

Drain: JONAS ROGERS **Drain #:** 84
Improvement/Arm: _____
Operator: J. LIVINGSTON **Date:** 6-2-04
Drain Classification: Urban/Rural **Year Installed:** N/A

GIS Drain Input Checklist

- Pull Source Documents for Scanning
- Digitize & Attribute Tile Drains
- Digitize & Attribute Storm Drains
- Digitize & Attribute SSD
- Digitize & Attribute Open Ditch
- Stamp Plans
- Sum drain lengths & Validate
- Enter Improvements into Posse
- Enter Drain Age into Posse
- Sum drain length for Watershed in Posse
- Check Database entries for errors

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Drain: JONAS ROGERS Drain #: 84
Improvement/Arm: ELI HOUSE
Operator: J. LIVINGSTON Date: 6-2-04
Drain Classification: Urban/Rural Year Installed: N/A

GIS Drain Input Checklist

- Pull Source Documents for Scanning _____ *[Signature]*
- Digitize & Attribute Tile Drains _____
- Digitize & Attribute Storm Drains _____
- Digitize & Attribute SSD _____
- Digitize & Attribute Open Ditch _____ *[Signature]*
- Stamp Plans _____
- Sum drain lengths & Validate _____ *[Signature]*
- Enter Improvements into Posse _____
- Enter Drain Age into Posse _____ *[Signature]*
- Sum drain length for Watershed in Posse _____ *[Signature]*
- Check Database entries for errors _____ *[Signature]*

**Gasb 34 Asset Price &
Drain Length Log**

Drain-Improvement: Jonas Rogers, AC Hobbs, & Eli Houser

Drain Type:	Size:	Length	Length (DB Query)	Length Reconcile	If Applicable	
					Price:	Cost:
Jonas Rogers						
tile	unknown	4300	4300	0	n/a	n/a
open		10,100	10,100	0	\$19.55 lf	197,455.00
AC Hobbs						
tile	10	400	400	0	\$3.00 lf	\$1,200.00
tile	12	800	800	0	\$4.00 lf	\$3,200.00
tile	15	1114	1114	0	\$5.00 lf	\$5,570.00
Eli Houser						
tile	8	3800*	3800	0	\$2.00 lf	\$7,600
open		600	600	0	\$19.55 lf	\$11,730.00
Sum:		<u>19,814</u>				<u>\$226,755</u>

Final Report: 19,814

Comments:

Recently it was determined that the whole of the Jonas Rogers Drain was being maintained by Hamilton Co., even those portions in Tipton County. Therefore, the footage of drain listed for Watershed & GASB 34 purposes should be modified.

*Parallel Tile - 1300'

Complete

STATE OF INDIANA }
HAMILTON COUNTY }

IN THE MATTER OF THE)
CLEAR-CUT AND REPAIR OF)
THE JONAS ROGERS OPEN DRAIN)
THE AC HOBBS, THE JONAS ROGERS, AND)
THE ELI HOUSER TILE DRAINS)
AS THE JONAS ROGERS DRAINAGE AREA

As per the 1965 Drainage Code of the State of Indiana. The County Surveyor and Engineer so designated hereby submit this report. LOCATION: The tile drain originates in Madison Township, Tipton County, Indiana and empties into the open drain in White River Township in Hamilton County, Indiana and terminates in the southeast of the center of the NE $\frac{1}{4}$ of Section 12, Township 20 North, Range 5E in a natural drain. The drain consists of tile drain of the Jonas Rogers, The Eli Houser, and the A. C. Hobbs tiles. The tile drains are to be maintained by a maintenance fund and the open drain is to be cleaned as per the following Engineers report: Beginning at Station No. 0 + 38 and ending at Station No 100 + 56 as per attached reports and general specifications.

END
DATE
PAGE 001

JONAS ROGERS OPEN DRAIN

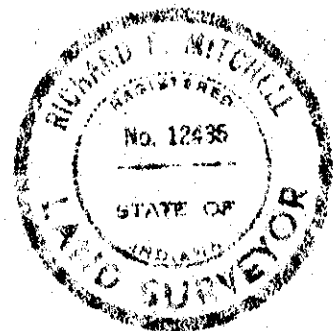
The data I obtained and the data given on the previous survey shows that it will only be necessary to dredge the accumulated mud and silt from the open drain. The flow line grade of 0.15% for the first 5000 feet, 0.20% for the next 3500 feet and finally a grade of 0.30% for the remaining 1556 feet should provide the drainage required for the area.

The required area for the bridges shown was calculated on the basis of a 0.20 run off index and a 3 inch per hour maximum rainfall. Using this design basis the private bridge at Sta 1 + 80 has the required area but should be lowered to grade. The bridge at 291st. Street should be replaced by a 76" X 57" riveted pipe arch and the private bridge at Sta 72 + 41 should be removed and not replaced since it apparently has not been used for sometime, however if the land owner requires the replacement of this bridge, it should be with a 72" diameter CMP or equivalent.

The calculation of dirt removal was made on the basis that only the excess dirt be removed down to the original grade using the bottom widths shown on the cross section sheets. No shaping of the banks was calculated except where necessary to fit the riveted pipe arch at 291st. Street.

The clearing acreage was calculated on the basis of removing the brush and trees back to a maximum of 50 feet from the top of the bank.

Approximately 164 cu. yds. of spoil bank dirt will have to be leveled. Approximately 180 feet of 24" concrete tile will have to be purchased to prevent further wash out at Sta 58 + 93.



Richard E. Mitchell L.S.

JONAS ROGERS OPEN DRAIN

BRIDGE DATA

	BRIDGE AREA SQ. FT.	REQUIRED AREA SQ. FT
1. Private Bridge Sta 1 + 80 (to be lowered to proposed grade)	12.6	11.0
2. Private wooden bridge Sta 39 + 26 (does not need to be replaced)	44.3	21.0
3. Bridge at 291st Street (to be replaced by a 76" X 57" Riveted Pipe Arch)	22.0	22.0
4. Private Bridge should be removed and not replaced (unused) Sta 72 + 41 (If it must be replaced it would require a 72" diameter CMP or equivalent)	12.6	25.0

CMP

1 - 8" X 20' C.M.P.	16 ga
5 - 10" X 20'	16 ga
1 - 12" X 20'	16 ga
2 - 15" X 20'	16 ga
1 - 30" X 20'	14 ga

CLEANING

Heavy Woods	8.09 A.
Heavy Brush	3.91 A.
Medium Brush	0.49 A.

JONAS ROGERS OPEN DRAIN

COST ESTIMATE

Dredging 5,011.4 Cubic yards @ \$0.80 per. yd. \$ 4009.12

Leveling 164 Cubic yards @ \$0.40 per. yd. 65.60

C.M.P.

