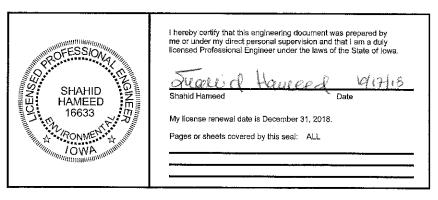
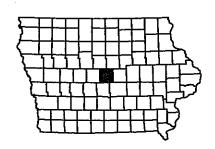
IOWA DEPARTMENT OF NATURAL RESOURCES

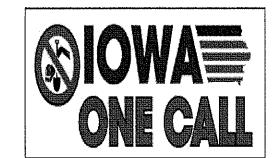
CONSTRUCTION DOCUMENTS FOR STATE FOREST NURSERY IRRIGATION SYSTEM

STORY COUNTY, IOWA

PROJECT # 18-02-85-03







	DIRE	CTORY	
PROJECT MANAGER		CONSTRUCTION INSPECTOR	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES
ADDRESS	502 EAST 9TH STREET	ADDRESS	
CITY,STATE,ZIP	DES MOINES, IA, 50319	CITY,STATE,ZIP	
CONTACT	MIKE HAMEED	CONTACT	DON LABATE
TELEPHONE	515-725-8467	TELEPHONE	515-250-3714
FAX		FAX	
EMAIL	mike.hameed@dnr.iowa.gov	EMAIL	don.labate@dnr.iowa.gov

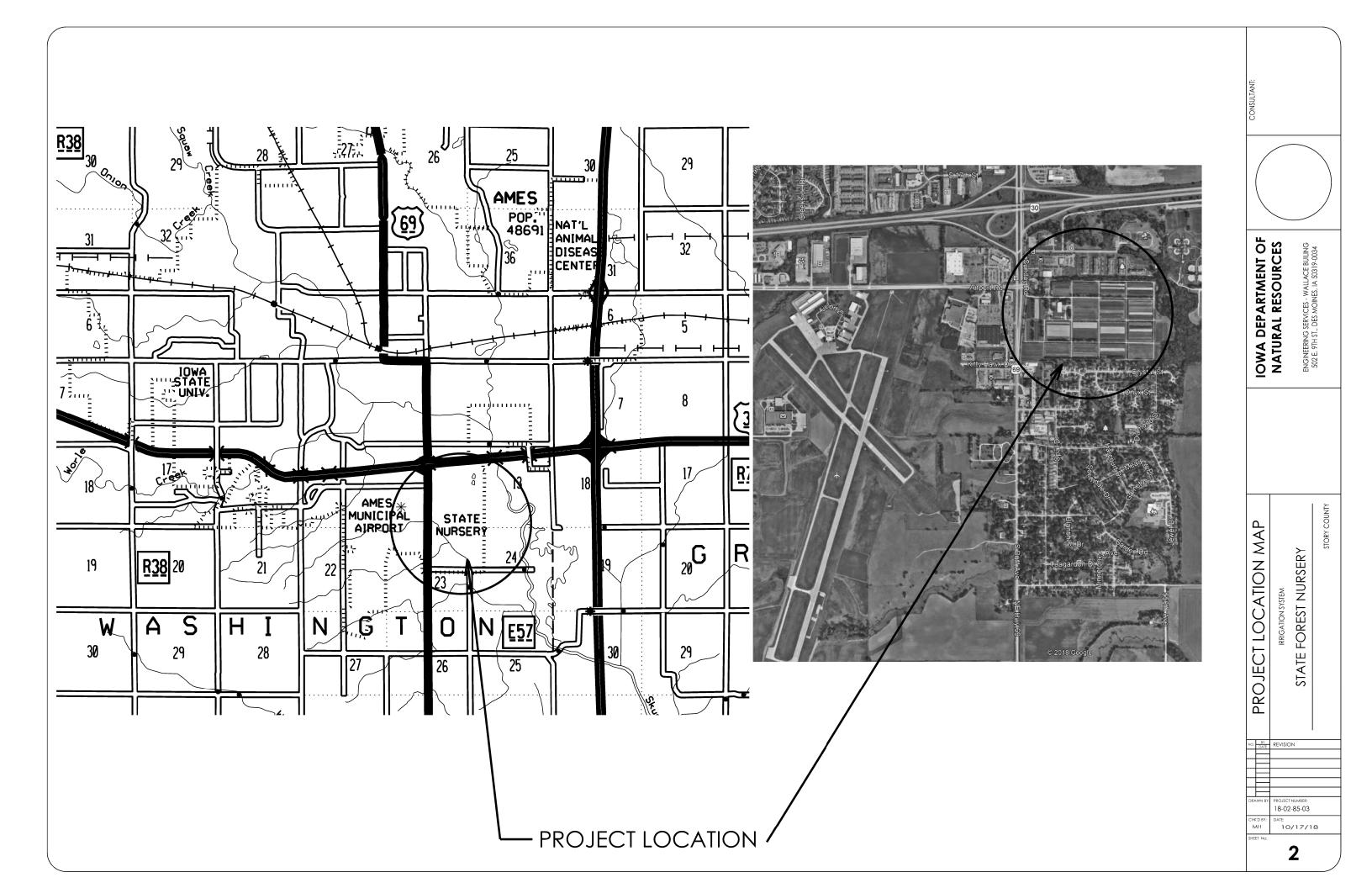
THE PROJECT CONDICTS OF INSTALL ING A COMPS OF DELICALAND AS
THIS PROJECT CONSISTS OF INSTALLING A COMBO OF NEW 6" AND 4"
IRRIGATION WATER MAIN & FEEDER PIPES AT STATE FOREST NURSERY
INCLLIDING VALVES & OTHER SMALL MISC WORK

