Drain: OCIVER SHOEMAKER Drain #: 42
Improvement/Arm: FISHERS TRADE CENTER PHASE II RELOCATION
Operator: J. LIVING STON Date: 6-15-05
Drain Classification: Urban/Rural Year Installed: 1999

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

Sin Juf

Sin for f

Gasb 34 Footages for Historical Cost Drain Length Log

Drain-Improvement: OUVER SHOEMAKER - FISHERS TRADE CENTER PHOTIL RELIGIATION

_		Length	Length	Length		
Drain Type:	Size:		(DB Query)	Reconcile	Price:	Cost:
RCP	18"	51'	51'			
	24"	264"	264'			
	48"	264' 541'	541'			
OPEN DITCH		1040	1040'			······································
						-
						
	Sum:	1896'	1896'		#	134,745
inal Report:/8	96'					,,
omments:						
Munnect	BOND LIST	ED ON FIN	AL REPURT	- BOND	LISTED	anl
FINAL REPO	RT 18	BOND # A	LO AMIT	FOR PH		





Kenton C. Ward, Surveyor Phone (317) 776-8495

Fax (317) 776=9628

To: Hamilton County Drainage Board

Re: Oliver Shoemaker Drain

Suite 146
One Hamilton County Square
Noblesville, Indiana 46060-2230
December 13, 1999 (places II)

Attached is a petition and plans for the proposed relocation of the Oliver Shoemaker Drain. The relocation is being proposed by D. B. Mann. The proposal is to relocate the existing Oliver Shoemaker and John Sutton Drains between St. Rd 37 and the railroad. The relocation will be between Sta. 80+50 and Sta. 93+50 of the Oliver Shoemaker and Sta. 20+10 and 31+20 of the John Sutton Drains. The new line shall consist of the following:

48" RCP 540 ft 18" RCP 53 ft 24" RCP 256 ft Open Ditch 1040 ft

The open ditch listed above is the retention facility on the attached plan between structure 06 and structures 02, 04 and 05.

The total length of new drain shall be 1,889 feet. The 2,410 feet of original drain between the above mentioned stations of the Oliver Shoemaker and John Sutton Drains shall be vacated. This proposal will reduce 521 feet of the drains total length.

The cost of the relocation is to be paid by D. B. Mann. Because the project is to be paid by the petitioner and is within the boundaries of the petitioner's property, the project falls under the requirements as set out in IC 36-9-27-52.5. Therefore, a hearing is not required for the petition.

The petitioner has provided the Performance Bond as follows:

Name of Bonding Co.: Frontier Ins. Co.

Bond #: 129055

Bond Date: October 27, 1999 Bond Amount: \$134,745.00

Bond Term (Year Max): October 27, 2000

I responded approval of the relocation by the Board at this time.

Kent**øn** C. Wand

Hamilton County Surveyor

KCW/kkw

THE AMERICAN INSTITUTE OF ARCHITECTS AIA Document A311 PERFORMANCE BOND

Bond No. 129055

KNOW ALL MEN BY THESE PRESENTS, THAT

Mann Realty Co. 8653 Bash Road, Indianapolis, IN 46256-1202

as Principal, hereinafter called Contractor, and

Frontier Insurance Company 195 Lake Louise Marie Road, Rock Hill, NY 12775

as Surety, hereinafter called Surety, are held firmly bound unto:

Hamilton County Board of Commissioners Hamilton County Surveyor's Office, One Hamilton County Square, Noblesville, IN 46060

as Obligee, hereinafter called Owner, in the amount of:

One Hundred Thirty-four Thousand Seven Hundred Forty-five and 00/100 Dollars (\$134,745.00)

for payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated ______, entered into a contract with Owner for:

Storm Sewer and Erosion Control for Relocation of the Oliver Shoemaker Drain Phase 2

in accordance with Drawings and Specifications which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alternation or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:



POWER OF ATTORNEY

Enute All Hen By These Presents: That FRONTIER INSURANCE COMPANY, a New York Corporation, having its principal office in Rock Hill, New York, pursuant to the following resolution, adopted by the Board of Directors of the Corporation on the 4th day of November, 1985:

"RESOLVED, that the Chairman of the Board, the President, or any Vice President be, and hereby is, authorized to appoint Attorneys-in-Fact to represent and act for and on behalf of the Company to execute bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, and to attach thereto the corporate seal of the Company, in the transaction of its surety business;

"RESOLVED, that the signatures and attestations of such officers and the seal of the Company may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the Company when so affixed with respect to any bond, undertaking, recognizance or other contract of indemnity or writing obligatory in the nature thereof;

"RESOLVED, that any such Attorney-in-Fact delivering a secretarial certification that the foregoing resolutions still be in effect may insert in such certification the date thereof, said date to be not later than the date of delivery thereof by such Attorney-in-Fact."

This Power of Attorney is signed and sealed in facsimile under and by the authority of the above Resolution.

DOES HEREBY MAKE, CONSTITUTE AND APPOINT:

Ronald J. Carter Vicki S. Duncan Sharon E. Black James K. McWhinnie

Perrysburg

of

, in the State of

Ohio

its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred in its name, place and stead to sign, execute, acknowledge and deliver in its behalf, and as its act and deed, without power of redelegation, as follows:

Bonds guaranteeing the fidelity of persons holding places of public or private trust; guaranteeing the performance of contracts other than insurance policies; and executing or guaranteeing bonds and undertakings required or permitted in all actions or proceedings or by law allowed; IN AN AMOUNT NOT TO EXCEED THREE MILLION FIVE HUNDRED THOUSAND (\$3,5(10,000.00)) DOLLARS; and to bind FRONTIER INSURANCE COMPANY thereby as fully and to the same extent as if such bond or undertaking was signed by the duly authorized officers of FRONTIER INSURANCE COMPANY, and all the acts of said Attorney(s)-in-Fact pursuant to the authority herein given are hereby ratified and

Ju 到itness 到hereaf, FRONTIER INSURANCE COMPANY of Rock Hill, New York, has caused this Power of Attorney to be signed by its President and its Corporate seal to be affixed this 29th day of April , 19 97

FRONTIER INSURANCE COMPANY

BY.

HARRY W. RHULEN, President

State of New York County of Sullivan

SS.:

29th April On this day of , before the subscriber, a Notary Public of the State of . 19 New York in and for the County of Sullivan, duly commissioned and qualified, came HARRY W. RHULEN of FRONTIER INSURANCE COMPANY to me personally known to be the individual and officer described herein, and who executed the preceding instrument, and acknowledged the execution of the same, and being by meduly sworn, deposed and said, that he is the officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the Corporate Seal of the Company, and the Corporate Seal and signature as an officer were duly affixed and subscribed to the said instrument by the authority and direction of the Corporation, and that the resolution of the Company, referred to in the preceding instrument, is now in force.

In Cestimony Whereof, I have hereunto set my hand, and affixed my official seal at Rock Hill, New York, the day and year above written.

NANCY V, PIERRO (

Notary Public State of New York Sullivan County Clerk's No. 2395 Commission Expires July 8, 1998

CERTIFICATION

I, JOSEPH P. LOUGHLIN, Secretary of FRONTIER INSURANCE COMPANY of Rock Hill, New York, do hereby certify that the foregoing Resolution adopted by the Board of Directors of this Corporation and the Powers of Attorney issued pursuant thereto, are true and correct, and that both the Resolution and the Powers of Attorney are in full force and effect.

In Mitness Mhereof, I have hereunto set my hand and affixed the facsimile seal of the corporation this 27th October 19 99 October 0

day of

FM 19-5002-A (This copy printed from the Digital Archive of the Hamilton County Surveyor's Office; One Hamilton County Surveyor's Offic

CERTIFICATE OF COMPLETION AND COMPLIANCE

To: Hamilton County Surveyor

Re: Oliver Shoemaker Regulated Drain Relocation / Reconstruction performed in conjunction with the development of Fishers Trade Center, Phase Two.

I hereby certify that:

- 1. I am a Registered Land Surveyor or Engineer in the State of Indiana.
- 2. I am familiar with the plans and specifications for the above referenced subdivision .
- 3. I have personally observed and supervised the completion of the drainage facilities for the above referenced subdivision.
- 4. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been installed and completed in comformity with all plans and specifications.

Signature:	Mulo. Li	the Date: November 27, 20	<u>00</u>
Type or Print Nam	ne: Michael D. Little	e, P.E., Senior Project Engineer	
Business Address:	Melton-Packard & As 8444 Castlewood Dr Indianapolis, India	rive, Suite 700	·
_	r: (317) 577-0069 x: (317) 577-1879		
SEAL	HARL D. CARREL O. C.	INDIANA REGISTRATION NUMBER	-

NOV 2 9 2000





Kenton C. Ward, Surveyor Phone (317) 776-8495 Fax (317) 776-9628

Suite 188 One Hamilton County Square Noblesville, Indiana 46060-2230

To: Hamilton County Drainage Board

August 15, 2003

Re: Oliver Shoemaker Drain: Fishers Trade Center Phase II Relocation

Attached are as-builts, certificate of completion & compliance, and other information for Fishers Trade Center Phase II Relocation. An inspection of the drainage facilities for this section has been made and the facilities were found to be complete and acceptable.

During construction, changes were made to the drain, which will alter the plans submitted with my report for this drain-dated December 13, 1999. The report was approved by the Board at the hearing held April 26, 1999. (See Drainage Board Minutes Book 5, Pages 124-125) The changes are as follows:

Original T.C.: I.E.: Length: Plans: Difference: Structure: Pipe: Existing tile 799.15 1 799.36 24 806.31 44 1 806.31 799.36 2 799.78 24 63 Existing tile 799.36 3 805.85 799.55 24 41 3 805.85 799.55 4 799.78 24 48 5A 802.06 5 802.61 24 68 53 -2 7 804.13 18 51 799.75 48 541 540 1 **Existing Structure** 810.14 802.61

RCP Totals:

18	51
24	264

	48	541
Other Drain:		
open ditch		1040
open ditch		10

The length of the drain due to the changes described above is now 1896 feet. There was 2410 feet of the Oliver Shoemaker and John Sutton Drains vacated with this project. Therefore, the overall drainage system was reduced by 514 feet.

