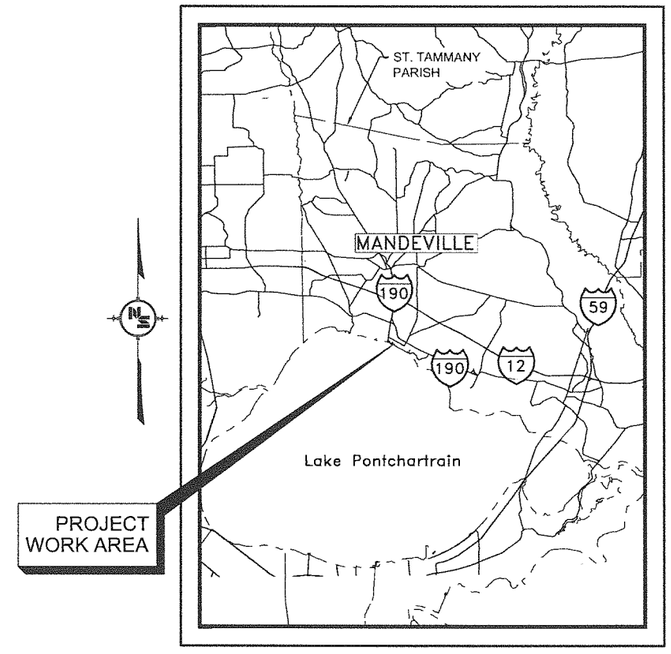
MANDEVILLE LAKEFRONT WETLANDS RESTORATION

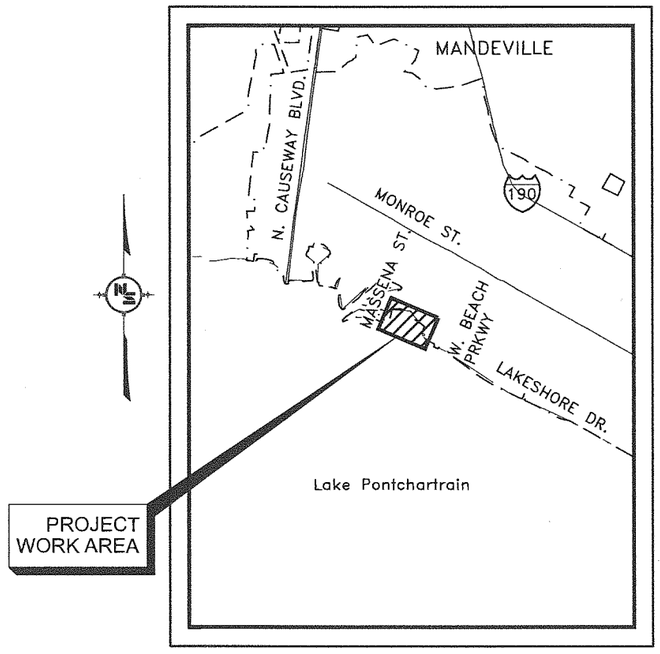
City of Mandeville, Louisiana

INDEX OF DRAWINGS



VICINITY MAP

8 0 4 8
(IN MILES)
1 inch = 8 miles



LOCATION MAP

2000 0 1000 2000
(IN FEET)
1 inch = 2000 feet

CITY STAFF

DONALD VILLERE	MAYOR
DAVID DEGENERES	DIRECTOR OF PUBLIC WORKS
LOUISETTE KIDD	DIRECTOR OF PLANNING & DEVELOPMENT

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R:\LAST_TAMMANY\9632 MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\COVER.DWG 6/27/2012 5:29 PM

GENERAL NOTES

1. THE GENERAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS, SHOULD CONFLICTS EXIST BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE STRICTEST PROVISIONS SHALL GOVERN.
2. NUMERIC SCALE IS FOR FULL SIZE ORIGINAL, 22" x 34" DRAWINGS ONLY. USE GRAPHIC SCALE ON ALL OTHER SIZE DRAWINGS AND DUPLICATES.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY PRECAUTIONS, MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED FOR PERFORMANCE OF THE WORK.
4. THE CONTRACTOR SHALL SUBMIT A HEALTH AND SAFETY PLAN PRIOR TO UNDERTAKING THE WORK.
5. THE SOURCE OF TOPOGRAPHY SHOWN ON THE PLANS ARE SURVEY BASE MAPS PROVIDED BY FLYNT ASSOCIATES. ADDITIONAL MAPPING HAS BEEN ADDED BASED ON RECORD DATA PROVIDED BY THE AFFECTED UTILITY COMPANIES. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST THE WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
6. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. AT LEAST 48 HOURS PRIOR TO BEGINNING OF ANY CONSTRUCTION THE CONTRACTOR SHALL BE CHARGED WITH THE RESPONSIBILITY OF CONTACTING LOUISIANA ONE-CALL OR THE VARIOUS UTILITY COMPANIES AND PHYSICALLY VERIFYING THE EXACT LOCATION AND DEPTH OF ALL UNDERGROUND OR OVERHEAD UTILITIES. THE CONTRACTOR SHALL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGE OR LIABILITY OCCASIONED BY HIS FAILURE TO COMPLY WITH THESE INSTRUCTIONS. THE PHONE NUMBER FOR LOUISIANA ONE-CALL IS 1-800-272-3020.
7. EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.
8. HORIZONTAL DATUM: LOUISIANA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE). VERTICAL DATUM: NAVD XX.
9. MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. THIS WORK SHALL BE PERFORMED BY A LOUISIANA REGISTERED LAND SURVEYOR TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.
10. STORAGE OF EQUIPMENT AND MATERIAL SHALL BE IN OWNER-DESIGNATED AREAS ONLY.
11. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE VARIOUS UTILITY COMPANIES FOR ADJUSTMENT OF THEIR SERVICE LINES AND/OR INSTALLATION OF NEW FACILITIES.
12. THE CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ALL RESIDENTS AFFECTED BY THE WORK.
13. ANY DAMAGE, DISTURBANCE, OR OTHER IMPAIRMENT OF EXISTING FACILITIES SHALL BE PROMPTLY REPAIRED OR REPLACED BY THE CONTRACTOR AS APPROVED BY THE OWNER AND AT NO ADDITIONAL COST TO THE OWNER.
14. CONTRACTOR SHALL REMOVE CONSTRUCTION MATERIAL AND DEBRIS FROM THE SITE DURING AND AT THE COMPLETION OF WORK.
15. UNLESS OTHERWISE SHOWN ALL PIPING SHALL HAVE A MINIMUM OF 3 FEET OF COVER.
16. MINIMUM ALLOWABLE VERTICAL CLEARANCE BETWEEN SEWER AND WATER PIPES AT CROSSINGS SHALL BE 1.5 FEET. MINIMUM ALLOWABLE VERTICAL CLEARANCE BETWEEN SEWER AND STORM DRAINAGE SHALL BE 1 FOOT UNLESS OTHERWISE SHOWN.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL TRAFFIC DURING CONSTRUCTION AND SHALL COMPLY WITH ALL REGULATIONS TO ENSURE SAFETY OF THE WORKMEN AND THE PUBLIC DURING ALL PHASES OF CONSTRUCTION.
18. THE CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN ALL NECESSARY BARRICADES, SUITABLE LIGHTS AND DANGER SIGNALS, AND SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION OF WORK AND SAFETY OF THE GENERAL PUBLIC. FURTHERMORE, ALL SAFETY LIGHTING AND MARKINGS SHALL MEET OR EXCEED THE REQUIREMENTS AS DESCRIBED IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION, AND MORE PARTICULARLY AS SHOWN IN PART VI OF THIS DOCUMENT.
19. WHERE THE LIMITS OF REMOVAL OF EXISTING PAVEMENT DO NOT OCCUR AT AN EXISTING JOINT, THE CONCRETE PAVEMENT SHALL BE SAW CUT FULL DEPTH. THE LIMITS OF REMOVAL OF EXISTING ASPHALT CONCRETE PAVEMENT WHERE IT MEETS NEW PAVEMENT SHALL BE ESTABLISHED BY SAW CUTTING FULL DEPTH THE ASPHALT PAVEMENT AND SOIL CEMENT BASE, WHERE APPLICABLE.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION.
21. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE. CONTRACTOR SHALL SUBMIT AN EROSION CONTROL PLAN.
22. PRIOR TO THE COMMENCEMENT OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE TO THE OWNER A PRE-CONSTRUCTION VIDEO IN ACCORDANCE WITH THE SPECIFICATIONS.
23. UNLESS SPECIFICALLY INDICATED TO REMAIN, ALL TREES, BUSHES, STUMPS AND SIMILAR VEGETATION WITHIN THE LIMITS OF CONSTRUCTION ADJACENT TO REQUIRED CONSTRUCTION SHALL BE REMOVED AS REQUIRED FOR CONSTRUCTION OPERATIONS. REMOVAL OF TREES SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR CLEARING AND GRUBBING.
24. SEE SPECIFICATIONS FOR GEOTECNICAL REPORT AND SOIL BORINGS.
25. ALL REINFORCING STEEL INCORPORATED INTO THE WORK SHALL BE EPOXY COATED.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND MAINTAINING EXISTING CULVERTS AND OUTFALLS.
27. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION, AND ANY DRAINAGE DITCH OR STRUCTURE BLOCKED DURING CONSTRUCTION SHALL BE RESTORED.
28. ALL CORRUGATED METAL PIPE FOR CULVERT EXTENSIONS SHALL BE POLYMER COATED.

ENVIRONMENTAL

29. CONTRACTOR SHALL MAINTAIN STRICT CONTROL AT ALL TIMES TO PREVENT ANY FORM OF WATER POLLUTION.
30. REMOVAL AND CLEAN UP OF ANY SPILL SHALL BE IMMEDIATE AND AT CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL MAINTAIN A SUPPLY OF SPILL RESPONSE EQUIPMENT AND MATERIAL ON-SITE AT ALL TIMES.
31. THE CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, AND FEDERAL ENVIRONMENTAL LAWS AND REGULATIONS.
32. THE (LOUISIANA) HAS A CERTIFICATE OF COVERAGE FROM THE LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY GRANTING COVERAGE UNDER THE BASELINE STORMWATER GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT. THE CONTRACTOR IS REQUIRED TO COMPLY WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PERMITTED SITE. THE CONTRACTOR MUST CERTIFY THAT HE/ SHE UNDERSTANDS THE TERMS AND CONDITIONS OF THE NPDES PERMIT AND SWPPP AND AGREES TO FOLLOW THE BEST MANAGEMENT PRACTICES (BMPS) AND PRACTICES DESCRIBED IN THE SWPPP.

DEMOLITION AND REMOVAL

33. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL MATERIALS SHALL BE LEGALLY DISPOSED OF OFFSITE.
34. HAULING AND DISPOSAL OF MATERIAL SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS.
35. CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN REMOVING MATERIALS; ALL COSTS ASSOCIATED WITH ANY DAMAGE TO THE EXISTING STRUCTURES RESULTING FROM THE CONTRACTOR'S ACTIVITIES SHALL BE DEDUCTED FROM THE CONTRACT AMOUNT.
36. REMOVE AND TRANSPORT DEBRIS AND RUBBISH IN A MANNER THAT WILL PREVENT SPILLAGE ON STREETS OR ADJACENT AREAS. CLEAN UP SPILLAGE FROM STREETS AND ADJACENT AREAS.
37. THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE PROJECT SITE, INCLUDING BUT NOT LIMITED TO CONCRETE, STEEL, TIMBER, AND "SOFT MUD " LOCATED WITHIN THE PROJECT SITE, AND SHALL DISPOSE OF THESE MATERIALS IN AN APPROVED DISPOSAL AREA.
38. STOCKPILING OF FILL MATERIAL SHALL BE DONE IN A MANNER TO MINIMIZE POTENTIAL FOR LANDSLIDES.

TREE PROTECTION

39. ALL ROOT TRIMMING, CUTTING, PRUNING OR SIMILAR TYPE WORK ON TREES INDICATED TO REMAIN THAT IS REQUIRED FOR THE PROSECUTION OF THE WORK SHALL BE SUPERVISED BY AN ARBORIST APPROVED BY THE CITY OF MANDEVILLE. ALL SUCH WORK SHALL BE INCLUDED AS PART OF THE CONTRACT AND THERE SHALL BE NO DIRECT PAYMENT FOR SUCH WORK.
40. ALL TREES WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE REMOVED. TREES OUTSIDE OF BUT CLOSE TO THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED. THESE TREES SHALL BE IDENTIFIED AND MARKED IN THE FIELD PRIOR TO THE COMMENCEMENT OF ANY WORK IN THEIR VICINITY.
41. DESIGNATED TREES SHALL BE PROTECTED FROM CLEARING AND CONSTRUCTION ACTIVITY BY MEANS OF A SEMI-RIGID FENCE COMPOSED OF FIRMLY INSTALLED METAL "T" POSTS LOCATED NO MORE THAN 8 FEET ON CENTERS. ORANGE PLASTIC CONSTRUCTION FENCING SHALL BE FIRMLY ATTACHED TO THE METAL POSTS IN SUCH A MANNER THAT IT CANNOT SAG OR LOOSEN OVER TIME.
42. TREE PROTECTION FENCING SHALL BE POSITIONED AROUND TREES DESIGNATED TO BE PROTECTED AS FOLLOWS:
    a. WHERE AVAILABLE SPACE PERMITS, TREE PROTECTION FENCING SHALL BE POSITIONED AT OR BEYOND THE LIMITS OF THE CRITICAL ROOT ZONE, WHICH IS DEFINED AS THE RADIUS IN FEET EQUAL TO 1 FOOT PER INCH OF TRUNK DIAMETER AS MEASURED AT 4.5 FEET ABOVE GROUND LEVEL.
    b. WHERE SPACE DOES NOT PERMIT PROTECTION OF THE ENTIRE CRITICAL ROOT ZONE, TREE PROTECTION FENCING MAY BE PLACED WITHIN THE CRITICAL ROOT ZONE, BUT SHALL NOT BE PLACED WITHIN THE LIMITS OF THE ROOT FLARE WHICH IS DEFINED AS THE AREA OF EXPOSED SURFACE ROOTS AROUND THE BASE OF THE TRUNK.
43. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN PERFORMING ANY WORK IN THE VICINITY OF DESIGNATED / PROTECTED TREES, AS FOLLOWS:
    a. LIMIT ACCESS BY CONSTRUCTION EQUIPMENT TO PREVENT SOIL COMPACTION.
    b. PROHIBIT STACKING, LOADING, OR STOCKPILING OF CONSTRUCTION MATERIALS AND/OR DEBRIS IN THE VICINITY OF PROTECTED TREES.
    c. INSTRUCT ALL CONTRACTOR AND SUB-CONTRACTOR EMPLOYEES IN THE IMPORTANCE OF AVOIDING ACTIVITY WHICH COULD DAMAGE PROTECTED TREES.
    d. MAINTAIN ALL TREE PROTECTION FENCING IN ITS ORIGINAL INSTALLED CONDITION UNTIL THE COMPLETION OF ALL CONTRACT WORK.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: HCT.dwg	
SCALE: N/A	
SURVEYED BY: MAPTECH	
DSGN: HCT	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: WDL	DATE:
QA/QC: WDL	DATE:

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

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GENERAL NOTES

WORKING NUMBER:

SHEET NUMBER: 2 OF X

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ABBREVIATIONS

A.C.	ASPHALTIC CONCRETE
ADDIT'L.	ADDITIONAL
APPR.	APPROACH
BLVD.	BOULEVARD
BJ	BUTT JOINT
℄	CENTERLINE
CHKD	CHECKED
CJ	CONSTRUCTION JOINT
CLR.	CLEAR
CO.	COMPANY
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CONT'D.	CONTINUED
CORP.	CORPORATION
CTR'D.	CENTERED
CTRS.	CENTERS
CU.	CU.
Δ	DELTA ANGLE
D	DEGREE OF CURVE
DBL.	DOUBLE
DFT.	DRY FILM THICKNESS
DIA.	DIAMETER
DIAM.	DIAMETER
DOTD	DEPARTMENT OF TRANSPORTATION AND DEVELOPEMENT
DR.	DRIVE
DRWN	DRAWN
DSGN	DESIGN
E	EAST OR EXPANSION END
EA.	EACH
EL.	ELEVATION
ELEV.	ELEVATION
EJ	EXPANSION JOINT
EQ.	EQUAL
EXIST.	EXISTING
EXP.	EXPANSION
F	FIXED END
FT.	FEET
FTG.	FOOTING
GALV.	GALVANIZED
H	HORIZONTAL
HORIZ.	HORIZONTAL
H.S.	HIGH STRENGTH
HI.	HIGH
IN.	INCH OR INCHES
JT.	JOINT
L	LENGTH OF CURVE
LA	LOUISIANA
LB.	POUND
LBS.	POUNDS
LCJ	LONGITUDINAL CONTRACTION JOINT
LT.	LEFT
LTD.	LIMITED
MAX.	MAXIMUM
MFG.	MANUFACTURING
MHHW	MEAN HIGH HIGH WATER
MIN.	MINIMUM
MLLW	MEAN LOW LOW WATER
N	NORTH
NAVD	NORTH AMERICAN VERTICAL DATUM
NO.	NUMBER
NTS	NOT TO SCALE
N.T.S.	NOT TO SCALE
O.D.	OUTSIDE DIAMETER
PAV'T.	PAVEMENT
PE	POLYETHYLENE
P.C.	POINT OF CURVATURE
P.C.C.	PORTLAND CEMENT CONCRETE
P.I.	POINT OF INTERSECTION
P.M.	POST MERIDIEM
PPC	PRESTRESSED PORTLAND CEMENT
PRES	PRESTRESSED
PSI	POUNDS PER SQUARE INCH
P.T.	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
P.V.I.	POINT OF VERTICAL INTERSECTION
R	RADIUS
RAD.	RADIUS
RCP	REINFORCED CONCRETE PIPE
REINF.	REINFORCED OR REINFORCING
REQ'D.	REQUIRED
RT.	RIGHT
S	SLOPE
SHLD.	SHOULDER
SP.	SPACES
SQ.	SQUARE
SS	STAINLESS STEEL
ST.	STREET
STA.	STATION
STD.	STANDARD
STR.	STRANDS
SYMM.	SYMMETRICAL
T	TANGENT
TELE	TELEPHONE
TYP.	TYPICAL
THK.	THICKNESS
V.C.	VERTICAL CURVE
VERT.	VERTICAL
VWCJ	VERTICAL WALL CONTROL JOINT
W/	WITH
WWF	WELDED WIRE FABRIC
X	EAST COORDINATE
Y	NORTH COORDINATE
YR	YEAR
1ST	FIRST
2ND	SECOND

LEGEND

EXISTING FEATURES

- EXISTING CONTOUR
- EXISTING U.G. ELECTRIC W/ METER (UE)
- APPROX. EXISTING WATER EDGE
- -2.22 EXISTING SPOT ELEVATION
- EXISTING TREES
- SHRUBS AND PLANTINGS
- EXISTING CREPE MYRTLE
- EXISTING EDGE OF VEGETATION
- EXISTING DROP INLET
- EXISTING CURB INLET
- CP#8 N675466.98 E3675241.86 ELEV.=4.18 P-KNAIL EXISTING CONTROL POINT
- (X) EXISTING FENCE LINE
- (W) EXISTING WATER LINE W/ METER
- (G) EXISTING GAS METER
- LP (T) EXISTING LIGHT POLE W/ GUY WIRE AND TELE BOX
- PP EXISTING POWER POLE
- EXISTING BOLLARD
- EXISTING SIGN
- EXISTING FIRE HYDRANT
- EXISTING RIPRAP

LEGEND

PROPOSED FEATURES

- FILL
- CONCRETE
- OPEN MATTING
- ARMOR STONE
- BEDDING STONE
- EXISTING GROUND
- ARTICULATED BLOCK MAT
- THICK CLAY/SAND MIXTURE
- SELECT STRUCTURAL FILL MATERIAL
- THICK EROSION RESISTANT CLAY
- GRAVEL
- EXISTING TREE TO BE REMOVED

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: GENERAL NOTES.dwg	
SCALE: N/A	
SURVEYED BY: MAPTECH	
DSGN: HCT	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: WDL	DATE:
QA/QC: WDL	DATE:

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

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ABBREVIATIONS & LEGEND

WORKING NUMBER:

SHEET NUMBER: 3 OF X

EXISTING WETLAND EDGE

APPROXIMATE WATER'S EDGE

EXISTING SHORELINE

WATER SURFACE ELEVATION = 0.78
2:00 P.M. - AUGUST 26, 2011

GRAPHIC SCALE
40 0 20 40
(IN FEET)
1 inch = 40 feet

NOTICE TO DRAWING HOLDER

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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: EXISTING SITE PLAN.dwg	
SCALE: 1" = 40'	
SURVEYED BY: MAPTECH	
DSGN: HCT	DATE: 6/27/12
DRWN: BRG	DATE: 6/27/12
CHKD: WDL	DATE: __/__/__
QA/QC: ___	DATE: __/__/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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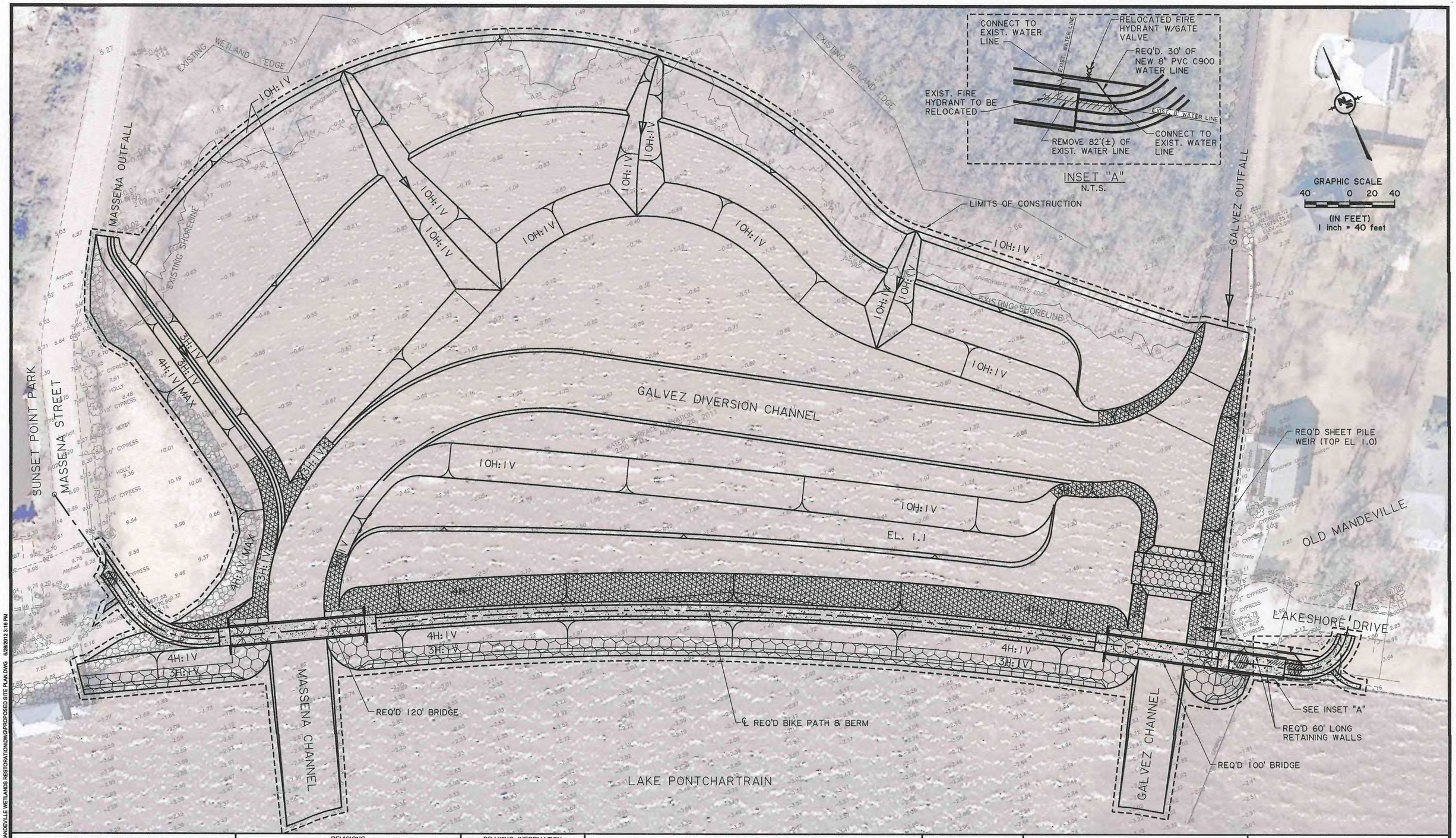
EXISTING SITE PLAN

WORKING NUMBER:

SHEET NUMBER:
4 OF X

M:\PROJECTS\LAKE_TAMMANY\08632A_MANDEVILLE WETLANDS RESTORATION\DWG\EXISTING SITE PLAN.DWG 6/27/2012 10:20 AM



M:\PROJECTS\LAST_TAMMANY\08832_MANDEVILLE WETLANDS RESTORATION\DWG\PROPOSED SITE PLAN.DWG 6/29/2012 3:16 PM

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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.:	00.06122.0xx
FILENAME:	PROPOSED SITE PLAN.DWG
SCALE:	1" = 40'
SURVEYED BY:	FLYNT & ASSOCIATES
DSGN: HCT	DATE: 6/27/12
DRWN: BRG	DATE: 6/27/12
CHKD: WDL	DATE:
QA/QC:	DATE:

MANDEVILLE LAKEFRONT WETLANDS RESTORATION

CITY OF MANDEVILLE, LOUISIANA

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PROPOSED SITE PLAN

WORKING NUMBER:

SHEET NUMBER: 5 OF X

NOTE:
(B50) INDICATE GEOMETRIC POINT AND POINT NUMBER.
(SEE GEOMETRIC LAYOUT TABLES ON SHEET NO. 6
FOR COORDINATES AND ELEVATIONS)

EXISTING WETLAND EDGE
EL. +1 (+/-)
MATCH TO EXISTING
EXISTING WETLAND EDGE
10H:1V
MATCH TO EXISTING
MASSENA OUTFALL
EXISTING SHORELINE
EL. 1.5
EL. 1.1
EL. -2
EL. -3
EL. -1 (+/-)
GALVEZ OUTFALL
MATCH TO EXISTING HIGH BANK
3H:1V
4H:1V MAX
STA. 0+00.00
X=3,674,358.12
Y=678,986.96
BEGIN PATH
STA. 0+78.63
STA. 5+00
STA. 10+00
4H:1V
P.C. 1+17.66
P.I. 1+60.97
X=3,674,375.68
Y=678,830.44
Δ=60°00'00" LT.
D=76°23'40"
R=75.00'
T=43.30'
L=78.54'
P.T. 1+96.20
P.C. 3+61.64
℄ BIKE PATH AND
PROFILE GRADE LINE
P.I. 6+64.69
X=3,674,866.37
Y=678,685.02
Δ=12°57'02" RT.
D=2°08'45"
R=2670.00'
T=303.04'
L=603.50'
P.T. 9+65.15
P.C. 11+69.31
P.I. 12+06.34
X=3,675,340.24
Y=678,417.37
Δ=85°35'01" LT.
D=43°14'22"
R=40.00'
T=37.03'
L=59.75'
STA. 12+75.00
X=3,675,386.49
Y=678,486.26
END PATH
P.T. 12+29.06
PROJECT SLOPE TO
FACE OF EXISTING
SEAWALL
*SLOPE TO DRAIN
MATCH TO EXISTING
MATCH TO EXISTING
LAKE PONTCHARTRAIN

GRAPHIC SCALE
40 0 20 40
(IN FEET)
1 inch = 40 feet

REVISIONS			
NO.	OATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: GEOMETRIC LAYOUT.dwg	
SCALE: 1" = 40'	
SURVEYED BY: MAPTECH	
DSGN: HCT	DATE: 6-27-12
DRWN: DFH	DATE: 6-27-12
CHKD: WDL	DATE: CHKD DATE
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GEOMETRIC LAYOUT

WORKING NUMBER:

SHEET NUMBER: 6 OF X

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ELEVATION 1.1 PLATFORMS		
POINT NUMBER	COORDINATES	
	"X" (EAST)	"Y" (NORTH)
B1	3,674,560.94	678,840.64
B2	3,674,564.22	678,844.05
B3	3,674,601.78	678,852.11
B4	3,675,103.09	678,619.73
B5	3,675,149.67	678,632.20
B6	3,675,161.64	678,651.75
B7	3,675,114.98	678,639.76
B8	3,674,649.38	678,881.61
B9	3,674,618.38	678,882.29
B10	3,674,536.74	678,919.23
B11	3,674,580.51	678,946.83
B12	3,674,737.60	679,025.40
B13	3,674,714.93	679,141.99
B14	3,674,661.22	679,121.50
B15	3,674,508.51	679,045.12
B16	3,674,533.62	678,956.50
B17	3,674,786.24	679,049.59
B18	3,674,899.37	679,061.87
B19	3,674,938.29	679,111.91
B20	3,674,740.59	679,147.73
B21	3,674,945.48	679,045.17
B22	3,675,033.56	678,940.63
B23	3,675,070.03	678,877.51
B24	3,675,099.26	678,897.49
B25	3,675,066.86	678,951.40
B26	3,674,959.84	679,097.87
B27	3,675,103.24	678,847.31
B28	3,675,204.44	678,761.26
B29	3,675,216.70	678,732.28
B30	3,675,219.11	678,740.30
B31	3,675,227.01	678,754.18
B32	3,675,220.01	678,793.97
B33	3,675,118.80	678,880.02

ELEVATION 1.5 PLATFORMS		
POINT NUMBER	COORDINATES	
	"X" (EAST)	"Y" (NORTH)
A1	3,674,536.37	678,800.24
A2	3,674,557.90	678,811.37
A3	3,674,585.33	678,803.25
A4	3,675,146.71	678,565.16
A5	3,675,175.15	678,549.09
A6	3,675,181.78	678,525.25
A7	3,675,201.55	678,560.26
A8	3,675,199.70	678,561.31
A9	3,675,213.64	678,585.98
A10	3,675,215.49	678,584.93
A11	3,675,229.04	678,608.93
A12	3,675,216.57	678,638.14
A13	3,675,176.08	678,654.49
A14	3,675,162.44	678,650.75
A15	3,675,149.92	678,628.77
A16	3,675,102.76	678,615.36
A17	3,674,599.98	678,848.52
A18	3,674,561.81	678,839.82
A19	3,674,550.86	678,827.03
A20	3,674,480.64	679,149.31
A21	3,674,508.85	679,049.77
A22	3,674,659.43	679,125.08
A23	3,674,710.75	679,144.98
A24	3,674,710.79	679,236.29
A25	3,674,722.26	679,236.63
A26	3,674,743.25	679,152.24
A27	3,674,937.65	679,116.91
A28	3,674,973.84	679,151.06
A29	3,674,983.49	679,143.14
A30	3,674,964.53	679,099.41

ELEVATION 1.5 PLATFORMS (cont'd.)		
POINT NUMBER	COORDINATES	
	"X" (EAST)	"Y" (NORTH)
A31	3,675,070.66	678,952.63
A32	3,675,101.72	678,900.70
A33	3,675,129.15	678,922.73
A34	3,675,103.96	678,963.40
A35	3,675,139.30	678,913.78
A36	3,675,121.56	678,882.92
A37	3,675,220.84	678,798.51
A38	3,675,228.59	678,754.52
A39	3,675,220.15	678,739.71
A40	3,675,229.87	678,714.43
A41	3,675,262.49	678,710.24
A42	3,675,335.23	678,747.20

ELEVATION -2 PLATFORMS		
POINT NUMBER	COORDINATES	
	"X" (EAST)	"Y" (NORTH)
C1	3,674,614.44	678,890.71
C2	3,674,649.05	678,903.10
C3	3,674,683.33	678,893.61
C4	3,675,131.64	678,665.96
C5	3,675,162.83	678,664.54
C6	3,675,181.27	678,663.61
C7	3,674,795.34	678,883.42
C8	3,674,584.67	678,938.51
C9	3,674,823.05	678,932.08
C10	3,675,208.99	678,712.28
C11	3,675,226.57	678,704.46
C12	3,675,217.22	678,709.71
C13	3,675,066.32	678,838.00
C14	3,675,004.06	678,931.08
C15	3,674,911.56	679,026.26
C16	3,674,794.25	679,019.07
C17	3,674,775.05	679,009.47
C18	3,674,749.73	678,996.80
C19	3,674,702.97	678,980.29

ELEVATION -3 PLATFORMS		
POINT NUMBER	COORDINATES	
	"X" (EAST)	"Y" (NORTH)
D1	3,674,473.16	678,634.73
D2	3,674,515.95	678,779.13
D3	3,674,522.30	678,500.54
D4	3,674,522.68	678,801.82
D5	3,674,540.22	678,835.34
D6	3,674,796.82	678,886.03
D7	3,675,182.76	678,666.22
D8	3,675,219.91	678,651.22
D9	3,675,240.79	678,602.29
D10	3,675,231.18	678,585.26
D11	3,675,266.34	678,565.40
D12	3,675,311.25	678,643.65
D13	3,675,313.40	678,647.30
D14	3,675,268.39	678,697.22
D15	3,675,207.50	678,709.67
D16	3,674,821.57	678,929.47
D17	3,674,519.68	678,887.61
D18	3,674,500.81	678,866.12
D19	3,674,474.75	678,816.04
D20	3,674,474.36	678,814.75
D21	3,674,467.90	678,792.96
D22	3,674,421.69	678,637.04
D23	3,675,209.37	678,546.66
D24	3,675,192.71	678,517.16
D25	3,675,115.77	678,380.94
D26	3,675,150.43	678,360.96
D27	3,675,227.54	678,497.49
D28	3,675,244.20	678,526.98

ELEVATION -0.5 PLATFORM		
POINT NUMBER	COORDINATES	
	"X" (EAST)	"Y" (NORTH)
E1	3,675,268.87	678,554.78
E2	3,675,254.73	678,530.23
E3	3,675,206.78	678,557.31
E4	3,675,220.71	678,581.98

NON-PLATFORM POINTS AND ELEVATIONS			
POINT NUMBER	COORDINATES		ELEVATION
	"X" (EAST)	"Y" (NORTH)	
F1	3,674,556.23	678,791.88	6.07
F2	3,674,578.09	678,778.80	7.88
F3	3,675,134.16	678,542.95	7.88
F4	3,675,166.59	678,531.91	6.07
F5	3,675,147.98	678,498.97	4.00
F6	3,675,139.56	678,484.78	-0.50
F7	3,675,126.30	678,529.02	7.88
F8	3,675,118.67	678,515.53	4.00
F9	3,675,110.56	678,501.16	-0.50
F10	3,674,573.54	678,763.46	7.88
F11	3,674,569.14	678,748.59	4.00
F12	3,674,564.45	678,732.78	-0.50
F13	3,674,545.48	678,755.60	4.00
F14	3,674,536.72	678,740.99	-0.50
F15	3,674,430.20	678,772.56	-0.50
F16	3,674,430.43	678,789.70	4.00
F17	3,674,414.92	678,810.46	7.88
F18	3,674,358.60	678,827.16	7.88
F19	3,674,308.92	678,837.96	6.94
F20	3,674,297.74	678,811.82	-0.50
F21	3,674,301.01	678,839.04	6.80
F22	3,674,369.80	678,843.47	8.58
F23	3,674,357.80	678,870.68	8.95
F24	3,674,356.23	678,877.20	9.04
F25	3,674,339.81	678,873.26	8.72
F26	3,674,344.17	678,878.41	8.80
F27	3,674,355.30	678,881.08	9.09
F28	3,674,349.81	678,903.98	9.56
F29	3,674,359.60	678,931.72	9.60
F30	3,674,373.35	678,874.41	8.95
F31	3,674,391.39	678,842.41	8.39
F32	3,674,419.47	678,825.80	7.88
F33	3,674,441.65	678,827.57	6.07
F34	3,674,441.18	678,825.99	6.07
F35	3,674,402.53	678,838.58	7.16
F36	3,674,411.57	678,836.31	6.35
F37	3,674,422.47	678,834.50	5.62
F38	3,674,434.22	678,833.64	4.95
F39	3,674,443.49	678,833.76	3.56
F40	3,674,454.40	678,834.78	2.81
F41	3,674,468.28	678,837.52	1.50
F42	3,674,490.17	678,874.43	1.50
F43	3,674,518.43	678,952.84	-2.38
F44	3,674,507.49	678,950.27	1.36
F45	3,674,463.70	679,158.19	-0.41
F46	3,674,456.06	679,156.28	2.21
F47	3,674,455.50	679,174.67	2.47
F48	3,674,457.63	679,187.59	2.42
F49	3,674,466.68	679,182.60	-0.20
F50	3,674,471.93	679,179.71	-0.20
F51	3,674,475.61	679,177.68	1.20
F52	3,674,469.49	679,159.73	-0.41
F53	3,674,475.16	679,162.11	1.63
F54	3,674,477.25	679,154.28	0.90
F55	3,674,524.24	678,954.33	-2.38
F56	3,675,347.03	678,752.78	-1.00
F57	3,675,379.84	678,729.41	-1.00
F58	3,675,344.74	678,748.60	-1.10
F59	3,675,350.76	678,692.60	-1.85

NON-PLATFORM POINTS AND ELEVATIONS (cont'd.)			
POINT NUMBER	COORDINATES		ELEVATION
	"X" (EAST)	"Y" (NORTH)	
F60	3,675,317.75	678,717.14	-2.00
F61	3,675,344.87	678,687.07	-2.00
F62	3,675,275.67	678,550.94	2.19
F63	3,675,269.61	678,540.20	1.00*
F64	3,675,207.57	678,575.24	1.00*
F65	3,675,261.74	678,526.27	2.19
F66	3,675,250.69	678,484.63	5.87
F67	3,675,303.45	678,448.87	5.72
F68	3,675,311.93	678,442.55	5.15
F69	3,675,353.88	678,452.06	2.57
F70	3,675,367.87	678,444.18	2.57
F71	3,675,339.86	678,423.99	3.75
F72	3,675,356.52	678,402.40	4.19
F73	3,675,354.55	678,398.91	4.15
F74	3,675,335.95	678,423.13	3.90
F75	3,675,304.06	678,428.62	5.15
F76	3,675,294.27	678,432.62	5.72
F77	3,675,267.31	678,445.99	-0.50
F78	3,675,255.43	678,433.81	-0.50
F79	3,675,253.82	678,453.55	4.00
F80	3,675,235.36	678,449.62	4.00
F81	3,675,235.06	678,449.79	4.00
F82	3,675,241.23	678,460.72	7.14
F83	3,675,236.48	678,463.40	5.16
F84	3,675,215.94	678,476.95	-3.00
F85	3,675,180.92	678,496.28	-3.00
F86	3,674,716.32	679,242.50	0.9
F87	3,674,982.50	679,151.78	0.9
F88	3,675,138.22	678,922.57	0.9

