COX AVENUE BOX CULVERT AND PAVED DITCH

STORMWATER IMPROVEMENTS

GENERAL NOTES:

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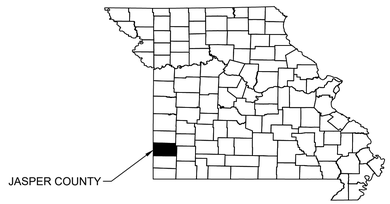



0 25 50 100

(IN FEET)
1 INCH = 50 FEET

UTILITY COMPANIES:

ELECTRIC
LIBERTY UTILITIES
3400 S. KODIAK RD, JOPLIN, MO. 64804
BRYAN HARP
417-625-5100

WATER
MISSOURI AMERICAN WATER COMPANY
2323 DAVIS BLVD, JOPLIN, MO 64804
DREW DANIELS
SR. SUPERVISOR OF OPERATIONS
417-768-9233

SANITARY SEWER
CITY OF JOPLIN
602 S MAIN ST, JOPLIN, MO, 64801
CHRIS PARKER
417-624-0820 EXT. 1584

GAS
SPIRE
520 E 5TH ST, JOPLIN, MO 64801
KEN STEGALL
417-626-4831

COMMUNICATIONS
ATT
321 W 8TH ST, JOPLIN, MO 64801
JON FISK
417-529-0840

SPARKLIGHT
2600 DAVIS BLVD, JOPLIN, MO 64804
RANDY KENNEDY
417-206-5399

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
2	337055.6400	2787260.7370	980.826	CTL PIN
276	337248.3100	2787429.0090	973.560	CTL 60D
591	337277.7200	2787105.9530	970.694	CTL 60D

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP. CALL BEFORE YOU DIG!

Cox Ave Culvert lowered flow line w block wall (Final).dwg

CITY OF Joplin

CITY OF JOPLIN, MISSOURI
PUBLIC WORKS DEPARTMENT
DIVISION OF ENGINEERING

ADDRESS: 602 S MAIN ST 64801
PH NO: 417-624-0820 EXT 1530
FAX NO: 417-625-4738
E-MAIL: DJOHNSO1@JOPLINMO.ORG

REV DATE:	REVISION:
00/00	PROJECT CHECK

SVYD BY:	OLSSON
PNT FILE:	N/A.TXT
SVY DATE:	10/2022
ENGINEER:	JOHNSON

ACAD DWG FILE & PATH NAME: STORM SEWER\COX AVENUE

SCALE: 1" = 50'

DWN BY:	PRINGLE
CKD BY:	JOHNSON
APD BY:	JOHNSON
DATE:	07/2024

PROJECT
COX AVENUE BOX CULVERT AND PAVED DITCH IMPROVEMENTS

PLAN NO: 8542

SHEET

QUANTITIES:

1 LS CLEARING AND GRUBBING
1 LS TOPSOIL,SEEDING, FERTILIZING & MULCHING
1 LS REMOVAL OF EXIST. IMPROVEMENTS
1 LS MOBILIZATION
146 L.F. 9' X 3' RCBC TO INCLUDE THE INLET AND OUTLET STRUCTURES (INSTALLATION ONLY BOX IS ON-SITE)
24 L.F. RE-ALIGNMENT OF 42" x 30" RCP
700 CY OF UNCLASSIFIED EXCAVATION
1000 CY OF CONTAMINATED MATERIAL
78 L.F. OF 24" RCP
2 EA. TYPE "C" INLETS
330 SQ. YDS OF FIBER REINFORCED AND STEEL REINFORCED CONC. 6" MIN.
120 SQ. YDS MO-DOT TYPE 2 DITCH LINER OVER GEOTEXTILE FABRIC
415 SQ. YDS OF PAVED 6" DITCH BOTTOM
(72) EA. 4' x 4' x 2' RETAINING WALL BASE BLOCK TO INCLUDE FOUNDATION, GRANULAR BACKFILL, AND DRAIN TILE
(72) EA. 4' x 2' x 2' RETAINING WALL TOP BLOCK
(1) MODIFIED JUNCTION BOX LID
30 SQ. YDS OF TYPE "C" ADA RAMPS
457 L.F. OF CURB AND GUTTER
255 SQ. YDS OF 4" SIDEWALK
90 L.F. OF HANDRAIL

LEGEND

- FOUND MONUMENT (AS NOTED)
- SET 1/2" REBAR W/PLASTIC CAP, "LC 366"
- SET 5/8" REBAR W/ALUM. CAP, "LC 366"
- (D) DEEDED
- (M) MEASURED
- (P) PLATTED
- AC AIR CONDITIONER
- BIKE RACK
- BILLBOARD
- BOLLARD
- B BREAKER BOX
- BUSH
- C CABLE BOX
- CV CABLE VAULT
- CAMERA
- CATCH BASIN
- COL COLUMN
- E ELECTRIC BOX
- ELECTRIC CABINET
- ER ELECTRIC RISER
- E ELECTRIC MANHOLE
- EM ELECTRIC METER
- ELO ELECTRICAL OUTLET
- EV ELECTRIC VAULT
- F FIBER OPTIC BOX
- FO FIBER OPTIC PEDESTAL
- FIRE DEPT. CONNECTION
- FIRE HYDRANT
- FLARED END SECTION
- GAS GAS MARKER
- GM GAS METER
- GR GAS REGULATOR
- GV GAS VALVE
- GV GAS VAULT
- GRATE INLET
- GREASE TRAP
- GUY POLE
- GUY WIRE
- IRR IRRIGATION VALVE
- LIGHT POLE
- MLB MAIL BOX
- MONITORING WELL
- POWER POLE
- LEPT POWER POLE W/LIGHT
- RD ROOF DRAIN
- SANITARY CLEANOUT
- S SANITARY MANHOLE
- SATELLITE DISH
- SCHEDULE B-II EXCEPTION
- SIGN
- SOIL BORING
- SCV SPRINKLER CONTROL VALVE
- SPH SPRINKLER HEAD
- STEEL POST
- S STORM MANHOLE
- TELEPHONE CABINET
- T TELEPHONE MANHOLE
- TP TELEPHONE PEDESTAL
- T TELEPHONE RISER
- TEV TELEPHONE VAULT
- TRAFFIC CONTROL BOX
- TS TRAFFIC SIGNAL BOX
- TRAFFIC SIGNAL POLE
- TRANSFORMER
- TREE, CONIFEROUS
- TREE, DECIDUOUS
- TREE STUMP
- VENT PIPE
- WATER FAUCET
- W WATER MANHOLE
- WM WATER METER
- WV WATER VALVE
- WOOD POST
- YHT YARD HYDRANT
- CATV CABLE/TV LINE
- P-OH OVERHEAD ELECTRIC
- P-UG UNDERGROUND ELECTRIC
- FO FIBER OPTIC LINE
- F FUEL LINE
- G NATURAL GAS LINE
- SS SANITARY SEWER LINE
- SD STORM SEWER LINE
- TEL TELEPHONE LINE
- W WATER LINE
- x BARBED WIRE FENCE
- CHAINLINK FENCE
- WOOD FENCE
- TREE LINE
- ADA TRUNCATED DOMES
- ASPHALT PAVEMENT
- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- GRAVEL PAVEMENT
- LANDSCAPE/GRASS AREA

