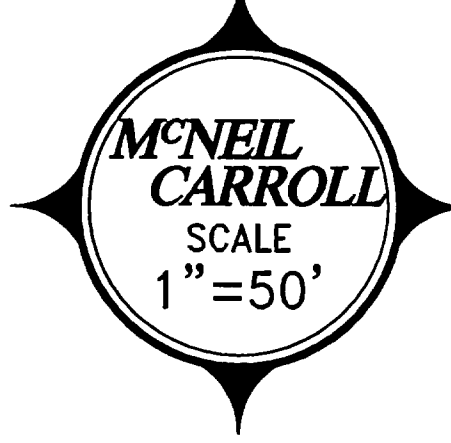
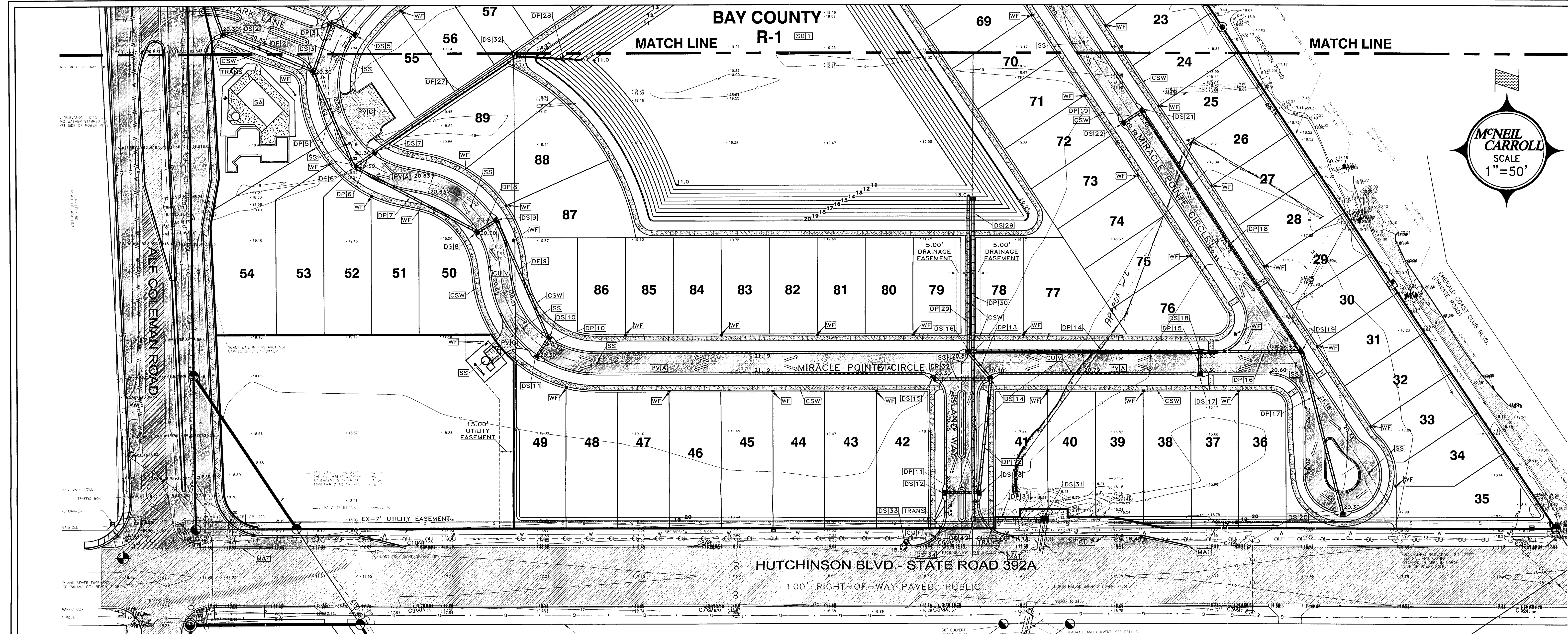
SITE GRADING AND DRAINAGE DRAWING NOTES:

- ONLY ABOVE GROUND FEATURES AND UNDERGROUND DRAINAGE STRUCTURES ARE SHOWN ON THIS SHEET.
- ALL CONSTRUCTION OUTSIDE OF PROPERTY LINES IS SHOWN IN DETAIL ON PERMIT DRAWINGS. (SEE GENERAL NOTES.)
- SEE SYMBOL LEGEND ON THIS SHEET FOR SYMBOL INFORMATION AND REFERENCED DETAILS.
- ALL DEMOLISHED MATERIALS (i.e., SIGNS, CONCRETE, ASPHALT, ETC...) TO BE REMOVED AND DISPOSED OF IN A LEGAL MANNER. ALL EXISTING MONITORING WELLS ARE NOT TO BE REMOVED. WELLS IN PAVEMENT SHALL HAVE A MANHOLE LID INSTALLED. SEE PLANS.
- SEE SECTIONS IN CONSTRUCTION DETAILS.
- PROPOSED FINISHED FLOORS OF HOUSES TO BE 1 FOOT (MIN.) ABOVE ROADWAY CENTERLINE
- CONTRACTOR SHALL PROVIDE McNEIL CARROLL ENGINEERING, INC. FIVE (5) SETS OF AS-BUILT DRAWINGS OF THE COMPLETED PROJECT. DRAWINGS SHALL BE PREPARED AND SIGNED & SEALED BY A FLORIDA REGISTERED SURVEYOR.
- ALL SWMF ARE TO BE PRIVATELY MAINTAINED.

SYMBOL LEGEND

- 19.55 (EXISTING SPOT ELEVATION)
- 19.55 (EXISTING CONTOUR)
- +12.50 (PROPOSED FINISHED GRADE)
- (STORMWATER SURFACE FLOW)
- CSW (CONCRETE SIDEWALK - SEE CONSTRUCTION DETAILS)
- CURB (F.D.O.T. CURB i.e., TYPE F - SEE CONSTRUCTION DETAILS)
- CURB (F.D.O.T. CURB i.e., TYPE RIBBON - SEE CONSTRUCTION DETAILS)
- CURB (F.D.O.T. CURB i.e., TYPE VALLEY - SEE CONSTRUCTION DETAILS)
- DPI (SEE DRAINAGE PIPE SCHEDULE THIS SHEET i.e., #16)
- DPC (DISSIMILAR PIPE CONNECTION - SEE CONSTRUCTION DETAILS)
- DS (SEE DRAINAGE STRUCTURE SCHEDULE THIS SHEET i.e., #12)
- PVA (ASPHALT PAVEMENT - SEE CONSTRUCTION DETAILS)
- PVC (CONCRETE PAVEMENT - SEE CONSTRUCTION DETAILS)
- MAT (MATCH PROPOSED FLUSH WITH EXISTING SURFACE)
- N1 (SEE NOTE i.e., #1 - SEE NOTES THIS SHEET)
- SA (SEE ARCH. PLANS)
- SS (SEWER STRUCTURE - SEE UTILITY PLAN)
- SB (SEE STORMWATER BASIN SCHEDULE THIS SHEET i.e., #1)
- SK (SKIMMER - SEE CONSTRUCTION DETAILS)
- TRANS (TRANSITION CURB 3)
- WF (WATER FIXTURE - SEE UTILITY PLAN)

DRAINAGE STRUCTURE SCHEDULE									
NO.	TYPE STRUCTURE	STATION/OFFSET	TOP OF GRATE	NORTH INVERT	SOUTH INVERT	EAST INVERT	WEST INVERT	ORIFICE/SLOT INVERT	
DS1	FDOOT TYPE VALLEY INLET	S/A 100+02.92 18.35R	EL. 20.30	EL. 16.87 18"IN	EL. 16.96 18"OUT	EL. 16.87 18"OUT	EL. 16.87 18"IN	EL. 16.87 18"IN	
DS2	FDOOT TYPE VALLEY INLET	S/A 100+24.38 22.24L	EL. 20.30	EL. 16.67 18"OUT	EL. 16.67 18"OUT	EL. 16.67 18"IN	EL. 16.67 18"IN	EL. 16.67 18"IN	
DS3	FDOOT TYPE VALLEY INLET	S/A 111+85.40 16.93L	EL. 20.30	EL. 16.90 18"OUT	EL. 16.90 18"OUT	EL. 16.90 18"IN	EL. 16.90 18"IN	EL. 16.90 18"IN	
DS4	FDOOT TYPE VALLEY INLET	S/A 312+20.55 16.93L	EL. 20.30	EL. 16.46 18"IN	EL. 16.46 18"IN	EL. 16.46 18"OUT	EL. 16.46 18"OUT	EL. 16.46 18"OUT	
DS5	FDOOT TYPE VALLEY INLET	S/A 310+85.55 12.12R	EL. 20.30	EL. 16.31 18"IN	EL. 16.31 18"IN	EL. 16.31 24"OUT	EL. 16.31 24"OUT	EL. 16.31 24"OUT	
DS6	FDOOT TYPE VALLEY INLET	S/A 310+78.43 12.12R	EL. 20.30	EL. 16.60 18"OUT	EL. 16.60 18"OUT	EL. 16.60 18"IN	EL. 16.60 18"IN	EL. 16.60 18"IN	
DS7	FDOOT TYPE VALLEY INLET	S/A 309+72.73 12.12R	EL. 20.30	EL. 16.91 18"OUT	EL. 16.91 18"OUT	EL. 16.91 18"IN	EL. 16.91 18"IN	EL. 16.91 18"IN	
DS8	FDOOT TYPE VALLEY INLET	S/A 307+89.99 12.12R	EL. 20.30	EL. 16.88 18"OUT	EL. 16.88 18"OUT	EL. 16.88 18"IN	EL. 16.88 18"IN	EL. 16.88 18"IN	
DS9	FDOOT TYPE VALLEY INLET	S/A 307+89.99 12.12R	EL. 20.30	EL. 16.89 18"OUT	EL. 16.89 18"OUT	EL. 16.89 18"IN	EL. 16.89 18"IN	EL. 16.89 18"IN	
DS10	FDOOT TYPE VALLEY INLET	S/A 303+19.89 15.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	
DS11	FDOOT TYPE VALLEY INLET	S/A 303+19.89 15.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	
DS12	FDOOT TYPE VALLEY INLET	S/A 303+19.89 15.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	
DS13	FDOOT TYPE VALLEY INLET	S/A 303+19.89 15.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	
DS14	FDOOT TYPE VALLEY INLET	S/A 303+19.89 15.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	
DS15	FDOOT TYPE VALLEY INLET	S/A 303+19.89 15.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	
DS16	FDOOT TYPE VALLEY INLET	S/A 303+19.89 15.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	
DS17	FDOOT TYPE VALLEY INLET	S/A 303+19.89 15.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	
DS18	FDOOT TYPE VALLEY INLET	S/A 303+19.89 15.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	
DS19	FDOOT TYPE VALLEY INLET	S/A 303+19.89 15.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	
DS20	FDOOT TYPE VALLEY INLET	S/A 328+02.76 45.38R	EL. 20.30	EL. 18.96 18"OUT	EL. 18.96 18"OUT	EL. 18.96 18"IN	EL. 18.96 18"IN	EL. 18.96 18"IN	
DS21	FDOOT TYPE VALLEY INLET	S/A 328+02.76 45.38R	EL. 20.30	EL. 18.96 18"OUT	EL. 18.96 18"OUT	EL. 18.96 18"IN	EL. 18.96 18"IN	EL. 18.96 18"IN	
DS22	FDOOT TYPE VALLEY INLET	S/A 328+02.76 45.38R	EL. 20.30	EL. 18.96 18"OUT	EL. 18.96 18"OUT	EL. 18.96 18"IN	EL. 18.96 18"IN	EL. 18.96 18"IN	
DS23	FDOOT TYPE VALLEY INLET	S/A 328+02.76 45.38R	EL. 20.30	EL. 18.96 18"OUT	EL. 18.96 18"OUT	EL. 18.96 18"IN	EL. 18.96 18"IN	EL. 18.96 18"IN	
DS24	FDOOT TYPE VALLEY INLET	S/A 328+02.76 45.38R	EL. 20.30	EL. 18.96 18"OUT	EL. 18.96 18"OUT	EL. 18.96 18"IN	EL. 18.96 18"IN	EL. 18.96 18"IN	
DS25	FDOOT TYPE VALLEY INLET	S/A 328+02.76 45.38R	EL. 20.30	EL. 18.96 18"OUT	EL. 18.96 18"OUT	EL. 18.96 18"IN	EL. 18.96 18"IN	EL. 18.96 18"IN	
DS26	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS27	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS28	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS29	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS30	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS31	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS32	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS33	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS34	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS35	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS36	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS37	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS38	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS39	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS40	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS41	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS42	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS43	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS44	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS45	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS46	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS47	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS48	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS49	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS50	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS51	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS52	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS53	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS54	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS55	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS56	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS57	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS58	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS59	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS60	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS61	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS62	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS63	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS64	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS65	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18"OUT	
DS66	FDOOT TYPE VALLEY INLET	S/A 318+37.80 12.12L	EL. 20.30	EL. 16.18 18"IN	EL. 16.18 18"IN	EL. 16.18 18"OUT	EL. 16.18 18"OUT	EL. 16.18 18	



SEE GENERAL NOTES IN CONSTRUCTION DETAILS.

SITE GRADING AND DRAINAGE DRAWING NOTES:

- ONLY ABOVE GROUND FEATURES AND UNDERGROUND DRAINAGE STRUCTURES ARE SHOWN ON THIS SHEET.
- ALL CONSTRUCTION OUTSIDE OF PROPERTY LINES IS SHOWN IN DETAIL ON PERMIT DRAWINGS. (SEE GENERAL NOTES.)
- SEE SYMBOL LEGEND ON THIS SHEET FOR SYMBOL INFORMATION AND REFERENCED DETAILS.
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- SEE SECTIONS IN CONSTRUCTION DETAILS.
- PROPOSED FINISHED FLOORS OF HOUSES TO BE 1 FOOT (MIN.) ABOVE ROADWAY CENTERLINE.
- CONTRACTOR SHALL PROVIDE McNEIL CARROLL ENGINEERING, INC. FIVE (5) SETS OF AS-BUILT DRAWINGS OF THE COMPLETED PROJECT. DRAWINGS SHALL BE PREPARED AND SIGNED & SEALED BY A FLORIDA REGISTERED SURVEYOR.
- ALL SWMF ARE TO BE PRIVATELY MAINTAINED.

