



CITY OF ANN ARBOR PUBLIC SERVICES - ENGINEERING

IN COOPERATION WITH THE
UNIVERSITY OF MICHIGAN

SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V

ITB No. 4633, FILE No. 2017-037

NOTES:

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, THE CONTRACTOR SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

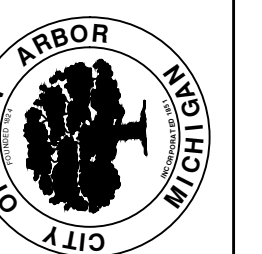
THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS, TELEPHONE, ELECTRICAL POWER, CABLE TV AND FIBER OPTIC LINES ARE APPROXIMATE. THE CITY OF ANN ARBOR, THE UNIVERSITY OF MICHIGAN, AND FISHBEEK ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THESE DRAWINGS. MISS DIG MUST BE CONTACTED PRIOR TO START OF THE PROJECT TO LOCATE THESE UTILITIES.

THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, ITS DETAILS, WHICH ARE INCLUDED BY REFERENCE, AND THIS PROJECT'S CONTRACT DOCUMENTS. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT.



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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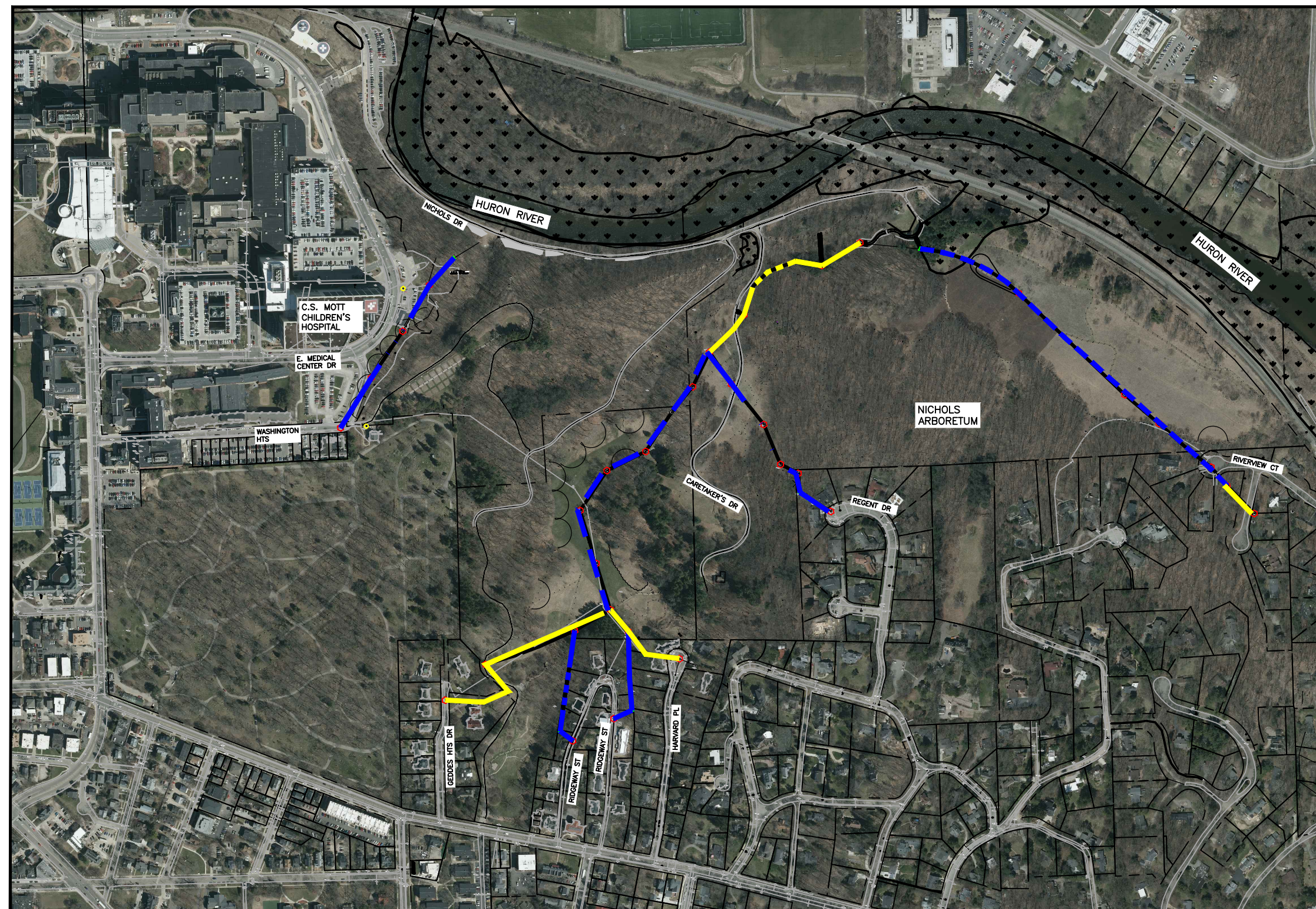
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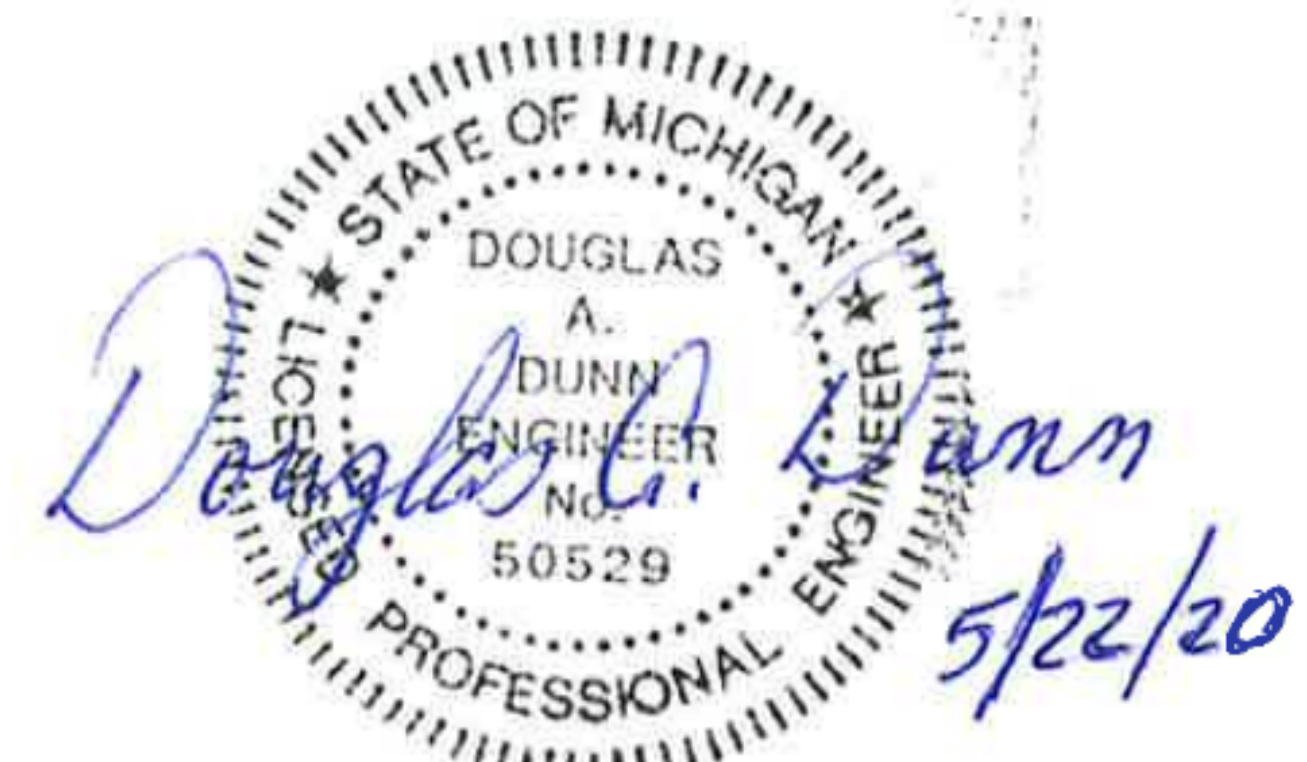
PUBLIC SERVICES-ENGINEERING - CITY OF ANN ARBOR
SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
COVER SHEET
SCALE PLAN:
DRAWING No.
2017-037- G1

SHEET No.
G-1

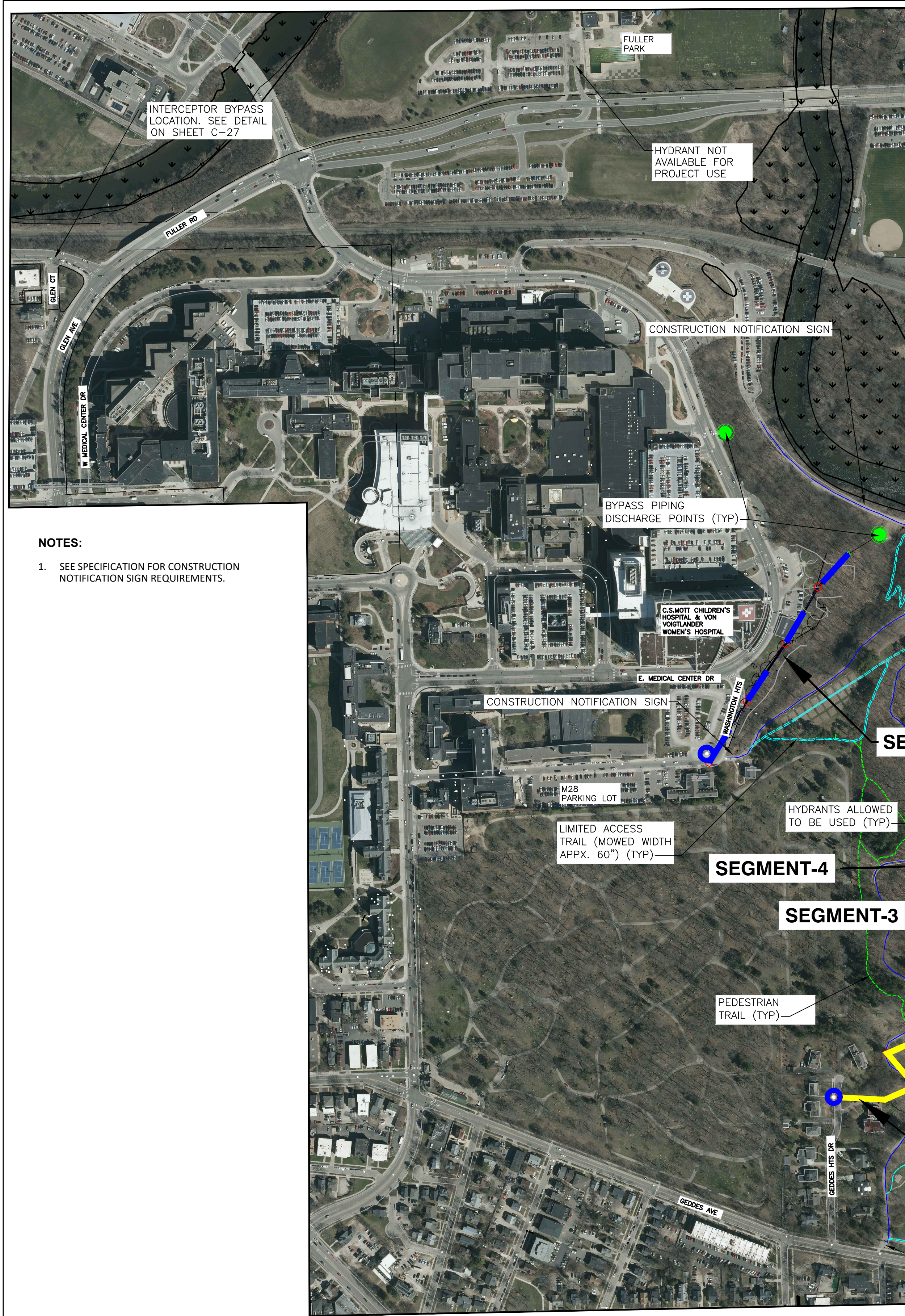
Z:\2019\190408\CAD\CD\G-1 COVER SHEET.dwg Dwg Created: 20-May-20 - standard (reduced).ctb - Plot Date: 21-May-20



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Z:\2019\190408\CAD\C-2 OVERALL PLAN.dwg Dwg Created: 18-May-20 - standard (reduced).ctb - Plot Date: 20-May-20



LEGENDS

	VEHICLE ACCESSIBLE RD		SEGMENT-1
	BOARDWALK TRAIL		SEGMENT-2
	LIMITED ACCESS TRAIL (MOWED WIDTH APPX. 60")		SEGMENT-3
	PEDESTRIAN TRAIL		SEGMENT-4
	TRAIL		SEGMENT-5
	STAIRS		SEGMENT-6
	HYDRANTS ALLOWED TO BE USED FOR THIS PROJECT		SEGMENT-7
	BYPASS PIPING DISCHARGE POINTS		SEGMENT-8
	WETLANDS		

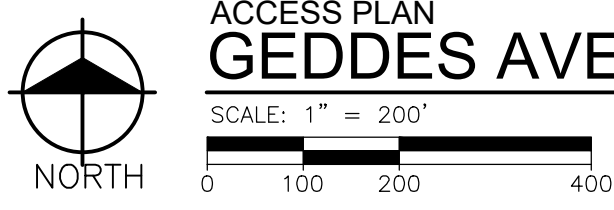
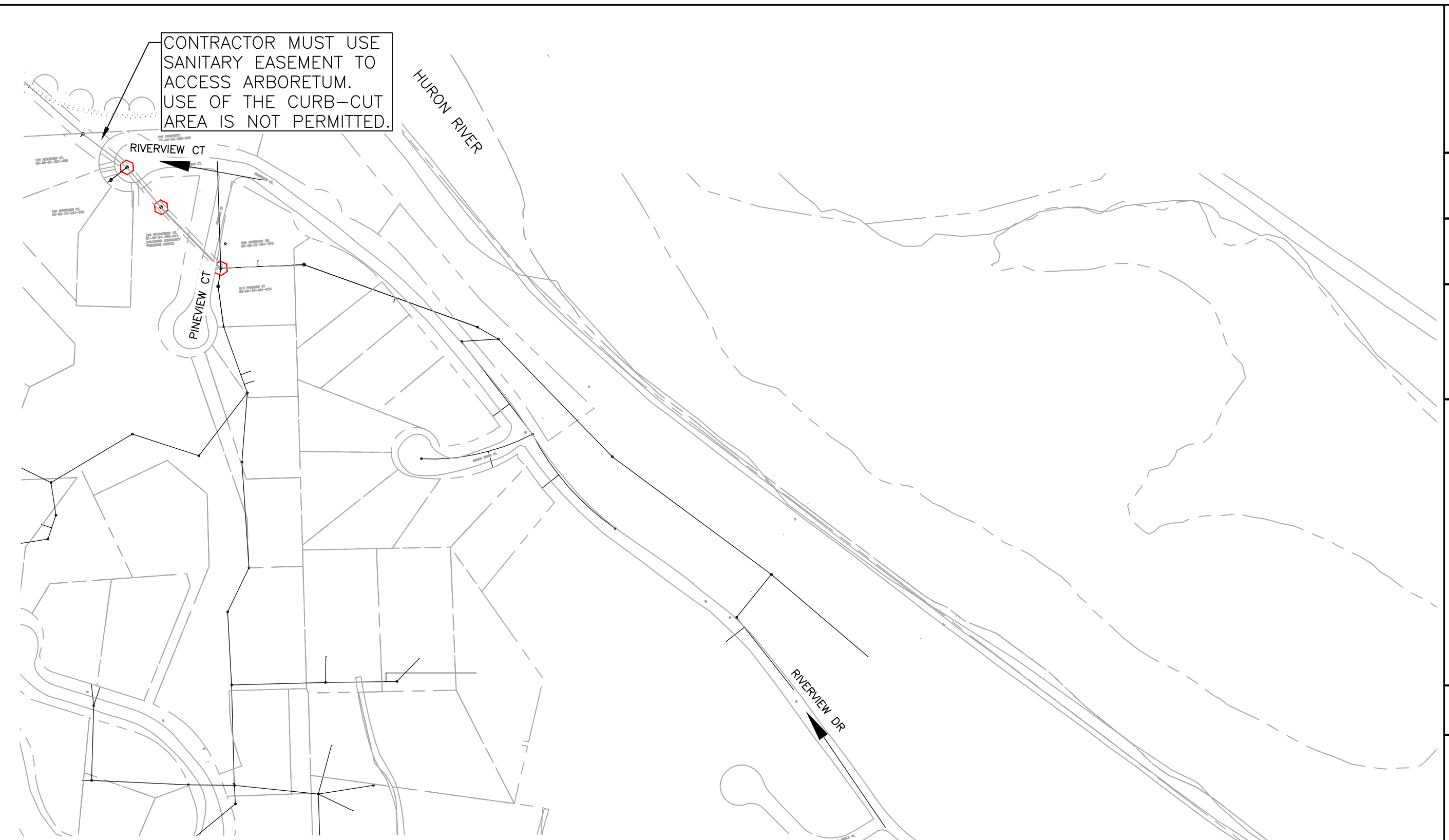
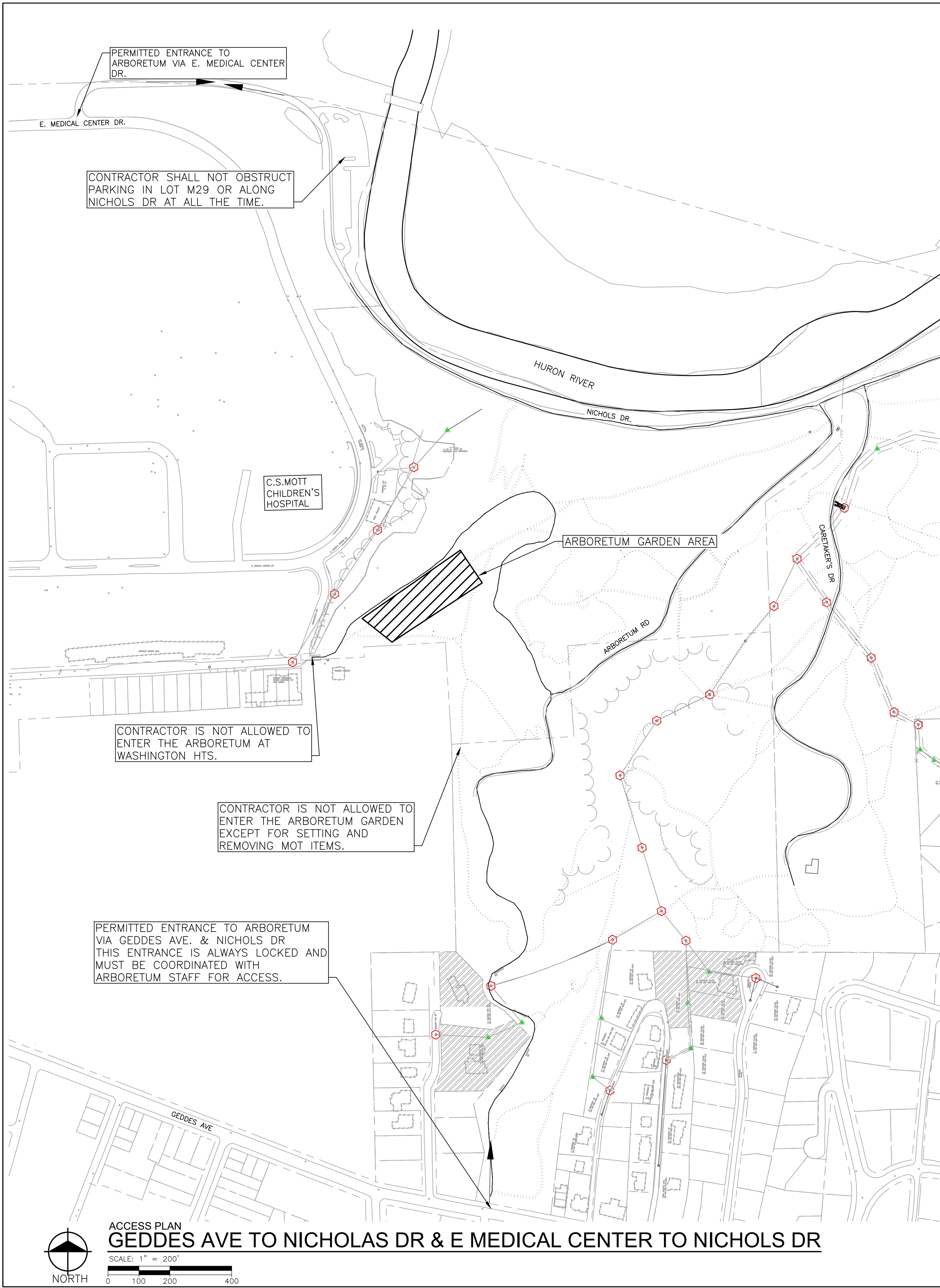
NOTES:

- SEE SPECIFICATION FOR CONSTRUCTION NOTIFICATION SIGN REQUIREMENTS.

OVERALL PLAN
SCALE: 1" = 250'

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	CITY OF ANN ARBOR PUBLIC SERVICES-ENGINEERING - CITY OF ANN ARBOR SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V OVERALL PLAN
SCALE PLAN: DRAWING No. 2017-037-C2	SHEET No. C-2
ISSUED FOR BID	DATE 05-22-2020
DESCRIPTION	DRAWN CHECKED
REV.	DATE


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NOTES:

1. CONTRACTOR PARKING IN ARBORETUM MUST BE APPROVED BY THE ARBORETUM PERSONNEL.
2. ACCESS INTO THE ARBORETUM IS LIMITED TO THE LOCATIONS SHOW. ANY QUESTIONS REGARDING ACCESS TO OR USE OF THE SITE SHALL BE SUBMITTED TO THE ENGINEER IN WRITING PRIOR TO THE CONTRACTOR TAKING ANY ACTION CONTRADICTORY TO THESE PLANS.
3. THE PRE-PROPOSAL MEETING AND WALK-THROUGH FOR THIS PROJECT IS MANDATORY.


PERMITTED ENTRANCE TO ARBORETUM VIA GEDDES AVE & RIVERVIEW DR.



Know what's below.
Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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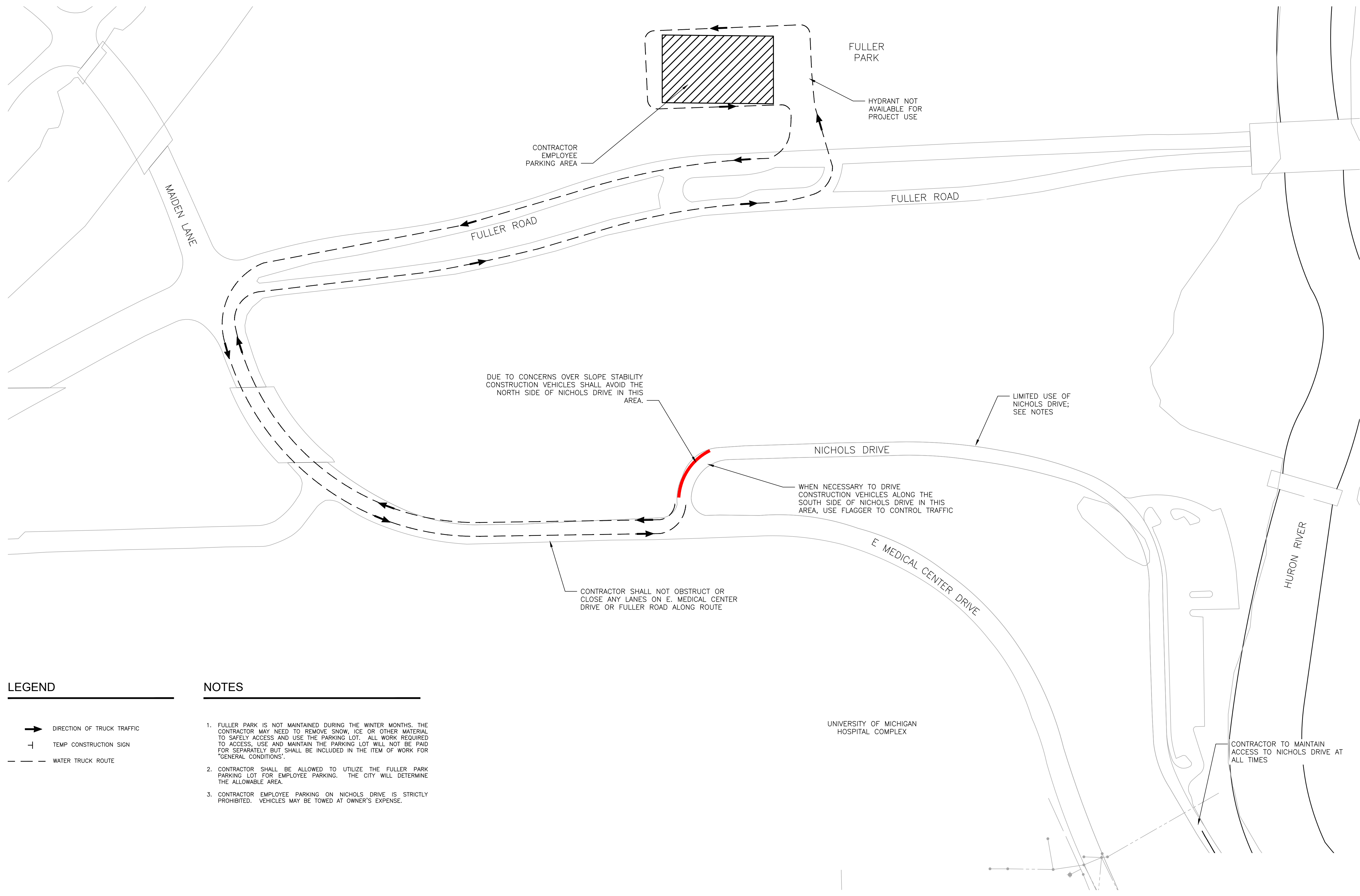


PUBLIC SERVICES-ENGINEERING - CITY OF ANN ARBOR
 SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
 ACCESS PLANS TO ARBORETUM

SCALE PLAN:
 DRAWING No.
2017-037- C3

SHEET
C-3

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LEGEND

- ➔ DIRECTION OF TRUCK TRAFFIC
- ⊥ TEMP CONSTRUCTION SIGN
- - - WATER TRUCK ROUTE

NOTES


1. FULLER PARK IS NOT MAINTAINED DURING THE WINTER MONTHS. THE CONTRACTOR MAY NEED TO REMOVE SNOW, ICE OR OTHER MATERIAL TO SAFELY ACCESS AND USE THE PARKING LOT. ALL WORK REQUIRED TO ACCESS, USE AND MAINTAIN THE PARKING LOT WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE ITEM OF WORK FOR "GENERAL CONDITIONS".
2. CONTRACTOR SHALL BE ALLOWED TO UTILIZE THE FULLER PARK PARKING LOT FOR EMPLOYEE PARKING. THE CITY WILL DETERMINE THE ALLOWABLE AREA.
3. CONTRACTOR EMPLOYEE PARKING ON NICHOLS DRIVE IS STRICTLY PROHIBITED. VEHICLES MAY BE TOWED AT OWNER'S EXPENSE.



