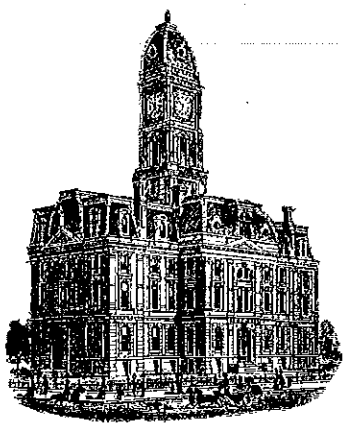


SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, CFM
Surveyor of Hamilton County
Phone (317) 776-8495
Fax (317) 776-9628

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

June 24, 2013

To: Hamilton County Drainage Board

Re: Elwood Wilson Drain, Library Arm – Terry Lee Crossing Relocation

Attached is a petition and plans for the proposed relocation of the Elwood Wilson Drain, Library Arm. The relocation is being proposed by Terry Lee Crossing LLC. The proposal is to relocate the drain across parcel 11-07-32-00-00-024.000, owned by Terry Lee Crossing, LLC as part of the Terry Lee Crossing project per plans by American Structurepoint, Job No. 2012.00089, revision date May 31, 2013.

Per the plans, the Library Arm will be piped from the south side of SR32/38 to the open ditch of the Elwood Wilson Drain. This will replace both the existing swale and the 8" tile south of SR32/38.

This line will consist of the following:

668' of 42" RCP

The total length of the relocated portion of the Library Arm shall be 668 feet. The 645 feet of existing drain between Sta. 5+55 and 12+00 shall be vacated. This proposal will add 23 feet to the drain's total length.

The cost of the relocation is to be paid by Terry Lee Crossing LLC. Upon approval of the relocation, prior to construction, the developer will provide surety in the amount of 120% of the construction costs of the proposed relocation.

The easement for the relocated drain will be the statutory easement of 75' foot per half as measured from the centerline of the pipe, until such time as a non-enforcement request is approved by the Board. The non-enforcement request is expected to be submitted in the near future by the petitioner as part of the land plan for Terry Lee Crossing.

This relocation is currently being reviewed by the Drainage Board's consultant, Christopher B. Burke Engineering, Ltd., for compliance with the flood study. This relocation plan is a part of the overall master planning and design for the Terry Lee Crossing commercial development.

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. I recommend that the Board approve the petition.

Sincerely,

Kenton C. Ward
Hamilton County Surveyor

KCW/stc

Revised June 1997

HAMILTON COUNTY DRAINAGE BOARD
NOBLESVILLE, INDIANA

FILED

JUN - 3 2013

OFFICE OF HAMILTON COUNTY SURVEYOR

IN RE: _____)
Hamilton County, Indiana)

PETITION FOR RELOCATION AND RECONSTRUCTION

Terry Lee Companies, Inc. (hereinafter Petitioner"), hereby petitions the Hamilton County Drainage Board for authority to relocate and improve a section of the Elwood Wilson Drain, and in support of said petition advises the Board that:

1. Petitioner owns real estate through which a portion of the Elwood Wilson Drain runs.
2. Petitioner plans to develop its real estate with roads, buildings, utilities, storm drains, sanitary sewers and other structures.
3. Petitioner's proposed development of its real estate will require relocation and reconstruction of a portion of the Elwood Wilson Drain, as specifically shown on engineering plans and specifications filed with the Hamilton County Surveyor.
4. The work necessary for the proposed relocation and reconstruction will be undertaken at the sole expense of the Petitioner and such work will result in substantial improvement to the Elwood Wilson Drain, without cost to other property owners on the watershed of the Elwood Wilson Drain.
5. Proposed relocation and reconstruction will not adversely affect other land owners within the drainage shed.
6. Petitioner requests approval of the proposed relocation and reconstruction under IC 36-9-27-52.5.

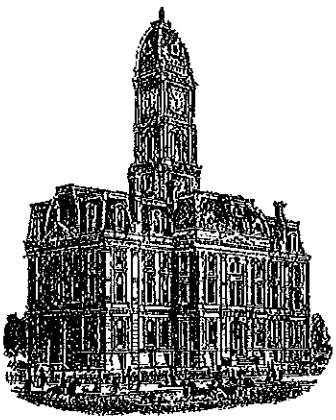
WHEREFORE, Petitioner requests that an Order issued from the Hamilton County Drainage Board authorizing relocation and reconstruction of the Elwood Wilson - Drain, in conformance with applicable law and plans and specifications on file with the Hamilton County Surveyor.

M/O [illegible]
Signed

M D Cooke
Printed

Adobe PDF Fillable Form

KCW



SURVEYOR'S OFFICE
Hamilton County

Kenton C. Ward, CFM
Surveyor of Hamilton County
Phone (317) 776-8495
Fax (317) 776-9628

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

To: Hamilton County Drainage Board **February 11, 2016**

Re: Elwood Wilson: Terry Lee Crossing Relocation of Library Arm

Attached are as-built, certificate of completion & compliance, and other information for Terry Lee Crossing Relocation of Library Arm. 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 June 24, 2013. The report was approved by the Board at the hearing held December 9, 2013. (See Drainage Board Minutes Book 15, Pages 288-289) The changes are as follows: The 668 feet of 42" RCP was shortened to 660 feet. The length of the drain due to the changes described above is now **660 feet**. The existing 8" tile was removed from Sta. 5+55 to Sta. 12+00.

The drainage easement was outlined in the original report mentioned above. The following sureties were guaranteed by Western Surety Company and expired on December 14, 2013. It was replaced by a Cashier's Check which was released by the Board on its January 25, 2016 meeting.

Bond-LC No: 61789750
Amount: $134,023.20
For: Storm Sewers
Issue Date: August 28, 2013

Check No: 11032014
Amount: $124,166.00
For: Storm Sewers
Issue Date: 11-3-2014

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

Sincerely,

Kenton C. Ward, CFM
Hamilton County Surveyor

CERTIFICATE OF COMPLETION AND COMPLIANCE

To: Hamilton County Surveyor

Re: Terry Lee Crossing Hare Drain, Library Arm and Compensatory Storage Area As-Builts ,

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 conformity with all plans and specifications.
5. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been correctly represented on the Record Drawings, Digital Record Drawings and the Structure Data Spreadsheet.

Signature: _____ Date: 07-21-2015

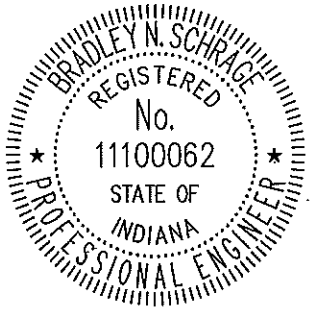
Type or Print Name: Bradley Schrage, PE

Business Address: 7260 Shadeland Station

Indianapolis, IN 46256

Telephone Number: 317-547-5580

SEAL



INDIANA REGISTRATION NUMBER

PE 11100062

CONSTRUCTION PLANS

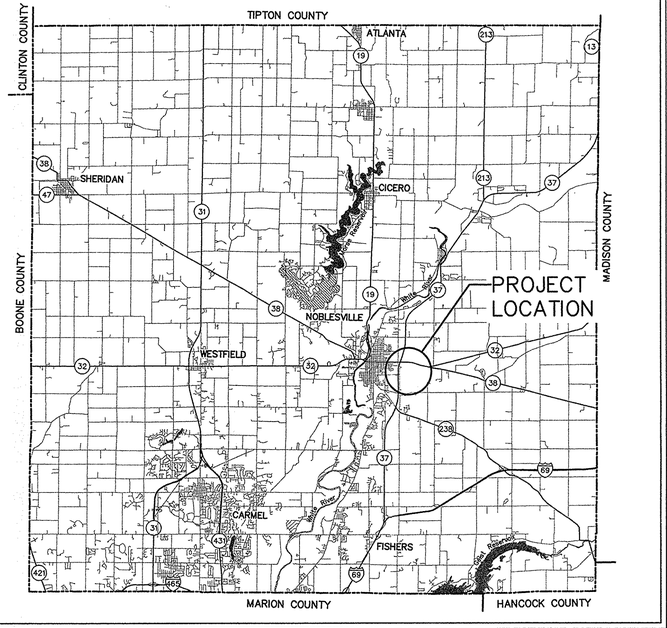
FOR

ELWOOD WILSON LEGAL DRAIN

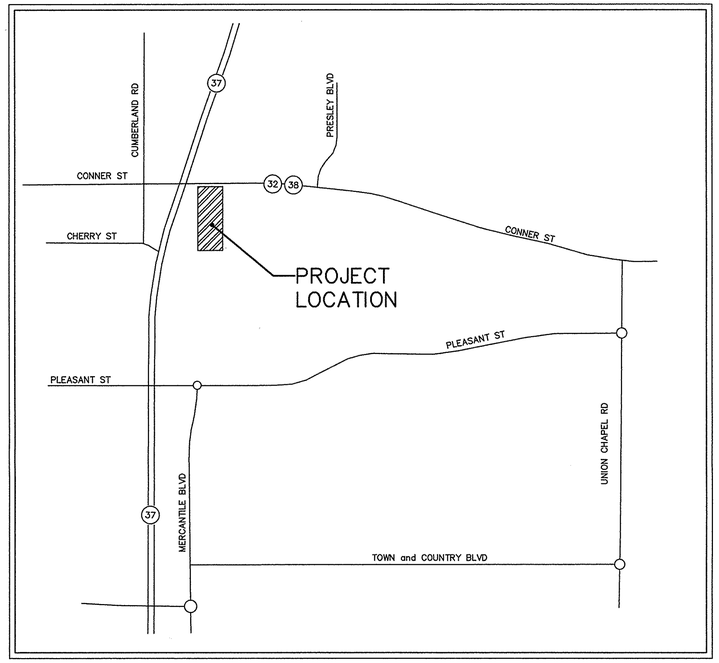
LIBRARY ARM RELOCATION

S.R. 37 @ SR. 32/38

NOBLESVILLE, INDIANA



LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

INDEX	
DESCRIPTION	SHEET No.
TITLE SHEET	C001
EXISTING TOPOGRAPHY	C100
STORM SEWER – PLAN & PROFILE	C200
EROSION CONTROL PLAN	C300
EROSION CONTROL DETAILS	C301
STORM WATER POLLUTION PREVENTION PLAN	C302
SITE DETAILS	C400

PLAN DATE: 2013/05/31

REV	DATE	DESCRIPTION

PLANS PREPARED FOR:

TERRY LEE CROSSING
8693 E. U.S. HIGHWAY 36
AVON, INDIANA

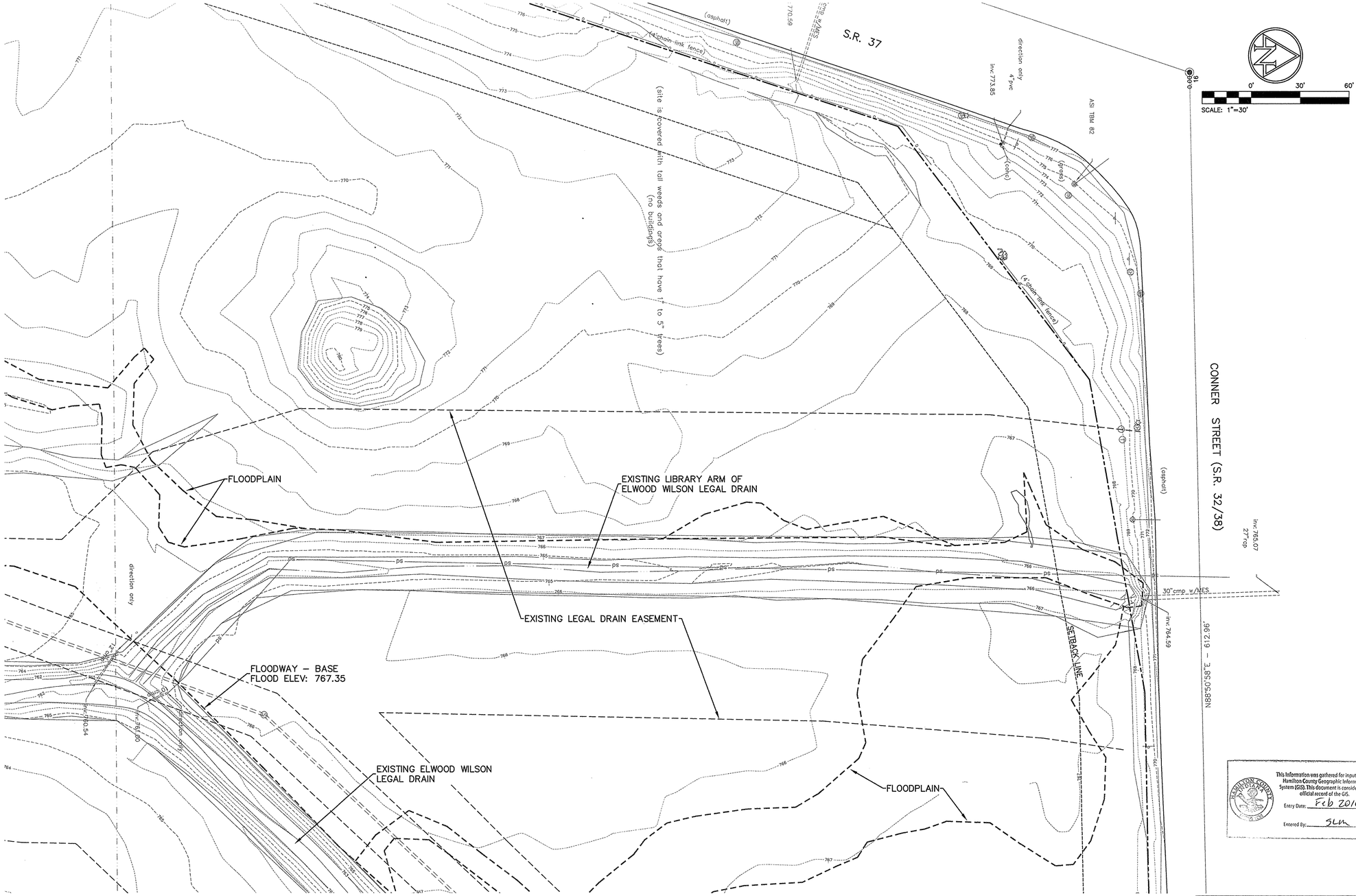
PLANS PREPARED BY:

AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256-3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com

AS-BUILT

BRADLEY N. SCHRAGE, P.E.

