

Wisconsin Department of Natural Resources
Bureau of Watershed Management (WT/3)
101 S. Webster Street
PO Box 7921
Madison, WI 53707-7921
dnr.wi.gov

Final Report

Urban Nonpoint Source & Storm Water Construction & Targeted Runoff Management Small-scale Urban TMDL Grant Program

Form 3400-189U (R 11/18)

Page 1 of 2

NOTICE: This document is required under s. 281.65 & s. 281.66, Wis. Stats., and chs. NR 153, 154, and 155, Wis. Adm. Code. A final project report must be submitted as part of the final reimbursement request. Personally identifiable information contained in this form will be used for determining reimbursement eligibility in the Urban Nonpoint Source & Storm Water and Targeted Runoff Management Grant Programs and will not be used for any other purpose.

INSTRUCTIONS: Send the completed, electronic copy of this form and all attachments to the Department of Natural Resources (DNR) Region Nonpoint Source Coordinator. Please read all instructions prior to completion.

Grant Type

☒ Urban Nonpoint Source Construction ☐ TRM Small-scale Urban TMDL

Grant Information

Grantee - Governmental Unit Name		Grant Number
City of Appleton		USC45201Y19
Project Name		
Leona Street Stormwater Management Pond		
Project Contact Name	Phone Number	E-mail Address
Pete Neuberger	(920) 832-6477	peter.neuberger@appleton.org

Site 1 - Location & Watershed Information

Additional sites may be added to the project by clicking on the [+Loc] button

Site Name		Latitude	Longitude
Leona Street Stormwater Management Pond		44.28	-88.37
County	12-Digit HUC	12-Digit Watershed Name	
Outagamie	040302040205	Garners Creek-Fox River	
Nearest Receiving Waterbody		Primary Waterbody addressed by project	
Lower Fox River		Lower Fox River	

Site 1 - BMP & Load Reduction Information

Additional BMPs for this site may be added by clicking on the [+] button

Best Management Practice(s) Installed	Surface Area (sq ft) or Length of shoreline (ft)	Drainage Area Served (acres)	Load Reduction Achieved			Total Cost (BMP + Ancillary Activities)
			TSS (% red)	P (lbs/yr)	N (lbs/yr)	
Wet detention basin (1001)		172	78	85		\$1,200,759

Model(s)/Methods Used to Calculate Load Reduction (check all that apply)

☐ STEPL ☒ SLAMM ☐ P8 ☐ NRCS Bank Erosion Formula ☐ Other (specify) _____

Site 1 - Required Attachments:

Additional BMPs for this site may be added by clicking on the [+] button

Required Attachments - Check the boxes below if the required information for the site is attached:

- ☒ Photos of site, pre-and post- BMP implementation. ☒ Load reduction modeling documents.
- ☒ Aerial photo map of site with BMPs labeled. ☒ Operation & maintenance plan for each BMP.
- ☒ Documentation showing that one of the following is true (select the true statement):
- ☒ The application owns the property.
 - ☐ The applicant has control of the property through an easement.
 - ☐ The applicant has control of the property through a construction and maintenance agreement.
- ☐ Water quality monitoring results summary, if applicable.

Site 1 - Information

Additional BMPs for this site may be added by clicking on the [+] button

Narrative space will expand to fit.

The City of Appleton constructed Leona Pond per the DNR-approved plans and specifications. The pond provides a permanent pool of 90,038 square feet with an initial sediment storage depth of 8 feet (10 feet in forebay). Above the permanent pool, the pond also provides 25.4 acre-feet of flood storage to reduce peak flows. In an upland area north of the pond, the City is in the process of constructing an urban reforestation project (not a part of this grant) to improve habitat and recreational value. No problems of note were experienced during construction, other than some minor delays due to very wet weather.

The pond is located within the Downstream Lower Fox River reachshed in the City of Appleton and TMLS have been established for this reachshed. Per the current (2014) Citywide Stormwater Management Plan Update, the reachshed has a

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TSS Load (no controls) of 820 tons/year and a required TMDL reduction of 72.2%. Current best management practices in the reachshed have reduced TSS loads to 580 tons/year, leaving an additional 352 tons/year still needing to be removed to meet the TMDL target load. The reachshed has a TP Load (no controls) of 5,018 lbs/year and a required TMDL reduction of 40.5%. Current best management practices in the reachshed have reduced TP loads to 4,002 lbs/year, leaving an additional 1,016 lbs/year still needing to be removed.

The Leona Pond Project reduces TSS by about 16.44 tons/year (a 78.82% reduction compared to no controls loads) and TP by 85 lbs/year (a 58.49% reduction compared to no controls). While additional reductions are still needed in the watershed to achieve the TMDL goals, the Leona Pond Project has removed about 5% of the remaining TSS and 8% of the remaining TP needed to reach the reachshed TMDL goals. Additional analysis will be performed in the pending 2020 Citywide SWMP update on how additional reductions may be achieved. These values are based on updated WinSLAMM modeling using record drawings of the constructed facility and are essentially the same TSS and TP reductions as estimated during the design and grant application process.

The estimated construction cost of the facility as submitted with the grant application was \$1,709,592. An estimated 40% of the cost was attributed to water quality related features of the facility or \$683,837. Actual cost of the facility was \$1,200,759. At 40% of the actual cost, the portion attributed to water quality related features of the facility is \$480,303. The requested state share of \$150,000 is about 12.5% of the total cost and about 31% of the estimated cost of water quality related features.

☒ DNR may use this site as a success story to meet state and federal reporting needs.

+ Loc

Additional Project

Narrative space will expand to fit

Grantee Certification

A responsible government official (authorized signatory) must authorize and date the final report form and submit it electronically to the DNR Regional Nonpoint Source Coordinator.

I certify that, to the best of my knowledge, the project is complete and the information contained in this final report and attachments is correct and true.

Name of Authorized Government Official

Paula Vandehey

Title of Authorized Government Official

Director of Public Works

Date

02/11/2020

For DNR Use Only

☐ Received complete reports with all attachments ☐ Practices implemented were consistent with the grant agreement

Comments about this project:

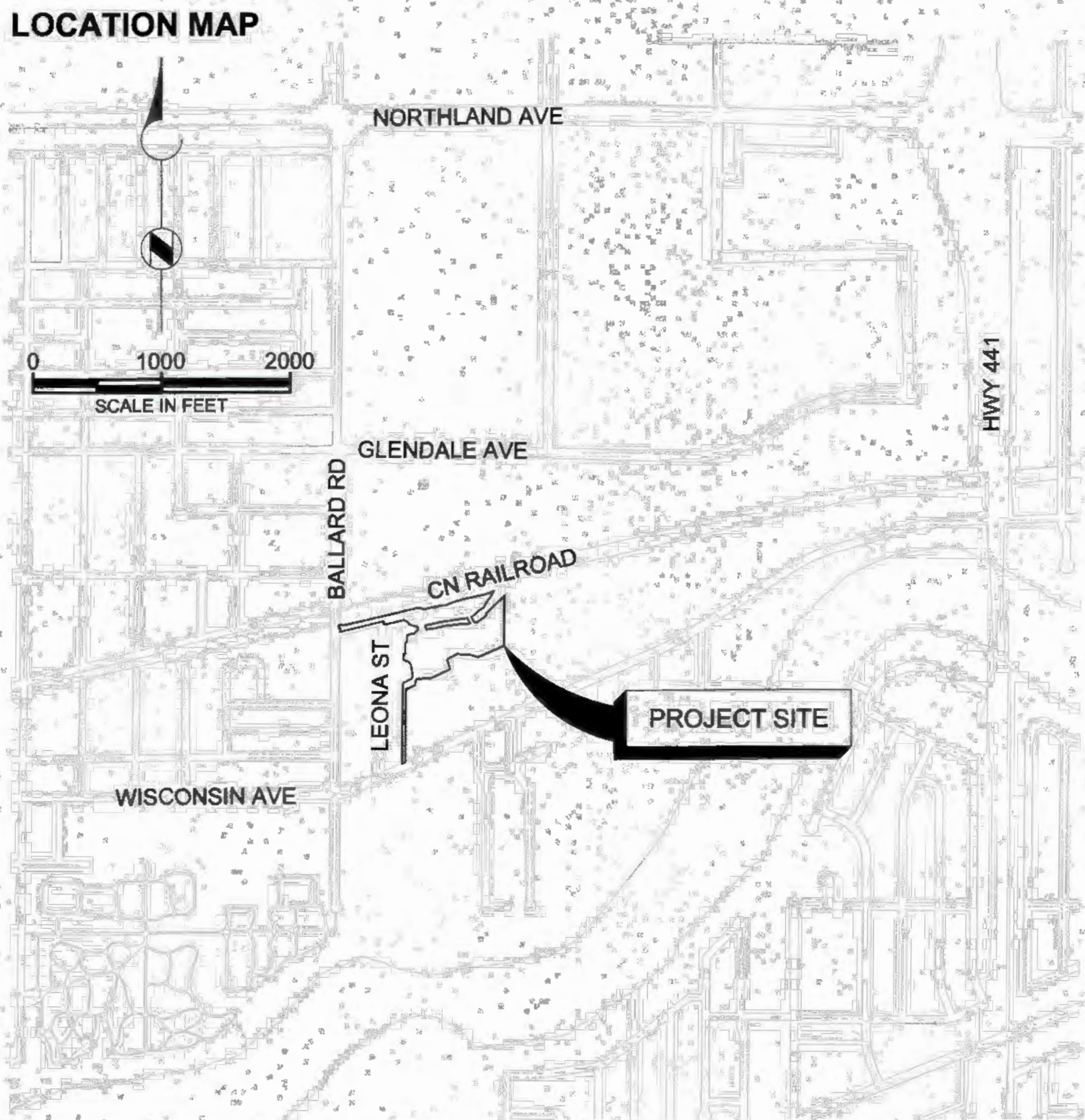
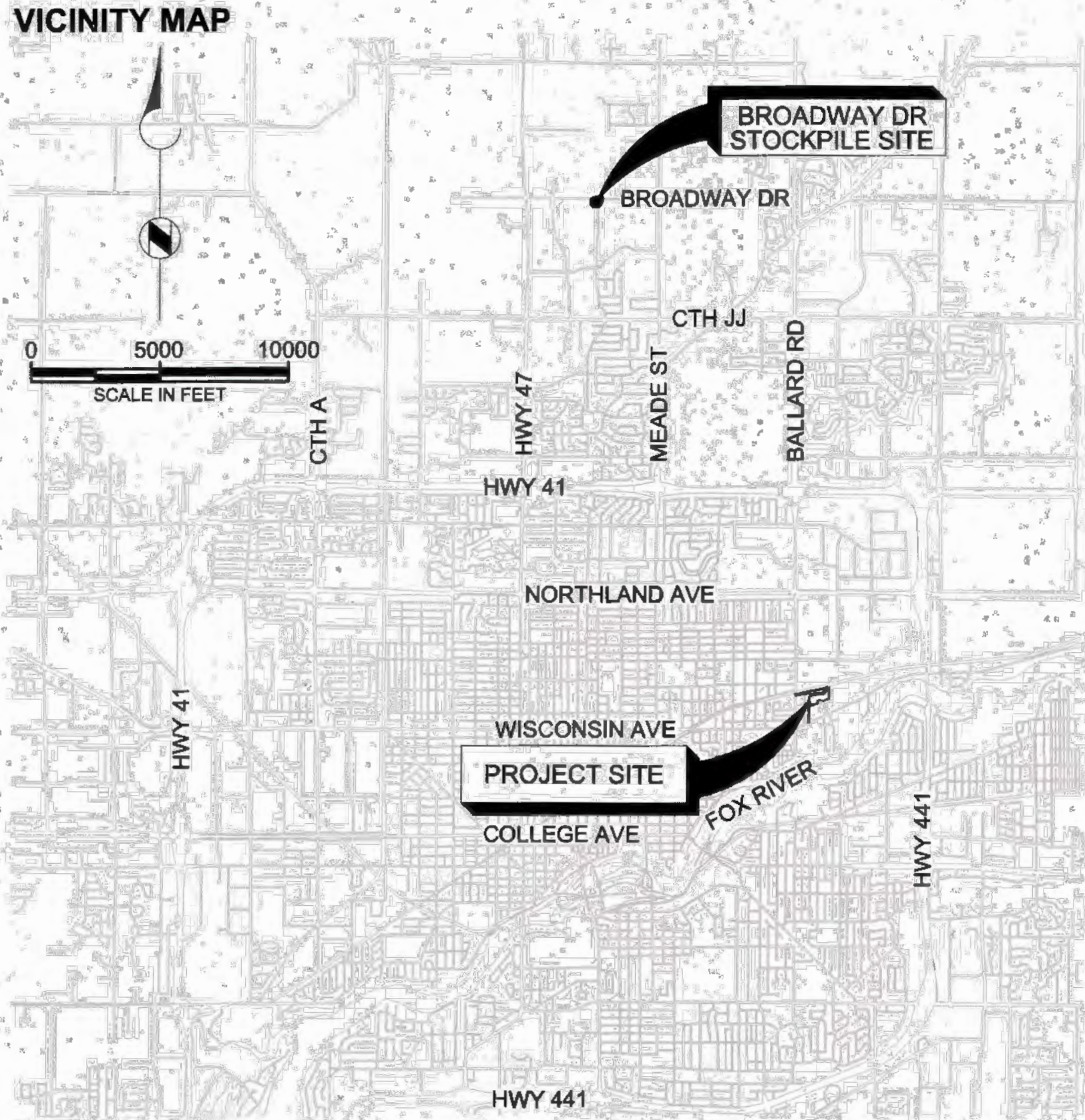
Name of Region Nonpoint Source Coordinator

Date

Send the Final Report and attachments to the Community Financial Assistance Grants Manager and to the Runoff Management Grant Coordinator. Keep a printed copy for the Region file.

LEONA STREET
STORMWATER POND
CITY OF APPLETON, WI
UNIT G-19
DECEMBER, 2018

RECORD DRAWING
WITH AS-BUILT ANNOTATIONS
APPROVED: P. NEUBERGER 12/31/2019
UNIT G-19 / MCC, INC.



INDEX OF DRAWINGS

SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE
1	-	COVER SHEET
2	G-1	SYMBOLS, ABBREVIATIONS, & GENERAL NOTES
3	G-2	PROJECT LAYOUT
4	C-1	POND EXISTING CONDITIONS & DEMOLITION
5	C-2	RICHARD ST EXISTING CONDITIONS, DEMOLITION, & EROSION CONTROL
6	C-3	WISCONSIN AVE ACCESS EXISTING CONDITIONS, DEMOLITION, & EROSION CONTROL
7	C-4	POND EROSION CONTROL
8	C-5	WISCONSIN AVE TEMPORARY ACCESS ROAD PLAN & PROFILE - SOUTH
9	C-6	WISCONSIN AVE TEMPORARY ACCESS ROAD PLAN & PROFILE - NORTH
10	C-7	WISCONSIN AVE TEMPORARY ACCESS ROAD CROSS SECTIONS
11	C-8	POND GRADING PLAN
12	C-9	POND PERMANENT ACCESS CULVERT GRADING & CROSS SECTIONS
13	C-10	POND CROSS SECTIONS
14	C-11	POND RESTORATION PLAN
15	C-12	RICHARD ST RESTORATION PLAN
16	C-13	NORTH PERMANENT ACCESS ROAD PLAN & PROFILE
17	C-14	NORTH PERMANENT ACCESS ROAD CROSS SECTIONS
18	C-15	WISCONSIN AVE TEMPORARY ACCESS RESTORATION PLAN
19	PP-1	OUTLET STORM SEWER PLAN & PROFILE STA 20+00 - 24+50
20	PP-2	OUTLET STORM SEWER PLAN & PROFILE STA 24+50 - 28+50*
21	PP-3	OUTLET STORM SEWER PLAN & PROFILE STA 30+00 - 33+00*
22	PP-4	INLET STORM SEWER PLAN & PROFILE STA 0+00 - 4+50
23	PP-5	INLET STORM SEWER PLAN & PROFILE STA 4+50 - 8+50
24	PP-6	INLET STORM SEWER PLAN & PROFILE STA 8+50 - 13+00
25	CD-1	EROSION CONTROL DETAILS
26	CD-2	STORM SEWER DETAILS
27	CD-3	MISCELLANEOUS DETAILS - I
28	CD-4	MISCELLANEOUS DETAILS - II
29	S-1	STRUCTURAL NOTES & DETAILS
30	S-2	OUTLET STRUCTURE - PLAN & SECTIONS
31	SP-1	BROADWAY DRIVE STOCKPILE

*NOTE: GAP IN STATIONING DUE TO CHANGE IN ALIGNMENT. SEE SHEETS PP-2 & PP-3 FOR FURTHER INFORMATION.

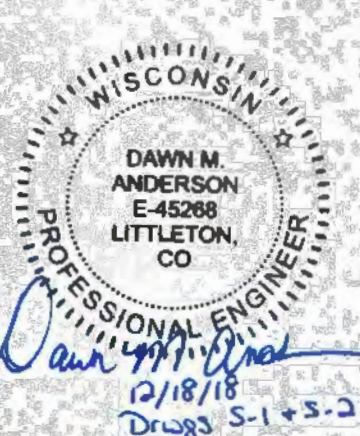
Brown AND Caldwell

BROWN AND CALDWELL
250 EAST WISCONSIN AVENUE
MILWAUKEE, WI 53202
(414) 273-8800

PREPARED FOR:



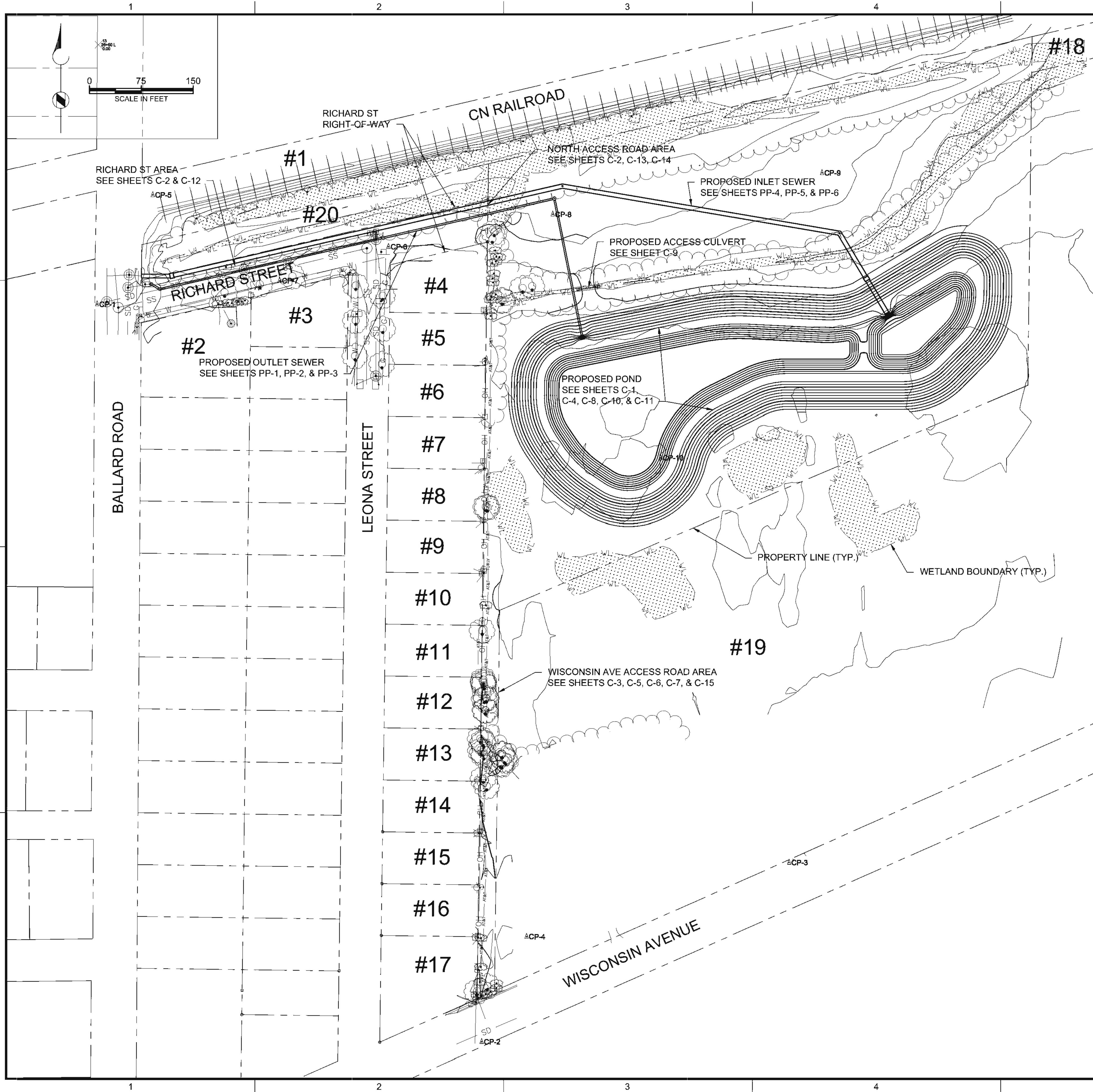
CITY OF APPLETON
100 NORTH APPLETON STREET
APPLETON, WI
(920) 832-8474





**Brown AND
Caldwell**

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ADJACENT PROPERTY OWNERS

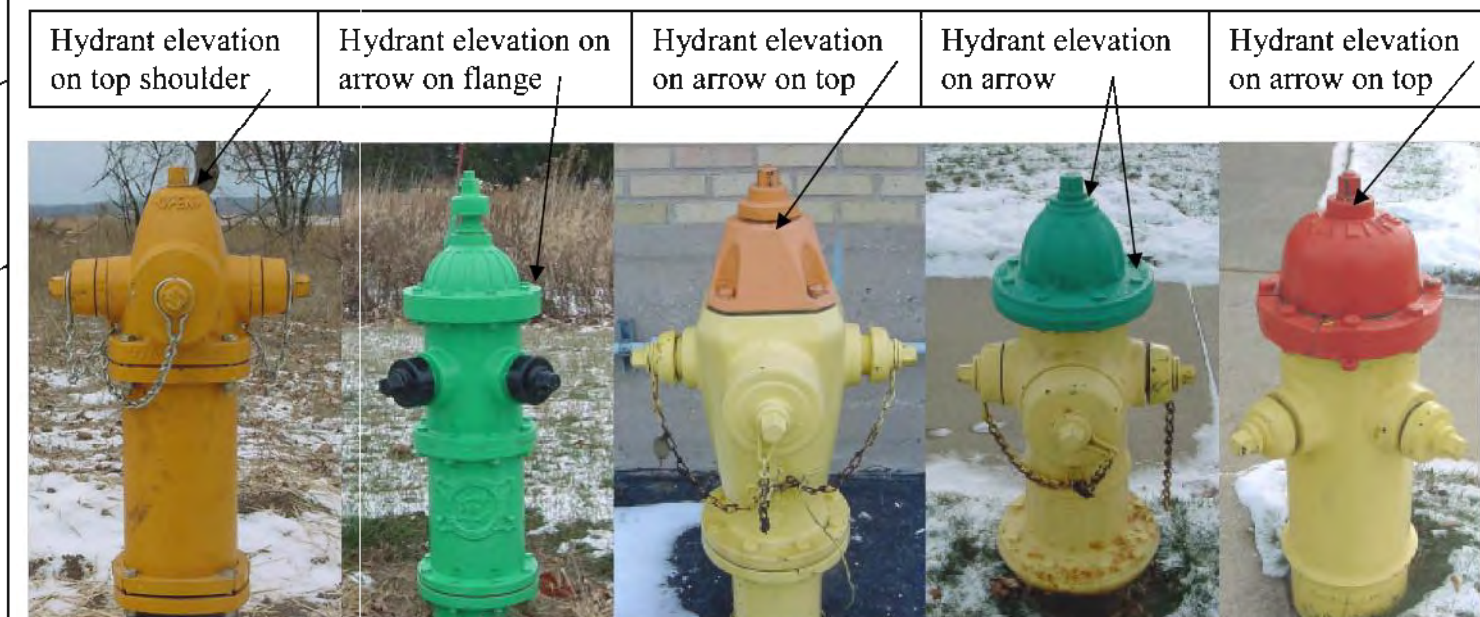
- | | |
|---|--|
| 1. CN RAILROAD
JACQUELINE MACEWICZ
JACKIE.MACEWICZ@CN.CA | 13. BRUCE & NANCY HILLEGAS
1418 N LEONA ST
APPLETON, WI 54911 |
| 2. MANASSEH MINISTRIES INC
AMY TOWNS
2316 DEER PRAIRIE DR
NEENAH, WI 54956 | 14. JOHN MOEN
1410 N LEONA ST
APPLETON, WI 54911 |
| 3. DAVID & SUSAN VAN BOXTEL
1619 N LEONA ST
APPLETON, WI 54911 | 15. BRITTANY DECKER & TIMOTHY ISLINGER
1408 N LEONA ST
APPLETON, WI 54911 |
| 4. MONTE & SALLY TETZLAFF
1620 N LEONA ST
APPLETON, WI 54911 | 16. RONALD KEMPEN
1404 N LEONA ST
APPLETON, WI 54911 |
| 5. MONTE & SALLY TETZLAFF
1620 N LEONA ST
APPLETON, WI 54911 | 17. LUTHERAN SOCIAL SERV WI & UP MI INC
6737 W WASHINGTON ST #2275
MILWAUKEE, WI 53214 |
| 6. ROBERT VOSS
1608 N LEONA ST
APPLETON, WI 54911 | 18. CHARLES SIEKMAN & FRANCES ROMERO
1100 GREEN GROVE RD
APPLETON, WI 54911 |
| 7. DAVID JANSEN
1600 N LEONA ST
APPLETON, WI 54911 | FRANCES ROMERO
GUANAJUATO, GTO, MEXICO |
| 8. CAROL NABBefeld
1524 N LEONA ST
APPLETON, WI 54911 | 19. CHARLES SIEKMAN & FRANCES ROMERO
PO BOX 357
APPLETON, WI 54912 |
| 9. LAURIE RETZLAFF
1516 N LEONA ST
APPLETON, WI 54911 | FRANCES ROMERO
GUANAJUATO, GTO, MEXICO |
| 10. JOEWEN MILLER
1508 N LEONA ST
APPLETON, WI 54911 | FARM LEASE TO:
NEW HORIZONS DAIRY
DAVID VANDEHEY
920-532-3848 |
| 11. NICOLE GEORGE
1500 N LEONA ST
APPLETON, WI 54911 | 20. CITY OF APPLETON |
| 12. EDWARD & NANCY BARCZAK
1426 N LEONA ST
APPLETON, WI 54911 | |

BENCHMARKS

1. HYDRANT LOCATED AT SOUTHEAST CORNER OF RICHARD STREET AND BALLARD ROAD. ELEV. 753.25
2. HYDRANT LOCATED AT SOUTHWEST CORNER OF RICHARD STREET AND LEONA STREET. ELEV. 751.53
3. HYDRANT LOCATED AT NORTHWEST CORNER OF WISCONSIN AVENUE AND LEONA STREET. ELEV. 754.88

SEE DIAGRAM BELOW FOR BENCHMARK LOCATION ON HYDRANTS.

HYDRANT BENCHMARKS



CONTROL POINTS					
Point #	Name	Description	Northing	Easting	Elevation
2	CP-1	22+75 L	567582.24	835725.01	751.43
800	CP-2	Spike at B/C 2016	566516.72	836280.83	750.65
900	CP-3	SPIKE HWY 96	566775.91	836725.23	749.02
912	CP-4	SPIKE 2016	566668.66	836345.69	750.76
1082	CP-5	NAIL TURN RR TRKS	567740.21	835805.82	751.39
1083	CP-6	NAIL TURN LEONA/RCHRD	567665.28	838146.11	748.38
1205	CP-7	MGNL JNT	567616.21	836986.99	747.72
1226	CP-8	FIELD SPIKE 1	567711.99	836383.58	748.29
1309	CP-9	FIELD SPIKE 2	567771.99	836772.71	747.71
1423	CP-10	FIELD SPIKE 3	567360.35	836539.62	749.08



LEONA STREET STORMWATER POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

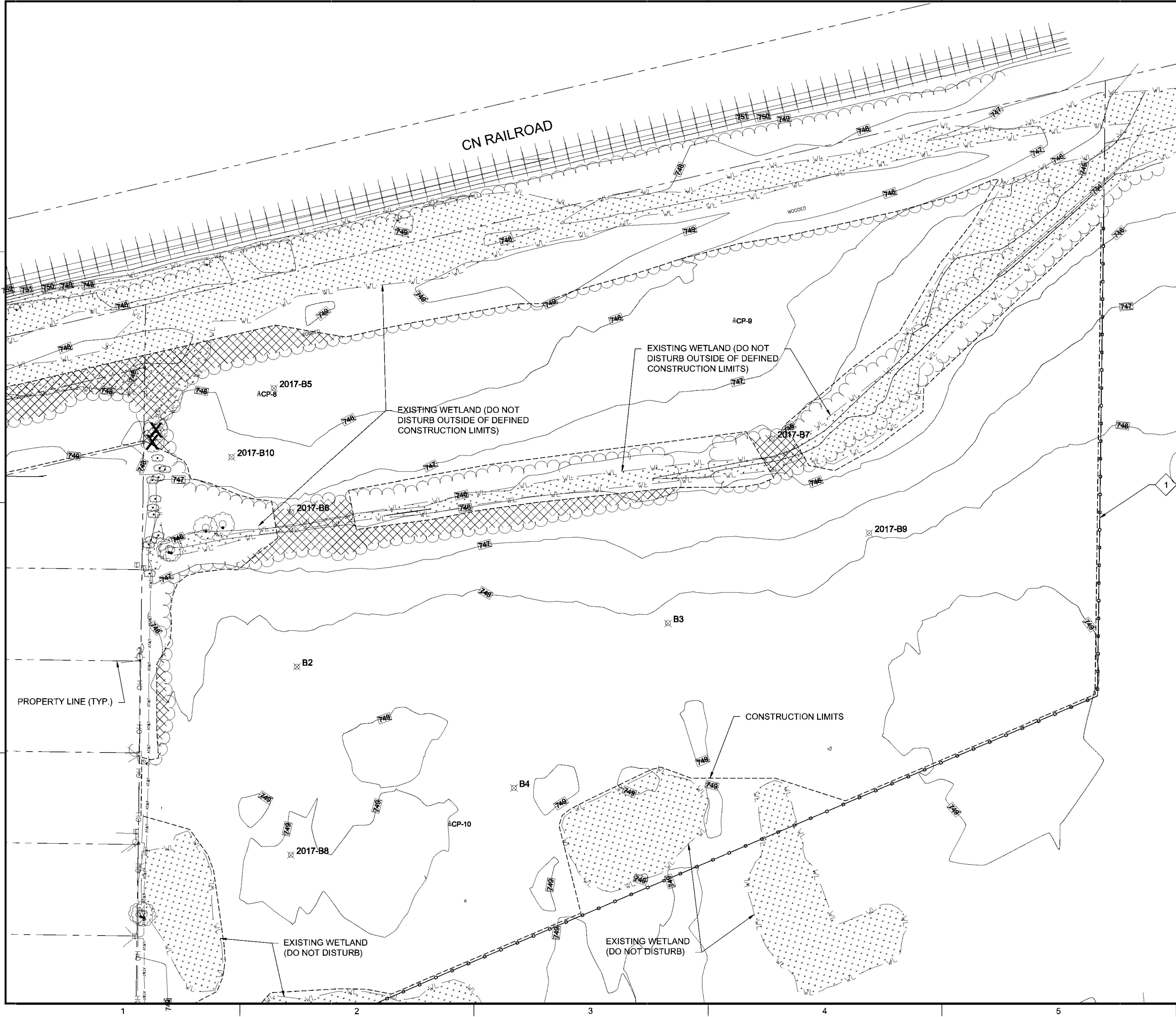
DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
3-G-2_LAYOUT.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

GENERAL PROJECT LAYOUT

DRAWING NUMBER
G-2
SHEET NUMBER
3 OF 31

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DEMOLITION LEGEND

-  CLEAR & GRUB EXISTING TREE
-  CLEAR & GRUB EXISTING SHRUB
-  CLEAR & GRUB WOODED AREA
-  SAFETY FENCE

NOTES:

- CONSTRUCTION SAFETY FENCE TO BE INSTALLED ALONG PROPERTY LINE PRIOR TO ANY LAND DISTURBING ACTIVITIES. PORTIONS ARE OUTSIDE OF THE CONSTRUCTION LIMITS. FENCE INSTALLATION SHALL BE WITH METHODS TO PREVENT GROUND DISTURBANCE, SUCH AS: RUTTING OR DISTURBANCE OF EXISTING VEGETATION, WHERE PRESENT. SAFETY FENCE TO REMAIN IN PLACE FOLLOWING COMPLETION OF CONSTRUCTION. CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION DURING DURATION, AND AT END, OF PROJECT.



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE
DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
4-C-1_POND_EX_DEMO.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

CIVIL

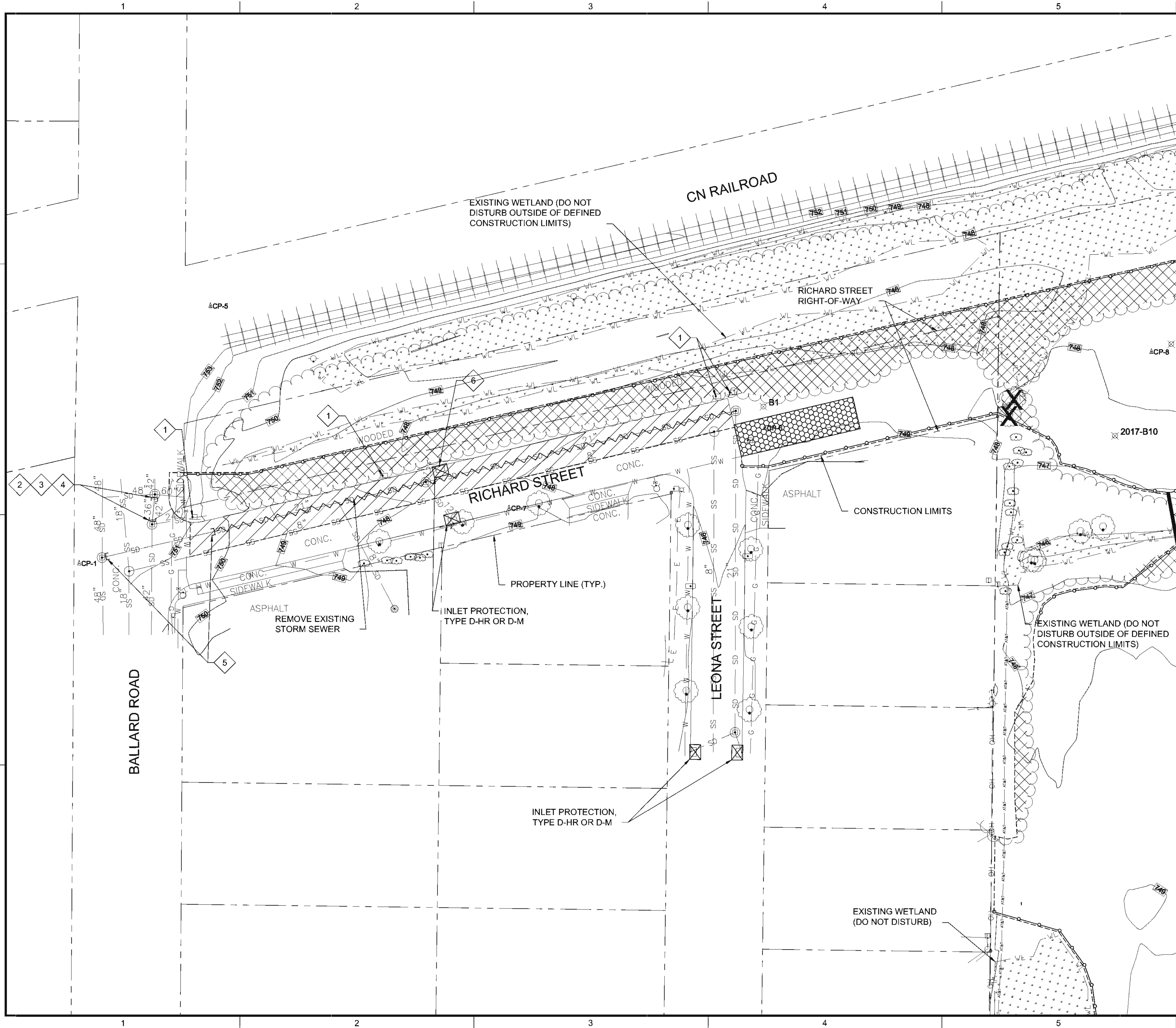
POND EXISTING
CONDITIONS &
DEMOLITION

DRAWING NUMBER

C-1

SHEET NUMBER
4 OF 31

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DEMOLITION LEGEND

-  CLEAR & GRUB EXISTING TREE
-  CLEAR & GRUB EXISTING SHRUB
-  REMOVAL
-  ABANDON STORM SEWER
-  BULKHEAD STORM SEWER
-  REMOVE EXISTING CONCRETE
-  CLEAR & GRUB WOODED AREA

EROSION CONTROL LEGEND

-  STONE TRACKING PAD, OR OWNER APPROVED EQUAL TRACKOUT CONTROL PRACTICE
-  SILT FENCE 1
CD-1
-  INLET PROTECTION TYPE D-HR OR D-M 5
CD-1 6
CD-1

NOTES:

- 1 EXISTING SIGN TO BE REMOVED AS NEEDED FOR CONSTRUCTION. COORDINATE SIGN REMOVAL & REPLACEMENT WITH CITY OF APPLETON TRAFFIC DIVISION. COST OF REMOVAL SHALL BE INCIDENTAL TO APPROPRIATE BID ITEMS.
- 2 EXISTING 36" AND 42" STORM SEWERS LOCATED WITHIN SAME ALIGNMENT. SEE SHEETS PP-1 AND PP-2 FOR ADDITIONAL INFORMATION.
- 3 REMOVE EXISTING BULKHEAD ON 36" STORM SEWER. COST SHALL BE INCIDENTAL TO APPROPRIATE BID ITEMS.
- 4 BULKHEAD & ABANDON EXISTING 42" STORM SEWER. SEE SPECIFICATIONS.
- 5 BULKHEAD & ABANDON EXISTING 21" STORM SEWER. SEE SPECIFICATIONS.
- 6 REMOVE, REPLACE & RECONNECT EXISTING INLET & INLET LEAD AS NECESSARY TO CONSTRUCT INLET & OUTLET SEWER. COST TO REMOVE, REPLACE & CONNECT INLET & INLET LEAD SHALL BE INCIDENTAL TO APPROPRIATE BID ITEMS. INSTALL INLET PROTECTION AT START OF CONSTRUCTION & FOLLOWING INSTALLATION OF NEW INLET.