SYMBOL LEGEND

- 19.55 (EXISTING SPOT ELEVATION)
- 19 (EXISTING CONTOUR)
- +12.50 (PROPOSED FINISHED GRADE)
- (STORMWATER SURFACE FLOW)
- (CONCRETE SIDEWALK - SEE CONSTRUCTION DETAILS)
- (F.D.O.T. CURB IN, TYPE F - SEE CONSTRUCTION DETAILS)
- (F.D.O.T. CURB IN, TYPE RIBBON - SEE CONSTRUCTION DETAILS)
- (F.D.O.T. CURB IN, TYPE VALLEY - SEE CONSTRUCTION DETAILS)
- (SEE DRAINAGE PIPE SCHEDULE THIS SHEET #112)
- (DISSIMILAR PIPE CONNECTION - SEE CONSTRUCTION DETAILS)
- (SEE DRAINAGE STRUCTURE SCHEDULE THIS SHEET #112)
- (ASPHALT PAVEMENT - SEE CONSTRUCTION DETAILS)
- (CONCRETE PAVEMENT - SEE CONSTRUCTION DETAILS)
- (MATCH PROPOSED FLUSH WITH EXISTING SURFACE)
- (SEE NOTE #1 - SEE NOTES THIS SHEET)
- (SEE ARCH. PLANS)
- (SEWER STRUCTURE - SEE UTILITY PLAN)
- (SEE STORMWATER BASIN SCHEDULE THIS SHEET #112)
- (SKIMMER - SEE CONSTRUCTION DETAILS)
- (TRANSITION CURB 3')
- (WATER FEATURE - SEE UTILITY PLAN)

NO.	TYPE STRUCTURE	STATION/OFFSET	TOP OF GRATE				
			NORTH INVERT	SOUTH INVERT	EAST INVERT	WEST INVERT	ORIFICE/SLOT INVERT
DS1	FDOT TYPICAL VALLEY INLET	STA 100+02.32 18.35R	EL. 20.30	EL. 16.96 18"OUT	EL. 16.87 18"OUT	EL. 16.87 18"OUT	EL. 16.67 18"IN
DS2	FDOT TYPICAL VALLEY INLET	STA 100+24.38 22.25L	EL. 20.30	EL. 16.67 18"OUT	EL. 16.87 18"IN	EL. 16.87 18"IN	EL. 16.67 18"IN
DS3	FDOT TYPICAL VALLEY INLET	STA 111+83.20 16.96L	EL. 20.30	EL. 16.90 18"OUT	EL. 16.90 18"IN	EL. 16.90 18"IN	EL. 16.90 18"IN
DS4	FDOT TYPICAL VALLEY INLET	STA 112+28.55 16.93L	EL. 20.30	EL. 16.31 18"IN	EL. 16.31 18"IN	EL. 16.31 18"IN	EL. 16.31 18"IN
DS5	FDOT TYPICAL VALLEY INLET	STA 112+54.89 12.12R	EL. 20.30	EL. 16.46 18"IN	EL. 16.46 18"IN	EL. 16.46 18"IN	EL. 16.46 18"IN
DS6	FDOT TYPICAL VALLEY INLET	STA 112+89.34 14.14L	EL. 20.30	EL. 16.60 18"OUT	EL. 16.60 18"IN	EL. 16.60 18"IN	EL. 16.60 18"IN
DS7	FDOT TYPICAL VALLEY INLET	STA 110+78.43 12.12R	EL. 20.30	EL. 16.60 18"OUT	EL. 16.26 24"OUT	EL. 16.26 24"OUT	EL. 16.26 24"OUT
DS8	FDOT TYPICAL VALLEY INLET	STA 109+37.79 12.12L	EL. 20.30	EL. 16.60 18"OUT	EL. 16.60 18"IN	EL. 16.60 18"IN	EL. 16.60 18"IN
DS9	FDOT TYPICAL VALLEY INLET	STA 109+37.79 12.12R	EL. 20.30	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN
DS10	FDOT TYPICAL VALLEY INLET	STA 107+88.99 12.12R	EL. 20.30	EL. 16.91 18"OUT	EL. 16.91 18"IN	EL. 16.91 18"IN	EL. 16.91 18"IN
DS11	FDOT TYPICAL VALLEY INLET	STA 107+88.99 12.12L	EL. 20.30	EL. 16.89 18"OUT	EL. 16.89 18"IN	EL. 16.89 18"IN	EL. 16.89 18"IN
DS12	FDOT TYPICAL VALLEY INLET	STA 200+37.13 18.12L	EL. 20.30	EL. 16.58 18"IN	EL. 16.58 18"IN	EL. 16.58 18"IN	EL. 16.58 18"IN
DS13	FDOT TYPICAL VALLEY INLET	STA 107+88.99 12.12L	EL. 20.30	EL. 16.89 18"OUT	EL. 16.89 18"IN	EL. 16.89 18"IN	EL. 16.89 18"IN
DS14	FDOT TYPICAL VALLEY INLET	STA 103+18.89 16.66L	EL. 20.30	EL. 16.65 18"OUT	EL. 16.65 18"IN	EL. 16.65 18"IN	EL. 16.65 18"IN
DS15	FDOT TYPICAL VALLEY INLET	STA 103+29.42 15.66L	EL. 20.30	EL. 15.62 24"OUT	EL. 15.62 24"IN	EL. 15.62 24"IN	EL. 15.62 24"IN
DS16	FDOT TYPICAL VALLEY INLET	STA 103+29.42 14.14L	EL. 20.30	EL. 16.58 18"IN	EL. 16.58 18"IN	EL. 16.58 18"IN	EL. 16.58 18"IN
DS17	FDOT TYPICAL VALLEY INLET	STA 101+00.23 12.12L	EL. 20.30	EL. 16.96 18"IN	EL. 16.96 18"IN	EL. 16.96 18"IN	EL. 16.96 18"IN
DS18	FDOT TYPICAL VALLEY INLET	STA 101+00.23 12.12R	EL. 20.30	EL. 16.10 18"IN	EL. 16.10 18"IN	EL. 16.10 24"OUT	EL. 16.10 18"IN
DS19	FDOT TYPICAL VALLEY INLET	STA 128+42.28 12.12L	EL. 20.30	EL. 16.31 18"IN	EL. 16.31 18"IN	EL. 16.31 18"OUT	EL. 16.31 18"OUT
DS20	FDOT TYPICAL VALLEY INLET	STA 128+42.28 12.12R	EL. 20.30	EL. 16.96 18"OUT	EL. 16.96 18"IN	EL. 16.96 18"IN	EL. 16.96 18"IN
DS21	FDOT TYPICAL VALLEY INLET	STA 128+42.28 12.12L	EL. 20.30	EL. 16.91 18"OUT	EL. 16.91 18"IN	EL. 16.91 18"IN	EL. 16.91 18"IN
DS22	FDOT TYPICAL VALLEY INLET	STA 128+42.28 12.12R	EL. 20.30	EL. 16.91 18"OUT	EL. 16.91 18"IN	EL. 16.91 18"IN	EL. 16.91 18"IN
DS23	FDOT TYPICAL VALLEY INLET	STA 128+42.28 12.12R	EL. 20.30	EL. 16.91 18"OUT	EL. 16.91 18"IN	EL. 16.91 18"IN	EL. 16.91 18"IN
DS24	FDOT TYPICAL VALLEY INLET	STA 128+42.28 12.12L	EL. 20.30	EL. 16.91 18"OUT	EL. 16.09 24"	EL. 16.09 24"	EL. 16.09 24"
DS25	FDOT TYPICAL VALLEY INLET	STA 118+76.88 12.12R	EL. 20.30	EL. 15.18 18"	EL. 15.18 18"	EL. 15.18 18"	EL. 15.18 18"
DS26	FDOT TYPICAL VALLEY INLET	STA 128+42.28 12.12R	EL. 20.30	EL. 16.91 18"OUT	EL. 16.91 18"IN	EL. 16.91 18"IN	EL. 16.91 18"IN
DS27	FDOT TYPICAL VALLEY INLET	STA 128+42.28 12.12L	EL. 20.30	EL. 16.96 18"OUT	EL. 16.91 18"IN	EL. 16.91 18"IN	EL. 16.91 18"IN
DS28	FDOT TYPICAL VALLEY INLET	STA 115+43.60 12.12L	EL. 20.30	EL. 16.96 18"OUT	EL. 16.91 18"IN	EL. 16.91 18"IN	EL. 16.91 18"IN
DS29	FDOT TYPICAL VALLEY INLET	STA 115+43.60 12.12R	EL. 20.30	EL. 16.96 18"OUT	EL. 16.91 18"IN	EL. 16.91 18"IN	EL. 16.91 18"IN
DS30	FDOT TYPICAL VALLEY INLET	STA 200+09.89 11.91R	EL. 18.35	EL. 11.81 18"IN	EL. 12.47 18"OUT	EL. 11.81 18"OUT	EL. 11.81 18"IN
DS31	FDOT TYPICAL VALLEY INLET	STA N/A	EL. 20.30	EL. 11.81 18"IN	EL. 11.81 18"IN	EL. 11.81 18"IN	EL. 11.71 18"IN
DS32	FDOT TYPICAL VALLEY INLET	STA N/A	EL. 20.30	EL. 11.81 18"IN	EL. 11.81 18"IN	EL. 11.81 18"IN	EL. 11.81 18"IN
DS33	FDOT TYPICAL VALLEY INLET	STA N/A	EL. 20.30	EL. 11.81 18"IN	EL. 11.81 18"IN	EL. 11.81 18"IN	EL. 11.81 18"IN
DS34	FDOT TYPICAL VALLEY INLET	STA N/A	EL. 20.30	EL. 11.81 18"IN	EL. 11.81 18"IN	EL. 11.81 18"IN	EL. 11.81 18"IN
DS35	FDOT TYPICAL VALLEY INLET	STA N/A	EL. 20.30	EL. 11.81 18"IN	EL. 11.81 18"IN	EL. 11.81 18"IN	EL. 11.81 18"IN

DRAINAGE PIPE SCHEDULE				
NO.	SIZE	LF	TYPE	SLOPE
DP1	18"	44	RCP	0.20%
DP2	18"	100	RCP	0.20%
DP3	18"	24	RCP	0.45%
DP4	18"	28	RCP	0.20%
DP5	18"	104	RCP	0.20%
DP6	18"	24	RCP	0.20%
DP7	18"	140	RCP	0.20%
DP8	18"	22	RCP	0.20%
DP9	18"	130	RCP	0.20%
DP10	18"	42	RCP	0.20%
DP11	18"	22	RCP	0.20%
DP12	18"	118	RCP	0.20%
DP13	18"	16	RCP	0.20%
DP14	24"	238	RCP	0.20%
DP15	18"	103	RCP	0.20%
DP16	18"	103	RCP	0.20%
DP17	18"	173	RCP	0.20%
DP18	18"	226	RCP	0.20%
DP19	18"	22	RCP	0.20%
DP20	18"	22	RCP	0.20%
DP21	18"	158	RCP	0.20%
DP22	24"	200	RCP	1.55%
DP23	18"	43	RCP	0.20%
DP24	18"	160	RCP	0.20%
DP25	18"	230	RCP	0.20%
DP26	18"	42	RCP	0.20%
DP27	24"	176	RCP	0.20%
DP28	18"	328	RCP	1.21%
DP29	24"	152	RCP	1.01%
DP30	18"	328	RCP	0.20%
DP31	18"	69	RCP	0.14%
DP32	18"	56	RCP	0.56%

STORMWATER BASIN SCHEDULE					
NO.	Basin Area	Top of Bank Elev.	Side Slope	Bottom Elev.	Watershed Area
SB1	2.59 AC	EL. 20.25	4 TO 1	EL. 11.00	18.89 AC
SB2	0.24 AC	EL. 20.30	1 TO 1	EL. 19.30	1.51 AC

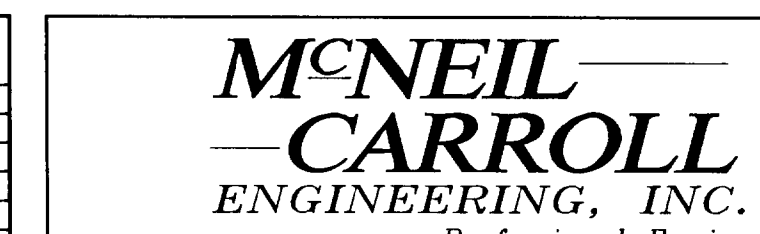
SEE SITE LAYOUT PLAN FOR DIMENSIONS

PERMIT PURPOSES ONLY

Alan W. Kirkland, P.E.
PROFESSIONAL ENGINEER
FL LC # 61729

SITE GRADING AND DRAINAGE PLAN
MIRACLE POINT SUBDIVISION
ALF COLEMAN AND HUTCHISON BLVD
BAY COUNTY

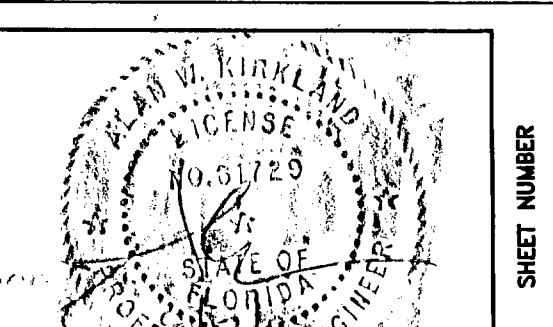
SCALE SHOWN
DESIGNED BY FLC
DRAWN BY WCK
REVIEWED BY FLC
ISSUE DATE DATE
CF/DR 60201E01



416 JENKS AVENUE
Panama City, Florida 32401
Phone: 850-763-5730
Fax: 850-763-5744

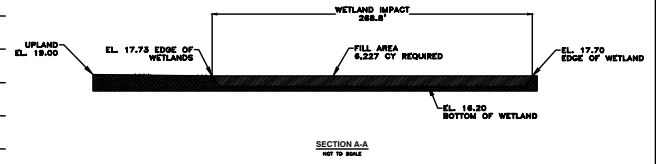
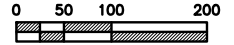
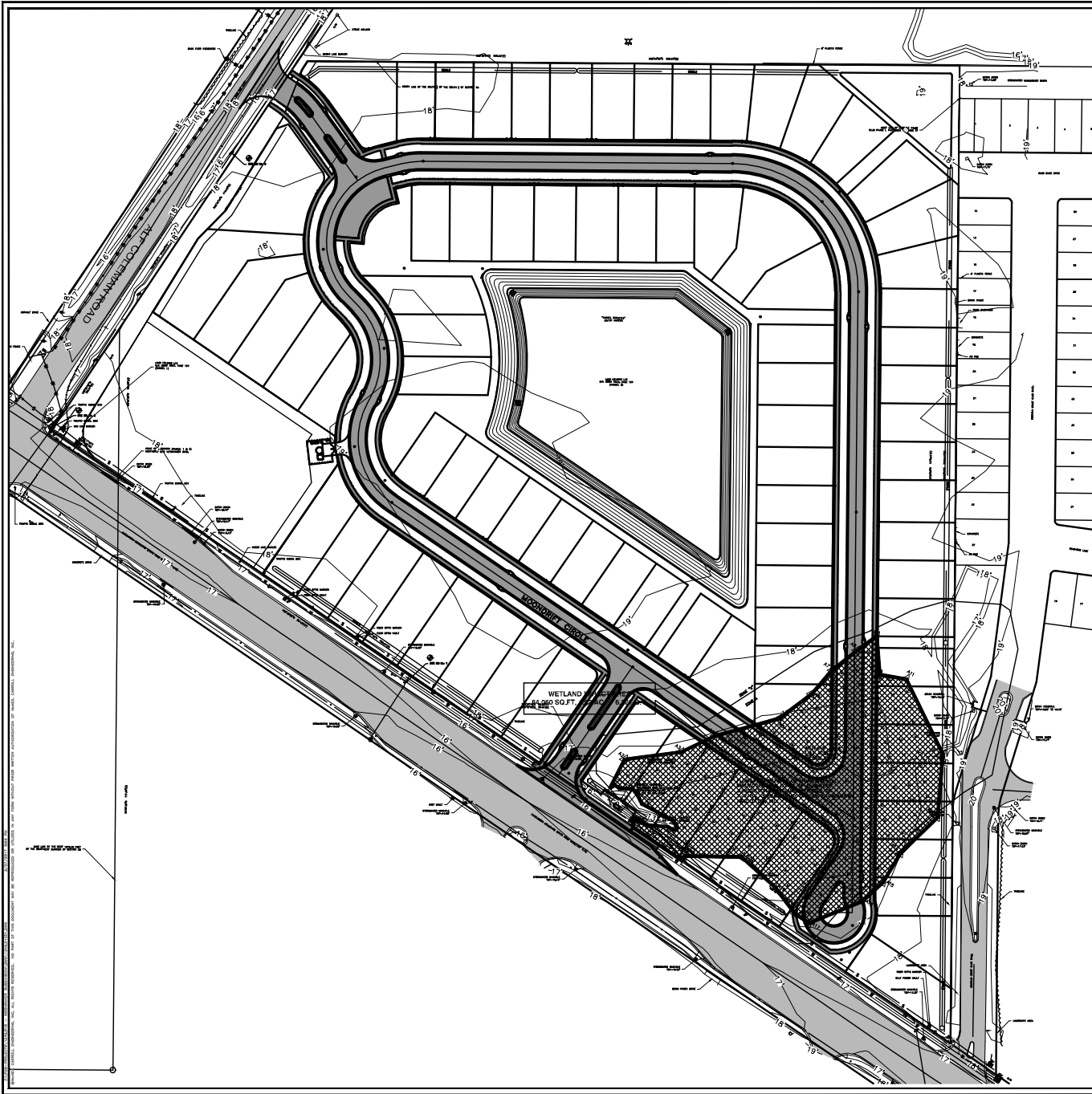
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7285

NO.	DATE	BY	REVISIONS



NOT RELEASED FOR CONSTRUCTION BY DATE:

0152015-03-02/3846-02-04
 7 OF 25
 60201B - MIRACLE POINT SUBDIVISION
 SHEET NUMBER



IMPACTED WETLANDS	1.93 AC
TOTAL WETLANDS	1.93 AC
UPLANDS	20.25 AC
TOTAL SITE AREA	22.10 AC

PERMIT PURPOSES ONLY

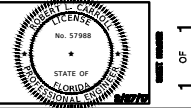
WETLAND IMPACT
 MOONRAKER SUBDIVISION
 HUTCHISON BLVD
 PANAMA CITY BEACH, FLORIDA

DATE	08/11/2011
TIME	10:00 AM
BY	Robert L. Carroll, P.E.
FOR	McNeil Carroll Engineering, Inc.
PROJECT	MOONRAKER SUBDIVISION
DESCRIPTION	WETLAND IMPACT

**McNEIL
 CARROLL**
 ENGINEERING, INC.
 Professional Engineering Consultants
 STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7395