C001
JOB# 2012.00089



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Entry Date: Feb 2016
Entered By: SLM

FLOODWAY AND FLOODPLAIN SHOWN PER PRELIMINARY FIRM 18057 C 0161G

EXISTING TOPOGRAPHY LEGEND

Drainage Manhole		Telephone Manhole	
Drainage Inlet		Traffic Manhole	
Guy Wire		Traffic Pole	
Guard Post		Vent	
Right-of-way Marker		tr	Top Of Rim Elevation
Clean Out		inv	Invert Elevation
Sanitary Manhole		cpp	Corrugated Plastic Pipe
Sign		pvc	Plastic Pipe
Deciduous Tree		cmp	Corrugated Metal Pipe
Electric Handhole		vcp	Clay Pipe
Light Pole		rcp	Reinforced Concrete Pipe
Power Pole		ohe	Overhead Electric Line
Transformer		otr	Overhead Traffic Line
Gas Marker		MES	Metal End Section
Brace Pole		PES	Plastic End Section
	—sd—		Approximate Location Of Field Tile

BENCH INFORMATION
NAVD '88

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ELEV – 775.63

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ELEV – 776.12

ASI TBM 83
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ELEV – 770.08

NOTES:

1. CONTRACTOR SHALL PROTECT AND NOT DESTROY THE PROPERTY CORNER MONUMENTS DURING CONSTRUCTION.
2. CONTRACTOR TO VERIFY LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES PRIOR TO COMMENCING ANY CONSTRUCTION. CONTACT ENGINEER IF VARIATION EXISTS.

CAUTION !!

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1-800-382-5544
CALL TOLL FREE
– INDIANA UNDERGROUND –

7260 SHADELAND STATION
INDIANAPOLIS, IN 46256
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com

AMERICAN STRUCTUREPOINT INC.

APPROVAL PENDING
NOT FOR CONSTRUCTION

CERTIFIED BY

EXISTING TOPOGRAPHY

PREPARED FOR:
TERRY LEE CROSSING
8693 E. U.S. HIGHWAY 36
AVON, INDIANA

PROJECT:
ELWOOD WILSON LEGAL DRAIN
LIBRARY ARM RELOCATION
NOBLESVILLE, INDIANA

DATE:	2013.05.31
DRAWN BY:	JCS
CHK'D BY:	BNS
JOB NO.	2012.00089

REVISIONS	

SHEET NO.
C100
OF

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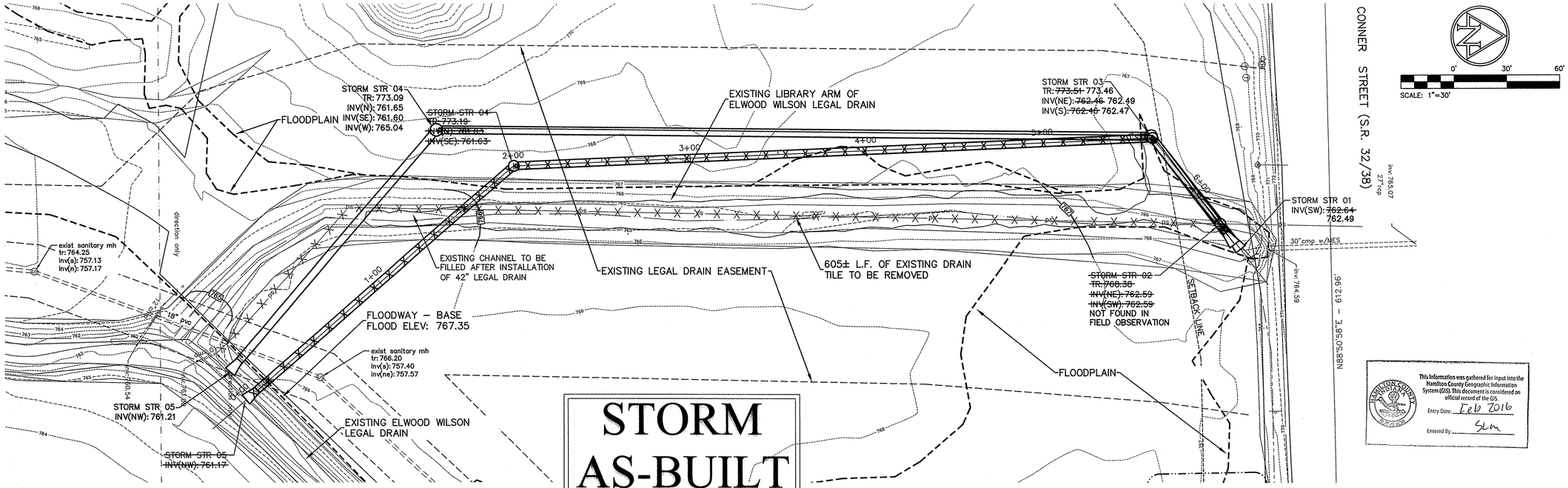
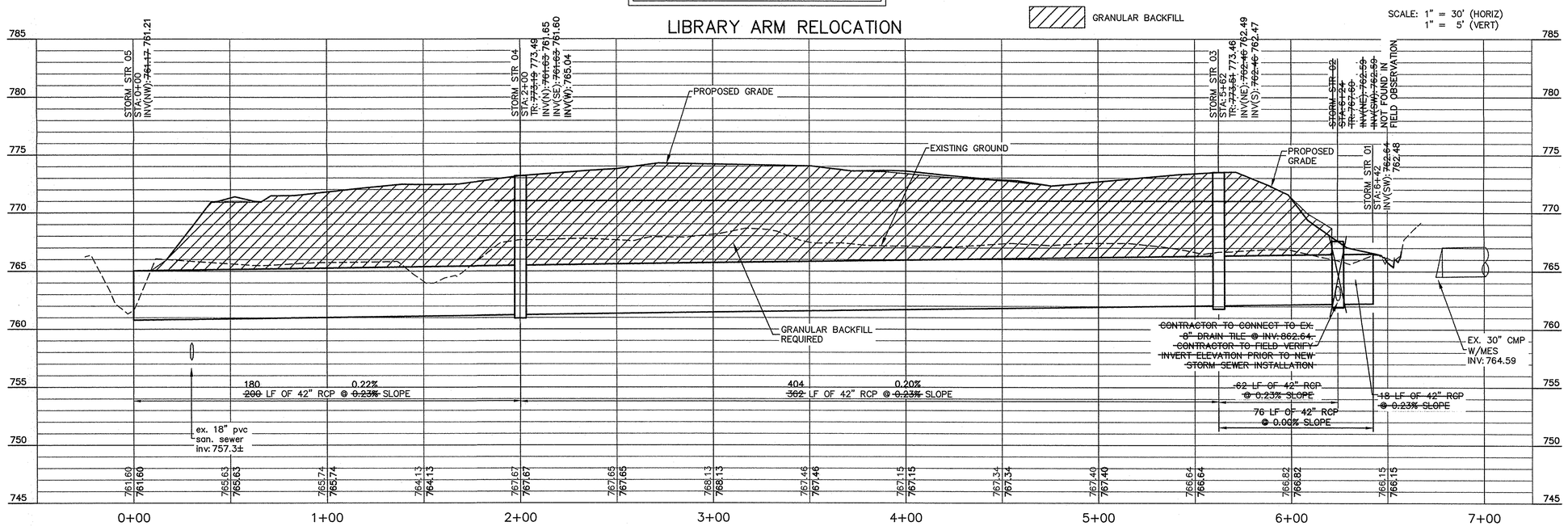


STORM AS-BUILT

LIBRARY ARM RELOCATION



STRUCTURE DATA TABLE			
STR. NO.	STRUCTURE & CASTING TYPE	T.O.R.	REMARKS
01	ISOMETRIC HEADWALL		ANIMAL GUARD REQUIRED
02	TYPE J MH / R–1772	~~767.60~~	NOT FOUND IN FIELD OBSERVATION
03	TYPE J MH / R–1772	~~773.51~~	773.46
04	TYPE J MH / R–1772	~~773.19~~	773.49
05	ISOMETRIC HEADWALL		ANIMAL GUARD REQUIRED

STORM SEWER AS–BUILT STATEMENT

As–Built information for storm sewer rims are based upon above ground evidence of the existing storm sewer system. The strike through data shown on the Storm Sewers are the proposed elevations for all the structures to be placed. Said information has been replaced by the as–built information per elevations collected in the field on July 2, 2015.

Nathan D. Harris
Registered Land Surveyor No. 21200023

NATHAN D. HARRIS
REGISTERED
No. 21200023
STATE OF INDIANA
LAND SURVEYOR

EXISTING TOPOGRAPHY LEGEND

Ⓓ	Drainage Manhole	Ⓣ	Telephone Manhole
⊕	Drainage Inlet	Ⓜ	Traffic Manhole
⊢	Guy Wire	⊛	Traffic Pole
•	Guard Post	⌐	Vent
⊠	Right–of–way Marker	tr	Top Of Rim Elevation
◎	Clean Out	inv	Invert Elevation
Ⓢ	Sanitary Manhole	cpp	Corrugated Plastic Pipe
⊢	Sign	pvc	Plastic Pipe
❁	Deciduous Tree	cmp	Corrugated Metal Pipe
Ⓔ	Electric Handhole	vcp	Clay Pipe
☆	Light Pole	rcp	Reinforced Concrete Pipe
□	Power Pole	ohe	Overhead Electric Line
⊠	Transformer	otr	Overhead Traffic Line
⊢	Gas Marker	MES	Metal End Section
⊷	Brace Pole	PES	Plastic End Section
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FLOODWAY AND FLOODPLAIN SHOWN PER PRELIMINARY FIRM 18057 C 0161G

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CERTIFIED BY

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8693 E. U.S. HIGHWAY 36
AVON, IN

