

#4 DEFORMED TIE BAR

SECTION

NO.

90

SHEET

4

DOWELED JOINT

REINFORCED PANELS

IMPRESSIONED CONCRETE

5" SIDEWALK

6" SIDEWALK

MEDIAN NOSE

10" ASPHALT PAVEMENT

- 1. ALL CONCRETE PAVEMENT JOINTS ADJACENT TO EXISTING CONCRETE SHALL MATCH THE EXISTING JOINT PATTERN.
- 2. ALL CONCRETE PAVEMENT SHALL BE DOWELED WITH REINFORCED PANELS AT UTILITY CROSSINGS. REINFORCED PANELS SHALL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE PRICE BID FOR 10" NON-REINF. CONC. PVMT CL
- AE-DOWLED.

 3. ALL MANHOLE CASTINGS WITHIN THE CONCRETE PAVEMENT SHALL BE FLOATING CASTING R-1955-1.
 ALL COSTS FOR THE FLOATING
 CASTING SHALL BE INCLUDED IN
 THE PRICE OF EACH STRUCTURE.
- 4. POUR CURB & GUTTER SEPARATE FROM ADJACENT CONCRETE
- PAVEMENT.

 5. INSTALL MH CASTINGS WITH PAVING OPERATION OR INSTALL WITH EACH ADJOINING FULL CONCRETE PANEL. MH ISOLATION OR BOX OUTS WILL NOT BE ALLOWED.





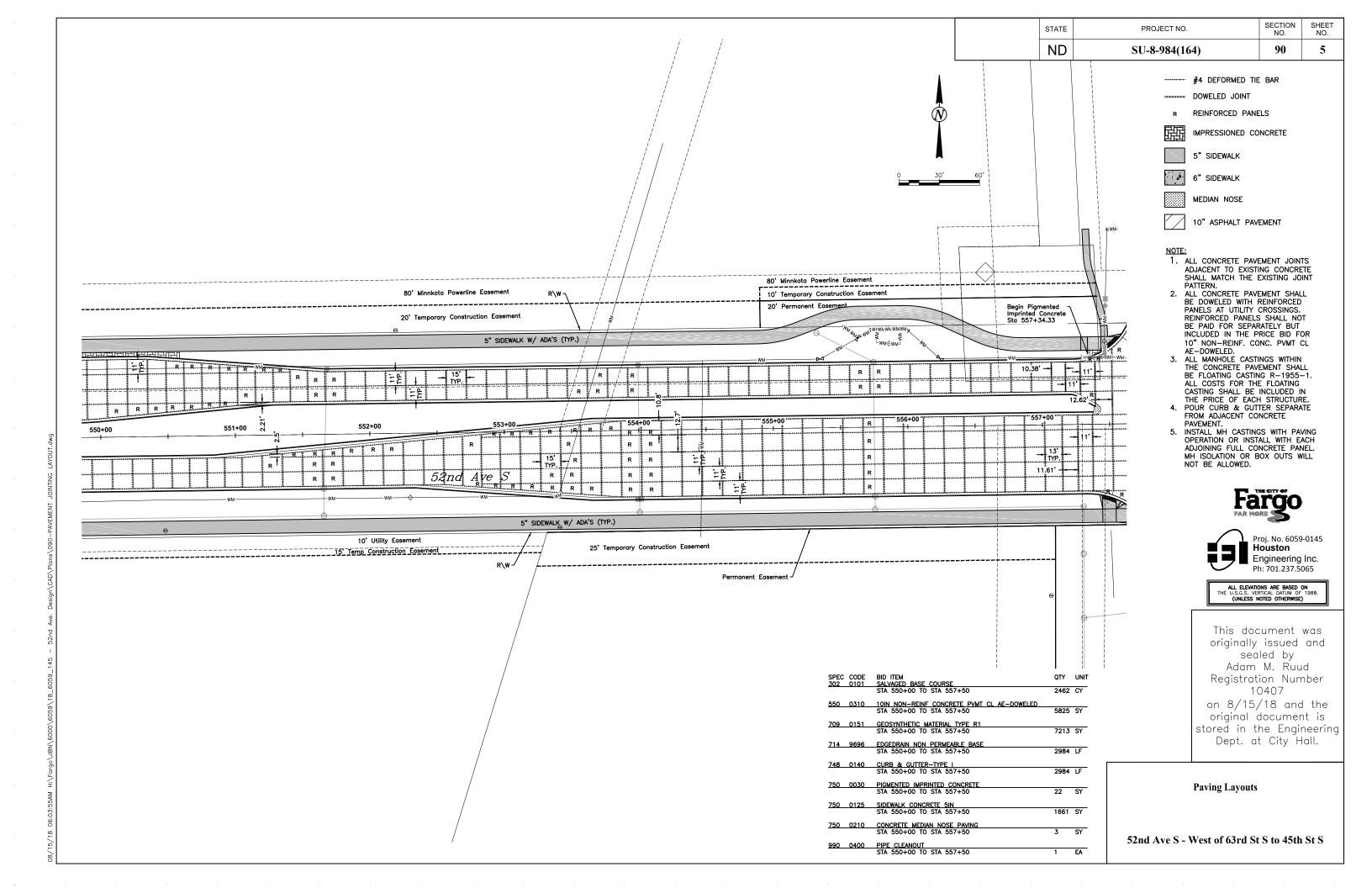
Proj. No. 6059-0145 Houston Engineering Inc. Ph: 701.237.5065