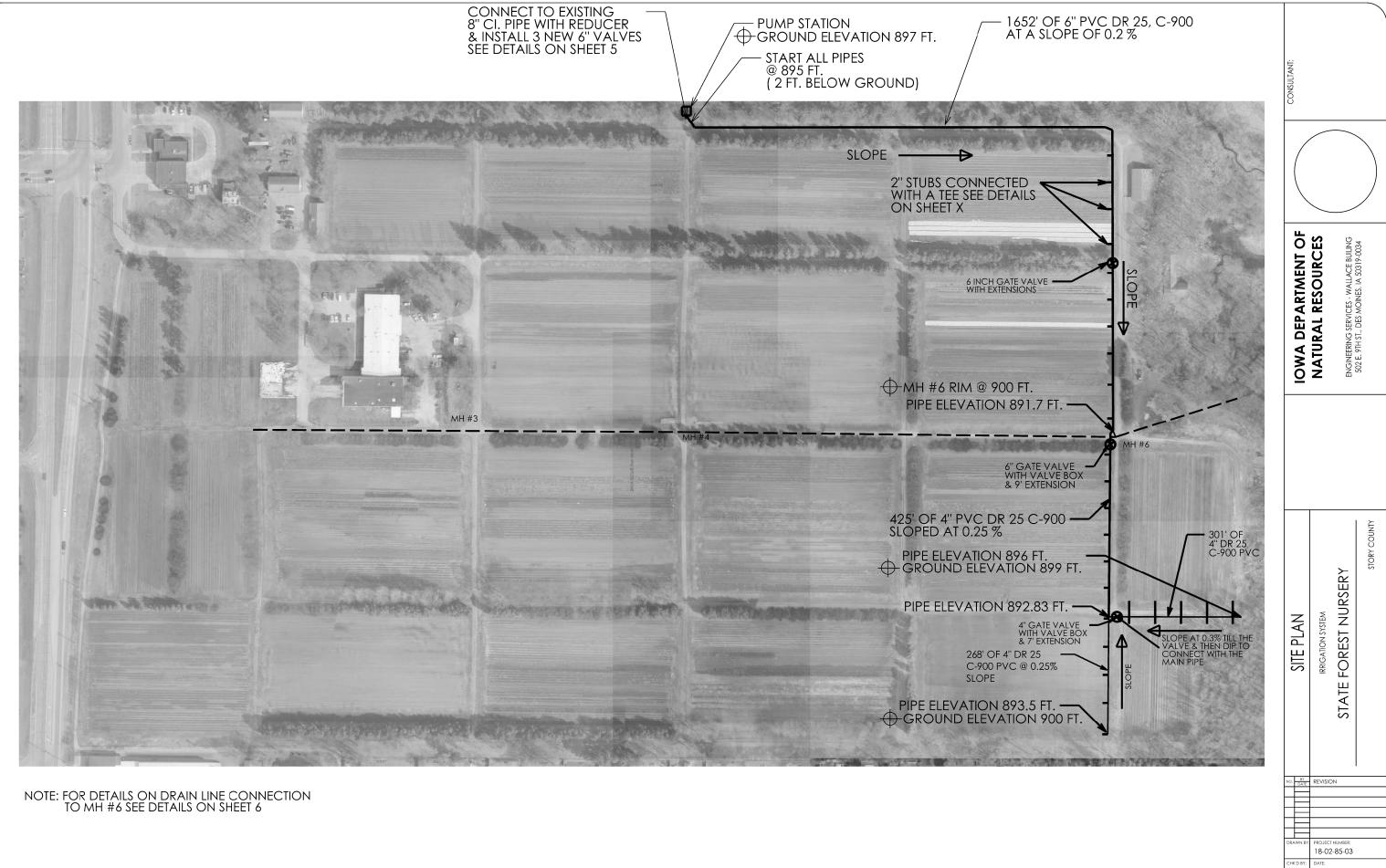
PROJECT DESCRIPTION

7.6 THOTAL THOTA TO BIB
Coll Sout 11/19/18
AUTHORIZATION - PARKS WILDLIFE FISHERIES LAW ENFORCEMENT FORESTRY DATE
In a half
ENGINEERING BUREAU CHIEF DATE

ALITHORIZATION TO BID

79°	SHEET INDEX			
1	COVER SHEET			
2	LOCATION MAP			
3	SITE PLAN	l≓		
4	QUANTITIES AND GENERAL INFORMATION	[₹		
5	PUMP HOUSE VALVES & FEEDER DETAIL	I⊋		
6	DRAIN BACK DETAIL FOR MH #6	CONSULTANT		
7	THRUST BLOCK DETAILS			
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		COVER SHEET	IRRIGATION SYSTEM	STATE FOREST NURSERY
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10/17/18

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ПЕМ	UNIT	TOTAL
1	MOBILIZATION	Lump Sum	1
2	6" CI GATE VALVE	EACH	3
3	CONNECT 6" PVC WITH 8" CIP PIPE AT PUMP HOUSE	LUMP SUM	1
4	6" CI GATE VALVES WITH VALVE BOX & STEM EXTENSION	EACH	2
5	4" CI GATE VALVES WITH VALVE BOX & STEM EXTENSION	EACH	1
6	2" PLUG VALVES WITH VALVE BOX & STEM EXTENSION	EACH	1
7	6" PVC DR 25 C900 PVC PIPE	LF	2077
8	4" PVC DR 25 C900 PVC PIPE	LF	569
9	2" PVC DR 25 C900 PVC PIPE	LF	765
10	6"X 6"X 2" Ts INSTALLED	EACH	17
11	6"X 6"X 2"X 2" CROSS	EACH	12
12	4"X 4"X 2"X 2" CROSS	EACH	5
13	4"X 4"X 2" Ts INSTALLED	EACH	5
14	CONNECT 2" DRAIN LINE TO MANHOLE	EACH	1
15	SITE RESTORATION	LUMP SUM	1

