

PITTSFIELD CHARTER TOWNSHIP  
WASHTENAW, MICHIGAN  
OAK VALLEY DRIVE AT ANN ARBOR–SALINE ROAD  
WIDENING

WASHTENAW COUNTY  
ROAD COMMISSIONERS

DOUG FULLER  
• CHAIR OF THE BOARD •

BARBARA RYAN FULLER  
• VICE CHAIR OF THE BOARD •

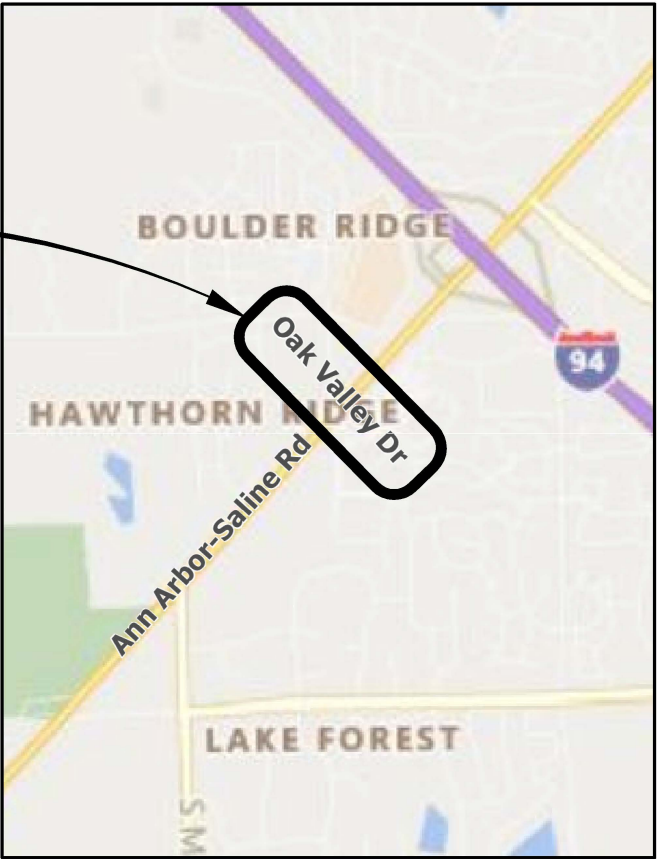
RODRICK K. GREEN  
• MEMBER •

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
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2	NOTES SHEET
3	LEGEND SHEET
4–5	TYPICAL CROSS SECTIONS
6	REMOVAL SHEET
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M.D.O.T. STANDARD PLANS	
TITLE	PLAN NO.
DRAINAGE STRUCTURES	R–1–D
COVER B	R–7–E
COVER E	R–10–C
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*SIDEWALK RAMP AND DETECTABLE WARNING DETAILS	*R–28–J
CONCRETE CURB AND CONCRETE CURB & GUTTER	R–30–G
GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS	R–80–D
UTILITY TRENCHES	R–83–B
GRADING CROSS–SECTIONS	R–105–D
PAVEMENT ARROW & MESSAGE DETAILS	PAVE–900–F

\*MDOT SPECIAL DETAIL

PROJECT AREA



LOCATION MAP  
N.T.S.

GENERAL PROVISIONS

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE PROPOSAL AND ACCOMPANYING SPECIFICATIONS FOR THIS PROJECT INCLUDING THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2005 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION LOCAL AGENCY PROGRAMS GUIDELINES FOR GEOMETRICS DATED 8–28–08.

THE LOCATION OF ALL PUBLIC UTILITIES SHOWN ON THESE PLANS IS TAKEN FROM THE BEST AVAILABLE DATA. THE CITY OF AUBURN HILLS WILL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATIONS SHOWN. PURSUANT TO ACTS 173 & 174 OF THE P.A. OF 2013, AS A CONDITION OF THIS CONTRACT, NOTICE SHALL BE GIVEN TO MISS DIG PRIOR TO UNDERGROUND WORK TO BE PERFORMED IN ACCORDANCE WITH THIS CONTRACT, PHONE (800) 482–7171 (OR 811). UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THE PLANS AND ARE NOT THE RESPONSIBILITY OF THE CITY OF AUBURN HILLS.

THE ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 1988 VERTICAL DATUM.

APPLICATION DATE	PERMITS	APPROVAL DATE

CONTRACT FOR:	
<div><div><div>Advancing Communities</div></div><div>34000 Plymouth Road   Livonia, MI 48150 P (734) 522-6711   F (734) 522-6427</div></div>	
PREPARED UNDER THE SUPERVISION OF:	
_____ MARK LOCH	_____ Registration No. Date
REVISIONS	
PROJECT NO. 0114–19–0090	SHEET NO. 1 OF 18



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WATER & SEWER UTILITY SYMBOLS

EXISTING	
	ST STORM MANHOLE
	SQUARE CATCH BASIN
	ROUND CATCH BASIN
	CULVERT
	CULVERT W/O END SECTION
	CULVERT W/END SECTION
	SANITARY MANHOLE
	CLEAN OUT
	GATE VALVE & WELL
	GATE VALVE & BOX
	WATER STOP BOX
	FIRE HYDRANT
	METER PIT
	WATER METER
	SPRINKLER HEAD
	IRRIGATION VALVE

PROPOSED

	STORM MANHOLE
	INLET/CATCH BASIN
	CULVERT END SECTION
	SANITARY MANHOLE
	GATE VALVE & WELL
	GATE VALVE & BOX
	TAPPING SLEEVE VALVE & WELL
	TAPPING SLEEVE VALVE & BOX
	FIRE HYDRANT

REAL ESTATE SYMBOLS

	CONTIGUOUS PROPERTY SYMBOL
	PARCEL NUMBER BOX
	NO ROW IMPACTS

MISCELLANEOUS UTILITY SYMBOLS

EXISTING	
	GUY WIRE
	GUY POLE
	UTILITY POLE
	UTILITY POLE W/LIGHT
	LIGHT/DECOR LAMP POLE
	FLOOD LIGHT
	GAS VALVE
	GAS VENT
	GAS METER
	GAS RISER
	TRAFFIC SIGNAL
	PEDESTRIAN RISER
	TRANSFORMER PAD
	PRIVATE UTILITY MANHOLE
	RAILROAD CROSSING
	ELECTRIC METER
	PHONE BOOTH
	TRAFFIC SIGNAL CONTROLLER
	HAND HOLE
	ELECTRIC RISER
	TELEPHONE RISER
	CABLE TV RISER
	MONITORING WELL
	UNDERGROUND MARKER

MISCELLANEOUS SYMBOLS

EXISTING	
	RIPRAP
	SIGN
	FLOW DIRECTION
	STUMP
	WETLAND
	CONIFEROUS TREE CL 1 1" TO 5" CL 2 6" TO 17" CL 3 18" TO 35" CL 4 36" AND UP
	DECIDUOUS TREE
	CONIFEROUS SHRUB
	DECIDUOUS SHRUB
	SOIL BORING
	SECTION CORNER
	MONUMENT
	IRON ROD/PIPE
	PK NAIL
	BENCHMARK
	TRAVERSE POINT
	MAIL/NEWSPAPER BOX
	FLAG POLE
	POST
	USED WITH UNDERGROUND GAS & ELECTRICAL LINES
	USED WITH TELEPHONE & FIBER OPTIC LINES

PROPOSED

	RIPRAP
	SIGN
	FLOW DIRECTION
	STRUCTURE NUMBER WM EX STM PR STM
	ADA SIDEWALK RAMP
	SOIL EROSION CONTROL ITEM

UTILITY PATTERN

EXISTING	
	ELECTRICAL *
	GAS\OIL
	CABLE/TELEPHONE *
	FIBER OPTIC *
	WATER
	SANITARY
	STORM
PROPOSED	
	STORM/SANITARY/WATER
	PRIMARY UTILITY WILL HAVE A CONTINUOUS LIFESTYLE, WITH THE SECONDARY UTILITY MATCHING ITS RESPECTIVE EXISTING UTILITY LIFESTYLE
*OH = OVERHEAD , UG = UNDERGROUND	

ROW PATTERN

EXISTING	
	ROW
	SECTION
	PROPERTY/PARCEL
PROPOSED	
	ROW

TOPO PATTERN

EXISTING	
	HEDGE/TREE
	FENCE
	GUARDRAIL
	CENTERLINE OF DITCH
	RAILROAD
	WETLAND/EDGE OF WATER
PROPOSED	
	GRADING LIMIT (SLOPE STAKE)
	CENTERLINE OF DITCH
	GUARDRAIL
	FENCE
	SILT FENCE

REMOVAL LEGEND

	SIDEWALK REMOVAL
	HMA SURFACE REMOVAL
	PAVEMENT REMOVAL
	COLD MILLING HMA SURFACE
	HMA BASE CRUSHING AND SHAPING
	EXCAVATION, EARTH
	CURB AND GUTTER, REM
	TREE, REM
	SALVAGE
	BULKHEAD
	ABANDON
	REMOVE
	ADJUST
	RELOCATE
	RECONSTRUCT
	REMOVE BY OTHERS
	ADJUST BY OTHERS
	RELOCATE BY OTHERS

IF NECESSARY FOR CLARITY

	SALVAGE
	BULKHEAD
	ABANDON
	CLEARING
	REMOVE
	RELOCATE
	RECONSTRUCT
	RELOCATE BY OTHERS
	ADJUST BY OTHERS

ARCHITECTS ENGINEERS PLANNERS

34000 Plymouth Road  
Livonia, MI 48150  
P (734) 522-6711 | F (734) 522-6427

OHM-ADVISORS.COM

REVISIONS:

No.	Description	Date
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DATE  
###

PROJ NUMBER  
0114-19-0090

ENG  
MRL

PROJ MGR  
MRL

CADD  
AM

COUNTY  
WASHTENAW

CITY/TOWNSHIP  
PITTSFIELD TWP

SCALE  
1"=40'

V.C.  
1"=40'

H.C.  
1"=40'

VERT DATUM  
Value

HORD DATUM  
Value

WASHTENAW COUNTY ROAD COMMISSION

OAK VALLEY DRIVE AT ANN ARBOR-SALINE ROAD WIDENING

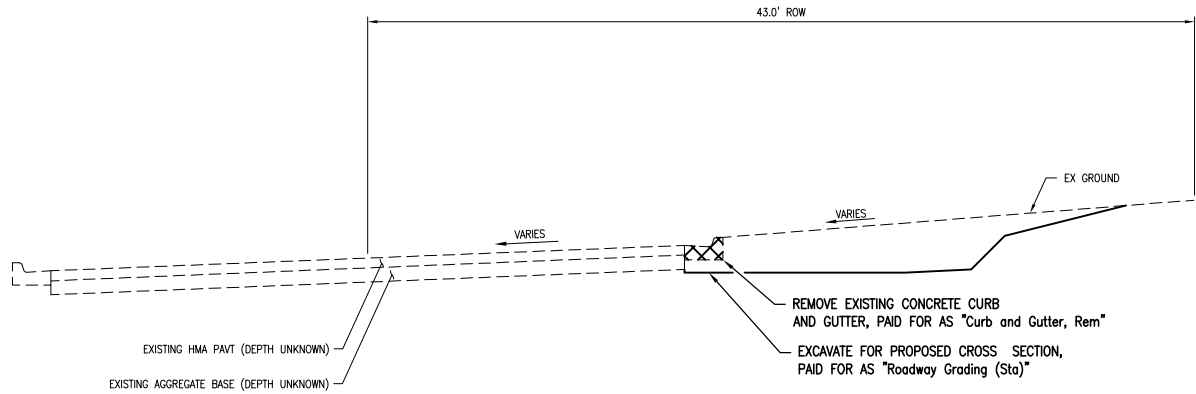
LEGEND

SHEET  
###

3  
OF 18

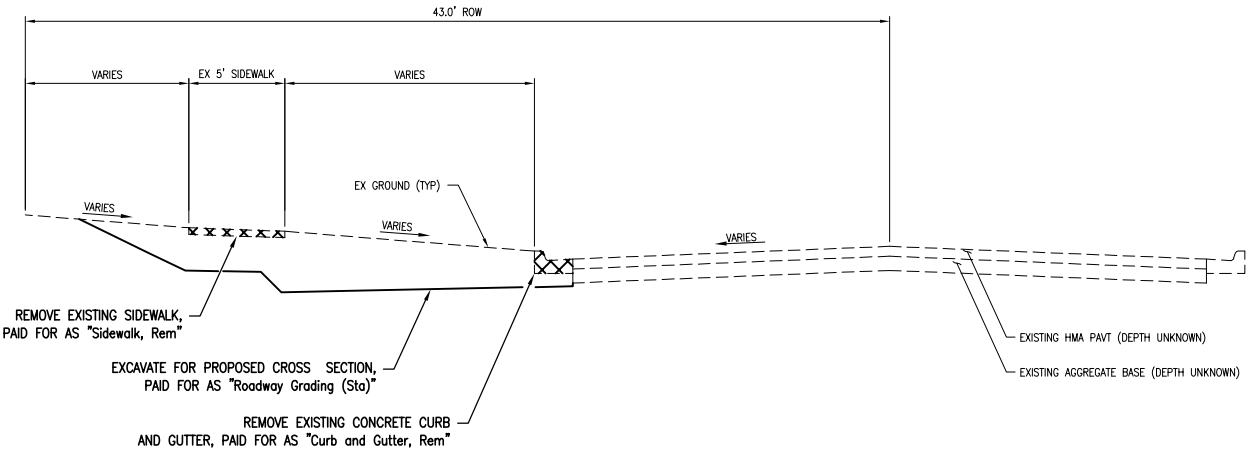
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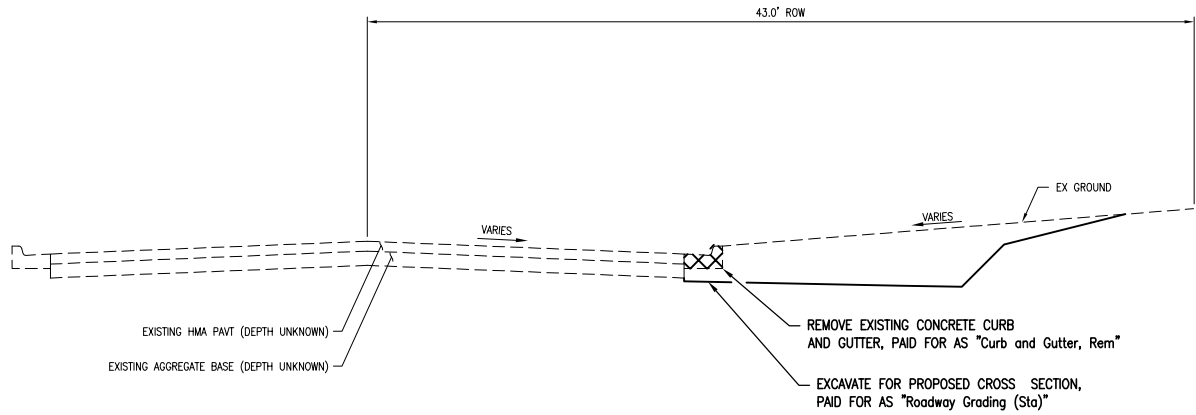
EXISTING SOUTHBOUND OAK VALLEY TYPICAL-1

APPLIES: STA 1+52.47 (POB) TO 3+65



EXISTING NORTHBOUND OAK VALLEY TYPICAL SECTION

APPLIES: STA 5+55.63 TO 8+97.40 (POE)



EXISTING SOUTHBOUND OAK VALLEY TYPICAL-2

APPLIES: STA 3+65 TO 4+96.82



Know what's below.  
Call before you dig.

