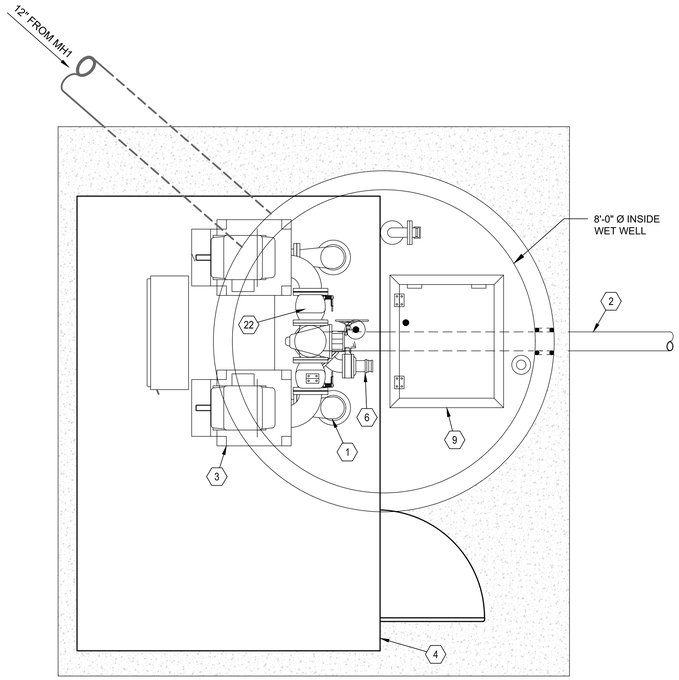
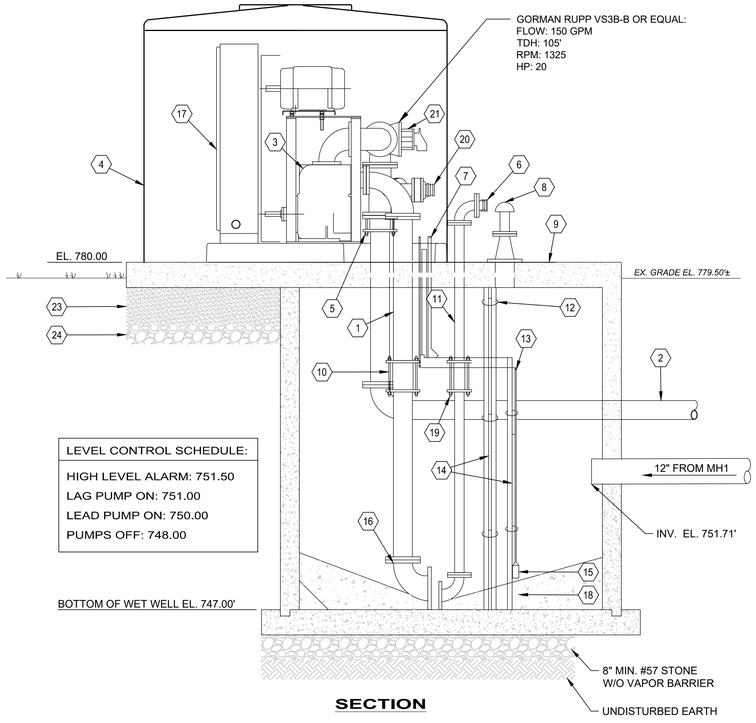


PLAN

CODED NOTES

1. 6" DIP PUMP SUCTION (TYP. OF 2).
2. 6" DIP PUMP DISCHARGE.
3. PUMP (TYP. OF 2).
4. 8'x12' FIBERGLASS ENCLOSURE.
5. 6" COUPLING ADAPTER.
6. 3" DIP 90° ELBOW W/QUICK COUPLER & LOCKING DUST CAP.
7. 1 1/4" SCH. 80 PVC AIR RELEASE (TYP. OF 2).
8. 3" SS VENT.
9. 30"X36" ALUMINUM ACCESS HATCH W/SAFETY GRATE.
10. 6" COUPLING (TYP. OF 2).
11. 3" DIP SUCTION.
12. NYLON TIES.
13. 3/8" SCH 80 PVC BUBBLER W/CLEANOUT.
14. 1 1/2" SS SUPPORT POLE (TYP. OF 2).
15. LEVEL TRANSDUCER
16. 8"x6" DIP REDUCING ELBOW.
17. PUMP CONTROL PANEL.
18. CONCRETE FILLET (TYP.)
19. 3" COUPLING.
20. 3" QUICK COUPLER AND 4" PLUG VALVE ON FORCE MAIN.
21. 4" DISCHARGE CHECK VALVE.
22. 4" DISCHARGE PLUG VALVE.
23. 8" MIN. CONTROLLED DENSITY FILL, UNDERNEATH ENTIRE SLAB
24. 4" MIN. #57 STONE, UNDERNEATH ENTIRE SLAB.



SECTION

CRACKEL LIFT STATION
SCALE: 1/2" = 1'-0"

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ISSUED FOR:	EPA REVIEW
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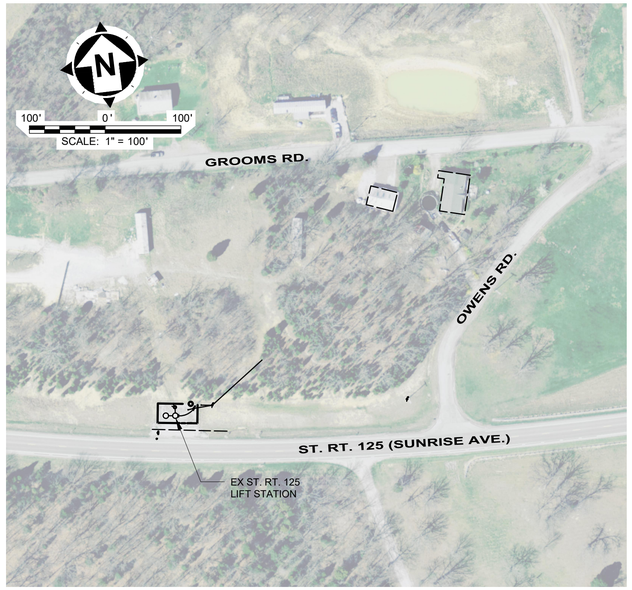
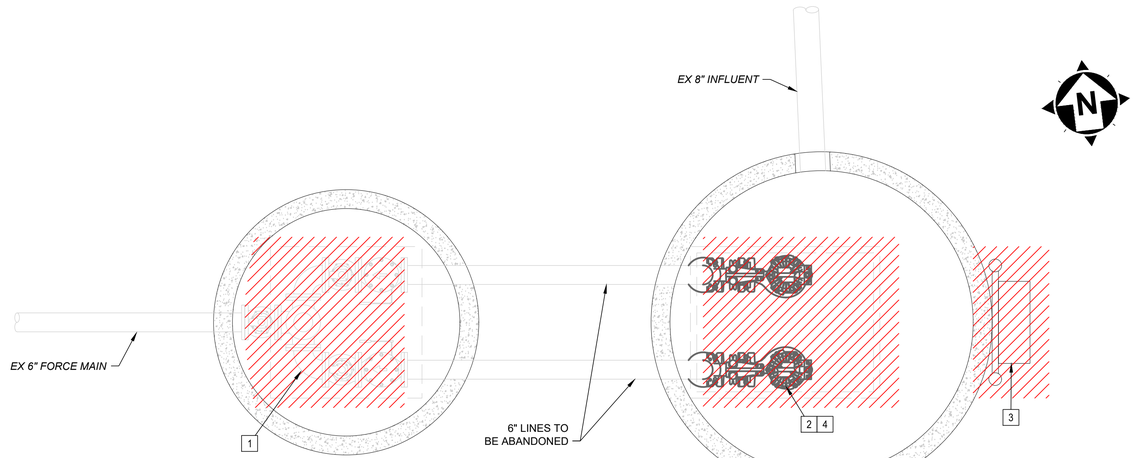
CRACKEL SUBDIVISION
SANITARY SEWER - PHASE 3
- WEST UNION, OHIO -

