Drain: SARAH MORGAN Drain #: 143
Improvement/Arm: HEATHER POINTE RECOGNITION
Operator: J. בוטנו (195 Date: 4-22-04)
Drain Classification: Urban/Rural Year Installed: 1995

#### **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

# Gasb 34 Footages for Historical Cost Drain Length Log

Drain-Improvement:_	SARAH	MORGAN	- HEATHER	POINTE	RELOCATION	Į
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					e wer flicker	Meriolo
Drain Type:	Simo.	Length	Length	Length		
oram Type.	Size:		(DB Query)	Reconcile	Price:	Cost:
PVC	10"	76'	76'			
RCP	30''	709'	709'			
	2×48"	190'	190'			
OPEL DITCH		720'	720'	744		
				Ÿ.		
	Sum:	1695'	1695'			36,000
inal Report: /᠘	95'					
Comments:						





Kenton C. Ward, Surveyor

776=9626

942 Maple Avenue Noblesville, Indiana 46060<u>February 21, 1989</u>

TO: Hamilton County Drainage Board

RE: Sarah Morgan Drain

Attached is a petition for the reconstruction of the Sarah Morgan Drain filed by the Mansur Corporation. The petition is accompanied by plans for the reconstruction and calculations for the proposed system. The plans and accompanying documentation are to be considered as part of this report.

The proposed system will intercept the existing drain at or near STA 1+40 as per the 1910 Viewers Report. The new storm sewer system will then run as shown on the attached plan and terminate in Mud Creek at STA 0+00 which is approximately 150 feet upstream from STA 22+40 which is the terminus of the original drain. The new system shall consist of the following lengths:

54"	RCP	195 feet	18 <b>"</b>	RCP	70 feet
36"	RCP	135 feet	151	RCP	610 feet
30"	RCP	770 feet	12"	RCP	· · · · · · · · · · · · · · · · · · ·
24"	RCP	155 feet	1.2	KCF	300 feet

The total length of the drain including the 140 feet of original drain is 2375 feet.

The proposed lake will not be part of the drain but will be the maintenance responsibility of the Mansur Corporation until a Homeowners Association is formed to under take the maintenance. The regulated drain which will be maintained will be the original portion of the drain remaining along with the sections from STA 0+00 to 1+95 and 8+20 to 28+60 on the attached plan.

The reconstruction of the drain is neccesary to accommodate the proposed construction

\* SEE AUGUST 22, 1994 REPORT

of Hamilton Proper. The cost of the reconstruction is to be paid by the Mansur Corporation. Upon review of the plans and documentation, I believe the reconstruction of the drain shall be of benefit to the drainage shed.

Because of the proposed development for the drainage shed the character of the shed will change from rural to urban. Therefore, I recommend the drain be classificed as Urban Drain.

At this time I do not believe a change in the drainage shed nor in the drainage assessment should be made.

I recommend a hearing be set for April 1989. If approved at the hearing I recommend that the petitioner be given one (1) year from date of approval for completion and submit a performance bond or letter of credit for 100% of the estimate within thrity days of approval. Said Surity is to be released upon final inspection by the Surveyor and submittal of "As Built" Drawings.

KCW/no

Kenton C. Ward Hamilton County Surveyor



TO: Hamilton County Drainage Board

RE: Sarah Morgan Drain-Heather Pointe

Attached is a petition for the reconstruction of the Sarah Morgan Drain filed by Hamilton Proper Partners Land Partnership, L.P.. The petition is accompanied by plans for the reconstruction and calculations for the proposed system. The plans and accompanying documentation are to be considered as part of this report.

The cost of the proposed relocation will be paid by Hamilton Proper Partners Land Partnership, L.P.

On April 17, 1989 a reconstruction hearing was held for the relocation of the drain. This relocation, petitioned for by Mansur Corporation, called for routing the existing drain around the proposed lot layout for Hamilton Proper. Since that time the layout has changed and thus the need for another hearing.

The proposed system as in the previous proposal (see report dated February 21, 1989) will intercept the existing drain at or near STA 1+40 as per the 1910 Viewers Report. The new storm sewer system will then run as shown on the attached plan and terminate in Mud Creek. The system as relocated is described as from STR 35 to STR 34,33,32,31,24 and 23. At STR 23 the storm sewer enters an open ditch, which is to become part of the regulated drain, from STR 23 to the detention pond. This open ditch is to the rear of Lots 115 to 122. The system will then include the section of storm pipe from the detention pond to Mud Creek.