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PROJECT
COX AVENUE BOX CULVERT
AND PAVED DITCH IMPROVEMENTS

PLAN NO: 8542
SHEET
2 of 8

Cox Ave Culvert lowered flow line w block wall (Final).dwg

GRAPHIC SCALE
0 10 20 40
(IN FEET)
1 INCH = 20 FEET

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GRAVEL DRIVE
REMOVE 60 L.F. FEET OF EXIST. BOX CULVERT
REMOVE EXIST. DRIVE 7 SQ. YDS AND REPLACE WITH CURB AND GUTTER
REMOVE EXIST. CURB INLET AND 18" RCP
BRUSH PILE TO BE REMOVED
LTP
CP #591
CTL 60D
970.69
N=337277.72
E=2787105.95
CTL 60D
EXIST. ROCK WALL OPEN DRAINAGE APPROX. 120 SQ. YDS TO BE REMOVED AND REPLACED w/ CONC. BASE DITCH
(3) STUMPS TO BE REMOVED (2) 12" AND (1) 24"
REMOVE 45 L.F. OF HANDRAIL
REMOVE 18" RCP
REMOVE EXIST.CURB INLET RIM=973.22 INV OUT=970.35 (18" RCP,W) 2.5'W X 1.5'H BOX SITS UNDER SIDEWALK
EXIST. OPEN DRAINAGE TO BE REMOVED AND REPLACED 6" CONC. BASE & BLOCK WALL
REMOVE EXIST. BOX CULVERT
REMOVE & REPLACE APPROX. 80 LF CURB & GUTTER EA. SIDE 160 LF TOTAL
REMOVE 10 L.F. OF HANDRAIL
CP #276
CTL 60D
973.56
N=337248.31
E=2787429.01
REMOVE EXIST. CURB INLET RIM=973.17 INV OUT=969.97 (18" RCP,NW)
12" TRIPLE
REMOVE CLUSTER OF TREES AROUND POWER POLE
REMOVE & REPLACE APPROX. 140 SQ. YDS EXIST. SIDEWALK AND REPLACE SEE SECTION ST-11
REMOVE (2) 14"Ø TREE AND STUMP
12" DOUBLE
12" DOUBLE
REMOVE EXIST. DRIVE 9 SQ. YDS
REMOVE & REPLACE APPROX. 330 SQ. YDS OF ASPHALT WITH CONCRETE PAVEMENT REPAIR 6" MIN. REINF. w/ WWF 4x4-W4.0xW4.0 ALSO GRADE CONCRETE TO DRAIN TO EXIST. INLETS TO THE NORTH AND THE SOUTH.
REMOVE & REPLACE APPROX. 115 SQ. YDS EXIST. SIDEWALK AND REPLACE SEE SECTION ST-11
REMOVE EXIST. DRIVE 12 SQ. YDS
REMOVE 160 LF OF CURB & REPLACE APPROX. 151 LF CURB & GUTTER TOTAL
40"
REMOVE (2) 40"Ø TREES
REMOVE & REPLACE APPROX. 146 LF CURB & GUTTER TOTAL
40"
24" STUMP TO BE REMOVED
36"
REPLACE ANY EXISTING PROPERTY CORNERS IN NEW CONCRETE SIDEWALK
STOP SIGN
BURIED UTILITY MARKER
STREET SIGN
REMOVE EXIST. ADA RAMP AND REPLACE WITH TYPE C ADA RAMP APPROX. 15 SQ. YDS
REMOVE EXIST. ADA RAMP AND REPLACE WITH TYPE C ADA RAMP APPROX. 15 SQ. YDS
RELOCATE WATER METER AND UTILITY MARKER
CP #2
CTL PIN
980.83
N=337055.64
E=2787260.74

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP - CALL BEFORE YOU DIG

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NOTE:
THERE WILL BE APPROXIMATELY 700 CU YDS OF CUT. CONTRACTOR WILL BE RESPONSIBLE FOR TESTING AND PROPER DISPOSAL OF ANY CONTAMINATED SOILS.