CRACKEL LIFT STATION

PROJECT NO.
190123
DISCIPLINE
GENERAL
SHEET NAME
LS-PLAN
SHEET **19** OF **25**

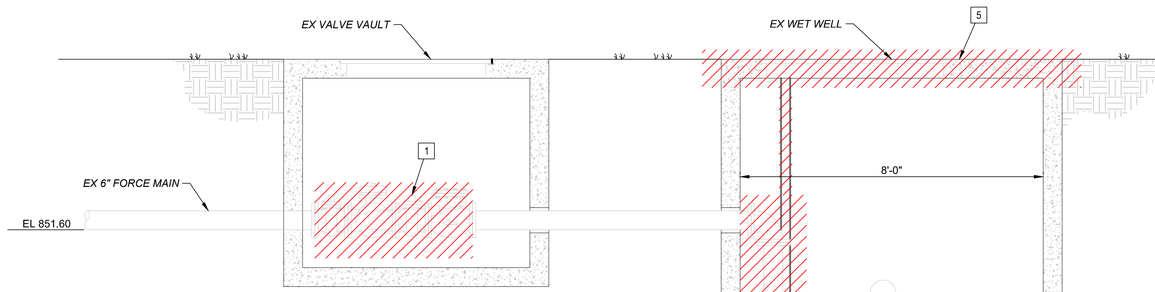


ST. RT. 125 LS AREA PLAN
SCALE: 1" = 100'



EX VALVE VAULT PLAN

EX WET WELL PLAN



EX VALVE VAULT SECTION

EX WET WELL SECTION

DEMOLITION CODED NOTES:

1. REMOVE FITTINGS AND APPURTENANCES FROM THE VALVE PIT.
2. REMOVE PUMPS, RAILS AND ALL OTHER EQUIPMENT FROM WET WELL.
3. REMOVE EX CONTROL PANEL AND CONTROLS.
4. EXISTING PUMPS SHALL BE CLEANED AND RETURNED TO THE OWNER FOR STORAGE.
5. REMOVE TOP SLAB ON WET WELL.

EX ST. RT. 125 LIFT STATION DEMO PROFILE
SCALE: 1/2" = 1'-0"

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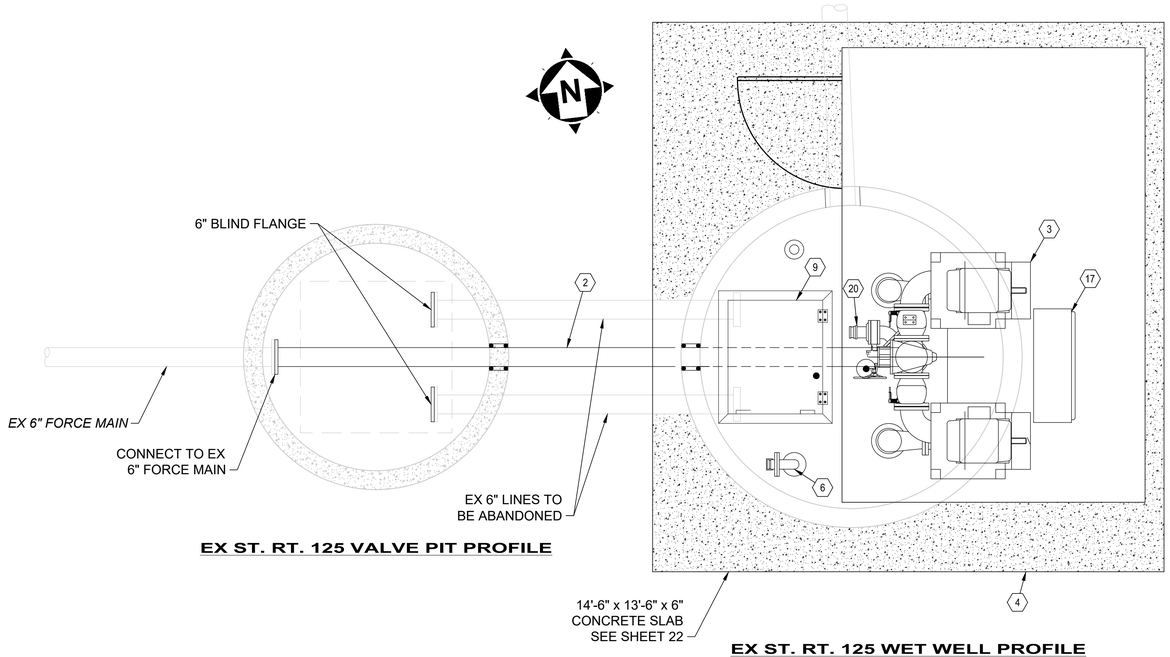
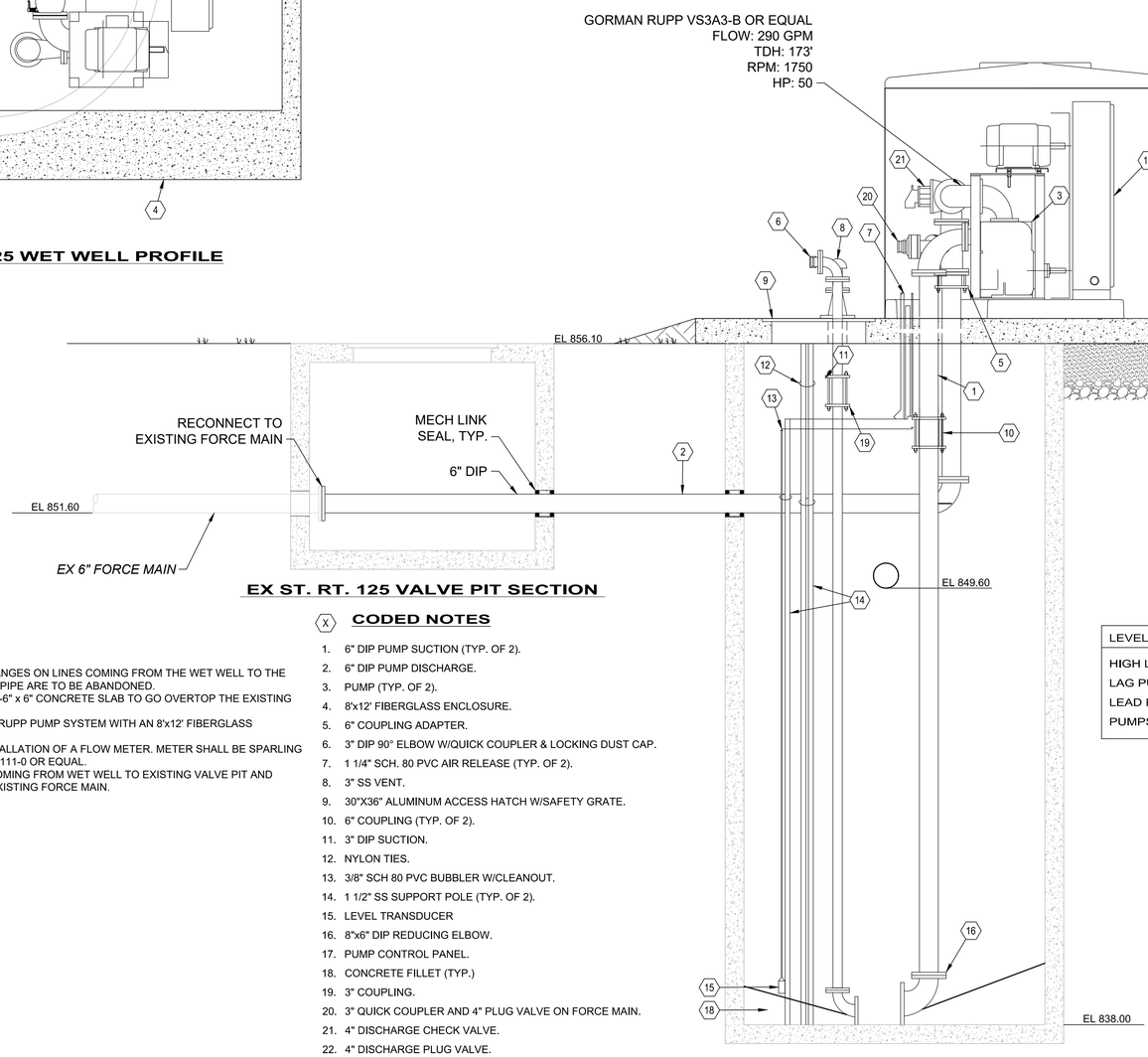
EXISTING ST. RT. 125 LIFT STATION DEMO

PROJECT NO.	
190123	
DISCIPLINE	
GENERAL	
SHEET NAME	
EXLS-DEMO	
SHEET	OF
20	25



EX ST. RT. 125 VALVE PIT PROFILE

EX ST. RT. 125 WET WELL PROFILE



EX ST. RT. 125 VALVE PIT SECTION

EX ST. RT. 125 WET WELL SECTION

NOTES:

1. INSTALL BLIND FLANGES ON LINES COMING FROM THE WET WELL TO THE VALVE PIT. THESE PIPE ARE TO BE ABANDONED.
2. INSTALL 14'-6" x 13'-6" x 6" CONCRETE SLAB TO GO OVERTOP THE EXISTING WET WELL.
3. INSTALL GORMAN RUPP PUMP SYSTEM WITH AN 8'x12' FIBERGLASS ENCLOSURE.
4. INCLUDE THE INSTALLATION OF A FLOW METER. METER SHALL BE SPARLING MODEL FM656-06-5111-0 OR EQUAL.
5. ENTEND 6" LINE COMING FROM WET WELL TO EXISTING VALVE PIT AND RECONNECT TO EXISTING FORCE MAIN.