*WASHOUT OF ALL CONCRETE TRUCKS SHALL OCCUR AT APPROVED "CONCRETE TRUCK WASHOUT AREA." CONCRETE TRUCK WASHOUT SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL. CONTRACTOR SHALL IDENTIFY WASHOUT LOCATION. 3
CD-1

*ADDITIONAL INLET PROTECTION NOT SHOWN ON PLANS MAY BE REQUIRED. INLET PROTECTION IS REQUIRED ON ALL INLETS WITHIN 500 FT OF CONSTRUCTION SITE ALONG HAUL ROUTE(S).



**LEONA STREET
STORMWATER
POND**

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE	
DESIGNED:	M WEGNER
DRAWN:	M WEGNER
CHECKED:	K MATTFIELD
CHECKED:	
APPROVED:	K MATTFIELD
FILENAME 5-C-2_RICHARD_EX_DEMO.DWG	
BC PROJECT NUMBER 148928	
CLIENT PROJECT NUMBER G-19	

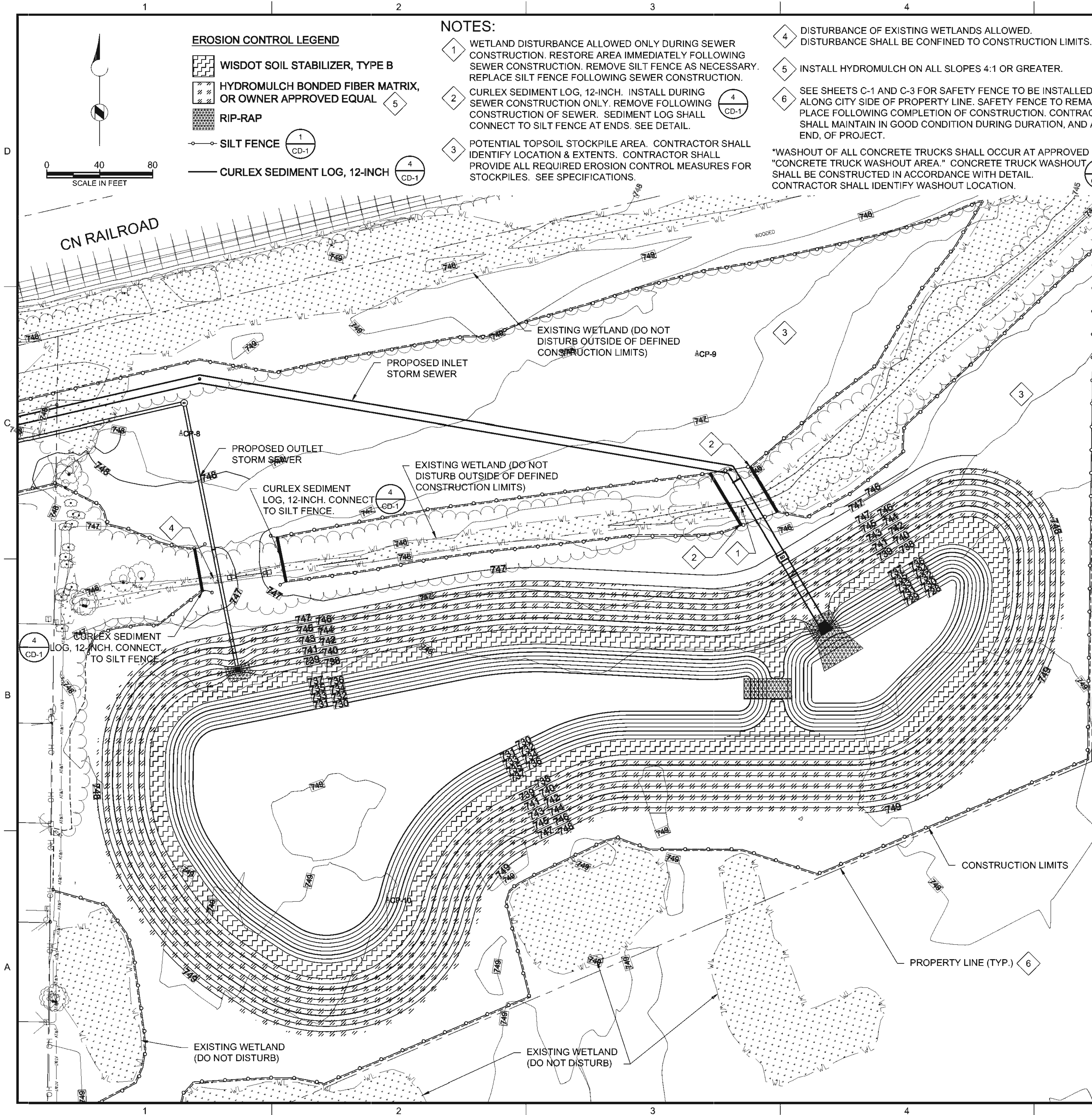
**CIVIL
RICHARD ST
EXISTING
CONDITIONS,
DEMOLITION, &
EROSION CONTROL**

DRAWING NUMBER
C-2
SHEET NUMBER
5 OF 31



SHEET NUMBER
6 OF 31

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EROSION CONTROL LEGEND

- WISDOT SOIL STABILIZER, TYPE B
- HYDROMULCH BONDED FIBER MATRIX, OR OWNER APPROVED EQUAL
- RIP-RAP
- SILT FENCE
- CURLEX SEDIMENT LOG, 12-INCH

NOTES:

- 1 WETLAND DISTURBANCE ALLOWED ONLY DURING SEWER CONSTRUCTION. RESTORE AREA IMMEDIATELY FOLLOWING SEWER CONSTRUCTION. REMOVE SILT FENCE AS NECESSARY. REPLACE SILT FENCE FOLLOWING SEWER CONSTRUCTION.
 - 2 CURLEX SEDIMENT LOG, 12-INCH. INSTALL DURING SEWER CONSTRUCTION ONLY. REMOVE FOLLOWING CONSTRUCTION OF SEWER. SEDIMENT LOG SHALL CONNECT TO SILT FENCE AT ENDS. SEE DETAIL.
 - 3 POTENTIAL TOPSOIL STOCKPILE AREA. CONTRACTOR SHALL IDENTIFY LOCATION & EXTENTS. CONTRACTOR SHALL PROVIDE ALL REQUIRED EROSION CONTROL MEASURES FOR STOCKPILES. SEE SPECIFICATIONS.
 - 4 DISTURBANCE OF EXISTING WETLANDS ALLOWED. DISTURBANCE SHALL BE CONFINED TO CONSTRUCTION LIMITS.
 - 5 INSTALL HYDROMULCH ON ALL SLOPES 4:1 OR GREATER.
 - 6 SEE SHEETS C-1 AND C-3 FOR SAFETY FENCE TO BE INSTALLED ALONG CITY SIDE OF PROPERTY LINE. SAFETY FENCE TO REMAIN IN PLACE FOLLOWING COMPLETION OF CONSTRUCTION. CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION DURING DURATION, AND AT END, OF PROJECT.
- *WASHOUT OF ALL CONCRETE TRUCKS SHALL OCCUR AT APPROVED "CONCRETE TRUCK WASHOUT AREA." CONCRETE TRUCK WASHOUT SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL. CONTRACTOR SHALL IDENTIFY WASHOUT LOCATION.

EROSION CONTROL NOTES

- GENERAL**
1. SEE SPECIFICATIONS AND WDNR TECHNICAL STANDARDS FOR ADDITIONAL EROSION CONTROL INFORMATION. EROSION CONTROL FACILITIES SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE TECHNICAL STANDARDS AND CITY SPECIFICATIONS.
 2. THIS SUGGESTED EROSION CONTROL PLAN IS INTENDED TO PROVIDE CONCEPTUAL EROSION CONTROL BMPs FOR THE CONTRACTOR'S CONSIDERATION.
 3. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING FINAL EROSION CONTROL, DEWATERING, MATERIALS MANAGEMENT AND SEQUENCING PLANS TO THE CITY AND THE WDNR PRIOR TO CONSTRUCTION START.
 4. CONTRACTOR SHALL OBTAIN ALL NECESSARY MUNICIPAL AND WDNR PLAN APPROVALS AND PERMITS PRIOR TO CONSTRUCTION START.
 5. CONTRACTOR SHALL KEEP AND POST A COPY OF ALL PERMITS AND APPROVED PLANS AT THE PROJECT SITE AT ALL TIMES.
 6. CONTRACTOR SHALL ALLOW FREE AND UNLIMITED ACCESS TO THE PROJECT SITE AT ANY TIME TO ANY REGULATORY AGENCY EMPLOYEE INSPECTING THE CONSTRUCTION.
 7. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY WDNR FINES RESULTING FROM DEVIATION, WITHOUT OWNER APPROVAL, FROM THE CONTRACT DOCUMENTS.
 8. SILT FENCE START AND END POINTS ARE INDICATED BY CIRCLES AT EACH END.
- EROSION CONTROL MEASURES**
9. CONTRACTOR SHALL INSTALL APPROPRIATE EROSION CONTROL PRACTICES AND MEASURES PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES.
 10. CONTRACTOR IS RESPONSIBLE FOR INSTALLING EROSION CONTROL PRACTICES. EROSION CONTROL PRACTICES MAY BE NEEDED THAT ARE NOT SHOWN ON THESE PLANS.
 11. STONE TRACKING PADS SHALL BE INSTALLED AT ALL CONSTRUCTION SITE EXITS TO PREVENT TRACKING OF SOIL. (SEE WDNR TECH STD 1057) SEDIMENT TRACKED ONTO NEARBY STREETS SHALL BE REMOVED IMMEDIATELY.
 12. SEDIMENT LADEN DISCHARGES ARE PROHIBITED. DEWATERING PRACTICES MEETING WDNR TECH STD 1061 AND CITY SPECIFICATION ARE REQUIRED. SILT FENCE (SEE WDNR TECH STD 1056) SHALL BE PLACED AT THE DOWNSTREAM END OF ALL SURFACE SPREADING DEWATERING AREAS.
 13. DEWATERING SYSTEMS SHOULD INCLUDE FLOATATION FOR THE PUMP INTAKE HOSE TO PREVENT INTAKE OF SEDIMENT FROM BOTTOM.
 14. FLOW SHOULD BE MAINTAINED THROUGH THE SITE DURING CONSTRUCTION.
 15. SILT FENCE SHALL BE INSTALLED AROUND ANY EXCESS MATERIAL AND TOPSOIL STOCKPILES. (SEE WDNR TECH STD 1056)
 16. SILT FENCE SHALL BE SUPPORTED BY ADDITIONAL STAKES OR HAY BALES IN AREAS OF CONCENTRATED FLOW. (SEE WDNR TECH STD 1056)
 17. CONTRACTOR SHALL INSTALL TYPE D INLET PROTECTION AT ALL INLETS WITHIN 500 FT OF THE CONSTRUCTION SITE. ALONG THE HAUL ROUTE(S), THE ENGINEER RESERVES THE RIGHT TO REQUIRE THE PROTECTION OF ADDITIONAL STORM SEWER INLETS. (SEE WDNR TECH STD 1060)
 18. THE CONTRACTOR SHALL PERFORM STREET SWEEPING DAILY ALONG ALL HAUL ROUTES.
 19. SILT FENCE INSTALLATION PERPENDICULAR TO THE CONTOUR SHALL INCLUDE J-HOOKS AS SHOWN ON DETAIL AND MAY NOT BE SHOWN ON PLANS. MEASUREMENT AND PAYMENT ARE INCIDENTAL TO SILT FENCE BID ITEM.
 20. WASHOUT OF ALL CONCRETE TRUCKS SHALL OCCUR AT DESIGNATED "CONCRETE TRUCK WASHOUT AREA." CONCRETE TRUCK WASHOUT SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL.

- MAINTENANCE PRACTICES DURING CONSTRUCTION**
21. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND RECORDED FOR STABILITY AND EFFECTIVENESS OF OPERATION AT LEAST ONCE EVERY WEEK AND WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5 INCHES OR GREATER. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN THE PRACTICES AS DESIGNED. SEDIMENT CONTROL MEASURES ARE TO BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
 22. REMOVE SEDIMENT FROM BEHIND SILT FENCE WHEN IT BECOMES A MAXIMUM OF ONE HALF THE FENCE HEIGHT.
 23. REMOVE SEDIMENT FROM TYPE D INLET PROTECTION WHEN SEDIMENT HAS ACCUMULATED TO A MAXIMUM OF ONE HALF THE DESIGN DEPTH.
 24. FOLLOWING CONSTRUCTION, THE POND SHALL BE CLEANED TO REMOVE ANY SEDIMENTS ENTERING FROM THE CONSTRUCTION SITE. FINAL GRADES SHALL MATCH CONSTRUCTION DRAWINGS.

STANDARD NO.	STANDARD DESCRIPTION
1050	LAND APPLICATION OF ANIONIC POLYACRLAMIDE
1051	WATER APPLICATION OF POLYMERS
1052	NON-CHANNEL EROSION MAT
1053	CHANNEL EROSION MAT
1054	VEGETATIVE BUFFER FOR CONSTRUCTION SITES
1055	SEDIMENT BALE BARRIER
1056	SILT FENCE
1057	TRACKOUT CONTROL PRACTICES
1058	MULCHING FOR CONSTRUCTION SITES
1059	SEEDING
1060	STORM DRAIN INLET PROTECTION FOR CONSTRUCTION SITES
1061	DE-WATERING
1062	DITCH CHECKS
1063	SEDIMENT TRAP
1064	SEDIMENT BASIN
1066	CONSTRUCTION SITE DIVERSION
1067	GRADING PRACTICES FOR EROSION CONTROL - TEMPORARY
1068	DUST CONTROL
1069	TURBIDITY BARRIERS
1070	SILT CURTAIN

WDNR TECHNICAL STANDARDS CAN BE FOUND AT:
http://dnr.wi.gov/topic/Stormwater/standards/const_standards.html



**LEONA STREET
STORMWATER
POND**

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
7-C-4_POND_EROSION.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

CIVIL

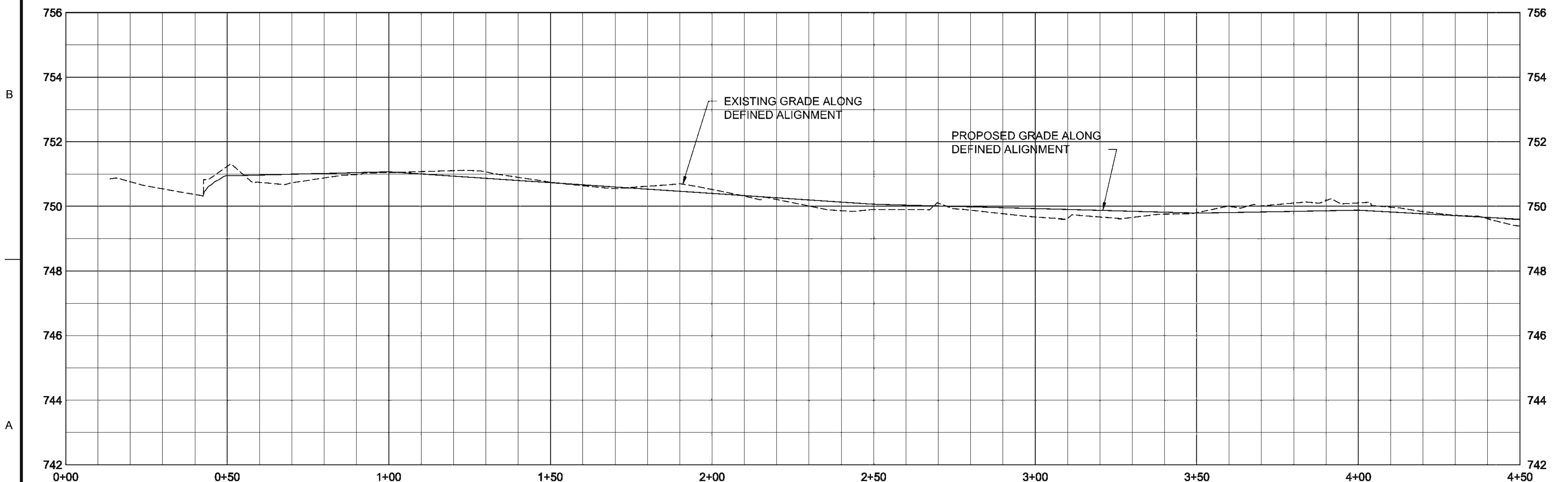
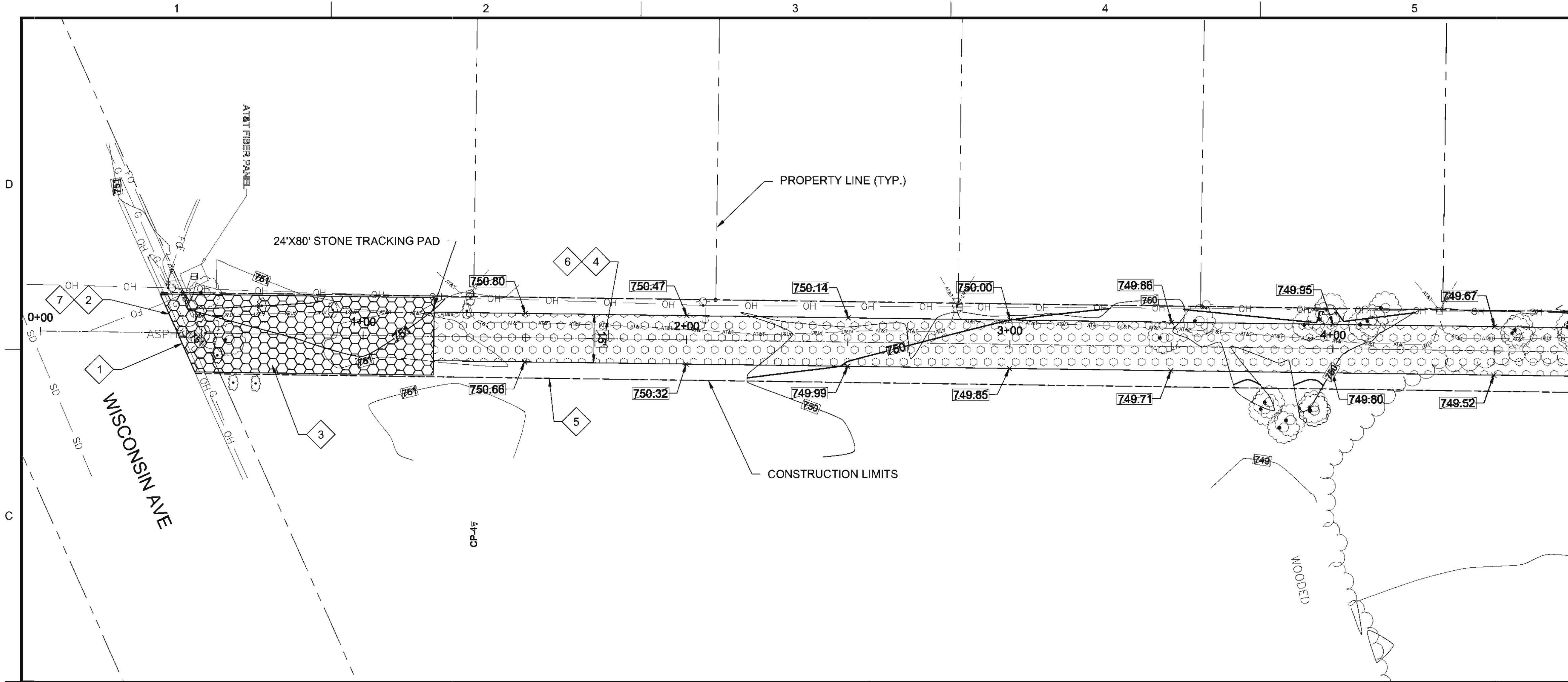
**POND EROSION
CONTROL**

DRAWING NUMBER

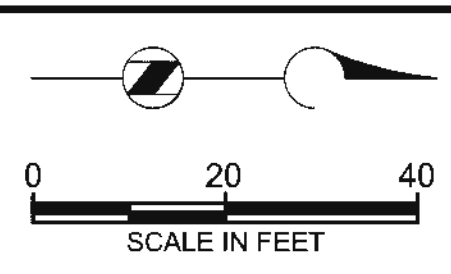
C-4

SHEET NUMBER
7 OF 31

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cityofAppleton_logo_mnw.jpg



- LEGEND**
- TEMPORARY GRAVEL ACCESS ROAD
- NOTES:**
- PROVIDE PROFILE SAWCUT OF EXISTING CURB AFTER INITIAL CONSTRUCTION..
 - EXISTING CURB & GUTTER TO BE REPLACED BY OTHERS FOLLOWING CONSTRUCTION.
 - CONTRACTOR SHALL MAINTAIN TRACKING PAD (SEE SHEET C-3) DURING CONSTRUCTION. REMOVE & RESTORE PER RESTORATION PLAN FOLLOWING CONSTRUCTION.
 - TEMPORARY GRAVEL ACCESS ROAD. MATERIALS, DIMENSIONS (WIDTH & THICKNESS), AND LOCATION TO BE DETERMINED BY CONTRACTOR. TEMPORARY ACCESS ROAD SHALL BE CONSTRUCTED OF SUITABLE MATERIALS & DIMENSIONS TO SUPPORT CONTRACTOR'S OPERATIONS.
 - SEE SHEETS C-1 AND C-3 FOR SAFETY FENCE TO BE INSTALLED ALONG CITY SIDE OF PROPERTY LINE. SAFETY FENCE TO REMAIN IN PLACE FOLLOWING COMPLETION OF PROJECT. CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION DURING DURATION, AND AT END, OF PROJECT.
 - FOLLOWING COMPLETION OF POND CONSTRUCTION TEMPORARY ACCESS ROAD SHALL BE REMOVED & AREA SHALL BE RESTORED AS PER RESTORATION PLANS. SEE SHEET C-15.
 - EXISTING 6" CURB WITH 3.5" ASPHALT OVERLAY. PROVIDE 2.5" ASPHALT WEDGE DURING CONSTRUCTION.



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
8-C-5_SOUTH_ACCESS_P&P.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

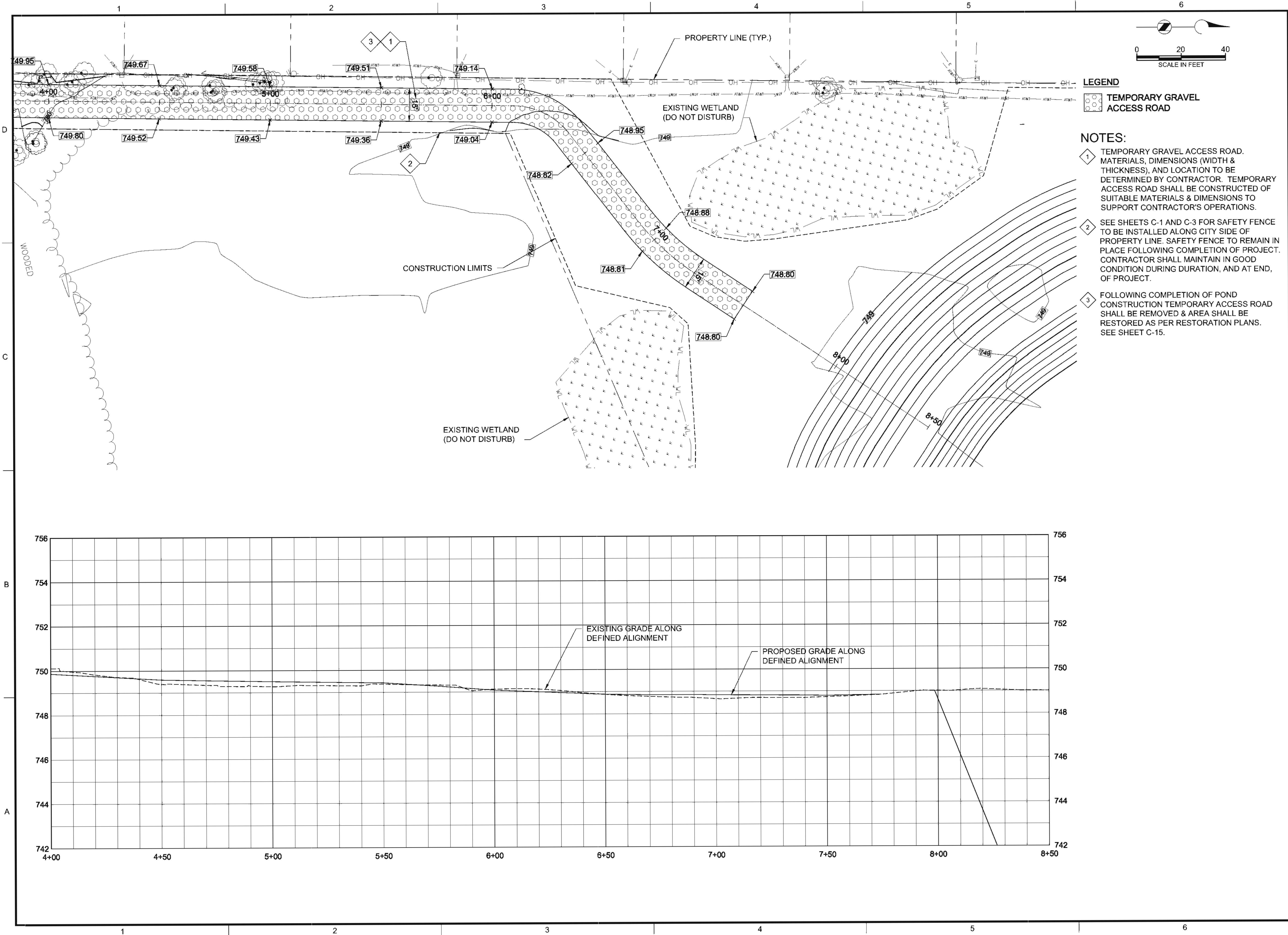
CIVIL

WISCONSIN AVE
TEMPORARY
ACCESS ROAD PLAN
& PROFILE - SOUTH

DRAWING NUMBER
C-5

SHEET NUMBER
8 OF 31

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d:\p\appleton_logo_mpw.jpg



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
9-C-6_SOUTH_ACCESS-2_P&P.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

