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2

STATE HIGHWAY STANDARDS

000001-08 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
 001006 DECIMAL OF AN INCH AND OF A FOOT
 424001-11 PERPENDICULAR CURB RAMPS FOR SIDEWALKS
 442201-03 CLASS C & D PATCHES
 604001-05 FRAME AND LIDS, TYPE 1
 606001-08 CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
 606301-04 PC CONCRETE ISLANDS AND MEDIANS
 701006-05 OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
 701101-05 OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
 701427-05 LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATION, FOR SPEEDS < 40 MPH
 701601-09 URBAN LANE CLOSURE, 1W OR 2W WITH NONTRAVERSIBLE MEDIAN
 701701-10 URBAN LANE CLOSURE, MULTILANE INTERSECTION
 701801-06 SIDEWALK, CORNER OR CROSSWALK CLOSURE
 701901-09 TRAFFIC CONTROL DEVICES
 720001-01 SIGN PANEL MOUNTING DETAILS
 720006-04 SIGN PANEL ERECTION DETAILS
 720016-04 MAST ARM MOUNTED STREET NAME SIGNS
 780001-05 TYPICAL PAVEMENT MARKINGS
 781001-04 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
 814001-03 HANDHOLES
 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
 873001-02 TRAFFIC SIGNAL GROUNDING AND BONDING
 876001-04 PEDESTRIAN PUSH BUTTON POST
 877011-10 STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'
 878001-11 CONCRETE FOUNDATION DETAILS
 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS

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	DRAWN - ZRB	REVISED -
PLOT SCALE =	CHECKED - EIJ	REVISED -
PLOT DATE = 12/08/23	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

INDEX OF SHEETS AND HIGHWAY STANDARDS	
IL 2 SMART RESURFACE AND ADA	
SCALE:	SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
742	33RS-3 & (34Y)RS-5	WINNEBAGO	55	2
CONTRACT NO. 64P61				
ILLINOIS FED. AID PROJECT				

THE CONTRACTOR SHALL NOTIFY TRAFFIC OPERATIONS A MINIMUM OF 5 WORKING DAYS PRIOR TO PLACING PERMANENT PAVEMENT MARKING OR SIGNING.

THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS WITHIN THE PROJECT LIMITS. SEEDING CLASS 4 OR 2A SHALL BE USED, EXCEPT IN FRONT OF PROPERTIES WHERE THE GRASS WILL BE MOWED, THEN USE SEEDING, CLASS 1A. CLASS 2A SHALL BE USED ON FRONT SLOPES AND DITCH BOTTOMS. CLASS 4 SHALL BE USED BEHIND TYPE A GUTTER, ON ALL BACKSLOPES AND AREAS BEHIND THE BACKSLOPE, AND BEYOND THE TOE OF FRONT SLOPE ON FILL SECTIONS WITHOUT DITCHES. THIS WORK WILL BE INCLUDED IN THE CONTRACT UNIT PRICE PER CUBIC YARD FOR EARTH EXCAVATION.

FERTILIZER SHALL BE APPLIED TO ALL DISTURBED AREAS AND INCORPORATED INTO THE SEEDBED PRIOR TO SEEDING OR PLACEMENT OF SOD AT THE RATE SPECIFIED IN SECTIONS 250 AND 252 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE INCLUDED IN THE COST OF THE EARTH EXCAVATION.

MULCH METHOD II SHALL BE APPLIED OVER ALL SEEDED AREAS. THIS SHALL BE INCLUDED IN THE COST OF THE EARTH EXCAVATION.

WHEN LAYING OUT FOR PATCHING, THE MINIMUM DISTANCE BETWEEN NEW PATCHES (SAW CUT TO SAW CUT) SHALL BE 15 FEET. WHEN PATCH SPACING IS LESS THAN 15 FEET, THE PAVEMENT BETWEEN PATCHES SHALL ALSO BE REMOVED AND REPLACED.