(X) CODED NOTES

1. 6" DIP PUMP SUCTION (TYP. OF 2).
2. 6" DIP PUMP DISCHARGE.
3. PUMP (TYP. OF 2).
4. 8'x12' FIBERGLASS ENCLOSURE.
5. 6" COUPLING ADAPTER.
6. 3" DIP 90° ELBOW W/QUICK COUPLER & LOCKING DUST CAP.
7. 1 1/4" SCH. 80 PVC AIR RELEASE (TYP. OF 2).
8. 3" SS VENT.
9. 30"X36" ALUMINUM ACCESS HATCH W/SAFETY GRATE.
10. 6" COUPLING (TYP. OF 2).
11. 3" DIP SUCTION.
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15. LEVEL TRANSDUCER
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21. 4" DISCHARGE CHECK VALVE.
22. 4" DISCHARGE PLUG VALVE.
23. 8" MIN. CONTROLLED DENSITY FILL, UNDERNEATH ENTIRE SLAB
24. 4" MIN. #57 STONE, UNDERNEATH ENTIRE SLAB.

LEVEL CONTROL SCHEDULE:
HIGH LEVEL ALARM: 848.50
LAG PUMP ON: 849.00
LEAD PUMP ON: 848.00
PUMPS OFF: 840.00

EX ST. RT. 125 LIFT STATION REHAB

SCALE: 1/2" = 1'-0"

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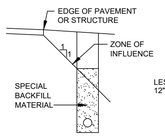
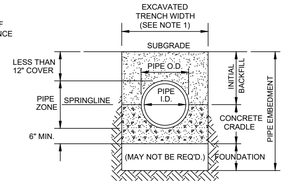
EXISTING ST. RT. 125 LIFT STATION PLAN & SECTION

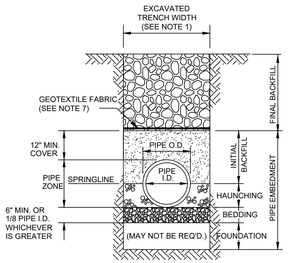
PROJECT NO.	190123
DISCIPLINE	GENERAL
SHEET NAME	EXLS-PLAN
SHEET	21
OF	25



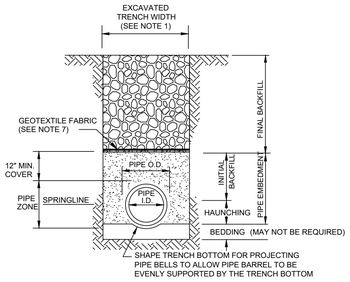
PARALLEL
ZONE OF INFLUENCE



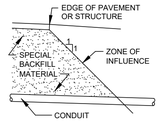
CLASS `A` PIPE EMBEDMENT



CLASS `B` PIPE EMBEDMENT



CLASS `C` PIPE EMBEDMENT



TRANSVERSE
ZONE OF INFLUENCE

NOTES:

1. MAXIMUM EXCAVATED TRENCH WIDTH: THE MAXIMUM EXCAVATED TRENCH WIDTH FROM THE BOTTOM OF THE TRENCH TO 12" OVER THE TOP OF THE PIPE (WITHIN PIPE EMBEDMENT) SHALL BE O.D. + 24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D. + 30" FOR PIPE FROM 24" I.D. TO 54" I.D. AND O.D. + 48" FOR PIPES SIZES 60" I.D. AND OVER.

2. FOUNDATION: WHERE AN UNSTABLE TRENCH BOTTOM CONDITION IS ENCOUNTERED, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH MATERIAL AS DIRECTED BY THE ENGINEER.

3. PIPE EMBEDMENT:
   CLASS A: CLASS A PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNDER PAVEMENT OR STRUCTURES WITH LESS THAN 12 INCHES OF PIPE COVER TO THE SUBGRADE. THE CONCRETE CRADLE SHALL BE IN ACCORDANCE WITH ODOT ITEM 499, CLASS "C". THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

   CLASS B: CLASS B PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER. THE BEDDING AND HAUNCHING SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT. IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 STONE GRANULAR PIPE EMBEDMENT. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER FOR ONLY REINFORCED CONCRETE PIPE AND DUCTILE IRON PIPE. THE INITIAL BACKFILL FOR ALL OTHER PIPES SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

   CLASS C: CLASS C PIPE EMBEDMENT SHALL ONLY BE USED FOR DUCTILE IRON WATER MAIN, DUCTILE IRON FORCE MAINS OR AS AUTHORIZED BY THE ENGINEER. THE PIPE EMBEDMENT SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE. THE PIPE EMBEDMENT SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE. WHERE ROCK OR SHALE IS ENCOUNTERED, A MINIMUM 6-INCHES OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE BEDDING OR SAND BEDDING SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

4. FINAL BACKFILL: IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE THE FINAL BACKFILL SHALL BE SPECIAL BACKFILL MATERIAL. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER.

5. SPECIFICATIONS: ALL TRENCHING, PIPE EMBEDMENT AND BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION 310000CT - EARTHWORK.

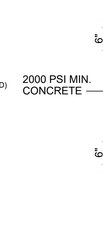
6. CLAY TRENCH DAMS: CLAY TRENCH DAMS SHALL BE REQUIRED AS SHOWN ON PLANS OR WHEN AND WHERE NECESSARY AS DIRECTED BY THE ENGINEER.

7. GEOTEXTILE FABRIC: INSTALL A GEOTEXTILE FABRIC IN ACCORDANCE WITH ODOT 712.09, TYPE A, AFTER ALL INITIAL BACKFILL CONSISTING OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

8. DETECTOR TAPE: IF REQUIRED IN THE SPECIFICATIONS, INSTALL DETECTABLE WARNING TAPE ABOVE UTILITIES, 12" BELOW FINISHED GRADE, EXCEPT 6 INCHES BELOW SUBGRADE UNDER PAVEMENT AND SLABS.

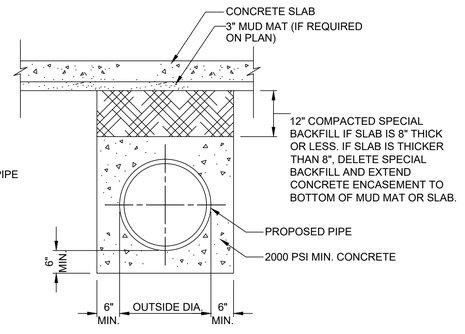
TRENCHING, EMBEDMENT AND BACKFILL DETAIL

NOT TO SCALE



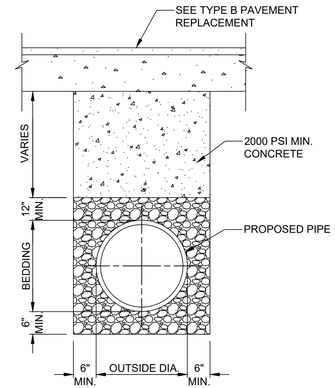
TYPICAL PIPE ENCASEMENT

NOT TO SCALE



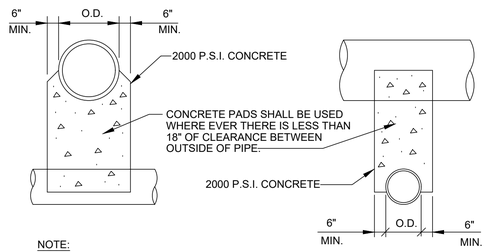
TYPICAL PIPE ENCASEMENT UNDER STRUCTURES