The non-enforcement was approved by the Board at its meeting on May 10, 1999 and recorded under instrument #200200084568.

The bond or letter of credit from Frontier Insurance Company, number 129036; in the amount of \$132,300; was released December 26, 2000.

I recommend the Board approve the drain's construction as complete and acceptable.

Sincerely,

Kenton C. Ward,

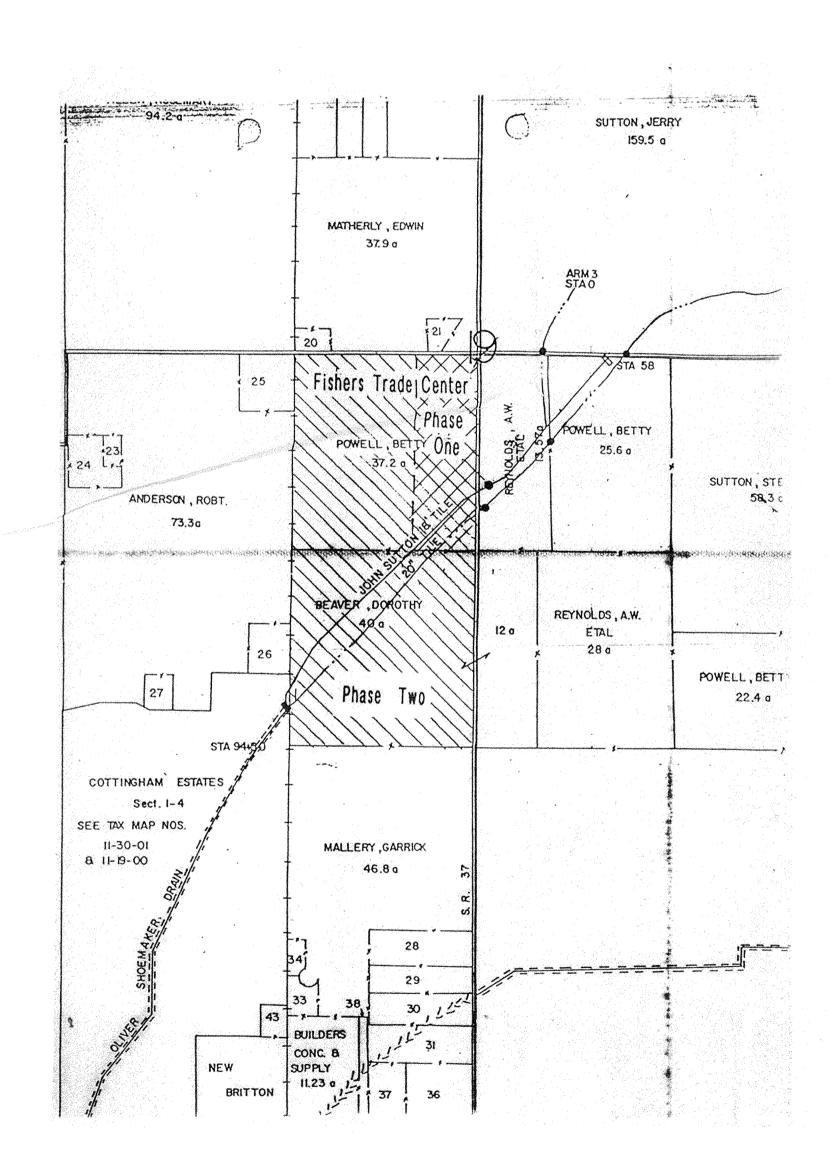
Hamilton County Surveyor

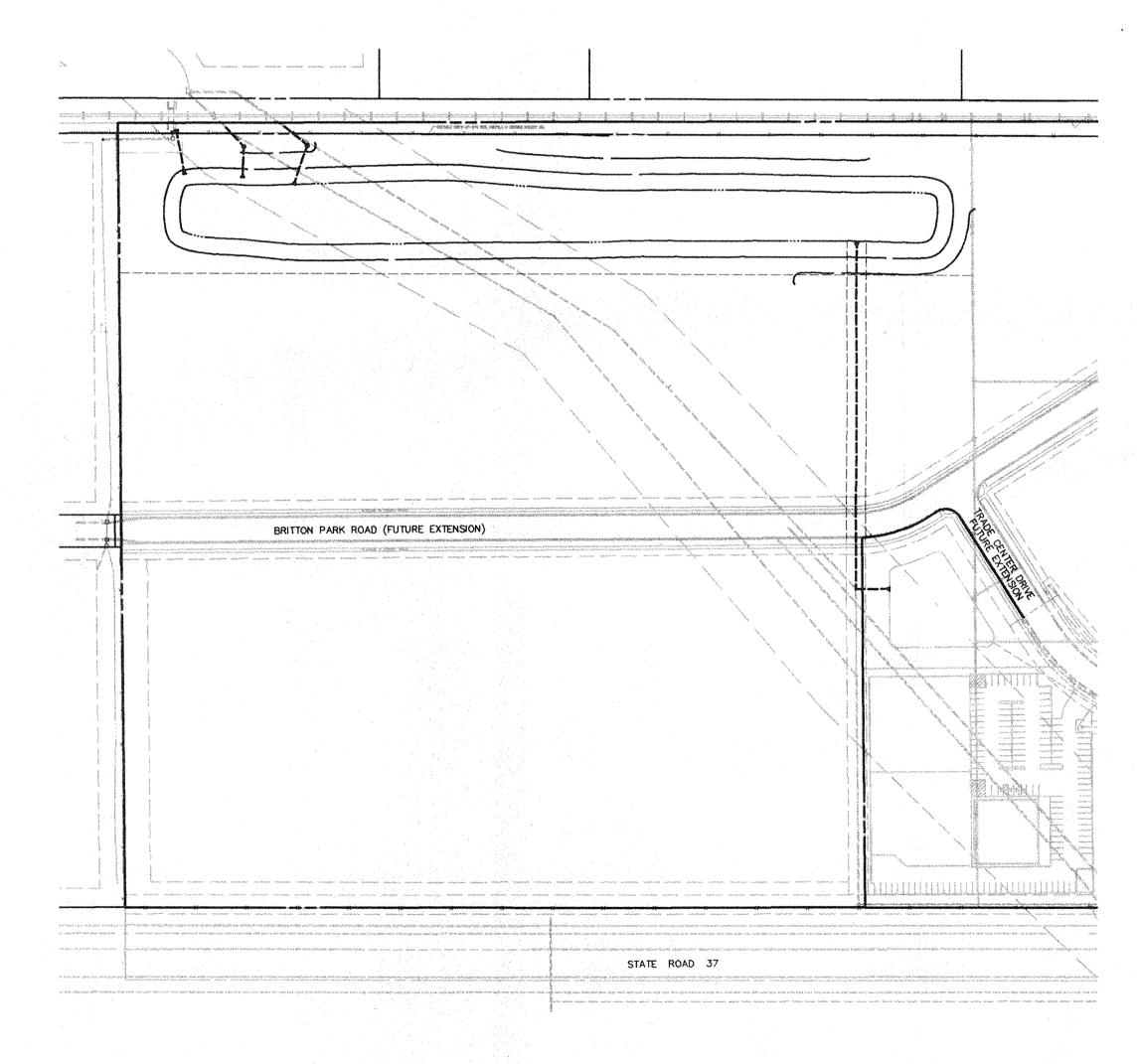
KCW/slm

SITE CONSTRUCTION PLANS FOR

RELOCATION / RECONSTRUCTION OF THE OLIVER SHOEMAKER REGULATED DRAIN

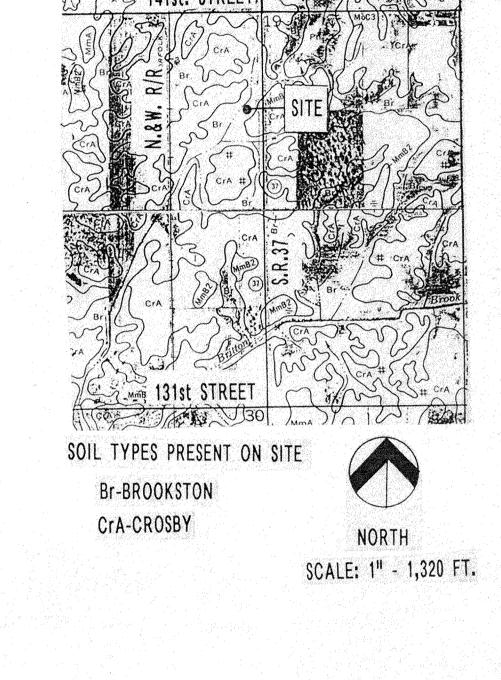
FISHERS TRADE CENTER - PHASE TWO Section 19, Township 18 North, Range 5 East Fishers, Indiana



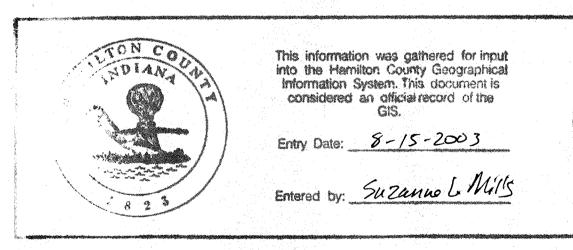


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NORTH N.T.S.