PROJECT:
ELWOOD WILSON LEGAL DRAIN
LIBRARY ARM RELOCATION
NOBLESVILLE, INDIANA

STORM SEWER – PLAN AND PROFILE

DATE:	2013.05.31
DRAWN BY:	JCS
CHK'D BY:	BNS
JOB NO.	2012.00089

REVISIONS	

SHEET NO.
C200
OF

PRINT DATE: 1/19/16
PLOT SCALE: 1:2.5849
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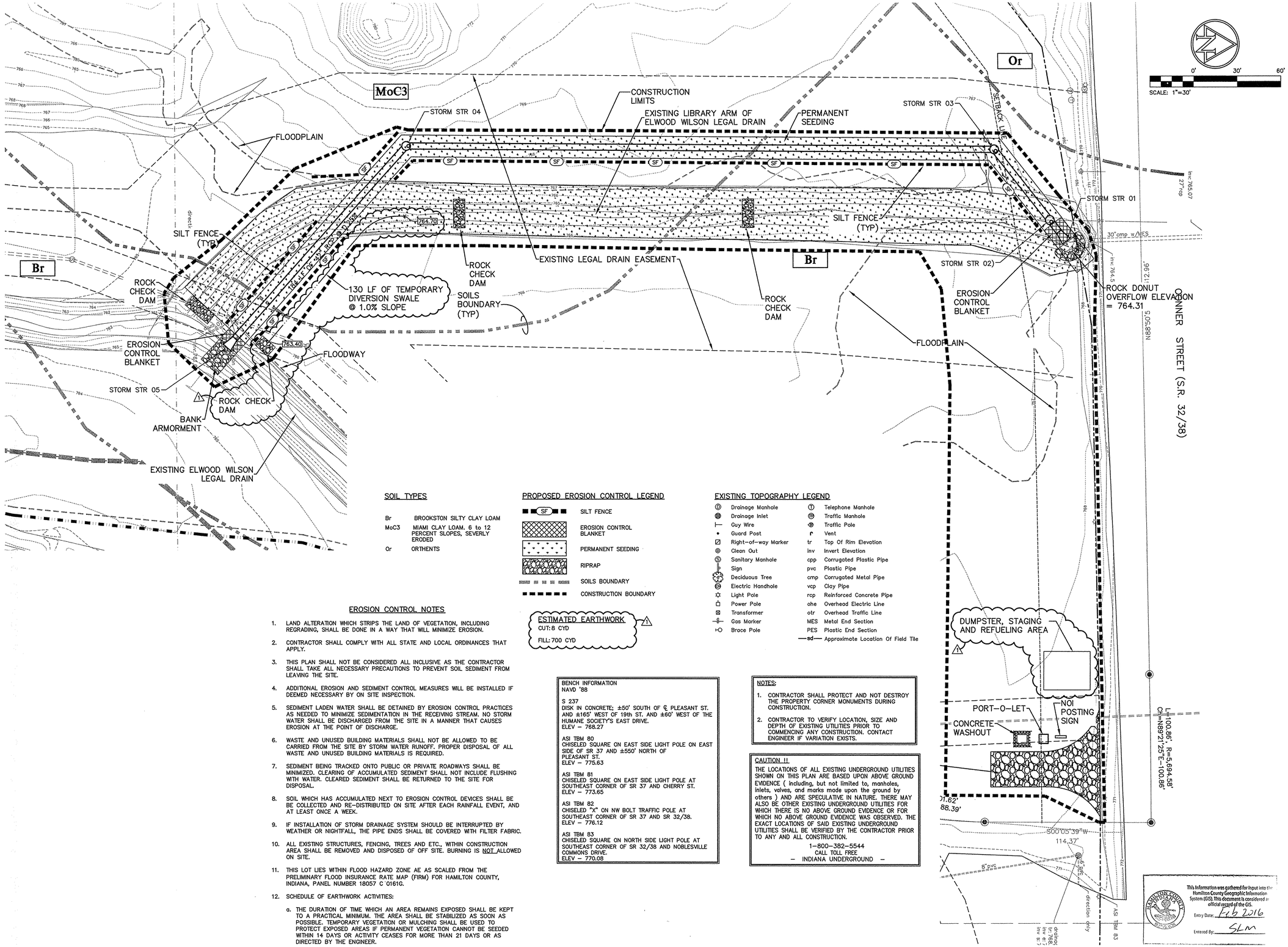

SOIL TYPES

Br	BROOKSTON SILTY CLAY LOAM	
MoC3	MIAMI CLAY LOAM, 6 to 12 PERCENT SLOPES, SEVERLY ERODED	
Or	ORTHENTS	

PROPOSED EROSION CONTROL LEGEND

SF	SILT FENCE
	EROSION CONTROL BLANKET
	PERMANENT SEEDING
	RIPRAP
	SOILS BOUNDARY
	CONSTRUCTION BOUNDARY

ESTIMATED EARTHWORK
CUT: 8 CYD
FILL: 700 CYD

EXISTING TOPOGRAPHY LEGEND

	Drainage Manhole		Telephone Manhole
	Drainage Inlet		Traffic Manhole
	Guy Wire		Traffic Pole
	Guard Post		Vent
	Right-of-way Marker	tr	Top Of Rim Elevation
	Clean Out	inv	Invert Elevation
	Sanitary Manhole	cpp	Corrugated Plastic Pipe
	Sign	pvc	Plastic Pipe
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	Transformer	otr	Overhead Traffic Line
	Gas Marker	MES	Metal End Section
	Brace Pole	PES	Plastic End Section
		—sd—	Approximate Location Of Field Tile

EROSION CONTROL NOTES

1. LAND ALTERATION WHICH STRIPS THE LAND OF VEGETATION, INCLUDING REGRADING, SHALL BE DONE IN A WAY THAT WILL MINIMIZE EROSION.
2. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
3. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
4. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
5. SEDIMENT LADEN WATER SHALL BE DETAINED BY EROSION CONTROL PRACTICES AS NEEDED TO MINIMIZE SEDIMENTATION IN THE RECEIVING STREAM. NO STORM WATER SHALL BE DISCHARGED FROM THE SITE IN A MANNER THAT CAUSES EROSION AT THE POINT OF DISCHARGE.
6. WASTE AND UNUSED BUILDING MATERIALS SHALL NOT BE ALLOWED TO BE CARRIED FROM THE SITE BY STORM WATER RUNOFF. PROPER DISPOSAL OF ALL WASTE AND UNUSED BUILDING MATERIALS IS REQUIRED.
7. SEDIMENT BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS SHALL BE MINIMIZED. CLEARING OF ACCUMULATED SEDIMENT SHALL NOT INCLUDE FLUSHING WITH WATER. CLEARED SEDIMENT SHALL BE RETURNED TO THE SITE FOR DISPOSAL.
8. SOIL WHICH HAS ACCUMULATED NEXT TO EROSION CONTROL DEVICES SHALL BE BE COLLECTED AND RE-DISTRIBUTED ON SITE AFTER EACH RAINFALL EVENT, AND AT LEAST ONCE A WEEK.
9. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
10. ALL EXISTING STRUCTURES, FENCING, TREES AND ETC., WITHIN CONSTRUCTION AREA SHALL BE REMOVED AND DISPOSED OF OFF SITE. BURNING IS NOT ALLOWED ON SITE.
11. THIS LOT LIES WITHIN FLOOD HAZARD ZONE AE AS SCALED FROM THE PRELIMINARY FLOOD INSURANCE RATE MAP (FIRM) FOR HAMILTON COUNTY, INDIANA, PANEL NUMBER 18057 C 0161G.
12. SCHEDULE OF EARTHWORK ACTIVITIES:
    a. THE DURATION OF TIME WHICH AN AREA REMAINS EXPOSED SHALL BE KEPT TO A PRACTICAL MINIMUM. THE AREA SHALL BE STABILIZED AS SOON AS POSSIBLE. TEMPORARY VEGETATION OR MULCHING SHALL BE USED TO PROTECT EXPOSED AREAS IF PERMANENT VEGETATION CANNOT BE SEEDED WITHIN 14 DAYS OR ACTIVITY CEASES FOR MORE THAN 21 DAYS OR AS DIRECTED BY THE ENGINEER.
    b. TOPSOIL REPLACEMENT SHALL TAKE PLACE FROM MARCH 1 TO OCTOBER 31. STOCKPILE TOPSOIL AT ALL OTHER TIMES OF THE YEAR. PERMANENT AND FINAL VEGETATION AND STRUCTURAL EROSION CONTROL DEVICES SHALL BE INSTALLED WITHIN SEVEN (7) DAYS AFTER FINAL GRADING OR AS SOON AS POSSIBLE.

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7260 SHADELAND STATION
INDIANAPOLIS, IN 46256
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
AMERICAN STRUCTUREPOINT INC.

APPROVAL PENDING
NOT FOR CONSTRUCTION
CERTIFIED BY

EROSION CONTROL PAN

PREPARED FOR:
TERRY LEE CROSSING
8693 E. U.S. HIGHWAY 36
AVON, INDIANA

PROJECT:
ELWOOD WILSON LEGAL DRAIN
LIBRARY ARM RELOCATION
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EDITED BY: PDOTTERY
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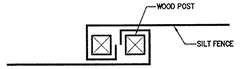
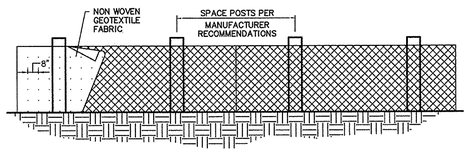
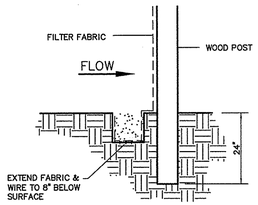


SILT FENCE POST-WRAPPING DETAIL
NOT TO SCALE





NOTE:
POSTS SHALL HAVE A MINIMUM LENGTH OF 36 INCHES PLUS BURIAL DEPTH. POST MATERIAL SHALL BE WOOD, STEEL, OR SYNTHETIC, AND SHALL BE OF SUFFICIENT STRENGTH TO RESIST DAMAGE DURING INSTALLATION AND TO SUPPORT APPLIED LOADS.

FABRIC SHALL BE A WOVEN GEOTEXTILE FABRIC CONSISTING OF STRONG, ROT RESISTANT, MATERIALS RESISTANT TO DETERIORATION FROM ULTRAVIOLET AND HEAT EXPOSURE.

SILT FENCE CONSTRUCTION
NOT TO SCALE

SILT FENCE INSTALLATION REQUIREMENTS

SITE PREPARATION

1. PLAN FOR THE FENCE TO BE AT LEAST 10 ft. FROM THE TOE OF THE SLOPE TO PROVIDE A SEDIMENT STORAGE AREA.
2. PROVIDE ACCESS TO THE AREA IF SEDIMENT CLEANOUT WILL BE NEEDED.

OUTLET CONSTRUCTION (OPTIONAL)

1. DETERMINE THE APPROPRIATE LOCATION FOR A REINFORCED, STABILIZED BYPASS FLOW OUTLET (UNLESS THE FENCE IS DESIGNED TO RETAIN ALL RUNOFF FROM A 2 YEAR FREQUENCY, 24 HR DURATION STORM EVENT)
2. SET THE OUTLET ELEVATION SO THAT WATER DEPTH CANNOT EXCEED 1%229 ft. AT THE LOWEST POINT ALONG THE FENCE LINE.
3. LOCATE THE OUTLET WEIR SUPPORT POSTS NO MORE THAN 4 ft. APART, AND INSTALL A HORIZONTAL BRACE BETWEEN THEM. (WEIR HEIGHT SHOULD BE NO MORE THAN 1 ft. DEEP, 5 ft. WIDE, AND F ft. LONG ON LEVEL GRADE.
4. EXCAVATE THE FOUNDATION FOR THE OUTLET SPLASH PAD TO MINIMUMS OF 1 ft. AND WATER DEPTH NO MORE THAN 10 ft. ANYWHERE ELSE ALONG THE FENCE.)
5. FILL THE EXCAVATED FOUNDATION WITH INDOT CA NO. 1 STONE, BEING CAREFUL THAT THE FINISHED SURFACE BLENDS WITH THE SURROUNDING AREA, ALLOWING NO OVERFILL.
6. STABILIZE THE AREA AROUND THE PAD.

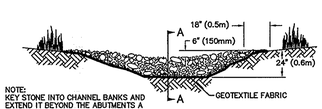
FENCE CONSTRUCTION

1. ALONG THE ENTIRE INTENDED FENCE LINE, DIG AN 8 in. DEEP FLAT-BOTTOMED OR V-SHAPED TRENCH.
2. ON THE DOWNSIDE SLOPE OF THE TRENCH, DRIVE THE WOOD OR STEEL SUPPORT POSTS AT LEAST 1 ft. INTO THE GROUND (THE DEEPER THE BETTER), SPACING THEM NO MORE THAN 8 ft. APART IF THE FENCE IS SUPPORTED BY WIRE OR 6 ft. IF EXTRA-STRENGTH FABRIC IS USED WITHOUT SUPPORT WIRE. ADJUST SPACING, IF NECESSARY, TO ENSURE THAT POSTS ARE SET AT THE LOW POINTS ALONF THE FENCE LINE. (NOTE: IF THE FENCE HAS PRE-ATTACHED POSTS OR STAKES, DRIVE THEM DEEP ENOUGH SO THE FABRIC IS SATISFACTORILY IN THE TRENCH AS DESCRIBED IN STEP 6).
3. FASTEN SUPPORT WIRE FENCE (IF THE MANUFACTURER RECOMMENDS ITS USE) TO THE UPSLOPE SIDE OF THE POSTS, EXTENDING IT 8 in. INTO THE TRENCH.
4. RUN A CONTINUOUS LENGTH OF GEOTEXTILE FABRIC IN FRONT (UPSLOPE) OF THE SUPPORT WIRE AND POSTS, AVOIDING JOINTS, PARTICULARLY AT LOW POINTS IN THE FENCE LINE.
5. IF A JOINT IS NECESSARY, NAIL THE OVERLAP TO THE NEAREST POST WITH LATH.
6. PLACE THE BOTTOM 1 ft. OF FABRIC IN THE 8 in. DEEP TRENCH, EXTENDING THE REMAING 4 in. TOWARD THE UPSLOPE SIDE.
7. BACKFILL THE TRENCH WITH COMPACTED EARTH OR GRAVEL.