NOT TO SCALE



TYPICAL PIPE ENCASEMENT UNDER STATE ROUTE

NOT TO SCALE

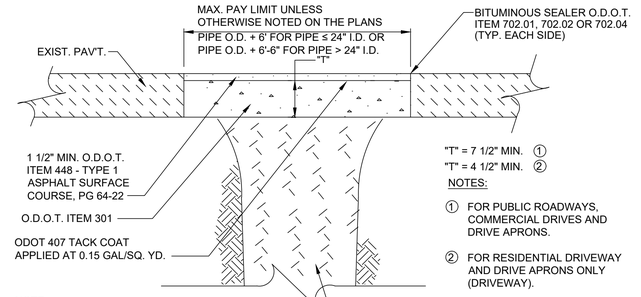


NOTE:

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, WHERE TWO PIPES (SEWER & WATER) CROSS EACH OTHER, A CONCRETE PAD AND CRADLE SEPERATOR SHALL BE PLACED BETWEEN THEM AS INDICATED ABOVE. WHERE PERMISSION IS GRANTED TO OMIT THE CONCRETE PADS, GRANULAR BACKFILL SHALL BE TAMPED IN 6" LAYERS AROUND BOTH PIPES. SUCH TAMPED BACKFILL SHALL BE CONTINUOUS FROM THE CRADLE OF THE LOWER PIPE TO THE TOP OF THE UPPER PIPE AND AT THE BOTTOM SHALL EXTEND IN BOTH DIRECTIONS, FOR THE FULL WIDTH OF THE TRENCH.

PIPE CROSSING DETAIL

NOT TO SCALE



"T" = 7 1/2" MIN. ①
"T" = 4 1/2" MIN. ②

NOTES:

① FOR PUBLIC ROADWAYS, COMMERCIAL DRIVES AND DRIVE APRONS.

② FOR RESIDENTIAL DRIVEWAY AND DRIVE APRONS ONLY (DRIVEWAY).

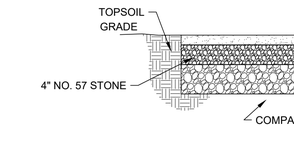
IN NO CASE SHALL THE THICKNESS OF THE OVERLAY AND/OR "T" BE LESS THAN EXISTING.

NOTE:

1) EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.

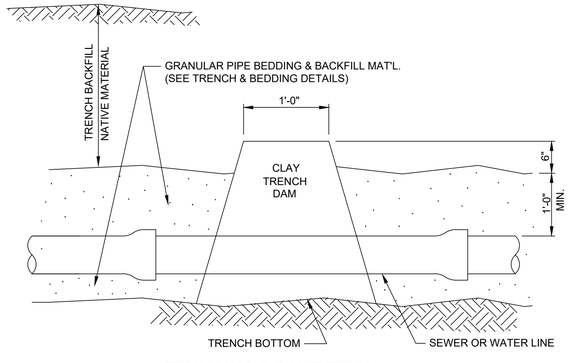
TYPE C PAVEMENT REPLACEMENT (ASPHALT)

NOT TO SCALE



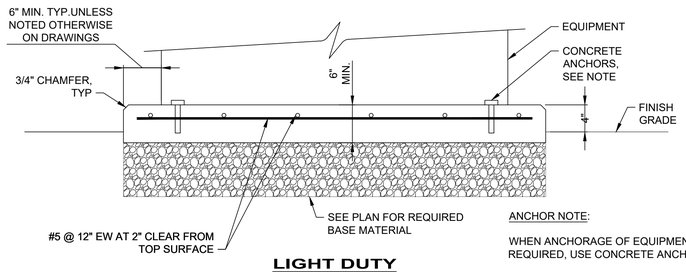
GRAVEL PAVEMENT DETAIL

NOT TO SCALE



TRENCH DAM DETAIL

NOT TO SCALE



ANCHOR NOTE:

WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED.

LIGHT DUTY

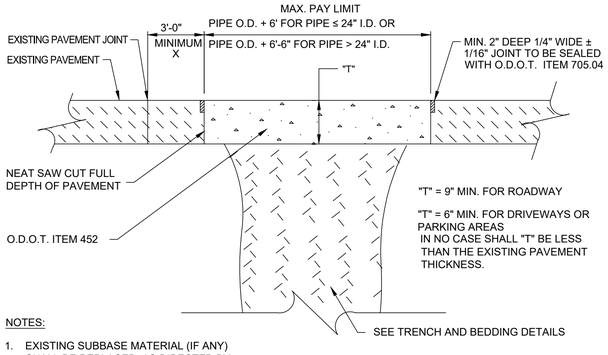
NOTES:

1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE DRAWINGS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.
2. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE OR OTHER ACCEPTABLE MEANS, MATCHING THE BASE PLATE, WHILE PAD IS BEING PLACED.
3. ANCHOR BOLT SLEEVES SHALL BE USED TO PROVIDE MINIMUM ANCHOR BOLT MOVEMENT OF 1/2" IN ALL HORIZONTAL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER.
4. ANCHOR BOLT SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN ANCHOR BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT AFTER BOLTS ARE ALIGNED.
5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS INDICATED OTHERWISE.
6. WEDGES, SHIMS, OR LEVELING NUTS SHALL BE USED TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. WEDGES OR SHIMS THAT ARE LEFT IN PLACE SHALL NOT BE EXPOSED TO VIEW.
7. HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT ABOVE SUPPORTING SLAB (SEE TABLE BELOW). WHERE EQUIPMENT OR PIPING ELEVATION REQUIRE A PAD HEIGHT LESS THAN THE MINIMUM SHOWN, USE TYPE "B" EQUIPMENT PAD WITH BLOCKOUT,
8. AT CONTRACTOR'S OPTION, CONCRETE ANCHORS MAY BE USED IN LIEU OF CAST-IN-PLACE ANCHOR BOLTS FOR EQUIPMENT ANCHOR BOLTS LESS THAN 3/4" DIAMETER WHEN APPROVED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE ENGINEER. ANCHORS SHALL BE INSTALLED WITH 4" MINIMUM EDGE DISTANCE IN EACH DIRECTION.
9. PAD SURFACE SHALL BE BEVELED SO THAT WATER DOES NOT POOL UNDER EQUIPMENT.

AB DIA (IN.)	1/2	5/8	3/4	7/8	1	1 1/4	1 3/8	1 1/2	1 3/4	2
MIN PAD HT (IN.)	7	8 1/2	10	11	12 1/2	15	16 1/2	18	21	24

CONCRETE EQUIPMENT PAD

NOT TO SCALE



NOTES:

1. EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.
2. REPLACEMENT SHALL BE REINFORCED AS PER O.D.O.T. ITEM 709.10 OR 709.12 IF EXISTING PAVEMENT IS REINFORCED.
3. 5/8"Ø HOOKBOLT @ 30" O.C. MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.

X WHERE WIDTH IS LESS THAN 3'-0" OR EXISTING PAVEMENT IS DETERIORATED, THE CONTRACTOR SHALL REPLACE ADDITIONAL PAVEMENT AS DIRECTED BY THE ENGINEER. PAYMENT FOR ADDITIONAL PAVEMENT REPLACEMENT AS DIRECTED BY THE ENGINEER SHALL BE AT THE SAME UNIT PRICE BID.

TYPE A PAVEMENT REPLACEMENT (CONCRETE)

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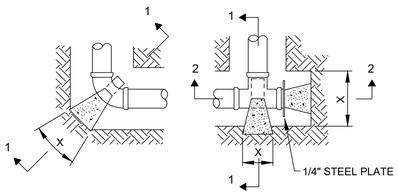
CRACKEL SUBDIVISION
SANITARY SEWER - PHASE 3
- WEST UNION, OHIO -

