

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:4 SLOPE

PIPE DIA	DIMENSIONS											NO. OF SPACES			CONCRETE CLASS SI CU. YD.	REINF. STEEL LBS.
	H	L	M	P	S	T	U	V	W	A	E	B	C	D		
36"	3'-10"	14'-8"	4'-3"	4"	15'-1 1/2"	2"	2'-8"	6'-0"	7'-4"	2'-2"	2'-0"	-	3	1	5.9	360
42"	4'-5"	17'-0"	4'-8"	6"	17'-6 1/4"	2"	3'-2"	6'-6"	7'-10"	2'-6"	2'-6"	4	-	-	7.6	450
48"	5'-0"	19'-4"	5'-0"	6"	19'-11"	2"	3'-2"	7'-0"	8'-4"	2'-6"	2'-6"	-	6	-	9.3	450

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:6 SLOPE

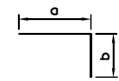
PIPE DIA	DIMENSIONS											NO. OF SPACES			CONCRETE CLASS SI CU. YD.	REINF. STEEL LBS.
	H	L	M	P	S	T	U	V	W	A	E	B	C	D		
36"	3'-10"	22'-0"	4'-3"	4"	22'-3 1/2"	2"	2'-8"	6'-0"	7'-4"	2'-8"	2'-4"	-	7	-	7.9	510
42"	4'-5"	25'-6"	4'-8"	6"	25'-10"	2"	3'-2"	6'-6"	7'-10"	2'-8"	2'-2"	5	-	4	10.2	640
48"	5'-0"	29'-0"	5'-0"	6"	29'-4 3/4"	2"	3'-2"	7'-0"	8'-4"	2'-8"	2'-2"	7	1	-	12.6	760

DIMENSIONS AND QUANTITIES IN ONE HEADWALL TYPE III 1:10 SLOPE

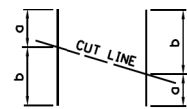
PIPE DIA	DIMENSIONS											NO. OF SPACES			CONCRETE CLASS SI CU. YD.	REINF. STEEL LBS.
	H	L	M	P	S	T	U	V	W	A	E	B	C	D		
18"	2'-3"	20'-10"	2'-3"	2"	20'-11"	2"	2'-8"	3'-0"	4'-4"	2'-2"	2'-0"	-	6	1	4.0	310
24"	2'-9"	25'-10"	3'-0"	3"	25'-11 1/2"	2"	2'-8"	4'-0"	5'-4"	2'-4"	2'-4"	-	8	1	6.1	440
30"	3'-4"	31'-8"	3'-6"	4"	31'-10"	2"	2'-8"	5'-0"	6'-4"	2'-2"	1'-8"	-	11	1	8.9	640
36"	3'-10"	36'-8"	4'-3"	4"	36'-10 1/4"	2"	2'-8"	6'-0"	7'-4"	2'-2"	2'-2"	-	13	1	12.1	810
42"	4'-5"	42'-6"	4'-8"	6"	42'-8 1/2"	2"	3'-2"	6'-6"	7'-10"	2'-2"	1'-8"	-	12	6	15.4	1010
48"	5'-0"	48'-4"	5'-0"	6"	48'-7"	2"	3'-2"	7'-0"	8'-4"	2'-4"	2'-4"	-	15	4	19.0	1220



TYPE 1



TYPE 2



TYPE 3

REINFORCING BAR SCHEDULE FOR ONE HEADWALL

TYPE III 1:4 SLOPE

PIPE DIA	NO. 4 REINFORCING BARS					
	MARK	TYPE	NO. REQ'D.	LENGTH	a	b
36"	o36	1	1	13'-10"	4'-1"	-
	n36	2	36	2'-3"	1'-6"	9"
	h36	STR.	8	14'-6"	-	-
	x36	2	8	3'-0"	2'-0"	1'-0"
	+36	STR.	17	7'-0"	-	-
	u36	STR.	6	3'-8"	-	-
	v36	3	10	4'-9"	1'-3"	3'-6"
	w36	STR.	8	14'-2"	-	-
42"	o42	1	1	15'-11"	4'-9"	-
	n42	2	40	2'-3"	1'-6"	9"
	h42	STR.	10	17'-0"	-	-
	x42	2	8	3'-6"	2'-6"	1'-0"
	+42	STR.	19	7'-6"	-	-
	u42	STR.	6	4'-2"	-	-
	v42	3	12	5'-4"	1'-3"	4'-1"
	w42	STR.	8	16'-6"	-	-
48"	o48	1	1	17'-9"	5'-4"	-
	n48	2	46	2'-3"	1'-6"	9"
	h48	STR.	10	19'-4"	-	-
	x48	2	9	3'-6"	2'-6"	1'-0"
	+48	STR.	22	8'-0"	-	-
	u48	STR.	6	4'-9"	-	-
	v48	3	14	5'-10"	1'-3"	4'-7"
	w48	STR.	9	18'-10"	-	-