*TOP OF SHEET PILES

CURVE SEGMENTS			
CURVE	COORDINATES AT MIDPOINT OF CURVE		RADIUS
	"X" (EAST)	"Y" (NORTH)	
A1 - A2	3,674,544.90	678,810.14	17.50'
A3 - A4	3,674,872.75	678,700.08	2,703.50'
A5 - A6	3,675,183.40	678,538.54	17.50'
A11 - A12	3,675,230.02	678,626.61	20.00'
A12 - A13	3,675,195.78	678,644.96	163.60'
A13 - A14	3,675,168.48	678,655.45	10.00'
A15 - A16	3,675,129.08	678,612.42	35.00'
A16 - A17	3,674,855.15	678,740.08	4,281.06
A17 - A18	3,674,579.57	678,850.00	35.00'
A18 - A19	3,674,556.19	678,833.55	186.50'
A19 - A1	3,674,542.49	678,814.24	91.50'
A22 - A23	3,674,684.62	679,136.23	294.00'
A24 - A20	3,674,588.77	679,211.18	394.80'
A26 - A27	3,674,843.51	679,151.39	294.00'
A28 - A25	3,674,855.47	679,215.65	394.80'
A30 - A31	3,675,029.18	679,034.40	294.00'
A31 - A32	3,675,083.24	678,924.90	135.00'
A33 - A34	3,675,114.09	678,941.54	100.00'
A34 - A29	3,675,056.28	679,061.69	394.80'
A37 - A38	3,675,232.64	678,777.91	35.00'
A39 - A40	3,675,219.02	678,724.76	17.50'
A40 - A41	3,675,245.98	678,710.77	86.50'
A41 - A42	3,675,303.03	678,720.51	95.00'
B1 - B2	3,674,562.56	678,842.37	93.86'
B2 - B3	3,674,581.79	678,853.70	35.00'
B3 - B4	3,674,856.18	678,744.01	4,285.06
B4 - B5	3,675,128.87	678,616.66	35.00'
B6 - B7	3,675,140.70	678,636.45	35.00'
B7 - B8	3,674,883.90	678,764.00	9232.09'
B8 - B9	3,674,633.96	678,885.57	35.00'
B9 - B1	3,674,587.67	678,864.20	187.70'
B10 - B11	3,674,557.94	678,934.11	262.30'
B13 - B14	3,674,687.57	679,133.08	290.00'
B17 - B18	3,674,841.81	679,064.85	181.00'
B19 - B20	3,674,842.64	679,147.48	290.00'
B21 - B22	3,674,999.77	679,001.53	181.00'
B22 - B23	3,675,048.45	678,907.13	174.00'
B24 - B25	3,675,079.97	678,922.59	139.00'
B25 - B26	3,675,025.09	679,033.22	290.00'
B28 - B29	3,675,214.01	678,748.23	35.00'
B29 - B30	3,675,217.45	678,736.43	18.70'
B31 - B32	3,675,230.68	678,775.34	31.66'
C1 - C2	3,674,631.46	678,897.71	197.00'
C2 - C3	3,674,666.50	678,904.40	50.00'
C3 - C4	3,674,909.08	678,785.84	9,263.09'
C4 - C5	3,675,147.07	678,661.58	35.00'
C5 - C6	3,675,172.16	678,666.27	20.50'
C7 - C1	3,674,705.78	678,909.08	197.00'
C8 - C9	3,674,704.67	678,965.14	253.00'
C10 - C11	3,675,217.59	678,707.93	97.00'
C11 - C12	3,675,221.64	678,706.63	28.00'
C13 - C14	3,675,028.71	678,880.21	205.00'
C14 - C15	3,674,968.91	678,989.46	150.00'
C15 - C16	3,674,852.17	679,034.63	150.00'

CURVE SEGMENTS (cont'd.)			
CURVE	COORDINATES AT MIDPOINT OF CURVE		RADIUS
	"X" (EAST)	"Y" (NORTH)	
C18 - C19	3,674,726.86	678,987.09	200.00'
C19 - C8	3,674,642.52	678,963.08	506.00'
D3 - D5	3,674,529.62	678,818.78	105.00'
D5 - D6	3,674,659.09	678,908.44	200.00'
D7 - D8	3,675,200.83	678,657.48	150.09'
D8 - D9	3,675,242.44	678,631.91	33.50'
D12 - D13	3,675,312.32	678,645.48	200.00'
D14 - D15	3,675,236.95	678,698.59	100.00'
D16 - D18	3,674,649.40	678,957.50	250.00'
D18 - D20	3,674,485.17	678,841.68	155.00'
F2 - F3	3,674,862.80	678,676.60	2,678.00'
F7 - F10	3,674,856.55	678,661.87	2,662.00'
F8 - F11	3,674,850.50	678,647.60	2,646.50'
F9 - F12	3,674,844.06	678,632.41	2,630.00'
F14 - D2	3,674,518.45	678,755.77	30.75'
D21 - F15	3,674,453.27	678,774.97	30.35'
F18 - F19	3,674,333.96	678,833.48	343.87'
F17 - F22	3,674,389.50	678,823.06	83.00'
F22 - F23	3,674,362.57	678,856.53	83.00'
F30 - F31	3,674,380.13	678,857.15	67.00'
F31 - F32	3,674,404.40	678,832.37	67.00'
F41 - F42	3,674,478.05	678,856.67	168.50'
D18 - F43	3,674,519.36	678,907.48	103.38'
F42 - F44	3,674,507.34	678,910.40	91.04'
F45 - F49	3,674,462.83	679,170.68	33.00'
F46 - F47	3,674,454.73	679,165.45	40.87'
F50 - F52	3,674,468.78	679,169.96	27.00'
F51 - F53	3,674,474.25	679,169.93	27.30'
F55 - D17	3,674,527.18	678,920.62	109.38'
F57 - F59	3,675,366.85	678,709.78	140.00'
F59 - F61	3,675,347.79	678,689.86	200.00'
F58 - F60	3,675,332.90	678,731.46	100.00'
F60 - D14	3,675,294.42	678,703.83	100.00'
F61 - D13	3,675,329.07	678,669.69	200.00'
F68 - F69	3,675,334.74	678,439.20	32.00'
F70 - F71	3,675,355.74	678,431.48	48.00'
F71 - F72	3,675,346.00	678,411.50	35.00'
F73 - F74	3,675,342.83	678,409.06	39.00'
F74 - F75	3,675,319.53	678,423.11	48.00'
F78 - F84	3,675,220.04	678,441.06	30.76'
F79 - F80	3,675,245.34	678,448.09	14.25'
F86 - C17	3,674,732.85	679,122.75	551.91'
F87 - C15	3,674,941.55	679,092.11	416.21'

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: GEOMETRIC LAYOUT.dwg	
SCALE: N.T.S.	
SURVEYED BY: N/A	
DSGN: HCT	DATE: 6-27-12
DRWN: DFH	DATE: 6-27-12
CHKD: WDL	DATE: CHKD DATE
QA/QC:	DATE:QA/QC DATE

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

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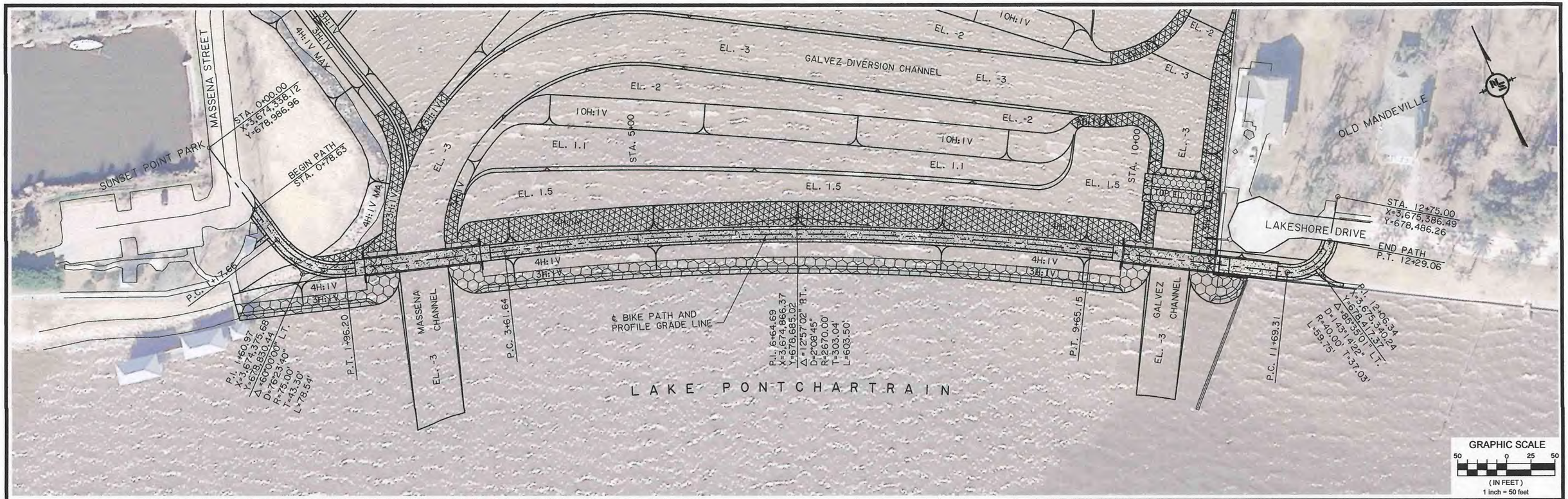
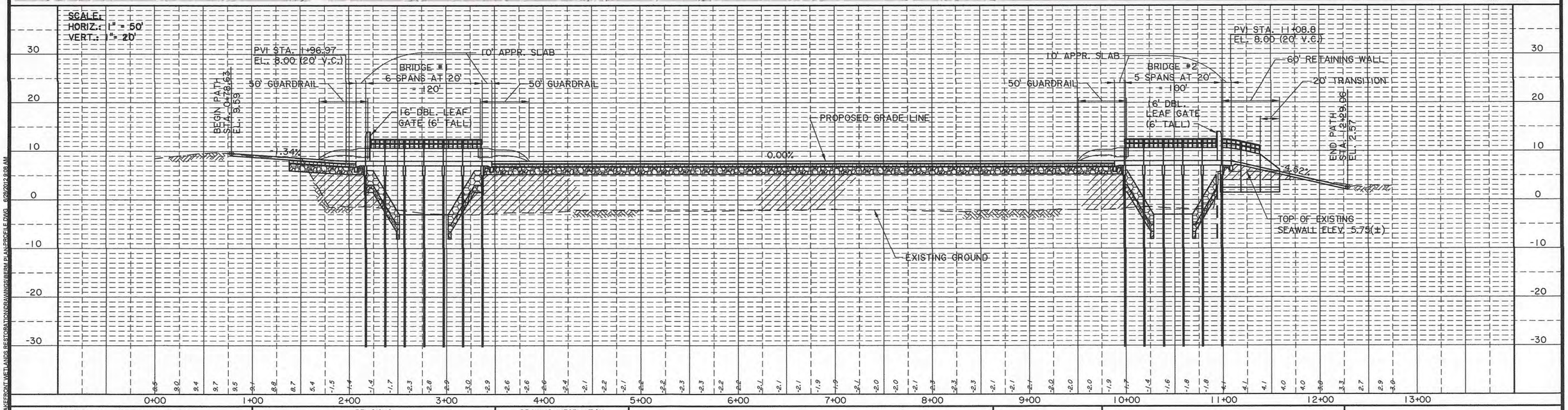
GEOMETRIC LAYOUT
TABLES

WORKING NUMBER:

SHEET NUMBER: 7 OF X

R:\LAST_TAMMANY\9892\MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\GEOMETRIC LAYOUT.DWG 6/26/2012 4:38 PM





R:\LAST_TAMMANY\08632 MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\BERM PLAN-PROFILE.DWG 6/28/2012 8:08 AM

NOTICE TO DRAWING HOLDER

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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: BERM PLAN-PROFILE.dwg	
SCALE: 1" = 40'	
SURVEYED BY: MAPTECH	
DSGN: HCT	DATE: 6-27-12
DRWN: DFH	DATE: 6-27-12
CHKD: WDL	DATE: ___
QA/QC: ___	DATE: ___

MANDEVILLE LAKEFRONT WETLANDS RESTORATION

CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

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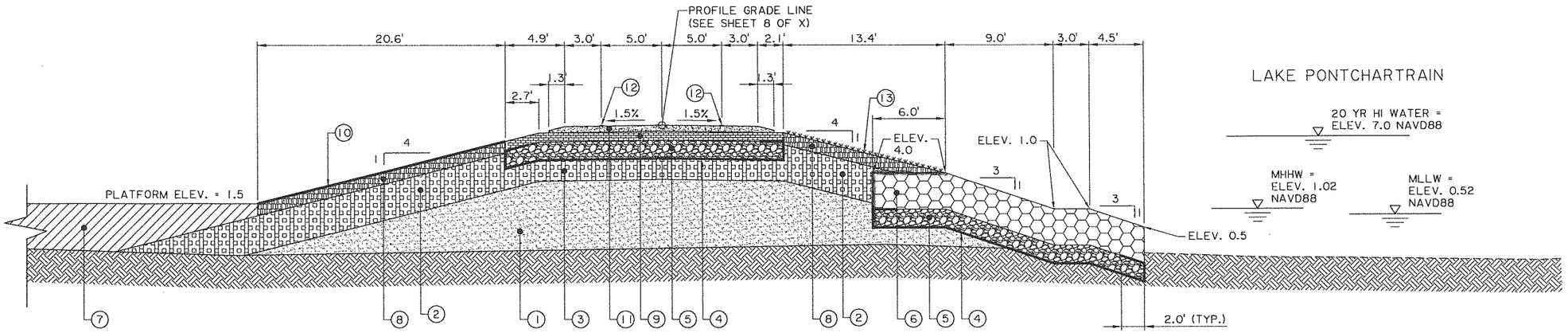
BIKE PATH PLAN & PROFILE

WORKING NUMBER:

SHEET NUMBER: 8 OF X

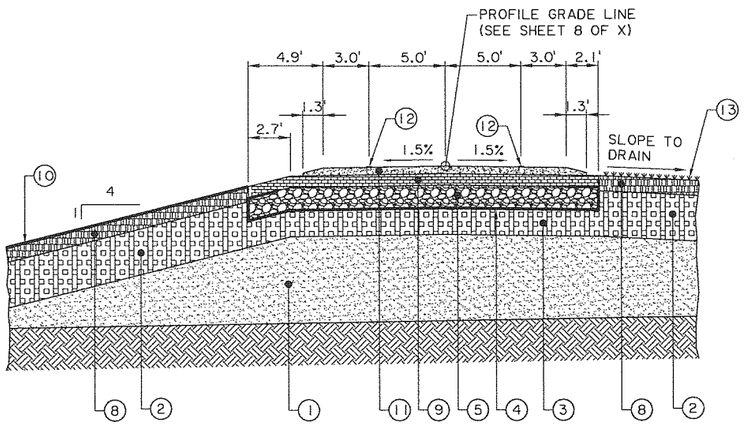


TYPICAL BIKE PATH & BERM SECTION

(STA. 1+96.20 TO STA. 2+06.97 &
STA. 3+46.97 TO STA. 9+88.81)
NTS

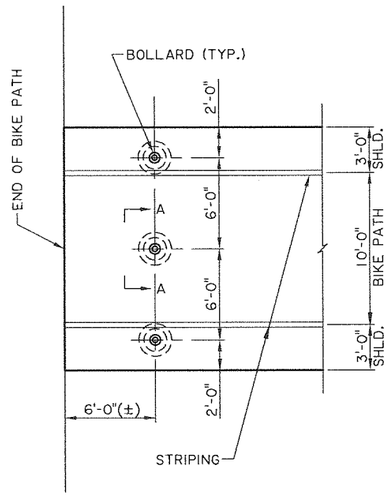
KEY

1. SELECT STRUCTURAL FILL MATERIAL
2. 3'-0" THICK EROSION RESISTANT CLAY
3. 1'-9" THICK EROSION RESISTANT CLAY
4. GEOTEXTILE FABRIC
5. 1'-6" THICK BEDDING STONE (LA DOTD CLASS 30 RIPRAP)
6. 3'-0" THICK ARMOR STONE (LA DOTD CLASS 44 RIPRAP)
7. FILL MATERIAL
8. 12" THICK CLAY/ SAND MIXTURE
9. 9" THICK ARTICULATED CONCRETE BLOCK MAT
10. OPEN MAT
11. 6" THICK CONCRETE PAVEMENT
12. PLASTIC PAVEMENT STRIPING, 4" WIDTH, WHITE
13. ST. AUGUSTINE SOD



TYPICAL BIKE PATH & BERM SECTION

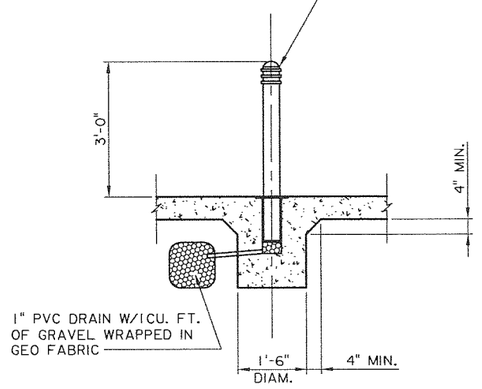
(STA. 1+38.44 TO STA. 1+96.20)
NTS



TYPICAL BOLLARD PLAN

NTS

STEEL BOLLARD POST & REMOVABLE RECEIVER W/LID & PADLOCK, AS MFG. BY RELIANCE FOUNDRY CO. LTD, MODEL R-7901 OR EQUAL (6 REQ'D).



SECTION A-A

NTS

REVISIONS			
NO.	DATE	BY	DESCRIPTION

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FILENAME: TYPICAL SECTIONS.dwg	
SCALE: NTS	
SURVEYED BY: N/A	
DSGN: HCT	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: WDL	DATE: __/__/__
QA/QC: ___	DATE: __/__/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

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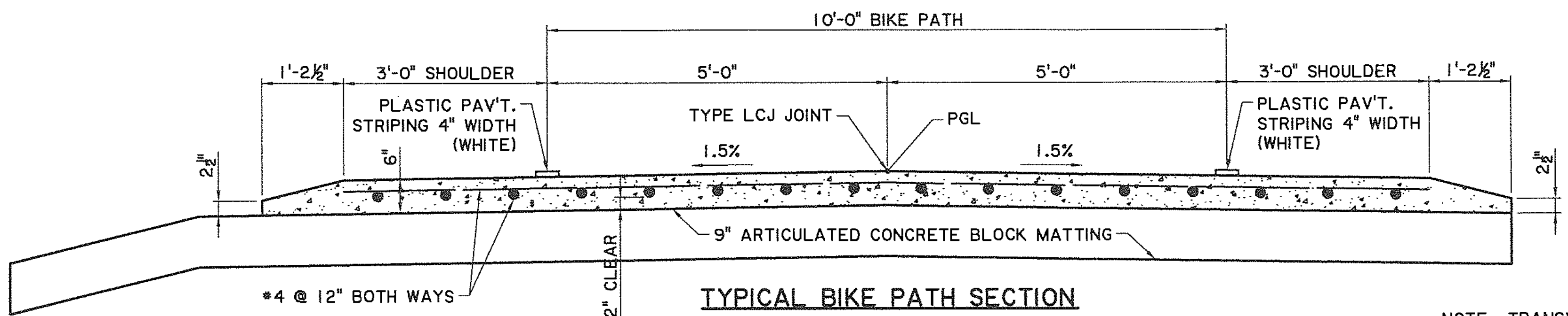
TYPICAL SECTIONS

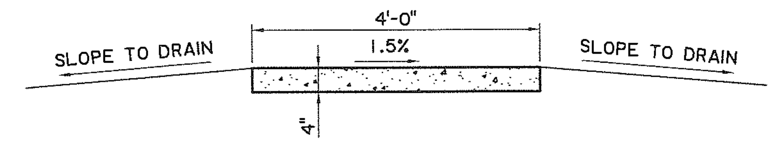
WORKING NUMBER:

SHEET NUMBER: 9 OF X



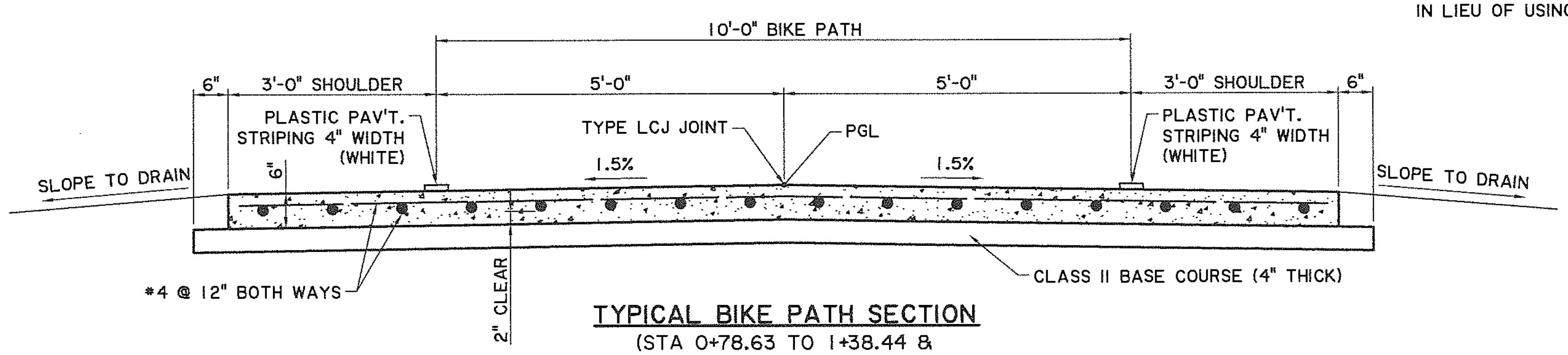
TYPICAL BIKE PATH SECTION
(STA 1+38.44 TO 2+06.97 & STA. 3+46.97 TO 9+88.81)
NTS

NOTE: TRANSVERSE JOINT REQUIREMENTS: TYPE TCJ OR CJ JOINTS ARE REQUIRED AT 12' CENTERS. TYPE EJ JOINTS ARE REQUIRED AT 80' MAX. CENTERS. ON JOINT TYPES TCJ AND CJ, THE CONTRACTOR MAY AT HIS OPTION CARRY #4 REINFORCING STEEL THRU THE JOINTS IN LIEU OF USING DOWEL BASKETS.

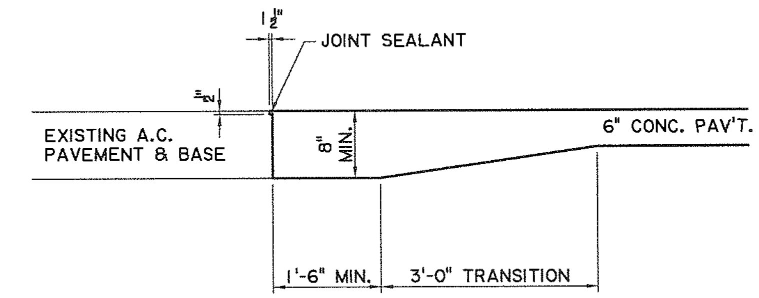


TYPICAL SIDEWALK SECTION
NTS

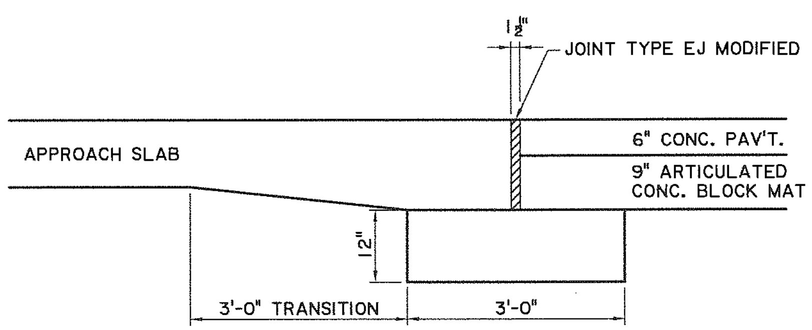
SIDEWALK NOTE:
PROVIDE DUMMY JOINTS AT 4'-0" MIN. TO 6'-0" MAX. CENTERS.



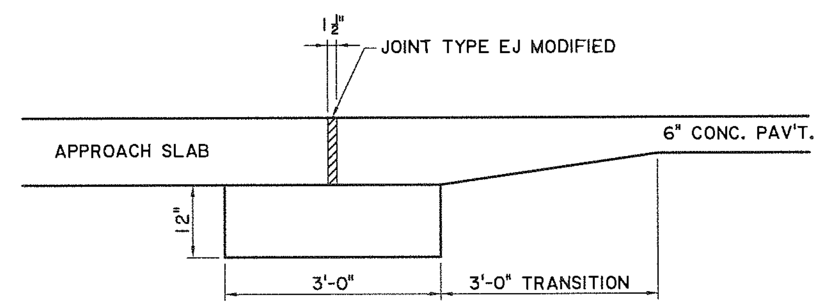
TYPICAL BIKE PATH SECTION
(STA 0+78.63 TO 1+38.44 & STA. 11+58.81 TO 12+29.06)
NTS



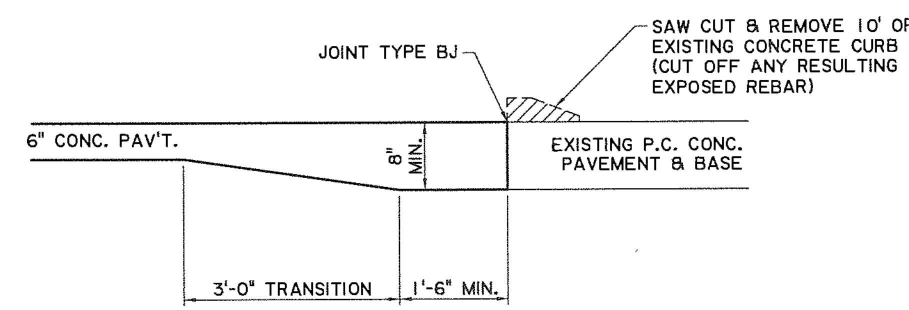
TERMINATION AT WEST END OF BIKE PATH
NTS



BOLSTER BLOCK - DETAIL A
(AT BOTH ENDS OF BRIDGE 1)
(AT WEST END OF BRIDGE 2)
NTS



BOLSTER BLOCK - DETAIL B
(AT EAST END OF BRIDGE 2 ONLY)
NTS



TERMINATION AT EAST END OF BIKE PATH
NTS

REVISIONS

NO.	DATE	BY	DESCRIPTION

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DSGN: HCT	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: WDL	DATE: __/____
QA/QC: ____	DATE: __/____

MANDEVILLE LAKEFRONT WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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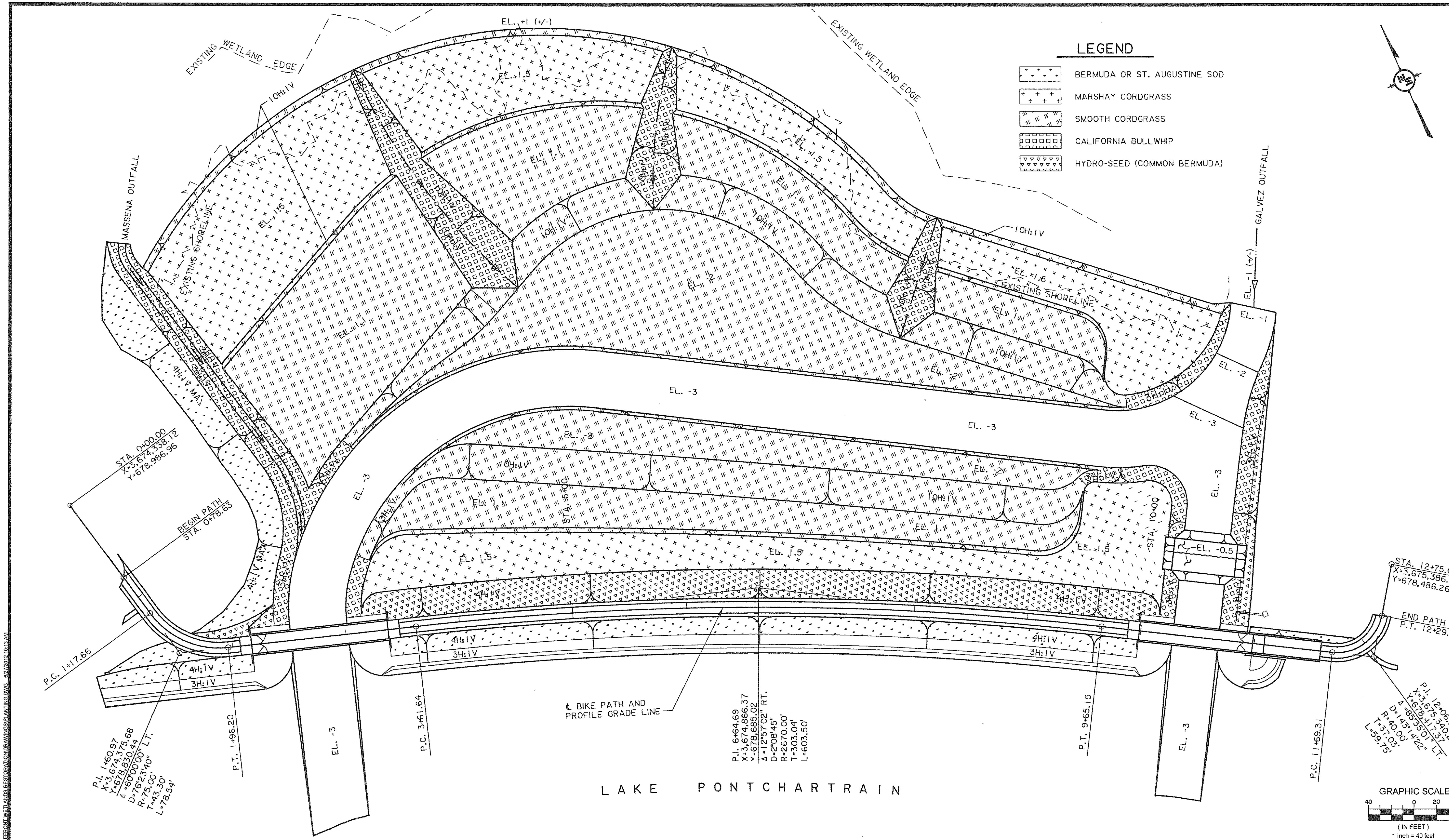
TYPICAL SECTIONS

WORKING NUMBER:

SHEET NUMBER: 10 OF X



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REVISIONS			
NO.	DATE	BY	DESCRIPTION

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DRWN: DFH	DATE: 6-27-12
CHKD: WDL	DATE: CHKD DATE
QA/QC:	DATE:QA/QC DATE

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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PLANTING PLAN

WORKING NUMBER:	SHEET NUMBER:
	11 OF X

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
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QA/QC:	DATE: QA/QC DATE

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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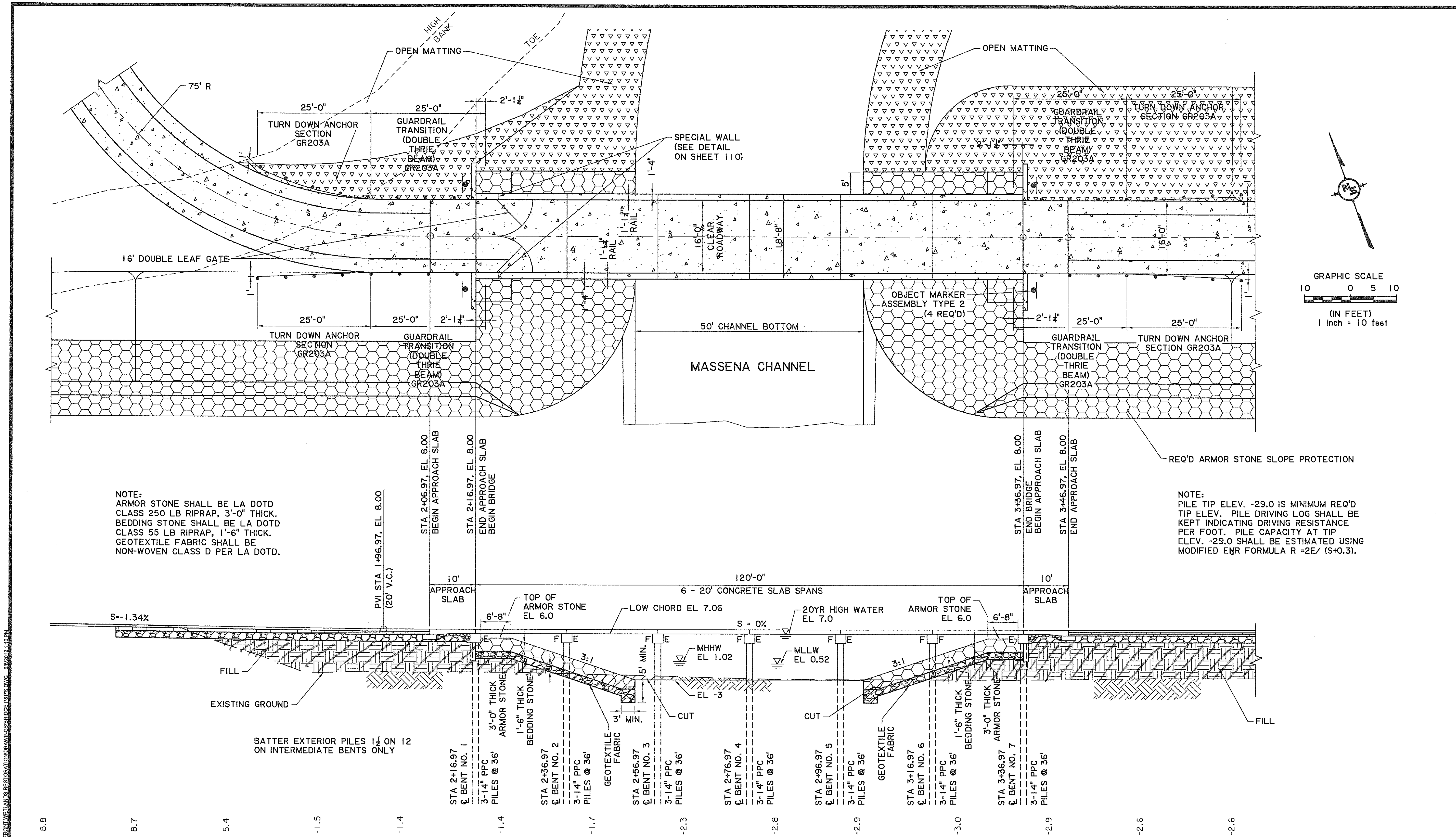
PLANTING DETAILS

WORKING NUMBER:

SHEET NUMBER: 12 OF X



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REVISIONS			
NO.	DATE	BY	DESCRIPTION

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DSGN: SMB	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: HCT	DATE: 6-27-12
QA/QC: ____	DATE: __/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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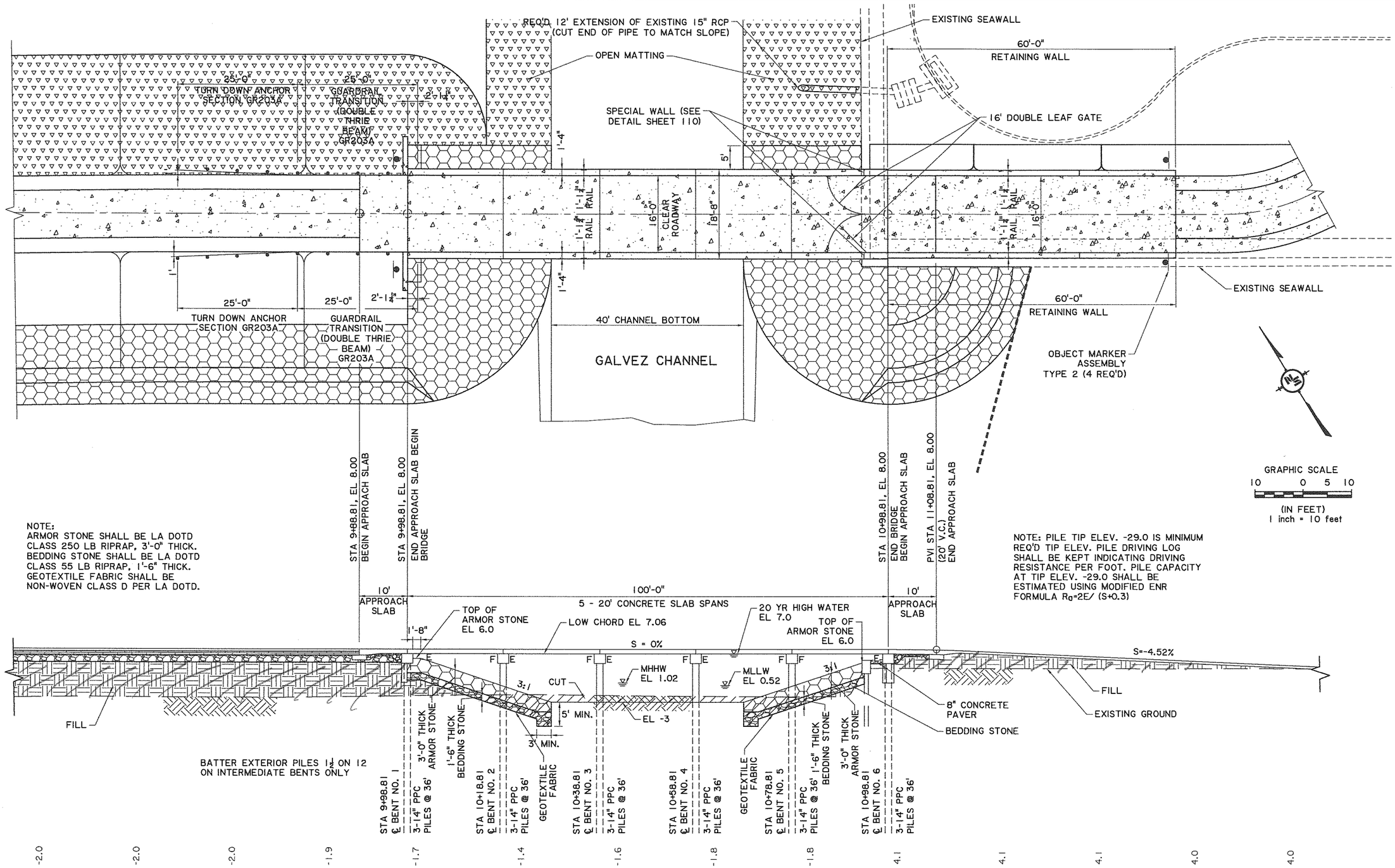
BRIDGE NO. 1
PLAN AND PROFILE

WORKING NUMBER:

SHEET NUMBER: 101 of X



NOTE:
ARMOR STONE SHALL BE LA DOTD CLASS 250 LB RIPRAP, 3'-0" THICK. BEDDING STONE SHALL BE LA DOTD CLASS 55 LB RIPRAP, 1'-6" THICK. GEOTEXTILE FABRIC SHALL BE NON-WOVEN CLASS D PER LA DOTD.