5800 Panama City Beach Parkway
 Panama City Beach, Florida 32408
 Phone 850-294-0780
 Fax 850-294-0781

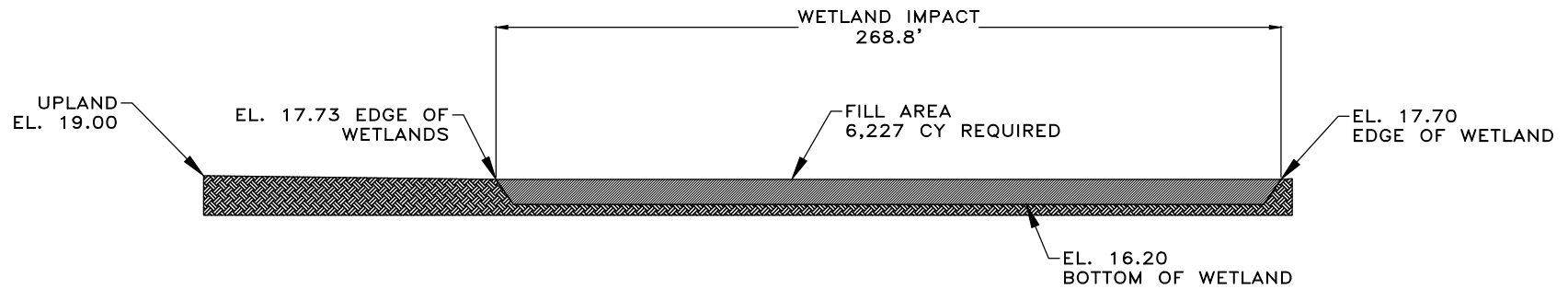
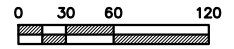
NO.	DATE	BY
01		
02		
03		
04		
05		



Sean B. McNeil, P.E.
 10/27/2011

Robert L. Carroll, P.E.
 10/27/2011

1248-01B - MOONRAKER SUBDIVISION



PERMIT PURPOSES ONLY

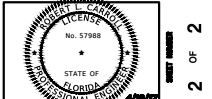
WETLAND IMPACT
 MOONRAKER SUBDIVISION
 HUTCHISON BLVD
 PANAMA CITY BEACH, FLORIDA

DATE	BY

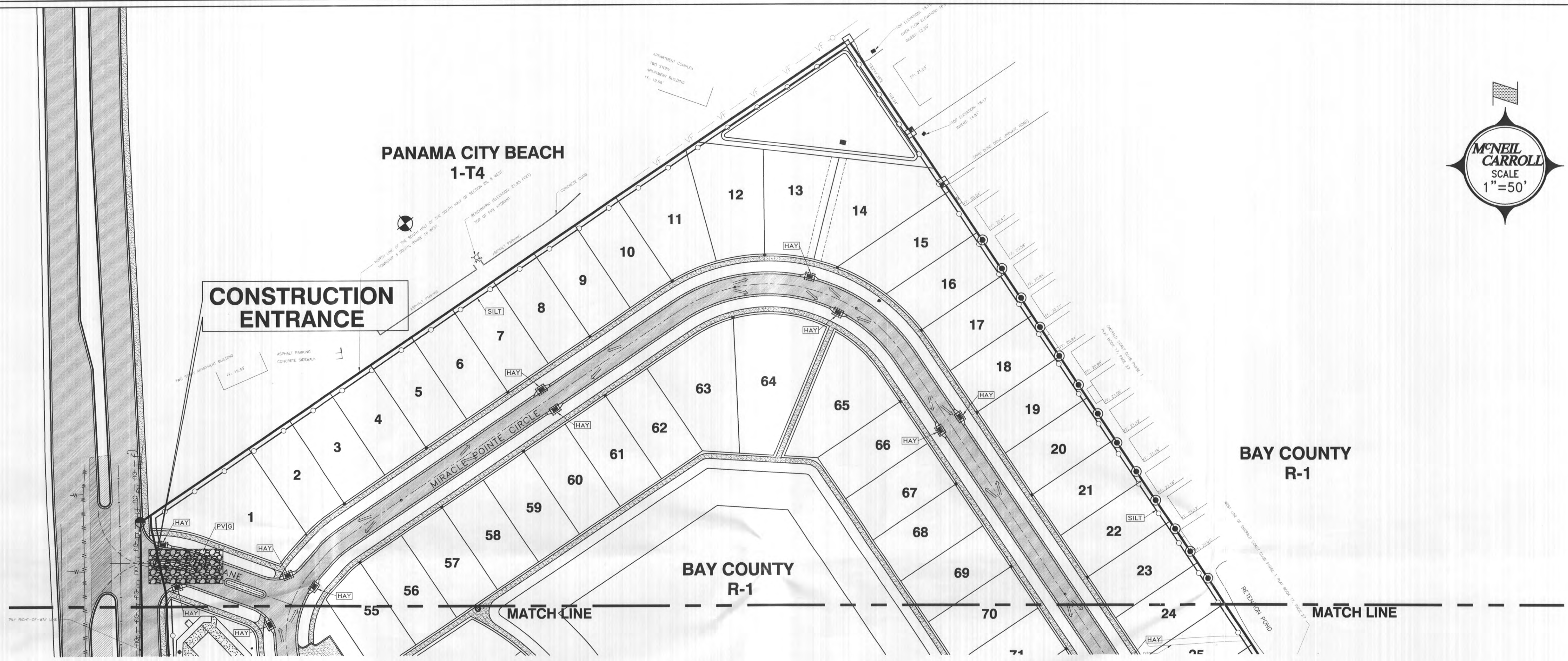
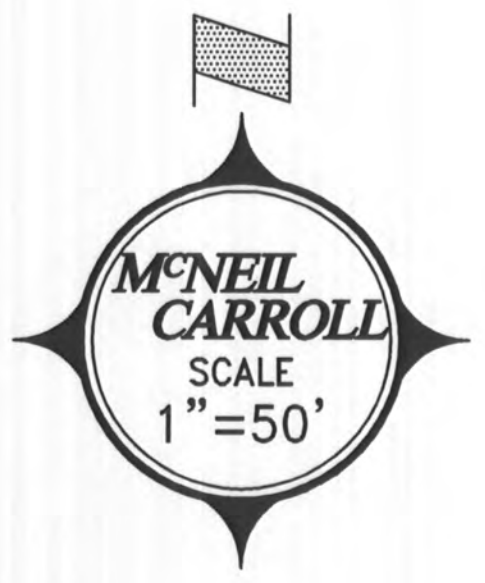
McNEIL CARROLL
 ENGINEERING, INC.
 Professional Engineering Consultants
 STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7398

5700 Panama City Beach Parkway
 Panama City Beach, Florida 32408
 Phone 850-294-0780
 Fax 850-294-0781

NO.	DATE	BY	REVISION
01			
02			
03			
04			



Dean B. McNeil, P.E.
 Robert L. Carroll, P.E.



SEE GENERAL NOTES IN CONSTRUCTION DETAILS.

SITE EROSION CONTROL DRAWING NOTES:

1. EROSION CONTROL SHALL BE MAINTAINED FOR THE DURATION FOR THE PROJECT.
2. ALL CONSTRUCTION OUTSIDE OF PROPERTY LINES IS SHOWN IN DETAIL ON PERMIT DRAWINGS. (SEE GENERAL NOTES.)
3. SEE SYMBOL LEGEND ON THIS SHEET FOR SYMBOL INFORMATION AND REFERENCED DETAILS.
4. SEE SECTIONS IN CONSTRUCTION DETAILS.
5. SILT FENCE TO BE INSTALLED AT PERIMETER OF SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES WILL BE UTILIZED THROUGHOUT THE CONSTRUCTION PHASE OF THIS PROJECT TO RESTRICT ANY TURBID RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
6. CONTROL OF SEDIMENT-LADEN RUNOFF SHALL BE PROVIDED WITH HAY BALES AND/OR GEOTECH STYLE FABRICS. ALL CONTROL MEASURES SHALL BE PROPERLY LOCATED AND CONSTRUCTED TO PREVENT SEDIMENT TRANSPORT. THE MEANS FOR RETAINING THE SEDIMENTS WILL BE MAINTAINED BY THE CONTRACTOR UNTIL IMPROVEMENTS ARE COMPLETE.
7. THE CONTRACTOR IS RESPONSIBLE FOR TREATING ALL ONSITE STORMWATER DRAINAGE AS REQUIRED TO MEET THE CRITERIA OF 62-3 FLORIDA ADMINISTRATIVE CODE, F.A.C. PRIOR TO DISCHARGE.
8. ALL CATCH BASINS, INLETS AND ACCESS TO UNDERGROUND STORMWATER SYSTEMS SHALL BE PROTECTED IN ACCORDANCE WITH THE ATTACHED DETAILS.
9. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE TERMS AND CONDITIONS OF ANY STORMWATER PERMITS THAT MAY APPLY (FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, FLORIDA DEPARTMENT OF TRANSPORTATION, BAY COUNTY, WATER MANAGEMENT DISTRICT, ETC.).
10. CONSTRUCTION DRIVES SHALL SLOPE AWAY FROM THE ROADWAY AT A MINIMUM SLOPE OF 2.00% TO DISTANCE OF NOT LESS THAN 15 FEET FROM THE EDGE OF PAVEMENT. THE MAXIMUM WIDTH OF THE DRIVE SHALL BE 30 FEET WITH A COARSE GRAVEL SURFACE 4 INCHES THICK. SIGNS SHALL BE PLACED (IN ACCORDANCE WITH CITY AND STATE REQUIREMENTS) TO WARN APPROACHING DRIVERS AND PEDESTRIANS.
11. THE DEVELOPER AND/OR CONTRACTOR IS RESPONSIBLE FOR FOLLOWING REQUIRED WASTE MANAGEMENT PRACTICES AS DEFINED IN THE BAY COUNTY MUNICIPAL CODE SECTION 22-91 "UNLAWFUL DISPOSAL OF WASTE, FAILURE TO DELIVER WASTE", WHICH MAKES IT UNLAWFUL FOR ANY PERSON TO DUMP, LEAVE OR BURY ANY SOLID WASTE ON PUBLIC OR PRIVATE PROPERTY.
12. THE DEVELOPER AND/OR CONTRACTOR IS RESPONSIBLE FOR OBTAINING COVERAGE UNDER THE FDP GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES PRIOR TO START OF CONSTRUCTION OR ANY DISTURBANCE OF LAND GREATER THAN 1 ACRE. THE DEVELOPER/CONTRACTOR WILL FORWARD A COPY OF THE PERMIT AND WILL PROVIDE 48 HOUR NOTIFICATION TO THE ENGINEERING DEPARTMENT AT 850-784-4060 PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL REQUIRED ELEMENTS OF THE SWPPP MUST BE IN PLACE PRIOR TO COMMENCEMENT OF CONSTRUCTION. FAILURE TO COMPLY COULD RESULT IN CODE ENFORCEMENT ACTION AND FINES.
13. QUALIFIED PERSONNEL SHALL INSPECT THE FOLLOWING ITEMS AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND/OR WITHIN 24 HOURS OF THE END OF A STORM EVENT (RAINFALL) THAT IS A 1/2 INCH OR GREATER:
 - A. POINTS OF DISCHARGE TO WATERS OF THE UNITED STATES.
 - B. POINTS OF DISCHARGE TO MUNICIPAL SEPARATE STORM WATER SYSTEMS.
 - C. DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
 - D. AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
 - E. STRUCTURAL CONTROLS.
 - F. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.

14. THE CONTRACTOR SHALL INITIATE REPAIRS WITHIN 24 HOURS OF INSPECTION THAT INDICATE ITEMS ARE NOT IN GOOD WORKING ORDER. TO COMPLY, THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAGES AND DAILY RAINFALL RECORDS. WHERE SITES HAVE BEEN PERMANENTLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH. THE CONTRACTOR SHALL ALSO INSPECT AND CERTIFY THAT CONTROLS INSTALLED IN THE FIELD AGREE WITH THE LATEST STORMWATER POLLUTION PREVENTION PLAN.
15. IF INSPECTIONS INDICATE THAT THE INSTALLED STABILIZATION AND STRUCTURAL PRACTICES ARE NOT SUFFICIENT TO MINIMIZE EROSION, RETAIN SEDIMENT, AND PREVENT DISCHARGING POLLUTANTS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES. WHERE SITES HAVE BEEN PERMANENTLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH. AS NEEDED.
16. RECORDS OF THE INSPECTIONS AND THE CONSTRUCTION PERMIT MUST BE MAINTAINED AT THE CONSTRUCTION SITE AND BE READILY AVAILABLE FOR INSPECTION.
17. ALL STORMWATER MANAGEMENT FACILITIES AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, DEMOLITION OR OTHER DISTURBANCE TO THE SUBJECT SITE.

SYMBOL LEGEND

→ (STORMWATER SURFACE FLOW)

[HAY] (HAY BALE BARRIER - SEE CONSTRUCTION DETAILS)

[SILT] (SILT FENCE - SEE CONSTRUCTION DETAILS)

[TURBID] (TURBIDITY BARRIER - SEE CONSTRUCTION DETAILS)

[PVG] (24" WIDE #57 GRAVEL CONSTRUCTION ENTRANCE 6" THICK)

CONTRACTORS / SUBCONTRACTORS CERTIFICATION STATEMENT

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND AND SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THE STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER."

NAME	TITLE	COMPANY NAME, ADDRESS AND PHONE NUMBER	DATE

CONTRACTORS / SUBCONTRACTORS CERTIFICATION STATEMENT / OPERATOR/RESPONSIBLE AUTHORITY

"I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INSPECTION OF THESE PERSONS WHO MANAGE THE SYSTEM, OR THESE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

NAME	TITLE	COMPANY NAME, ADDRESS AND PHONE NUMBER	DATE

PERMIT PURPOSES ONLY

Alan W. Kirkland, P.E.
PROFESSIONAL ENGINEER
FL LC # 61729

SITE EROSION CONTROL PLAN
MIRACLE POINT SUBDIVISION
ALF COLEMAN AND HUTCHISON BLVD
BAY COUNTY

SCALE SHOWN
DESIGNED BY: RLC
DRAWN BY: WCK
REVIEWED BY: RLC
ISSUE DATE: DATE
C/F/S: 60201E01

M'NEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER 7385

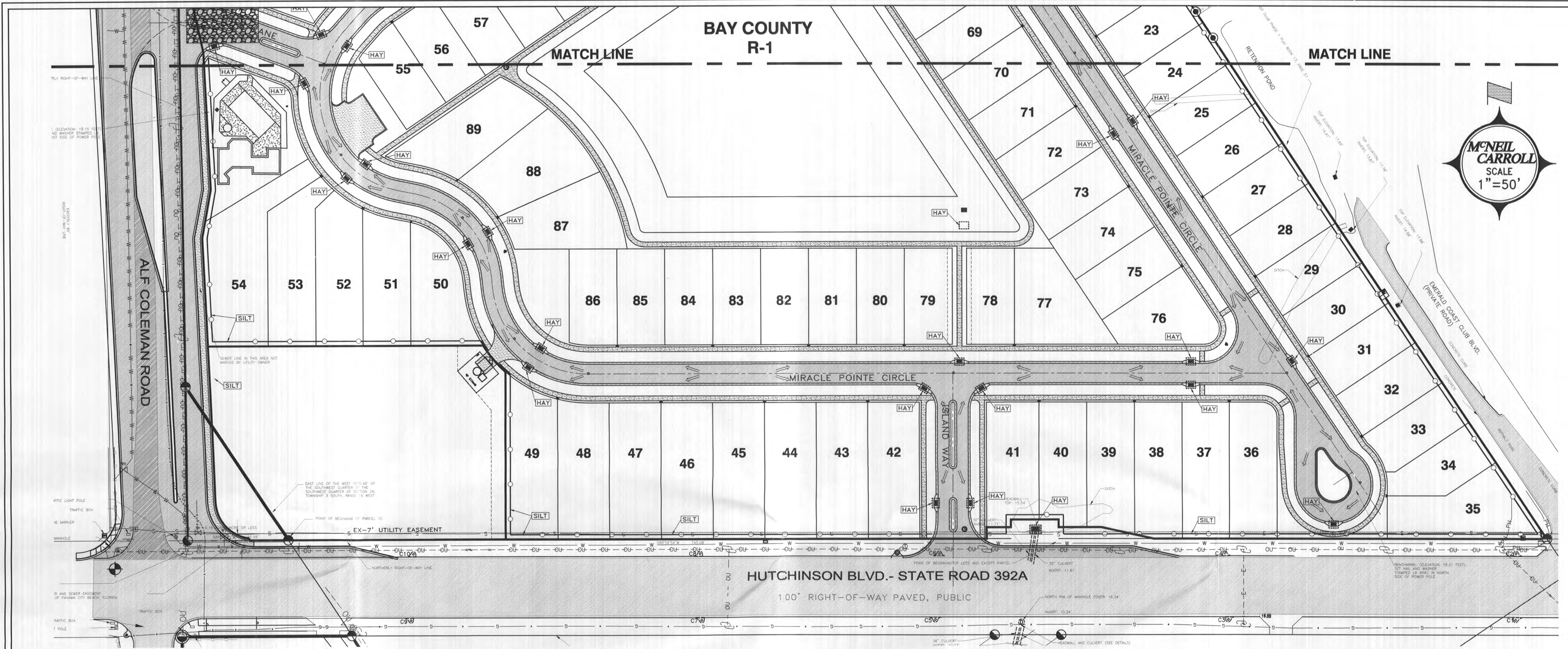
416 JENKS AVENUE
Panama City, Florida 32401
Phone: 850-763-5730
Fax: 850-763-5744

NO.	DATE	BY	REVISIONS



NOT RELEASED FOR CONSTRUCTION BY: DATE:

01/15/2005 03-044384-002-R4
 SHEET NUMBER 14 OF 25
 60201B - MIRACLE POINT SUBDIVISION



SEE GENERAL NOTES IN CONSTRUCTION DETAILS.