The proposed detention pond will not be part of the drain but will be the maintenance responsibility of the Mansur Corporation until a Homeowners Association is formed to under take the maintenance. The regulated drain which will be maintained will be the original portion of the drain remaining along with the sections described above. The remainder of the storm sewer facilities within Heather Point Section 1 and 2 will be the maintenance responsibility of the Town of Fishers.

The new system shall consist of the following lengths:

Twin 48" RCP 190 feet 30" RCP 722 feet Open Ditch 720 feet

The total length of the drain including the 140 feet of original drain is 1,772 feet.

This drain was classified as an Urban Drain at the April 1989 hearing.

I recommend to the Board that the minimum maintenance assessment be raised from \$3.00 to \$10.00. Tracts within this drainage shed will also be assessed for Mud Creek at a future date.

I recommend a hearing be set for September 1994 regarding this petition. If approved at the hearing the Petitioner shall:

- Be given one (1) year from date of approval for completion of the relocation
- 2.) Must submit a performance bond or Letter of Credit for 100% of the estimated cost within thirty (30) days of approval
- 3.) Surety to be released upon final inspection by Surveyor's Office and submittal of "As Builts" drawings.

Also attached is a non-enforcement request of easement for Heather Pointe Section 1. The Board should approve the request at the time of approval for the relocation. The non-enforcement request for Section 2 will be filed at a later date.

Kenton C. Ward

Hamilton County Surveyor



# AMWEST SURETY INSURANCE COMPANY

WOODLAND HILLS, CALIFORNIA

BOND NO. 022004117

PREMIUM \$720.00

Premium based on final contract price.

# PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner or other	her party shall be considered plural where applicable.
CONTRACTOR (Name and Address): Heather Pointe L.L.C.	BOARD OF COMMISSIONERS
700 Market Tower, 10 West Market Street	OF THE COUNTY OF MAMILTON
Indianapolis, IN 46204	- Of W. Sight
	- Sta C. Villinger
OWNER (Name and Address): Hamilton County Board of Commissioners	Musson K. Clark
	DATE 6/12/95
One Hamilton County Square, # 146 Noblesville, IN 46060	ATTEST:
Noblesville, IN 46060	HAMILTON COUNTY AUDITOR
SURETY (Name and Principal Place of Business):	
AMWEST SURETY INSURANCE COMPANY	
8910 Purdue Road, Suite 305	
Indianapolis, IN 46268	
CONSTRUCTION CONTRACT	
Ontract radiiloer.	
Amount: Thirty-Six Thousand and NO/100	Dollars (\$36,000.00).
Description (Name and Location): Subdivison Bond - Heat	her Pointe Subdivision Storm
Drainage Phase lA, Hamilton County, IN	
BOND	
Amount: Thirty-Six Thousand and NO/100	Dollars (\$36,000.00).
Signed, sealed and dated this 22nd Day of May, 1995.	Heather/Pointe L.I/C.
CALIFORNIA	By:  Signature of Principal  AMWEST SURETY INSURANCE COMPANY  Sharon E. Calvin  Altorney in-Fact
	By: Maron 6. Calum Signature of Attorney-in-Fact

# CERTIFICATE OF COMPLETION AND COMPLIANCE

To: Hamilton County Surveyor	
Re: Heather Pointe Section One Fishers, Indiana	
I hereby certify that:	
1. I am a Registered Land Surveyor or Eng	ineer in the State of Indiana.
2. I am familiar with the plans and specific	ations for the above referenced subdivision.
	ed the completion of the drainage facilities for the
4. The drainage facilities within the above information and belief have been install specifications.	referenced subdivision to the best of my knowledge led and completed in comformity with all plans and
Signature: Dale M. H	Date: <u>February 18, 1997</u>
Type or Print Name: Donald M. Gwinnu	p, Jr., P.F.
Business Address: 6910 North Shadelan	d Avenue, Suite 200
Indianapolis, India	
Telephone Number:(317) 577-0069	
SEAL LINE M. GW W. NO.	INDIANA REGISTRATION NUMBER
= 0! 10004 ig =	

FILED

FEB 2 1 1997





Kenton C. Ward, Surveyor

Phone (317) 776-8495

Fax (317) 776=9628

Suite 146 One Hamilton County Square Noblesville, Indiana 46060-2230

To: Hamilton County Drainage Board

May 14, 1997

Re: Sarah Morgan Drain - Heather Pointe Relocation

Attached are as-builts, certificate of completion & compliance, and other information for Sarah Morgan 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 August 22, 1994. The changes are as follows:

Str 24 - Str 31 30" RCP lengthened from 64' feet to 66' feet.

