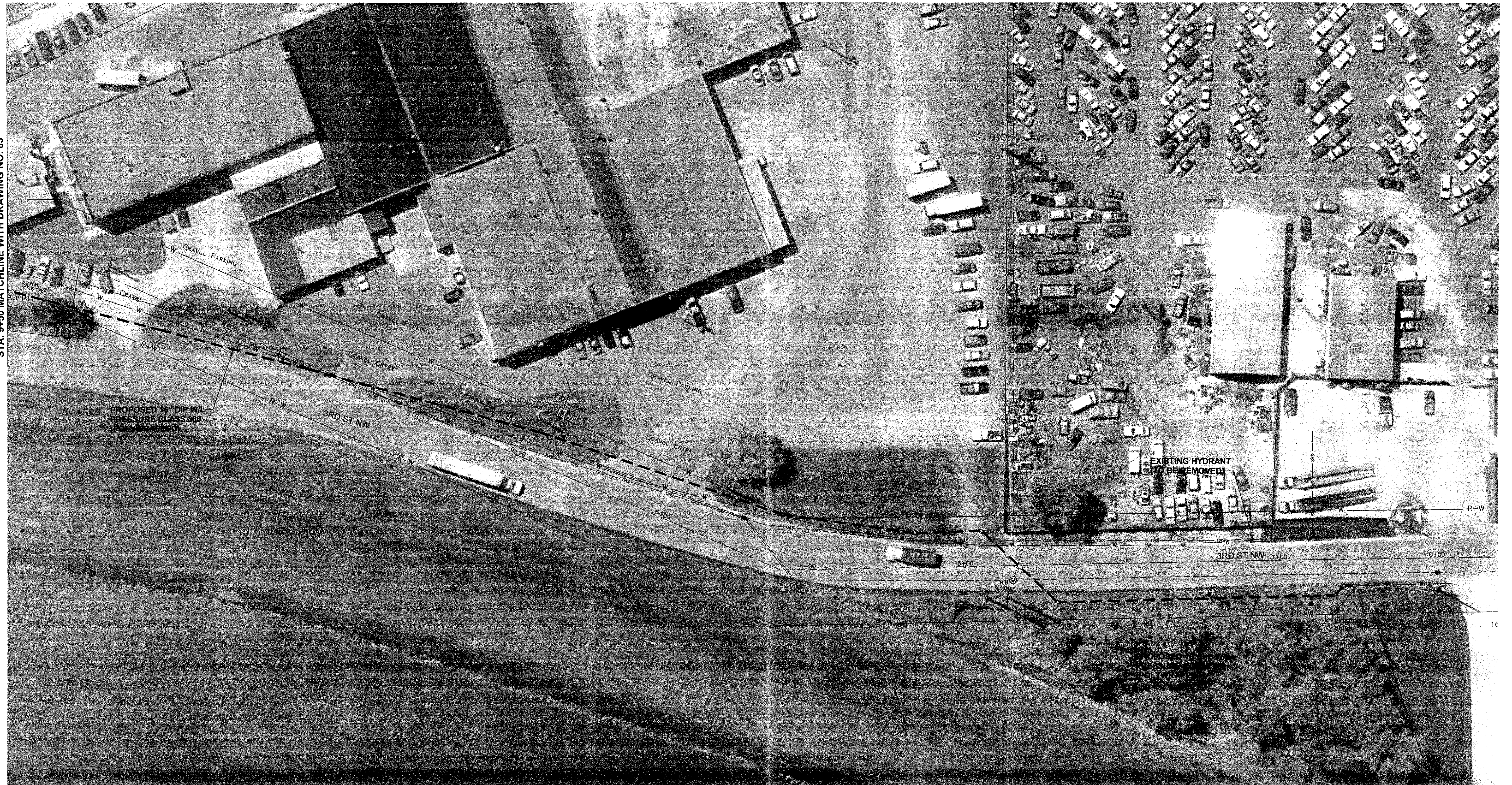


STA. 9+50 MATCHLINE WITH DRAWING NO. 03



16" x 11.25" MJ BENDS
STA. 3+32±
STA. 4+15±

16" x 45" MJ BENDS
STA. 0+60±
STA. 0+65±
STA. 2+41±
STA. 2+90±

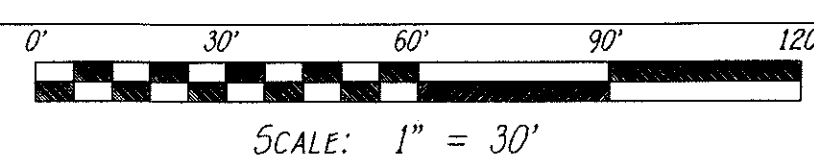
16" MJ GATE VALVE
STA. 0+56±

HYDRANT ASSEMBLY - TYPE MA
STA. 0+80±

REMOVE EXISTING HYDRANT ASSEMBLY
STA. 1+15±

BEGIN PROJECT BY REMOVING EXISTING
PLUG IN TEE AND CONTINUE PROPOSED
16" WATER LINE TO THE SOUTH
STA. 0+53 ±

NOTE
BEGIN STATIONING AT EXISTING SANITARY
MAN HOLE



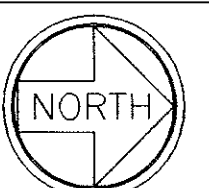
AQUA
Ohio.