EXISTING 42" x 30" RCP
FL=968.56 (squashed)
MODIFY SO THAT
SQUASHED PIPE DISCHARGES
AT CENTER OF NEW WING WALL
AND GROUT INTO PLACE
RE-USE EXISTING PIPE IF POSSIBLE

PAVED 6" DITCH APPROX.
200 SQ. YDS

SANITARY MH
RIM=970.44
INV IN=962.24 (10" PIPE,E)
INV IN=960.54 (12" PIPE,SE)
INV OUT=960.54 (12" PIPE,NW)

0+00
N=337313.87
E=2787128.64

CP #591
CTL 60D
970.69
N=337277.72
E=2787105.95

GRADE DITCH @ .24% TO DAYLIGHT
ON WEST SIDE TO STA 0+00. WIDEN EXIST. DITCH ON
EA. SIDE TO MEET NEW BLOCK WALL & CONC. BASE
USE MO-DOT TYPE II DITCH LINER
REFER TO MO-DOT DETAIL ON 609.60D IN
STANDARD DETAILS

STA: 0+43.70
N=337300.41
E=2787170.22

PC: 0+82.05
337288.63
2787206.72

PT: 1+01.23
337283.20
2787225.10

PI: 1+25.70
N=337276.87
E=2787248.75

SANITARY MH
RIM=972.93
INV IN=966.33 (10" PIPE,N)
INV OUT=966.33 (10" PIPE,W)

GRAVEL DRIVE

CURB INLET
RIM=973.12
INV IN=968.62 (E)
INV OUT=968.62 (3.5'W X 2.5'H ELLIPTICAL PIPE,SW)

STORM MH RIM=972.95
REPLACE LID SEE DETAILS
INV IN=968.65 (30" RCP,N)
INV OUT=968.65 (3.5'W X 2.5'H ELLIPTICAL PIPE,W)

INSTALL 45' EA. SIDE
OF NEW RAILING
IN THESE LOCATIONS
CENTER HANDRAIL
ON BOX SEE HANDRAIL
DETAIL ST-12

40.0'
0+50.00
0+75.00
1+00.00
1+25.00
1+50.00
2+00.00
2+25.00
2+50.00
2+75.00
3+00.00
4+00.00

C1
C2
C3

73.00' 108" X 36" RCBC SLOPE -0.71%
73.00' 108" X 36" RCBC SLOPE -0.71%

0+98.05
24" RCP @ 0.53%
30.20' OF

41.91' OF
24" RCP @ 0.89%

INSTALL TYPE C INLET
STA:0+41.91
O/S:0.00'
N=337240.75
E=2787262.43
RIM:973.21
24" INV IN:968.33
24" INV OUT:968.12

SANITARY MH
RIM=973.12
INV IN=961.87 (8" PIPE,S)
INV IN=961.87 (12" PIPE,E)
INV OUT=961.87 (12" PIPE,NW)

SANITARY CLEANOUT
TOP=974.48

PI: 0+38.85
PI: 0+62.50

INSTALL TYPE C INLET
STA:0+00.00
O/S:0.00'
N=337240.75
E=2787304.33
RIM:973.42
24" INV OUT:968.70

6" PAVED DITCH BOTTOM
APPROX. 215 SQ. YDS.

PT: 2+33.01
337250.80
2787352.73

STA: 2+78.22
N=337253.60
E=2787397.76

PI: 3+35.21
337260.15
2787454.38

PC: 2+17.08
337253.26
2787337.02

PC: 2+37.08
337250.61
2787356.79

CP #276
CTL 60D
973.56
N=337248.31
E=2787429.01

PT: 2+58.81
337251.33
2787378.49

SANITARY MH
RIM=975.44
INV IN=963.99 (E)
INV OUT=963.99 (12" PIPE,W)

SANITARY MH
RIM=973.68
INV IN=962.23 (W)
INV OUT=962.23 (8" PIPE,N)

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N

0 10 20 40
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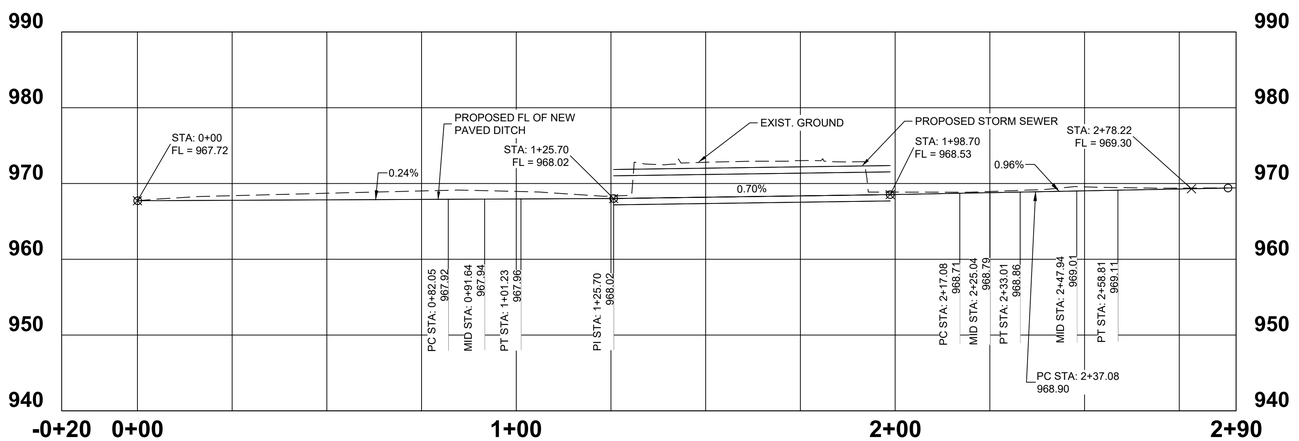
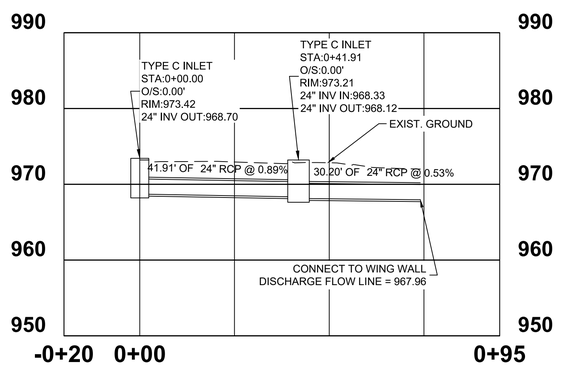
ALIGNMENT CURVES