Str 31 - Str 32 30" RCP shortened from 75' feet to 73' feet.

Str 33 - Str 34 30" RCP lengthened from 133' feet to 135' feet.

Str 34 - Str 35 30" RCP shortened from 140' feet to 125' feet.

There was an inlet set on the existing Sarah Morgan Drain at Station 1+40 and from this structure 76' feet of 10" PVC was installed to structure 35.

The length of the drain, including the original 140 feet of drain, and the changes described above is now 1,835 feet.

The non-enforcement was approved by the Board at its meeting on September 28, 1994 and recorded under instrument #9609608736.

The bond or letter of credit from Amwest Surety Insurance Company, number 022004117 and 022004118, dated May 22, 1195, both in the amount of \$36,000.00, has been recommended for release in a letter to the Commissioners dated May 27, 1997.

I recommend the Board approve the drains construction as complete and acceptable.

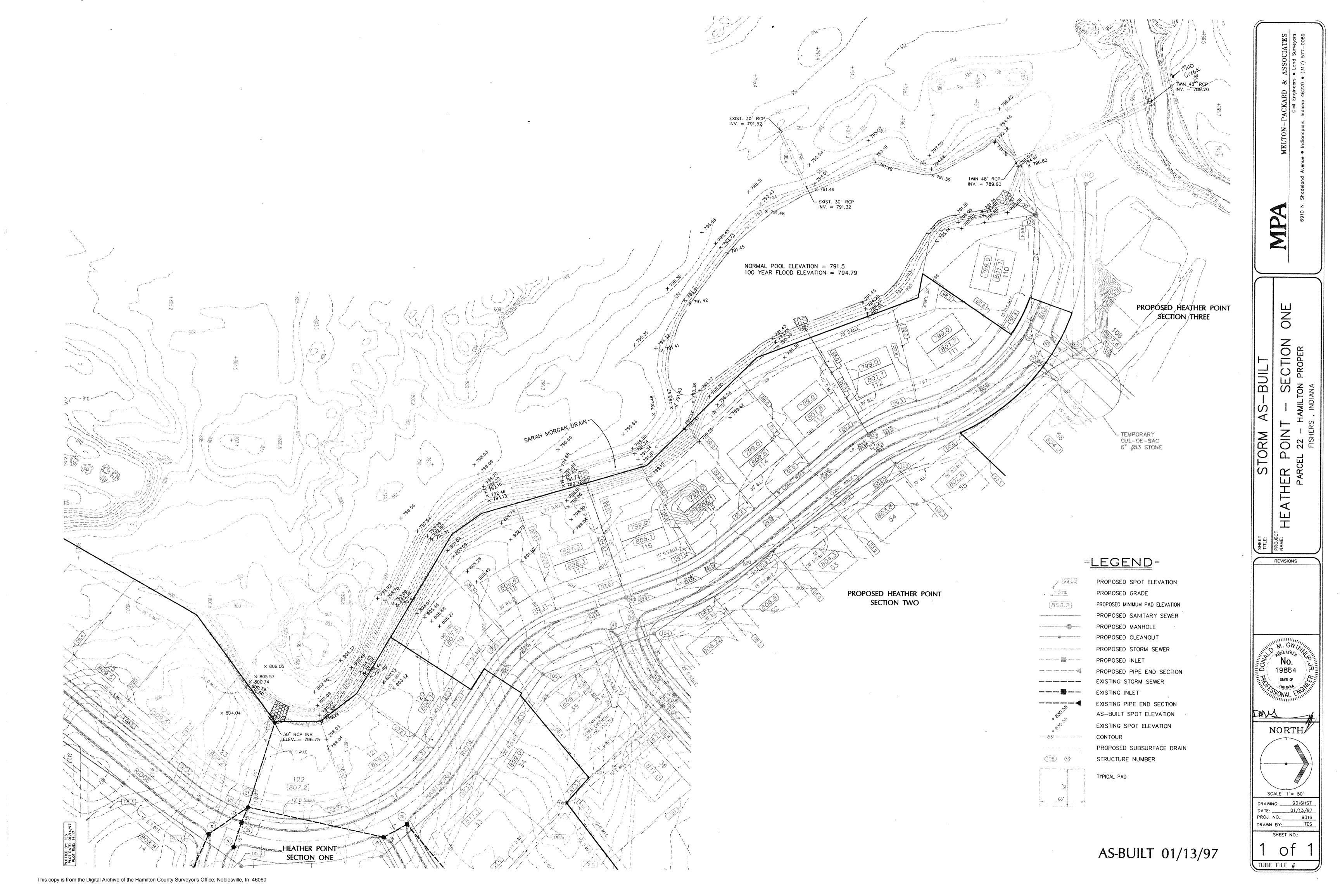
Sincerely,

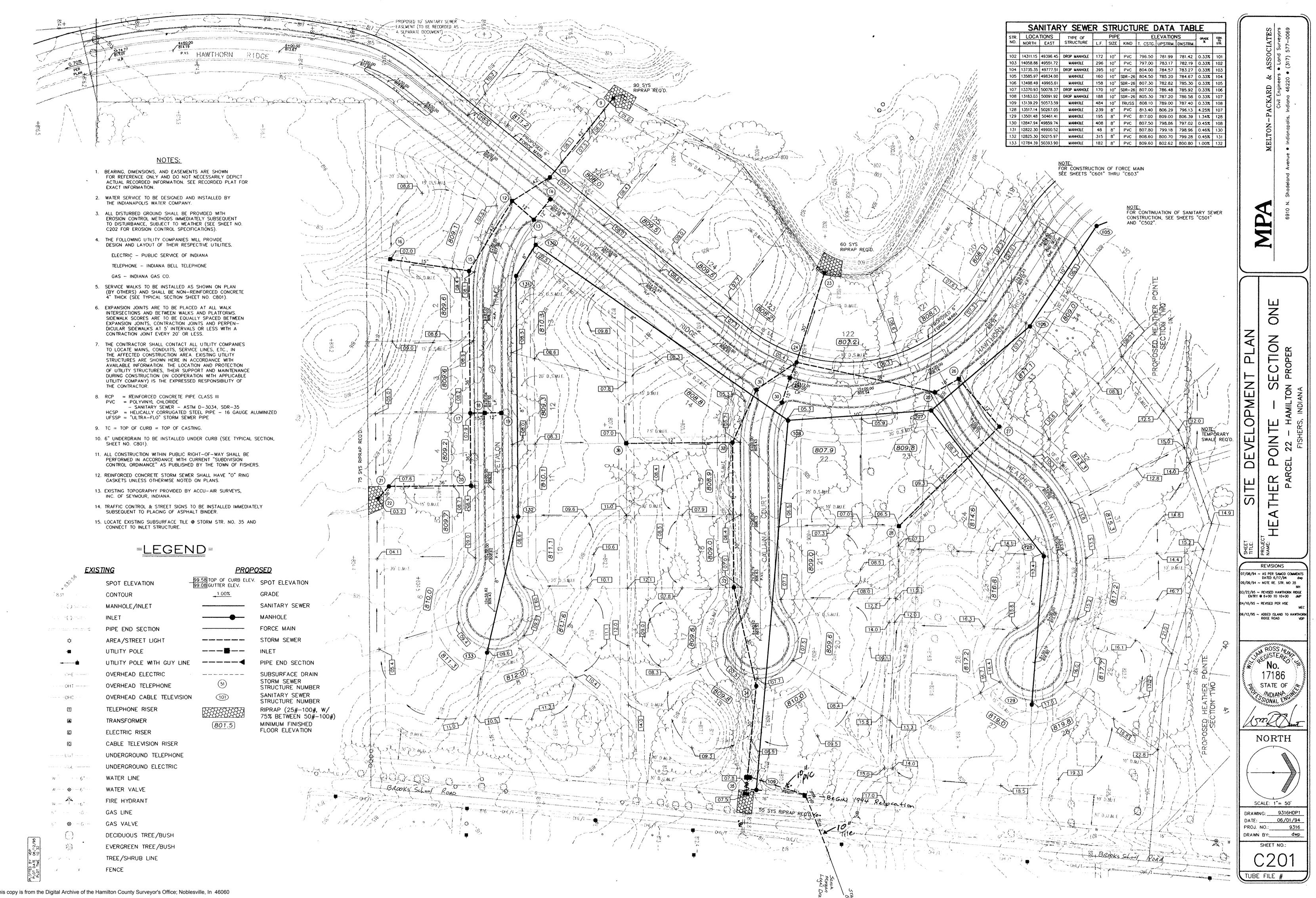
Kenton C. Ward,
Hamilton County Surveyor