1	-	8"	X	20'	@	\$ 2.31	per. ft.	\$ 46.20
5	-	10"	X	20'	@	\$ 2.70	per. ft.	270.00
1	-	12"	X	20'	@	\$ 3.03	per. ft.	60.60
2	-	15"	X	20'	@	\$ 3.55	per. ft.	142.00
1	-	30"	X	20'	@	\$ 7.87	per. ft.	<u>147.50</u>

\$ 676.20

In Estimate use \$1100.00 to cover cost of field tile. \$ 1100.00

180' - 24" @ \$4.38 per. ft. Concrete field tiles 788.40

Clearing

Heavy Woods	8.0 a.	@ \$800.00	per. acre	\$6472.00
Heavy Brush	3.91a.	@ \$600.00	per. acre	2346.00
Medium Brush	0.49a.	@ \$400.00	per. acre	<u>196.00</u>
				\$ 9014.00

Lowering Private Bridge at Sta 1 + 80 \$ 500.00

Setting C.M.P. at 291st. Street \$ 200.00

TOTAL \$15,677.12

Engineer cost to date \$ 1687.50

Additional Engineering cost to stake and inspect const. 800.00

Contingency fund to cover unforeseen costs. 5565.38

Total Estimated Costs \$23,730.00

ENGINEER'S REPORT

#121 Eli Houser Tile Drain (Circuit Ct. Rec. #2-Pages 484-486)

Commencing 940 feet South and 15 feet West of the Northwest Corner of the Southwest Quarter of Section 36, Township 21 North, Range 5 East in Tipton County, State of Indiana, running thence East 600 feet, running thence South 51 degrees East 400 feet, running thence South 27 degrees East 100 feet, running thence South 1 degree West 800 feet, running thence South 18 degrees West 400 feet, running thence South 10 degrees West 100 feet running thence South 19 degrees West 200 feet, running thence South 41 degrees West 200 feet, running thence South 20 degrees West 100 feet, running thence South 28 degrees West 170 feet, ending and terminating 450 feet East and 500 feet South of the Southwest corner of Section 36, Township 21 North, Range 5 East, the above described corner being in Tipton County, Indiana and the terminus of said ditch being in Hamilton County, State of Indiana. Said ditch at the point of commencement should be $3\frac{1}{2}$ feet deep and gradually continue to deepen to Section Stake No. 25 so as to give a uniform fall upon the bottom thereof of $\frac{16}{100}$ of a foot per 100 feet, the same shall be excavated sufficiently wide to receive one row of 8-inch tile to Section Stake No. 12 and from Section Stake No. 12 to Section Stake No. 25 it shall be excavated to receive 2 rows of 8-inch tile side by side upon the bottom thereof, said ditch from Section Stake No. 25 to the terminus shall be an open ditch. At section Stake No. 25 said ditch is $4\text{-}\frac{70}{100}$ feet deep, one foot wide in the bottom and $10\text{-}\frac{40}{100}$ feet wide at the top and shall gradually continue to widen and deepen to the lower end so as to give a uniform fall upon the bottom thereof of $\frac{16}{100}$ of a foot to each 100 feet and shall be one foot wide in the bottom, $2\text{-}\frac{16}{100}$ feet deep and $6\text{-}\frac{92}{100}$ feet wide at the top.

Donald F. Lord, Secretary
 Tipton County Drainage Board
 January 30, 1973

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ENGINEER'S REPORT

#282 A.C. Hobbs Drain (Com. Rec. #12 - Pages 43,82,86,92,118,122)

Commencing at a point 940 feet South and 15 feet West of the Northwest Corner of the Southwest Quarter of Section 36, Township 21 North, Range 5 East in Tipton County, Indiana, running thence in a generally southerly course through the said Southwest Quarter of Section 36, Township 21 North, Range 5 East in Tipton County, Indiana ending and terminating at a point East of the Southwest corner of Section 36 in Township 21 North, Range 5 East in Tipton County, Indiana and where Circuit Court Ditch No. 121 crosses the Tipton and Hamilton County Line as follows - commencing at the head or Stake "0" thence East 500 feet, thence South 45 degrees East 500 feet, thence South 3 degrees West 700 feet, thence South 20 degrees West 710 $\frac{1}{2}$ feet to terminus or outlet. Said drain to be constructed as an underground tile drain from its source to its outlet as follows: from Stake "0" to 37 $\frac{1}{4}$ feet below Stake No. 4 - one row of 10-inch tile shall be used, also from 37 $\frac{1}{4}$ feet below Stake No. 4 to 62 $\frac{1}{4}$ feet below Stake No. 12 - one row of 12-inch tile shall be used, and from 62 $\frac{1}{4}$ feet below Stake No. 12 to 10 $\frac{1}{2}$ feet below Stake No. 24 or the outlet - one row of 15-inch tile shall be used.

Donald F. Lord, Secretary
Tipton County Drainage Board
January 30, 1973

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ENGINEER'S REPORT

#52 Jonas Rogers Drain (Circuit Ct. Rec. #1 - Pages 267-308-423-433
" #3 - Page 50

Commencing 865 feet East and 1100 feet North of the center of Section 35, Township 21 North, Range 5 East in Tipton County, State of Indiana and running thence South, a distance of 400 feet, running thence South 2 degrees West, a distance of 700 feet, running thence South 64 degrees West, a distance of 100 feet, running thence South, a distance of 850 feet, running thence South 88 degrees East, a distance of 310 feet, running thence South 2 degrees East, a distance of 340 feet, running thence South 47 degrees West, a distance of 850 feet, running thence South 1 degree East, a distance of 250 feet, running thence South 5 degrees East a distance of 500 feet, ^{HAMILTON COUNTY} running thence East, a distance of 450 feet, running thence South a distance of 250 feet, running thence South 83 degrees East, a distance of 650 feet running thence North 84 degrees East, a distance of 200 feet, running thence South 73 degrees East, a distance of 200 feet, running thence South 75 degrees East, a distance of 200 feet, running thence South 83 degrees East, a distance of 300 feet, running thence North 83 degrees East, a distance of 100 feet, running thence South 82 degrees East, a distance of 100 feet, running thence South 84 degrees East, a distance of 300 feet, running thence South 40 degrees East, a distance of 100 feet, running thence South 25 degrees East a distance of 100 feet, running thence South 50 degrees East, a distance of 200 feet, running thence South 54 degrees East, a distance of 100 feet, running thence South 42 degrees East, a distance of 100 feet running thence South 35 degrees East, a distance of 200 feet, running thence South 50 degrees East a distance of 200 feet, running thence South 64 degrees East, a distance of 100 feet, running thence South 71 degrees East, a distance of 100 feet ^{100 feet} running thence South 37 degrees East, a distance of /running thence South 29 degrees East, a distance of 100 feet running thence North 83 degrees East, a distance of 200 feet, running thence South 63 degrees East, a distance of 100 feet running thence South 35 degrees East, a distance of 100 feet, running thence South 54 degrees East, a distance of 500 feet, running thence South 34 degrees East, a distance of 100 feet, running thence South a distance of 950 feet, running thence South