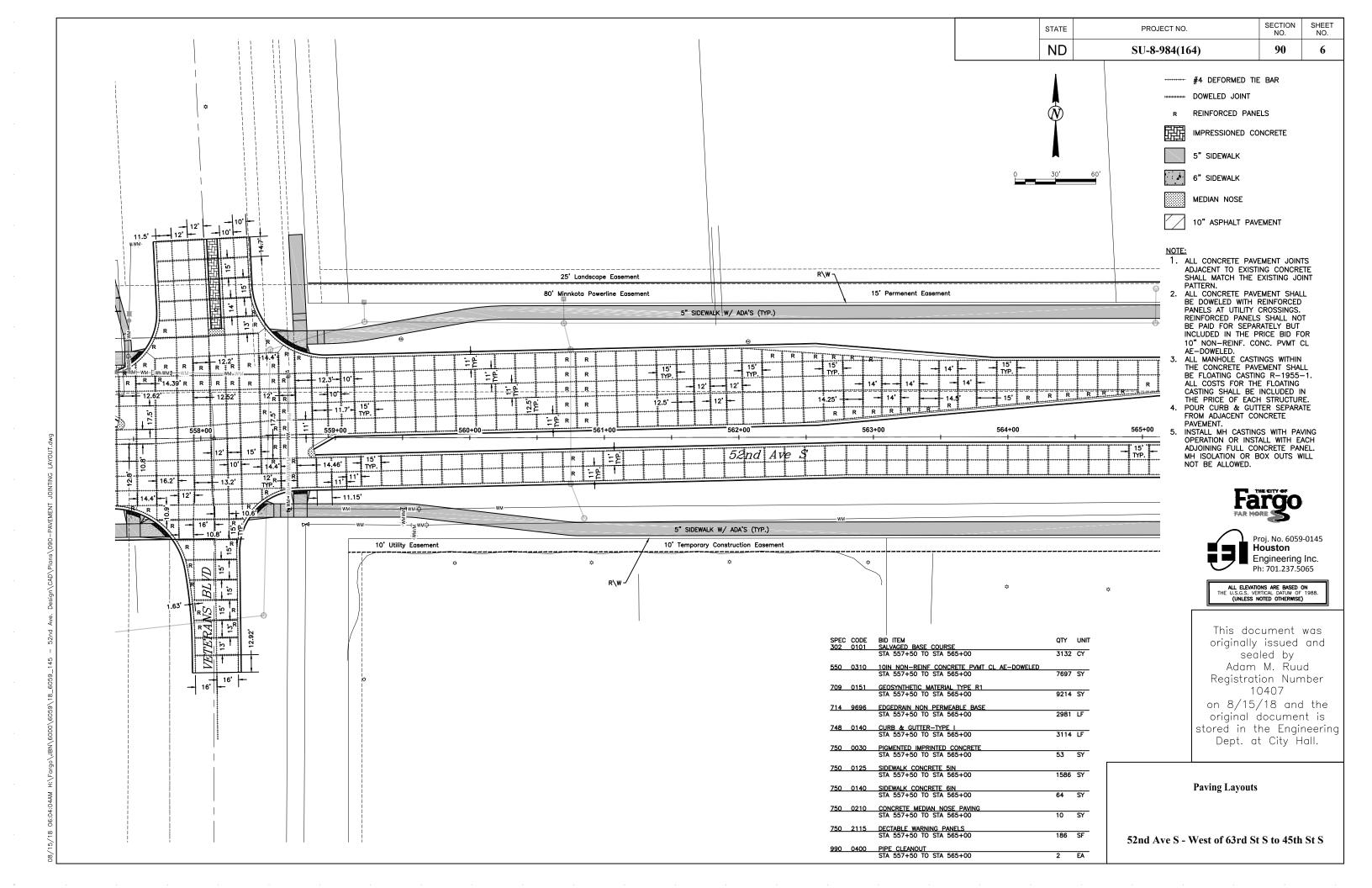
ALL ELEVATIONS ARE BASED ON U.S.G.S. VERTICAL DATUM OF 1988. (UNLESS NOTED OTHERWISE)

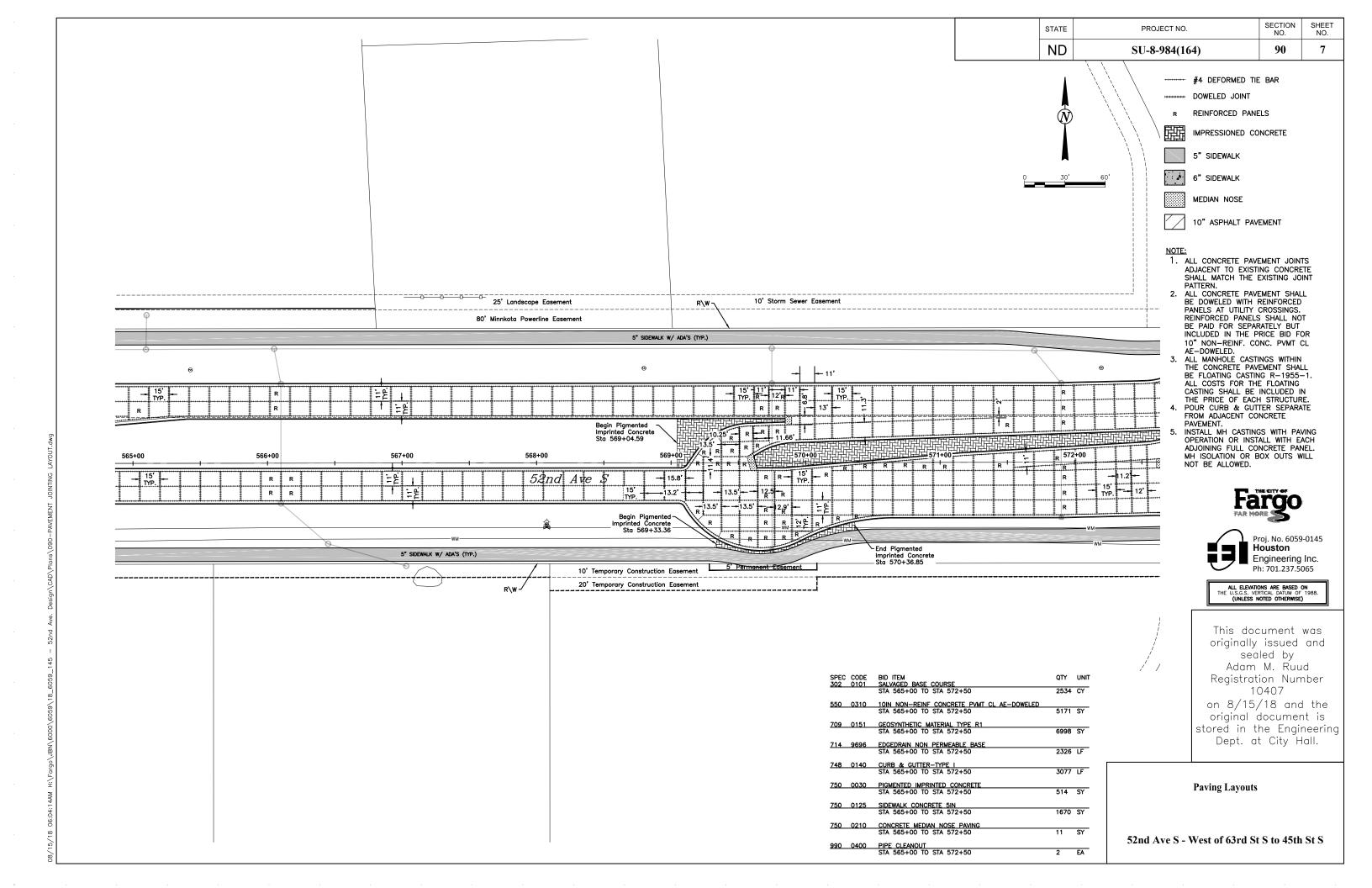
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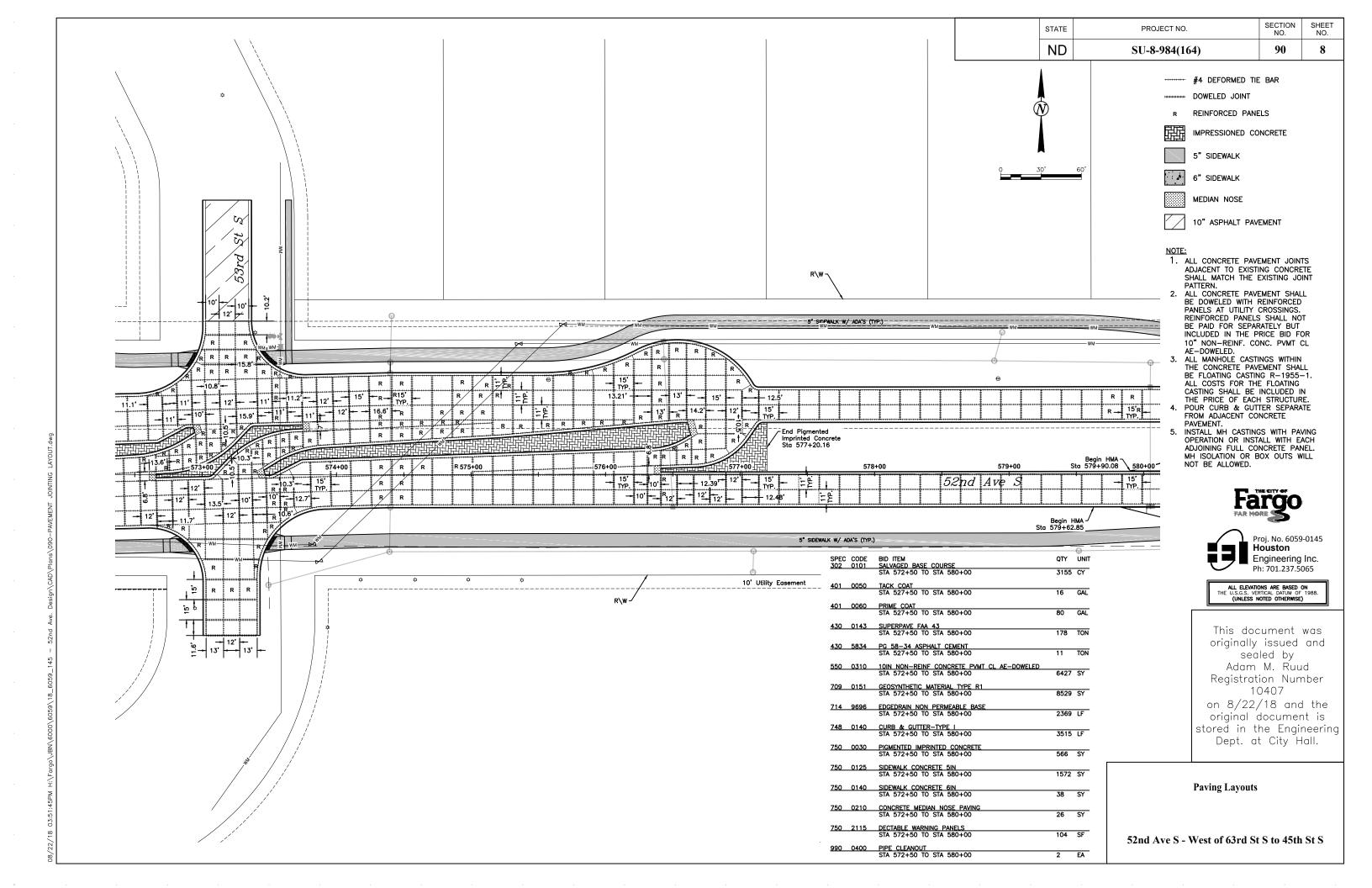
Paving Layouts