 NORTH

ROUTE TO FULLER PARK
CONTRACTOR EMPLOYEE PARKING


SCALE: 1" = 80'


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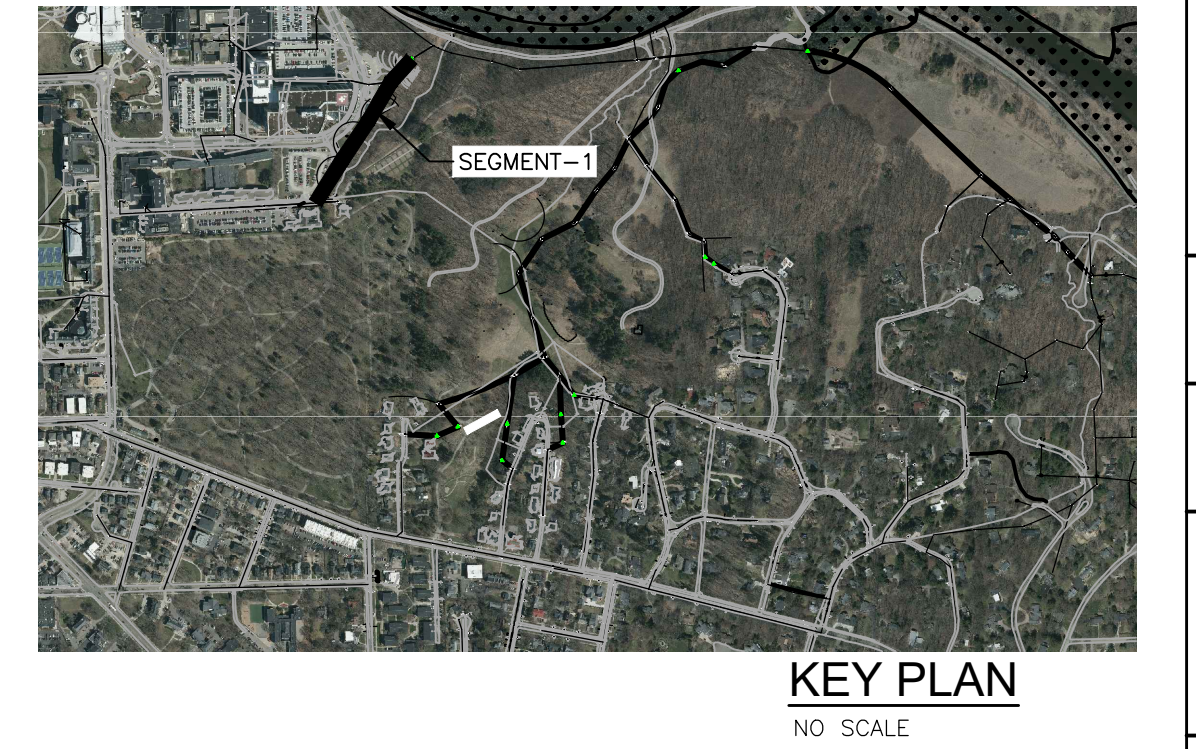
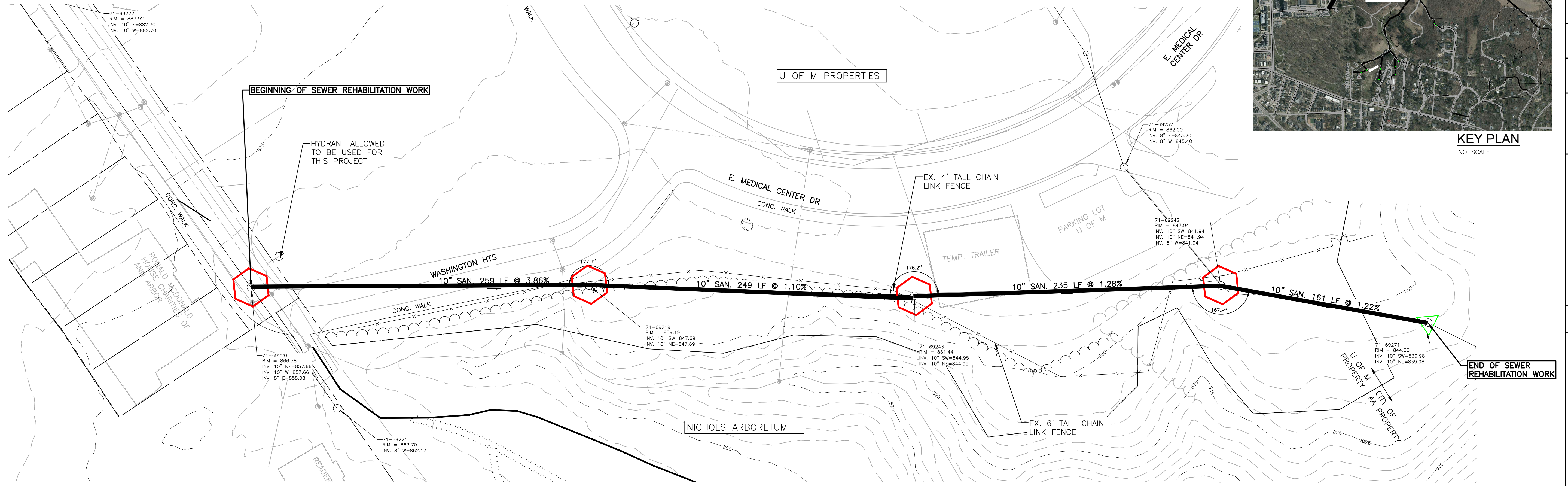
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 SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
 WATER TRUCK ROUTE

SCALE PLAN:


DRAWING No.
2017-037- C4

SHEET No.
C-4

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SEGMENT 1-PLAN VIEW
SCALE: 1" = 40'
NORTH



71-69220

- RIM: 866.78
- INVERT ELE: 857.66
- PHOTO LOOKING NORTH



71-69219

- MH INSIDE A FENCE
- RIM: 859.195
- INVERT ELE: 847.69
- REMOVE & REPLACE FENCE IF REQUIRED TO ACCESS MH
- PHOTO LOOKING EAST



71-69243

- MH VERY NARROW ENTRANCE
- RIM: 861.43
- INVERT ELE: 844.95
- PHOTO LOOKING NORTH



71-69242

- MH INSIDE A FENCE
- RIM: 847.94
- INVERT ELE: 841.94
- REMOVE & REPLACE FENCE IF REQUIRED TO ACCESS MH
- PHOTO LOOKING EAST



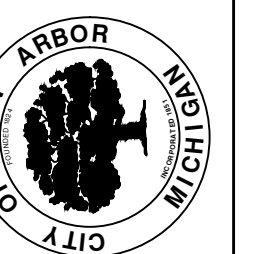
71-69271

- RIM: 844.00
- INVERT ELE: 839.98
- U OF M TO CLEAR TREES TO PROVIDE ACCESS TO MH
- PHOTO LOOKING NORTH



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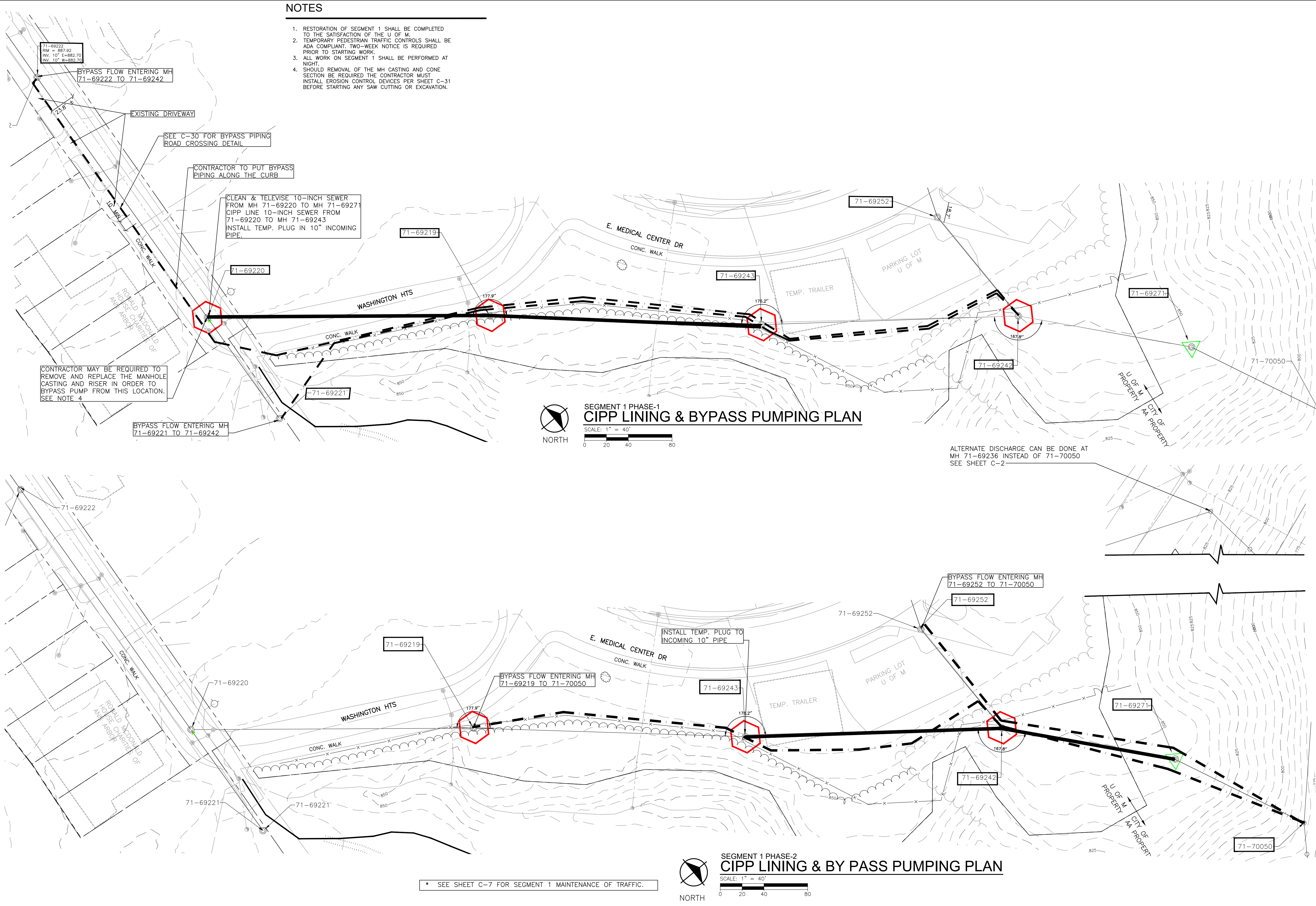
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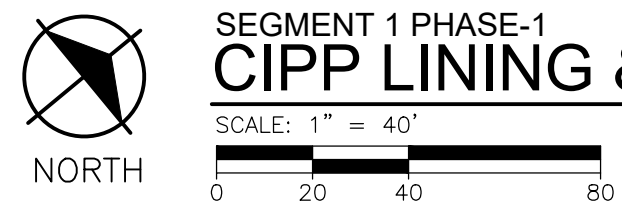
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SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
SEGMENT 1-PLAN VIEW
DRAWING No. 2017-037-C5

NOTES

1. RESTORATION OF SEGMENT 1 SHALL BE COMPLETED TO THE SATISFACTION OF THE U OF M.
2. TEMPORARY PEDESTRIAN TRAFFIC CONTROLS SHALL BE ADA COMPLIANT. TWO-WEEK NOTICE IS REQUIRED PRIOR TO STARTING WORK.
3. ALL WORK ON SEGMENT 1 SHALL BE PERFORMED AT NIGHT.
4. SHOULD REMOVAL OF THE MH CASTING AND CONE SECTION BE REQUIRED THE CONTRACTOR MUST INSTALL EROSION CONTROL DEVICES PER SHEET C-31 BEFORE STARTING ANY SAW CUTTING OR EXCAVATION.

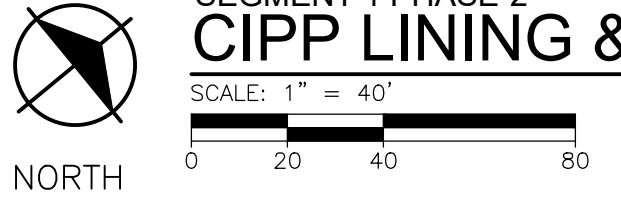


**SEGMENT 1 PHASE-1
CIPP LINING & BYPASS PUMPING PLAN**



ALTERNATE DISCHARGE CAN BE DONE AT MH 71-69236 INSTEAD OF 71-70050 SEE SHEET C-2

**SEGMENT 1 PHASE-2
CIPP LINING & BYPASS PUMPING PLAN**



* SEE SHEET C-7 FOR SEGMENT 1 MAINTENANCE OF TRAFFIC.

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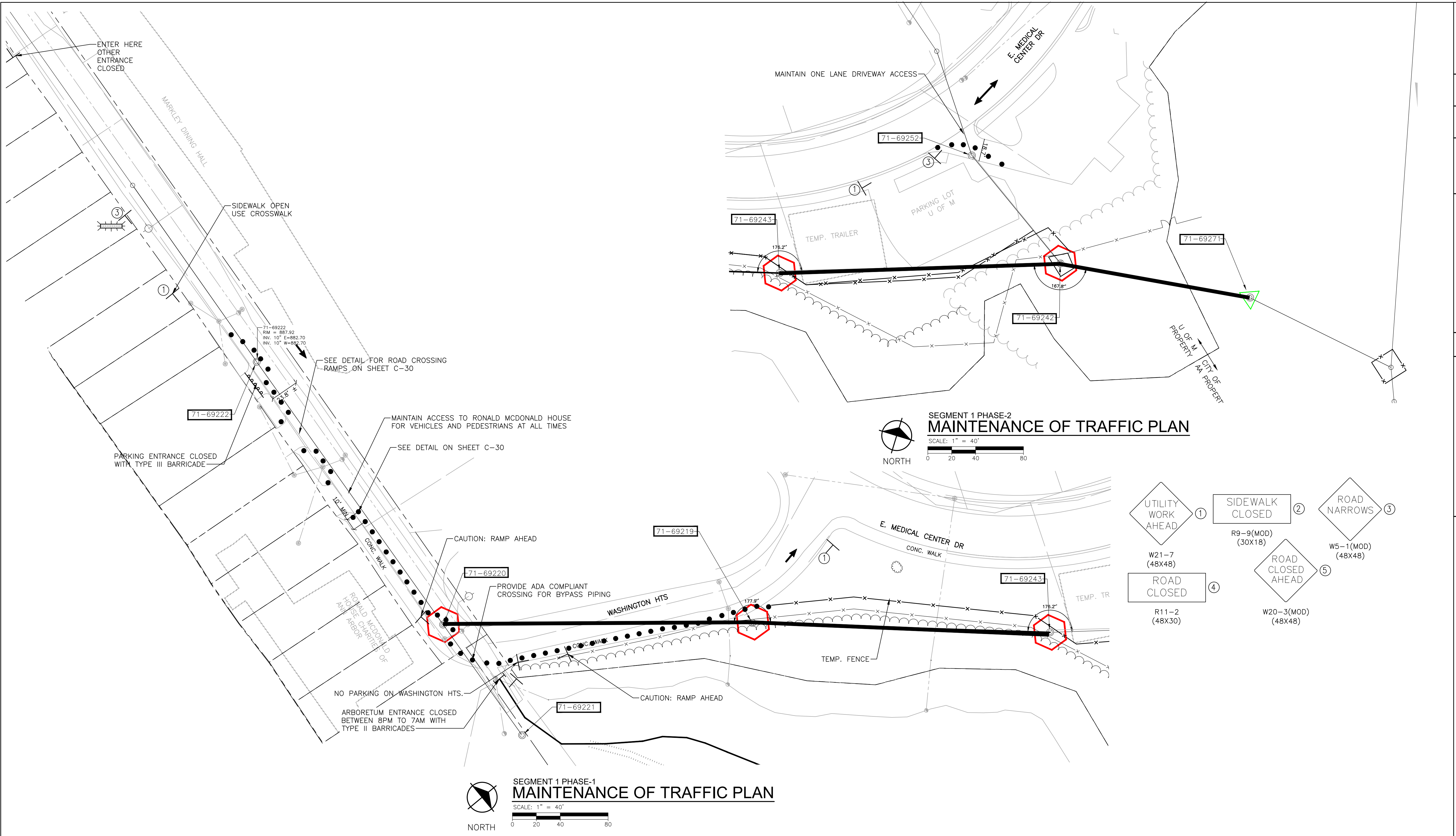
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SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
SEGMENT 1-BYPASS PUMPING PLAN

SCALE PLAN:

DRAWING No. **2017-037-C6**

SHEET No. **C-6**

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- NOTES**
1. RESTORATION OF SEGMENT 1 SHALL BE COMPLETED TO THE SATISFACTION OF THE U OF M.
 2. TEMPORARY PEDESTRIAN TRAFFIC CONTROLS SHALL BE ADA COMPLIANT. TWO-WEEK NOTICE IS REQUIRED PRIOR TO STARTING WORK.
 3. ALL WORK ON SEGMENT 1 SHALL BE PERFORMED AT NIGHT.

811
Know what's below. Call before you dig.

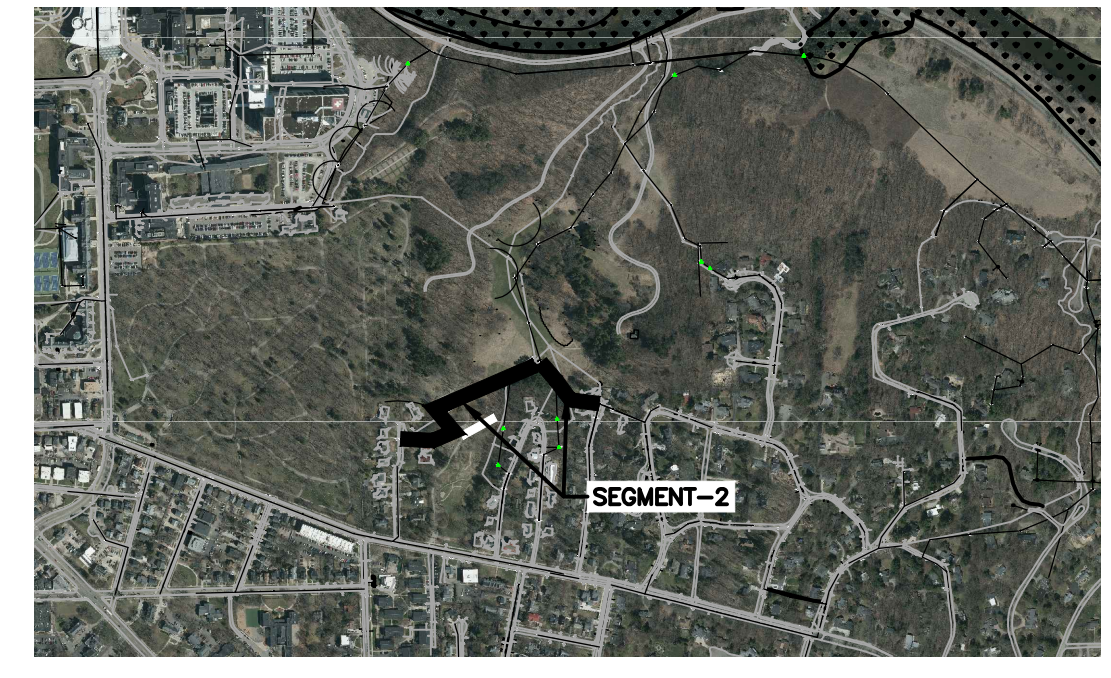
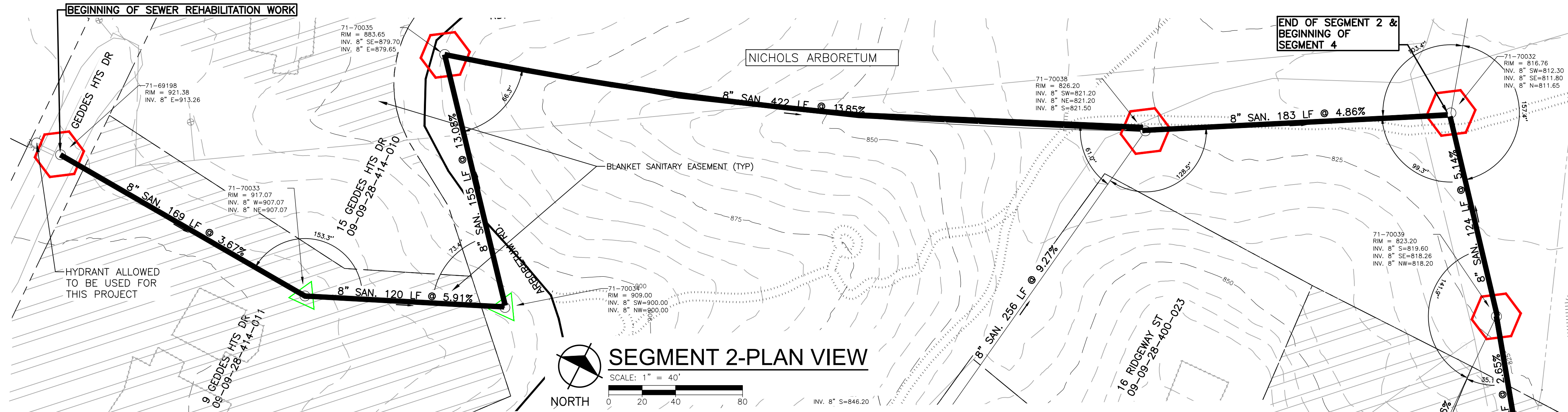
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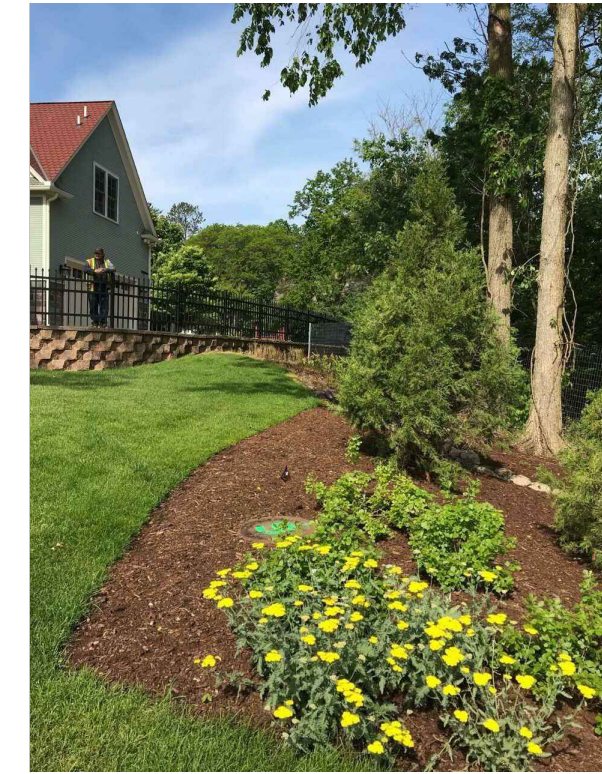
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 SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
 SEGMENT 1-MAINTENANCE OF TRAFFIC

SCALE PLAN:
 DRAWING No. **2017-037-C7**

SHEET No. **C-7**



71-69198
 • RIM: 921.38
 • INVERT ELE: 913.26
 • PHOTO LOOKING SOUTH



71-70033
 • RIM: 917.07
 • INVERT ELE: 907.07
 • NOT ACCESSIBLE WITH A VEHICLE
 • PHOTO LOOKING WEST



71-70034
 • MH ON A SMALL HILL BETWEEN NICHOLAS DR & BACK YARD OF A HOUSE.
 • RIM: 909.00
 • INVERT ELE: 900.00
 • NOT ACCESSIBLE WITH A VEHICLE
 • PHOTO LOOKING SOUTH



71-70035
 • MH AT AN EDGE OF A HILL AND NICHOLAS DR.
 • RIM: 883.65
 • INVERT ELE: 879.65
 • PHOTO LOOKING SOUTH



71-70038
 • RIM: 826.20
 • INVERT ELE: 821.20
 • PHOTO LOOKING NORTHEAST



71-70032
 • MH LITTLE OFFSET
 • RIM: 816.76
 • INVERT ELE: 811.65
 • PHOTO LOOKING WEST



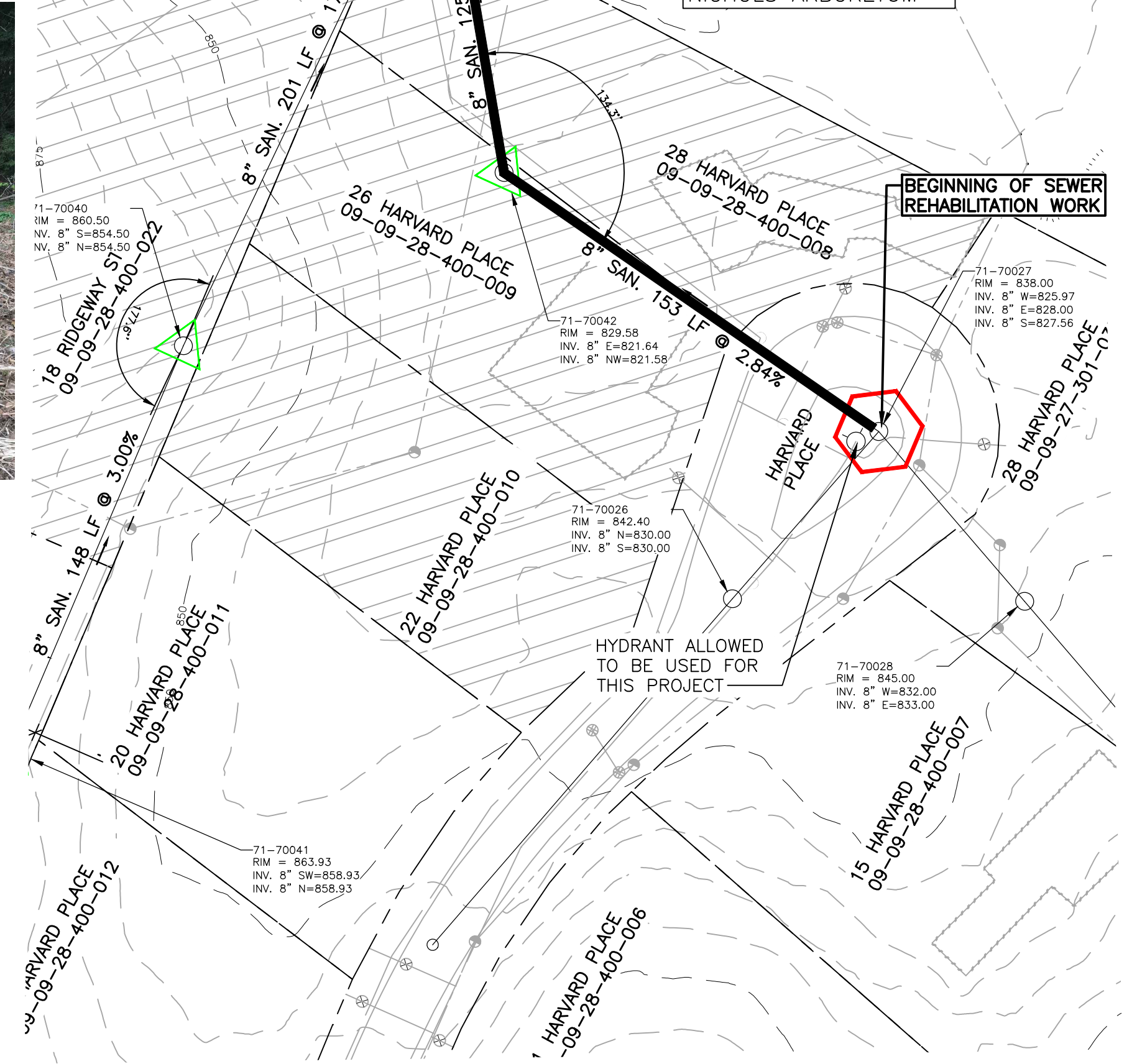
71-70039
 • RIM: 823.20
 • INVERT ELE: 818.20
 • PHOTO LOOKING SOUTH