NOTE: IF USING A PRE-PACKED COMMERCIAL SILT FENCE RATHER THAN CONSTRUCTING ONE, FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.

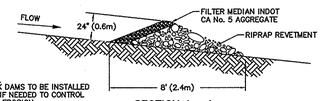
SILT FENCE MAINTENANCE REQUIREMENTS

1. INSPECT THE SILT FENCE PERIODICALLY AND AFTER EACH STORM EVENT.
2. IF FABRIC TEARS, STARTS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY.
3. REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FENCE AT ITS LOWEST POINT OR IS CAUSING THE FABRIC TO BULGE.
4. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEAN OUT.
5. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED REMOVE THE FENCE AND SEDIMENT DEPOSITS, BRING THE DISTURBED AREA TO GRADE, AND STABILIZE.



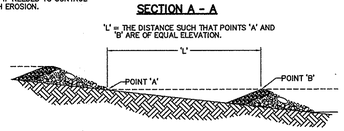
NOTE:
KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" (0.5m) TO PREVENT FLOW AROUND DAM.

VIEW LOOKING UPSTREAM



NOTE:
CHECK DAMS TO BE INSTALLED ONLY IF NEEDED TO CONTROL DITCH EROSION.

SECTION A - A



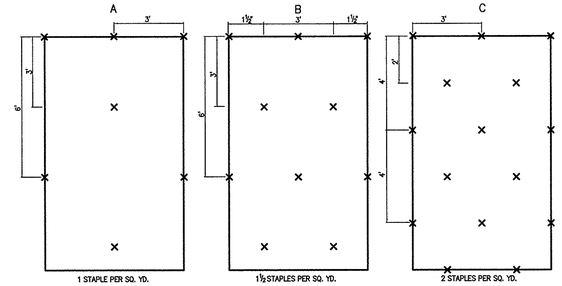
SPACING BETWEEN CHECK DAMS
ROCK CHECK DAM
NOT TO SCALE

ROCK CHECK DAM INSTALLATION REQUIREMENTS

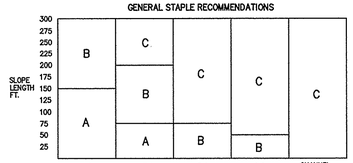
1. EXCAVATE A CUTOFF TRENCH INTO THE DITCH BANKS, AND EXTEND IT A MINIMUM OF 18 in. BEYOND THE ABUTMENTS.
2. PLACE THE ROCK IN THE CUTOFF TRENCH AND CHANNEL TO THE LINES AND DIMENSIONS SHOWN IN DETAIL, CENTER MAXIMUM OF 2 ft. HIGH YET 9 in. BELOW WHERE THE DAM ABUTS THE CHANNEL BANKS.
3. EXTEND THE ROCK AT LEAST 18 in. BEYOND THE CHANNEL BANKS TO KEEP OVERFLOW WATER FROM UNDERCUTTING THE DAM AS IT RE-ENTERS THE CHANNEL.
4. INSTALL AS MANY DAMS AS NECESSARY TO SATISFY THE SPACING REQUIREMENT SHOWN IN DETAIL.
5. STABILIZE THE CHANNEL ABOVE THE UPPERMOST DAM.
6. RECOGNIZING THAT WATER WILL FLOW OVER AND AROUND THE LOWERMOST DAM, PROTECT THE CHANNEL DOWNSTREAM FROM IT WITH AN EROSION-RESISTANT LINING FOR A DISTANCE OF 6 ft. UNLESS THE CHANNEL IS PROTECTED THROUGH OTHER MEANS.

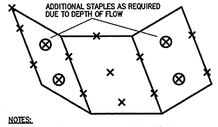
ROCK CHECK DAM MAINTENANCE REQUIREMENTS

1. INSPECT CHECK DAMS AND THE CHANNEL AFTER EACH STORM EVENT, AND REPAIR ANY DAMAGE IMMEDIATELY.
2. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, INSTALL A RIPRAP LINER IN THAT PORTION OF THE CHANNEL.
3. REMOVE SEDIMENT ACCUMULATED BEHIND EACH DAM AS NEEDED TO MAINTAIN CHANNEL CAPACITY, TO ALLOW DRAINAGE THROUGH THE DAM, AND TO PREVENT LARGE FLOWS FROM DISPLACING SEDIMENT.
4. ADD ROCK TO THE DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.
5. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED REMOVE THE ROCK AND STABILIZE CHANNEL, USING AN EROSION-RESISTANT LINING IF NECESSARY.



GENERAL STAPLE RECOMMENDATIONS





NOTES:
CHANNEL LININGS UTILIZE STAPLE PATTERN "C" WITH ADDITIONAL STAPLES ON SIDE SLOPES AT PROJECTED WATER LINE.

STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN GREEN EROSION CONTROL BLANKETS. STAPLE PATTERNS MAY VARY DEPENDING UPON SOIL TYPE AND AVERAGE RAINFALL.

AT SLOPE LENGTHS GREATER THAN 300 FEET OR WHERE DRAINAGE OVER LARGE AREAS IS DIRECTED ONTO THE BLANKETS, STAPLE PATTERN "C" SHOULD BE UTILIZED.

EROSION CONTROL MAT INSTALLATION GUIDE DETAIL
NOT TO SCALE

EROSION CONTROL BLANKET (SURFACE APPLIED) INSTALLATION REQUIREMENTS

1. SELECT THE TYPE AND WEIGHT OF EROSION CONTROL BLANKET TO FIT THE SITE CONDITIONS (e.g., SLOPE, CHANNEL FLOW VELOCITY).
2. INSTALL ANY PRACTICES NEEDED TO CONTROL EROSION AND RUNOFF, SUCH AS TEMPORARY OR PERMANENT DIVERSION, SEDIMENT BASIN OR TRAP, SILT FENCE, AND STRAW BALE DAM.
3. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN.
4. ADD TOPSOIL WHERE APPROPRIATE.
5. PREPARE THE SEEDBED, FERTILIZE (AND LIME, IF NEEDED), AND SEED THE AREA IMMEDIATELY AFTER GRADING.
6. FOLLOWING MANUFACTURER'S DIRECTIONS, LAY THE BLANKETS ON THE SEEDED AREA SUCH THAT THEY ARE IN CONTINUOUS CONTACT WITH THE SOIL AND THAT THE UPSLOPE OR UPSTREAM ONES OVERLAP THE LOWER ONES BY AT LEAST 8 in.
7. TUCK THE UPPERMOST EDGE OF THE UPPER BLANKETS INTO A CHECK SLOT (SILT TRENCH), BACKFILL WITH SOIL, AND TAMP DOWN.
8. ANCHOR THE BLANKETS AS SPECIFIED BY THE MANUFACTURER. THIS TYPICALLY INVOLVES DRIVING 6-8 in. METAL STAPLES INTO THE GROUND IN A PATTERN DETERMINED BY THE SITE CONDITIONS.

EROSION CONTROL BLANKET (SURFACE APPLIED) MAINTENANCE REQUIREMENTS

1. DURING VEGETATIVE ESTABLISHMENT INSPECT AFTER STORM EVENTS FOR ANY EROSION BELOW THE BLANKET.
2. IF ANY AREA SHOWS EROSION PULL BACK THAT PORTION OF THE BLANKET COVERING IT, ADD SOIL, RE-SEED THE AREA, AND RE-LAY AND STAPLE THE BLANKET.
3. AFTER VEGETATIVE ESTABLISHMENT CHECK THE TREATED AREA PERIODICALLY.

SEASONAL SOIL PROTECTION CHART

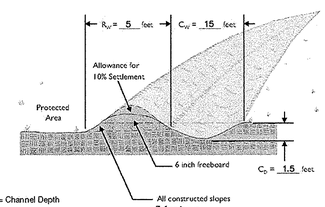
STABILIZATION PRACTICE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING			A									
DORMANT SEEDING	B									B		
TEMPORARY SEEDING			C		E			D				

A = KENTUCKY BLUEGRASS 100 LBS./ACRE; CREEPING RED FESCUE 100 LBS./ACRE; HYDROSEEDED
B = KENTUCKY BLUEGRASS 120 LBS./ACRE; CREEPING RED FESCUE 120 LBS./ACRE; HYDROSEEDED
C = SPRING OATS 3 BUSHELS/ACRE
D = WHEAT OR RYE 2 BUSHELS/ACRE
E = ANNUAL RYEGRASS 40 LBS./ACRE (1 LB/1000 SQ. FT.)
/!/ = IRRIGATION NEEDED DURING JUNE, JULY, AUGUST AND/OR SEPTEMBER

1

TEMPORARY DIVERSION

Temporary Diversion Worksheet



Cp = Channel Depth
Cw = Channel Width
Rw = Ridge Width

1

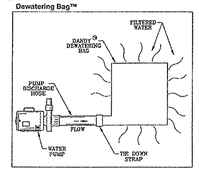
Technical Data MIRAFI
Innovative Geotextiles

product
Dandy Dewatering Bag™
Dandy Solutions for Stormwater Sediment Control

Geotextile Technical Data

PROPERTIES	TEST METHOD	UNITS	FILTERWEAVE 402 DANDY POINT	MIRAFIBOX 180W DANDYDEWATERING BAG
Grab Tensile Strength (MD x CD)	ASTM D 4632	kN (lbs)	1.62 (365) x 0.89 (200)	0.9 (200)
Grab Tensile Elongation	ASTM D 4632	%	24 x 10	50
Puncture Strength	ASTM D 4833	kN (lbs)	0.44 (100)	0.58 (130)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	3097 (450)	2068 (300)
Trapezoid Tear Strength (MD x CD)	ASTM D 4533	kN (lbs)	0.51 (115) x 0.31 (70)	0.36 (80)
Percent Open Area (POA)	COE -02215-86	%	10	na
Apparent Opening Size (AOS)	ASTM D 4751	mm (US Std Sieve)	0.425 (40)	0.180 (80)
Permittivity	ASTM D 4491	sec^{-1}	2.14	1.2
Permeability	ASTM D 4491	cm/sec	0.142	0.21
Water Flow Rate	ASTM D 4491	l/m/m^2 (gal/min/ft^2)	5907 (145)	3566 (88)
Ultraviolet Resistance	ASTM D 4355	%	70	70
Color			Black & Orange	Black

The color orange is a trademark of Dandy Products, Inc.



www.mirafi.com

CORPORATE OFFICE
365 Southbend Drive • Pendergrass, GA 30567
(800) 715-0929 • (706) 693-2926 • Fax (706) 693-4400

POS PDDYDEWATER 0604

Ten Cate Nicolon

Product Description MIRAFI
Innovative Geotextiles

product
Dandy Dewatering Bag™
Dandy Solutions for Stormwater Sediment Control

DANDY DEWATERING BAG™

The Dandy Dewatering Bag™ is designed to control sediment discharge in dewatering applications where water is being pumped. When the pumped water reaches the Dandy Dewatering Bag™, the suspended solids are allowed to settle out of the slowed flow and are captured by the bag.

FEATURES AND BENEFITS

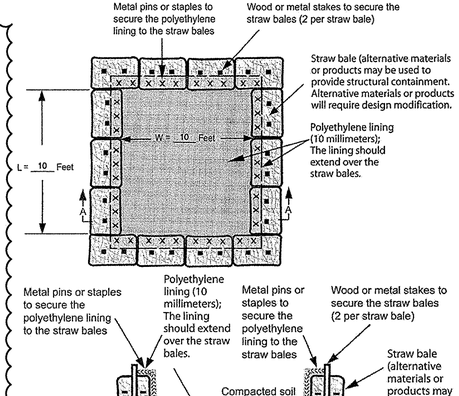
- Easily installs onto discharge hose
- Easier and more convenient to use than sediment traps or other alternatives
- Available with optional oil absorbents
- Fabricated from a Mirafi® geotextile
- Available in 4 standard sizes: 3x3ft, 6x6ft, 10x15ft, 15x15ft

INSTALLATION AND MAINTENANCE GUIDELINES

- Installation: Place lifting straps (not included) under the unit to facilitate removal after use. Unfold Dandy Dewatering Bag™ on a stabilized area over dense vegetation, straw, or gravel (if an increased drainage surface is needed). Insert discharge hose from pump into Dandy Dewatering Bag™ a minimum of six inches (6") and tightly secure with attached strap to prevent water from flowing out of the unit without being filtered. If using optional absorbents, place absorbent boom into the Dandy Dewatering Bag™ of the unit. Clip absorbent boom to tether provided inside the unit.
- Maintenance: Replace the unit when 1/2 full of sediment or when sediment has reduced the flow rate of the pump discharge to an impractical rate. If using optional oil absorbents: remove and replace absorbent when near saturation.