THE MINIMUM PATCH DIMENSION FOR FULL-DEPTH PATCHES WILL BE FOUR FEET AND HALF-LANE WIDTH. HALF-LANE PATCHES SHALL BE CONFINED TO THE OUTSIDE EDGES OF THE PAVEMENT.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:
LOCATION AND MIXTURE USE(S):

Location and Mixture Use(s):	Resurfacing Surface
PG:	SBS PG 70-28
Design Air Voids:	4.0 @ N70
Mixture Composition:	IL 9.5
Friction Aggregate:	D
Mixture Weight:	112 lb/sy/in
Quality Management Program:	QCQA
Sublot Size:	N/A
Material Transfer Device	N/A



THE AREA TO BE TACKED OR PRIMED SHALL BE LIMITED TO THAT WHICH CAN BE COVERED WITH HMA ON THE NEXT DAY'S PRODUCTION, BUT NO MORE THAN FIVE DAYS IN ADVANCE OF THE PLACEMENT OF THE HMA, UNLESS APPROVED BY THE ENGINEER.

THE CONTRACTOR WILL BE REQUIRED TO FURNISH 5 1/2" HIGH BRASS STENCILS AS APPROVED BY THE ENGINEER AND INSTALL STATIONING AT 250' INTERVALS. STATIONING SHALL BE PLACED ON BOTH LANES OF 2-LANE HIGHWAYS AND ON THE OUTSIDE LANES IN BOTH DIRECTIONS ON 4-LANE HIGHWAYS. THE STATIONS SHALL BE PLACED 6" INSIDE THE PAVEMENT MARKING EDGE SO THEY CAN BE READ FROM THE SHOULDER. THIS WORK WILL BE INCLUDED IN THE COST OF THE FINAL PAVEMENT SURFACE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTING AND MAINTAINING AN ELECTRONIC LOG OF ALL STAKEOUT SURVEY THAT IS PERFORMED ON THE JOB, EITHER BY HIM/HER OR ANY SUB-CONTRACTOR PERFORMING THE STAKEOUT. UPON REQUEST, ALL LOGS SHALL BE SUBMITTED TO THE DEPARTMENT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THIS WORK, BUT SHALL BE CONSIDERED INCLUDED IN THE COST FOR CONSTRUCTION LAYOUT.

PAVEMENT MARKING SHALL BE DONE ACCORDING TO STANDARD 780001, EXCEPT AS FOLLOWS:

1. ALL WORDS, SUCH AS ONLY, SHALL BE 8 FEET HIGH.
2. ALL NON-FREEWAY ARROWS SHALL BE THE LARGE SIZE.
3. THE DISTANCE BETWEEN YELLOW NO-PASSING LINES SHALL BE 8 INCHES, NOT 7 INCHES, AS SHOWN IN THE DETAIL OF TYPICAL LANE AND EDGE LINES.
4. CENTERLINE SKIP DASH PAVEMENT MARKING ON MULTI-LANE DIVIDED, MULTI-LANE UNDIVIDED, AND ONE-WAY ROADWAY SHALL BE ACCORDING TO DISTRICT STANDARD 41.1.

PERMANENT SURVEY MARKERS, TYPE II, SHALL BE SET AT INTERVALS OF 1 MILE OR AS DIRECTED BY THE ENGINEER. BRIDGE OR CULVERT PROJECTS SHALL HAVE ONE SURVEY MARKER PLACED NEAR THE STRUCTURE. ESTIMATED: 1 EACH.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A DESCRIPTION OF LOCATION, ELEVATION, AND COORDINATES FOR EACH PERMANENT SURVEY MARKER. THE HORIZONTAL COORDINATES MUST BE DERIVED BY GPS AND THE ELEVATION DERIVED USING AN ELECTRONIC LEVEL. THE META DATA, SUCH AS THE GEOID USED, (NGS ADJUSTMENT IE: 97 HARN, 03, 07), AND THE BASE POINT(S) NAME OR NUMBER SHALL BE SUBMITTED ALONG WITH A COMPLETE COLLECTION LOG. IF COLLECTED USING RTK METHOD, IT WILL REQUIRE EITHER 3 COLLECTIONS (AVERAGED) FROM 2 DIFFERENT BASES, OR A MINIMUM OF 3 COLLECTIONS (AVERAGED), AT LEAST 2 HOURS APART, FROM THE SAME BASE. IF USING A CORS TYPE NETWORK, THE COLLECTION PROCEDURE SHALL INCLUDE LOCALIZING WITH CHECK SHOTS ON AT LEAST 2 DIFFERENT HARN MONUMENTS BOTH BEFORE AND AFTER COLLECTION. THE LEVEL CIRCUIT SHALL BE RUN FROM FURNISHED MARK TO FURNISHED MARK AND THEN ADJUSTED. THE ERROR OF CLOSURE SHALL BE SUBMITTED WITH THE ELECTRONIC LEVEL NOTES IN A RECOGNIZED FORMAT APPROVED BY THE ENGINEER AND/OR THE CHIEF OF SURVEYS. THE ENGINEER SHALL SUBMIT THIS INFORMATION TO THE DISTRICT CHIEF OF SURVEYS.