71-70042
 • RIM: 829.58
 • INVERT ELE: 821.58
 • NOT ACCESSIBLE WITH A VEHICLE
 • PHOTO LOOKING SOUTHEAST



71-70027
 • MH BETWEEN HOUSE NO. 28 & 26.
 • DROP PIPE
 • RIM: 838.00
 • INVERT ELE: 825.97
 • PHOTO LOOKING WEST






Know what's below.
Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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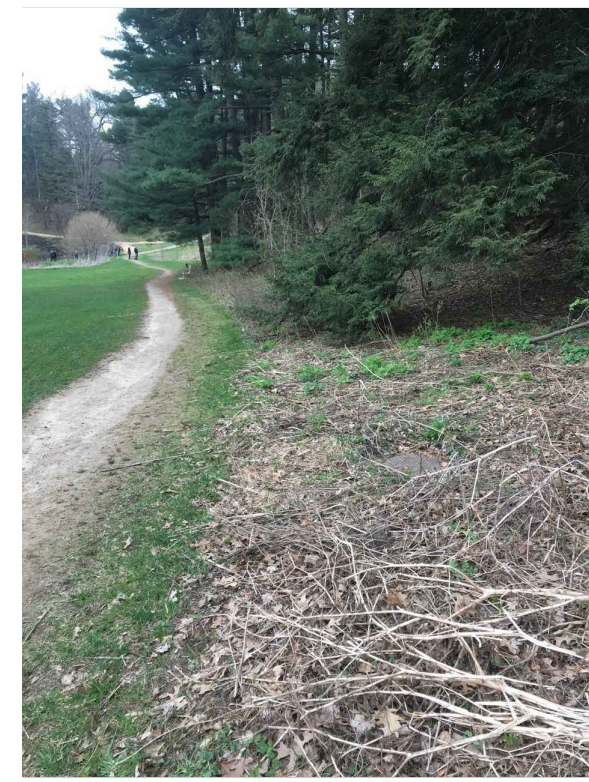
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PUBLIC SERVICES-ENGINEERING - CITY OF ANN ARBOR
 SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
 SEGMENT 2-PLAN VIEW

DRAWING No.
2017-037-C8

SHEET No.
C-8



71-70038

- RIM: 826.20
- INVERT ELE: 821.20
- PHOTO LOOKING NORTHEAST



71-70037

- MH BOLTED SHUT DUE TO ODOR
- RIM: 850.20
- INVERT ELE: 845.20
- NOT ACCESSIBLE WITH A VEHICLE
- PHOTO LOOKING SOUTHEAST



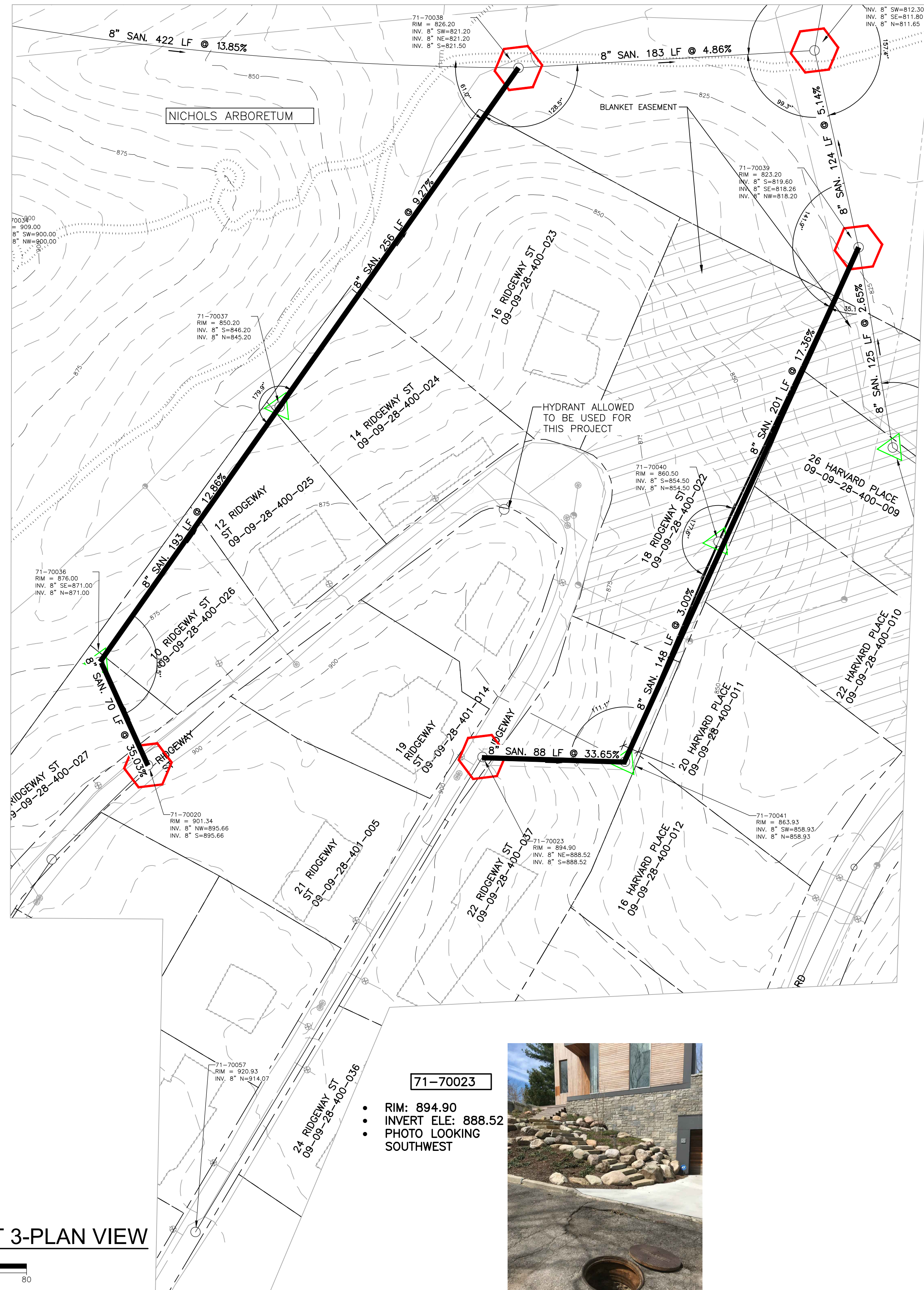
71-70036

- MH ON A STEEP SLOPE.
- RIM: 876.00
- INVERT ELE: 871.00
- NOT ACCESSIBLE WITH A VEHICLE
- PHOTO LOOKING SOUTHEAST



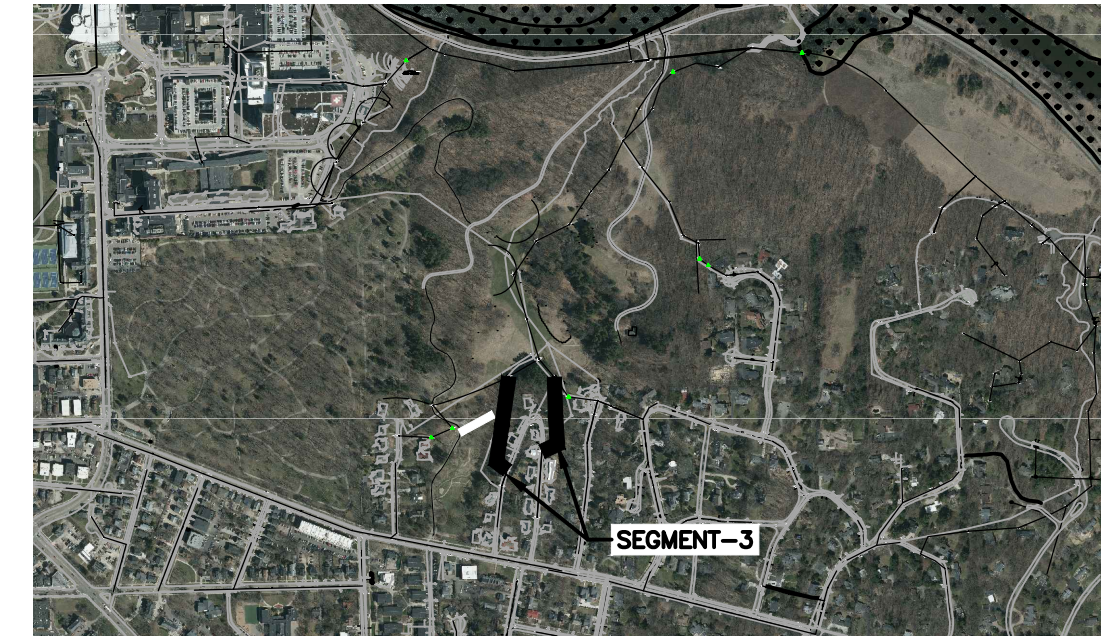
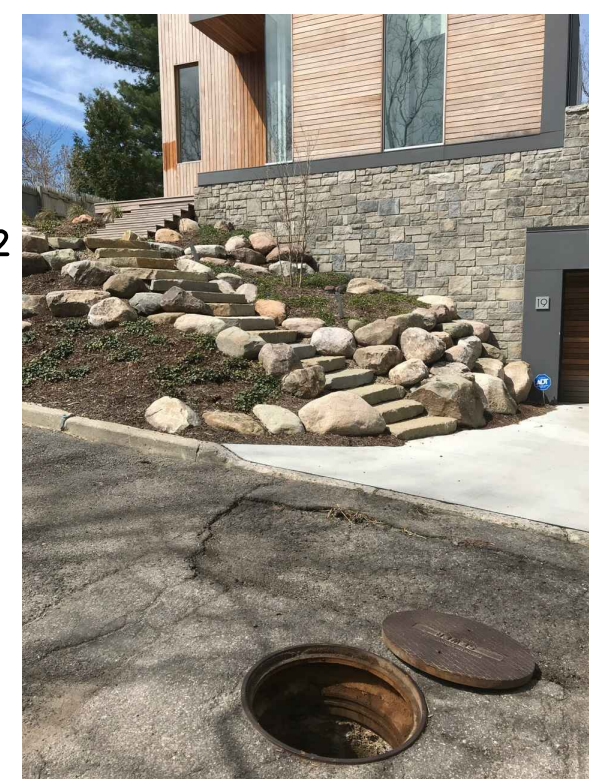
71-70020

- RIM: 901.34
- INVERT ELE: 895.66
- PHOTO LOOKING SOUTHWEST



71-70023

- RIM: 894.90
- INVERT ELE: 888.52
- PHOTO LOOKING SOUTHWEST



KEY PLAN
NO SCALE



71-70032

- MH SLIGHTLY OFFSET.
- RIM: 816.76
- INVERT ELE: 811.65
- PHOTO LOOKING SOUTH



71-70039

- RIM: 823.20
- INVERT ELE: 818.20
- ANY CLEANING REQUIRED TO ACCESS THIS MH SHALL BE PERFORMED BY ARBORETUM PERSONNEL
- PHOTO LOOKING SOUTHEAST



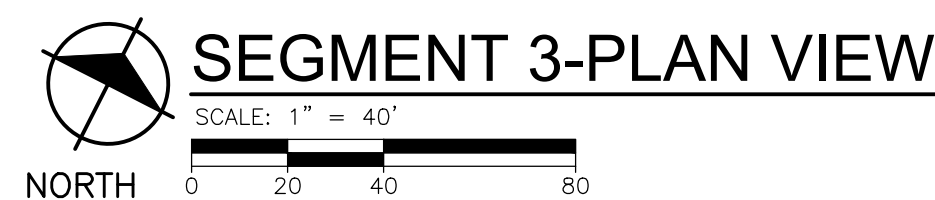
71-70041

- MH ON A HILL.
- SMALL METAL PIPE COMING IN.
- RIM: 863.93
- INVERT ELE: 858.93
- NOT ACCESSIBLE WITH A VEHICLE
- PHOTO LOOKING EAST



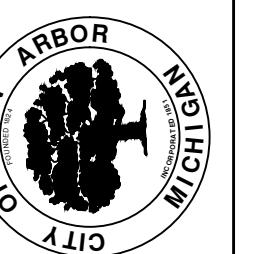
71-70040

- MH ON A HILL.
- RIM: 860.50
- INVERT ELE: 854.50
- NOT ACCESSIBLE WITH A VEHICLE
- PHOTO LOOKING NORTHWEST



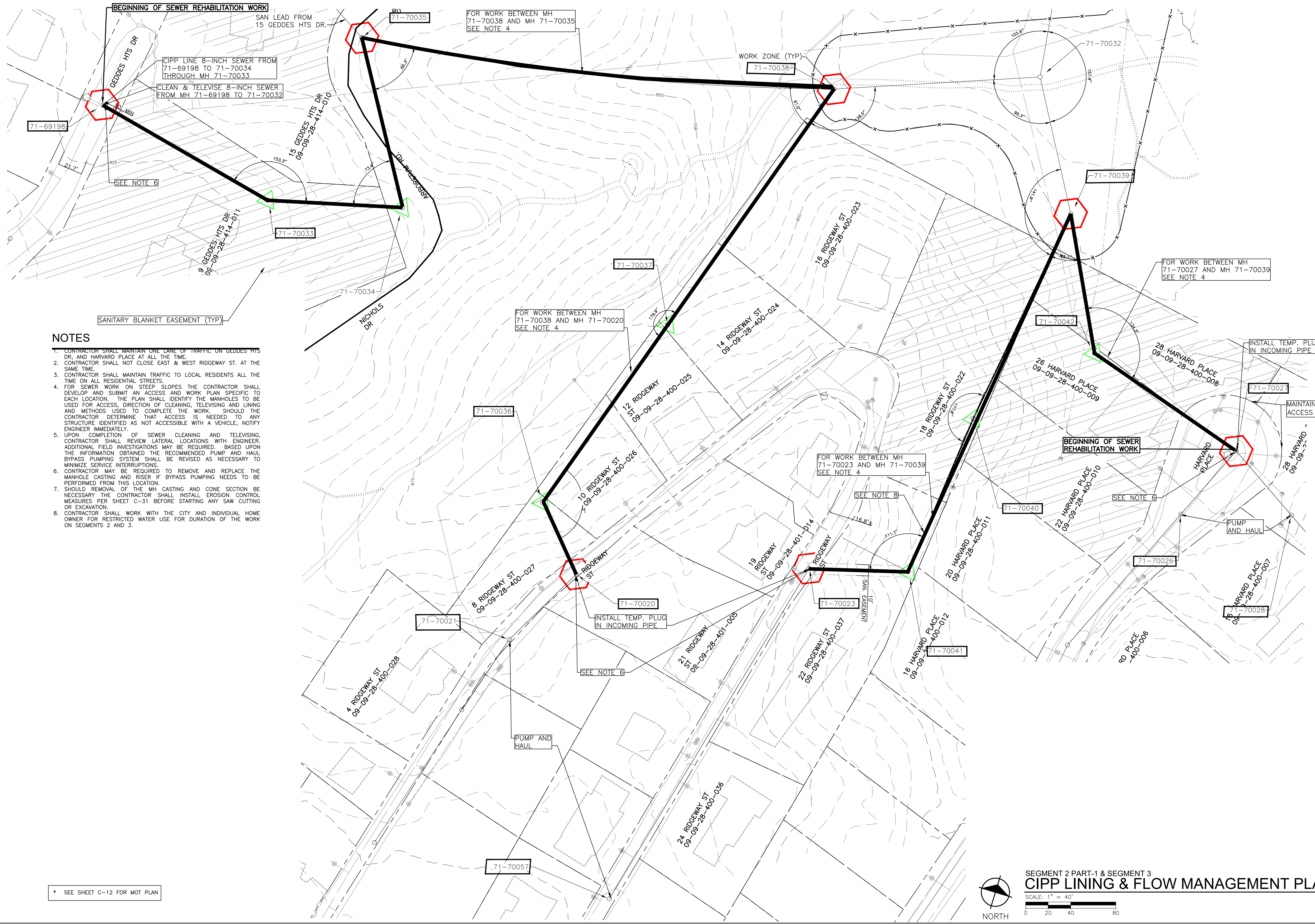
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SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
SEGMENT 3-PLAN VIEW

SHEET No. **C-9**
DRAWING No. **2017-037-C9**



NOTES

1. CONTRACTOR SHALL MAINTAIN ONE LANE OF TRAFFIC ON GEDDES HTS DR. AND HARVARD PLACE AT ALL THE TIME.
2. CONTRACTOR SHALL NOT CLOSE EAST & WEST RIDGEWAY ST. AT THE SAME TIME.
3. CONTRACTOR SHALL MAINTAIN TRAFFIC TO LOCAL RESIDENTS ALL THE TIME ON ALL RESIDENTIAL STREETS.
4. FOR SEWER WORK ON STEEP SLOPES THE CONTRACTOR SHALL DEVELOP AND SUBMIT AN ACCESS AND WORK PLAN SPECIFIC TO EACH LOCATION. THE PLAN SHALL IDENTIFY THE MANHOLES TO BE USED FOR ACCESS, DIRECTION OF CLEANING, TELEVIEWING AND LINING AND METHODS USED TO COMPLETE THE WORK. SHOULD THE CONTRACTOR DETERMINE THAT ACCESS IS NEEDED TO ANY STRUCTURE IDENTIFIED AS NOT ACCESSIBLE WITH A VEHICLE, NOTIFY ENGINEER IMMEDIATELY.
5. UPON COMPLETION OF SEWER CLEANING AND TELEVIEWING, CONTRACTOR SHALL REVIEW LATERAL LOCATIONS WITH ENGINEER. ADDITIONAL FIELD INVESTIGATIONS MAY BE REQUIRED. BASED UPON THE INFORMATION OBTAINED THE RECOMMENDED PUMP AND HAUL BYPASS PUMPING SYSTEM SHALL BE REVISED AS NECESSARY TO MINIMIZE SERVICE INTERRUPTIONS.
6. CONTRACTOR MAY BE REQUIRED TO REMOVE AND REPLACE THE MANHOLE CASTING AND RISER IF BYPASS PUMPING NEEDS TO BE PERFORMED FROM THIS LOCATION.
7. SHOULD REMOVAL OF THE MH CASTING AND CONE SECTION BE NECESSARY THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES PER SHEET C-31 BEFORE STARTING ANY SAW CUTTING OR EXCAVATION.
8. CONTRACTOR SHALL WORK WITH THE CITY AND INDIVIDUAL HOME OWNER FOR RESTRICTED WATER USE FOR DURATION OF THE WORK ON SEGMENTS 2 AND 3.

* SEE SHEET C-12 FOR MOT PLAN

SEGMENT 2 PART-1 & SEGMENT 3
CIPP LINING & FLOW MANAGEMENT PLAN
 SCALE: 1" = 40'

811
Know what's below. Call before you dig.

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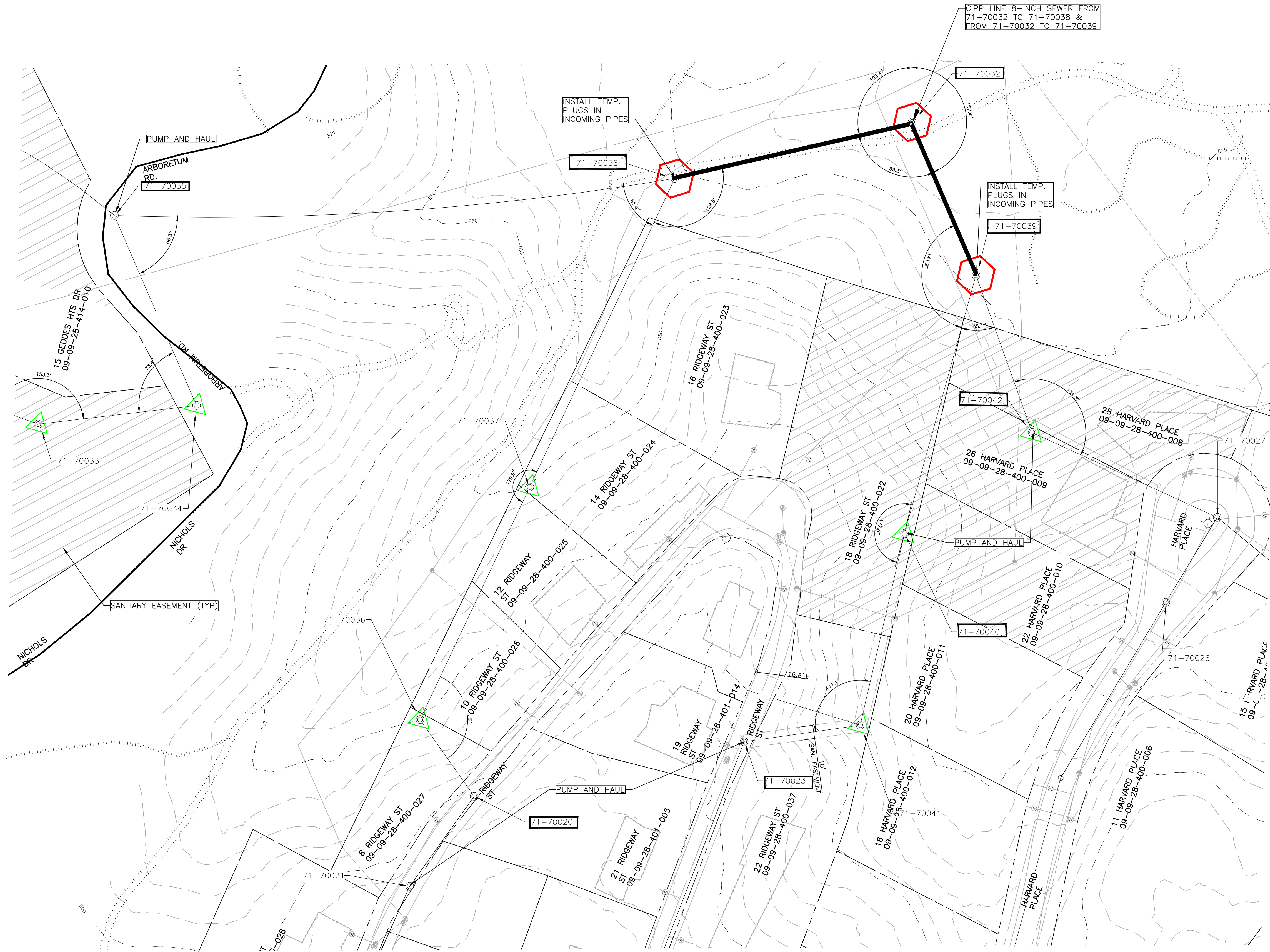
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 SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
 SEGMENT 2(1) & 3- CIPP LINING & FLOW
 MANAGEMENT PLAN

SCALE PLAN:
 DRAWING No.
2017-037- C10

SHEET No.
C-10

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* SEE SHEET C-12 FOR MOT PLAN

SEGMENT 2 PART-2
CIPP LINING & FLOW MANAGEMENT PLAN
 SCALE: 1" = 40'
 0 20 40 80

NOTES

- UPON COMPLETION OF SEWER CLEANING AND TELEVISIONING, CONTRACTOR SHALL REVIEW LATERAL LOCATIONS WITH ENGINEER. ADDITIONAL FIELD INVESTIGATIONS MAY BE REQUIRED. BASED UPON THE INFORMATION OBTAINED THE RECOMMENDED PUMP AND HAUL BYPASS PUMPING SYSTEM SHALL BE REVISED AS NECESSARY TO MINIMIZE SERVICE INTERRUPTIONS.
- CONTRACTOR SHALL WORK WITH THE CITY AND INDIVIDUAL HOME OWNER FOR RESTRICTED WATER USE FOR DURATION OF WORK ON SEGMENTS 2 & 3.



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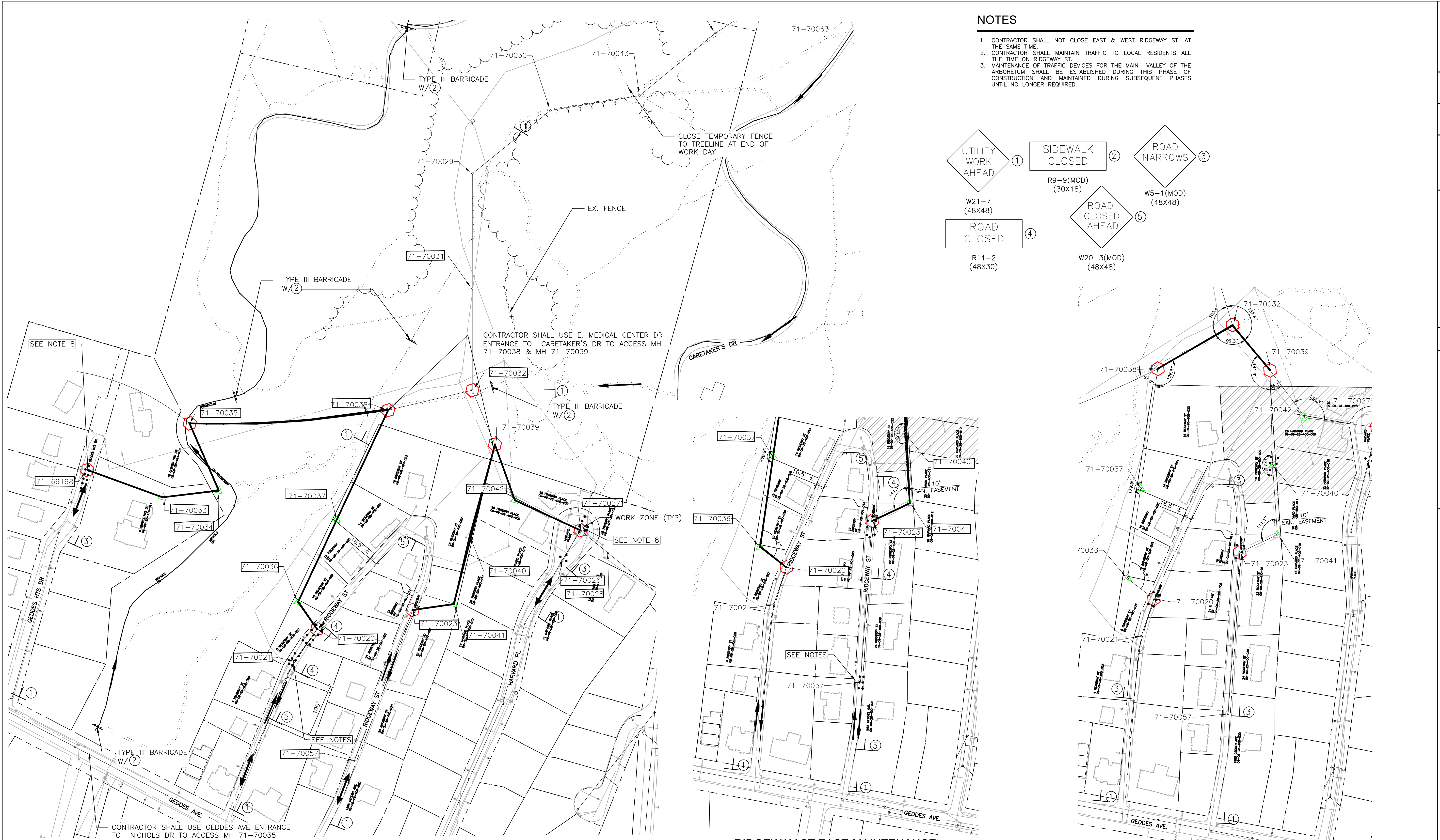
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 SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
 SEGMENT 2 (2)- CIPP LINING & FLOW
 MANAGEMENT PLAN

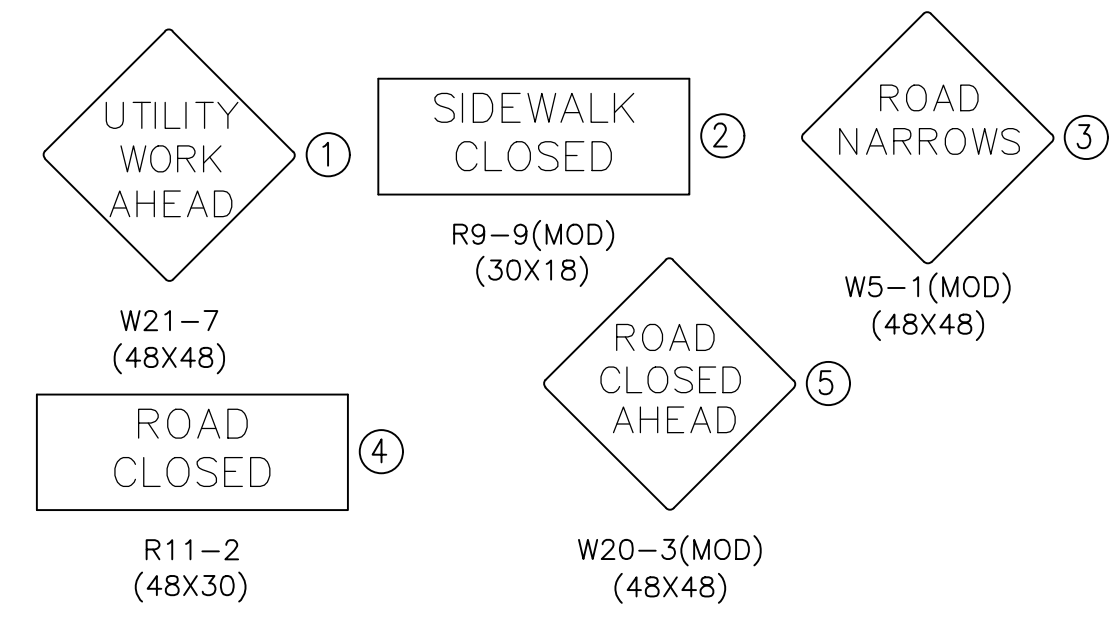
SCALE PLAN:
 DRAWING No.
 2017-037- C11

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NOTES

1. CONTRACTOR SHALL NOT CLOSE EAST & WEST RIDGEWAY ST. AT THE SAME TIME.
2. CONTRACTOR SHALL MAINTAIN TRAFFIC TO LOCAL RESIDENTS ALL THE TIME ON RIDGEWAY ST.
3. MAINTENANCE OF TRAFFIC DEVICES FOR THE MAIN VALLEY OF THE ARBORETUM SHALL BE ESTABLISHED DURING THIS PHASE OF CONSTRUCTION AND MAINTAINED DURING SUBSEQUENT PHASES UNTIL NO LONGER REQUIRED.