NOTE: PILE TIP ELEV. -29.0 IS MINIMUM REQ'D TIP ELEV. PILE DRIVING LOG SHALL BE KEPT INDICATING DRIVING RESISTANCE PER FOOT. PILE CAPACITY AT TIP ELEV. -29.0 SHALL BE ESTIMATED USING MODIFIED ENR FORMULA $R_D=2E/(S+0.3)$

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: BRIDGE P&P'S.dwg	
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CHKD: HCT	DATE: 6-27-12
QA/QC: ___	DATE: __/__/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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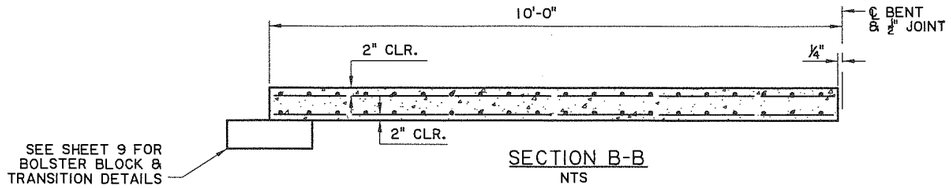
BRIDGE NO. 2
PLAN AND PROFILE

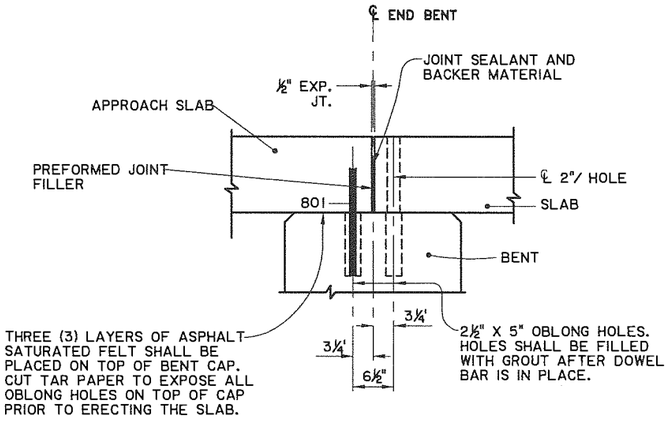
WORKING NUMBER:

SHEET NUMBER:
102 OF X

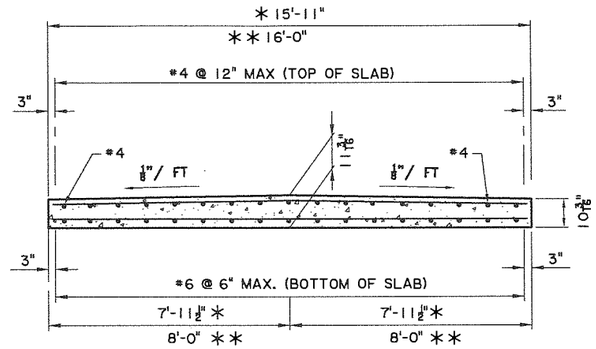
P:\LAST_TAMMANY\8632 MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\BRIDGE P&P'S.DWG 6/6/2012 1:10 PM



SECTION B-B
NTS



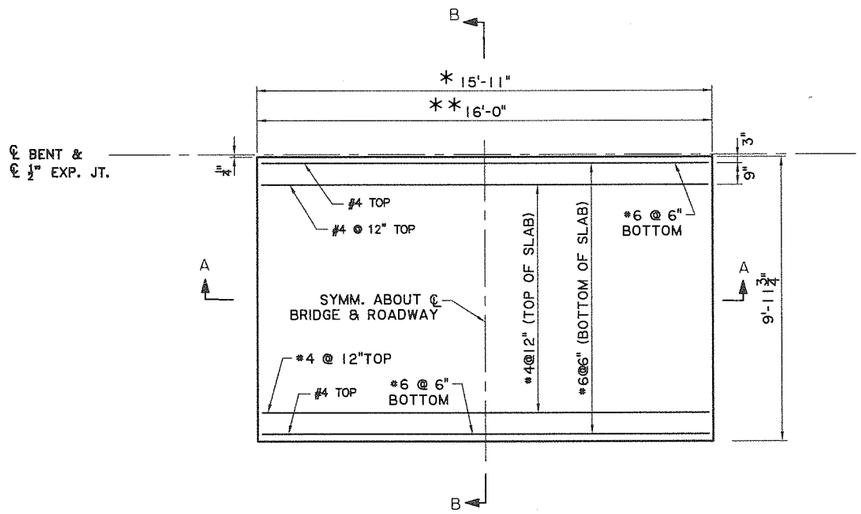
TYPICAL JOINT DETAIL
NTS



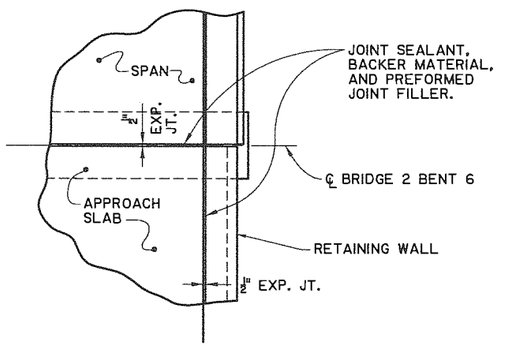
SECTION A-A
NTS

* BRIDGE 2 - EAST APPROACH SLAB ONLY

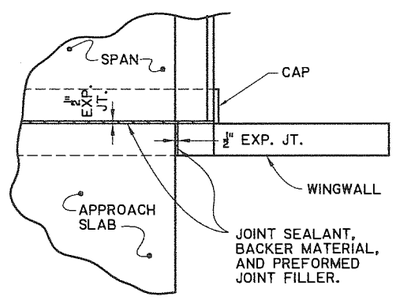
** BRIDGE 1 - E & W APPROACH SLAB & BRIDGE 2 - WEST APPROACH SLAB ONLY



PLAN
NTS



JOINT DETAIL
(BRIDGE 2 - BENT 6)
NTS



JOINT DETAIL
(BRIDGE 1 - BENTS 1 & 7)
(BRIDGE 2 - BENT 1)
NTS

REVISIONS			
NO.	DATE	BY	DESCRIPTION

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MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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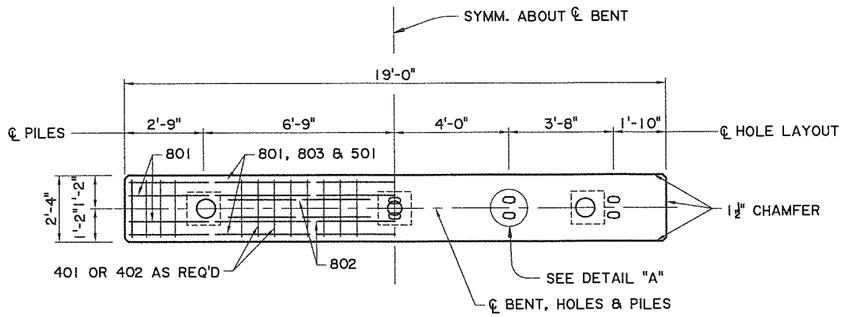
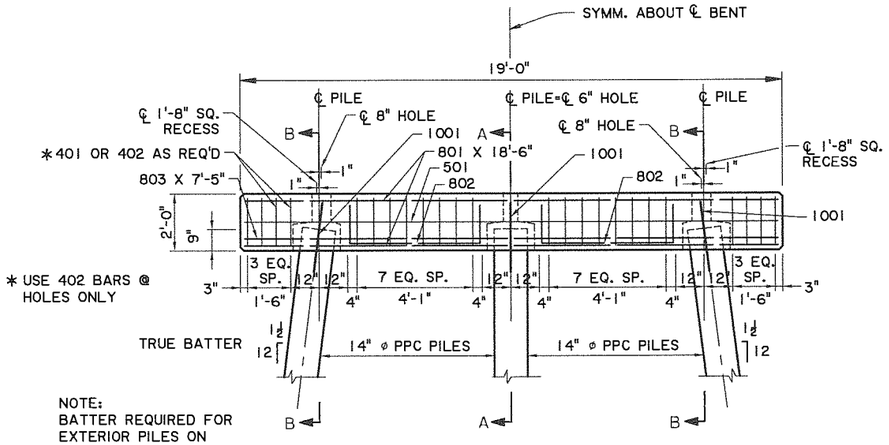
BRIDGE APPROACH SLAB DETAILS

WORKING NUMBER:

SHEET NUMBER:
103 OF X

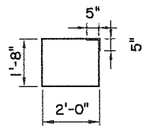


PLAN - INTERMEDIATE BENT
NTS

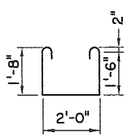


NOTE:
BATTER REQUIRED FOR EXTERIOR PILES ON INTERMEDIATE BENTS ONLY.

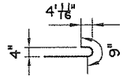
ELEVATION - INTERMEDIATE BENT
NTS



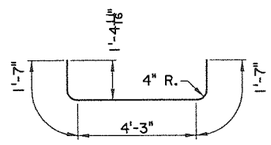
401
2" ø PIN



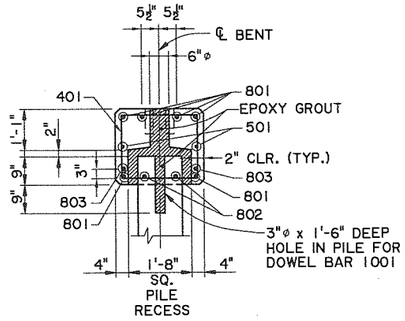
402
2" ø PIN



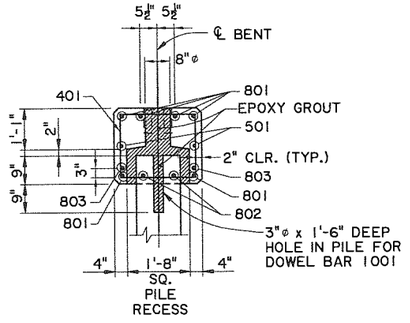
180° HOOK FOR 402 BARS
3" ø PIN



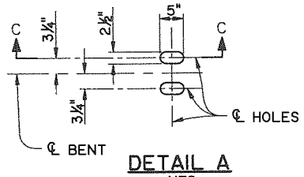
802
6" ø PIN



SECTION A-A
NTS



SECTION B-B
NTS



DETAIL A
NTS

SECTION C-C
NTS

ALTERNATE BENT NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES. SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996, AND LATEST INTERIM SPECIFICATIONS.

DESIGN LOAD: LIVE LOAD IS HS 20-44 AND HST-18.

STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS P, MINIMUM 28 DAY COMPRESSIVE STRENGTH 5000 PSI. STEEL SIDE FORMS AND STEEL OR CONCRETE BOTTOM FORMS SHALL BE USED FOR PRECAST COMPONENTS. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED. ALL SURFACES SHALL RECEIVE A CLASS 1 ORDINARY SURFACE FINISH UPON REMOVAL OF THE FORMS. ALL EXPOSED FACES OF WINGWALLS AND ENDS OF CAPS SHALL RECEIVE A CLASS 2A SPECIAL SURFACE FINISH.

REINFORCING STEEL: ALL REINFORCING SHALL BE ASTM A615, GRADE 60. DIMENSIONS RELATING TO FABRICATION ARE OUT TO OUT OF BARS, UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS, UNLESS OTHERWISE NOTED. ALL REINFORCING STEEL SHALL BE EPOXY COATED. EPOXY MATERIALS SHALL CONFORM TO AASHTO M284 AND BE ON QPL 51.

GROUT: THE GROUT SHALL BE AN APPROVED FLOWABLE EPOXY. THE GROUT SHALL BE TESTED FOR ACCEPTANCE PRIOR TO USAGE.

PRECAST UNITS: THE PLANS FOR AN ONGOING OPERATION OF FABRICATING FACILITIES SHALL BE APPROVED BY THE ENGINEER. EACH UNIT SHALL HAVE THE FABRICATOR'S MARK AND UNIQUE NUMBER, MEETING THE APPROVAL OF THE ENGINEER, STAMPED OR SCRIBED IN THE PLASTIC CONCRETE. ALL UNITS SHALL BE HELD AT THE PLANT FOR A MINIMUM OF 10 DAYS AFTER CASTING. THE CONCRETE SHALL REACH A MINIMUM STRENGTH OF 3,000 PSI BEFORE HANDLING IS PERMITTED. THE LIFTING INSERTS SHALL BE 1" TYPE S INSERTS AS MANUFACTURED BY DAYTON-SUPERIOR CORPORATION OR AN APPROVED EQUAL. EACH INSERT SHALL HAVE A MINIMUM LOAD CAPACITY OF 10,000 POUNDS. FOUR INSERTS WITH 1" ø x 5" LONG COIL BOLTS SHALL BE PLACED IN THE TOP OF THE UNITS AND LOCATED AT A DISTANCE 21% OF ITS LENGTH (+/- 6") FROM EACH END AND 6" FROM THE EDGES. INSERT HOLES SHALL BE GROUT FILLED AFTER PLACEMENT OF THE UNIT. AT THE CONTRACTOR'S OPTION, A SLING OF SUFFICIENT CAPACITY MAY BE USED FOR LIFTING, PROVIDED THE SAME PICKUP LOCATIONS FROM THE ENDS ARE USED.

PRECAST CONCRETE PILES: PILES SHALL BE FABRICATED ACCORDING TO STANDARD DETAIL C.S. 216. THE CENTROID OF THE PILE AT CUTOFF ELEVATION SHALL NOT VARY FROM THE PLAN LOCATION BY MORE THAN 3" MEASURED EITHER PERPENDICULAR OR PARALLEL TO THE CENTERLINE OF BENT. IF THE CENTROID OF A PILE IS OUTSIDE THESE LIMITS BUT WITHIN THE ACCURACY OF DRIVING REQUIRED BY THE SPECIFICATIONS, A BENT CAP SHALL BE PROVIDED ACCORDING TO THE CAST-IN-PLACE ALTERNATE. EXTERIOR PILES ARE TO BE BATTERED OUTWARD AT 1½ ON 12 IN THE LONGITUDINAL DIRECTION OF THE BENT, WHEN NOTED ON THE GENERAL PLAN.

BASIS OF PAYMENT: ALL MATERIALS SHALL BE PAID FOR UNDER "BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE" ACCORDING TO THE SPECIFICATIONS.

REVISIONS				DRAWING INFORMATION	
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				DSGN: SMH	DATE: 6-27-12
				DRWN: BRG	DATE: 6-27-12
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				QA/QC: ___	DATE: __/__/__

MANDEVILLE LAKEFRONT WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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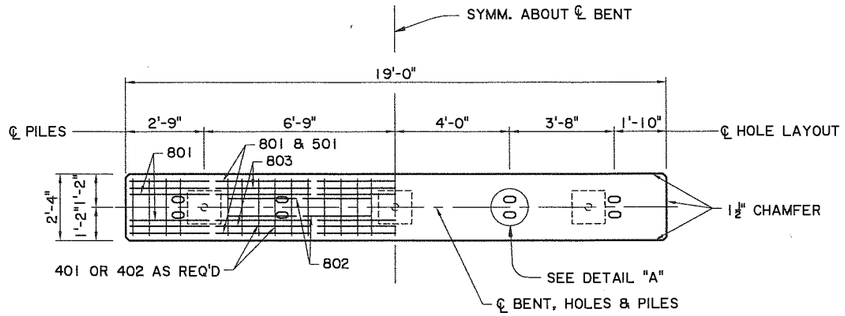
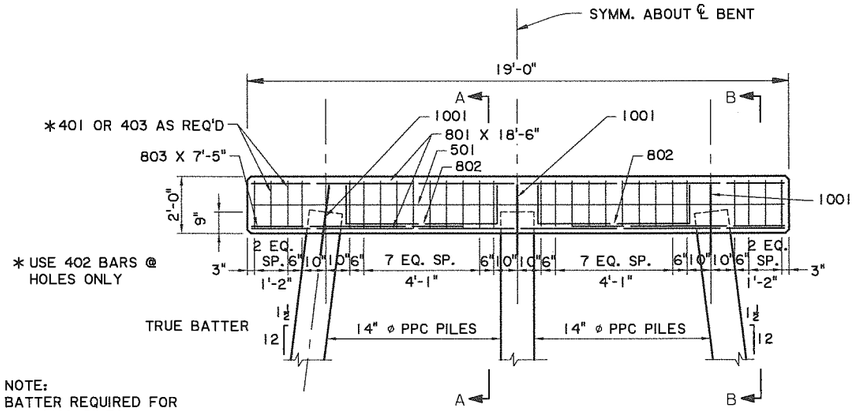
PRECAST CONCRETE INTERMEDIATE BENT ALTERNATE

WORKING NUMBER:

SHEET NUMBER: 104 OF X

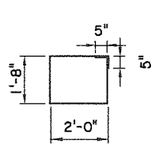


PLAN - INTERMEDIATE BENT
NTS

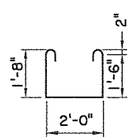


NOTE:
BATTER REQUIRED FOR EXTERIOR PILES ON INTERMEDIATE BENTS ONLY.

ELEVATION - INTERMEDIATE BENT
NTS



401
2" Ø PIN



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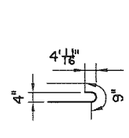
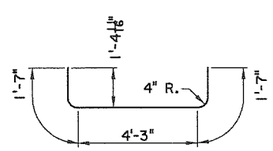
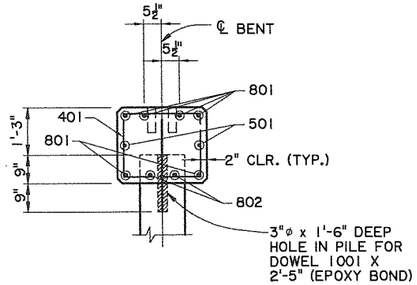


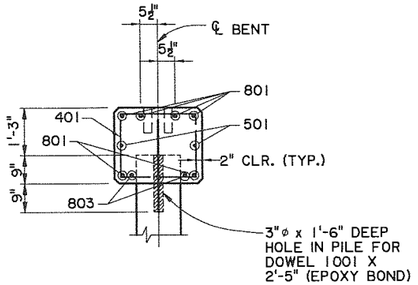
180° HOOK FOR 402 BARS
3" Ø PIN



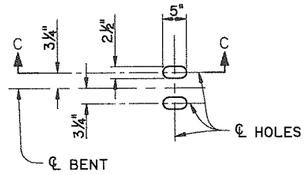
802
6" Ø PIN



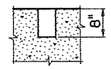
SECTION A-A
NTS



SECTION B-B
NTS



DETAIL A
NTS



SECTION C-C
NTS

BENT NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996, AND LATEST INTERIM SPECIFICATIONS,

DESIGN LOAD: LIVE LOAD IS HS 20-44 AND HST-16.

STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS A, MINIMUM 28 DAY COMPRESSIVE STRENGTH 3800 PSI. EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED. ALL EXPOSED FACES OF WINGWALLS AND ENDS OF CAPS SHALL RECEIVE A SURFACE FINISH AS PER SUBSECTION 805.13 OF THE STANDARD SPECIFICATIONS, EXCEPT WHEN SPECIFIED ELSEWHERE IN THE PLANS.

REINFORCING STEEL: ALL REINFORCING SHALL BE ASTM A615, GRADE 60. DIMENSIONS RELATING TO FABRICATION ARE OUT TO OUT OF BARS, UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS, UNLESS OTHERWISE NOTED. ALL REINFORCING STEEL SHALL BE EPOXY COATED. EPOXY MATERIALS SHALL CONFORM TO AASHTO M284 AND BE ON QPL 51.

PRECAST CONCRETE PILES: FOR DETAILS OF PILES SEE STANDARD DETAIL C.S. 216. EXTERIOR PILES ARE TO BE BATTERED OUTWARD AT 1½ ON 12 IN THE LONGITUDINAL DIRECTION OF THE BENT, WHEN NOTED ON THE GENERAL PLAN.

BASIS OF PAYMENT: ALL MATERIALS SHALL BE PAID FOR UNDER "BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE" ACCORDING TO THE SPECIFICATIONS.

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.08632.000	
				FILENAME: BRIDGE DETAILS.dwg	
				SCALE: NTS	
				SURVEYED BY: N/A	
				DSGN: SMH	DATE: 6-27-12
				DRWN: BRG	DATE: 6-27-12
				CHKD: HCT	DATE: 6-27-12
				QA/QC: ___	DATE: __/__/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

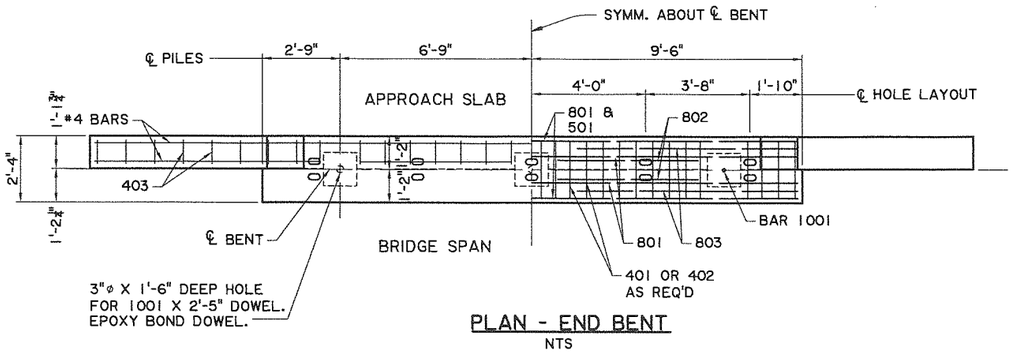
NEEL-SCHAFFER
Solutions you can build upon

CAST IN PLACE CONCRETE INTERMEDIATE BENT ALTERNATE

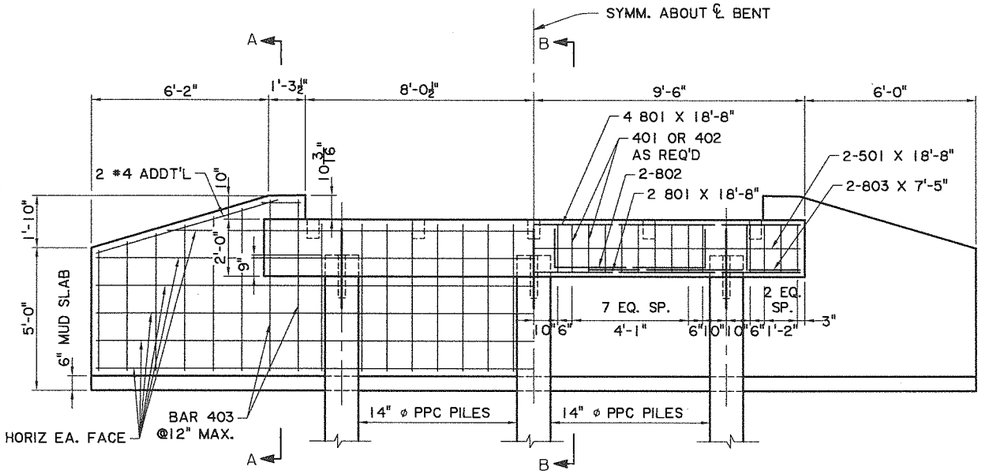
WORKING NUMBER:

SHEET NUMBER: 105 OF X

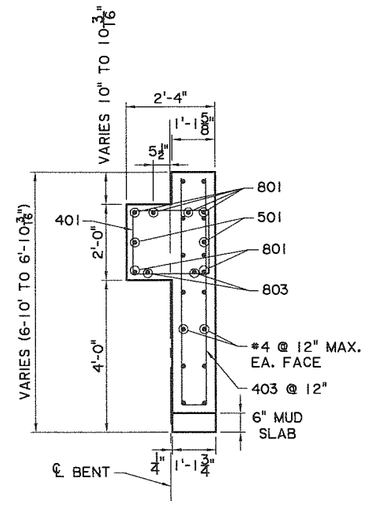
R:\LAST_TAMMANY\08632 MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\BRIDGE DETAILS.DWG 6/27/2012 11:07 AM



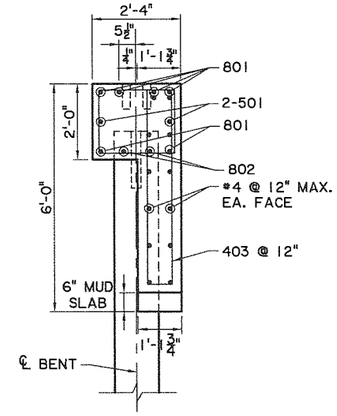
PLAN - END BENT
NTS



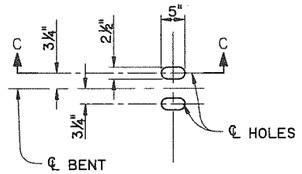
ELEVATION-END BENT
NTS



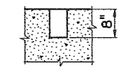
SECTION A-A
NTS



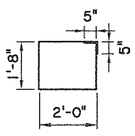
SECTION B-B
NTS



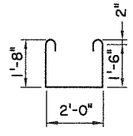
DETAIL A
NTS



SECTION C-C
NTS



401
2" Ø PIN



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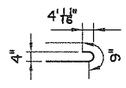
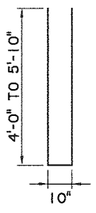
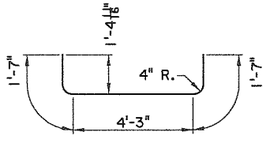
2" Ø PIN



180° HOOK FOR 402 BARS
3" Ø PIN



BAR 403
2" Ø PIN



802
6" Ø PIN

SEE SHEET 104 FOR GENERAL NOTES

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: BRIDGE DETAILS.dwg	
SCALE: NTS	
SURVEYED BY: N/A	
DSGN: SMH	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: HCT	DATE: 6-27-12
QA/QC: ___	DATE: __/__/____

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

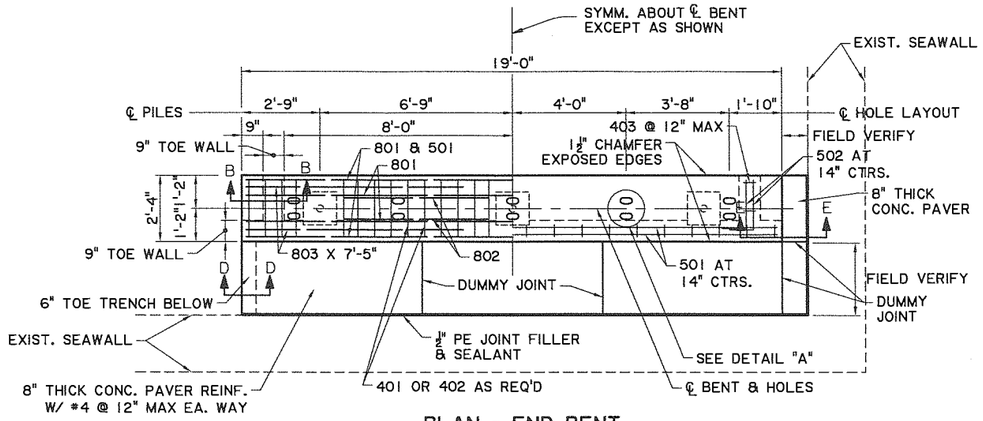
NEEL-SCHAFFER
Solutions you can build upon

END BENT
(BRIDGE 1, BENTS 1 & 7)
BRIDGE 2, BENT 1 ONLY)

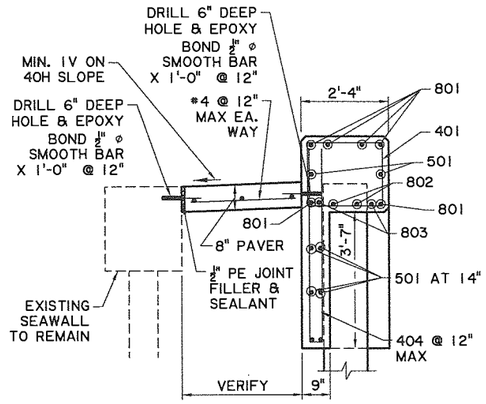
WORKING NUMBER:

SHEET NUMBER:
106 OF X

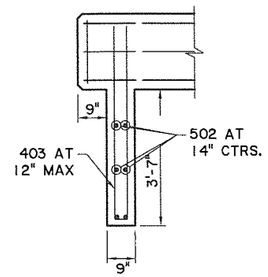
R:\LAST_TAMMANY\08632 MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\BRIDGE DETAILS.DWG 6/21/2012 11:07 AM



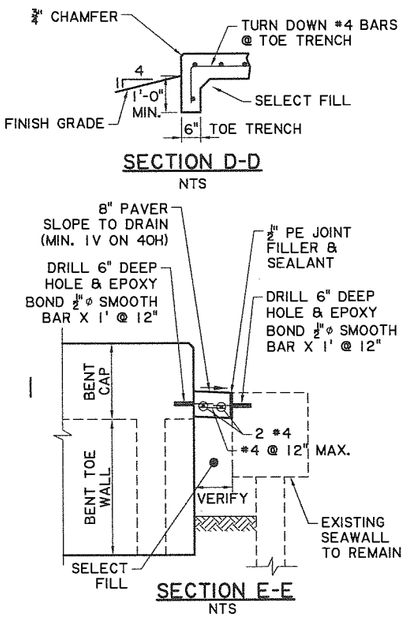
PLAN - END BENT
NTS



SECTION A-A
NTS

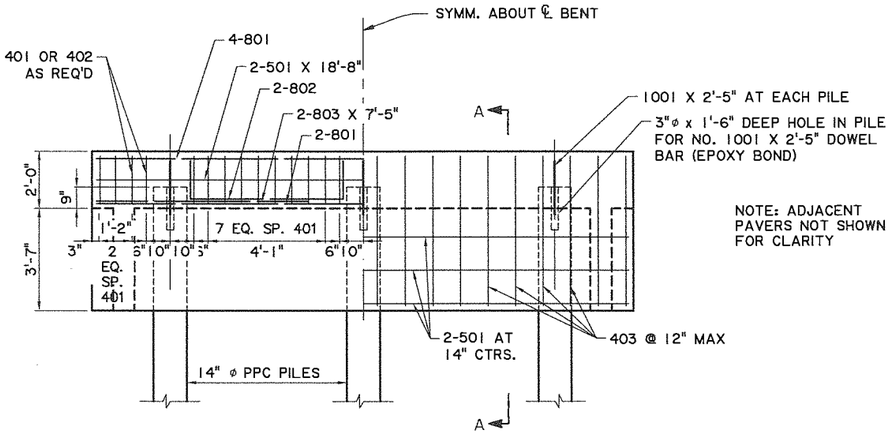


SECTION B-B
NTS

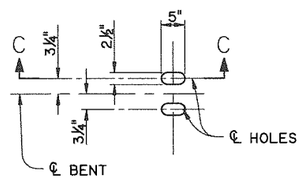


SECTION D-D
NTS

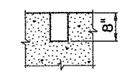
SECTION E-E
NTS



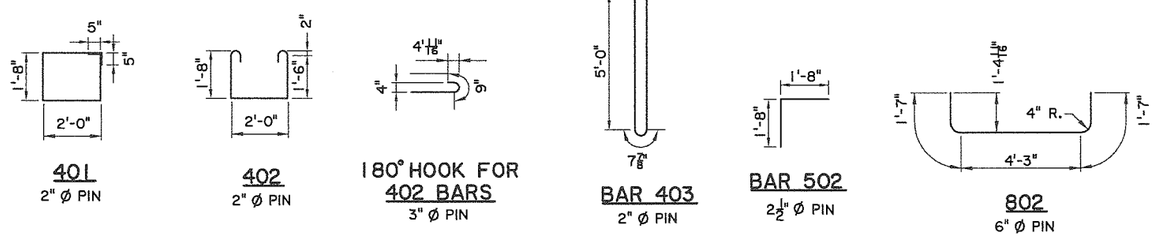
ELEVATION - END BENT
NTS



DETAIL A
NTS



SECTION C-C
NTS



SEE SHEET 104 FOR GENERAL NOTES

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
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FILENAME: BRIDGE DETAILS.dwg	
SCALE: 1" = 40'	
SURVEYED BY: MAPTECH	
DSGN: SMH	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: HCT	DATE: 6-27-12
QA/QC: ___	DATE: __/__/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

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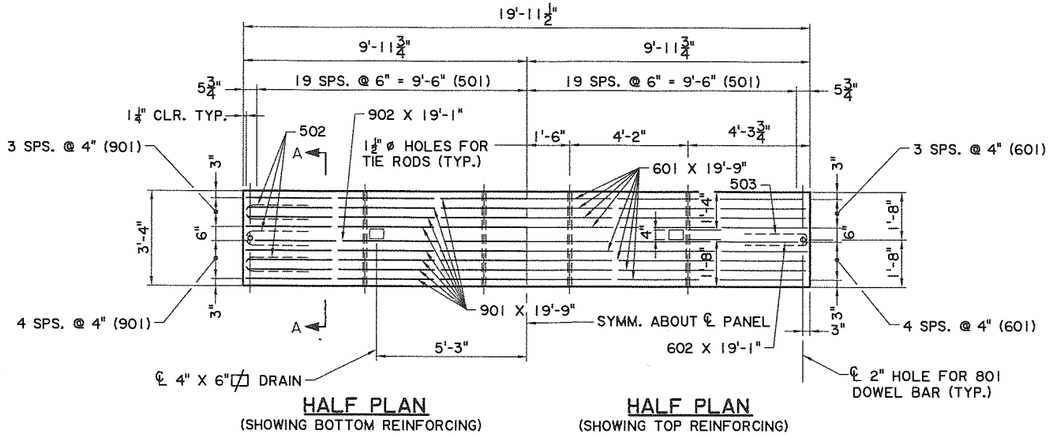
END BENT
(BRIDGE 2, BENT 6)

WORKING NUMBER:

SHEET NUMBER:
107 OF X

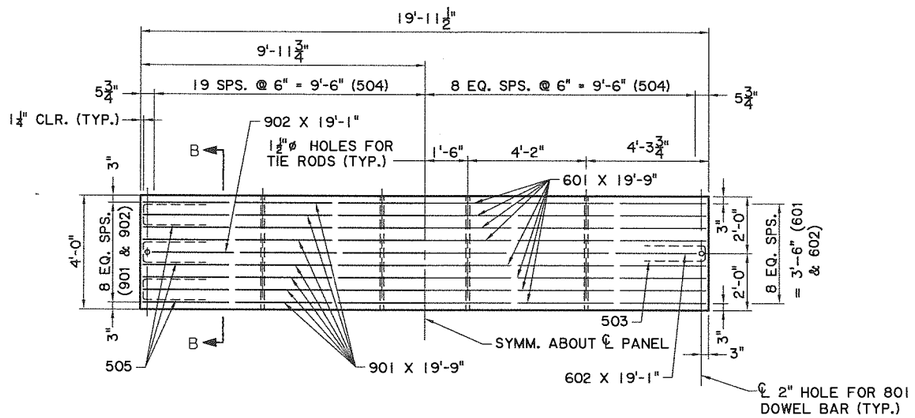
R:\LAVST_TAMMANY\08632 MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\BRIDGE DETAILS.DWG 6/22/2012 11:07 AM



HALF PLAN
(SHOWING BOTTOM REINFORCING)

HALF PLAN
(SHOWING TOP REINFORCING)

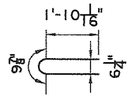
EXTERIOR UNIT
NTS



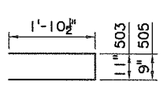
HALF PLAN
(SHOWING BOTTOM REINFORCING)

HALF PLAN
(SHOWING TOP REINFORCING)

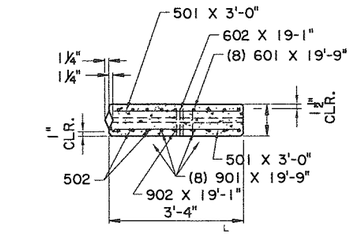
INTERIOR UNIT
NTS



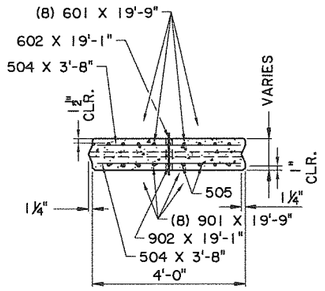
502
5" Ø PIN



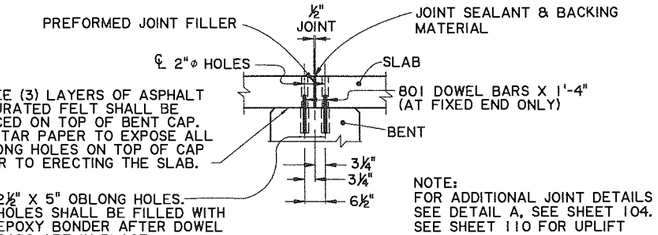
503 & 505
2⅛" Ø PIN



SECTION A-A
EXTERIOR UNIT
NTS



SECTION B-B
INTERIOR UNIT
NTS

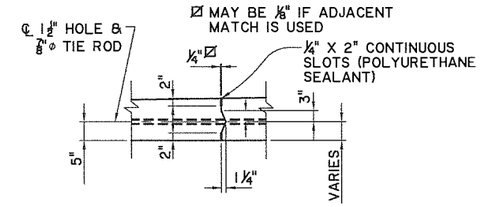


NOTE:
FOR ADDITIONAL JOINT DETAILS SEE DETAIL A, SEE SHEET 104. SEE SHEET 110 FOR UPLIFT ANCHORS @ EXP END.

TYPICAL JOINT DETAIL

NOTES:

1. FOR EACH SPAN, ONE EXTERIOR UNIT WILL HAVE A TONGUE AND ONE WILL HAVE A GROOVE.
2. FOR JOINT DETAILS BETWEEN EXTERIOR AND INTERIOR JOINTS SEE DETAIL "A".



DETAIL "A"
NTS

MISCELLANEOUS STEEL: HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM DESIGNATION A-325. PRESTRESSING STRANDS SHALL CONFORM TO ASTM DESIGNATION A-416, GRADE 270. PLATES AND TIE RODS SHALL CONFORM TO ASTM DESIGNATION A709, GRADE 36. STEEL SPECIFIED TO BE ZINC COATED SHALL BE IN CONFORMANCE WITH ASTM DESIGNATION A-123.

EPOXY BONDER: EPOXY BONDER SHALL CONFORM TO SUBSECTION 1017 OF THE LOUISIANA STANDARD SPECIFICATIONS, TYPE I. EPOXY RESIN SHALL BE ON THE APPROVED PRODUCTS LIST, QPL 32.

PATCHING MATERIAL: THE PATCHING MATERIAL SHALL BE AN APPROVED PATCHING MATERIAL FOR PRECAST OR PRESTRESSED CONCRETE PRODUCTS LISTED ON QPL 49. SURFACE PREPARATION, MIXING AND PLACEMENT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ONLY POTABLE WATER SHALL BE USED FOR SATURATION AND MIXING PURPOSES.