PREPARED BY:
SERVICE CENTER-ENGINEERING DEPT.
6650 SOUTH AVE. BOARDMAN OHIO 44512

division
STARK REGIONAL

3RD STREET 16" TRANSMISSION MAIN ~ PLAN
CITY OF MASSILLON, STARK COUNTY, OHIO

2
5



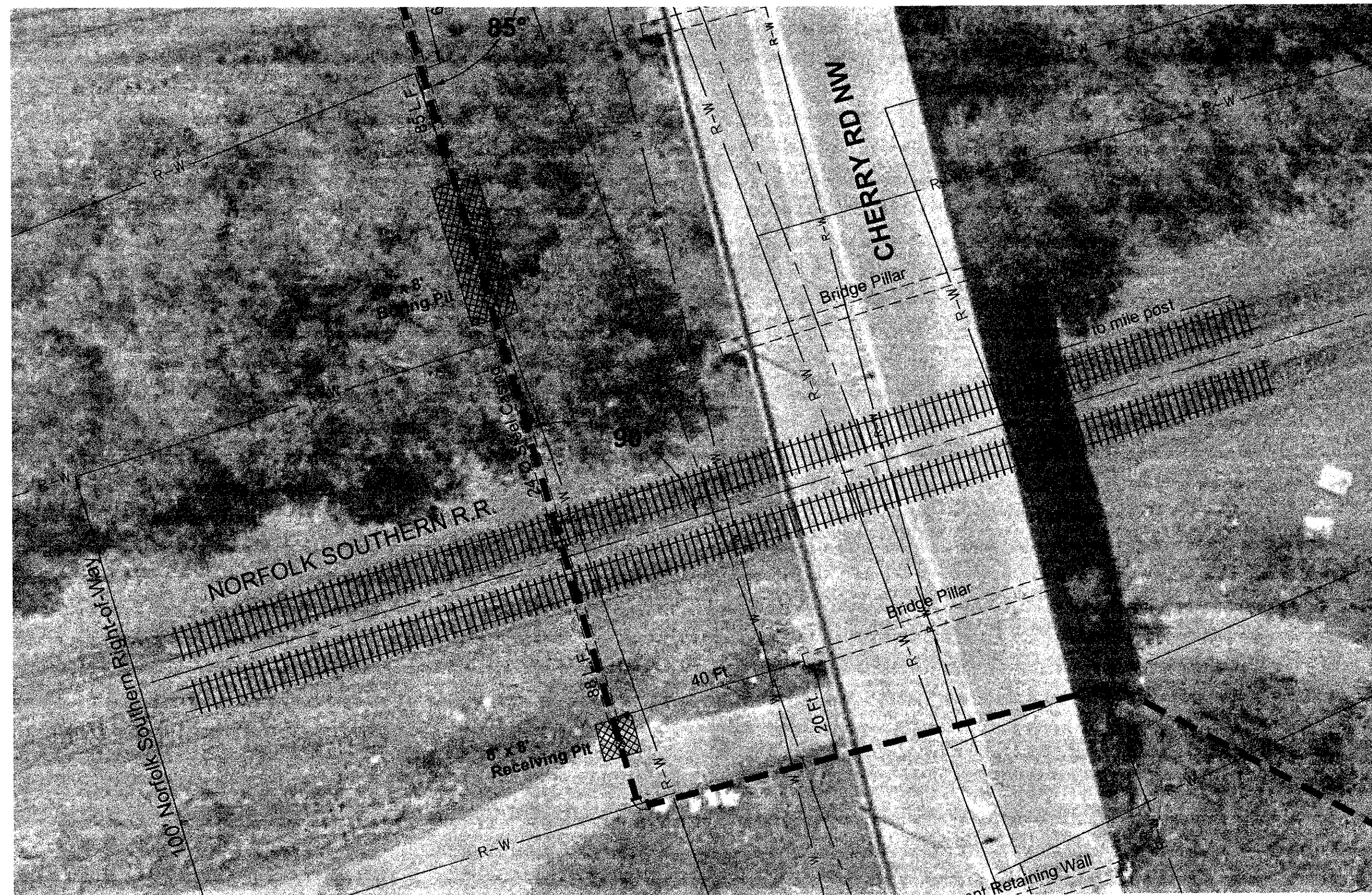
by

revisions

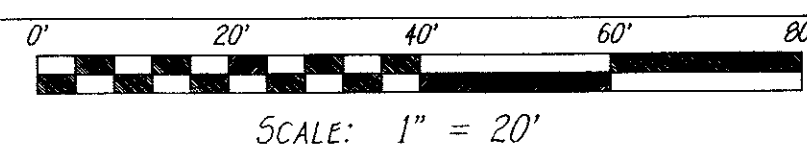
date

no

designed D. WARRICK	date JUNE, 2004
drawn D. WARRICK	date JUNE, 2004
background Stark County GIS Aerials	



designed D. WARRICK date AUGUST, 2004
drawn D. WARRICK date AUGUST, 2004
background Stark County GIS Aerials