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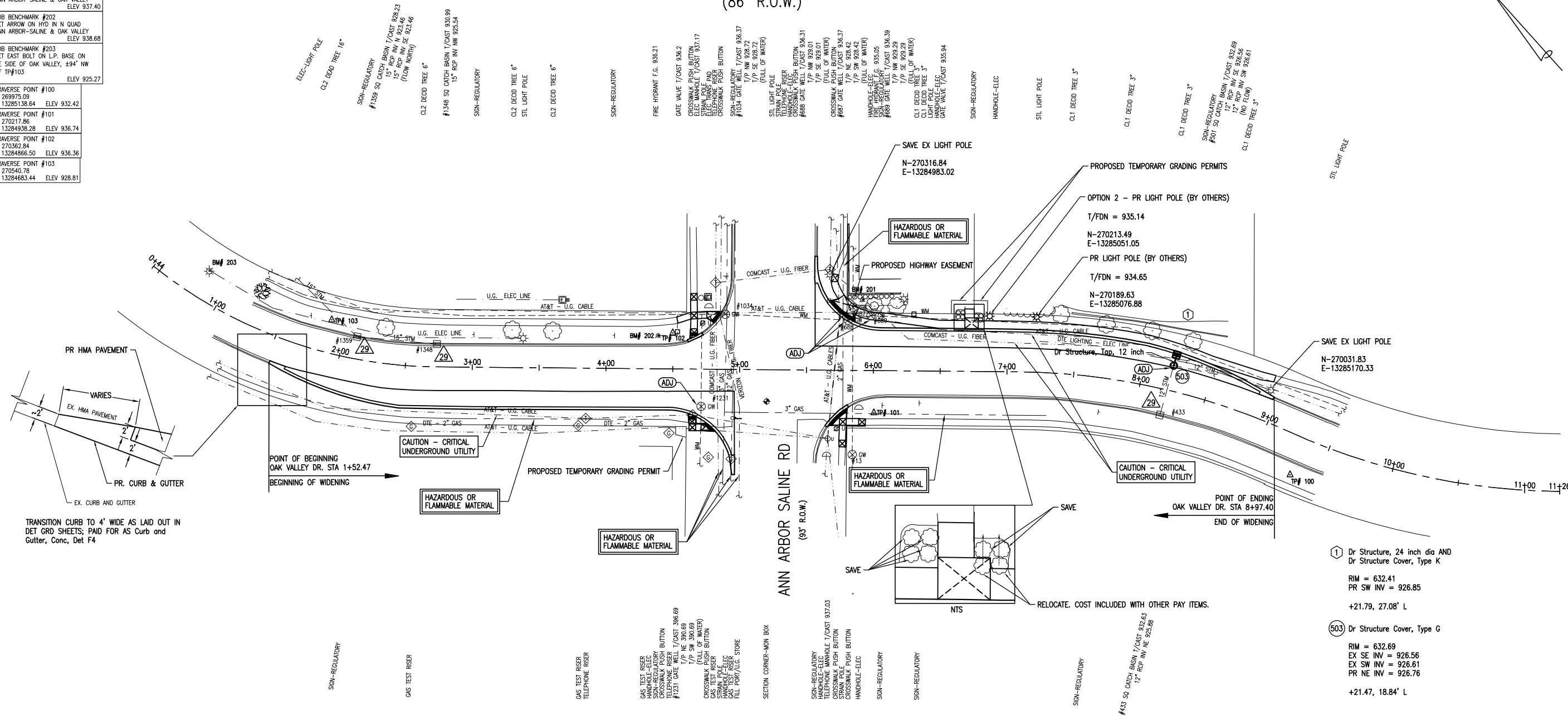


JOB BENCHMARK #200	
SET W BOLT ON L.P. BASE NE	
SIDE OF OAK VALLEY, +59' N OF	
TP#100	ELEV 933.20
JOB BENCHMARK #201	
SET ARROW ON HYD IN E QUAD	
ANN ARBOR-SALINE & OAK VALLEY	
	ELEV 937.40
JOB BENCHMARK #202	
SET ARROW ON HYD IN N QUAD	
ANN ARBOR-SALINE & OAK VALLEY	
	ELEV 938.68
JOB BENCHMARK #203	
SET EAST BOLT ON L.P. BASE ON	
NE SIDE OF OAK VALLEY, +94' NW	
OF TP#103	
	ELEV 925.27
TRAVERSE POINT #100	
N 269975.04	
E 13285138.64	ELEV 932.42
TRAVERSE POINT #101	
N 270217.86	
E 13284938.28	ELEV 936.74
TRAVERSE POINT #102	
N 27352.94	
E 13284866.50	ELEV 936.36
TRAVERSE POINT #103	
N 270540.78	
E 13284683.44	ELEV 928.81

[illegible]


DATE	PROJ NUMBER	ENG	PROJ LEAD	CADD	COUNTY	CITY/TOWNSHIP
###	0114-2-0050	URL	URL	ALL	WASHTENAW	PITTSFIELD TWP

**WASHTENAW COUNTY ROAD COMMISSION**  
**OAK VALLEY DRIVE AT ANN ARBOR-SALINE ROAD WIDENING**  
**REMOVAL SHEET**



QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
3	Ea	Erosion Control, Inlet Protection, Fabric Drops
740	Ton	Aggregate Base, Modified
9	Ft	Sewer, CI 4, 12 inch, Tr Det B
1	Ea	Sewer Tap, 12 inch
1	Ea	Dr Structure Cover, Adj, Case 1
1	Ea	Dr Structure Cover, Type B
1	Ea	Dr Structure Cover, Type K
1	Ea	Dr Structure, 24 inch dia
4	Ea	Water Valve Box, Adj, Case 1
402	Ft	Underdrain, Pipe, Open-Graded, 6 inch
10	Ft	Underdrain Outlet, 6 inch
163	Ton	HMA, 4E3
109	Ton	HMA, 5E3
765	Ft	Curb and Gutter, Conc, Det F4
69	Ft	Detectable Warning Surface
79	Ft	Curb Ramp Opening, Conc
987	Sft	Sidewalk Ramp, Conc, 6 inch
1962	Sft	Sidewalk, Conc, 4 inch
900	Syd	Turf Establishment, Performance

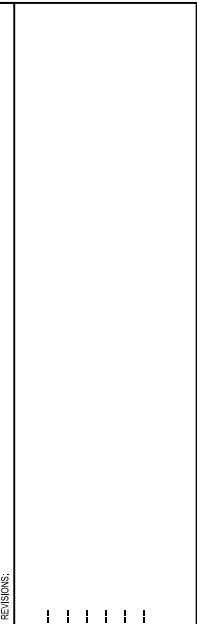
SOIL EROSION AND SEDIMENTATION CONTROL LEGEND

 = Erosion Control, Inlet Protection, Fabric Drop

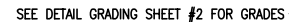


Know what's **below**.  
**Call** before you dig.

TRAVERSE POINT #100	
N 269975.09	
E 13285138.64	ELEV 932.42
TRAVERSE POINT #101	
N 270217.86	
E 13284938.28	ELEV 936.74
TRAVERSE POINT #102	
N 270362.84	
E 13284866.50	ELEV 936.36
TRAVERSE POINT #103	
N 270540.78	
E 13284683.44	ELEV 928.81



SEE DETAIL GRADING SHEET #2 FOR GRADES



SEE DETAIL GRADING SHEET #2 FOR GRADES

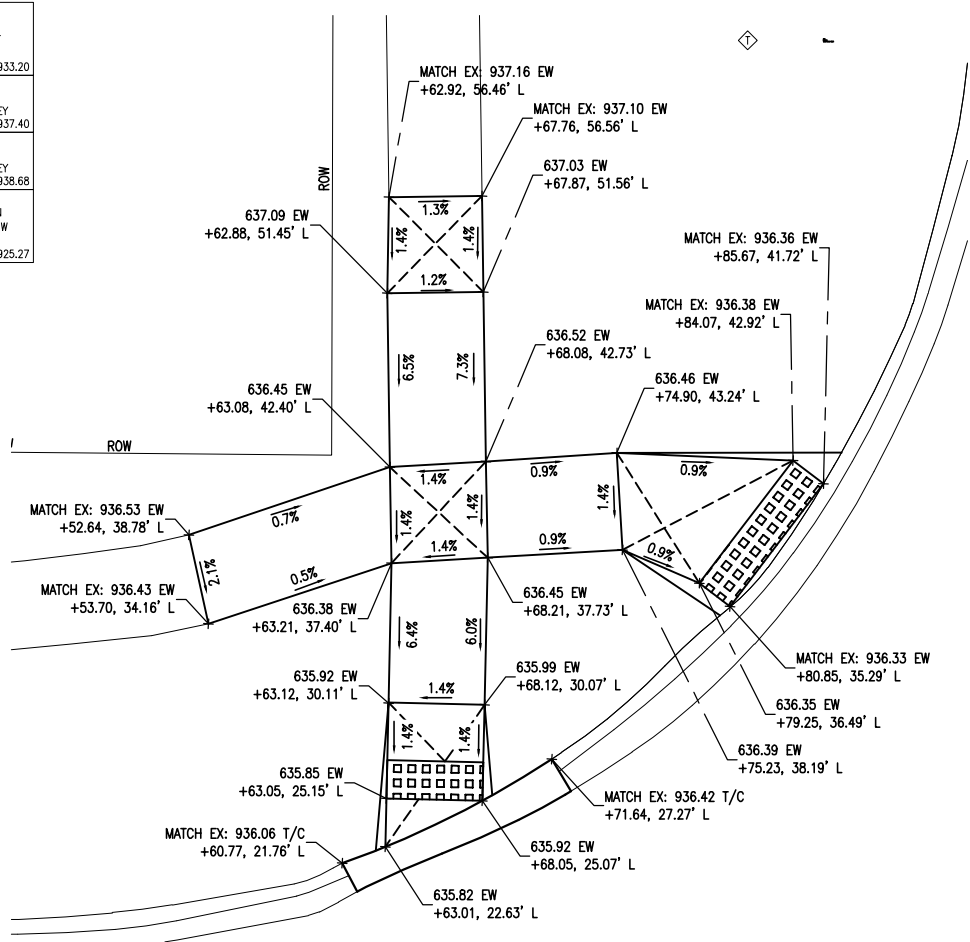


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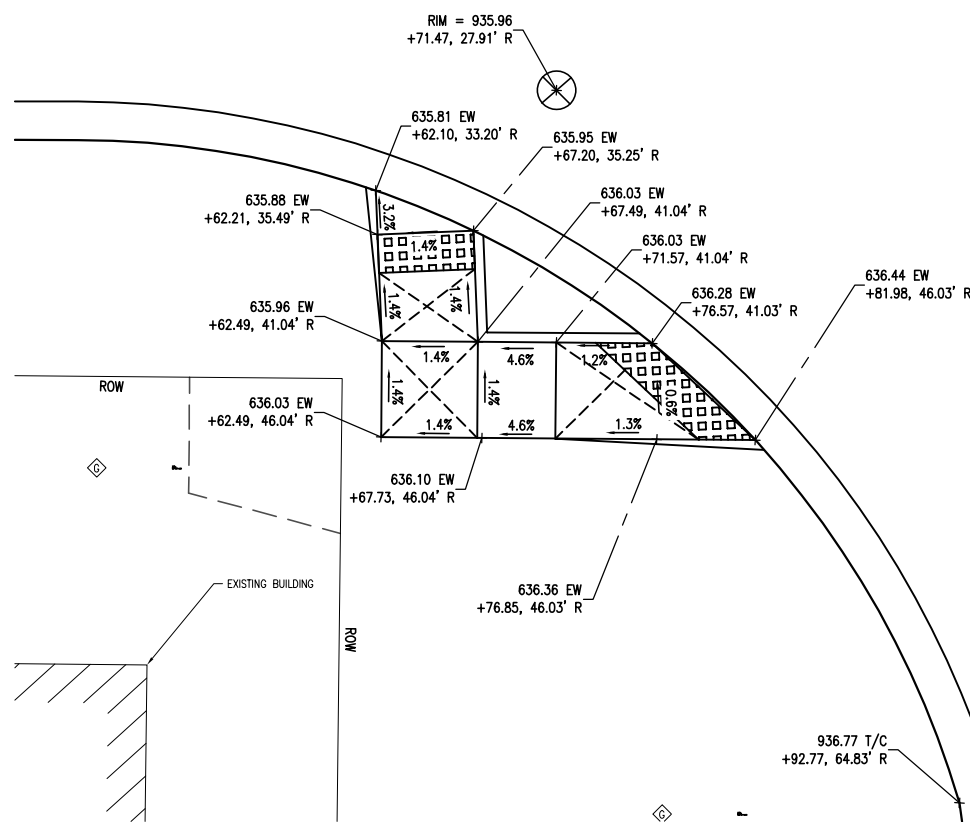


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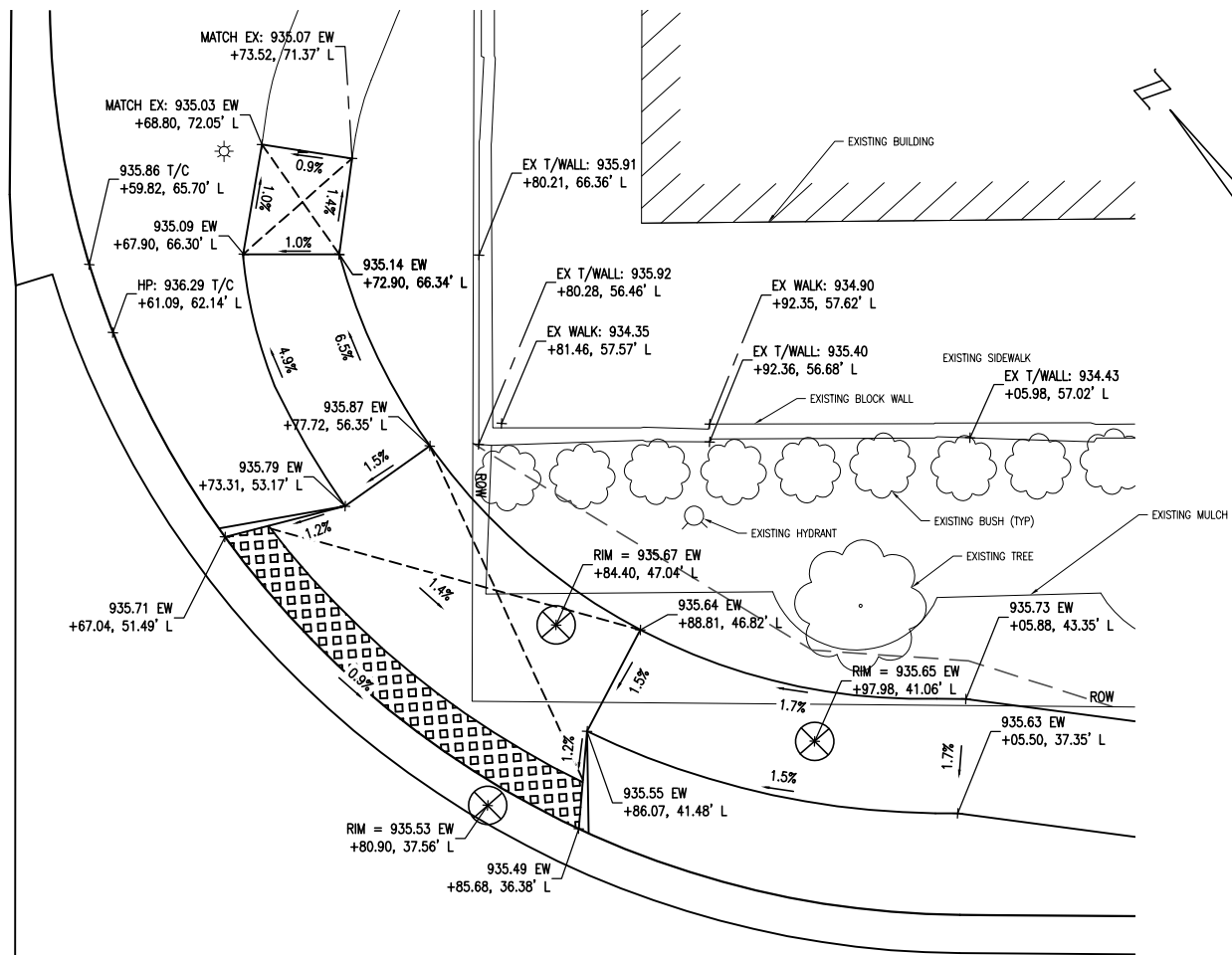
JOB BENCHMARK #200 SET W BOLT ON L.P. BASE NE SIDE OF OAK VALLEY, ±59' N OF TP#100 ELEV 933.20
JOB BENCHMARK #201 SET ARROW ON HYD IN E QUAD ANN ARBOR-SALINE & OAK VALLEY ELEV 937.40
JOB BENCHMARK #202 SET ARROW ON HYD IN N QUAD ANN ARBOR-SALINE & OAK VALLEY ELEV 938.68
JOB BENCHMARK #203 SET EAST BOLT ON L.P. BASE ON NE SIDE OF OAK VALLEY, ±94' NW OF TP#103 ELEV 925.27
TRAVERSE POINT #100 N 269975.09 E 13285138.64 ELEV 932.42
TRAVERSE POINT #101 N 270217.86 E 13284938.28 ELEV 936.74
TRAVERSE POINT #102 N 270362.84 E 13284866.50 ELEV 936.36
TRAVERSE POINT #103 N 270540.78 E 13284683.44 ELEV 928.81