OVERALL MAINTANCE OF TRAFFIC FOR SEGMENT 2 & 3 (SHOWING RIDGEWAY ST WEST-MAINTENANCE OF TRAFFIC-SEE NOTE 1)

RIDGEWAY ST EAST-MAINTENANCE OF TRAFFIC-SEE NOTE 1


SEGMENT 2 PART 2 MAINTENANCE OF TRAFFIC





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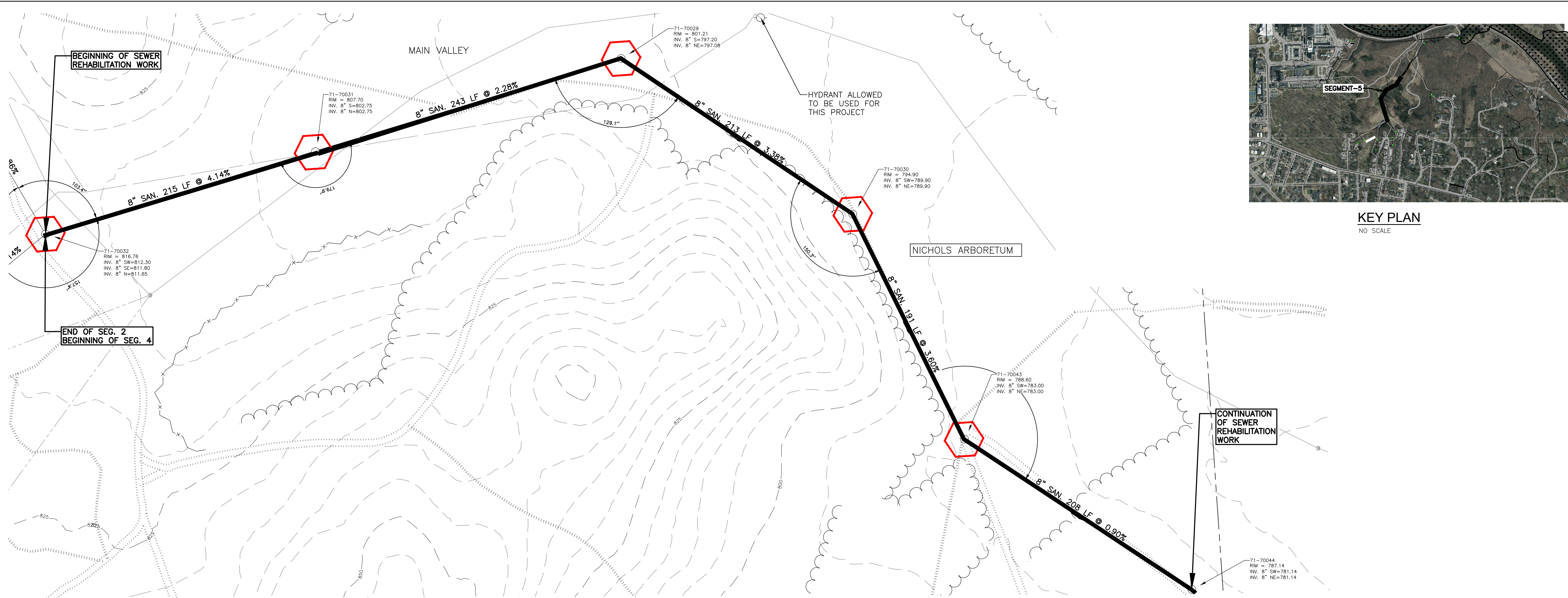
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SEGMENT 2 & 3-MAINTENANCE OF TRAFFIC

SHEET No. **3**
DRAWING No. **2017-037- C12**

C-12

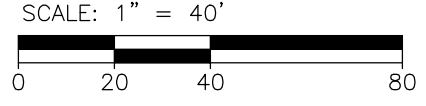
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KEY PLAN
NO SCALE



SEGMENT 4-PLAN VIEW



- 71-70032**
- MH SLIGHTLY OFFSET.
 - RIM: 816.76
 - INVERT ELE: 811.65
 - PHOTO LOOKING WEST



- 71-70031**
- RIM: 807.70
 - INVERT ELE: 802.75
 - PHOTO LOOKING SOUTH



- 71-70029**
- RIM: 801.21
 - INVERT ELE: 797.08
 - PHOTO LOOKING WEST



- 71-70030**
- RIM: 794.90
 - INVERT ELE: 789.90
 - PHOTO LOOKING WEST



- 71-70043**
- RIM: 788.60
 - INVERT ELE: 783.00
 - PHOTO LOOKING WEST



- 71-70044**
- RIM: 787.14
 - INVERT ELE: 781.14
 - PHOTO LOOKING SOUTHWEST

811
Know what's below.
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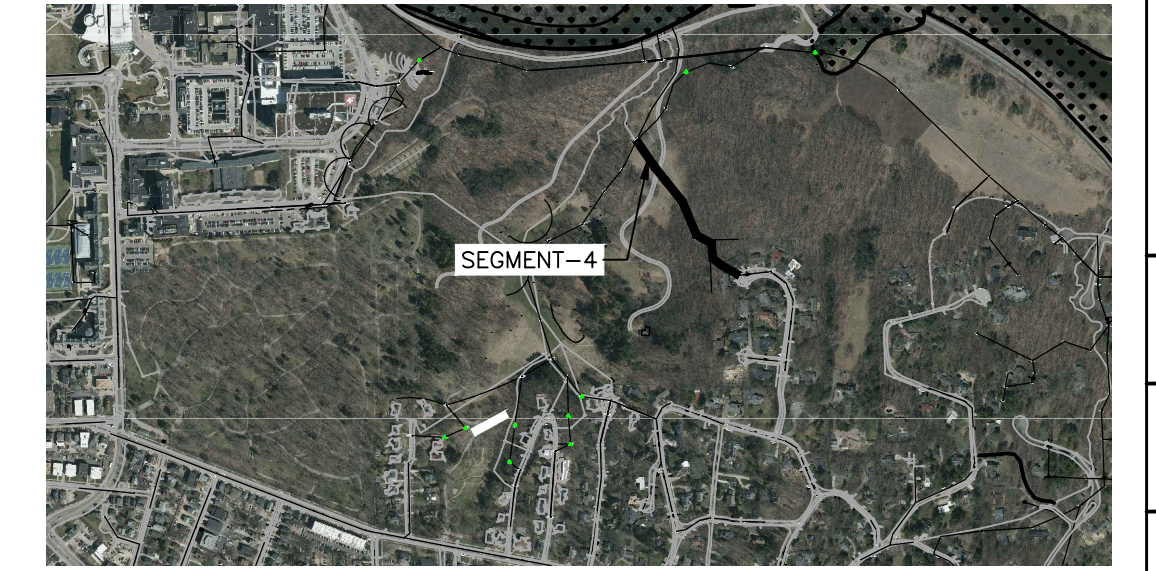
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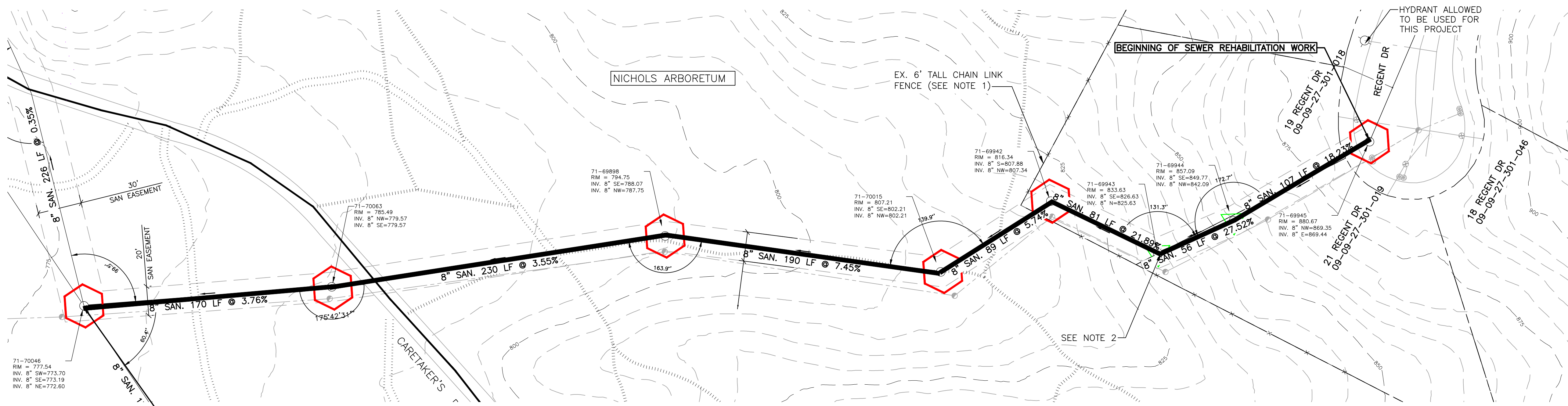
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SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
SEGMENT 4-PLAN VIEW

SCALE PLAN:
DRAWING No.
2017-037- C13

SHEET No.
C-13



KEY PLAN
NO SCALE



SEGMENT 5-PLAN VIEW
SCALE: 1" = 40'
NORTH

- NOTES
1. ANY CLEARING REQUIRED OUTSIDE THE FENCE SHALL BE PERFORMED BY ARBORETUM PERSONNEL AND RESTORED BY ARBORETUM PERSONNEL. ANY CLEARING REQUIRED INSIDE THE FENCE SHALL BE PERFORMED BY THE CONTRACTOR. RESTORATION SHALL BE PERFORMED BY THE CONTRACTOR TO THE SATISFACTION OF THE PROPERTY OWNER.
 2. CONTRACTOR SHALL WORK WITH THE PROPERTY OWNER AND ARBORETUM STAFF TO DEVELOP THE LEAST INTRUSIVE MEANS TO ACCESS MH 71-69943 WITH THE MINIMAL EQUIPMENT REQUIRED TO CLEAN, TELEWISE AND LINE THE SEWERS IN AND OUT OF THE MANHOLE.



71-70046
• RIM: 777.54
• INVERT ELE: 772.60
• PHOTO LOOKING NORTHWEST



71-70063
• RIM: 785.49
• INVERT ELE: 779.57
• PHOTO LOOKING WEST



71-69898
• RIM: 794.75
• INVERT ELE: 787.75
• PHOTO LOOKING NORTH



71-70015
• RIM: 807.21
• INVERT ELE: 802.21
• PHOTO LOOKING SOUTHEAST



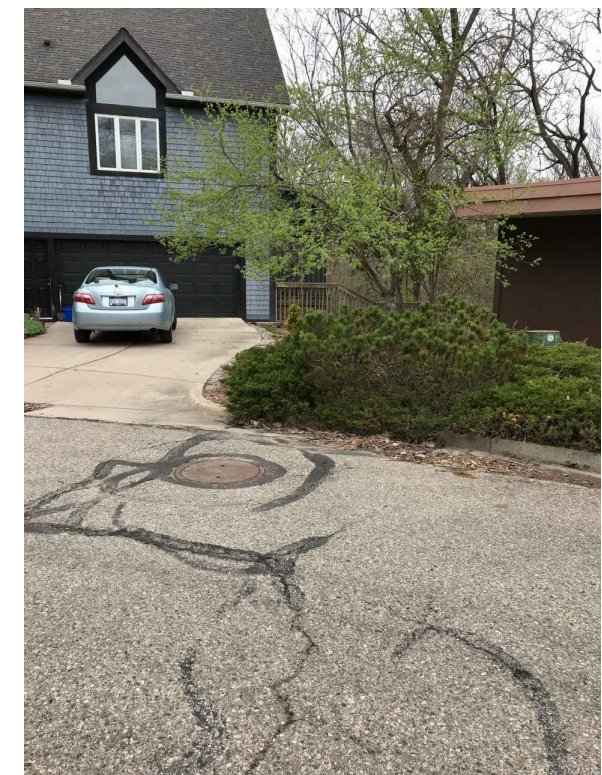
71-69942
• MH IN A FENCED BACK YARD.
• REMOVE EX. FENCE & REPLACE WITH NEW SIMILAR FENCE
• RIM: 816.34
• INVERT ELE: 807.34
• NOTE 1
• PHOTO LOOKING NORTH



71-69943
• MH ON A STEEP SLOPE IN A FENCED BACK YARD.
• RIM: 833.63
• INVERT ELE: 825.63
• NOTE 1
• PHOTO LOOKING SOUTHEAST



71-69944
• MH ON A STEEP SLOPE IN A FENCED BACK YARD WITH 2 DROP CONNECTIONS.
• ADJUST TO GRADE
• RIM: 857.09
• INVERT ELE: 842.09
• NOT ACCESSIBLE BY A VEHICLE
• PHOTOS LOOKING NORTHEAST & INTO MH

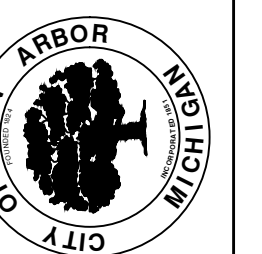


71-69945
• MH ON REGENT DRIVE BETWEEN HOUSE NUMBER 19 & 21
• RIM: 880.67
• INVERT ELE: 869.35
• PHOTO LOOKING WEST



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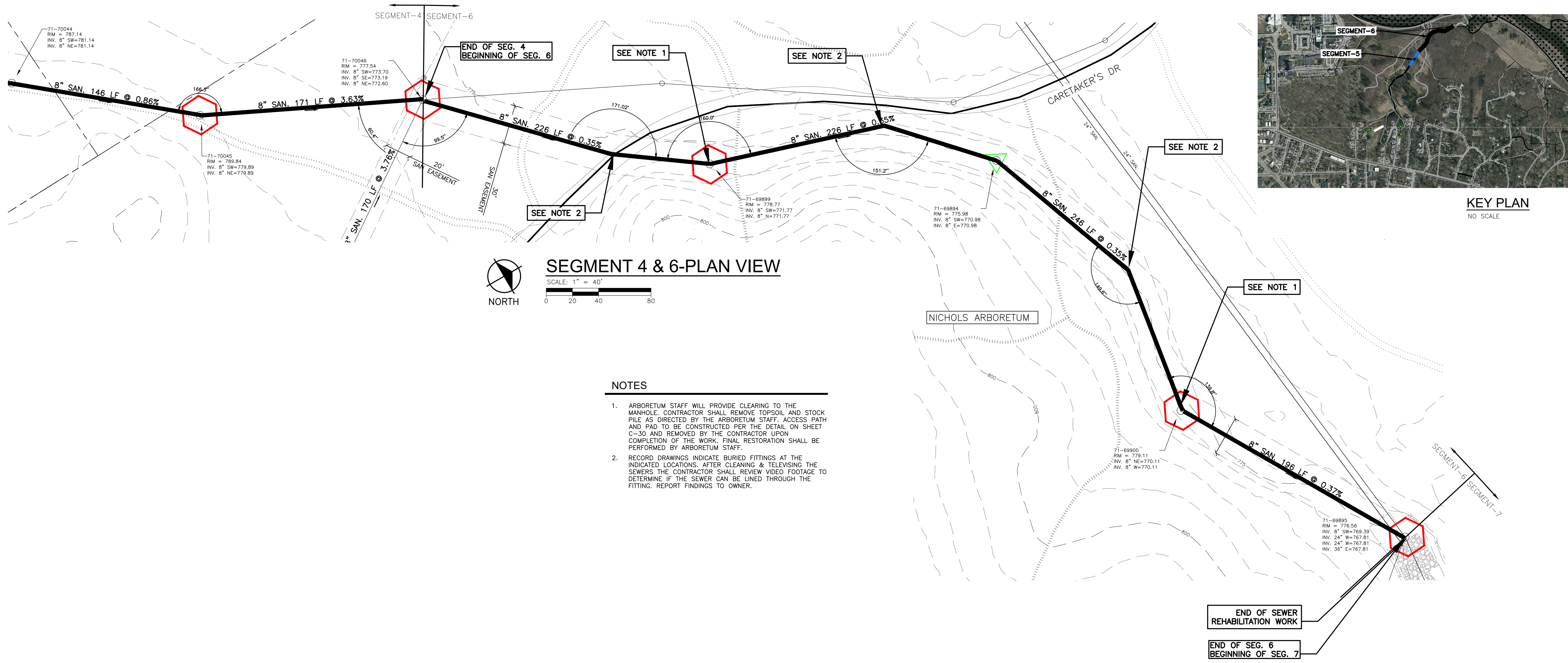
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SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
SEGMENT 5-PLAN VIEW

SCALE PLAN:
DRAWING No.
2017-037- C14

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SEGMENT 4 & 6-PLAN VIEW
SCALE: 1" = 40'

- NOTES**
- ARBORETUM STAFF WILL PROVIDE CLEARING TO THE MANHOLE. CONTRACTOR SHALL REMOVE TOPSOIL AND STOCK PILE AS DIRECTED BY THE ARBORETUM STAFF. ACCESS PATH AND PAD TO BE CONSTRUCTED PER THE DETAIL ON SHEET C-30 AND REMOVED BY THE CONTRACTOR UPON COMPLETION OF THE WORK. FINAL RESTORATION SHALL BE PERFORMED BY ARBORETUM STAFF.
 - RECORD DRAWINGS INDICATE BURIED FITTINGS AT THE INDICATED LOCATIONS. AFTER CLEANING & TELEVISIONING THE SEWERS THE CONTRACTOR SHALL REVIEW VIDEO FOOTAGE TO DETERMINE IF THE SEWER CAN BE LINED THROUGH THE FITTING. REPORT FINDINGS TO OWNER.

END OF SEWER REHABILITATION WORK
END OF SEG. 6 BEGINNING OF SEG. 7



71-70044

- RIM: 787.14
- INVERT ELE: 781.14
- PHOTO LOOKING SOUTHWEST



71-70045

- MH ADJUST TO GRADE
- RIM: 789.84
- INVERT ELE: 784.84
- PHOTO LOOKING NORTHWEST



71-70046

- RIM: 777.54
- INVERT ELE: 772.60
- PHOTO LOOKING NORTHWEST



71-69899

- RIM: 771.77
- INVERT ELE: 778.77
- SEE NOTE 1
- PHOTO LOOKING SOUTHEAST



71-69894

- RIM: 770.98
- INVERT ELE: 775.98
- NOT ACCESSIBLE WITH VEHICLE
- PHOTO LOOKING SOUTHEAST



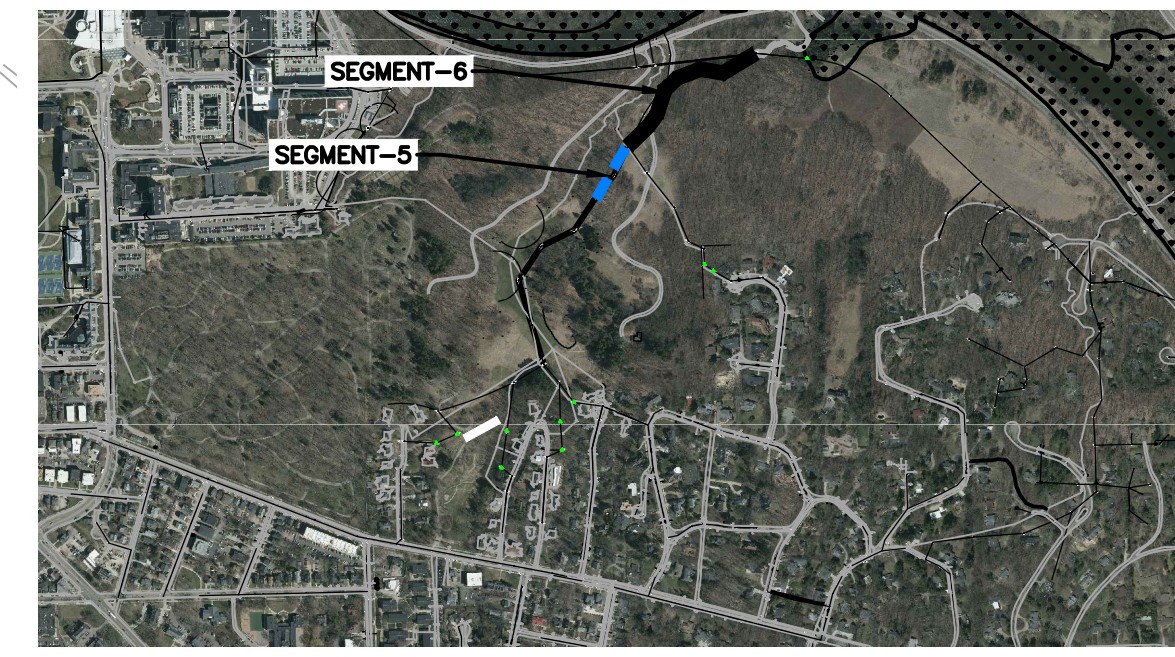
71-69900

- RIM: 779.11
- INVERT ELE: 770.11
- SEE NOTE 1
- PHOTO LOOKING SOUTHEAST



71-69895

- RIM: 776.56
- INVERT ELE: 767.81
- PHOTO LOOKING EAST



KEY PLAN
NO SCALE

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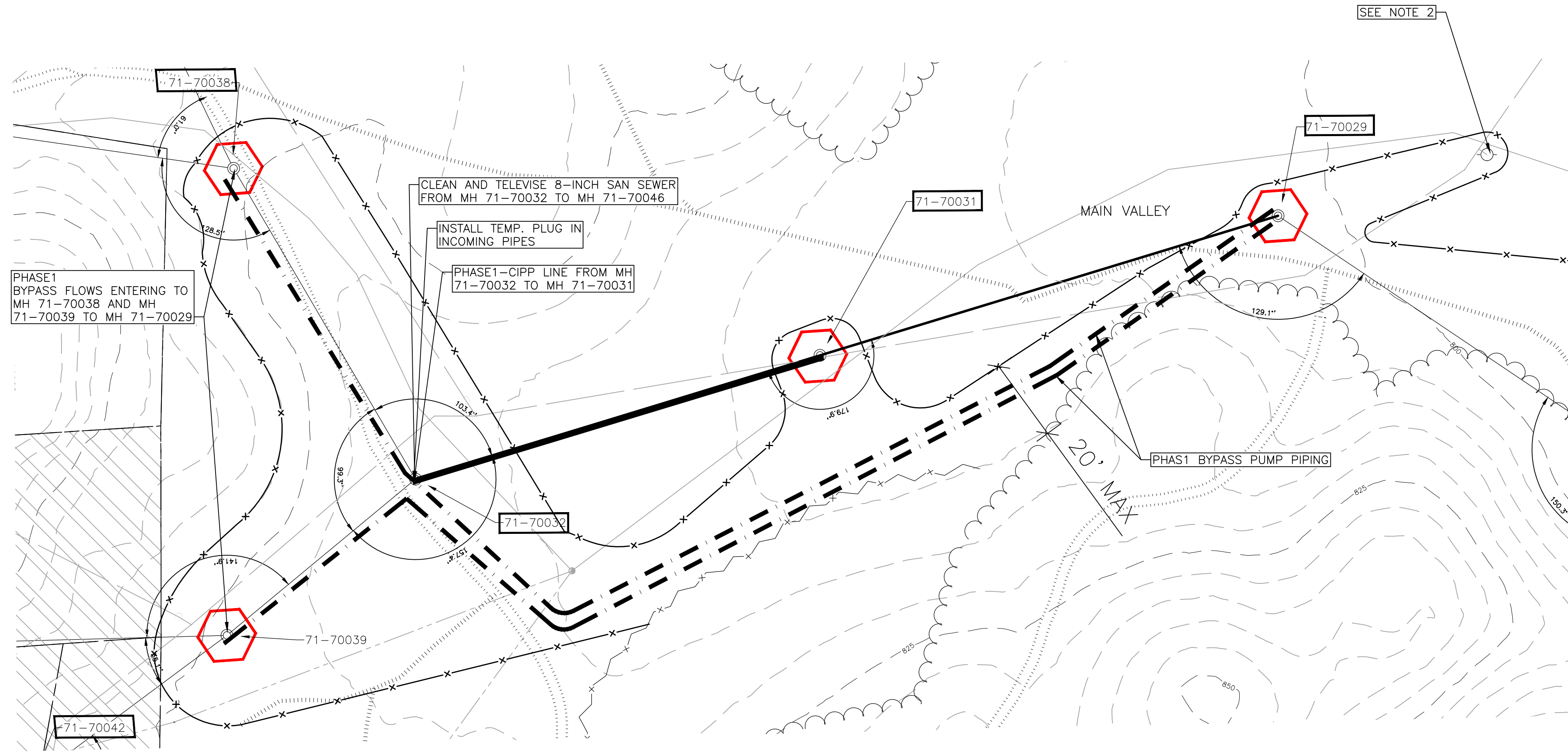
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SEGMENT 4 & 6-PLAN VIEW

SCALE PLAN:
DRAWING No. 2017-037-C15

SHEET No. C-15




**SEGMENT 4 PART-1 PHASE1
CIPP LINING & BYPASS PUMPING PLAN**
 SCALE: 1" = 40'



* SEE SHEET C-21 FOR MOT PLAN.


NOTES

1. ALL BYPASS PIPING PLACED PARALLEL TO ANY TRAIL SHALL BE SET PER THE DETAIL ON SHEET C-30.
2. PLACE 3/4-INCH PLYWOOD OR PLATES AROUND HYDRANT TO MINIMIZE RUTTING.
3. MOT FENCE MUST BE INSTALLED & REMAIN IN PLACE FOR SUBSEQUENT PHASES.