75 degrees East, a distance of 250 feet, running thence South 63 degrees East, a distance of 200 feet, running thence South 53 degrees East, a distance of 200 feet, running thence South 65 degrees East, a distance of 100 feet, running thence South 72 degrees East, a distance of 200 feet, running thence South 66 degrees East, a distance of 100 feet, running thence South 3 degrees East, a distance of 100 feet, running thence South 21 degrees East, a distance of 300 feet, running thence South 15 degrees East, a distance of 100 feet, running thence South 5 degrees East, a distance of 200 feet, running thence South 45 degrees East, a distance of 100 feet, running thence South 18 degrees East, a distance of 300 feet, running thence South 7 degrees East, a distance of 300 feet, running thence South 15 degrees East, a distance of 200 feet, running thence South 24 degrees East, a distance of 100 feet, running thence South 1 degrees East a distance of 300 feet, running thence South 5 degrees East a distance of 100 feet, running thence South 25 degrees East a distance of 100 feet, running thence South 10 degrees East a distance of 100 feet, running thence South 11 degrees East a distance of 200 feet, running thence South 55 degrees East a distance of 100 feet, running thence South 82 degrees East a distance of 100 feet, running thence South 61 degrees East a distance of 100 feet running thence South 45 degrees East a distance of 150 feet, ending and terminating at a point 69 feet East and 60 feet South of the center of the Northeast Quarter of Section 12, Township 20 North, Range 5 East in Hamilton County, Indiana. Said ditch at the point of commencement should be $4\frac{1}{2}$ feet deep, one foot wide in the bottom and 10 feet wide at the top and it should be continued to gradually widen and deepen to the lower end so as to give a uniform fall upon the bottom thereof during its whole length of 7-29/100 feet per mile at the lower end a width at the bottom of one foot and at the top of 5 feet. (Said ditch is now supposed to be tiled from the point of commencement to where it intersects the Jonas Rogers Open Ditch in Hamilton County, Indiana.)

Donald F. Lord, Secretary
Tipton County Drainage Board
January 30, 1973

Lands affected by the Jonas Rogers Ditch

Tipton County

<u>Description</u>		<u>Acres Assessed</u>	<u>Acres Benefited</u>
NW NE	35-21-5	40.0	40.0
SW NE	"	40.0	40.0
SE NE	"	40.0	40.0
SW SE	"	40.0	40.0
NW SE	"	40.0	40.0
N $\frac{1}{2}$ NE SE	"	20.0	20.0
20 acres off W sd of 60 acres off S end E $\frac{1}{2}$ SE	"	20.0	20.0
40 acres off W Sd of 60.acres off S end E $\frac{1}{2}$ SE	"	40.0	40.0
S $\frac{1}{2}$ SW SW	36-21-5	20.0	20.0
N $\frac{1}{2}$ SW SW	"	20.0	20.0
30 acres W end N $\frac{1}{2}$ SW	"	30.0	30.0
10 acres E sd NW SW	"	10.0	10.0
NE SW	"	40.0	40.0
SE SW	"	40.0	40.0
N $\frac{1}{2}$ 60 acres off E end of) 96 acres off N Sd of SW)	35-21-5	96.0	60.0
S $\frac{1}{2}$ 60 acres off E end of) 96 acres off N sd SW)	") 64.0	30.0
SE SW	"))

Hamilton County

NE NE	2-20-5
SE NE	"
NE NW	"
SE SE	"
NE SE	"
SE SW	1-20-5
SW SW	"
NE SW	"
NW SW	"
SW NW	"
SE NW	"
NE NW	"
NW NW	"
SW NE	"
NW SE	"
SW SE	"
NW NE	12-20-5

ENGINEER'S REPORT

#282 A.C. Hobbs Drain (Com. Rec. #12 - Pages 43,82,86,92,118,122)

Commencing at a point 940 feet South and 15 feet West of the Northwest Corner of the Southwest Quarter of Section 36, Township 21 North, Range 5 East in Tipton County, Indiana, running thence in a generally southerly course through the said Southwest Quarter of Section 36, Township 21 North, Range 5 East in Tipton County, Indiana ending and terminating at a point East of the Southwest corner of Section 36 in Township 21 North, Range 5 East in Tipton County, Indiana and where Circuit Court Ditch No. 121 crosses the Tipton and Hamilton County Line as follows - commencing at the head or Stake "0" thence East 500 feet, thence South 45 degrees East 500 feet, thence South 3 degrees West 700 feet, thence South 20 degrees West 710 $\frac{1}{2}$ feet to terminus or outlet. Said drain to be constructed as an underground tile drain from its source to its outlet as follows: from Stake "0" to 37 $\frac{1}{4}$ feet below Stake No. 4 - one row of 10-inch tile shall be used, also from 37 $\frac{1}{4}$ feet below Stake No. 4 to 62 $\frac{1}{4}$ feet below Stake No. 12 - one row of 12-inch tile shall be used, and from 62 $\frac{1}{4}$ feet below Stake No. 12 to 10 $\frac{1}{2}$ feet below Stake No. 24 or the outlet - one row of 15-inch tile shall be used.