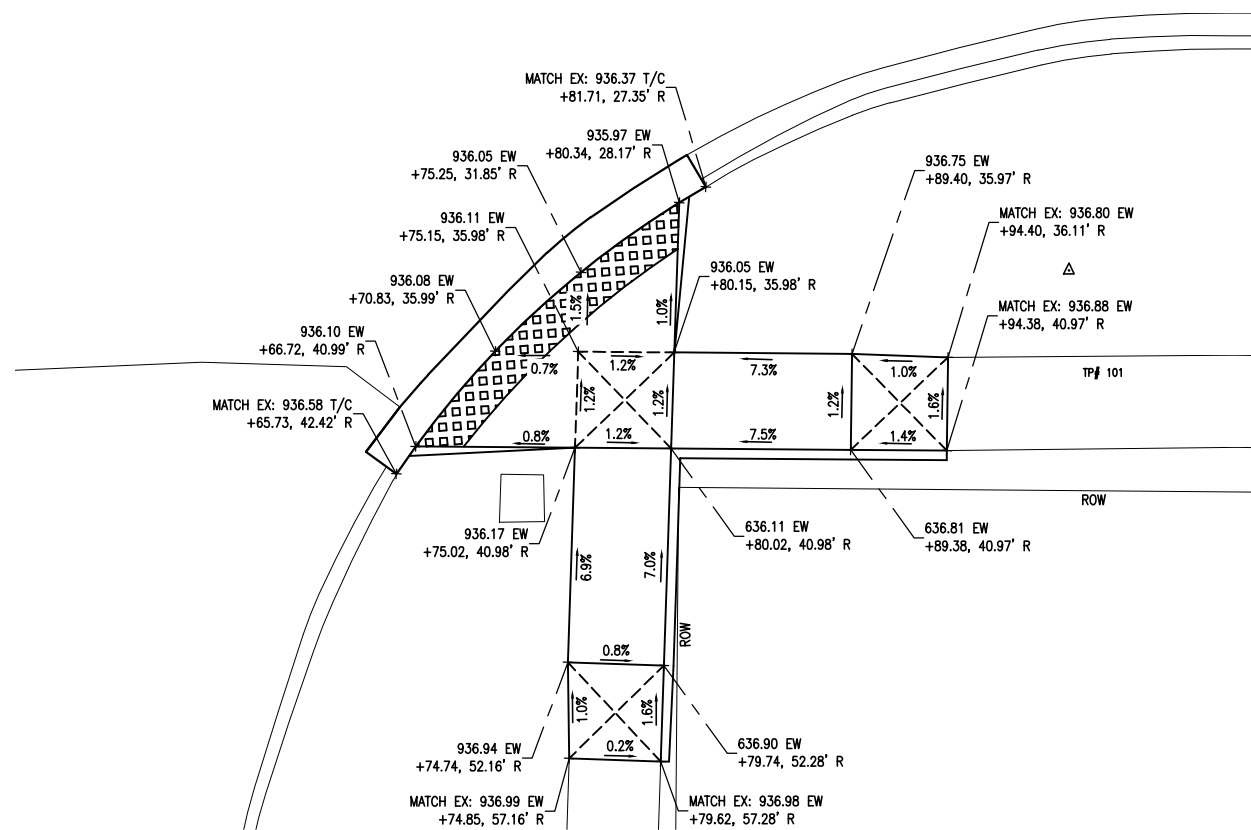
OAK VALLEY DR AND ANN ARBOR-SALINE RD – NE QUADRANT



OAK VALLEY DR AND ANN ARBOR-SALINE RD – NW QUADRANT



OAK VALLEY DR AND ANN ARBOR-SALINE RD – SE QUADRANT



OAK VALLEY DR AND ANN ARBOR-SALINE RD – SW QUADRANT

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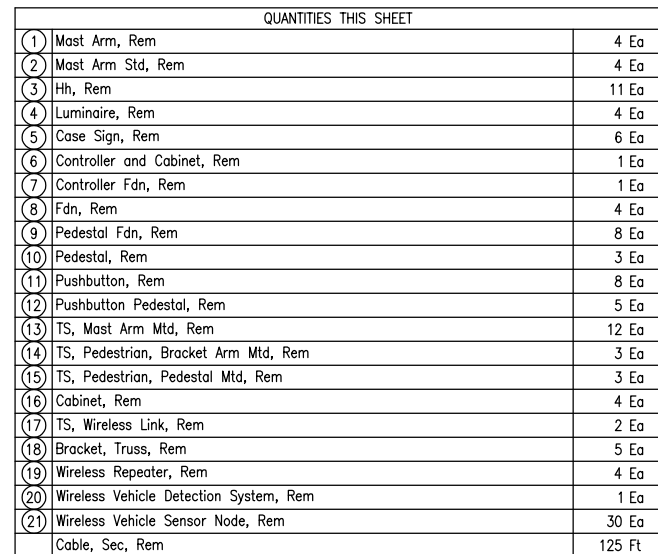
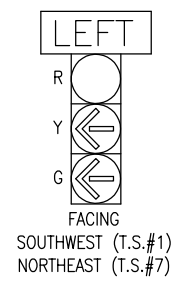
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FACING SOUTHEAST & NORTHWEST  
INSTALL ONE WAY, 8 FOOT  
ILLUMINATED STREET NAME SIGN

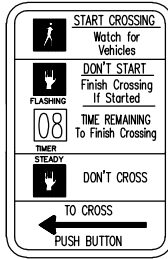
FACING NORTHEAST & SOUTHWEST  
INSTALL ONE WAY, 8 FOOT  
ILLUMINATED STREET NAME SIGN

REMOVAL PLAN  
SCALE: 1"=30' (11"x17")

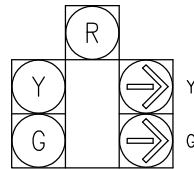


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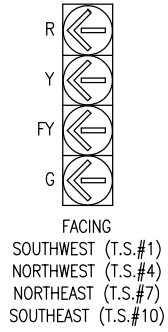
R10-3e SIGN TYPICAL



PEDESTRIAN COUNTDOWN LEGEND



FACING  
NORTHWEST (T.S.#6)  
SOUTHEAST (T.S.#12)



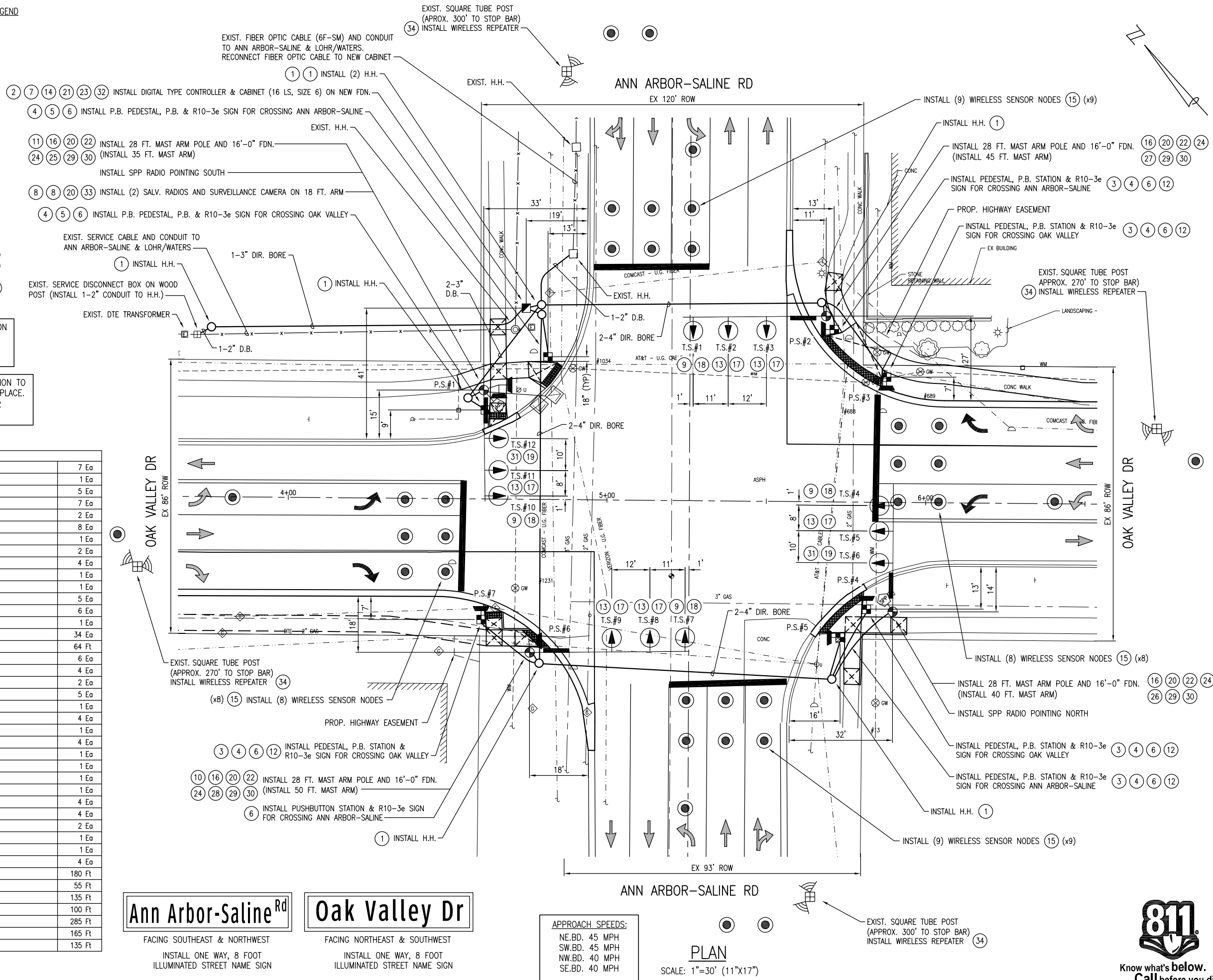
FACING  
SOUTHWEST (T.S.#1)  
NORTHWEST (T.S.#4)  
NORTHEAST (T.S.#7)  
SOUTHEAST (T.S.#10)

COORDINATE THE INSTALLATION OF PUSHBUTTON PEDESTALS WITH THE CONSTRUCTION OF SIDEWALKS. ENSURE COMPLIANCE WITH CURRENT ADA REQUIREMENTS.

WIRELESS DETECTION NODE LAYOUT AND INSTALLATION TO OCCUR AFTER FINAL PAVEMENT MARKINGS ARE IN PLACE. CONTACT MR. JEFF YOUNG (W.C.R.C. SIGNALS) FOR DETECTOR LAYOUT (734) 845-4639.

QUANTITIES THIS SHEET

1	Hh, Round	7 Ea
2	Controller Fdn, Base Mount	1 Ea
3	Pedestal, Alum	5 Ea
4	Pedestal, Fdn	7 Ea
5	Pushbutton Pedestal, Alum	2 Ea
6	Push Button Station and Sign	8 Ea
7	Pedestrian Signal System, Accessible	1 Ea
8	TS, Wireless Link, Salv	2 Ea
9	TS, One Way Mast Arm Mtd, FYA (LED)	4 Ea
10	TS, Pedestrian, One Way Bracket Arm Mtd (LED) Countdown	1 Ea
11	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	1 Ea
12	TS, Pedestrian, One Way Pedestal Mtd (LED) Countdown	5 Ea
13	TS, One Way Mast Arm Mtd (LED)	6 Ea
14	Wireless Vehicle Detection System	1 Ea
15	Wireless Vehicle Sensor Node	34 Ea
16	Mast Arm Pole Fdn, 6 Bolt	64 Ft
17	Backplate, TS, 3 Sec	6 Ea
18	Backplate, TS, 4 Sec	4 Ea
19	Backplate, TS, 5 Sec	2 Ea
20	Bracket Arm, 18 Foot, 5 Foot Rise	5 Ea
21	Controller and Cabinet, Base Mount (TS2)	1 Ea
22	Luminaire (LED)	4 Ea
23	Managed Ethernet Switch	1 Ea
24	Mast Arm Pole, Cat III	4 Ea
25	Mast Arm, 35 foot, Cat III	1 Ea
26	Mast Arm, 40 foot, Cat III	1 Ea
27	Mast Arm, 45 foot, Cat III	1 Ea
28	Mast Arm, 50 foot, Cat III	1 Ea
29	One Way Street Name Sign, Illuminated (LED), 8 Feet	4 Ea
30	Side Pole Cabinet	4 Ea
31	TS, One Way Mast Arm Mtd, Five Sect (LED)	2 Ea
32	Uninterruptible Power Supply, ITS, Modified	1 Ea
33	Video Surveillance Camera	1 Ea
34	Wireless Repeater, Flex	4 Ea
	Conduit, DB, 1, 1 1/2 inch	180 Ft
	Conduit, DB, 2, 3 inch	55 Ft
	Cable, Equipment Grounding Wire, 1/C#6	135 Ft
	Conduit, Directional Bore, 1, 3 inch	100 Ft
	Conduit, Directional Bore, 2, 4 inch	285 Ft
	Conduit, DB, 1, 2 inch	165 Ft
	Sec Cable, 600V, 2, 2/C#8	135 Ft