THE CONTRACTOR SHALL CONTACT BEN CHRISTIANSEN OF THE FOUR RIVERS SANITATION AUTHORITY (FRSA) AT (815) 209-7952 PRIOR TO PERFORMING ANY SANITARY SEWER WORK, INCLUDING WORK THAT WILL BE PERFORMED BENEATH SANITARY SEWERS OR WORK THAT WILL BE PERFORMED ABOVE SANITARY SEWERS WITH LESS THAN 18 INCHES OF VERTICAL SEPARATION. WORK PERFORMED WITHOUT THE PRESENCE OF AN FRSA INSPECTOR WILL NOT BE ACCEPTED.

THE AC GRADE FOR 40601005 HOT-MIX ASPHALT REPLACEMENT OVER PATCHES (TON) SHALL BE PG 64-22.

MODEL GENERAL NOTES 1
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PLOT DATE = 12/08/23	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES
IL 2 SMART RESURFACE AND ADA**

SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
742	33RS-3 & (34Y)RS-5	WINNEBAGO	55	3
CONTRACT NO. 64P61				
ILLINOIS		FED. AID PROJECT		

SUMMARY OF QUANTITIES				NHPP	NHPP	NHPP	NHPP
				80% FEDERAL 20% STATE ROADWAY 0005 URBAN	80% FEDERAL 15% STATE / 5% CITY TRAFFIC SIGNALS 0021 URBAN	100% CITY MANHOLES 0043 URBAN	100% FRSA SANITARY 0043 URBAN
CODE NO.	ITEM	UNIT	TOTAL QUANTITY				
X6026056	SANITARY MANHOLES TO BE ADJUSTED WITH NEW TYPE 1 FRAME, CLOSED LID	EACH	2	2			
* X8140115	HANDHOLE TO BE ADJUSTED	EACH	1		1		
* X8760200	ACCESSIBLE PEDESTRIAN SIGNALS	EACH	10		10		
* X8760201	PEDESTRIAN PUSH-BUTTON POST	EACH	5		5		
* X8780107	CONCRETE FOUNDATION (SPECIAL)	FOOT	28		28		
* X8950307	REMOVE EXISTING PEDESTRIAN SIGNAL HEAD	EACH	4		4		
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1			
* Z0025505	PROPERTY MARKERS	EACH	1	1			
Z0028415	GEOTECHNICAL REINFORCEMENT	SQ YD	148	148			
Z0033056	OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1		1		

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* SPECIALITY ITEM

MODEL SUMMARY 6
FILE NAME: D2 64P6 Light-Summary of Quantities.dgn

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	DRAWN - ZRB	REVISED -
PLOT SCALE =	CHECKED - EIJL	REVISED -
PLOT DATE = 12/08/23	DATE -	REVISED -