Donald F. Lord, Secretary
Tipton County Drainage Board
January 30, 1973

Lands affected by the A.C. Hobbs Drain

<u>Description</u>	<u>Acres Assessed</u>	<u>Acres Benefited</u>
SE NE 35-21-5	40.0	5.0
N $\frac{1}{2}$ NE SE "	20.0	15.0
S $\frac{1}{2}$ SW SW 36-21-5	20.0	16.0
12 acres out of NE COR OF 60 acres) 35-21-5 off S end of E $\frac{1}{2}$ SE)	60.0	12.0
45 acres off W Sd W $\frac{1}{2}$ SW 36-21-5	50.0	45.0
10 acres off S Sd SW NW "	40.0	10.0
10 acres off E Sd NW SW "	10.0	6.0
9 acres off E Sd NE SW "	40.0	9.0
20 acres off W Sd SE SW "	40.0	20.0
TOTALS	320.0	138.0

Remonstrances filed and new assessments as follows:

N $\frac{1}{2}$ NE SE 35-21-5	20.0	11.0
S $\frac{1}{2}$ SW SW 36-21-5	20.0	12.0
10 acres out of NE Cor of 60.0 acres off S End of E $\frac{1}{2}$ SE 35-21-5	60.0	10.0
SW NW 36-21-5	40.0	20.0
50 acres off N End & W Sd of W $\frac{1}{2}$ SW "	50.0	45.0
25 acres off S Sd of 50 acres " off E End N $\frac{1}{2}$ SW "	50.0	25.0
SE SW "	40.0	15.0
TOTALS	280.0	138.0

ENGINEER'S REPORT

#121 Eli Houser Tile Drain (Circuit Ct. Rec. #2-Pages 484-486)

Commencing 940 feet South and 15 feet West of the Northwest Corner of the Southwest Quarter of Section 36, Township 21 North, Range 5 East in Tipton County, State of Indiana, running thence East 600 feet, running thence South 51 degrees East 400 feet, running thence South 27 degrees East 100 feet, running thence South 1 degree West 800 feet, running thence South 18 degrees West 400 feet, running thence South 10 degrees West 100 feet running thence South 19 degrees West 200 feet, running thence South 41 degrees West 200 feet, running thence South 20 degrees West 100 feet, running thence South 28 degrees West 170 feet, ending and terminating 450 feet East and 500 feet South of the Southwest corner of Section 36, Township 21 North, Range 5 East, the above described corner being in Tipton County, Indiana and the terminus of said ditch being in Hamilton County, State of Indiana. Said ditch at the point of commencement should be $3\frac{1}{2}$ feet deep and gradually continue to deepen to Section Stake No. 25 so as to give a uniform fall upon the bottom thereof of $\frac{16}{100}$ of a foot per 100 feet, the same shall be excavated sufficiently wide to receive one row of 8-inch tile to Section Stake No. 12 and from Section Stake No. 12 to Section Stake No. 25 it shall be excavated to receive 2 rows of 8-inch tile side by side upon the bottom thereof, said ditch from Section Stake No. 25 to the terminus shall be an open ditch. At section Stake No. 25 said ditch is $\frac{4-70}{100}$ feet deep, one foot wide in the bottom and $\frac{10-40}{100}$ feet wide at the top and shall gradually continue to widen and deepen to the lower end so as to give a uniform fall upon the bottom thereof of $\frac{16}{100}$ of a foot to each 100 feet and shall be one foot wide in the bottom, $\frac{2-16}{100}$ feet deep and $\frac{6-92}{100}$ feet wide at the top.

Donald F. Lord, Secretary
Tipton County Drainage Board
January 30, 1973

Lands affected by the Eli Houser Drain

Description	Acres Assessed	Acres Benefited
30 acres off of the W Sd of NW $\frac{1}{4}$ SW $\frac{1}{4}$ 36-21-5	30.0	30.0
N $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ 36-21-5	20.0	20.0
10 acres off the E Sd NW $\frac{1}{4}$ SW $\frac{1}{4}$ 36-21-5	10.0	10.0
NE $\frac{1}{4}$ SW $\frac{1}{4}$ "	40.0	40.0
S $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ "	20.0	20.0
SE $\frac{1}{4}$ SW $\frac{1}{4}$ "	40.0	40.0
S $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ 35-21-5	20.0	20.0
N $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ "	20.0	20.0

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INSTRUCTIONS TO BIDDER

Bidders are required to submit their bids upon the condition expressed in these instructions, and the provisions of these instructions will become a part of the contract the same as if every detail were stated therein.

BIDDER'S ABILITY

It is the intention of the herein described person and/or persons who are receiving bids, to award the contract for this work to a contractor whose experience, skill, and financial resources are fully equal to the task of prosecuting the work in a rapid and satisfactory manner and successfully completing it within the time limit set, therefore, the bidder is required to make a complete statement of his ability and financial history by filling out and attesting thereto, in accordance with chapter 2, Page 850, Acts of the 1929 Indiana General Assembly, a Standard Questionnaire and Financial Statement for bidders, Form No. 96A.

The herein described person and/or persons receiving bids require that only one Form No. 96A be executed and filed with them during a calendar be held responsible for any change in his ability and financial status, unless an additional Standard Questionnaire and Financial Statement for Bidders is properly executed and enclosed with the bid.

It is not necessary for bidders to execute Form No. 96A when the total bid price is less than \$5,000.00.

PROPOSAL GUARANTEE

No bid will be considered unless accompanied by cash, certified check, or a bid bond in an amount equal to five percent (5%) of the total amount of the bid. Certified checks and/or bid bonds shall be make payable, unconditionally, to the order of the person and/or persons designated in the Notice to Bidders.

In the event that any bidder fails or refuses to execute a contract or fails to meet the eligibility requirements to execute a contract within a period of ten (10) days after receiving notice of such award, then the respective sum or sums deposited by said bidder shall be retained by the person and/or persons herein receiving bids as liquidated damages and not as a forfeiture. The acts of submitting a bid shall constitute an agreement that the said sum is a fair estimate of the amount of damages that the person and/or persons herein receiving bids will sustain in the case said bidder fails to enter into a contract or fails to meet the eligibility requirements necessary to execute a contract.

After bidders have submitted proposals, they shall not withdraw or cancel such proposals or sums deposited therewith until such proposals submitted have been canvassed and a contract awarded and executed.

Decisions on the acceptance or rejection of the various proposals will be made as soon as practicable after bids are received, but the right is reserved by the person and/or persons herein receiving bids, to defer action on awarding contracts for twenty-one (21) days.

Unsuccessful bidders may have their cash, certified check, or bid bond returned to them any time after an award and execution of contract has been made, provided a receipt for same is signed by the bidder and attached to the bid proposal.

Successful bidders may have their cash, certified check, or bid bond returned to them any time after an acceptable contract performance bond has been executed and a contract signed.

BIDDER'S NON-COLLUSION AFFIDAVIT

No bid will be considered unless accompanied by a Bidder's Non-Collusion Affidavit properly executed and notarized according to law.

BIDDERS OBLIGATION OF EXAMINATIONS

Bidders are required to examine the Instructions to Bidders, Plans, Specifications, Contract, Proposal Forms, the Site of the Proposed Work,

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and any other data which may be on file in the office of the Surveyor. No plea of ignorance of conditions that exist or of conditions or difficulties that may be encountered in the execution of the work under this contract, as a result of a failure to make the necessary examinations and investigations, will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill in every detail all the requirements of the Contract, Plans, and Specifications, or will be accepted as a basis for any claims whatsoever for extra compensation. Upon request all available information in the possession of the Surveyor will be shown to the bidders, but the correctness of such information is not guaranteed.