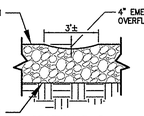
Sediment containment for pumped water

Ten Cate Nicolon

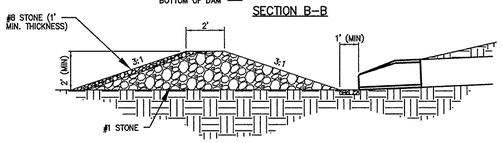


CONCRETE TRUCK WASH OUT DETAIL
NOT TO SCALE

PLAN



SECTION B-B



SECTION A-A

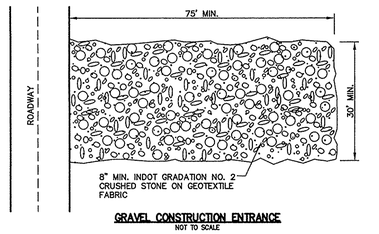
ROCK DONUT DETAIL
NOT TO SCALE

ROCK DAM MAINTENANCE REQUIREMENTS

1. INSPECT DAMS AND THE CHANNEL WEEKLY AND WITHIN 24 HOURS OF ALL 0" STORM EVENTS, AND REPAIR ANY DAMAGE IMMEDIATELY.
2. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, INSTALL A RIPRAP LINER IN THAT PORTION OF THE CHANNEL.
3. REMOVE SEDIMENT ACCUMULATED BEHIND EACH DAM AS NEEDED TO MAINTAIN CHANNEL CAPACITY, TO ALLOW DRAINAGE THROUGH THE DAM, AND TO PREVENT LARGE FLOWS FROM DISPLACING SEDIMENT.
4. ADD ROCK TO THE DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.
5. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZES, REMOVE AND PROPERLY DISPOSE OF ANY UNSTABLE SEDIMENT AND CONSTRUCTION MATERIAL, AND RE-STABILIZE.

ROCK DAM INSTALLATION REQUIREMENTS

1. EXCAVATE A CUTOFF TRENCH INTO THE DITCH BANKS, AND EXTEND IT A MINIMUM OF 18 In. BEYOND THE ABUTMENTS.
2. PLACE THE ROCK IN THE CUTOFF TRENCH AND CHANNEL TO THE LINES AND DIMENSIONS SHOWN IN DETAIL, CENTER MAXIMUM OF 2 ft. HIGH YET 9 in. BELOW WHERE THE DAM ABUTS THE CHANNEL BANKS.
3. EXTEND THE ROCK AT LEAST 18 In. BEYOND THE CHANNEL BANKS TO KEEP OVERFLOW WATER FROM UNDERCUTTING THE DAM AS IT RE-ENTERS THE CHANNEL.
4. INSTALL AS MANY DAMS AS NECESSARY TO SATISFY THE SPACING REQUIREMENT SHOWN IN DETAIL.
5. STABILIZE THE CHANNEL ABOVE THE UPPERMOST DAM.
6. RECOGNIZING THAT WATER WILL FLOW OVER AND AROUND THE LOWERMOST DAM, PROTECT THE CHANNEL DOWNSTREAM FROM IT WITH AN EROSION-RESISTANT LINING FOR A DISTANCE OF 6 ft. UNLESS THE CHANNEL IS PROTECTED THROUGH OTHER MEANS.



GRAVEL CONSTRUCTION ENTRANCE
NOT TO SCALE

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE INSTALLATION REQUIREMENTS:

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 GRADE AND CROWN FOR POSITIVE DRAINAGE.
3. IF SLOPE TOWARDS THE ROAD EXCEEDS 2%, CONSTRUCT A 6-8 In. HIGH WATER BAR (RIDGE) WITH 3:1 SIDE SLOPES ACROSS THE FOUNDATION AREA ABOUT 15 ft. FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE ROAD.
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 STABILITY.
6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN IN THE EROSION/SEDIMENT CONTROL PLAN, LEAVING THE SURFACE SMOOTH AND SLOPED FOR DRAINAGE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE MAINTENANCE REQUIREMENTS:

1. INSPECT ENTRANCE PAD AND SEDIMENT AREA WEEKLY AND AFTER STORM EVENTS OF HEAVY USE.
2. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOP DRESS WITH CLEAN STONE AS NEEDED.
4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT ROCK TRAP OR BASIN.
5. REPAIR ANY BROKEN PAVEMENT IMMEDIATELY.

7260 SHADELAND STATION
INDIANAPOLIS, IN 46256
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
AMERICAN STRUCTUREPOINT INC.

APPROVAL PENDING
NOT FOR CONSTRUCTION
CERTIFIED BY

EROSION CONTROL DETAILS

PREPARED FOR:
TERRY LEE CROSSING
8693 E. U.S. HIGHWAY 36
AVON, INDIANA

PROJECT:
ELWOOD WILSON LEGAL DRAIN
LIBRARY ARM RELOCATION
NOBLESVILLE, INDIANA

DATE:	2013.05.31
DRAWN BY:	JCS
CHK'D BY:	BNS
JOB NO.	2012.00089

REVISIONS	

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C301
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SITE NAME:

The area scheduled for construction is known as "Elwood Wilson Legal Drain – Library Arm" (hereinafter referred to as the "Project").

PROJECT LOCATION:

The property is located at southeast corner of SR 37 and SR 32/38 in Noblesville, IN, at a latitude of 40°02'42" N and a longitude of 85°59'35" W.

OWNER'S INFORMATION:

Name: Terry Lee Crossing
Address: 8693 E. US Highway 36, Avon, IN 46123
Representative: Mike Cooke
Title: CFO
Telephone: (317) 272–1000
Facsimile: NA

OPERATOR'S INFORMATION:

Name: Terry Lee Crossing
Address: 8693 E. US Highway 36, Avon, IN 46123
Representative: Mike Cooke
Title: CFO
Telephone: (317) 272–1000
Facsimile: NA

NOTICE OF INTENT:

All parties defined as owners or operators must submit a Notice of Intent (NOI) at least 48 hours prior to commencement of on–site construction activities. Submittal of late NOI's is not prohibited; however, authorization under the construction general permit is only for discharges that occur after permit coverage is granted. Unpermitted discharges may be subject to enforcement actions by the EPA. For the purposes of this permit, an operator is defined as any party meeting either of the following requirements:

a. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications.

b. The party has day–to–day operational control of those activities at a project that are necessary to ensure compliance with a storm water pollution prevention plan for the site or other permit conditions.

A2 11" x 17" PLAT:

Refer to Site Plan

A3 PROJECT NARRATIVE:

This project consists of the construction a relocated legal drain. The proposed drain will be offset approximately 50' from the existing legal drain ditch. The site will be seeded at the completion of construction.

The drainage plans for the site include a storm sewer designed for conveyance of 10–year flood discharges to the existing Elwood Wilson Legal Drain.

A4 VICINITY MAP:

Refer to Title Sheet

A5 LEGAL DESCRIPTION OF PROJECT SITE:

Record Description:

(from Inst. No. 2012000698)

A part of the Northwest Quarter of Section 5, Township 18 North, Range 5 East and the West Half of the Southwest Quarter of Section 32, Township 19 North, Range 5 East of the Second Principal Meridian in Noblesville Township of Hamilton County, Indiana.

Commencing at the Southwest corner of the Southwest Quarter of Section 32, Township 19 North, Range 5 East; thence North 89 degrees 36 minutes 03 seconds East (assumed bearing) along the South line of said Quarter Section 193.38 feet to the Northwest corner of the Northwest Quarter of Section 5, Township 18 North, Range 5 East; thence continue North 89 degrees 36 minutes 03 seconds East along said South line 1139.40 feet to the Southeast corner of said West Half and the point of beginning of the following described real estate: Thence continue along said South line North 89 degrees 36 minutes 03 seconds East a distance of 918.42 feet to the Northwest corner of real estate as contained in Instrument No. 96–30844 as found in the Office of the Recorder of Hamilton County, Indiana; thence South 00 degrees 04 minutes 08 seconds East along the West line of said real estate 1005.25 feet to a point in the centerline of abandoned Central Indiana Railroad; thence South 89 degrees 31 minutes 02 seconds West along said centerline a distance of 2,151.28 feet to a point in the centerline of State Road No. 37 per I.S.H.C. plans for Project No. 824(1), dated 1954, Sheet 15 therein, said point being on a nontangent point on a curve concave to the East, having a radius of 3,819.72 feet and a long chord which bears North 08 degrees 57 minutes 26 seconds East 1234.87 feet; thence along said curve to the right an arc distance of 1240.31 feet to the point of tangency thereof; thence North 18 degrees 15 minutes 31 seconds East 473.50 feet to the intersection with State Roads No. 32 & 38 being marked with a brass plug; thence North 88 degrees 50 minutes 58 seconds East along said centerline 612.96 feet to the point of curvature of a curve concave to the South, having a radius of 5694.58 feet and a long chord which bears North 89 degrees 21 minutes 25 seconds East 100.86 feet; thence along said curve to the right an arc distance of 100.86 feet to the Northwest corner of real estate as contained in Instrument No. 98–72645 of said Recorder's Office; thence South 00 degrees 05 minutes 39 seconds West 111.97 feet (record), 114.37 feet (measured) to the point of curvature of a curve concave to the West, having a radius of 301.62 feet and a long chord which bears South 08 degrees 31 minutes 11 seconds West 88.39 feet; thence along said curve to the right an arc distance of 88.71 feet to the Southwest corner of said real estate thereof; thence South 74 degrees 50 minutes 08 seconds East 85.87 feet to the Southeast corner; thence North 74 degrees 13 minutes 52 seconds East 110.72 feet to the Southeast corner of real estate as contained in Instrument No. 88–04544 and found in said Recorder's Office, said point also being on the East line of the West Half of said Southwest Quarter of Section 32; thence South 00 degrees 08 minutes 19 seconds East along said East line 472.00 feet to the point of beginning. Containing 63.082 acres, more or less (gross) and 57.829 acres (net), less right–of–way.

A6 LOCATION OF ALL LOTS AND PROPOSED SITE IMPROVEMENTS:

The site will not be subdivided; therefore, there are no individual lots on the property. The Site Plan shows the proposed site improvements.

A7 HYDROLOGIC UNIT CODE (HUC):

05120201070070

A8 STATE AND FEDERAL WATER QUALITY PERMITS:

Permits for the temporary construction crossing and utility crossings are required from IDNR. Permits from IDEM and the US Army Corp of Engineers are required for placing riprap below the ordinary high water mark and for the temporary construction crossings.

A9 SPECIFIC POINT WHERE STORMWATER DISCHARGE WILL LEAVE THE SITE:

Stormwater drainage from the site will be conveyed by a the proposed legal drain towards the Elwood Wilson Legal Drain ditch. The ultimate received water for the runoff is Stony Creek.

A10 LOCATION AND NAME OF ALL WETLANDS, LAKES, AND WATERCOURSES ON AND ADJACENT TO THE SITE:

Wetlands are located south and east of the proposed project. No impacts to these wetlands are anticipated.

A11 IDENTIFICATION OF ALL RECEIVING WATERS:

The ultimate receiving water is Stony Creek.

A12 IDENTIFICATION OF ALL POTENTIAL DISCHARGES TO GROUND WATER:

There are no locations on site where surface water may be discharged into ground water.

A13 100–YEAR FLOODPLAINS, FLOODWAYS, AND FLOODWAY FRINGES:

The site does lie within the floodplain, floodway, or floodway fringe. The information was obtained from Flood Insurance Rate Map Panel 18057C0161C dated preliminary for Hamilton County, Indiana.

A14 PRE–CONSTRUCTION AND POST–CONSTRUCTION ESTIMATE OF PEAK DISCHARGE:

Pre–construction 10–year discharge: 48.25 cfs
Post–construction 10–year discharge: 48.25 cfs

A15 ADJACENT LAND USE:

North: Commercial
East: Commercial/Vacant
South: Commercial/Vacant
West: Commercial

A16 LOCATIONS AND APPROXIMATE BOUNDARIES OF ALL DISTURBED AREAS:

Refer to the Erosion Control Plan for the construction limits

A17 IDENTIFICATION OF EXISTING VEGETATIVE COVER:

At this time, grassy vegetative cover exists.

A18 SOILS MAP INCLUDING SOIL DESCRIPTION AND LIMITATIONS:

Soil information from the county Soil Survey is on the Erosion Control Plan. This site has Brookston silty clay loam, Miami silt loam, and Orthent soils.

The suitability of the soils for shallow excavations ranges from somewhat to very limited. The on–site soil will be treated as recommended by the geotechnical engineer if the conditions are unsuitable for the pavement system. Remedial treatments may include, but are not limited to, removal of unsuitable soil and backfilling with engineered material, installation of a geofabric within or under the pavement system, or treatment of the subgrade with lime.

Other suitability or limitations of the soil for the other classifications of use listed in the table are not applicable to this project.

A19 LOCATIONS, SIZE, AND DIMENSIONS FOR PROPOSED STORMWATER SYSTEMS:

Locations of stormwater systems: See Storm Sewer Plan and Profile
Size of storm sewer: See Stom Sewer Plan and Profile
Details of storm inlets and manholes: See Site Details

A20 PLANS FOR ANY OFF–SITE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT:

No offsite construction activities are anticipated for this project.