	INDEX
SHT. NO.	DESCRIPTION
CS C200 C201 C202 C701 C801 C803 C901	COVER SHEET KEY PLAN SITE DEVELOPMENT PLAN SOIL EROSION CONTROL PLAN STORM SEWER PLAN AND PROFILE SITE DETAILS EROSION CONTROL DETAILS & SPECIFICATIONS SITE SPECIFICATIONS



PRINTED
JUN 1 4 2000
MPA

PLANS PREPARED BY:

MPA

MELTON-PACKARD AND ASSOCIATES 8444 Castlewood Drive, Suite #700 Indianapolis, Indiana 46250 (317) 577-0069

INS PREPARED

D.B. MANN DEVELOPMENT CO. 8653 BASH STREET INDIANAPOLIS, INDIANA 46256 (317) 849-0452

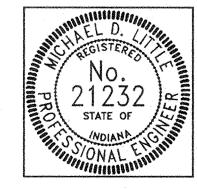
AS-BUILT

PLANS PREPARED FOR:

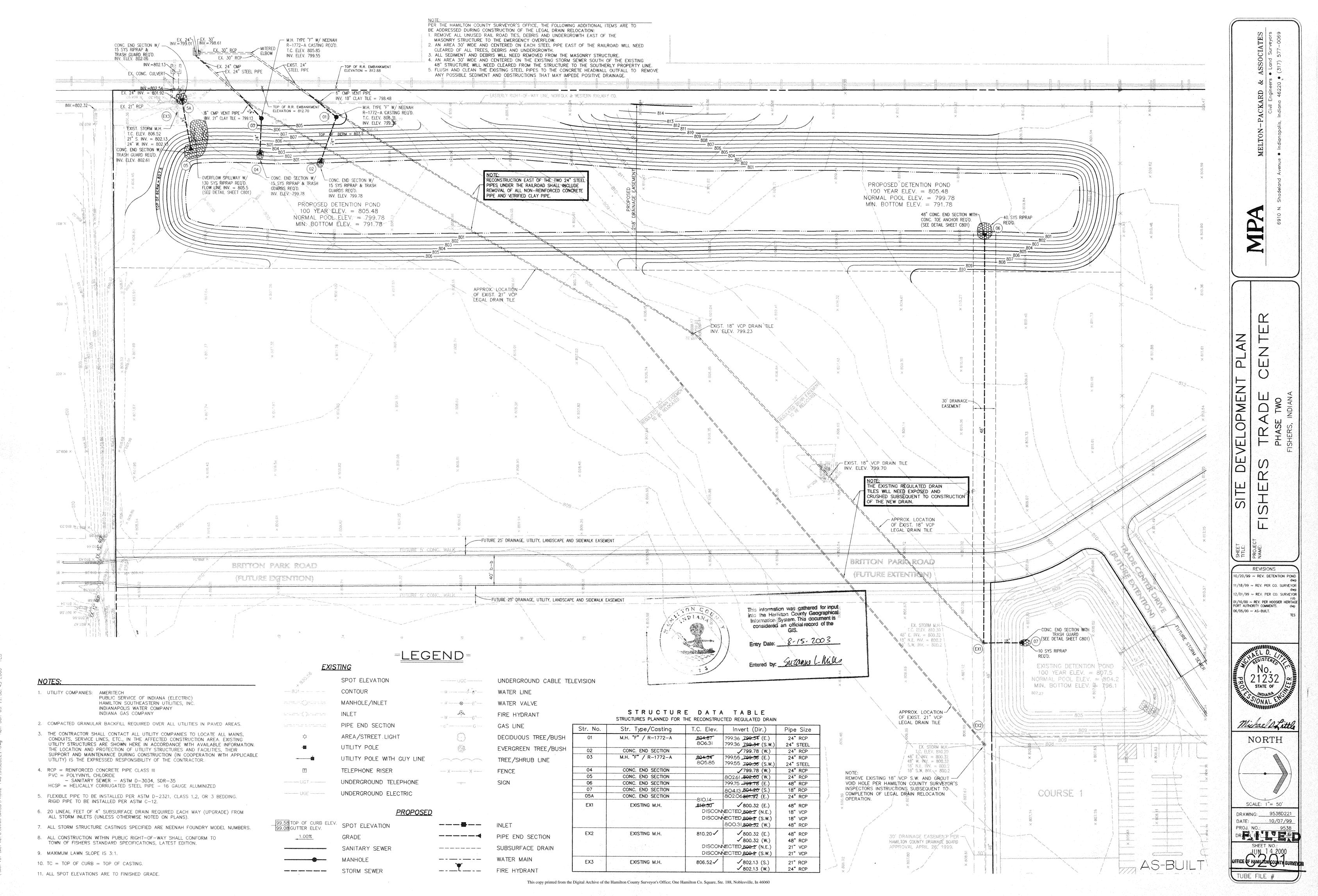
JUN 14 2000

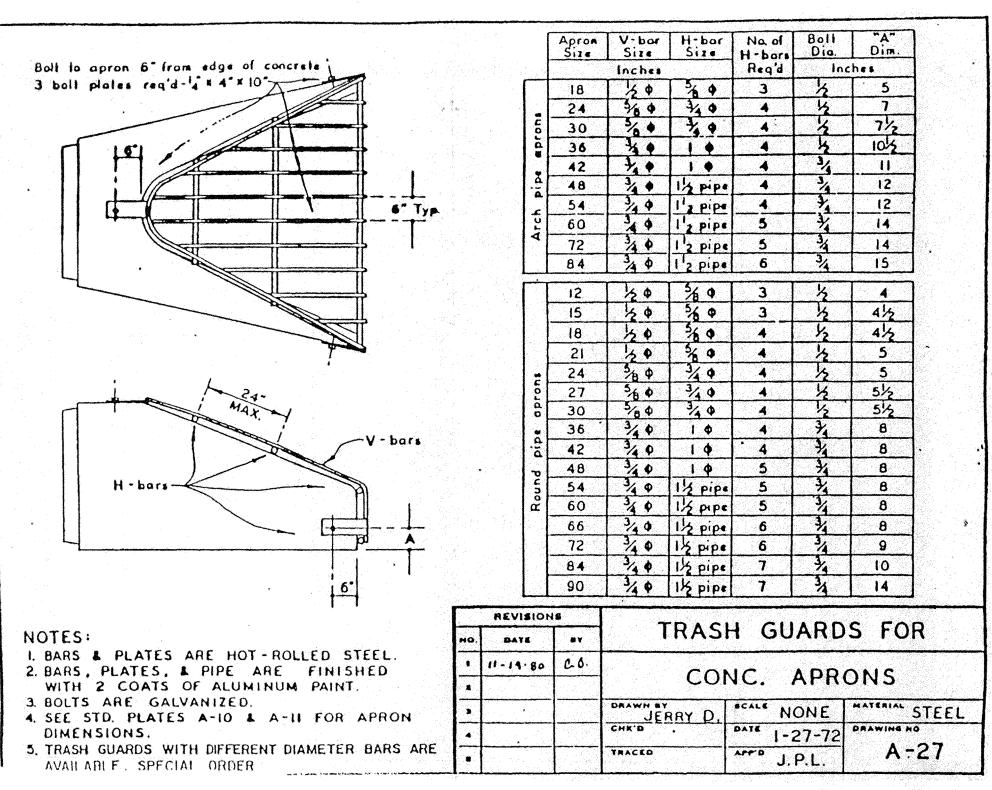
OFFICE OF HAMILTON COUNTY SURVEYOR

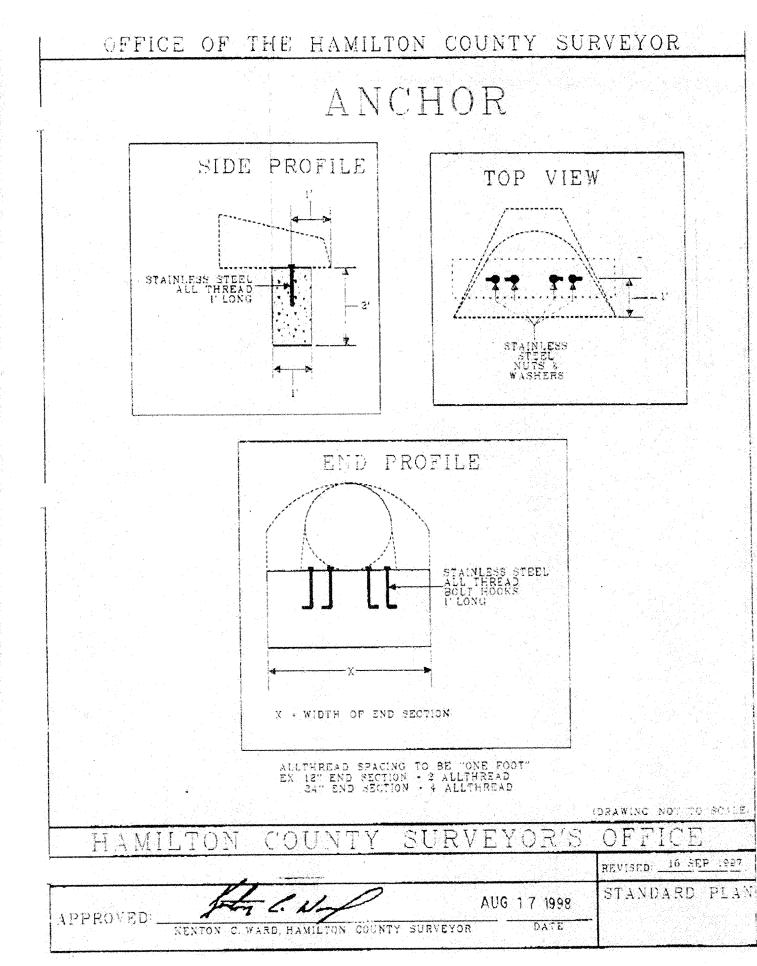
CERTIFIED THIS 7th DAY OF OCTOBER, 1999.