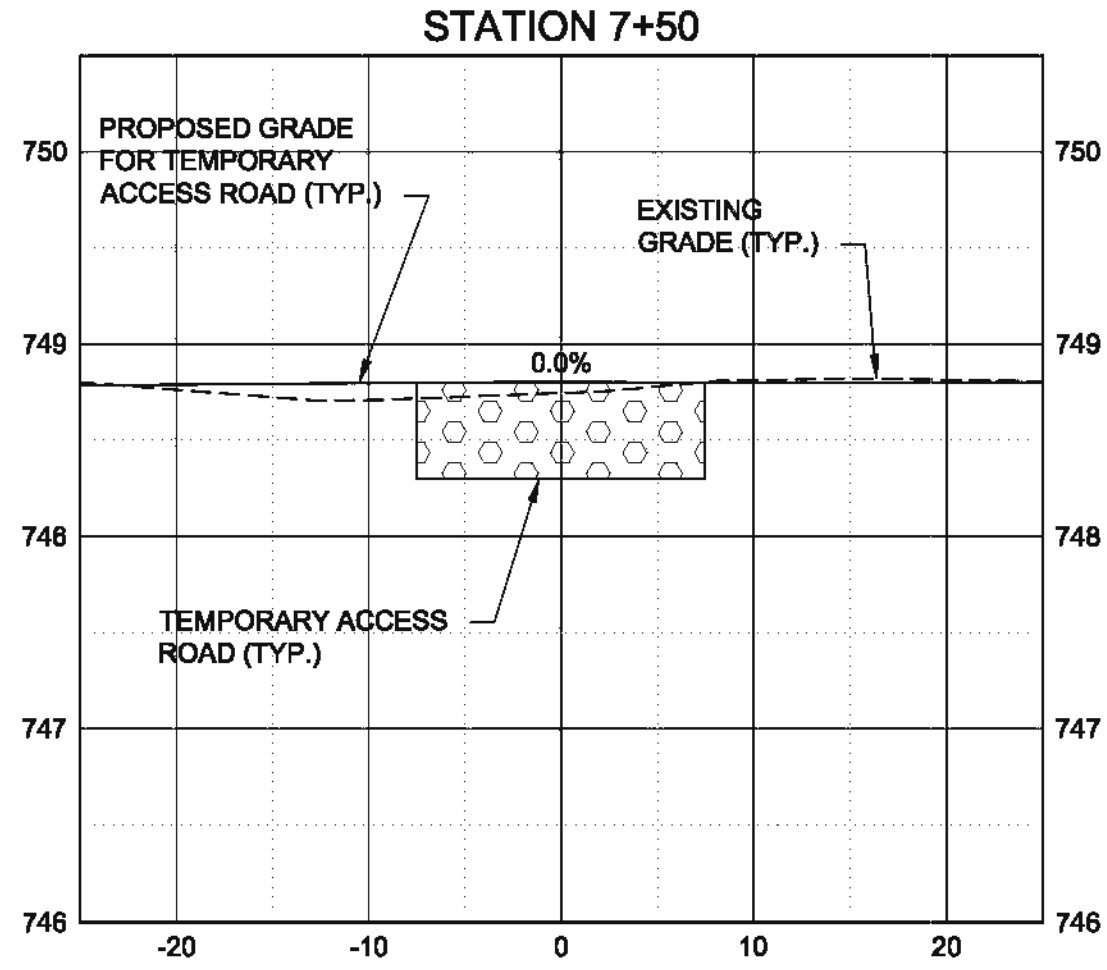
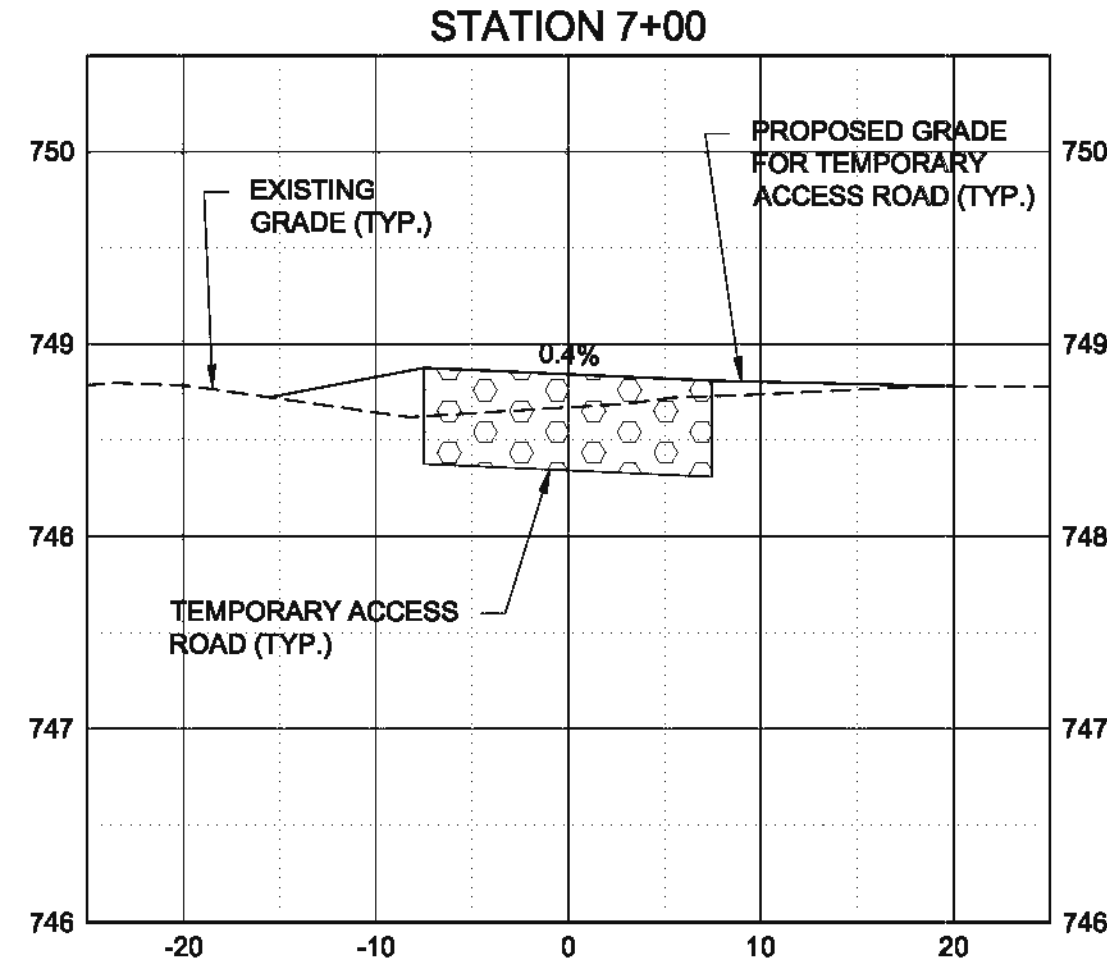
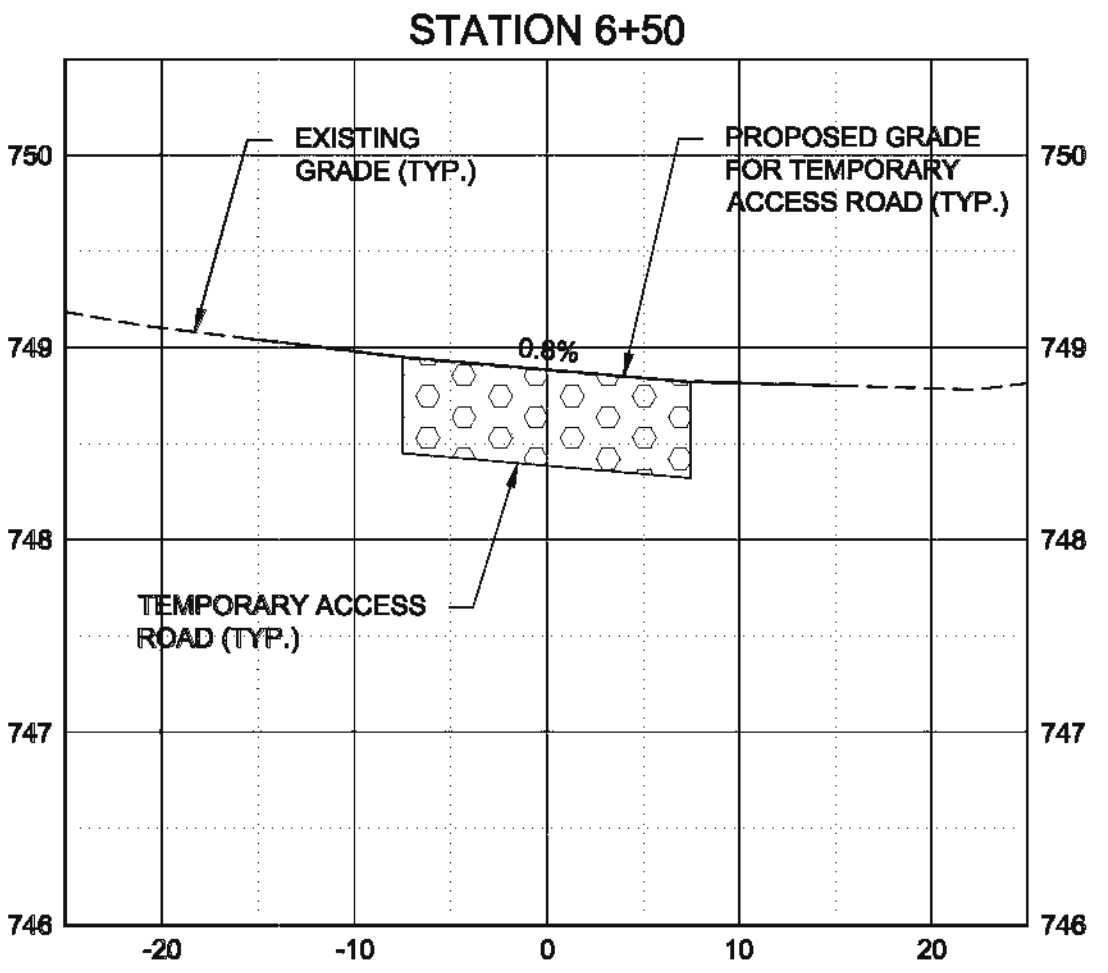
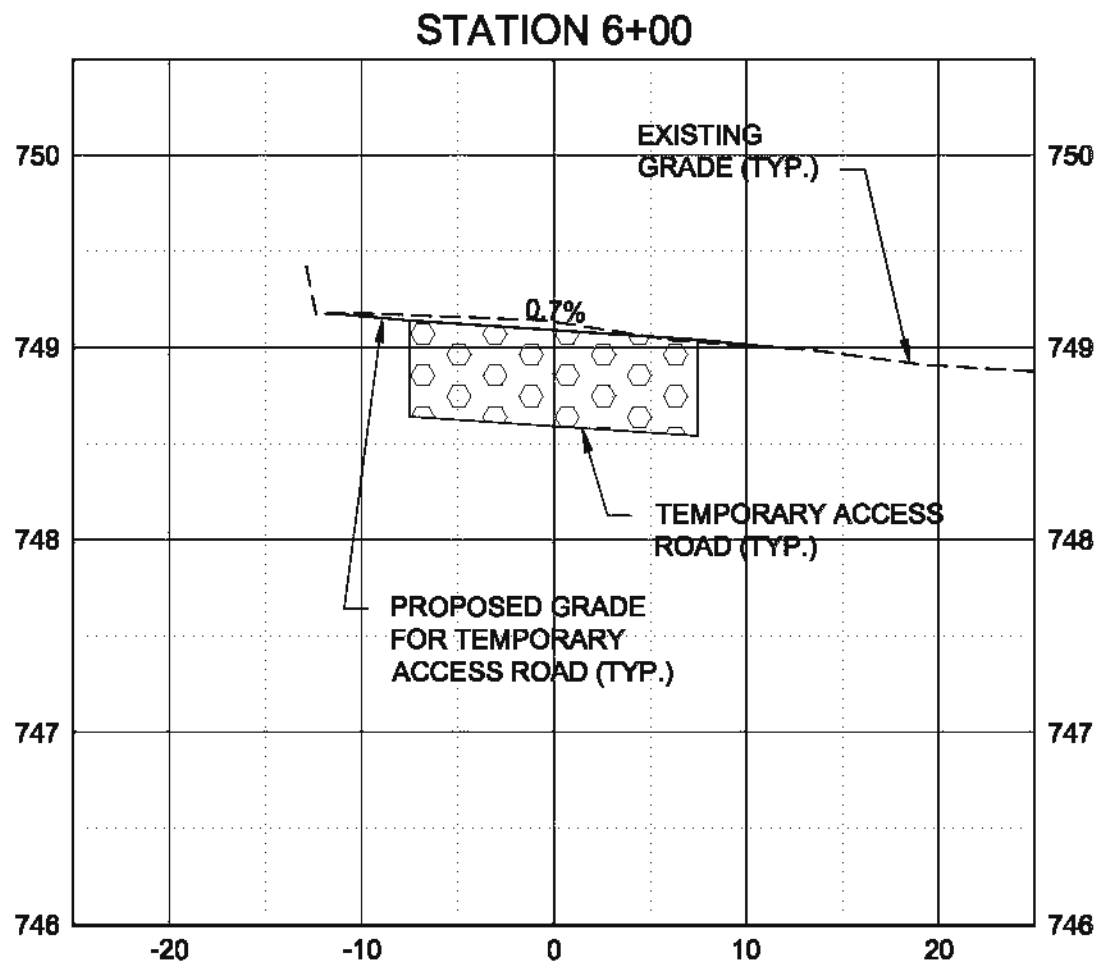
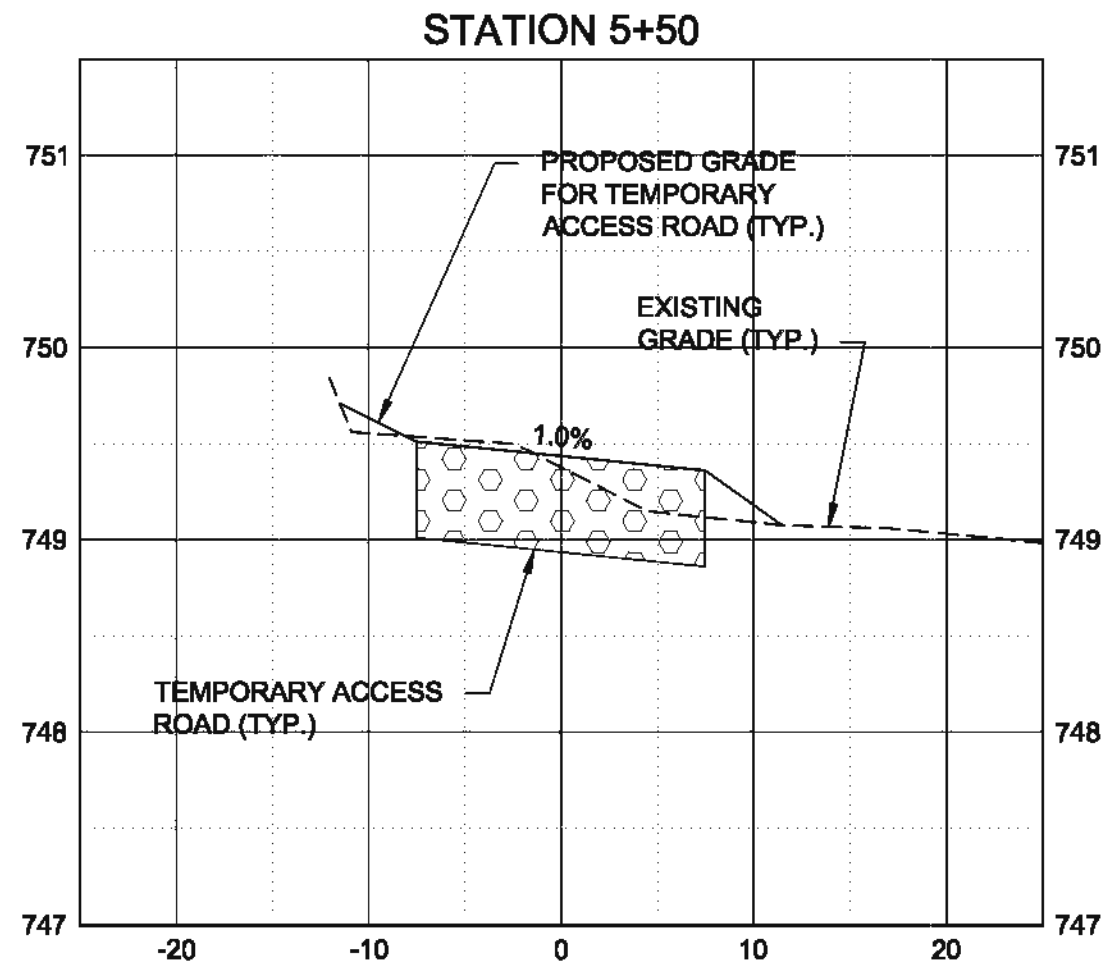
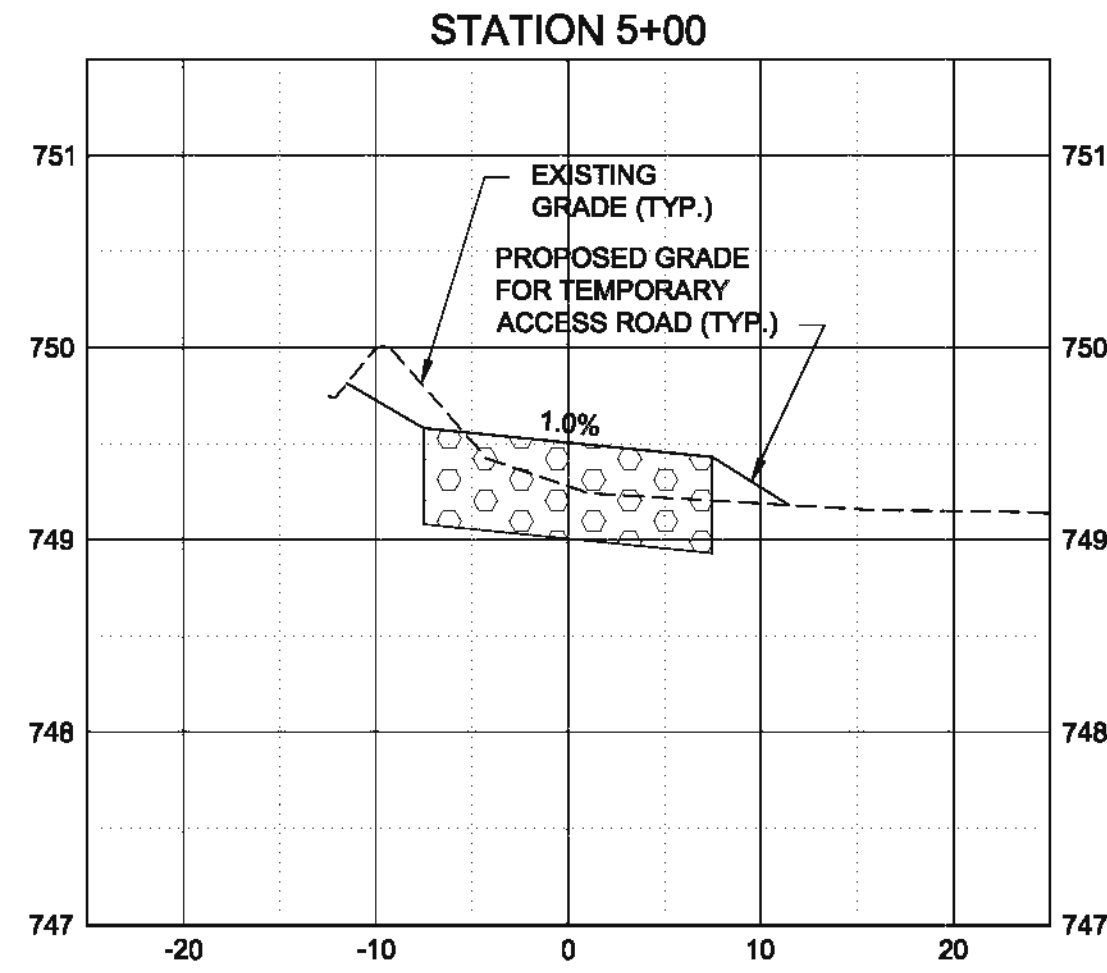
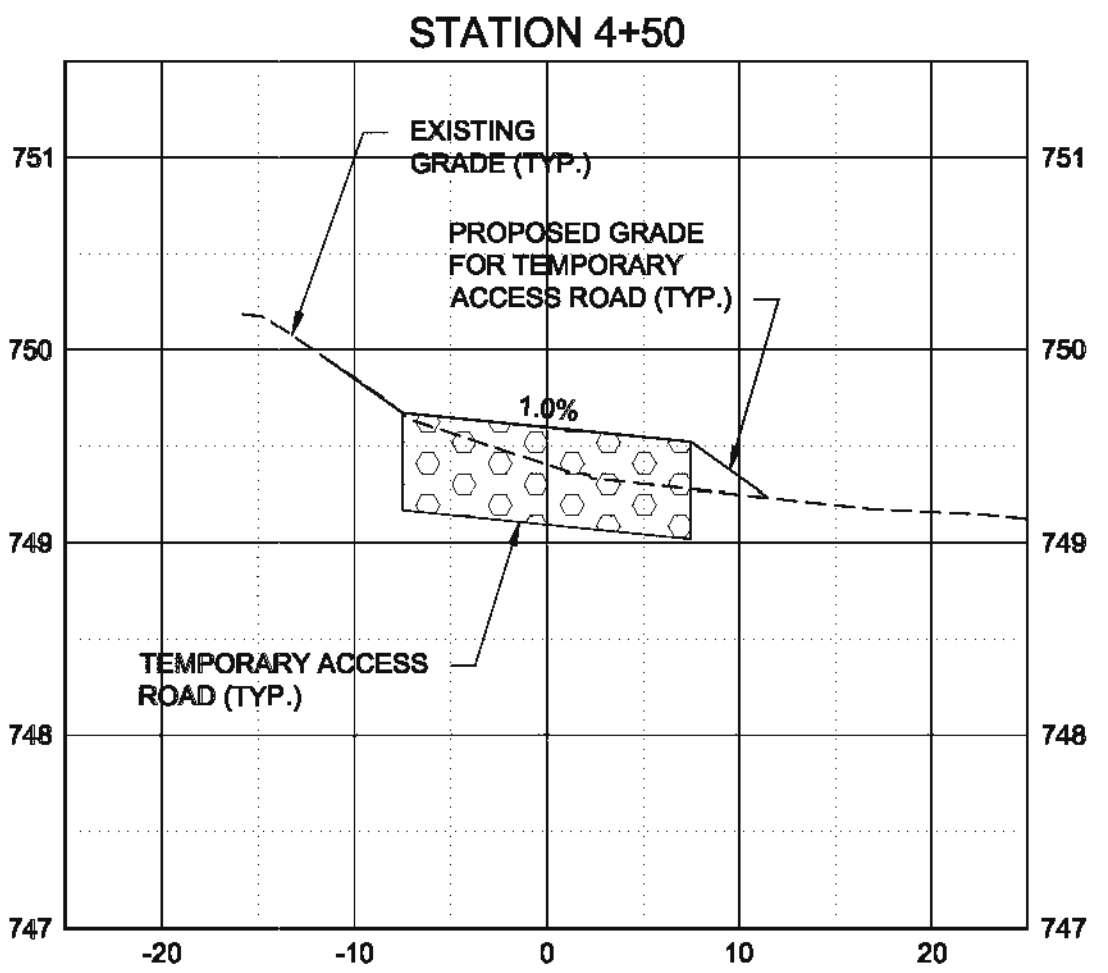
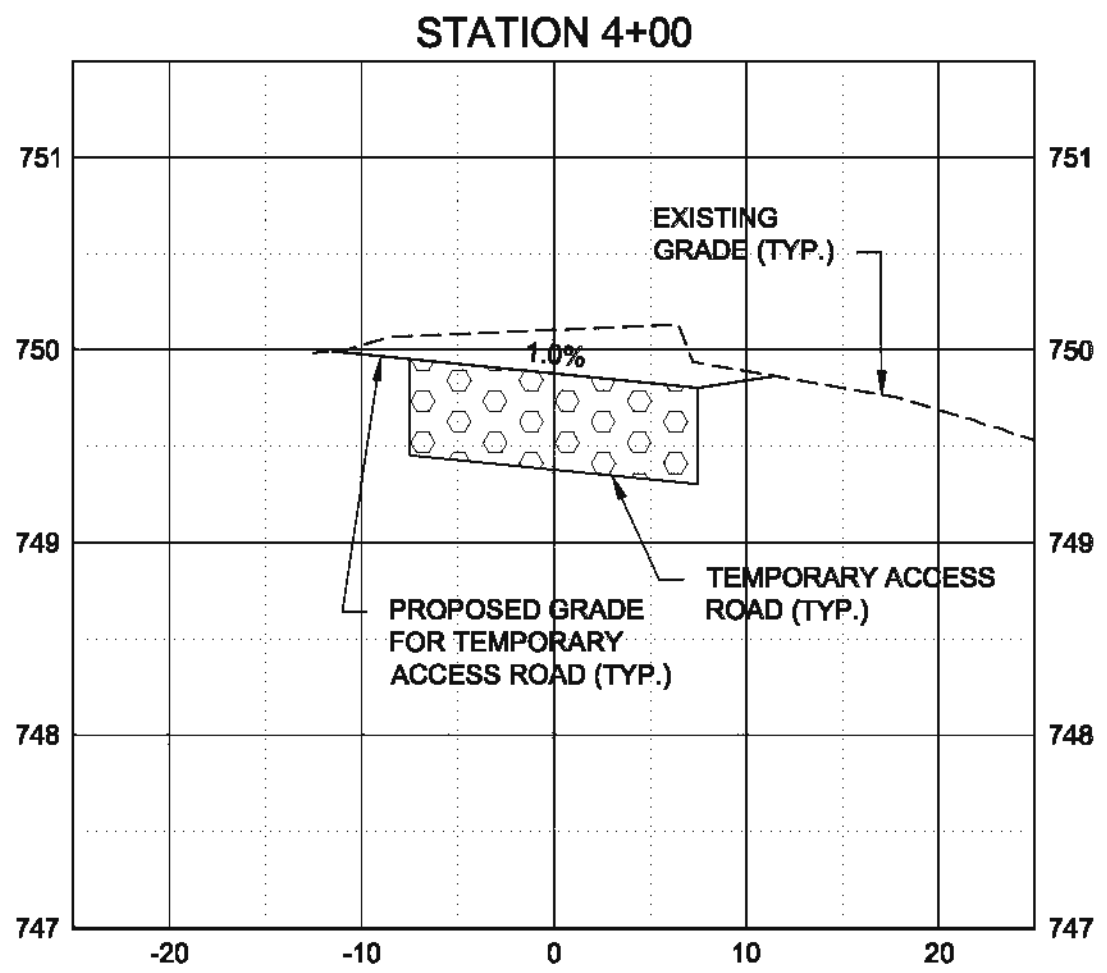
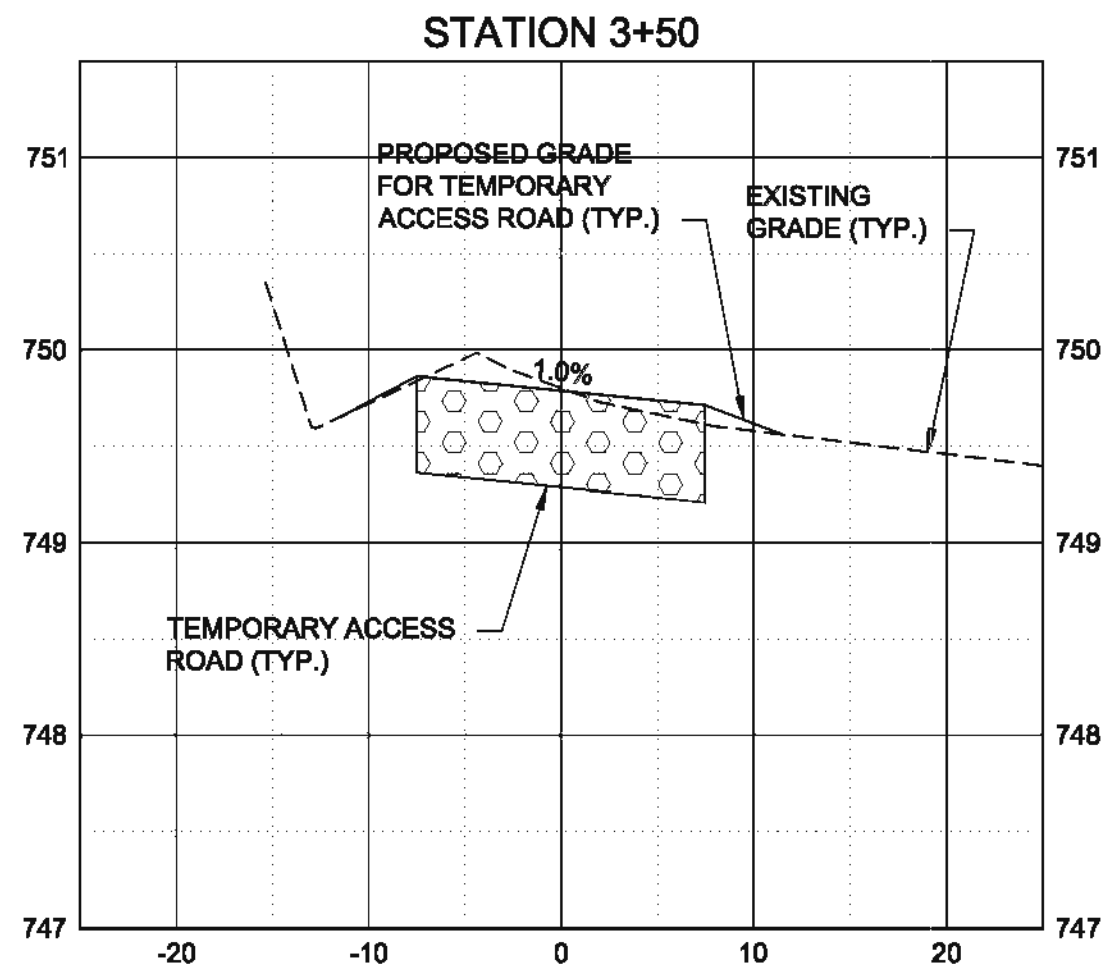
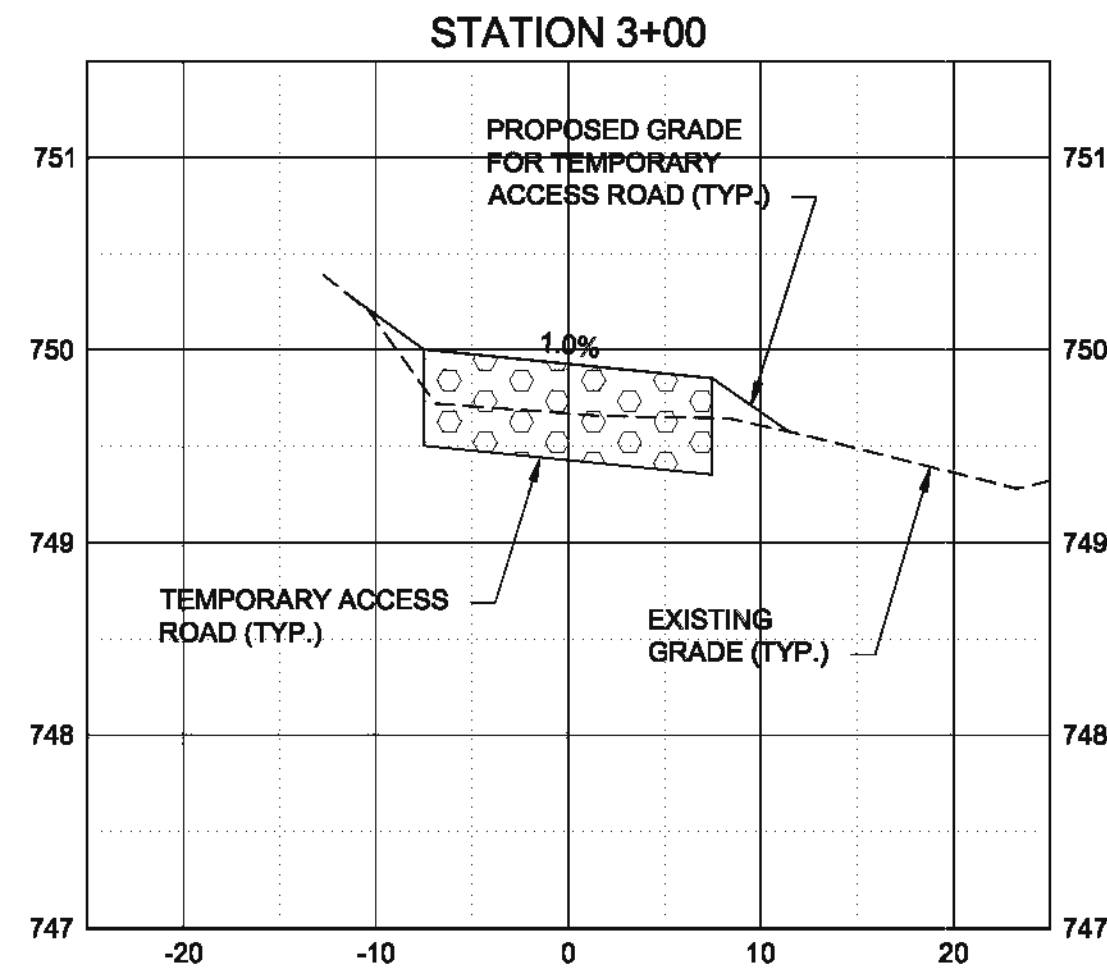
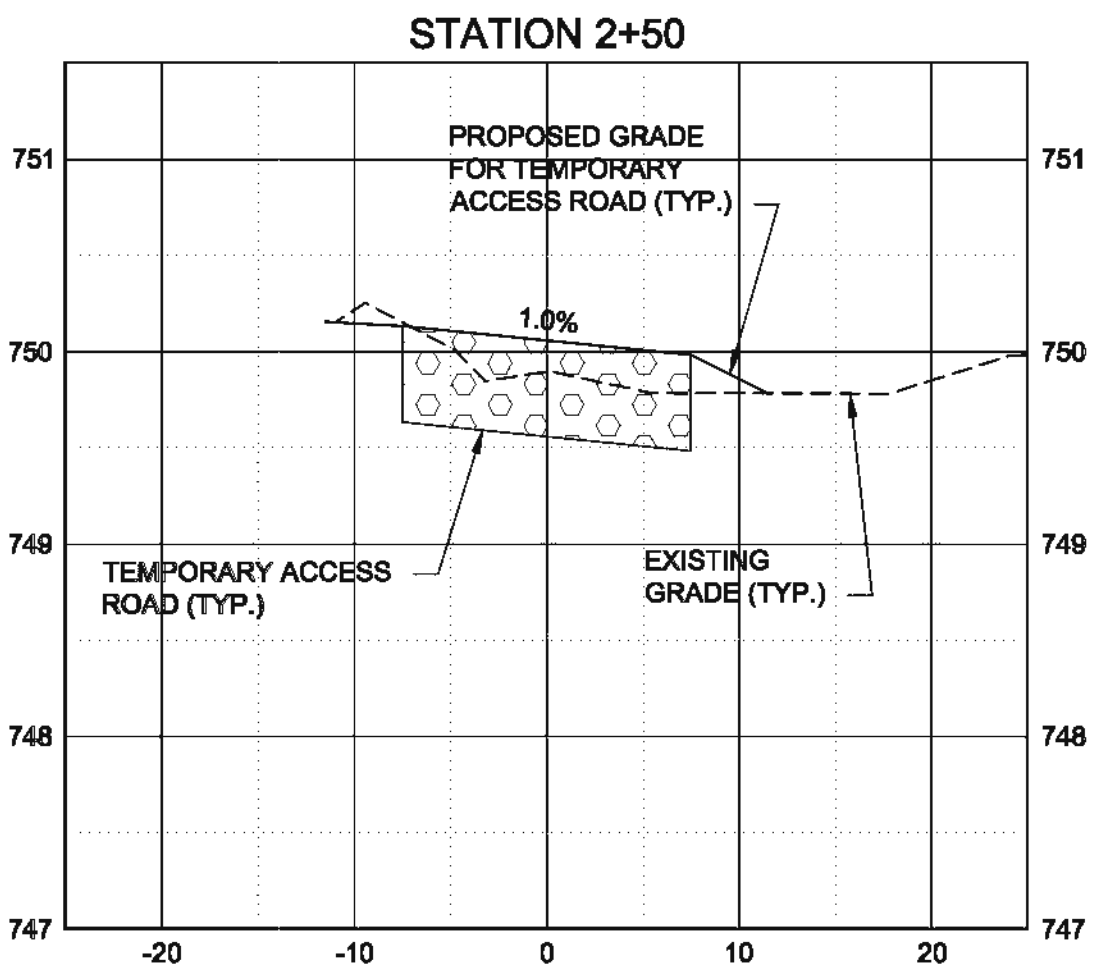
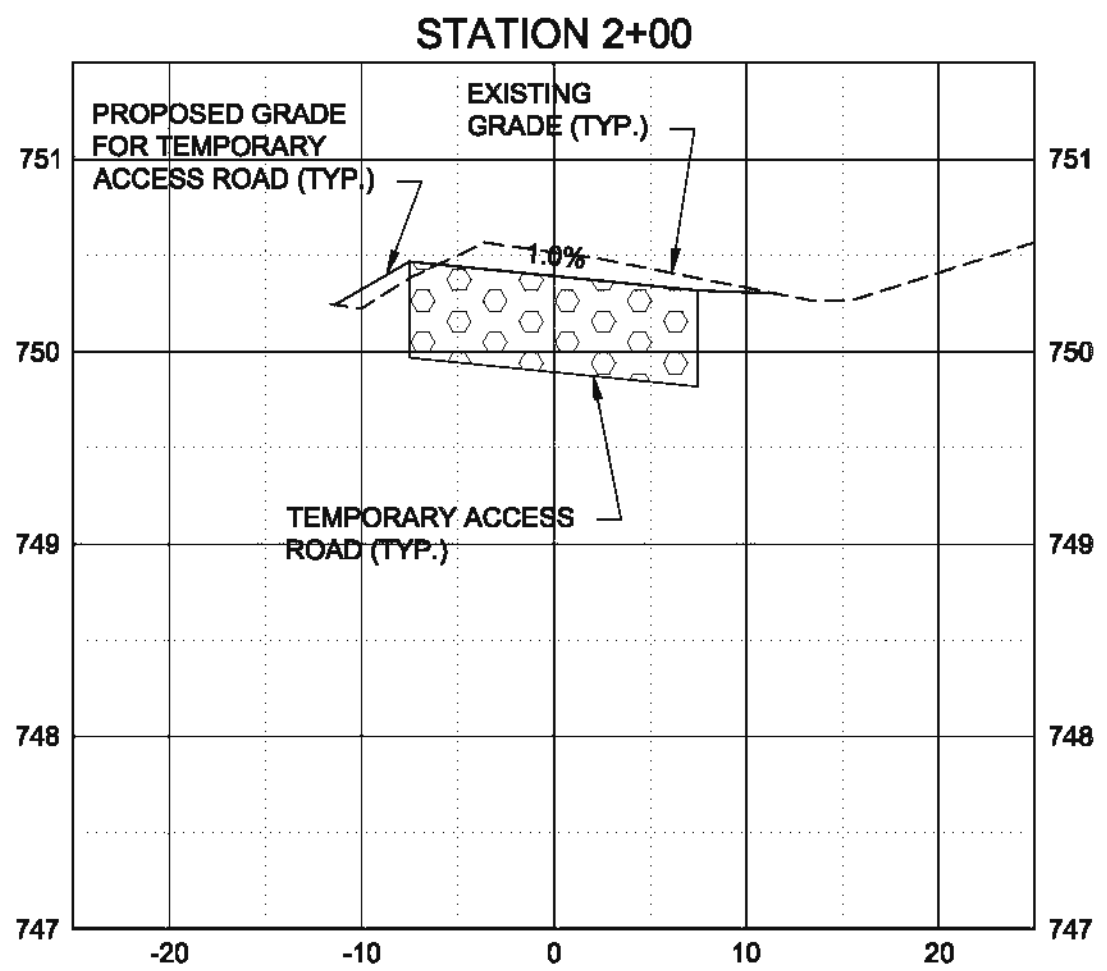
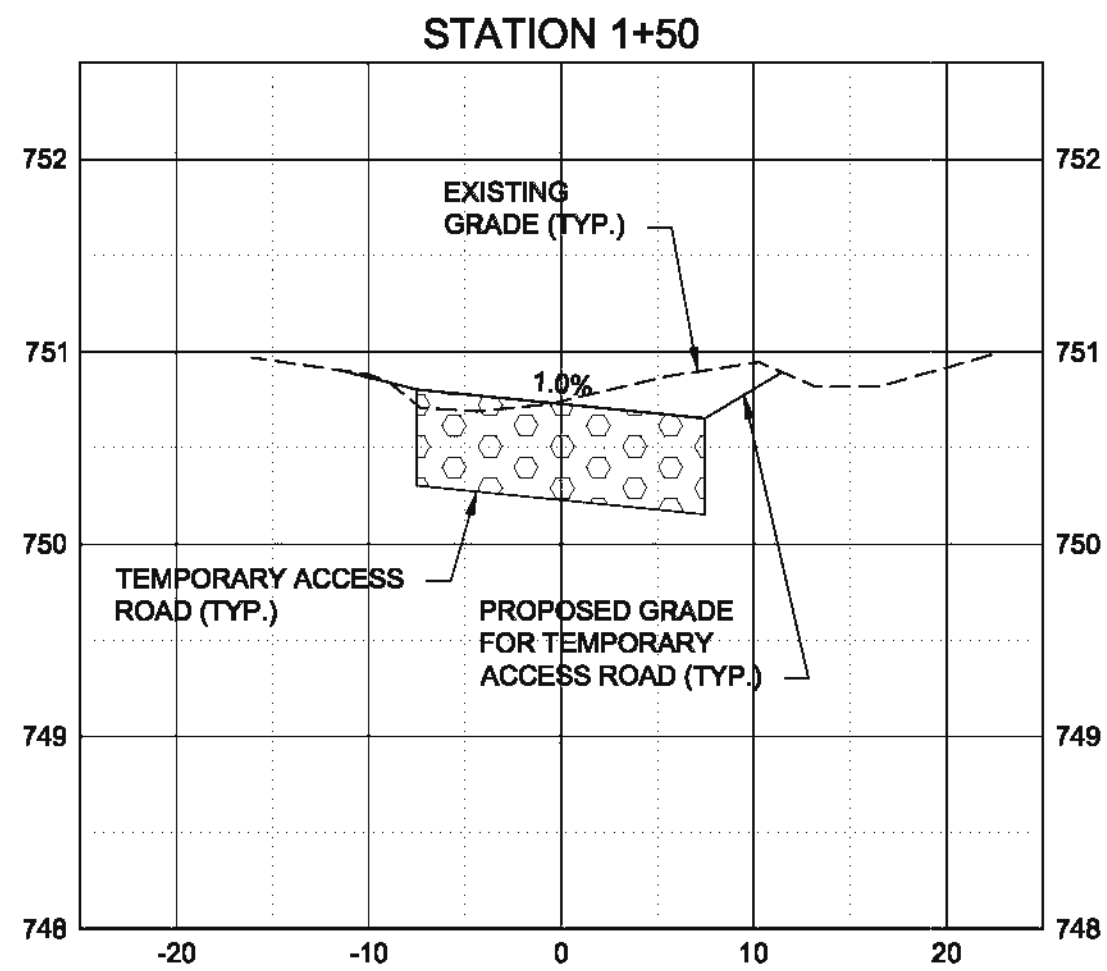
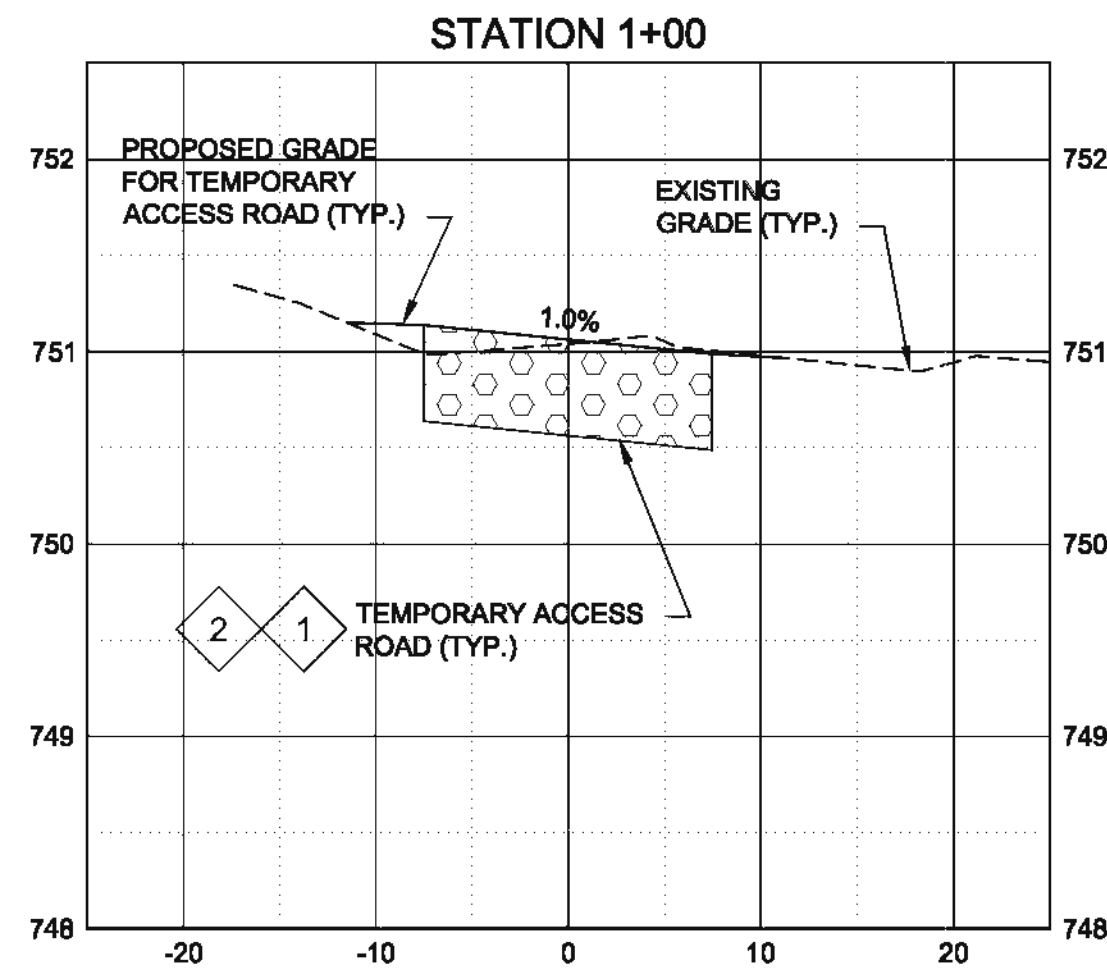
CIVIL

WISCONSIN AVE
TEMPORARY
ACCESS ROAD PLAN
& PROFILE - NORTH

DRAWING NUMBER
C-6

SHEET NUMBER
9 OF 31

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NOTES:

- 1 TEMPORARY GRAVEL ACCESS ROAD. MATERIALS, DIMENSIONS (WIDTH & THICKNESS), AND LOCATION TO BE DETERMINED BY CONTRACTOR. TEMPORARY ACCESS ROAD SHALL BE CONSTRUCTED OF SUITABLE MATERIALS & DIMENSIONS TO SUPPORT CONTRACTOR'S OPERATIONS.
- 2 FOLLOWING COMPLETION OF POND CONSTRUCTION TEMPORARY ACCESS ROAD SHALL BE REMOVED & AREA SHALL BE RESTORED AS PER RESTORATION PLANS. SEE SHEET C-15.