SITE CONSTRUCTION DETAILS 1

PROJECT NO.
190123
DISCIPLINE
GENERAL
SHEET NAME
SAN-DET 1
SHEET 22 OF 25

SIZING SCHEDULE	BEARING FACE (X Y) IN SQ. FT. / CONCRETE VOLUME IN CU. YD.					
PIPE SIZE	22 1/2° BEND SOIL BEARING CAPACITY			45° BEND SOIL BEARING CAPACITY		
	1000 P.S.F.	3000 P.S.F.	5000 P.S.F.	1000 P.S.F.	3000 P.S.F.	5000 P.S.F.
4	1.40 / 0.14	0.46 / 0.09	0.26 / 0.06	2.70 / 0.12	0.90 / 0.06	0.54 / 0.06
6	2.80 / 1.15	0.93 / 0.10	0.56 / 0.07	5.50 / 0.15	1.83 / 0.10	1.10 / 0.07
8	4.80 / 0.20	1.60 / 0.13	0.96 / 0.09	9.60 / 0.23	3.20 / 0.15	1.92 / 0.09
10	7.90 / 0.53	2.63 / 0.34	1.96 / 0.22	15.70 / 0.34	5.23 / 0.20	3.14 / 0.13
12	11.30 / 0.62	3.76 / 0.40	2.26 / 0.26	22.30 / 0.75	7.43 / 0.49	4.46 / 0.32
14	15.30 / 0.74	5.10 / 0.48	3.06 / 0.31	30.20 / 0.98	10.06 / 0.64	6.04 / 0.42
16	19.80 / 1.17	6.60 / 0.76	3.96 / 0.49	39.10 / 1.21	13.03 / 0.79	7.82 / 0.51
	90° BEND SOIL BEARING CAPACITY			TEE OR DEAD END SOIL BEARING CAPACITY		
	1000 P.S.F.	3000 P.S.F.	5000 P.S.F.	1000 P.S.F.	3000 P.S.F.	5000 P.S.F.
4	4.90 / 0.14	1.63 / 0.09	0.96 / 0.06	3.50 / 0.12	1.16 / 0.06	0.70 / 0.06
6	10.20 / 0.22	3.40 / 0.14	2.04 / 0.09	7.20 / 0.17	2.40 / 0.11	1.44 / 0.07
8	17.70 / 0.35	5.54 / 0.23	3.54 / 0.15	12.50 / 0.25	4.16 / 0.16	2.50 / 0.14
10	28.90 / 0.54	9.60 / 0.35	5.76 / 0.23	20.40 / 0.38	6.80 / 0.25	4.06 / 0.16
12	41.10 / 1.31	13.70 / 0.85	8.22 / 0.55	29.10 / 0.97	9.70 / 0.63	5.82 / 0.42
14	55.80 / 1.70	18.60 / 1.11	11.16 / 0.72	39.50 / 1.22	13.16 / 0.79	7.90 / 0.51
16	72.20 / 2.14	24.06 / 1.39	14.44 / 0.90	51.10 / 1.54	17.03 / 1.00	10.22 / 0.65



ALL CONCRETE BLOCKING MUST HAVE ITS ENTIRE FACE (X & Y) BEARING SURFACE AGAINST UNDISTURBED SOIL AND ALL VERTICAL NON-BEARING SURFACES SHALL BE FORMED SO AS TO KEEP CONCRETE FROM JOINTS. BLOCKING DESIGN BASED ON COMBINED WORKING PRESSURE PLUS WATER HAMMER OF 240 PSI AND FOR BEARING CAPACITY FOR SAND - 1000 PSF, SAND AND GRAVEL - 3000 PSF, SHALE - 5000 PSF.

THRUST BLOCKING DETAIL
NOT TO SCALE

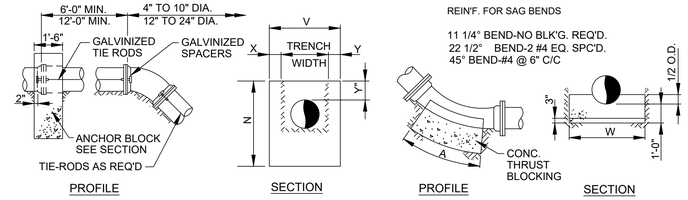


TABLE OF DIMENSINS - OVER BENDS

PIPE SIZE	11 1/4°, 22 1/2°, & 45° BENDS X	V	Y	N	C.Y.	TIE RODS NO. & SIZE
4"	1'-0"	4'-3"	1'-0"	2'-4"	.55	2-3/4" DIA.
6"	1'-0"	4'-6"	1'-0"	2'-6"	.61	2-3/4" DIA.
8"	1'-0"	4'-8"	1'-0"	2'-8"	.67	2-3/4" DIA.
10"	1'-0"	4'-10"	1'-0"	2'-10"	.72	4-3/4" DIA.
12"	1'-0"	5'-0"	1'-0"	3'-0"	.78	4-3/4" DIA.
14"	1'-0"	5'-2"	1'-0"	3'-3"	.87	6-3/4" DIA.
16"	1'-0"	5'-4"	1'-0"	4'-4"	1.09	8-3/4" DIA.
18"	1'-0"	5'-6"	1'-0"	4'-7"	1.34	8-3/4" DIA.

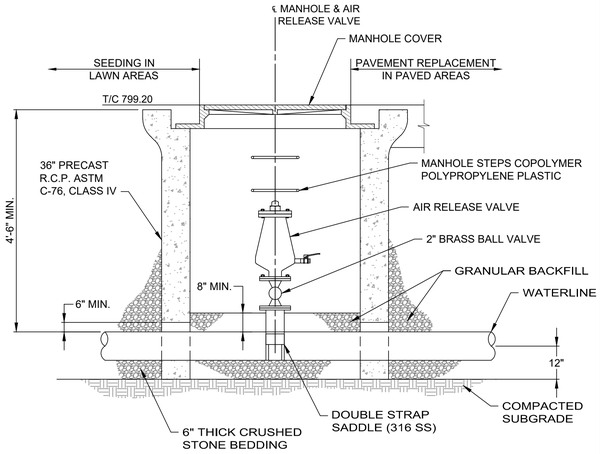
TABEL OF DIMENSIONS - SAG BENDS

PIPE SIZE	22 1/2° BEND A	W	C.Y.	45° BEND A	W	C.Y.
4"	—	—	—	—	—	—
6"	—	—	—	O'-8"	1'-8"	0.05
8"	0'-8"	1'-4"	0.04	0'-9"	2'-8"	0.10
10"	0'-8"	2'-0"	0.06	1'-2"	2'-10"	0.16
12"	0'-8"	2'-4"	0.08	1'-7"	3'-0"	0.24
14"	0'-8"	2'-9"	0.09	1'-8"	3'-2"	0.28
16"	0'-9"	3'-4"	0.14	2'-3"	3'-4"	0.41
18"	1'-0"	3'-6"	0.20	2'-9"	3'-6"	0.54

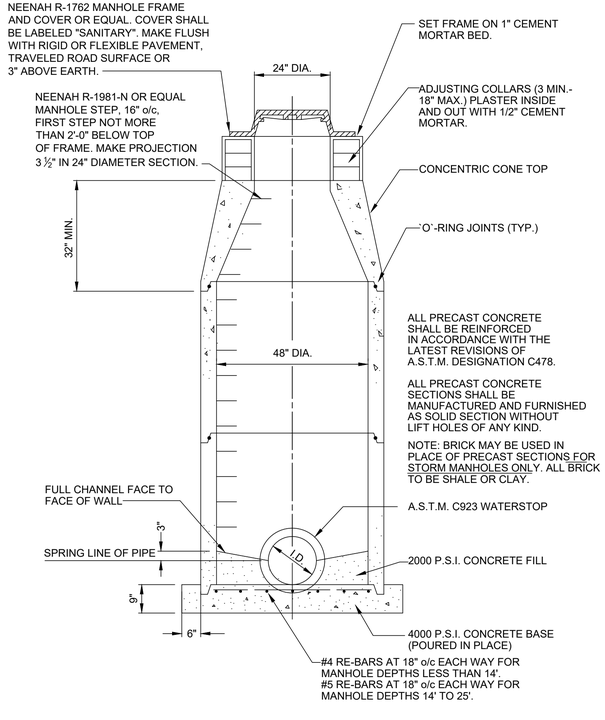
NOTES:

1. TABLE PORTION FOR NO. AND SIZE OF TIE RODS IS APPLICABLE TO ALL TIE-IN PIPING REQUIRING SUCH REINFORCEMENT.
2. USE OF ANCHOR BLOCKS AND OR THRUST BLOCKS NEEDED ONLY IF A TIE-RODDED EXTENSION PIECE EQUALS OR EXCEEDS A STANDARD PIPE LENGTH.
3. BLOCKING DESIGN BASED ON COMBINED WORKING PRESSURE OF WATER HAMMER AND SOIL BEARING AT 3000 P.S.I.