CURVE ID #	STATION RANGE	START COORD.	END COORD.	RADIUS (FT)	LENGTH (FT)	DELTA	CHORD BEARING	CHORD LENGTH (FT)
C1	0+82.05 1+01.23	N: 337288.63 E: 2787206.72	N: 337283.20 E: 2787225.10	373.00	19.17	002°56'43"	S73°33'07"E	19.17
C2	2+17.08 2+33.01	N: 337253.26 E: 2787337.02	N: 337250.80 E: 2787352.73	75.00	15.93	012°10'22"	S81°06'40"E	15.90
C3	2+37.08 2+58.81	N: 337250.61 E: 2787356.79	N: 337251.33 E: 2787378.49	132.00	21.73	009°26'01"	N88°05'09"E	21.71





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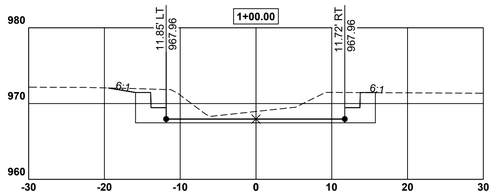

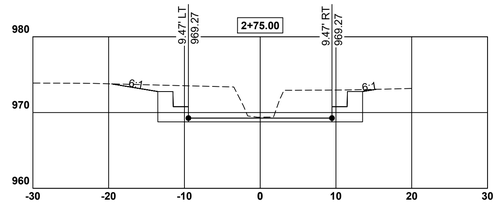

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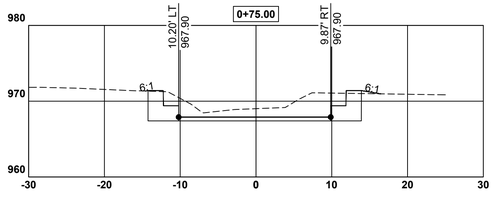

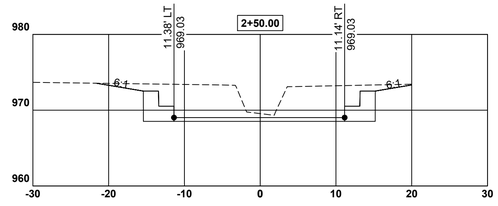

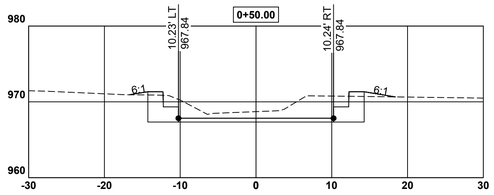

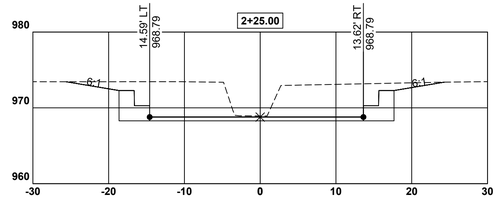

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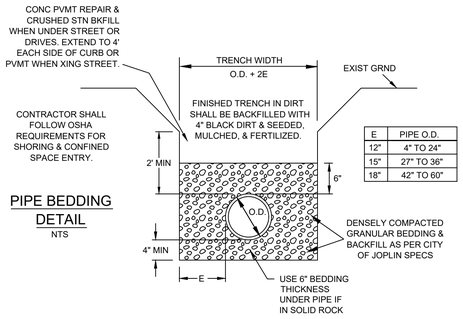
DIVISION OF ENGINEERING

ADDRESS: 602 S MAIN ST 64801	REV DATE:	REVISION:	SVYD BY:	OLSSON	ACAD DWG FILE & PATH NAME: STORM SEWER\COX AVENUE	DWN BY:	PRINGLE
PH NO: 417-624-0820 EXT 1530	00/00	PROJECT CHECK	PNT FILE:	N/A.TXT		CKD BY:	JOHNSON
FAX NO: 417-625-4738			SVY DATE:	10/2022	SCALE: NTS	APD BY:	JOHNSON
E-MAIL: DJOHNSO1@JOPLINMO.ORG			ENGINEER:	JOHNSON		DATE:	07/2023

PROJECT
COX AVENUE BOX CULVERT
AND PAVED DITCH IMPROVEMENTS

PLAN NO: 8542
SHEET
5 of 8

MISSOURI ONE CALL SYSTEM, INC. 1800 344-7483 STOP - CALL BEFORE YOU DIG



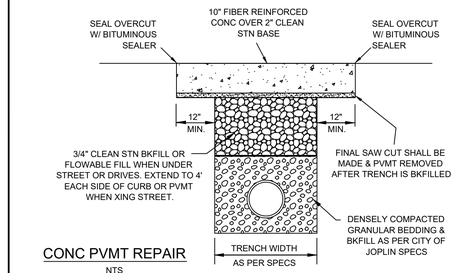
E	PIPE O.D.
12"	4" TO 24"
15"	27" TO 36"
18"	42" TO 60"

PIPE BEDDING DETAIL
NTS

SAN-01

CITY OF JOPLIN, MO	CKD BY: JOHNSON
PUBLIC WORKS DEPT	DATE: 12/2020
ENGINEERING DIVISION	ENGINEER: HERTZBERG
602 S MAIN ST 64801	FILE: BEDDET

PROJECT
PIPE BEDDING DETAIL



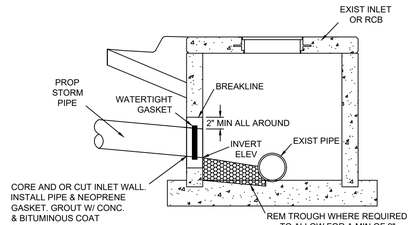
CONC PVMT REPAIR
NTS

NOTES:
1. BLACK DYE PER CITY OF JOPLIN SPECIFICATIONS 1700.3.12

SAN-05

CITY OF JOPLIN, MO	CKD BY: JOHNSON
PUBLIC WORKS DEPT	DATE: 2/2019
ENGINEERING DIVISION	ENGINEER: HERTZBERG
602 S MAIN ST 64801	FILE: PVMTREPR

PROJECT
CONC PVMT REPAIR

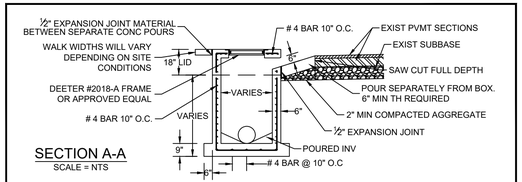


EXIST INLET OR RCB CONNECTION
N.T.S.