The Instructions to Bidders, Plans, Specifications, Proposal Forms, and all supplementary documents and special provisions shall become a part of the Contract, and any requirement occurring in any one is as binding as if set out in every detail in all.

In case of discrepancies, figured dimensions shall govern over scale dimensions, Plans shall govern over Specifications, and a special provision shall govern over both specifications and Plans. The Contractor shall take no advantage of any error or omission in the Plans, or of any discrepancy between the Plans, Specifications, or Special Provisions. In event the Contractor discovers any apparent error or discrepancy between the Plans, Specifications, or Special Provisions, he shall call immediately upon the Surveyor for his decision. The Surveyor shall make such corrections and interpretations as may be deemed necessary for the fulfillment of the intent of the Plans, Specifications, and Special Provisions as construed by him and his decision shall be final.

BASIS ON HIGH PROPOSALS ARE SOLICITED

Bids are solicited on the basis of unit and lump sum prices which are clearly set forth in the Proposal Form and the Plans and Specifications. These unit and lump sum prices when applied to the several required quantities will make up the total bid price for the completion in every detail the requirements of the Plans and Specifications appertaining to such work or materials.

Bidders are required to make proposals on the complete project and bids will not be accepted which are partially made out, or bids will not be accepted where the bidder only bids on one item.

SCHEDULE OF QUANTITIES SHOWN IN PROPOSAL FORM

The schedule of quantities as shown in the proposal forms, although stated with as much accuracy as is possible in advance, is approximate only, and is assumed solely for the purpose of comparing bids.

The quantities on which payments will be made to the Contractor will be determined from the actual amount of the materials used and work done. The Contractor shall furnish such additional work or materials deemed necessary by the Surveyor to complete the project, and any extra compensation to the Contractor shall be at the unit bid price. Likewise the Contractor shall not receive payment for any quantity deemed unnecessary by the Surveyor provided notice to non-perform such item is given in sufficient time to protect the Contractor against any commitments he may have made to suppliers of labor or materials.

Materials shall be of a quality equal or superior to the requirements of the Plans and Specifications. The burden of proof of quality of any substitution shall become an obligation of the Contractor. Any dispute arising as to material or workmanship shall be settled by the Surveyor and his decisions shall be final.

The bid for all materials and work means in place and complete. The person and/or persons herein receiving bids shall not be liable for any sales tax or other tax whatsoever that may be levied by the Federal Agency. All materials and equipment must be transported to the site of the work by the Contractor and no additional Compensation will be allowed for such work.

BARRICADES AND WARNINGS

The Contractor shall erect all barricades and warning signs to protect the public. The act of signing a contract shall constitute an agreement by the Contractor to save harmless the person and/or persons herein

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receiving bids and all their officers, agents, representatives, and employees from all suits, actions, or claims of any character brought on account of any injury or damages sustained by any person or property from the acts of such Contractor, or in consequence of any neglect in safe-guarding the work, or through the use of unacceptable materials in constructing the work, or because of any action, omission, neglect, or misconduct of said Contractor, or because of any claims or amount arising or recovered under the Workman's Compensation Act, or any other law, by-law, amandmanet, ordinance, order, or decree. The person and/or persons herein receiving bids, may retain for their use so much of the money due said Contractor under his contract as shall be considered necessary until such suits, actions, or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished the person and/or persons herein receiving bids. In case no money is due the Contractor, his surety shall be held until such suits, or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished the person and/or persons herein receiving bids.

LAWS TO BE OBSERVED

The act of signing a contract shall constitute an agreement by the Contractor that he has made himself familiar with, and at all times shall observe and comply with, all Federal, State, and Local laws, ordinances, and regulations which may in any manner affect those engaged or employed in the work or which may in any manner affect the material or equipment used in or upon the work and no plea of misunderstanding will be considered on account of ignorance thereto. The Contractor shall indemnify and save harmless the person and/or persons herein receiving bids. and all their officers, agents, employees, or representatives from all suits, actions, or claims arising from or based on the violation of any such laws, ordinances, and regulations, whether by himself or his employees, sub-contractors, or agents.

PERMITS AND LICENSES

The Contractor shall procure, at his own expense, all Permits and licenses, pay all charges and fees, and give all notices necessary and incident to the lawful prosecution of the work.

PATENTED DEVICES, MATERIALS, AND PROCESSES

If any design, device, materials, or process covered by letters, patent, or copyright is used by the Contractor, whether required or not, he shall provide for any such use by suitable legal agreement with the patentee or owner, and accopy of this agreement shall be filed with the Surveyor, if no such agreement is made or signed asnoted, the Contractor and surety indemnify and save harmless the person and/or persons herein receiving bids from any such claims for infringements by reason of the use of any such patent, design, device, material, ^{sub}process, trade mark, copyright, and shall indemnify the person and/or persons, herein receiving bids for any cost, expense, or damages which theymay be obliged to pay by reason of such infringement, at any time dueing the prosecution, or after the completion of the work.

COOPERATION WITH PUBLIC UTILITIES

The Surveyor will notify all Public Utilities who may own poles, lines, transformers, wired, cables, pipe, or conduit on or adjacent to the site of the proposed work. The Contractor shall be held responsible to notify any Public Utilities Company and arrange for the relocation of any of their properties that may interfere with frugal and safe prosecution of the work. In no case will the person and/or persons herein receiving bids be responsible for any costs involved in the relocat)on or rerouting of any poles, lines, transformers, wires, cables, pipe, or conduit on or adjacent to the site of the proposed work.

METHODS AND TIME OF PAYMENTS

Estimates of the amount of work done will be made by the Surveyor every month. His judgement shall be final as to the number of units of work completed, materials in place, or the percent of any lump sum item completed. Payments shall be made at the rate of the unit price bid. In all contracts involving open or Tileditch work, seventy percent (70%) of the work done or materials in place shall be paid for at the end of each menth and fifteen percent (15%) of the contract price shall be retained until the work is fully completed and accepted by the Surveyor, and the final fifteen

percent (15%) shall be retained until sixty (60) days after the work is fully completed and accepted by the Surveyor.

ASSIGNMENT OF CONTRACT

The bidder shall designate the time required to complete the work proposed provided he is awarded the contract. The time proposed for completion date shall become a part of the contract and the person and/or persons herein receiving bids reserves the right to evaluate the time required for such completion before an award of contract is made.

The act of signing a contract shall constitute an agreement that no assignment of said contract shall be made without the written consent of the person and/or persons herein receiving bids.