PRECAST UNITS: PRECAST UNITS MAY BE CAST WITH OR WITHOUT CAMBER. IF CAMBER IS PROVIDED IT SHALL NOT EXCEED ¼" AT THE CENTERLINE OF SPAN. ALL UNITS SHALL BE HELD AT THE PLANT FOR A MINIMUM OF TEN (10) DAYS AFTER CASTING. THE CONCRETE SHALL REACH A MINIMUM STRENGTH OF 3,000 PSI BEFORE HANDLING IS PERMITTED. THE LIFTING INSERTS SHALL BE 1" TYPE S INSERTS AS MANUFACTURED BY DAYTON-SUPERIOR CORPORATION OR AN APPROVED EQUAL. EACH INSERT SHALL HAVE A MINIMUM LOAD CAPACITY OF 10,000 POUNDS. FOUR (4) INSERTS WITH 1" ØX 5" LONG COIL BOLTS SHALL BE PLACED IN THE TOP OF THE UNIT AND LOCATED 1'-3" FROM IT'S ENDS AND 1'-0" FROM ITS EDGES. INSERT HOLES SHALL BE GROUT FILLED AFTER PLACEMENT OF UNIT. AT THE CONTRACTOR'S OPTION A SLING OF SUFFICIENT CAPACITY MAY BE USED FOR LIFTING, PROVIDED THE SAME PICKUP LOCATION FROM THE ENDS ARE USED. FABRICATION TOLERANCES SHALL BE AS FOLLOWS:

UNIT DEPTH	±3/16"
UNIT LENGTH	+⅛" AND -½"
OVERALL SPAN WIDTH	±2"

GUARDRAIL: REFER TO GENERAL PLAN FOR GUARDRAIL REQUIREMENTS. PROVIDE HOLES FOR GUARDRAIL CONNECTIONS ACCORDING TO STANDARD PLAN GR 200 ON ALL FOUR (4) BRIDGE ENDS.

PRECAST SPAN NOTES:

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES. SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996, AND LATEST INTERIM SPECIFICATIONS.

DESIGN LOAD: THE BRIDGE DECK IS DESIGNED FOR A FUTURE WEARING COURSE OF 19 PSF. THE LIVE LOAD IS HS 20-44.

STRUCTURAL CONCRETE: ALL CONCRETE SHALL BE CLASS P (Fc =5000 p.s.i.). THE BRIDGE RAIL CONCRETE SHALL BE CLASS AA IF RAIL IS CAST IN PLACE. STEEL SIDE FORMS AND STEEL OR CONCRETE BOTTOM FORMS SHALL BE USED FOR PRECAST COMPONENTS. EXPOSED EDGES SHALL HAVE A ¾" CHAMFER, UNLESS OTHERWISE NOTED. ALL SURFACES SHALL RECEIVE A CLASS 1 ORDINARY SURFACE FINISH UPON REMOVAL OF THE FORMS. THE FINAL FINISH SHALL BE A TINE FINISH IN ACCORDANCE WITH SUB-SECTION 805.13(d)(3) OF THE LOUISIANA STANDARD SPECIFICATIONS.

REINFORCING STEEL: ALL REINFORCING STEEL SHALL BE ASTM A615, GRADE 60. DIMENSIONS RELATING TO FABRICATION ARE OUT TO OUT OF BARS, UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO SPACING ARE TO BAR CENTERS, UNLESS OTHERWISE NOTED. ALL REINFORCING BARS SHALL BE PLACED TO PROVIDE A MINIMUM COVER OF 1" FROM THE DRAIN HOLES. REINFORCING STEEL MAY BE TACK WELDED FOR A DISTANCE OF NOT MORE THAN 4'-0" FROM EACH END OF UNIT. NO OTHER WELDING SHALL BE PERMITTED. ALL REINFORCING STEEL SHALL BE EPOXY COATED. EPOXY MATERIALS SHALL CONFORM TO AASHTO M284 AND BE ON QPL 51.

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.08632.00D	
				FILENAME: BRIDGE DETAILS.dwg	
				SCALE: NTS	
				SURVEYED BY: N/A	
				DSGN: SMH	DATE: 6-27-12
				DRWN: BRG	DATE: 6-27-12
				CHKD: HCT	DATE: 6-27-12
				QA/QC: ___	DATE: __/__/____

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

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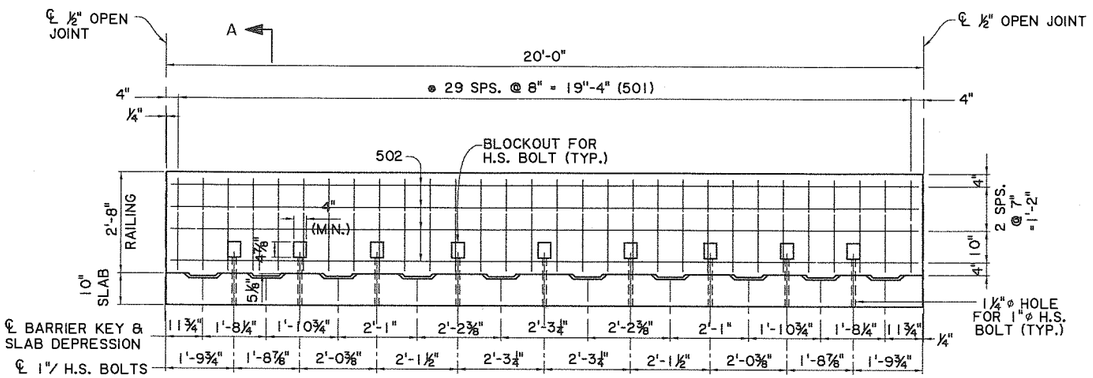
PRECAST CONCRETE SLAB UNIT

WORKING NUMBER:

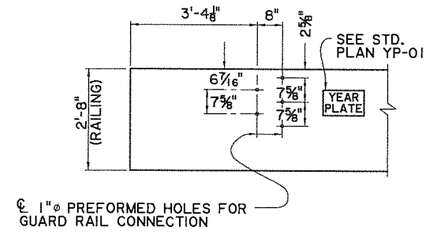
SHEET NUMBER: 108 OF X

R:\LAST_TAMMANY\0632 MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\BRIDGE DETAILS.DWG - 6/27/2012 11:07 AM



STANDARD PRECAST BARRIER RAILING ELEVATION

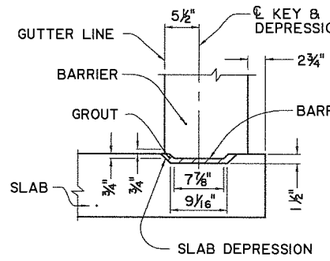
(SHOWING BARRIER RAILING ALONG BRIDGE SLAB)
NTS



(FOR GUARD RAIL DETAILS, SEE STANDARD PLAN GR-200.)

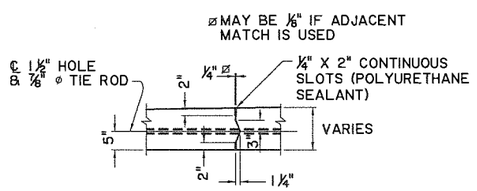
GUARD RAIL CONNECTION DETAIL

NTS



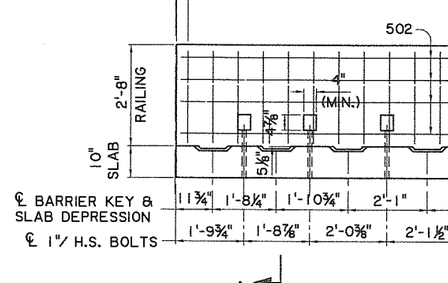
ELEVATION

NTS



DETAIL "A"

NTS

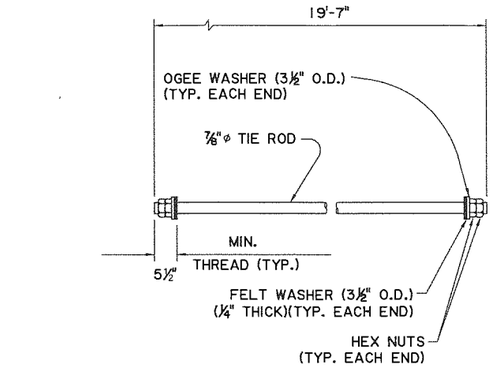


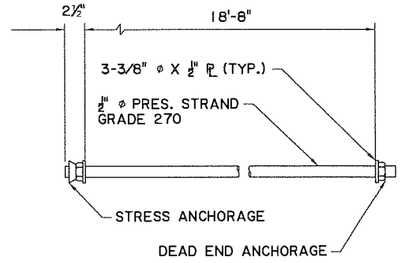
SECTION A-A

NTS

501

(2½"ø PIN)



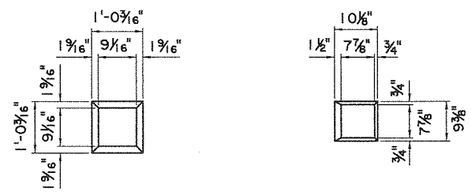


NOTE:

THE NUTS & WASHERS FOR THE TIE RODS SHALL BE ZINC COATED AND THE EXPOSED ENDS OF THE TIE RODS SHALL BE PAINTED WITH AN APPROVED COATING. AS A FINAL OPERATION THE CONTRACTOR SHALL BE REQUIRED TO TORQUE THE INSTALLED TIE ROD TO 170 FT.-LBS JUST PRIOR TO PAINTING. THE PRESTRESSING STRAND SHALL BE SHEATHED WITH AN EXTRUDED PVC MATERIAL IN ACCORDANCE WITH THE POST-TENSIONING INSTITUTE SPECS. STRANDS SHALL BE TENSIONED TO 15 KIPS. THE ANCHOR SYSTEM SHALL BE OF THE APPROPRIATE TYPE MANUFACTURED BY ATLAS PRESTRESSING CORP, STRESS STEEL CORP, OR AN APPROVED EQUAL. ALL EXPOSED ENDS SHALL BE PAINTED WITH AN APPROVED COATING AFTER STRESSING. ONE (1) MECHANICAL SPLICE MAY BE USED IN SPLICING THE ⅞"⌀TIE ROD. THE SPLICE SHALL DEVELOP AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF THE TIE ROD IN TENSION. THE MECHANICAL SPLICE SHALL BE ZINC COATED OR PAINTED WITH AN APPROVED COLD GALVANIZING REPAIR COMPOUND FROM QPL NO. 23 PRIOR TO PLACING THE TIE ROD IN THE STRUCTURE.

DETAILS OF TIE ROD & ALTERNATE PRESTRESSING STRANDS

NTS



PLAN - DEPRESSION

PLAN - KEY

BARRIER KEY AND PANEL DEPRESSION DETAILS

NTS

NOTES:

1) ⊗ AT THE CONTRACTOR'S OPTION, NO. 4 BARS AT 4" CENTERS MAY BE SUBSTITUTED IN LIEU OF 501 BARS AT 8" CENTERS (USE 2"ø PIN FOR BENDING).

2) ALL BARRIER RAIL SURFACES ARE TO RECEIVE A CLASS 2A SPECIAL SURFACE FINISH.

3) ALL SURFACES OF THE BLOCKOUTS EXCEPT THE BOTTOM MAY BE TAPERED AND ALL CORNERS MAY BE ROUNDED TO A RADIUS TO ALLOW FOR EASY REMOVAL OF PLUGS OR FORMS. AFTER PLACING AND TIGHTENING THE ANCHOR BOLTS, THE BLOCKOUTS SHALL BE FILLED WITH AN APPROVED GROUT AND TROWELED TO THE REQUIRED FINISH AND TO THE SATISFACTION OF THE ENGINEER.

4) ALL 1" ø BOLTS SHALL BE HIGH STRENGTH A325 OR APPROVED EQUAL. BOLTS, NUTS & WASHERS SHALL BE GALVANIZED AS PER ASTM A-153. BOLTS SHALL BE TIGHTENED TO MINIMUM TENSION AS PER SECTION 807.21 OF THE STANDARD SPECIFICATIONS.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: BRIDGE DETAILS.dwg	
SCALE: NTS	
SURVEYED BY: N/A	
DSGN: SMH	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: HCT	DATE: 6-27-12
QA/QC: ___	DATE: __/__/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

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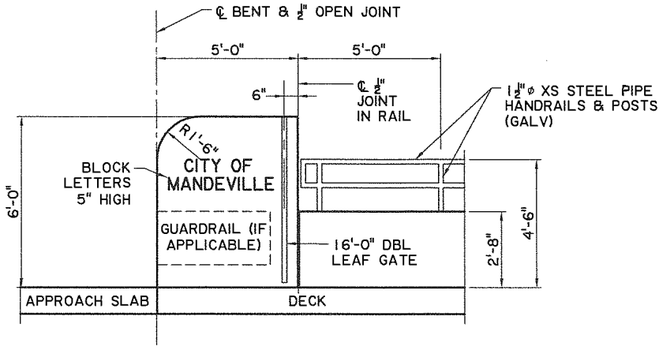
Solutions you can build upon

PRECAST CONCRETE BARRIER RAIL

WORKING NUMBER:

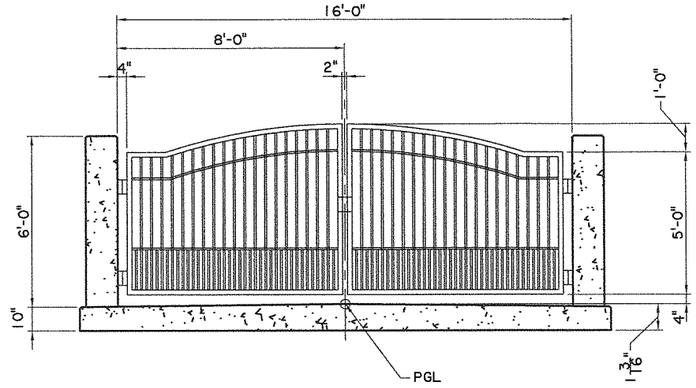
SHEET NUMBER: 109 OF X

P:\NEST_TAMMANY\8632-MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\BRIDGE DETAILS.DWG 6/22/2012 11:07 AM



POST DETAIL AT END OF CONCRETE & PIPE RAIL

(REQUIRED AT WEST END OF WEST BRIDGE AND AT EAST END OF EAST BRIDGE ONLY)



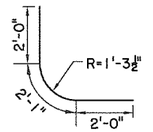
TYPICAL BRIDGE SECTION AT GATE

NTS

GATE NOTES:
GATE SHALL BE SIMILAR AND EQUAL TO THE SEARS MIGHTY-MULE 16' BISCAYNE DOUBLE LEAF DRIVEWAY GATE, LOCKABLE IN BOTH THE OPEN AND CLOSED POSITIONS, AND MANUALLY OPERATED.
MATERIALS SHALL BE AS FOLLOWS:
- FRAME ENDS: 2 X 2 X 11 GAUGE STEEL TUBING
- FRAME TOPS & BOTTOMS: 2 X 2 X14 GAUGE STEEL TUBING
- RAILS: 1½ X ⅛ X ⅛ PUNCHED STEEL TUBING
- PICKETS: ¾ X ¾ X 16 GAUGE STEEL TUBING
- FINISH: SEE NOTE BELOW

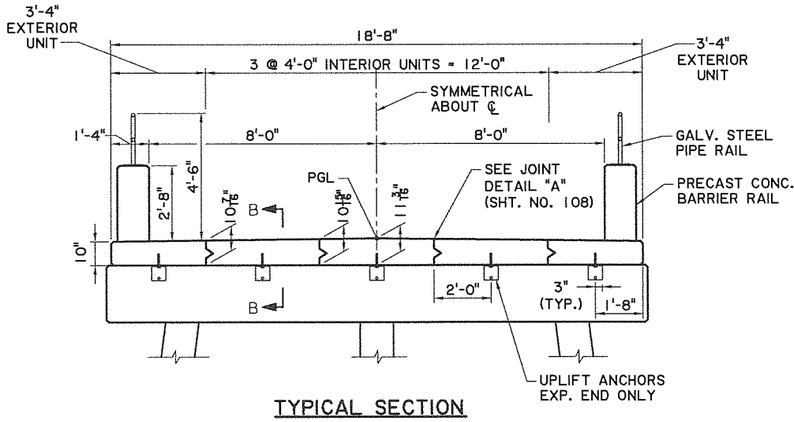
ALL-WELDED CONSTRUCTION IS REQUIRED, CONFORMING TO STANDARDS OF THE AMERICAN WELDING SOCIETY.
SHOP DRAWINGS SHALL BE PROVIDED SHOWING DIMENSIONS AND CONSTRUCTION DETAILS OF GATES, HINGES, LATCHES, AND CONCRETE ANCHORAGE FOR HINGES AND OPEN GATE STOWAGE.

COATING NOTE:
STEEL HANDRAILS AND GATES SHALL BE HOT DIPPED GALVANIZED AND THEN COATED AS FOLLOWS:
SURFACE PREPARATION:
REMOVE ALL OIL, DIRT, GREASE AND ALL OTHER SURFACE CONTAMINANTS. ABRASIVE BLAST ALL SURFACES TO REMOVE ALL INSOLUBLE CONTAMINATES AND TO ACHIEVE A UNIFORMLY PROFILED SURFACE.
COATING SYSTEM:
1ST COAT - TNEMEC SERIES 66 EPOXOLINE, OR EQUAL, AT 2.0 - 3.0 DFT.
2ND COAT - TNEMEC SERIES 1074U ENDURA-SHIELD, OR EQUAL, AT 2.5 - 3.0 DFT.



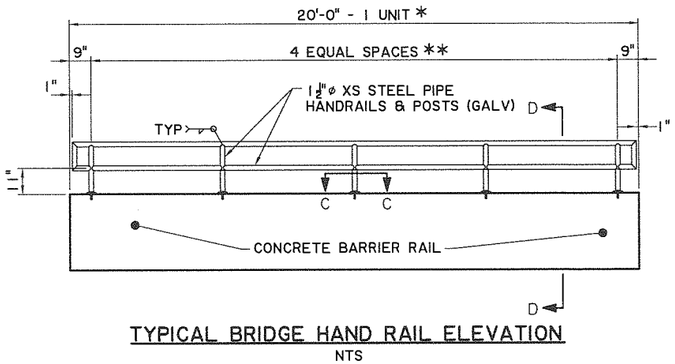
BARS 401

NTS



TYPICAL SECTION

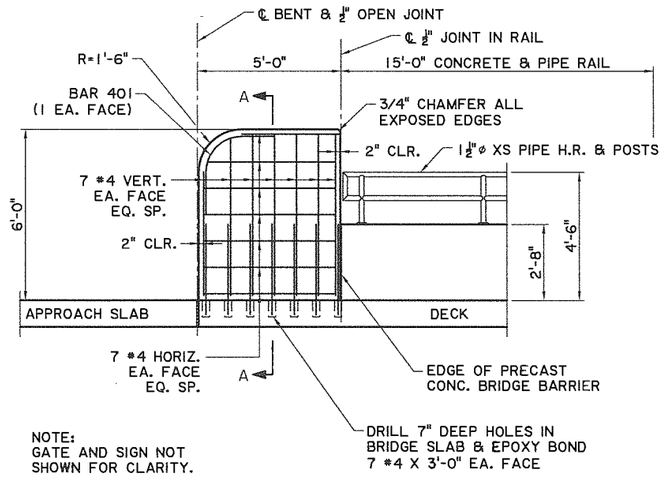
NTS



TYPICAL BRIDGE HAND RAIL ELEVATION

NTS

* 15'-0", WEST END, WEST BRIDGE NO. 1 AND EAST END, EAST BRIDGE NO. 2
** 3 EQ. SPACES, WEST END BRIDGE NO. 1 AND EAST END BRIDGE NO. 2

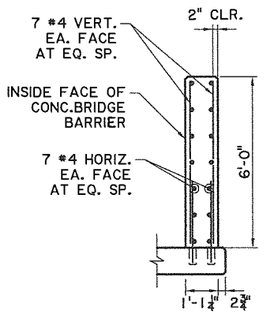


NOTE:
GATE AND SIGN NOT SHOWN FOR CLARITY.

POST DETAIL AT END OF CONCRETE & PIPE RAIL

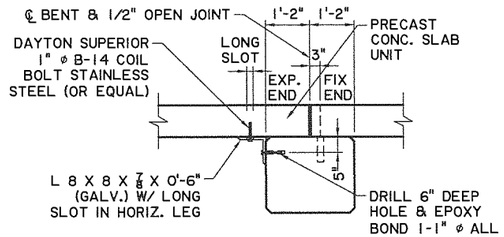
(REQUIRED AT WEST END OF WEST BRIDGE AND AT EAST END OF EAST BRIDGE ONLY)

NOTE: THIS DETAIL IS FOR CAST-IN-PLACE WALL. PRECAST PANEL MAY BE USED IN LIEU OF CAST-IN-PLACE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR PRECAST CONC. WALL, COMPLETE WITH GATE CONNECTION DETAILS.



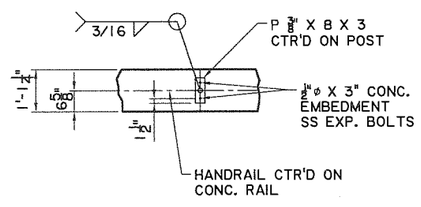
SECTION A-A

NTS



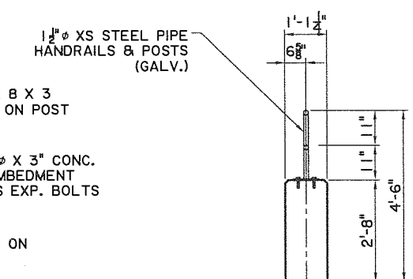
SECTION B-B

NTS



SECTION C-C

NTS



SECTION D-D

NTS

REVISIONS				DRAWING INFORMATION	
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				SCALE: NTS	
				SURVEYED BY: N/A	
				DSGN: SMH	DATE: 6-27-12
				DRWN: BRG	DATE: 6-27-12
				CHKD: HCT	DATE: 6-27-12
				QA/QC: ___	DATE: __/__/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

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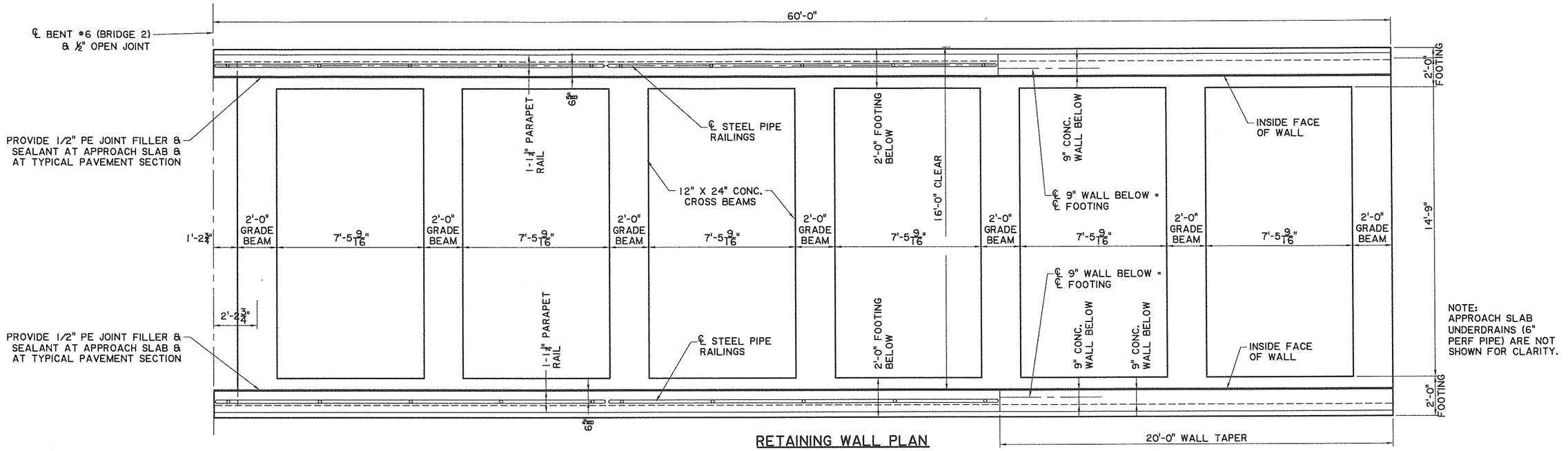
STRUCTURAL DETAILS

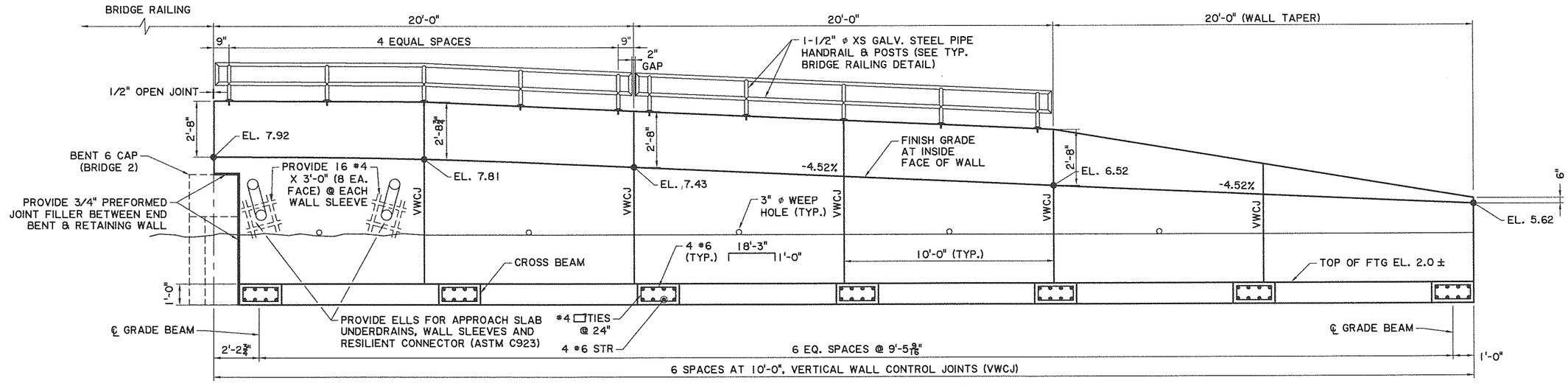
WORKING NUMBER:

SHEET NUMBER: 110 OF X

R:\LAIST_TAMMANY\0612 MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\STRUCTURAL DETAILS.DWG, 8/22/2012 3:25 PM



RETAINING WALL PLAN
NTS



RETAINING WALL ELEVATION
NTS

REVISIONS			
NO.	DATE	BY	DESCRIPTION

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SCALE: NTS	
SURVEYED BY: N/A	
DSGN: SMH	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: HCT	DATE: 6-27-12
QA/QC: ____	DATE: ____/____/____

MANDEVILLE LAKEFRONT WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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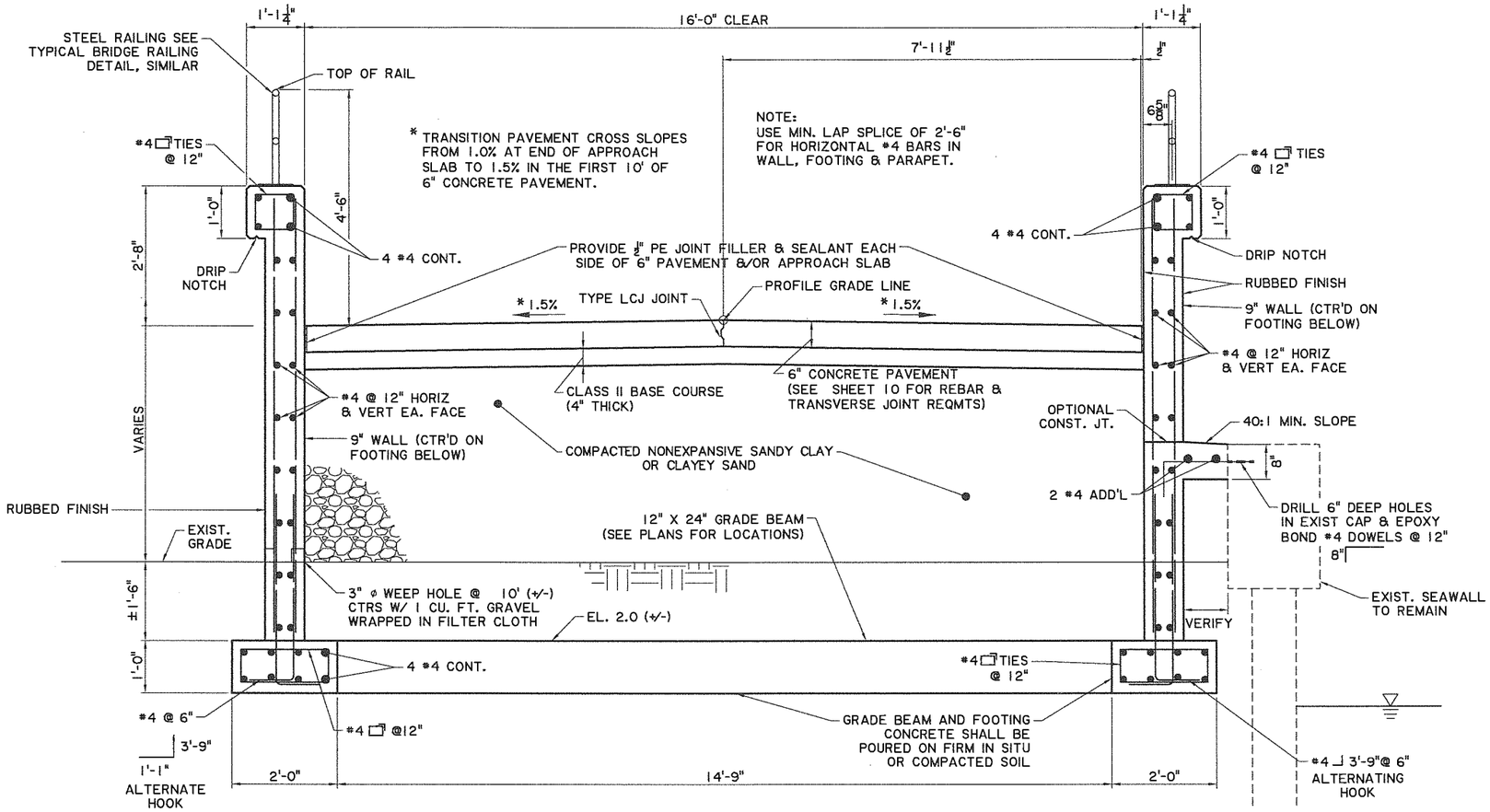
RETAINING WALL PLAN AND ELEVATION

WORKING NUMBER:

SHEET NUMBER: 111 OF X

R:\ASET_TAMMY\0632 MANDEVILLE LAKEFRONT WETLANDS RESTORATION\DRAWINGS\RET WALL DETAILS.DWG, 5/29/2012 2:56 PM



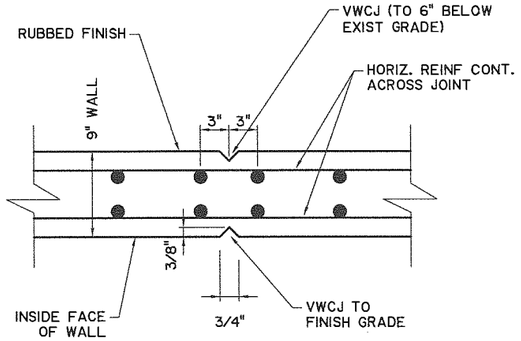
TYPICAL RETAINING WALL SECTION

NTS

NOTE:
6" PAVEMENT SECTION IS SHOWN.
SECTION AT APPROACH SLAB IS SIMILAR.

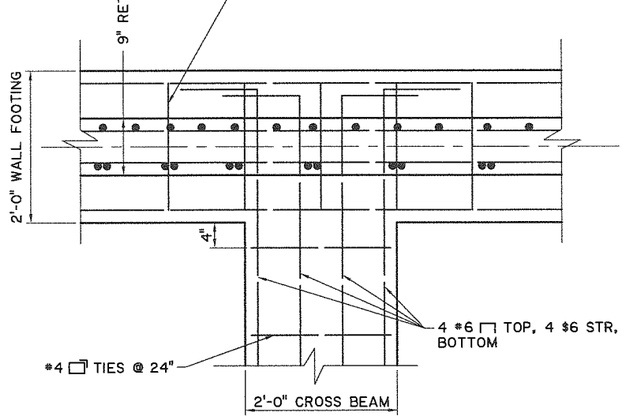
NOTES:

1. ALL REINFORCING STEEL SHALL BE ASTM A615 GRADE 60, EPOXY COATED.
2. ALL CONCRETE SHALL BE CLASS A, 28 DAY COMPRESSIVE STRENGTH 3800 PSI



TYPICAL VERTICAL WALL CONTROL JOINT DETAIL (VWCJ)

NTS



WALL FOOTING/ CROSS BEAM INTERSECTION

NTS

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: RET WALL DETAILS.dwg	
SCALE: NTS	
SURVEYED BY: N/A	
DSGN: SMH	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: HCT	DATE: 6-27-12
QA/QC: ___	DATE: __/__/____

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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RETAINING WALL DETAILS

WORKING NUMBER:

SHEET NUMBER: 112 OF X

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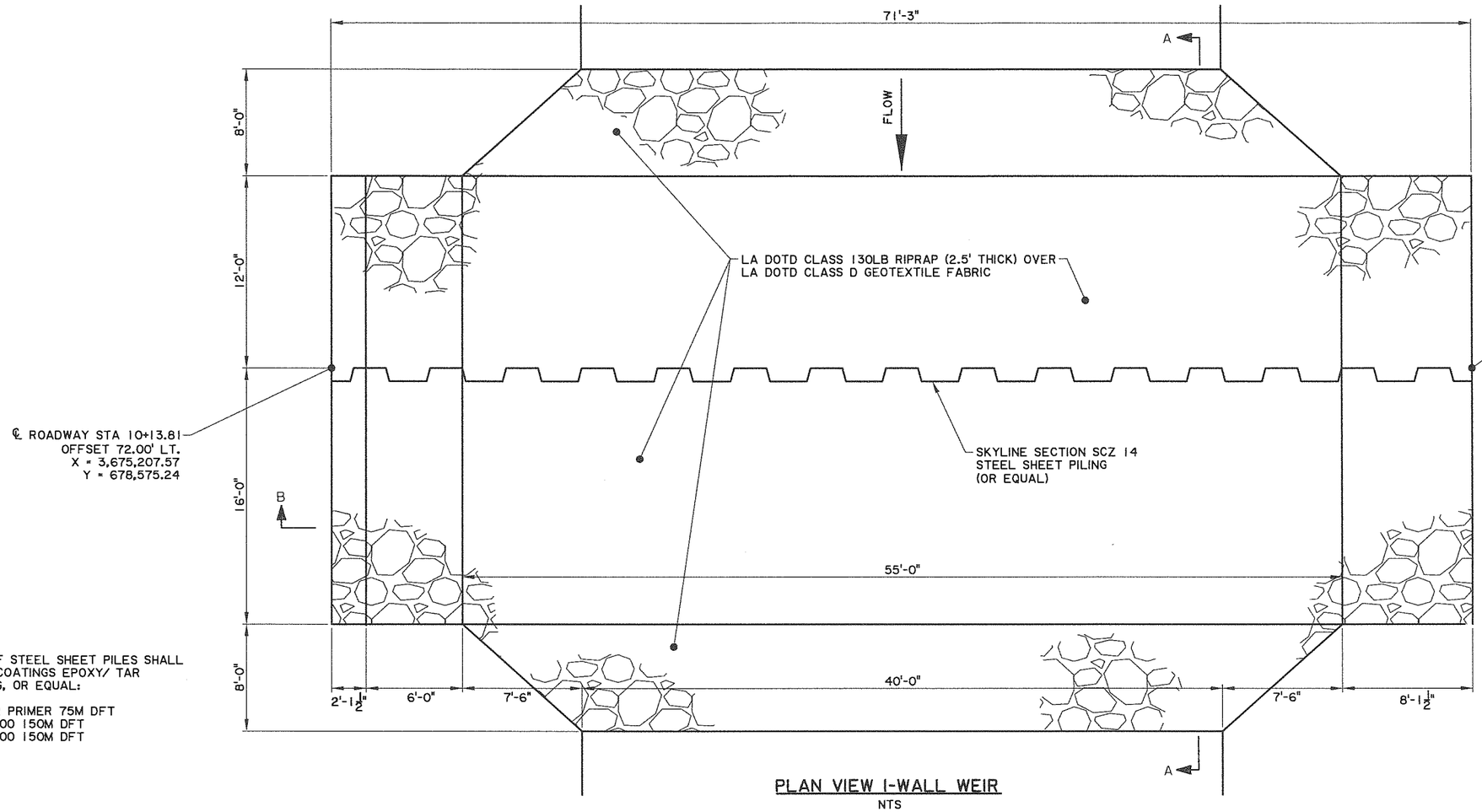


PLAN VIEW I-WALL WEIR
NTS

PILE SECTION PROPERTIES

S=14.36 IN^3 / FT

THK= 0.25 IN

I= 71.82 IN^3 / FT

A= 4.18 IN^2 / FT

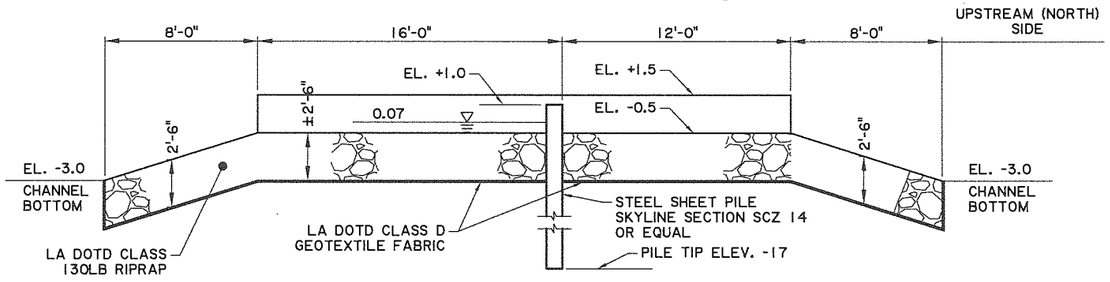
H=10 IN

SHEET PILE STEEL SHALL CONFORM TO ASTM A572 GRADE 50

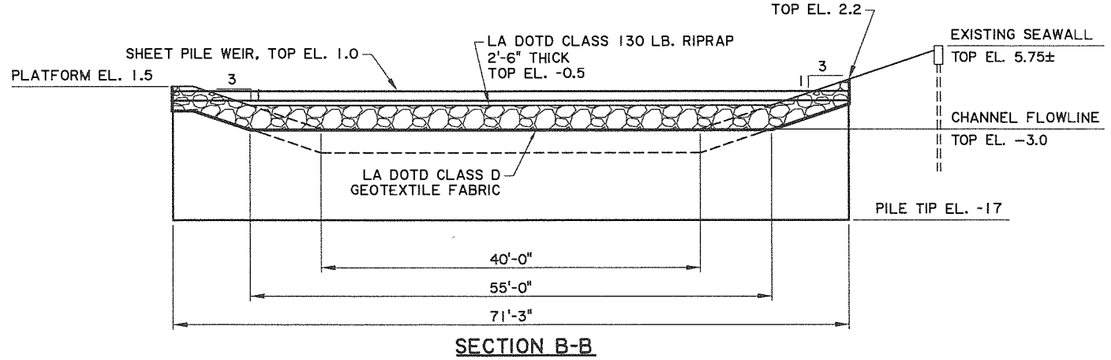
NOTE:

FULL LENGTH OF STEEL SHEET PILES SHALL RECEIVE SIGMA COATINGS EPOXY/ TAR SYSTEM COATING, OR EQUAL:

1. SIGMA COVER PRIMER 75M DFT
2. SIGMA TCN 300 150M DFT
3. SIGMA TCN 300 150M DFT



SECTION A-A
NTS



SECTION B-B
NTS

REVISIONS			
NO.	DATE	BY	DESCRIPTION

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FILENAME:	WEIR DETAILS.dwg
SCALE:	NTS
SURVEYED BY:	N/A
DSGN: SMH	DATE: 6-27-12
DRWN: BRG	DATE: 6-27-12
CHKD: HCT	DATE: 6-27-12
QA/QC: ___	DATE: __/__/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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WEIR DETAILS

WORKING NUMBER:

SHEET NUMBER:
113 OF X

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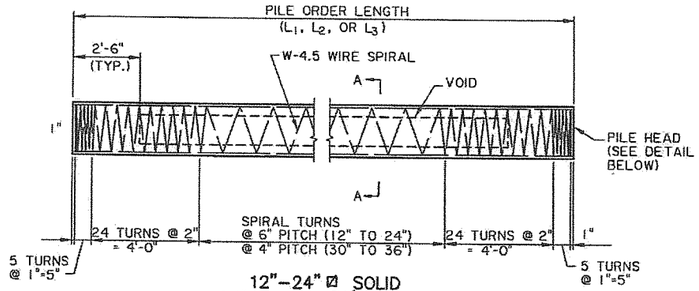
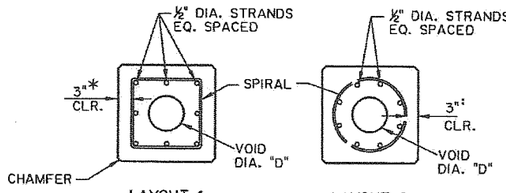


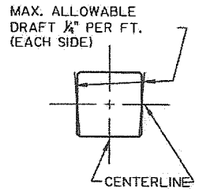
12"–24" Ø SOLID
24", 30", 36" Ø VOIDED
PRECAST–PRESTRESSED CONCRETE PILES
(FOR CIRCULAR AND SQUARE SPIRAL LAYOUT)



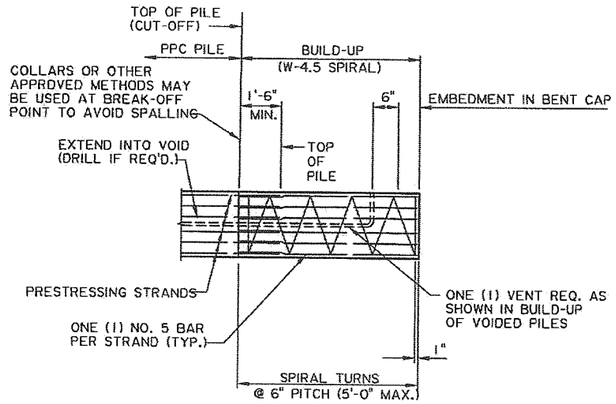
LAYOUT 1 (SHOWING SQUARE SPIRAL) LAYOUT 2 (SHOWING CIRCULAR SPIRAL)

SECTION A–A

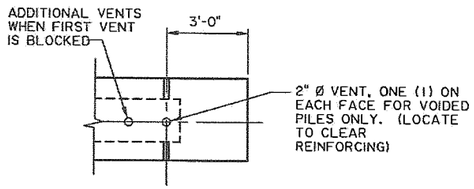
*2" FOR 12" & 14" PILE SIZE



DRAFT DETAIL

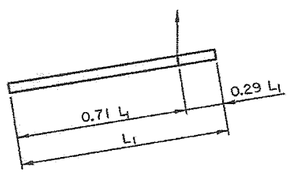


TYP. BUILD–UP WHERE REDRIVING IS NOT REQUIRED
(FOR BUILD-UP IN EXCESS OF 5'-0" SUBMIT DESIGN AND DETAILS FOR APPROVAL)

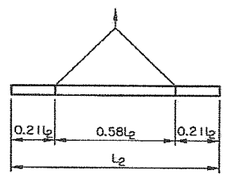


PILE HEAD DETAIL

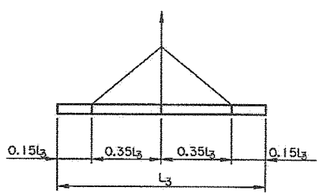
NOTE: VENTS REQUIRED FOR PILE HEAD ONLY



1–POINT PICK–UP



2–POINT PICK–UP



3–POINT PICK–UP

PICK–UP DETAILS

2 POINT PICK-UP SHALL TAKE PRECEDENCE OVER 3 POINT PICK-UP WHERE APPLICABLE. FOR LONGER PILE LENGTHS THAT NEED A 3 POINT PICK-UP, BUT CAN BE PROVIDED WITH A 2 POINT PICK-UP USING THE 6000 PSI CONCRETE OPTION ON SHEET 2 OF 2, THE CONTRACTOR SHALL FURNISH THE 2 POINT PICK-UP VERSION.