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER

DRAWN: M WEGNER

CHECKED: K MATTFIELD

APPROVED: K MATTFIELD

FILENAME
10-C-7_ACCESS_XSEC.DWG

BC PROJECT NUMBER
148928

CLIENT PROJECT NUMBER
G-19

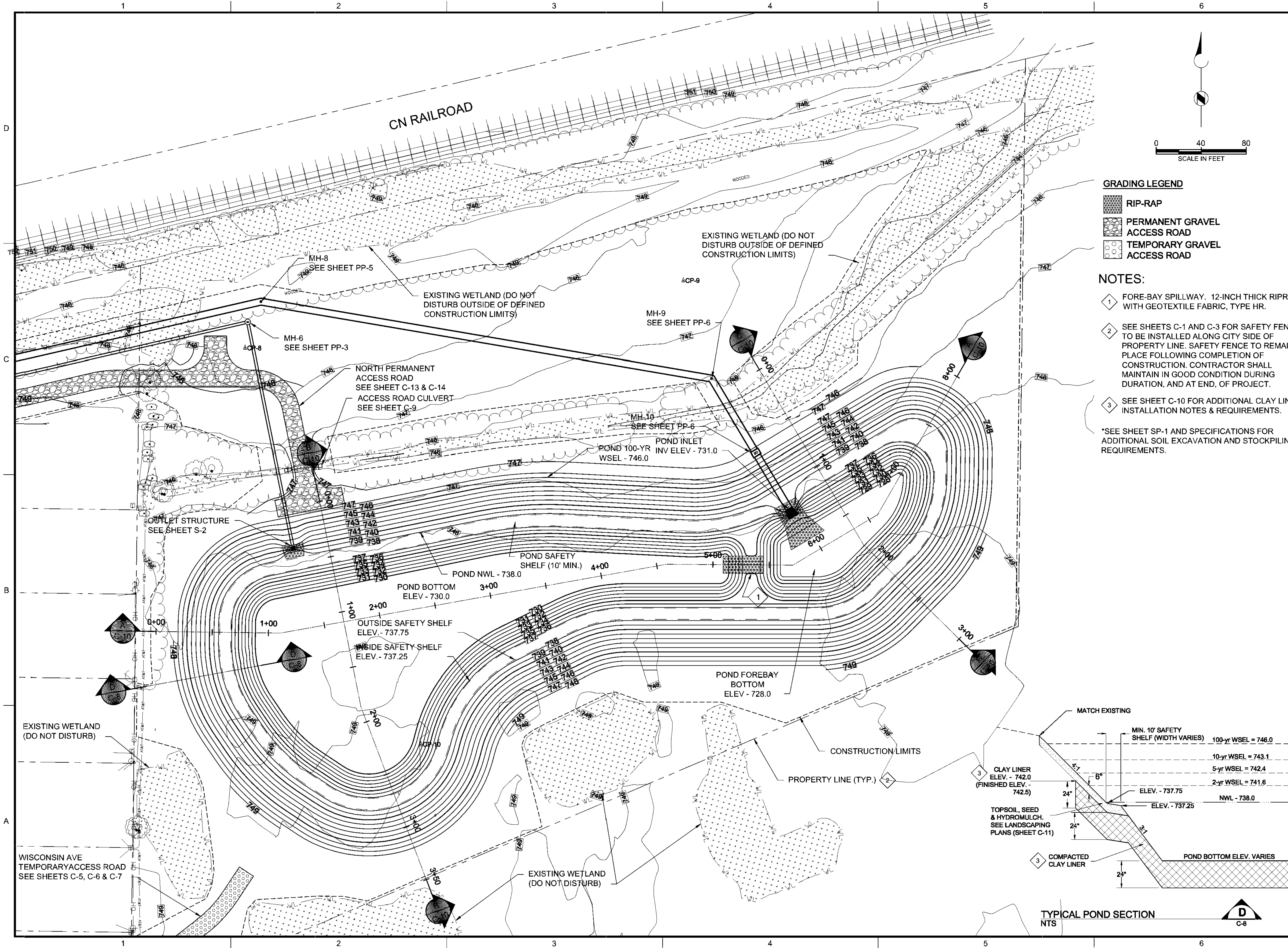
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WISCONSIN AVE
TEMPORARY
ACCESS ROAD
CROSS SECTIONS

DRAWING NUMBER
C-7

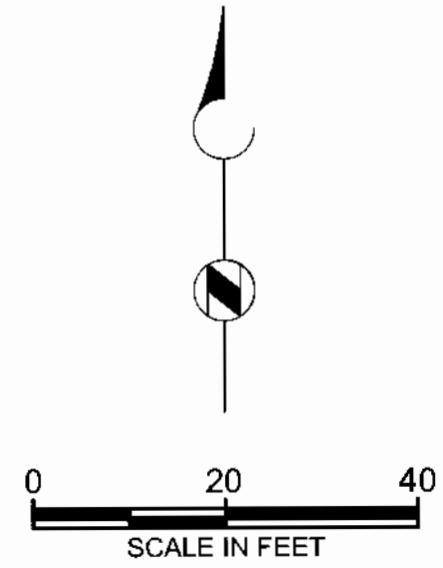
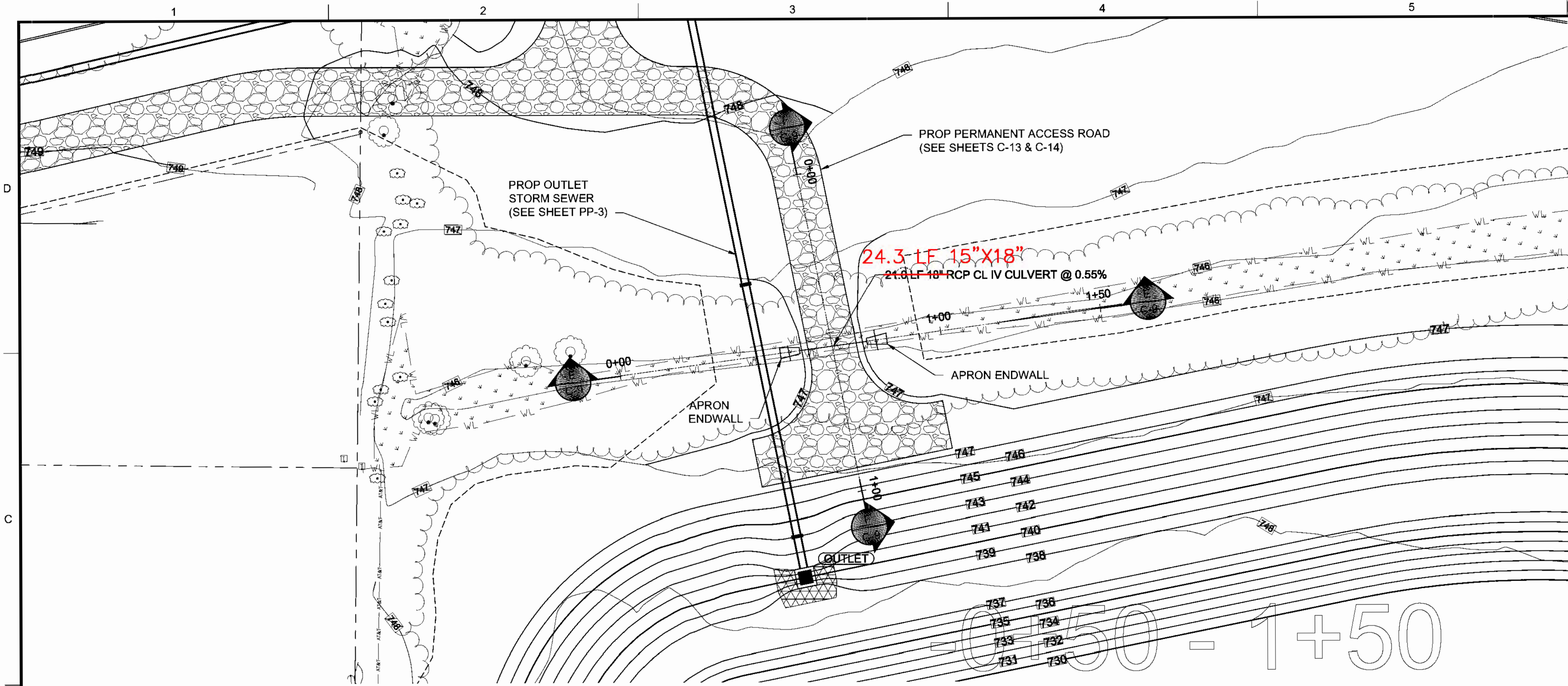
SHEET NUMBER
10 OF 31

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P:\P:\APPLETON CITY OF\148928 2016C LEONA STREET FINAL DESIGN\CADD\12-SHEETS\CIVIL FILENAME: 12-C-9_POND_ACCESS_CULVERT.DWG PLOT DATE: 12/11/18 8:41 AM CAD USER: MIKE WEGNER

cityofAppleton_logo_mpw.jpg



LEONA STREET STORMWATER POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
CHECKED:
APPROVED: K MATTFIELD

FILENAME
12-C-9_POND_ACCESS_CULVERT.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

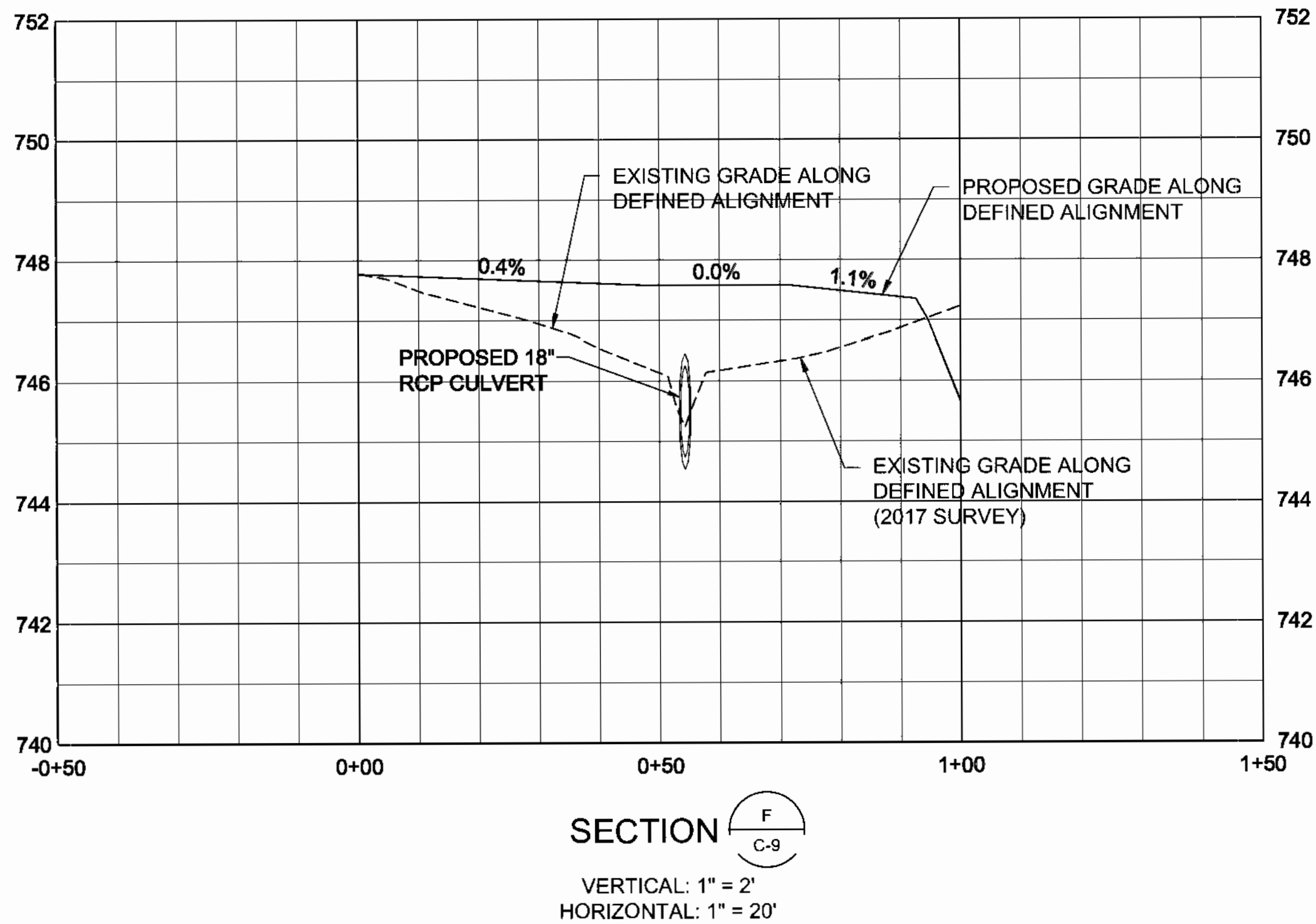
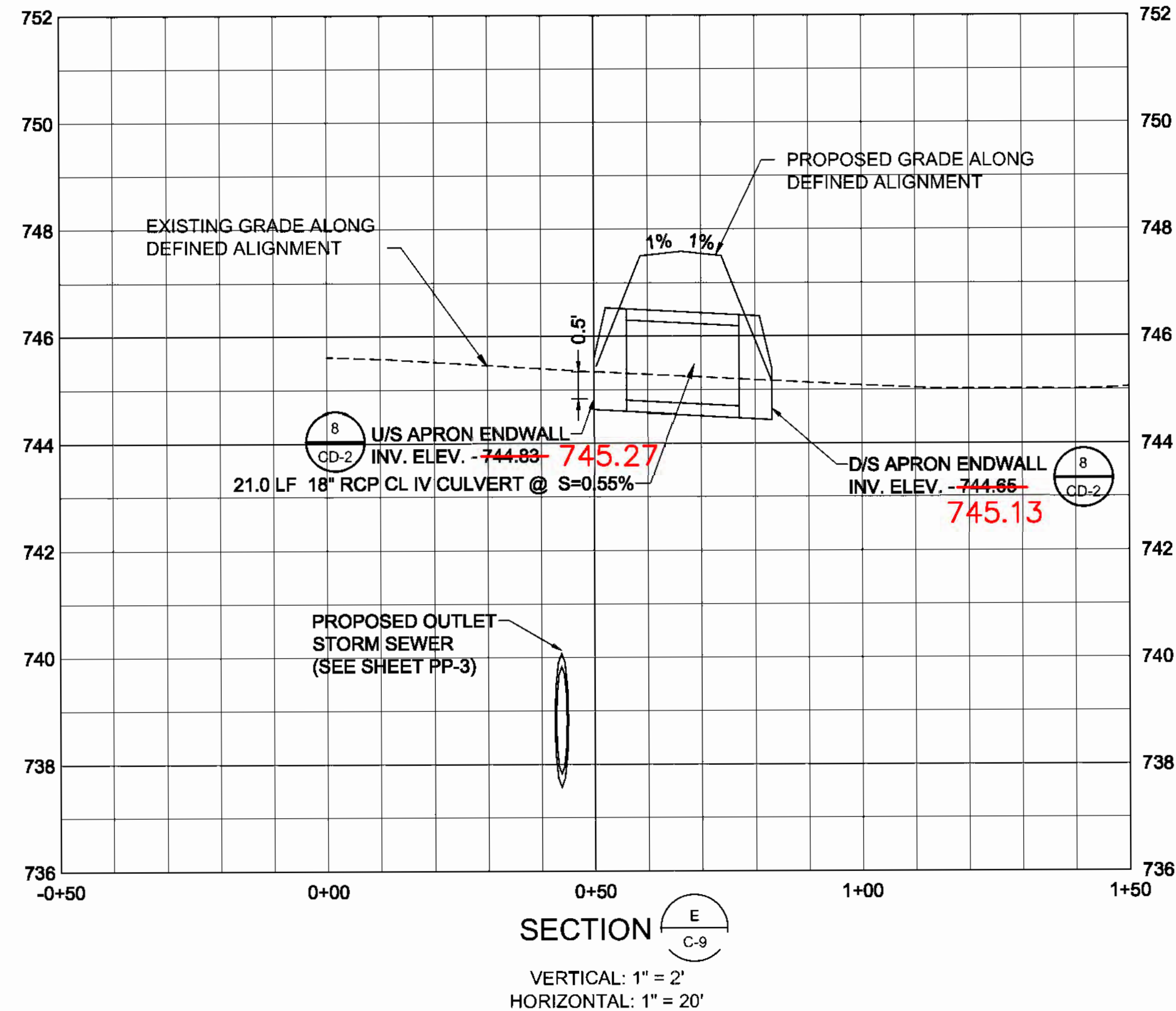
CIVIL

POND PERMANENT ACCESS CULVERT GRADING & CROSS SECTIONS

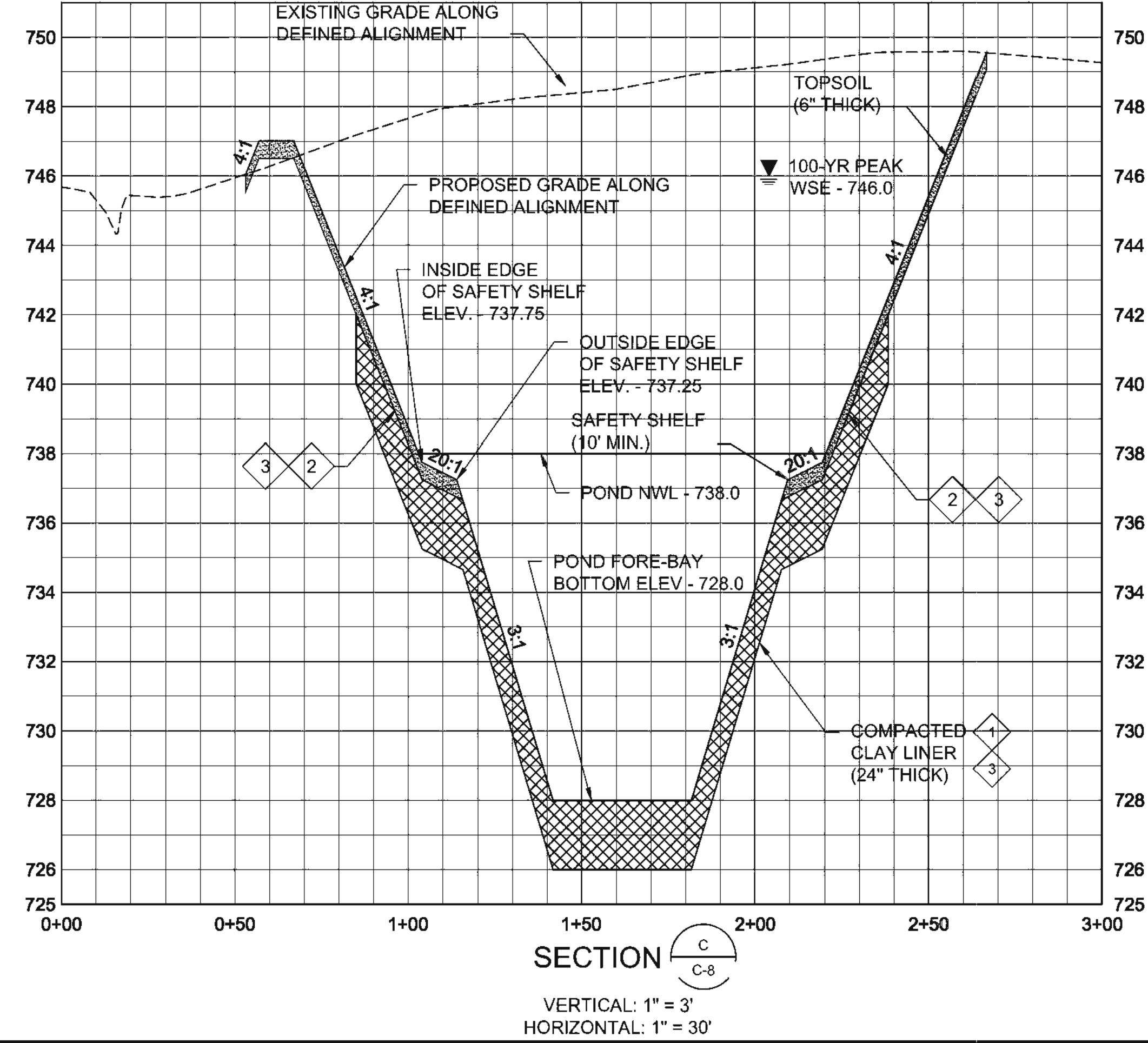
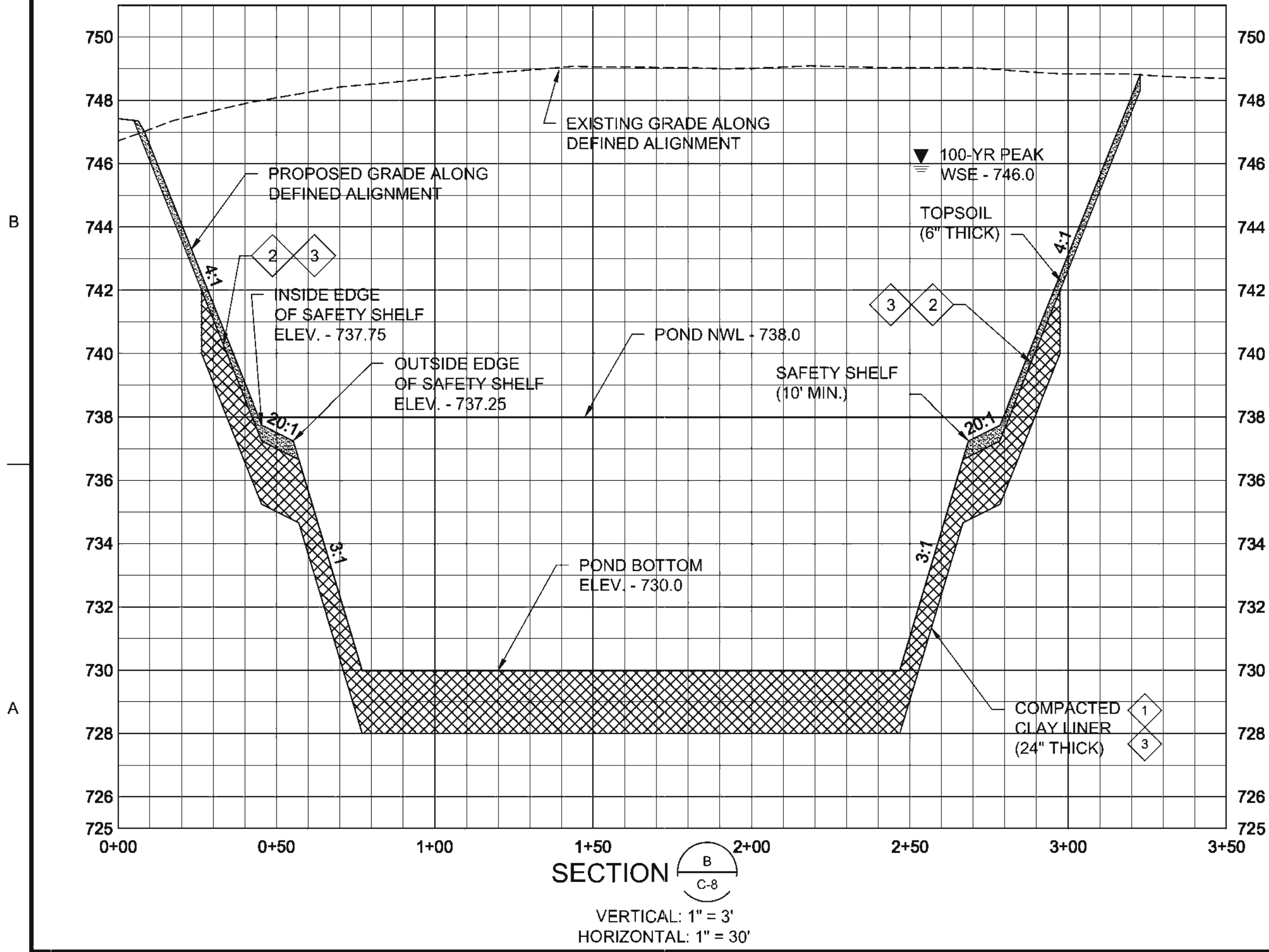
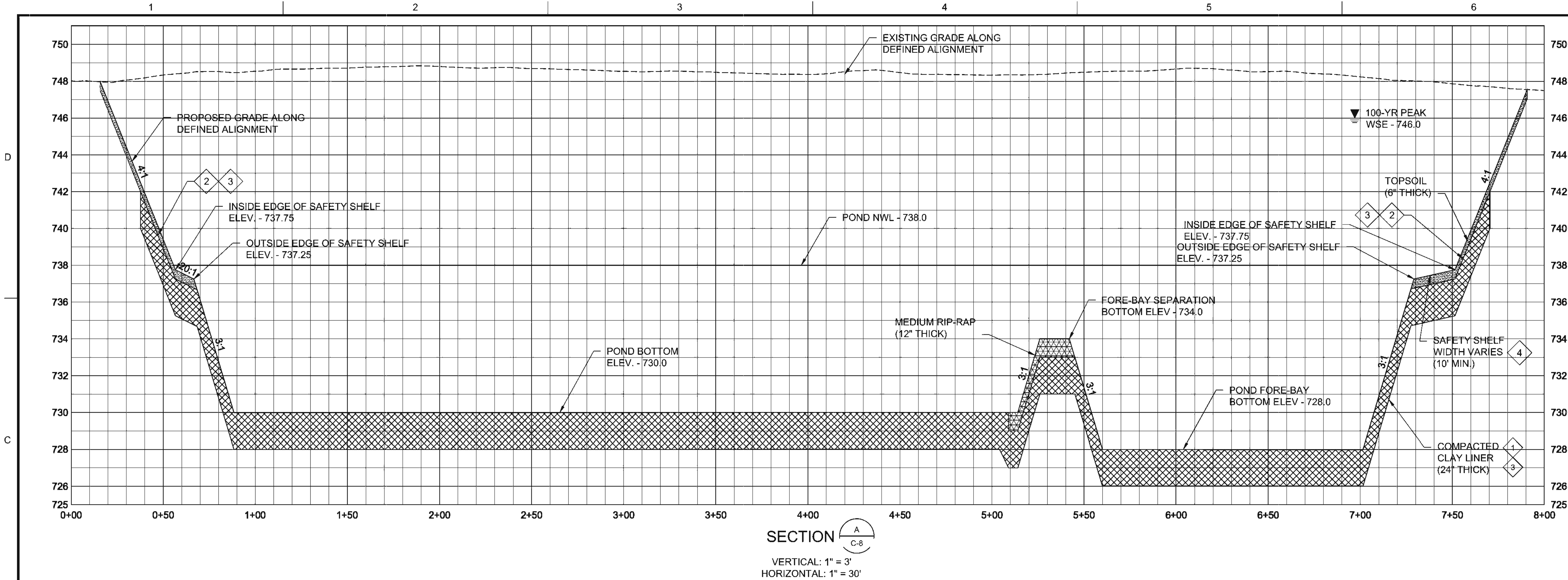
DRAWING NUMBER

C-9

SHEET NUMBER
12 OF 31



Path: P:\APPLETON CITY OF\148928 2016C LEONA STREET FINAL DESIGN\CADD\2-SHEETS\C-CIVIL FILENAME: 13-C-10_POND_X-SEC.DWG PLOT DATE: 12/11/18 8:43 AM CAD USER: MIKE WEGNER
cityofappleton_kgo_mpw.jpg



NOTES:

- CLAY LINER MAY BE ELIMINATED WHERE IN-SITU SOILS MEET CLAY LINER SPECIFICATIONS.
- SCARIFY & COMPACT TOP 12" OF EXISTING CLAY MATERIAL FROM FINISHED SUB-GRADE ELEVATION 736.75 TO 742.0 (BOTTOM OF SCARIFICATION = 735.75 TO 741.0). SEE SPECIFICATIONS.
- SOILS CONSISTING OF MAJORITY SAND OR SILT, AS DETERMINED BY ENGINEER, SHALL BE REMOVED & REPLACED WITH COMPACTED CLAY LINER AS PER SPECIFICATIONS.
- SAFETY SHELF WIDTH VARIES. ELEVATIONS FOR INSIDE AND OUTSIDE EDGES OF SAFETY SHELF SHALL REMAIN CONSTANT. SLOPE ACROSS SAFETY SHELF VARIES.



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

DESIGNED: M WEGNER	
DRAWN: M WEGNER	
CHECKED: K MATTFIELD	
APPROVED: K MATTFIELD	
FILENAME 13-C-10_POND_X-SEC.DWG	
BC PROJECT NUMBER 148928	
CLIENT PROJECT NUMBER G-19	

CIVIL

POND CROSS
SECTIONS

DRAWING NUMBER	
C-10	
SHEET NUMBER 13 OF 31	

cityofAppleton_logo_mpw.jpg



2 AREAS OUTSIDE HYDROMULCH INSTALLATION LIMITS SHALL RECEIVE SEED & MULCH AS PER SPECIFICATIONS.

3 SEE SHEETS C-1 AND C-3 FOR SAFETY FENCE TO BE INSTALLED ALONG CITY SIDE OF PROPERTY LINE. SAFETY FENCE TO REMAIN IN PLACE FOLLOWING COMPLETION OF PROJECT. CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION DURING DURATION, AND AT END, OF PROJECT.

3 SEE SHEETS C-1 AND C-3 FOR SAFETY FENCE TO BE
INSTALLED ALONG CITY SIDE OF PROPERTY LINE.
SAFETY FENCE TO REMAIN IN PLACE FOLLOWING
COMPLETION OF PROJECT. CONTRACTOR SHALL
MAINTAIN IN GOOD CONDITION DURING DURATION,
AND AT END, OF PROJECT.

<u>TREE SPECIES LIST</u>	<u>QTY</u>
NORTHERN WHITE CEDAR	313
TAMARACK	112
WHITE PINE	67
PAPER BIRCH	50
BALSAM POPLAR	50

<u>TREE SPECIES LIST</u>	<u>Q</u>
NORTHERN WHITE CEDAR	3
TAMARACK	1
WHITE PINE	6
PAPER BIRCH	5
BALSAM POPLAR	5

TREE SPECIES LIST		QTY
WP	WHITE PINE	3
T	TAMARACK	8
WC	NORTHERN WHITE CEDAR	17

TREE SPECIES LIST		QTY
WP	WHITE PINE	3
T	TAMARACK	8
WC	NORTHERN WHITE CEDAR	17

Cover Crop - Phase 1	
If Planting Before August 15	Annual Rye
If Planting After August 15	Winter Wheat
Annual cover crop to be installed in conjunction with shoreline and side slope zone seeding (40 lbs per Acre).	

Cover Crop - Phase 1	
If Planting Before August 15	Annual Rye
If Planting After August 15	Winter Wheat
Annual cover crop to be installed in conjunction with shoreline and side slope zone seeding (40 lbs per Acre).	

 RIP-RAP **SIDE SLOPE SEEDING**  6
TURF-GRASS SEED MIX

PERMANENT GREEN
ACCESS ROAD

★ PROPOSED CONIFEROUS TREE

POND LANDSCAPING SEED & PLANT LISTS

Emergent Zone - Phase 2

Latin Name	Common Name
A- <i>Iris virginicus</i>	Southern Blue-Flag
B- <i>Sagittaria latifolia</i>	Broad-Leaved Arrowhead
C- <i>Schoenoplectus tabernae-montani</i>	Great Bulrush
D- <i>Sparganium eurycarpum</i>	Giant Bur Reed
E- <i>Schoenoplectus fluviatilis</i>	River Bulrush

Shoreline Zone

Forbs (6 lbs per Acre) - Phase 2

Latin Name	Common Name
<i>Bidens cernua</i>	Beggarticks
<i>Verbena hastata</i>	Blue Vervain
<i>Veronicastrum virginicum</i>	Culver's Root
<i>Aster novae-angliae</i>	New England Aster
<i>Eupatorium maculatum</i>	Joe-pyeweed
<i>Rudbeckia subtomentosa</i>	Sweet Black Eyed Susan

Grasses & Sedges (12 lbs per Acre) - Phase 1

Latin Name	Common Name
<i>Spartina pectinata</i>	Prairie Cord Grass
<i>Panicum virgatum</i>	Switchgrass
<i>Leersia oryzoides</i>	Rice-cut Grass
<i>Carex lacustris</i>	Lake Sedge
<i>Carex stipata</i>	Awl-fruited Sedge

Side Slope Zone

Forbs (6 lbs per Acre) - Phase 2

Latin Name	Common Name
<i>Echinacea purpurea</i>	Purple Coneflower
<i>Ratibida pinnata</i>	Yellow Coneflower
<i>Penstemon digitalis</i>	Smooth Pentstemon
<i>Aster laevis</i>	Smooth Aster
<i>Monarda fistulosa</i>	Wild Bergamot
<i>Solidago rigida</i>	Stiff Goldenrod
<i>Rudbeckia subtomentosa</i>	Sweet Black Eyed Susan
<i>Rudbeckia triloba</i>	Brown Eyed Susan

Grasses (12 lbs per Acre) - Phase 1

Latin Name	Common Name
<i>Sorghastrum nutans</i>	Indian Grass
<i>Andropogon gerardi</i>	Big Blue Stem
<i>Panicum virgatum</i>	Switchgrass
<i>Bouteloua curtipendula</i>	Side Oats Grama
<i>Elymus canadensis</i>	Canada Wild Rye

Wetland Zone

Grasses (16 lbs per Acre) - Phase 1	
-------------------------------------	--

Latin Name	Common Name
<i>Leersia oryzoides</i>	Rice-cut Grass
<i>Bouteloua gracilis</i>	Blue Grama
<i>Spartina pectinata</i>	Prairie Cord Grass
<i>Sorghastrum nutans</i>	Indian Grass

Tree Reforestation Zone

Grasses (40 lbs per Acre) - Phase 1

Latin Name	Common Name
<i>Elymus canadensis</i>	Canada Wild Rye
<i>Elymus virginicus</i>	Virginia Wild Rye
<i>Elymus villosus</i>	Silky Wild Rye

SIDE SLOPE TOPSOIL DEPTH = 6"

CLAY LINER TOP ELEV. - 742.0
(FINISHED GROUND ELEV. - 742.5)

NOTES:
***CLAY LINER MAY BE ELIMINATED WHERE**
NATIVE SOILS ARE SUITABLE. SEE
SPECIFICATIONS.
****SEE SHEET C-9 FOR ADDITIONAL CLAY**
LINER REQUIREMENTS.

NOTES:
*CLAY LINER MAY BE ELIMINATED WHERE
NATIVE SOILS ARE SUITABLE. SEE
SPECIFICATIONS.
**SEE SHEET C-9 FOR ADDITIONAL CLAY
LINER REQUIREMENTS.

1' OVERLAP
SIDE SLOPE ZONE VARIES
SHORELINE ZONE 8'

PERMANENT POOL
ELEV. - 738.0

SAFETY SHELF
TOPSOIL DEPTH = 6"
WIDTH VARIES - MINIMUM 10'

3:1

POND BOTTOM
ELEV. VARIES

TYPICAL CROSS SECTION DETAIL



LEONA STREET
STORMWATER
POND

[illegible]

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED:	M WEGNER
DRAWN:	M WEGNER
CHECKED:	K MATTFIELD
CHECKED:	
APPROVED:	K MATTFIELD
FILENAME 14-C-11_POND_LANDSCAPING.DWG BC PROJECT NUMBER 148928 CLIENT PROJECT NUMBER G-19	

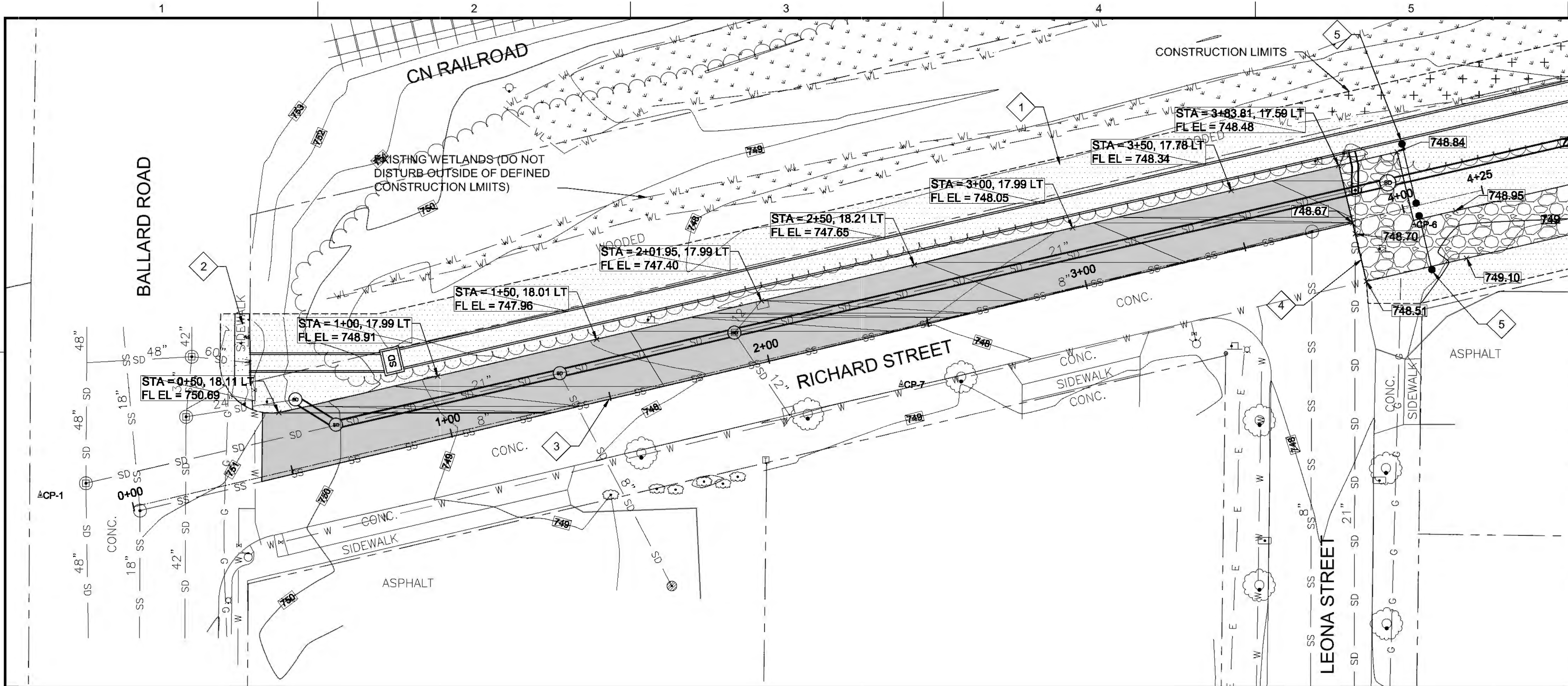
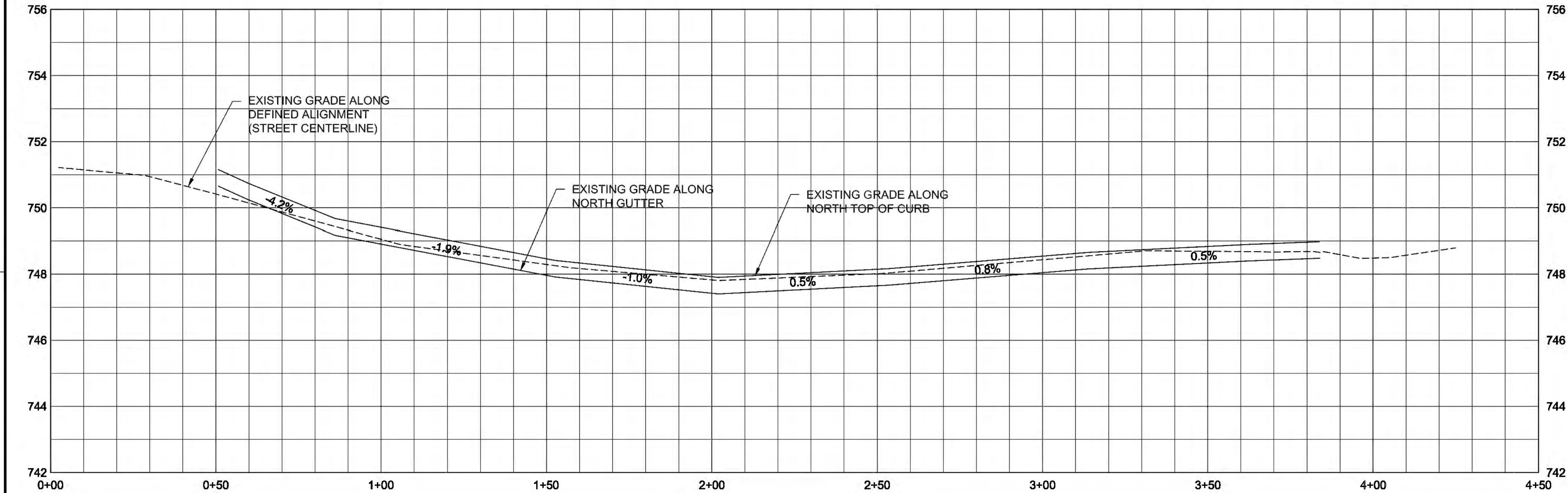
CIVIL POND RESTORATION PLAN

DRAWING NUMBER

C-11

SHEET NUMBER
14 OF 31

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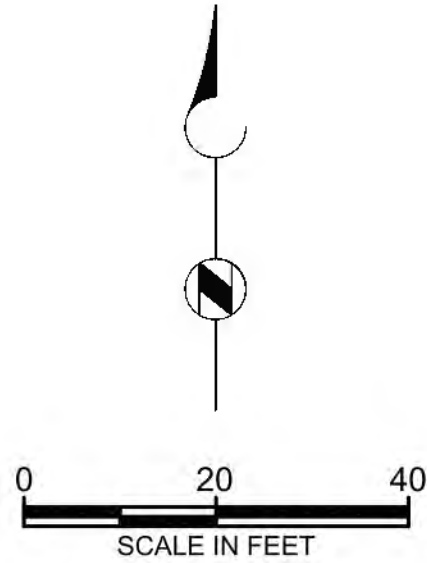


RESTORATION LEGEND

- PERMANENT WETLAND SEEDING
- TURF-GRASS SEED MIX
- PERMANENT GRAVEL ACCESS ROAD
- CONCRETE PAVEMENT
- ASPHALT PAVEMENT

NOTES:

- AREAS OUTSIDE HYDROMULCH INSTALLATION LIMITS SHALL RECEIVE SEED & MULCH AS PER SPECIFICATIONS.
- SIDEWALK RESTORATION AS PER SPECIFICATIONS.
- FULL DEPTH SAWCUT REQUIRED ALONG ALL EDGES OF PAVEMENT REMOVAL. SAWCUT SHALL OCCUR IMMEDIATELY PRIOR TO RESTORATION SUCH THAT A VERTICAL PAVEMENT EDGE EXISTS FOR PAVEMENT RESTORATION.
- CONTRACTOR SHALL MAINTAIN TRACKING PAD (SEE SHEET C-2) DURING CONSTRUCTION. REMOVE & RESTORE PER RESTORATION PLAN FOLLOWING CONSTRUCTION.
- FURNISH & INSTALL ENTRANCE BARRICADE. SEE SPECIFICATIONS.