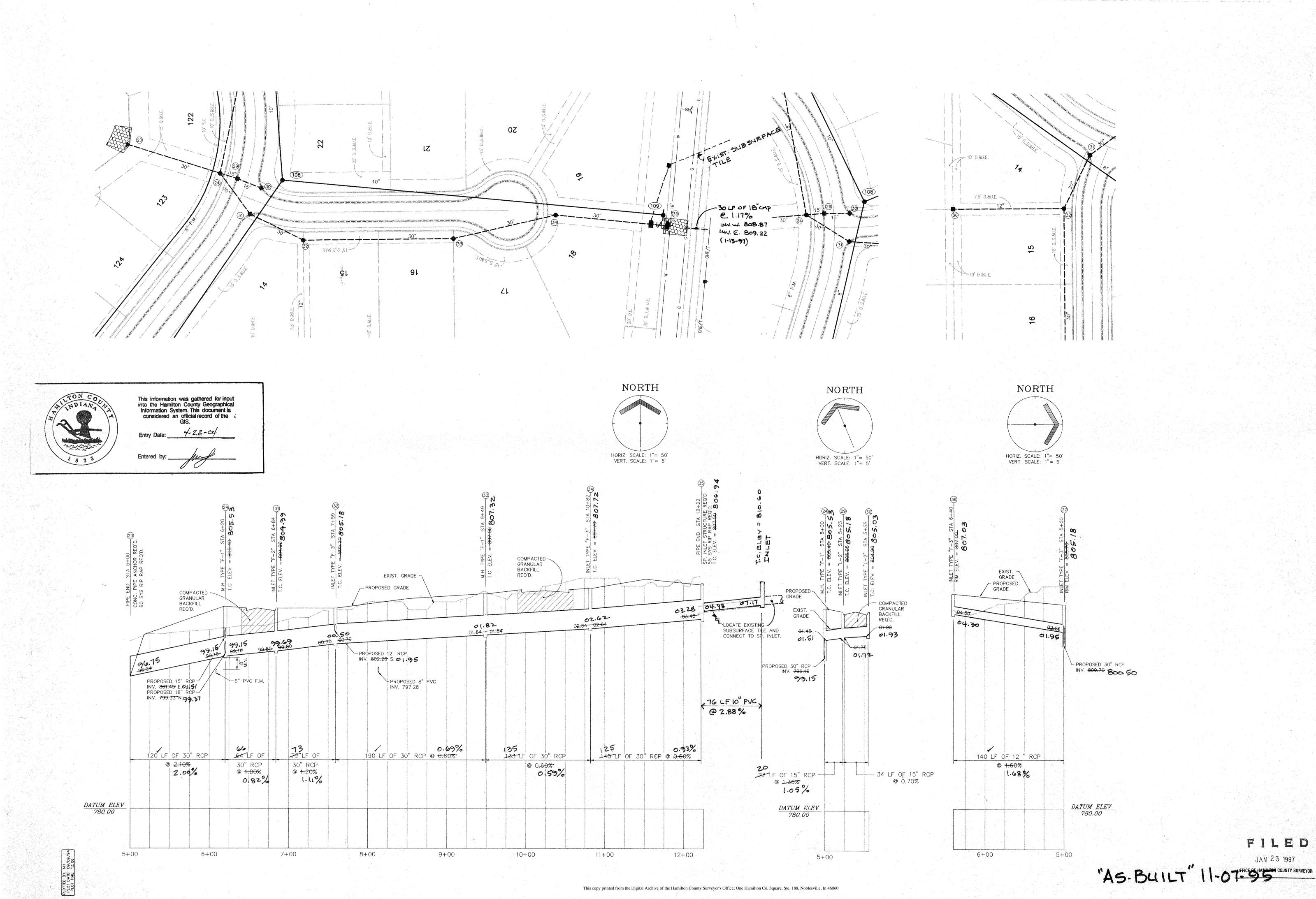
KCW/slm

### **Asbuilt Structures**

Project: Sarah MORGAN - HEATHER POINTE RELocation Structure: T.C.: I.E.: Length: Original Plans: Difference: Pipe: STR 23 896.75 STR 24 30" 805.53 799.15 120' 5TR 24 805.53 799.15 STR 31 804.99 799.69 30" 66 FRM 64 + 2-STR 31 804.99 799.69 STR 32 805.18 3011 800.50 73. TPM 75' - 2 STR 32 800.50 805,18 STR 33 B01,32 801.82 30" 190' 807.32 STR 33 801.82 30" STR34 807.72 802.62 FKM / <del>3</del>5 ′ 12 STR 34 807.72 802.62 806.94 