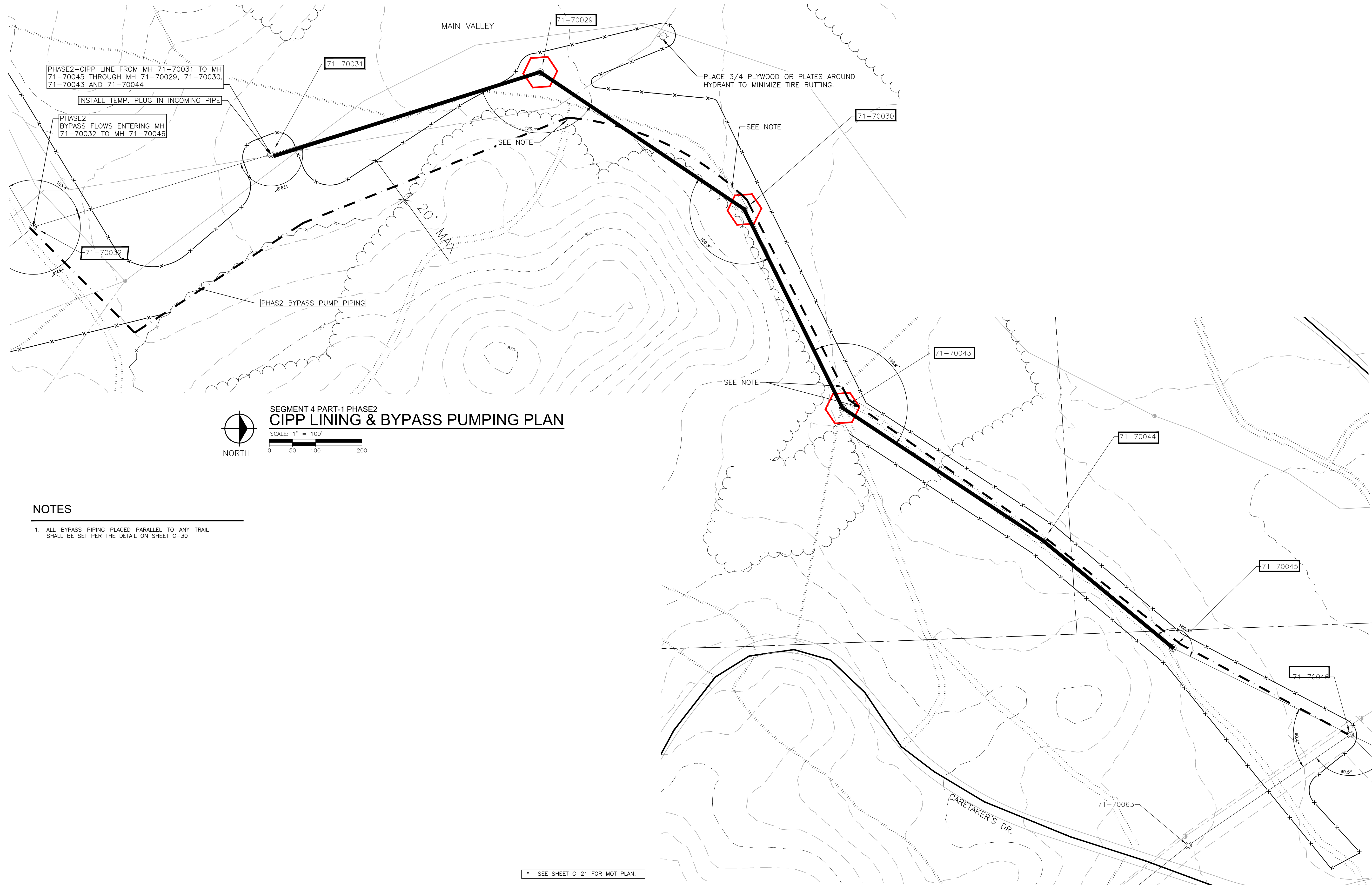


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 SEGMENT 4(1)-BYPASS PUMPING PLAN
 PHASE-1
 SCALE PLAN:

 DRAWING No.
2017-037- C16

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SEGMENT 4 PART-1 PHASE2
CIPP LINING & BYPASS PUMPING PLAN

SCALE: 1" = 100'
 0 50 100 200



NOTES

1. ALL BYPASS PIPING PLACED PARALLEL TO ANY TRAIL SHALL BE SET PER THE DETAIL ON SHEET C-30

* SEE SHEET C-21 FOR MOT PLAN.

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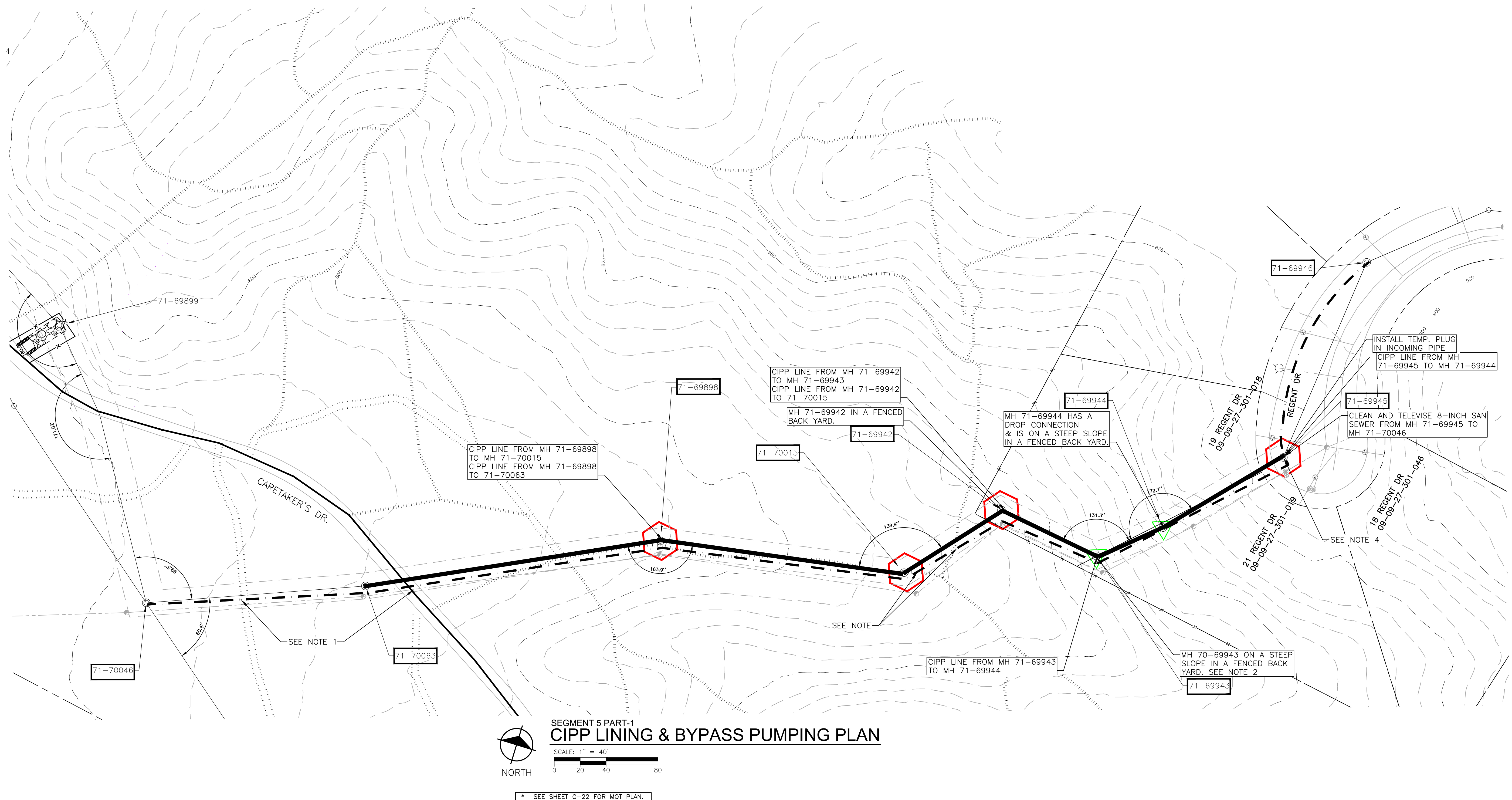
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 SEGMENT 4(1)-BYPASS PUMPING PLAN
 PHASE-2

SCALE PLAN:
 1" = 100'

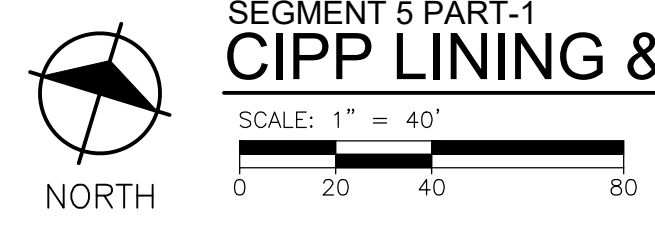
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2017-037- C17

SHEET No.
C-17

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SEGMENT 5 PART-1
CIPP LINING & BYPASS PUMPING PLAN



NOTES

1. ALL BYPASS PIPING PLACED PARALLEL TO ANY TRAIL SHALL BE SET PER THE DETAIL ON SHEET C-30.
2. CONTRACTOR SHALL WORK WITH THE PROPERTY OWNER AND ARBORETUM STAFF TO DEVELOP THE LEAST INTRUSIVE MEANS TO ACCESS MH 71-69943 WITH THE MINIMAL EQUIPMENT REQUIRED TO CLEAN, TELEWISE AND LINE THE SEWERS IN AND OUT OF THE MANHOLE.
3. UPON COMPLETION OF SEWER CLEANING AND TELEVISION, CONTRACTOR SHALL REVIEW LATERAL LOCATIONS WITH ENGINEER. ADDITIONAL FIELD INVESTIGATIONS MAY BE REQUIRED. BASED UPON THE INFORMATION OBTAINED THE RECOMMENDED BYPASS PUMPING SYSTEM SHALL BE REVISED AS NECESSARY TO MINIMIZE SERVICE INTERRUPTIONS.
4. CONTRACTOR MAY BE REQUIRED TO REMOVE AND REPLACE THE MANHOLE CASTING AND RISER IF BYPASS PUMPING NEEDS TO BE PERFORMED FROM THIS LOCATION.
5. SHOULD REMOVAL OF THE MH CASTING AND CONE SECTION BE REQUIRED THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES PER SHEET C-31 PRIOR TO STARTING ANY SAW CUTTING OR EXCAVATION.
6. CONTRACTOR SHALL WORK WITH THE CITY AND INDIVIDUAL HOME OWNER FOR RESTRICTED WATER USE FOR DURATION OF THE WORK ON SEGMENT 5.



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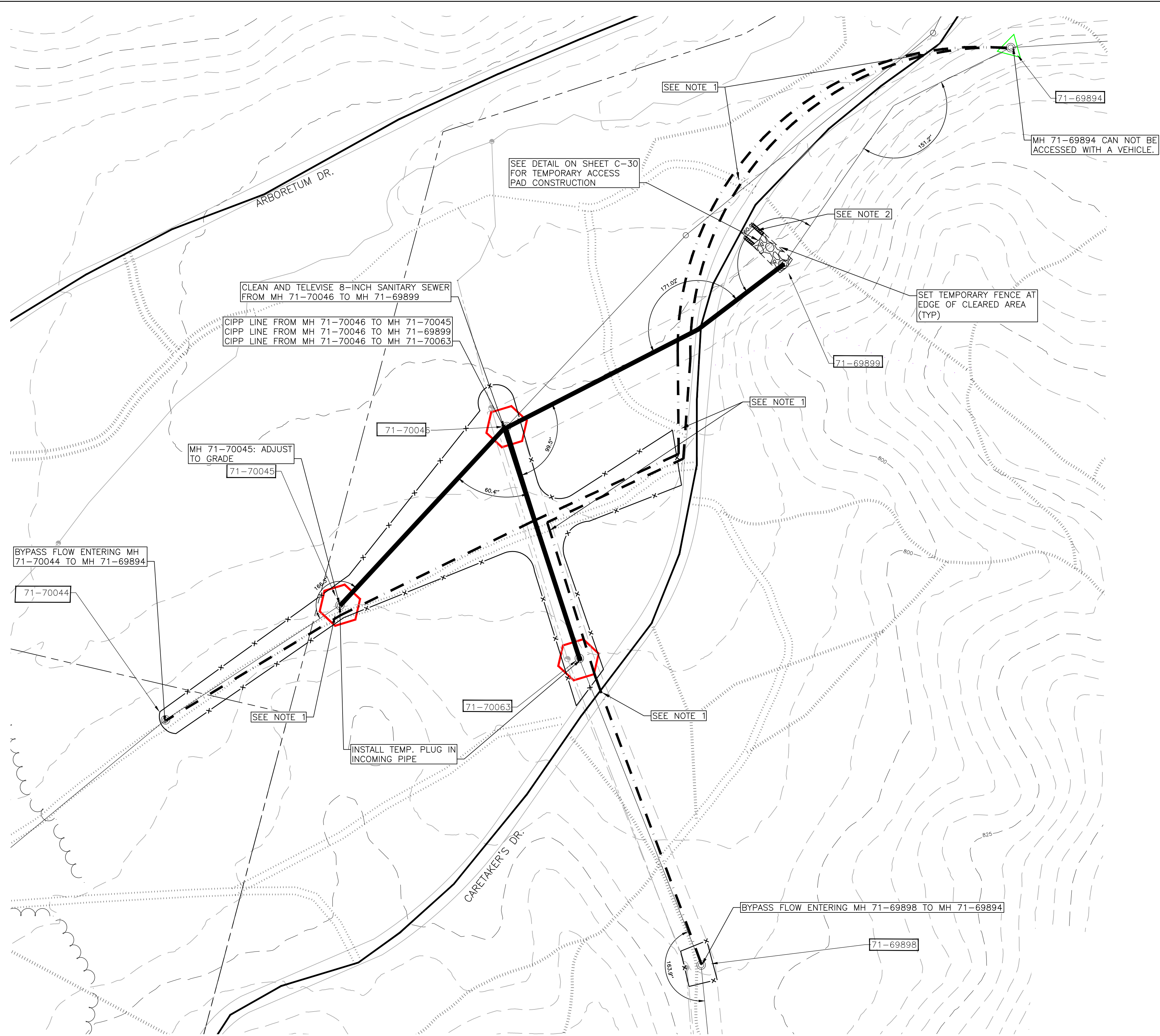
2017-037-C18

SHEET No. **C-18**

2017-037-C18

SOUTH SIDE INTERCEPTOR SEWER LINING-PHASE V
 SEGMENT 5(1) BYPASS PUMPING PLAN

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SEGMENT 4 PART-2, 5 PART-2 & 6 PART-1
CIPP LINING & BYPASS PUMPING PLAN

SCALE: 1" = 40'
 0 20 40 80

SEE SHEET C-23 FOR MOT PLAN.

NOTES

1. ALL BYPASS PIPING PLACED PARALLEL TO ANY TRAIL SHALL BE SET PER THE DETAIL ON SHEET C-30
2. INSTALL SILT FENCE INSIDE TEMPORARY FENCE AT ACCESS PAD LOCATION BEFORE CONSTRUCTING ACCESS PAD.

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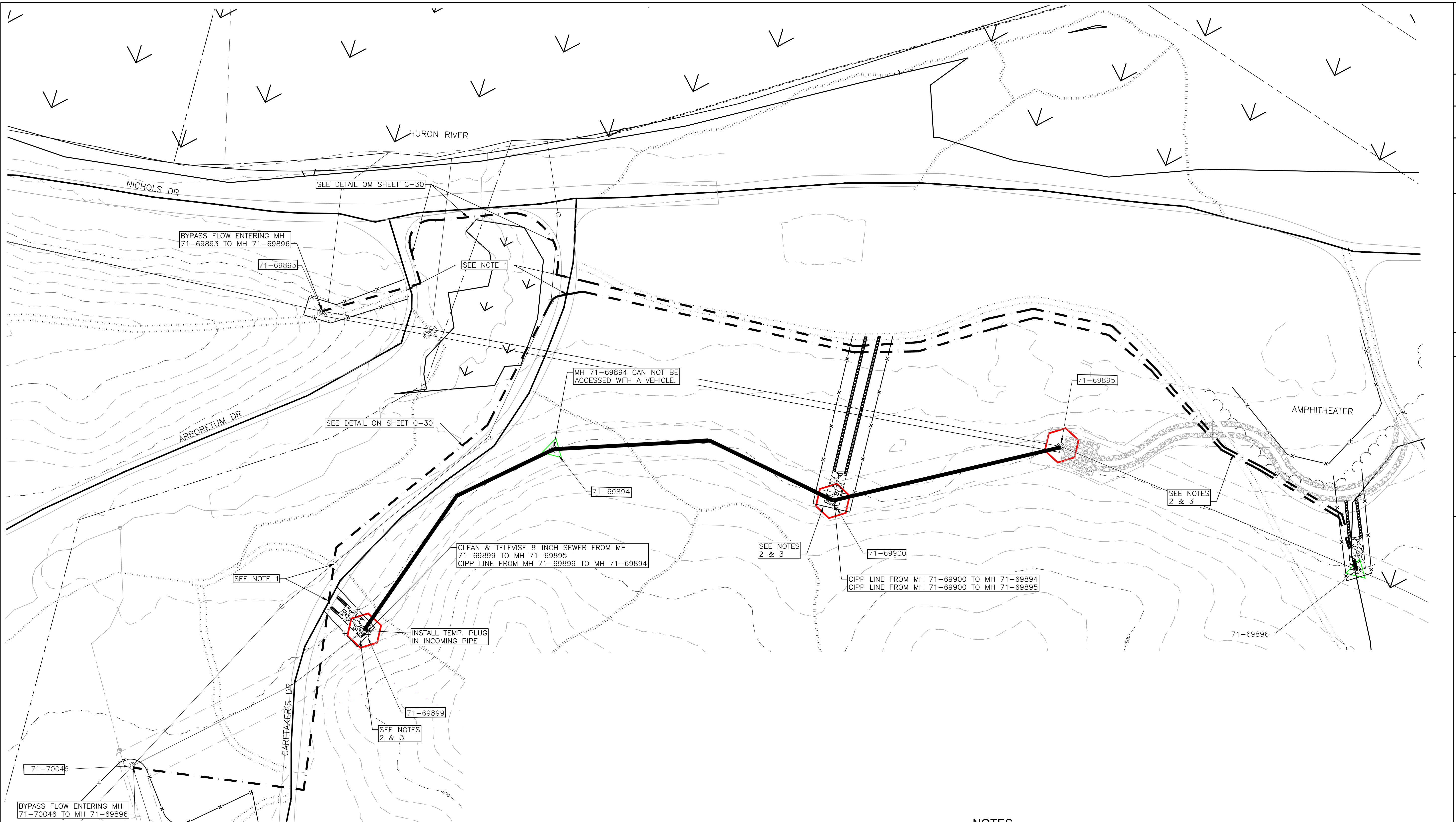
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 SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
 SEGMENT 4(2)- 5(2)-6(1)-BYPASS PUMPING
 PLAN

SCALE PLAN:

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2017-037- C19

SHEET No.
C-19

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71-7004
 BYPASS FLOW ENTERING MH
 71-70046 TO MH 71-69896

BYPASS FLOW ENTERING MH
 71-69893 TO MH 71-69896

CLEAN & TELEVISION 8-INCH SEWER FROM MH
 71-69899 TO MH 71-69895
 CIPP LINE FROM MH 71-69899 TO MH 71-69894

CIPP LINE FROM MH 71-69900 TO MH 71-69894
 CIPP LINE FROM MH 71-69900 TO MH 71-69895

MH 71-69894 CAN NOT BE
 ACCESSED WITH A VEHICLE.

INSTALL TEMP. PLUG
 IN INCOMING PIPE

SEGMENT 6, PART 2
CIPP LINING & BYPASS PUMPING PLAN

SCALE: 1" = 40'
 0 20 40 80



SEE SHEET C-24 FOR MOT PLAN.

NOTES

1. ALL BYPASS PIPING PLACED PARALLEL TO ANY TRAIL SHALL BE SET PER THE DETAIL ON SHEET C-30
2. INSTALL SILT FENCE INSIDE TEMPORARY FENCE AT ACCESS PAD LOCATION BEFORE CONSTRUCTING ACCESS PAD PER DETAIL ON SHEET C-31.
3. SEE DETAIL ON SHEET C-30 FOR TEMPORARY ACCESS PAD CONSTRUCTION

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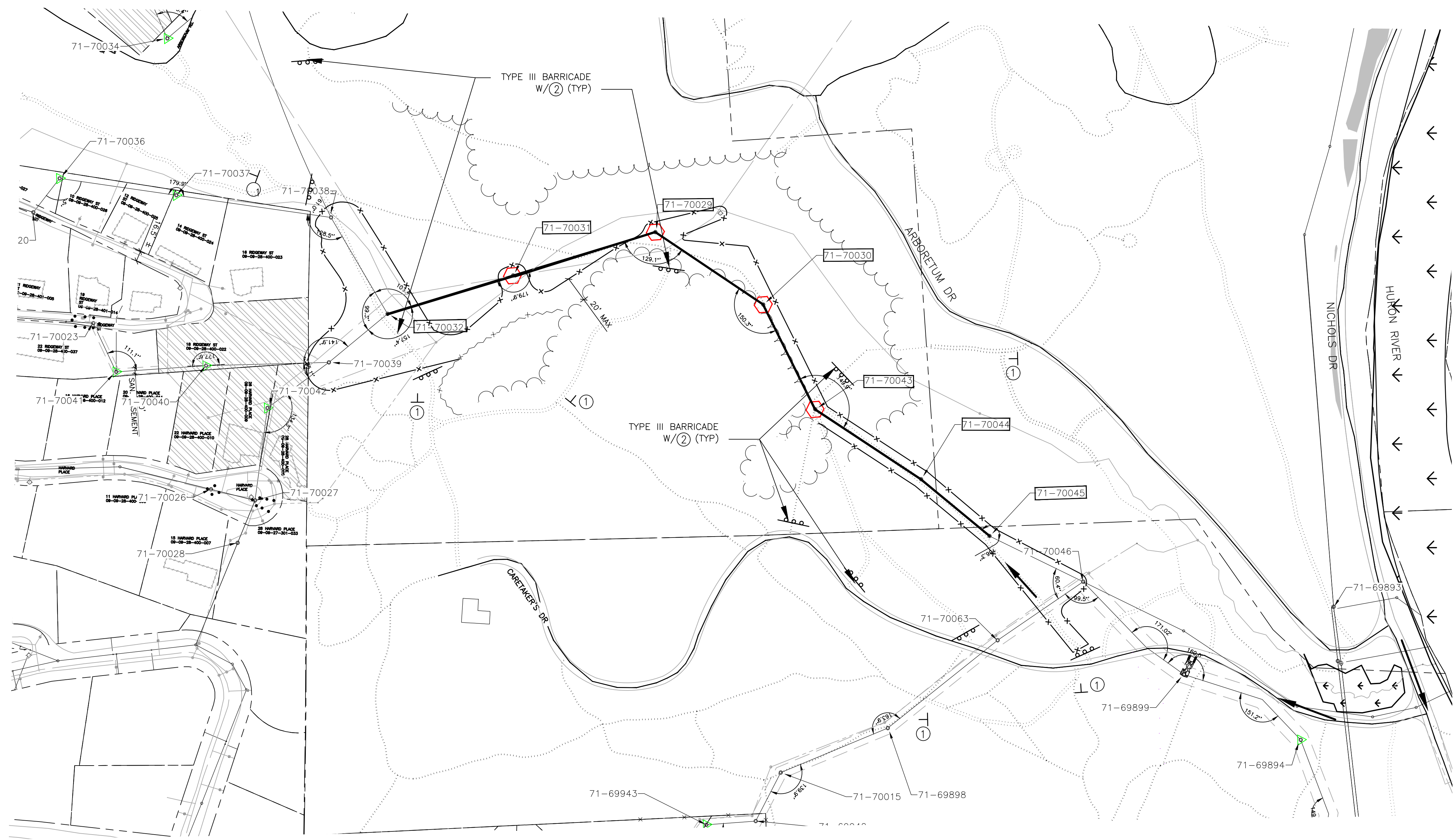
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 SEGMENT 6(2)-BYPASS PUMPING PLAN

SCALE PLAN:
 1" = 40'

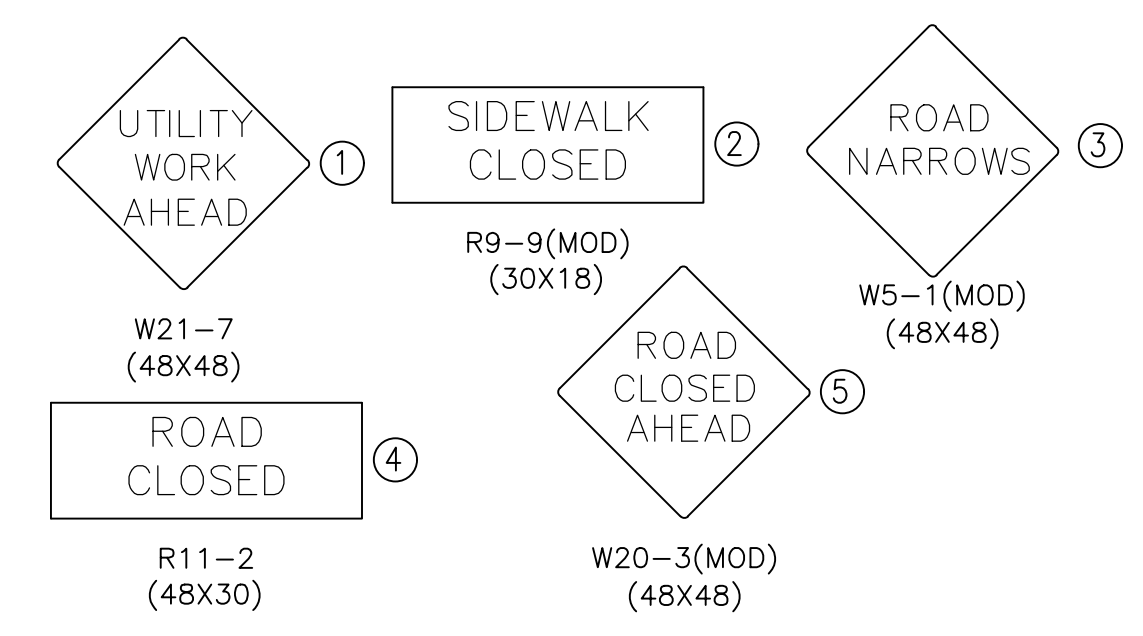
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**SEGMENT 4 PART-1
MAINTENANCE OF TRAFFIC PLAN**
SCALE: 1" = 100'
0 50 100 200