LEONA STREET STORMWATER POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
15-C-12_RICHARDRESTORATION.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

CIVIL

RICHARD ST RESTORATION PLAN

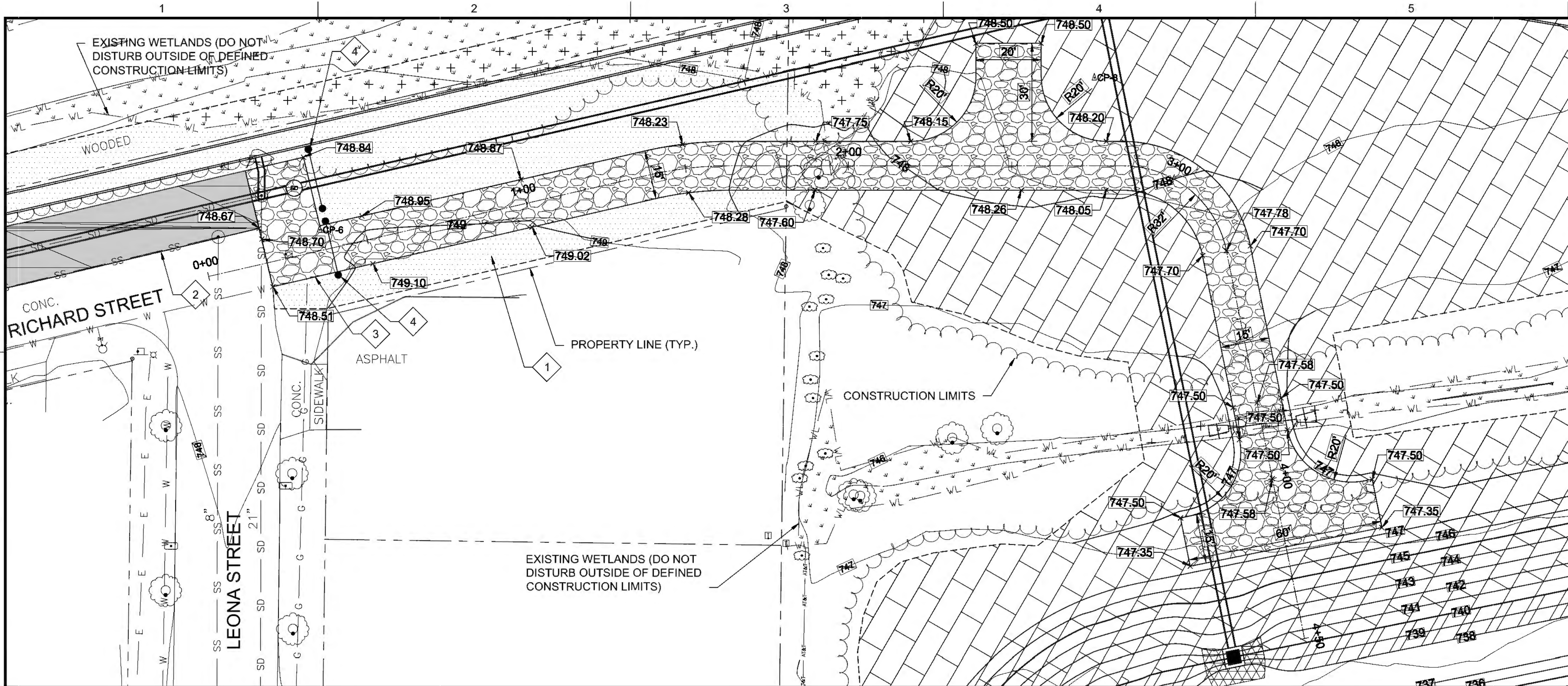
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C-12

SHEET NUMBER
15 OF 31

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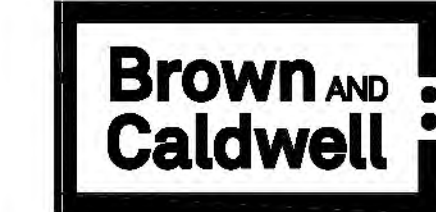
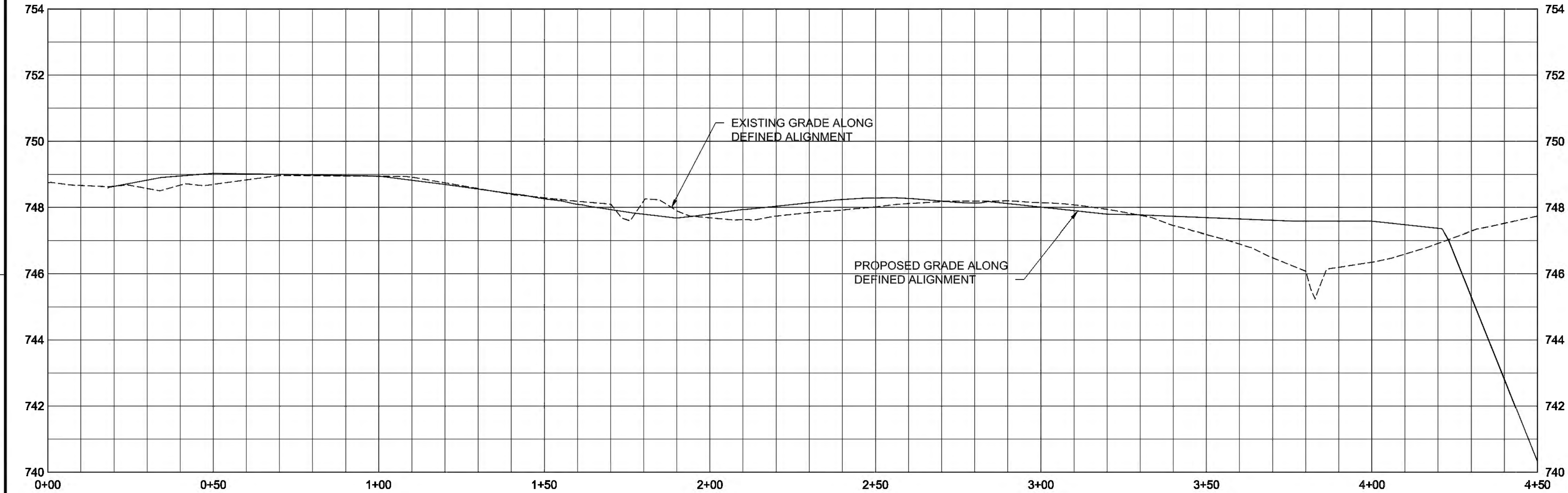
cityofAppleton_logo_mnw.jpg



RESTORATION LEGEND

- RIP-RAP
- SHORELINE SEEDING
- SIDE SLOPE SEEDING
- PERMANENT WETLAND SEEDING
- TURF-GRASS SEED MIX
- PERMANENT GRAVEL ACCESS ROAD
- ASPHALT PAVEMENT

- AREAS OUTSIDE HYDROMULCH INSTALLATION LIMITS SHALL RECEIVE SEED & MULCH AS PER SPECIFICATIONS.
- FULL DEPTH SAWCUT REQUIRED ALONG ALL EDGES OF PAVEMENT REMOVAL. SAWCUT SHALL OCCUR IMMEDIATELY PRIOR TO RESTORATION SUCH THAT A VERTICAL PAVEMENT EDGE EXISTS FOR PAVEMENT RESTORATION.
- CONTRACTOR SHALL MAINTAIN TRACKING PAD (SEE SHEET C-2) DURING CONSTRUCTION. REMOVE & RESTORE PER RESTORATION PLAN FOLLOWING CONSTRUCTION.
- FURNISH & INSTALL ENTRANCE BARRICADE. SEE SPECIFICATIONS.



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER

DRAWN: M WEGNER

CHECKED: K MATTFIELD

APPROVED: K MATTFIELD

FILENAME
16-C-13_NORTH_ACCESS_P&P.DWG

BC PROJECT NUMBER
148928

CLIENT PROJECT NUMBER
G-19

CIVIL

NORTH PERMANENT
ACCESS ROAD PLAN
& PROFILE

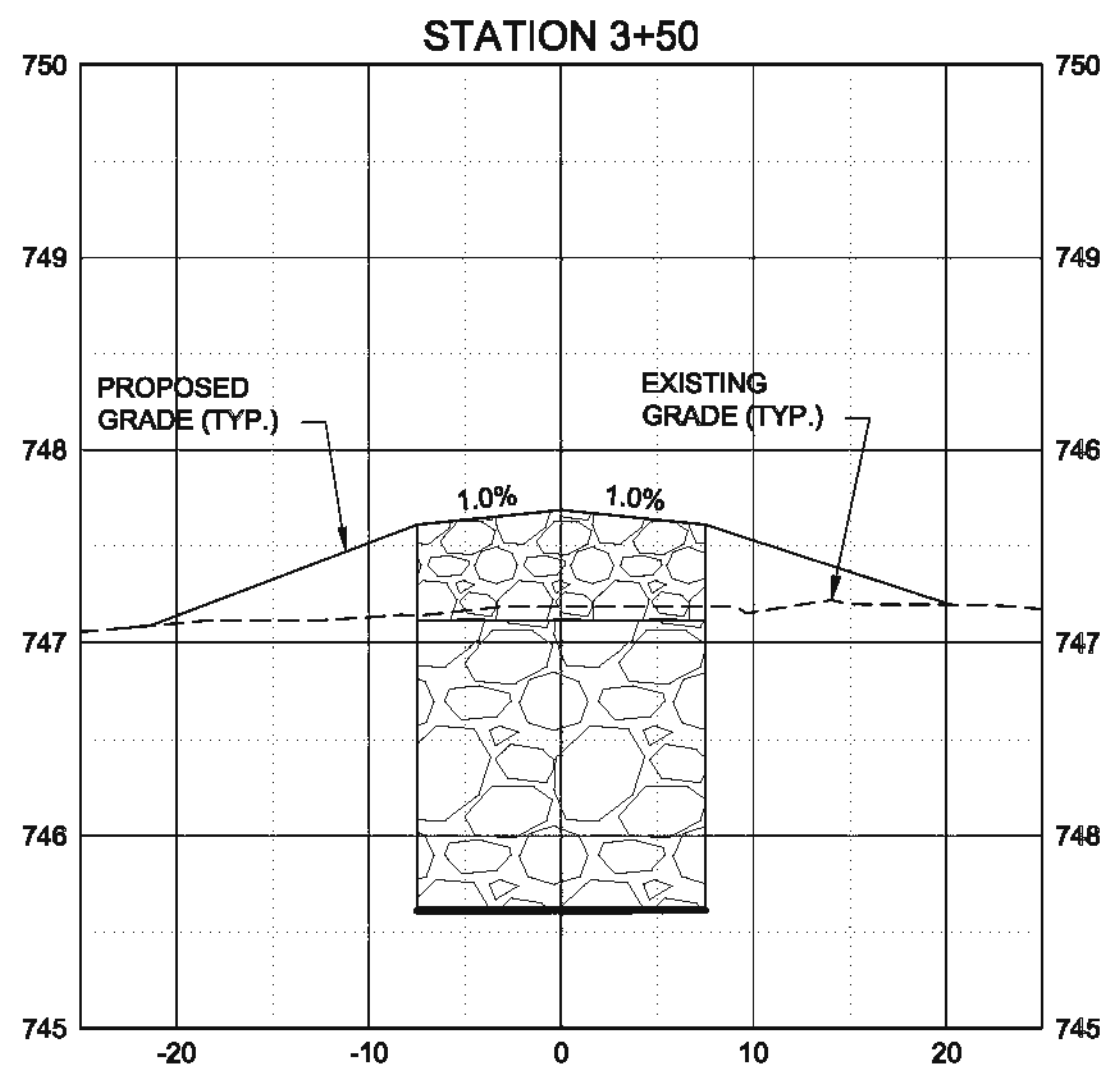
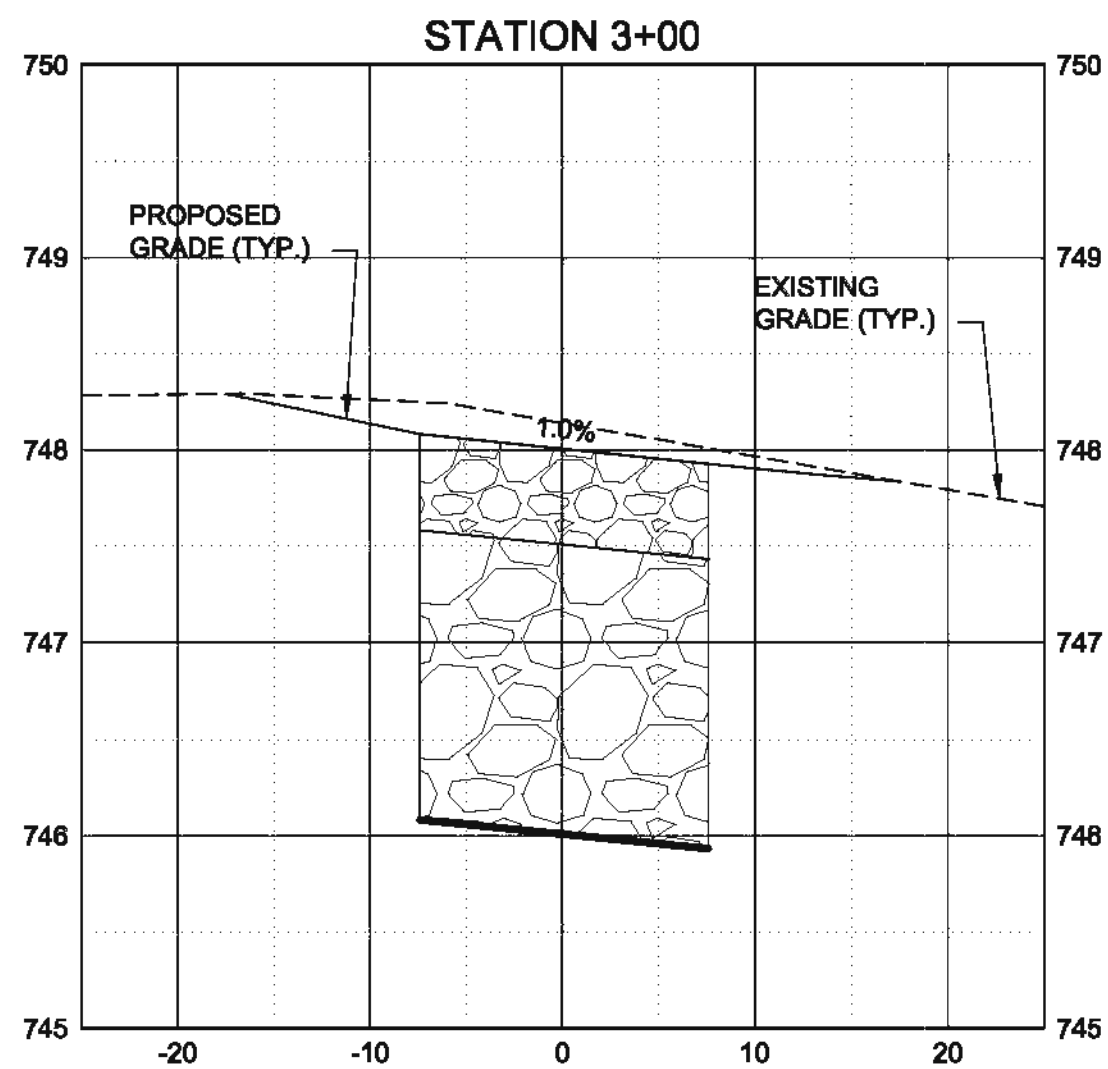
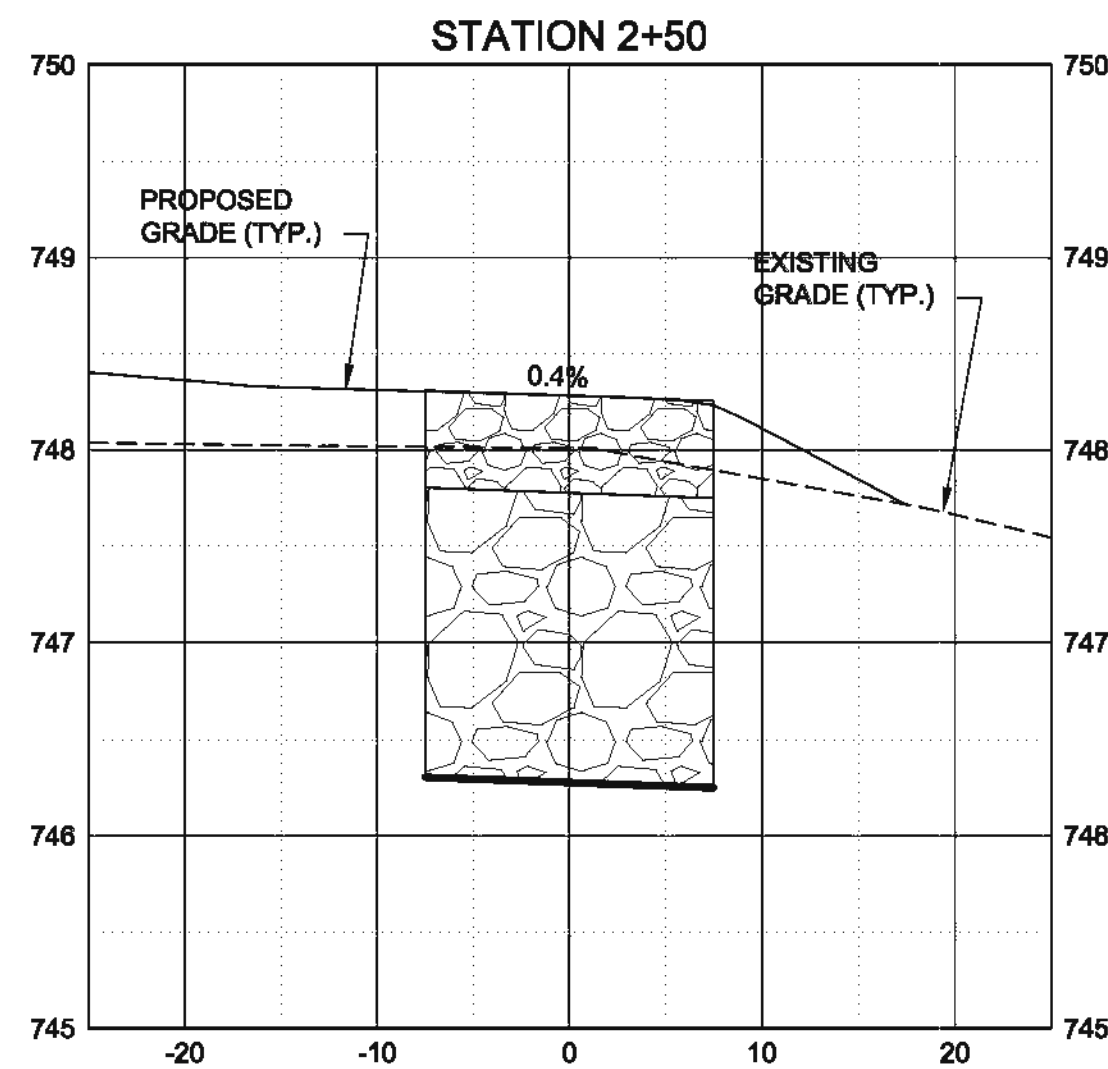
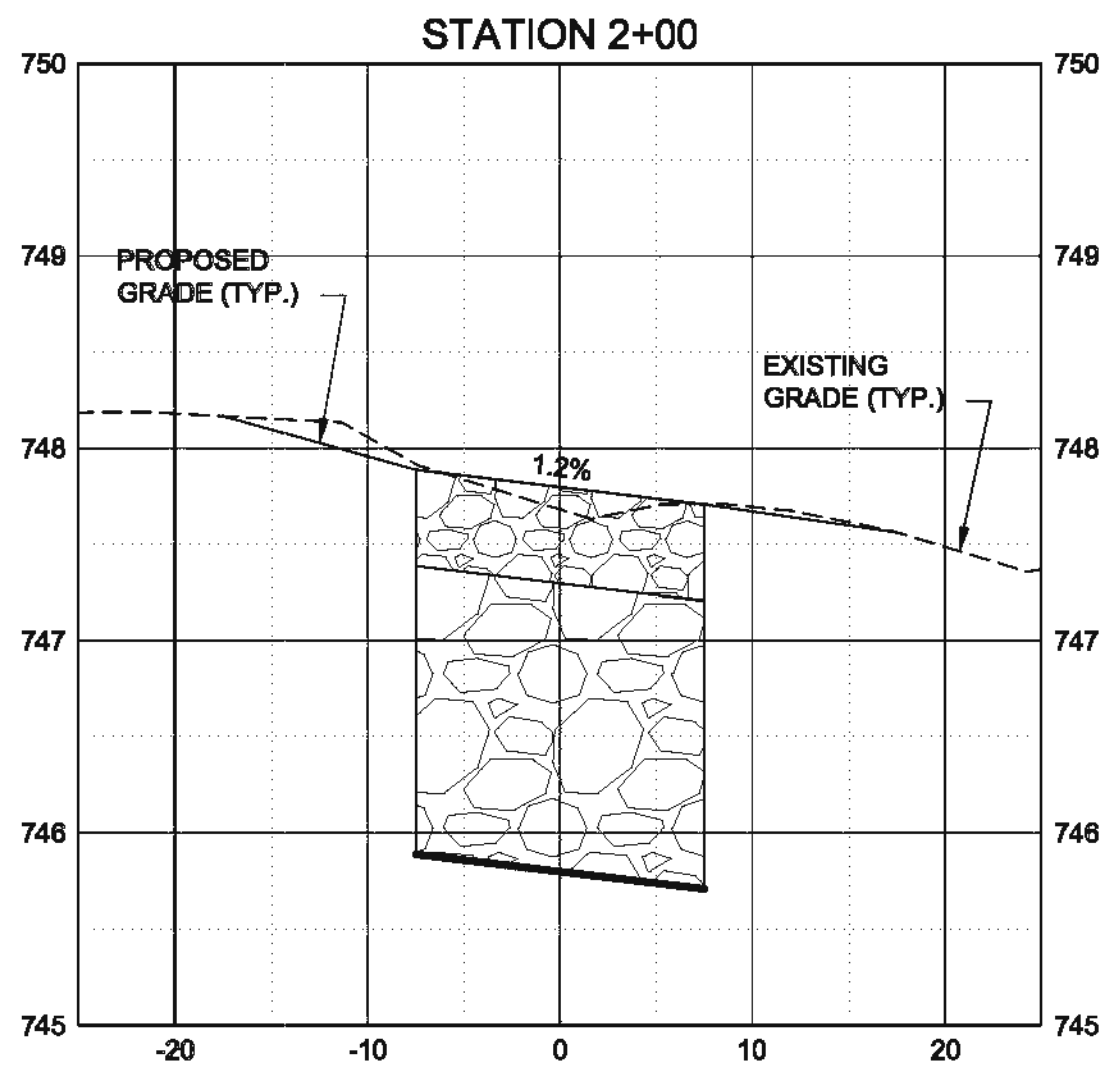
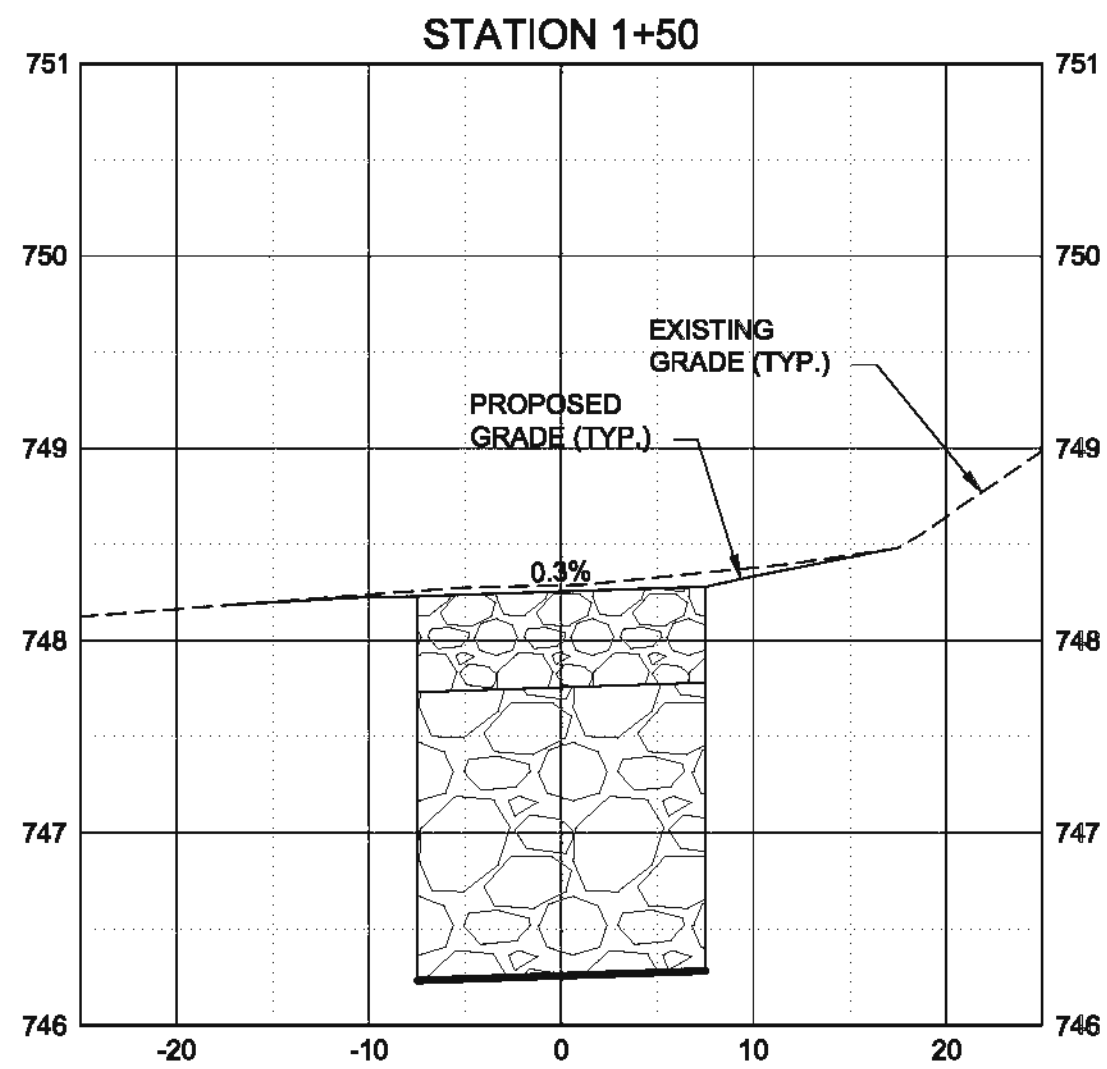
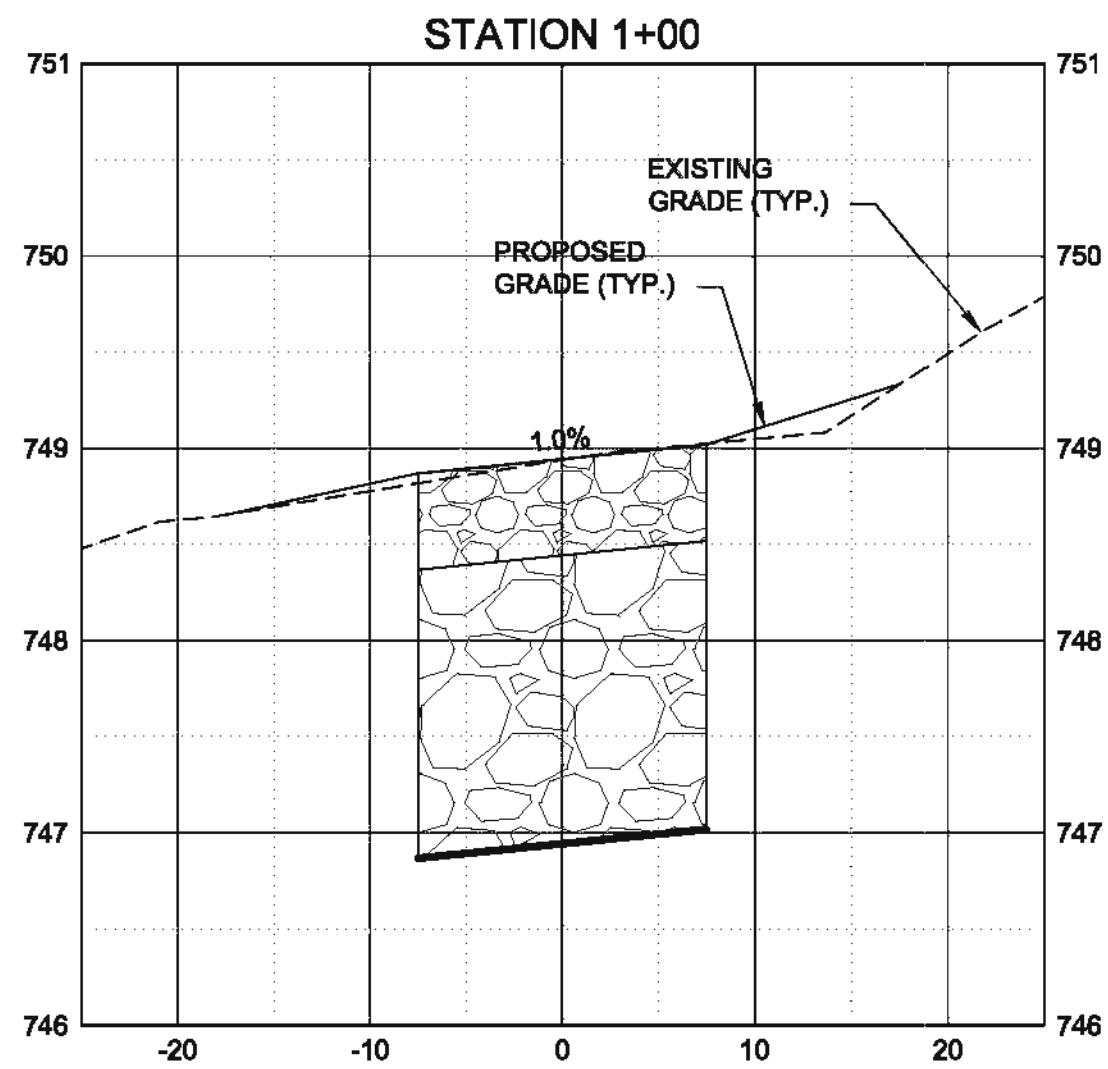
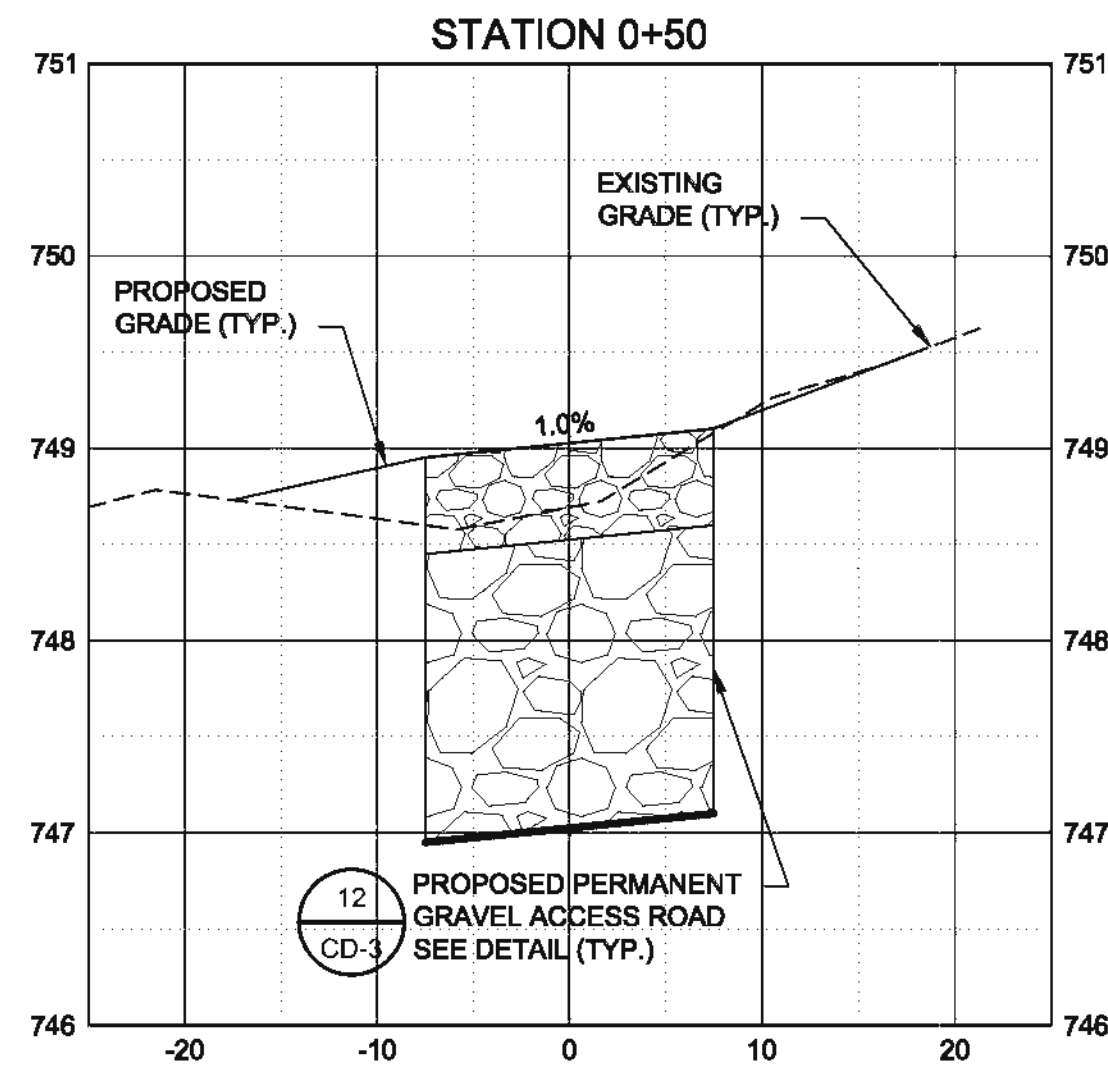
DRAWING NUMBER

C-13

SHEET NUMBER
16 OF 31

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cityofappleton_logo_mnw.jpg



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE
DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
CHECKED: ----
APPROVED: K MATTFIELD
FILENAME 17-C-14_ACCESS_XSEC.DWG
BC PROJECT NUMBER 148928
CLIENT PROJECT NUMBER G-19

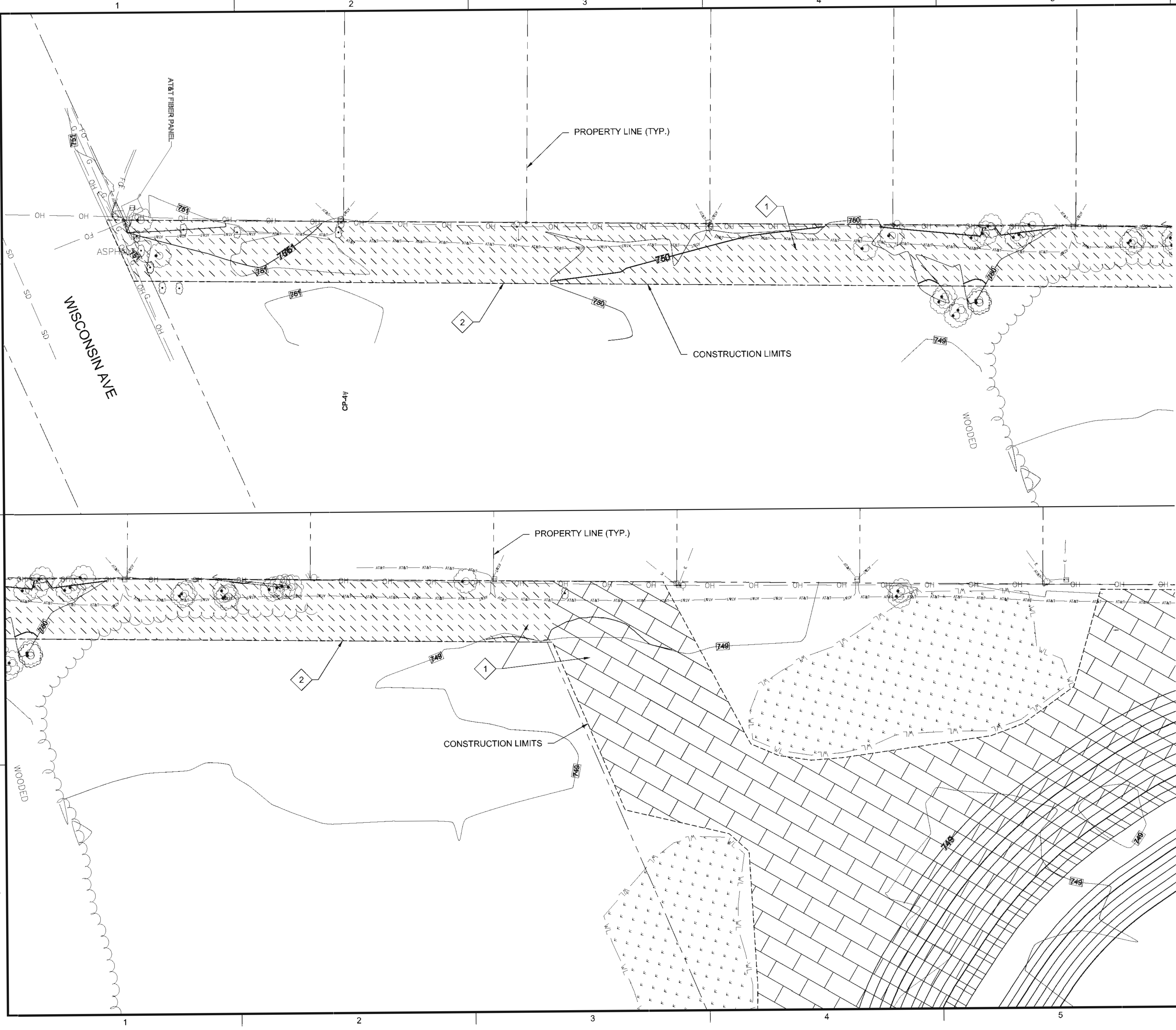
CIVIL

NORTH PERMANENT
ACCESS ROAD
CROSS SECTIONS

DRAWING NUMBER
C-14
SHEET NUMBER
17 OF 31

Path: P:\APPLETON CITY OF\148928 2016C LEONA STREET FINAL DESIGN\CADD\2-SHEETS\CIVIL FILENAME: 18-C-15_WISAVERESTORATION.DWG PLOT DATE: 12/11/18 8:52 AM CAD USER: MIKE WEGNER

cityofAppleton_ugp_mw.dwg



RESTORATION LEGEND

- SHORELINE SEEDING 3
- SIDE SLOPE SEEDING 3
- NO MOW FESCUE SEEDING

NOTES:

- 1 AREAS OUTSIDE HYDROMULCH INSTALLATION LIMITS SHALL RECEIVE SEED & MULCH AS PER SPECIFICATIONS.
- 2 SEE SHEETS C-1 AND C-3 FOR SAFETY FENCE TO BE INSTALLED ALONG CITY SIDE OF PROPERTY LINE. SAFETY FENCE TO REMAIN IN PLACE FOLLOWING COMPLETION OF PROJECT. CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION DURING DURATION, AND AT END, OF PROJECT.
- 3 SEE SHEET C-11 FOR POND RESTORATION PLAN.