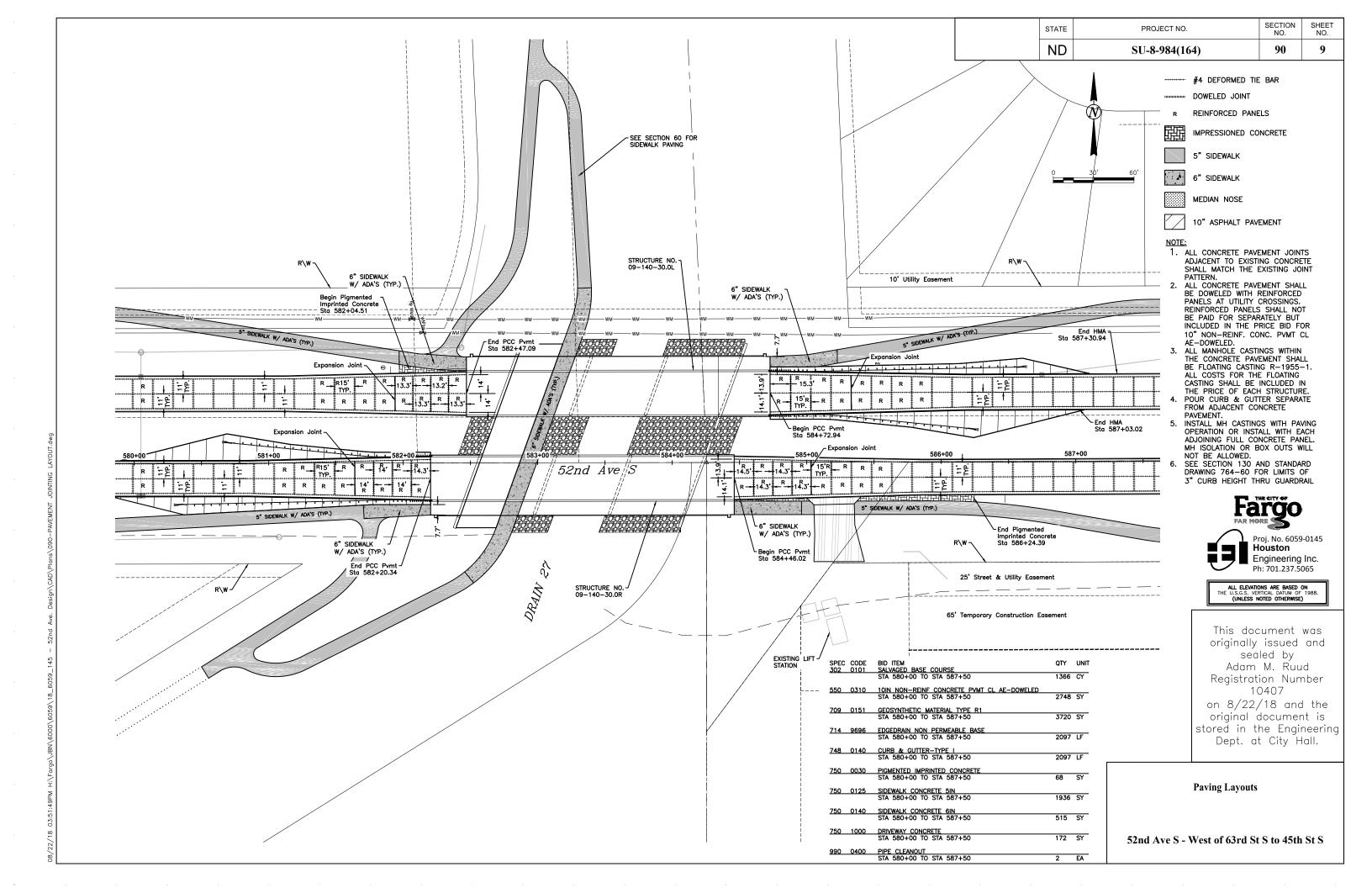
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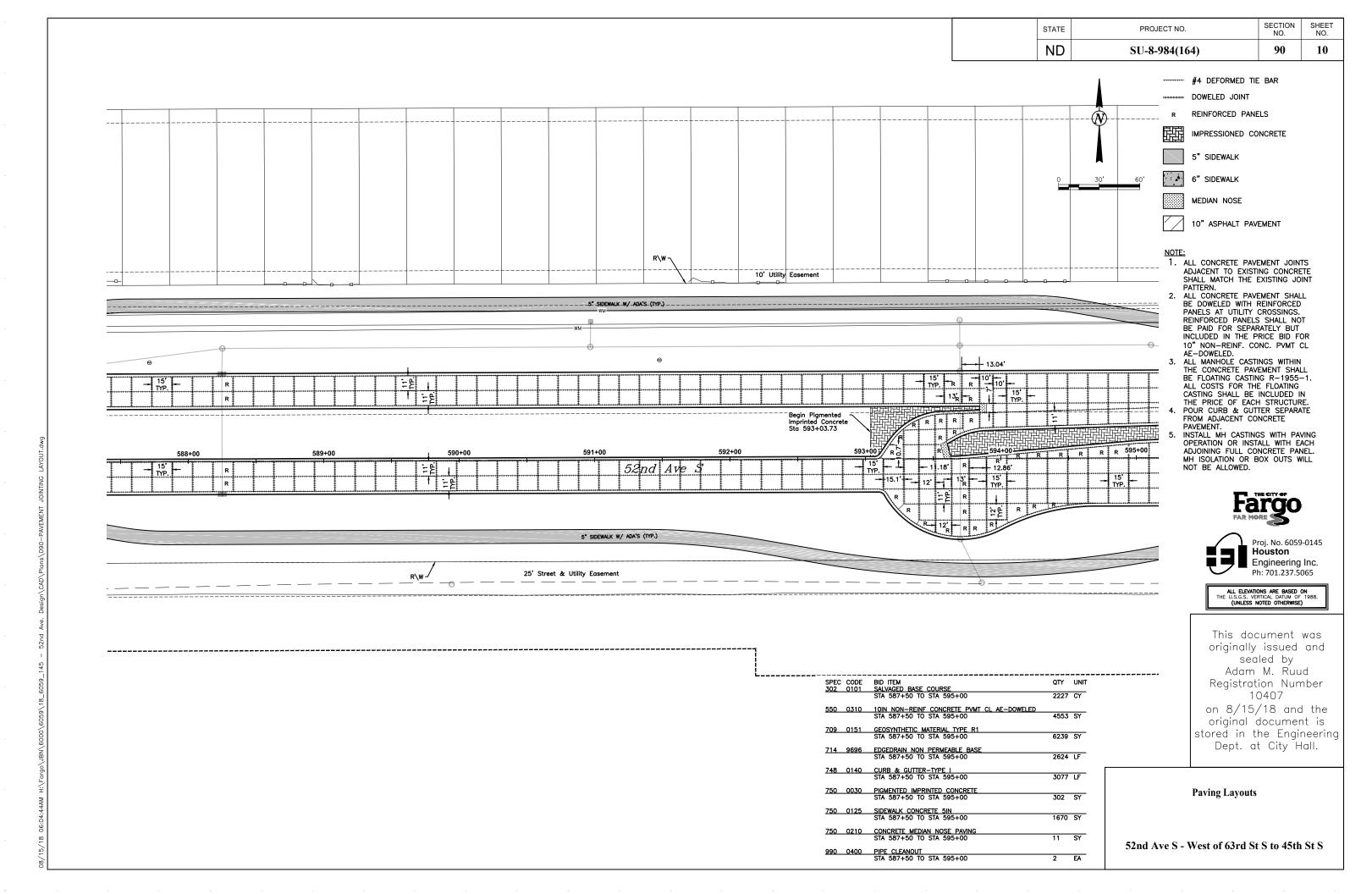