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15. IF INSPECTIONS INDICATE THAT THE INSTALLED STABILIZATION AND STRUCTURAL PRACTICES ARE NOT SUFFICIENT TO MINIMIZE EROSION, RETAIN SEDIMENT, AND PREVENT DISCHARGING POLLUTANTS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES, WHERE SITES HAVE BEEN PERMANENTLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH, AS NEEDED.
16. RECORDS OF THE INSPECTIONS AND THE CONSTRUCTION PERMIT MUST BE MAINTAINED AT THE CONSTRUCTION SITE AND BE READILY AVAILABLE FOR INSPECTION.
17. ALL STORMWATER MANAGEMENT FACILITIES AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, DEMOLITION OR OTHER DISTURBANCE TO THE SUBJECT SITE.

- SYMBOL LEGEND**
- (STORMWATER SURFACE FLOW)
 - (HAY) (HAY BALE BARRIER - SEE CONSTRUCTION DETAILS)
 - (SILT) (SILT FENCE - SEE CONSTRUCTION DETAILS)
 - (TURBID) (TURBIDITY BARRIER - SEE CONSTRUCTION DETAILS)
 - (PVG) (24" WIDE #57 GRAVEL CONSTRUCTION ENTRANCE 6" THICK)

CONTRACTORS / SUBCONTRACTORS CERTIFICATION STATEMENT

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND AND SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THE STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER.

NAME	TITLE	COMPANY NAME, ADDRESS AND PHONE NUMBER	DATE

CONTRACTORS / SUBCONTRACTORS CERTIFICATION STATEMENT / OPERATOR/RESPONSIBLE AUTHORITY

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY OBTAINED AND EVALUATED THE INFORMATION SUBMITTED, BASED ON MY KNOWLEDGE OF THE PERSONS OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

NAME	TITLE	COMPANY NAME, ADDRESS AND PHONE NUMBER	DATE

PERMIT PURPOSES ONLY

Alan W. Kirkland, P.E.
 PROFESSIONAL ENGINEER
 FL LC # 61729

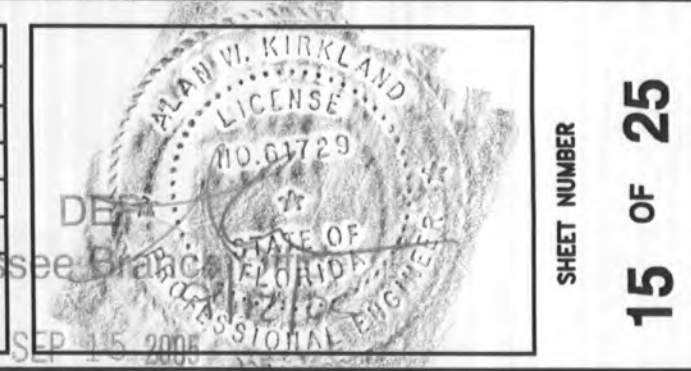
SITE EROSION CONTROL PLAN
MIRACLE POINT SUBDIVISION
ALF COLEMAN AND HUTCHINSON BLVD
 BAY COUNTY

SCALE SHOWN
 DESIGNED BY: RLC
 DRAWN BY: WCK
 REVIEWED BY: RLC
 ISSUE DATE: DATE
 CD/DR: 60201ED1

McNEIL CARROLL
 ENGINEERING, INC.
 Professional Engineering Consultants
 STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7283

416 JENKS AVENUE
 Panama City, Florida 32401
 Phone: 850-763-5730
 Fax: 850-763-5744

NO.	DATE	BY	REVISIONS



NOT RELEASED FOR CONSTRUCTION BY: DATE:

9-15-2015
 03-091834-002-04
 5018
 60201B - MIRACLE POINT SUBDIVISION
 SHEET NUMBER
15 OF 25

SITE DRAINAGE

ALL OFF-SITE AND ON-SITE WORK INCLUDED CONSISTS OF BUT IS NOT LIMITED TO THE FOLLOWING:

EXCAVATION, BEDDING, FILTER MATERIAL AND BACKFILL FOR ALL STORM SEWER, SUBSURFACE DRAINS AND DRAINAGE STRUCTURES.

COMPLETE INSTALLATION OF ALL STORM SEWERS, SUBSURFACE DRAINS, CATCH BASINS, JUNCTION BOXES, MANHOLES, ETC., INCLUDING ALL RELATED FITTINGS, JOINTS, COVERS, GRATES, FRAMES, RUNGS, ETC.

ANY WORK WITHIN STREET OR HIGHWAY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNMENTAL AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL OF THESE GOVERNING AUTHORITIES HAVE BEEN NOTIFIED.

POLYVINYL CHLORIDE (PVC) FOR PIPE UP TO AND INCLUDING TEN INCHES (10") IN DIAMETER, SHALL CONFORM TO ASTM D3034 SDR 35 WITH ELASTOMERIC GASKET JOINTS CONFORMING TO ASTM D3212.

REINFORCED CONCRETE PIPE FOR PIPE TWELVE INCHES (12") IN DIAMETER AND UP SHALL CONFORM TO ASTM C-76, CLASS IV OR ASTM M-170 WITH BELL AND SPIGOT OR TONGUE AND GROOVE COMPRESSION JOINTS CONFORMING TO ASTM C-443.

MANHOLES, CATCH BASINS, ETC. SHALL BE SIZE AND TYPE INDICATED ON THE DRAWINGS AND SHALL BE CONSTRUCTED OF THE FOLLOWING:

REINFORCED PRECAST CONCRETE MANHOLE SECTIONS INCLUDING CONCENTRIC OR ECCENTRIC CONES AND GRADE RINGS SHALL BE 4000 PSI CONCRETE AND CONFORM TO ASTM C478 OR ASTM M-170. SECTIONS SHALL BE COMPLETE WITH 3/4" ROUND CAST IN PLACE WROUGHT IRON STEPS.

BRICK SHALL BE SOUND, HARD BURNED THROUGHOUT AND OF UNIFORM SIZE AND QUALITY AND SHALL BE IN ACCORDANCE WITH ASTM C-32, GRADE MS OR MM.

CONCRETE MASONRY SHALL BE SOLID PRECAST SEGMENTAL CONCRETE MASONRY UNITS CONFORMING TO ASTM C-139.

IRON CASTINGS SHALL CONFORM TO ASTM A-48, CLASS 30. BEARING SURFACES BETWEEN CAST IRON FRAMES, COVERS AND GRATES SHALL BE MACHINED, FITTED TOGETHER AND MATCH MARKED TO PREVENT ROCKING.

SYSTEM IDENTIFYING LETTER 2" HIGH SHALL BE STAMPED OR CAST INTO ALL COVERS SO THAT THE MAY BE PLAINLY VISIBLE.

CASTINGS SHALL BE MANUFACTURED BY EAST JORDAN IRON WORKS, INC. NEENAH FOUNDRY COMPANY, VULCAN FOUNDRY COMPANY OR EQUAL.

MANHOLE STEPS FOR BRICK OR CONCRETE MASONRY STRUCTURES SHALL BE CAST IRON ASPHALT COATED, NEENAH FOUNDRY COMPANY "R-1880" 4" OR EQUAL.

CONCRETE AND MASONRY MATERIALS FOR CONSTRUCTION OF STORM DRAINAGE STRUCTURES SHALL CONSIST OF THE FOLLOWING:

PORTLAND CEMENT SHALL BE STANDARD BRAND OF PORTLAND CEMENT CONFORMING TO ASTM C-150, TYPE I OR II.

FINE AND COARSE AGGREGATES FOR CONCRETE SHALL BE PER ASTM C-33. AGGREGATES SHALL BE WELL GRADED FROM FINE TO COARSE WITH LIMITS SPECIFIED IN ASTM C-33. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4".

AGGREGATE FOR CEMENT MORTAR SHALL BE CLEAN, SHARP SAND CONFORMING TO ASTM C-144. GRADE SAND FROM COARSE TO FINE WITH 100% PASSING NO. 30 SIEVE AND NOT OVER 10% TO 30% PASSING NO. 50 SIEVE. HYDRATED LIME SHALL COMPLY WITH ASTM ASTM C-57. WATER SHALL BE CLEAN AND FREE FROM DELETERIOUS MATERIALS.

ALL MATERIAL USED FOR CONCRETE AND THE DESIGN OF ALL CONCRETE MIXES SHALL CONFORM WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE (ACI 211.1-81).

ALL CONCRETE UNLESS NOTED OTHERWISE, SHALL DEVELOP A 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.

JOINT SEALANT SHALL BE HOT LAID BITUMINOUS SEALER.

RRIPRAP SHALL BE SOUND, TOUGH DURABLE ROCK OR BROKEN CONCRETE AS APPROVED BY THE GEOTECHNICAL ENGINEER. RRIPRAP SHALL BE AT LEAST EIGHT INCH (8") IN ONE DIMENSION AND SHALL HAVE A VOLUME OF NOT LESS THAN 1/3 CUBIC FOOT. SMALLER PIECES PERMITTED FOR FILLING VOIDS.

REINFORCING STEEL FOR CONCRETE SHALL BE INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO ASTM A-615, GRADE 40. WELDED WIRE MESH SHALL CONFORM TO ASTM DESIGNATION A185 FOR SMOOTH WIRE AND ASTM A497 FOR DEFORMED WIRE.

FORMS FOR FOUNDATIONS AND OTHER CONCRETE WORK SHALL BE WOOD. FORMS SHALL BE OF SUFFICIENT STRENGTH TO PREVENT DEFORMATION UNDER LOAD AND TIGHT ENOUGH TO PREVENT LEAKAGE. FOUNDATIONS MAY BE POURED AGAINST EARTH WHERE CONDITIONS PERMIT.

ALL REINFORCEMENT SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH ACI 318-77. WELDED WIRE MESH SHALL BE LAPPED 6-INCHES AT ALL EDGES.

THE MIXING, PLACING, CURING AND FINISHING OF CONCRETE SHALL COMPLY WITH ACI 304 AND ACI 318. ALL EXPOSED SURFACES SHALL BE GIVEN A HARD STEEL TROWELED FINISH WITH NOTED MARKS REMAINING. NO CEMENT SHALL BE DUSTED ON THE SURFACE. ALL CONCRETE SHALL BE CURED BY COASTING WITH A CLEAR CURING NO. CEMENT CONFORMING TO ASTM C-304, OR BY KEEPING IT WET FOR AT LEAST SIX DAYS AFTER POURING. WHERE THE FORMS ARE STRIPPED, ALL EXPOSED CONCRETE SURFACES SHALL BE POINTED AS NEEDED AND RUBBED TO A UNIFORM FINISH.

CONCRETE, UNLESS OTHERWISE NOTED, SHALL HAVE COMPRESSIVE STRENGTH AFTER 28 DAYS OF 3000 PSI MINIMUM. MIX SHALL BE SO PROPORTIONED TO PROVIDE A MINIMUM OF 517 POUNDS OF CEMENT PER CUBIC YARD.

CONCRETE FILL BELOW GRADE FOR PIPE CRADLES ETC. MAY BE 2500 PSI AT 28 DAYS. CONCRETE, WHERE EXPOSED TO THE WEATHER, SHALL BE AIR ENTRAINED. AIR ENTRAINMENT SHALL BE ACCORDING TO THE USE OF ADDITIVES CONFORMING TO ASTM C-268. AIR CONTENT SHALL BE 6% - 12%. ADDITIVE SHALL BE USED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S PRINTED DIRECTIONS.

CEMENT-MIX CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-94.

MORTAR SHALL BE AS SPECIFIED HEREINAFTER. USE METHODS OF MIXING MORTAR MATERIALS CAN BE CONTROLLED AND ACCURATELY MAINTAINED DURING WORK PROGRESS. MORTAR SHALL NOT BE MIXED IN GREATER QUANTITIES THAN SATISFACTORY WORKABILITY. RETROWING OF MORTAR IS NOT PERMITTED.

MORTAR FOR LAYING BRICK OR CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C-270. TYPE M, AVERAGE COMPRESSIVE STRENGTH 2500 AT 28 DAYS. MORTAR MIX SHALL BE PROPORTIONED BY VOLUME.

MORTAR FOR PARING SHALL CONSIST OF ONE PART PORTLAND CEMENT AND TWO PARTS SAND.

MORTAR FOR GROUTING OF RRIPRAP SHALL CONSIST OF ONE PART PORTLAND CEMENT AND THREE PARTS SAND.

STORMWATER SEWERS:

STORM SEWERS SHALL BE INSTALLED IN LOCATIONS AND OF SIZES INDICATED ON DRAWING.

LAY PIPE, EMBED IT FIRMLY TO REQUIRED LINE AND GRADE WITH BELLS OF GROOVE END UP-GRADE. FIT ENDS TOGETHER, EXCAVATE BELL HOLES SO THAT SEWER WILL HAVE SMOOTH AND UNIFORM INVERT THROUGHOUT ITS LENGTH.

CORRUGATED METAL PIPE SHALL BE PLACED ON A FLAT BOTTOM TRENCH WITH HAUNCHES SOLIDLY SUPPORTED BY TAMPED BEDDING MATERIAL.

WHERE GROUND IS FOUND UNSUITABLE TO SUPPORT PIPE, PROVIDE CONCRETE CRADLES. DEPOSIT CONCRETE FILL WITHIN 4" DEEP MINIMUM TO BOTTOM OF PIPE. REINFORCE CONTINUOUSLY WITH TWO (2) NO. 4 REINFORCING BARS. BEFORE CONCRETE IS SET, EMBED PIPE EXACTLY, DEPOSIT REMAINDER OF CONCRETE TO CENTERLINE OF PIPE AND TAMP IN A MANNER TO AVOID DISTURBING PIPE.

WHERE STORM SEWER CROSSES A SANITARY SEWER OR WATER LINE AND THE STORM SEWER IS WITHIN ONE AND A HALF (1-1/2) FEET OF THE SANITARY SEWER PIPE OR WATER LINE, THE INTERSECTION OF THE PIPE OR LINE SHALL BE EMBEDDED IN CONCRETE FOR A DISTANCE OF FIVE FEET (5') EACH WAY FROM CENTERLINE OF INTERSECTION.

PROVIDE POURED CONCRETE FOUNDATIONS FOR DRAINAGE STRUCTURES. PRECAST CONCRETE BASE MAY BE USED WHERE APPROVED BY THE GEOTECHNICAL ENGINEER.

PRECAST CONCRETE BASE MUST BE SET LEVEL ON SAND CUSHION OF NOT LESS THAN 2" NOR MORE THAN 4".

MANHOLES AND CATCH BASINS SHALL BE CONSTRUCTED OF BRICK, CONCRETE MASONRY OR PRECAST CONCRETE WITH CAST IRON FRAMES, COVERS AND MANHOLE STEPS, AS INDICATED ON DRAWINGS AND SPECIFIED HEREIN.