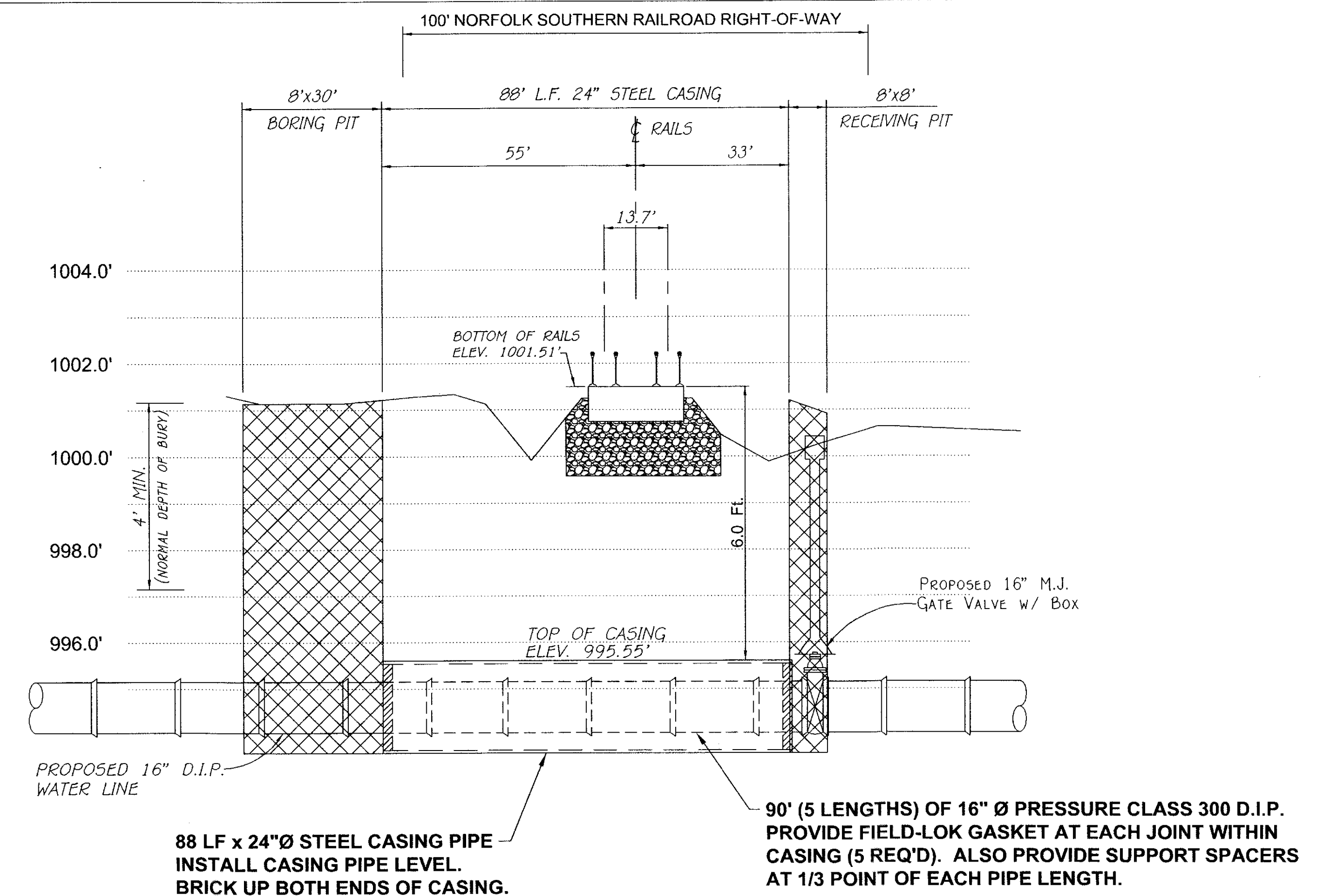
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Ohio.

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6650 SOUTH AVE. BOARDMAN OHIO 44512

division
STARK REGIONAL

NORFOLK SOUTHERN RAILROAD CROSSING - PLAN & PROFILE (LOOKING NORTH)
CITY OF MASSILLON, STARK COUNTY, OHIO

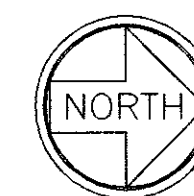
4A
5



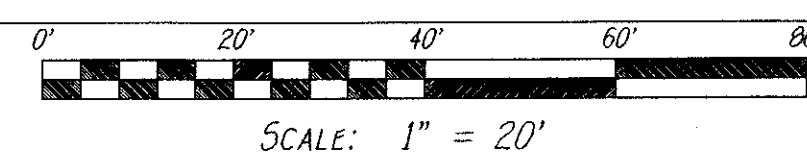
SCALE: HORIZONTAL 1" = 20'
VERTICAL 1" = 2'

88 LF x 24"Ø STEEL CASING PIPE
INSTALL CASING PIPE LEVEL.
BRICK UP BOTH ENDS OF CASING.

90' (5 LENGTHS) OF 16" Ø PRESSURE CLASS 300 D.I.P.
PROVIDE FIELD-LOK GASKET AT EACH JOINT WITHIN
CASING (5 REQ'D). ALSO PROVIDE SUPPORT SPACERS
AT 1/3 POINT OF EACH PIPE LENGTH.



designed D. WARRICK date AUGUST, 2004
drawn D. WARRICK date AUGUST, 2004
background Stark County GIS Aerials



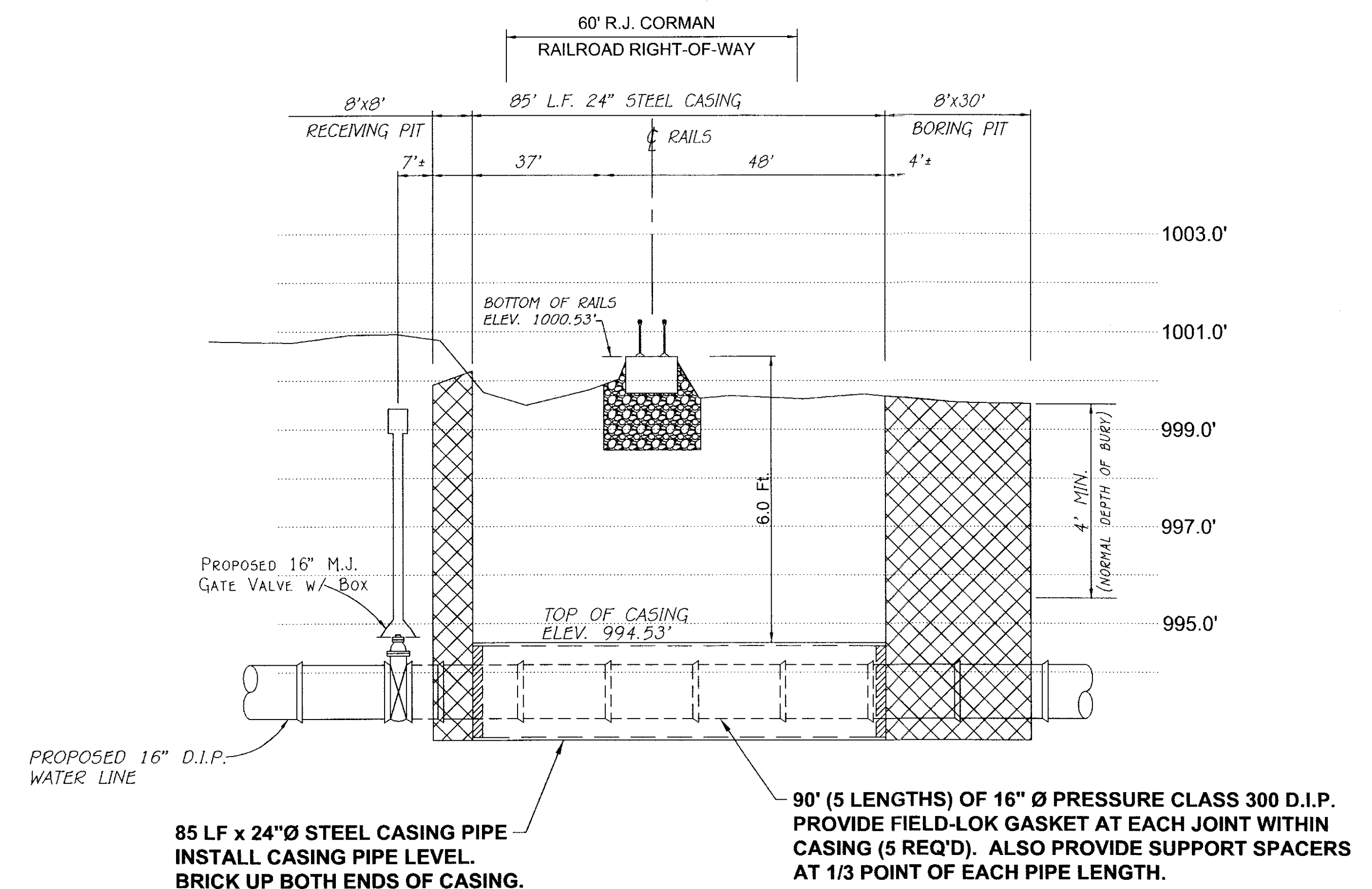
AQUA
Ohio.