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
CHECKED: ----
APPROVED: K MATTFIELD

FILENAME
18-C-15_WISAVERESTORATION.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

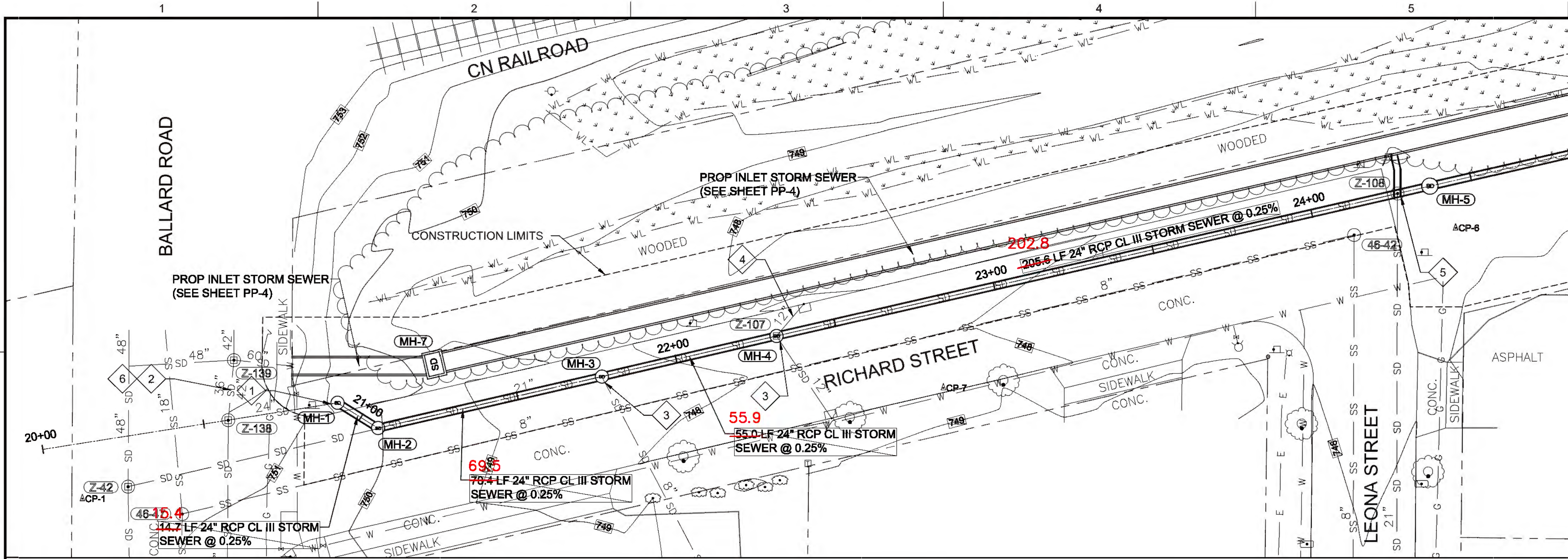
CIVIL

WISCONSIN AVE
TEMPORARY
ACCESS
RESTORATION PLAN

DRAWING NUMBER
C-15

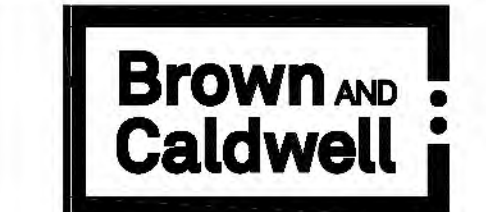
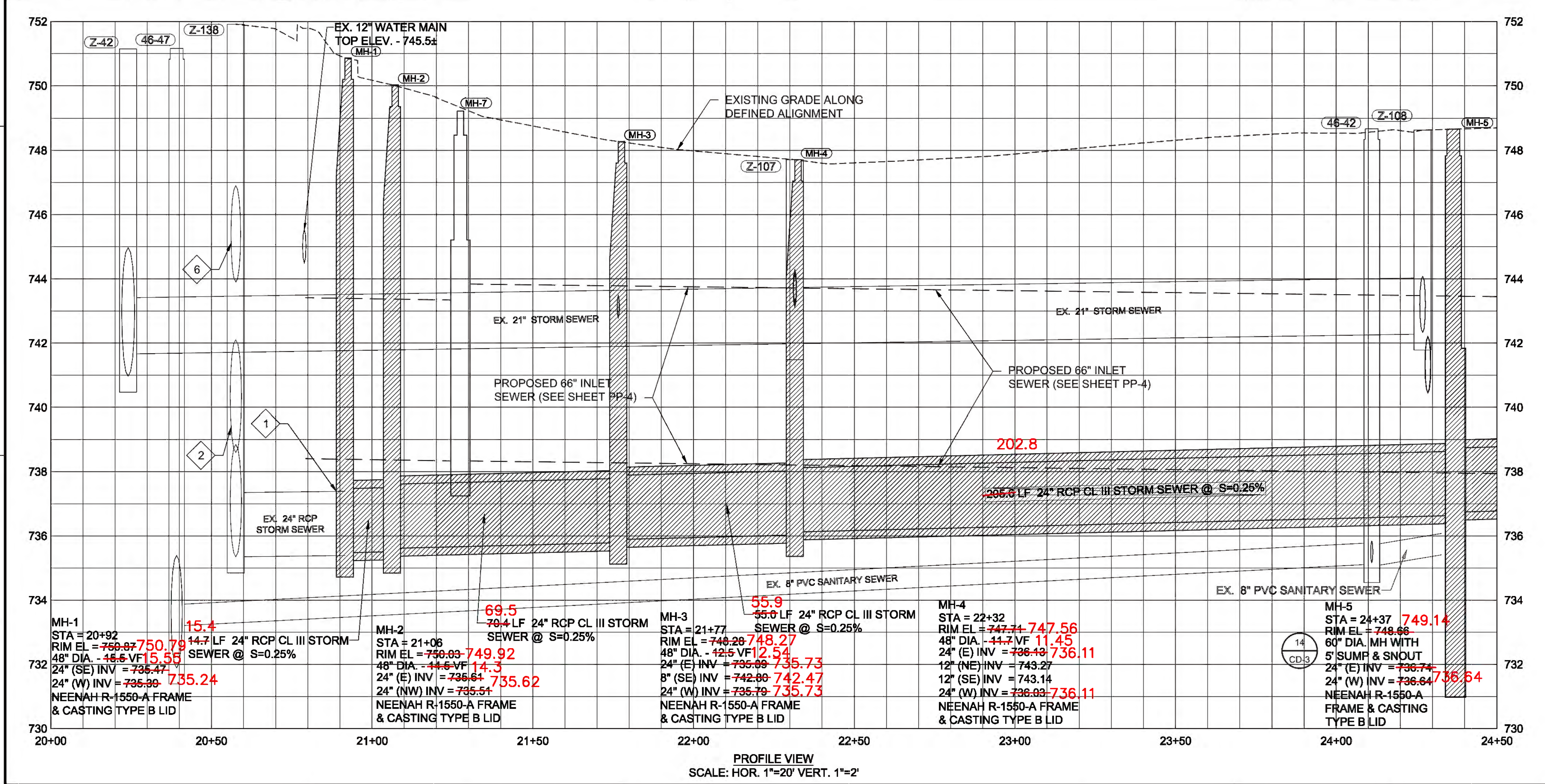
SHEET NUMBER
18 OF 31

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NOTES:

1. CONNECT TO EXISTING STORM SEWER STUB. REMOVE EXISTING BULKHEAD. COST SHALL BE INCIDENTAL TO APPROPRIATE BID ITEMS.
2. BULKHEAD & ABANDON EXISTING 42" STORM SEWER. SEE SPECIFICATIONS.
3. CONNECT TO EXISTING STORM SEWER. COST SHALL BE INCIDENTAL TO APPROPRIATE BID ITEMS.
4. REMOVE, REPLACE & RECONNECT EXISTING INLET & INLET LEAD AS NECESSARY TO CONSTRUCT INLET & OUTLET SEWERS. MAINTAIN DRAINAGE THROUGHOUT CONSTRUCTION.
5. SEE SPECIFICATIONS FOR BEDDING & SUPPORT REQUIREMENTS.
6. EXISTING 36" STORM SEWER TO REMAIN. REMOVE EXISTING BULKHEAD.



LEONA STREET STORMWATER POND

REVISIONS		
REV	DATE	DESCRIPTION

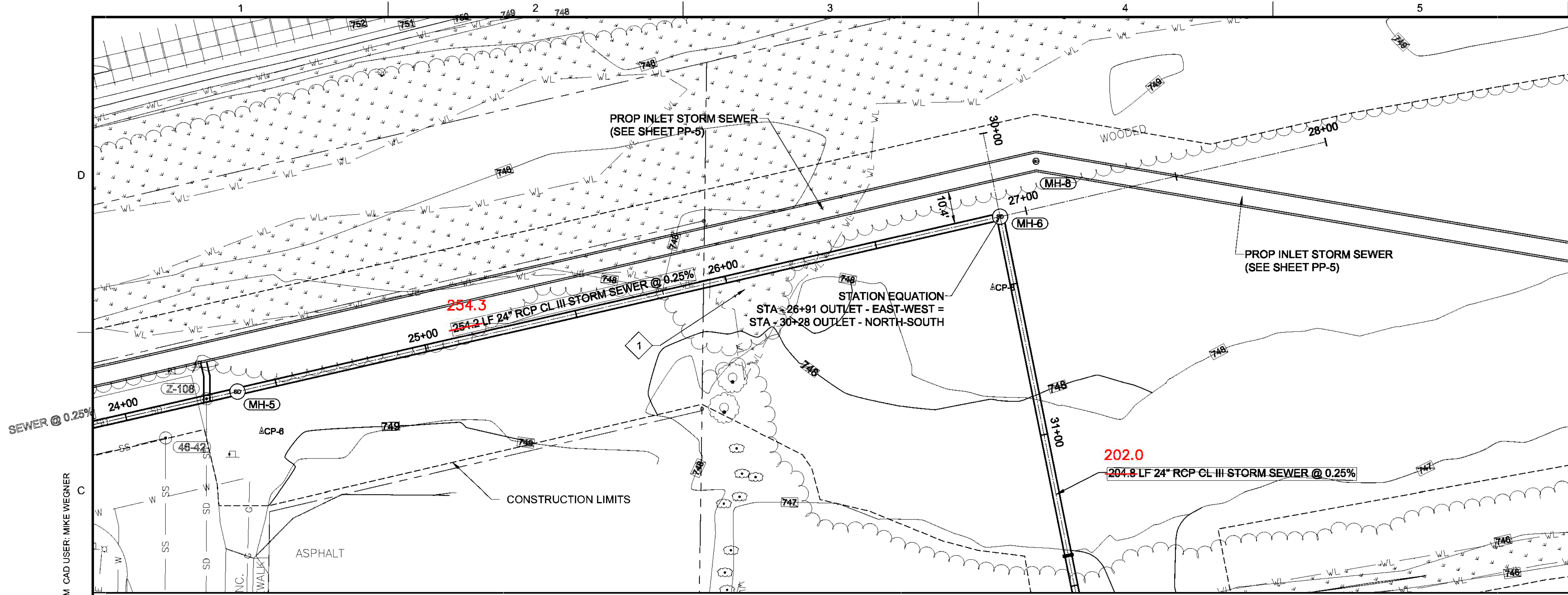
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AT FULL SIZE
DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
CHECKED:
APPROVED: K MATTFIELD
FILENAME
19-PP-1_OUTLET.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

CIVIL

OUTLET STORM SEWER PLAN & PROFILE STA 20+00 - 24+50

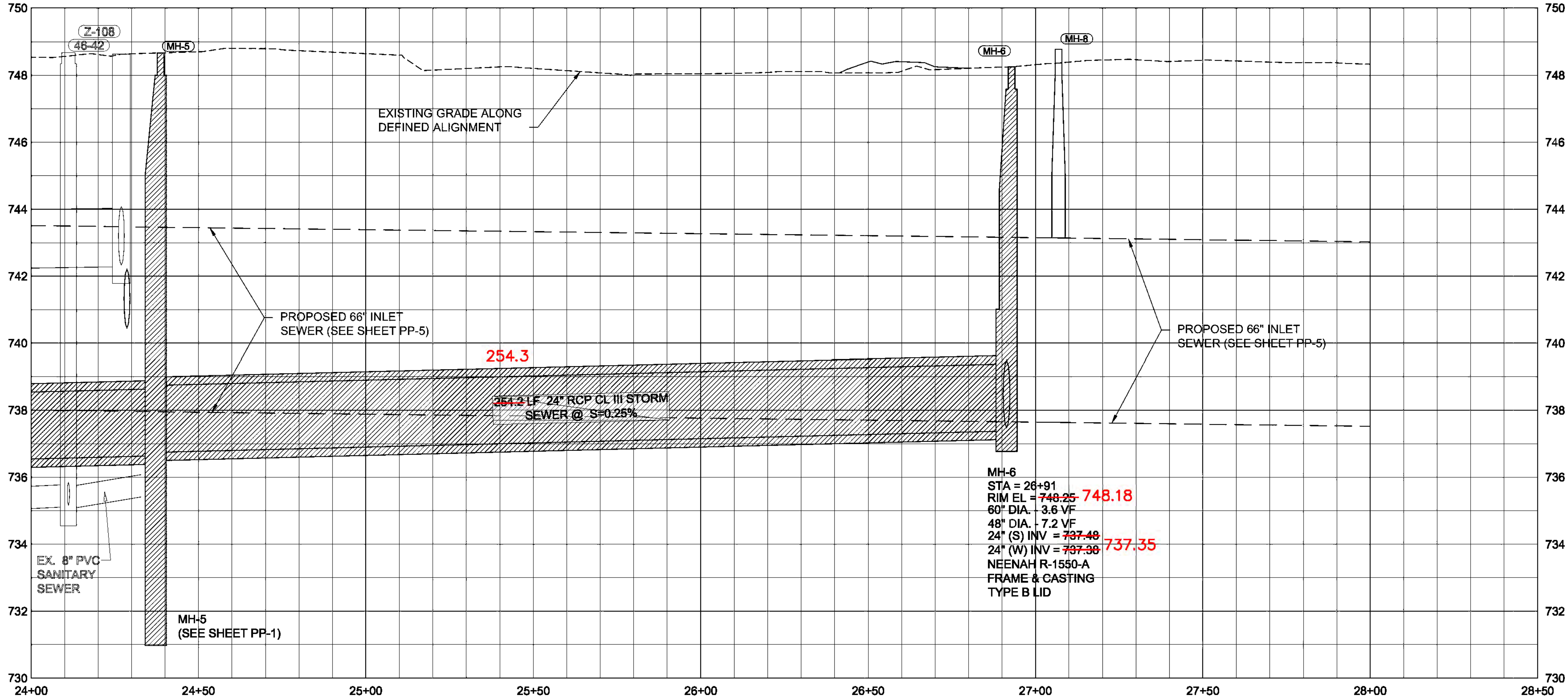
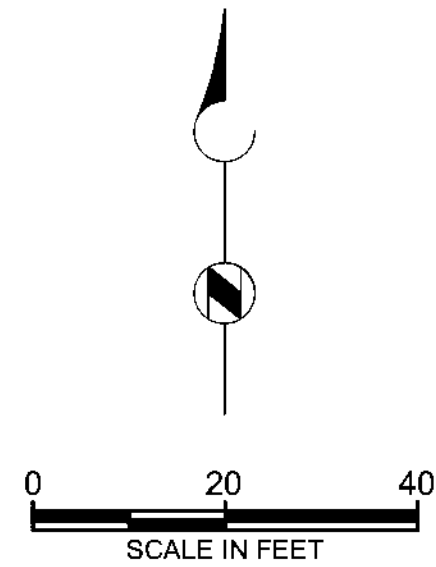
DRAWING NUMBER
PP-1
SHEET NUMBER
19 OF 31

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cityofappleton_logo_mpw.jpg



NOTES:

- 1 SEE SPECIFICATIONS FOR SOIL HANDLING AND BACKFILL REQUIREMENTS FOR CONSTRUCTION WITHIN WETLANDS.



PROFILE VIEW
SCALE: HOR. 1"=20' VERT. 1"=2'

Brown AND Caldwell



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
20-PP-2_OUTLET.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

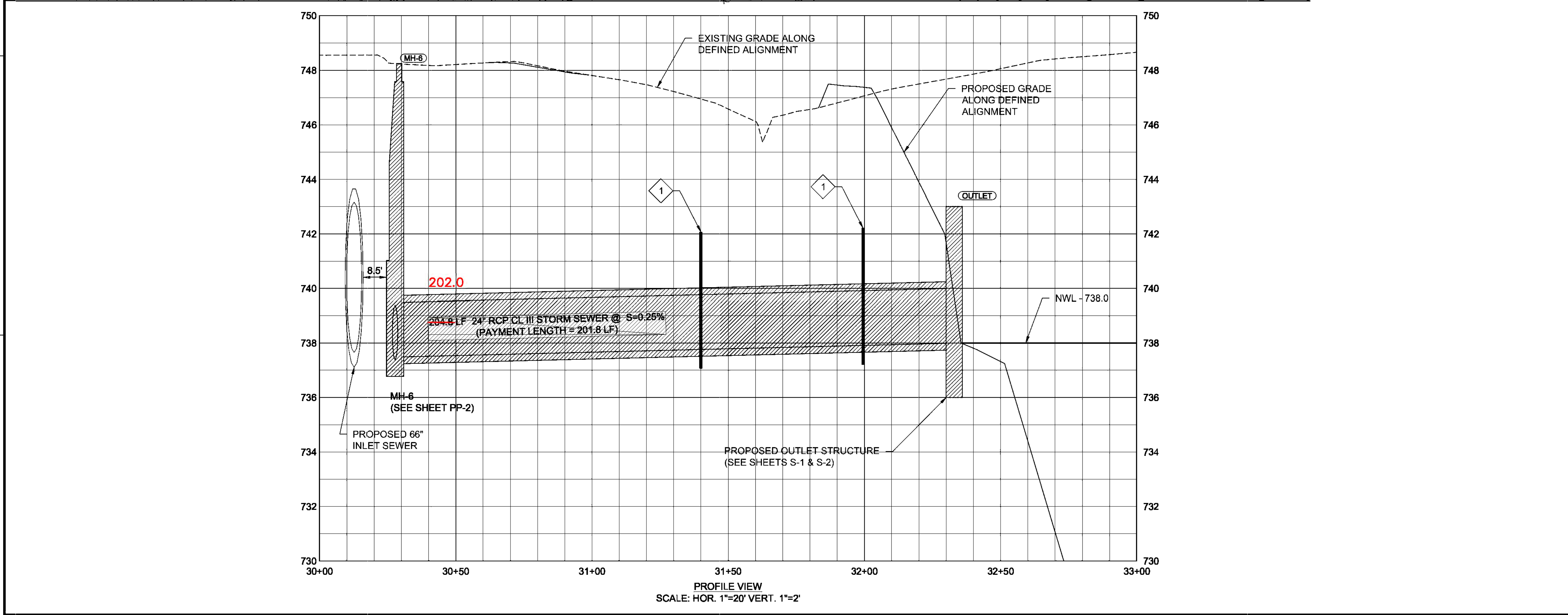
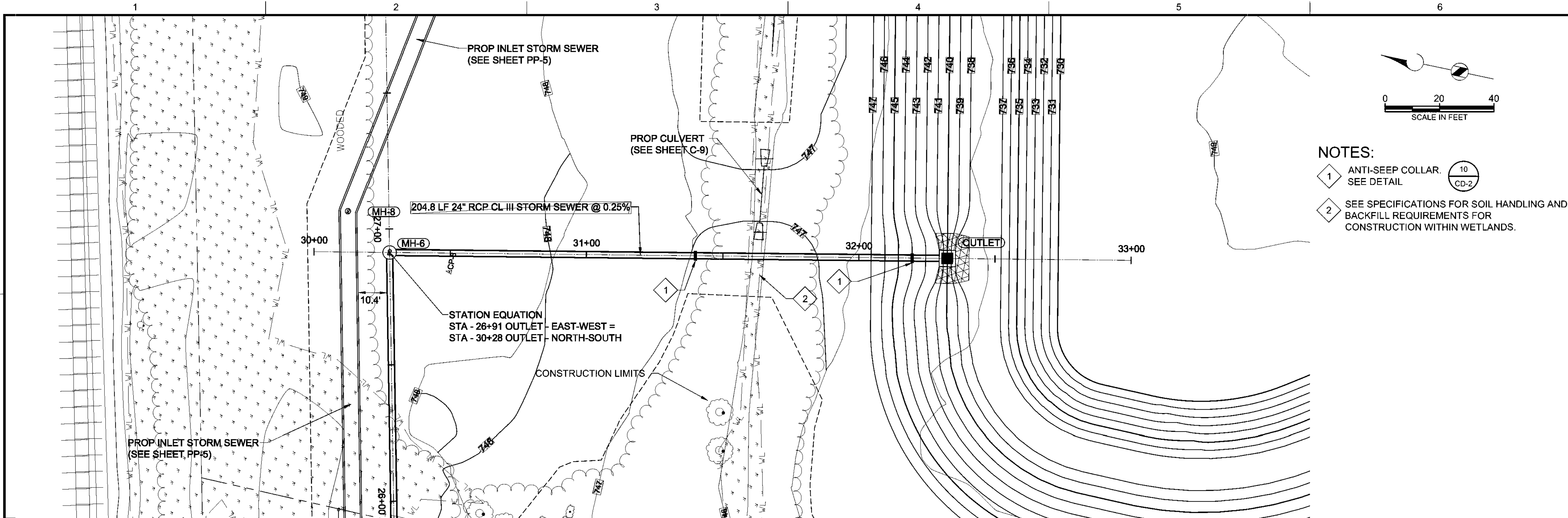
CIVIL

OUTLET STORM
SEWER PLAN &
PROFILE STA 24+50
- 28+50

DRAWING NUMBER
PP-2

SHEET NUMBER
20 OF 31

Path: P:\APPLETON CITY OF 148928 20160 LEONA STREET FINAL DESIGN\CADD2-SHEETS\C-CIVIL FILENAME: 21-PP-3_OUTLET.DWG PLOT DATE: 12/11/18 8:57 AM CAD USER: MIKE WEGNER



LEONA STREET STORMWATER POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
21-PP-3_OUTLET.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

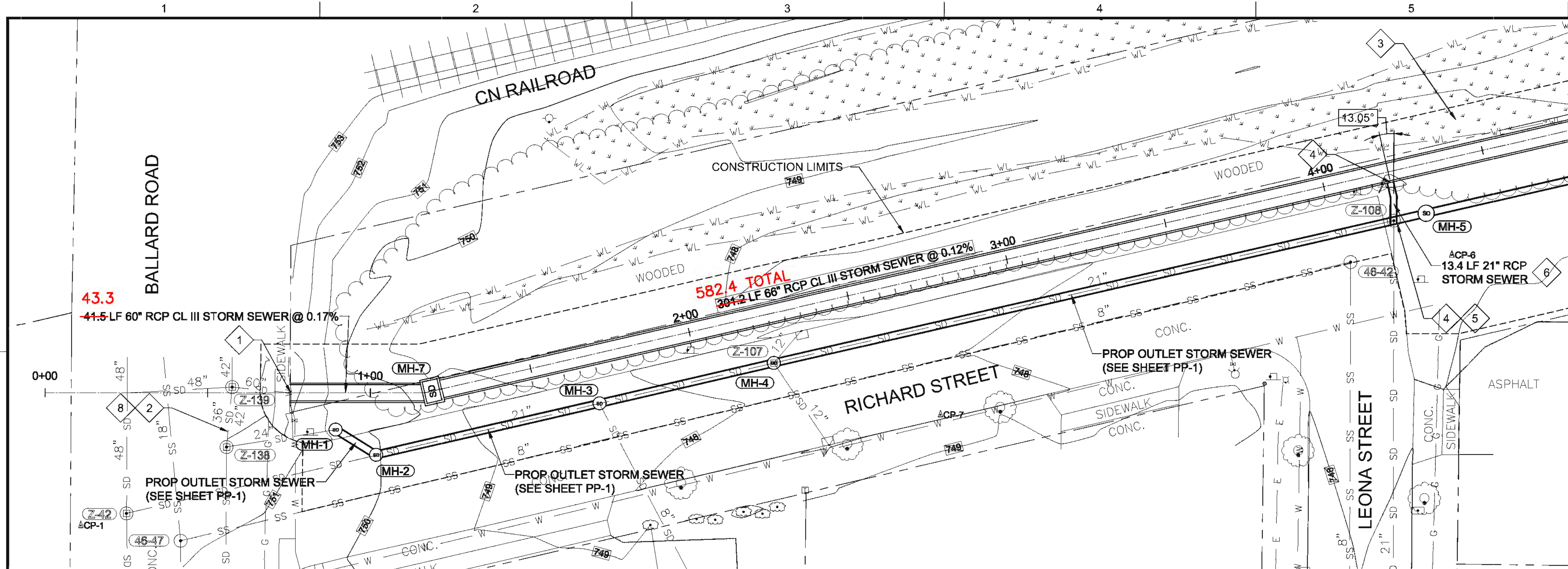
CIVIL

OUTLET STORM
SEWER PLAN &
PROFILE STA 30+00
- 33+00

DRAWING NUMBER
PP-3

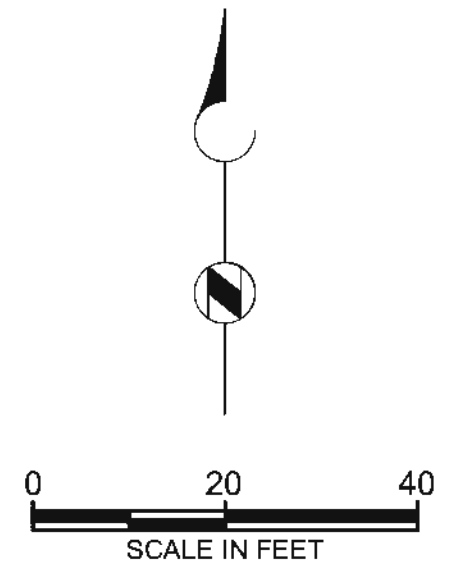
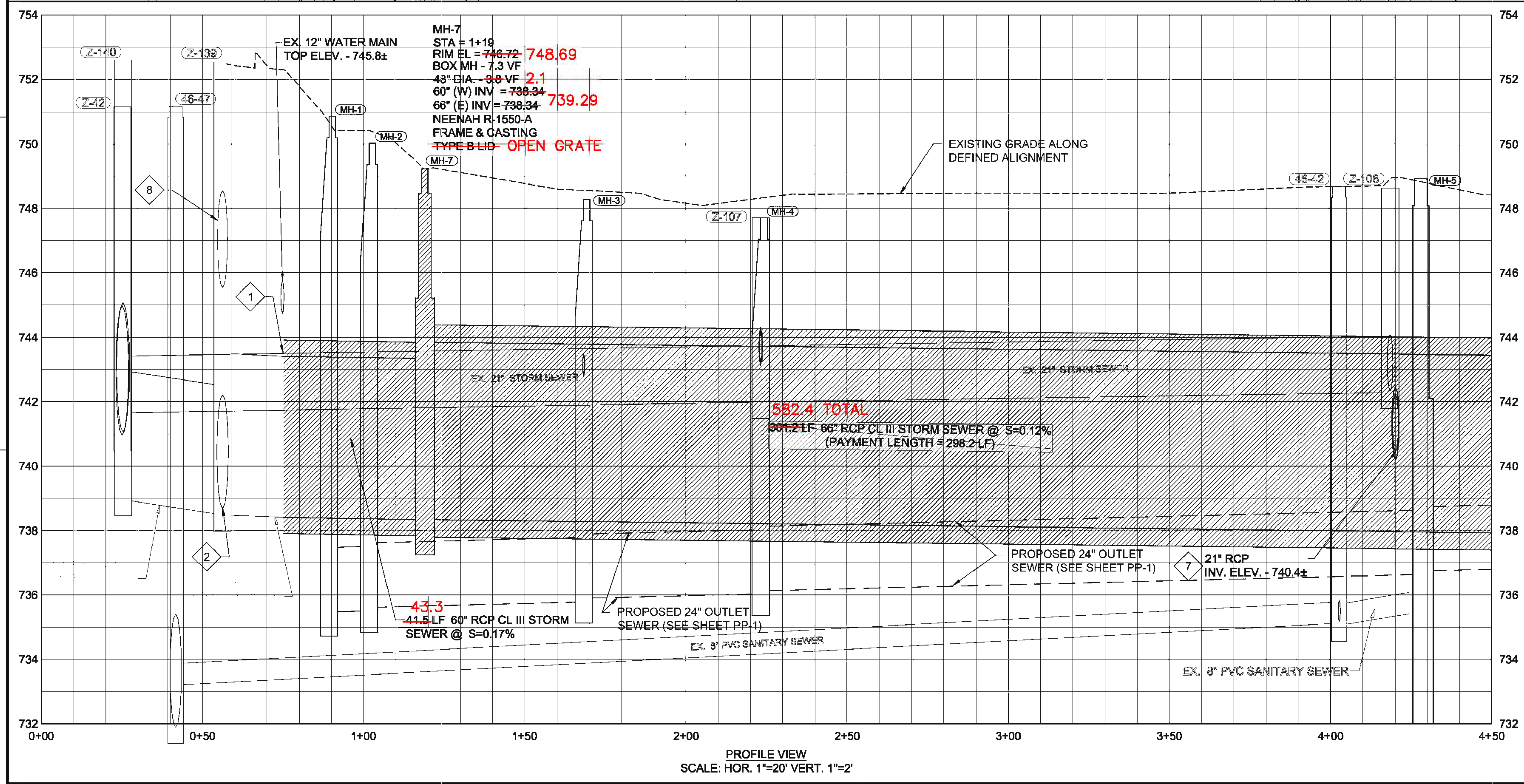
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21 OF 31

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NOTES:

- 1 CONNECT TO EXISTING CONCRETE STORM SEWER STUB. REMOVE EXISTING BULKHEAD. COST SHALL BE INCIDENTAL TO APPROPRIATE BID ITEMS.
- 2 BULKHEAD & ABANDON EXISTING 42" STORM SEWER. SEE SPECIFICATIONS.
- 3 SEE SPECIFICATIONS FOR SOIL HANDLING AND BACKFILL REQUIREMENTS FOR CONSTRUCTION WITHIN WETLANDS.
- 4 CONNECT TO EXISTING CONCRETE STORM SEWER. INV. EL. - 742.3±. COST SHALL BE INCIDENTAL TO APPROPRIATE BID ITEMS. SEE SPECIFICATIONS FOR BEDDING REQUIREMENTS.
- 5 CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES. SEE SPECIFICATIONS.
- 6 EXTEND EXISTING 21" STORM SEWER @ 0.15%. INSTALL BEND & TURN-DOWN STORM SEWER TO CONNECT TO 66" INLET SEWER. CONTRACTOR SHALL VERIFY ANGLE AND LOCATION OF BEND. COST OF BEND AND CONNECTION SHALL BE INCIDENTAL TO APPROPRIATE BID ITEMS.
- 7 CONNECT TO 66" STORM SEWER AS PER CITY SPECIFICATIONS AT 90° ANGLE. FIELD ADJUST BEND AS NECESSARY. INVERT ELEVATION AT CONNECTION AND LOCATION MAY BE ADJUSTED.
- 8 EXISTING 36" PIPE TO REMAIN. REMOVE EXISTING BULKHEAD.