PILE INFORMATION

PILE SIZE (in.)	SECTION PROPERTIES					SQUARE SPIRAL LAYOUTS						CIRCULAR SPIRAL LAYOUTS					
	VOID "d" (in.)	AREA ($in.^2$)	SECTION MODULUS OF ($in.^3 \times 10^3$)	WEIGHT PER FOOT (lb/ft)	CHAMFER (in.)	NO. OF STRANDS	PRESTRESS IN CONCRETE (psi)		MAX. CASTING LENGTH (ft)			NO. OF STRANDS	PRESTRESS IN CONCRETE (psi)		MAX. CASTING LENGTH (ft)		
							AT RELEASE	AT 90 DAYS	L_1	L_2	L_3		AT RELEASE	AT 90 DAYS	L_1	L_2	L_3
12 SOLID	0	144	288	150	3/4"	4	828	770	52.8	74.8	106.8	5	1027	950	56.1	79.3	113.3
14 SOLID	0	196	457	204	3/4"	8	1200	1109	56.4	79.9	114.1	7	1056	979	59.9	84.7	120.9
16 SOLID	0	256	683	267	3/4"	8	928	867	63.6	90.0	128.5	9	1040	969	64.3	91.0	130.0
18 SOLID	0	324	972	338	3/4"	12	1093	1020	66.8	94.5	134.9	11	1005	941	69.1	97.7	139.6
20 SOLID	0	400	1333	417	1 1/2"	12	892	839	70.3	99.5	142.1	13	964	905	72.2	102.2	146.0
24 SOLID	0	576	2304	600	1 1/2"	20	1027	968	78.9	111.8	159.6	19	978	922	79.6	112.7	160.9
24 VOIDED	10.5	489	2254	510	1 1/2"	16	970	903	84.8	120.1	171.4	16	970	903	84.4	120.1	171.4
30 VOIDED	16.5	686	4257	715	1 1/2"	24	1035	964	98.3	139.1	198.6	23	993	926	99.4	140.6	200.8
36 VOIDED	22.5	898	7077	936	1 1/2"	28	926	866	109.3	154.6	220.8	30	989	924	111.9	158.3	226.0

GENERAL NOTES

CONCRETE: THE CONTRACTOR SHALL DESIGN AND SUBMIT FOR APPROVAL A CONCRETE MIX WITH MINIMUM COMPRESSIVE CYLINDER STRENGTH OF 5000 psi AT 28 DAYS. CONCRETE STRENGTH AT THE TIME OF TRANSFER OF PRESTRESSED FORCE SHALL BE 4000 psi OR GREATER. BUILD-UP CONCRETE SHALL BE THE SAME DESIGN AS THE PRESTRESS CONCRETE.

PRESTRESSING STEEL: PRETENSIONED REINFORCEMENT SHALL BE ½" DIAMETER SEVEN-WIRE, UNCOATED LOW-RELAXATION, GRADE 270 AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M203. AN INITIAL TENSION OF 30,980 LBS. SHALL BE APPLIED TO EACH STRAND.

DEFORMED REINFORCING STEEL: REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL BARS, GRADE 60 AND SHALL MEET THE REQUIREMENTS OF AASHTO M31.

SPIRAL REINFORCING STEEL: SPIRAL REINFORCEMENT SHALL BE SIZE W-4.5 COLD-DRAWN STEEL WIRE AND SHALL CONFORM TO AASHTO M 32M.

FABRICATION TOLERANCES: MANUFACTURE OF THE PILING AND FABRICATION TOLERANCES SHALL BE IN ACCORDANCE WITH THE "MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF STRUCTURAL PRECAST CONCRETE PRODUCTS (MNL-116, LATEST EDITION)" PUBLISHED BY PCI.

CHAMFERS AND CORNERS: ON PILES 18Ø OR SMALLER, ALL EXPOSED CONCRETE CORNERS ARE TO HAVE ¾" CHAMFERS. ON PILES 20" OR LARGER, ALL EXPOSED CONCRETE CORNERS ARE TO HAVE 1½" CHAMFERS. A 1" RADIUS CURVE WILL BE PERMITTED IN LIEU OF CHAMFERS SHOWN ABOVE. HOWEVER, ALL PILES FURNISHED SHALL BE OF THE SAME CONFIGURATION.

PICK-UP AND HANDLING: LOADING CRITERIA ARE BASED ON CAREFUL HANDLING OF THE PILE. ROTATION OF THE PILE IN THE SLING IS TO BE PREVENTED UNTIL THE PILE IS IN THE VERTICAL POSITION. PICK-UP POINTS FOR ALL PILES ARE TO BE CLEARLY MARKED ON PILES. SUPPORTS FOR STORAGE SHALL BE AT PICK-UP POINTS (FOR 1-POINT PICK-UP USE SUPPORT 0.29L1 FROM EACH END). PILES WILL BE MADE AT A CENTRAL PLANT AND BE TRANSPORTED TO THE BRIDGE SITE. ALL PRESTRESSED PILING SHALL BE HELD AT THE PLANT FOR 14 DAYS AFTER CASTING, PROVIDING THE COMPRESSIVE STRENGTH OF 5000 psi HAS BEEN ATTAINED. PICK-UP POINTS SHOWN MAY BE MODIFIED FOR TRANSPORTATION PURPOSES, PROVIDED THE PILE STRESSES ARE IN ACCORDANCE WITH DESIGN CRITERIA. THE MODIFIED PICK-UP POINTS SHALL BE SENT TO THE BRIDGE DESIGN ENGINEER FOR REVIEW. ALL EMBEDDED LIFTING LOOPS SHALL BE PROVIDED WITH 1.5" DEEP FOAM BLOCKOUTS. THE HOLE REMAINING AFTER THE LOOP IS REMOVED IS TO BE FILLED WITH A PATCHING MATERIAL FROM QPL NO. 49. THE PATCHING MATERIAL MUST MEET OR EXCEED CONCRETE REQUIREMENTS FOR STRENGTH AND PERMEABILITY.

DRIVING: PILES SHALL BE DRIVEN TO AT LEAST THE MINIMUM TIP ELEVATION AS SHOWN ON CONTRACT PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PILES SHALL BE DRIVEN TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.

PRESTRESS LOSSES: BASED ON "RECOMMENDATION FOR ESTIMATING PRESTRESSED LOSSES" PCI JOURNAL VOL. 20 JULY/AUGUST, 1975. PERCENT OF ULTIMATE SHRINKAGE EQUAL TO 31% AND 62% FOR 14 DAYS AND 90 DAYS RESPECTIVELY. PERCENT ULTIMATE CREEP EQUAL TO 26% AND 51% FOR 14 DAYS AND 90 DAYS RESPECTIVELY.

ALLOWABLE STRESSES: THE MAXIMUM LENGTHS FOR PICK-UP HAVE BEEN DETERMINED USING THE FOLLOWING ALLOWABLE STRESS (1998 AASHTO LRFD BRIDGE SPECS. 5.9.4.2.1, 5.9.4.1.2 & 5.13.4.4.3) AT BOTH 14 DAYS AND 90 DAYS.

ALLOWABLE TENSILE STRESS (psi): $5\sqrt{f'c}$
ALLOWABLE COMPRESSIVE STRESS (psi): 0.45f'c
IMPACT FACTOR: 1.5 MIN.
FINAL COMPRESSIVE STRESS: 725 psi

DETAILS THIS SHEET NOT TO SCALE

NOTE:
THIS DRAWING WAS ADAPTED FROM LA DOTD STANDARD PLAN NO. CS-216 AND HAS BEEN REVIEWED FOR DESIGN ADEQUACY FOR THIS PROJECT.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
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FILENAME: SHEET 201.dwg	
SCALE: 1" = 10'	
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DSGN: ___	DATE: __/____/____
DRWN: BRG	DATE: __/____/____
CHKD: WDL	DATE: __/____/____
QA/QC: ___	DATE: __/____/____

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

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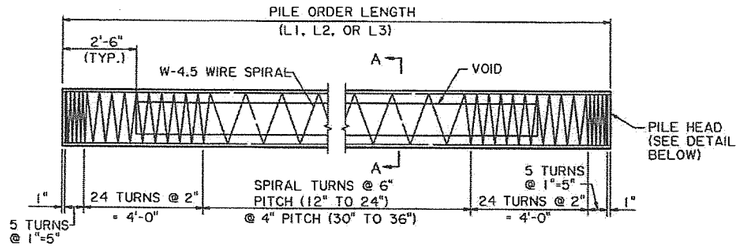
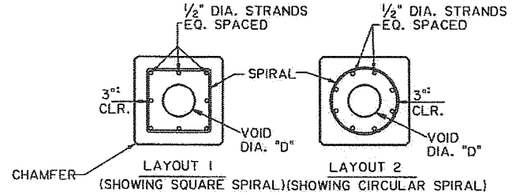
PRECAST - PRESTRESSED CONCRETE PILES
For Circular & Square Spiral layout

WORKING NUMBER:

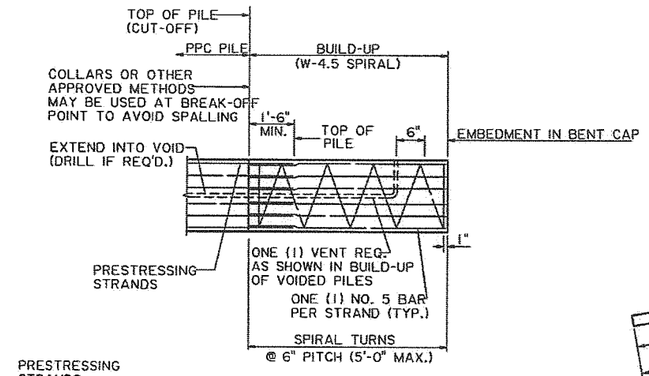
SHEET NUMBER: 201 of X



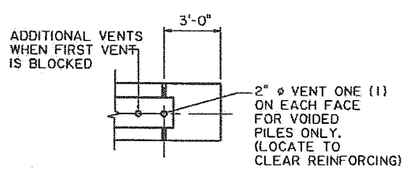
12"–24"Ø SOLID
24", 30", 36"Ø VOIDED
PRECAST–PRESTRESSED CONCRETE PILES
(FOR CIRCULAR AND SQUARE SPIRAL LAYOUT)



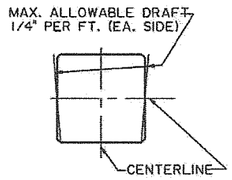
SECTION A–A
: 2" FOR 12" & 14" PILE SIZE



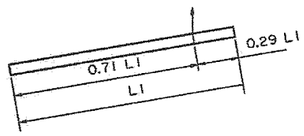
TYP. BUILD–UP WHERE REDRIVING IS NOT REQUIRED
(FOR BUILD-UP IN EXCESS OF 5'-0"
SUBMIT DESIGN AND DETAILS FOR APPROVAL)



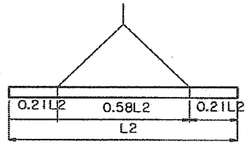
PILE HEAD DETAIL
NOTE: VENTS REQUIRED FOR PILE HEAD ONLY



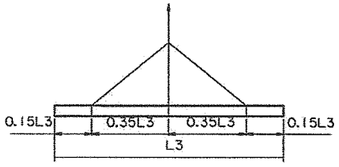
DRAFT DETAIL



1–POINT PICK–UP



2–POINT PICK–UP



3–POINT PICK–UP

PICK–UP DETAILS

PILE INFORMATION

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	VOID "d" (in.)	AREA (in.)2	SECTION MODULUS OF (in.3x10)3	WEIGHT PER FOOT (lb/ft)	CHAMFER (in.)	NO. OF STRANDS	PRESTRESS IN CONCRETE (psi) AT RELEASE	PRESTRESS IN CONCRETE (psi) AT 90 DAYS	MAX. CASTING LENGTH (ft) L1	MAX. CASTING LENGTH (ft) L2	MAX. CASTING LENGTH (ft) L3	NO. OF STRANDS	PRESTRESS IN CONCRETE (psi) AT RELEASE	PRESTRESS IN CONCRETE (psi) AT 90 DAYS	MAX. CASTING LENGTH (ft) L1	MAX. CASTING LENGTH (ft) L2	MAX. CASTING LENGTH (ft) L3
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ALLOWABLE COMPRESSIVE STRESS (psi): $0.45f'c$
IMPACT FACTOR: 1.5 MIN.
FINAL COMPRESSIVE STRESS: 725 psi

DETAILS THIS SHEET NOT TO SCALE

NOTE:
THIS DRAWING WAS ADAPTED FROM LA DOTD STANDARD PLAN NO. CS–216 AND HAS BEEN REVIEWED FOR DESIGN ADEQUACY FOR THIS PROJECT.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

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DSGN: ___	DATE: __/____
DRWN: BRG	DATE: __/____
CHKD: WDL	DATE: __/____
QA/QC: ___	DATE: __/____

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

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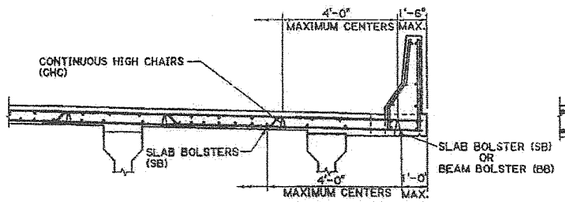
PRECAST - PRESTRESSED CONCRETE PILES
For Circular & Square Spiral layout

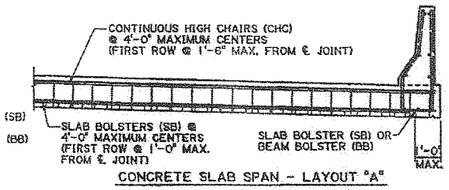
WORKING NUMBER:

SHEET NUMBER: 202 OF X

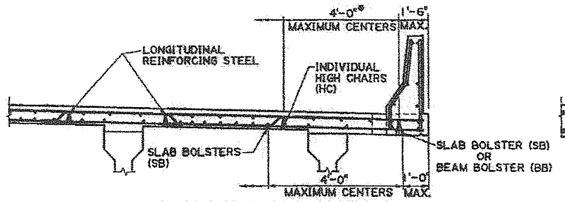
M:\PROJECTS\LOUISIANA\08632 MANDEVILLE WETLANDS RESTORATION\DWGS\SHEET 202.DWG, 6/4/2012 3:56 PM



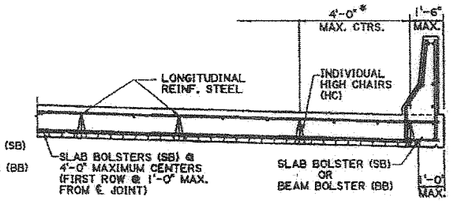
STEEL OR CONCRETE GIRDER SPAN - LAYOUT "A"



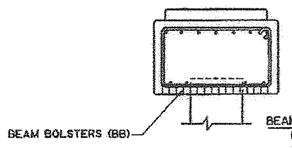
CONCRETE SLAB SPAN - LAYOUT "A"



STEEL OR CONCRETE GIRDER SPAN - LAYOUT "B"
(ALTERNATE)

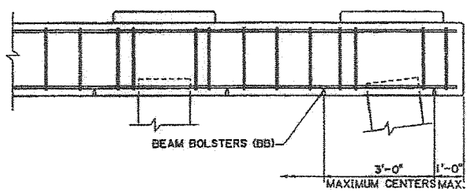


CONCRETE SLAB SPAN - LAYOUT "B"
(ALTERNATE)



PILE BENT - LAYOUT "A"

PILE BENT - LAYOUT "B"
(ALTERNATE)



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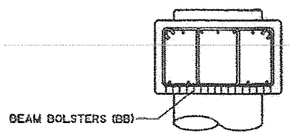
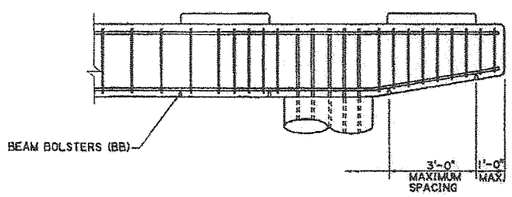


COLUMN BENT



COLUMN BENT

GENERAL NOTES:

STEEL WIRE BAR SUPPORTS AND REINFORCING STEEL BARS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS AMENDED BY THE SPECIAL PROVISIONS AND/OR SUPPLEMENTAL SPECIFICATIONS.

HEIGHT OF BAR SUPPORTS ARE TO BE THAT REQUIRED TO SUPPORT THE REINFORCING BARS AT POSITIONS SHOWN IN THE PLANS.
BAR SUPPORTS ARE NOT INTENDED, AND SHALL NOT BE USED, TO SUPPORT RUNWAYS FOR CONCRETE BUGGIES OR SIMILAR LOADS.

WHEN BAR SUPPORTS ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK THE LAST LEGS ON ADJOINING PIECES, BUT NO BAR SHALL BE PLACED MORE THAN 2" BEYOND THE LAST LEG AT THE END OF A RUN OF ANY CONTINUOUS SUPPORTS.

WHERE BAR SUPPORTS ARE USED ON EARTH OR AGGREGATE SUB GRADES, SUITABLE PLATES SHALL BE PROVIDED TO PREVENT DISPLACEMENT OF THE SUPPORT FOOT. ALL BAR SUPPORTS BEARING ON THE FORMS SHALL HAVE RADIUS BEARING LEGS IN THE FORM OF A HOOK (UPTURNED LEGS) OR SPHERICAL FOOT AT THE LOWER END OF THE LEGS.

TYPE OF SUPPORT	BAR SUPPORT ILLUSTRATION	MINIMUM WIRE DIAMETER △			REMARKS
		HEIGHT	TOP	LEGS	
SLAB BOLSTER (SB)		ALL	NO. 4 CORRUGATED	NO. 6	VERTICAL CORRUGATIONS SPACED 1" ON CENTERS
BEAM BOLSTER (BB)		UP TO 2" OVER 2"	NO. 7 NO. 4	NO. 7 NO. 4	
⊡ CONTINUOUS HIGH CHAIR (CHC)		2" TO 5" 5" TO 9" OVER 9"	NO. 2 NO. 2 NO. 2	NO. 4 NO. 2 NO. 0	LAYOUT "A" FOR SPANS
⊛ INDIVIDUAL HIGH CHAIR (HC)		2" TO 5" 5" TO 9" OVER 9"	N/A N/A N/A	NO. 4 NO. 2 NO. 0	LAYOUT "B" FOR SPANS (ALTERNATE)

△ AMERICAN STEEL AND WIRE GAUGES.

⊛ LEGS SHALL BE 20 DEGREES OR LESS WITH VERTICAL WHEN HEIGHT EXCEEDS 1'-0", REINFORCE LEGS WITH WELDED CROSS WIRES OR ENCIRCLING WIRES.

⊡ LEGS SHALL BE 20 DEGREES OR LESS WITH VERTICAL, ON 6¼" CENTER MAXIMUM, WITHIN 4" OF END CHAIR, AND SPREAD BETWEEN LEGS NOT LESS THAN 50% OF NORMAL HEIGHT.

* IF LONGITUDINAL REINFORCING BARS ARE NO. 4, SPACE THE INDIVIDUAL HIGH CHAIRS (HC) @ 3'-0" MAXIMUM CENTERS LONGITUDINALLY; FOR NO. 5 BARS OR LARGER, SPACE @ 4'-0" MAXIMUM CENTERS.

NOTE:
THIS DRAWING WAS ADAPTED FROM LA DOTD STANDARD PLAN NO. SWBS-100 AND HAS BEEN REVIEWED FOR DESIGN ADEQUACY FOR THIS PROJECT.

REVISIONS				DRAWING INFORMATION	
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MANDEVILLE LAKEFRONT
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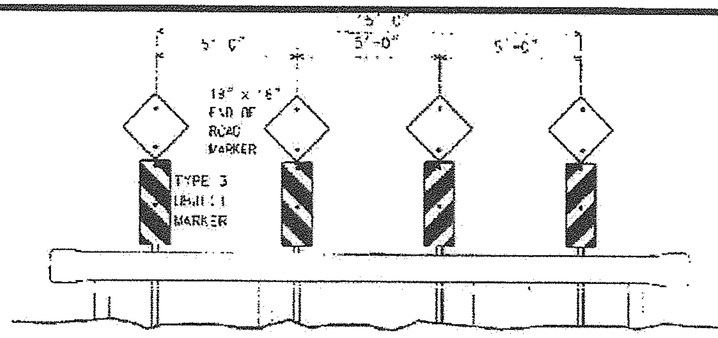
STEEL WIRE BAR SUPPORTS FOR REINFORCING STEEL

WORKING NUMBER:

SHEET NUMBER:
203 OF X



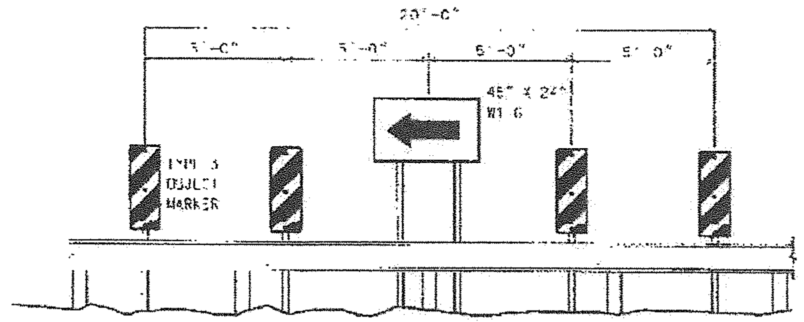
END-OF-ROADWAY INSTALLATION

DEAD END ROAD INSTALLATION
(TYPE A – WITH GUARD RAIL; TYPE B – WITHOUT GUARD RAIL)

For End of Road Installation Object Marker stripes shall slope downward towards the center.

Guard Rail to be installed in accordance with guard rail Standard Plans.

Typical installation requires 25 ft of rail with flares and sections.



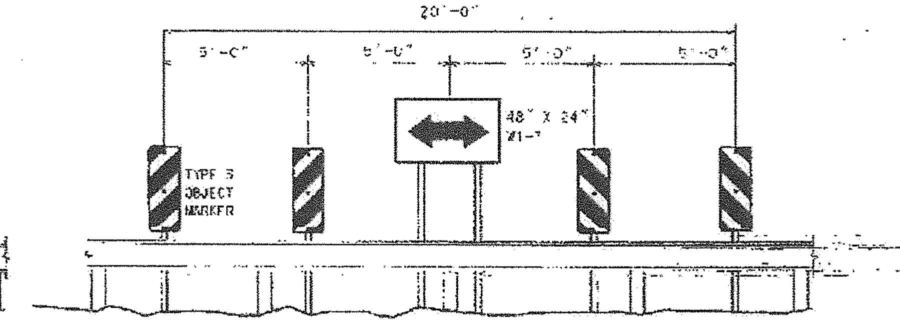
TURN INSTALLATION

DEAD END ROAD INSTALLATION
(TYPE D – WITH GUARD RAIL; TYPE C – WITHOUT GUARD RAIL)

For turn installations Object Marker stripes shall slope downward toward the direction of travel.

Guard rail to be installed in accordance with guard rail Standard Plans.

Typical installation requires 25 feet of rail with flared end sections.



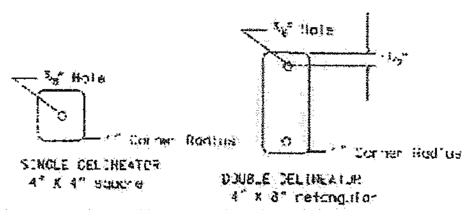
T-INTERSECTION INSTALLATION

DEAD END ROAD INSTALLATION
(TYPE D – WITH GUARD RAIL; TYPE C – WITHOUT GUARD RAIL)

For T-intersection installations Object Marker stripes shall slope away from center.

Guard rail to be installed in accordance with guard rail Standard Plans.

Typical installation requires 25 feet of rail with flared end sections.



DETAIL OF DELINEATORS

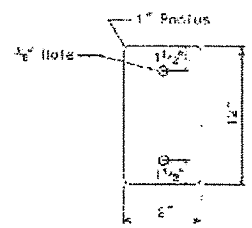
Colors shall be red, white, or yellow.

The sheeting shall be in accordance with DOTD Standard Specification.

For alternate Delineator/Flexible Post systems see the DOTD Qualified Products List. Alternates shall have an equivalent area of sheeting and shall not be less than 3 in. wide.

The mounting height shall be the same as for Milepost Markers.

Post penetration in ground shall be a minimum of 2 ft.

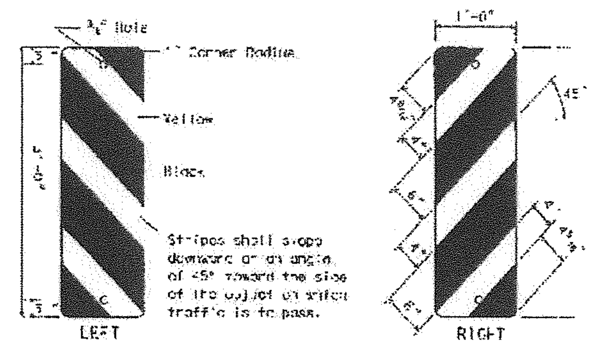


DETAIL OF TYPE 2 OBJECT MARKER

The face shall be yellow. The sheeting shall be in accordance with DOTD Standard Specification. The typical mounting height from the ground line to the bottom of the object marker shall be 36 in.

Post penetration in ground shall be a minimum of 2 ft.

Type 2 Object Markers are typically used to in right-of-way to mark objects for mowing operations.



DETAIL OF TYPE 3 OBJECT MARKER

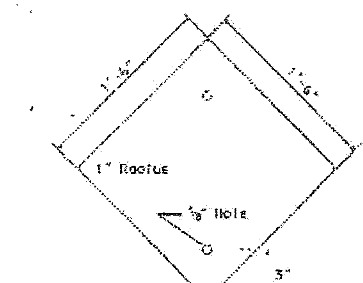
The markings on the Object Markers shall be diagonal black and yellow stripes. The sheeting shall be in accordance with DOTD Standard Specifications.

Post penetration in ground shall be a minimum of 3 ft.

Type 3 Object Markers are typically used to mark objects in the roadway (travel lanes and shoulders) and to mark guard rail installation (see guard rail Standard Plans).

When used for marking objects in the roadway or objects that are 8 ft or less from the shoulder or curb, the mounting height to the bottom of the object marker should be at least 4 ft above the surface of the nearest traffic lane.

When used to mark objects more than 8 ft from the shoulder or curb, the mounting height to the bottom of the object marker should be at least 4 ft above the ground.



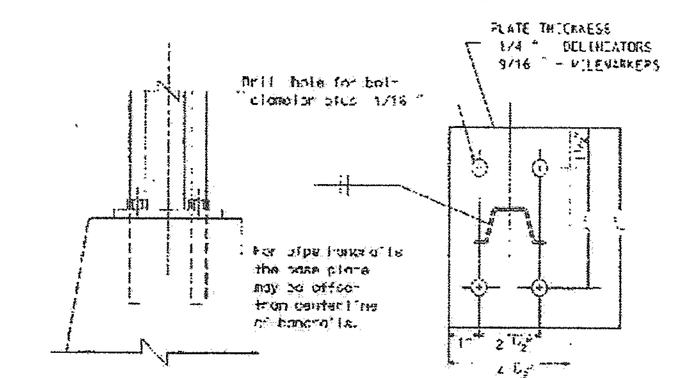
DETAIL OF END OF ROAD MARKER

Colors shall be red.

The sheeting shall be in accordance with DOTD Standard Specification.

The minimum mounting height from the ground line to the bottom of the marker shall be 5 ft.

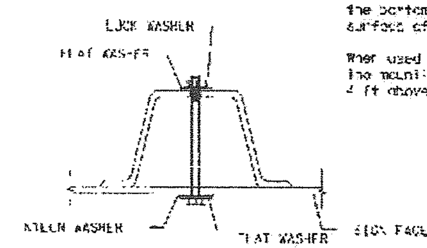
Post penetration in ground shall be a minimum of 3 ft.



Anchor Bolts
1/4" plate – 5/16" x 4" bolt
9/16" plate – 1/2" x 5" bolt
For bolt anchors see DOTD Qualified Product List.

Steel base plate and channel posts shall be galvanized after fabrication.

DETAIL FOR MOUNTING SIGN POST
TO CONCRETE BARRIER RAIL



Steel U-channel sign post shall have 3/8" dia. holes drilled in channel at 1 in. centers from top of post.

Post Weight: 2.0 lbs/ft – DELINEATORS and TYPE 2 OBJECT MARKERS
2.5 lbs/ft – MILEMARKERS and TYPE 3 OBJECT MARKERS
3.0 lbs/ft – WARNING SIGNS, W1-6, W1-7

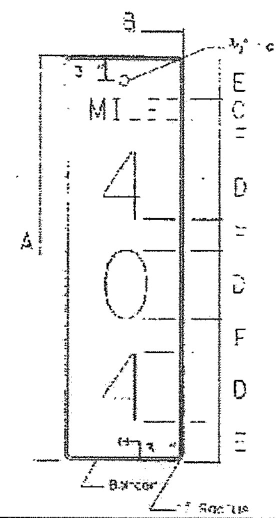
Fasteners shall be either bolts or rivets.

Bolts shall be 3/8 in. diameter electroplated steel hex head bolts with one nylon washer, two flat washers, one lock washer, and one vandal resistant hex nut.

Rivets shall be vandal resistant 3/8 in. diameter aluminum blind rivets with smooth, low profile heads on each end.

DETAIL FOR MOUNTING
SIGN TO U CHANNEL POST

MOUNTING DETAILS



MILEPOST FACE DIMENSIONS

LOCATION	NUMERALS	A	B	C	D	F	E	BORDER WIDTH
CONVENTIONAL ROADS	1	18"	10"	4"	6"C	2.5"	3"	0.5"
	2	27"						
	3	36"						
EXPRESSWAYS & FREEWAYS	1	24"	12"	4"	10"C	3.5"	2"	0.5"
	2	36"				3"		
	3	48"				2.5"		
1/10 Mile Markers	2	12"	6"	1/4	4"C	1.25"	1.5"	1/8
	3	18"				1.5"	1.5"	
	4	24"				1.75"	1.5"	

DETAIL OF MILEPOST MARKER

Dimension of Milepost Markers shall be in accordance with the dimensions given in the above table.

The Milepost Markers shall be green with a white legend and border. The sheeting shall be in accordance with DOTD Standard Specification.

The typical mounting height to the bottom of the marker should be 4 ft above the road surface when installed 8 ft or less from the edge of the travel lane, and 4 ft above the ground when installed more than 6 ft from the travel lane.

Post penetration in ground shall be a minimum of 3ft.

NOTE:
THIS DRAWING WAS ADAPTED FROM LA DOTD STANDARD PLAN NO. HS-03 AND HAS BEEN REVIEWED FOR DESIGN ADEQUACY FOR THIS PROJECT.

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION

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DSGN: ____	DATE: __/__
DRWN: BRG	DATE: __/__
CHKD: WDL	DATE: __/__
QA/QC: ____	DATE: __/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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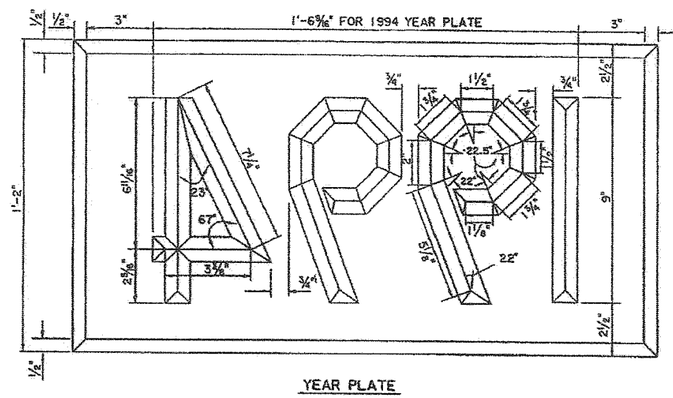
OBJECT MARKERS
MILEPOST AND DEAD END
ROAD INSTALLATIONS

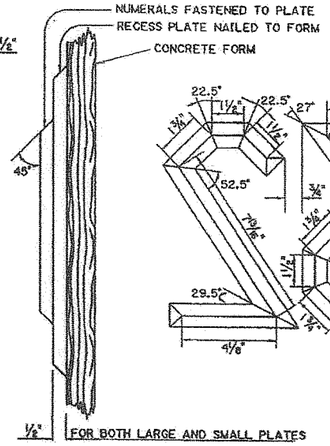
WORKING NUMBER:

SHEET NUMBER: 204 OF X

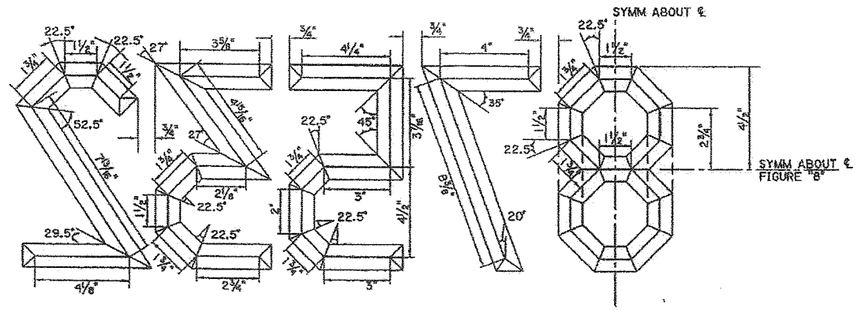


YEAR PLATE

DIMENSIONS SHOWN ARE FOR LARGE YEAR PLATE.
USE ONE HALF (1/2) ABOVE DIMENSIONS FOR SMALL YEAR PLATE.
YEAR PLATE TO CORRESPOND TO YEAR IN WHICH STRUCTURE IS COMPLETED.

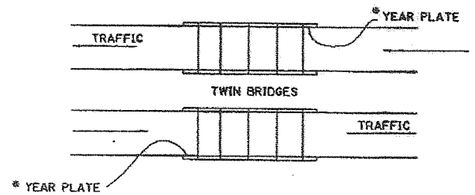


FOR BOTH LARGE AND SMALL PLATES



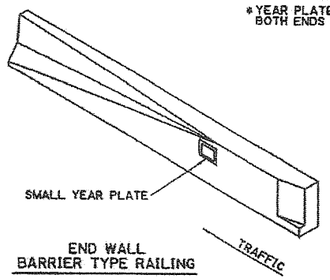
NUMERALS

NOTE:
FIGURE "6" TO BE "9" INVERTED.
FIGURE "0" TO BE MADE USING DASHED LINES INDICATED ON DETAIL OF FIGURE "8."
DIMENSIONS SHOWN ARE FOR LARGE YEAR PLATE.
USE ONE-HALF (1/2) ABOVE DIMENSIONS FOR SMALL YEAR PLATE.