PREPARED BY:
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6650 SOUTH AVE. BOARDMAN OHIO 44512

division
STARK REGIONAL

R.J. CORMAN RAILROAD CROSSING - PLAN & PROFILE (LOOKING NORTH)
CITY OF MASSILLON, STARK COUNTY, OHIO

4B
5



SCALE: HORIZONTAL 1" = 20'
VERTICAL 1" = 2'

85 LF x 24"Ø STEEL CASING PIPE
INSTALL CASING PIPE LEVEL.
BRICK UP BOTH ENDS OF CASING.

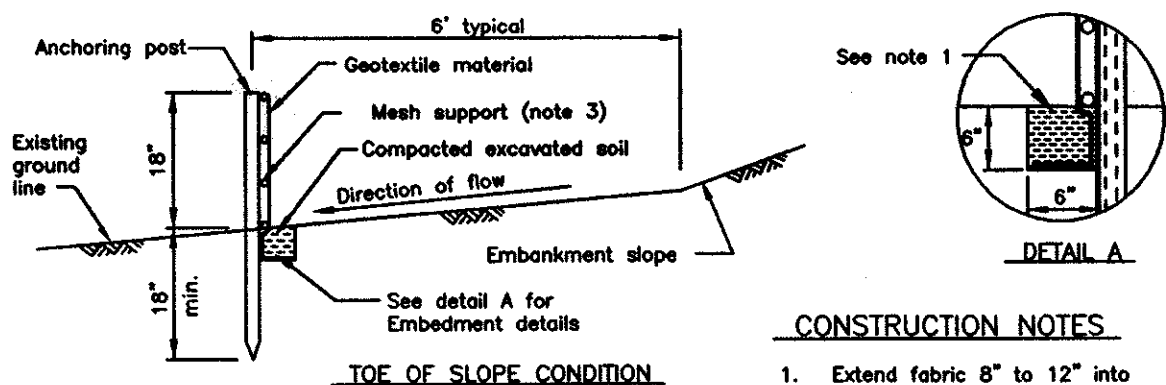
90' (5 LENGTHS) OF 16" Ø PRESSURE CLASS 300 D.I.P.
PROVIDE FIELD-LOK GASKET AT EACH JOINT WITHIN
CASING (5 REQ'D). ALSO PROVIDE SUPPORT SPACERS
AT 1/3 POINT OF EACH PIPE LENGTH.

Erosion and Sedimentation Control Notes

- A copy of the erosion and sedimentation control plan must be available at the site of the earth moving activity during construction and until the site is stabilized.
- The contractor is responsible for installation and maintenance of all erosion and sediment best management procedures (BMP's).
- Plan and execute construction and earthwork methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas to prevent erosion and sedimentation.
- Erosion and sediment BMP's are required for borrow and waste disposal areas. The contractor is required to have erosion and sedimentation control plans for these areas approved by the regulatory agency.
- Soil stockpile heights must not exceed 35 feet. Soil stockpile slopes must be 2:1 or flatter.
- Any disturbed area on which construction activity has ceased must be stabilized immediately. During non-germinating periods, mulch must be applied at the recommended rate of 3 tons/acre. Disturbed areas which are not at finished grade and which will not be redisturbed within one year must be stabilized in accordance with temporary seeding specifications. Disturbed areas which are either at finished grade or will not be redisturbed within one year must be stabilized in accordance with permanent seeding specifications.

STANDARD FILTER FABRIC FENCE (18" HIGH) DETAIL

NO SCALE



CONSTRUCTION NOTES

- Extend fabric 6" to 12" into excavated trench.
- Stakes placed at 8' maximum, 5' maximum C. to C. when mesh support is not provided.
- Installation of a mesh support will depend on post spacing.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Prefabricated units to be installed per manufacturer's instructions.
- Filter fabric fence must be installed at level grade. Both ends of each fence section must be extended at least 8' upslope at 45° to the main ground height of the fence.
- Sediment must be removed when accumulations reach 1/2 the above ground height of the fence.
- Any fence section which has been undermined or topped must be immediately replaced with a rock filter outlet.