A21 LOCATIONS OF PROPOSED SOIL STOCKPILES AND/OR BORROW/DISPOSAL:

Excess soil shall be immediately stockpiled and seeded and/or removed from the construction site in accordance with all applicable laws.

A22 EXISTING SITE TOPOGRAPHY:

Refer to the Existing Topography Plan Sheet.

A23 PROPOSED FINAL SITE TOPOGRAPHY:

Refer to the Storm sewer plan and profile.

B1 DESCRIPTION OF POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION ACTIVITIES:

The following potential pollutant sources may be associated with construction activities on site:

1. Material storage areas (more specifically described below).
2. Construction waste material.
3. Fuel storage areas and fueling stations.
4. Exposed soils.
5. Leaking vehicles and equipment.
6. Sanitary waste from temporary toilet facilities.
7. Litter.
8. Windblown dust.
9. Soil tracking off site from construction equipment.

The following construction materials will be staged or stored on site at various points during development of the site:

1. Structural fill.
2. Concrete drainage pipe.
3. Concrete culverts.
4. Precast concrete manholes.
5. Rock rip–rap.

B2 SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION RELATIVE TO LAND–DISTURBING ACTIVITIES:

1. Install construction entrance.
2. Utilize the gravel construction entrance for installation of the perimeter silt fence. Add stone if needed. Post the NOI at the entrance.
3. Install staging area, fueling station, material storage area and concrete truck washout.
4. Install check dams for existing legal drain.
5. Create diversion berm to maintain flow through existing legal drain.
6. Begin installation of the legal drain. Install outlet protection prior to installing outlet.
7. Complete installation of legal drain.
8. Remove diversion berm for flow to go through new legal drain.
9. Remove existing regulated drain tile. Fill in existing legal drain channel.
10. Areas left dormant for more than 15 days, must be temporarily seeded.
11. Seed the perimeter of the site.
12. Remove all erosion and sediment control practices when areas have a uniform grass cover.

B3 STABLE CONSTRUCTION ENTRANCE LOCATIONS AND SPECIFICATIONS:

Refer to the Erosion Control Plan for location and Erosion Control Details for details.

B4 SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS:

Sheet flow areas will be protected by seed and mulch or hydroseeding. Erosion control blankets will be installed on sloped areas where the slope exceeds 6:1 (horizontal to vertical). Silt Fence will be installed to prevent sedimentation from leaving the site. Because lengths and heights of the slopes are small, more aggressive erosion control measures were not considered.

Refer to Sheet Erosion Control Details for details.

B5 SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS:

Concentrated flow areas will be controlled by rock check dams.

Straw bales and silt fences will not be allowed as concentrated flow protection measures.

B6 STORM SEWER INLET PROTECTION MEASURE LOCATIONS AND SPECIFICATIONS:

No proposed inlets to have inlet protection.

Straw bales alone will not be allowed as inlet protection measures.

B7 RUNOFF CONTROL MEASURES:

Rock check dams are used along ditches to reduce runoff velocity.

B8 STORMWATER OUTLET PROTECTION SPECIFICATIONS:

Stormwater outlets will be protected by riprap aprons. Refer to the Erosion Control Plan for locations and the Erosion Control Details for details.

B9 GRADE STABILIZATION STRUCTURE LOCATIONS AND SPECIFICATIONS:

Rip rap aprons at outlets will be utilized to prevent grade destabilization. Refer to Erosion Control Plan for locations and Erosion Control Details for details.

B10 LOCATION, DIMENSIONS, SPECIFICATIONS, AND CONSTRUCTION DETAILS OF EACH STORMWATER QUALITY MEASURE:

The location of the erosion control measures can be found on the Erosion Control Plan. The details of the proposed stormwater quality measures can be found on the detail sheet.

B11 TEMPORARY SURFACE STABILIZATION METHODS APPROPRIATE FOR EACH SEASON:

Refer to the Erosion Control Details, within the Seasonal Soil Protection Chart.

B12 PERMANENT SURFACE STABILIZATION SPECIFICATIONS:

A. Loosen lawn area to a minimum depth of 6 inches. Mix soil amendments and phosphorus free fertilizers with topsoil at rates specified. Organic soil amendments such as peat, compost or manure shall be applied at 2" depth evenly over soil and incorporated into the top 6" of topsoil. Provide fertilizer with percentage of nitrogen required to provide not less than 1 pound of actual nitrogen per 1,000 sq. ft. of lawn area and not less than 4 percent phosphoric acid and 2 percent potassium. At least 50 percent of nitrogen to be organic form. Delay mixing of fertilizer if planting will not follow placing of planting soil within a few days.
B. Fertilizer for lawns: provide a fast release fertilizer with a composition of 1 lb per 1,000 sq. ft. of actual nitrogen, and 2 percent potassium by weight.
C. Slow–release fertilizer for trees and shrubs: granular fertilizer consisting of 50 percent water–insoluble nitrogen, and potassium made up of a composition by weight of 5 percent.
D. Grade lawn and grass areas to a smooth, even surface with loose, uniformly fine texture. Limit fine grading to areas that can be planted within immediate future. Remove trash, debris, stones larger than 1 inch diameter, and other objects that may interfere with planting or maintenance operations.
E. Sow seed using a spreader or seeding machine. Do not seed when wind velocity exceeds 5 miles per hour. Distribute seed evenly over entire area by sowing equal quantity in 2 directions at right angles to each other.
F. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with a fine spray.
G. Install erosion control blankets as indicated on the plan.
H. Protect seeded areas against erosion by spreading clean, seed–free straw mulch after completion of seeding operations. Spread uniformly to form a continuous blanket not less than 1–1/2 inches loose measurements over seeded areas.
I. Water newly planted lawn areas and keep moist until new grass is established. Immediately repair any lawn areas disturbed by construction activities including tree and shrub installation.
J. Refer to the Erosion Control Details, within the Seasonal Soil Protection Chart for timing of temporary and permanent seeding and grass seed specifications.

B13 MATERIAL HANDLING AND SPILL PREVENTION PLAN:

Solid Waste Disposal:
No solid material, including building materials, is permitted to be discharged to surface waters or buried on site. All solid waste materials, including disposable materials incidental to the construction activity, must be collected in containers or closed dumpster's. The collection containers must be emptied periodically and the collected material hauled to a landfill permitted by the State and/or appropriate local municipality to accept the waste for disposal.

A foreman or supervisor should be designated in writing to oversee, enforce, and instruct construction workers on proper solid waste procedures.

Hazardous Waste:

Whenever possible, minimize the use of hazardous materials and generation of hazardous wastes. All hazardous waste materials will be disposed in the manner specified by federal, state, or local regulations or by the manufacturer.

Use containment berms in fueling and maintenance areas and where potential for spills is high.

A foreman or supervisor should be designated in writing to oversee, enforce and instruct construction workers on proper hazardous waste procedures. The location of any hazardous waste storage areas should be indicated on the stormwater pollution prevention plan by the operator following on–site location of the facility.

Dust Control/Off–Site Vehicle Tracking:

During construction, water trucks should be used, as needed, by each contractor or subcontractor to reduce dust. After construction, the site should be stabilized to reduce dust.

Construction traffic should enter and exit the site at a Construction Entrance with a rock pad or equivalent device. The purpose of the rock pad is to minimize the amount of soil and mud that is tracked onto existing streets. If sediment escapes the construction site, off–site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts.

Sanitary/Septic:

Contractors and subcontractors must comply with all state and local sanitary sewer, portable toilet, or septic system offsite impacts.

Sanitary/Septic:

Contractors and subcontractors must comply with all state and local sanitary sewer, portable toilet, or septic system regulations. Sanitary facilities shall be provided at the site by each contractor or subcontractor throughout construction activities. The sanitary facilities should be utilized by all construction personnel and be serviced regularly. All expenses associated with providing sanitary facilities are the responsibility of the contractors and subcontractors. The location of any sanitary facilities should be indicated on the stormwater pollution prevention plan by the operator following on–site location of said facilities.

Water Source:

Water used to establish and maintain grass, to control dust, and for other construction purposes must originate from a public water supply or private well approved by the State or local health department.

Equipment Fueling and Storage Areas:

Equipment fueling, maintenance, and cleaning should only be completed in protected areas (i.e., bermed area). Leaking equipment and maintenance fluids will be collected and not allowed to discharge onto soil where they may be washed away during a rain event.

Equipment wash down (except for wheel washes) should take place within an area surrounded by a berm. The use of detergents is prohibited.

Hazardous Material Storage:

Chemicals, paints, solvents, fertilizers, and other toxic or hazardous materials should be stored in their original containers (if original container is not reseatable, store the products in clearly labeled, waterproof containers). Except during application, the containers should be kept in trucks or in bermed areas within covered storage facilities. Runoff containing such materials shall be collected, removed from the site, and disposed of in accordance with the federal, state, and local regulations.

As may be required by federal, state or local regulations, the Contractor should have a Hazardous Materials Management Plan and/or Hazardous Materials Spill and Prevention Program in place. A foreman or supervisor should be designated in writing to oversee, enforce, and instruct construction workers on proper hazardous materials storage and handling procedures. The location of any hazardous material storage areas should be indicated on the stormwater pollution prevention plan by the operator following on–site location of the storage areas.

Material Handling and Spill Prevention:

Discharge of hazardous substances or oil into stormwater is subject to reporting requirements. In the event of a spill of a hazardous substance, the operator is required to notify the National Response Center (1–800–424–8802) to properly report the spill. In addition, the operator shall submit a written description of the release (including the type and amount of material released, the date of the release, the circumstances of the release, and the steps to be taken to prevent future spills) to the local Soil and Water Conservation District. The SWPPP must be revised within 14 calendar days after the release to reflect the release, stating the information above along with modifications to minimize the possibility of future occurrences. Each contractor and subcontractor is responsible for complying with these reporting requirements.

Concrete Washout:

All concrete trucks waste material shall be completely contained and disposed in accordance with all local, state, and federal regulations. A pit or container is required when cleaning concrete chutes.

Spill Response Plan:

Minor – Small spills that typically involve oil gasoline, paint, hydraulic fluid etc. Minor spills can be controlled by the first responder at the discovery of the spill.
- Contain spill to prevent material from entering storm or ground water. Do not flush with water or bury.
- Use absorbent material to clean–up spill material and any subsequently contaminated soil and dispose of properly.

Semi–significant Spills – Approximately ten gallons or less of pollutant with no contamination of ground or surface waters. Minor spills can be generally controlled by the first responder with help from other site personnel. This response may require other operations to stop to make sure the spill is quickly and safely addressed. At the discovery of the spill:
- Contain spill to prevent material from entering storm or ground water. Do not flush with water or bury.
- Use absorbent material to clean–up spills and dispose of properly. Spills on impervious surfaces should be contained with a dry absorbent. Spills on clayey soils should be contained by constructing an earthen dike and should be disposed of as soon as possible to prevent migration deeper into the soil and groundwater. Dispose of contaminated soils or absorbents properly.
- Contact 911 if this spill could be a safety issue.
- Contact supervisors and designated inspectors immediately
- Contaminated solids to be removed to an approved landfill.

Major or Hazardous Spills – More than ten gallons, there is the potential for death, injury or illness to humans or animals or has the potential for surface or groundwater pollution.
- Control or contain the spill without risking bodily harm. Temporarily plug storm drains if possible to prevent migration of the spill into the stormwater system.
- Immediately contact the local Fire Department at 911 to report any hazard material spill.
- Contact supervisors and designated inspectors immediately. Other county or municipal officials (City of Noblesville Engineering Department) responsible for storm water facilities should be contacted as well. The contractor is responsible for having these contact numbers available at the job site. A written report should be submitted to the owner as soon as possible.
- As soon as possible but within 2 hours of discovery, contact the Department of Environmental Management, Office of Emergency Response 1–888–233–7745, Noblesville Fire and Police Department and City of Noblesville MS4 317–776–6330. The following information should be noted for future reports to IDEM or the National Response Center.
  - Name, address and phone number of person making the spill report
  - The location of the spill
  - The time of the spill
  - Identification of the spilled substance
  - Approximate quantity of the substance that has been spilled or may be further spilled
  - The duration and source of the spill
  - Name and location of the damaged waters
  - Name of spill response organization
  - What measures were taken in the spill response
  - Other information that may be significant

Additional regulation or requirements may be present. A spill response professional should be consulted to make sure all appropriate and required steps have been taken. Contaminated solids should only be removed from the site after approval is given by Emergency Response.

B14 MONITORING AND MAINTENANCE GUIDELINES FOR EACH PROPOSED STORMWATER QUALITY MEASURE:

Inspection Schedule/Reporting:

All impacted areas, as well as all erosion and sediment control devices, will be inspected every seven (7) calendar days and within 24 hours after a rainfall of 0.5 inch or greater. Where sites have been final or temporarily stabilized or on sites where runoff is unlikely due to winter conditions (e.g., site is covered with snow, ice, or frozen ground exists), such inspections shall be conducted at least once every month.