STM-01

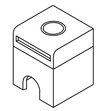
CITY OF JOPLIN, MO	CKD BY: JOHNSON
PUBLIC WORKS DEPT	DATE: 10/2021
ENGINEERING DIVISION	ENGINEER: HERTZBERG
602 S MAIN ST 64801	FILE: INLETTAP

PROJECT
EXIST INLET OR RCB CONNECTION

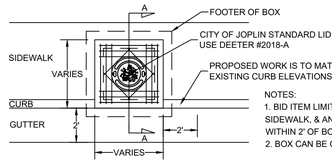


SECTION A-A
SCALE = NTS

TYPE 'C' CURB INLET
N.T.S.



INLET NOTES:
1. BOTTOM OF INLET SHALL BE 9" TH WITH #4 REBAR SPACED 10" OC BOTH WAYS.
2. FLOOR OF INLET SHALL BE SHAPED WITH INVERT TO PROVIDE SMOOTH FLOW.
3. STEPS ARE NOT ALLOWED.
4. BEVEL ALL EXPOSED EDGES WITH 3/4" CHAMFER OR 1/2" TOOLED EDGE.
5. THE SUM OF "L" & "W" SHALL NOT EXCEED 14' WITHOUT SPECIAL DESIGN.
6. ALL GUTTER CONSTRUCTED IN FRONT OF INLET, ALL C&G IN CURB REPAIRS OR REPLACEMENTS & ALL SIDEWALK CONST AROUND INLET SHALL BE INCLUDED IN THE BID PRICE OF THE INLET.
7. SAW CUT & REPL AN EXTRA 2' OF CURB ON BOTH SIDES WHEN CONST IN EXIST CURB.
8. ALL POURED CONCRETE SHALL BE CLASS 'B'.
9. EDGE OF BOX SHALL BE A MINIMUM OF 15' FROM CURB RADIUS PC.
10. BEDDING SHALL BE IN ACCORDANCE WITH CITY OF JOPLIN STANDARD SPECIFICATIONS SECTION 4400.3.4



PLAN VIEW
SCALE = NTS

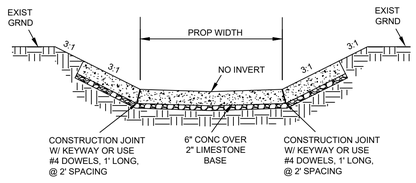
NOTES:
1. BID ITEM LIMIT TO INCLUDE THE C & G, SIDEWALK, & ANY SEED & MULCH NEEDED WITHIN 2' OF BOX FACES.
2. BOX CAN BE CAST-IN-PLACE OR PRECAST.

STM-03

CITY OF JOPLIN, MO	CKD BY: JOHNSON
PUBLIC WORKS DEPT	DATE: 10/2021
ENGINEERING DIVISION	ENGINEER: HERTZBERG
602 S MAIN ST 64801	FILE: TYPECCB

PROJECT
TYPE 'C' CURB INLET

DETAIL NOT USED



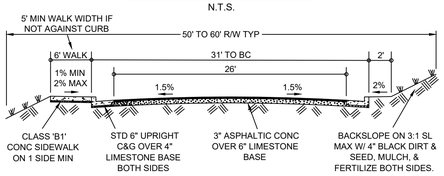
CONSTRUCT 6" X 18" CONCRETE TOE WALL AT START & END OF DITCH & ALSO EVERY 100'

STM-07

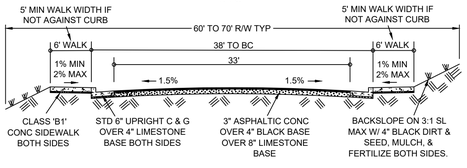
CITY OF JOPLIN, MO	CKD BY: JOHNSON
PUBLIC WORKS DEPT	DATE: 2/2019
ENGINEERING DIVISION	ENGINEER: HERTZBERG
602 S MAIN ST 64801	FILE: CONCDITCH

PROJECT
CONC DITCH W/ INVERT

TYPICAL SECTION
2 LANE W/ NO BIKE LANES
N.T.S.



TYPICAL SECTION
3 LANE COLLECTOR W/ NO BIKE LANES
N.T.S.

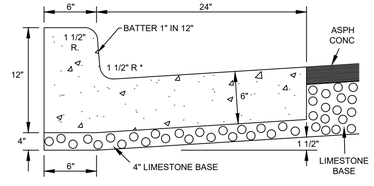


ST-02

CITY OF JOPLIN, MO	CKD BY: JOHNSON
PUBLIC WORKS DEPT	DATE: 10/2020
ENGINEERING DIVISION	ENGINEER: HERTZBERG
602 S MAIN ST 64801	FILE: ARTERIALTYP1

PROJECT
TYPICAL SECTIONS 2 & 3 LANE STREETS

* = OPTIONAL WITH APPROVAL BY CITY ENGINEER.