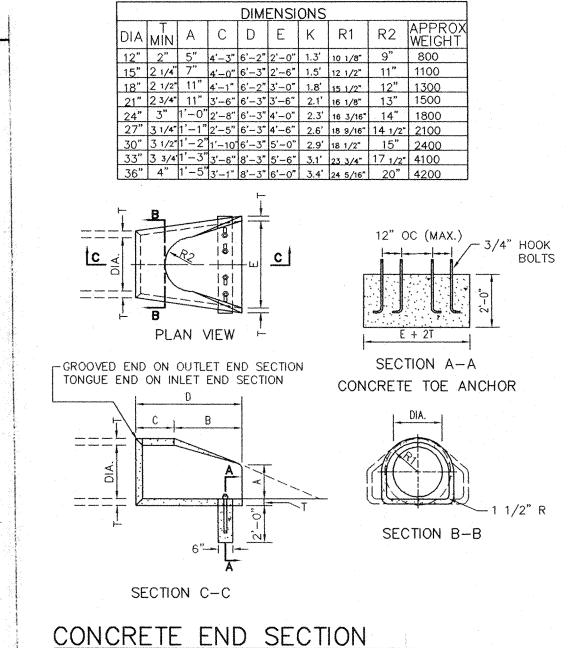


MICHAEL D. LITTLE
REG. PROFESSIONAL ENGINEER NO. 21232
STATE OF INDIANA







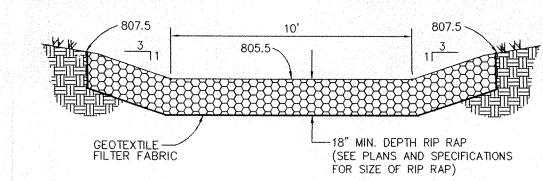


DETENTION FACILITY DESIGN - PHASE TWO 10YR, 6 HOUR SCS TYPE II RAINFALL

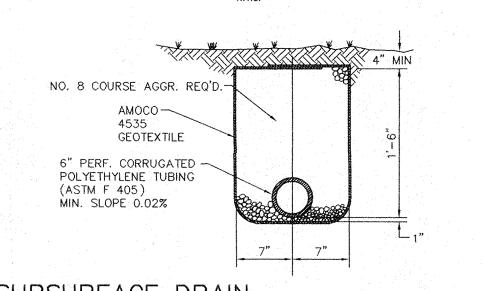
STAGE DISCHARGE TABLE

BROAD CRESTED WEIR ID No. W1 Description: Overflow Weir cd: 3.2100 Weir length: 10.0000 ft. El: 805.50 ft. Weir Increm: 0.10

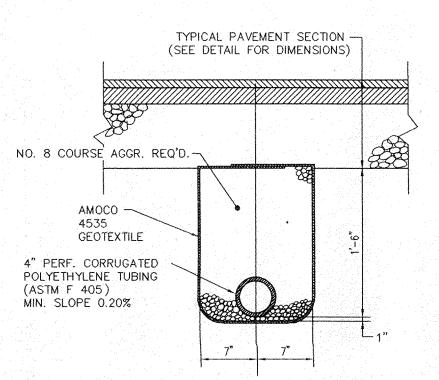
. 3 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	<discharge>cfs</discharge>	STAGE (ft)	<discharge>cfs</discharge>		<discharge>cfs</discharge>	Section and the Section is	<discharge></discharge>
805.50	0.0000	806.10	17.067	806.70	54.349	******* 807.30	======================================
805.60	1.0395	806.20	21.958	806.80	62.424	807.40	122.40
805.70	3.0089	806.30	27.379	806.90	71.040	807.50	134.37
805.80	5.6543	806.40	33.327	807.00	80,201		
805.90	8.9003	806.50	39.804	807.10	89.913		
806.00	12.711	806.60	46.810	807.20	100.18		



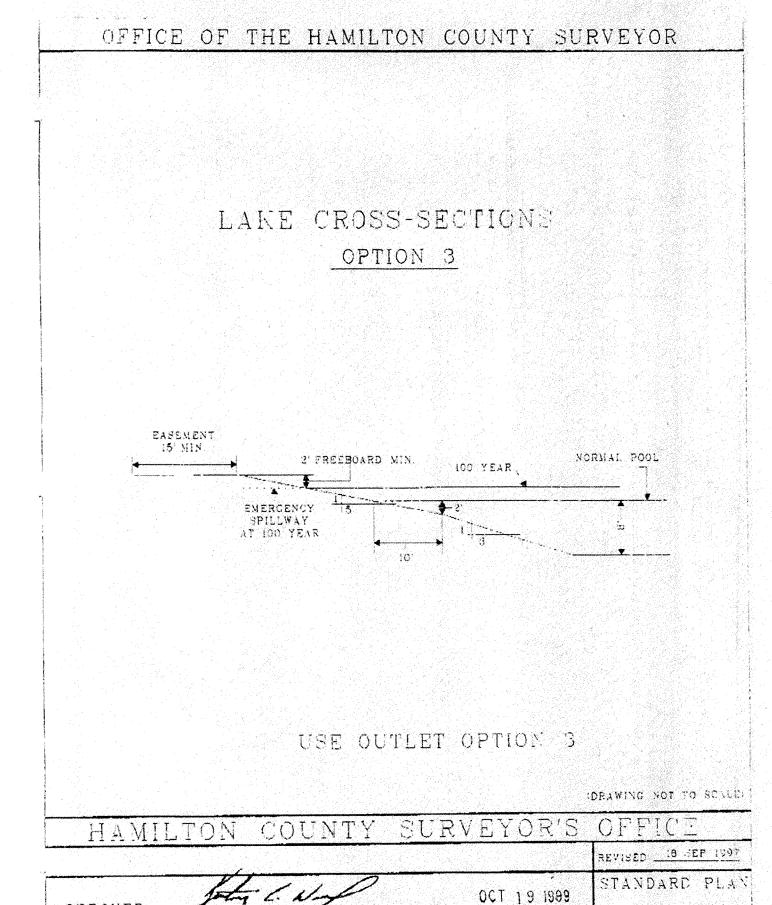
OVERFLOW WEIR DETAIL



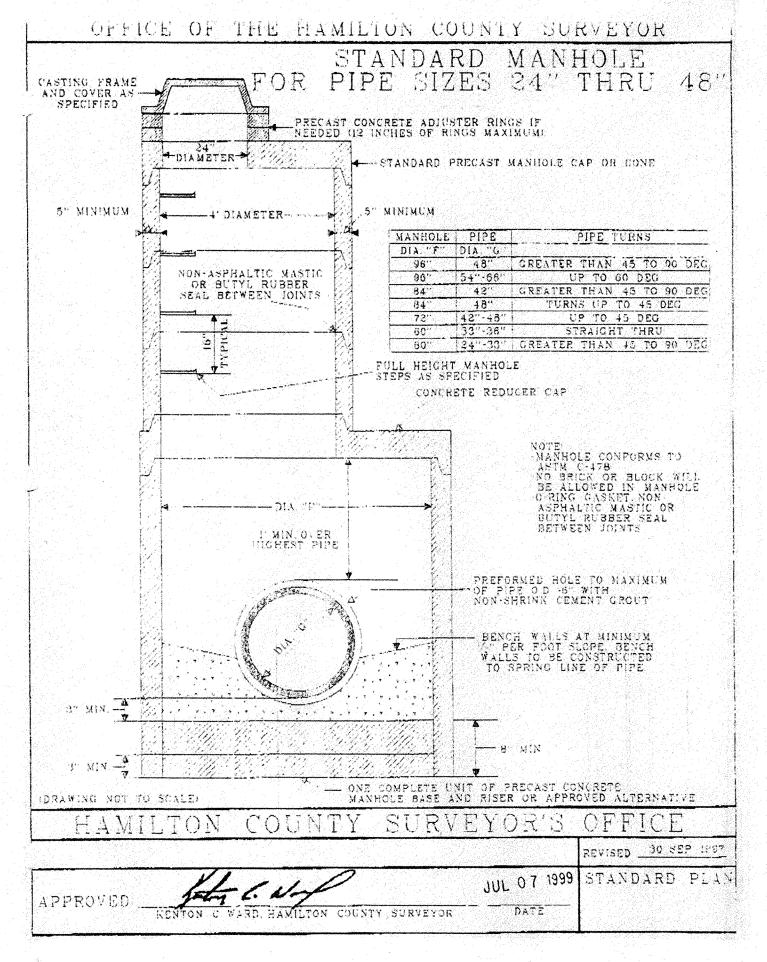
SUBSURFACE DRAIN (NON-PAVED AREA)



SUBSURFACE DRAIN



KENTON C WARD, HAWILTON COUNTY SURVEYOR



STORM MANHOLE/INLET TYPE "F"

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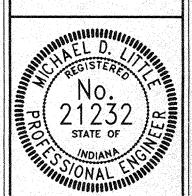
(PAVED AREA)

S

REVISIONS 10/20/99 ~ REV. OVERFLOW WEIR

A

11/18/99 ~ REV. PER CO. SURVEYOR



Michael O. Little

PRINTED JUN 1 4 2000 MPA

DRAWING: 9538D281 DATE: 10/07/99 PROJ. NO.: 9538 DRAWN BY MPA

REQUIREMENTS (EXHIBIT 3.64-B)

MAINTENANCE

CONCERNS

LOCATION: ON CURBED PAVED STREET DOWN GRADE FROM LIGHT CONSTRUCTION ACTIVITY (e.g., INDIVIDUAL CONTRIBUTING DRAINAGE AREA: 1 ACRE MAXIMUM.

CAPACITY: RUNOFF FROM A 2-YR. FREQUENCY, 24-HR. DURATION STORM EVENT ENTERING THE STORM DRAIN WITHOUT BYPASS FLOW.

HEIGHT: 1-3 LAYERS OF SANDBAGS (AS NECESSARY)

LENGTH: AS NEEDED TO INTERCEPT RUNOFF (3 FT. MINIMUM). TRAFFIC BARRICADES (OPTIONAL): AS NEEDED TO PREVENT VEHICLES FROM HITTING THE BARRIER.

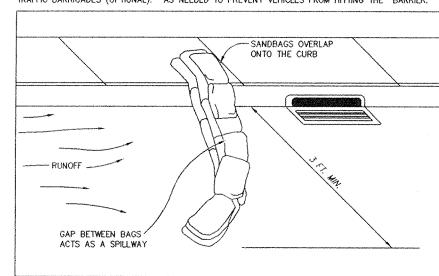


EXHIBIT 3.64-B. DETAIL OF A SANDBAG CURB SEDIMENT BARRIER TO PROTECT A CURB INLET.

INSTALLATION 1. FILL BAGS APPROXIMATELY HALF FULL WITH SAND OR FINE GRAVE

2. UPSLOPE FROM THE CURB INLET, LAY THE BAGS TIGHTLY END TO END IN A ROW CURVING FROM THE CURB AND

3. OVERLAP THE BARRIER ONTO THE CURB, AND EXTEND IT A MINIMUM OF 3 FT. INTO THE STREET TO INTERCEPT

4. IF USING MORE THAN ONE ROW, OVERLAP THE BAGS WITH THE ROW BENEATH, AND LEAVE A ONE-BAG GAP IN THE MIDDLE OF THE TOP ROW TO SERVE AS A SPILLWAY.