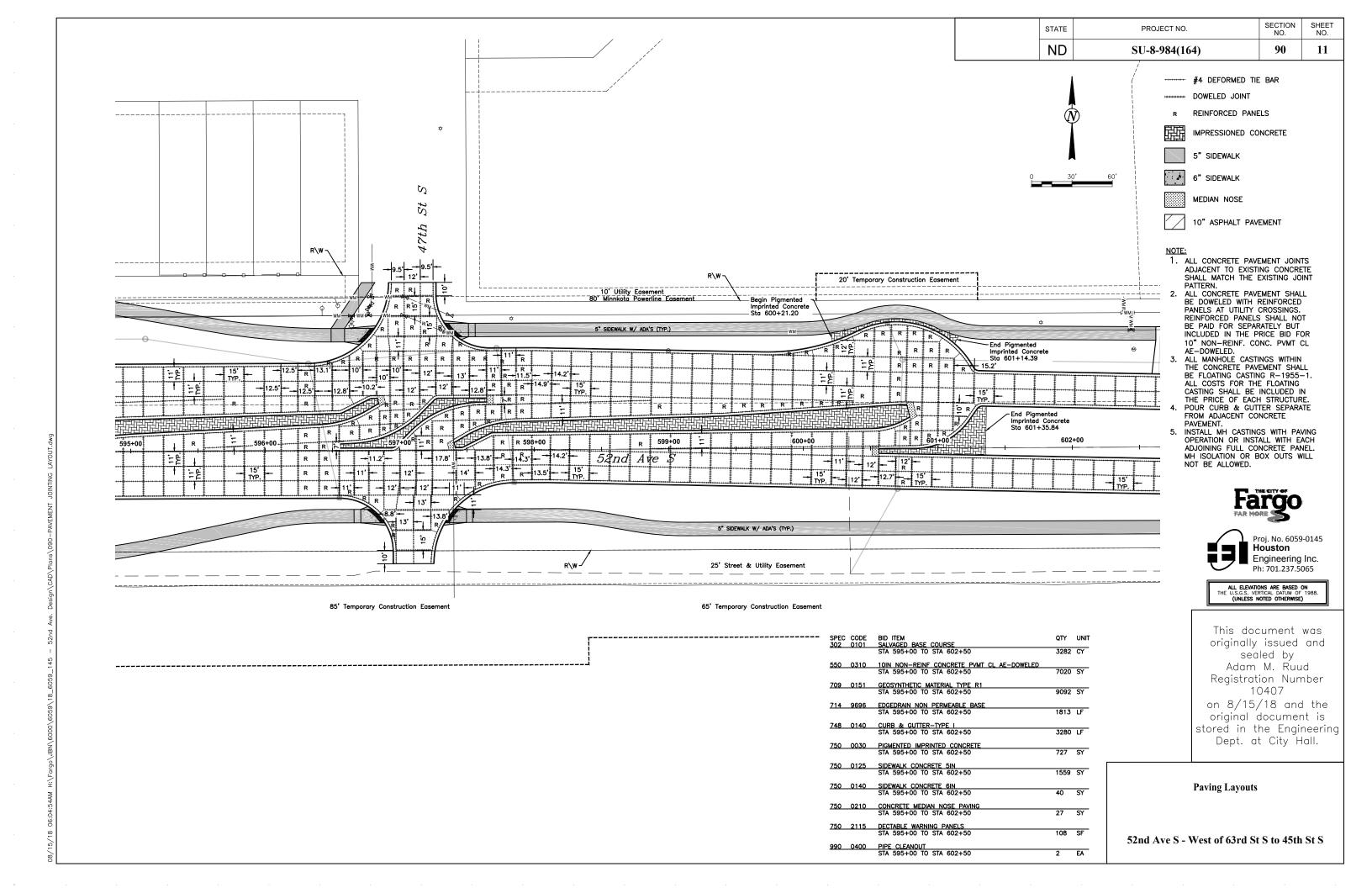


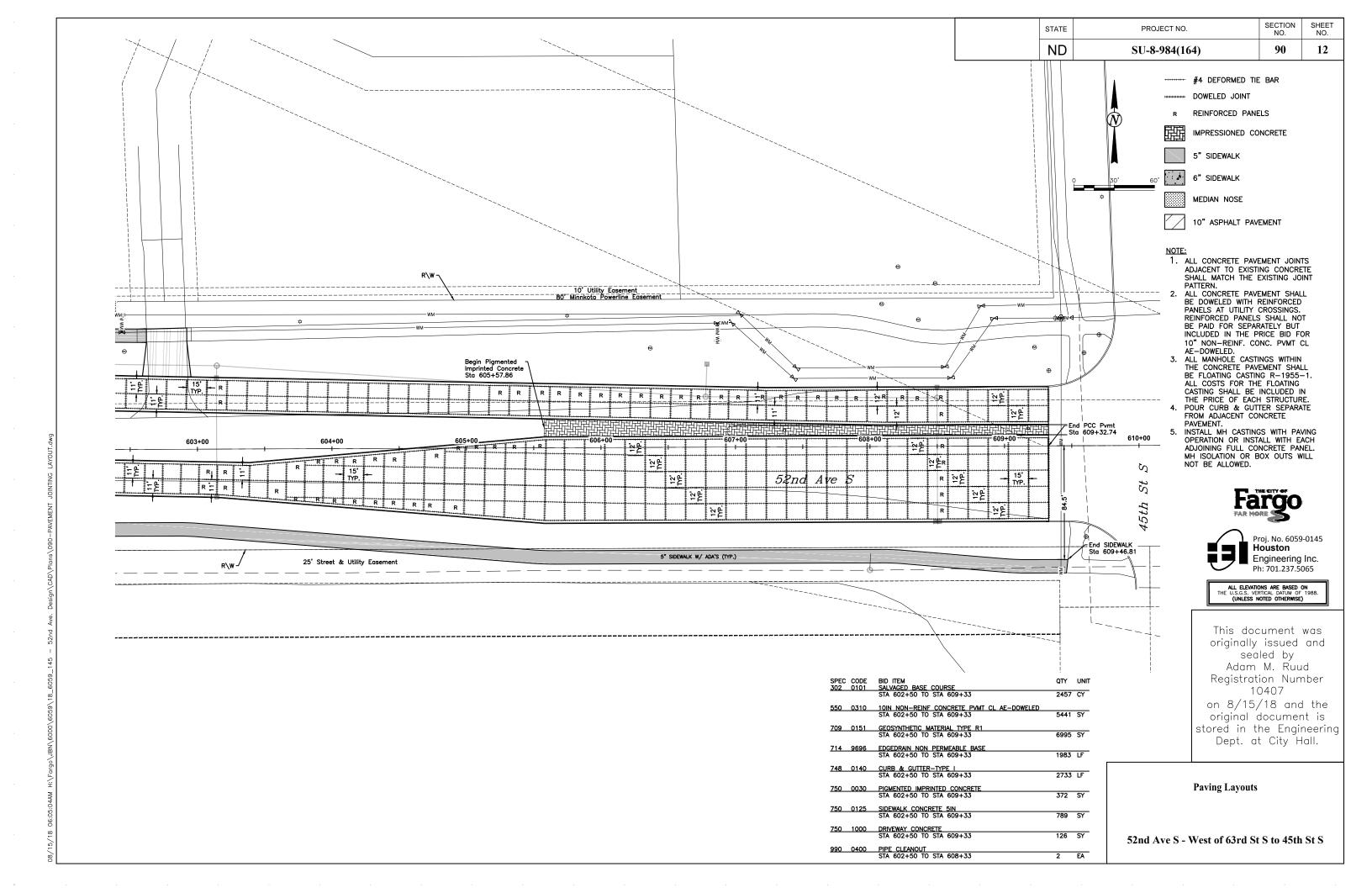


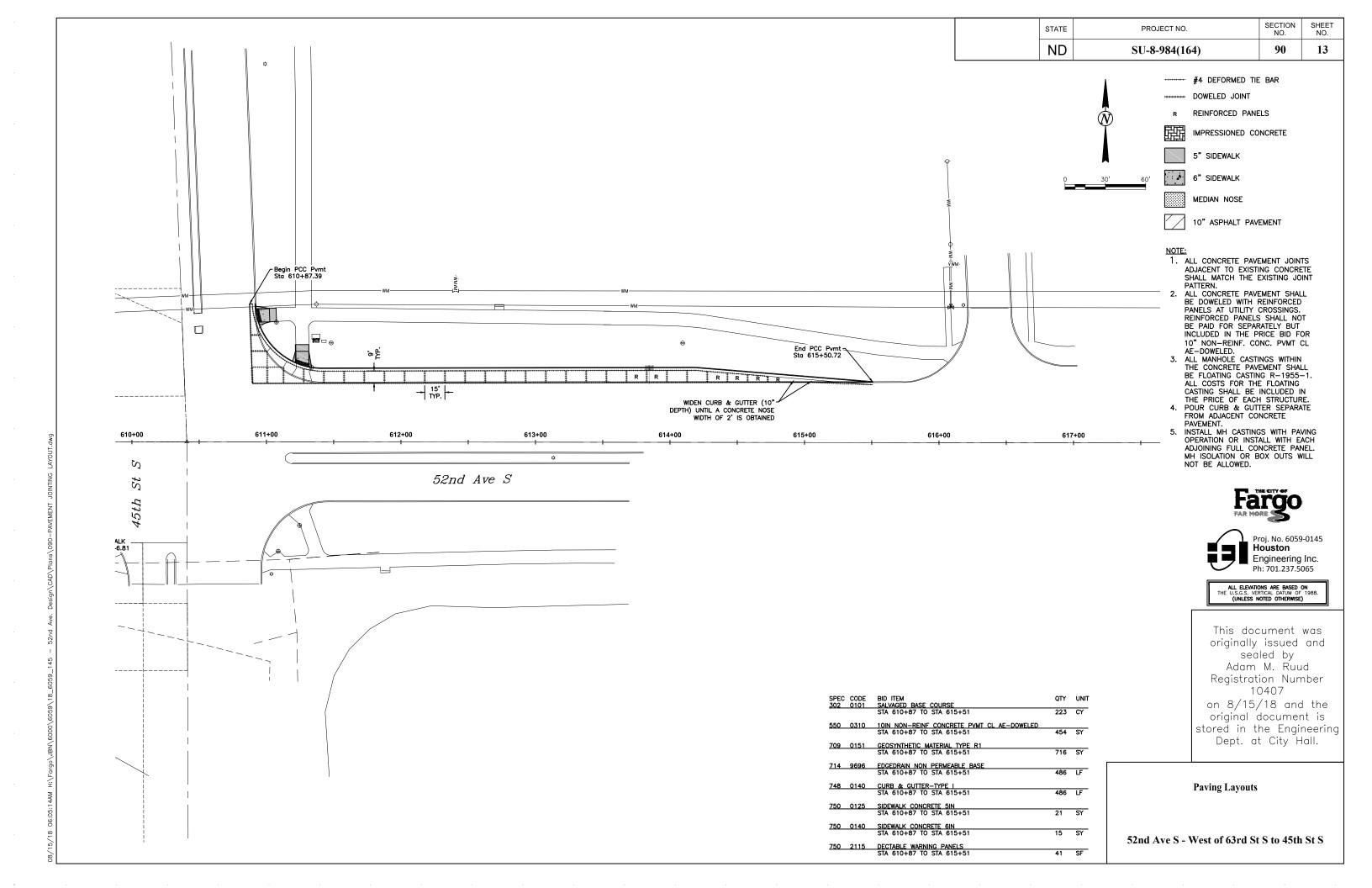












STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	100	1

TOTAL UNITS

SIGN	SIGN	DESCRIPTION				F	A C =			AMOUNT	UNITS PER	UNITS SUB	
NUM BER	SIZE	DESCRIPTION			3	~	ASE 5	6	7	8	REQUIRED	AMOUNT	
D3-36	36"x6"	STREET NAME SIGN (Sign and installation only)									0	6	(
G20-1-60 G20-1b-60	60"x24"	ROAD WORK NEXT MILES WORK IN PROGRESS/ NO WORK IN PROGRESS (Sign and installation only)					-				0	34 26	(
G20-2-48		END ROAD WORK									0	19	
G20-4-36		PILOT CAR FOLLOW ME (Mounted to back of pilot car)									0	18	(
		CONTRACTOR SIGN ROAD WORK NEXT MILES RT & LT ARROWS									0	64 37	(
G20-50a-72 G20-52a-72		ROAD WORK NEXT MILES RT & LT ARROWS					-				0	30	
		SPEED LIMIT ENFORCED - MINIMUM FEE \$80 WHEN WORKERS PRESENT									0	59	
M1-1-36	36"x36"	INTERSTATE ROUTE MARKER (Post and installation only)									0	10	
M1-4-24 M1-5-24	24"x24"	U.S. ROUTE MARKER (Post and installation only) STATE ROUTE MARKER (Post and installation only)	_								0	10 10	
M3-1-24		NORTH (Mounted on route marker post)	4	11	14	12	15	14	3		15	7	10
M3-2-24		EAST (Mounted on route marker post)	·	32	41		41		-		42	7	29
M3-3-24		SOUTH (Mounted on route marker post)	4	21	21	16			3		21	7	14
M3-4-24 M4-8-24		WEST (Mounted on route marker post) DETOUR (Mounted on route marker post)	8	32	53		46 121	27	6		53 129	7	37 90
M4-9-30		DETOUR ARROW RIGHT OF LEFT/AHD AND RT OF LT	-	90	129	121	121	00	0		0	15	90
M4-10-48		DETOUR ARROW RIGHT or LEFT		4	3	3	3	2			4	23	9