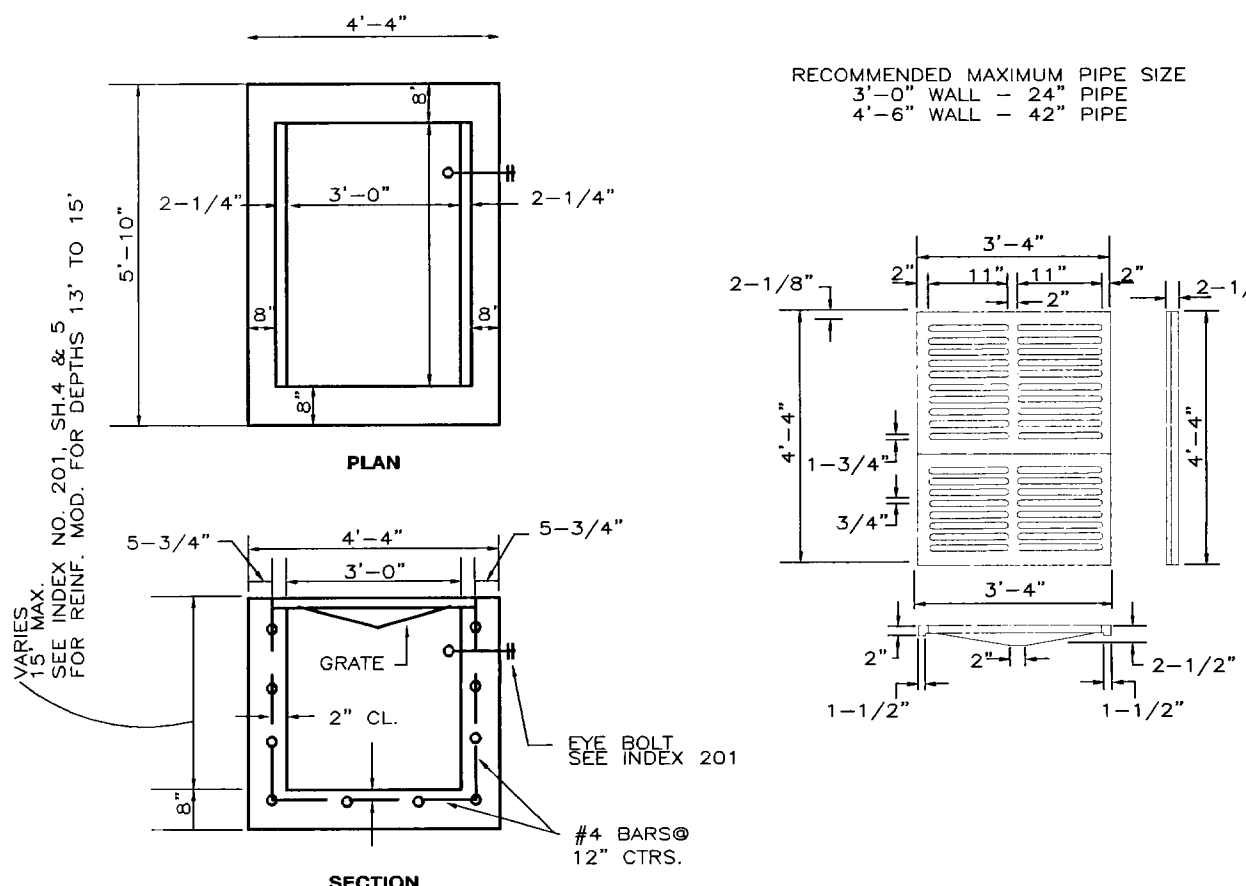
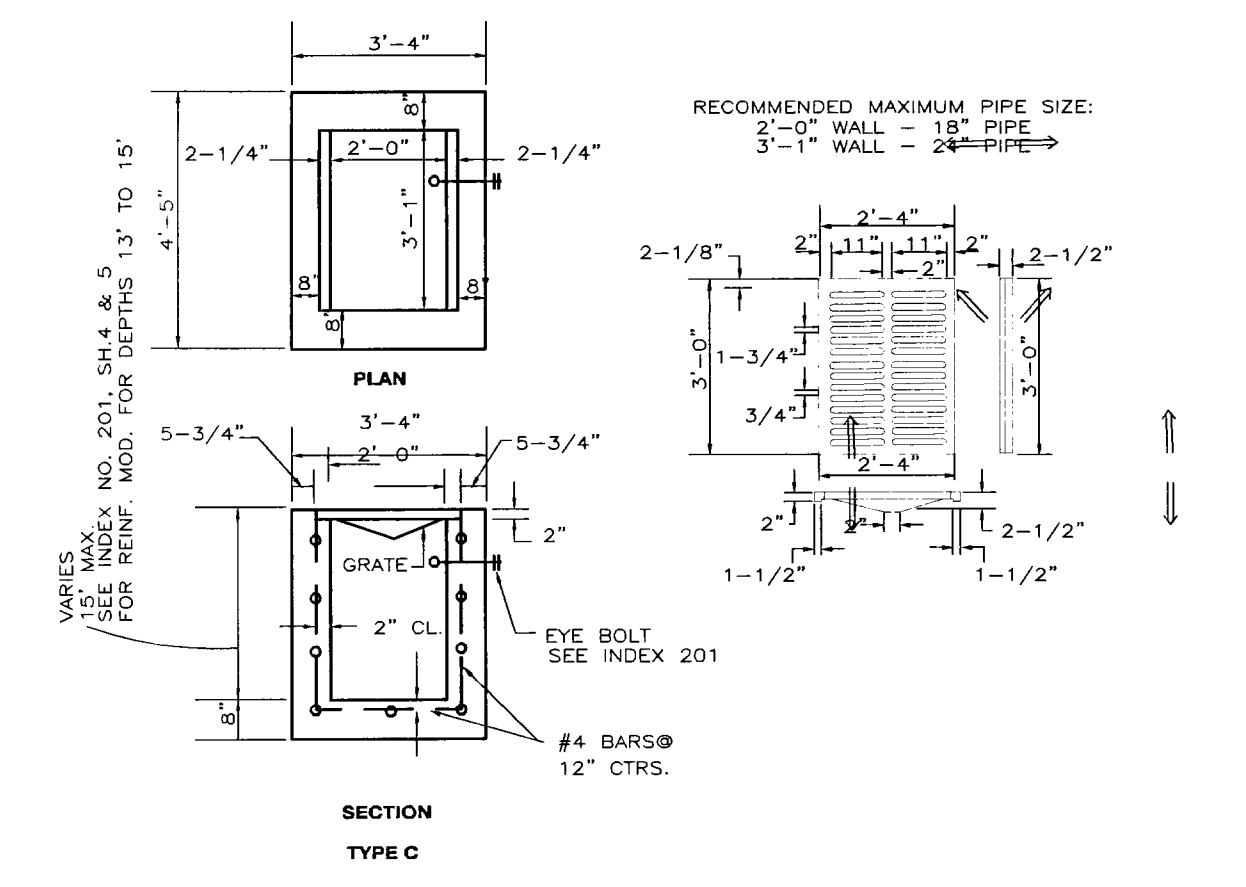
RRIPRAP SHALL BE LAID OVER FILTER FABRIC FROM THE BOTTOM UPWARD. STONES SHALL BE LAID BY HAND WITH EIGHT (8") INCH MINIMUM DIMENSION PERPENDICULAR TO GRADE WITH WELL BROKEN JOINTS, COMPACTED AS IT GOES, TRUE TO LINE. ALL JOINTS SHALL BE FILLED WITH CEMENT MORTAR. SURFACE OF STONE TO BE EXPOSED. CLEAN JOINTS WITH SIEVE.

BEFORE BACKFILLING AROUND DRAINAGE STRUCTURES, ALL FORMS, TRASH AND DEBRIS SHALL BE REMOVED AND CLEARED AWAY. SELECTED EXCAVATED MATERIAL SHALL BE PLACED SYMMETRICALLY ON ALL SIDES IN EIGHT (8") INCH MAXIMUM LAYERS. EACH LAYER SHALL BE MOISTENED AND COMPACTED WITH MECHANICAL OR HAND TAMPERS.

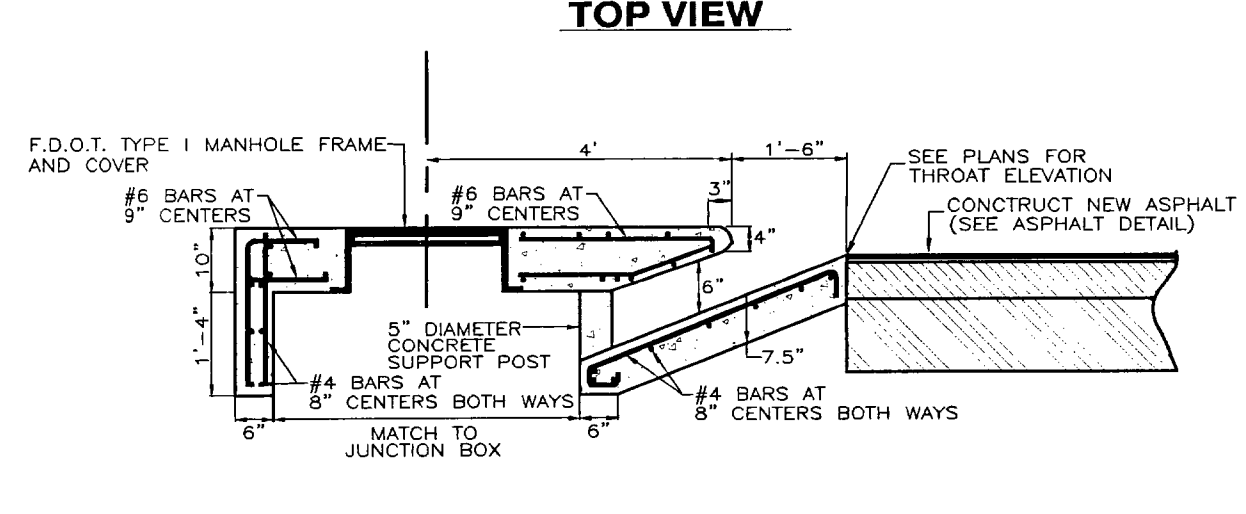
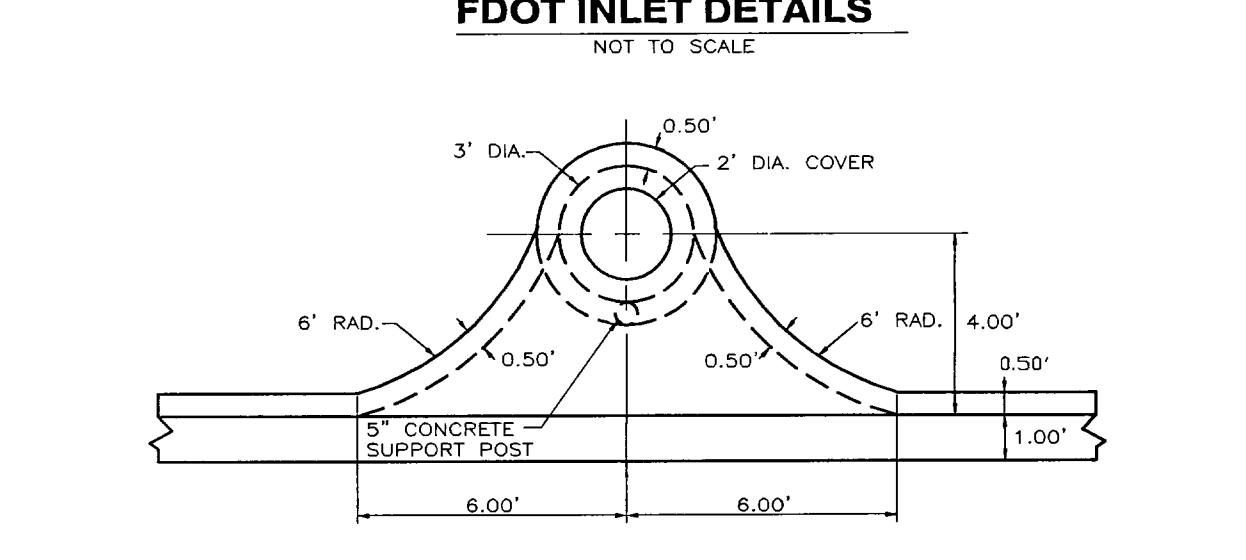
INFILTRATION OF THE STORM DRAINAGE SYSTEM SHALL NOT EXCEED 0.60 GALLONS PER INCH OF INTERNAL PIPE DIAMETER PER ONE HUNDRED FEET (100') OF PIPELINE PER HOUR WITH A MAXIMUM HYDROSTATIC HEAD AT THE CENTER LINE OF THE PIPE OF TWENTY FIVE FEET (25'), OR AS REQUIRED BY GOVERNING CODE AUTHORITIES.

CATCH BASIN FRAMES AND GRATINGS: ASPHALT COATED GREY CAST IRON, ANSI/ASTM A 48, CLASS 30 B.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUPPLY ALL MATERIALS NECESSARY TO COMPLETE DRAINAGE.