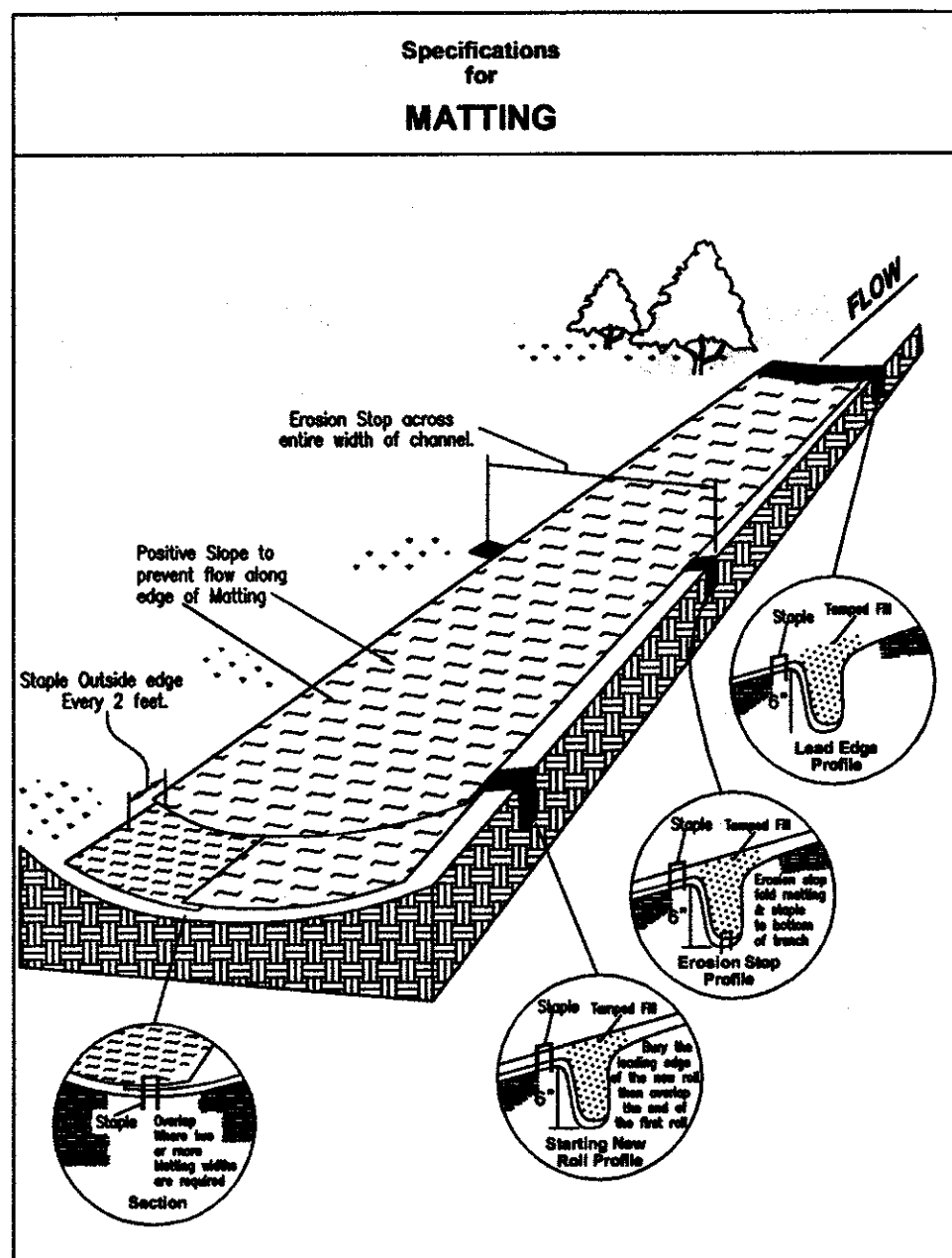
Maximum Slope Length for Filter Fabric Fence

Slope - Percent	Maximum Slope Length (ft) Above Fence	
	18" High Fence	30" High Fence*
2 (or less)	500	500
5	100	250
10	50	150
15	35	100
20	25	70
25	20	55
30	15	45
35	15	40
40	15	35
45	10	30
50	10	25

Adapted by EPA from the Sediment Control Manual, EPA 600/3-90/001

DITCH RESTORATION

- ALL DEFINABLE DITCHES SHALL BE RESTORED PER APPLICABLE COUNTY SPECIFICATIONS AND SHALL CONFORM TO THE CONFIGURATION AS SHOWN ON THE PAVEMENT RESTORATION DETAIL.
- DITCHES SHALL BE STABILIZED WITH 48 IN. WIDE JUTE MATTING WEIGHING AN AVERAGE OF 1.2 LB/YD OR EQUAL AND SHALL BE INSTALLED AND SEEDING ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- THE MATTING INSTALLATION SHALL RESEMBLE THE DETAIL BELOW.



Staging of Construction Activities

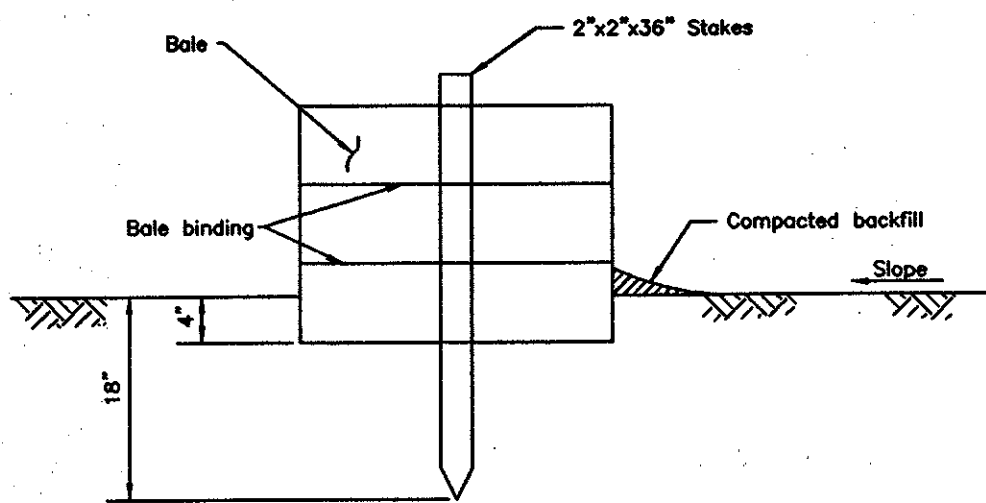
Project construction is anticipated to begin and be completed the same year.