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
22-PP-4_INLET.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

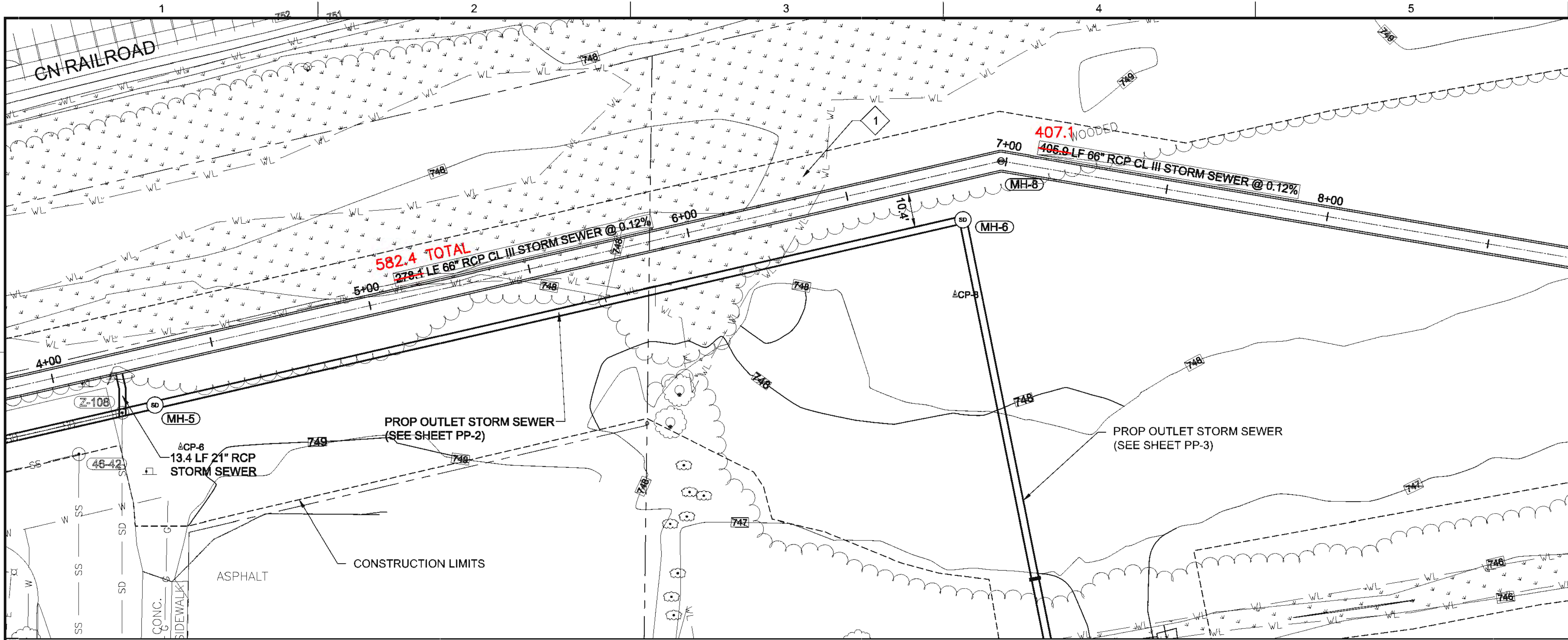
CIVIL

INLET STORM
SEWER PLAN &
PROFILE STA 0+00 -
4+50

DRAWING NUMBER
PP-4

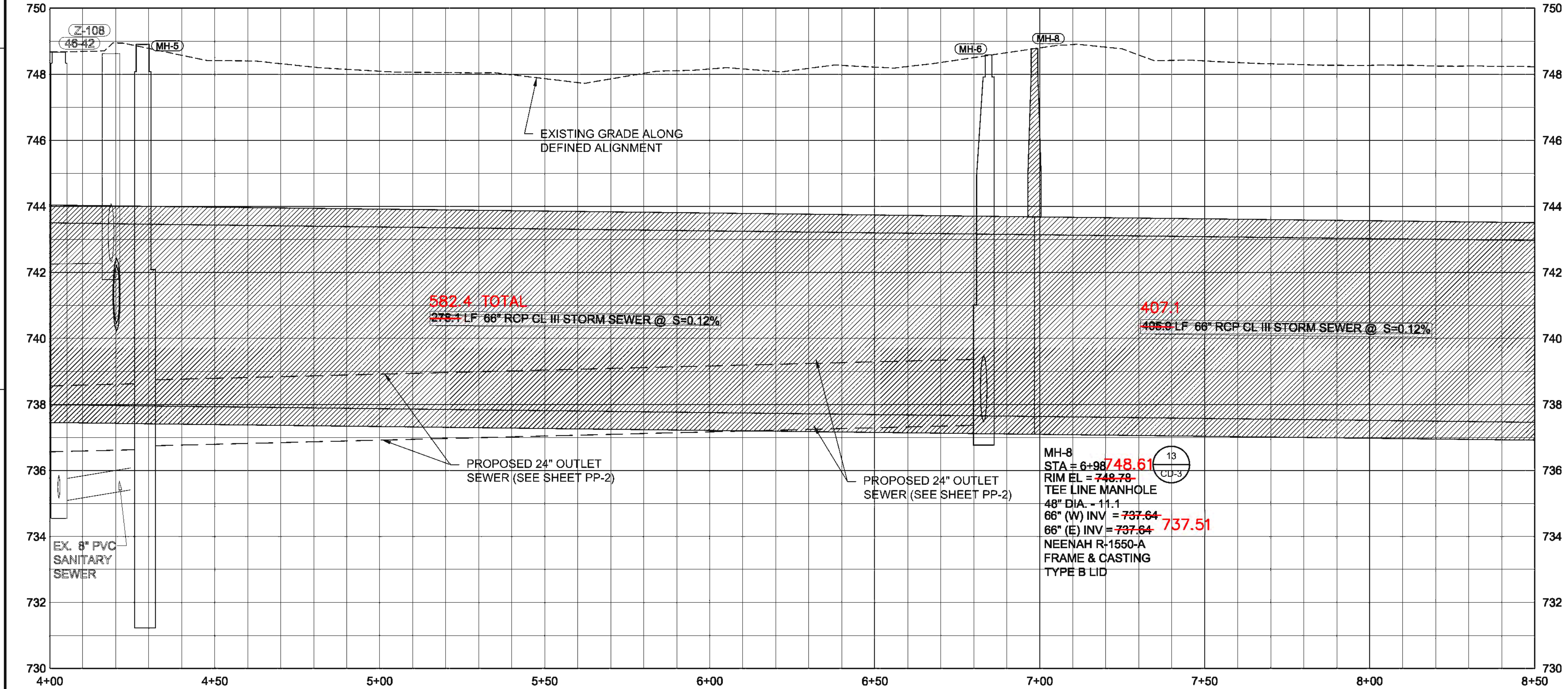
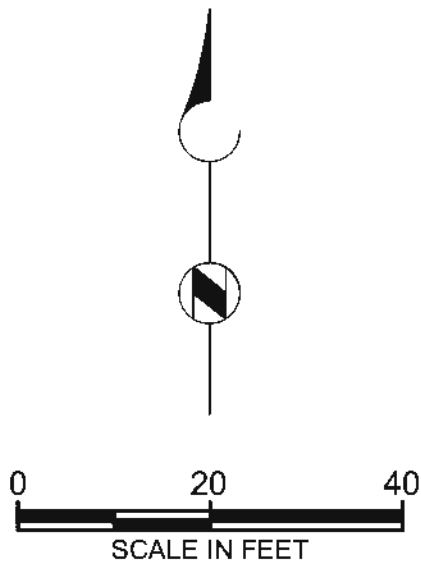
SHEET NUMBER
22 OF 31

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cityofappleton_logo_mpw.jpg



NOTES:

1 SEE SPECIFICATIONS FOR SOIL HANDLING AND BACKFILL REQUIREMENTS FOR CONSTRUCTION WITHIN WETLANDS.



PROFILE VIEW
SCALE: HOR. 1"=20' VERT. 1"=2'



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE
DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
23-PP-5_INLET.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

CIVIL

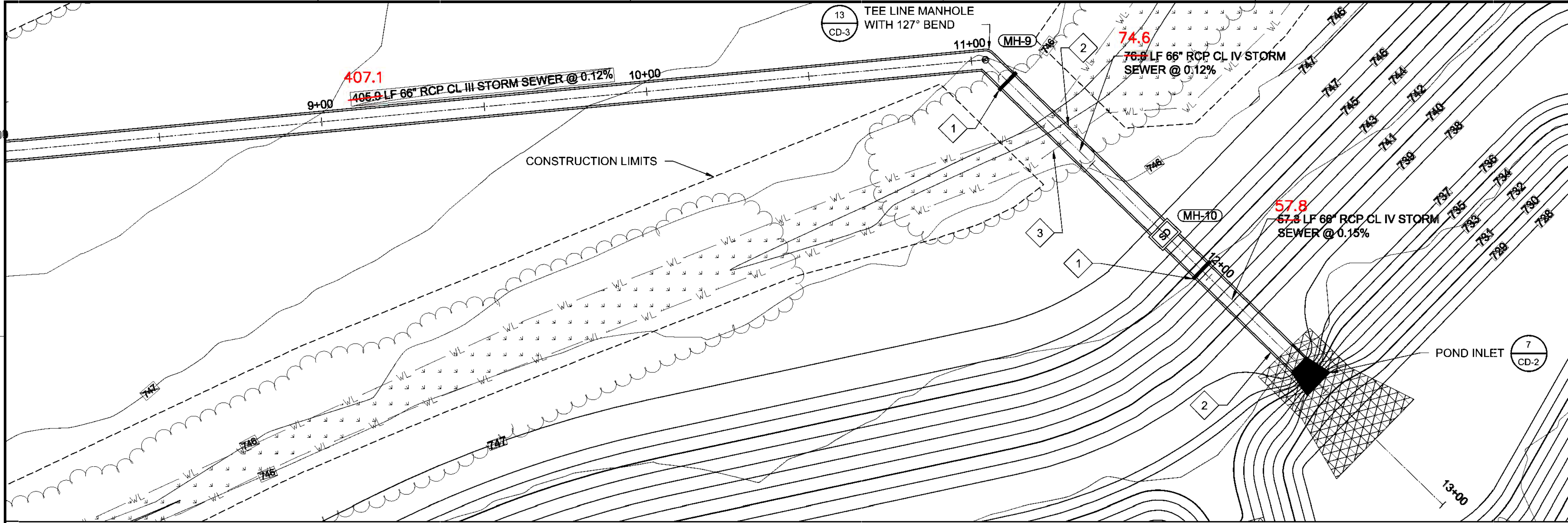
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SEWER PLAN &
PROFILE STA 4+50 -
8+50

DRAWING NUMBER

PP-5

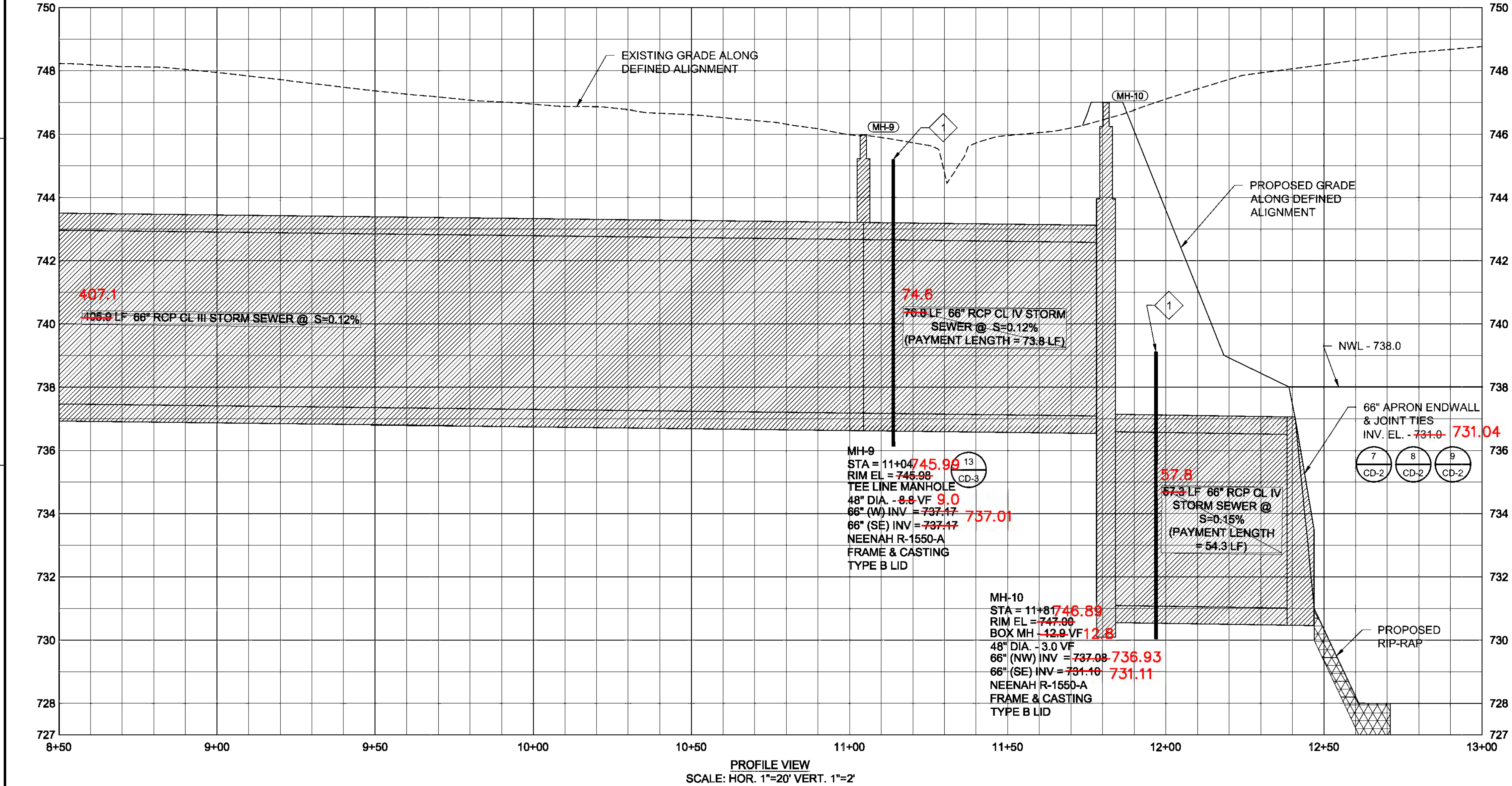
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23 OF 31

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cityofappleton_logo_mpw.jpg



NOTES:

- ANTI-SEEP COLLAR. SEE DETAIL.
- LESS THAN 2-FT OF PIPE COVER. CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT DAMAGE FROM CONSTRUCTION OPERATIONS AND TRAFFIC TO PROPOSED STORM SEWER.
- SEE SPECIFICATIONS FOR SOIL HANDLING AND BACKFILL REQUIREMENTS FOR CONSTRUCTION WITHIN WETLANDS.



Brown AND Caldwell



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD

FILENAME
24-PP-6_INLET.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

CIVIL

INLET STORM
SEWER PLAN &
PROFILE STA 8+50 -
13+00

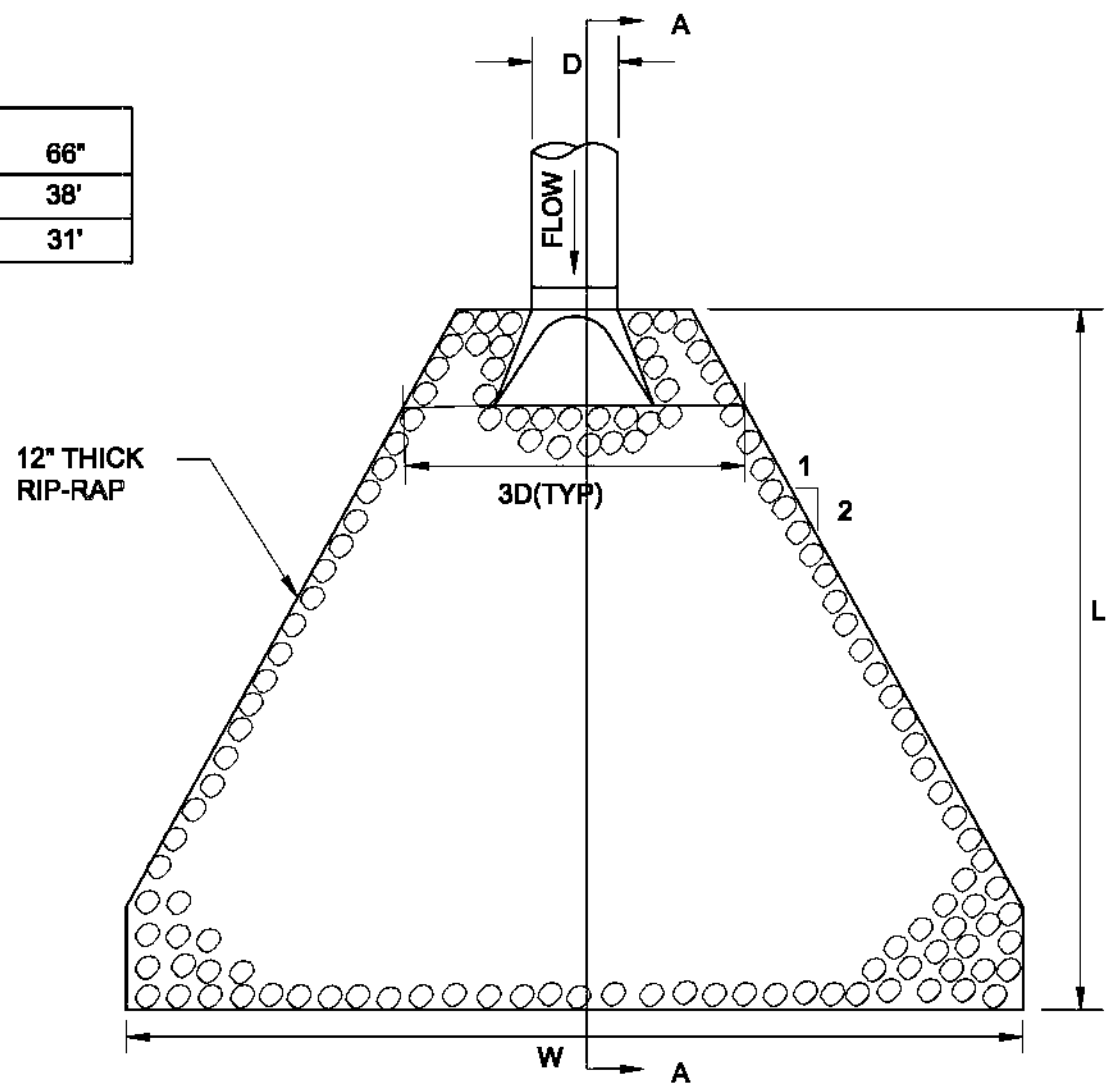
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PP-6

SHEET NUMBER
24 OF 31

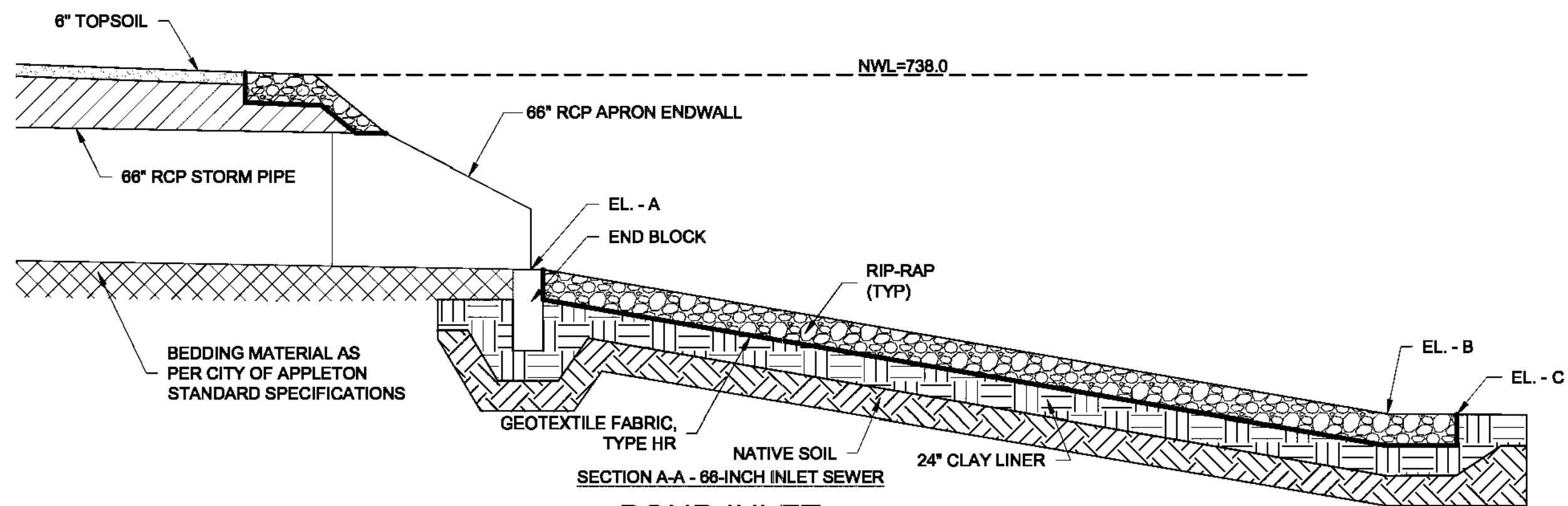


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cityofappleton_logo_mpw.jpg

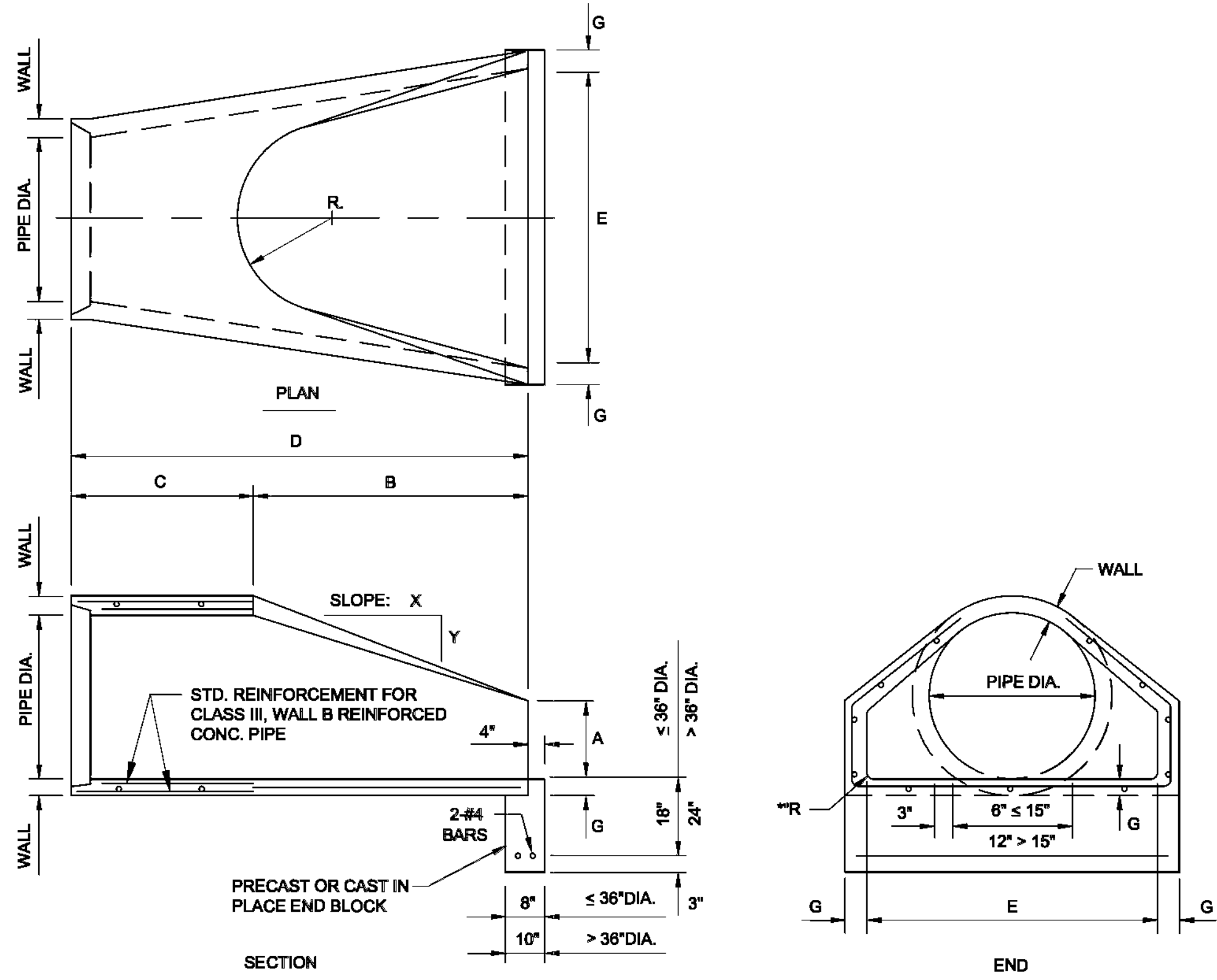
ENDWALL DIA. =	66"
L (ft) =	38'
W (ft) =	31'



NOTE: REFER TO RIP-RAP SUMMARY TABLE FOR L & W DIMENSIONS.



ENDWALL LOCATION =	66"
A =	731.0
B =	728.0
C =	728.0



PIPE DIA.	WT. (lbs.)	WALL	A	B	C	D	E	G	R	SLOPE
18"	2000	2.5"	9"	2'-3"	3'-10"	6'-1"	3'	2.5"	*	3:1
66"	11500	6.5"	30"	6'-0"	2'-8.5"	8'-6.5"	8'-6"	6.5"	*	2:1

* RADIUS AS FURNISHED BY MANUFACTURER

NOTE: JOINT TIE ENDWALLS AND TWO UPSTREAM PIPE SECTIONS TOGETHER FOR 66" DIAMETER PIPE. SEE DETAIL.

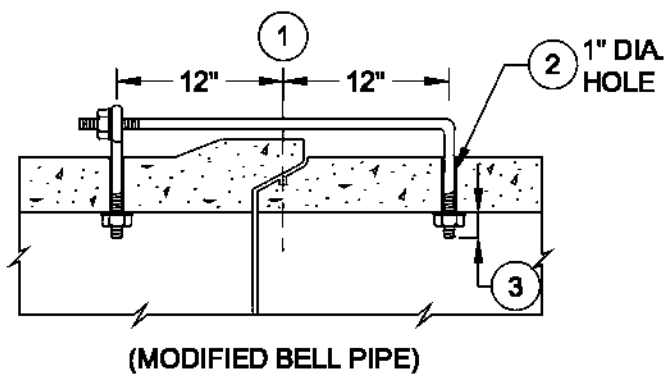
RCP APRON ENDWALL

DETAIL

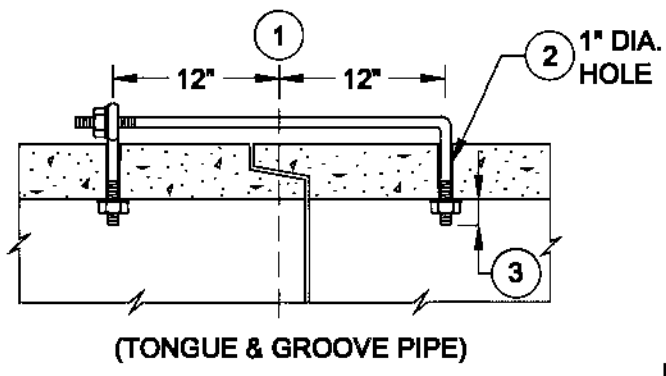
NTS

9
CD-2

8
VARIES

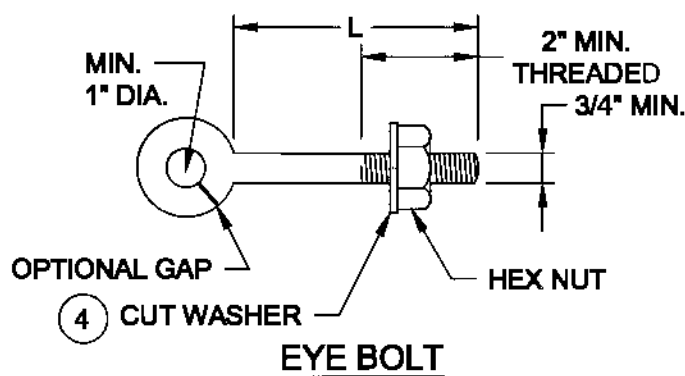


(MODIFIED BELL PIPE)

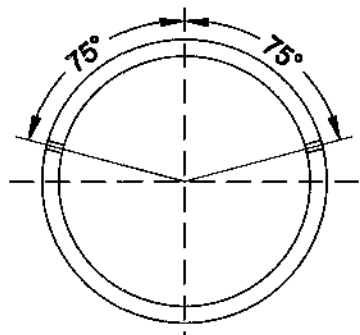


(TONGUE & GROOVE PIPE)

LONGITUDINAL SECTION



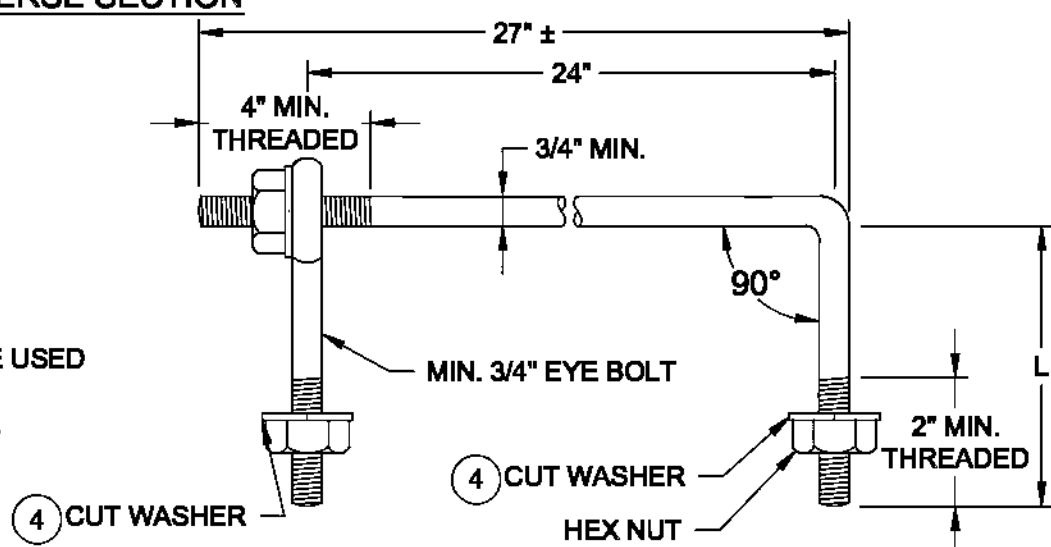
EYE BOLT



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

PIPE SIZE	L = LENGTH	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
66"	8"		

EYE BOLT DIMENSION TABLE



EYE BOLT AND TIE ROD

UNLESS OTHERWISE STATED IN THE CONTRACT, THE MATERIALS, FABRICATIONS AND WORK NECESSARY TO TIE REINFORCED CONCRETE PIPE WILL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.

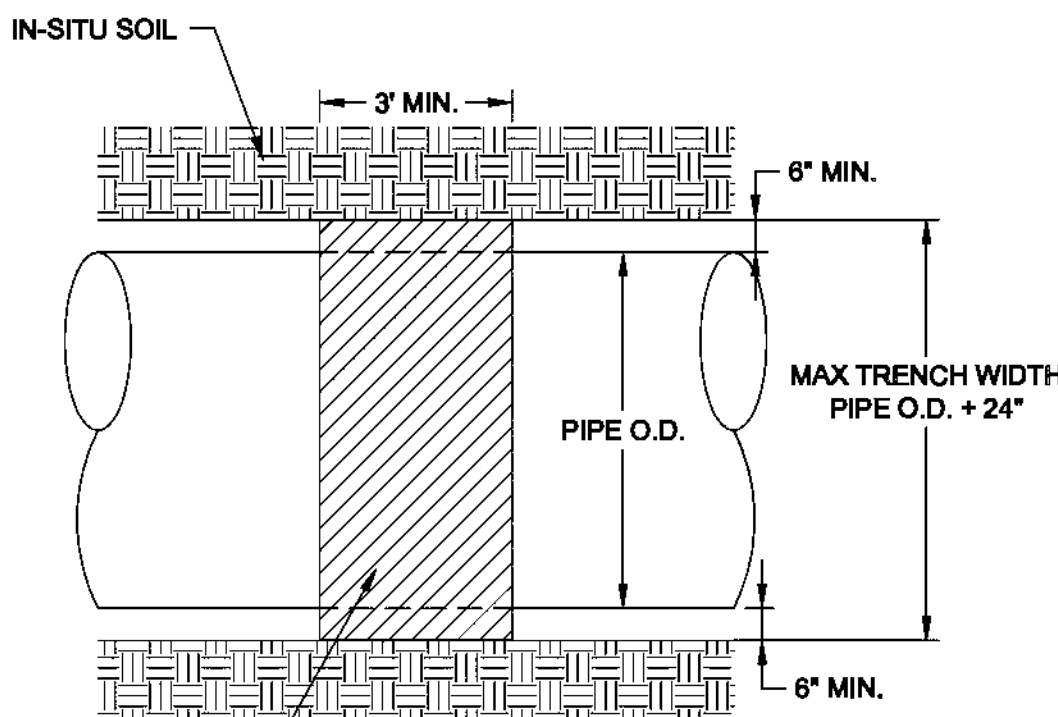
- CENTERLINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS
- HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12" FROM CENTERLINE OF TONGUE & GROOVE.
- BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2".

JOINT TIE

DETAIL

NTS

9
VARIES



TOP VIEW

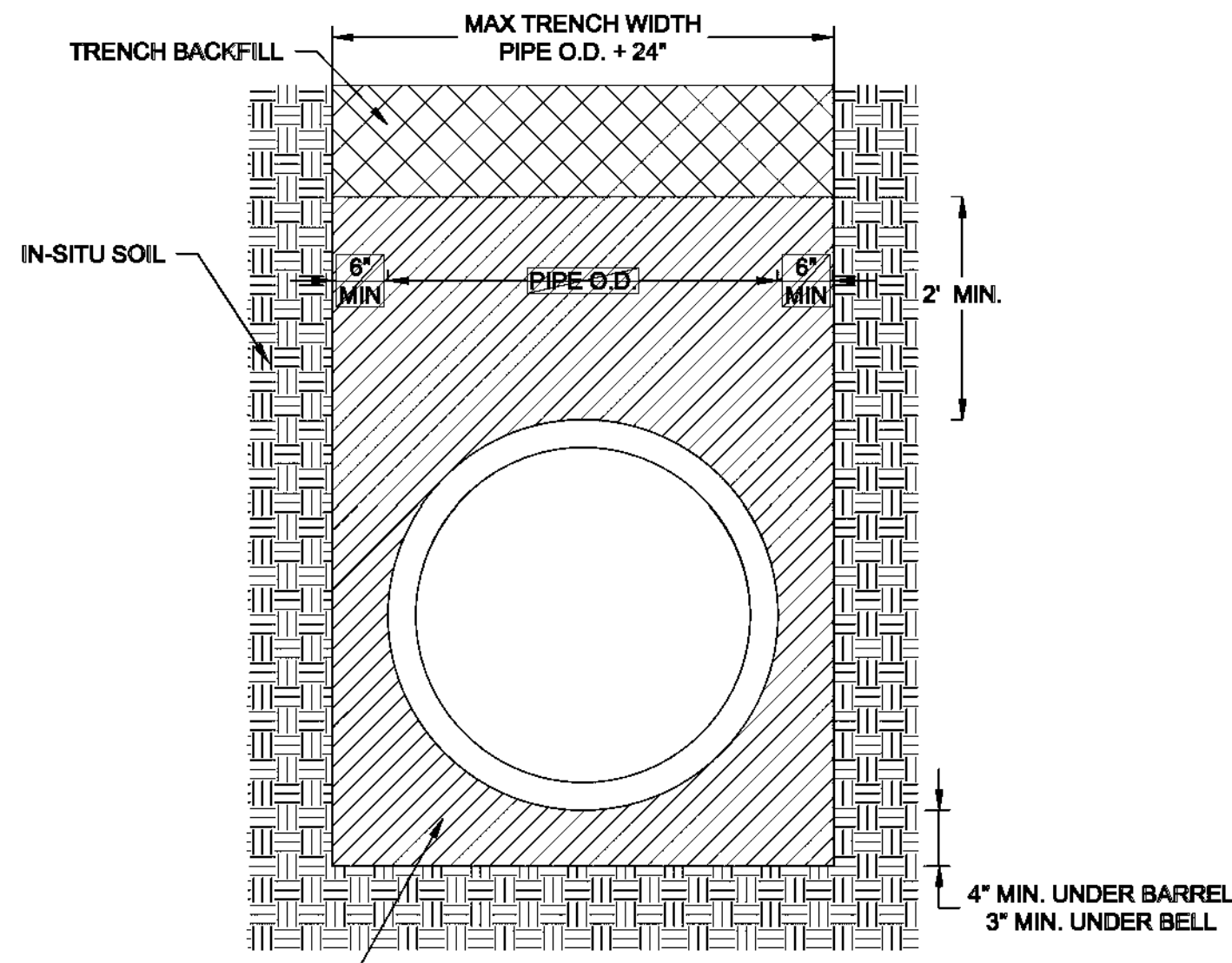
NOTE: PIPE COVER, BEDDING, AND BACKFILL AS SPECIFIED

ANTI-SEEP COLLAR

DETAIL

NTS

10
VARIES



SECTION VIEW

Brown AND Caldwell



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE
DESIGNED: M WEGNER
DRAWN: M WEGNER
CHECKED: K MATTFIELD
APPROVED: K MATTFIELD
FILENAME: 26-CD-2.DWG
BC PROJECT NUMBER: 148928
CLIENT PROJECT NUMBER: G-19

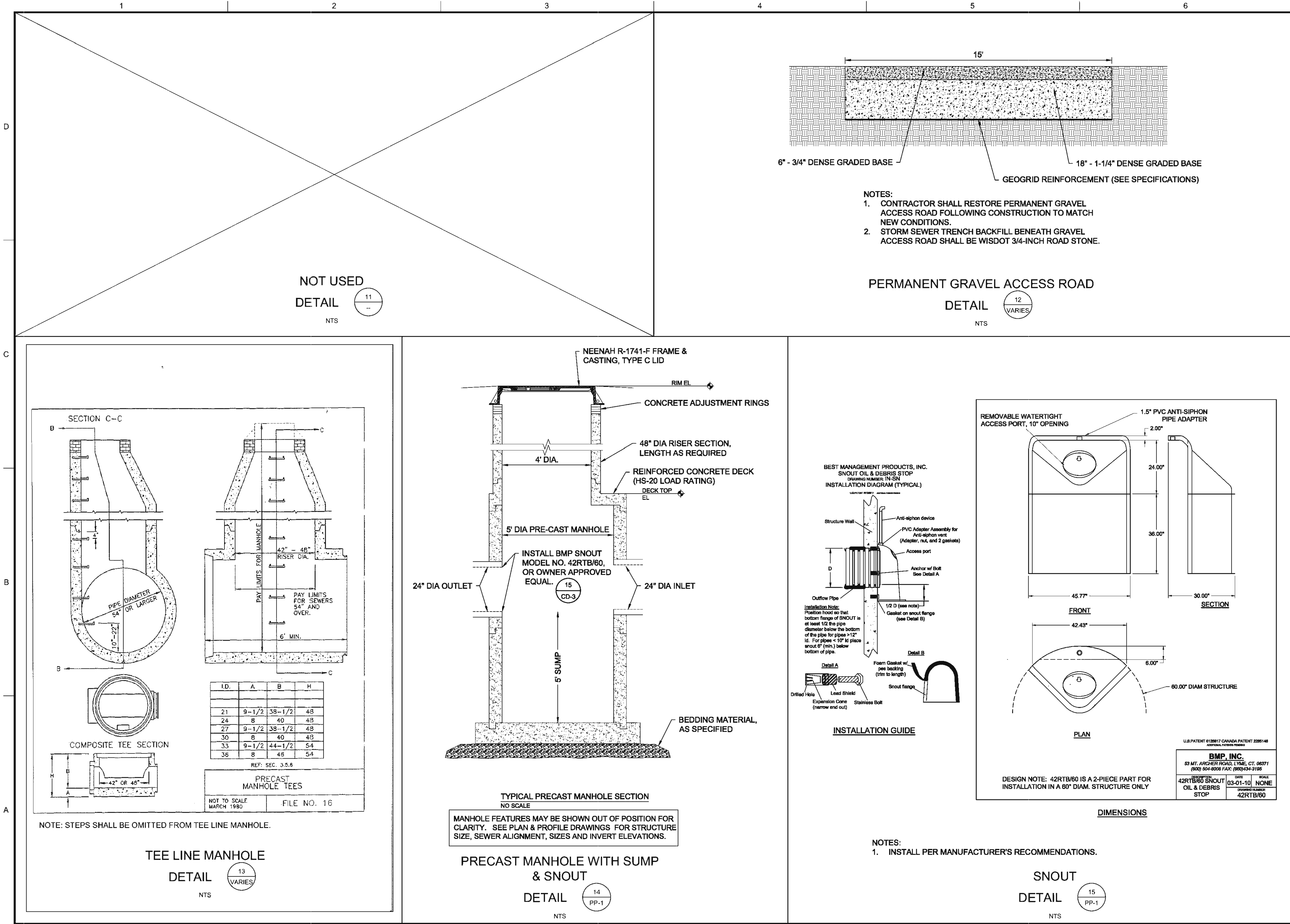
CIVIL
STORM SEWER
DETAILS

DRAWING NUMBER

CD-2

SHEET NUMBER
26 OF 31

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cityofappleton_logo_mnw.jpg



Brown AND Caldwell



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER

DRAWN: M WEGNER

CHECKED: K MATTFIELD

APPROVED: K MATTFIELD

FILENAME
27-CD-3.DWG

BC PROJECT NUMBER
148928

CLIENT PROJECT NUMBER
G-19

CIVIL

MISCELLANEOUS
DETAILS - I

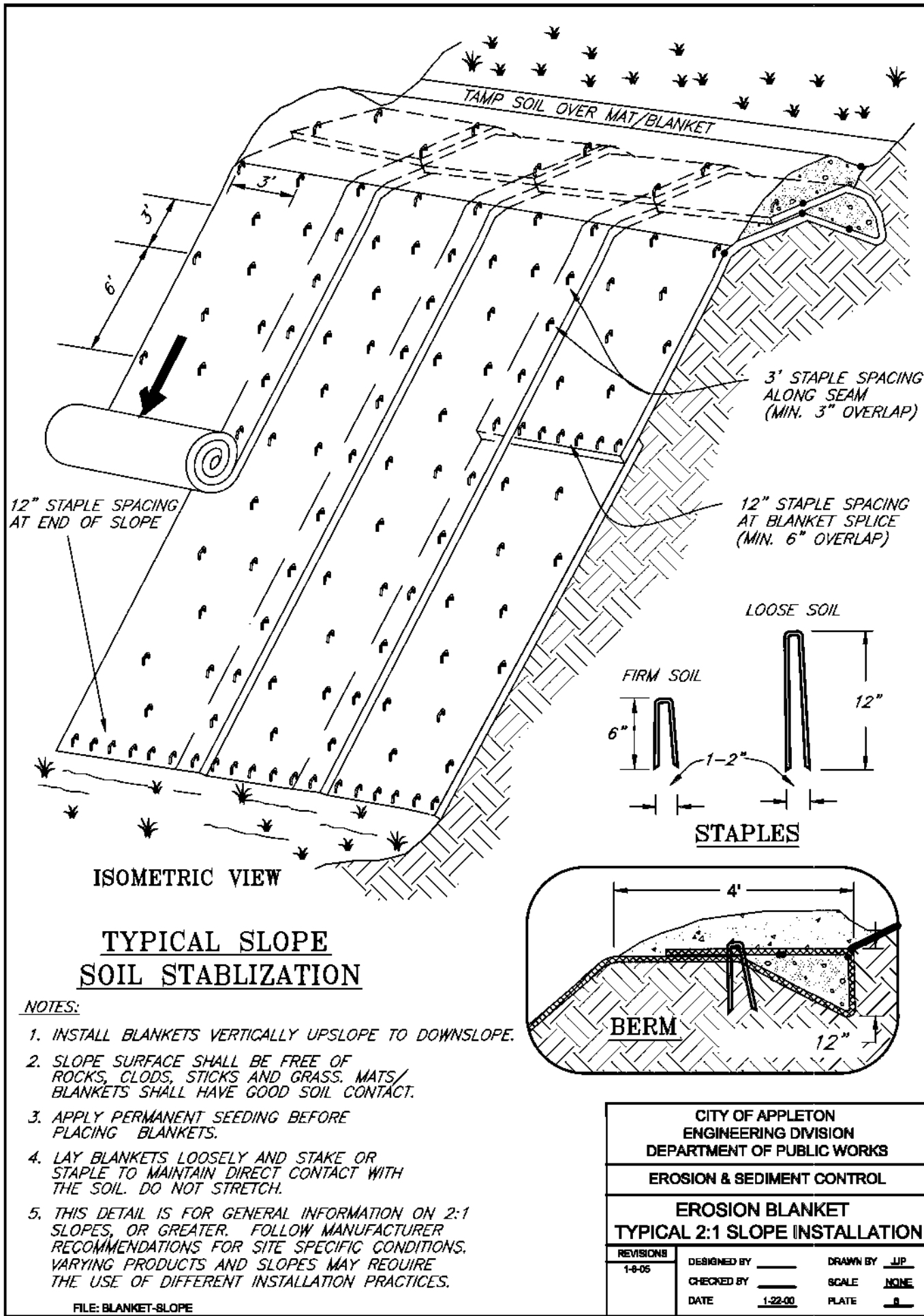
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CD-3

SHEET NUMBER
27 OF 31

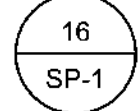
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c:\p\appleton_logo_mw.k.jpg



EROSION CONTROL MAT

DETAIL



NTS



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: M WEGNER

DRAWN: M WEGNER

CHECKED: K MATTFIELD

CHECKED: ---

APPROVED: K MATTFIELD

FILENAME
28-CD-4.DWG

BC PROJECT NUMBER
148928

CLIENT PROJECT NUMBER
G-19

CIVIL

MISCELLANEOUS
DETAILS - II

DRAWING NUMBER

CD-4

SHEET NUMBER
28 OF 31

Path: P:\APPLETON CITY OF\148928 2016C LEONA STREET FINAL DESIGN\CADD\2-SHEETS\S-STRUCTURAL FILENAME: 29-S-1.DWG PLOT DATE: 12/11/18 9:45 AM CAD USER: MIKE WEGNER
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GENERAL

- THE GENERAL STRUCTURAL NOTES AND STANDARD STRUCTURAL DETAILS APPLY TO THE ENTIRE PROJECT UNLESS SPECIFICALLY STATED OTHERWISE

DESIGN CRITERIA

- DESIGN AND CONSTRUCT IN CONFORMANCE WITH THE INTERNATIONAL BUILDING CODE, 2015 EDITION AS AMENDED BY THE WISCONSIN COMMERCIAL BUILDING CODE.