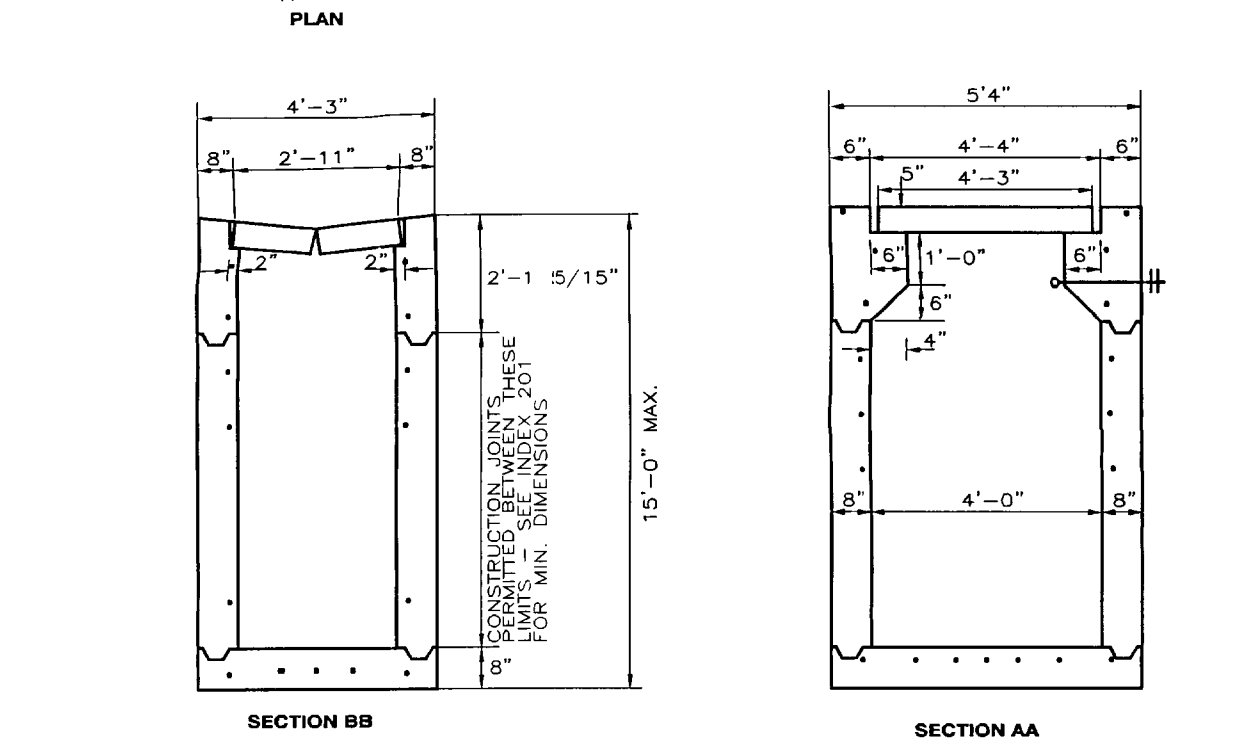
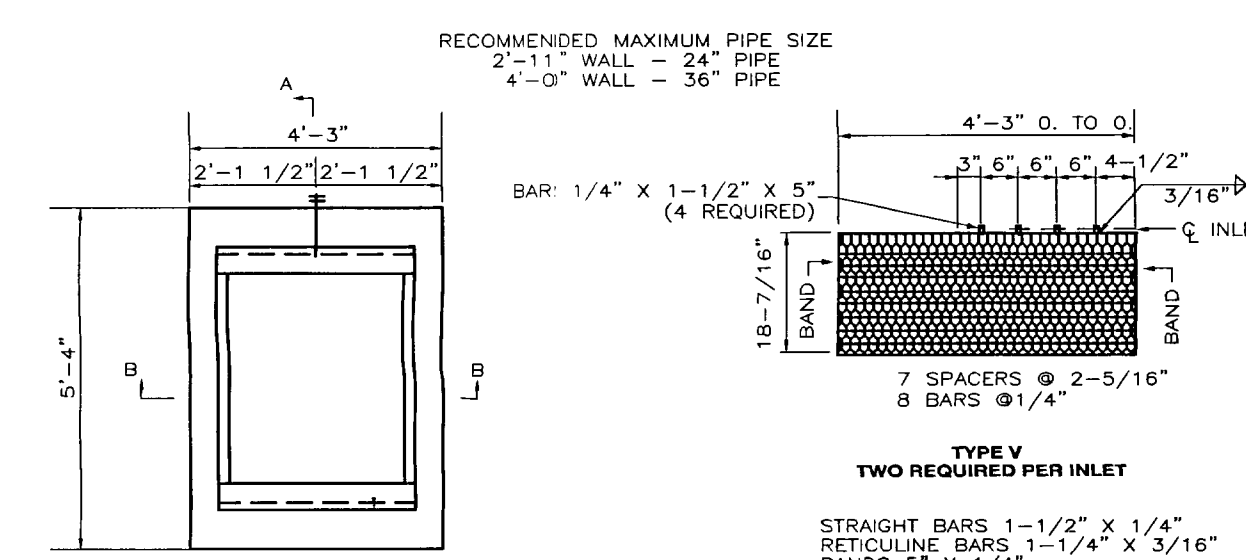
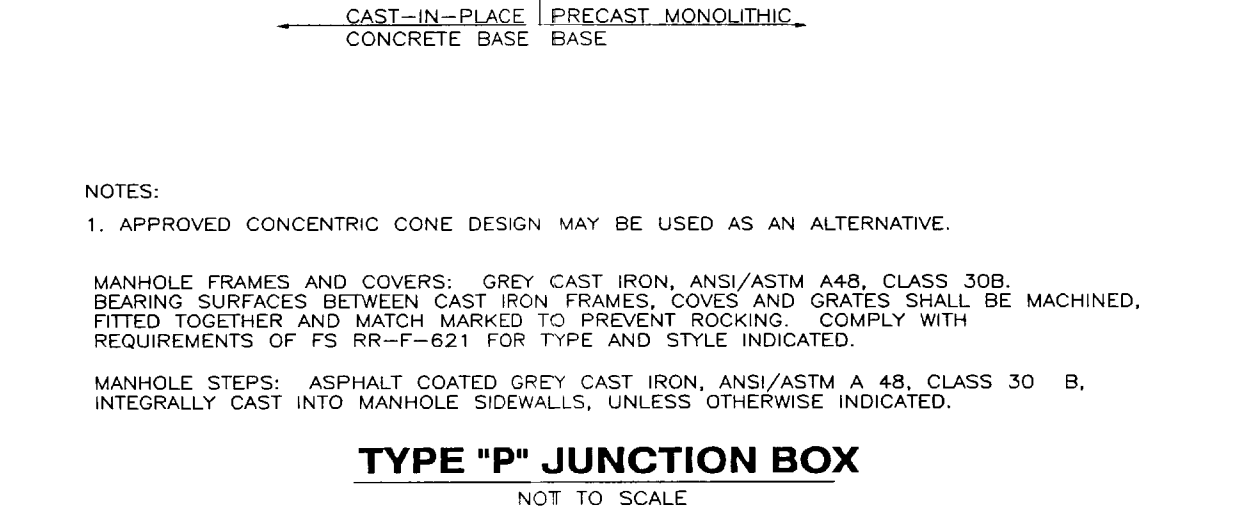
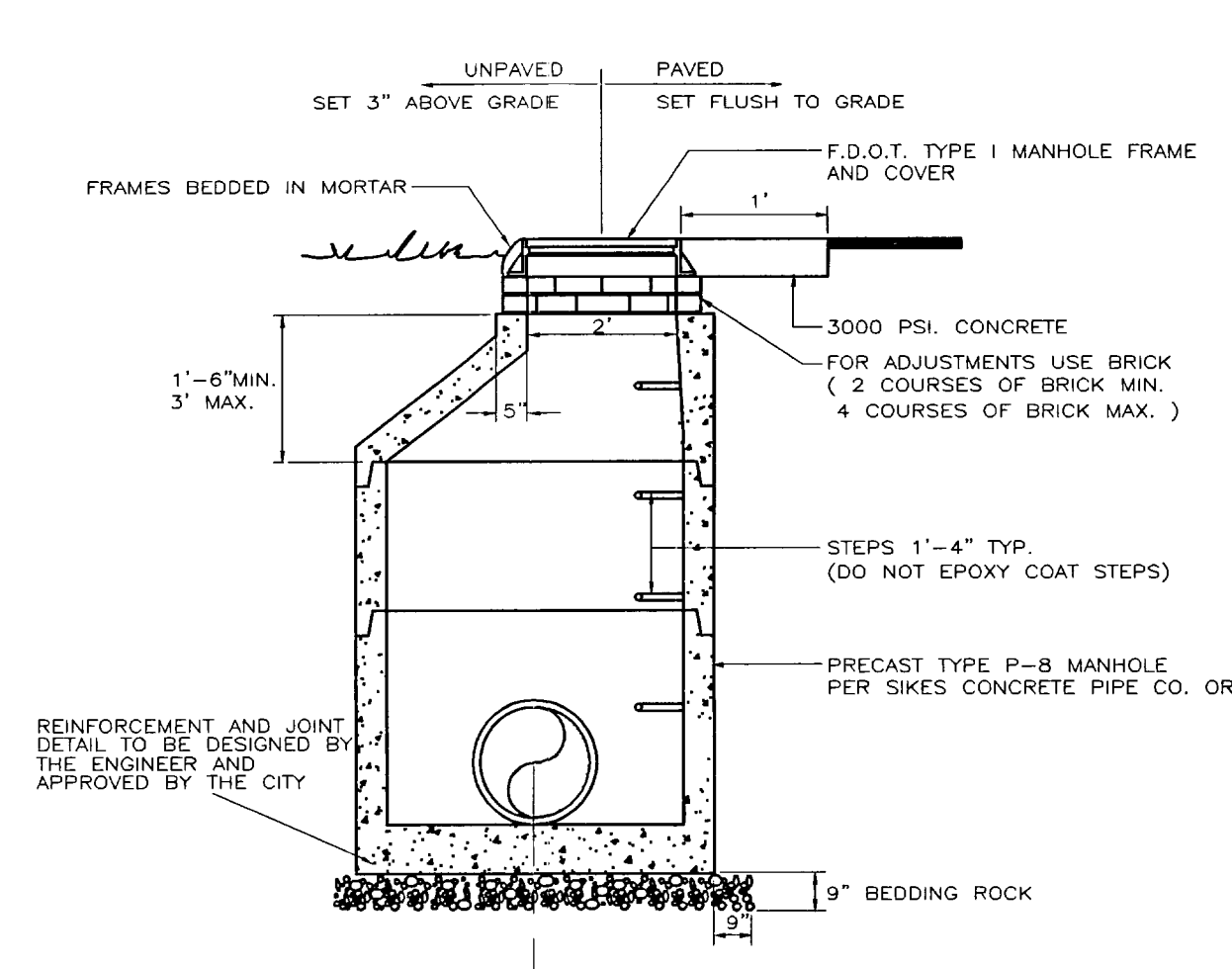


- GENERAL NOTES
1. THESE INLETS ARE SUITABLE FOR BICYCLE AND PEDESTRIAN AREAS AND ARE TO BE USED IN DITCHES, MEDIANS AND OTHER AREAS SUBJECT TO INFREQUENT TRAFFIC LOADINGS BUT ARE NOT TO BE PLACED IN AREAS SUBJECT TO ANY HEAVY WHEEL LOADS.
 2. INLETS SUBJECT TO MINIMAL DEBRIS SHOULD BE CONSTRUCTED WITHOUT SLOTS. WHERE DEBRIS IS A PROBLEM INLETS SHOULD BE CONSTRUCTED WITH SLOTS. SLOTTED INLETS LOCATED WITHIN ROADWAY CLEAR ZONES AND IN AREAS ACCESSIBLE TO PEDESTRIANS SHALL HAVE TRAVERSABLE SLOTS. THE TRAVERSABLE SLOT MODIFICATION IS NOT ADAPTABLE TO INLET TYPE H. SLOTS MAY BE CONSTRUCTED AT EITHER OR BOTH ENDS AS SHOWN ON PLANS.
 3. STEEL GRATES ARE TO BE USED ON ALL INLETS WHERE BICYCLE TRAFFIC IS ANTICIPATED. STEEL GRATES ARE TO BE USED ON ALL INLETS WITH TRAVERSABLE SLOTS. EITHER CAST IRON OR STEEL GRATES MAY BE USED ON INLETS WITHOUT SLOTS WHERE BICYCLE TRAFFIC IS NOT ANTICIPATED. EITHER CAST IRON OR STEEL GRATES MAY BE USED ON ALL INLETS WITH NON-TRAVERSABLE SLOTS. SUBJECT TO THE SELECTION DESCRIBED ABOVE, WHEN ALTERNATE G GRATE IS SPECIFIED IN THE PLANS, EITHER THE STEEL GRATE, HOT DIPPED GALVANIZED AFTER FABRICATION, OR THE CAST IRON GRATE MAY BE USED, UNLESS THE PLANS STIPULATE THE PARTICULAR TYPE.
 4. RECOMMENDED MAXIMUM PIPE SIZES SHOWN ARE FOR CONCRETE PIPE. PIPE SIZES LARGER THAN THOSE RECOMMENDED MUST BE CHECKED FOR FIT.
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 6. PAVEMENT TO BE USED ON INLETS WITHOUT SLOTS AND INLETS WITH NON-TRAVERSABLE SLOTS ONLY WHEN CALLED FOR IN THE PLANS; BUT REQUIRED ON ALL TRAVERSABLE SLOTS INLETS. COST TO BE INCLUDED IN CONTRACT UNIT PRICE FOR INLETS. QUANTITIES SHOWN ARE FOR INFORMATION ONLY.
 7. TRAVERSABLE SLOTS CONSTRUCTED IN EXISTING INLETS SHALL BE PAID FOR AS INLETS PARTIAL, AND SHALL INCLUDE THE COST FOR SLOT OPENINGS, PAVING AND ANY REQUIRED REPLACEMENT GRATES.
 8. SODDING TO BE USED ON ALL INLETS NOT LOCATED IN PAVED AREAS AND PAID FOR UNDER CONTRACT UNIT PRICE FOR SODDING, SY.
 9. FOR SUPPLEMENTARY DETAILS SEE INDEX NO. 201.

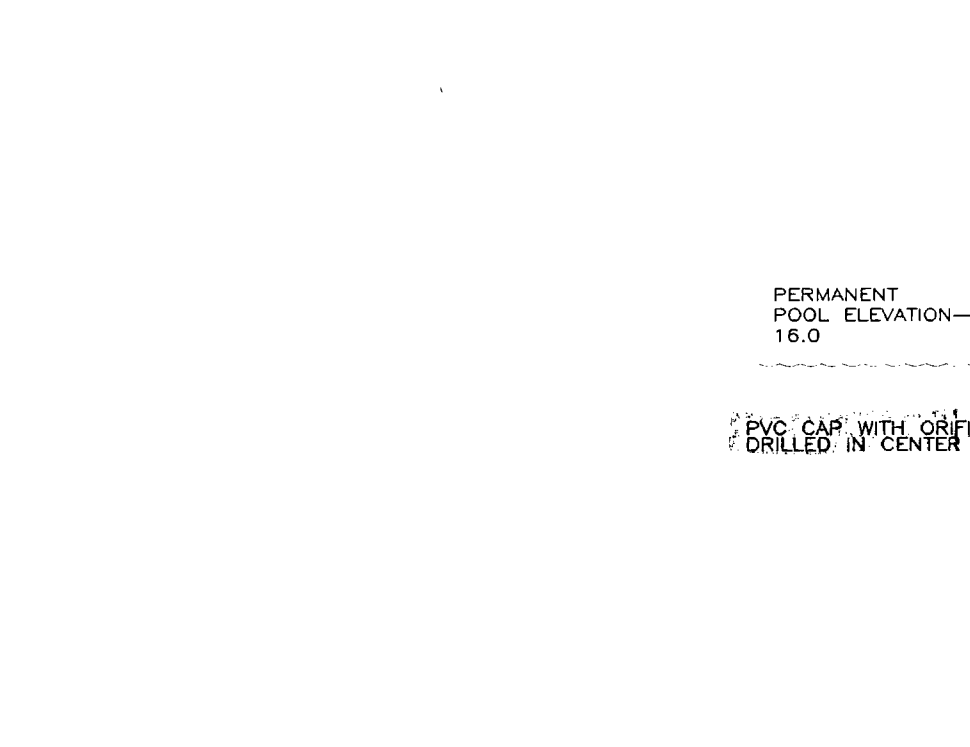
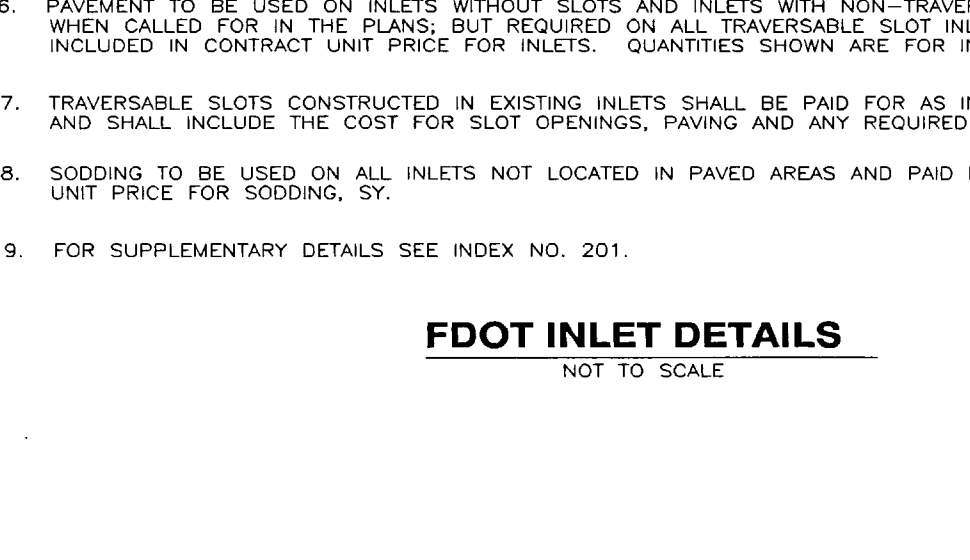
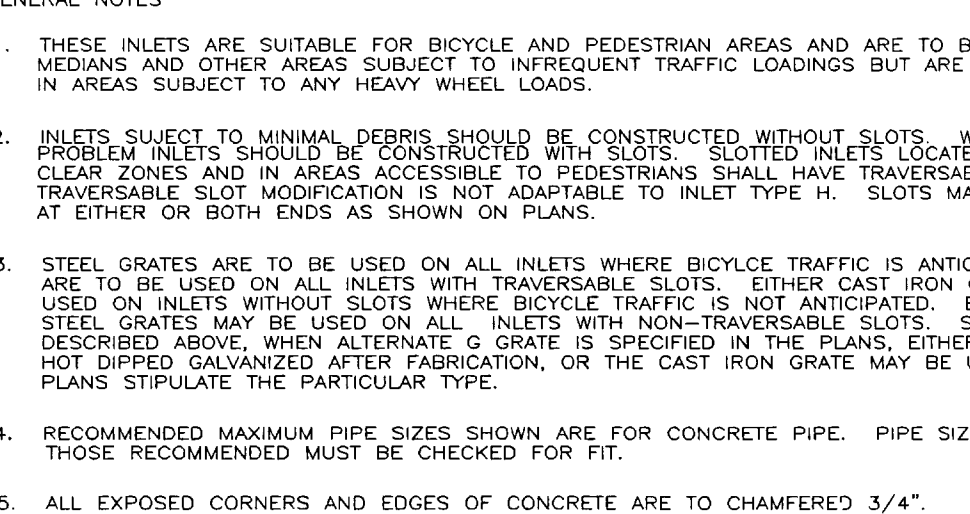
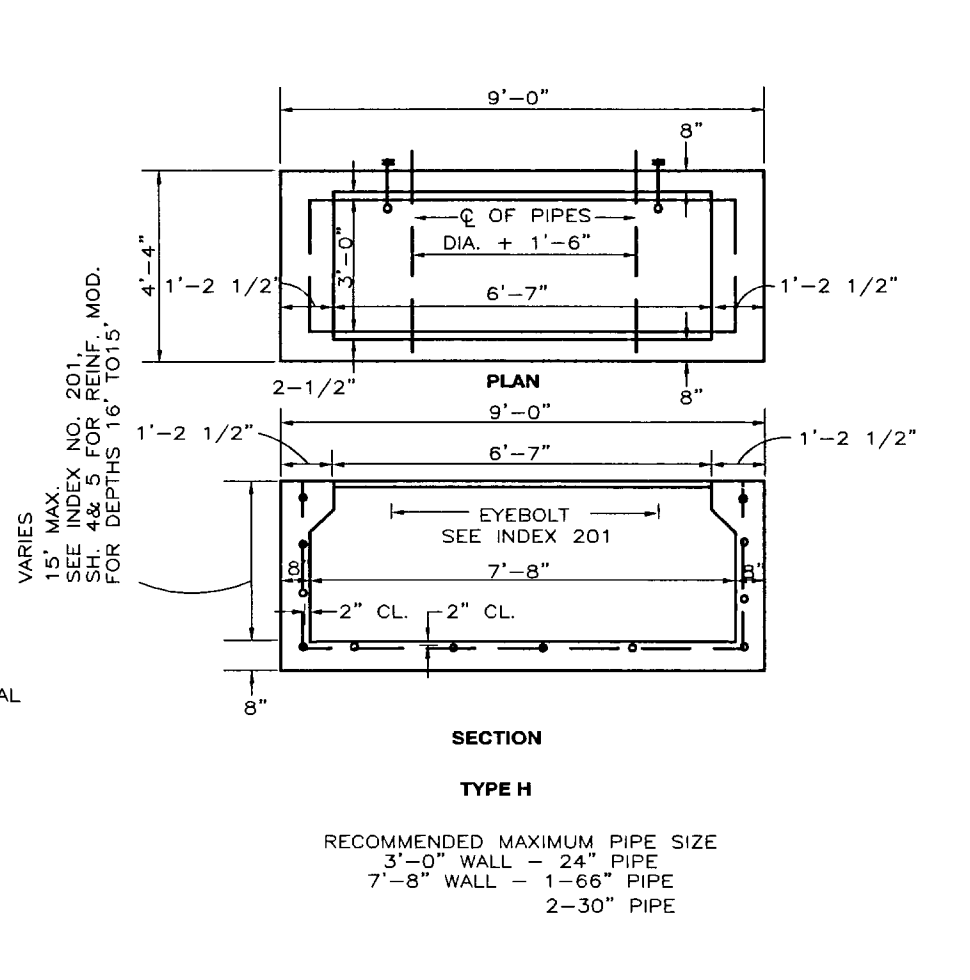