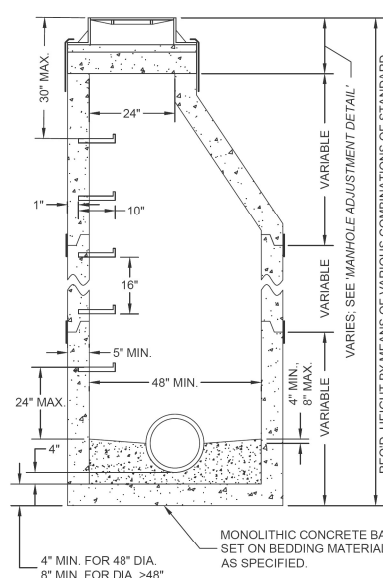
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES IL 2 SMART RESURFACE AND ADA	
SCALE:	SHEET 6 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
742	33RS-3 & (34Y)RS-5	WINNEBAGO	55	10
CONTRACT NO. 64P61				
ILLINOIS FED. AID PROJECT				

NOTES:

1. THE MAX. DROP FROM THE INVERT OF ANY PIPE TO THE CONCRETE CHANNEL UNDER THAT PIPE SHALL BE 8".
2. MANHOLES LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY SHALL BE MARKED WITH A STEEL FENCE POST AS DIRECTED.
3. ALL NEW MANHOLES SHALL BE VACUUM TESTED PER A.S.T.M. C-1244 PRIOR TO ACCEPTANCE.
4. ALL BARREL JOINTS SHALL BE SEALED WITH 3 1/2" x 3/8" PRE-FORMED RUBBER BUTYL JOINT SEALANT ON THE LOWER SHIPLAP.
5. ALL BARREL JOINTS SHALL BE SEALED WITH AN EXTERNAL BARREL SEAL CENTERED ON THE JOINT (MAR MAC MACWRAP, OR APPROVED EQUAL).
6. MANHOLE STRUCTURE SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE MANHOLE RISER SECTIONS IN ACCORDANCE WITH A.S.T.M. C478-90 OR THE LATEST DESIGNATION.
7. PRECAST FLAT TOPS ARE NOT APPROVED FOR USE.
8. SEE 'MANHOLE ADJUSTMENT DETAIL' FOR ADJUSTMENT REQUIREMENTS.
9. PIPE CONNECTIONS TO NEW MANHOLES SHALL BE MADE BY MEANS OF EITHER RUBBER GASKET SEAL (A-LOK OR APPROVED EQUAL) CONFORMING TO ASTM C-923 CAST INTEGRALLY IN MANHOLE WALL, OR RUBBER GASKET SEAL AND STAINLESS STEEL CLAMP (PSX SERIES SIX OR APPROVED EQUAL) CONFORMING TO ASTM C-923. FOR PIPE CONNECTIONS WITH A DEPTH OF >20 FT., A RUBBER GASKET SEAL (A-LOK OR APPROVED EQUAL) CONFORMING TO ASTM C-923 CAST INTEGRALLY IN MANHOLE WALL SHALL BE USED.
10. PIPE CONNECTIONS TO EXISTING MANHOLES SHALL BE MADE BY MEANS OF CORE DRILLING MANHOLE WALL AND INSTALLING RUBBER GASKET SEAL AND STAINLESS STEEL CLAMP (PSX SERIES SIX OR APPROVED EQUAL) CONFORMING TO ASTM C 923.
11. THE MAXIMUM DISTANCE FROM ANY INLET PIPE INVERT TO THE OUTLET PIPE INVERT SHALL BE 2'. DISTANCES GREATER THAN 2' WILL REQUIRE AN INSIDE DROP CONNECTION PER 'INSIDE DROP CONNECTION DETAIL'.
12. MANHOLE STEPS SHALL BE NEENAH R-1982-F OR M.A. IND. PS-1 OR APPROVED EQUAL INSTALLED AT 16" CENTERS, ORIENTED ABOVE THE OUTLET PIPE UNLESS OTHERWISE SPECIFIED. FOR MANHOLES WITH INSIDE DROP ASSEMBLIES, STEPS IN THE MANHOLE BASE SECTION SHALL BE INSTALLED IN THE FIELD AND NOT CAST IN PLACE. IN THIS CASE, THE ORIENTATION OF THE CONE SHALL BE AS DIRECTED BY FRSA.