M5-1-21		ARROW AHD AND RT or LT(Mounted on route marker post)	2	21	34	31	30	16			34	7	23
M5-2-21		ARROW AHD UP & RT or LT (Mounted on route marker post)	٠,	45		E4	E4	20	2		0	7	20
M6-1-21 M6-2-21		ARROW RT or LT (Mounted on route marker post) ARROW UP & RT or LT (Mounted on route marker post)	2	45 11	55 13	54 10	54 12		2		55 14	7	38
M6-3-21		ARROW AHD (Mounted on route marker post)	2	15			17	19			21	7	14
R1-1-48	48"x48"	STOP						1			1	32	3:
R1-1a-18	18"x18"	STOP and SLOW PADDLE Back to Back									0	5	
R1-2-60 R2-1-48	60"x60"	YIELD SPEED LIMIT	_	-		-	-	7	10		0 10	29 39	39
R2-1a-24		MINIMUM FEE \$80 (Mounted on Speed Limit post)	_			-	-	'	10	-	0	10	33
R3-7-48	48"x48"	LEFT OF RIGHT LANE MUST TURN LEFT OF RIGHT									0	35	
R4-1-48	48"x60"	DO NOT PASS									0	39	
R4-7-48 R5-1-48	48"x60" 48"x48"	KEEP RIGHT SYMBOL DO NOT ENTER			-	-	_	1			0	39 35	3
R6-1-36	36"x12"	ONE WAY RIGHT or LEFT									0	13	
R7-1-12		NO PARKING									0	11	
R10-6-24	24"x36"	STOP HERE ON RED									0	16	
R11-2-48		ROAD CLOSED		_	-	-	-	2			2	28	50
R11-2a-48 R11-3a-60		ROAD CLOSED MILES AHEAD LOCAL TRAFFIC ONLY	3	4	4	7	6	4			7	28 31	190
	60"x30"	STREET CLOSED MILES AHEAD LOCAL TRAFFIC ONLY									0	31	
R11-4a-60		STREET CLOSED TO THRU TRAFFIC	1	4	2	7	5	2			7	31	217
W1-3-48		RIGHT OF LEFT SHARP REVERSE CURVE ARROW					_		_		0	35	044
W1-4-48 W1-4b-48	48"x48" 48"x48"		-			-	-	2	1		6 2	35 35	210 70
W1-6-48		LARGEARROW						<u> </u>			0	26	
W3-1-48	48"x48"	STOP A HEAD SYMBOL									0	35	
W3-3-48	48"x48"	SIGNAL AHEAD SYMBOL	_				_				0	35	
W3-4-48 W3-5-48	48 X48 48"x48"	BE PREPARED TO STOP SPEED REDUCTION AHEAD	-		-		-	2	4	_	0 4	35 35	14