STR 35 803,Z8 30" 1251 FRM 140' -15 5TR 35 806.94 804.98 Inlet 810.40 807,17 10" PVC 76' TWIN Abos 789.60 48"RA 789.20 1901 6" SSD Streets: 6" SSD Lots: Total: Total: **RCP Pipe Totals:** 30"RCP 7091 48" RCP 10"PVL Other Drain: 720' DERN DITO **Total Length of Drain:** 

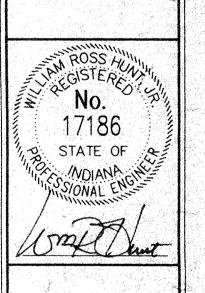






SEWER ATHER PC PARCEL STORM

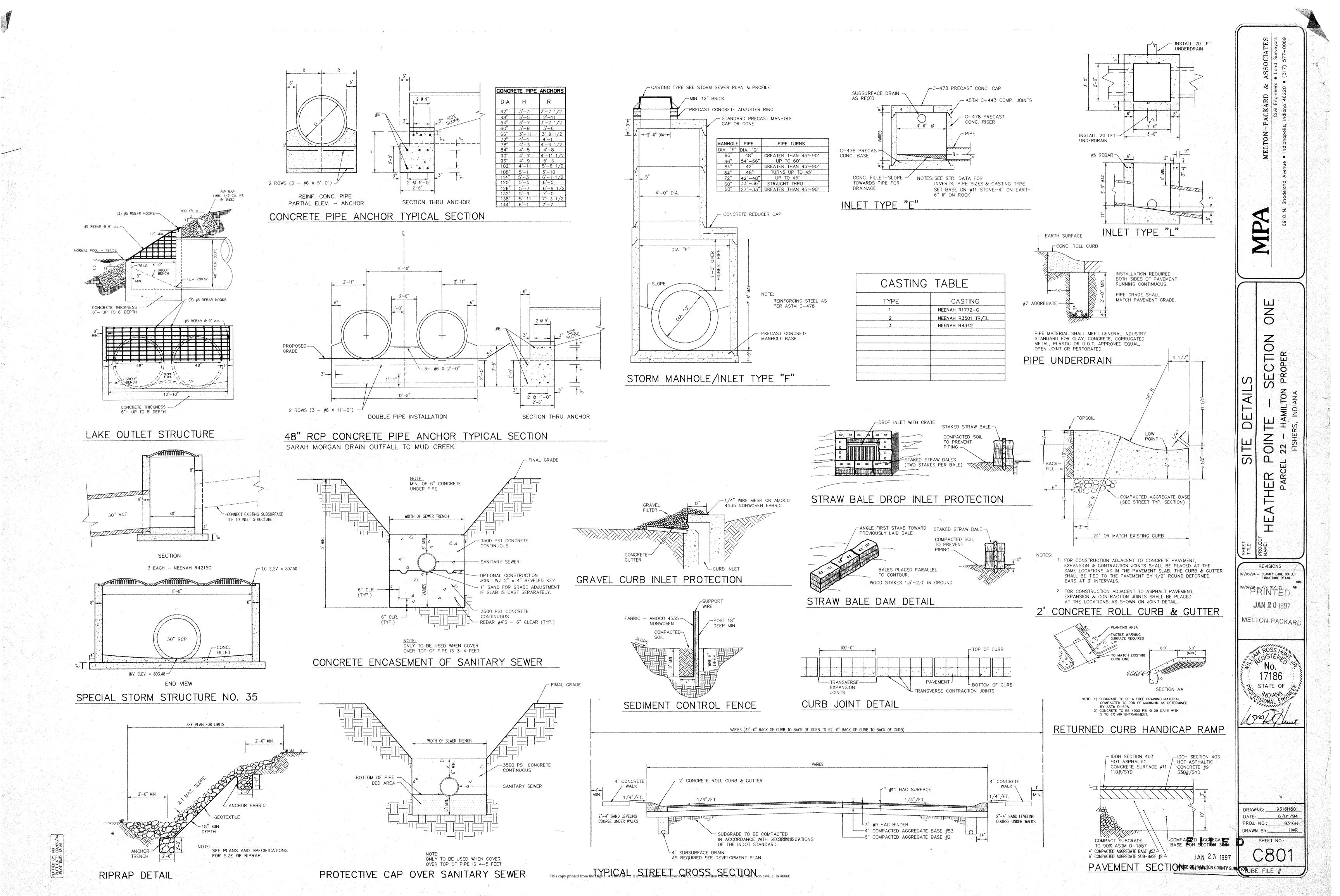
REVISIONS 07/08/94 ~ PER SAMCO COMMENTS DATED 06/17/94 dw 09/09/94 ~ REV. STR. 35 NH PRINTED JAN 2 0 1997 MELTON-PACKAR