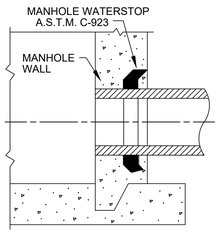
OVER & SAG BEND THRUST BLOCKING DETAILS
NOT TO SCALE



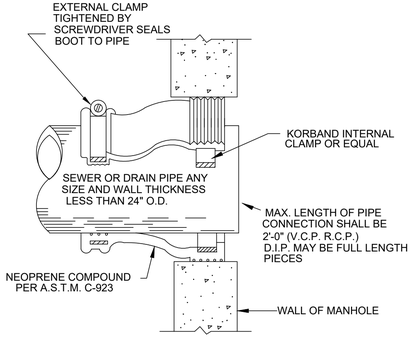
AUTOMATIC AIR RELEASE VALVE (CONFIGURATION - A)
NOT TO SCALE



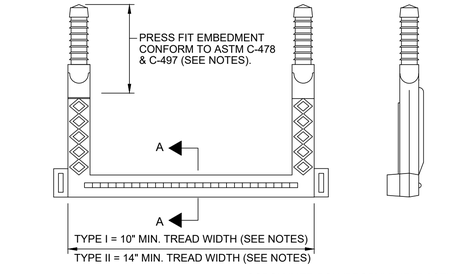
STANDARD TYPE "A" CONCENTRIC MANHOLE (24" I.D. OR LESS)
NOT TO SCALE



PIPE CONNECTION AT MANHOLE
NOT TO SCALE



SANITARY SEWER FLEXIBLE GASKET DETAIL
NOT TO SCALE



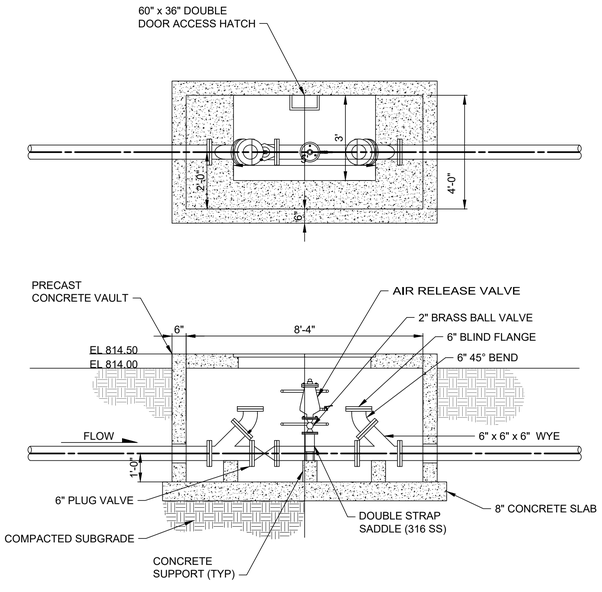
NOTES:

1.) USE TYPE I STEP FOR MANHOLES OR CIRCULAR STRUCTURES OF 5'-0" DIA. OR LESS - USE 16" C/C SPACING.

2.) USE TYPE II STEP FOR FLAT WALL STRUCTURES SUCH AS VAULTS, WELLS, ETC. OR CIRCULAR STRUCTURES OVER 5'-0" DIA. - USE 12" C/C SPACING.

3.) MOUNTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH MFR'S RECOMMENDATIONS.

TYPICAL MANHOLE STEP DETAIL
NOT TO SCALE



AUTOMATIC AIR RELEASE VALVE W/ C/O (CONFIGURATION B)
NOT TO SCALE

your trusted advisor — engineers architects planners consultants

NO	REVISION	DATE

ISSUED FOR:	EPA REVIEW
ISSUE DATE:	1/17/20
SCALE:	AS SHOWN
DESIGNED BY:	ISC
DRAWN BY:	ISC
CHECKED BY:	KB

CRACKEL SUBDIVISION
SANITARY SEWER - PHASE 3
- WEST UNION, OHIO -

SITE CONSTRUCTION DETAILS 2

PROJECT NO.
190123
DISCIPLINE
GENERAL
SHEET NAME
SAN-DET 2
SHEET 23 OF 25

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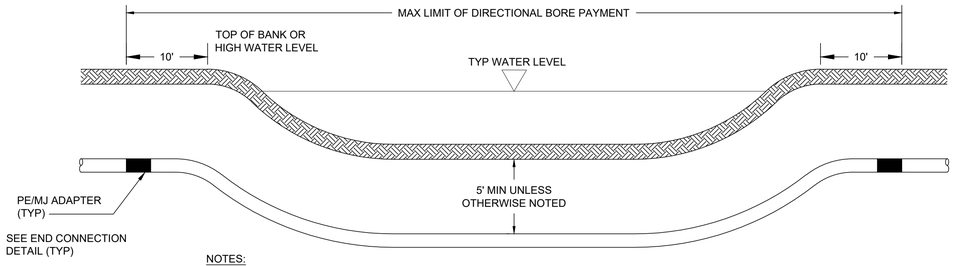
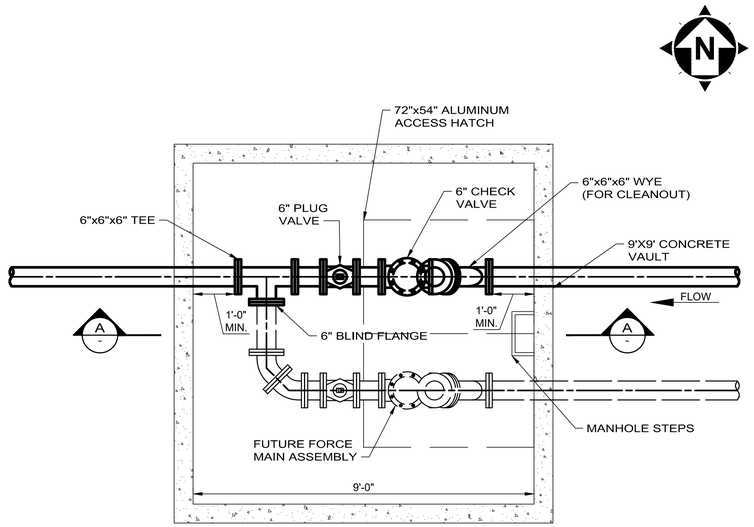


NOTES:

1. WHERE DIRECTIONAL BORE INCORPORATES RESTRAINED JOINT PVC PIPE, OMIT PE/MJ ADAPTER.
2. DIRECTIONAL BORE SHALL INCORPORATE TWO INSULATED NO 12 GAUGE, SOLID, COPPER WIRES INSTALLED WITH THE PIPE FOR LOCATING PURPOSES. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

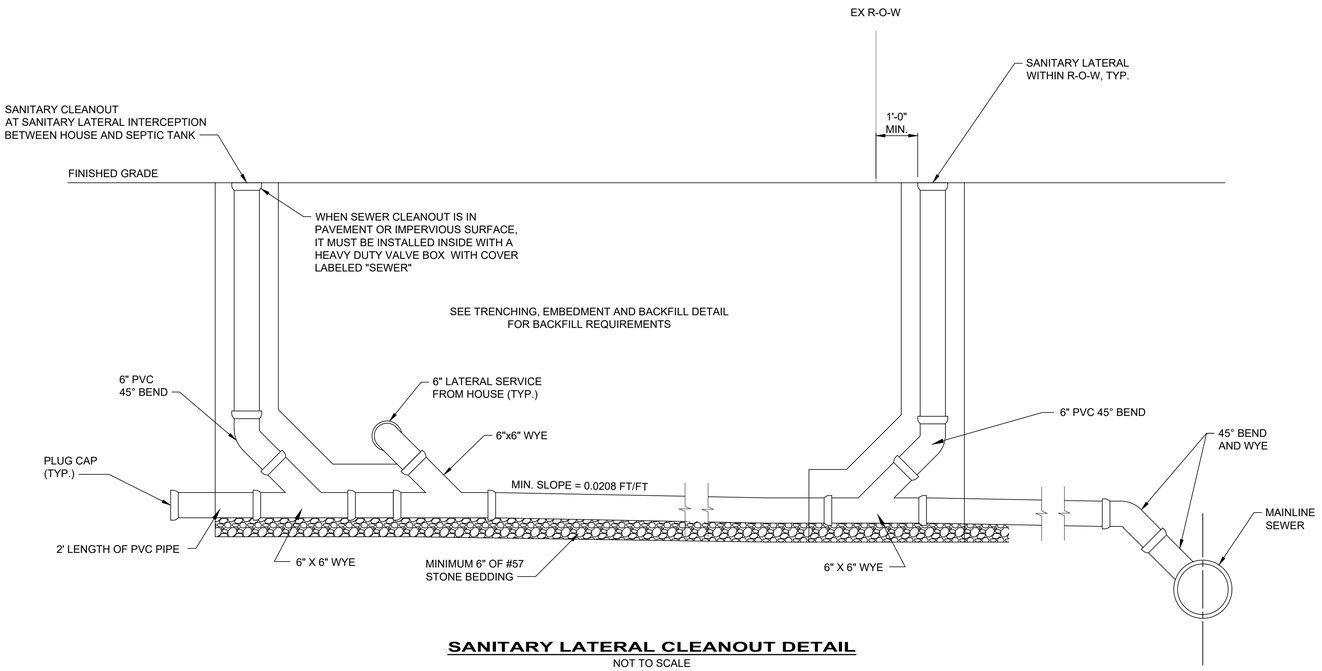
HORIZONTAL DIRECTIONAL DRILLING @ STREAM/CREEK CROSSING

NOT TO SCALE



FORCE MAIN VAULT

1/2" = 1'-0"