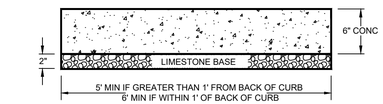
NOTES:
1. CONSTRUCT EXPANSION JOINTS AT THE START & END OF CURB INLETS.
2. CONSTRUCT CONTRACTION JOINTS EVERY 12.5' MAXIMUM.
3. JOINT MATERIAL TO EXTEND THRU C & G, FRONT TO BACK, & NEATLY TRIMMED TO MATCH CONC SURFACE.
4. FLOAT GROUT TO SURFACE ON EXPOSED SURFACES.
5. ALL POURED CONCRETE SHALL BE CLASS 'B' WITH FIBER REINFORCEMENT.
6. A #5 x 30" TIE BAR WILL BE REQUIRED AT 30" o/c WHERE CONCRETE PAVEMENT MEETS GUTTER. THIS BAR CAN BE OMITTED IF CURB AND GUTTER IS PLACED MONOLITHICALLY WITH PAVEMENT.

STD UPRIGHT C & G
N.T.S.

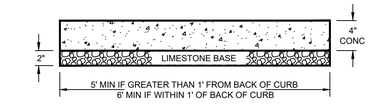
ST-04

CITY OF JOPLIN, MO	CKD BY: JOHNSON
PUBLIC WORKS DEPT	DATE: 12/2020
ENGINEERING DIVISION	ENGINEER: HERTZBERG
602 S MAIN ST 64801	FILE: CURBDET

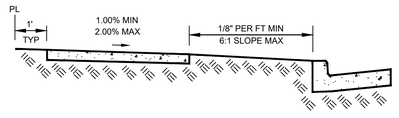
PROJECT
STD UPRIGHT CURB & GUTTER



CLASS 'A' CONC SIDEWALK
NTS



CLASS 'B' CONC SIDEWALK
NTS



NOTES:
1. CONSTRUCT EXPANSION JOINTS AT CURB INLETS.
2. CONSTRUCT CONTRACTION JOINTS EVERY 10' MAXIMUM.
3. USE CLASS 'B1' CONCRETE.
4. REINFORCEMENT IS OPTIONAL.
5. CROSS SLOPE OF WALK & DIRT BACKSLOPE CAN SLOPE AWAY FROM CURB IN FILL.

ST-11

CITY OF JOPLIN, MO	CKD BY: JOHNSON
PUBLIC WORKS DEPT	DATE: 10/2020
ENGINEERING DIVISION	ENGINEER: HERTZBERG
602 S MAIN ST 64801	FILE: SIDEWALK

PROJECT
CONC SIDEWALK DETAILS

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP - CALL BEFORE YOU DIG

Cox Ave Culvert lowered flow line w block wall (Final).dwg

CITY OF JOPLIN, MISSOURI
PUBLIC WORKS DEPARTMENT
DIVISION OF ENGINEERING

ADDRESS: 602 S MAIN ST 64801
PH NO: 417-624-0820 EXT 1530
FAX NO: 417-625-4738
E-MAIL: DJOHNSO1@JOPLINMO.ORG

REV DATE:	REVISION:
00/00	PROJECT CHECK

SVYD BY:	OLSSON
PNT FILE:	N/A.TXT
SVY DATE:	10/2022
ENGINEER:	JOHNSON

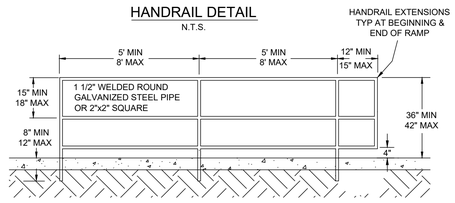
ACAD DWG FILE & PATH NAME: STORM SEWER\COX AVENUE
SCALE: NTS

DWN BY:	PRINGLE
CKD BY:	JOHNSON
APD BY:	JOHNSON
DATE:	07/2024

PROJECT
COX AVENUE BOX CULVERT AND PAVED DITCH IMPROVEMENTS

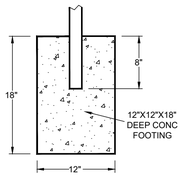
PLAN NO: 8542
SHEET
6 of 8

HANDRAIL DETAIL
N.T.S.

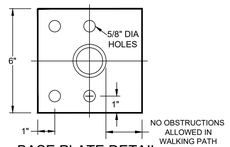


SEE MODOT STD. 608.20E FOR ADDITIONAL DETAILS

SET POSTS 8" DEEP IN CONC WALL OR FOOTING OR 12" DEEP IF ATTACHED W/ BASE PLATES



CONC FOOTING DETAIL
N.T.S.



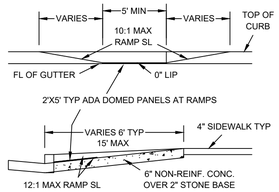
BASE PLATE DETAIL
N.T.S.

GENERAL NOTES:
1. BASEPLATES SHALL BE STEEL.
2. BASEPLATE BOLTS SHALL BE 5/8" X 1 1/2" LONG.
3. IF PRE-MANUFACTURED HANDRAIL COMPONENTS ARE TO BE USED, PRIOR APPROVAL IS REQUIRED.
4. ALL JOINTS SHALL BE CONTINUOUS WELDED.

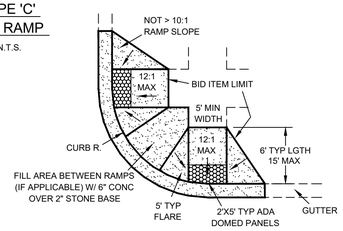
ST-12

CITY OF Joplin	CITY OF JOPLIN, MO	CKD BY: JOHNSON	PROJECT
	PUBLIC WORKS DEPT	DATE: 4/2019	HANDRAIL DETAIL
	ENGINEERING DIVISION	ENGINEER: HERTZBERG	
	602 S MAIN ST 64801	FILE: HANDRAIL	

NOTES:
1. ALL GUTTER CONST IN FRONT OF RAMP & ALL C&G IN RAMP TRANSITIONS SHALL BE INCLUDE IN THE BID PRICE OF THE C&G.
2. BID PRICE (PAID BY SY) FOR ALL RAMPS SHALL INCLUDE ALL EXCAVATION, LABOR, & MATERIALS REQUIRED TO CONST RAMP (THIS INCLUDES TRUNCATED DOMES).
3. ALL POURED CONC SHALL BE CLASS 'B' FIBER REINFORCED.
4. RAMPS SHALL NOT EXCEED 30" VERTICALLY WITHOUT 5' X 5' LANDING.