DRAWNG: 9316H702 DATE: 06/01/94 PROJ. NO.: 9316 DRAWN BY: JMP DRAWN BY:\_\_\_\_

FILED JAN 23 1997 SHEET NO.:

TUBE FILE # 3



- 1. REFER TO THE INDIANA DEPARTMENT OF TRANSPORTATION (INDOT)) STANDARD SPECIFICATIONS, 1993 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 INDOT STANDARD SPECIFICATIONS MAY ALSO BE APPLICABLE
- 2. 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 EXPRESSED 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 INDOT 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

THE NEXT LIFT. COMPACTION TESTS SHALL BE IN ACCORDANCE WITH INDOT

## CLEARING AND GRUBBING

SECTION 211.

- 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"
- 2. 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

- 1. 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.
- d. PREPARE THE SUBGRADE IN ACCORDANCE WITH INDOT SECTION 207. NO TRAFFIC WILL BE PERMITTED ON THE PREPARED SUBGRADE PRIOR TO PAVING.
- b. BITUMINOUS PAVEMENT IN ACCORDANCE WITH INDOT SECTION 403.
- c. FINISHING EARTH GRADED SHOULDERS, DITCHES AND SLOPES IN ACCORDANCE WITH INDOT 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.
- 4. ALL EXTERIOR CONCRETE SHALL CONTAIN 3% TO 6% AIR ENTRAINMENT
- 3. APPLICATION
  - a. 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 INDOT 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 I.S.H.C. SPECIFICATIONS SHALL APPLY.
- c. EXCEPT AS OTHERWISE SPECIFIED, CURE ALL CONCRETE BY ONE OF THE METHODS DESCRIBED IN INDOT 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 AT 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.
- FOUNDATIONS.
- 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.

# STORM SEWER SPECIFICATIONS

- 1. STANDARD SPECIFICATIONS OF THE TOWN OF FISHERS AND INDIANA DEPARTMENT OF TRANSPORTATION SHALL APPLY FOR ALL WORK AND MATERIALS. PIPE SHALL BE INSTALLED IN ACCORDANCE WITH INDOT 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 ALUMUNIZED AND SHALL CONFORM AASHO M36, 16 GAUGE IN ACCORDANCE WITH INDOT SECTION 907.
- 3. BACKFILL AROUND ALL STRUCTURES AND CUTS UNDER PAVED AREAS WITH COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH INDOT 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 INDOT 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 INDOT 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