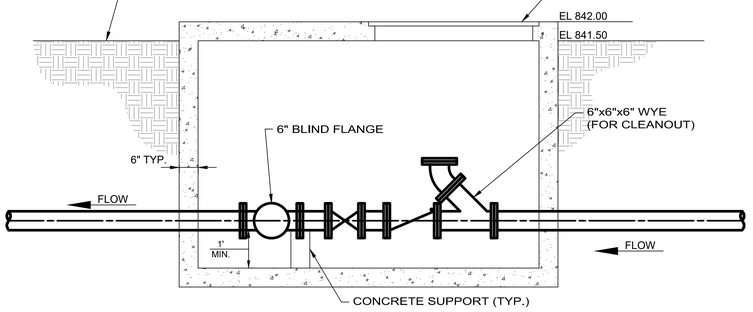


SANITARY LATERAL CLEANOUT DETAIL

NOT TO SCALE

NOTES:

1. CONCRETE ENCASEMENT AND BLOCKING REQUIRED IF DEPTH OF CONNECTION IS 12" OR GREATER.
2. EACH SANITARY LATERAL MUST BE IN SEPARATE TRENCHES
3. FOR CLEANOUTS THAT TERMINATE IN PAVED AREAS, A FRAME AND COVER SHALL BE USED IN ADDITION TO MANUFACTURES CAP/PLUG
4. INSTALLATIONS BY CONTRACTOR BEYOND THE PROPERTY LINE WILL REQUIRE AN INSPECTION FROM THE OWNER OR ENGINEER. DO NOT BACKFILL TRENCH PRIOR TO INSPECTION.



A SECTION

SCALE: 1/2" = 1'-0"

your trusted advisor consultants
engineers
architects
planners

NO	REVISION	DATE

ISSUED FOR:	EPA REVIEW
ISSUE DATE:	1/17/20
SCALE:	AS SHOWN
DESIGNED BY:	ISC
DRAWN BY:	ISC
CHECKED BY:	KB

CRACKEL SUBDIVISION
SANITARY SEWER - PHASE 3
- WEST UNION, OHIO -

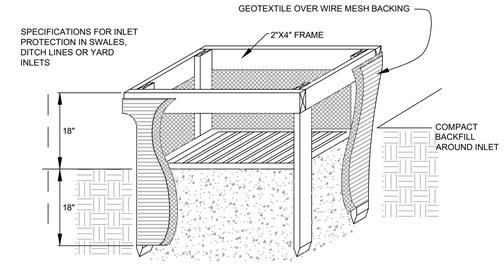
SITE CONSTRUCTION DETAILS 3

PROJECT NO.
190123

DISCIPLINE
GENERAL

SHEET NAME
SAN-DET 3

SHEET 24 OF 25

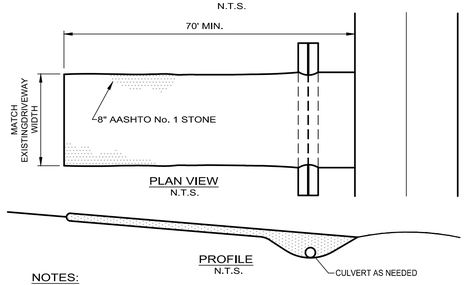


SPECIFICATIONS FOR INLET PROTECTION IN SWALES, DITCH LINES OR YARD INLETS

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.
3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2-BY-4-INCH CONSTRUCTION-GRADE LUMBER. THE 2-BY-4-INCH POSTS SHALL BE DRIVEN 18 INCHES INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2-BY-4-INCH FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 INCHES BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6 INCH LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
7. A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF EARTH DIKES SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF THE FRAME.

INLET PROTECTION

N.T.S.

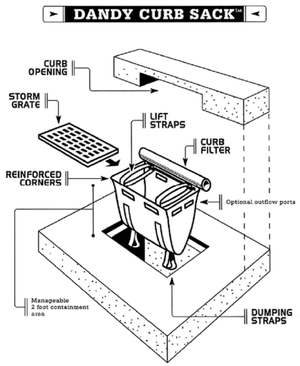


NOTES:

1. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
2. MAINTENANCE - TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OF TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
3. BEDDING - A GEOTEXTILE FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL HAVE A GRAB TENSILE STRENGTH OF AT LEAST 200 LBS. AND A MULLEN BURST STRENGTH OF AT LEAST 190 LBS.

ROCK CONSTRUCTION ENTRANCE

N.T.S.



SILT SACK

SILT FENCE SPECIFICATIONS

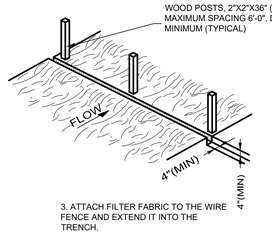
1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES AND DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
4. WHERE AVAILABLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FT. (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN A TRENCH A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE MACHINE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE SO THAT 8 INCHES OF THE CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 4 INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
10. MAINTENANCE - SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE:
1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED,
2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR
3) OTHER PRACTICES SHALL BE INSTALLED.

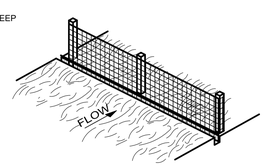
CRITERIA FOR SILT FENCE MATERIALS

1. FENCE POSTS- THE LENGTH SHALL BE A MINIMUM OF 36" LONG. WOOD POSTS SHALL BE 2"X2" HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 6 FEET.
2. SILT FENCE SHALL BE ODOT TYPE C GEOTEXTILE FABRIC OR AS DESCRIBED BY THE CHART BELOW:

1. SET POSTS AND EXCAVATE A 4"X4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.

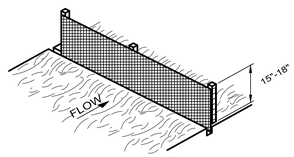
2. STAPLE WIRE FENCE AND EXTRA STRENGTH FABRIC TO THE WOOD POSTS.

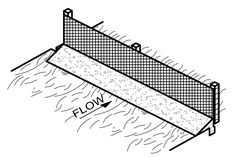


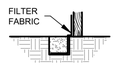


3. ATTACH FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.

4. BACKFILL AND COMPACT THE EXCAVATED SOIL.







EXTENSION OF FABRIC AND WIRE INTO THE TRENCH

TYPICAL DRAINAGE BARRIER SEDIMENT FENCE DETAIL

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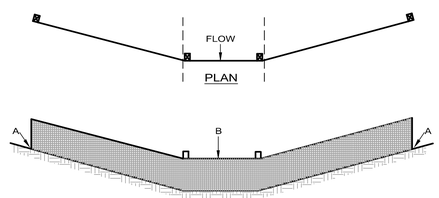

. . . . . (SF)

PROPER PLACEMENT OF A FILTER BARRIER IN A DRAINAGE WAY

FABRIC PROPERTIES	
MAXIMUM TENSILE STRENGTH	120 lbs.
MAXIMUM ELONGATION AT 60 lbs.	50%
MAXIMUM PUNCTURE STRENGTH	50 lbs.
MINIMUM TEAR STRENGTH	40 lbs.
MINIMUM BURST STRENGTH	200 psi.
APPARENT OPENING SIZE	≤ 0.84 mm
MINIMUM PERMITTIVITY	$1x10^{-2}$ sec^{-1}
ULTRAVIOLET EXPOSURE STRENGTH RETENTION	70%

MAINTENANCE NOTES

ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED BY THE OWNER'S REPRESENTATIVE WEEKLY AND WITHIN 24 HOURS AFTER EACH RAINFALL TO ASSURE THAT THE MEASURES ARE FUNCTIONING ADEQUATELY. SEDIMENT THAT IS COLLECTED WILL BE DISTRIBUTED ON THE PROTECTED PORTION OF THE SITE AND STABILIZED. ALL STOCKPILES OF EARTH AND TOPSOIL WILL BE PROTECTED WITH TEMPORARY SEEDING OR OTHER MEANS TO PREVENT EROSION.