ESTIMATE REFERENCE INFORMATION

ESTIMATE REFERENCE INFORMATION				
ITEM NO.	DESCRIPTION			
2	THIS PRICE WILL INCLUDE CONCRETE SUPPORT BLOCKS & CONNECTIONS TO EXISTING CI PIPE & OTHER PLUMBING AS NEEDED			
3	THIS ITEM INCLUDES DISMANTLING EXISTING PIPING			
4, 5, 6	THE LENGTH OF VALVE BOX AND EXTENSIONS WILL BE FIELD ADJUSTED			
10, 11 12	THE EXACT LOCATION OF THE FEEDRES WILL BE FIELD ADJUSTED AS PER DNR ENGINEER			
15	ALL DISTURBED AREAS WILL BE RESTORED TO CURRENT CONDITION			

GENERAL NOTES

All construction shall be in accordance with statewide urban standard design specifications for public improvements (SUDAS).

Verify actual locations and elevations with DNR Engineer.

All work shall conform to and be performed in accordance with all applicable codes and ordinances.

The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.

The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.

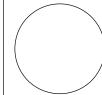
It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.

The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.

The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.

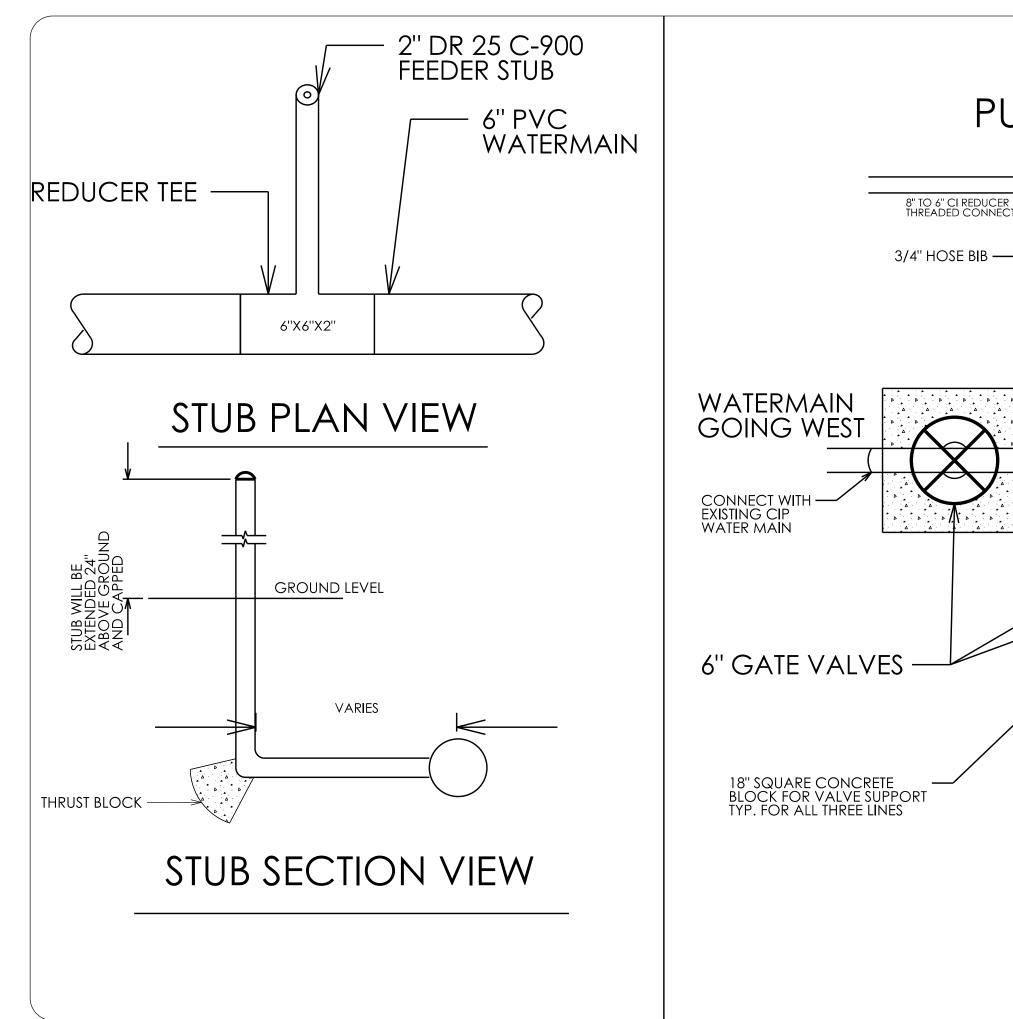


IOWA DEPARTMENT OF NATURAL RESOURCES

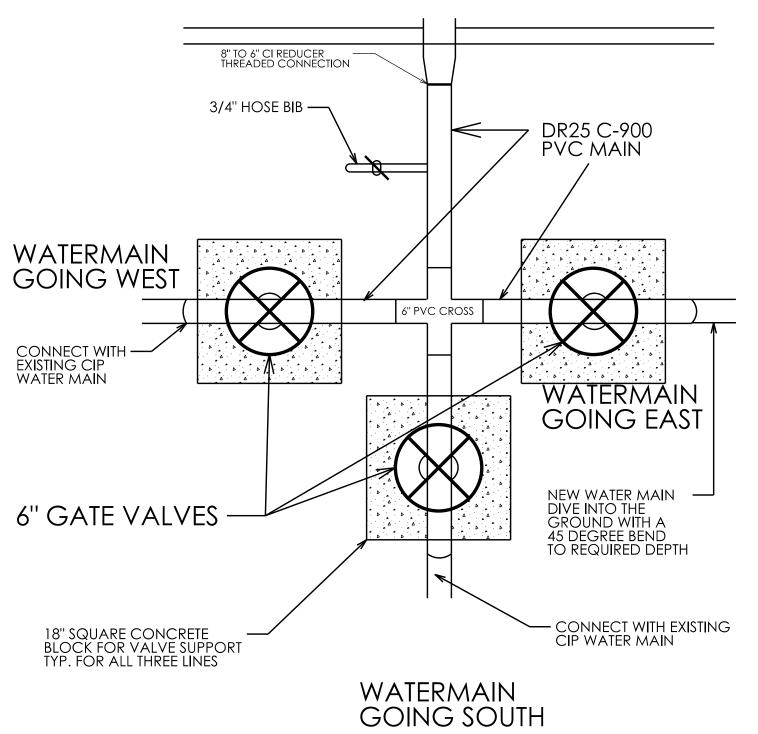
QUANTITIES AND GENERAL INFORMATION FOREST NURSERY

NO. BY REVISION 18-02-85-03 10/17/18

STATE !



PUMP STATION





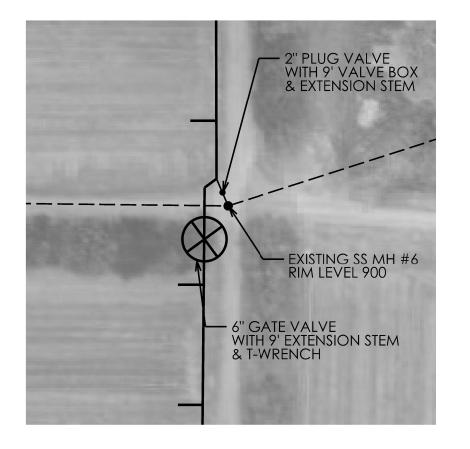
IOWA DEPARTMENT OF NATURAL RESOURCES

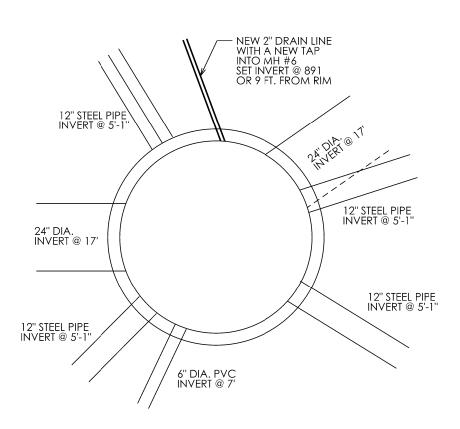
ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