REINFORCING BAR SCHEDULE FOR ONE HEADWALL

TYPE III 1:6 SLOPE

PIPE DIA	NO. 4 REINFORCING BARS					
	MARK	TYPE	NO. REQ'D.	LENGTH	a	b
36"	o36	1	1	13'-10"	4'-1"	-
	n36	2	50	2'-3"	1'-6"	9"
	h36	STR.	8	21'-8"	-	-
	x36	2	8	3'-0"	2'-0"	1'-0"
	+36	STR.	24	7'-0"	-	-
	u36	STR.	6	3'-8"	-	-
	v36	3	14	4'-9"	1'-3"	3'-6"
	w36	STR.	8	21'-6"	-	-
42"	o42	1	1	15'-11"	4'-9"	-
	n42	2	58	2'-3"	1'-6"	9"
	h42	STR.	10	25'-4"	-	-
	x42	2	8	3'-6"	2'-6"	1'-0"
	+42	STR.	28	7'-6"	-	-
	u42	STR.	6	4'-2"	-	-
	v42	3	17	5'-4"	1'-3"	4'-1"
	w42	STR.	8	25'-0"	-	-
48"	o48	1	1	17'-9"	5'-4"	-
	n48	2	66	2'-3"	1'-6"	9"
	h48	STR.	10	28'-8"	-	-
	x48	2	9	3'-6"	2'-6"	1'-0"
	+48	STR.	31	8'-0"	-	-
	u48	STR.	6	4'-9"	-	-
	v48	3	20	5'-10"	1'-3"	4'-7"
	w48	STR.	9	28'-6"	-	-

REINFORCING BAR SCHEDULE FOR ONE HEADWALL

TYPE III 1:10 SLOPE

PIPE DIA	NO. 4 REINFORCING BARS					
	MARK	TYPE	NO. REQ'D.	LENGTH	a	b
18"	o18	1	1	8'-7"	2'-5"	-
	n18	2	46	2'-6"	1'-9"	9"
	h18	STR.	6	20'-4"	-	-
	x18	2	5	3'-0"	2'-0"	1'-0"
	+18	STR.	23	4'-0"	-	-
	u18	STR.	4	2'-0"	-	-
	v18	3	5	20'-4"	-	-
	w18	STR.	5	20'-4"	-	-
24"	o24	1	1	10'-5"	3'-0"	-
	n24	2	56	2'-3"	1'-6"	9"
	h24	STR.	6	25'-4"	-	-
	x24	2	6	3'-0"	2'-0"	1'-0"
	+24	STR.	28	5'-0"	-	-
	u24	STR.	4	2'-6"	-	-
	v24	3	13	3'-9"	1'-3"	2'-6"
	w24	STR.	6	25'-4"	-	-
30"	o30	1	1	12'-3"	3'-7"	-
	n30	2	68	2'-3"	1'-6"	9"
	h30	STR.	8	31'-2"	-	-
	x30	2	7	3'-0"	2'-0"	1'-0"
	+30	STR.	34	6'-0"	-	-
	u30	STR.	4	3'-0"	-	-
	v30	3	18	4'-3"	1'-3"	3'-0"
	w30	STR.	7	31'-2"	-	-
36"	o36	1	1	13'-10"	4'-1"	-
	n36	2	80	2'-3"	1'-6"	9"
	h36	STR.	8	36'-2"	-	-
	x36	2	8	3'-0"	2'-0"	1'-0"
	+36	STR.	39	7'-0"	-	-
	u36	STR.	6	3'-8"	-	-
	v36	3	23	4'-9"	1'-3"	3'-6"
	w36	STR.	8	36'-2"	-	-
42"	o42	1	1	15'-11"	4'-9"	-
	n42	2	92	2'-3"	1'-6"	9"
	h42	STR.	10	42'-0"	-	-
	x42	2	8	3'-6"	2'-6"	1'-0"
	+42	STR.	45	7'-6"	-	-
	u42	STR.	6	4'-2"	-	-
	v42	3	27	5'-4"	1'-3"	4'-1"
	w42	STR.	8	42'-0"	-	-
48"	o48	1	1	17'-9"	5'-4"	-
	n48	2	104	2'-3"	1'-6"	9"
	h48	STR.	10	48'-0"	-	-
	x48	2	9	3'-6"	2'-6"	1'-0"
	+48	STR.	52	8'-0"	-	-
	u48	STR.	6	4'-9"	-	-
	v48	3	32	5'-10"	1'-3"	4'-7"
	w48	STR.	9	47'-10"	-	-

NOTES:

- THE 'v' BARS, TYPE 3, SHALL BE ORDERED FULL LENGTH AND CUT IN THE FIELD. THE REMAINING PORTION OF THE 'v' BARS SHALL BE USED IN THE OTHER WALL.
- THE LONG LEG OF THE 'd' AND 'n' BARS SHALL BE VERTICAL.
- QUANTITIES ON THIS DRAWING ARE BASED ON THE CAST-IN-PLACE DESIGN.
- "STR." = STRAIGHT BAR.
- ALL SLOPES ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).

SHEET 2 OF 3

**Illinois Tollway**  
Open Roads for a Faster Future

HEADWALL TYPE III  
18"-24"-30"-42"-48"  
FOR 1:4, 1:6, AND 1:10 SLOPES

STANDARD B6-03

*Paul Kovacs*  
APPROVED... CHIEF ENGINEER... DATE 2-7-2012...

BOWMAN, BARRETT & ASSOCIATES INC.  
CONSULTING ENGINEERS  
Chicago, Illinois  
312.228.0100  
www.bbandainc.com



FILE NAME = \$FILES\$	USER NAME = default	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = H=1"=10' V=1"=5'	CHECKED - RGR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

SCALE: SHEET NO./N/A OF N/A SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	619
CONTRACT NO. 60L77				
ILLINOIS FED. AID PROJECT				

S:\1101\95-CADD\60L77-IL-175\60L77-Shts\151TH.dwg