Inspections shall be conducted and a written report prepared, by a designated and qualified person familiar with the USEPA NPDES Storm Water General Permit, this SWPPP, and the Project.

Inspection reports shall be completed including scope of the inspection, name(s) and qualifications of personnel making the inspection, the date of the inspection, observations relating to the implementation of the SWPPP, and any actions taken as a result of incidents of noncompliance noted during the inspection. The inspection report should state whether the site was in compliance or identify any incidents of noncompliance. The contractor shall keep a copy of the inspection reports on site and permanently for a period of two years following construction. The on–site reports may be requested by inspections conducted by the local Soil and Water Conservation District.

Construction Entrance:

Locations where vehicles exit the site shall be inspected for evidence of off–site sediment tracking. Each contractor and subcontractor shall be responsible for maintaining the Construction Entrance and other controls as described in this SWPPP.

Material Storage Inspections:

Inspectors must evaluate areas used for storage of materials that are exposed to precipitation. The purpose is to ensure that materials are protected and/or impounded so that pollutants cannot discharge from storage areas. Off–site material storage areas used solely by the subject project are considered to be part of the project and must be included in the erosion control plans and the site inspection reports.

Soil Stabilization Inspections:

Seeded areas will be inspected to confirm that a healthy stand of vegetation is maintained. The site has achieved final stabilization once all areas are covered with pavement or have a stand of vegetation with at least 70% of the background vegetation density. The density of 70% or greater must be maintained to be considered as stabilized. The operator or their representative will water, fertilize, and reseed disturbed areas as needed to achieve this goal.

Erosion and Sediment Control Inspections:

All controls should be inspected at least once every seven (7) calendar days and following any storm event of 0.5 inch or greater. The following is a list of inspection/maintenance practices that will be used for specific controls:

1. Geotextiles/Erosion Control Mats: Missing or loose matting must be replaced or re–anchored.
2. Diversion Swales: Clean debris or other obstructions as needed. Damage from storms or normal construction activities (i.e., tire ruts) shall be repaired immediately.
3. Mulching: Inspect for thin or bare spots caused by natural decomposition or weather–related events. Mulch in high traffic area should be replaced on a regular basis to maintain uniform protection.
4. Silt Fence: Removal of built–up sediment will occur when the sediment reaches one–third the height of the fence.
5. Stabilized Construction Entrance: Periodic regarding and top dressing with additional stones.
6. Vegetation: Protect newly seeded areas from excessive runoff and traffic until vegetation is established. Establish a watering and fertilizing schedule.
7. Good Housekeeping: Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges through screening of outfalls and daily pickup of litter.

In the event that sediment escapes the construction site, off–site accumulations of sediment must be removed at a frequency sufficient to minimize adverse impacts. An example of this may be the situation where sediment has washed into the street and could be carried into the storm sewers by the next rainfall and/or pose a safety hazard to users of public streets.

Modifications/Revisions to SWPPP:

Based on inspection results, any necessary modification to this SWPPP shall be implemented within seven calendar days of the inspection. A modification is necessary if a control measure or operational procedure does not provide adequate pollutant control. All revisions shall be recorded on a Record of Revisions within seven calendar days of the inspection.

It is the responsibility of the operator to maintain effective pollutant discharge controls. Physical site conditions or contractor/subcontractor practices could make it necessary to install more controls than were originally planned. For example, localized concentrations of surface runoff or unusually steep areas could require additional silt barrier or other structural controls. Assessing the need for and installing additional controls will be a continuing contractor/subcontractor responsibility until final stabilization is achieved. Contractors and subcontractors implementing this SWPPP must remain alert to the need to periodically refine and update this SWPPP in order to accomplish the intended goals.

Notice of Termination:

Compliance of the site with the General Construction Permit remains the responsibility of all operators that have submitted an NOI until such time as they have submitted a Notice of Termination (NOT). The permittee's authorization to discharge under the General Construction Permit terminates at midnight of the day the NOT is signed.

All permittees must submit an NOT within thirty (30) days after one or more of the following conditions have been met:

1. Final stabilization has been achieved on all portions of the site for which the permittee was responsible.
2. Another operator/permittee has assumed control over all areas of the site that have not been finally stabilized.
3. In residential construction operations, temporary stabilization has been completed and the residence has been transferred to the homeowner.

B15 EROSION AND SEDIMENT CONTROL SPECIFICATIONS FOR INDIVIDUAL BUILDING LOTS:

Since the entire site is under a single ownership, there are not any individual building lots.

C1 DESCRIPTION OF POLLUTANTS AND THEIR SOURCES ASSOCIATED WITH THE PROPOSED LAND USE:

No proposed uses are associated with this project at this time. Therefore no post construction water quality BMP's are proposed.

C2 SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION:

No proposed uses are associated with this project at this time. Therefore no post construction water quality BMP's are proposed.

C3 DESCRIPTION OF PROPOSED POST–CONSTRUCTION STORMWATER QUALITY MEASURES:

Grading and Drainage:

Top soil will be placed in lawn areas and seeded with grass and graded; not to exceed 3:1 slopes. These Bio areas will act as a natural filter strip to help improve storm water quality. The vegetated areas will slow the velocities of storm water runoff, reduce sediment runoff, and reduce problems associated with mud or dust from bare soils.

Good Housekeeping measures:

Good Housekeeping measures such as regular street sweeping, installation of trash receptacles, and reduction in fertilizer overspray can be incorporated by the owner.

C4 LOCATION, DIMENSIONS, SPECIFICATIONS, AND CONSTRUCTION DETAILS OF EACH STORMWATER QUALITY MEASURE:

No proposed uses are associated with this project at this time. Therefore no post construction water quality BMP's are proposed.

C5 DESCRIPTION OF MAINTENANCE GUIDELINES FOR POST–CONSTRUCTION STORMWATER QUALITY MEASURES:

No proposed uses are associated with this project at this time. Therefore no post construction water quality BMP's are proposed.

This Information was gathered for input into the Hamilton County Geographic Information System (GIS). This document is considered an official record of the GIS.
Entry Date: Feb 2016
Entered By: SLM

AMERICAN STRUCTUREPOINT INC.
7260 SHADELAND STATION
INDIANAPOLIS, IN 46256–3957
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com

APPROVAL PENDING
NOT FOR CONSTRUCTION
CERTIFIED BY

STORM WATER POLLUTION PREVENTION PLAN

PREPARED FOR:
TERRY LEE CROSSING
8693 E. U.S. HIGHWAY 36
AVON, INDIANA

PROJECT:
ELWOOD WILSON LEGAL DRAIN
LIBRARY ARM RELOCATION
NOBLESVILLE, INDIANA

DATE:	2013.05.31
DRAWN BY:	IT
CHK'D BY:	BNS
JOB NO.	2012.00089

REVISIONS

SHEET NO.
C302
OF

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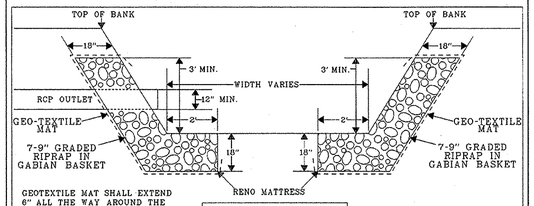
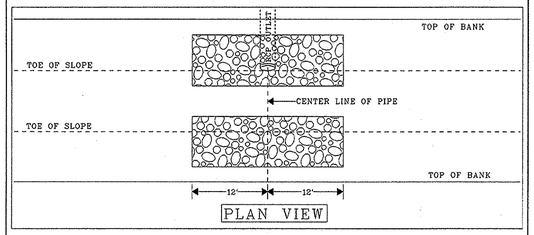
EDITED BY: ITOLIVER DRAWING FILE: P:\2012\02012.00089\D. DRAWINGS\CIVIL\PLANS SET\LIBRARY ARM\02012.00089.CE.02.C302.SWPPP.DWG
EDIT DATE: 5/31/13 – 10:15 AM
PRINT DATE: 6/5/13
PLOT SCALE: 1:2.4849

OFFICE OF THE HAMILTON COUNTY SURVEYOR

BANK ARMORMENT AT OUTLET PIPE IN OPEN CHANNELS





(DRAWING NOT TO SCALE)

HAMILTON COUNTY SURVEYOR'S OFFICE

REVISED: 1 JAN 2000

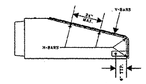
APPROVED: _____ 4JAN00
KENTON C. WARD, HAMILTON COUNTY SURVEYOR — DATE

STANDARD PLAN O-4

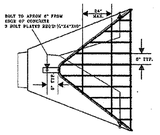
OFFICE OF THE HAMILTON COUNTY SURVEYOR

DEBRIS GUARD

SIDE PROFILE



TOP VIEW



	Apron Size	V-bar Size	No. of H-bars	H-bar Size	Bolt Dia.	"A" Dim.
	Inches	Inches	Req'd	Inches	Inches	Inches
Arch pipe aprons	18	1/2	3	5/8	1/2	5
	24	5/8	4	3/4	1/2	7
	30	5/8	4	3/4	1/2	7 1/2
	36	3/4	4	1	1/2	10 1/2
	42	3/4	4	1	3/4	11
	48	3/4	4	1½ pipe	3/4	12
	54	3/4	4	1½ pipe	3/4	12
	60	3/4	5	1½ pipe	3/4	14
	72	3/4	5	1½ pipe	3/4	14
	84	3/4	6	1½ pipe	3/4	15
Round pipe aprons	12	1/2	3	5/8	1/2	4
	15	1/2	3	5/8	1/2	4 1/2
	18	1/2	4	5/8	1/2	4 1/2
	21	1/2	4	5/8	1/2	5
	24	5/8	4	3/4	1/2	5
	27	5/8	4	3/4	1/2	5 1/2
	30	5/8	4	3/4	1/2	5 1/2
	36	3/4	4	1	3/4	8
	42	3/4	4	1	3/4	8
	48	3/4	5	1	3/4	8
	54	3/4	5	1½ pipe	3/4	8
	60	3/4	5	1½ pipe	3/4	8
	66	3/4	6	1½ pipe	3/4	8
	72	3/4	6	1½ pipe	3/4	9
	84	3/4	7	1½ pipe	3/4	10
	90	3/4	7	1½ pipe	3/4	14

NOTES:
1. BARS & PLATES ARE HOT-ROLLED STEEL.
2. BARS, PLATES, & PIPE ARE FINISHED WITH 2 COATS OF ALUMINUM PAINT.
3. BOLTS ARE GALVINIZED
4. NO REBAR THROUGH PIPES WILL BE ALLOWED
5. DEBRIS GUARD SHALL BE REMOVABLE

(DRAWING NOT TO SCALE)

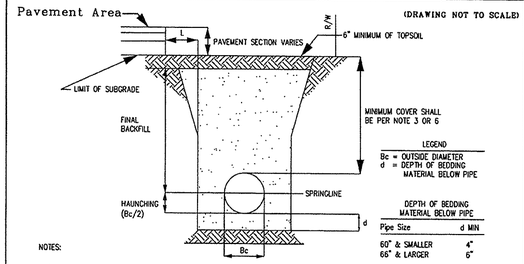
HAMILTON COUNTY SURVEYOR'S OFFICE

REVISED: 1 JAN 2000

APPROVED: _____ 4JAN00
KENTON C. WARD, HAMILTON COUNTY SURVEYOR — DATE

STANDARD PLAN D-12

OFFICE OF THE HAMILTON COUNTY SURVEYOR



NOTES:

1. BEDDING AND HAUNCHING FOR ALL RCP INSTALLATIONS SHALL BE #8 STONE MEETING THE MATERIAL REQUIREMENTS OF THE INDOT. BEDDING SHALL BE PLACED IN THE TRENCH BOTTOM SUCH THAT AFTER THE PIPE IS INSTALLED TO GRADE AND LINE, THERE REMAINS A 4" MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BARREL AND A MINIMUM OF 3" BELOW THE BELL FOR PIPE SIZES 66" AND LARGER, THE MINIMUM DEPTH OF MATERIAL BELOW THE PIPE BAREL SHALL BE 6". BEDDING SHALL BE PLACED TO BE UNIFORM AS POSSIBLE, BUT SHALL BE LOOSELY PLACED UNCOMPACTED MATERIAL UNDER THE MIDDLE THIRD OF THE PIPE PRIOR TO PLACEMENT OF THE PIPE. IF THE UNDERLYING SOILS OF THE TRENCH BOTTOM ARE SOFT OR YIELDING, THE SOIL SHALL BE UNDERCUT TO SUCH A DEPTH THAT WHEN REPAIRED WITH #2 STONE IT WILL PRODUCE A UNIFORM AND STABLE FOUNDATION ALONG THE ENTIRE LENGTH OF THE PIPE. HAUNCHING AND INITAIL BACKFILL SHALL BE COMPACTED IN 8" MAXIMUM LIFTS TO NOT LESS THAN 90% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL SHALL BE BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE FOR THE FULL LENGTH OF THE PIPE. HAUNCHING SHALL EXTEND TO THE SPRINGLINE OF THE PIPE. MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 18".
2. FINAL BACKFILL FOR ALL RCP INSTALLATIONS WHERE "L" IS 5' OR LESS SHALL BE B-BORROW FOR STRUCTURE BACKFILL MEETING THE MATERIAL REQUIREMENTS OF THE INDOT AND SHALL BE COMPACTED IN 6" MAXIMUM LIFTS TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED. THE BACKFILL FOR THE TOP 6" OF THE EXCAVATION BELOW THE START OF THE AGGREGATE SUBBASE OF THE PAVEMENT SHALL BE #53 STONE MEETING THE MATERIAL REQUIREMENT OF THE INDOT AND SHALL BE COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY. FINAL BACKFILL FOR ALL RCP INSTALLATIONS WHERE "L" IS GREATER THAN 5' SHALL BE CLEAN FILL MATERIAL FREE OF ROCKS LARGER THAN 6" IN DIAMETER, FROZEN LUMPS OF SOIL, WOOD, OR OTHER EXTRANEOUS MATERIAL, COMPACTED IN 12" MAXIMUM LIFTS TO NOT LESS THAT 90% STANDARD PROCTOR DENSITY FOR THE ENTIRE DEPTH OF THE EXCAVATION. THE FINAL 6 INCHES OF THE EXCAVATION SHALL CONSIST OF TOPSOIL.
3. THE MINIMUM COVER FROM THE TOP OF THE INSTALLED PAVEMENT TO THE TOP OF THE INSTALLED PIPE SHALL BE THE PAVEMENT SECTION THICKNESS (ALL BITUMINOUS AND AGGREGATE MATERIAL ABOVE THE SUBGRADE) PLUS 1'-0", BUT UNDER NO CIRCUMSTANCES SHALL THE COVER ALONG ANY PART OF THE PIPE FROM THE FINAL PAVEMENT ELEVATION TO THE TOP OF THE PIPE BE LESS THAT 2.5 FEET.
4. IF EXISTING SUBGRADE HAS BEEN LIME STABILIZED, BACKFILL WITH B-BORROW UP TO BOTTOM OF UNTREATED EXISTING SUBGRADE AND FILL TO TOP OF TREATED SUBGRADE WITH LIME STABALIZED SOIL
5. THESE STANDARDS SHALL APPLY FOR ALL REGULATED DRAIN STORM SEWERS UNLESS THE ENTITY HAVING CONTROL OVER THE RIGHT OF WAY HAS A MORE STRINGENT STANDARD, IN WHICH CASE THE HIGHER STANDARD SHALL APPLY.
6. THE MINIMUM COVER FROM THE FINAL GRADE TO THE TOP OF THE PIPE SHALL BE NOT LESS THAN 2 FEET OUTSIDE OF PAVEMENT AREAS.

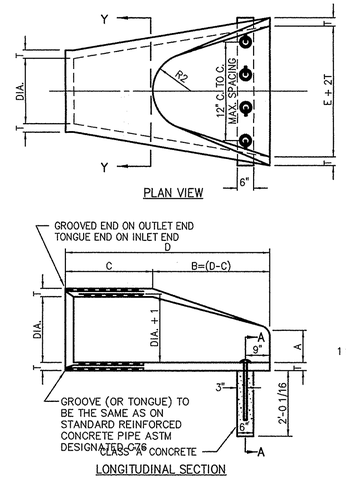
HAMILTON COUNTY SURVEYOR'S OFFICE

RCP Bedding and Backfill Standard

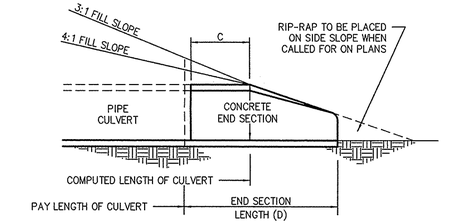
REVISED: 18 DEC 2006

APPROVED: _____ 8MAR07
KENTON C. WARD, HAMILTON COUNTY SURVEYOR — DATE

STANDARD PLAN D-23

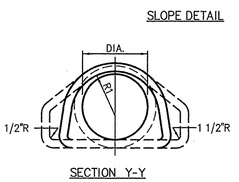


PLAN VIEW

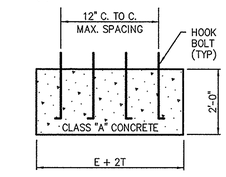


SLOPE DETAIL

LONGITUDINAL SECTION



SECTION Y-Y



SECTION A-A
CONCRETE PIPE TOE ANCHOR

CONCRETE IN THESE END SECTIONS SHALL BE THE SAME GRADE AND STRENGTH AS SPECIFIED FOR REINFORCED CONCRETE PIPE, A.S.T.M. DESIGNATION C-76 (as set out in standard specifications.)

REINFORCEMENT IN THE "C" PORTION SHALL BE THE SAME AS SPECIFIED FOR REINFORCED CONCRETE, A.S.T.M. DESIGNATION C-76 FOR THE SIZE OF CONNECTING PIPE. (as set out in standard specifications.)

REINFORCEMENT IN THE "B" PORTION SHALL HAVE A CROSS SECTIONAL AREA EQUAL TO THAT OF ONE LAYER OF STEEL IN THE "C" PORTION.

THE END OF THE PIPE CULVERT SHALL BE PLACED IN THE CONCRETE END SECTION SO THAT THE FLOW LINES ARE FLUSH. THE JOINT SHALL BE COMPLETELY FILLED WITH MORTAR.

IN 3:1 OR 4:1 FILL SLOPE, CHANGE TO THE SLOPE OF THE END SECTION IN A SMOOTH, PLEASING TRANSITION APPROXIMATELY 10'-0" IN LENGTH.

VARIATIONS IN DIMENSIONS - THE THICKNESS OR THE CONCRETE, THE POSITION OF STEEL, AND THE INTERNAL DIAMETER OF THE PIPE SHALL CONFORM WITH THE VARIATIONS IN DIMENSIONS AS PROVIDED IN THE SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, A.S.T.M. DESIGNATION C-76.

WHERE VITRIFIED CLAY CULVERT OR CAST IRON CULVERT PIPE IS USED, A "PIPE END SECTION" COMPARABLE TO THAT AS SHOWN FOR METAL OR CONCRETE SHALL BE FURNISHED AND SHALL BE AS APPROVED BY THE ENGINEER. EXCEPT IN AREAS OF ACID OR MINE WATER, THEN THE USE OF METAL END SECTION IS PROHIBITED.

CONCRETE PIPE TOE ANCHORS SHALL BE REQUIRED ON ALL CONCRETE PIPE END SECTIONS.

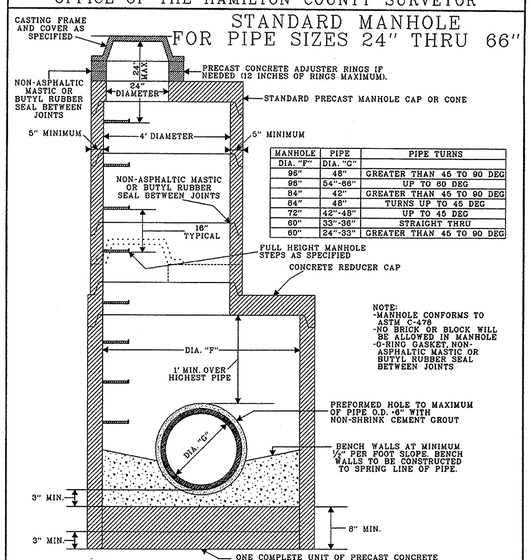
DIA.	T (MIN.)	A*	C*	D*	E*	K	R1	R2	APPROX. WEIGHT
12"	2"	5"	4'-3"	6'-2"	2'-0"	1.3	10 1/8"	9"	800
15"	2 1/4"	7"	4'-0"	6'-3"	2'-6"	1.5	12 1/2"	11"	1100
18"	2 1/2"	11"	4'-1"	6'-2"	3'-0"	1.8	15 1/2"	12"	1300
21"	2 3/4"	11"	3'-6"	6'-3"	3'-6"	2.1	16 1/8"	13"	1500
24"	3"	12"	2'-8"	6'-3"	4'-0"	2.3	16 3/16"	14"	1800
27"	3 1/4"	13"	2'-5"	6'-3"	4'-6"	2.6	18 3/16"	14 1/2"	2100
30"	3 1/2"	14"	1'-10"	6'-3"	5'-0"	2.9	18 1/2"	15"	2400
33"	3 3/4"	15"	3'-6"	8'-3"	5'-6"	3.1	23 3/4"	17 1/2"	4100
36"	4"	17"	3'-1"	8'-3"	6'-0"	3.4	24 3/16"	20"	4200
* TOLERANCE ±1"									

PRECAST CONCRETE END SECTION

NOT TO SCALE

OFFICE OF THE HAMILTON COUNTY SURVEYOR

STANDARD MANHOLE FOR PIPE SIZES 24" THRU 66"



MANHOLE DIA. "F"	PIPE DIA. "O"	PIPE TURNS
96"	48"	GREATER THAN 45 TO 90 DEG
96"	54"-66"	UP TO 90 DEG
84"	42"	GREATER THAN 45 TO 90 DEG
84"	48"	TURNS UP TO 45 DEG
72"	42"-48"	UP TO 45 DEG
60"	33"-36"	STRAIGHT THRU
60"	24"-33"	GREATER THAN 45 TO 90 DEG

(DRAWING NOT TO SCALE)

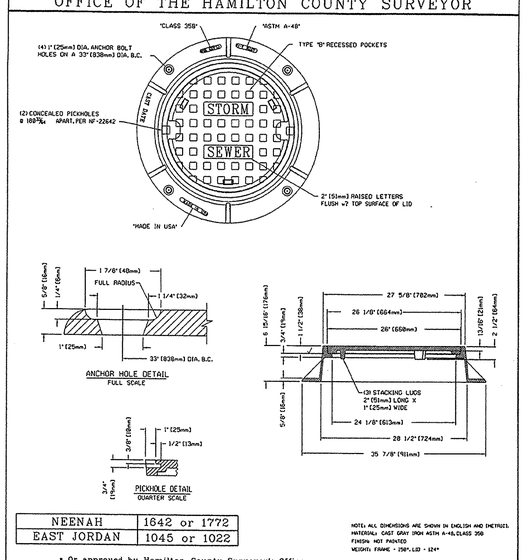
HAMILTON COUNTY SURVEYOR'S OFFICE

REVISED: 1 FEB 2002

APPROVED: _____ 2/1/02
KENTON C. WARD, HAMILTON COUNTY SURVEYOR — DATE

STANDARD PLAN D-21

OFFICE OF THE HAMILTON COUNTY SURVEYOR



NEENAH	1642 or 1772
EAST JORDAN	1045 or 1022

* Or approved by Hamilton County Surveyor's Office

NOTE: ALL DIMENSIONS ARE SHOWN IN ENGLISH AND (METRIC). MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B. FINISH: NOT PAINTED. WEIGHTS: FRAME = 250#, LID = 124#

(DRAWING NOT TO SCALE)

HAMILTON COUNTY SURVEYOR'S OFFICE

MANHOLE SOLID LID CASTING

REVISED: 9/25/2006

APPROVED: _____ 25SEP06
KENTON C. WARD, HAMILTON COUNTY SURVEYOR — DATE

STANDARD PLAN CT-1

This Information was gathered for input into the Hamilton County Geographic Information System (GIS). This document is considered an official record of the GIS.
Entry Date: Feb 2016
Entered By: SLM

7260 SHADELAND STATION
INDIANAPOLIS, IN 46256
TEL 317.547.5580 FAX 317.543.0270
www.structurepoint.com
AMERICAN STRUCTUREPOINT INC.

APPROVAL PENDING NOT FOR CONSTRUCTION

CERTIFIED BY

SITE DETAILS

PREPARED FOR:
TERRY LEE CROSSING
8693 E. U.S. HIGHWAY 36
AVON, INDIANA

PROJECT:
ELWOOD WILSON LEGAL DRAIN
LIBRARY ARM RELOCATION
NOBLESVILLE, INDIANA

DATE:	2013.05.31
DRAWN BY:	JCS
CHK'D BY:	BNS
JOB NO.	2012.00089

REVISIONS	

SHEET NO.
C400
OF

02012.00089.CE.02.C400.SD.dwg

PRINT DATE: 8/5/13
PLOT SCALE: 1:2.5849
EDIT DATE: 5/31/13 - 10:45 AM EDITED BY: PDOTTERY DRAWING FILE: P:\2012\00089\D. DRAWINGS\CIVIL\PLANS SET\LIBRARY ARM\02012.00089.CE.02.C400.SD.DWG