Ann Arbor-Saline<sup>Rd</sup>

FACING SOUTHEAST & NORTHWEST  
INSTALL ONE WAY, 8 FOOT  
ILLUMINATED STREET NAME SIGN

Oak Valley Dr

FACING NORTHEAST & SOUTHWEST  
INSTALL ONE WAY, 8 FOOT  
ILLUMINATED STREET NAME SIGN

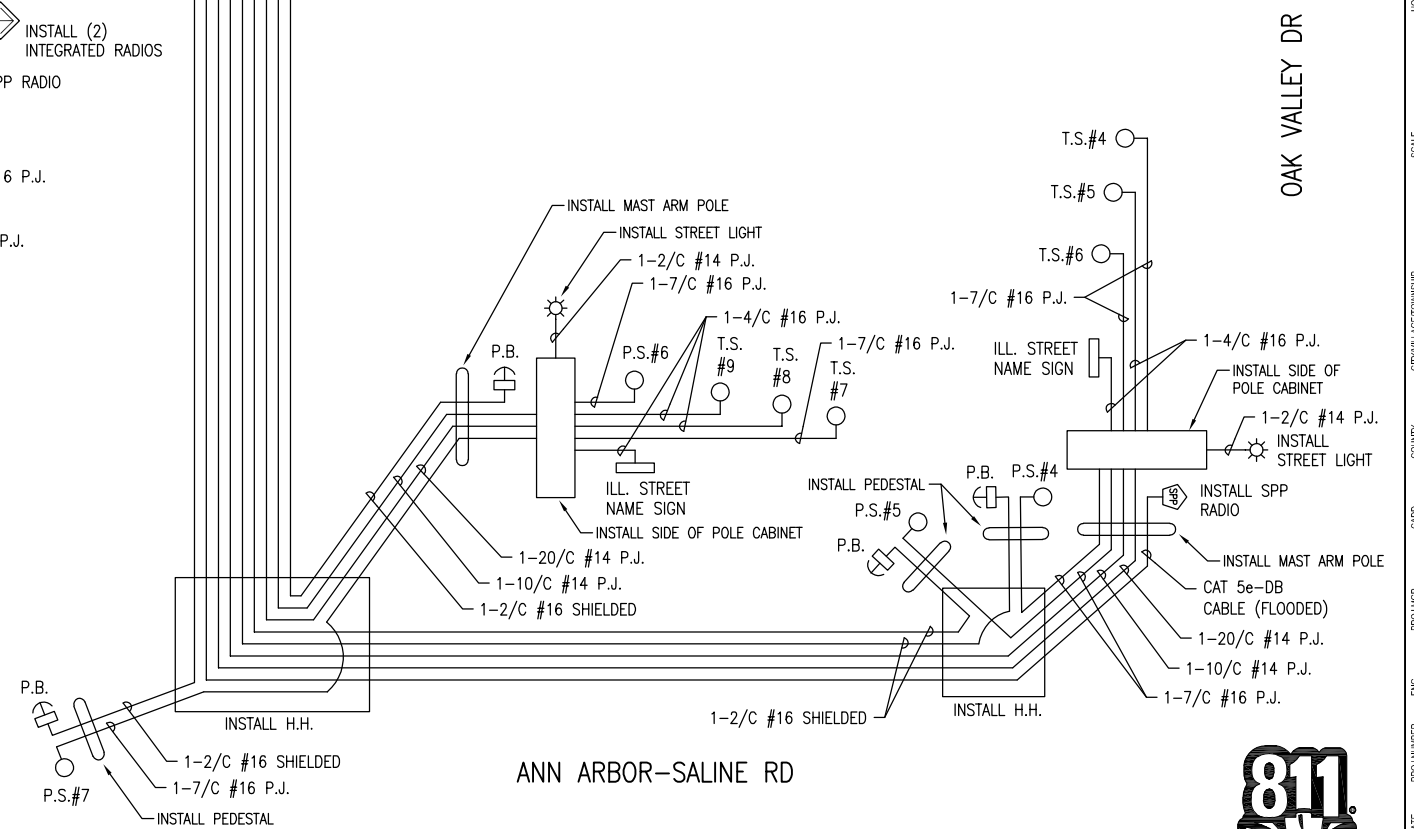
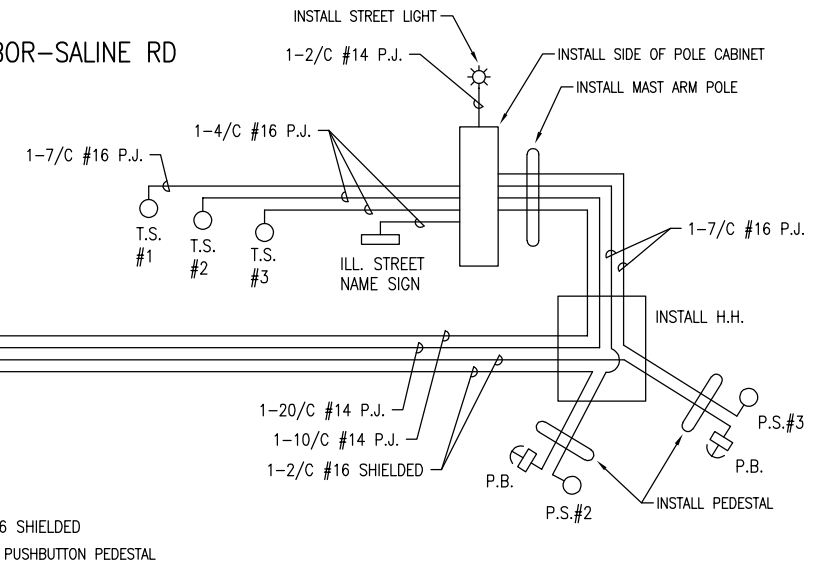
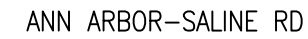
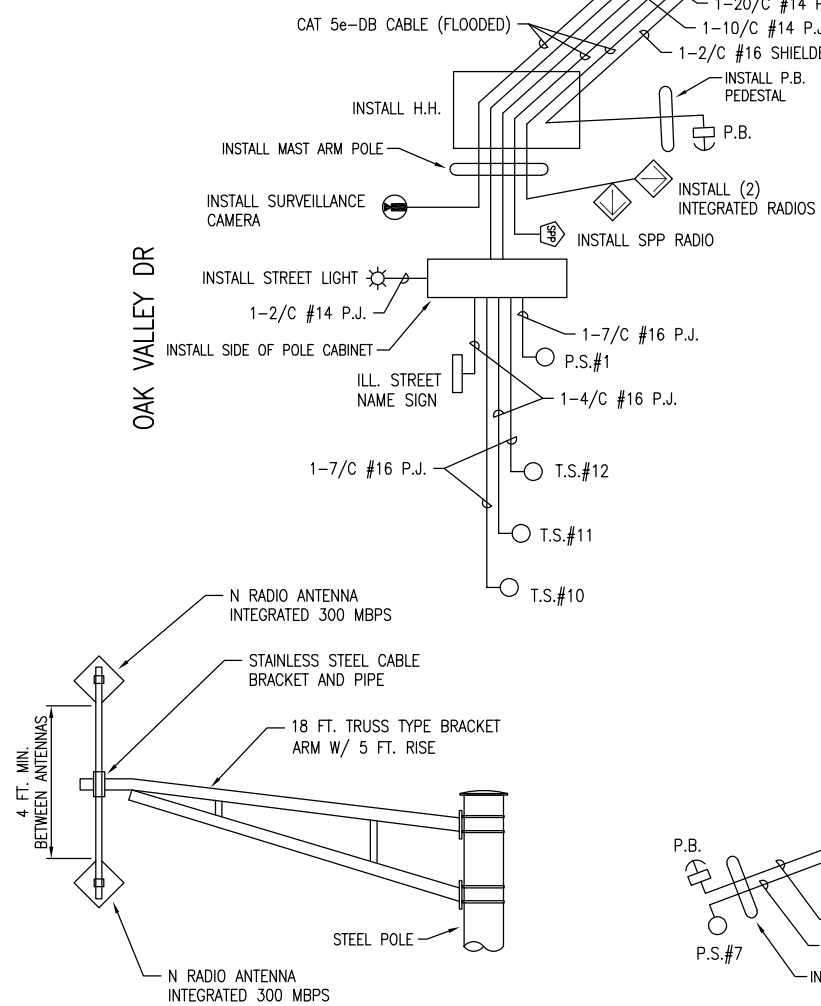
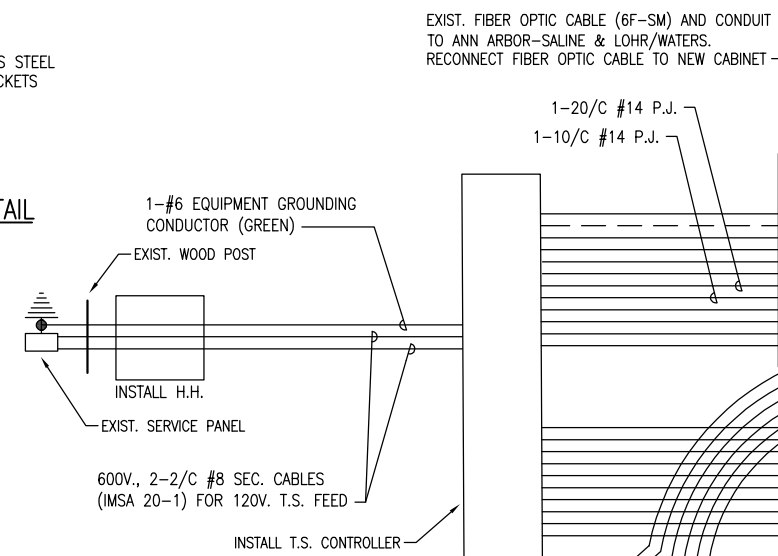
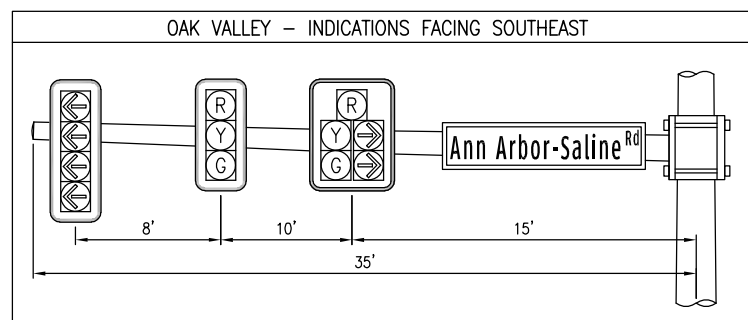
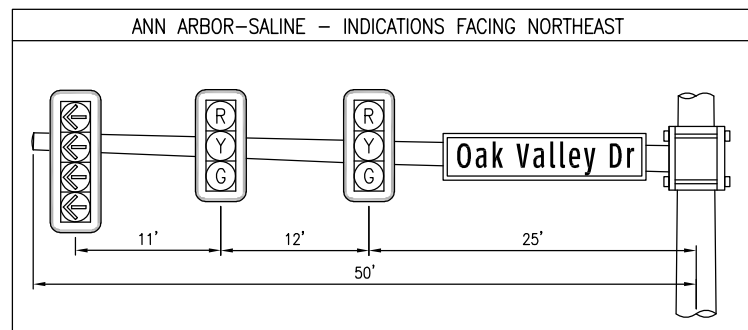
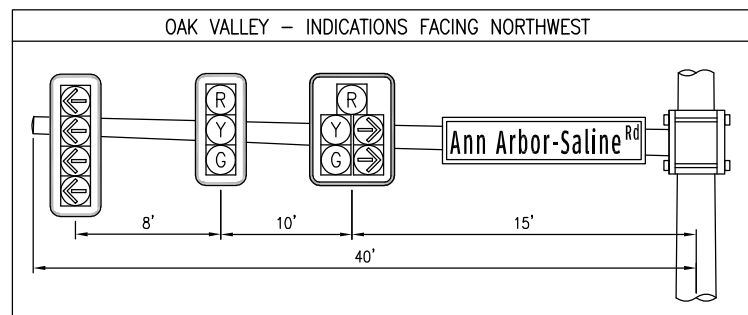
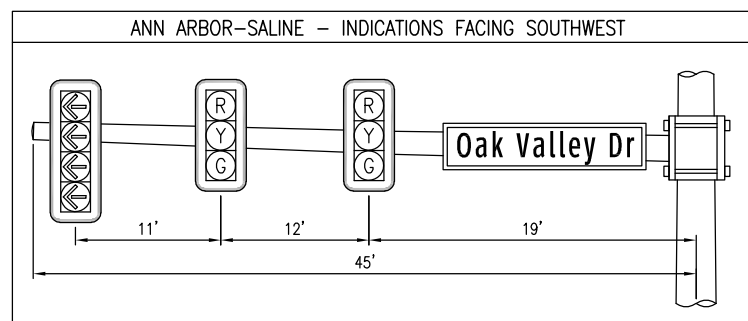
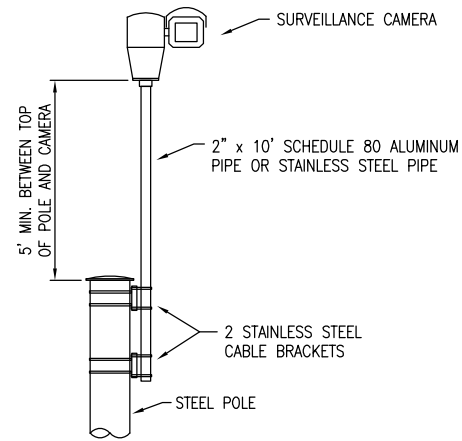
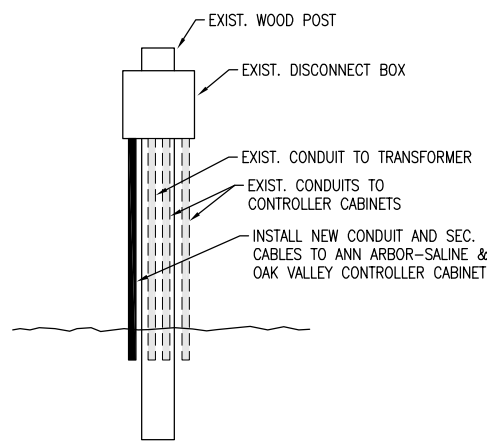
APPROACH SPEEDS:  
NE.BD. 45 MPH  
SW.BD. 45 MPH  
NW.BD. 40 MPH  
SE.BD. 40 MPH

PLAN

SCALE: 1"=30' (11"x17")



Know what's below.  
Call before you dig.



Know what's **below**.  
**Call** before you dig.

REVISIONS:	

DATE  
###

PROJECT NUMBER  
0114-19-000

ENGINEER  
MRL

PROJ LEADER  
MRL

CADD  
AM

COUNTY  
WASHTENAW

CITY/TOWNSHIP  
PITTSFIELD TWP

SCALE  
H: 1"=40'  
V: 1"=4'

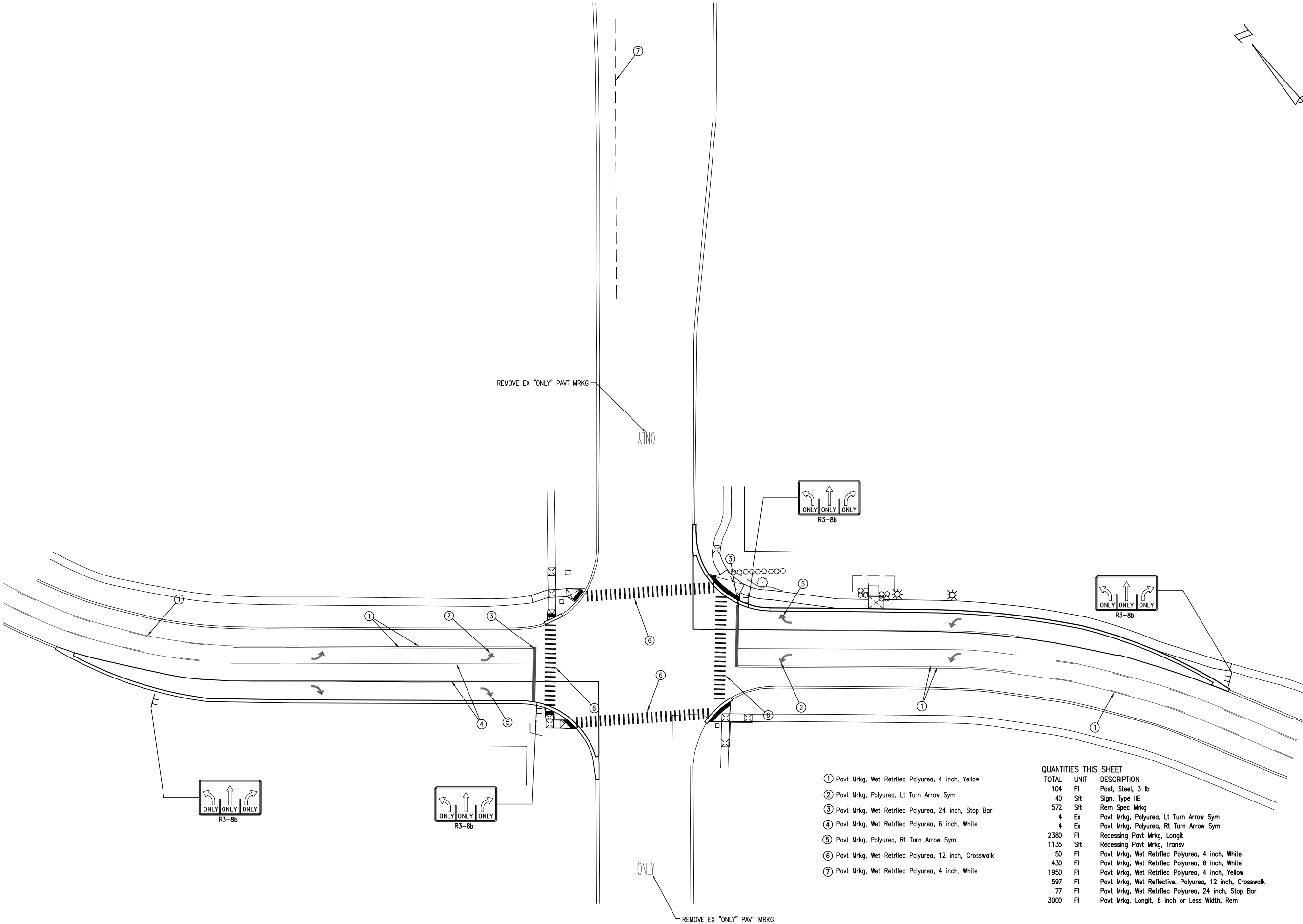
HORIZONTAL DATUM  
Value

VERTICAL DATUM  
Value

WASHTENAW COUNTY ROAD COMMISSION

OAK VALLEY DRIVE AT ANN ARBOR-SALINE ROAD WIDENING






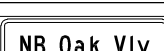



PERMANENT PAVEMENT MARKING AND SIGNING SHEET



- ① Pavt Mrkg, Wet Retrlec Polyurea, 4 inch, Yellow
- ② Pavt Mrkg, Polyurea, Lt Turn Arrow Sym
- ③ Pavt Mrkg, Wet Retrlec Polyurea, 24 inch, Stop Bar
- ④ Pavt Mrkg, Wet Retrlec Polyurea, 6 inch, White
- ⑤ Pavt Mrkg, Polyurea, Rt Turn Arrow Sym
- ⑥ Pavt Mrkg, Wet Retrlec Polyurea, 12 inch, Crosswalk
- ⑦ Pavt Mrkg, Wet Retrlec Polyurea, 4 inch, White

QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
104	Ft	Post, Steel, 3 lb
40	Sft	Sign, Type IIB
572	Sft	Rem Spec Mrkg
4	Ea	Pav't Mrkg, Polyurea, Lt Turn Arrow Sym
4	Ea	Pav't Mrkg, Polyurea, Rt Turn Arrow Sym
2380	Ft	Recessing Pav't Mrkg, Longit
1135	Sft	Recessing Pav't Mrkg, Transv
50	Ft	Pav't Mrkg, Wet Retrlec Polyurea, 4 inch, White
430	Ft	Pav't Mrkg, Wet Retrlec Polyurea, 6 inch, White
1950	Ft	Pav't Mrkg, Wet Retrlec Polyurea, 4 inch, Yellow
597	Ft	Pav't Mrkg, Wet Reflective Polyurea, 12 inch, Crosswalk
77	Ft	Pav't Mrkg, Wet Retrlec Polyurea, 24 inch, Stop Bar
3000	Ft	Pav't Mrkg, Longit, 6 inch or Less Width, Rem

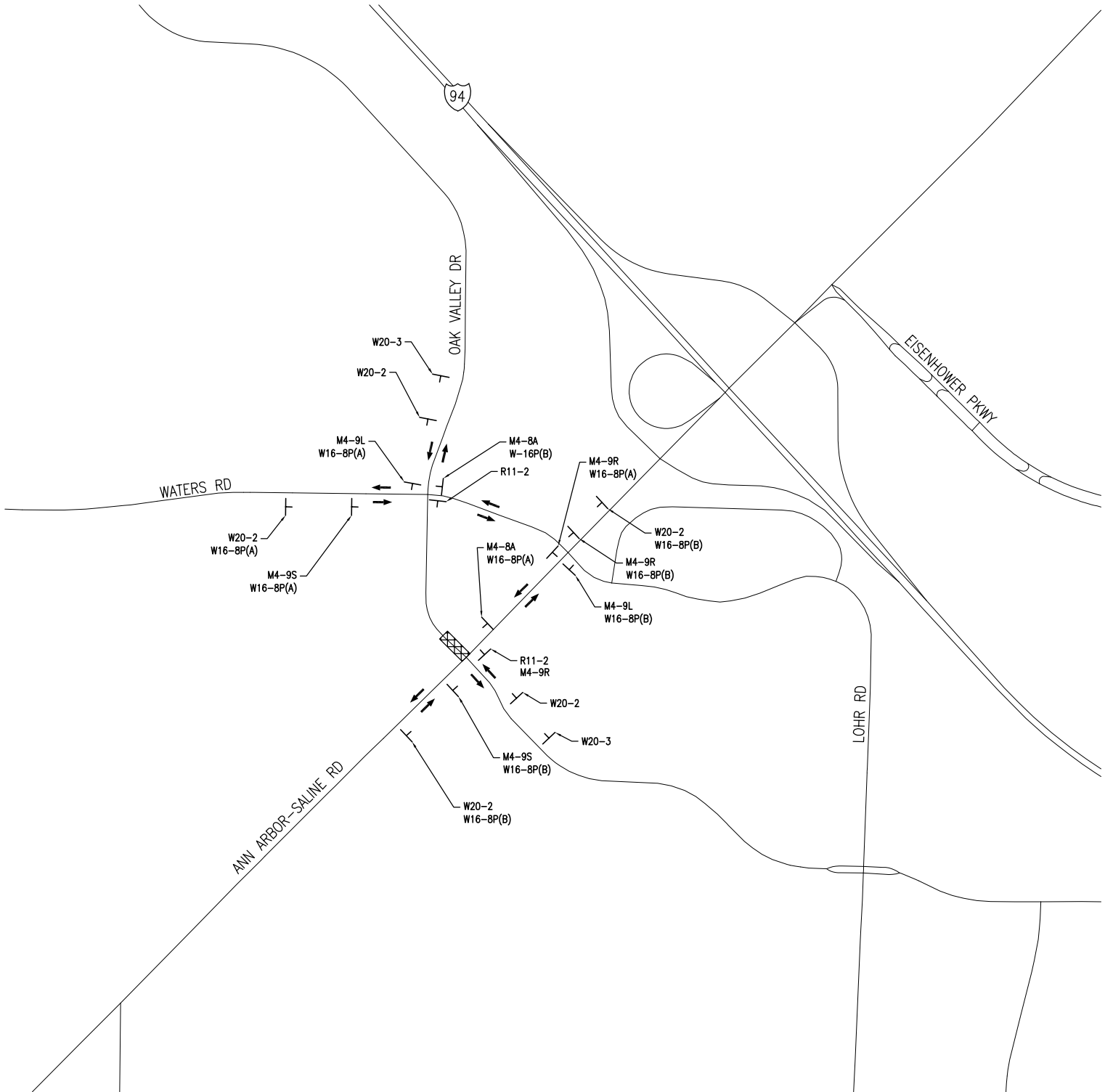
DRAWING PATH: P:\0101\_0125\0114190090\_AA\_Saline\_at\_Oak\_Valley\_Design\Drawings\Civil\Stage\150090DTR.dwg    Apr 21, 2020 - 5:15pm

SIGNING LEGEND		
SIGN	SIGN CODE	SIZE
	M4-8a	24"x18"
	M4-9L	30"x24"
	M4-9R	30"x24"
	M4-9S	30"x30"
	W16-8P(A)	12"x36"
	W16-8P(B)	12"x36"
	W20-2	48"x48"
	W20-3	48"x48"
	R11-2	48"x30"




\*\* FOR INFORMATION ONLY

TRAFFIC NOTES:

- DISTANCES SHOWN ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD BY THE CONTRACTOR AND/OR ENGINEER TO AVOID CONFLICT OR OBSTRUCTION BY EXISTING TREES, SIGNS, DRIVEWAYS ETC., PRESENT IN THE FIELD BUT NOT SHOWN ON THE PLANS.
- ALL CONSTRUCTION SIGNS SHALL CONFORM WITH THE LATEST VERSION OF THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPROPRIATE UPDATES.
- ALL TRAFFIC CONTROL DEVICES INCLUDING SIGNS, BARRICADES, PLASTIC DRUMS AND WARNING LIGHTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- TRAFFIC CONTROL DEVICES ARE TO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE PROJECT. NIGHT PATROLS OF THE CONSTRUCTION AREA AND DETOUR ROUTE SHALL BE CONDUCTED BY THE CONTRACTOR AND WILL NOT BE PAID SEPARATELY, BUT WILL BE INCLUDED IN THE UNIT PRICES BID FOR TEMPORARY TRAFFIC CONTROL ITEMS.
- ALL SIGNS USED AT NIGHT SHALL BE RETRO-REFLECTIVE WITH A MATERIAL THAT HAS A SMOOTH, SEALED OUTER SURFACE.
- TYPE III BARRICADES SHALL BE PLACED AT SB OAK VALLEY AT WATERS RD AND AT NB OAK VALLEY AT AA-SALINE RD (NOT DEPICTED).
- SPACE SIGNS SO AS TO NOT OBSTRUCT SIGNS DEPICTED IN STAGING PLAN.



LEGEND

-  ROAD CLOSURE AREA
-  DETOUR ROUTE
-  TEMPORARY SIGN



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Livonia, MI 48150  
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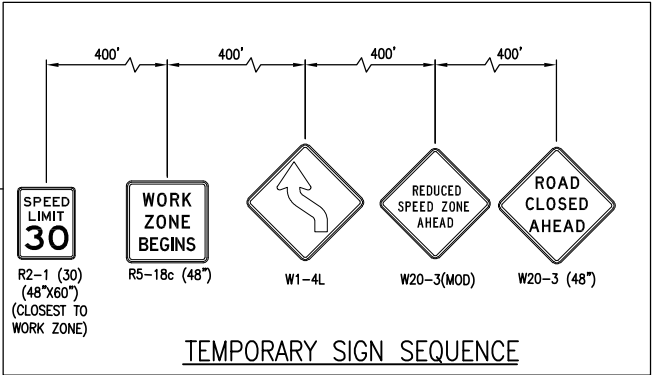
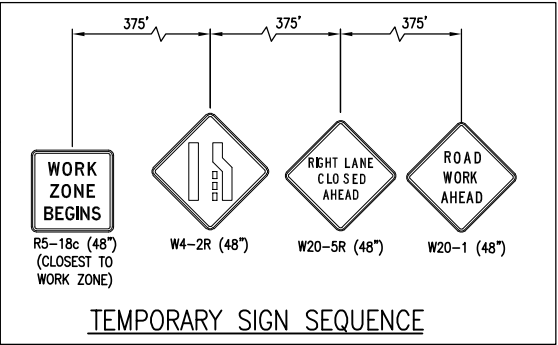
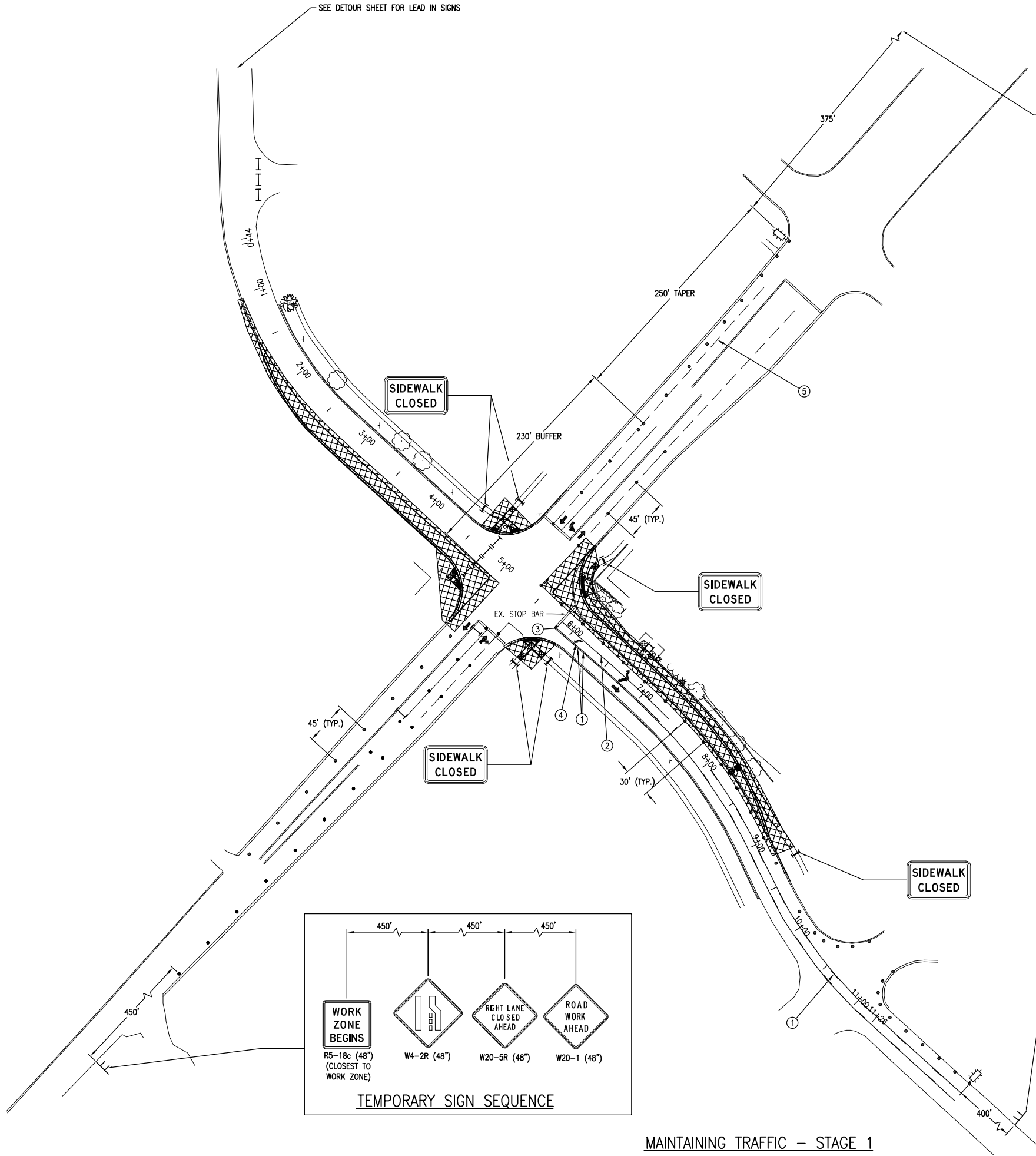
OHM-ADVISORS.COM

REVISIONS:	

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
###	0114-19-030	MRL	MRL	AM	WASHTENAW	PITTSFIELD TWP	H: 1"=40' V: 1"=4'	Value	Value
WASHTENAW COUNTY ROAD COMMISSION									
OAK VALLEY DRIVE AT ANN ARBOR-SALINE ROAD WIDENING									
DETOUR SHEET									

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DRAWING PATH: P:\0101\_0125\0114\90090\_AA\_Salline at Oak Valley\_Design\Drawings\Civil\Stage1\90090STG.dwg Apr 21, 2020 - 5:15pm



- ① Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp  
② Pavt Mrkg, Wet Reflective, Type R, Tape, 6 inch, White, Temp  
③ Pavt Mrkg, Cold Plastic, 24 inch, Stop Bar  
④ Pavt Mrkg, Ovlv Cold Plastic, Lt Turn Arrow Sym  
⑤ Pavt Mrkg, Longit, 6 inch or Less Width, Rem

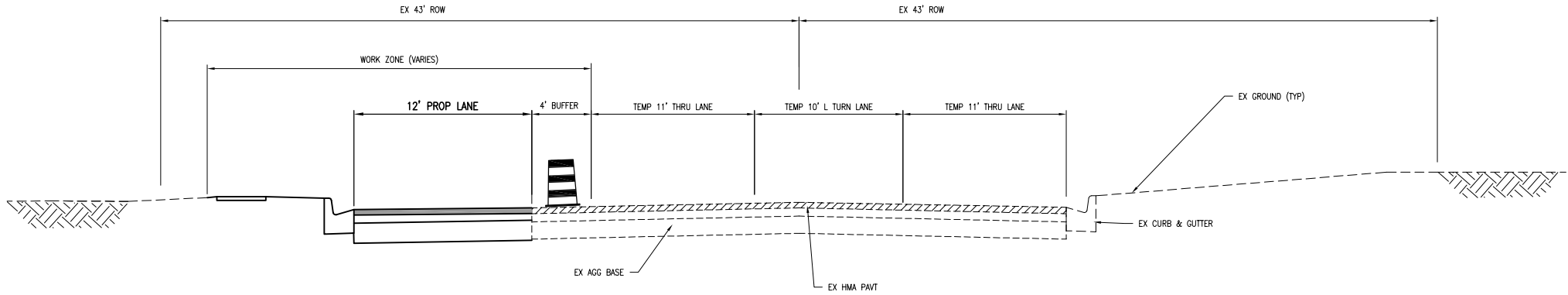
#### LEGEND

- XXXX WORK ZONE  
LIGHTED ARROW, TYPE C (CAUTION MODE)  
● PLASTIC DRUM  
+ TEMPORARY SIGN  
I BARRICADE, TYPE III  
➡ TRAFFIC FLOW ARROW  
I PEDESTRIAN TYPE II  
I BARRICADE WITH SIGN SHOWN

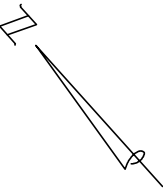
#### QUANTITIES THIS SHEET

TOTAL	UNIT	DESCRIPTION
1	Ea	Pavt Mrkg, Ovlv Cold Plastic, Lt Turn Arrow Sym
152	Sft	Rem Spec Mrkg
15	Ea	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn
15	Ea	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper
1	Ea	Lighted Arrow, Type C, Furn
1	Ea	Lighted Arrow, Type C, Oper
1550	Ft	Pavt Mrkg, Longit, 6 inch or Less Width, Rem
1425	Ft	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp
125	Ea	Plastic Drum, High Intensity, Furn
125	Ea	Plastic Drum, High Intensity, Oper
4	Ft	Pavt Mrkg, Wet Reflective, Type R, Tape, 24 inch, Stop Bar
325	Sft	Sign, Type B, Temp, Prismatic, Furn
325	Sft	Sign, Type B, Temp, Prismatic, Oper
160	Ft	Pavt Mrkg, Wet Reflective, Type R, Tape, 6 inch, White, Temp

DRAWING PATH: P:\0101\_0125\0114190090\_AA\_Salline\_at\_Oak\_Valley\_Design\Drawings\Civil\Stage1\00090STG\_TYP.dwg Apr 21, 2020 - 3:15pm