#### SOIL EROSION CONTROL SUMMARY

- 1. CONTRACTOR SHALL INSTALL SEDIMENT TRAPS AND STRAW BALE FILTERS AS SHOWN.
- 2. MASS GRADE THE SITE (SIDES OF SWALES, MOUNDS AND PONDS TO BE SODDED OR BE RECOMMENDED FOR ALL SWALES AND DISTURBED AREAS THAT CANNOT BE FINAL SEEDED WITHIN A TIME PERIOD THAT WILL PREVENT SOIL EROSION, FOR TEMPORARY SEEDING THE CONTRACTOR SHALL UTILIZE A FAST GROWING SEED OF EITHER OATS, ANNUAL RYEGRASS, WHEAT OR RYE DEPENDING UPON TIME OF YEAR. DISTURBED AREAS SHOULD BE KEPT TO A MINIMUM AT ALL TIMES.
- 3. CONTRACTOR SHALL CONTROL MUD ACCUMULATION ON ALL STREETS SURROUNDING THE PROJECT BY INSTALLING STONE SURFACE AT ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC LEAVES THE SITE. DUST SHALL BE KEPT TO A MINIMUM BY UTILIZING SPRINKLING, CALCIUM CHLORIDE, VEGETATIVE COVER, SPRAY ON ADDITIVES OR
- 4. MAINTAIN ALL FILTERS AND TRAPS DURING CONSTRUCTION TO PREVENT ANY BLOCKAGES FROM ACCUMULATED SEDIMENT. ADDITIONAL SEEDING AND STRAW BALES MAY BE REQUIRED DURING CONSTRUCTION AS SPECIFIED BY ENGINEER OR SOIL CONSERVATION SERVICE. RIP RAP SHALL BE PLACED IN AREAS OF HIGH VELOCITY STREAM FLOW (MINIMUM SIZE 1/3 CU.FT.). PAYMENT FOR ADDITIONAL STRAW BALES AND RIP RAP NOT SHOWN ON PLANS AND SEEDING SHALL BE ON A UNIT
- 5. CONTRACTOR SHALL INSTALL ALL STORM SEWER INLET FILTERS AS STORM SEWER SYSTEM IS INSTALLED.
- 6. ALL PROPOSED STREET AREAS TO PAVED AS SOON AS POSSIBLE AFTER SUBGRADE
- 7. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROLS ONLY WHEN THERE IS A SUFFICIENT GROWTH OF GROUND COVER TO PREVENT FURTHER

- 10. DURING BUILDING CONSTRUCTION, ALL CONTRACTORS AND SUBCONTRACTORS SHALL KEEP ALL VEHICLES CONFINED TO THE STREET AREAS. TRAFFIC FROM STREET TO BUILDING SITES TO BE A MINIMUM. ANY MUD TRACKED ONTO STREETS TO BE

#### SEEDING SPECIFICATIONS

1. SWALES/GRASSED WATERWAYS: PERMANENT SEEDING SHALL TAKE PLACE BETWEEN PER ACRE:

- 2. IF GRADES ARE ESTABLISHED BETWEEN MAY 15 AND AUGUST 10. A TEMPORARY SEEDING CONSISTING OF 40 LBS. OF ANNUAL RYEGRASS SHALL BE PLANTED
- 3. IF GRADES ARE ESTABLISHED BETWEEN OCTOBER 15 AND DECEMBER 30, EITHER RYE (GRAIN) OR WHEAT MAY BE USED AT THE RATE OF 2 BUSHELS/AC. OATS MAY BE ÙSED FOR EARLY SPRING PLANTING AT THE RATE OF 3 BUSHELS/AC. ALL GRAINS SHOULD BE CUT AT TIME OF PERMANENT SEEDING. ALL GRAINS SHOULD BE CUT
- 4. IF TEMPORARY SEEDING IS ESTABLISHED PRIOR TO PERMANENT SEEDING, THE MULCH MAY BE ELIMINATED EXCEPT IN "BARE" AREAS.
- 5. IF GRADING OCCURS DURING DECEMBER, JANUARY OR FEBRUARY, NO SEEDING TO TAKE PLACE TILL SPRING PLANTING: HOWEVER, IT IS IMPERATIVE THAT ALL SEDIMENT FILTERS AND TRAPS ARE IN PLACE PRIOR TO BULK EARTHMOVING OR CLEARING

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- SEEDED AND MULCHED IMMEDIATELY UPON COMPLETION). TEMPORARY SEEDING SHALL
- OTHER APPROVED METHODS.

- IS PREPARED.
- 8. ALL SWALES SHALL BE SEEDED IMMEDIATELY AFTER FINAL GRADING
- 9. ALL DISTURBED AREAS 20' BEHIND CURBS SHALL BE SEEDED IMMEDIATELY AFTER
- REMOVED AT RESPONSIBLE CONTRACTORS EXPENSE.

MARCH 1 AND MAY 15 OR FROM AUGUST 10 TO OCTOBER 15 WITH THE FOLLOWING

25 LBS. KENTUCKY 31 FESQUE 15 LBS. KENTUCKY BLUE GRASS 1000 LBS. 12-12-12 FERTILIZER 3000 LBS. MULCH (STRAW)

- PRIOR SEED MATURING.

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