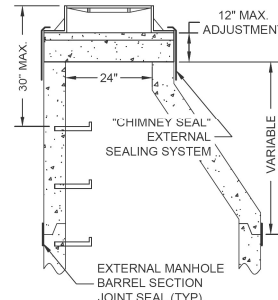
STANDARD MANHOLE DETAIL
(*MANHOLE ADJUSTMENT DETAIL SHALL APPLY)

NOTES:

1. MANHOLE FRAMES & LIDS SHALL BE PER THE TABLE BELOW.
2. FOR MANHOLES CONNECTED TO MAINS 18" DIAMETER OR LARGER, OR FOR MANHOLES LOCATED IN FLOOD PRONE AREAS, FRAMES & LIDS SHALL BE THE BOLT DOWN TYPE.
3. ALLOWABLE TYPES OF ADJUSTING RINGS INCLUDE PRECAST CONCRETE (4" HEIGHT MIN.), & EXPANDED POLYPROPYLENE (EPP). THESE CAN BE USED IN CONJUNCTION WITH EACH OTHER, EXCEPT THAT A PRECAST RING SHALL NOT BE PLACED OVER AN EPP RING.
4. FOR PRECAST ADJUSTING RINGS, ALL ADJUSTING RING JOINTS AS WELL AS THE FRAME TO ADJUSTING RING JOINT SHALL BE SEALED WITH TWO 1" BEADS OF PRE-FORMED RUBBER BUTYL JOINT SEALANT. WHEN A FRAME REQUIRES PITCHING, EPP TAPER RINGS SHALL BE USED PER NOTE 5.
5. FOR EPP ADJUSTING RINGS, RINGS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS. WHEN A FRAME REQUIRES PITCHING, THE TOP RING SHALL BE A TAPERED ADJUSTMENT RING PER MANUFACTURER'S INSTRUCTIONS.
6. NO TARRING OR GROUTING IS ALLOWED ON THE INSIDE OF MANHOLE OR ADJUSTMENT JOINTS.
7. MAXIMUM MANHOLE ADJUSTMENT IS 12". MINIMUM ADJUSTMENT IS 4" UNLESS OFF-ROAD OR IN CURB & GUTTER ROADWAY.
8. MANHOLE FRAMES SHALL BE SET 1/2" MIN. TO 3/8" MAX. BELOW PAVED SURFACES, AND AT FINAL GRADE IN TURF AREAS.
9. WHEN ADJUSTING EXISTING MANHOLES, THE ENTIRE EXISTING ADJUSTMENT SHALL BE REMOVED AND REPLACED.
10. THE COMBINATION OF NEW ADJUSTING RINGS

APPROVED FRAME & LID TABLE

TYPE	NEENAH FRAME	NEENAH LID	EAST JORDAN FRAME	EAST JORDAN LID
REGULAR	1670-2004	R-1670-0358	00111711	00111732
LOW PROFILE	1670-2008	R-1670-0358	---	---
BOLT DOWN	---	1915JT08	---	---

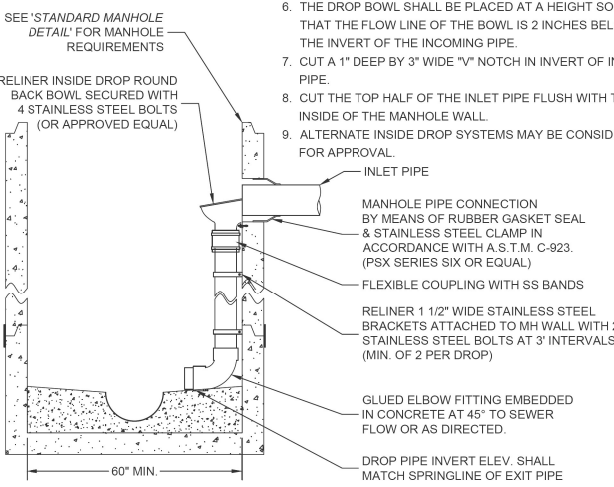


MANHOLE ADJUSTMENT DETAIL
(FOR ADJUSTMENT OF BOTH NEW & EXISTING MANHOLES)