The work shall continue progressively until final completion. No extension beyond the time of completion specified in the contract will be given unless the Surveyor shall be notified in writing of the necessity of such delay and the Surveyor will have the power to decide whether or not such necessity exists. If at any time it becomes apparent that the Contractor is unable to fulfill the terms of the contract, the Surveyor may annul the contract, without notice to do so and advertise and relet the unfinished portion of the work.

In the event of an annulment and reletting of the contract, the Contractor whose contract has been annulled, shall not receive any further payment until the work is completed according to the plans and specifications. If the expenses incurred in the reletting of the unfinished work permits an unpaid balance of the original contract price such unpaid balance shall be paid the original contractor, but if the expenses and cost of completion of said work shall exceed the unpaid balance, the Contractor whose contract has been annulled will be held responsible for the difference and will be collected from his surety or himself.

The Contractor agreed to pay any and all money due any person, person, company, corporation, or sub-contractors furnishing any materials or labor whatsoever used or employed in the prosecution of the work.

REQUIREMENTS FOR CONTRACT ELIGIBILITY

1. WAGES ON PUBLIC WORKS

The Contractor or any Sub-Contractor thereon, shall be required to pay for each class of work in this project, a scale of wages which shall in no case be less than the prevailing wage scale in the immediate locality. In all cases the Contractor shall abide by the provisions of Chapter 319 of the Acts of 1935 of the Indiana General Assembly, and any amendments thereto.

2. CONTRACT BOND

The bidder to whom the contract for said work is awarded, shall, within ten (10) days after receiving notice of such award, execute a contract with the person and/or persons herein receiving bids for the full and complete performance of all work specified herein, and shall provide a bond with a Surety Company as bondsmen whose financial standing and record of service is satisfactory to the person and/or persons herein receiving bids. for the faithful performance of such contract in the sum total of the contract price. This bond shall continue in force for one year from the date of acceptance of the completed project by the person and/or persons herein receiving bids and shall contain a maintenance clause to cover all quarantees against defective materials and workmanship.

3. INSURANCE

The person and/or persons herein receiving bids require that the Contractor shall effect and pay premiums on Public Liability Insurance. in the amount of \$50,000.00 for injury to one person, and \$100,000.00 for injury to more than one person in one casualty; and Property Damage Insurance in the amount of \$100,000.00. A certificate that the coverage is completed, and premiums paid, shall be furnished the Surveyor before the work begins on the project. The herein described person and/or persons receiving bids require that only one said Insurance Certificate be filed with the Surveyor during a calendar year beginning January 1 and ending December 31.

4. WORKMAN'S COMPENSATION

The Contractor will be required to furnish a certificate from the Indiana State Industrial Board as evidence that he has complied with the

provisions of the Indiana Workman's Compensation Act, and any amendments thereto. Said certificate shall be delivered to the Engineer before the work is started. The person and/or persons herein receiving bids require that only one said certificate be filed with the Surveyor during a calendar year beginning January 1 and ending December 31.

PREPARATION OF PROPOSALS

The bidder's proposal must be submitted on the typewritten forms following these instructions. The proposal or proposals must not be DETACHED BY ANY BIDDER WHEN SUBMITTING A BID. The proposals must be completed in every detail. All unit item price bids must be stated in figures, the total bid for each unit item quantity calculated and stated in figures, the lump sum stated in figures, and the grand total of bids for all items proposed computed and stated in figures.

The person and/or persons herein receiving bids reserves the right to correct any apparent error resulting from erroneous multiplication or addition before awarding a contract.

The legal status of the bidder must be stated in the proposal.

A partnership bidder must give the full names and addresses of all partners and must be signed by at least one person who shall designate himself as a partner.

When a Firm submits a bid, all of its members must sign the Proposal, or if they choose, any member having binding authority to do so may sign the proposal and describe themselves as doing business under a firm name and style.

A Corporation bidder must name the state in which its articles are held. The proposal must be signed in the name of, and under the seal of the Corporation, by a duly authorized officer or agent of the corporation and his address given. Such officer or agent must present legal evidence that he has lawful authority to sign said proposal and that the signature is binding upon the corporation and that the corporation has a legal existence. In the event that any corporation, organized and doing business under the laws of any foreign state, is a successful bidder, such a corporation shall present evidence before a contract for said work is executed, that it is authorized to do business in the State of Indiana.

REJECTION OF PROPOSALS

The person and/or persons herein receiving bids reserves the right to reject, if they so desire, any proposal containing any omission, additions, extensions, erasures, alterations, or irregularities of any kind.

Failure to execute a Bidder's Non-Collusion affidavit shall result in the rejection of a proposal.

If the total bid price exceeds \$5,000.00 a properly executed Standard Questionnaire and Financial Statement for Bidder's, Form 96A must be enclosed with the proposal except in cases when the bidder has filed with the person and/or persons herein receiving bids a properly executed Form 96A during the same calendar year beginning January 1 and ending December 31. Failure to execute a Form 96A, or its equivalent shall result in the rejection of the proposal.

Proposals which are deemed by the person and/or persons herein receiving bids to be manifestly unbalanced may be rejected.

The judgement of the person and/or persons herein receiving bids shall be final in determining the capability, experience and ability of the bidder to successfully and properly prosecute the proposed work to completion within the proposed time. Failure to convince the person and/or persons herein receiving bids for such capacities shall result in the rejection of the proposal.

Bids which exceed the Surveyor's estimate, Estimated Benefits, or Appropriation for such work, whichever may be the controlling factor shall be rejected.

GENERAL SPECIFICATIONS for

OPEN AND/OR TILE DITCH (CLEANOUT CONSTRUCTION RECONSTRUCTION, REPAIRS)

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Bidders are required to submit their bids upon the conditions expressed in these Specifications, and the provisions of the Specifications will become a part of the contract the same as if every detail were stated therein.

The true intent of the plans and specifications and any and all special provisions is to prescribe a complete work or improvement which the contractor undertakes to do complete in detail, in full compliance with the proposal and contract, and it is understood that the contractor, for all or any part, will furnish all materials, implements, machinery equipment, tools, supplies, transportation, labor, and incidentals required to execute the contract in a satisfactory and workmanlike manner, unless otherwise provided in the Specifications, in the special provisions, or in the contract.

Bidders must examine for themselves the location of the proposed work, and exercise their own judgement, as to the accuracy of the estimated, and the nature and amount of the work to be done and if it be found that anything has been omitted, or mis-stated which is necessary for the proper completion of the work, the Contractor will be required to perform the same as though fully and correctly stated, and the correction shall not be deemed an addition to, alterations of, or a deviation from the work herein contemplated, and contracted for.