Erosion and sediment BMP's must be constructed, stabilized and functional before site disturbance begins within tributary areas of those BMP's.

- Rough grading of site to subgrade elevations as required. Stockpiled excavated material is to be contained by filter fence.
- Construction facility.
- Utility line construction - Strip and clear topsoil and vegetation from area of construction. Stripping and clearing operations may advance no more than 48 hours ahead of construction. Trenches to be excavated to the subgrade elevation as required and shown on the drawings. Excavated material to be placed on upslope side of trench until opening is backfilled. Daily trench excavation is to be limited to the length of pipe placement and backfilling that can be completed in the same day. At the end of the construction day, the last exposed bell shall have a temporary wooden plug placed in its end and then bell and plug shall be wrapped with visqueen, a 4" x 4" post placed at its end and the trench backfilled.
- Installation of new water transmission mains and backfilling. Excess excavated material is to be hauled away immediately. Placement of straw bale or filter fabric fences in accordance with BMP's.
- Installation of paving.
- Final placement of topsoil, seeding and mulching of all construction disturbed areas that are not paved.
- After final site stabilization has been achieved, temporary erosion and sediment BMP's must be removed. Areas disturbed during the removal of controls must be stabilized immediately.

STRAW BALE BARRIER DETAIL

NO SCALE



NOTES:

- Straw Bale Barriers should not be used for more than 3 months.
- Straw Bale Barriers shall be placed at existing level grade. Both ends of the barrier shall be extended at least 8 feet up slope at 45 degrees to the main barrier alignment.
- Sediment shall be removed when accumulations reach 1/3 the above ground height of the barrier.
- Any section of Straw Bale Barrier which has been undermined or topped shall be immediately replaced with a Rock Filter Outlet.
- Straw bale barriers should not be used in areas of concentrated flows (e.g. channels, seeps, erosion gulches, across pipe outlets, as inlet protection, etc.) and in areas where rock prevents full and uniform anchoring of the bales.
- Bales should be installed in an anchoring trench. Two support stakes should be driven through each bale to a depth of 18" below the ground surface. The excavated soil should be backfilled and compacted on the upslope side of the bales.

Maximum Slope Length for Straw Bale Barriers

Slope - Percent 2 (or less)	Maximum Slope Length (ft) Above Barrier
5	150
10	100
15	50
20	35
25	25
30	20
35	15
40	15
45	10
50	10

Temporary Erosion and Sedimentation Control Measures

- Filter fabric fence, rock construction entrance and straw bale barriers are to be located and constructed as shown on the drawings according to BMP's.
- Soil stockpile areas are to be contained by filter fabric fence.
- Where possible, natural features are to be preserved. Cut and fill operations shall be kept to a minimum and shall conform to existing topography so as to minimize erosion.
- All unpaved areas disturbed during construction are to be protected by mulching and temporary seeding. Areas disturbed for utility line installation are to be protected by mulching and temporary seeding within 7 days of utility installation.
- All slopes, channels, ditches or any other disturbed areas shall be stabilized within 72 hours after final earth moving has been completed or where activity ceases for more than 5 days. Interim stabilization measures shall be implemented properly.
- Any sediment-laden water requiring pumping shall be discharged to a pumped water filter bag prior to discharge.

Permanent Control Measures and Facilities

All areas disturbed during construction and not paved are to be topsoiled, seeded, fertilized, and mulched according to the seeding and fertilizing section of this plan.

Vegetated areas are to be considered permanently stabilized when a uniform 70% vegetative cover of erosion resistant perennial species has been achieved or the disturbed area is covered with an acceptable BMP which permanently minimizes accelerated erosion and sedimentation.

Laydown and Equipment Storage Areas

The contractor will be required to provide adequate erosion and sedimentation control for these areas.

Storage and Disposal Areas for Excess Excavated Material

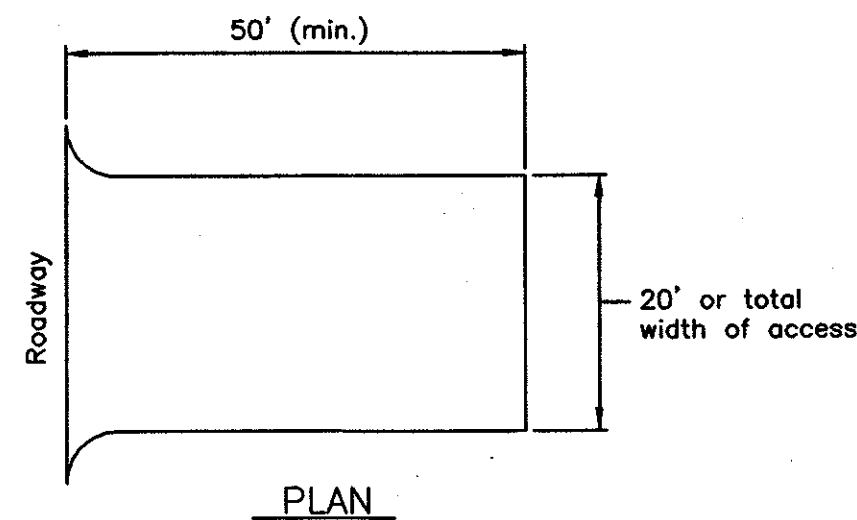
Areas used for storage and disposal of excess excavated material are to be determined by the contractor. The contractor will be required to provide adequate control measures and facilities for these areas. If required, the contractor will notify regulatory agency.