DROP BOWL & DROP PIPE SIZING TABLE

INLET PIPE DIA.	DROP PIPE DIA. (MIN.)
4-6 INCH	4 INCH
8 INCH	6 INCH
10 INCH	8 INCH
>10 INCH	---

* PER MFG. OR AS DIRECTED BY FRSA



INSIDE DROP CONNECTION DETAIL
(*STANDARD MANHOLE DETAIL SHALL APPLY)

NOTES:

1. INSIDE DROP TYPE MANHOLES SHALL BE 5" MIN. INSIDE DIA.
2. ALL INSIDE DROP CONNECTIONS FOR SERVICES AND COLLECTOR SEWERS SHALL USE THE DROP AS MFG. BY RELINER-DURAN INC., OR EQUAL.
3. SEE TABLE FOR DROP BOWL AND DROP PIPE SIZES.
4. ALL INSIDE DROP PIPING SHALL BE PVC SDR35 ASTM-D3C34.
5. ATTACH THE ROUND BACK DROP BOWL AND EACH CLAMPING BRACKET TO THE MANHOLE WALL WITH 3/4" x 1" MIN. STAINLESS STEEL BOLTS AND EPOXY IMPREGNATED LUGS PER MFR.'S RECOMMENDATIONS.
6. THE DROP BOWL SHALL BE PLACED AT A HEIGHT SO THAT THE FLOW LINE OF THE BOWL IS 2 INCHES BELOW THE INVERT OF THE INCOMING PIPE.
7. CUT A 1" DEEP BY 3" WIDE 1/2" NOTCH IN INVERT OF INLET PIPE.
8. CUT THE TOP HALF OF THE INLET PIPE FLUSH WITH THE INSIDE OF THE MANHOLE WALL.
9. ALTERNATE INSIDE DROP SYSTEMS MAY BE CONSIDERED FOR APPROVAL.

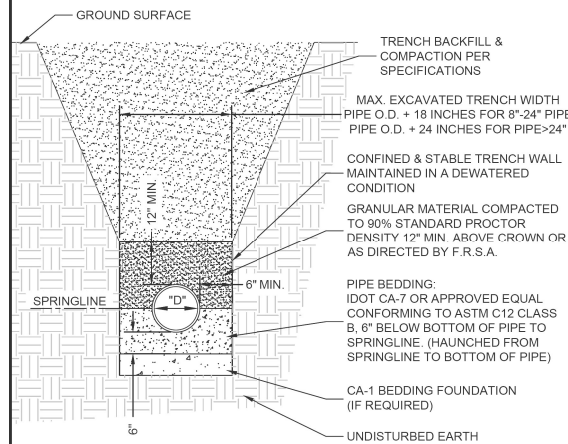
NOTES:

1. FOR NEW MAINLINE, FACTORY PVC WYE FITTING SHALL BE USED.
2. FOR EX. MAINLINE, HOLE SHALL BE CORE DRILLED IN THE MAINLINE PIPE PER MFR.'S REQUIREMENTS. LOCATION OF CORE SHALL BE APPROVED BY THE ENGINEER.
3. PIPE BEDDING FOR SANITARY SERVICE PIPING SHALL BE PER 'FLEXIBLE PIPE BEDDING DETAIL', 6" BELOW AND 12" ABOVE PIPING.
4. THE REMAINDER OF SERVICE TO PROPERTY/EASEMENT LINE SHALL BE INSTALLED PER STANDARD SERVICE & ALTERNATE SERVICE DETAIL.
5. THE COMPRESSION FITTING SHALL BE A WATER-TIGHT FLEXIBLE TEE CONNECTOR OF SPECIFIED SIZE (INSERT-A-TEE OR APPROVED EQUAL).
6. UNDERGROUND MAGNETIC MARKERS SHALL BE BERNSTEN INTERNATIONAL DEEP-1UG OR FRSA APPROVED EQUAL.