The plans represent the conditions as foreseen, by various quantities represented thereon may necessarily be increased or diminished during construction, without impairing the contract.

It is understood by all concerned that the apparent silence of the specifications as to any detail or the apparent omission of a detailed description concerning any point shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the first quality is to be used. All interpretations of these specifications shall be made upon this basis.

To prevent misunderstanding and litigation, the Surveyor shall decide any and all questions which may arise as to the quality and acceptability of materials furnished and work performed, and as to the manner of performance, and the rate of progress of said work, and shall decide all questions which may arise as to the interpretation of the specifications and plans relating to the work and all questions as to the acceptable fulfillment of the contract on the part of the contractor. The Surveyor shall determine the amount and quantity of the several kinds of work performed and materials furnished which are to be paid for under the contract.

RIGHT -OF-WAY DURING CONSTRUCTION

The Contractor shall have 75 feet on the operation side and 75 feet on the opposite side, measured from the center line of the Ditch, except in cases where existing circumstances would make a right of way so stated impossible or unreasonable. Every effort will be made to eliminate unnecessary changes of operational side. However, it is well to mention at this point that the land-owners concerned are paying for this construction, and their requests, within reason, should have attention and consideration, especially those landowners within the right of way, who are subjected to extra work, crop losses, other damage and inconveniences during the operation.

The Contractor is warned that he shall be held liable for any unnecessary damage to any farm bridge, highway bridge, railroad bridge, building, headwell, tile outlet, structure, or any other property whatsoever. Repair or replacement of any damage to any public or private property, due to the negligence or carelessness of the Contractor, shall be at the expense of the Contractor.

The Contractor shall give Landowners seven (7) days notice to remove fences, floodgates, etc., which interferes with the proper execution of the Contract. Proof of such notice shall eliminate any liability on the part of the Contractor due to damage of floodgates or fences left in place after a seven (7) day notice has been given the owners of same.

COOPERATION WITH PUBLIC UTILITIES AND RAILROADS

The Contractor shall give notice to Public Utilities and Railroad Companies in regard to overhead or underground wires, cables, pipe, conduit, etc., and due precaution and cooperation shall be exercised by the Contractor to prevent liability, damage to property, or hazards to traffic.

CLEARING

All trees and brush shall be removed from the slope of the ditch bank and to a minimum of 25 feet from the finished center line of the ditch. In addition, the area over which the spoil is spread shall be cleared of all brush. All stumps that interfere or that are likely to interfere with the flow of the ditch shall be removed and disposed of at the Contractor's expense.

In areas adjacent to the ditch banks, stumps, brush, logs and rocks of more than 1/3 cubic foot in volume shall be burned, buried below plow depth, or disposed of at the contractor's expense. In no case shall the burying or covering of any material that will interfere with plowing or mowing be tolerated.

Along public highways both sides of the ditch shall be thoroughly cleared and all debris removed to provide no traffic or sight distance interference. The operation side along public highways shall be on the side opposite the road unless otherwise provided for in the special specifications or provisions.

The right is reserved for landowners, with the approval of the Surveyor, to mark any trees to be saved.

Any exceptions to these clearing specifications must have the approval of the Surveyor, and if he demands, the written consent of the landowner.

Excavation

The excavation shall be done according to the grade, bottom width, side slope, and depth as shown in the Special Specifications. The bank shall be left as nearly smooth and even as possible to secure the same in a good and workmanlike manner. All washes shall be filled and all open laterals entering the main ditch shall be cleared and cleaned a minimum of 50 feet on uniform grade to meet the natural grade of the lateral and no extra compensation shall be allowed for such work. The Contractor is expected to make all feasible alignments of the ditch bottom necessary to accomplish the best possible finished channel under the existing circumstances.

Extra compensation will not be allowed the Contractor for excavation made, in addition to the amount shown in the specifications unless so ordered by the Surveyor. Any cutoff, widening, or change in channel not specified in the specifications will be paid for at the unit price bid or at a price per unit as agreed upon by himself and the Surveyor.

The right is reserved, without impairing the contract, to order the performance of such work, of a class not contemplated in the proposal, as may be considered necessary to complete fully and satisfactorily the work included in the contract. Such extra work shall be done by the Contractor and he shall be compensated at a price per unit as agreed upon by himself and the Surveyor.

SPREADING

Excavated material shall be spread at not less than 5 X 1 slope horizontal to vertical. The minimum berm width shall be 10 feet from the finished ditch bank and after spreading, not less than 1 foot per foot off top cut.

Spreading of material -
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The finished spoil shall be left in a smooth manner, such that any average row crop farm tractor can be driven over all parts of it with a reasonable degree of safety and economy.

It is expected that the finished spoil bank be left in a tillable manner. In no case will covering brush, logs, excavated stumps, or boulders of 1/3 cubic foot or larger, that will interfere with the plow or mower, be tolerated.

Landowners concerned may authorize bucket spread or spoil piles, but the Contractor is warned that written consent from the landowner shall be obtained to eliminate liability for unspread spoil or unburned brush or stumps.

In cases where the special specifications or provisions include the spreading of spoil heretofore left unspread by a former cleanout or dredging process, the same clearing and spreading specifications herein set out shall apply both to the former unspread spoil and the spoil made available by the work herein proposed.

BRIDGES

Cleanout under or through, or removal or any County, State, Farm, or Railroad bridge or culvert as specified in the specifications, or as directed by the Surveyor, shall be at the expense of the Contractor and no extra compensation will be allowed for such work. The contractor shall be held liable for any damage done to any bridge or culvert due to negligence or carelessness, and the judgement of the Surveyor shall be final as to whether such damage was the result of negligence or carelessness.

CONCRETE

Concrete shall be of a classification as specified in the special specifications of plans. The unit price of concrete in place as shown on the plans shall include the reinforcing steel of size, quantity, and designation as shown on the plans and all concrete shall be of a quality and shall be placed in a manner as provided for the "Standard Specifications for Road and Bridge Construction and Maintenance" of the State Highway Commission of Indiana, dated 1957.

CORRUGATED METAL PIPE

Corrugated Metal Pipe, Helcor, or equal, shall be of a gauge and quality as provided for in the special specifications, Only pipe that will meet the provisions of the "Standard Specifications for Road or Bridge Construction and Maintenance" of the State Highway Commission of Indiana dated 1957 will be accepted, unless specifically approved by the Surveyor.

The unit price shall include all materials, pipe, bands, bolts, labor, and machinery to place the pipe on grade and to backfill as directed.

DRAIN AND SEWER TILE

Materials for use shall be equal or superior to the quality provided as follow:

Concrete field tile - Extra quality ASTM designation C4-24 or equal.