TYPE 'C' ADA RAMP
N.T.S.



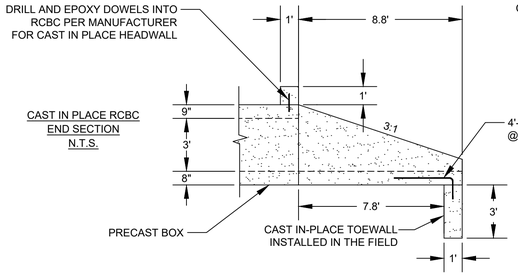
ST-16

CITY OF Joplin	CITY OF JOPLIN, MO	CKD BY: JOHNSON	PROJECT
	PUBLIC WORKS DEPT	DATE: 10/2021	TYPE 'C' ADA RAMP
	ENGINEERING DIVISION	ENGINEER: HERTZBERG	
	602 S MAIN ST 64801	FILE: TYPECADARAMP	

Cox Ave Culvert lowered flow line w block wall (Final).dwg

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP - CALL BEFORE YOU DIG!

CITY OF Joplin	CITY OF JOPLIN, MISSOURI PUBLIC WORKS DEPARTMENT DIVISION OF ENGINEERING	ADDRESS: 602 S MAIN ST 64801	REV DATE:	REVISION:	SVYD BY: OLSSON	ACAD DWG FILE & PATH NAME: STORM SEWER\COX AVENUE	DWN BY: PRINGLE	PROJECT COX AVENUE BOX CULVERT AND PAVED DITCH IMPROVEMENTS	PLAN NO: 8542
		PH NO: 417-624-0820 EXT 1530	00/00	PROJECT CHECK	PNT FILE: N/A.TXT		CKD BY: JOHNSON		SHEET 7 of 8
		FAX NO: 417-625-4738			SVY DATE: 10/2022	SCALE: NTS	APD BY: JOHNSON		
		E-MAIL: DJOHNSO1@JOPLINMO.ORG			ENGINEER: JOHNSON		DATE: 07/2024		



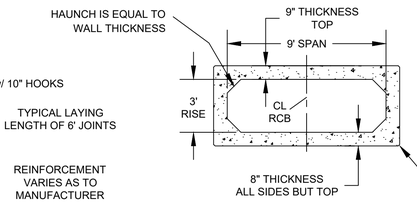
NOTE:
BOX SHALL HAVE A MINIMUM COVER OF 6" CONCRETE

CONC TO BE 5000 PSI

PRECAST RCB TYPICAL SECTION N.T.S.

CONC TO BE 5000 PSI

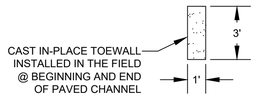
JOINTS SHALL BE SEALED WITH MORTAR, MASTIC, OR FLEXIBLE BUTYL RUBBER SEALANTS.

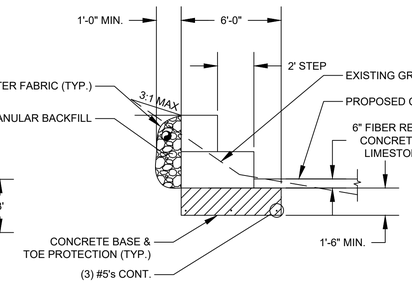


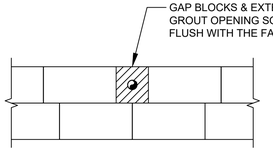
INSTALLATION & BEDDING AS PER MANUFACTURER'S SPECIFICATIONS.

TYPICAL LAYING LENGTH OF 6' JOINTS

REINFORCEMENT VARIES AS TO MANUFACTURER

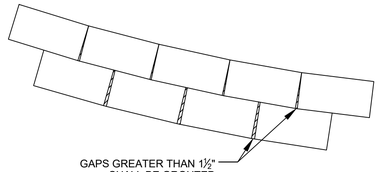




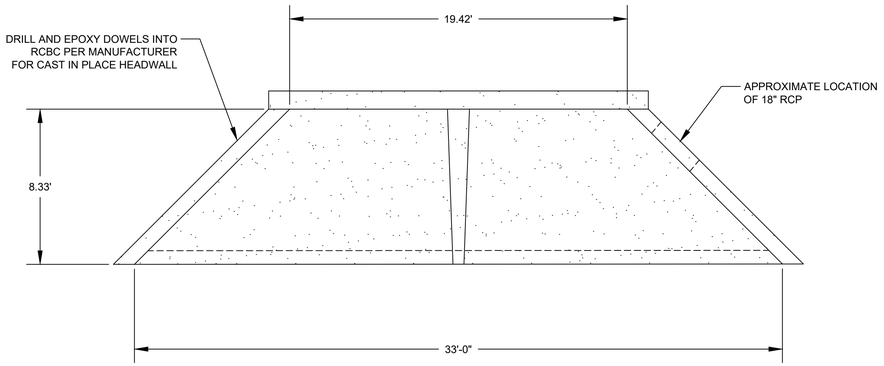


BLOCK SIZE:
SMALL BLOCK ARE SHOWN A NOMINAL 4' LONG BY 2' WIDE BY 2' TALL AND LARGE BLOCKS ARE SHOWN A NOMINAL 4' LONG BY 4' WIDE BY 2' TALL
ACTUAL DIMENSION MAY VARY. HOLD STEP DIMENSIONS AND VERTICAL FACES AS SHOWN ON THE DETAILS AND PLANS.