NORTHBOUND OAK VALLEY TYPICAL SECTION  
APPLIES: LOOKING UP STATION (SOUTH EAST)



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REVISIONS:	

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
###	0114-19-0090	MRL	MRL	AM	WASHTENAW	PITTSFIELD TWP	H: 1"=40' V: 1"=4'	Value	Value
WASHTENAW COUNTY ROAD COMMISSION									
OAK VALLEY DRIVE AT ANN ARBOR-SALINE ROAD WIDENING									
STAGING TYPICAL SECTION									



DRAWING PATH: P:\0101\_0125\0114190090\_AA\_Salline\_at\_Oak\_Valley\_Design\Drawings\Civil\Stage1\190090DTR\_SIGNS.dwg Apr 21, 2020 - 5:15pm




Identifier : W16-8p(A);  
1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;



Identifier : W16-8p(B);  
1.9" Radius, 0.8" Border, 0.5" Indent, Black on Orange;





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REVISIONS:

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DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
###	011419-030	MRL	MRL	AM	WASHTENAW	PITTSFIELD TWP	H: 1"=40' V: 1"=4'	Value	Value

WASHTENAW COUNTY ROAD COMMISSION

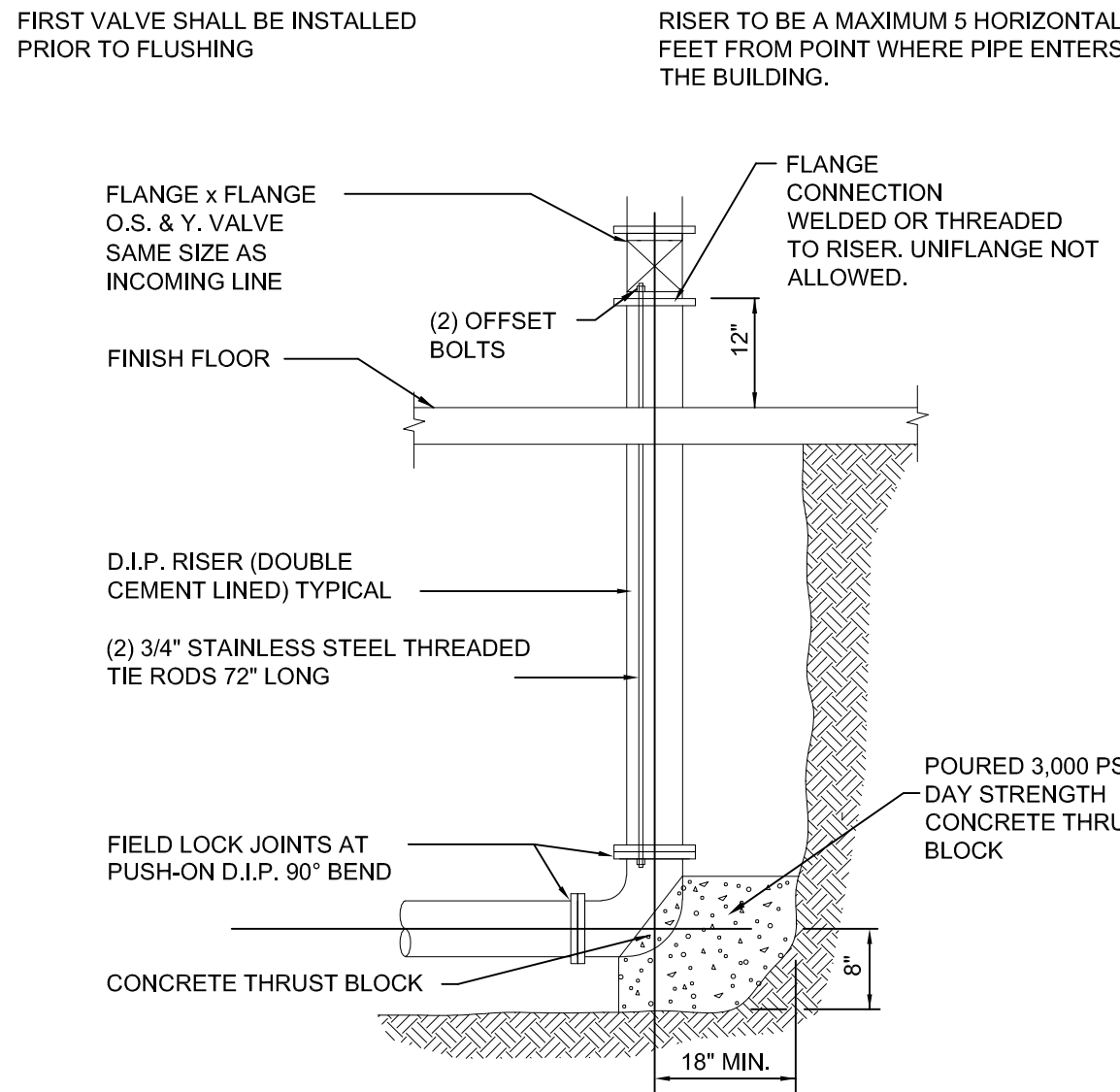
OAK VALLEY DRIVE AT ANN ARBOR-SALINE ROAD WIDENING

SPECIAL SIGNING SHEET

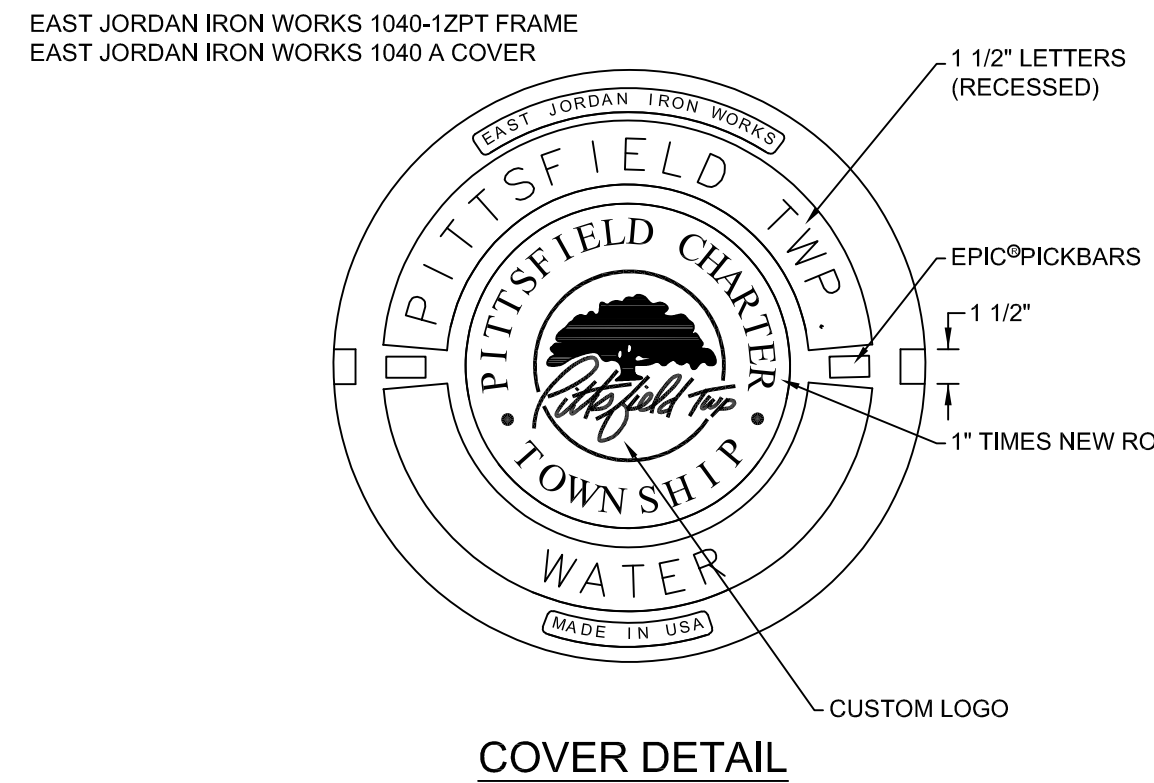
SHEET

17  
OF 18

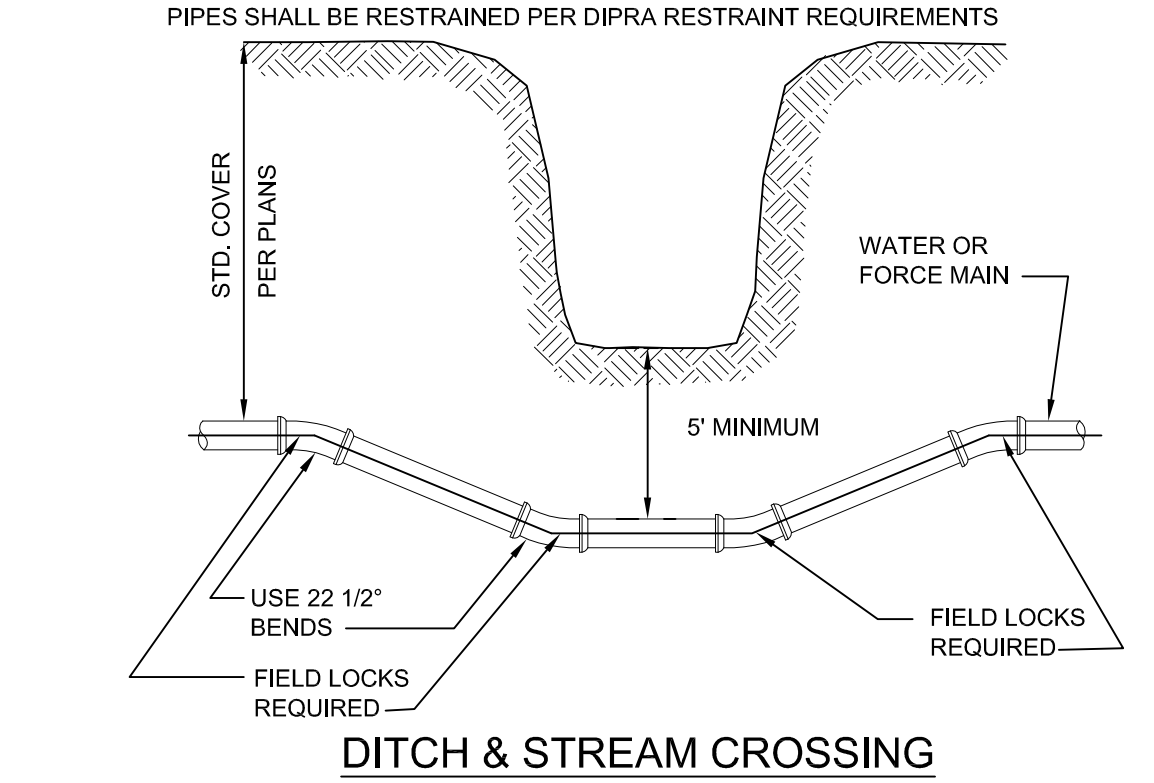
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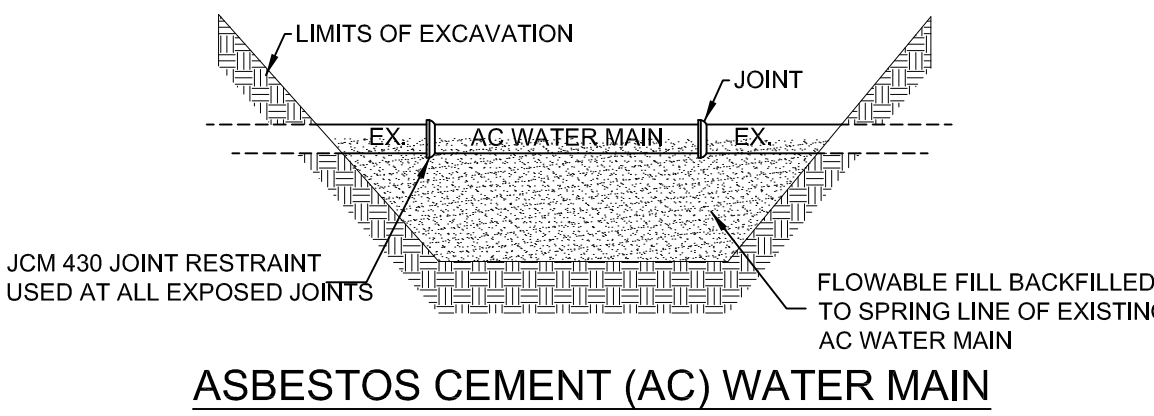
FIRE PROTECTION RISER DETAIL



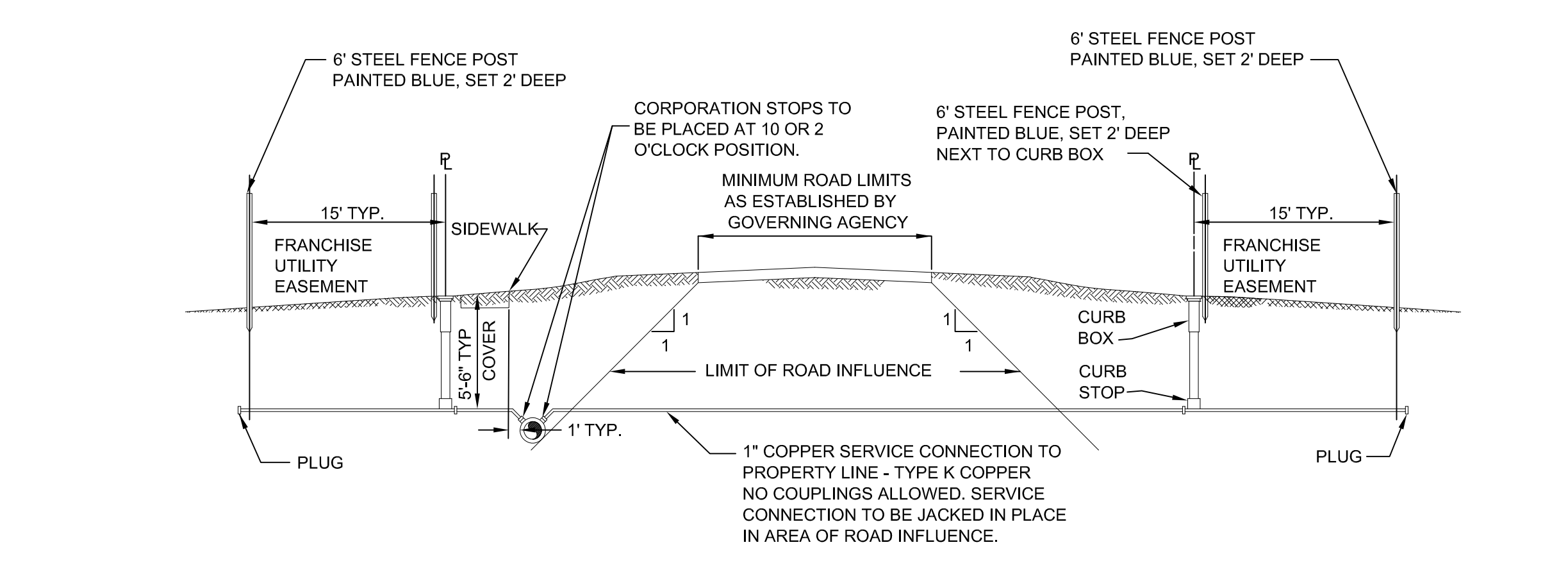
COVER DETAIL



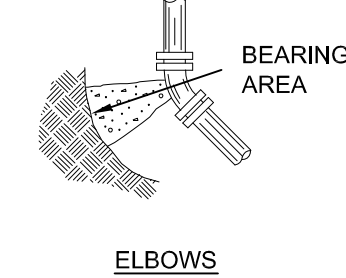
DITCH & STREAM CROSSING



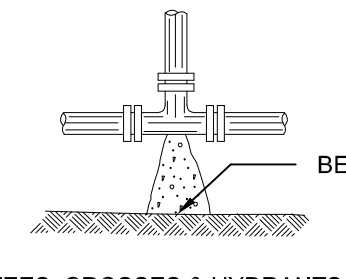
ASBESTOS CEMENT (AC) WATER MAIN



WATER MAIN CONNECTION



ELBOWS



TEES, CROSSES & HYDRANTS

PIPE DIA. INCHES	ELBOWS			
		90°	45°	22 1/2°
4	2.1	1.1	0.6	0.3
6	4.1	2.2	1.1	0.6
8	6.8	3.7	1.9	0.9
10	10.1	5.5	2.8	1.4
12	14.1	7.6	3.9	2.0
16	24.2	13.0	6.7	3.3
18	30.0	16.3	8.3	4.2
20	36.8	19.9	10.1	5.1