Red Clay Field Tile- Shall be of a quality, equal or superior to that manufactured by the Krick Tyndall Co., Inman Tile Co., Brooklyn Tile Co. Majencia Tile Co., or must have the approval of the Surveyor.

Reinforced concrete sewer pipe - AASHO designation M87-42 or equal.

Concrete sewer pipe - AASHO designation M86-42 or equal.

Triple Strength pipe - shall be of a quality, equal or superior to that manufactured by the Indiana Lock Joint Concrete pipe Co., Krick Tyndell Co., Evans Concrete Pipe Co., Independent concrete Pipe Co., or must have the approval of the Surveyor.

Vitrified Clay Sewer Pipe - ASTM designation C13-441 or must have the approval of the Surveyor.

TILE AND SEWER EXCAVATION AND BACKFILL

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The excavation shall be to the depth shown on the cut sheet provided by the Surveyor and shall be made on a regular uniform grade as shown on the plans or as directed by the Surveyor. The width of the trench shall be at least six inches greater in the clear than the external of the pipe of tile to be laid therein.

The excavation is to be open cut from the surface, unless otherwise ordered by the Surveyor. The bottom of the trench is to be made and shaped as nearly as possible to conform to the shape of the lower half of the pipe or tile, and should the trench be excavated to a greater depth than that given by the Surveyor, the contractor shall refill to grade with suitable well tamped material, at his own expense.

The omission of suitable sheeting, or planking, or bracing on the sides of all excavations or trenches shall be at the contractor's own personal risk. The contractor shall receive no extra compensation for the lumber sheeting, other materials, or labor used for the supporting of the sides of any excavation or trenches unless the same be left in the trench by order of the Surveyor.

Sewer pipe or tile are to be of the dimensions shown on the plans, of standard thickness, free from flaws, cracks, or blisters, circular in bore and true form in their lengths. The pipe must be easily fitted together, leaving sufficient room for the sewer joining material. All pipe or tile shall be inspected by the Contractor and Surveyor and those not meeting the requirements shall be rejected.

The joints between the individual sewer pipes shall, in all cases, be made as watertight as possible. Oakum with mastic cement mortar or any other approved root resisting sewer joining material is specified. All joints are to be swabbed.

Portland cement mortar used as a joining material, or in manholes, shall be composed of one part cement and two parts clean sand and mixed dry until of uniform color. A sufficient amount of clean water shall then be added to bring the mass to proper consistency.

In case the specifications specify field drain tile, said tile shall be laid with not more than 1/4 inch space between the joints at any point. At joints which might cause ground leaks the upper periphery of the joint shall be stripped with medium weight roofing felt, or equal quality protective material.

On drains where in surface water weirs are specified, it shall be graded to shape as follows: Minimum of 6" bottom, and side slopes of 3 X 1 or greater. At intercepts of the line and weir, the tile shall be replaced with corrugated metal pipe or concrete sewer pipe as specified, using concrete collars at each connection.

The initial backfill shall be shoveled and carefully tamped in place providing a firmly supported lower periphery in the invert groove. Twelve inches of loose cover, free from stones shall then be placed over the top elevation of the pipe or tile. In order to prevent bad alignment of collapses, due to backfilling, the Contractor should flush the refilled earth as layers or backfill are placed in the trench.

The final backfill of the trench shall be made at the direction of the Surveyor. No rocks over 6" in diameter shall be buried in the trench, as well as other non-compacting materials.

Excess excavated material, brush, trees, batts, etc., in the right of way shall be disposed of by the Contractor without additional compensation, to localities not interfering with the regulations of the City, County, or laws of the State of Indiana. Special backfill such as

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pit run gravel, pea gravel, or limestone shall be placed as specified on the plans, or as directed by the Surveyor, and shall be paid for as a separate item.

Trees and brush shall be removed at least 25 feet, or as directed, from the center line of the trench. This includes grubs or other damaging root system.

The complete backfill is equally as important as the grade and line of the pipe or tile, and its importance cannot be over emphasized on this part of the operation; to obtain a proper bed for the pipe or tile, firmly set in place, without danger of collapse of mis-alignment or irregularity in grade. The Contractor is responsible to effect a proper backfill.

In areas of unstable ground conditions, and deep cuts, the Contractor shall make plans to bed the tile or pipe in such a manner as to keep them on grade and in alignment, and he shall take due consideration of such suspected or known areas in his bid.

All settlements, or collapses in the trench, around any manhole, inlet, headwall or other drainage structure or any defect or damage in any portion of the line of pipe or tile, before the expiration of one year from the date of acceptance by the Surveyor shall be repaired and made good at the Contractor's expense, and the contractor shall furnish a satisfactory maintenance bond, of an amount equal to one hundred percent (100%) of the total contract price, for the faithful performance of the work that is or may be necessary to comply with these specifications.

The Contractor shall repair all streets, roads, alleys and crossings in the right of way and leave same in an equal or better condition than before operation.

The Contractor shall make provisions at all roads, and crossings for the free passage of foot passengers, the free passage of water along the gutters, or side ditches, and care shall be taken not to inconvenience landowners residing along the line of work.

The manholes are to be built at such points as the Surveyor may direct circular in form, and minimum of three and one half feet in clear diameter at the bottom, carrying the same diameter to a point three feet below the top to the cover, and two feet in diameter, at the top, so as to receive the ring and cover hereinafter provided. The top courses are to be laid as headers, and the ring and cover are to be neatly set and cemented into the top 1/2 bars shall be used for steps, and placed 18" apart. Standard cast iron frames and covers are to be furnished and set in place, and such costs shall be included in the bid price for manhole complete. Manholes shall be constructed of pre-cast concrete blocks or pipe, and/or hard burned whole brick. Brick wall shall be 8" thick. Inside joints are to be neatly fitted and struck, laid in a full bed of cement mortar. The bottom of the manhole shall be constructed of concrete to the depth of eight inches. The top of the manhole shall be set to the grade furnished by the Surveyor.

All individual laterals intercepted by the excavation of the trench shall be connected to the new tile or pipe, or shall be replaced to the original grade existing before the excavation was made. Due precaution shall be taken by the contractor to insure a backfill under all laterals or existing tile crossing the trench of sufficient compaction and stability to prevent settlement in the tile that would cause breakage or improper grade. The Surveyor may order metal pipe of sufficient length and strength to span the trench in cases where suitable backfill and compaction is not obtained. In no case will the failure to place a suitable protective plug at the top end of any good existing tile, intercepted, or the failure to tap into the new tile, or connect properly to an existing tile and good existing tile intercepted be tolerated.