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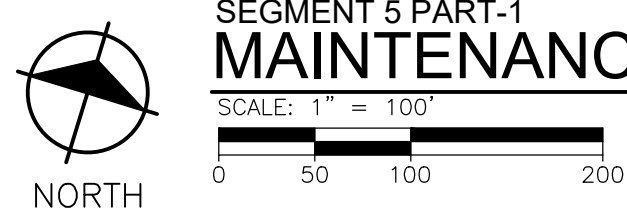
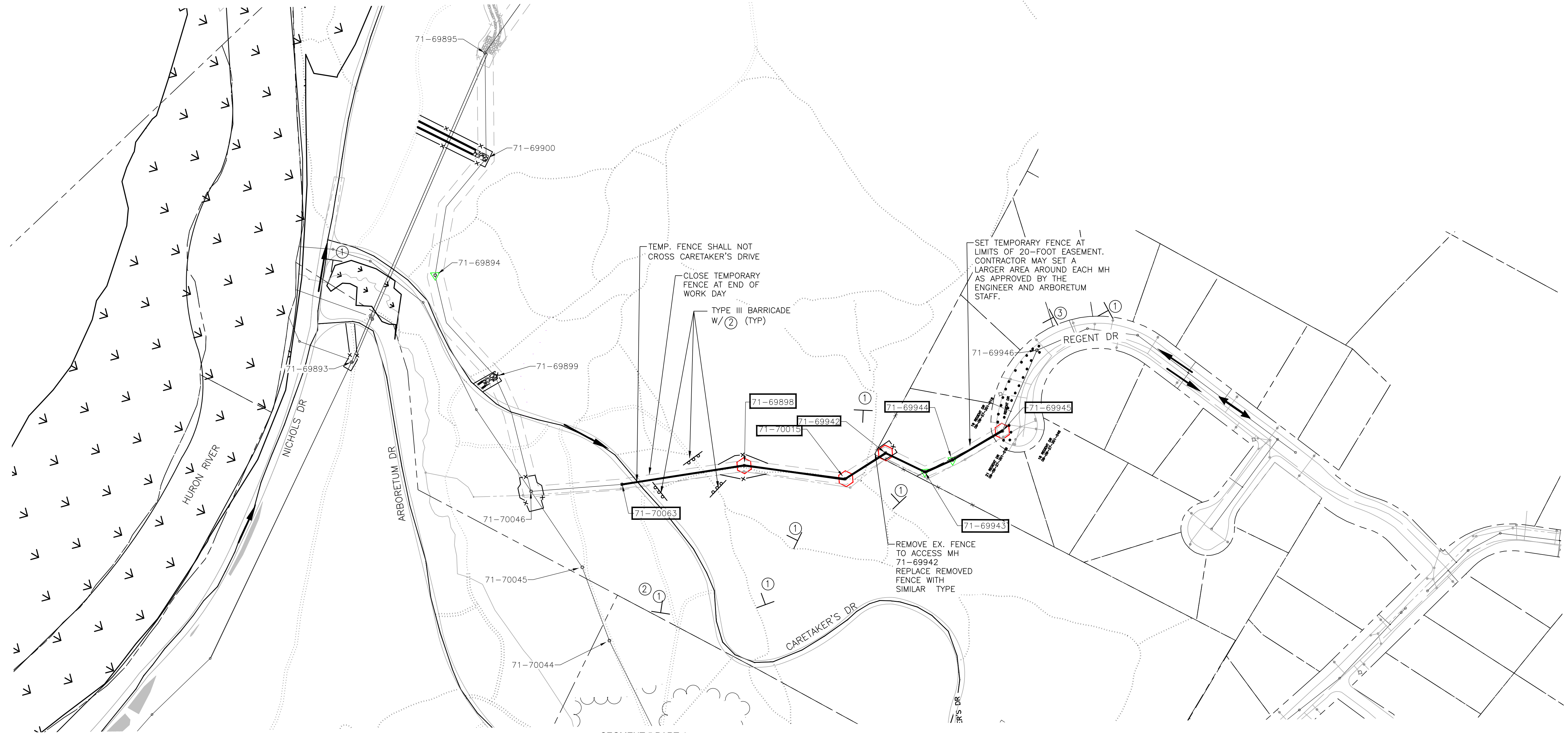
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SEGMENT 4(1)-MAINTENANCE OF TRAFFIC

2017-037- C21

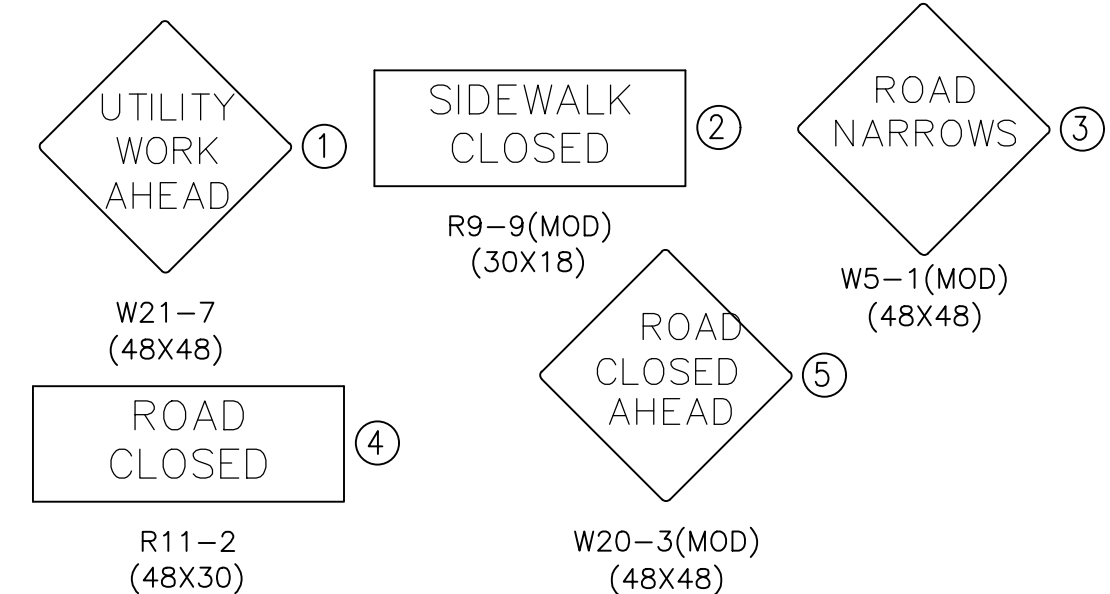
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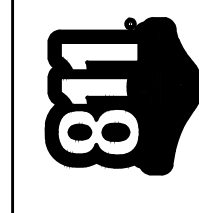
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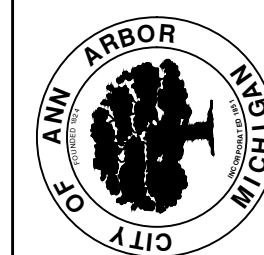
SEGMENT 5 PART-1
MAINTENANCE OF TRAFFIC PLAN






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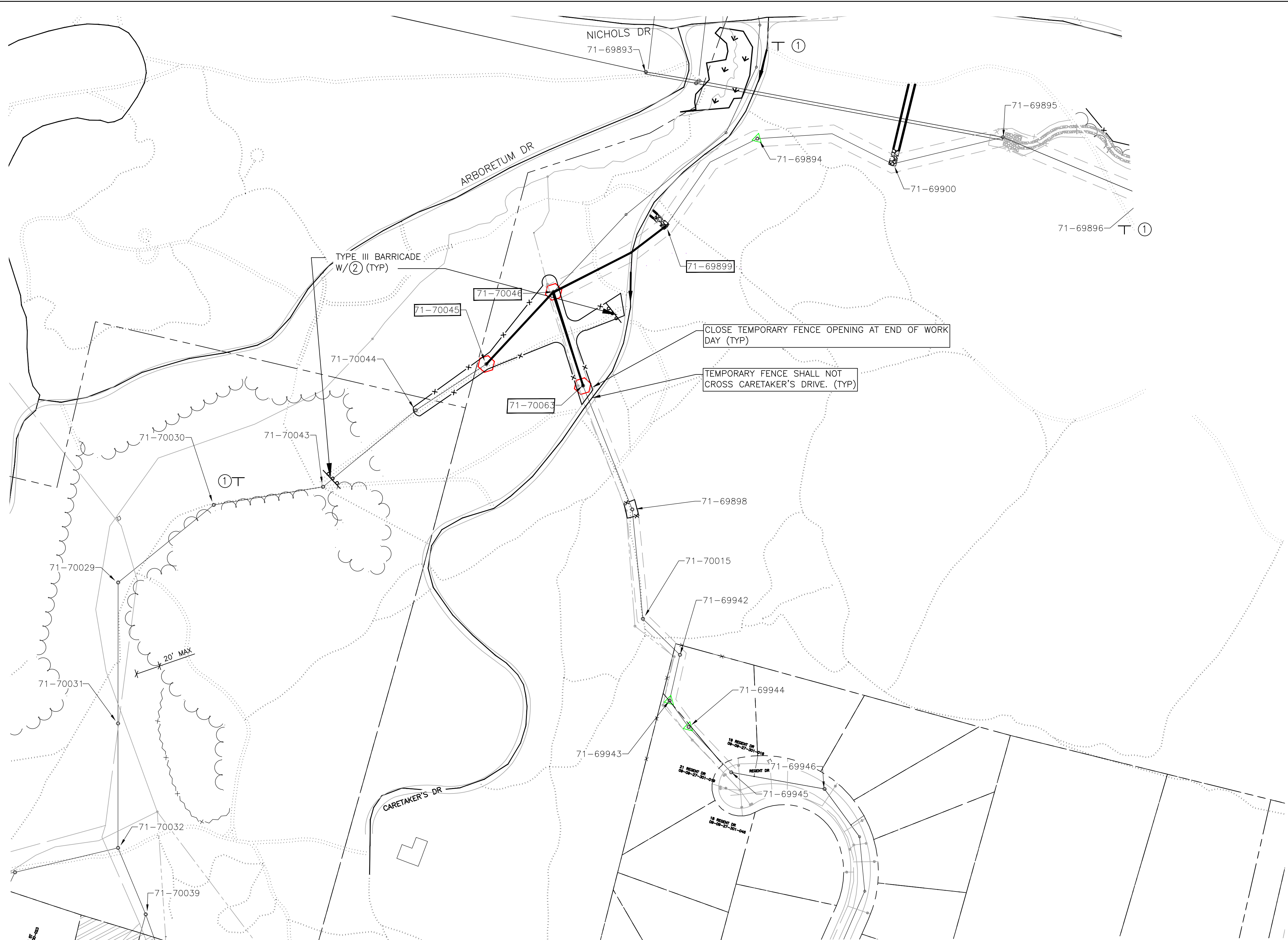
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 SEGMENT 5(1)-MAINTENANCE OF TRAFFIC

SCALE PLAN:

 DRAWING No.
2017-037- C22

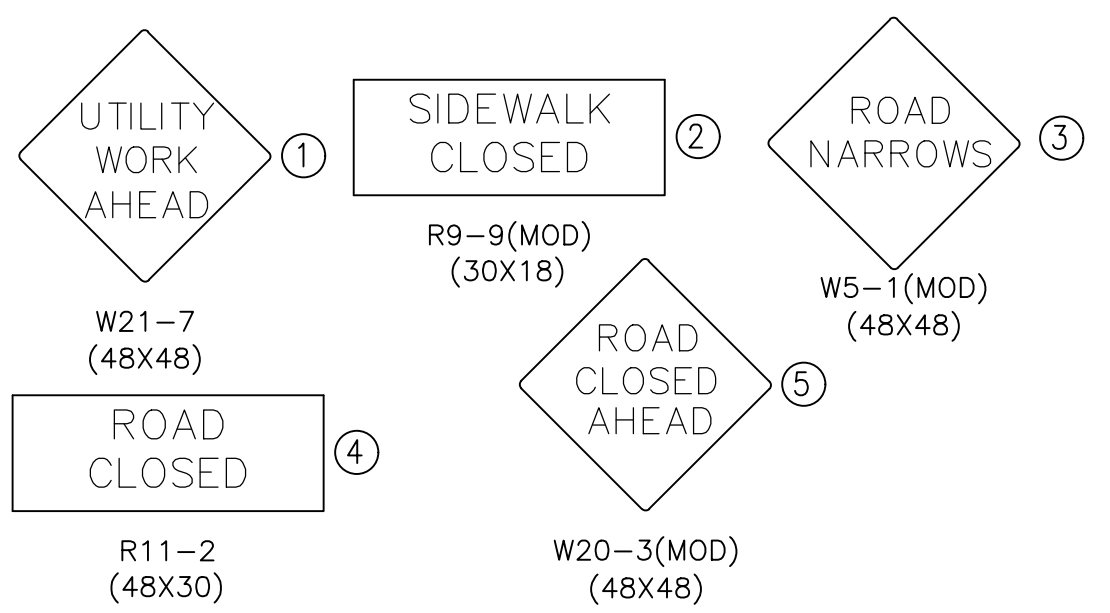
SHEET No.
C-22

2017-037- C22



**SEGMENT 4 PART-2, 5 PART-2 & 6 PART-1
MAINTENANCE OF TRAFFIC PLAN**
SCALE: 1" = 100'
0 50 100 200

NOTES
1. THE COST OF THIS WORK SHALL BE INCLUDED IN THE RESPECTIVE LINE ITEMS FOR SEWER SEGMENT 6 MOT.



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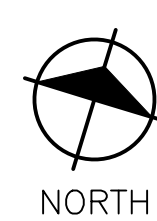
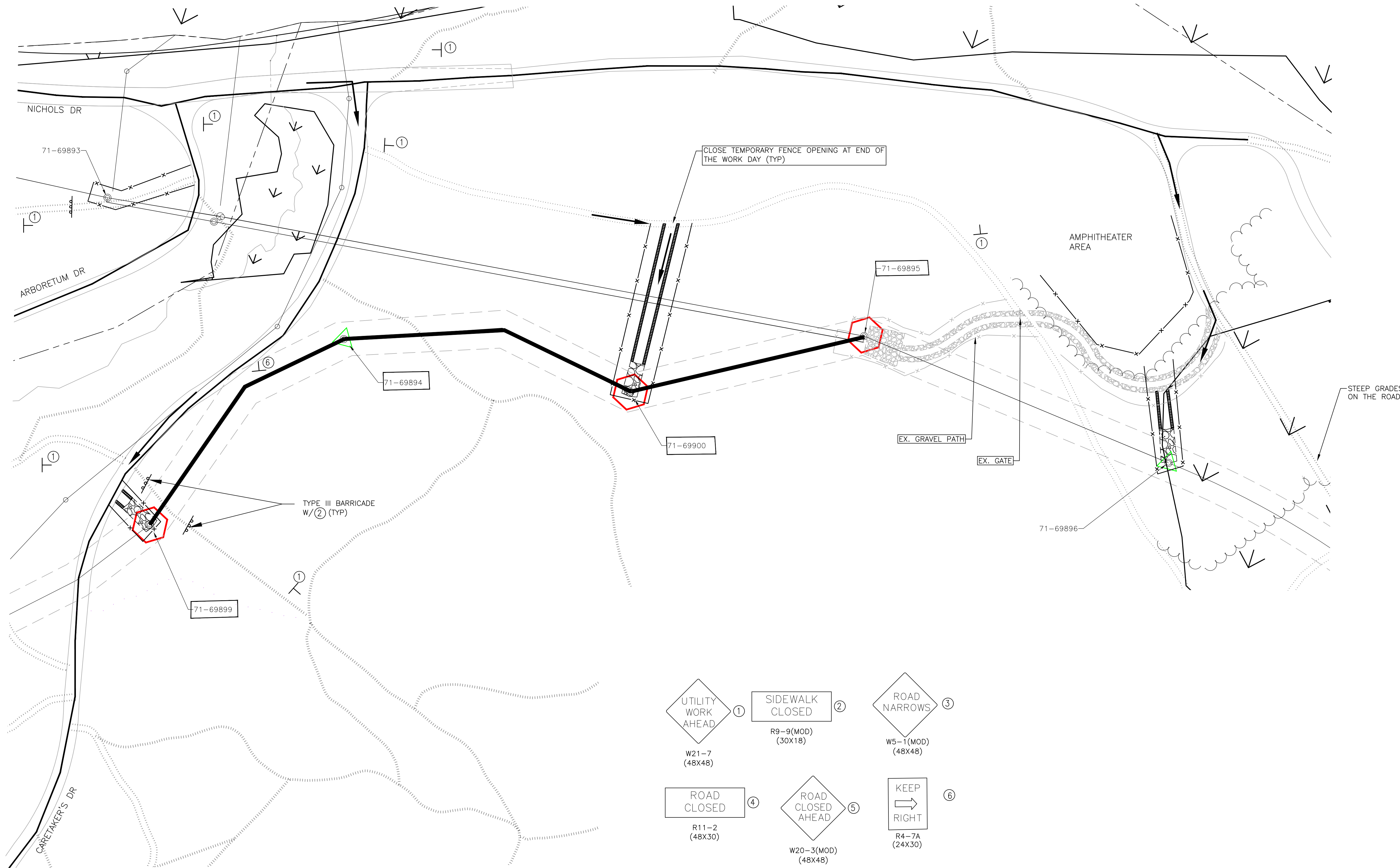
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SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
SEGMENT 4(2)- 5(2)-6(1)-MAINTENANCE OF TRAFFIC

SCALE PLAN:
DRAWING No. **2017-037- C23**

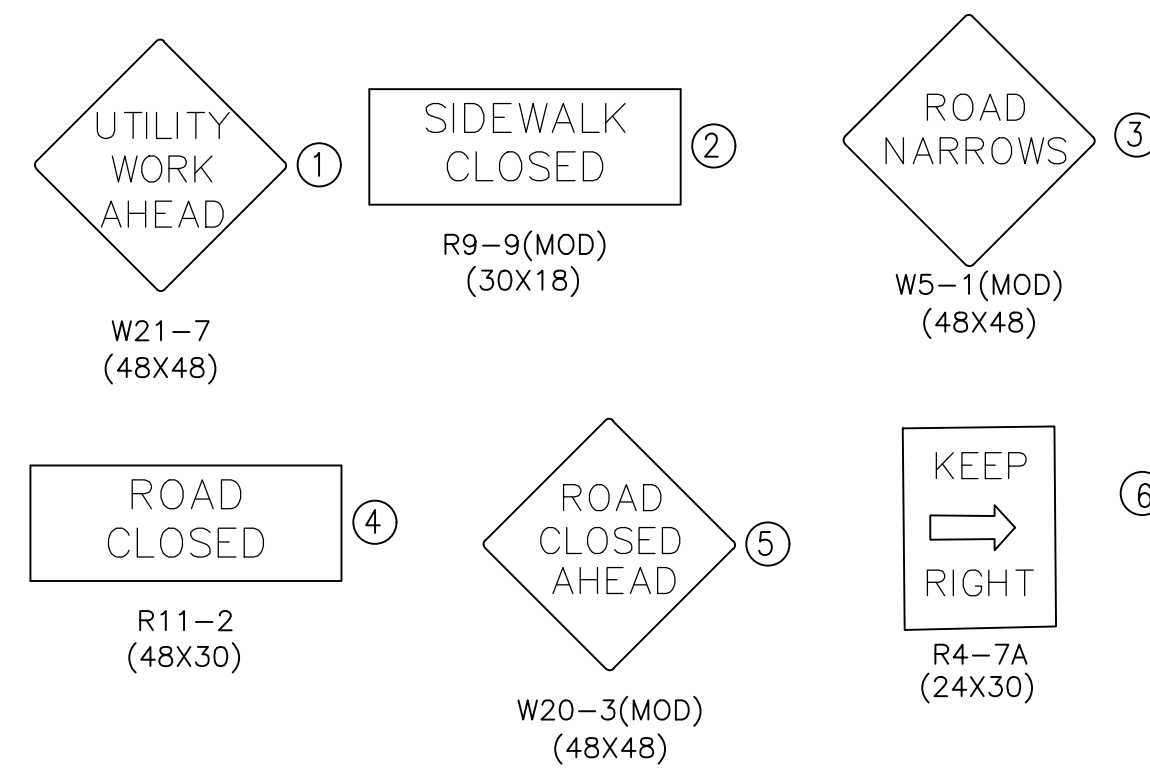
SHEET No. **C-23**

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**SEGMENT 6, PART 2
MAINTENANCE OF TRAFFIC PLAN**

SCALE: 1" = 40'
0 20 40 80



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	ISSUED FOR BID	05-22-2020		

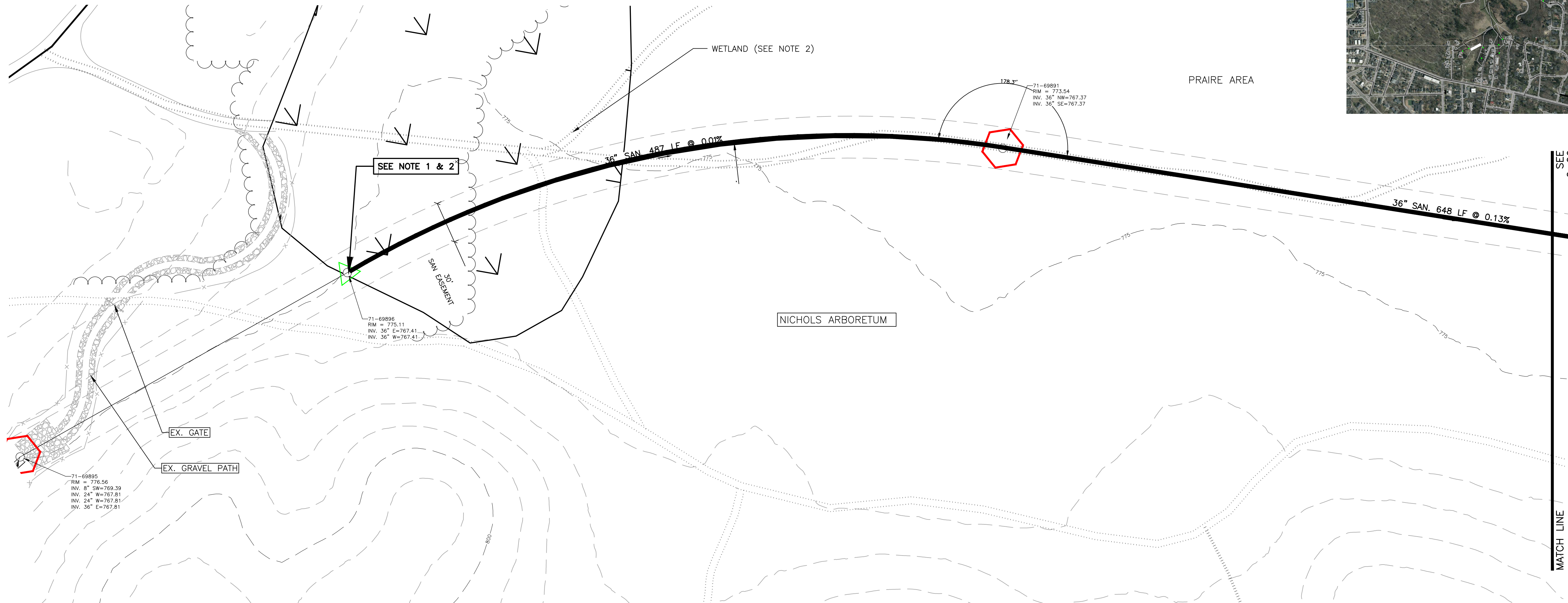
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SEGMENT 6(2)-MAINTENANCE OF TRAFFIC**

SCALE PLAN:
DRAWING No.
2017-037- C24

SHEET No.
C-24



KEY PLAN
NO SCALE

SEGMENT 7-PLAN VIEW



SCALE: 1" = 40'
0 20 40 80

NOTES

1. WETLANDS:
 - 1.1. WETLANDS ARE TO BE PRESERVED IN ACCORDANCE WITH THE SPECIFICATIONS AND WETLAND PROTECTION DETAILS. ALL CONSTRUCTION ACTIVITY SHALL BE PERFORMED TO AVOID IMPACTING THESE WETLANDS UNLESS OTHERWISE SHOWN ON THE PLANS.
 - 1.2. CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PRESERVE ALL WETLANDS.
2. THE EXACT BOUNDARY LOCATION OF THE WETLANDS HAS NOT BEEN VERIFIED. CONTRACTOR SHALL NOT DISTURB THE AREA AROUND MH BEYOND OPENING AND ACCESSING THE MH. THE CONTRACTOR MAY, AT HIS OWN EXPENSE, PERFORM A WETLAND DELINEATION. NO EXCAVATION SHALL BE PERMITTED IN THIS AREA WITHOUT A DELINEATION BEING PERFORMED TO VERIFY THAT WETLANDS WILL NOT BE IMPACTED. SEE SPECIFICATIONS FOR DETAILS.



71-69895
• RIM: 776.56
• INVERT ELE: 769.39
• PHOTO LOOKING EAST



71-69896
• RIM: 775.11
• INVERT ELE: 767.41
• SEE NOTE 1
• PHOTO LOOKING SOUTH



71-69891
• RIM: 772.52
• INVERT ELE: 767.37
• PHOTO LOOKING WEST

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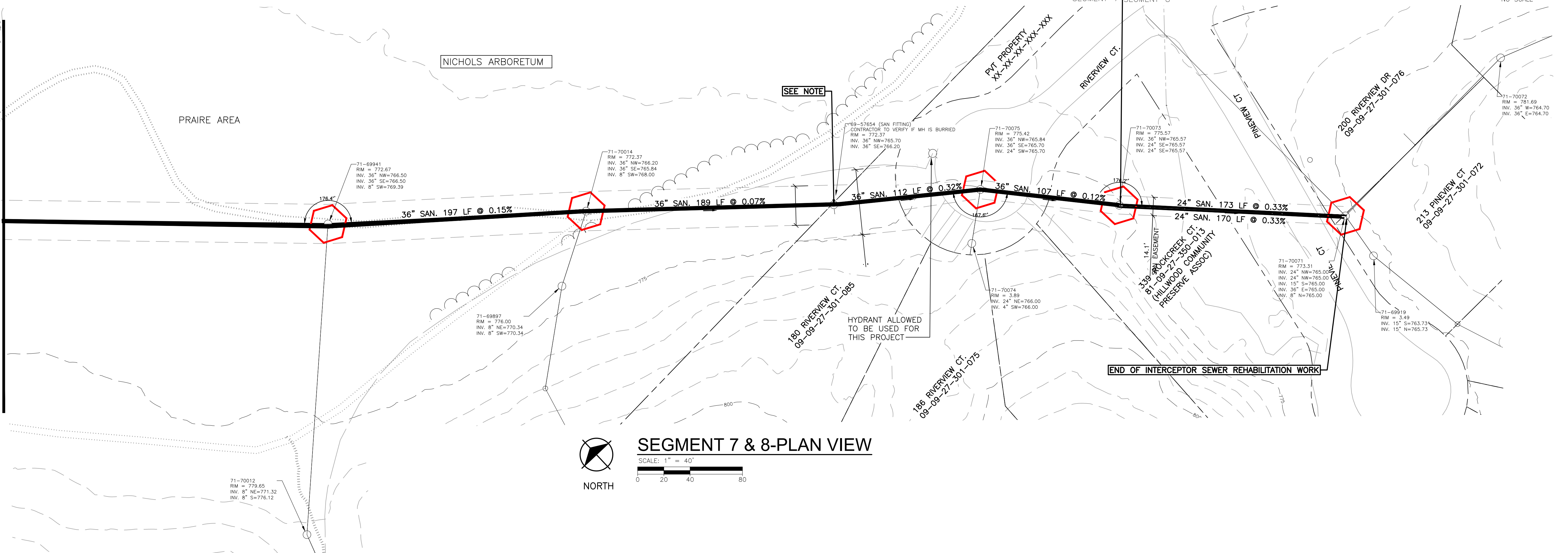
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SEGMENT 7-PLAN VIEW

DRAWING No.
2017-037- C15

SHEET No.
C-25

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SEE C-25
MATCH LINE



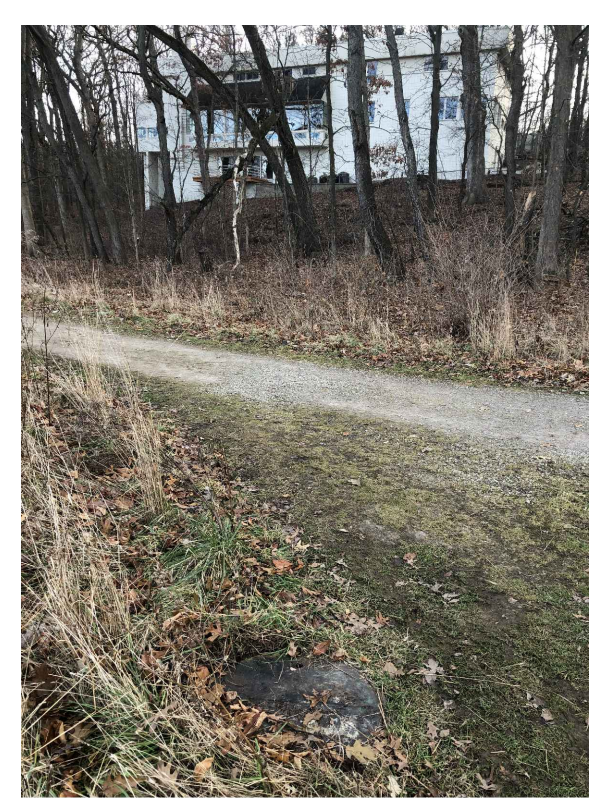
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SEGMENT 7 & 8-PLAN VIEW
SCALE: 1" = 40'
0 20 40 80