PIPE DIA. INCHES	TEES, CROSSES & HYDRANTS	
	BEARING AREA	SQUARE FEET
4		1.5
6		2.9
8		4.8
10		7.1
12		10.0
16		17.1
18		21.0
20		26.0

NOTES:

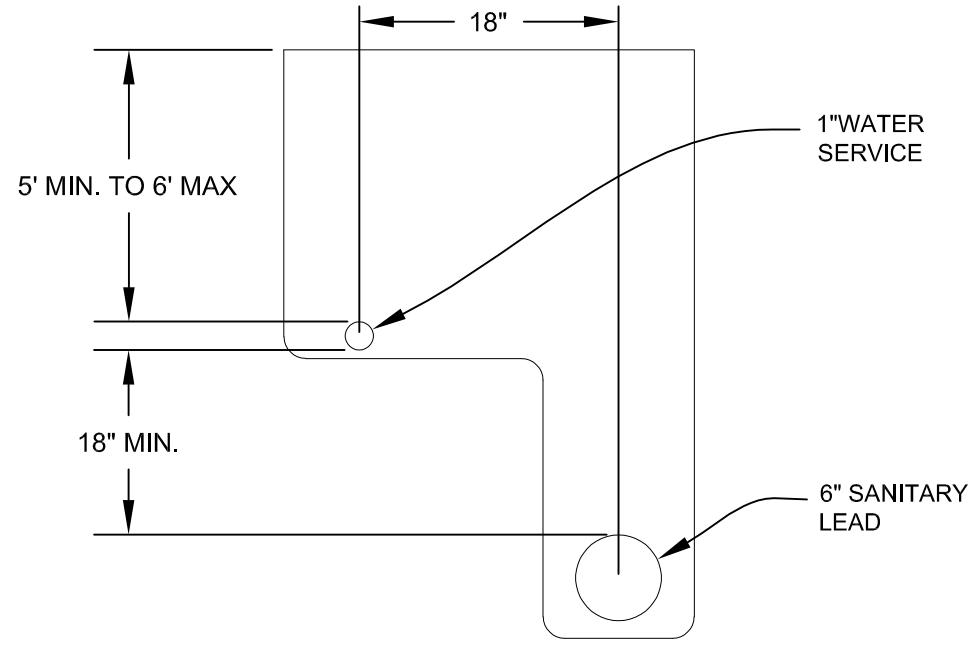
1. CONCRETE FOR ALL THRUST BLOCKS SHALL BE 3000 PSI, 28 DAY STRENGTH MIN.
2. ALL THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH
3. BOLTS, FITTINGS & JOINTS SHALL BE KEPT CLEAR OF CONCRETE
4. A BEARING CAPACITY OF 2000# PER FOOT WAS USED IN DETERMINING THE MINIMUM "BEARING AREAS" IN THE ABOVE TABLE
5. THE CROSS SECTION OF THE THRUST BLOCKS SHALL BE SQUARE
6. IN ADDITION TO THRUST BLOCKS, ALL PIPE JOINTS SHALL BE RESTRAINED WITH LOCKING GASKETS PER DIPRA'S STANDARDS.

SOIL CHARACTERISTICS

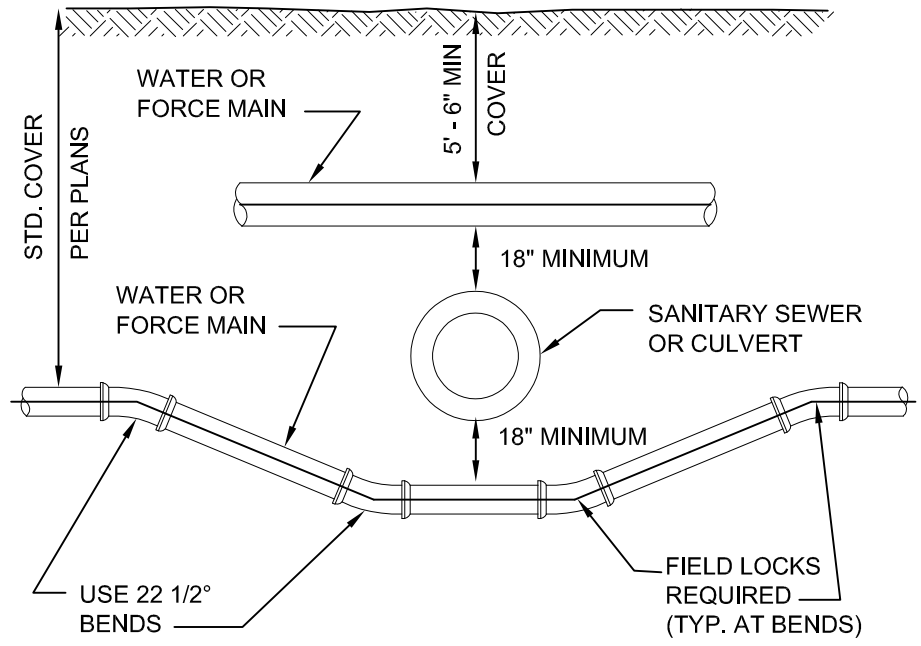
(A) LOOSE COARSE OR MEDIUM SAND; COMPACT FINE SAND; COMPACT SAND-CLAY SOILS; STIFF CLAY	FACTOR
(B) FIRM FINE SAND; COMPACT INORGANIC SILT; FIRM SAND-CLAY SOILS; MEDIUM CLAY	0.50
(C) LOOSE FINE SAND; FIRM INORGANIC SILT	0.67
(D) LOOSE SAND-CLAY SOILS; LOOSE INORGANIC SILT SOFT CLAY	1.00

"BEARING AREA" x FACTOR = ACTUAL BEARING AREA  
2.1 x .5 = 1.05 SQ. FT.  
BASED UPON 150# TEST PRESSURE

THRUST BLOCK

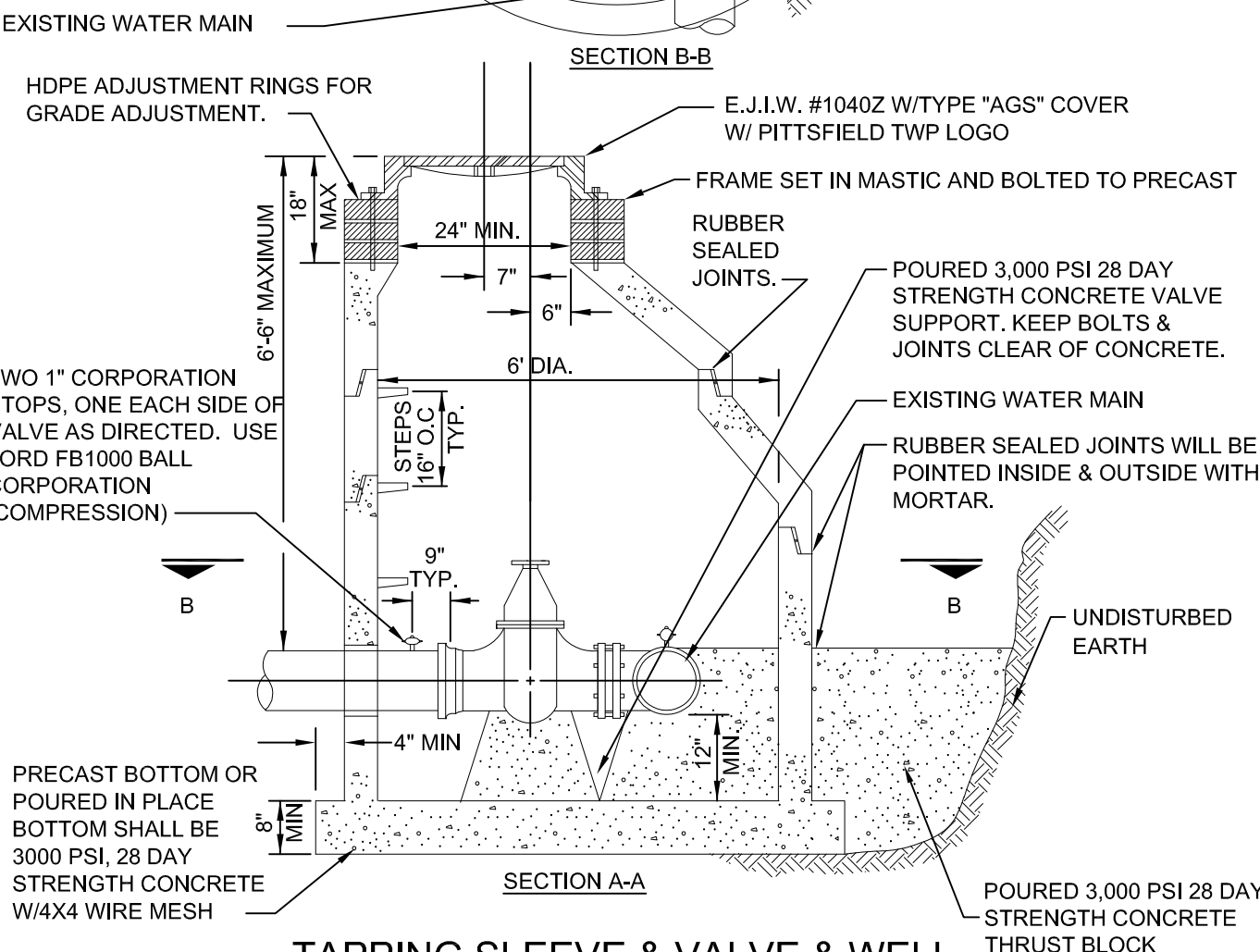
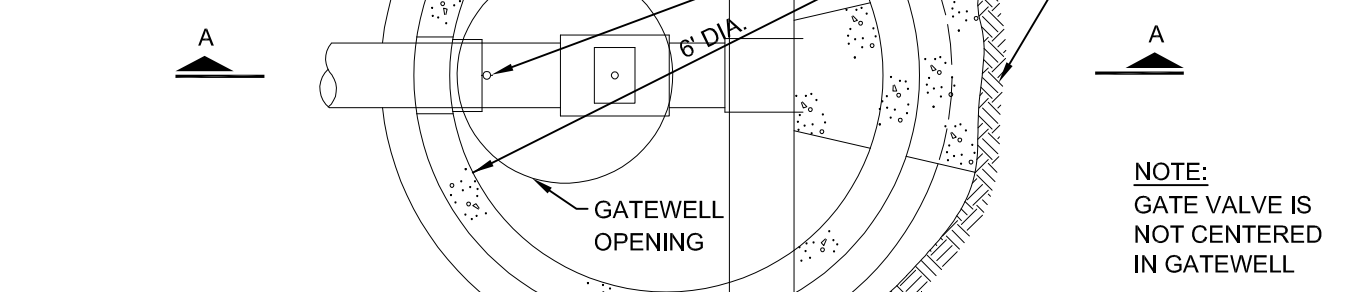


TYPICAL L TRENCH DETAIL HOUSE LEADS

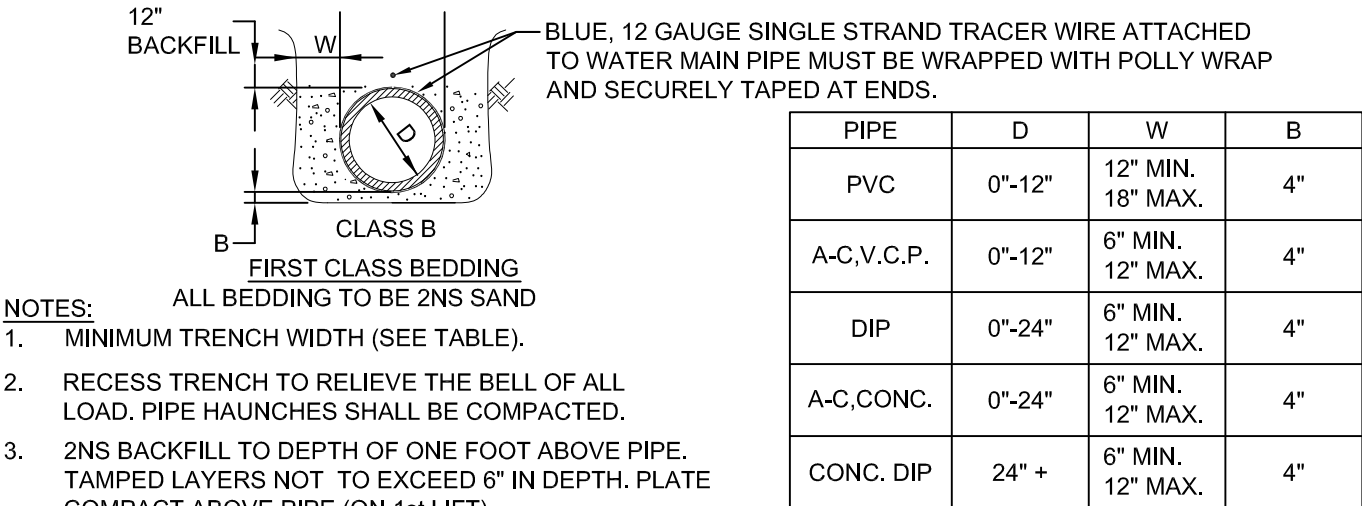


SEWER OR CULVERT CROSSING

- PRE-CAST CONCRETE MANHOLE
1. SECTIONS SHALL MEET ASTM C478.
  2. ALL JOINTS MADE WATERTIGHT WITH RUBBER GASKET JOINTS
  3. CONE TO BE OFFSET STEP ECCENTRIC TYPE
  4. ALL MANHOLE COMPONENT PARTS SHALL HAVE THE NAME OF THE MANUFACTURER STENCILED ON THE INSIDE. THE LETTERING SHALL BE A MINIMUM OF 4" HIGH.



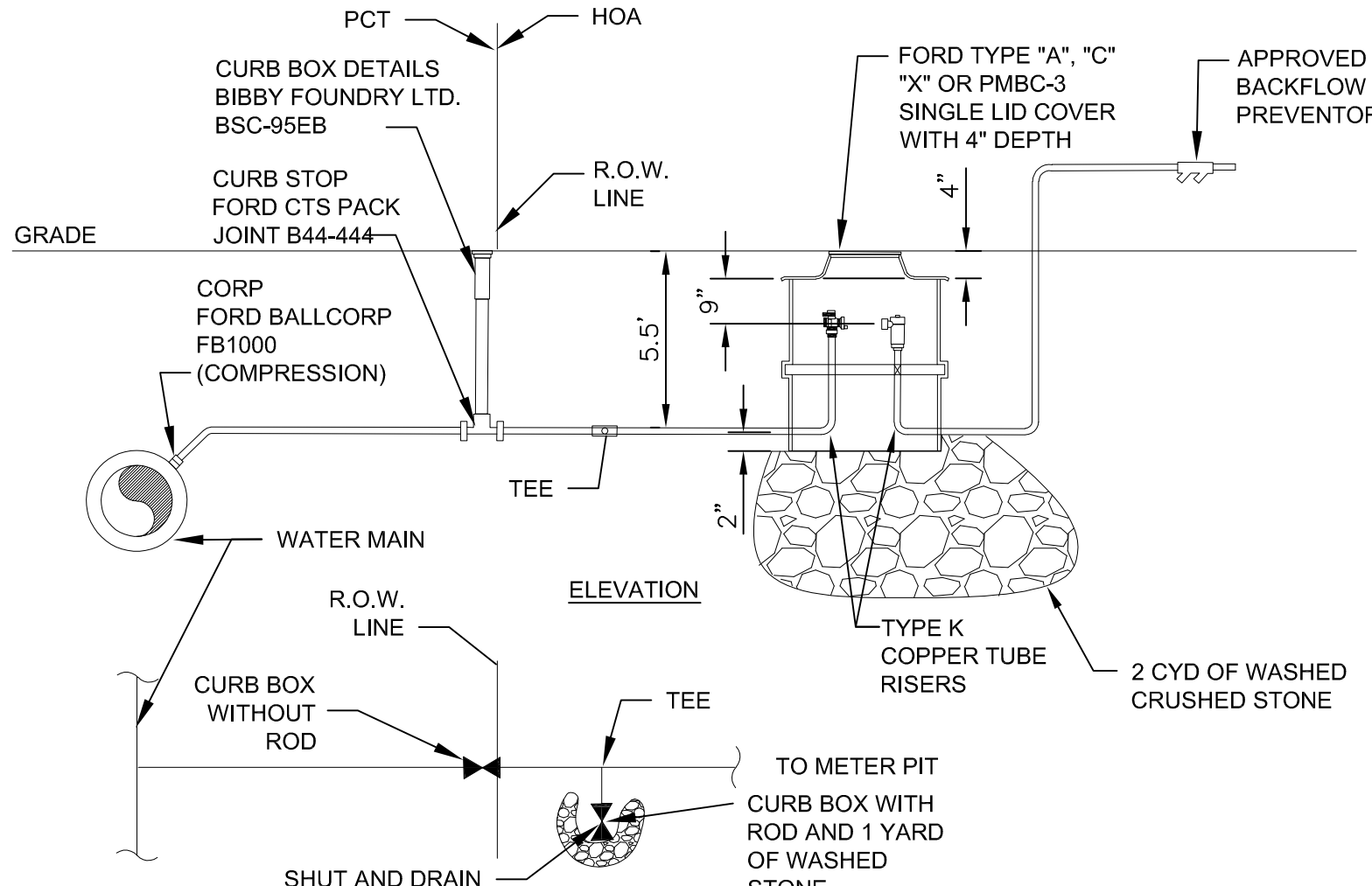
TAPPING SLEEVE & VALVE & WELL



NOTES:

1. MINIMUM TRENCH WIDTH (SEE TABLE).
2. RECESS TRENCH TO RELIEVE THE BELL OF ALL LOAD. PIPE HAUNCHES SHALL BE COMPACTED.
3. 2NS BACKFILL TO DEPTH OF ONE FOOT ABOVE PIPE. TAMPED LAYERS NOT TO EXCEED 6" IN DEPTH. PLATE COMPACT ABOVE PIPE (ON 1st LIFT).
4. ALL PIPE TO BE PLACED AND JOINTED IN A DRY TRENCH AND LAID ACCURATELY TO LINE AND GRADE WITH BELLS UPHILL.
5. ALL CONCRETE ENCASEMENT AND CRADLING TO BE CLASS "A" CONCRETE.