Maintenance of the Erosion and Sedimentation Controls

- Until the disturbed construction site is stabilized, all erosion and sediment BMP's must be maintained properly. Maintenance must include inspections following rainfall events and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching and renetting must be performed immediately. If erosion and sediment BMP's fail to perform as expected, replacement or modification of those BMP's installed will be required.
- Other control measures indicated in the Erosion and Sedimentation Control Notes.

Recycling

Where feasible, waste materials are to be recycled.



NOTES:

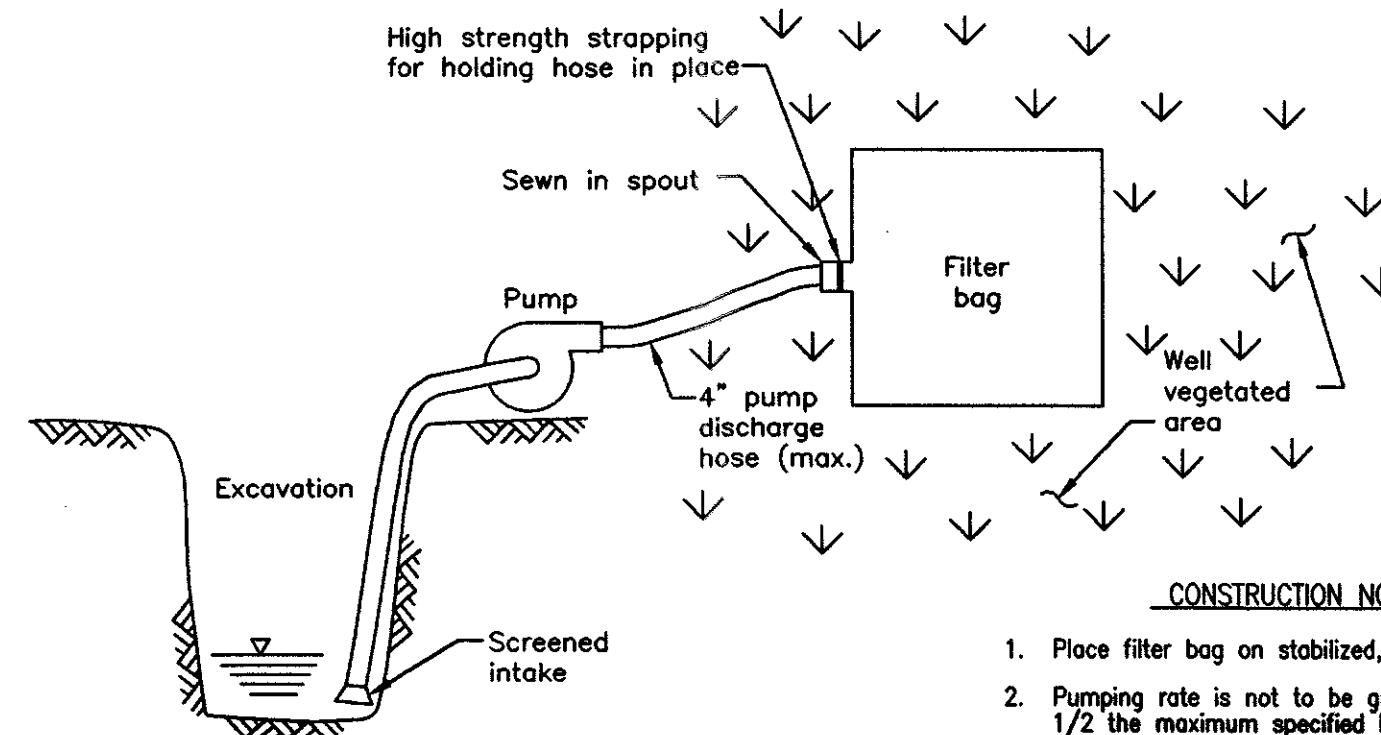
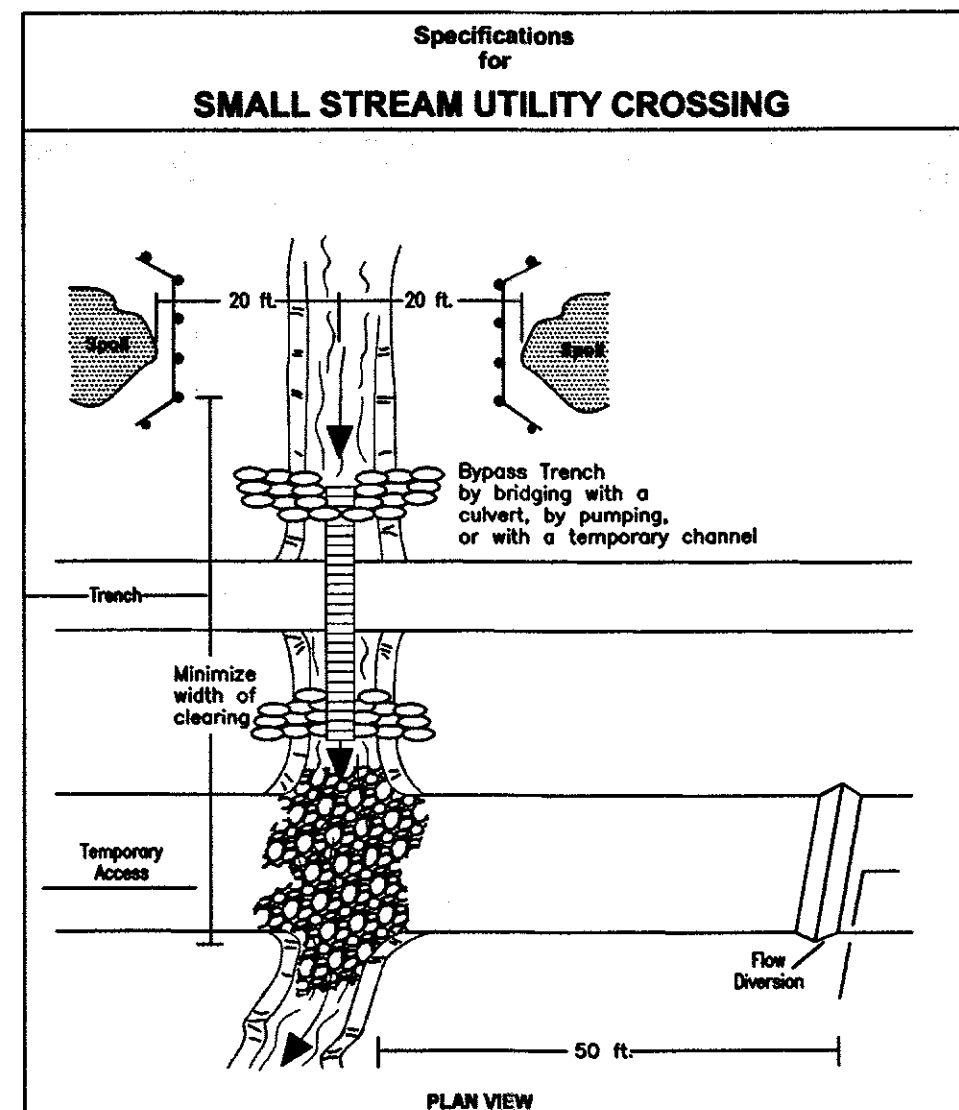
- Rock size - AASHTO No. 1.
- The structure's thickness will be constantly maintained to the specified dimensions by adding rock. A stockpile of rock material will be maintained on the site for this purpose. At the end of each construction day, all sediment deposited on paved roadways, will be removed and returned to the construction site.
- Geotextile will be placed over the entire area prior to placing of stone.
- Washing of the roadway or sweeping the deposit into roadway ditches, sewers culverts or other drainage ways is not acceptable.
- All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a maintainable berm with 5:1 slopes will be permitted.
- Wheels shall be cleaned to remove sediment prior to entrance onto paved roadways. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
- Periodic inspection and needed maintenance shall be provided after each rain.