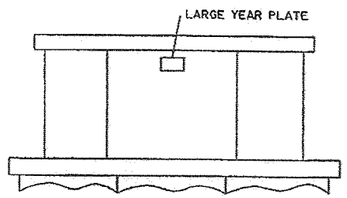


BRIDGE PLAN

*YEAR PLATE ON THE APPROACH SIDE OF BOTH ENDS ON TWO-WAY TRAFFIC BRIDGES.

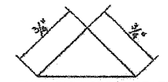


END WALL
BARRIER TYPE RAILING



PIER ELEVATION

SKETCHES SHOWING LOCATION OF YEAR PLATE ON VARIOUS CONCRETE STRUCTURES



FULL SIZE CROSS-SECTION OF 3/4" CHAMFER STRIP TO BE USED IN CONSTRUCTION OF ALL NUMERALS.

CHAMFER STRIP FOR LARGE YEAR PLATE

FULL SIZE CROSS SECTION OF 3/4" CHAMFER STRIP TO BE USED IN CONSTRUCTION OF ALL NUMERALS.

CHAMFER STRIP FOR SMALL YEAR PLATE

NOTE:
THIS DRAWING WAS ADAPTED FROM LA DOTD STANDARD PLAN NO. YP-01 AND HAS BEEN REVIEWED FOR DESIGN ADEQUACY FOR THIS PROJECT.

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DSGN: ____	DATE: __/____/____
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CHKD: WDL	DATE: __/____/____
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MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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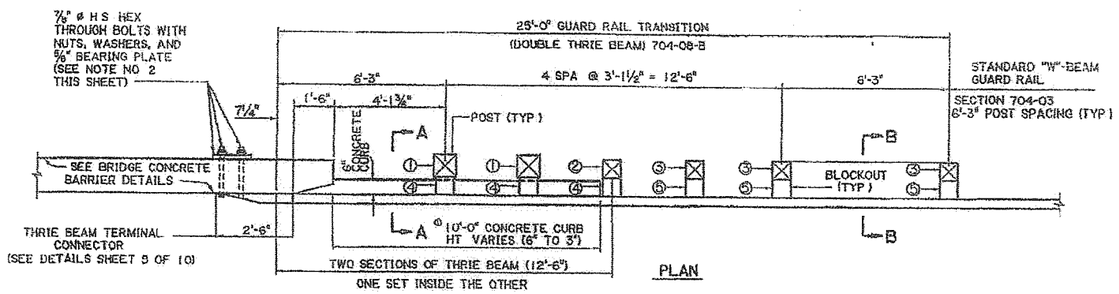
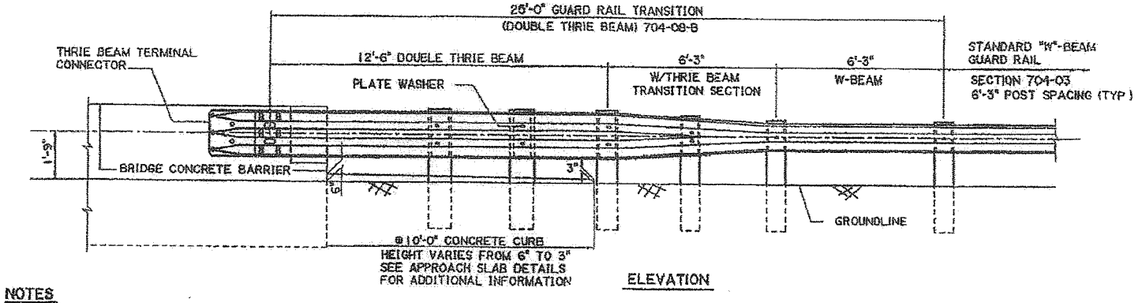
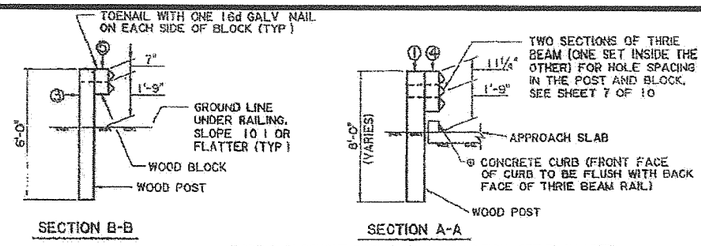
YEAR PLATE
FOR
CONCRETE STRUCTURES

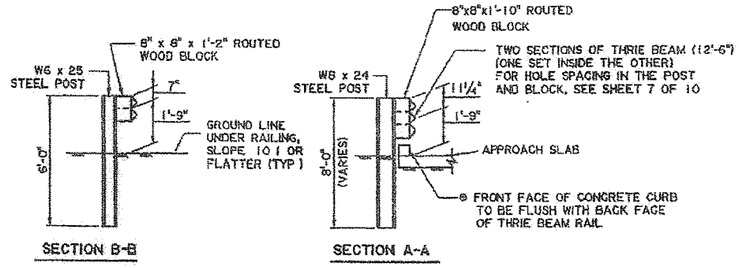
WORKING NUMBER:	SHEET NUMBER:
	205 OF X







WOOD POST & WOOD BLOCKOUT



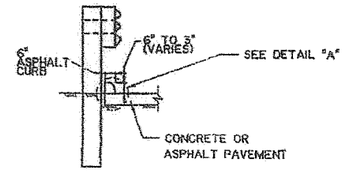
STEEL POST & ROUTED WOOD BLOCKOUT ALTERNATE

NOTES

1. THIS GUARD RAIL TRANSITION IS APPROPRIATE FOR CONNECTION TO THE CONCRETE BARRIER SHAPE AS SHOWN SEE BRIDGE BARRIER DETAILS BR-01 & BR-02 FOR INFORMATION
2. ⅞" ϕ H S BOLTS FOR CONCRETE BARRIER AND THRIE BEAM TERMINAL CONNECTOR SHALL BE ASTM A449 FOR ⅝" STEEL BEARING PLATE, SEE SHEET 9 OF 10 GALVANIZING SHALL BE IN ACCORDANCE WITH ASTM A153
- *3 STEEL POST ALTERNATES STEEL POSTS ARE ALLOWED AS AN ALTERNATE TO WOOD POSTS USE W8 x 24 STEEL POST ALTERNATE FOR 10" x 10" WOOD POST USE W6 x 25 STEEL POST ALTERNATE FOR 8" x 8" WOOD POST USE SAME LENGTHS AS WOOD POSTS
4. BLOCKOUTS USE WOOD BLOCKOUTS ONLY, STEEL AND RECYCLED BLOCKOUTS ARE NOT PERMITTED FOR THE GUARDRAILTRANSITION ALL WOOD BLOCKOUTS ARE REQUIRED TO BE ROUTED WHEN WHEN USED WITH STEEL POSTS
5. INTERMIXING OF STEEL AND WOOD POST IN THE TRANSITION SECTION IS NOT ALLOWED
- *6 ASPHALT CURB ALTERNATE MAY BE USED WITH CONCRETE OR ASPHALT PAVEMENT FOR GUARD RAIL TRANSITION CONSTRUCTED WITH NEW APPROACH SLAB CONCRETE CURB TO BE PAID FOR UNDER APPROACH SLAB PAY ITEM FOR GUARD RAIL TRANSITION CONSTRUCTED WHEN APPROACH SLAB OR PAVEMENT IS EXISTING AND A NEW CURB IS NEEDED, THE NEW ASPHALT CURB SHALL BE PAID UNDER AN ASPHALTIC CONCRETE PAY ITEM AS INDICATED IN THE PLANS

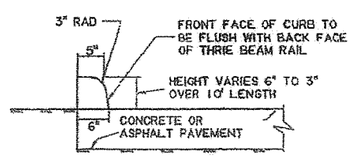
*WOOD POST & WOOD BLOCKOUT FOR GUARDRAIL TRANSITION	
NO	SIZE (WIDTH×DEPTH×LENGTH)
①	10" x 10" x 6'-0"
②	8" x 8" x 8'-0"
③	8" x 8" x 6'-0"
④	8" x 8" x 1'-10"
⑤	8" x 8" x 1'-2"

* SEE NOTE FOR STEEL POST ALTERNATE

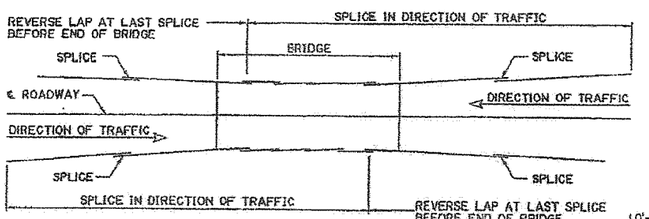


* ASPHALT CURB ALTERNATE - SECTION A-A

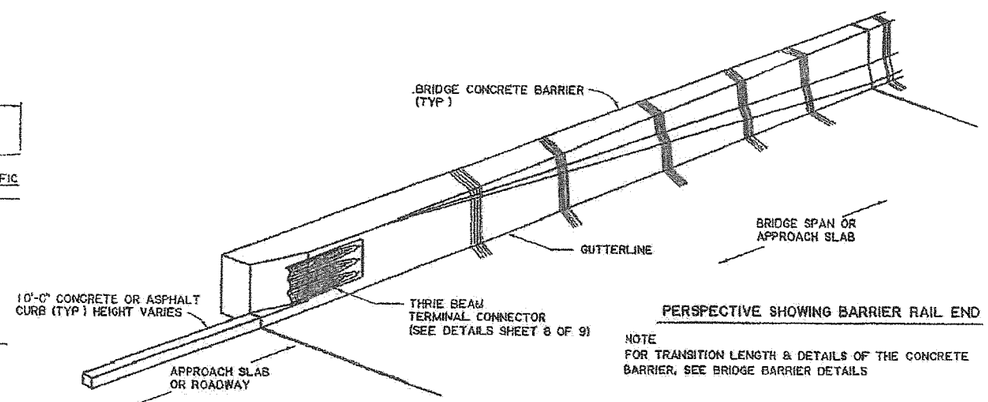
(FOR USE WITH CONCRETE OR ASPHALT PAVEMENT)



DETAIL "A"



LAYOUT SHOWING DIRECTION OF GUARD RAIL SPLICE FOR TWO WAY TRAFFIC



PERSPECTIVE SHOWING BARRIER RAIL END

NOTE
FOR TRANSITION LENGTH & DETAILS OF THE CONCRETE BARRIER, SEE BRIDGE BARRIER DETAILS

NOTE:
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				DSGN: ____	DATE: __/____
				DRWN: BRG	DATE: __/____
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				QA/QC: ____	DATE: __/____

MANDEVILLE LAKEFRONT WETLANDS RESTORATION
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HIGHWAY GUARD RAILS
THRIE BEAM GUARD RAIL TRANSITION TO BRIDGE RAIL

WORKING NUMBER:

SHEET NUMBER: 206 OF X

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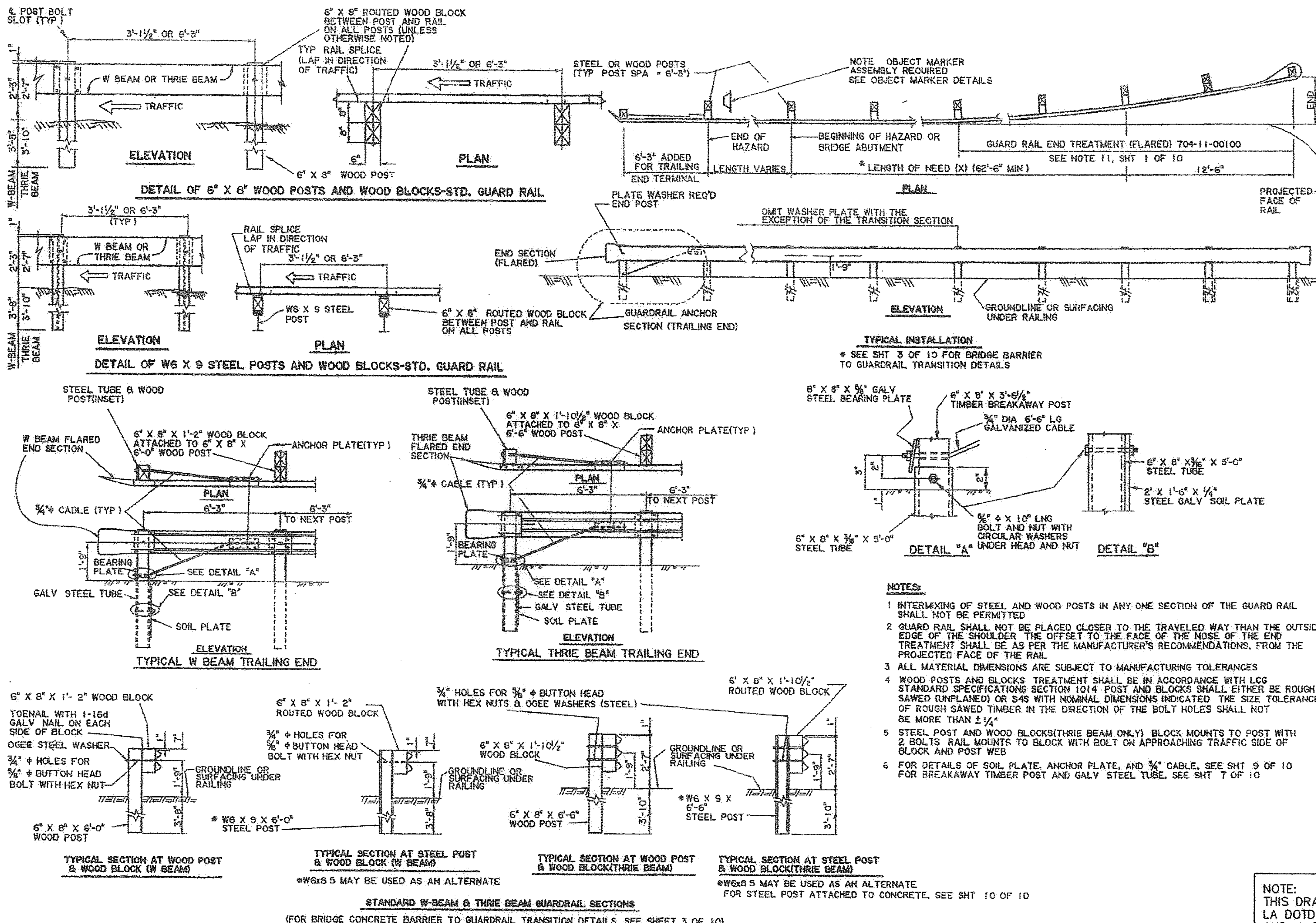

NOTES:

1. INTERMIXING OF STEEL AND WOOD POSTS IN ANY ONE SECTION OF THE GUARD RAIL SHALL NOT BE PERMITTED
2. GUARD RAIL SHALL NOT BE PLACED CLOSER TO THE TRAVELED WAY THAN THE OUTSIDE EDGE OF THE SHOULDER THE OFFSET TO THE FACE OF THE NOSE OF THE END TREATMENT SHALL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS, FROM THE PROJECTED FACE OF THE RAIL
3. ALL MATERIAL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES
4. WOOD POSTS AND BLOCKS TREATMENT SHALL BE IN ACCORDANCE WITH LCG STANDARD SPECIFICATIONS SECTION 1014 POST AND BLOCKS SHALL EITHER BE ROUGH SAWED (UNPLANED) OR S4S WITH NOMINAL DIMENSIONS INDICATED THE SIZE TOLERANCE OF ROUGH SAWED TIMBER IN THE DIRECTION OF THE BOLT HOLES SHALL NOT BE MORE THAN ± 1/4"
5. STEEL POST AND WOOD BLOCKS(THRIE BEAM ONLY) BLOCK MOUNTS TO POST WITH 2 BOLTS RAIL MOUNTS TO BLOCK WITH BOLT ON APPROACHING TRAFFIC SIDE OF BLOCK AND POST WEB
6. FOR DETAILS OF SOIL PLATE, ANCHOR PLATE, AND 3/4" CABLE, SEE SHT 9 OF 10 FOR BREAKAWAY TIMBER POST AND GALV STEEL TUBE, SEE SHT 7 OF 10

NOTE:
THIS DRAWING WAS ADAPTED FROM LA DOTD STANDARD PLAN NO. GR-200 AND HAS BEEN REVIEWED FOR DESIGN ADEQUACY FOR THIS PROJECT.

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QA/QC: ____	DATE: __/__

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CITY OF MANDEVILLE, LOUISIANA

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HIGHWAY GUARD RAILS
GUARD RAIL LAYOUT AND SECTIONS

WORKING NUMBER:
SHEET NUMBER: 207 OF X

NOTES

1 THE SPECIAL ANCHOR SECTION HAS NOT BEEN TESTED AS A CRASHWORTHY END TREATMENT FOR APPROACHING TRAFFIC ON THE MAIN HIGHWAY THEREFORE, ITS USE SHALL BE LIMITED TO THE APPROACH ROADWAY SUCH AS DRIVEWAYS OR SERVICE ROADWAYS IF THE APPROACH ROADWAY CARRIES MAJOR TRAFFIC, A CRASHWORTHY END TREATMENT, PAY ITEM 704-11-00100, 704-11-00200, OR 704-11-300, SHALL BE USED IN LIEU OF THE SPECIAL ANCHOR SECTION.

2 THE CURVED GUARD RAIL SECTION SHALL BE SHOP BENT

3 THE RAIL IS NOT BOLTED TO THE CRT POST AT THE CENTER OF THE NOSE AS SHOWN

4 NO WASHERS ARE USED ON THE ⅝" ϕ BUTTON HEAD BOLTS CONNECTING THE RAIL TO THE CABLE RELEASE TERMINAL (CRT) POSTS

5 ATTACH W-BEAM TO STEEL PIPE WITH 2" LG X ⅝" BUTTON HEAD BOLT WITH NO WASHER NO CONNECTION TO POST IS REQUIRED

6 BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 307 AND NUTS TO THE REQUIREMENTS OF ASTM A 563, GRADE A OR BETTER, AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153

7 WIRE ROPE CABLE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 30 AND SHALL BE ¾" PREFORMED,6 X 19, WIRE STRAND CORE OR INDEPENDENT WIRE ROPE CORE, GALVANIZED, RIGHT REGULAR LAY,MANUFACTURED OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,000 LBS

8 ALL ANGLES, CHANNELS AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 36 AND STRUCTURAL TUBING TO ASTM A 500 WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE ANSI/AASHTO/AWS, BRIDGE WELDING CODE ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123 NO PUNCHING, DRILLING, CUTTING OR WELDING WILL BE PERMITTED AFTER GALVANIZING

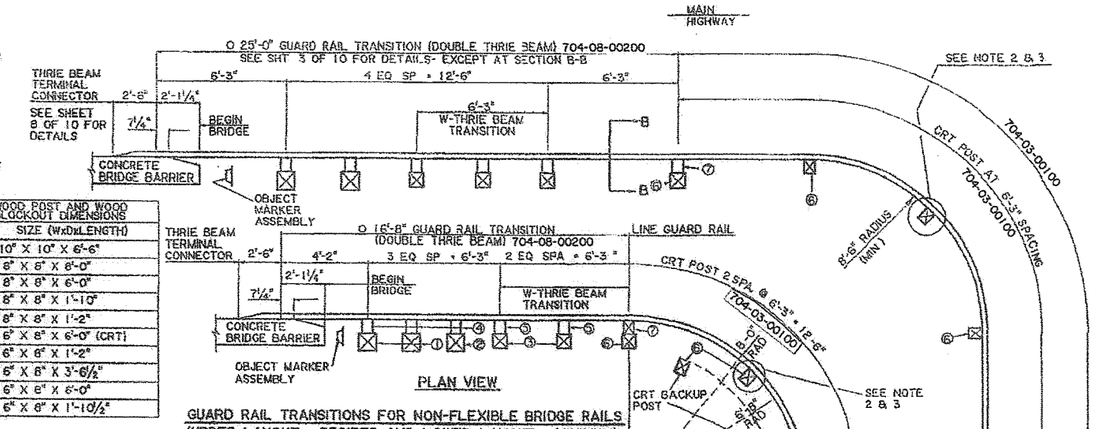
9 THE WOOD BREAKAWAY POST SHALL BE S4S TIMBER WITH A STRESS GRADE OF 1200 PSI AND SHALL BE GRADE MARKED OR CERTIFIED BY A RECOGNIZED ASSOCIATION OR AGENCY WHICH IS CERTIFIED BY THE BOARD OF REVIEW, AMERICAN LUMBER STANDARDS COMMITTEE, TO GRADE THE SPECIES

10 FOR BOLT DETAILS, SEE SHEET NO 9 OF 10

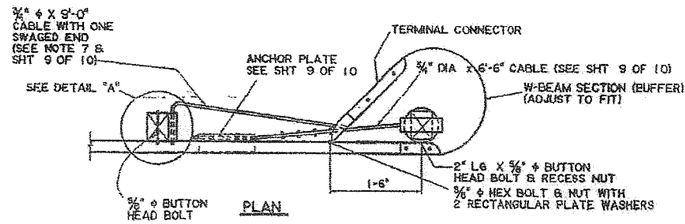
11 WOOD POST AND BLOCKS SHALL BE TREATED IN ACCORDANCE WITH SECTION 1014 OF LCG STD SPECIFICATIONS

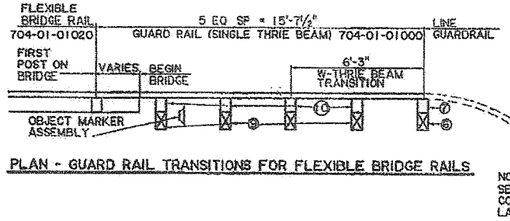
O 12 10'-0" LONG CURB REQUIRED, SEE SHEET 3 OF 10 FOR DETAILS

WOOD POST AND WOOD BLOCKOUT DIMENSIONS		
NO.	SIZE (WxDxLENGTH)	
①	10" X 10" X 6'-6"	
②	8" X 8" X 6'-0"	
③	8" X 8" X 6'-0"	
④	8" X 8" X 1'-10"	
⑤	8" X 8" X 1'-2"	
⑥	8" X 8" X 6'-0" (CRT)	
⑦	6" X 6" X 1'-2"	
⑧	6" X 6" X 3'-6½"	
⑨	6" X 6" X 6'-0"	
⑩	6" X 6" X 1'-10½"	



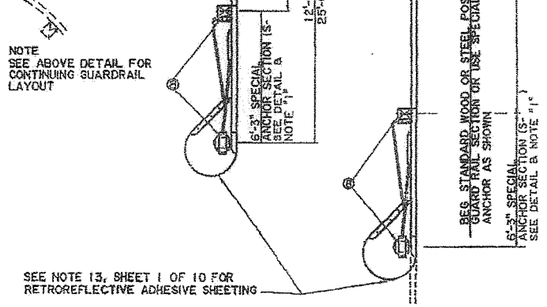
GUARD RAIL TRANSITIONS FOR NON-FLEXIBLE BRIDGE RAILS
(UPPER LAYOUT - DESIRED AND LOWER LAYOUT - MINIMUM)
(O-SEE NOTE 12)

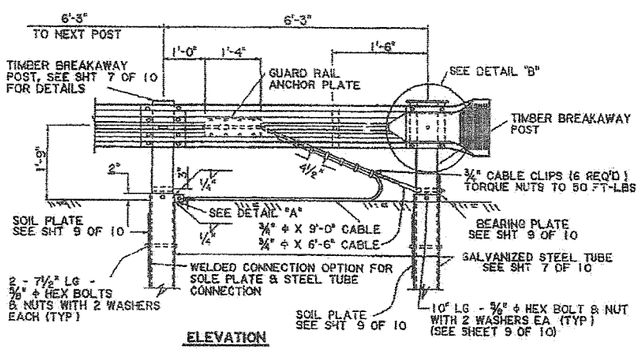




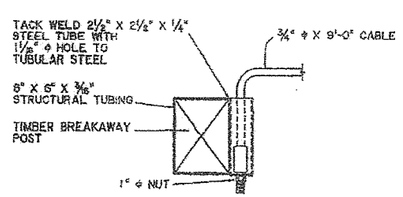
PLAN - GUARD RAIL TRANSITIONS FOR FLEXIBLE BRIDGE RAILS

NOTE
SEE ABOVE DETAIL FOR CONTINUING GUARDRAIL LAYOUT

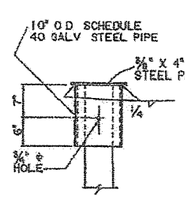




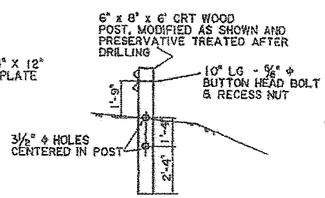
SPECIAL ANCHOR SECTION



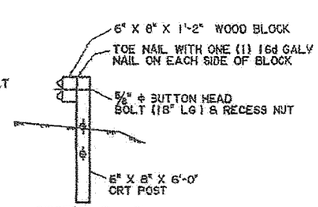
DETAIL "A" - PLAN



DETAIL "B"



SECTION A - A



SECTION B - B

NOTE:
THIS DRAWING WAS ADAPTED FROM LA DOTD STANDARD PLAN NO. GR-200 AND HAS BEEN REVIEWED FOR DESIGN ADEQUACY FOR THIS PROJECT.

REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.08632.000	
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				DSGN: ___	DATE: __/____/____
				DRWN: BRG	DATE: __/____/____
				CHKD: WDL	DATE: __/____/____
				QA/QC: ___	DATE: __/____/____

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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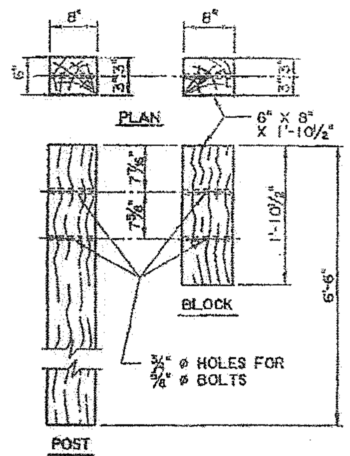
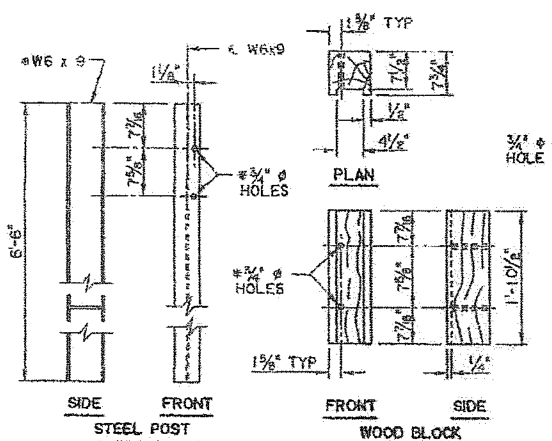
HIGHWAY GUARD RAILS
BRIDGE ENDS
(T-INTERSECTION)

WORKING NUMBER:

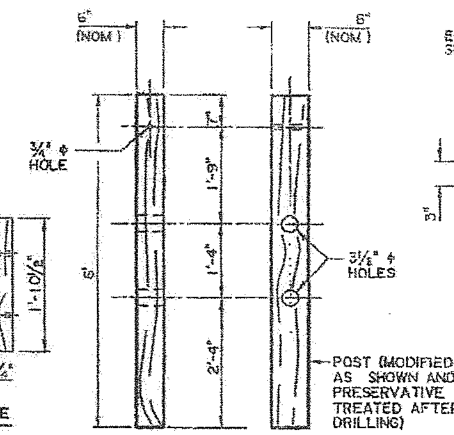
SHEET NUMBER:
208 OF X



WOOD POST AND WOOD BLOCK FOR STANDARD THRIE BEAM GUARD RAIL

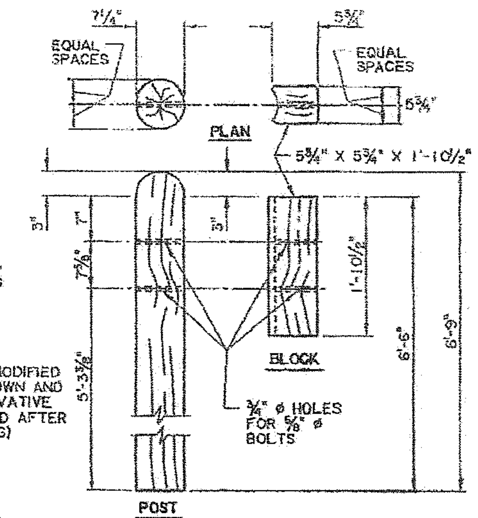


STEEL POST AND ROUTED WOOD BLOCK FOR STANDARD THRIE BEAM GUARD RAIL

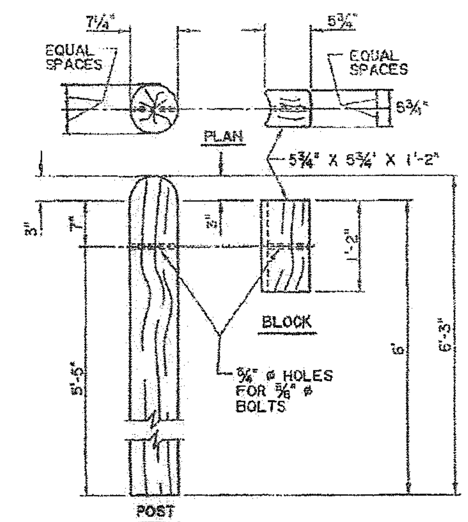


CONTROL RELEASING TERMINAL (CRT) WOOD POST

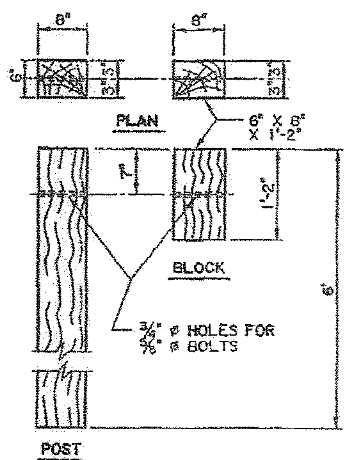
(USED AT T-INTERSECTION DETAILS, SEE SHT 6 OF 10)



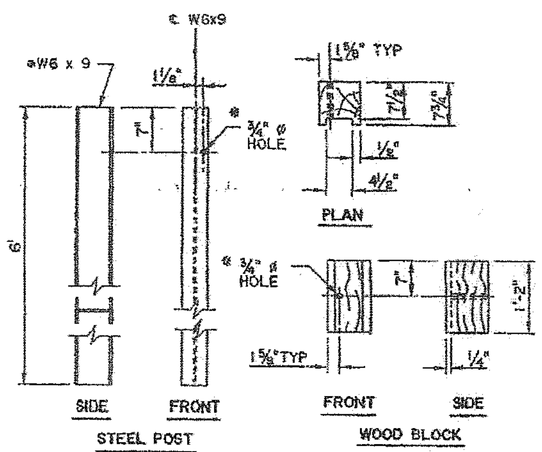
⊕ ROUND WOOD POST AND WOOD BLOCK FOR STANDARD THRIE BEAM GUARD RAIL



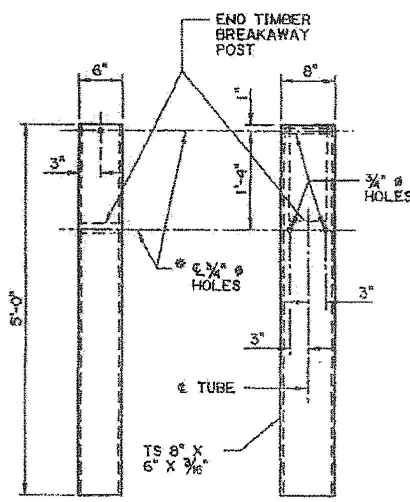
⊕ ROUND WOOD POST AND WOOD BLOCK FOR STANDARD W - BEAM GUARD RAIL



WOOD POST AND WOOD BLOCK FOR STANDARD W - BEAM GUARD RAIL

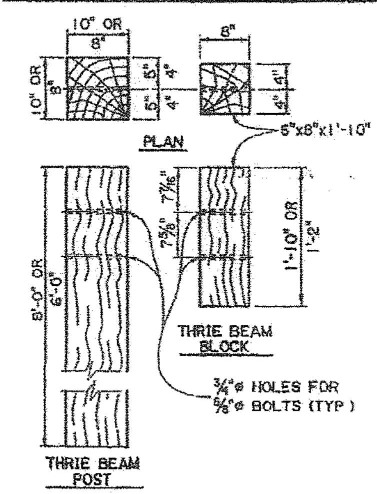


STEEL POST AND ROUTED WOOD BLOCK FOR STANDARD W - BEAM GUARD RAIL



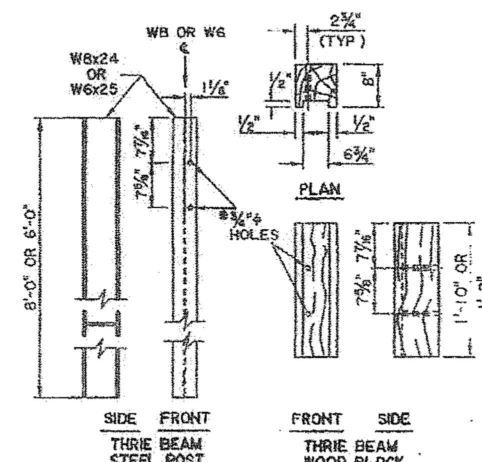
GALVANIZED STEEL TUBE

(FOR SPECIAL ANCHOR SECTION, TRAILING END SECTION OR BCT SECTION. SEE SHT 4 OR 6 OF 10)



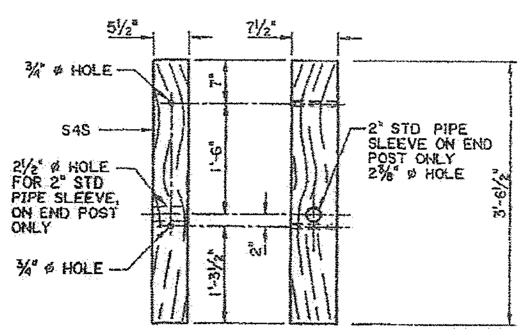
WOOD POST AND WOOD BLOCK FOR THRIE BEAM TRANSITION TO BRIDGE RAIL

(POST SIZE, BLOCK SIZE AND HOLE LOCATIONS VARIES WITH LOCATION IN TRANSITION. SEE SHEET 3 OF 10)



STEEL POST AND ROUTED WOOD BLOCK FOR THRIE BEAM TRANSITION TO BRIDGE RAIL

(POST SIZE, BLOCK SIZE AND HOLE LOCATIONS VARIES WITH LOCATION IN TRANSITION. SEE SHEET 3 OF 10)



TIMBER BREAKAWAY POST

(FOR SPECIAL ANCHOR SECTION, TRAILING END SECTION OR BCT SECTION. SEE SHT 4 OR 6 OF 10)

NOTES:

⊕ 1 THE ROUND WOOD POST AND WOOD BLOCKOUT IS ALLOWED TO REPLACE THE 6" X 8" STANDARD LINE POST AND BLOCKOUT FOR W BEAM AND THRIE BEAM GUARD RAIL. THE ROUND WOOD POST SHALL NOT BE USED AS AN ALTERNATE FOR THE CRT POST, THE BCT POST, AND THE THRIE BEAM TRANSITION POSTS SECTION FOR THE CONCRETE BRIDGE RAIL.

2 A RECYCLED BLOCK ALTERNATE IS ALLOWED AS A SUBSTITUTE FOR THE WOOD BLOCK ON A 1 FOR 1 BASIS AT NO ADDITIONAL PAYMENT. THE RECYCLED BLOCK MUST HAVE FHWA APPROVAL AND MEET NCHRP 350 REQUIREMENTS.