BEDDING

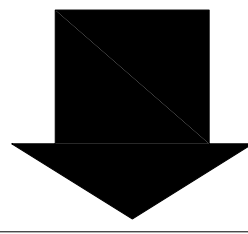


NOTES:

1. SADDLE MAY BE REQUIRED ON MAIN BASED ON LEAD SIZE, MAIN SIZE, AND MAIN PRESSURE.
2. ALL WATER MAIN TAPS AND COMPONENT PARTS SHALL BE APPROVED BY THE PITTSFIELD TOWNSHIP UTILITIES DEPARTMENT PRIOR TO INSTALLATION.
3. INSTALLATION SHALL BE INSPECTED AND APPROVED BY THE PITTSFIELD TOWNSHIP UTILITIES DEPARTMENT.

IRRIGATION METER PIT DETAIL

FDC



FIRE DEPARTMENT CONNECTION LABEL DETAIL

- PRE-CAST CONCRETE MANHOLE
1. SECTIONS SHALL MEET ASTM C478.
  2. ALL JOINTS MADE WATERTIGHT WITH RUBBER GASKET JOINTS
  3. CONE TO BE OFFSET STEP ECCENTRIC TYPE
  4. ALL MANHOLE COMPONENT PARTS SHALL HAVE THE NAME OF THE MANUFACTURER STENCILED ON THE INSIDE. THE LETTERING SHALL BE A MINIMUM OF 4" HIGH.
  5. PROVIDE INTEGRAL BASE.
  6. KOR-N-SEAL BOOTS OR APPROVED EQUAL TO BE INSTALLED AT PIPE PENETRATIONS.
  7. WHERE GATE WELLS ARE CONSTRUCTED OVER EXISTING WATERMAIN, POURED IN PLACE OR PRECAST COOKIE AND DOGHOUSE STRUCTURES MY BE USED IN PLACE OF INTEGRAL BASE.

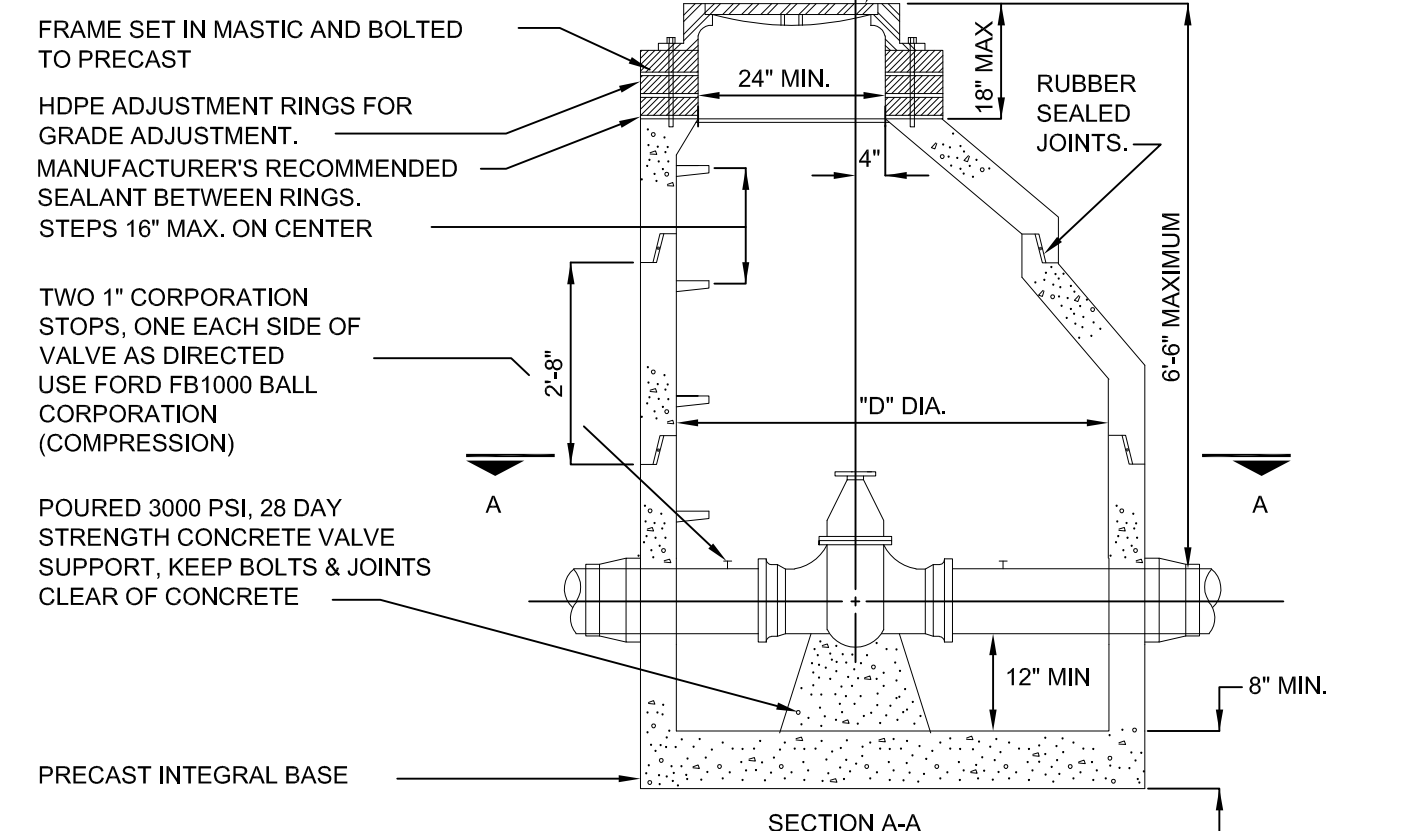


STRAIGHT THRU	TEE	
VALVE SIZE	"D"	"D"
8"	5'-0"	6'-0"
12"	5'-0"	6'-0"
16"	6'-0"	6'-0"

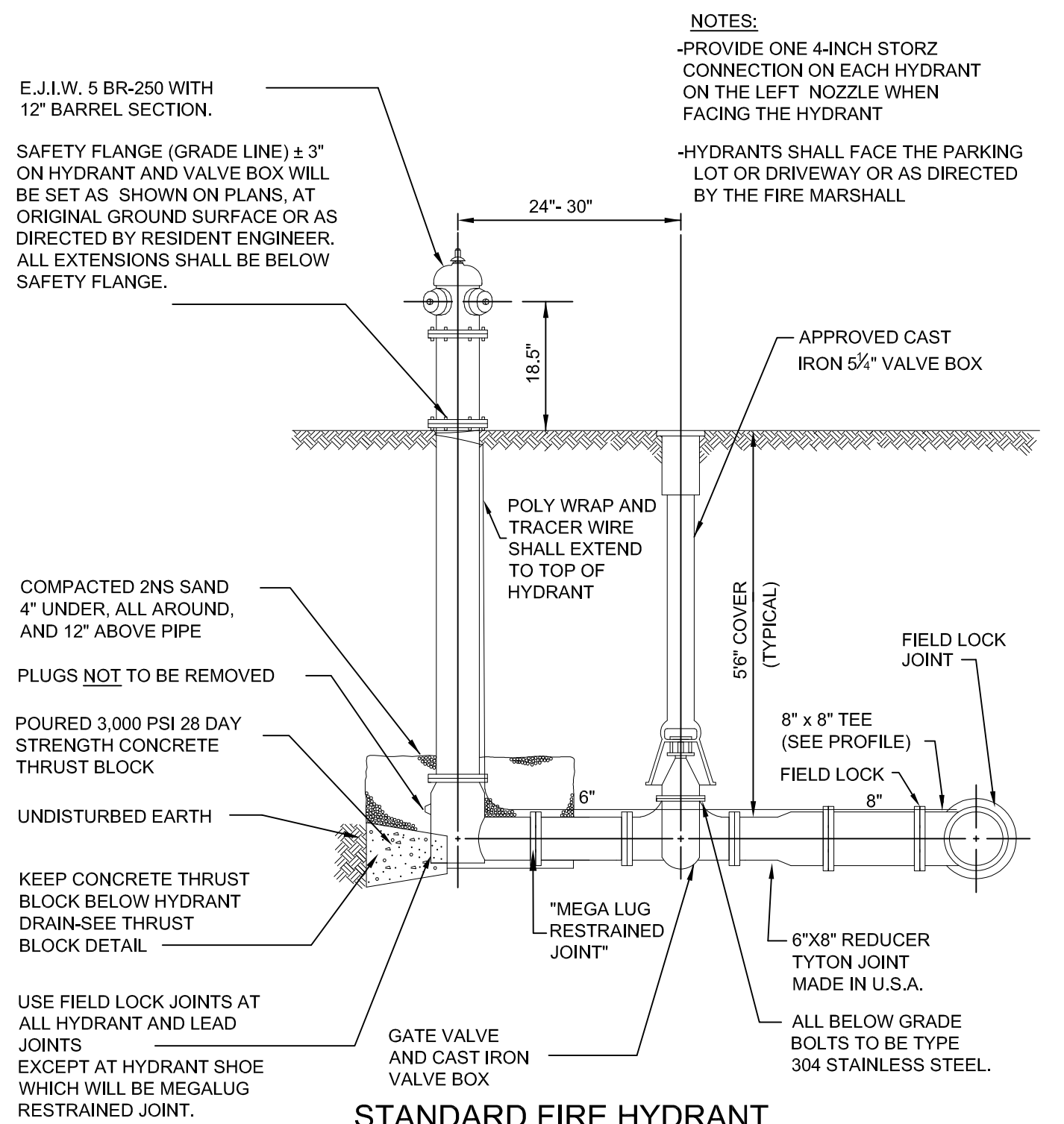
IN GATEWELL

SECTION B-B

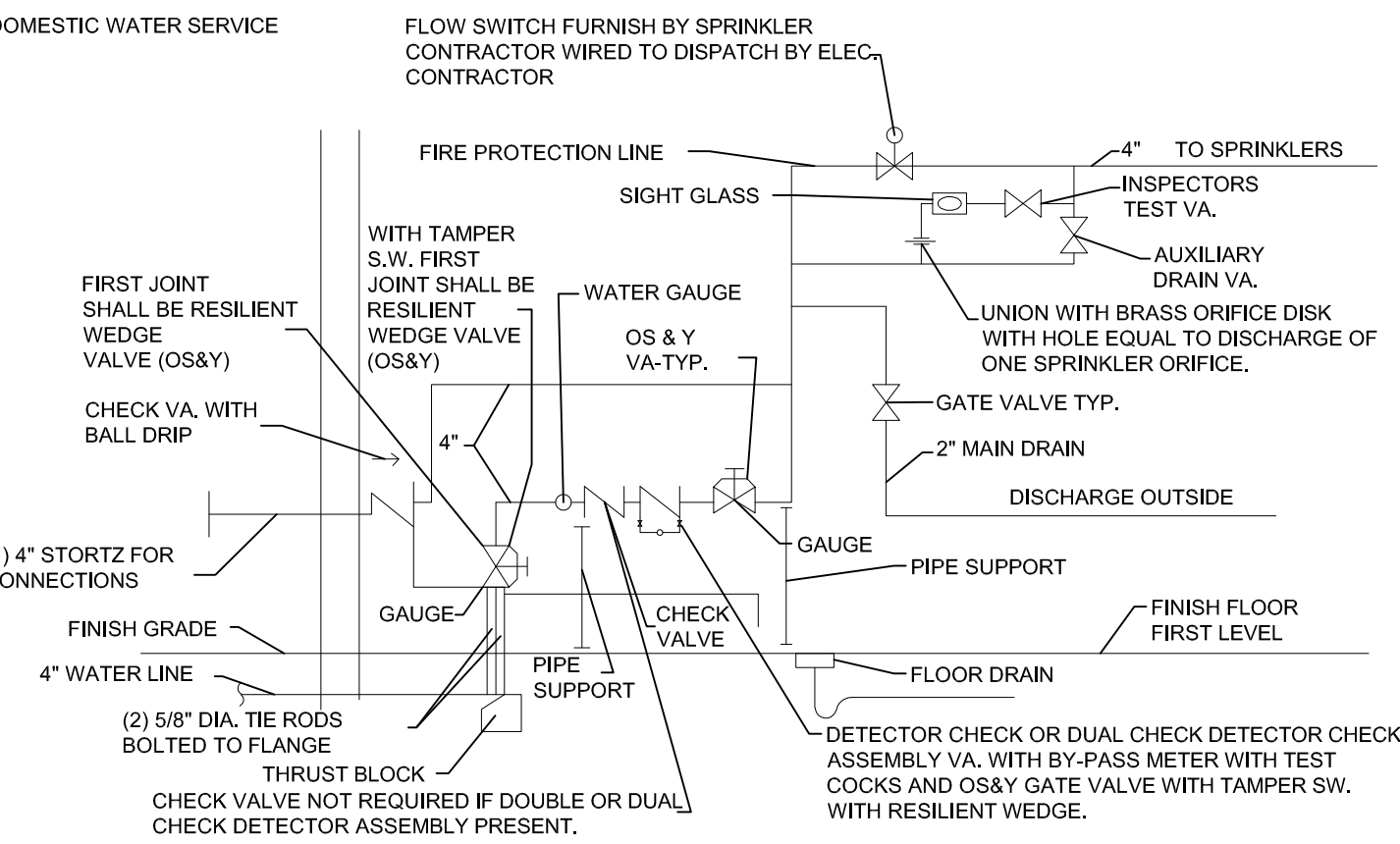
E.J.I.W. #1040Z W/TYPE "AGS" COVER W/  
PITTSFIELD TWP LOGO



STANDARD GATE VALVE & WELL



STANDARD FIRE HYDRANT



METER ROOM DETAIL



Pittsfield Charter Township  
6201 W. Michigan Ave.  
Ann Arbor, MI 48108-9721  
48108-9721  
Tel. 734.822.3101  
www.pittsfield-mi.gov

UPDATES	MRH	DRW	14.01.24
FDC UPDATE	BWA	DRW	11.09.13
TWP REV	BWA	DRW	11.04.27
HYDRANT, MANHOLE UPDATE	BWA	DRW	10.10.25
UPDATES	TIN	DRW	10.01.20
Revision	By	Appd.	YY.MM.DD

Issued

File Name: W-01	BWA	DRW	DRW	07.10.01
	Dwn.	Chkd.	Dsgn.	YY.MM.DD
Permit-Seal				

Client/Project  
PITTSFIELD TOWNSHIP

Pittsfield Township, Michigan

Title  
WATER MAIN DETAILS

Project No.  
2075001300

Scale  
NOT TO SCALE

Revision