ROCK CONSTRUCTION ENTRANCE DETAIL

NO SCALE

STREAM UTILITY CROSSINGS

- WHEN CROSSING A STREAM THE CONTRACTOR SHALL TEMPORARILY ROUTE THE STREAM FLOW AROUND THE WORK AREA BY BRIDGING THE TRENCH WITH A ROUGH CULVERT, PUMPING, OR CONSTRUCTING A TEMPORARY CHANNEL. TEMPORARY CHANNELS SHALL BE STABILIZED BY ROCK OR A GEOTEXTILE LINING THE CHANNEL BOTTOM AND SIDE SLOPES.
- THE LIMITS OF DISTURBANCE SHALL BE AS NARROW AS POSSIBLE INCLUDING NOT ONLY THE CONSTRUCTION OPERATIONS ITSELF BUT ALSO THE CLEARING DONE THROUGH THE VEGETATION GROWING ON THE STREAMBANKS.
- THE TIME BETWEEN INITIAL DISTURBANCE OF THE STREAM AND FINAL STABILIZATION SHALL BE KEPT TO A MINIMUM. CONSTRUCTION SHALL NOT BEGIN UNTIL THE WATER LINE IS IN PLACE WITHIN 10 FT. OF THE STREAMBANK.
- THE STREAM CROSSING SHALL GENERALLY RESEMBLE THE DETAIL BELOW.
- STREAM NAME: _____ AND CLASSIFICATION _____



CONSTRUCTION NOTES

- Place filter bag on stabilized, well vegetated area.
- Pumping rate is not to be greater than 750 gpm or 1/2 the maximum specified by the manufacturer, whichever is less.
- Strap pump discharge hose firmly to filter bag in the manner specified by the manufacturer.
- Monitor and evaluate pumping operation to assure filter bag continues to function properly.
- Replace filter bag when bag becomes 1/2 full or when directed by engineer or conservation district.
- Dispose of sediment in a manner satisfactory to the engineer and/or conservation district.
- Discharge from filter bag shall be to stable, erosion resistant areas. Where this is not possible, a geotextile flow path shall be provided. Bags shall not be placed on slopes greater than 5%.
- Extra filter bags must be maintained on site at all times.
- Filter bags are to be made from non-woven geotextile material sewn with high strength, double stitched "J" type seams. They are to be capable of trapping particles larger than 150 microns.
- Provide suitable means of accessing bag with machinery required for disposal purposes.
- Pump intake to be floating and screened.
- Filter bags to be inspected daily. If any problem is detected, pumping shall cease immediately and not resume until the problem is corrected.

PUMPED WATER FILTER BAG SPECIFICATIONS

Geotextile fabric properties	Test method	Units
Type-non woven		
Weight	ASTM D-3776	8 oz/yd
Grab tensile	ASTM D-4532	203 lb.
Puncture	ASTM D-4833	130 lb.
Flow rate	ASTM D-4491	80 gal/min/ft
Permittivity	ASTM D-4491	1.5 sec -1
UV resistant	ASTM D-4355	70 %
AOS % retained	ASTM D-4751	100 %
Model - Dirtbag 53 as marketed by ACF Environmental (1-800-448-3636) or other filter bag that meets specifications.		

PUMPED WATER FILTER BAG DETAIL

NO SCALE

designed	L. LACIVITA	date	OCTOBER, 2002	Plot Scale:	1" = 1'
drawn	L. LACIVITA	date	OCTOBER, 2002	Dwg. Not to Scale	
background	Kucera	date			.dwg

AQUA Ohio. Aqua Ohio, Inc.

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division

file no.

drawing no.

STANDARD SOIL EROSION & SEDIMENT CONTROL NOTES AND DETAILS