71-69941
• RIM: 771.86
• INVERT ELE: 766.50
• PHOTO LOOKING NORTHWEST



71-70014
• RIM: 771.50
• INVERT ELE: 766.20
• PHOTO LOOKING SOUTH



71-70075
• RIM: 775.42
• INVERT ELE: 765.70
• PHOTO LOOKING WEST



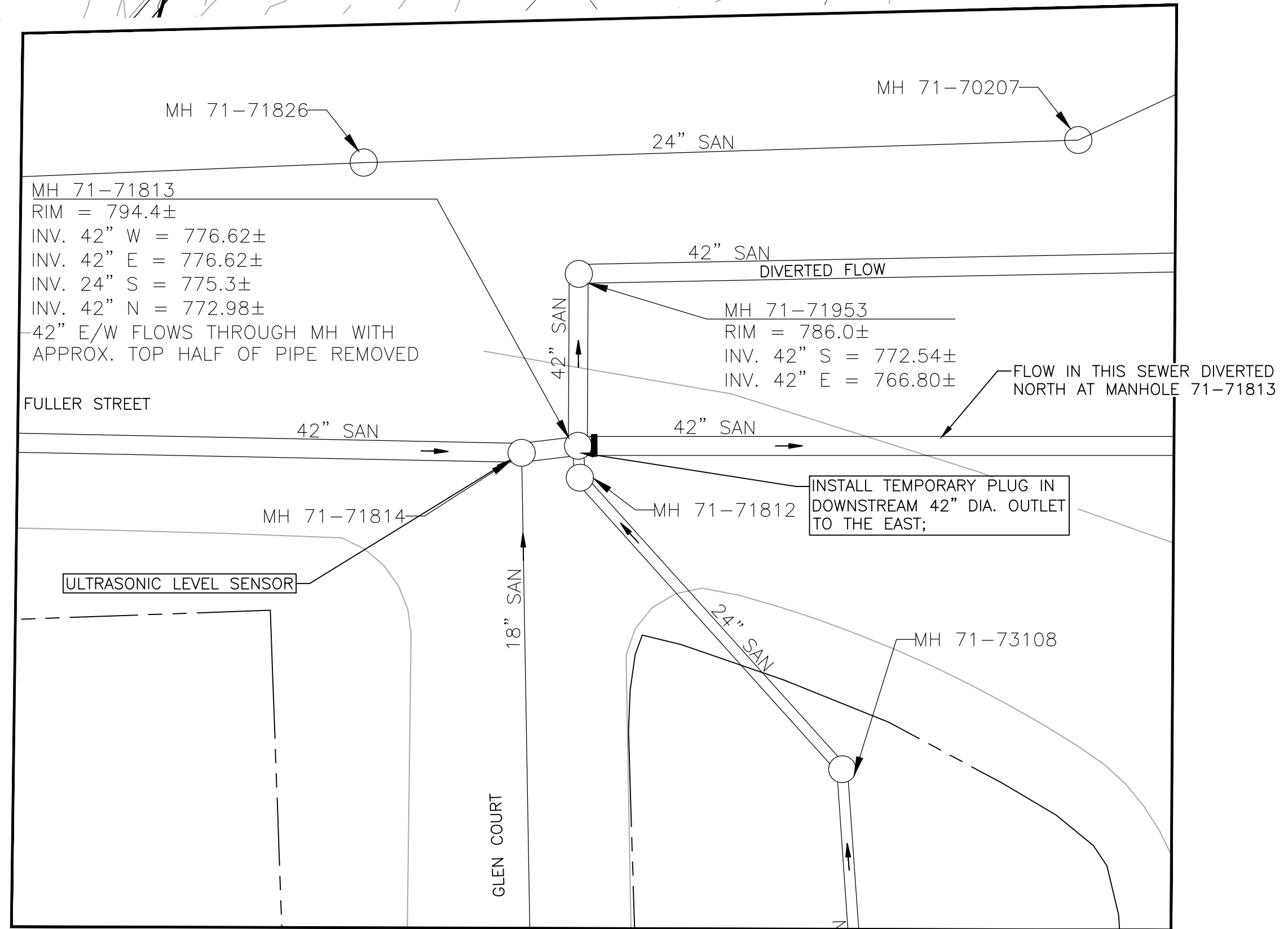
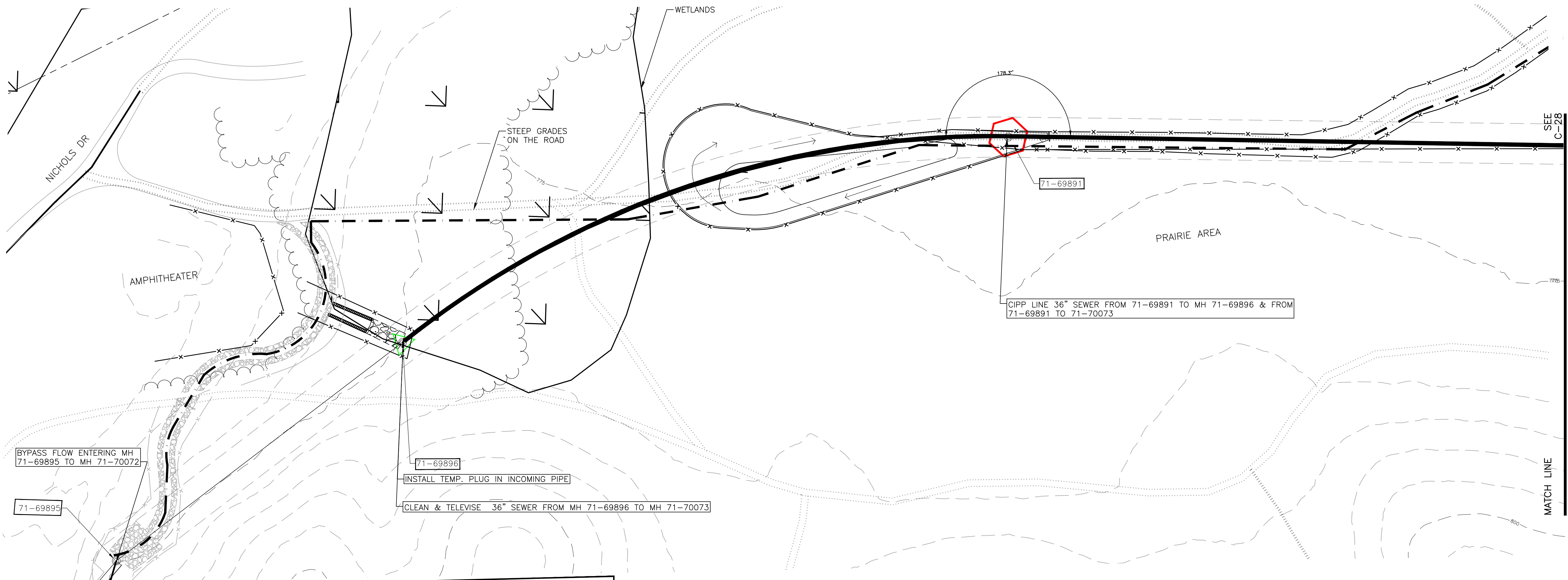
71-70073
• RIM: 775.57
• INVERT ELE: 765.57
• CASTING NEEDS REPLACEMENT
• PHOTO LOOKING SOUTH



71-70071
• RIM: 773.31
• INVERT ELE: 764.95
• PHOTO LOOKING NORTHEAST

NOTES
1. RECORD DRAWINGS INDICATE BURIED FITTINGS AT THE INDICATED LOCATIONS. AFTER CLEANING & TELEVISIONING THE SEWERS THE CONTRACTOR SHALL REVIEW VIDEO FOOTAGE TO DETERMINE IF THE SEWER CAN BE LINED THROUGH THE FITTING. REPORT FINDINGS TO OWNER.

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FLOW DIVERSION PLAN FOR SEGMENT 7 & 8
NO SCALE

SEGMENT 7
CIPP LINING & BYPASS PUMPING PLAN

SCALE: 1" = 40'

0 20 40 80

NORTH

- NOTES**
- CONTRACTOR SHALL ESTABLISH THE INTERCEPTOR BY-PASS PRIOR TO BEGINNING WORK ON SEGMENTS 7 & 8. CONTRACTOR SHALL NOT BE PERMITTED TO ATTEMPT TO BYPASS PUMP ALL INTERCEPTOR FLOWS.
 - SHOULD THE CONTRACTOR NEED TO REMOVE THE EXISTING CASTINGS AND/OR RISER SECTIONS TO LINE THE 36-INCH INTERCEPTOR THEN SILT FENCE SHALL BE INSTALLED PER THE DETAIL ON SHEET C-30. CASTINGS SHALL BE NEENAH FOUNDRY R-1642, TYPE C COVER (380 POUNDS) OR EJ IRON WORKS 1040, TYPE A COVER (400 POUNDS) OR SIMILAR APPROVED BY THE ENGINEER.

* SEE SHEET C-29 FOR MOT PLAN.

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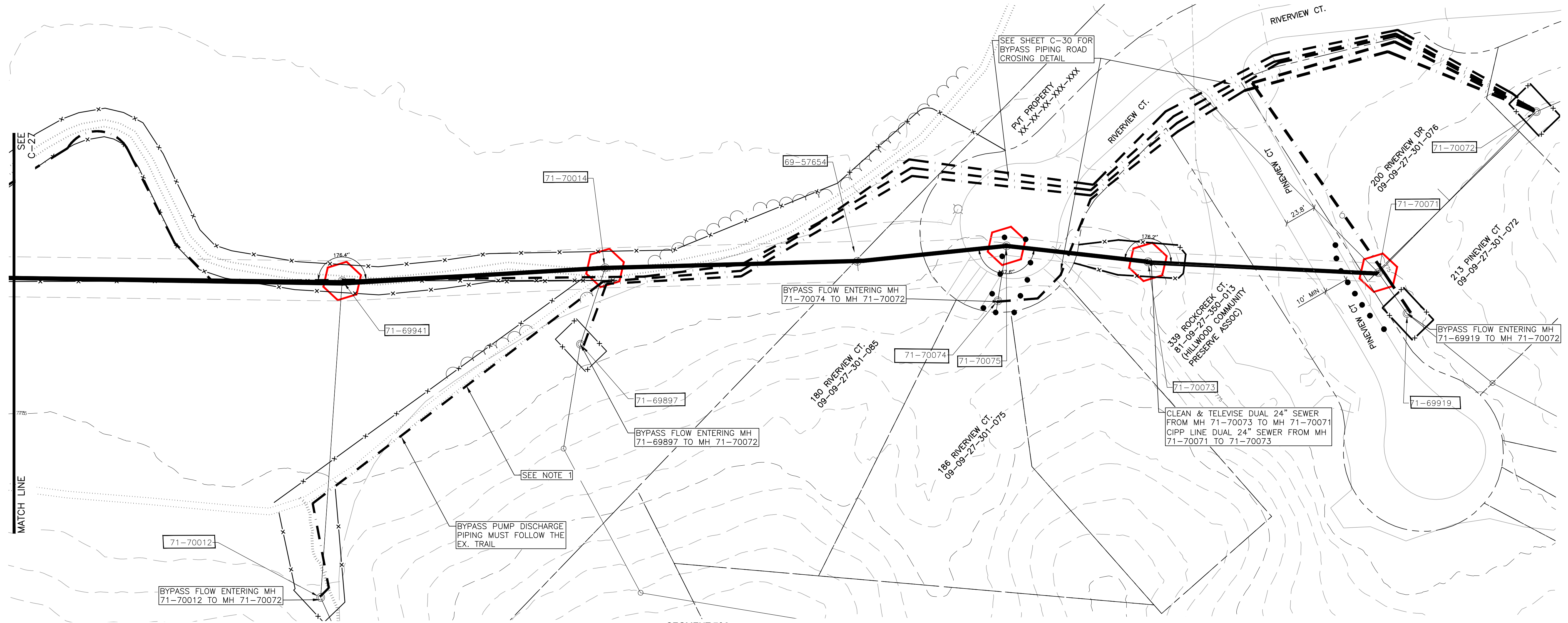
SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V

SEGMENT 7-BYPASS PUMPING PLAN

SCALE PLAN:
DRAWING No.
2017-037- C27

SHEET No.
C-27

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SEGMENT 7&8
CIPP LINING & BYPASS PUMPING PLAN
 SCALE: 1" = 40'
 0 20 40 100
 NORTH

NOTES

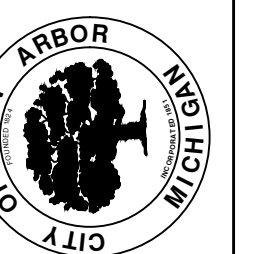
1. ALL BYPASS PIPING PLACED PARALLEL TO ANY TRAIL SHALL BE INSTALLED PER THE DETAIL ON SHEET C-30.

* SEE SHEET C-29 FOR MOT PLAN.



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
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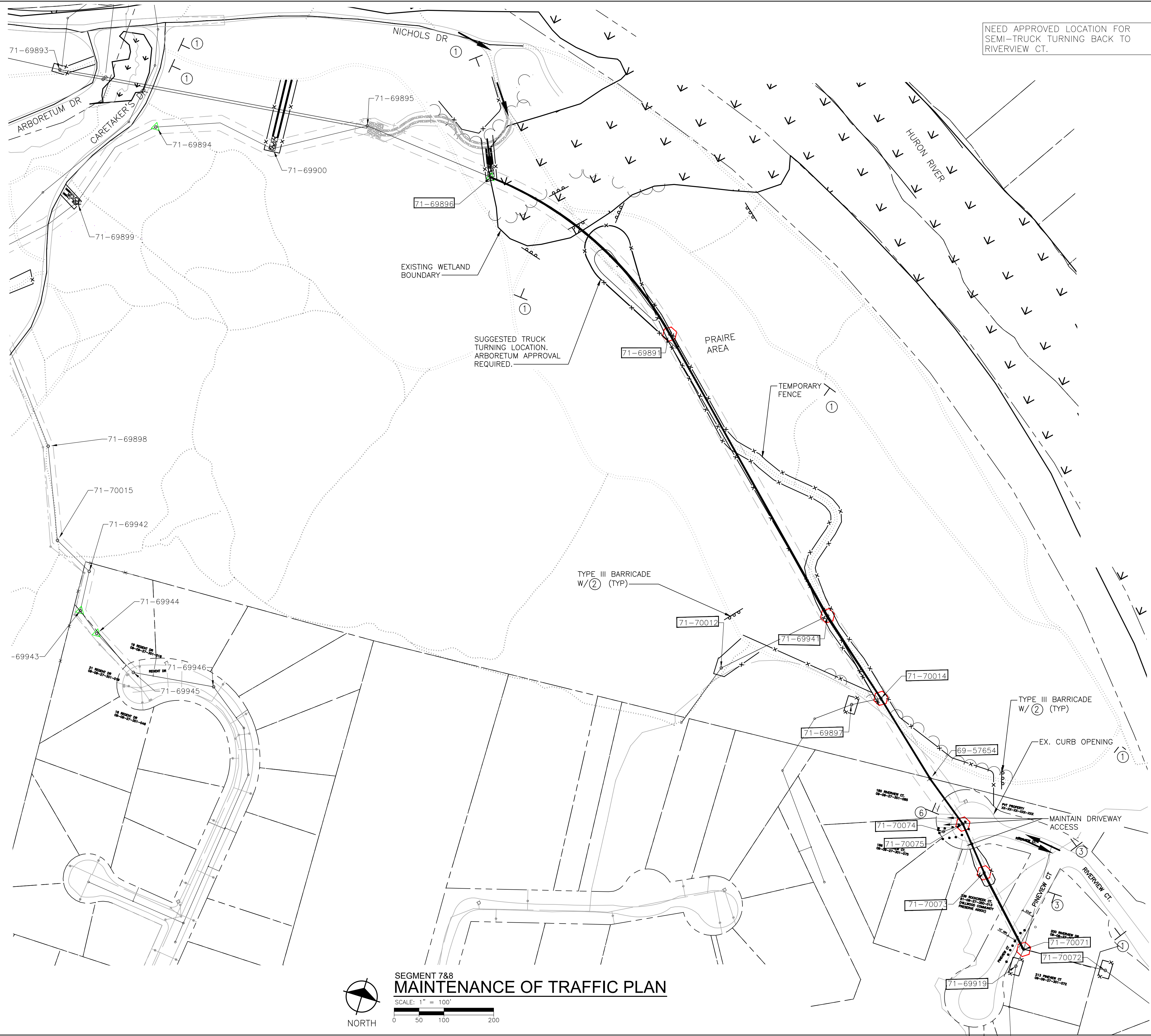
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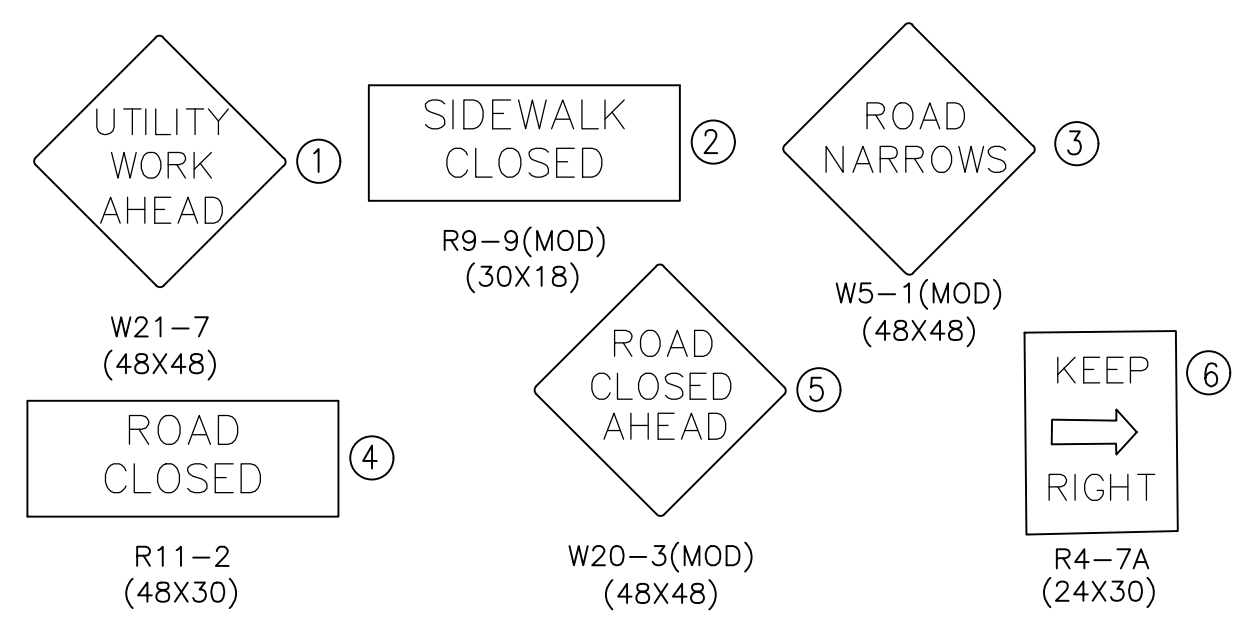
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 SOUTHSIDE INTERCEPTOR SEWER LINING-PHASE V
 SEGMENT 7 & 8-BYPASS PUMPING PLAN

SCALE PLAN:
 DRAWING No. **2017-037- C28**

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**SEGMENT 7&8
MAINTENANCE OF TRAFFIC PLAN**
SCALE: 1" = 100'
0 50 100 200



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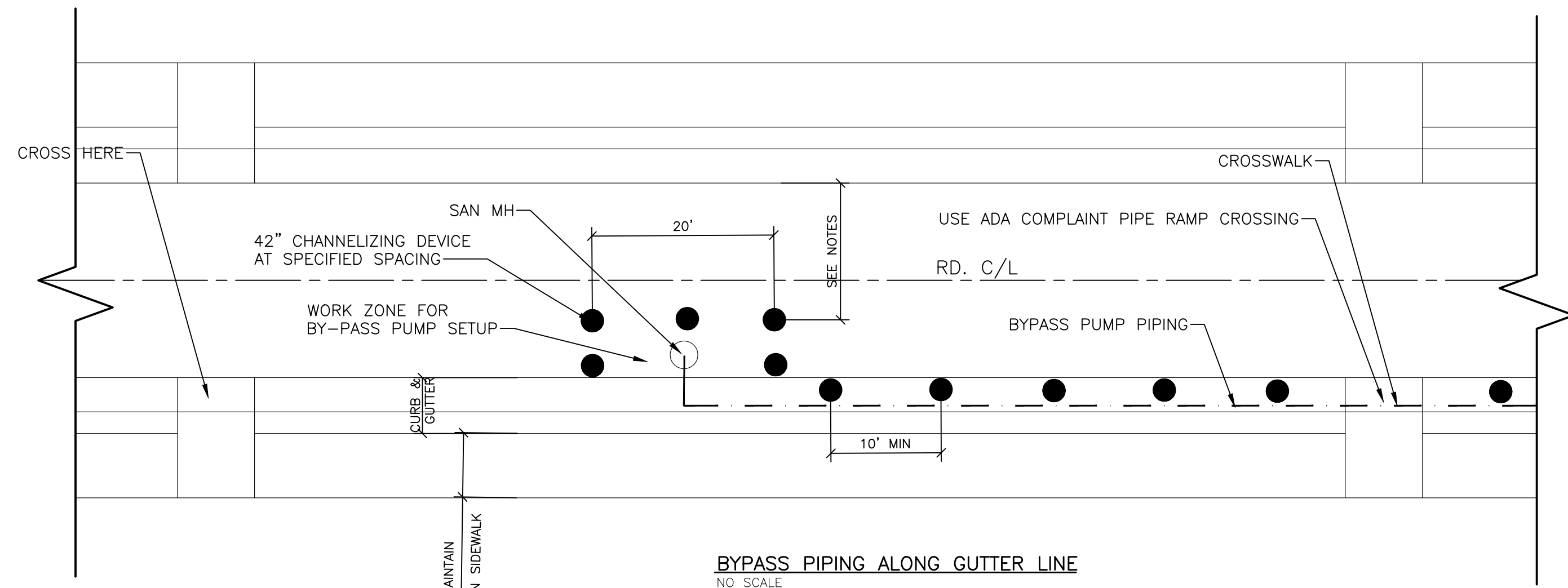
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SEGMENT 7 & 8-MAINTENANCE OF TRAFFIC

SCALE PLAN:
DRAWING No.
2017-037- C29

SHEET No.
C-29

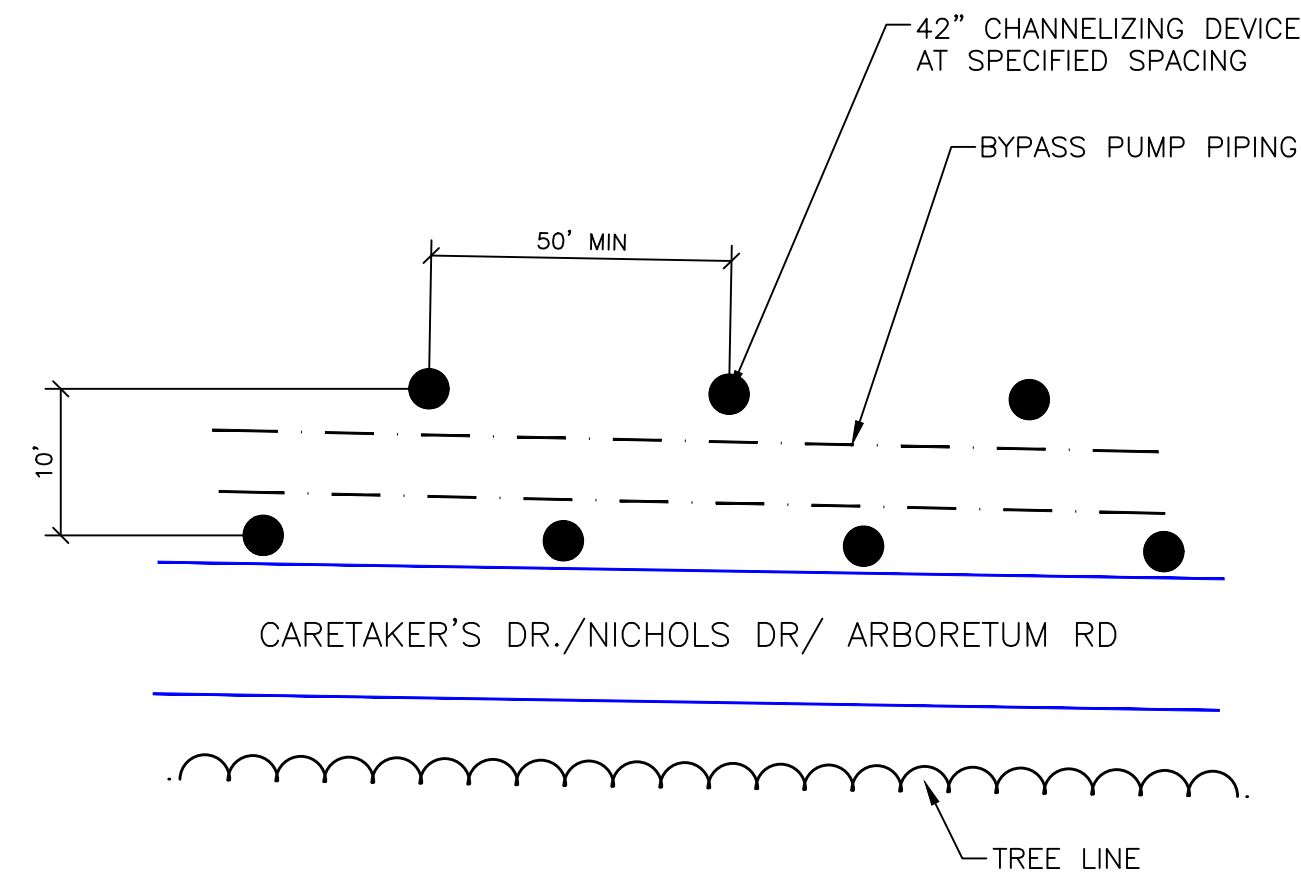
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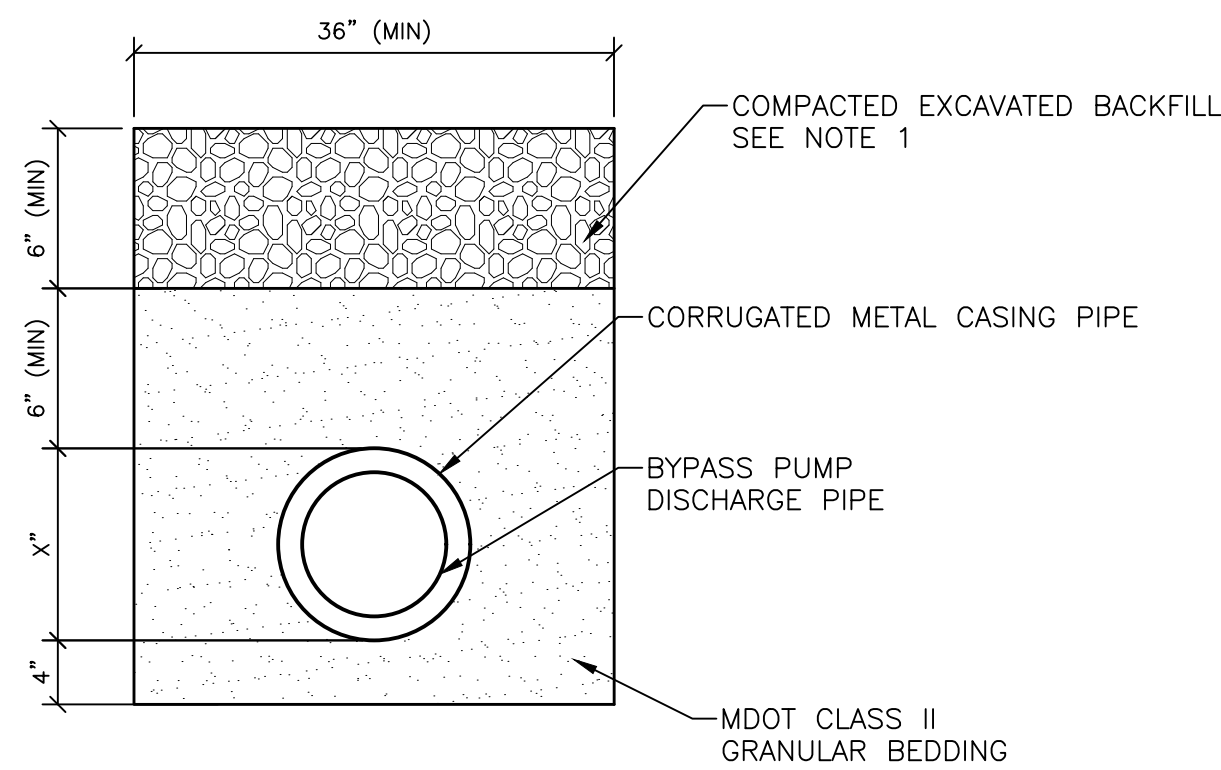
BYPASS PIPING ALONG GUTTER LINE
NO SCALE

NOTES:

- WASHINGTON HEIGHTS IS A ON-WAY STREET. CONTRACTOR SHALL MAINTAIN ONE 12-FOOT WIDE LANE ON WASHINGTON HEIGHTS.
- ALL RESIDENTIAL STREETS ON THIS PROJECT (LIST) ARE NARROW, TWO-WAY STREETS. CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC WITH A MINIMUM 10-FOOT LANE AND FLAGGERS AS REQUIRED OR DIRECTED BY THE ENGINEER.