5. FOR ADDITIONAL STORAGE CAPACITY, CONSTRUCT A SERIES OF SANDBAG BARRIERS ALONG THE CURB SO EACH TRAPS SMALL AMOUNTS OF SEDIMENT.

*INSPECT FREQUENTLY FOR DAMAGE BY VEHICULAR TRAFFIC, AND REPAIR IF NEEDED. *REMOVE SEDIMENT (BUT NOT BY FLUSHING) WHEN IT REACHES HALF THE HEIGHT OF THE BARRIER. *DEPOSIT REMOVED SEDIMENT WHERE IT WILL NOT ENTER STORM DRAINS VEHICULAR HAZARD IF BARRIER IS TOO HIGH OR TOO LONG--CONSIDER USING TRAFFIC BARRICADES.

VEHICULAR DAMAGE TO BARRIER--REPAIR IMMEDIATELY. SANDBAGS NOT PLACED TIGHTLY TOGETHER--RESULTS IN POOR TRAP EFFICIENCY

DRAINAGE AREA TOO LARGE--RESULTS IN POOR TRAP EFFICIENCY AND/OR SEDIMENT OVERLOAD. APPROACH TOO STEEP--CAUSES HIGH FLOE VELOCITY RESULTING IN POOR TRAP EFFICIENCY AND SANDBAGS DISLODGING; USE A DIFFERENT INLET PROTECTION PRACTICE

SEDIMENT NOT REMOVED FOLLOWING A STORM EVENT--RESULTS IN INCREASED SEDIMENT TRACKING, TRAFFIC

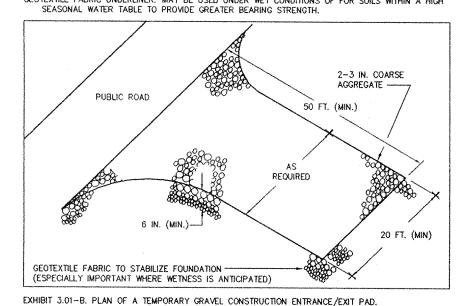
PRACTICE 3.01 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT PAD

TO PROVIDE A STABLE ENTRANCE / EXIT CONDITION FROM THE CONSTRUCTION SITE.

TO KEEP MUD AND SEDIMENT OFF PUBLIC ROADS.

REQUIREMENTS MATERIALS: 2-3 IN. WASHED STONE (INDOT CA NO. 2) OVER A STABLE FOUNDATION. (EXHIBIT 3.01-B) THICKNESS: 6 IN. MINIMUM

WIDTH: 20 FT. MINIMUM OR FULL WIDTH OF ENTRANCE/EXIT ROADWAY, WHICHEVER IS GREATER. LENGTH: 50 FT. MINIMUM. THE LENGTH CAN BE SHORTER FOR SMALL SITES SUCH AS FOR INDIVIDUAL HOME. WASHING FACILITY (OPTIONAL): LEVEL AREA WITH 3 IN. WASHED STONE MINIMUM OR A COMMERCIAL RACK, AND WASTE WATER DIVERTED TO A SEDIMENT TRAP OF BASIN (PRACTICE: 3.72). GEOTEXTILE FABRIC UNDERLINER: MAY BE USED UNDER WET CONDITIONS OF FOR SOILS WITHIN A HIGH



INSTALL ATION (EXHIBIT 3.01-C)

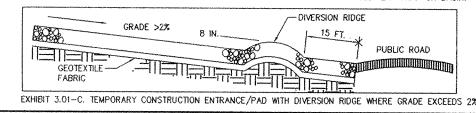
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES IN PUBLIC ROADS. 2. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA, AND

3. IF SLOPE TOWARDS THE ROAD EXCEEDS 2%, CONSTRUCT A 6-BIN, HIGH WATER (RIDGE) WITH 3:1 SIDE LOPES ACROSS THE FOUNDATION AREA ABOUT 15 FT. FROM THE ENTRANCE TO DIVERT RUNOFF AWAY

FROM THE ROAD (PRACTICE 3.24)(SEE EXHIBIT 3.01-C). 4. INSTALL PIPE UNDER THE PAD IF NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.

5. IF WET CONDITIONS ARE ANTICIPATED, PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE

6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN IN THE EROSION/SEDIMENT CONTROL PLAN, LEAVING 7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.



MAINTENANCE

PROTECTION REQUIRED

INSPECT ENTRANCE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER STORM EVENTS OR HEAVY USE. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL. TOPORESS WITH CLEAN STONE AS NEEDED

IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER CONVEYED INTO A SEDIMENT TRAP OR BASIN. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

OFFICE OF THE HAMILTON COUNTY SURVEYOR

SEEDING SPECIFICATIONS

All disturbed areas are to be seeded as set forth in the seeding recommendations which follow, All disturbed areas are to be fertilized with 600 of 12-12-12 per acre No area shall remain more than five (6) days without seeding and fertilizing. If soil has hardened, the contractor shall loosen the soil at least 3" in depth before seeding. Contractor shall reseed have areas before final acceptance by the Surveyor. The contractor shall seed the project twice. First seeding shall include fertilizer and second shall omit fertilizer.

Seeding Recommendations

September 15 to March 15 30*/Ac KY 31 Fescue 2 Bu/Ac Wheat

March 15 to May 15 30*/Ac NY 31 Fescue 2 Bu/Ac Oats

May 15 to September 15 30*/Ac KY 31 Fescue O 10 Ac Annual Rye Grass

All areas shall be mulched. Mulch shall consist of 1/2 tons of dry material per acre. Material shall consist of straw, hay, or erosion control inbric. Mulch shall be applied at a rate of 55 bales per acre after seeding and fertilizing the area.

> EROSION CONTROL EFFORTS SHALL ALSO INCLUDE PLACEMENT OF STRAW BALES WITHIN DRAINAGE SWALES TO PREVENT SEDIMENT FROM LEAVING THE SITE. ALL STORM SEWER INLETS WILL ALSO NEED PROTECTED FROM RECEIVING SEDIMENT. THE COUNTY SURVEYOR'S INSPECTOR MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES TO PROTECT THE REGULATED DRAIN FROM RECEIVING SEDIMENT.

HAMILTON COUNTY SURVEYOR'S OFFICE REVISED: 6 FEB 92 STANDARD PLAN FEB 0 9 1999 KENTON C. VARD, HAMILTON COUNTY SURVEYOR

ROCK CHUTE

REQUIREMENTS CONTRIBUTING DRAINAGE AREA: 100 ACRES MAXIMUM.

OUTLET: STABLE.

APRON: DESIGN DEPENDS ON CHANNEL DEFINITION (SEE EXHIBIT 3.41-B). BUT IS LONG FNOUGH TO DISSIPATE RUNOFF ENERGY, SET ZERO GRADE, STRAIGHT AND ALIGN WITH THE RECEIVING STREAM. (IF SITE CONDITIONS REQUIRE A CURVE, SET IT NEAR THE UPSTREAM END.) FOUNDATION: GEOTEXTILE FABRIC FOR STABILIZATION AND FILTRATION OR WELL-GRADED GRAVEL FILTER

SEE SHEET C202 APRON AT ZERO GRADE-~NO OVERFALL 25# - 75# RIP-RAP FILTER FABRIC -18" MIN. EXHIBIT 3.41-B. PIPE OUTLET APRONS FOR A APRONS FOR A CHANNEL (LEFT) THAT IS NOT WELL DEFINED AND (RIGHT) THAT

MATERIALS: HARD, ANGULAR, AND HIGHLY WEATHER-RESISTANT RIPRAP STONE OF SIZE AND GRADATION THAT WILL WITHSTAND THE VELOCITIES OF THE CHUTE. (SPECIFIC GRAVITY AT LEAST 2.5; SIZE AS SPECIFIED IN DESIGN.) THICKNESS: 12 IN. MINIMUM OR TWO TIMES THE ${
m d}_{50}$ STONE DIAMETER, WHICHEVER IS GREATER.

INSTALLATION 1. EXCAVATE THE APRON AREA SUBGRADE BELOW DESIGN ELEVATION TO ALLOW FOR THICKNESS OF THE FILTER (OR GRAVEL LAYER) AND THE RIPRAP. (THIS OVER-EXCAVATION GREATLY INCREASES THE AMOUNT OF SPOIL.) COMPACT ANY FILL USED IN THE SUBGRADE TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL, AND SMOOTH ENOUGH TO PROTECT FABRIC FROM TEARING.

3. PLACE THE GEOTEXTILE FABRIC (OR GRAVEL LAYER) ON THE COMPACTED AND SMOOTHED FOUNDATIONS. IF MORE THAN ONE FABRIC PIECE IS NEEDED, THE UPSTREAM PIECE SHOULD OVERLAP THE DOWNSTREAM 4. INSTALL THE RIPRAP TO THE LINES AND ELEVATIONS SHOWN IN THE DESIGN. IF THE CHANNEL IS POORLY

DEFINED, THE FILTER (OF GRAVEL LAYER) AND RIP RAP SHOULD EXTEND TO THE TOP OF THE BANK 5. IF THE GEOTEXTILE FABRIC TEARS WHEN PLACING THE RIPRAP, REPAIR IMMEDIATELY BY LAYING AND STAPLING

A PIECE OF FABRIC OVER THE DAMAGED AREA, OVERLAPPING THE UNDAMAGED AREAS AT LEAST 12 IN. 6. MAKE SURE THE TOP OF THE RIPRAP APRON IS LEVEL WITH OF SLIGHTLY BELOW THE RECEIVING STREAM. (RIPRAP SHOULD NOT RESTRICT THE CHANNEL OR PRODUCE AN OVERFALL.) 7. BLEND THE RIPRAP SMOOTHLY TO THE SURROUNDING GRADE. 8. STABILIZE ALL DISTURBED AREAS IMMEDIATELY FOLLOWING INSTALLATION.