W4-2-48	48"x48"					\vdash		2	4		4	35	140
W5-1-48	48"x48"	ROAD NARROWS									0	35	
W5-8-48	48"x48"	THRU TRAFFIC RIGHT LANE									0	35	
W5-9-48 W6-3-48		ROAD WORK TRAFFIC ONLY DOWN & LT or RT ARROW TWO WAY TRAFFIC SYMBOL	-	-		-	-	4	-		0 4	35 35	14
W8-1-48	48"x48"							Ť			0	35	
W8-3-48	48"x48"	PAVEMENT ENDS									0	35	
W8-7-48	48"x48"	LOOSE GRAVEL									0	35	
W8-9a-48 W8-11-48	48"x48"	SHOULDER DROP-OFF UNEVEN LANES									0	35 35	
W8-12-48		NO CENTER STRIPE									0	35	
W8-53-48	48"x48"	TRUCKS ENTERING HIGHWAY									0	35	
W8-54-48		TRUCKS ENTERING A HEAD or FT.									0	35	
W8-55-48 W8-56-48	48"x48" 48"x48"	TRUCKS CROSSING AHEAD or FT. TRUCKS EXITING HIGHWAY		-			-	-			0	35 35	
W9-36-46 W9-3a-48	48"x48"	CENTER LANE CLOSED SYMBOL									0	35	
W12-2-48	48"x48"	LOW CLEARANCE SYMBOL									0	35	
W13-1-24	24"x24"							3			3	11	3
W13-4-48		RAMP ARROW	_	-	-		_	_			0	39	
W14-3-48 W20-1-48		NO PASSING ZONE ROAD WORK AHEAD or FT or MILE	2					2	4		0 4	23 35	140
W20-2-48		DETOUR AHEAD or FT	1	5	4	4	4	2	Ť		5	35	17
W20-3-48		ROAD or STREET CLOSED AHEAD or FT.	1	5	4	4	4	2			5	35	17
W20-4-48		ONE LANE ROAD AHEAD OF FT.	_	_	-	_	_	-	A		0	35	14
W20-5-48 W20-7a-48		RIGHT OF LEFT LANE CLOSED AHEAD OF FT. FLAGGING SYMBOL	-	-	-	-	-	2	4	_	0	35	14
W20-7a-46 W20-7k-24		FEET (Mounted on w arning sign post)									0	10	
W20-8-48	48"x48"	STREET CLOSED									0	35	
		EQUIPMENT WORKING									0	35	
W20-52-54		NEXT MILES (Mounted on w arning sign post)	_	_	-	_	_	_		_	0	12	
W21-1a-48 W21-2-48		WORKERS SYMBOL FRESH OIL		-	-	-	-	-			0	35 35	
	TO ATO	I VEO I OIL		1					-	-	0	35	