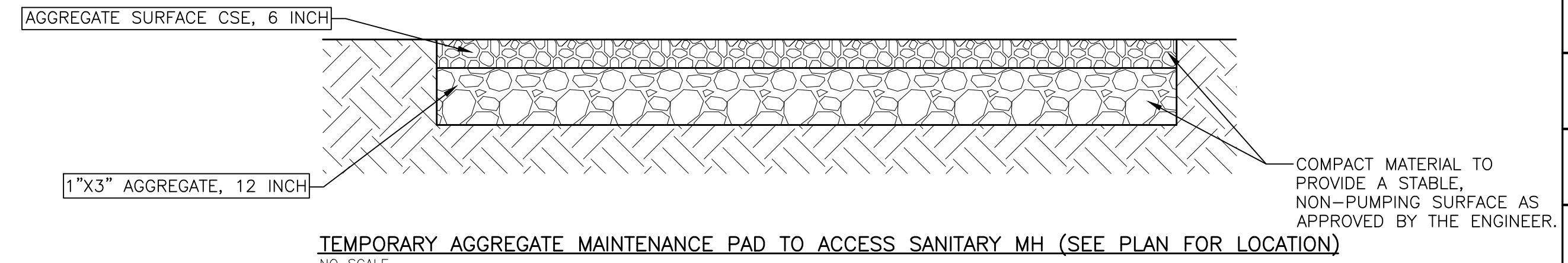
WORKZONE ALONG ARBORETUM ROADS
NO SCALE



LATERAL BYPASS PUMP DISCHARGE PIPE TEMPORARY TRENCH DETAIL
NO SCALE

NOTES:

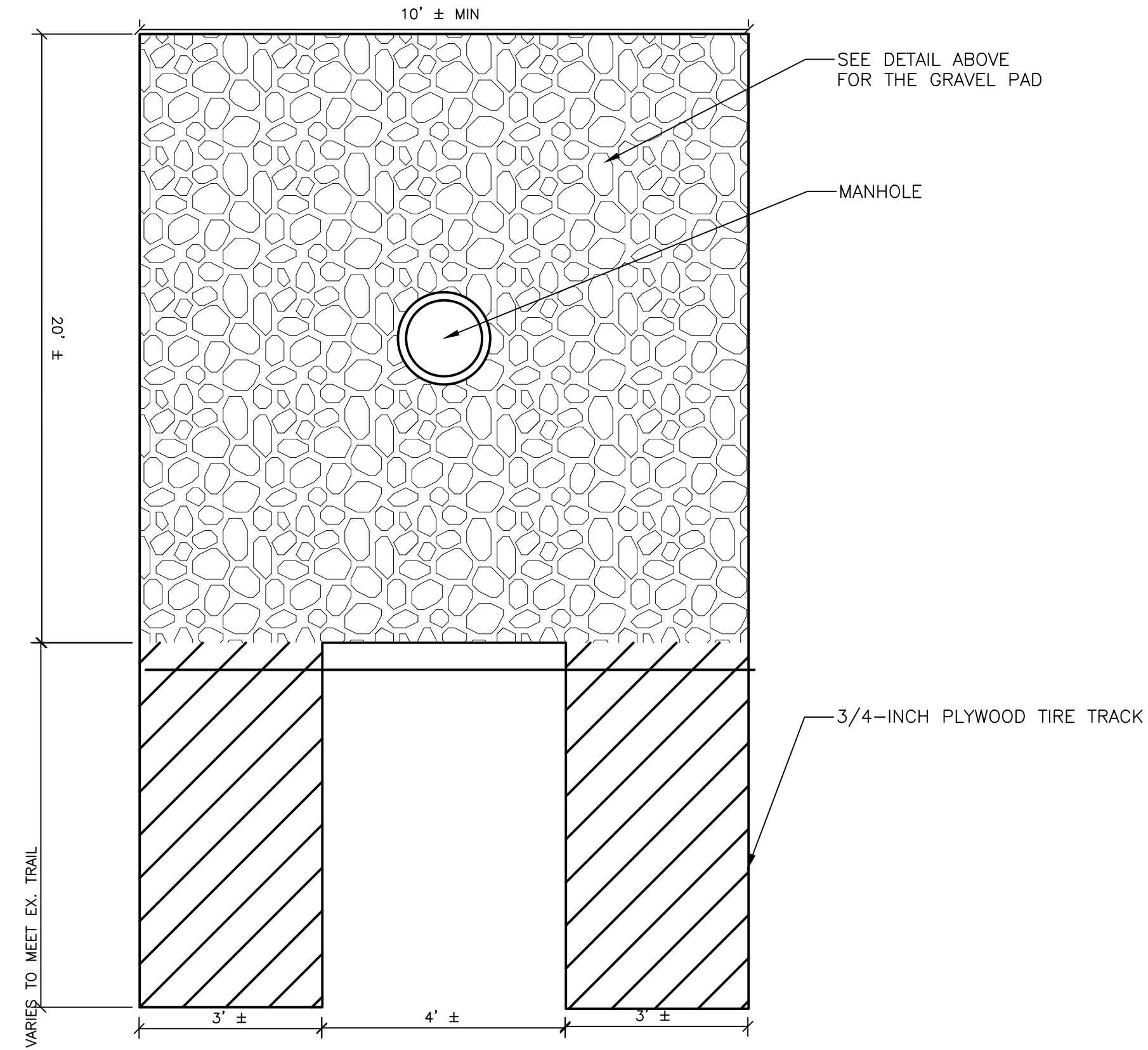
- THE LATERAL BYPASS PUMP DISCHARGE PIPE SHALL BE INSTALLED IN A TRENCH IN THE FOLLOWING LOCATIONS:
 - WHEN PIPE IS WITHIN NICHOLS DRIVE TO AVOID WETLANDS.
 - WHEN PIPE PASSES THROUGH STAGING AREA/WORK ZONE.
 - WHEN PIPE CROSSES DRIVE/ROAD OR TRAIL.
 - AS DIRECTED BY ENGINEER.
- BACKFILL TRENCH WITH NATIVE, OR OTHERWISE SUITABLE MATERIAL (MDOT CLASS II GRANULAR MATERIAL). UPON REMOVAL OF BYPASS PUMP DISCHARGE PIPE, BACKFILL MATERIAL SHALL BE EXCLUSIVE OF GRAY/BLUE CLAY, PEAT, ORGANIC MATTER OR FROZEN LUMPS, AND SHALL CONTAIN NO ROCKS OR LUMP OVER 3".
- REPAIR NICHOLS DRIVE PER AGGREGATE DRIVE DETAIL ON SHEET 18.
- PROVIDE SPACERS AS REQUIRED IN INTERSTITIAL SPACE BETWEEN PIPES.
- CASING PIPE SHALL BE LARGE ENOUGH TO ACCOMMODATE SIZE OF SPACERS AND CARRY BYPASS PUMP DISCHARGE PIPE.
- PLACE MATERIAL IN ACCORDANCE WITH MDOT 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION. MATERIALS SHALL BE COMPACTED TO A MINIMUM OF 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO T-180 PROCTOR.



TEMPORARY AGGREGATE MAINTENANCE PAD TO ACCESS SANITARY MH (SEE PLAN FOR LOCATION)
NO SCALE

NOTES:

- EXISTING TOP SOIL MUST BE REMOVED AND STORED ON SITE.
- CONSTRUCT AGGREGATE PAD (APPROXIMATELY 10'X20') AT SHOWN LOCATION IN PLANS.
- PROPOSED PATH SHALL FOLLOW EXISTING GRADES AS CLOSE AS FEASIBLE TO PROVIDE STABLE ALL-SEASON ACCESS. FINAL GRADE OF THE PATH SHALL BE APPROVED BY THE UNIVERSITY OF MICHIGAN ARBORETUM DIRECTOR AND THE ENGINEER.
- FOR PATH THROUGH AMPHITHEATER AREA, PLACE LAYER OF TOPSOIL PROVIDED BY ARBORETUM OVER MAINTENANCE PATH AND SEED MIXTURE PROVIDED BY ARBORETUM IN ACCORDANCE WITH THE MDOT 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- EARTHWORK REQUIRED TO CONSTRUCT THE AGGREGATE ACCESS PATHS AND MAINTENANCE PAD, INCLUDING REMOVAL, EXCAVATION, EMBANKMENT, GRADING AND SOIL COMPACTION, SHALL BE INCLUDED IN THE ITEM OF WORK "AGGREGATE MAINTENANCE PAD MH XX-XXXX".
- AGGREGATES MUST BE COMPLETELY REMOVED BY THE CONTRACTOR AND EXISTING SOIL STORED ON SITE MUST BE SPREAD BACK IN THE AREA.
- TEMPORARY ACCESS PADS TO BE CONSTRUCTED WITHIN THE LIMITS OF THE AREA CLEARED BY THE ARBORETUM STAFF. THE CONTRACTOR IS PROHIBITED FROM CLEARING ADDITIONAL AREA. SHOULD THE CONTRACTOR REQUIRE ADDITIONAL AREA, CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING.



TEMPORARY AGGREGATE MAINTENANCE PAD WITH WOODEN TIRE TRACKS
NO SCALE
PLAN VIEW



BYPASS PIPING LOAD RATED WATER CROSSING RAMPS
NO SCALE

NOTES:

- USE AT ALL THE DRIVEWAYS, ROAD CROSSINGS & AS DIRECTED BY THE ENGINEER.
- INSTALLATION, MAINTENANCE AND REMOVAL COSTS OF BYPASS PIPING CROSSING RAMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR SEWER FLOW CONTROL FOR EACH RESPECTIVE SEGMENT.

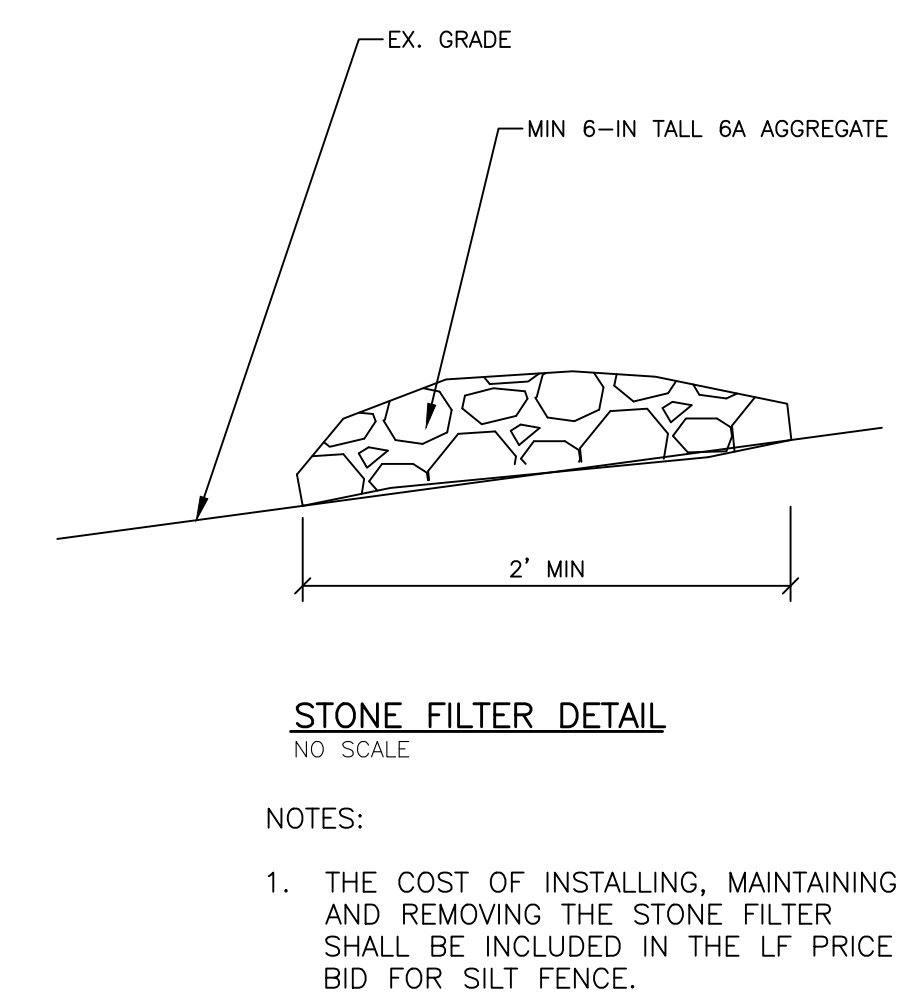
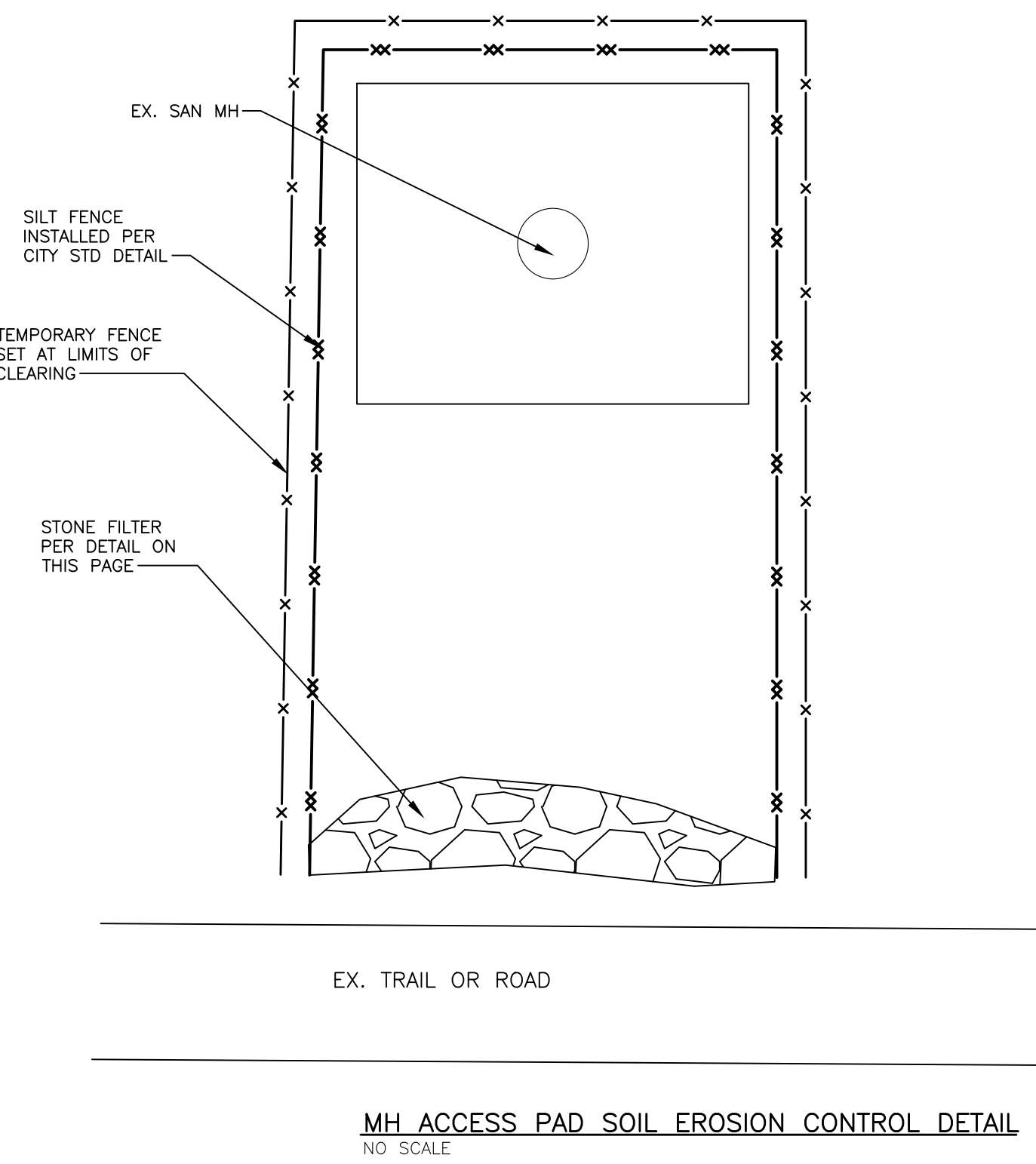
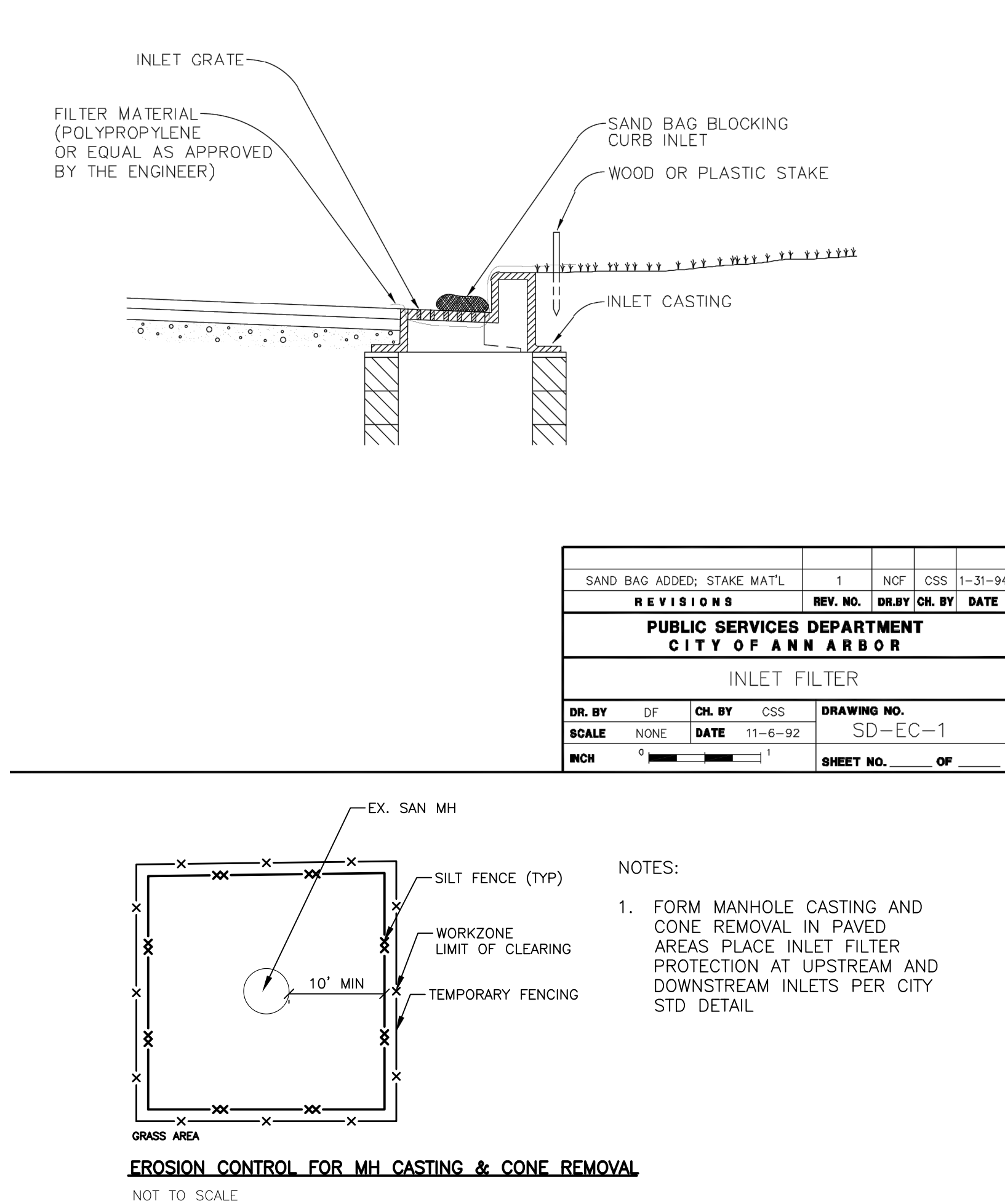
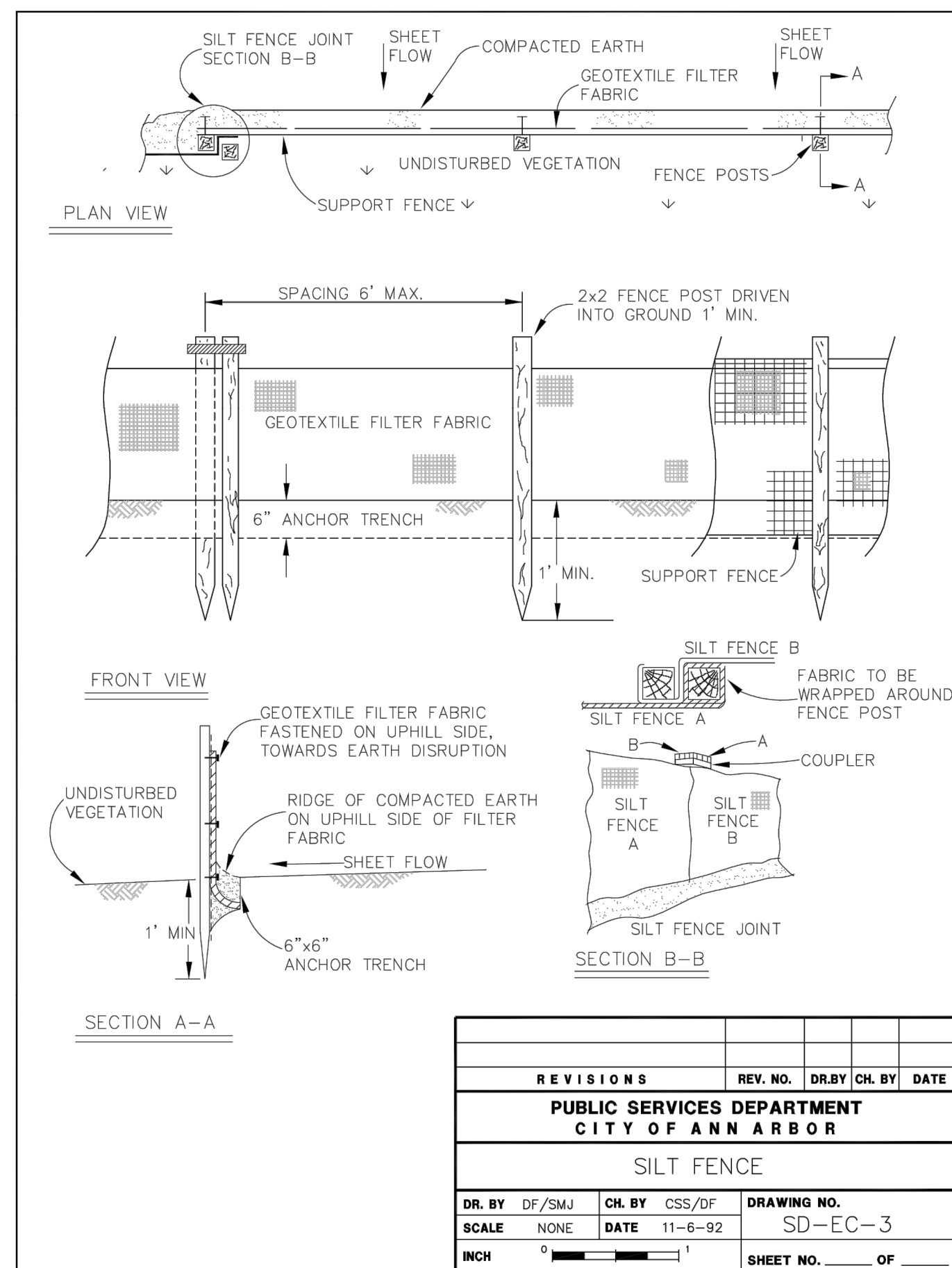
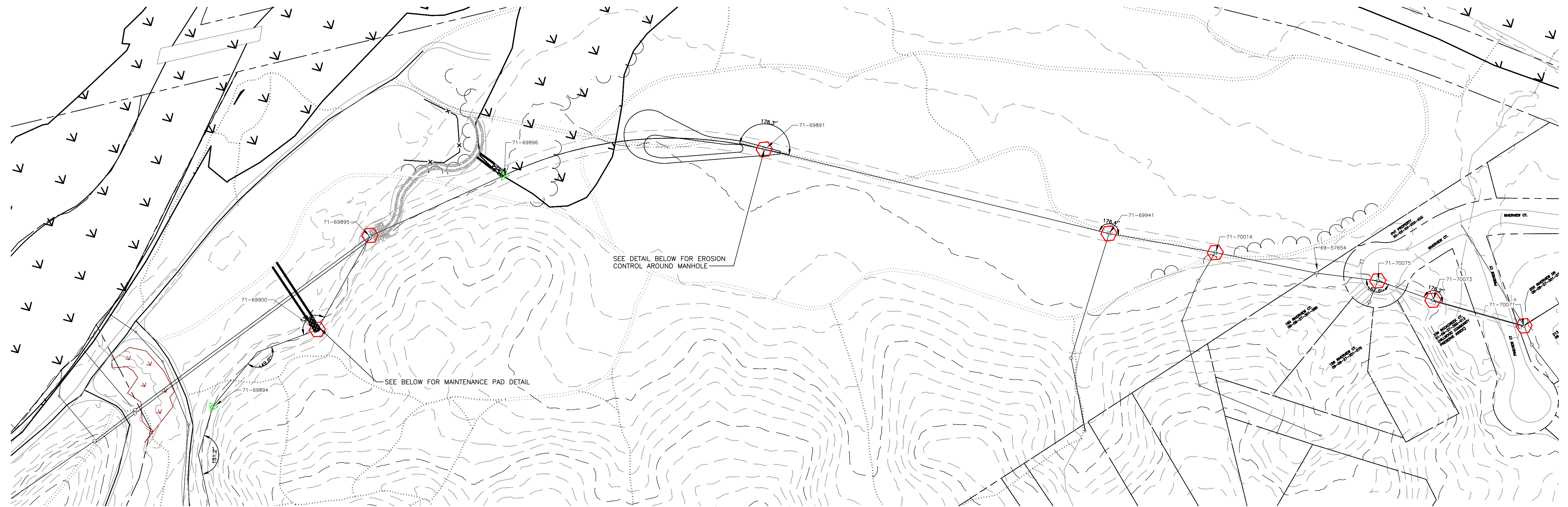
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 MISC. DETAILS

SCALE PLAN:
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