CONSTRUCTION ROAD STABILIZATION / CONSTRUCTION ENTRANCES (CRS)
BOTH TEMPORARY AND PERMANENT ROADS AND PARKING AREAS MAY REQUIRE PERIODIC TOP DRESSING WITH NEW GRAVEL. SEEDED AREAS ADJACENT TO THE ROADS AND PARKING AREAS SHOULD BE CHECKED PERIODICALLY TO ENSURE THAT A VIGOROUS STAND OF VEGETATION IS MAINTAINED. ROADSIDE DITCHES AND OTHER DRAINAGE STRUCTURES SHOULD BE CHECKED REGULARLY TO ENSURE THAT THEY DO NOT BECOME CLOGGED WITH SILT OR OTHER DEBRIS.

SILT FENCE (SF)
SILT FENCE AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NEEDED, THE FABRIC SHALL BE REPLACED PROMPTLY.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE BARRIER.

ANY SEDIMENT DEPOSITS REMAINING IN-PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

DIVERSION (D)
BARE AND VEGETATED DIVERSION CHANNELS SHOULD BE INSPECTED REGULARLY TO CHECK FOR POINTS OF SCOUR OR BANK FAILURE; RUBBISH OR CHANNEL OBSTRUCTION; RODENT HOLES, BREACHING OR SETTLING OF THE RIDGE; EXCESSIVE WEAR FROM PEDESTRIAN OR CONSTRUCTION TRAFFIC. REPAIR DAMAGE AND REMOVE DEPOSITS OR SEDIMENT FROM THE DIVERSION CHANNEL AND VEGETATIVE FILTER STRIP. RESEEDING AND FERTILIZING SHOULD BE DONE AS NEEDED.

GENERAL LAND CONSERVATION NOTES

PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO THE DISTURBED AREAS ACCORDING TO TABLE 1 AND/OR TABLE 2 AFTER FINAL/ROUGH GRADE IS REACHED ON ANY PORTION OF THE SITE.

ALL STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING FOR ALL SITES.

ALL STORM SEWER, SANITARY SEWER, WATER MAIN AND SERVICE TRENCHES SHALL BE MULCHED AND SEEDED WITHIN 14 DAYS AFTER BACKFILL, IF INSTALLATION IS THROUGH STABILIZED AREAS.

ALL TEMPORARY DIVERSIONS, SEDIMENT BASIN EMBANKMENTS AND EARTH STOCKPILES SHALL BE SEEDED AND MULCHED FOR TEMPORARY VEGETATIVE COVER WITHIN 7 DAYS AFTER GRADING. STRAW, HAY MULCH OR EQUIVALENT IS REQUIRED.

ALL STORM SEWER INLETS SHALL BE PROTECTED BY SEDIMENT TRAPS (INLET PROTECTION) WHICH WILL BE MAINTAINED AND MODIFIED AS REQUIRED AS CONSTRUCTION PROGRESSES. SEDIMENT TRAPS ARE TO BE REMOVED AFTER SEEDING AND MULCHING IS ESTABLISHED.

ANY DISTURBED AREA NOT STABILIZED WITH SEEDING, SODDING, PAVING OR BUILT ON BY NOVEMBER 1ST, OR AREAS DISTURBED AFTER THAT DATE, SHALL BE MULCHED IMMEDIATELY WITH HAY OR STRAW AT THE RATE OF 2 TONS PER ACRE AND OVER-SEEDED BY APRIL 15TH.

AT THE COMPLETION OF CONSTRUCTION, ALL TEMPORARY SEDIMENT CONTROLS SHALL BE REMOVED AND ALL DENUDED AREAS SHALL BE STABILIZED.

ADDITIONAL EROSION AND SEDIMENTATION CONTROL MANAGEMENT PRACTICES MAY BE REQUIRED DUE TO UNFORESEEN CONDITIONS. THESE ADDITIONAL ITEMS SHALL BE INSTALLED AS DIRECTED BY THE VILLAGE OF WEST UNION ENGINEER.

TABLE 1: PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A STREAM AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

TABLE 2: TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITHIN 50 FEET OF A STREAM AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 21 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 21 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A STREAM	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S)
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO THE ONSET OF WINTER WEATHER

WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED

CONSTRUCTION NOTES

1. THE OWNER WILL PROVIDE ON-SITE PLACE FOR EXCESS DIRT PERMANENT DISPOSAL.
2. ALL CONCRETE DEBRIS SHALL BE BROKEN DOWN TO MANAGEABLE PIECES FOR ON-SITE DISPOSAL PER OWNER DIRECTIONS.

ENVIRONMENTAL PROTECTION NOTES

EROSION AND SEDIMENTATION CONTROL PRACTICES MUST BE INSTALLED TO NATURAL RESOURCES CONSERVATION SERVICE OR EQUIVALENT STANDARDS AND SPECIFICATIONS FOR PARTICULAR TECHNIQUES. THE PRACTICES ARE TO BE MAINTAINED IN EFFECTIVE WORKING CONDITION DURING CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED.

PROPERLY INSTALLED SEDIMENT CONTROL BARRIERS (E.G., SILT FENCES, STRAW BALES, ETC.) MUST BE LOCATED ON SLOPES, ALONG STREAMS AND DRAINAGE WAYS, AROUND DRAINAGE STRUCTURES, AND ANYWHERE ELSE THAT EXPOSED SOIL COULD RUN OFF AND CREATE SEDIMENT PROBLEMS. ALL SEDIMENT CONTROL MEASURES, (INCLUDING SEDIMENT BASINS AND DIVERSION CHANNELS), MUST BE IN PLACE PRIOR TO STARTING CONSTRUCTION.

STAGING AREAS MUST NOT BE SITED IN LOCATIONS THAT REQUIRE EXCESSIVE CLEARING OR THAT ARE CLOSE TO STREAM BANKS, WETLANDS OR OTHER WATER RESOURCES. IF THIS SITUATION IS UNAVOIDABLE, APPROVAL OF THE STAGING AREA BY OHIO EPA, DIVISION OF ENVIRONMENTAL AND FINANCIAL ASSISTANCE IF NECESSARY.

EXISTING TOPSOIL THAT IS TO BE REUSED MUST BE STOCKPILED AND REPLACED UPON FINAL GRADING. STOCKPILED TOPSOIL MUST BE PROTECTED WITH SILT BARRIERS AND TEMPORARY SEEDING OR A COVERING SUCH AS ANCHORED STRAW MULCH.

AS CONSTRUCTION IS COMPLETED, PERMANENT STABILIZE EACH DISTRIBUTED AREA WITH PERENNIAL VEGETATION. IF FINAL GRADING AND SEEDING WILL NOT OCCUR WITHIN 30 DAYS, ALL DISTURBED AREAS MUST BE TEMPORARILY SEEDED AND/OR MULCHED IMMEDIATELY.

ALL MATERIALS TO BE DISPOSED OF OFF-SITE MUST BE DISPOSED OF IN AN ENVIRONMENTALLY SOUND MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. NO EXCESS MATERIALS ARE TO BE DISPOSED OF IN ANY WETLAND, FLOOD PLAIN, OR OTHER ENVIRONMENTALLY SENSITIVE AREAS. EROSION CONTROL MEASURES AT THE DISPOSAL SITE MUST BE INSTALLED AND MAINTAINED UNTIL DISPOSAL IS COMPLETE AND THE DISPOSAL SITE IS PERMANENTLY STABILIZED. GIVING EXCAVATED SOIL AWAY DOES NOT RELIEVE THE CONTRACTOR OR ENGINEERS OF THIS RESPONSIBILITY.

SHOULD ANY OF THE ABOVE ENVIRONMENTAL PROTECTION NOTES BE IN CONFLICT WITH ANY OTHERS NOTES LISTED, THE ENVIRONMENTAL PROTECTION NOTES ARE TO TAKE PRECEDENCE.

your trusted advisor — engineers architects consultants planners

NO	REVISION	DATE

ISSUED FOR: EPA REVIEW
ISSUE DATE: 1/17/20
SCALE: AS SHOWN
DESIGNED BY: ISC
DRAWN BY: ISC
CHECKED BY: KB

CRACKEL SUBDIVISION
SANITARY SEWER - PHASE 3
- WEST UNION, OHIO -

EROSION CONTROL DETAILS

PROJECT NO. 190123
DISCIPLINE: CIVIL
SHEET NAME: EC-DETS
SHEET 25 OF 25

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