Г				PH	SE			AMOUNT REQUIRED	UNITS PER	UNITS SUB	
1	1	2	3	4	5	6	7	8		AMOUNT	TOTAL
									0	35	0
									0	35	0
									0	35	0
									0	35	0
									0	35	0
									0	35	0
									0	35	0
									0	11	0
ute marker post) 2	2	4	6	6	8	6			8	7	56
		1					1 [1	16	16
		1				2	1 [2	7	14
		1				1			1	7	7
									0	0	0
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										0	

CONSIGN 1		64	94	93	87	51		94	7	658
CONSIGN 2		16	23	16	16	17		23	7	161
CONSIGN 3	8	6	12	12	18	6		18	7	126
CONSIGN 4		5				4	3	5	7	35
CONSIGN 5		5				8	3	8	7	56
CONSIGN 6						1		1	7	7
CONSIGN 7						3	4	4	7	28
		T						0	0	0
		T	T	T				0	0	0
								0	0	0
								0	0	0
		T		T				0	0	0
								0	0	0
			T					0	0	0
		T						0	0	0

SPEC & CODE	DESCRIPTION				PH	UNIT	QUANTITY				
		1	2	3	4	5	6	7	8		
704-0100	FLAGGING									MHR	0
704-1037	ATTENUATION DEVICE-TYPE B-35					2				EACH	2
704-1043	ATTENUATION DEVICE-TYPE B-65									EACH	0
704-1044	A TTENLIA TION DEVICE-TYPE B-70									FA CH	0

704-0100	FLAGGING								MHR	0
704-1037	ATTENUATION DEVICE-TYPE B-35					2			EACH	2
704-1043	ATTENUATION DEVICE-TYPE B-65								EACH	0
704-1044	ATTENUATION DEVICE-TYPE B-70								EACH	0
704-1050	TYPE I BARRICADES								EACH	0
704-1051	TYPE II BARRICADES								EACH	0
704-1052	TYPE III BARRICADES	9	18	17	35	32	14	18	EACH	35
704-1054	SIDEWALK BARRICADE		3	4	6	5	8		EACH	8
704-1060	DELINEATOR DRUMS		44					239	EACH	240
704-1065	TRAFFIC CONES								EACH	0
	TUBULAR MARKERS								EACH	0
	DELINEATOR								EACH	0
704-1072	FLEXIBLE DELINEATORS						54	23	EACH	54
704-1081	VERTICAL PANELS - BACK TO BACK								EACH	0
	SEQUENCING A RROW PANEL - TYPE A								EACH	0
	SEQUENCING A RROW PANEL - TYPE B								EACH	0
	SEQUENCING ARROW PANEL - TYPE C						1	2	EACH	2
	SEQUENCING ARROW PANEL - TYPE C - CROSSOVER								EACH	0
704-1095	TYPE B FLASHERS								EACH	0
	OBLITERATION OF PVMT MK								SF	0
	PORTABLE PRECAST CONCRETE MED BARRIER								LF	0
704-3510	PRECAST CONCRETE MED BARRIER - STATE FURNISHED								EACH	0
	RAISED PAVEMENT MARKERS								EACH	0
	SHORT TERM 4IN LINE - TYPE R								LF	7020
	SHORT TERM 8IN LINE - TYPE R						902		LF	902
	SHORT TERM 24IN LINE - TYPE R						27		LF	27
762-0440	SHORT TERM MESSAGE-TYPE R						64		SF	64



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Work Zone Traffic Control - Device List