BLOCK QTY:
SMALL BLOCK ARE SHOWN A NOMINAL 4' LONG BY 2' WIDE BY 2' TALL QTY = 72
LARGE BLOCKS ARE SHOWN A NOMINAL 4' LONG BY 4' WIDE BY 2' TALL QTY = 72

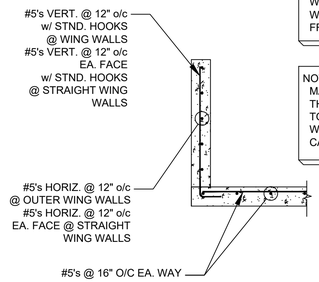


BLOCK RETAINING WALL TYPICAL SECTIONS
N.T.S.



NOTE:
WING WALLS ARE 8" THICK
WING WALL IN CENTER IS TAPERED FROM 17" TO 8" IN THE CENTER

NOTE:
MANUFACTURER TO PROVIDE THREADED INSERT @ 12" o/c TO ACCEPT 16" #5 REBAR @ WING WALLS AND SLAB FOR CAST IN PLACE END SECTION.



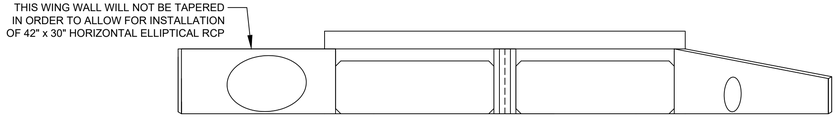
WING WALL, STRAIGHT WING WALL, AND SLAB REINFORCEMENT
TYPICAL SECTION
N.T.S.

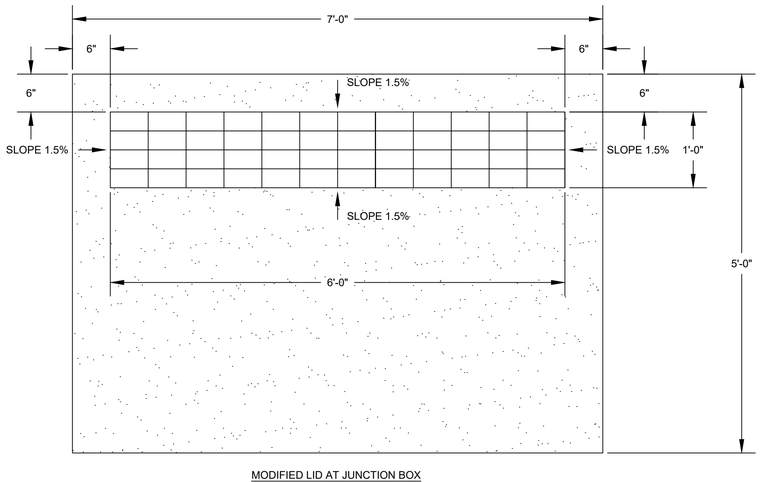
REBAR / WWF NOTE:
PROVIDE 3" CLR. FOR CONCRETE CAST AGAINST EARTH AND 2" CLR. FOR FORMED CONC. & TOP COVER.

FRENCH DRAIN NOTE:
INSTALL FRENCH DRAIN ON GRADE WITH WALL AND PROVIDE A TEE FITTING AT MID SPAN OF EA. WALL (4) TOTAL AND STUB A 6" PIPE OUT THRU THE BLOCK WALL AT EACH TEE AND GROUT THE PIPE IN PLACE.

LIFT HOOK/HOLE NOTE:
CUT LIFT HOOKS OFF BELOW TOP OF BLOCK IF REQD. AND GROUT LIFT HOLE.

CONCRETE BASE NOTE:
CAST CONCRETE BASE ON UNDISTURBED EARTH UNLESS SOIL IS DEEMED UNSUITABLE BY THE ENGINEER ON SITE. CONTRACTOR HAS OPTION USING EARTH TO FORM THE FRONT EDGE OR TO FORM STRAIGHT.





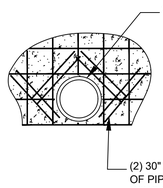
MODIFIED LID AT JUNCTION BOX
N.T.S.

NOTE:
EXISTING LID IS 6" THICK JUNCTION BOX WILL NEED TO BE MODIFIED TO FIT NEW LID

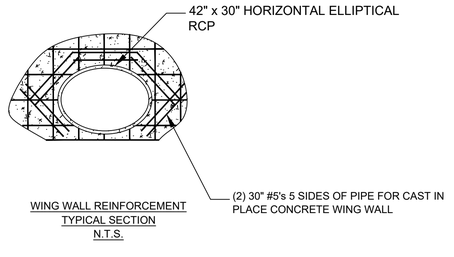
NOTE:
CONTRACTOR TO FIELD VERIFY FITMENT PRIOR TO ORDERING LID.

NOTE:
GRATE MUST BE BICYCLE SAFE

NOTE:
8" MIN. LID MUST BE DESIGNED FOR HS-20 LOADING



WING WALL REINFORCEMENT
TYPICAL SECTION
N.T.S.



WING WALL REINFORCEMENT
TYPICAL SECTION
N.T.S.

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP-CALL BEFORE YOU DIG!

Cox Ave Culvert lowered flow line w block wall (Final).dwg

CITY OF Joplin	CITY OF JOPLIN, MISSOURI PUBLIC WORKS DEPARTMENT DIVISION OF ENGINEERING	ADDRESS: 602 S MAIN ST 64801 PH NO: 417-624-0820 EXT 1530 FAX NO: 417-625-4738 E-MAIL: DJOHNSO1@JOPLINMO.ORG	REV DATE: 00/00	REVISION: PROJECT CHECK	SVYD BY: OLSSON PNT FILE: N/A.TXT SVY DATE: 10/2022 ENGINEER: JOHNSON	ACAD DWG FILE & PATH NAME: STORM SEWER\COX AVENUE SCALE: NTS	DWN BY: PRINGLE CKD BY: JOHNSON APD BY: JOHNSON DATE: 07/2024	PROJECT COX AVENUE BOX CULVERT AND PAVED DITCH IMPROVEMENTS	PLAN NO: 8542 SHEET 8 of 8