VERTICAL SERVICE RISER DETAIL
(FOR MAINLINE DIA. 8" - 18"; CONNECTION TO >18" MAIN PROHIBITED)

NOTES:

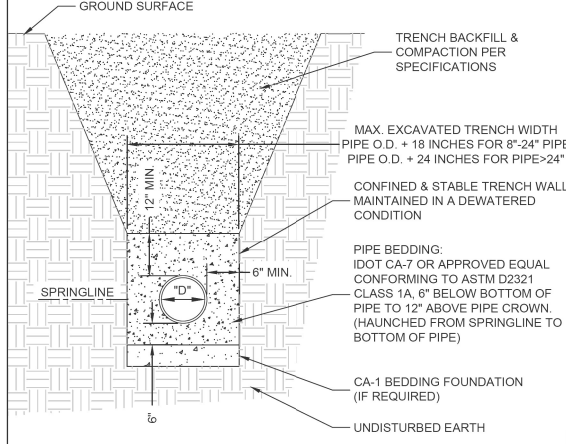
1. REASONABLE CARE SHALL BE USED WHEN BACKFILLING OVER SEWER. NO MATERIALS SUCH AS ROCKS OR BOULDERS SHALL BE PLACED WITHIN 24" OF THE CROWN OF THE PIPE. NO MATERIAL LARGER THAN 8" DIA. SHALL BE USED IN THE BACKFILL.
2. LOOSE MATERIAL SHALL BE REMOVED OR COMPACTED PRIOR TO PLACING PIPE BEDDING.
3. BEDDING SHALL BE WELL HAUNCHED ALONG PIPE TO ENSURE VOIDS ARE ELIMINATED.



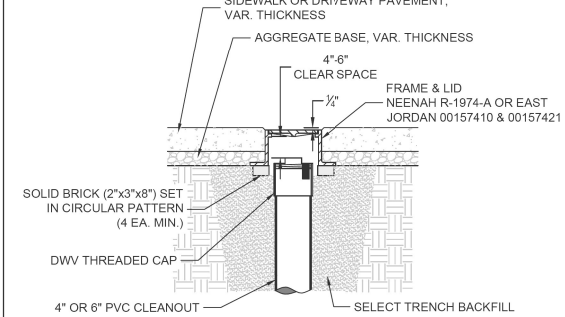
RIGID PIPE BEDDING DETAIL

NOTES:

1. REASONABLE CARE SHALL BE USED WHEN BACKFILLING OVER SEWER. NO MATERIALS SUCH AS ROCKS OR BOULDERS SHALL BE PLACED WITHIN 24" OF THE CROWN OF THE PIPE. NO MATERIAL LARGER THAN 8" DIA. SHALL BE USED IN THE BACKFILL.
2. LOOSE MATERIAL TO BE REMOVED OR COMPACTED PRIOR TO PLACING PIPE BEDDING.
3. BEDDING SHALL BE WELL HAUNCHED ALONG PIPE TO ENSURE VOIDS ARE ELIMINATED.



FLEXIBLE PIPE BEDDING DETAIL



- NOTES:**
1. SERVICE CLEANOUT CASTINGS ARE REQUIRED FOR ALL CLEANOUTS LOCATED IN PAVED AREAS, DRIVEWAYS, OR SIDEWALKS.
 2. THE LOCATION OF THE CLEANOUT SHALL BE APPROVED BY FOUR RIVERS SANITATION AUTHORITY (FRSA).
 3. THE FRAME SHALL BE SET ON BRICKS THAT ARE PLACED IN A CIRCULAR PATTERN THE ENTIRE CIRCUMFERENCE OF THE FRAME. THE BRICKS SHALL BE SET ON COMPACTED TRENCH BACKFILL.
 4. THE FRAME SHALL BE SET TO AN ELEVATION THAT PROVIDES 4"-6" CLEAR SPACE BETWEEN THE TOP OF THE CLEANOUT CAP AND THE BOTTOM OF THE CASTING LID.
 5. THE CONTRACTOR SHALL ENSURE THAT THE CLEANOUT CAP CAN BE UNSCREWED AND REMOVED AND REPLACED WITHOUT HINDRANCE.
 6. THE FRAME SHALL BE SET 1/2" MIN. TO 3/8" MAX. BELOW FINAL PAVEMENT ELEVATION.