& FEEDER STUB RRIGATION SYSTEM
STATE FOREST NURSERY VALVE,

NO. BY REVISION 18-02-85-03 10/17/18

5





MH #6

IOWA DEPARTMENT OF NATURAL RESOURCES

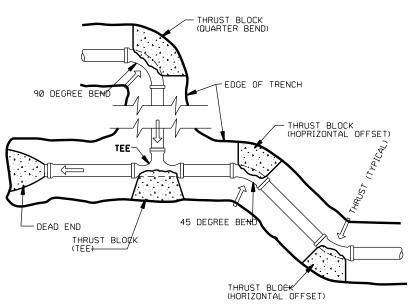
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ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

IRRIGATION SYSTEM
STATE FOREST NURSERY

DRAIN BACK DETAIL FOR MH 18-02-85-03 CHK'D BY 10/17/18

6



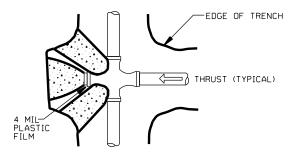
THRUST BLOCK DETAIL PLAN

NOT TO SCALE

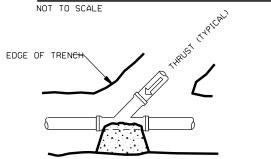
TH	RUST	BLOCK	SIZING SO	CHEDULE
PIPE SIZE	DEAD END OR TEE	90 DEGREE BE	ND45 DEGREE BENI) 22 1/2 DEGREE BE
4"	1.0	1.0	1.0	1.0
6"	1.5	2.0	1.0	1.0
8"	2.5	3.0	2.0	1.0
10"	3.5	5.0	3.0	1.5
12"	5.0	7 . 5	4.0	2.0
14"	7.0	10.0	5 . 5	2 . 5
16"	9.0	13.0	7.0	3 . 5
18"	12.0	16.5	9.0	4.5
20"	14.5	20.5	11.0	5.5
24"	21.0	29 . 5	16.0	8.0

NOTES

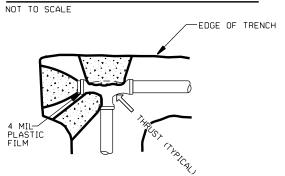
- 1. PROVIDE THRUST BLOCKS AT ALL ABRUPT CHANGES IN DIRECTION; TEES, BENDS, DEAD ENDS AND HYDRANTS.
- 2. POUR OR WEDGE AGAINST SOLID, UNDISTURBED TRENCH WALL.
- 3. SIZE THRUST BLOCK IN SQUARE FEET OF BEARING AREA AGAINST UNDISTURBED EARTH.
- 4. DO NOT EXTEND CONCRETE BEYOND FITTING BELL.



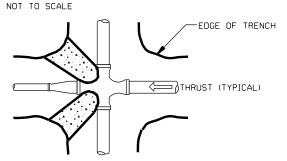
PLUGGED CROSS THRUST BLOCK DETAIL PLAN



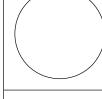
"Y" BRANCH THRUST BLOCK DETAIL PLAN



PLUGGED TEE THRUST BLOCK DETAIL PLAN



REDUCING CROSS THRUST BLOCK DETAIL PLAN NOT TO SCALE



IOWA DEPARTMENT OF NATURAL RESOURCES ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

THRUST BLOCK DETAILS IRRIGATION SYSTEM

FOREST NURSERY

NO. BY REVISION 18-02-85-03 CHK.D B. 10/17/18

STATE