MAINTENANCE INSPECT ROCK CHUTES AFTER STORM EVENTS FOR STONE DISPLACEMENT AND FOR EROSION AT THE SIDES AND MAKE NEEDED REPAIRS IMMEDIATELY; USE APPROPRIATE SIZE STONE, AND DO NOT PLACE THEM ABOVE

PRACTICE 3.41

PEAK RUNOFF FROM 10-YR. FREQUENCY, 24-HR. DURATION STORM EVENT

SEE NOTE -COMPACTED-

ANCHOR -

SEDIMENT CONTROL FENCE

NOTE: 1. AMOCO 2221 TO BE PLACED ALONG BASE OF FILL SLOPES. 2. AMOCO 4545 TO BE REINFORCED & PLACED IN DITCH BEHIND LOTS 3 THRU 14.

DEEP MIN.

1 STAPLE PER SQ. YD. 1 1/2 STAPLES PER SQ. YD. 2 STAPLES PER SQ. YD.

EROSION CONTROL MAT INSTALLATION DETAIL

SEE PLAN FOR LIMITS

EROSION CONTROL

MAT INSTALLATION

NOTE: INSTALL NORTH AMERICAN \$150

PAVEMENT OR EXISTING GRADE

TYPICAL SECTION EROSION CONTROL MAT INSTALLATION AT TOP OF SLOPE

EROSION CONTROL BLANKET OR APPROVED EQUAL.

___2'-0" MIN.

ANCHOR FABRIC

SEE PLANS AND SPECIFICATIONS

FOR SIZE OF RIPRAP.

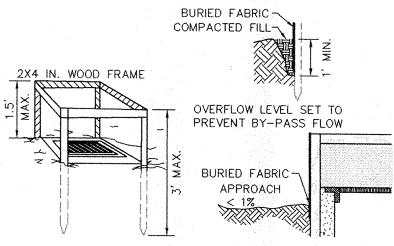
GENERAL STAPLE RECOMMENDATIONS

SLOPE GRADIENT

1. BEGINNING AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT TRENCH AFTER STAPLING.

2. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROX. 2" OVERLAP.

WHEN BLANKETS MUST BE SPLICED



FABRIC DROP INLET PROTECTION

SOIL EROSION CONTROL SCHEDULE

1. Install silt fencing as shown prior to earthmoving.

2. Install stone mud tracking road and construct silt basin(s) prior to

3. Install silt fences and/or straw bale filters around storm inlets no later than one day after installation of casting. Install all silt fencing in swales immediately after rough grading and completion of sanitary sewer and

4. Hydroseed and mulch swale areas and ten feet in front of building pads immediately after finish grading with permanent seeding mixture.

5. Hydroseed and mulch unseeded areas between curb and pads after utility construction is completed.

6. Fertilize as needed every six to eight weeks.

7. Silt traps and silt basins to be inspected within two days after a 1/2" or greater rainfall event. Clean, repair and/or replace silt traps as

8. Remove silt fence behind curbs only after stand of grass has been established.

9. Remove mud from streets with a rubber-tired front end loader after mud is tracked onto street.

10. Lot construction: See typical builder's erosion control requirements. Builder erosion control sequence:

a. Install silt fence along back of curb prior to any lot activity and maintain silt fence until front yard sod is installed.

b. Install stone drive immediately after slab has been poured. c. Limit vehicular traffic and parking to stone drive and street except

for material deliveries d. Remove mud from streets as needed with a rubbered—tired front end loader after mud is tracked onto street

e. Finish grade and seed or sod prior to removal of silt fence 11. Inspections — site to be inspected at a minimum of once a week until all lots have been built upon. Silt traps to be inspected at a minimum after

a rain event of more than 1/2". Developer will restore or replace damaged or improperly functioning erosion control facilities and/or system within a period of seven (7) days. If, upon inspection by developer, builder has tracked mud onto street, builder has one (1) day to remove mud. If builder has not removed mud from street, developer will remove the mud

SEEDING

1. Scope of work — to reestablish vegetative cover by seeding, either permanent/temporary or erosion control types, as shown on the Plan.

within the following 24 hours.

2. Sodding (Alternate): Locally grown Bluegrass blend uniform in color, type, density and thickness. Whenever possible, rolls of sod shall be used — not

Permanent Seeding: See the Hamilton County Surveyor's Office Seeding Specifications Standard Plan.

4. Temporary Seeding: See the Hamilton County Surveyor's Office Seeding Specifications Standard Plan.

5. Erosion Control Seeding: An interim seeding to be applied to all disturbed areas (as designated on plan) as soon as final grade is established. Mix and apply as shown on detail sheet. (Note: if this seeding is applied immediately on finish grading, it can save some further seeding and lengthen the duration between maintenance of silt traps and barriers and street cleanings.)

6. Fertilizer: Commercial analysis 12-12-12 applied at a rate of 600# per acre. Apply lime to raise pH of soil to level needed for species being seeded. Work fertilizer and lime into the soil to a depth of 2 to 3 inches. (pH factor should be checked prior to seeding. Lime should not be required if topsoil is replaced.)

7. All Hydroseeding shall be in accordance with the preceding requirements.

8. Mulch: Wood cellulose fiber may be used where application is made by hydraulic mulching at the rate of one ton per acre. Straw mulch may be used and applied uniformly in a continuous blanket at the rate of 2 tons per acre within 24 hours after seeding in accordance with Section 621 of

9. Sediment Control Fabric: Fabric shall be non-woven construction composed of polypropylene and shall be ultraviolet stabilized.

10. If temporary seeding and/or erosion control seeding is established prior to permanent seeding, the mulch may be eliminated except in "bare" areas.

11. If grading occurs during December, January or February, dormant seeding procedures shall be used. It is imperative that all sediment filters and traps are in place prior to bulk earthmoving or clearing operations commencing.

12. All areas along street shall be seeded with permanent seed mixture as soon as grade is established. Reseeding may be required after utility companies have installed their mains. If erosion control seeding is established, the permanent seeding can be delayed until lot is improved.

13. Reseed any areas damaged or not germinating at intervals as may be required according to seasonal conditions. Water grass and execute necessary weeding until acceptable and full stand of grass has been obtained. Upon acceptance by the Owner, the Owner shall assume maintenance of the lawn areas.

14. All dates shown are nominal and may be varied with concurrence of the Engineer, Landscape Architect, Local Soil Conservationist or Owner.

EROSION CONTROL BLANKET

Erosion control blanket shall be a machine-produced mat of 100% agricultural

The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top side with polypropylene netting having an approximate 5/8" X 5/8" mesh and on the bottom with a polypropylene netting with an approximate 1/4" X 1/4" mesh. The blanket shall be sewn together with cotton thread.

Straw erosion control blanket (or low velocity channel lining) shall be \$75 as manufactured by North American Green or equivalent. Erosion control blanket or channel lining shall have the following properties:

a. Material Content:

100% (0.5 lb per square yard)(0.27 kilogram per square meter)

One side lightweight photodegradable (1 lb per 1000 square feet approximate weight) One side heavyweight photodegradable (3 lb per 1000 square

Thread Cotton

b. Physical Specifications (Roll):

6.5 feet (2 meters)

83.5 feet (25.4 meters) 30 lbs + 10% (13.6 kilograms)

60 square yards (50 square meters)

feet approximate weight)

SITE PREPARATION

1. Smooth grade and compact all areas to be covered with mat.

2. Remove all rocks, dirt clods, grass clumps, trash and other obstructions that will lift mat from ground surface.

ANCHOR TRENCHES

1. The mat must be anchored at the upstream and downstream ends of the protected area and intermittently in between.

2. Excavate end trenches to a minimum of 12 inches deep and 6 inches wide before placing mat.

3. Dig intermittent check slots 6 inches deep by 6 inches wide transverse to mat at approximately 25 foot intervals.

Seeding — Seed and fertilizer shall be spread uniformly before mat installation. Seed type, fertilizer type and rate of applications shall comply with seeding specifications

MAT PLACEMENT

1. Unroll mat flat side against the ground. Unroll mat in direction parallel with direction of water flow.

2. Mat should lay flat. DO NOT PULL MAT TAUT over ground. Pulling mat taut may cause mat to bridge depressions in the surface and allow erosion

3. Beginning at up or downstream end, bury transverse terminal end of the mat to secure and prevent erosion flow underneath.

4. Fold and secure mat snugly into all transverse check slots.

5. Backfill and compact trenches and check slots after staking the mat in bottom of trench (see Ground Fastening below).

uplift of mat end by water flow.

6. Bury final terminal end as prescribed above. 7. Overlap roll ends by 3 feet (minimum) with upslope mat on top to prevent

8. Overlap adjacent edges of mat by 3 inches (Minimum) and stake (see Ground

GROUND FASTENING

Metal pins or wood stakes are recommended for anchoring mat to the ground surface. Metal pins should be about 3/16 inch diameter steel with 1.5 inch diameter steel washer secured at head of pin. Wood stakes should be 1" X 3" nominal stock cut in a triangular shape. Stakes should be about 9 inches to 18 inches long, depending on soil density. Longer anchors are required for loose

Note that ground fasteners different from those mentioned here may function adequately. Care must be taken to assure that fasteners hold mat securely at the surface and have sufficient ground penetration to resist pullout. 1. Stake mat to ground on 3 to 5 foot centers. Add extra stakes at

depressions in ground surface where mat bridges over to assure ground 2. Drive wood stakes to within 3 inches of ground surface. Do not drive flush

to surface. Steel or plastic pins should be driven flush to surface. 3. In all transverse terminal trenches and check slots, stake each mat at its center and at overlapped edges before backfilling and compacting.

4. Stake overlaps longitudinally at 3 foot intervals.

SOIL GUARD

1. "Soil Guard" is a bonded fiber matrix erosion control system produced by

Seasonal Soil Protection Chart Table "A"

Stabilization Practice Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Permanent -•///////////•-----•/1/**>** Seeding Dormant Seeding Temporary Seeding F----Seeding

Mulching

F = Sod

A = Kentucky Bluegrass 40 lbs/acre; Creeping Red Fescue 40 lbs/acre;

plus 2 tons straw mulch/acre, or add Annual Ryegrass 20 lbs/acre. B = Kentucky Bluegrass 60 lbs/acre; Creeping Red Fescue 60 lbs/acre;

plus 2 tons straw mulch/acre, or add Annual Ryegrass 30 lbs/acre.