* 3 A W6x8.5 STEEL POST MAY BE USED AS AN ALTERNATE FOR A W6 X 9 POST

* 4 POST AND BLOCK HOLES SHOULD BE DRILLED ADJACENT TO THE DIRECTION OF TRAFFIC

NOTE:
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REVISIONS			
NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION	
N-S PROJECT NO.: NS.08632.000	
FILENAME: SHEET 209.dwg	
SCALE: 1" = 10'	
SURVEYED BY: N/A	
DSGN: ____	DATE: __/__
DRWN: BRG	DATE: __/__
CHKD: WDL	DATE: __/__
QA/QC: ____	DATE: __/__

MANDEVILLE LAKEFRONT WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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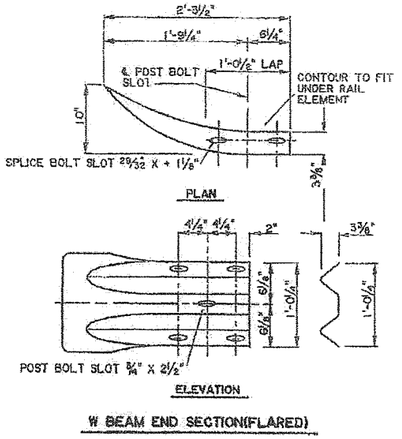
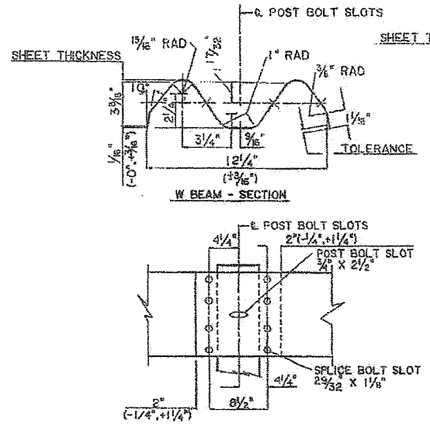
HIGHWAY GUARD RAILS
GUARD RAIL POST AND BLOCK

WORKING NUMBER:

SHEET NUMBER: 209 OF X

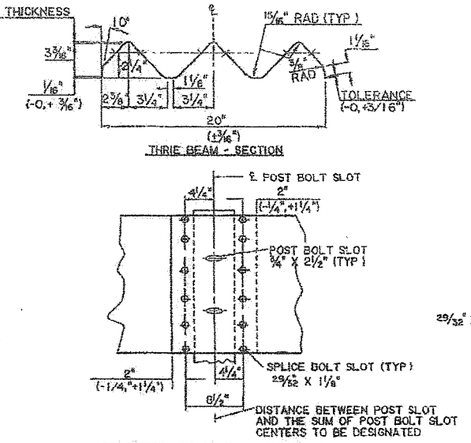


W BEAM END SECTION(FLARED)



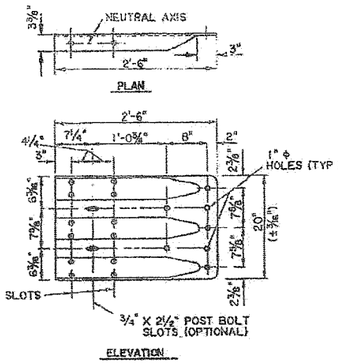
5/8" ϕ X 1 1/4" BUTTON HEAD OVAL SHOULDER BOLTS WITH 5/8" ϕ RECESSED HEX NUTS-TOTAL 8 PER SPLICE AND 4 PER TERMINAL SECTION LAP IN DIRECTION OF TRAFFIC

W BEAM GUARD RAIL ELEMENT

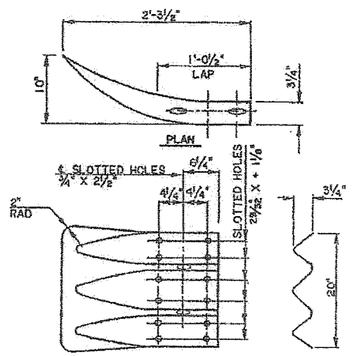


5/8" ϕ X 1 1/4" BUTTON HEAD OVAL SHOULDER BOLTS WITH 5/8" ϕ RECESSED HEX NUTS-TOTAL 12 PER SPLICE AND 4 PER TERMINAL SECTION LAP IN DIRECTION OF TRAFFIC

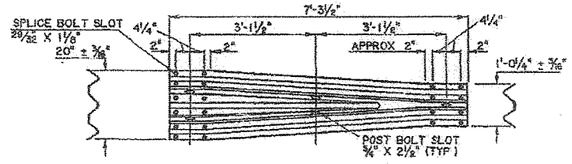
THRIE BEAM GUARD RAIL ELEMENT



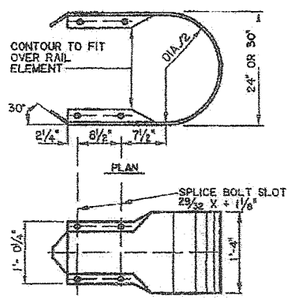
TERMINAL CONNECTOR (THRIE BEAM)



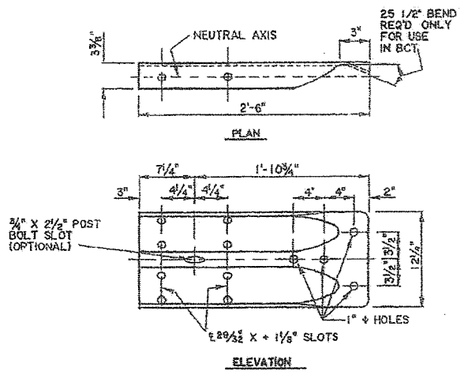
FLARED END SECTION FOR THRIE BEAM



W/THRIE BEAM TRANSITION ELEVATION



W BEAM END SECTION (BUFFER)



W BEAM TERMINAL CONNECTOR

NOTES:

1. ALL RAIL COMPONENTS EXCEPT THE W AND THRIE BEAM TERMINAL CONNECTORS SHALL MEET AASHTO M 180 CLASS "A" METAL THICKNESS WITH A TYPE II COATING THE W BEAM AND THRIE BEAM TERMINAL CONNECTORS SHALL BE CLASS "B" METAL THICKNESS WITH TYPE II COATING

NOTE:
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REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.08632.000	
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				DSGN: ___	DATE: __/____
				DRWN: BRG	DATE: __/____
				CHKD: WDL	DATE: __/____
				QA/QC: ___	DATE: __/____

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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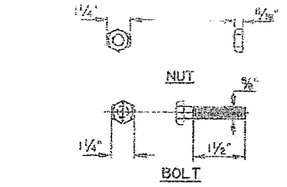
HIGHWAY GUARD RAILS
RAIL STRUCTURAL DETAILS

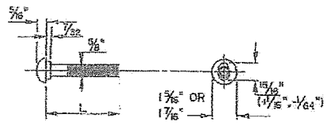
WORKING NUMBER:

SHEET NUMBER:
210 OF X

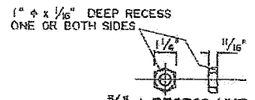
M:\PROJECTS\LOUISIANA\NS632 MANDEVILLE WETLANDS RESTORATION\DWG\SHEET 210.DWG 5/4/2012 2:49 PM



⅝" ϕ HEX BOLT & HEX NUT
(FOR FASTENING THE ANCHOR PLATE TO RAIL OR POST)



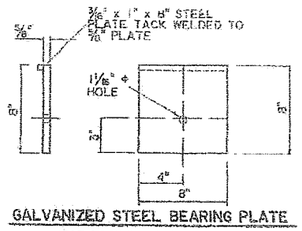
⅝" ϕ BUTTON HEAD BOLT



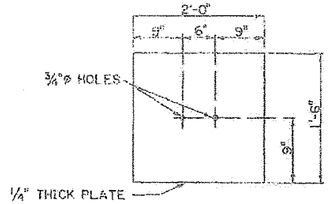
⅝" ϕ RECESS NUT

⅝" BUTTON HEAD BOLT	
L	THREAD LENGTH
1¼"	1 3/16"
2"	1¾"
10"	4"
1'-6"	4"
1'-8"	4"

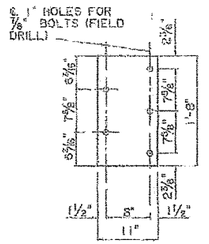
GUARD RAIL SPLICE, POST BOLT AND RECESS NUT



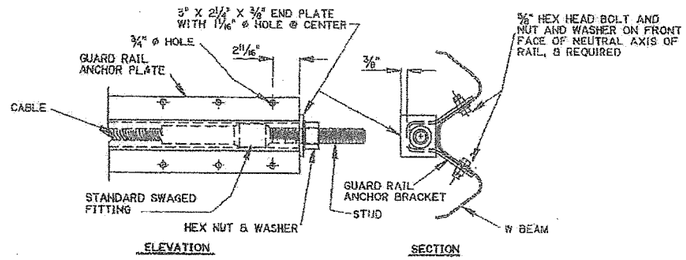
GALVANIZED STEEL BEARING PLATE
(FOR TRAILING END, SPECIAL
ANCHOR SECTION OR BCT)



GALVANIZED SOIL PLATE
(FOR TRAILING END, SPECIAL
ANCHOR SECTION OR BCT))

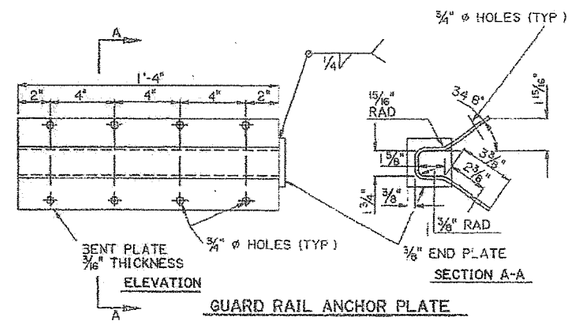


⅝" BEARING PLATE
(FOR ANCHORING THRIE BEAM
TO CONCRETE BARRIER RAIL)



ELEVATION-BRACKET & FITTING

ANCHOR PLATE ASSEMBLY DETAILS
(FOR TRAILING END, SPECIAL ANCHOR SECTION OR BCT)



GUARD RAIL ANCHOR PLATE

NOTES:

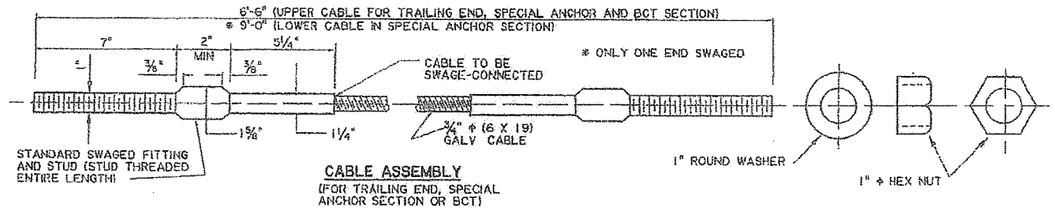
⅝" DIA BUTTON HEAD BOLTS

(1¼" LENGTH) THIS BOLT IS USED TO SPLICE RAIL ELEMENTS USED IN THE STANDARD CORRUGATED SHEET STEEL BEAM GUARD RAIL
(2" LENGTH) THIS BOLT IS FOR FASTENING RAILS TO STEEL POSTS WHEN USED IN THE STANDARD CORRUGATED SHEET STEEL BEAM GUARD RAIL
(10" LENGTH) THIS BOLT IS FOR FASTENING RAILS TO WOOD POSTS IN THE STANDARD CORRUGATED SHEET STEEL BEAM GUARD RAIL
(1'-6" LENGTH) THIS BOLT IS FOR FASTENING RAILS TO WOOD BLOCKS & POSTS IN THE STANDARD CORRUGATED SHEET STEEL BEAM
(1'-8" LENGTH) THIS BOLT IS FOR FASTENING NESTED THRIE BEAM TO WOOD BLOCKS AND POSTS AT THE FIRST TWO POST LOCATIONS AT THE ENDS OF A RIGID (CONCRETE) STRUCTURE, UNLESS OTHERWISE SHOWN IN THE PLANS

⅝"ϕ BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 307 AND NUTS TO THE REQUIREMENTS OF ASTM A 563 GRADE A OR BETTER BOLTS AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153

STEEL POSTS & PLATES

ALL STEEL POSTS AND PLATES SHALL CONFORM TO ASTM A 36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. NO PUNCHING, DRILLING OR CUTTING WILL BE PERMITTED AFTER GALVANIZING



CABLE ASSEMBLY
(FOR TRAILING END, SPECIAL
ANCHOR SECTION OR BCT)

NOTE:
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REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.08632.000	
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				QA/QC: ___	DATE: __/____

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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Solutions you can build upon

HIGHWAY GUARD RAILS
STRUCTURAL DETAILS

WORKING NUMBER:	SHEET NUMBER:
	211 of X

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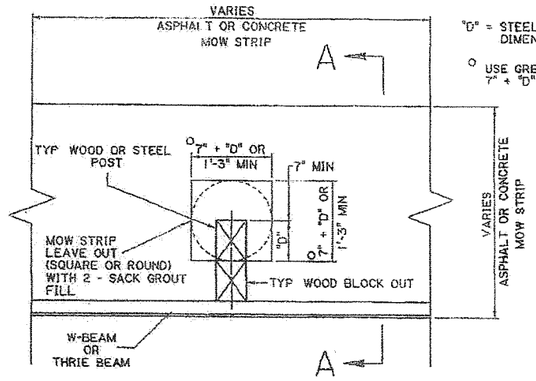
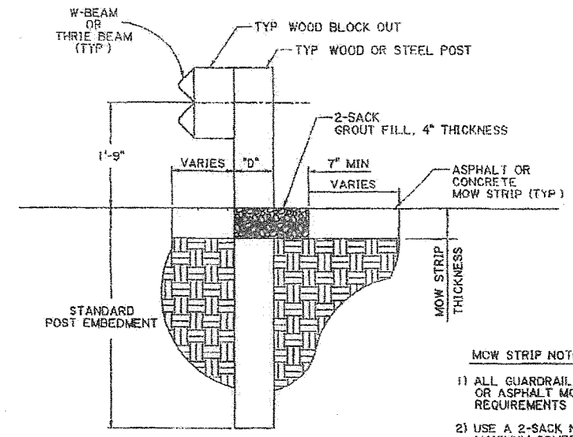


PLAN



SECTION A-A

MOW STRIP NOTES

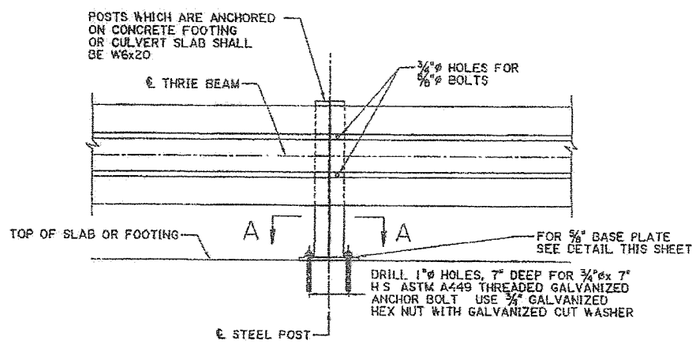
1) ALL GUARDRAIL POSTS LOCATED WITHIN CONCRETE OR ASPHALT MOW STRIPS SHALL MEET INSTALLATION REQUIREMENTS SHOWN ON THIS SHEET

2) USE A 2-SACK NON-SHRINK GROUT FILL WITH A MAXIMUM COMPRESSIVE STRENGTH OF 120 PSI

3) ALL LABOR AND MATERIALS TO PLACE 2-SACK GROUT FILL (4" THICKNESS) SHALL BE INCLUDED IN PAYMENT FOR CONCRETE OR ASPHALT PAVING PAY ITEMS

W-BEAM AND THRIE-BEAM GUARD RAIL INSTALLATIONS FOR CONCRETE OR ASPHALT PAVEMENT MOWING STRIPS

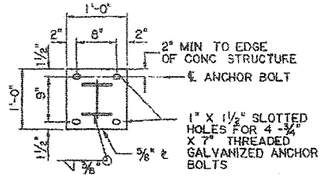
(FOR WOOD OR STEEL POSTS)



STEEL POST ATTACHED TO CONCRETE

SPECIAL POST WITH BASE PLATE TO BE USED WHEN REQUIRED EMBEDMENT OF CONVENTIONAL POST IN SOIL CANNOT BE OBTAINED

W6 X 20 STEEL POST TO USE 6" X 8" WOOD BLOCK AS SHOWN ON SHT 7 OF 10 ON DETAIL FOR STEEL POST AND ROUTED WOOD BLOCK FOR THRIE BEAM TRANSITION TO BRIDGE RAIL DETAIL



SECTION A-A - GALVANIZED STEEL BASE PLATE

ANCHOR BOLT INSTALLATION

ALL HOLES (VERTICAL OR HORIZONTAL) DRILLED INTO AN EXISTING CONCRETE STRUCTURE SHALL BE CLEANED WITH COMPRESSED AIR AND MAKE THEM FREE OF ANY OIL OR RESIDUE. HOLES SHALL BE FILLED WITH EPOXY INJECTION SYSTEM AS LISTED ON QPL 40. PLACE ANCHOR BOLT IN HOLE IMMEDIATELY AND WAIT FOR THE MANUFACTURERS CURE TIME

NOTE:
THIS DRAWING WAS ADAPTED FROM LA DOTD STANDARD PLAN NO. GR-200 AND HAS BEEN REVIEWED FOR DESIGN ADEQUACY FOR THIS PROJECT.

REVISIONS			
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MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
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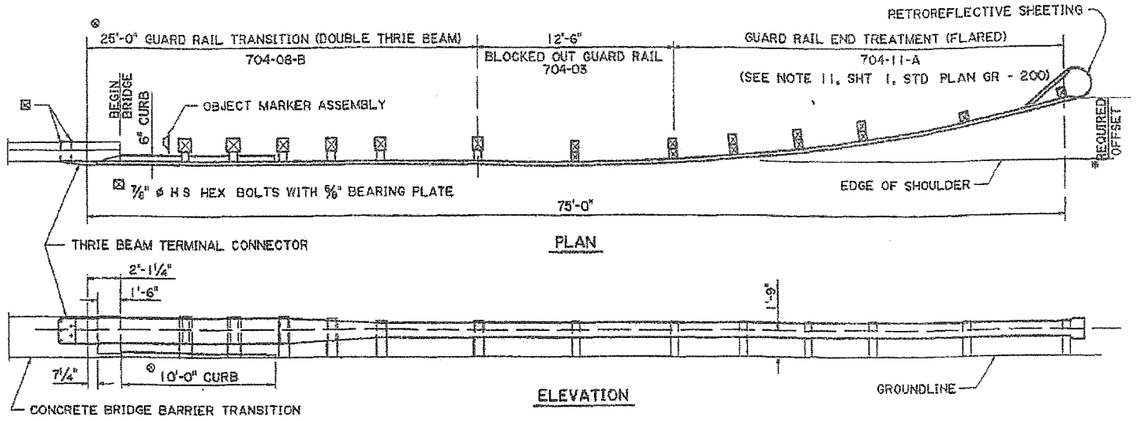
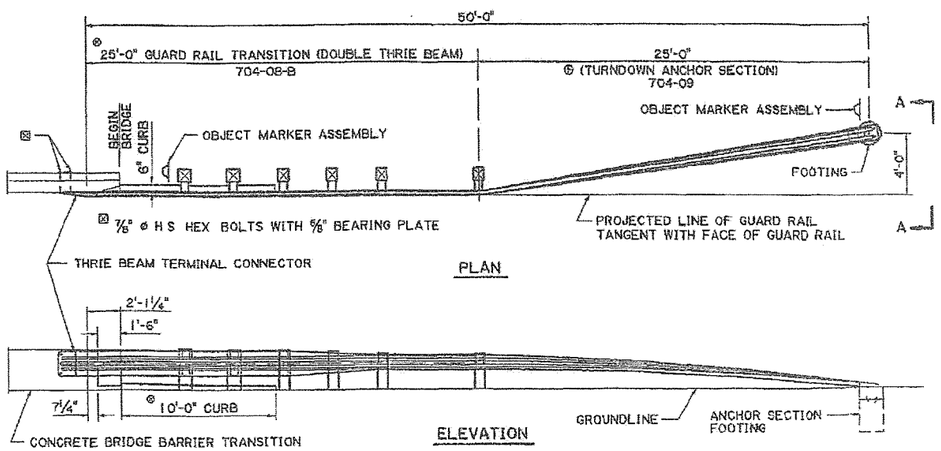
HIGHWAY GUARD RAILS
MISCELLANEOUS DETAILS

WORKING NUMBER:

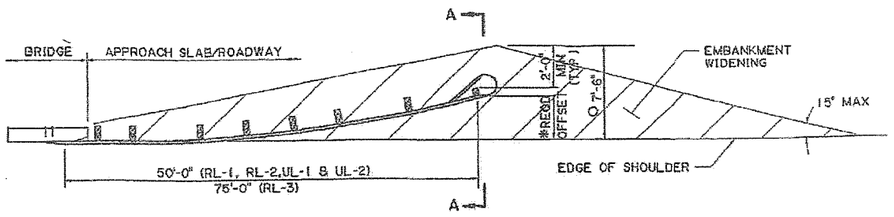
SHEET NUMBER:
212 OF X



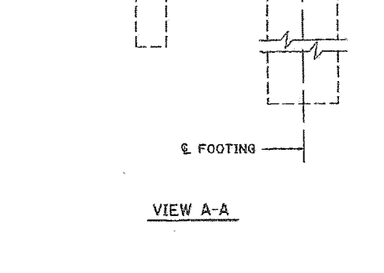
RL-3 LAYOUT



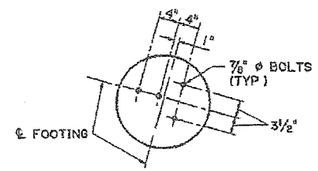
RL-1, RL-2, UL-1 & UL-2 LAYOUT



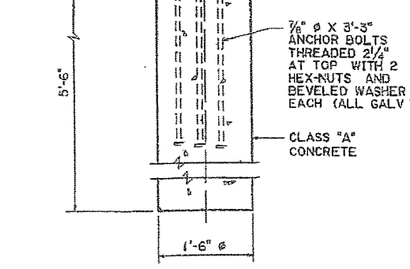
TYPICAL PLAN FOR EMBANKMENT WIDENING
(TYPICAL FOR EACH END OF BRIDGE)



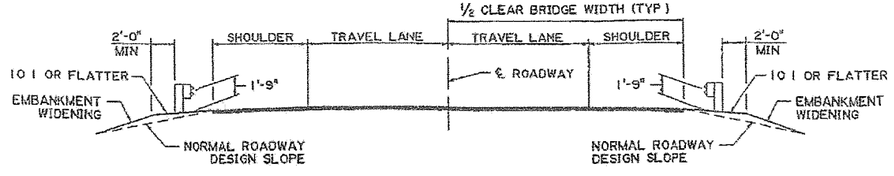
VIEW A-A



VIEW B-B



ANCHOR SECTION FOOTING



TYPICAL CROSS SECTION A-A AT EMBANKMENT WIDENING

NOTES:

1) FOR ADDITIONAL GUARD RAIL DETAILS AND INFORMATION, SEE STANDARD PLAN GR-200

2) FOR CONCRETE BRIDGE BARRIER TRANSITION DETAILS, SEE BRIDGE PLANS.

3) THE GUARD RAIL TRANSITION SHALL BE PAID FOR UNDER ITEM 704-08-B AND THE TURNDOWN ANCHOR SECTION (INCLUDING THE FOOTING) SHALL BE PAID FOR UNDER ITEM 704-09

OBJECT MARKERS SHALL BE PAID FOR UNDER ITEM 729-16

THE QUANTITY FOR THE EMBANKMENT WIDENING AT BRIDGE ENDS SHALL BE INCLUDED IN THE EMBANKMENT QUANTITY FOR THE ROADWAY

⊕ 4) TURNDOWN GUARD RAIL SECTION CONSISTS OF RAIL SECTION(S) TWISTED THROUGH 90° A SPLICE IS PERMITTED AT CONTRACTORS OPTION

* 5) USE REQUIRED OFFSET AS PER GUARD RAIL END TREATMENT SPECIAL PROVISIONS

○ 6) EMBANKMENT WIDENING WIDTH BASED ON 4' GUARD RAIL END TREATMENT OFFSET.

⊗ 7) 10'-0" LONG CURB REQUIRED SEE SHT. 3, GR-200 STD PLAN FOR DETAILS

NOTE:
THIS DRAWING WAS ADAPTED FROM LA DOTD STANDARD PLAN NO. GR-203A AND HAS BEEN REVIEWED FOR DESIGN ADEQUACY FOR THIS PROJECT.

REVISIONS			
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QA/QC: ___	DATE: __/____/____

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CITY OF MANDEVILLE, LOUISIANA

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GUARD RAIL DETAILS

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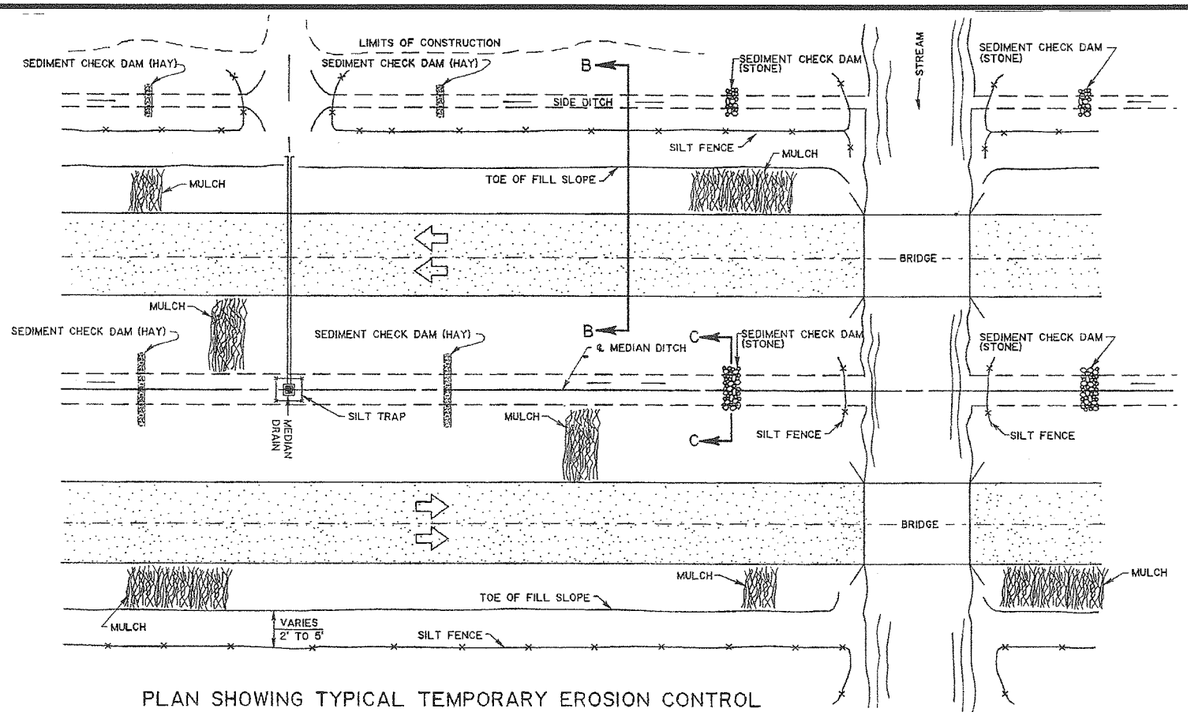
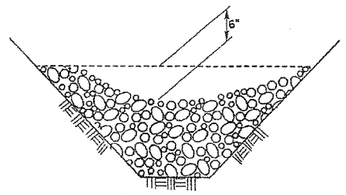


PLAN SHOWING TYPICAL TEMPORARY EROSION CONTROL

MULCHES

Mulches are the application of mats of material placed on the soil surface to prevent erosion by protecting the soil surface from raindrop impact and to reduce the velocity of overland flow. Mulches can be organic or synthetic. Mulches shall be in accordance with subsection 1018.19 of the LCG Standard Specifications. A few guidelines for the use of Mulches are:

1. Use on cut and embankment slopes which have not been completed to plan grade or where the weather or soil conditions will not permit completing them within a reasonable time;
2. Use on cleared , grubbed, and scalped areas where soil erosion is likely to occur;
3. Use with temporary seeding.



SECTION C-C

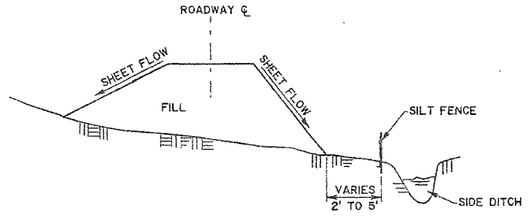
TEMPORARY SEDIMENT CHECK DAM (STONE)

PAY ITEM: 204(05)(B), TEMPORARY SEDIMENT CHECK DAM (STONE)

NOTES:

A stone check dam is a small temporary dam constructed across a swale or drainage ditch. The purpose of this measure is to reduce the velocity of concentrated stormwater flows, thereby reducing erosion of the swale or ditch. The stone check dam will trap small amounts of sediments generated in the ditch itself, however it should not be used as a sediment trapping device. A few basic design guidelines for the use of Stone Check Dams are:

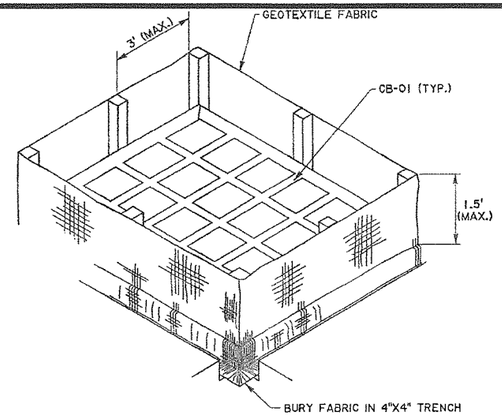
1. Use in small open channels which drain 10 acres or less;
2. Do not use in a live stream;
3. Use in a temporary ditch or swale which, because of their short length of service, cannot receive a non-erodible lining;
4. Use in permanent ditches or swales which will not receive a permanent lining for an extended period of time;
5. Use in temporary or permanent ditches or swales which need protection during the establishment of grass linings.
6. For stone specifications see subsection 711.02(a)(Class 2LB.) of the LCG Standard Specifications.



SECTION B-B

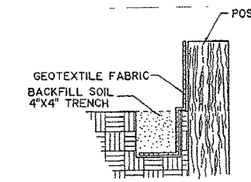
TEMPORARY SILT FENCE APPLICATION

(FOR CONSTRUCTION DETAILS AND SPECIFICATIONS SEE SHEET 2 OF 2.)



ISOMETRIC VIEW SHOWING GEOTEXTILE FABRIC

(BACKFILL SOIL NOT SHOWN)

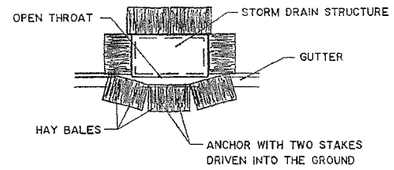


SECTION THRU TRENCH SHOWING GEOTEXTILE FABRIC

NOTES:

The temporary drop inlet silt trap is to be used for small drainage areas (less than 1 acre) where the storm drain is functional before the area is stabilized. The trap can be either geotextile fabric or hay bales.

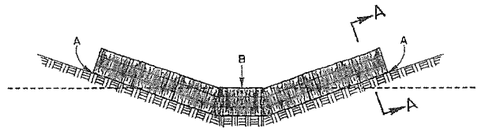
1. The geotextile fabric shall conform to Section 1019 (Type G) of the LCG Standard Specifications.
2. Wooden stakes supporting the fabric shall be 2" x 2" or 2" x 4" with a minimum length of 3 feet. The stakes shall be spaced around the inlet at a maximum spacing of 3 feet.
3. The height of the fabric above the inlet shall be limited to 1.5' and the bottom of the fabric shall be buried in a trench approximately 4" wide by 4" deep. The fabric shall be stapled to the post with ½" staples.
4. The trap should be inspected regularly and after each storm. The sediment should be removed and make sure each stake is firmly in the ground.



PLAN SHOWING HAY BALES

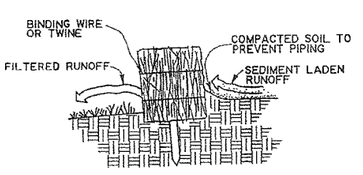
PAY ITEM: 204(02), TEMPORARY BALED HAY OR STRAW

TEMPORARY INLET SILT TRAP



POINTS A SHOULD BE HIGHER THAN POINT B.

ELEVATION



SECTION A-A

TEMPORARY SEDIMENT CHECK DAM (HAY)

PAY ITEM: 204(05)(A), TEMPORARY SEDIMENT CHECK DAM (HAY)

NOTES:

A hay bale barrier is a temporary sediment barrier consisting of a row of entrenched and anchored bales of straw or hay. The hay bale barrier is also used as a check dam to reduce the velocity in small ditches or swales. The hay bales shall be in accordance with LCG Standard Specifications, Section 204. A few basic design guidelines for the use of a Hay Bale Barrier are:

1. Use where erosion would occur in the form of sheet and rill erosion;
2. Use in minor swales or ditches where the maximum drainage area is 2 acres;
3. Only use where the effectiveness is required for less than 3 months;
4. Do not use in live streams or in swales or ditches where there is a possibility of a washout.

NOTE:
THIS DRAWING WAS ADAPTED FROM LA DOTD STANDARD PLAN NO. EC-01 AND HAS BEEN REVIEWED FOR DESIGN ADEQUACY FOR THIS PROJECT.

REVISIONS			
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MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
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TEMPORARY EROSION CONTROL DETAILS

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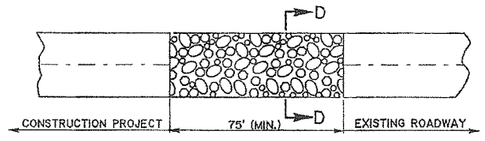


PLAN

SECTION D-D

TEMPORARY STONE CONSTRUCTION ENTRANCE

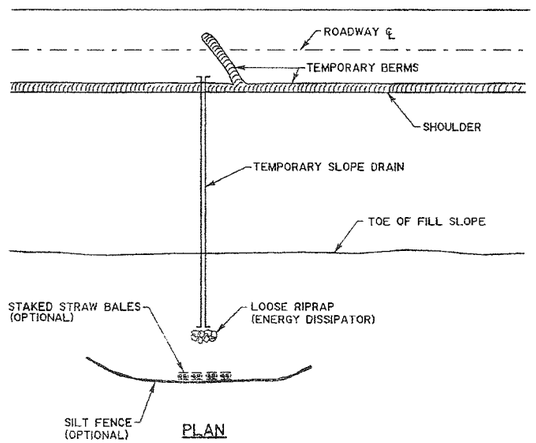
PAY AS "S - ITEM". TEMPORARY STONE CONSTRUCTION ENTRANCE

NOTES:

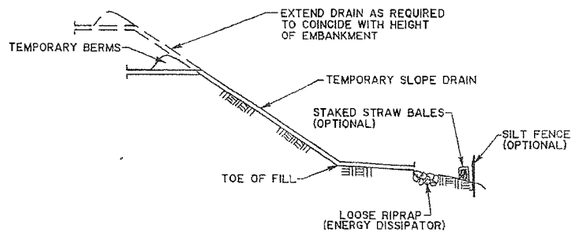
TEMPORARY STONE CONSTRUCTION ENTRANCE AND/OR WASH RACK

A stone stabilized pad located at points of vehicular ingress and egress on the construction site to reduce the amount of mud transported onto public roads. If the action of the vehicle traveling over the gravel pad is not sufficient to remove the majority of the mud, then the tires must be washed before the vehicle enters a public road. A few basic design guidelines for the use of a Stone Construction Entrance and/or Wash Racks are:

1. The stone layer must be at least 6 inches thick;
2. The stone shall conform to Section 711(02)(Class 2LB) of the LCG Standard Specifications;
3. The length of the pad must be at least 75 feet and it must extend the full width of the vehicular ingress and egress;
4. A geotextile fabric underliner is required. The geotextile fabric shall be in accordance with Section 1019 (Type D); of the LCG Standard Specifications;
5. If a wash rack is necessary, provisions must be made to intercept the wash water and trap the sediment before it is carried off-site.



PLAN



ELEVATION

TEMPORARY SLOPE DRAIN

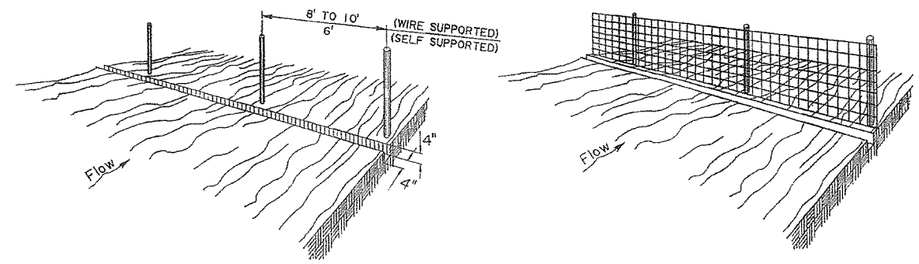
NOTES:

A temporary slope drain is a device used to carry water from the construction work area to a lower elevation. Slope drains may be plastic sheets, metal or plastic pipe, stone gutters, fiber mats, or concrete or asphalt ditches. A few basic design guidelines for the use of a Temporary Slope Drain are:

1. The spacing of the slope drains varies with the road grade.
   For Grades: 0.0% - 2.0% use 500' spacing
   2.1% - 5.0% use 200' "
   Greater than 5.0% use 100' "
2. Slope drain material: Smooth pipe - 8" minimum
   Corrugated pipe - 12" minimum
   Plastic sheeting - 4' wide minimum
   - 3 mils thick min.
3. Plastic sheeting can be staked down or weighted with rocks or logs. The area under the sheeting should be shaped to provide an adequate channel.
4. The outlet end should be protected or have some means of dissipating energy. The flow should be directed through a sediment trap such as a silt fence or hay bales.
5. To insure proper operation, temporary slope drains should be inspected regularly and after each storm, for clogging or displacement. Erosion at the outlet should be checked and the silt traps cleaned if necessary.

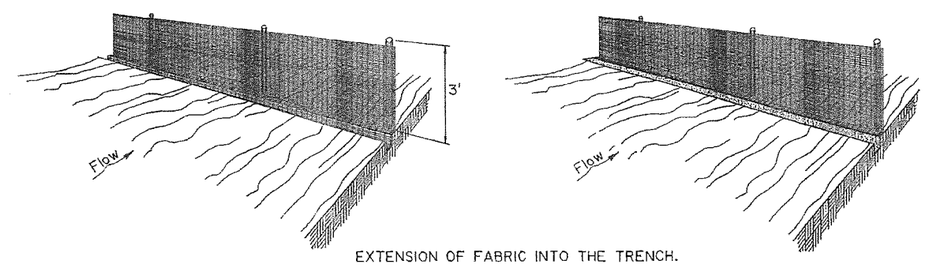
1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.

2. STAPLE WIRE FENCING TO THE POSTS.

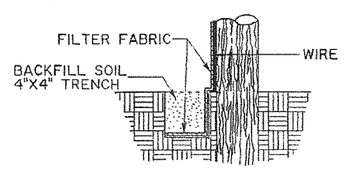


3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.

4. BACKFILL AND COMPACT EXCAVATED SOIL.



EXTENSION OF FABRIC INTO THE TRENCH.



CONSTRUCTION OF TEMPORARY SILT FENCING

(WIRE SUPPORTED SILT FENCE IS SHOWN. SELF SUPPORTED SILT FENCE WILL BE CONSTRUCTED ACCORDING TO MANUFACTURERS SPECIFICATIONS.)

NOTES:

Silt fencing is a temporary sediment barrier consisting of a filter fabric supported by post and stretched across an area to intercept and detain small amounts of sediment. The silt fencing shall be in accordance with Section 204 of the LCG Standard Specifications. A few basic guidelines for the use of Silt Fencing are:

1. Use where erosion would occur in the form of sheet and rill erosion;
2. Use where the maximum drainage area behind the silt fence is ¼ acre per 100 feet of silt fence length;
3. Use where the maximum slope length behind the barrier is 100 feet;
4. Use where the maximum gradient behind the barrier is 2:1;
5. Do not use silt fences in live streams or in ditches or swales where flows exceed one cubic foot per second.