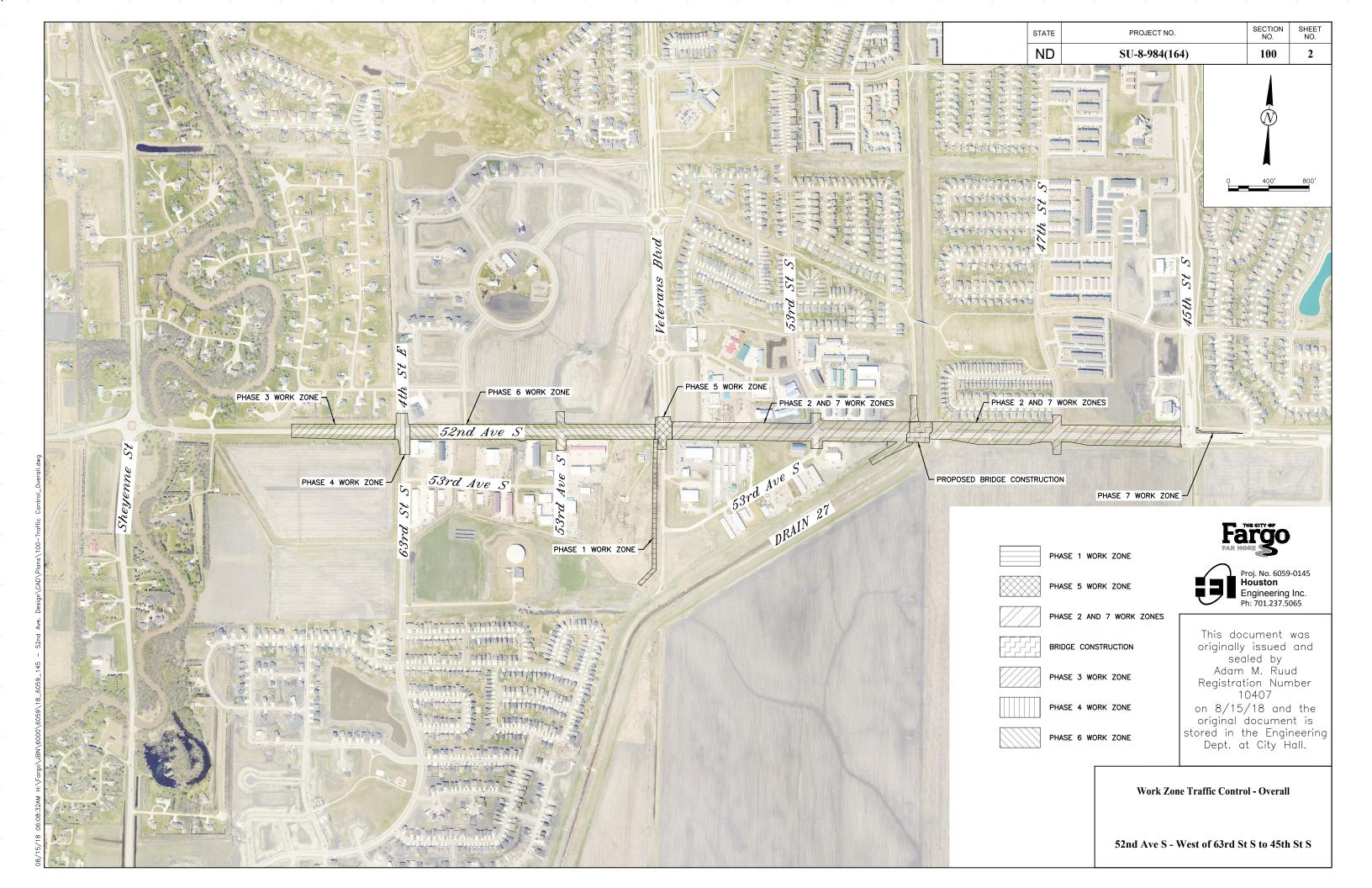
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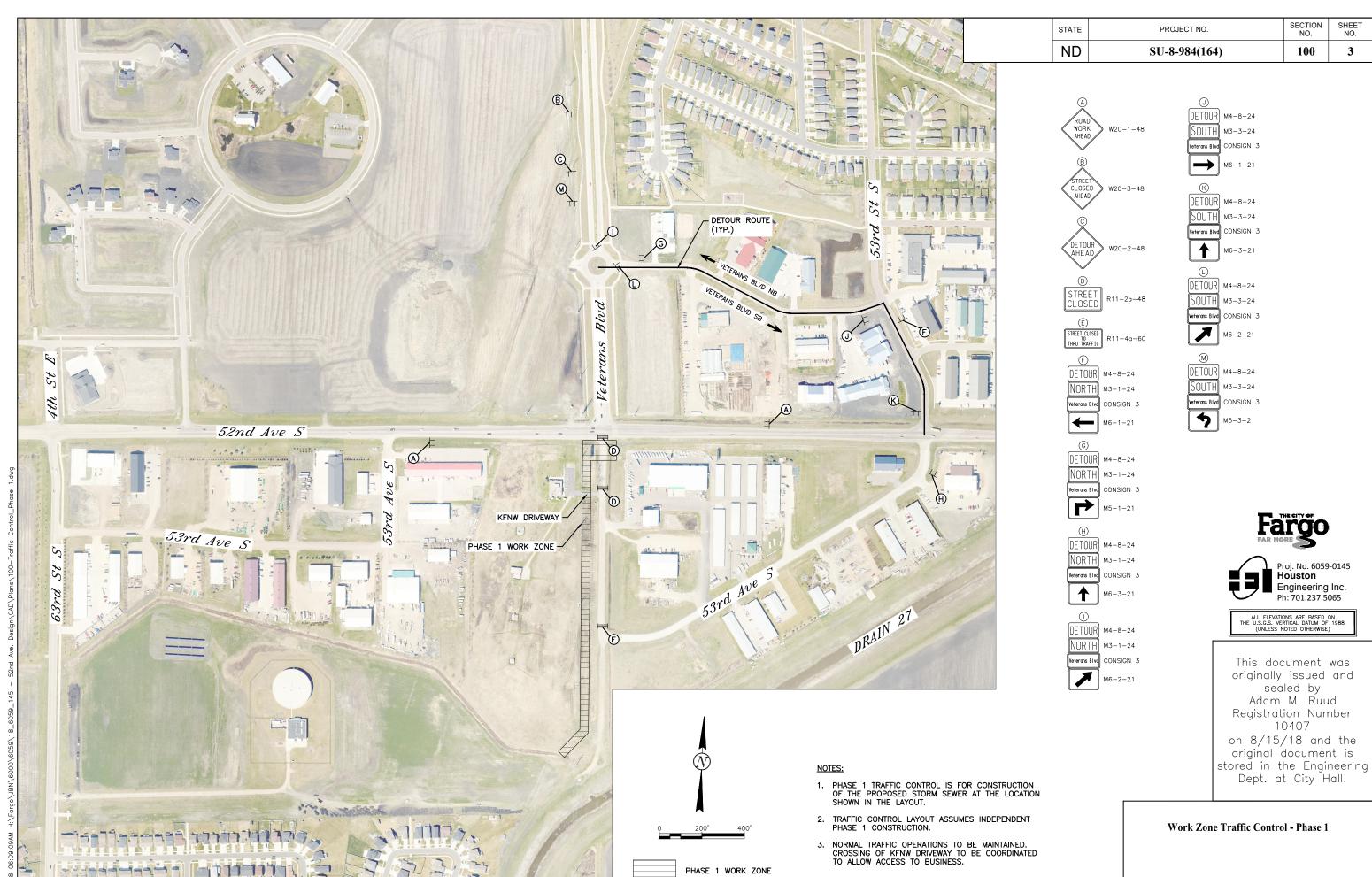
NOTE

SPEC & CODE 704-1000

TRAFFIC CONTROL SIGNS

If additional signs are required, units will be calculated using the formula from Section III-19.06 of the Design Manual. http://www.dot.nd.gov/





52nd Ave S - West of 63rd St S to 45th St S

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