C = Spring Oats 3 bushel/acre. D = Wheat or Rye 2 bushel/acre.

G = Straw Mulch 2 tons/acre.

E = Annual Ryegrass 40 lbs/acre (1 lb/1000 sq. ft.).

•/1/• Irrigation needed during June, July and/or September.

• Irrigation needed for 2 to 3 weeks after applying sod.

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GENERAL NOTES

- 1. REFER TO THE INDIANA DEPARTMENT OF HIGHWAYS (IDOH)) STANDARD SPECIFICATIONS, 1995 EDITION, FOR BASIC MATERIALS AND CONSTRUCTION METHODS. THE SECTIONS BELOW FOR VARIOUS ITEMS ARE TO CLARIFY THE INTENT OF THE REQUIREMENTS FOR THIS PROJECT. PLEASE NOTE THAT OTHER SECTIONS OF THE IDOH STANDARD SPECIFICATIONS MAY ALSO BE APPLICABLE.
- CONTRACTORS SHALL CHECK WITH ENGINEER PRIOR TO START OF CONSTRUCTION TO VERIFY DATE OF PLANS. MINOR CHANGES MAY BE MADE IF ALL REVIEWING AGENCY APPROVALS ARE NOT GRANTED BEFORE BIDDING. CHANGES IN COST SHALL BE NEGOTIATED PRIOR TO PHYSICAL CONSTRUCTION AND BASED ON UNIT PRICES SUBMITTED ON THE CONTRACT.
- 3. CONTRACTORS SHALL CONTACT ALL UTILITY COMPANIES TO LOCATE ALL MAINS, CONDUITS, SERVICE LINES, ETC. IN THE AFFECTED CONSTRUCTION AREA. EXISTING UTILITY STRUCTURES ARE SHOWN HERE IN ACCORDANCE WITH AVAILABLE INFORMATION. THE LOCATION AND PROTECTION OF UTILITY STRUCTURES AND FACILITIES, THEIR SUPPORT AND MAINTENANCE DURING CONSTRUCTION (IN COOPERATION WITH APPLICABLE UTILITY), IS THE EXPRESS RESPONSIBILITY OF THE CONTRACTOR IN THE PERFORMANCE OF THE CONTRACT AND IN PREPARATION OF THE BID.
- 4. BACKFILL AROUND ALL STRUCTURES AND IN ALL TRENCHES BENEATH PAVED AREAS SHALL BE COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH IDOH SECTION 211.
- 5. FILL MATERIAL SHALL CONSIST OF EARTH OBTAINED FROM CUT AREAS, BORROW PITS OR OTHER APPROVED SOURCES. EARTH SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES AND LARGE ROCKS. THE FILL MATERIAL SHALL BE PLACED IN LAYERS NOT TO EXCEED SIX INCHES FOLLOWING COMPACTION, PROPER MOISTURE CONTENT OF FILL MATERIAL WILL BE SUCH TO ACHIEVE SPECIFIED COMPACTION DENSITY. ALL FILL BENEATH PAVED AREAS, FLOOR SLABS AND FUTURE BUILDINGS SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY PER ASTM D-1557.

 FIELD COMPACTION TEST SHALL BE RUN ON EACH LIFT, IN FILL SECTIONS, AND THE REQUIRED COMPACTION ON EACH LIFT SHALL BE ATTAINED PRIOR TO PLACING

FIELD COMPACTION TEST SHALL BE RUN ON EACH LIFT, IN FILL SECTIONS, AND THE REQUIRED COMPACTION ON EACH LIFT SHALL BE ATTAINED PRIOR TO PLACING THE NEXT LIFT. COMPACTION TESTS SHALL BE IN ACCORDANCE WITH IDOH SECTION 211.

CLEARING AND GRUBBING

- 1. CLEARING AND GRUBBING SHALL CONSIST OF CUTTING, REMOVING AND SATISFACTORY DISPOSING OF ALL TREES, DOWNED TIMBER, BRUSH, PROJECTING ROOTS, STUMPS, RUBBISH, BOULDERS, BROKEN CONCRETE, FENCING (AS DESIGNATED), AND OTHER MATERIAL ON THE PROJECT SITE AND WITHIN THE BOUNDARY AS SHOWN ON THE CONSTRUCTION DOCUMENTS AND/OR AS DESIGNATED BY "CONSTRUCTION LIMITS".
- ALL "UNSUITABLE MATERIAL" FROM CLEARING OPERATIONS SHALL BE REMOVED TO DISPOSAL AREA(S) OFF OF THE PROJECT SITE; UNLESS A "BURY PIT" SHALL BE LOCATED WHERE IMPOUNDMENT OF SURFACE WATER MAY OCCUR.
- 3. MATERIALS SHALL NOT BE DISPOSED OF BY BURNING UNLESS APPROVED BY THE LOCAL FIRE MARSHAL.

TREE REMOVAL AND PROTECTION

- TREES SHALL BE REMOVED FROM THE PROJECT ONLY WHERE THE AREA IS TO BE OCCUPIED BY ROAD AND SURFACED AREAS.
- 2. TREES SHALL BE REMOVED FROM THE PROJECT SITE AS DIRECTED BY THE DEVELOPER.
- 3. TREES SHALL BE REMOVED FROM THE PROJECT SITE WHERE THEY INTERFERE DIRECTLY WITH THE PLACEMENT OF STORM OR SANITARY SEWERS, AND THAT SUCH EXCAVATION IS OR WILL BE FATAL TO SUCH ADJACENT TREES.
- 4. THE CONTRACTOR SHALL ENDEAVOR TO SAVE AND PROTECT TREES OF VALUE AND WORTH WHICH DO NOT IMPAIR CONSTRUCTION OF IMPROVEMENTS AS DESIGNATED. IN THE EVENT CUT OR FILL EXCEEDS 0.5 FEET OVER THE ROOT AREA, THE DEVELOPER SHALL BE CONSULTED WITH RESPECT TO PROTECTIVE MEASURES TO BE TAKEN, IF ANY, TO PRESERVE SUCH TREES.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE METHOD FOR PROTECTION OF TOPS, TRUNKS AND ROOTS OF EXISTING TREES ON THE PROJECT SITE THAT ARE TO REMAIN. EXISTING TREES SUBJECT TO CONSTRUCTION DAMAGE SHALL BE BOXED, FENCED OR OTHER MATERIAL AND EQUIPMENT SHALL NOT BE STOCKPILED OR STORED WITHIN THE SPREAD OF BRANCHES. BRANCHES WHICH NEED TO BE REMOVED OR ARE BROKEN SHALL BE NEATLY TRIMMED AND SCARS SHALL BE COVERED WITH TREE PAINT.

STRIPPING OF TOPSOIL

- 1. THE CONTRACTOR SHALL VERIFY THAT ALL TOPSOIL HAS BEEN REMOVED IN THE AREAS TO BE OCCUPIED BY ROAD, WALKS AND DESIGNATED BUILDING AREAS. TOPSOIL SHALL BE REMOVED TO A DEPTH OF SIX (6) INCHES OR DEEPER, IF NECESSARY, TO REMOVE ORGANIC MATTER WHERE REQUIRED.
- 2. TOPSOIL SHALL BE KEPT SEPARATED FROM SUITABLE FILL MATERIALS AND SHALL NOT BE USED AS FILL UNDER PAVEMENT, BUILDING AREAS AND/OR FUTURE STRUCTURAL AREAS.
- 3. TOPSOIL SHALL BE STORED AT A LOCATION WHERE IT DOES NOT INTERFERE WITH CONSTRUCTION OPERATIONS. EXCESS TOPSOIL SHALL BE REMOVED FROM THE SITE.
- 4. TOPSOIL SHALL BE REASONABLY FREE FROM SUBSOIL DEBRIS AND STONES.

PAVEMENT CONSTRUCTION

- 1. THE TOWN OF FISHERS THOROUGHFARE PLAN ORDINANCE AND SUBDIVISION CONTROL ORDINANCE SHALL APPLY TO WORKMANSHIP AND MATERIALS IN CONSTRUCTION OF SUBGRADE, PAVEMENT, CURBS AND WALKS.
- a. PREPARE THE SUBGRADE IN ACCORDANCE WITH IDOH SECTION 207. NO TRAFFIC WILL BE PERMITTED ON THE PREPARED SUBGRADE PRIOR TO PAVING.
- b. BITUMINOUS PAVEMENT IN ACCORDANCE WITH IDOH SECTION 403.
- c. FINISHING EARTH GRADED SHOULDERS, DITCHES AND SLOPES IN ACCORDANCE WITH IDOH SECTION 208.

CONCRETE CURB AND WALKS

- 1. SEE DETAIL SHEET FOR TYPE AND DETAILS.
- 2. CONCRETE SHALL BE READY MIXED PORTLAND CEMENT CONFORMING TO A.S.T.M. C-150. AND WATER. AGGREGATES SHALL CONFORM TO A.S.T.M. C-33. COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE 4000 P.S.I. WHERE REQUIRED, REINFORCEMENT SHALL BE WELDED STEEL WIRE FABRIC CONFORMING TO A.S.T.M. A-185.
- 4. ALL EXTERIOR CONCRETE SHALL CONTAIN 3% TO 6% AIR ENTRAINMENT.
- 3. APPLICATION
- d. PLACE CONCRETE ONLY ON A MOIST, COMPACT SUBGRADE OR BASE FREE FROM LOOSE MATERIAL. PLACE NO CONCRETE ON MUDDY OR FROZEN SUBGRADE IN ACCORDANCE WITH IDOH SECTION 604 AND 605.
- b. CONCRETE SHALL BE DEPOSITED SO AS TO REQUIRE AS LITTLE REHANDLING AS PRACTICAL. WHEN CONCRETE IS TO BE PLACED AT AN ATMOSPHERIC TEMPERATURE OF 35 DEGREES F OR LESS, PARAGRAPH 702.10 OF THE LS.H.C. SPECIFICATIONS SHALL APPLY.
- c. EXCEPT AS OTHERWISE SPECIFIED, CURE ALL CONCRETE BY ONE OF THE METHODS DESCRIBED IN IDOH SECTION 501.17.
- 4. TOP OF CASTING ELEVATIONS REFER TO THE CASTING'S RIM OR TOP OF CURB. THE CURB CONTRACTOR SHALL INSURE THAT CURB INLET CASTINGS ARE SET A PROPER ELEVATION PRIOR TO CONSTRUCTION OF ADJACENT CURB.