SERVICE CLEANOUT CASTING DETAIL

NOTES:

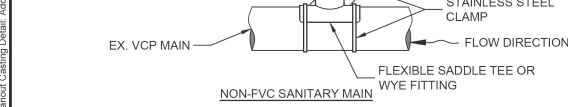
1. SANITARY SEWER MAINLINE SHALL BE INSTALLED PER 'FLEXIBLE PIPE BEDDING DETAIL' OR 'RIGID PIPE BEDDING DETAIL'.
2. PIPE BEDDING FOR SANITARY SERVICE PIPING SHALL BE PER 'FLEXIBLE PIPE BEDDING DETAIL', 6" BELOW AND 12" ABOVE PIPING.
3. ALL SCH 40 PVC PIPE & FITTINGS SHALL BE PER ASTM D-1785/D-2865.
4. ALL SDR26 WMQ PVC PIPE & FITTINGS SHALL BE PER ASTM D-2241/D-3139.
5. ALL DWV FITTINGS SHALL BE CLEANED, PRIMED, & GLEED.
6. MIN. DEPTH OF COVER SHALL BE 5'.
7. CLEANOUT CAP SHALL BE SCH 40 DWV GLEED CAP FOR NEW DEVELOPMENT OR SCH 40 DWV GLEED SCREW CAP FOR EX. DEVELOPMENT.
8. CLEANOUT RISERS LOCATED IN PAVED AREAS, DRIVEWAYS, OR SIDEWALKS SHALL WILL REQUIRE A CLEANOUT FRAME & LID PER THE FRSA 'SERVICE CLEANOUT CASTING DETAIL'.



STANDARD SERVICE & ALTERNATE SERVICE DETAIL
(FOR MAINLINE DIA. 8" - 18"; CONNECTION TO >18" MAIN PROHIBITED)

NOTES:

1. SADDLE TEE OR SADDLE WYE ARE BOTH ACCEPTABLE FOR VCP MAIN.
2. CORE DRILL HOLE IN MAIN OR MODIFY EX. VCP FITTING FOR SADDLE DIMENSIONS.
3. APPLY 2 BEADS OF SILICONE CAULK TO UNDERSIDE OF SADDLE AROUND OPENING.



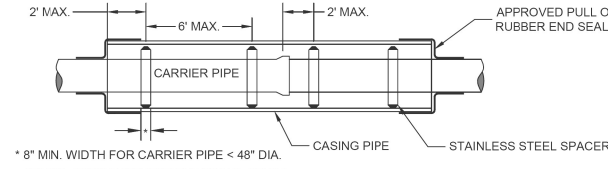
FLEXIBLE SADDLE CONNECTION DETAIL
(FOR SERVICE CONNECTIONS TO NON-PVC SANITARY MAINS LESS THAN 18" DIA.)

NOTES:

1. ONLY A SADDLE WYE IS ACCEPTABLE FOR A PVC MAIN.
2. CORE DRILL HOLE IN MAIN FOR SADDLE DIMENSIONS.
3. APPLY 2 BEADS OF SILICONE CAULK TO UNDERSIDE OF SADDLE AROUND OPENING.



FLEXIBLE SADDLE CONNECTION DETAIL
(FOR SERVICE CONNECTIONS TO PVC SANITARY MAINS LESS THAN 18" DIA.)



- NOTES:**
1. CASING END SEALS & SPACERS SHALL BE AS MFD. BY CASCADE MFG., OR APPROVED EQUAL.
 2. FOR FLEXIBLE CARRIER PIPE, SPACING OF SPACERS TO BE AS SHOWN, OR PER MFR.'S RECOMMENDATION.
 3. FOR RIGID CARRIER PIPE, SPACING SHALL BE PER MFR.'S RECOMMENDATION.

CASING & SPACER DETAIL

FOUR RIVERS SANITATION AUTHORITY (FRSA) STANDARD DETAIL SHEET
(NOT TO SCALE)

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ISSUE 05/01/2023