- NOTES
1. THE FINISHED GRADE AND SLOPE OF THE INLET TOPS ARE TO CONFORM WITH THE FINISHED CROSS SLOPE AND GRADE OF THE PROPOSED SIDEWALK AND/OR BORDER.
 2. WHEN INLETS ARE TO BE CONSTRUCTED ON A CURVE REFER TO THE PLANS TO DETERMINE THE RADIUS AND WHERE NECESSARY MODIFY THE INLET DETAILS ACCORDINGLY. BEND STEEL WHEN NECESSARY.
 3. STEEL IN INLET TOPS SHALL HAVE A 1/4" MINUTE REFER TO THE PLANS TO DETERMINE. INLET TOPS TO BE EITHER CAST IN PLACE OR PRE-CAST CONCRETE.
 4. ONLY ROUND CONCRETE SUPPORT POST WILL BE ACCEPTABLE.

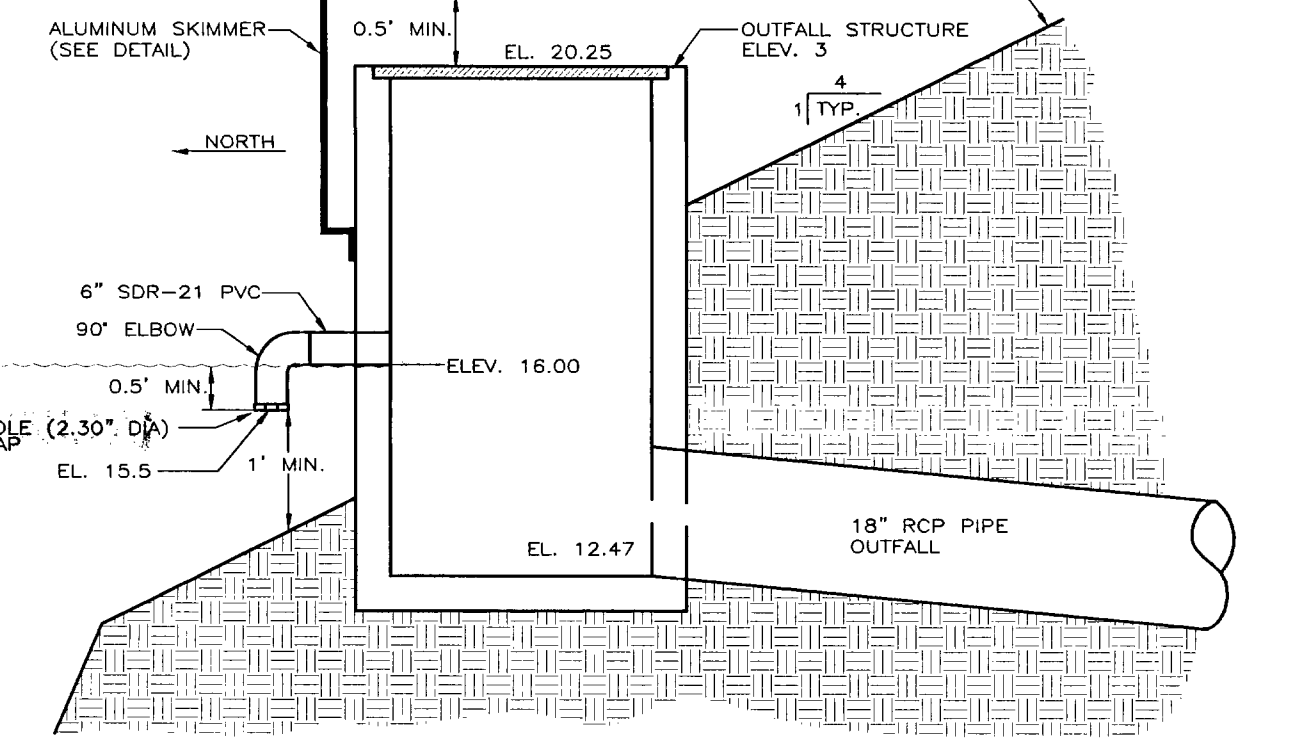
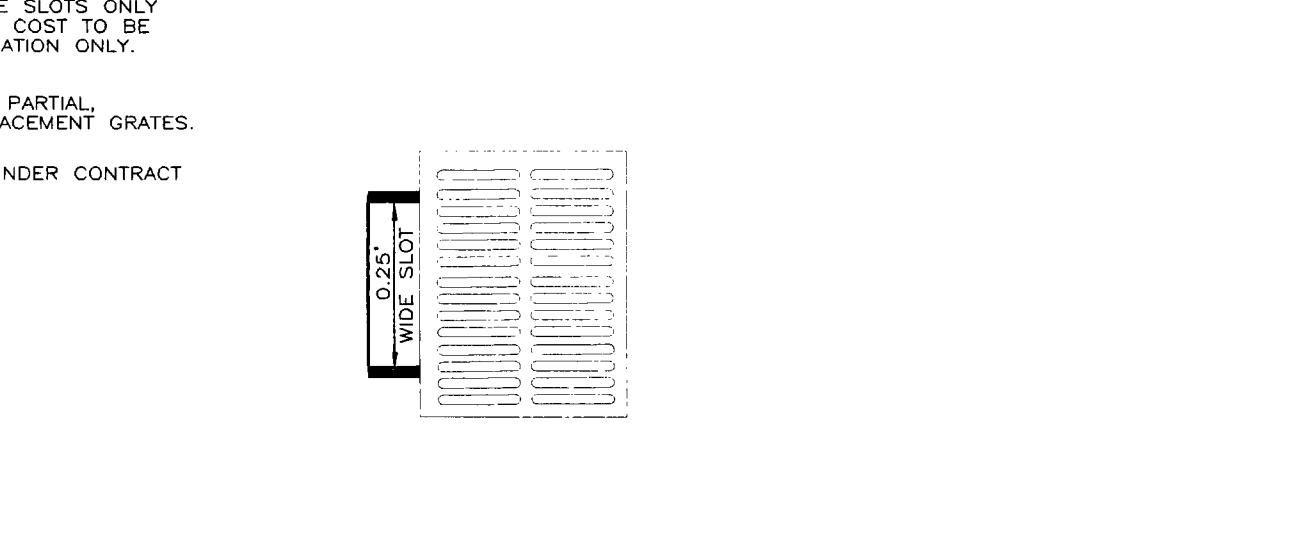
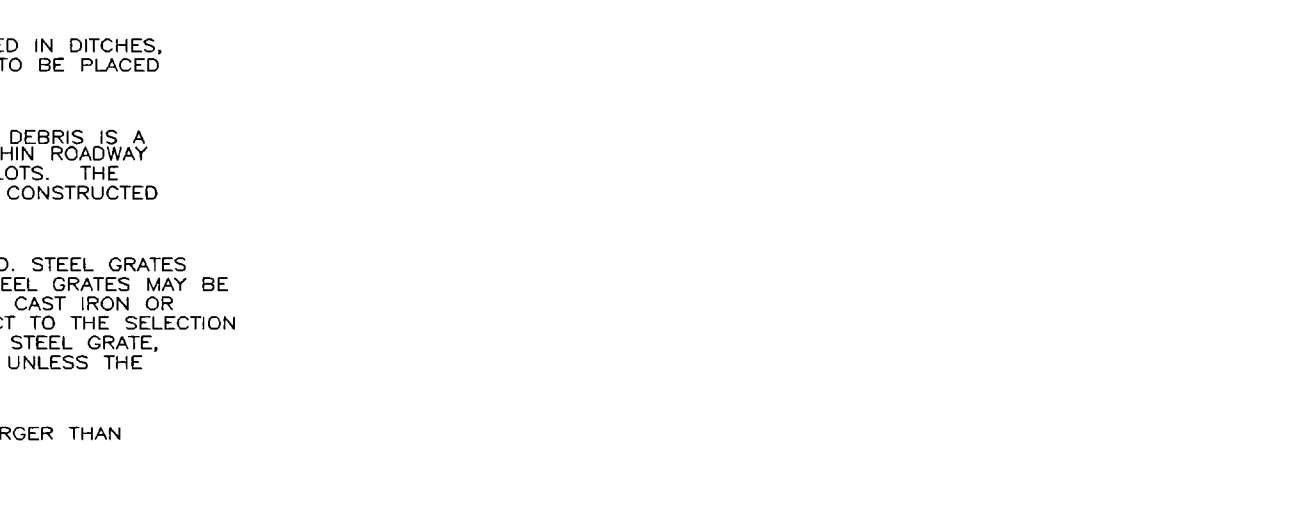
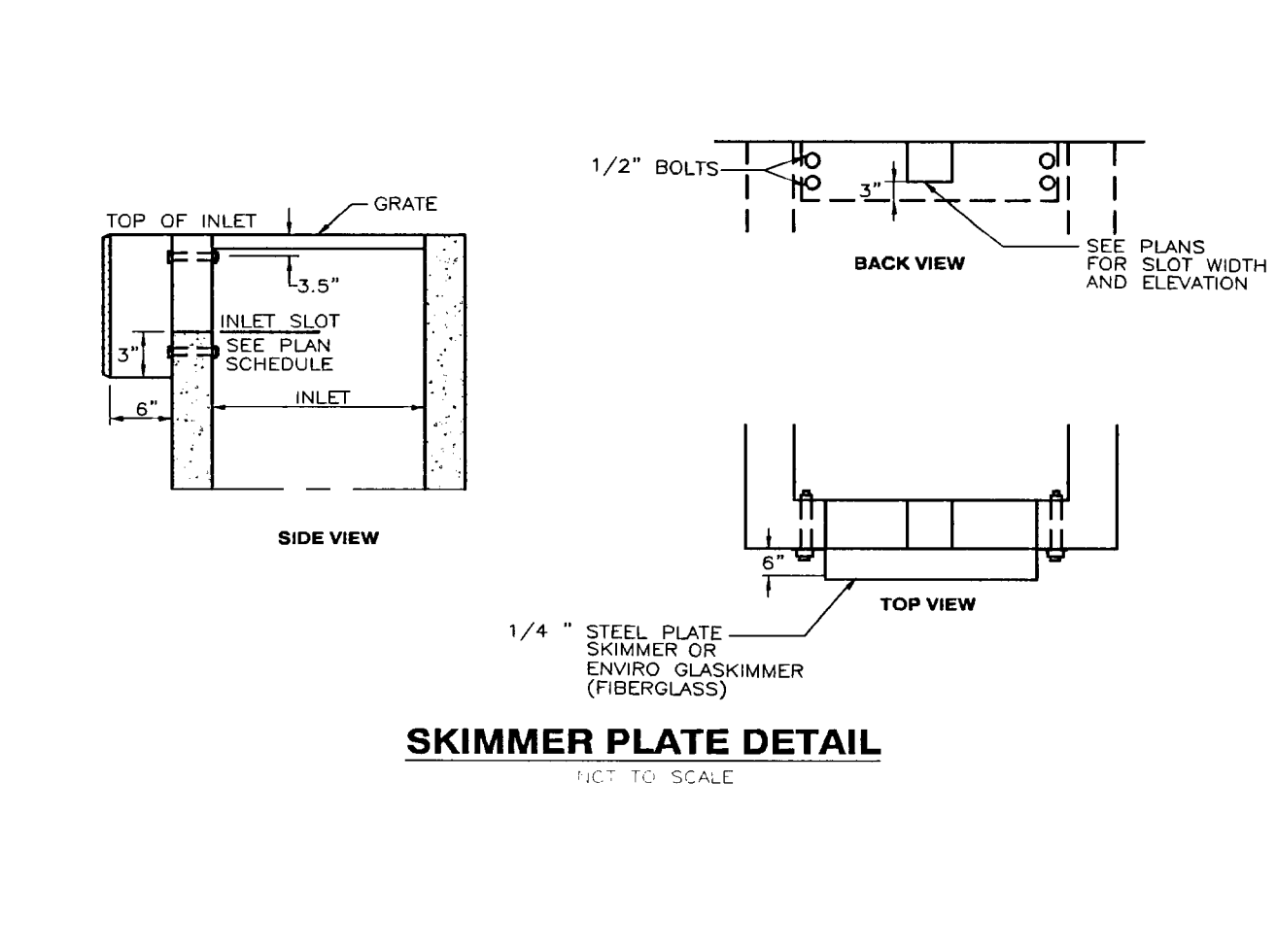
FDOT TYPE 4 CURB INLET DETAIL
NOT TO SCALE



TYPE V



FDOT INLET DETAILS
NOT TO SCALE



DS-29 OUTFALL STRUCTURE DETAIL
NOT TO SCALE

- GENERAL NOTES
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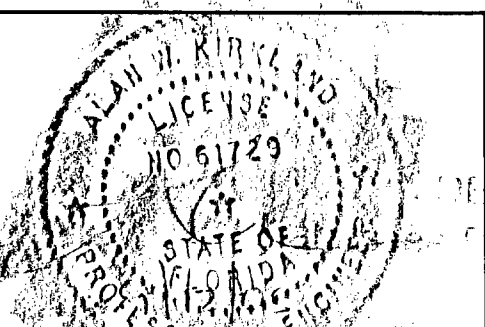
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CONSTRUCTION DETAILS
MIRACLE POINTE SUBDIVISION
MIDDLE BEACH ROAD
PANAMA CITY BEACH, FLORIDA

McNEIL CARROLL ENGINEERING, INC.
Professional Engineering Consultants
STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288

NO.	DATE	BY	REVISIONS

NOT RELEASED FOR CONSTRUCTION BY _____ DATE _____



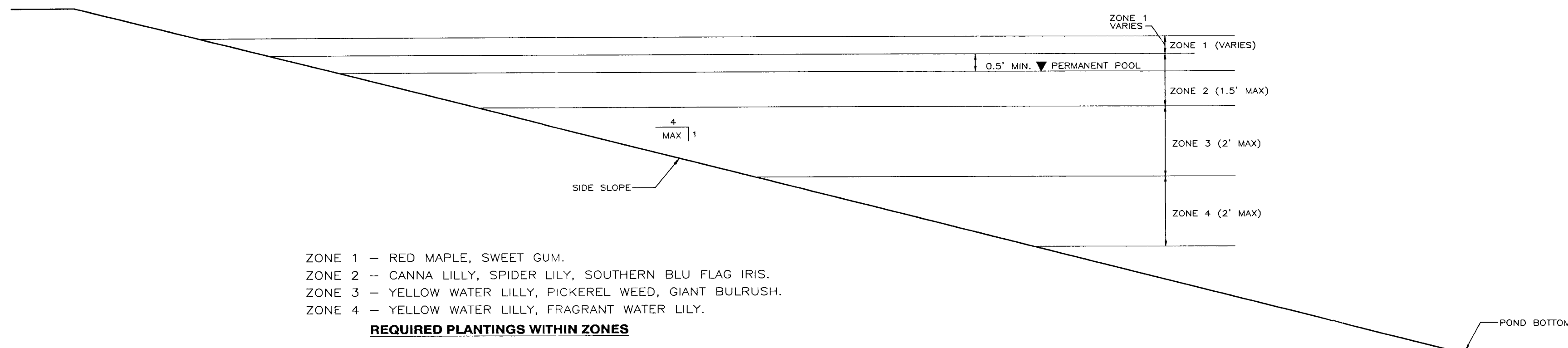
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60201B - MIRACLE POINTE SUBDIVISION