DEMOLITION

- 1. THE CONTRACTOR SHALL EXCAVATE, DEMOLISH, REMOVE AND DISPOSE OF THE DEBRIS FROM THE AREAS SHOWN ON THE SITE DEVELOPMENT PLAN.
- a. BUILDING WALLS. b. FOUNDATIONS.
- c. PAVEMENT (CONCRETE, ASPHALT AND BRICK). d. CONCRETE SLABS.

- 2. ALL MATERIAL AS A RESULT OF THE GENERAL DEMOLITION SHALL BE THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR'S LUMP SUM BID PRICE FOR THE DEMOLITION SHALL TAKE INTO ACCOUNT THE SALVAGEABLE VALUE OF MATERIALS AND SAID BID PRICE SHALL REFLECT SAID SAVINGS.
- 3. THE CONTRACTOR SHALL BE REQUIRED TO DEMOLISH AND REMOVE DESIGNATED FOUNDATION WALLS, RETAINING WALLS, CURBING, CONCRETE SLABS, PAVING, TANKS, STRUCTURES, PIPES, MANHOLES AS SHOWN ON THE CONTRACT DOCUMENTS. ALL EXISTING BASEMENT FLOOR SLABS THAT ARE NOT REMOVED SHALL BE BROKEN UP SUFFICIENTLY TO PERMIT DRAINAGE THROUGH THE SLAB. ALL EXISTING BASEMENT WALLS, FOUNDATIONS, FLOOR SLABS, AND ETC. SHALL BE REMOVED TO AN ELEVATION SUCH THAT THEY WILL NOT SUPPORT PROPOSED FLOOR SLABS OR PAVEMENTS.
- 4. THE CONTRACTOR SHALL OBTAIN FROM THE TOWN OF FISHERS, AND ALL OTHER APPLICABLE GOVERNMENTAL AUTHORITIES, NECESSARY PERMITS REQUIRED, A COPY OF SUCH PERMITS TO BE FURNISHED TO THE OWNER PRIOR TO COMMENCEMENT OF ANY WORK REQUIRED HEREIN. THE CONTRACTOR SHALL FURTHER FURNISH TO THE OWNER PROOF THAT HE HAS COMPLIED WITH THE PROVISIONS OF THE MUNICIPAL CODE OF FISHERS, INDIANA.

UTILITIES

- 1. ALL WATER LINES FROM INDIANAPOLIS WATER CO. MAIN TO ANY BUILDING SHALL BE INSTALLED OF MATERIAL AND WORKMANSHIP AS APPROVED WITH THE INDIANAPOLIS WATER CO.
- 2. CONDUIT SHALL BE REQUIRED FOR ALL ELECTRICAL AND TELEPHONE LINES UNDER PAVED AREAS.
- 3. COMPACTED GRANULAR BACKFILL SHALL BE REQUIRED FOR ALL CROSSINGS OF PAVED AREAS PER TOWN OF FISHERS.

SANITARY SEWER SPECIFICATIONS

SANITARY SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER CONSTRUCTION AS ADOPTED BY HAMILTON SOUTHEASTERN UTILITIES, INC. (SEE SHEET 902)

STORM SEWER SPECIFICATIONS

- 1. STANDARD SPECIFICATIONS OF THE TOWN OF FISHERS AND INDIANA DEPARTMENT OF HIGHWAYS SHALL APPLY FOR ALL WORK AND MATERIALS. PIPE SHALL BE INSTALLED IN ACCORDANCE WITH IDOH SECTION 715.
- 2. ALL REINFORCED CONCRETE STORM SEWER PIPE (RCP) SHALL CONFORM TO ASTM DESIGNATION C-76 CLASS III. ALL HELICALLY CORRUGATED STEEL PIPE (HCSP) SHALL BE ALUMINIZED AND SHALL CONFORM AASHO M36, 16 GAUGE IN ACCORDANCE WITH IDOH SECTION 907.
- 3. BACKFILL AROUND ALL STRUCTURES AND CUTS UNDER PAVED AREAS WITH COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH IDOH SECTION 21.1 AND 715.
- 4. SEE STANDARD DETAIL SHEET FOR CONSTRUCTION DIMENSIONS OF STORM STRUCTURES. MANHOLE, INLETS AND CATCH BASINS SHALL BE IN ACCORDANCE WITH IDOH SECTION 720. PRECAST CONCRETE AND STEEL FOR MANHOLES AND INLETS SHALL BE IN ACCORDANCE WITH ASTM C-478.
- 5. STORM SEWER DISCHARGE AREAS AND INVERTS ARE TENTATIVE AND ARE SUBJECT TO FIELD MODIFICATIONS BY THE ENGINEER OR HIS REPRESENTATIVE. THE CONTRACTOR WILL BE REIMBURSED FOR ANY ADDITIONAL LABOR AND MATERIALS NECESSARY TO COMPLETE ANY MODIFICATIONS ACCORDING TO THE UNIT PRICES SUBMITTED BY THE CONTRACTOR OR THE CONTRACT AMOUNT.
- 6. THE CONTRACTOR SHALL PROVIDE AT LEAST 2' OF COVER OVER ALL STORM SEWERS, UNLESS OTHERWISE INDICATED BY PLANS.
- 7. RIP RAP SHALL BE A MINIMUM OF 1/3 CUBIC FOOT IN SIZE AND A MINIMUM 18" IN DEPTH. DIMENSIONS FOR RIP RAP IN THESE PLANS ARE FOR ESTIMATING PURPOSES ONLY. ACTUAL BEST PLACEMENT OF RIP RAP SHALL BE DETERMINED BY FIELD CONDITIONS AND SHALL BE IN ACCORDANCE WITH IDOH SECTION 616.
- 8. ALL DRAINAGE PIPE AND DITCH OUTFALLS TO RECEIVING STREAMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DRAWINGS, SUBJECT HOWEVER, TO ANY MODIFICATION REQUIRED BY THE ENGINEER AT THE TIME INSTALLATION IS COMPLETED AND TO ANY ADJUSTMENTS NEEDED FOR FIELD CONDITIONS NOT ADEQUATELY ANTICIPATED BY THE DESIGN DRAWING.
- 9. CASTINGS SHALL BE AS SHOWN ON DETAIL SHEET FOR MANUFACTURER, TYPE AND NUMBER. ALL CASTINGS SHALL BE NEENAH OR EAST JORDAN APPROVED EQUAL.

GENERAL NOTES

- BEARING, DIMENSIONS, AND EASEMENTS ARE SHOWN FOR REFERENCE ONLY AND DO NOT NECESSARILY DEPICT ACTUAL RECORDED INFORMATION. SEE RECORDED PLAT FOR EXACT INFORMATION.
- 3. ALL DISTURBED GROUND SHALL BE PROVIDED WITH EROSION CONTROL METHODS IMMEDIATELY SUBSEQUENT TO DISTURBANCE, SUBJECT TO WEATHER (SEE SHEETS "C203", "C204" AND EROSION CONTROL SPECIFICATIONS).
- 4. THE FOLLOWING UTILITY COMPANIES WILL PROVIDE DESIGN AND LAYOUT OF THEIR RESPECTIVE UTILITIES . . .
 - ELECTRIC CINERGY
- TELEPHONE AMERITECH
 - AS INDIANA GAS CO.
- 5. SERVICE WALKS TO BE INSTALLED ON BOTH SIDES OF STREET (BY OTHERS) AND SHALL BE NON-REINFORCED CONCRETE 4" THICK AND 4'-0" IN WITH (SEE TYPICAL SECTION, SHEET NO. C801).
- 6. EXPANSION JOINTS ARE TO BE PLACED AT ALL WALK INTERSECTIONS AND BETWEEN WALKS AND PLATFORMS. SIDEWALK SCORES ARE TO BE EQUALLY SPACED BETWEEN EXPANSION JOINTS, CONTRACTION JOINTS, AND PERPENDICULAR SIDEWALKS AT 5'-0" INTERVALS OR LESS WITH A CONTRACTION JOINT EVERY 20'-0" OR LESS.
- 7. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES TO LOCATE MAINS, CONDUITS, SERVICE LINES, ETC. IN THE AFFECTED CONSTRUCTION AREA. EXISTING UTILITY STRUCTURES ARE SHOWN HERE IN ACCORDANCE WITH AVAILABLE INFORMATION. THE LOCATION AND PROTECTION OF UTILITY STRUCTURES, THEIR SUPPORT AND MAINTENANCE DURING CONSTRUCTION (IN COOPERATION WITH APPLICABLE UTILITY COMPANY) IS THE EXPRESS RESPONSIBILITY OF THE CONTRACTOR.
- 8. RCP = REINFORCED CONCRETE PIPE CLASS III
 PVC = POLYVINYL CHLORIDE
- SANITARY SEWER ASTM D-3034, SDR-35 HCSP = HELICALLY CORRUGATED STEEL PIPE - 16 GAUGE ALUMINIZED
- 9. T.C. = TOP OF CURB = TOP OF CASTING
- 10. 20 LINEAL FEET OF 4" SUBSURFACE DRAIN REQUIRED EACH WAY (UPGRADE) FROM ALL STORM INLETS(UNLESS OTHERWISE NOTED ON PLANS).
- 11. ALL CONSTRUCTION WITHIN PUBLIC RIGHT—OF—WAY SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT "SUBDIVISION CONTROL ORDINANCE" AS PUBLISHED BY THE TOWN OF FISHERS.
- 12. REINFORCED CONCRETE STORM SEWER SHALL HAVE "O" RING GASKETS UNLESS OTHERWISE NOTED ON PLANS.
- 13. TRAFFIC CONTROL AND STREET SIGNS TO BE INSTALLED IMMEDIATELY SUBSEQUENT TO PLACEMENT OF ASPHALT BINDER.

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