NOTE:
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TEMPORARY EROSION CONTROL DETAILS

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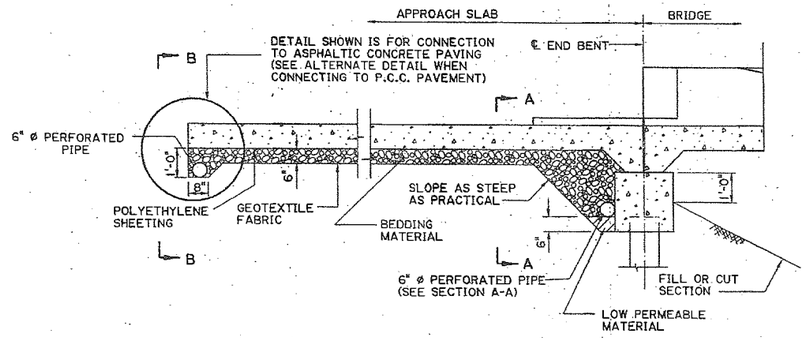
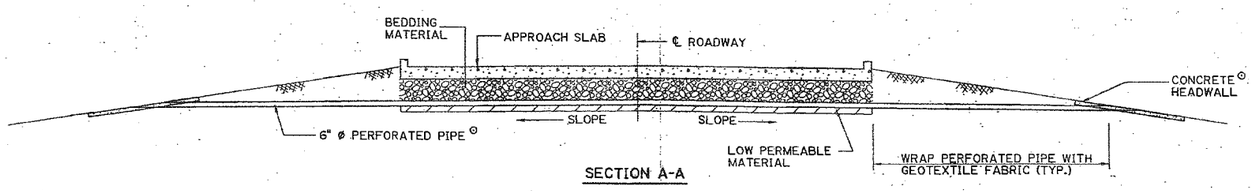


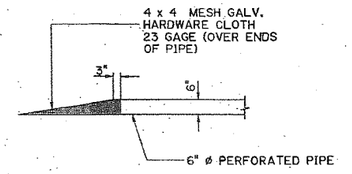
ELEVATION



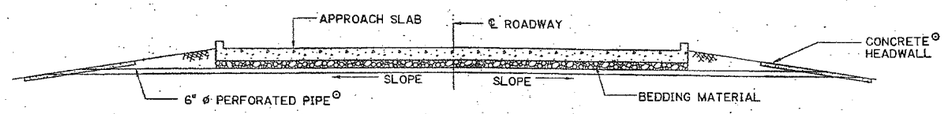
SECTION A-A

NOTES:

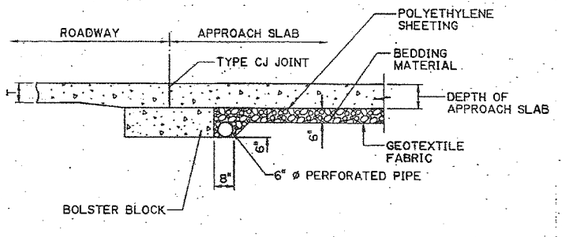
1. POLYETHYLENE SHEETING (6 MIL. THICKNESS) SHALL BE INSTALLED BETWEEN THE BEDDING MATERIAL AND THE APPROACH SLAB. GEOTEXTILE FABRIC SHALL BE INSTALLED DIRECTLY BELOW THE BEDDING MATERIAL. LIMITS SHALL BE THE OUTER EDGES OF THE APPROACH SLAB.
2. UNDERDRAIN MATERIALS AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 813 OF THE STANDARD SPECIFICATIONS.
3. ⊙ FOR ROADWAYS WITH A ONE-WAY TANGENT SLOPE, THE 6" ø PIPE MAY SLOPE ONE-WAY WITH ONLY ONE CONCRETE HEADWALL.
4. LOW PERMEABLE MATERIAL SHALL BE DEFINED AS A SOIL HAVING THE SAME PI LIMITS AS PLASTIC SOIL BLANKETS, SEE SECTION 203.10.
5. GEOTEXTILE FABRIC (CLASS C OR D) SHALL BE WRAPPED AROUND THE PERFORATED PIPE ONLY IN THE AREA OUTSIDE OF THE BEDDING MATERIAL.
6. BEDDING MATERIAL, LOW PERMEABLE MATERIAL, POLYETHYLENE SHEETING, GEOTEXTILE FABRIC, 6" ø PERFORATED PIPE, 4x4 MESH, WELDED WIRE FABRIC, AND CONCRETE HEADWALL AT PIPE ENDS TO BE INCLUDED IN THE PRICE BID FOR 813-01 "CONCRETE APPROACH SLABS."



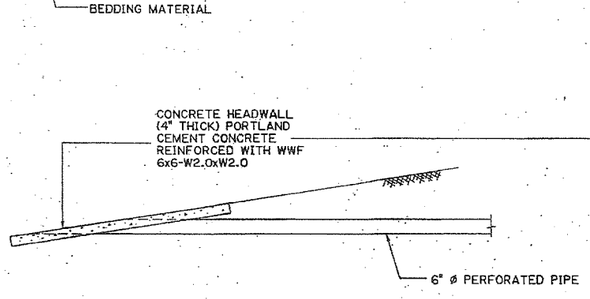
END TREATMENT FOR CROSS DRAIN PIPES
(SHOWING WIRE SCREEN MESH)



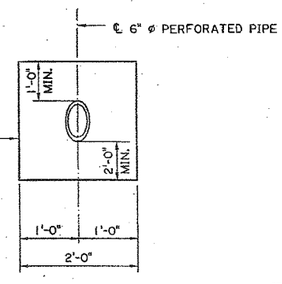
VIEW B-B



ALTERNATE DETAIL FOR P.C.C. PAVEMENT
(FOR CJ JOINT DETAIL, SEE STD. PLAN CP-01)



END TREATMENT FOR CROSS DRAIN PIPES
(SHOWING CONCRETE HEADWALL)



END VIEW CONCRETE HEADWALL

NOTE:
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REVISIONS				DRAWING INFORMATION	
NO.	DATE	BY	DESCRIPTION	N-S PROJECT NO.: NS.08632.000	
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				DSGN: ____	DATE: __/____
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				QA/QC: ____	DATE: __/____

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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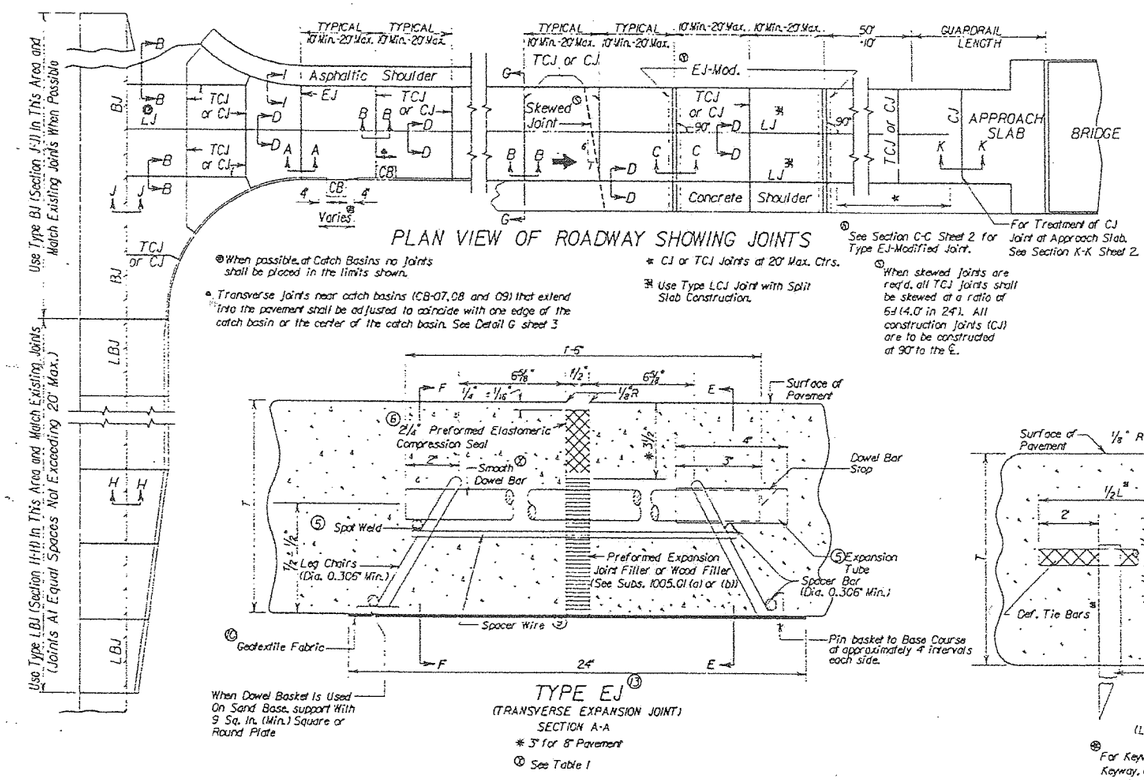
UNDERDRAINS FOR CONCRETE APPROACH SLABS (SLAB SPANS)

WORKING NUMBER:

SHEET NUMBER: 216 OF X



PLAN VIEW OF ROADWAY SHOWING JOINTS

⑥ When possible, at Catch Basins no joints shall be placed in the limits shown.

* Transverse joints near catch basins (CB-07, 08 and 09) that extend into the pavement shall be adjusted to coincide with one edge of the catch basin or the center of the catch basin. See Detail G sheet 3

* CJ or TCJ Joints at 20' Max. Ctrs.

Use Type LCJ Joint with Split Slab Construction.

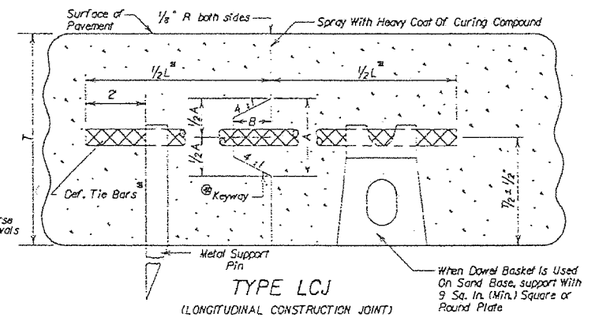
⑤ See Section C-C Sheet 2 for Type EJ-Modified Joint.

⑨ When skewed joints are req'd, all TCJ joints shall be skewed at a ratio of 6:1 (4.0' in 24'). All construction joints (CJ) are to be constructed at 90° to the ℄.

TABLE I
(All dimensions are in Inches.)

Pavement Thickness	Smooth Dowel Bars ⑨			Def. Tie Bars ##			Minimum Depth of Joint		KEYWAY ⑧	
"T"	Size	Length	Spacing	Size	Length	Spacing	TCJ & CJ *	LJ #	A -1/16"	B -1/16"
8	1/4	18	12	1/2	24	24	3	3	2 1/2	1 1/4
9	1/4	18	12	1/2	24	24	3	3 1/2	2 1/2	1 1/4
10	1/2	18	12	1/2	24	24	3 1/2	4	2 1/2	1 1/4
11	1/2	18	12	5/8	30	24	3 1/2	4	2 1/2	1 1/4
12	1/2	18	12	5/8	30	24	4	4 1/2	3	1 1/2
13	1/2	18	12	5/8	30	24	4	4 1/2	3	1 1/2
14	1/2	18	12	5/8	30	24	4 1/2	5	3	1 1/2

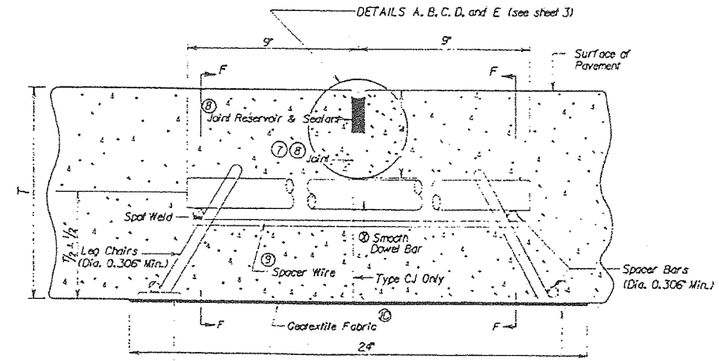
TYPE EJ ⑬
(TRANSVERSE EXPANSION JOINT)
SECTION A-A
* 3" for 8" Pavement
⑪ See Table I



TYPE LCJ
(LONGITUDINAL CONSTRUCTION JOINT)

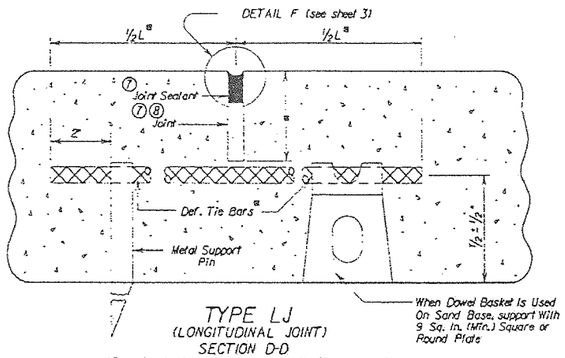
⑧ For Keyway dimensions A & B see Table I, in lieu of the Keyway, one of the following options will be allowed:
a. Install Tie Bars of the size shown in Table I. at 1/2 the spacing.
b. Install Tie Bars 1/4" larger than the tie bar diameter shown in Table I, at the same spacing.

See Table I



TYPE TCJ OR CJ
(TRANSVERSE CONTRACTION JOINT OR CONSTRUCTION JOINT)
SECTION B-B

* See Table I



TYPE LJ
(LONGITUDINAL JOINT)
SECTION D-D
(Required When Pavement Width Exceeds 15')
(See Note ⑦)

See Table I

1. Pavement edges shall be slightly rounded (1/4" approx.).
2. Asphaltic Concrete Shoulder:
   The Shoulder Joints shall be saw cut and constructed in accordance with Section 1 - 1.
3. For sections C-C, E-E, F-F, G-G, H-H, I-I, & K-K, see sheet 2 of this standard.
4. All joints to be used where shown on this sheet or as shown elsewhere in the plans or as otherwise directed by the engineer.
5. On Type EJ Joints, spot weld alternate ends of dowel bars to dowel baskets and place expansion tubes on free ends of dowel bars.
6. Type EJ Joints shall be sealed with preformed elastomeric compression joint seals conforming to Subsection 1005.03. The seals shall have a nominal width of 2 1/4" before compression. Joints shall be cleaned prior to sealing.
7. For Design speeds of 45 mph or greater:
   a. Type LJ Joints shall be saw cut and constructed as in Detail "F". The joint shall be saw cut and cleaned prior to sealing with a joint sealant conforming to Subsection 1005.02(b) or (c).
   b. Type TCJ or CJ shall be saw cut as shown in Detail "C" or "D" and to the depth shown in Table I. The joint shall be sand blasted and cleaned immediately prior to sealing. The initial cut shall be made with 1/8" minimum blade. The sealant shall be a preformed elastomeric seal in accordance with subsection 1005.03 or a silicone sealant in accordance with subsection 1005.02(c).
8. For Design speeds less than 45 mph:
   a. Type LJ Joints shall be saw cut as described in 7(a)
   b. Type TCJ or CJ Joints shall be constructed as follows:
      (1) Constructed as described in 7 (b).
      (2) With a removable forming device as shown in Details "A" or "B". The joint shall be sand blasted and cleaned immediately prior to sealing and may require sawing to achieve proper reservoir dimensions.
      (3) With a combination joint former/sealer as shown in Detail "E". The sealer shall conform to Subsection 1005.04 and be installed in accordance with Subsection 601.05(a)(3) and no additional sealant is required.
9. Except as noted below, dowel bars & tie bars shall be held in place by supports similar to the ones shown, or approved equals. Approved mechanical placement of dowel bars and tie bars will be allowed with all paving methods. When dowel bar baskets are used, approximately the center 7" of spacer wires, that spans across the joint, shall be clipped and removed after staking baskets in place.
10. Install Geotextile Fabric under all TCJ, CJ and EJ joints when concrete pavement is placed on unstabilized or untreated base courses or subbases. When dowel bars are mechanically implanted the Geotextile Fabric shall be anchored to the base course with pins.
11. When constructing concrete curb and gutter adjacent to new P. C. C. pavement, use Type LCJ Joint. When adjacent to existing P. C. C. pavement, use Type LBJ Joint. The first load transfer device shall be installed 18" from the pavement edge.
12. Transverse Expansion Joints are not to be used for Construction Joints.
13. Concrete Shoulders:
    a. Construct TCJ Joints in accordance with Section B-B.
    b. Construct LCJ Joints in accordance with Type LCJ Detail on this sheet and LJ Joints in accordance with section D-D.
    c. Use the Maximum shoulder thickness when determining Dowel bar and Tie bar sizes in Table I.
    d. When skewed joints are used on mainline paving the shoulder TCJ Joints may be skewed or constructed at 90°.
    e. Shoulder Joints and Joint materials will match the mainline.
    f. Height of dowel basket will be based on the thinnest shoulder thickness. Also varying height dowel baskets will be allowed.
14. Tiebars shall not be placed within 18" of contraction or expansion joints.

NOTE:
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MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

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PORTLAND CEMENT CONCRETE PAVEMENT DETAILS

WORKING NUMBER:

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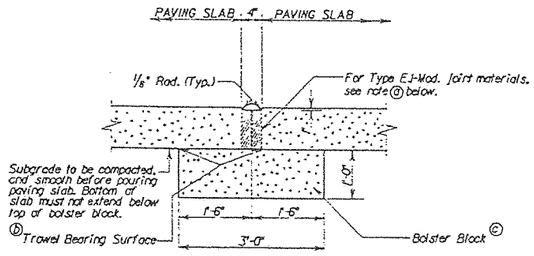


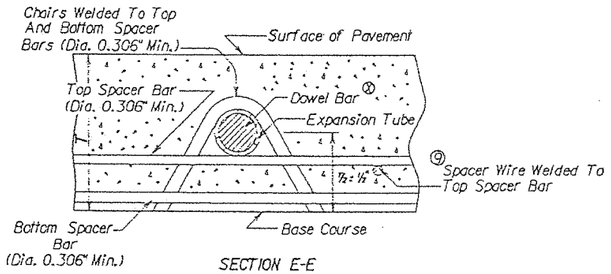
TYPE EJ-MODIFIED
SECTION C-C

NOTES:

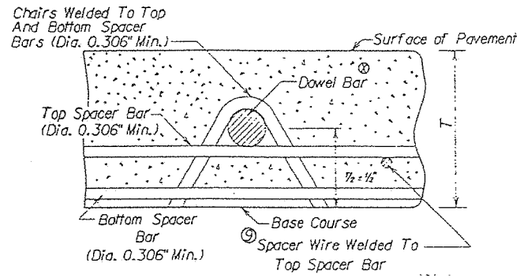
Ⓐ Joint shall be filled with a preformed polyurethane foam type filler conforming to Subsection 1005.07.

Ⓑ One or more layers of tar paper equivalent to 45-lb min. shall be placed between the bolster block and the paving slab.

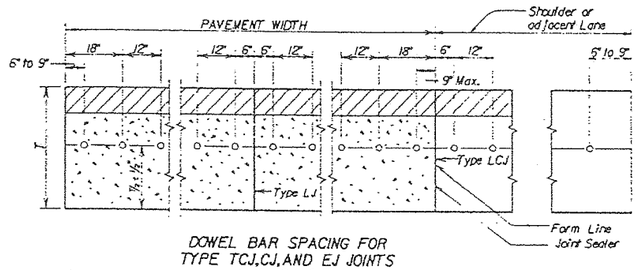
Ⓒ Bolster block shall be constructed of Class "A" or pavement type concrete at no direct pay.



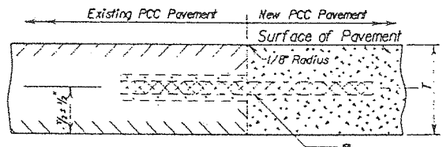
SECTION E-E
Ⓧ See Table I



SECTION F-F
Ⓧ See table I

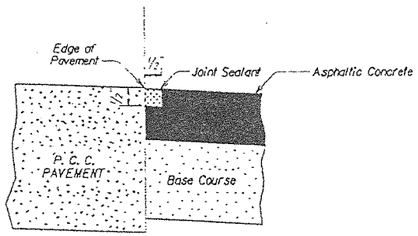


DOWEL BAR SPACING FOR
TYPE TCJ,CJ, AND EJ JOINTS
SECTION G-G



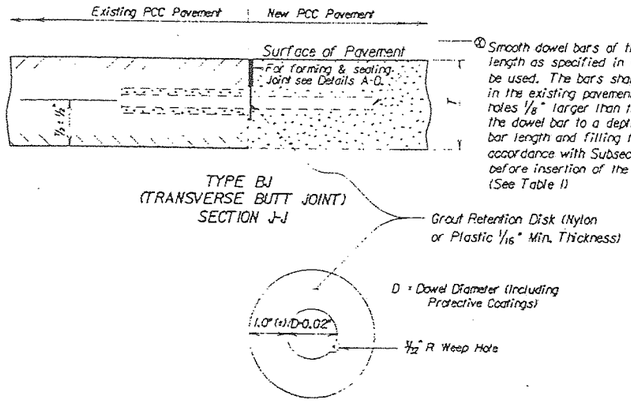
TYPE LBJ
(LONGITUDINAL BUTT JOINT)
SECTION H-H

⊠ Deformed tie bars shall be installed in existing pavement by drilling holes 1/8" larger if epoxy is used and 1/2" larger if grout is used than the dia. of the tie bar to required depth of 1/2" bar length. The holes shall be drilled and filled in accordance with Subsection 601.09(f) before insertion of the tie bars. The tie bar size and spacing shall be as shown in Table I.



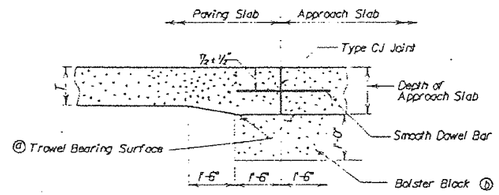
SECTION I - I

Hot Poured Sealant Subsection 1005.02(a)



TYPE BJ
(TRANSVERSE BUTT JOINT)
SECTION J-J

GROUT RETENTION DISK



CJ JOINT AT
APPROACH SLAB
SECTION K-K

For Details not shown see Type CJ Joint (Section B-B and related Details)

NOTES:

Ⓓ One or more layers of tar paper equivalent to 45-lb min. shall be placed between the bolster block and the paving slab.

Ⓑ Bolster block shall be constructed of Class "A" or pavement type concrete at no direct pay.

NOTE:
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MANDEVILLE LAKEFRONT
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PORTLAND CEMENT CONCRETE PAVEMENT DETAILS

WORKING NUMBER:

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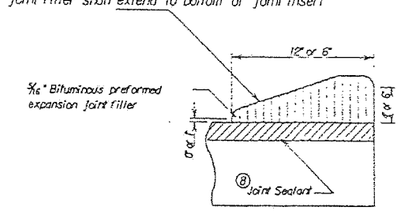
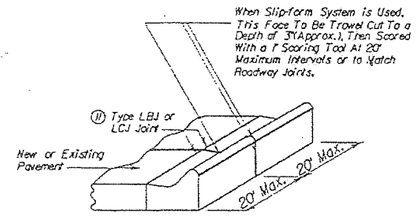
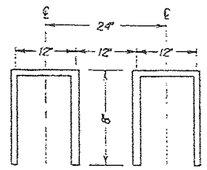
NOTE:
When curb is poured monolithically with pavement, the Bituminous preformed expansion joint filler shall extend to bottom of joint insert



JOINT FILLER DETAIL FOR INTEGRAL CONCRETE CURB (MOUNTABLE OR BARRIER TYPE)

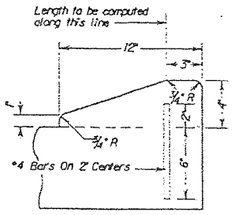


DETAIL SHOWING JOINTS IN CONCRETE CURB AND GUTTER

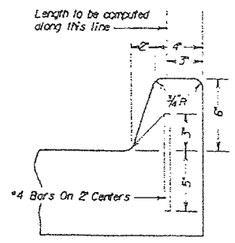


Curb bars shall be placed within 6" of contraction or expansion joints.

BAR DETAIL
Showing Dimensions and Spacing of #4 Def. Rein. Steel Bars for Conc. Curb

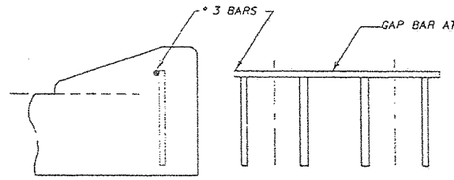


(MOUNTABLE TYPE)

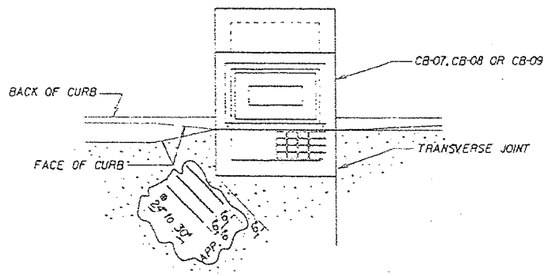


(BARRIER TYPE)

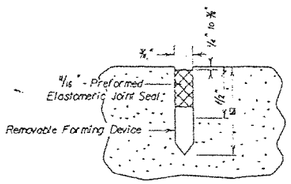
INTEGRAL CONCRETE CURB



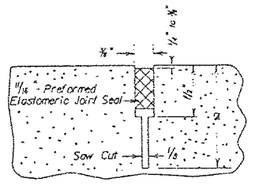
MOUNTABLE CURB THRU DRIVEWAY



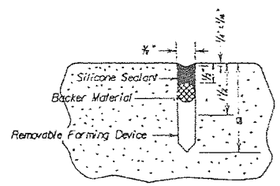
DETAIL "G"
TRANSVERSE JOINT AT CATCH BASIN



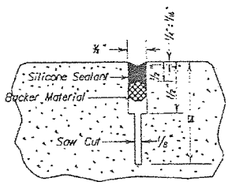
DETAIL "A"



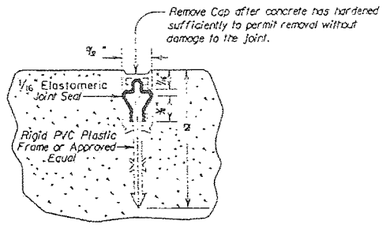
DETAIL "C"



DETAIL "B"



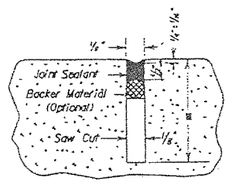
DETAIL "D"



DETAIL "E"

DETAILS "A-E"
Use these details in conjunction with Type TCJ and CJ Joints (Section B-B); Type BJ Joints (Section J-J); and notes ⑦ & ⑧ on sheet #1.

[3] See Table 1 on Sheet 1.



DETAIL "F"

DETAIL "F"
Use this details in conjunction with Type LJ Joint (Section D-D) and Note ⑦ & ⑧ on sheet #1.

[3] See Table 1 on Sheet 1.

[3] Reinforcing bars should match the the size and length of the Tie Bars used in the pavement.

NOTE:
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MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
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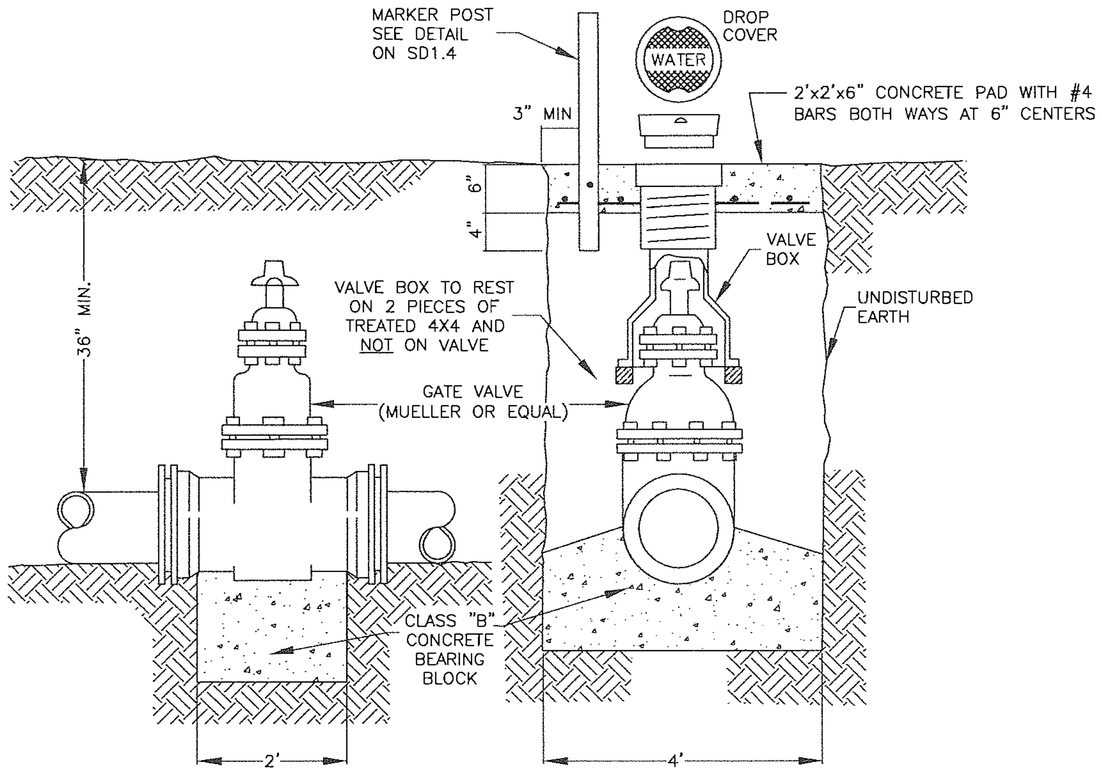
PORTLAND CEMENT CONCRETE PAVEMENT DETAILS

WORKING NUMBER:

SHEET NUMBER: 219 OF X

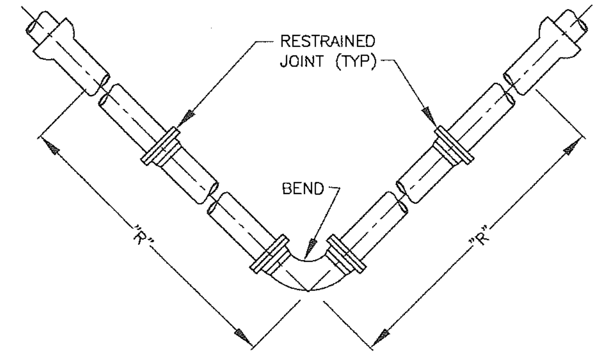


ELEVATION

SECTION

TYPICAL VALVE & BOX

N.T.S.



PIPE DIAMETER	"R" FOR 11 1/4° BEND	"R" FOR 22 1/2° BEND	"R" FOR 45° BEND	"R" FOR 90° BEND	"R" FOR DEAD END	"R" FOR TEES
10" D.I. (PE ENCASED)	5'	9'	19'	44'	186'	14'
16" D.I. (PE ENCASED)	7'	13'	27'	65'	279'	20'
16" PVC	6'	12'	24'	58'	184'	19'

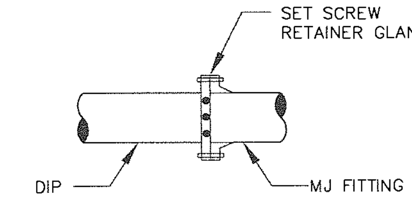
NOTES:

1. RESTRAINED JOINT PIPE SHALL BE USED AT ALL BENDS AND FITTINGS.
2. THE LENGTH OF RESTRAINED PIPE ON EACH SIDE OF THE BEND OR FITTING SHALL NOT BE LESS THAN THE "R" DISTANCES.
3. ALL JOINTS WITHIN THE DISTANCE "R" ESTABLISHED ABOVE SHALL BE RESTRAINED.
4. ALL PIPE IN CASINGS SHALL BE RESTRAINED, BUT PIPE LENGTHS IN CASING SHALL NOT APPLY TOWARD REQUIRED RESTRAINED LENGTHS FOR ADJACENT BENDS.
5. RESTRAINED JOINT LENGTHS WERE CALCULATED USING EBBA IRON RESTRAINT LENGTH CALCULATOR VERSION 5 (RLC) UNDER THE FOLLOWING CONDITIONS:
   - LAYING CONDITION – TRENCH TYPE 5
   - SOIL DESIGNATION – CL GRAN FILL
   - DEPTH OF COVER – 3.0'
   - DESIGN PRESSURE – 150 PSI
   - SAFETY FACTOR – 2.0

   IF ANY OF THESE ASSUMPTIONS SIGNIFICANTLY DIFFER FROM THE LAYING CONDITIONS, NEW THRUST RESTRAINT CALCULATIONS SHOULD BE PERFORMED.
6. FOR BENDS IN THE VERTICAL PLANE INCREASE THE "R" DISTANCE BY A FACTOR OF 1.75.

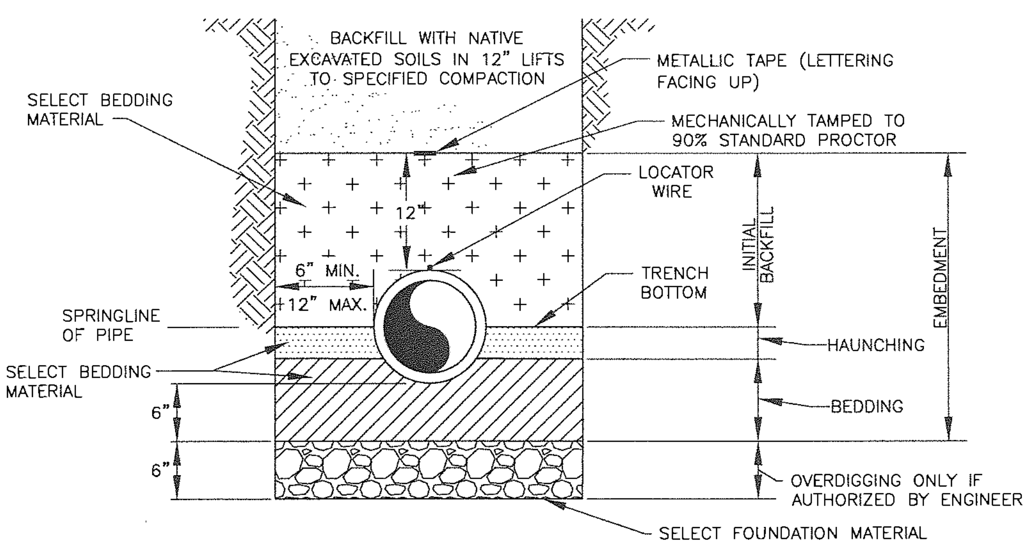
RESTRAINED JOINT DETAIL

N.T.S.



TYPICAL DI RESTRAINED JOINT AT MJ FITTING

N.T.S.



BEDDING DETAIL

N.T.S.

PIPE EMBEDMENT AND BACKFILL NOTES:

1. THE CONTRACTOR SHALL MAINTAIN WATER LEVEL TO A LEVEL OF 18 INCHES OR GREATER BELOW THE UNDERCUT DEPTH OR THE TRENCH SUBGRADE, WHICHEVER IS DEEPER, BEFORE PIPE PLACEMENT WILL BE ALLOWED. DEWATERING IS REQUIRED TO THIS LEVEL (MIN.).
2. SEE SPECIFICATIONS FOR COMPACTION REQUIREMENTS AND MIN/MAX TRENCH WIDTH.
3. SHOULD ENGINEER DETERMINE THAT THE NATIVE MATERIAL AT THE BOTTOM OF THE TRENCH IS NOT A SUITABLE FOUNDATION FOR THE PIPE, HE MAY AUTHORIZE OVERDIGGING THE TRENCH A DEPTH OF 6 INCHES AND REPLACE WITH SELECT FOUNDATION MATERIAL WHICH IS INCLUDED IN THE CONTRACT AS A PAY ITEM.
4. THE HAUNCHING MATERIAL SHALL BE SELECT BEDDING MATERIAL AND THOROUGHLY COMPACTED TO THE SPRING LINE OF THE PIPE AND EXTENDED TO THE SIDE WALLS OF THE TRENCH. A MINIMUM 90 PERCENT STANDARD PROCTOR WILL BE CONSIDERED ADEQUATE COMPACTION.
5. THE INITIAL BACKFILL (SELECT BEDDING MATERIAL) MAY THEN PROCEED IN 6 INCHES LIFTS TO A HEIGHT OF 12 INCHES ABOVE THE TOP OF THE PIPE AND MECHANICALLY TAMPED. FURTHER BACKFILL SHALL NOT PROCEED UNTIL INITIAL BACKFILL HAS BEEN OBSERVED BY ENGINEER.
6. SHOULD ENGINEER DETERMINE THAT THE SELECT MATERIAL SECURED FROM THE TRENCH EXCAVATION IS NOT SUITABLE FOR EMBEDMENT AND/OR BACKFILL, HE MAY AUTHORIZE THE USE OF SELECT BEDDING MATERIAL, WHICH IS INCLUDED IN THE CONTRACT AS A PAY ITEM. FURTHER BACKFILL MAY THEN PROCEED TO THE ORIGINAL GROUND SURFACE IN 12 INCH LIFTS COMPACTED TO ELIMINATE AIR VOIDS. IN AREAS WHERE THE GROUND SURFACE IS TO RECEIVE PAVEMENT, A MINIMUM 95 PERCENT STANDARD PROCTOR FOR EACH LIFT SHALL BE CONSIDERED ADEQUATE COMPACTION.
7. CONTRACTOR SHALL MAINTAIN TRENCH BACKFILL AT ORIGINAL GROUND SURFACE UNTIL FINAL ACCEPTANCE OF THE WORK.
8. ALL SURPLUS MATERIALS NOT USED IN BACKFILLING SHALL BE REMOVED AND DISPOSED OF BY CONTRACTOR AT HIS OWN EXPENSE.
9. METALLIC TAPE WILL BE PLACED IN THE BACKFILL 12 INCHES ABOVE THE TOP OF PVC WATER MAINS WITH LETTERING FACING UP.

PIPE EMBEDMENT AND BACKFILL NOTES: (CONT'D)

10. SELECT FOUNDATION MATERIAL SHALL BE CRUSHED STONE CONFORMING TO THE GRADATION SET OUT BELOW:

SIEVE SIZE	% PASSING BY WEIGHT
1.5 INCH	100
NO. 4	<50
NO. 200	<5

11. SELECT FOUNDATION MATERIAL SHALL BE PAID BY THE CUBIC YARD (FINAL MEASUREMENT) PER THE BID SCHEDULE.
12. SELECT BEDDING MATERIAL SHALL BE GRANULAR NONPLASTIC AND SILICEOUS MATERIAL CONFORMING TO THE GRADATION SET OUT BELOW:

SIEVE SIZE	% PASSING BY WEIGHT
1/2" INCH	100
NO. 10	75–100
NO. 200	0–10

13. SELECT BEDDING MATERIAL SHALL BE PAID BY THE CUBIC YARD (LOOSE VEHICLE MEASUREMENT) PER THE BID SCHEDULE AND WILL ONLY BE USED WHEN THE ENGINEER DETERMINES THAT THE MATERIAL SECURED FROM THE TRENCH IS NOT SUITABLE FOR USE AS SELECT BEDDING MATERIAL. MATERIAL SECURED FROM THE TRENCH AND USED AS SELECT BEDDING MATERIAL WILL NOT BE MEASURED SEPARATELY FOR PAYMENT AND SHOULD BE INCLUDED IN THE LINEAR FOOT PRICE FOR THE PIPE.
14. THE CONTRACTOR SHALL MAINTAIN THE MOISTURE CONTENT OF THE BACKFILL WITHIN 5 PERCENT OF THE OPTIMUM MOISTURE CONTENT FOR COMPACTION AS DETERMINED BY LABORATORY TESTS. THE CONTRACTOR SHALL PERFORM ALL NECESSARY WORK TO ADJUST WATER CONTENT OF THE MATERIAL TO WITHIN THE RANGE NECESSARY TO PERMIT THE COMPACTION SPECIFIED.

REVISIONS

NO.	DATE	BY	DESCRIPTION

DRAWING INFORMATION

N-S PROJECT NO.: NS.08632.000	
FILENAME: Water Line Details.dwg	
SCALE: NTS	
SURVEYED BY: N/A	
DSGN: HCT	DATE: 6-27-12
DRWN: DFH	DATE: 6-27-12
CHKD: WDL	DATE: __/__
QA/QC: __	DATE: __/__

MANDEVILLE LAKEFRONT
WETLANDS RESTORATION
CITY OF MANDEVILLE, LOUISIANA

PRELIMINARY

THESE DOCUMENTS ARE FOR DESIGN REVIEW AND NOT INTENDED FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES.

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Solutions you can build upon

WATER LINE
STANDARD DETAILS

WORKING NUMBER:

SHEET NUMBER: 220 of X