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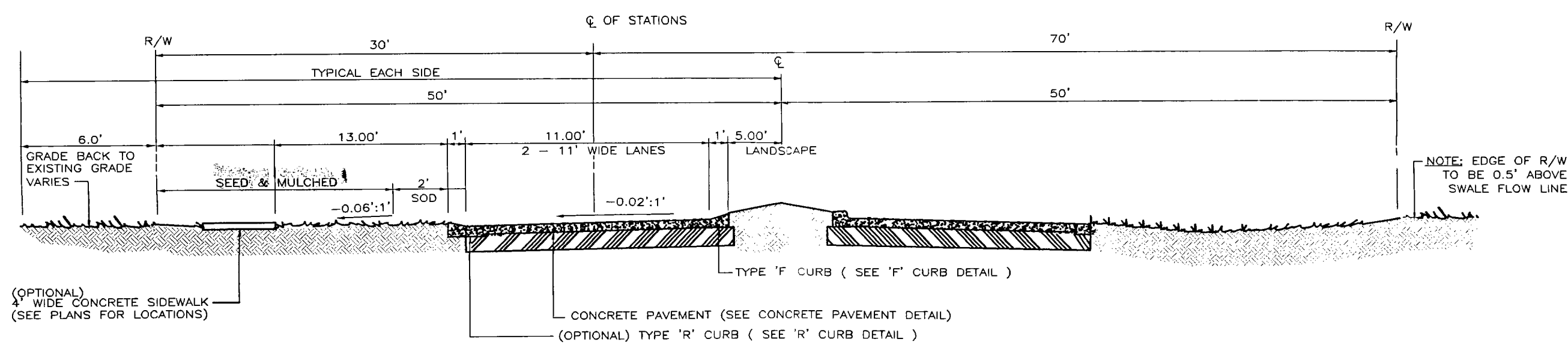
ZONE 1 - RED MAPLE, SWEET GUM.
 ZONE 2 - CANNA LILLY, SPIDER LILY, SOUTHERN BLU FLAG IRIS.
 ZONE 3 - YELLOW WATER LILLY, PICKEREL WEED, GIANT BULRUSH.
 ZONE 4 - YELLOW WATER LILLY, FRAGRANT WATER LILY.

REQUIRED PLANTINGS WITHIN ZONES

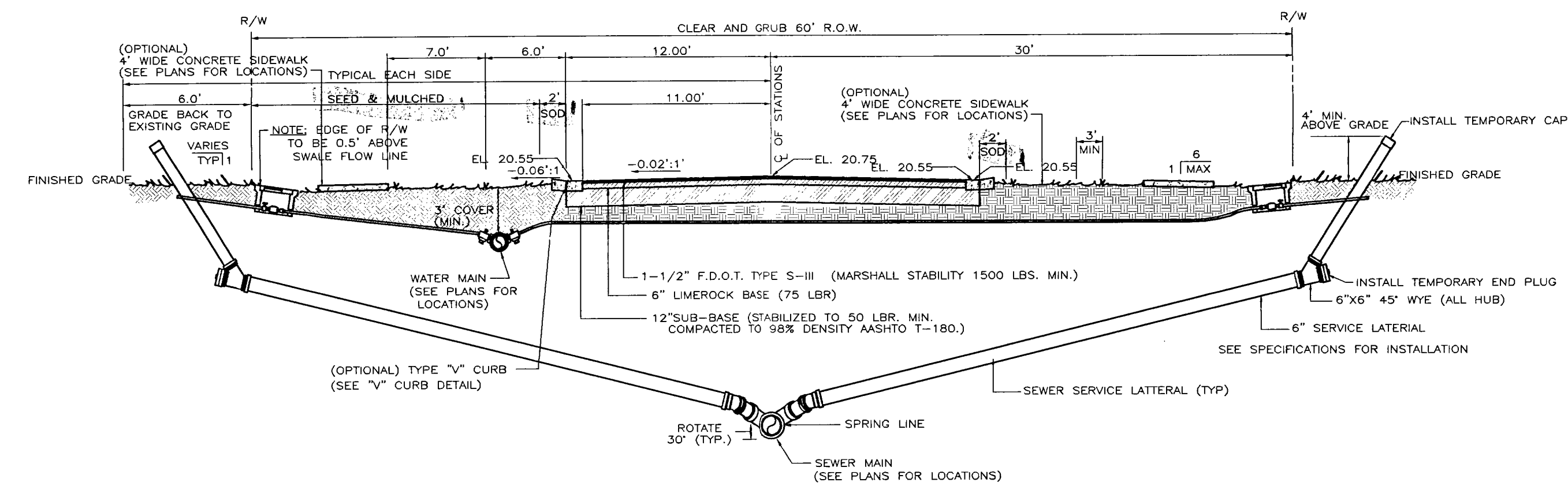
BASIN NO.	PERMANENT POOL ELEV.	ZONE 1	ZONE 2	ZONE 3	ZONE 4
SB-1	16.00	TOP ELEV. 18.50 BOTTOM ELEV. 16.50	TOP ELEV. 16.50 BOTTOM ELEV. 15.00	TOP ELEV. 15.00 BOTTOM ELEV. 13.00	NOT REQUIRED

NOTE: 85% COVERAGE OF SUITABLE LITTORAL ZONE PLANTS REQUIRED WITHIN 24 MONTHS OF COMPLETION OF CONSTRUCTION AND NUISANCE SPECIES SUCH AS CAT TAILS SHALL BE REMOVED DURING ESTABLISHMENT PERIOD.

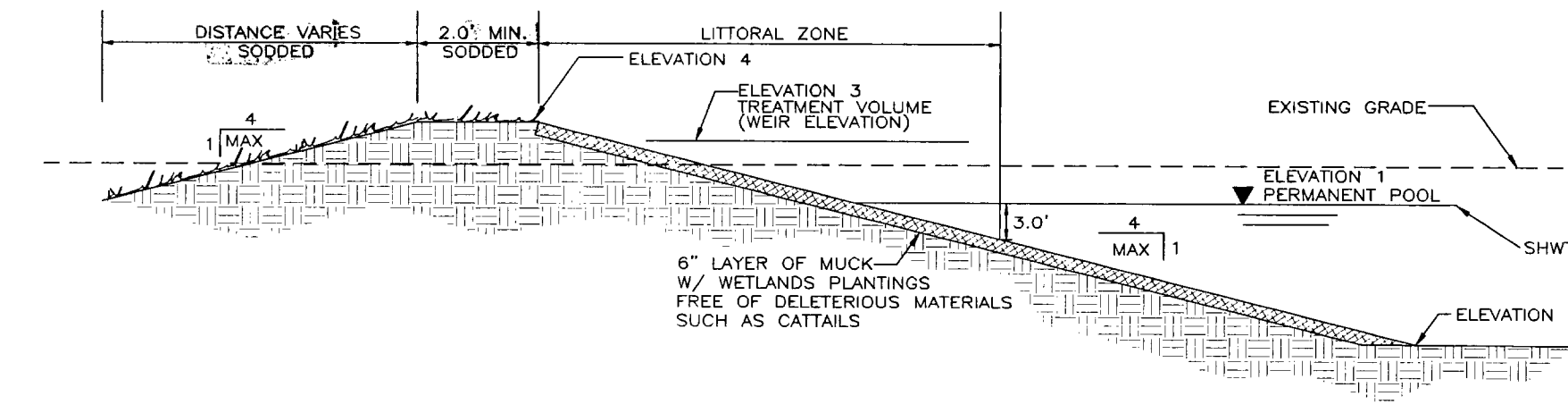
TYPICAL LITTORAL SHELF PLANTING DETAIL
 NOT TO SCALE



ENTRANCE DRIVE
 NOT TO SCALE

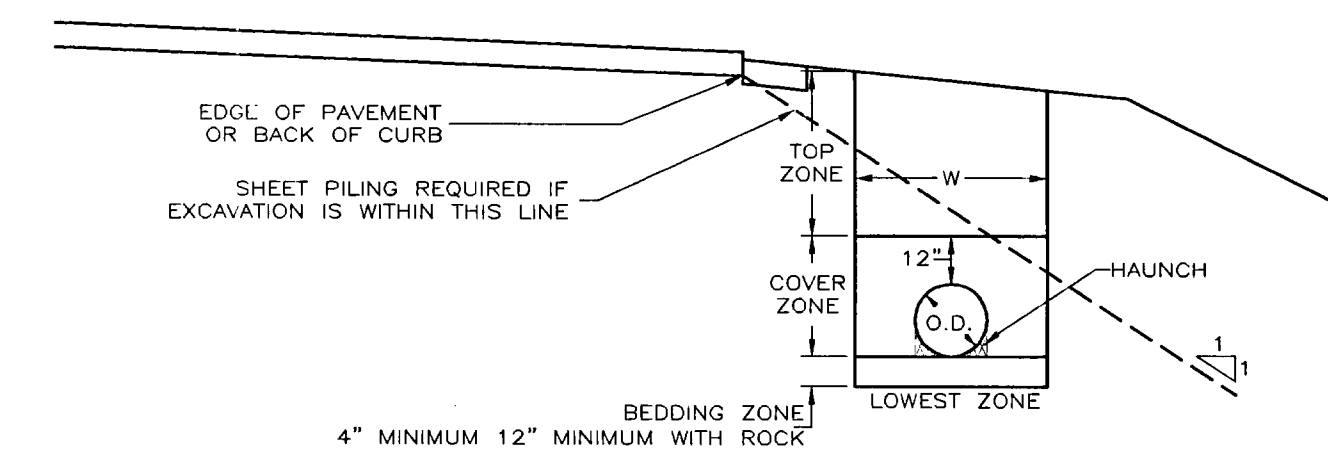


TYPICAL 60' ROADWAY
 NOT TO SCALE

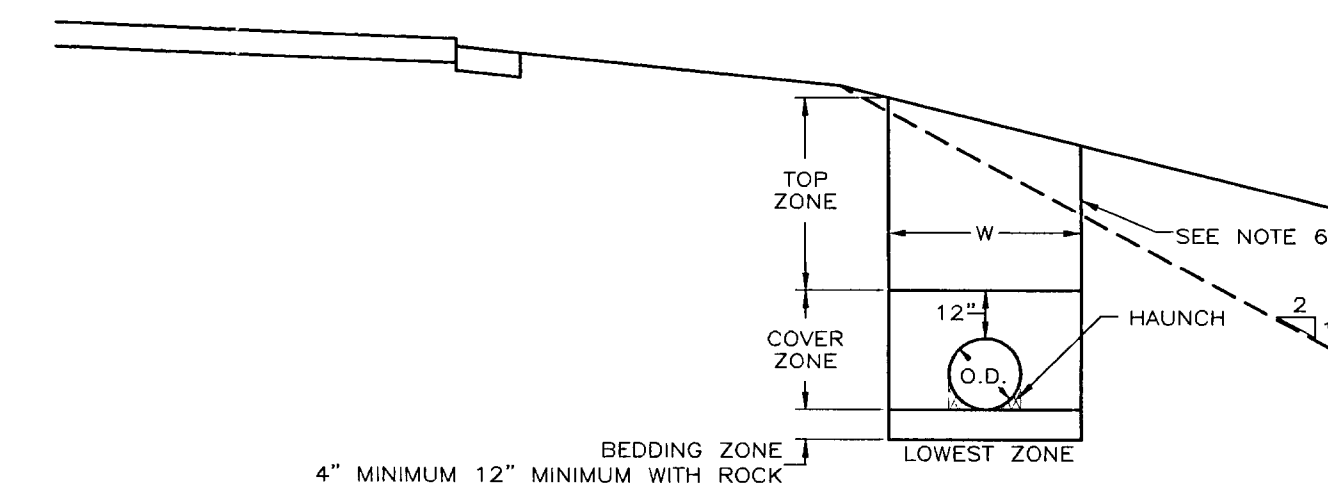


BASIN NO.	DISCHARGE STRUCTURE NO.	ELEV. 1	ELEV. 2	ELEV. 3	ELEV. 4
SB-1	DS-29	16.00	11.00	17.85	20.25

TYPICAL STORMWATER BASIN SECTION
SECTION E
 NOT TO SCALE



INSIDE ROADWAY SHOULDER AREA



OUTSIDE ROADWAY SHOULDER AREA, UNIMPROVED AREAS, OR AREAS OF NO VEHICULAR TRAFFIC

- NOTES
1. W (MAXIMUM TRENCH WIDTH) = PIPE O.D. + 30" FOR LESS THAN 24" Ø
 W (MAXIMUM TRENCH WIDTH) = PIPE O.D. + 48" FOR 24" Ø OR GREATER.
 DEEP TRENCHES MAY REQUIRE SLOPING SIDES OR TRENCH BOXES FOR STABILITY.
 2. LOWEST ZONE - REMOVE SOIL UNSUITABLE FOR BACKFILL TO A DEPTH OF 4" MINIMUM (12" MINIMUM IN ROCK) BELOW BOTTOM OF PIPE. REMOVE MUCK OR OTHER MATERIAL TO A DEPTH NECESSARY TO ESTABLISH A FIRM FOUNDATION. BACKFILL UNDER BEDDING ZONE WITH COARSE SAND OR OTHER SUITABLE GRANULAR MATERIAL. COMPACT TO MATCH DENSITY OF SOIL IN WHICH THE TRENCH WAS CUT.
 3. BEDDING ZONE - USE A-1, A-2 OR A-3 MATERIAL (A-4 MAY BE USED WITH R.C.P.). COMPACT TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 6 INCHES. WHEN PLACING PIPE, LOOSEN SOIL OR BEDDING MATERIAL IMMEDIATELY BELOW THE MIDDLE THIRD OF THE O.D. OF PIPE, THEN HAND TAMP MATERIAL BELOW HAUNCH THAT CANNOT BE REACHED BY MECHANICAL TAMPING.
 4. COVER ZONE - USE A-1, A-2 OR A-3 MATERIAL (A-4 MAY BE USED WITH R.C.P.). COMPACT TO 100% OF MAXIMUM DENSITY FOR R.C.P. OR 95% OF MAXIMUM DENSITY FOR METAL OR PLASTIC PIPE AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 6 INCHES.
 5. TOP ZONE - USE MATERIALS PER F.D.O.T. INDEX 505. COMPACT TO 100% DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 12 INCHES OR GREATER.
 6. IN AREAS OUTSIDE THE PLANE DESCRIBED BY A 1 IN 2 SLOPE DOWNWARD FROM THE EDGE OF SHOULDER OR BACK OF CURB, COMPACT TO FIRMNESS APPROXIMATELY EQUAL TO THAT OF SOIL NEXT TO PIPE TRENCH.
 7. COMPACTION REQUIREMENTS FROM F.D.O.T. SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 125.

TRENCHING DETAIL
 NOT TO SCALE
PERMIT PURPOSES ONLY

Alan W. Kirkland, PE.
 PROFESSIONAL ENGINEER
 FL LC # 61729

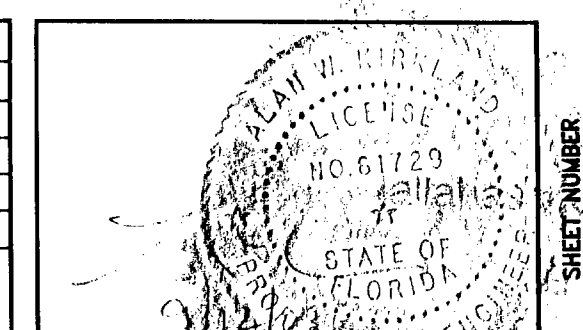
CONSTRUCTION DETAILS
MIRACLE POINT SUBDIVISION
MIDDLE BEACH ROAD
PANAMA CITY BEACH, FLORIDA

SCALE SHOWN	
DESIGNED BY: RLC	
DRAWN BY: WCK	
REVIEWED BY: RLC	
ISSUE DATE: 12/28/05	
CF/D: 60201E02	

MCNEIL CARROLL ENGINEERING, INC.
 Professional Engineering Consultants
 STATE OF FLORIDA CERTIFICATE OF AUTHORIZATION NUMBER: 7288

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NO.	DATE	BY	REVISIONS



05-021884-008-24

2/28