FOUNDATIONS

- NET SOIL BEARING CAPACITIES
A. OUTLET STRUCTURE 2000 PSF
- PLACE FOOTINGS ON NATURAL UNDISTURBED EARTH OR 6" MINIMUM LAYER OF STRUCTURAL FILL.
- PLACE FILL SIMULTANEOUSLY ON BOTH SIDES OF FREE-STANDING STRUCTURES.
- PLACE FILL AGAINST FOUNDATION WALLS ENCLOSING INTERIOR SPACES ONLY AFTER CONSTRUCTION SUCH AS CROSS WALLS, ARE IN PLACE TO BRACE WALL AND SUCH CONSTRUCTION HAS REACHED ITS DESIGN STRENGTH.
- TO MINIMIZE LATERAL FORCES AGAINST THE STRUCTURE DUE TO WEDGING ACTION OF THE SOIL, BEGIN COMPACTION OF EACH LAYER AT THE FACE OF STRUCTURE WALL.

CONCRETE

- REINFORCING STEEL:
A. DEFORMED BARS ASTM A615-GRADE 60
- UNLESS OTHERWISE SHOWN PROVIDE COVER FOR REINFORCEMENT AS FOLLOWS:
A. CAST AGAINST EARTH 3 INCHES
B. EXPOSED TO EARTH, WEATHER OR WATER 2 INCHES
- REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH ACI 315.
- DO NOT WELD OR FIELD BEND BARS, EXCEPT AS APPROVED BY ENGINEER.
- CONCRETE:
A. CONCRETE BENCHES AND WHERE NOTED:
CLASS B F'c = 3000 PSI
B. ALL LOCATIONS EXCEPT WHERE CLASS B IS SPECIFIED:
CLASS C-1..... F'c = 4500 PSI
- BEFORE CONCRETE IS PLACED, CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED AND SURFACE WETTED. STANDING WATER SHALL BE REMOVED.
- CHAMFER EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

METALS

- STEEL:
A. MISCELLANEOUS STEEL ASTM A36

STEEL GRATING

- WELDED STEEL BAR GRATING PER ASTM A1011. MINIMUM GRATING THICKNESS: 1 1/2". MINIMUM BEARING BAR WIDTH: 3/16". BEARING BAR CLEAR SPACING: 1" AND CROSSBAR SPACING: 4" CENTER TO CENTER (NAAMM DESIGNATION W-19-4). HOT-DIP GALVANIZED PER ASTM A123 AFTER FABRICATION.
- ANCHOR TO SUPPORT WITH 1/4" DIAMETER SELF-TAPPING GALVANIZED SCREWS PLACED THROUGH GALVANIZED U-SHAPED CLIPS ENGAGING TWO BEARING BARS. MINIMUM FOUR CLIPS PER GRATING PANEL. MAXIMUM DISTANCE BETWEEN CLIPS: THREE FEET.
- GRATING SHALL BE REMOVABLE. MAXIMUM GRATING PANEL WEIGHT SHALL NOT EXCEED 80 POUNDS.

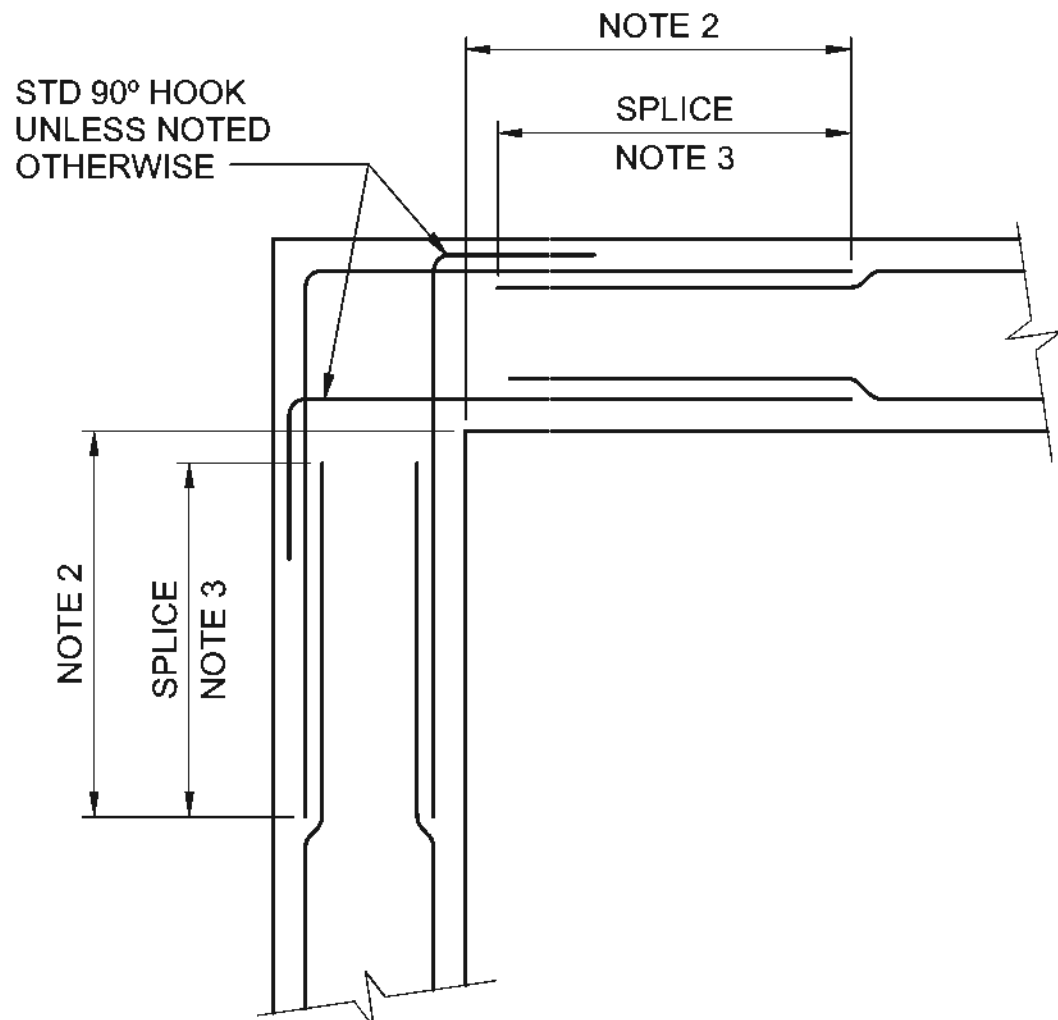
MISCELLANEOUS

- FOR ADDITIONAL OPENINGS, ANCHORS AND EMBEDDED ITEMS, SEE CIVIL DRAWINGS.

MINIMUM REINFORCEMENT BAR LAP SPLICE AND DEVELOPMENT LENGTH (INCHES)				
BAR SIZE	APPLICATION	CONCRETE COVER: 2" MIN		
		TOP	OTHER	MIN C/C SPACING
#3	DEVELOPMENT LAP SPLICE	12	12	4.50
		16	16	4.75
#4	DEVELOPMENT LAP SPLICE	15	12	4.50
		20	16	5.00
#5	DEVELOPMENT LAP SPLICE	19	15	4.75
		24	19	5.25
#6	DEVELOPMENT LAP SPLICE	22	17	4.75
		29	22	5.50
#7	DEVELOPMENT LAP SPLICE	33	25	5.00
		42	33	5.75
#8	DEVELOPMENT LAP SPLICE	37	29	5.00
		48	37	6.00
#9	DEVELOPMENT LAP SPLICE	46	36	5.25
		60	46	6.25
#10	DEVELOPMENT LAP SPLICE	57	44	5.25
		74	57	6.50

NOTES:

- TABULATED VALUES ARE BASED ON GRADE 60 REINFORCING BARS AND NORMAL-WEIGHT CONCRETE.
- TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE CALCULATED PER ACI 318-14, SECTIONS 25.4.2.3 AND 25.5, RESPECTIVELY.
- LAP SPLICE LENGTHS ARE LAP CLASS B = $1.3 l_d$ (ACI 318-14, SECTION 25.5.2).
- TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 IN. OF FRESH CONCRETE CAST BELOW THE BARS.



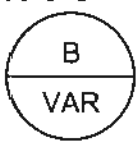
DOUBLE MAT REINFORCING - PLAN VIEW

NOTES:

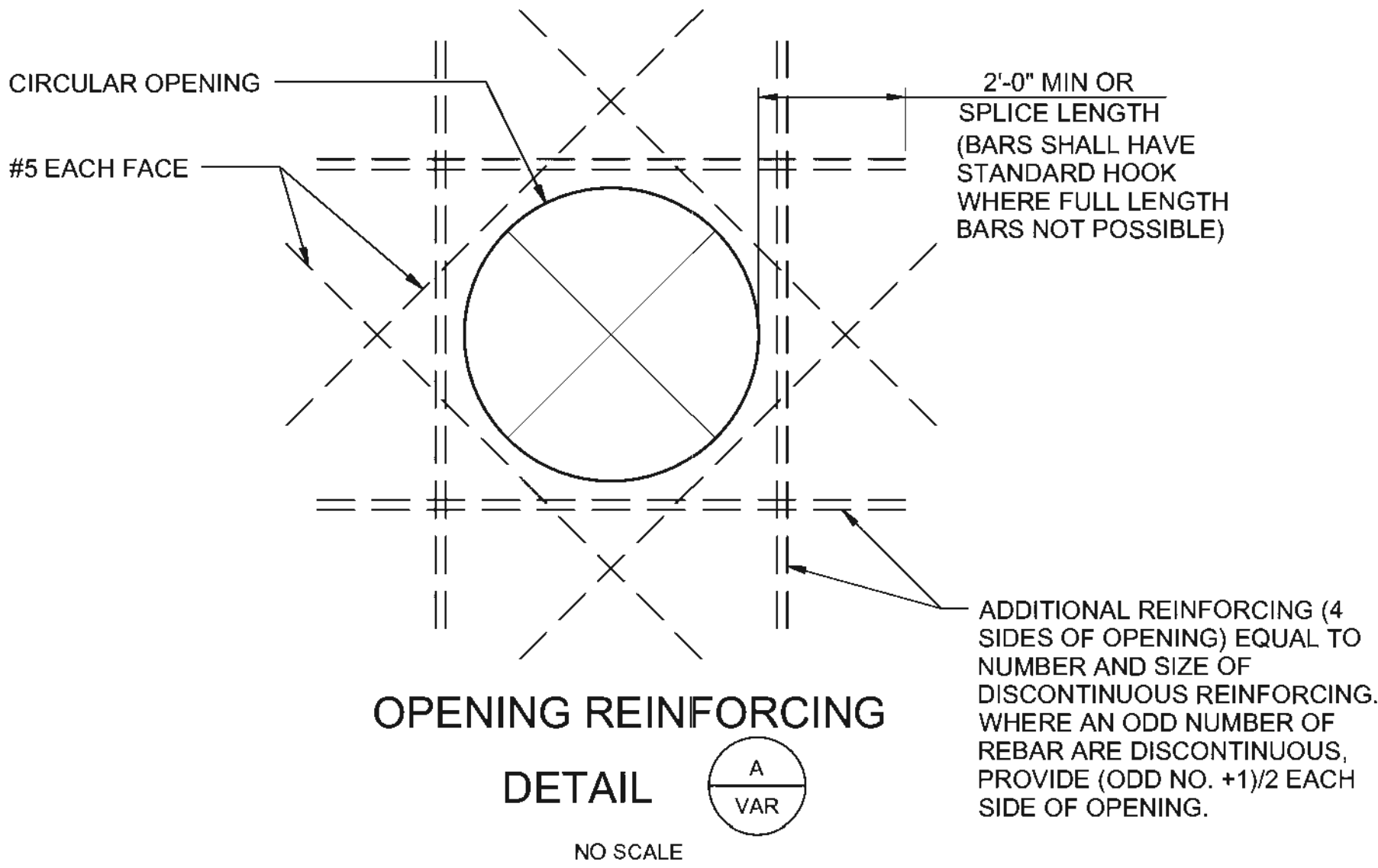
- UNLESS NOTED OTHERWISE, SIZE AND SPACING OF CORNER OR INTERSECTION REINFORCING SHALL MATCH HORIZONTAL REINFORCING SHOWN IN SPECIFIC SECTIONS OR DETAILS. VERTICAL REINFORCING NOT SHOWN FOR CLARITY.
- UNLESS NOTED OTHERWISE, BAR SPLICE SHALL BE LOCATED OUTSIDE OF CORNER OR INTERSECTION AREA TO AVOID CONGESTION. CONTRACTORS OPTION TO PROVIDE SINGLE BENT BAR IN LIEU OF SPLICE CONFIGURATION AT ONE END ONLY.
- SEE TABLE FOR SPLICE LENGTH. HORIZONTAL WALL BARS SHALL BE CONSIDERED TOP BARS FOR DEVELOPMENT AND SPLICE LENGTHS.

TYPICAL HORIZONTAL WALL REINFORCING

DETAIL



NO SCALE



Brown AND Caldwell



LEONA STREET STORMWATER POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES
AT FULL SIZE

DESIGNED: J SIMON
DRAWN: M WEGNER
CHECKED: D ANDERSON
CHECKED: C NUTT
APPROVED: D ANDERSON

FILENAME
29-S-1.DWG
BC PROJECT NUMBER
148928
CLIENT PROJECT NUMBER
G-19

STRUCTURAL

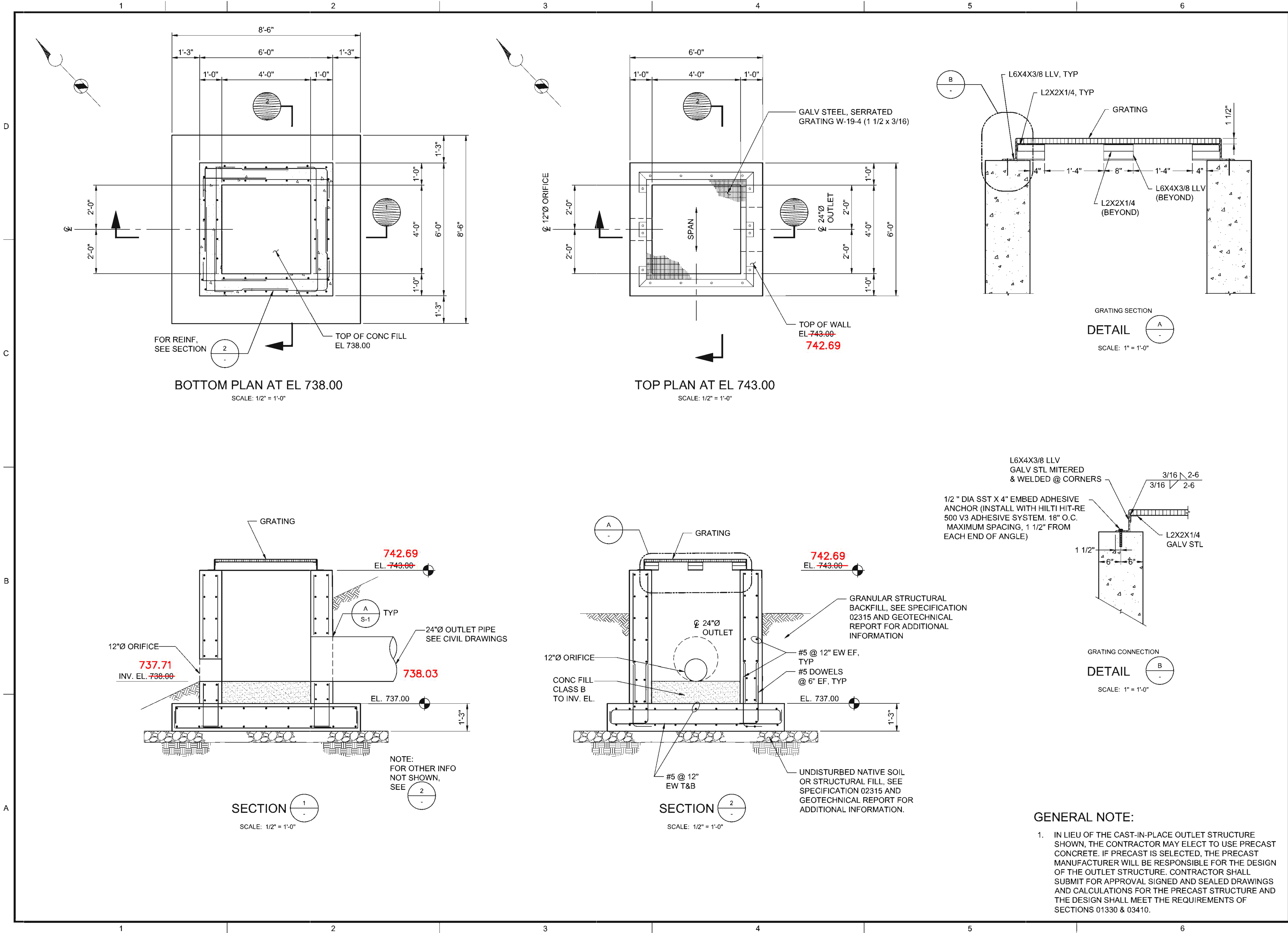
STRUCTURAL NOTES AND DETAILS

DRAWING NUMBER

S-1

SHEET NUMBER
29 OF 31

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cityofAppleton_logo_mpwk.jpg



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE		
DESIGNED:	J SIMON	
DRAWN:	M WEGNER	
CHECKED:	D ANDERSON	
CHECKED:	C NUTT	
APPROVED:	D ANDERSON	
FILENAME	30-S-2.DWG	
BC PROJECT NUMBER	148928	
CLIENT PROJECT NUMBER	G-19	

STRUCTURAL

OUTLET
STRUCTURE -
PLANS & SECTIONS

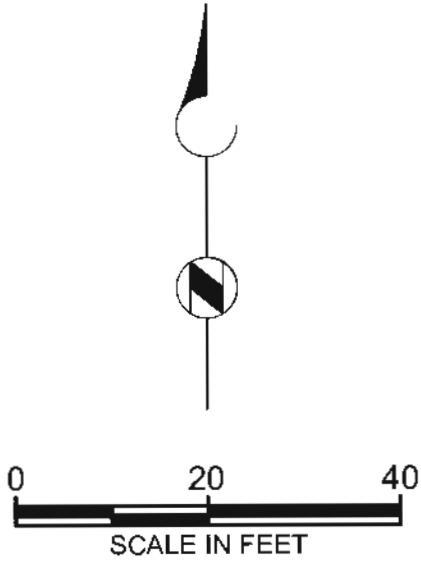
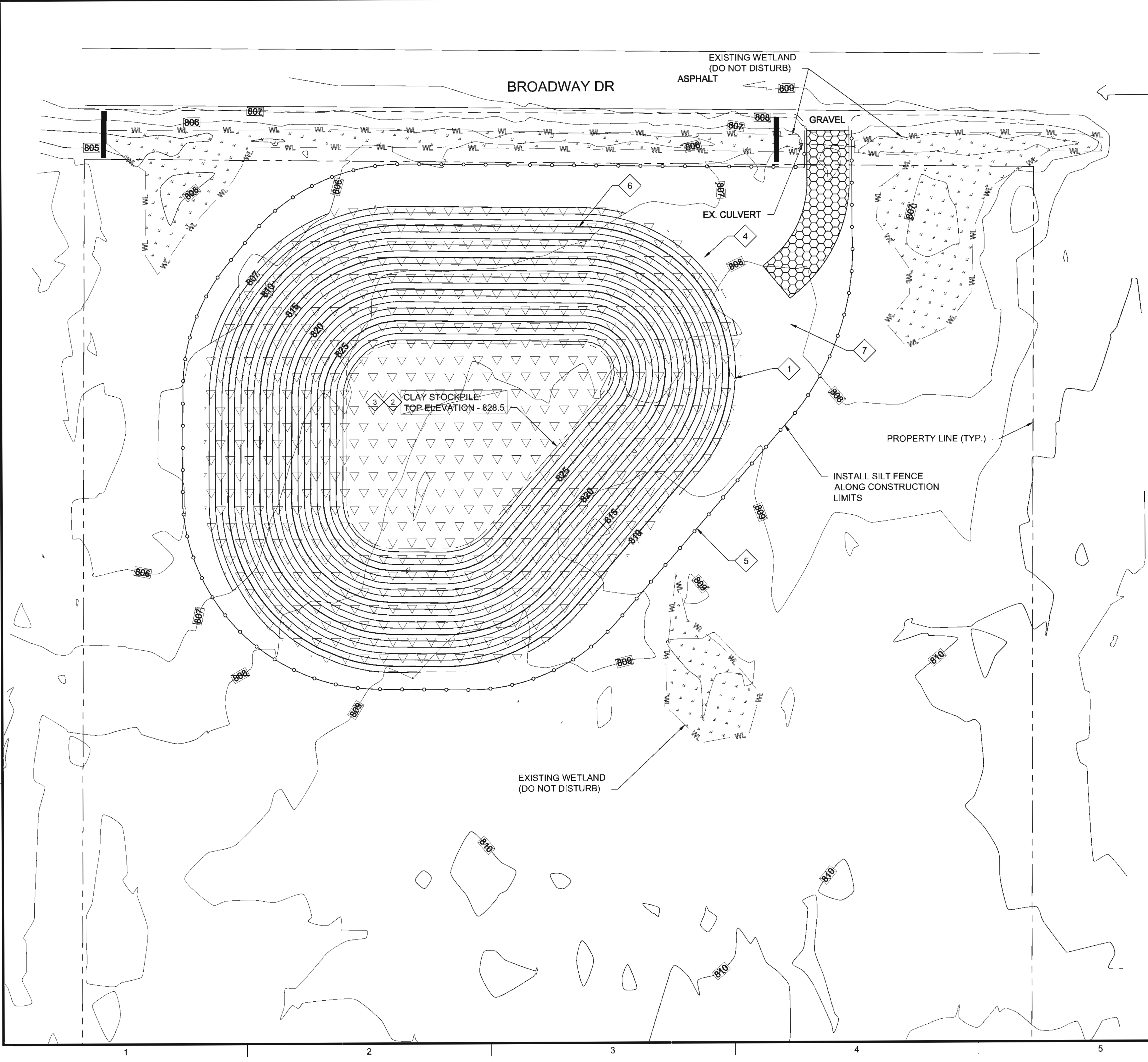
DRAWING NUMBER

S-2

SHEET NUMBER
30 OF 31

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appleton_logo.mpg.jpg



SOIL STOCKPILE LEGEND

- STONE TRACKING PAD, OR OWNER APPROVED EQUAL TRACKOUT CONTROL PRACTICE (2 CD-1)
- EROSION MATTING CLASS I, TYPE A (16 CD-4)
- SILT FENCE (1 CD-1)
- CURLEX SEDIMENT LOG, 12-INCH (4 CD-1)

NOTES:

- STRIP TOPSOIL WITHIN STOCKPILE LIMITS. ASSUME 8-INCH EXISTING TOPSOIL.
- PLACE & COMPACT CLAY MATERIAL. SEE SPECIFICATIONS. MATERIAL SHALL BE COMPACTED TO SUPPORT CONTRACTORS OPERATIONS. MAXIMUM SIDE SLOPE 2.5:1 (HORIZONTAL:VERTICAL).
- INSTALL 4-INCH OF SALVAGED TOPSOIL ON STOCKPILE.
- WASTE EXCESS TOPSOIL ADJACENT TO STOCKPILE (VOLUME INCLUDED IN PILE GEOMETRY SHOWN).
- SEED ALL DISTURBED AREAS WITH NO-MOW FESCUE SEEDING.
- INSTALL EROSION CONTROL MAT, CLASS I, TYPE A ON STOCKPILE.
- AREAS OUTSIDE EROSION CONTROL MAT SHALL RECIEVE SEED & MULCH AS PER SPECIFICATIONS.

GENERAL NOTES:

- SEE SHEET C-4 FOR ADDITIONAL EROSION CONTROL NOTES & REQUIREMENTS.
- SEE SPECIAL PROVISIONS FOR ADDITIONAL STOCKPILE CONSTRUCTION REQUIREMENTS.



LEONA STREET
STORMWATER
POND

REVISIONS		
REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE	
DESIGNED:	M WEGNER
DRAWN:	M WEGNER
CHECKED:	K MATTFIELD
CHECKED:	----
APPROVED:	K MATTFIELD

FILENAME	31-SP-1_STOCKPILE.DWG
BC PROJECT NUMBER	148928
CLIENT PROJECT NUMBER	G-19

CIVIL
BROADWAY DRIVE
STOCKPILE

DRAWING NUMBER	SP-1
SHEET NUMBER	31 OF 31

Leona Pond Operation and Maintenance Plan

Last Updated: 02/11/2020

Background Information

Leona Pond is a Wet Detention Pond constructed in 2019 by the City of Appleton Department of Public Works, in accordance with WDNR Technical Standard 1001 for Wet Detention Ponds. The pond was constructed to provide for flood reduction and water quality improvement in the Ballard Road and AMC Drainage Study areas. The pond is located east of the intersection of Leona Street and Richard Street in the City of Appleton.

Responsible Party

The City of Appleton Department of Public Works is the party responsible for the operation and maintenance of the pond.

Pond Components

Primary pond components are indicated on the attached Operation and Maintenance Inspection Checklist and on the attached Exhibit A, Pond Layout Plan.

Inspection Requirements

The City will inspect the entire pond area a minimum once per year for erosion, condition of inlet/outlet pipes and structures, visible sedimentation/scouring of the pond that may impact function, condition of sideslope/safety shelf vegetation, condition of retaining walls, and proper aerator function. Areas of concern will be documented and repairs will be made in a timely manner by the City of Appleton or its agents.

Operation and Maintenance Requirements

Sediment Accumulation

The pond has a forebay located at the east storm sewer inlet pipe, and a larger main bay from which the pond discharges into the outlet structure

Design permanent pool depth is 8 feet. A survey of accumulated pond sediment depth should be conducted a minimum of once during the first 10 years of pond operation and follow up inspections should be scheduled based upon rate of sediment accumulation. Sediment removal is required once the average depth of sediment in the permanent pool is 4.5 feet (3.5 feet below normal water level). Forebay will likely fill more quickly than the main bay, and removal of sediment from forebay may extend the period of time between required dredging in the main bay.

If possible, dredging should be performed in the winter to minimize damage to pond vegetation and golf course areas. Dredging/disposal shall be performed in accordance with NR 528.

Pond Bottom is of native clay. There is no liner at risk of being damaged during dredging, but care should be taken to dredge no deeper than pond bottom design elevations.

Inlet and Outlet Pipes

Inlet and Outlet Pipes should be kept free of sediment and debris that may impact their function. Pipes and structures should be structurally sound, so as to prevent leaks that could impact design function, such as release rates and water levels.

Pond Slopes/Embankments

Pond safety shelf and sideslope vegetation is self-sustaining and does not require mowing, other than maintenance mowing intended to reduce weeds. Qualified individuals familiar with native vegetation should perform maintenance as needed to prevent excessive weed growth. Appropriate techniques may include spot herbiciding, mowing, spot mowing, cutting/treatment of woody vegetation, and the like. If plugging or replacement seeding is required due to loss of plants, the species mix per the construction documents should be used.

If erosion occurs, the area should be reseeded and/or plugged after replacing any lost topsoil. Placement of temporary erosion control, such as erosion control blankets, may be needed during vegetation establishment.

There is an earthen embankment along the north side of the pond, between the pond and the downstream golf course channel. Trees and other woody vegetation shall be kept out of the embankment area to help ensure structural integrity of the embankment is maintained.

Permanent Pool Area

Permanent pools should be monitored for excessive algae growth or spread of aquatic weeds. Appropriate treatment, such as cutting, physical removal, and application of chemicals according to manufacturer guidelines are techniques that may be appropriate. Chemical application requires prior WDNR permitting.

Natural predators, such as dragonfly larvae and amphibians, tend to keep nuisance insects in check on wet stormwater ponds. If nuisance insect or other wildlife are suspected, an investigation should be conducted. The City of Appleton Health Department has individuals qualified to test for mosquito larvae. If treatment is warranted, WDNR requirements are to be followed.

Maintenance Access

Maintenance access to the site is via a crushed stone access drive east of the intersection of Leona Street and Richard Street. For large earth-moving operations, such as pond dredging, a maintenance drive with DOT-permitted maintenance access has been constructed off of Wisconsin Avenue (STH 96) east of the intersection of Ballard/Wisconsin intersection.

**Leona Street Detention Pond
Operation and Maintenance Inspection Checklist**

Stormwater Facility Name:		Leona Street Pond		Weather Condition:	
Inspector's Name:					
Date of Inspection				Reason for Inspection: Annual or Storm Event	
Item	Maintenance Item	Satisfactory (S) / Unsatisfactory (US)	Comments	Action to Be Taken/Priority	Who
	Condition of Water Quality Outlet (Annual, After Major Storms)				
1	Outlet Pipe / Structure Grate				
	a. Debris removal necessary				
	b. deterioration				
2	Excessive sediment accumulation inside manhole				
3	Concrete cracks or displacement				

**Leona Street Detention Pond
Operation and Maintenance Inspection Checklist**

Item	Maintenance Item	Satisfactory (S) / Unsatisfactory (US)	Comments	Action to Be Taken/Priority	Who
	a. Minor spalling (<1")				
	b. Major spalling (rebars exposed)				
	c. Joint failures				
	d. Water tightness				
4	Other (specify)				
	Pond Sidelopes/Shoreline (Annual, After Major Storms)				
1	Embankment erosion				

**Leona Street Detention Pond
Operation and Maintenance Inspection Checklist**

Item	Maintenance Item	Satisfactory (S) / Unsatisfactory (US)	Comments	Action to Be Taken/Priority	Who
2	Animal burrows				
3	Unwanted Vegetation				
4	Seeps/leaks				
5	Slope protection				
6	Vertical/horizontal alignment				
7	Overflow spillway clear of obstructions and debris				
8	Access Drive				

**Leona Street Detention Pond
Operation and Maintenance Inspection Checklist**

Item	Maintenance Item	Satisfactory (S) / Unsatisfactory (US)	Comments	Action to Be Taken/Priority	Who
9	Inlet Pipes				
10	Other (specify)				

Additional Comments:

EXHIBIT A
POND LAYOUT PLAN



LEONA STREET
STORMWATER
POND

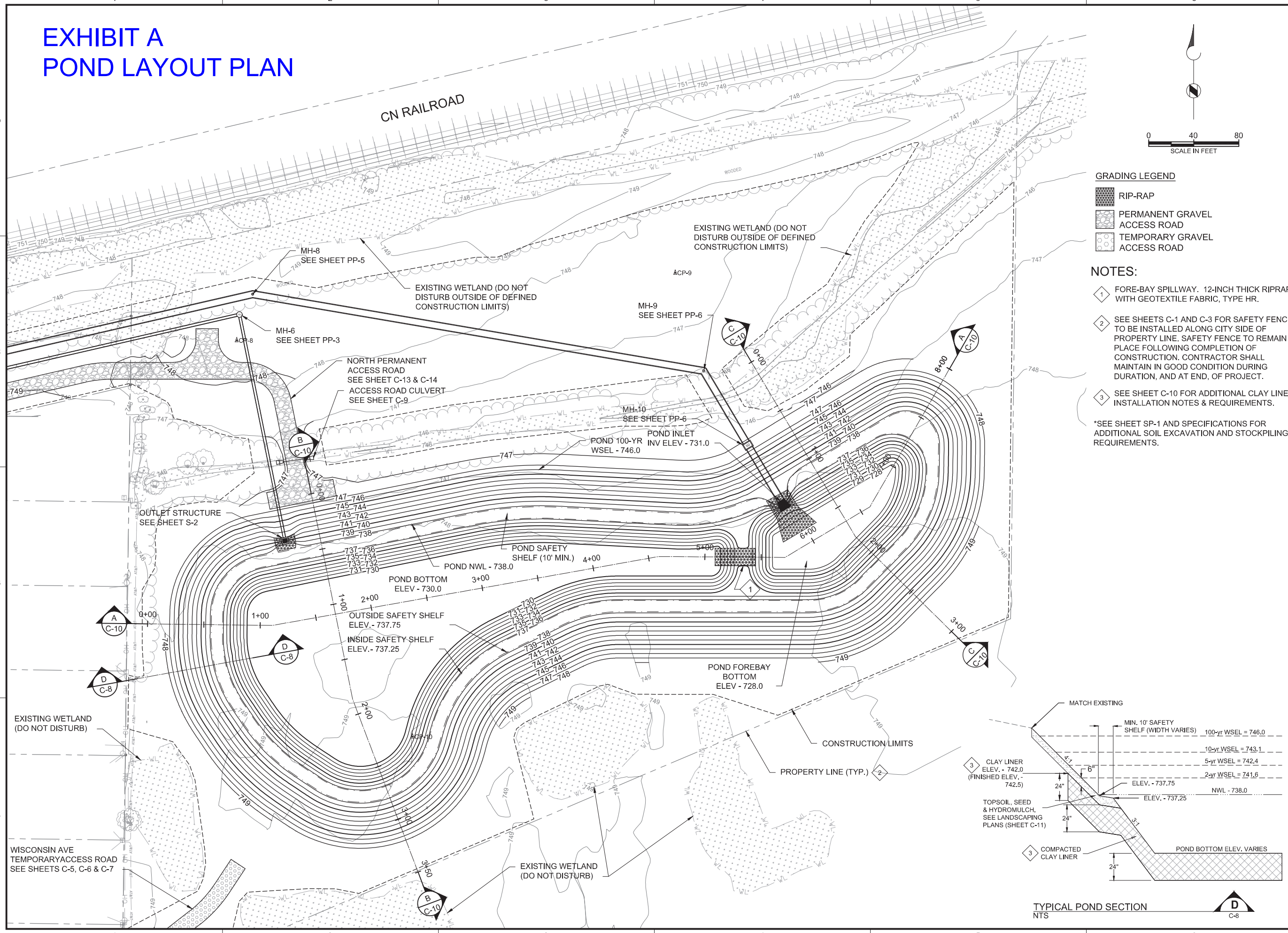
REVISIONS		
REV	DATE	DESCRIPTION

DESIGNED: M WEGNER	
DRAWN: M WEGNER	
CHECKED: K MATTFIELD	
CHECKED:	
APPROVED: K MATTFIELD	
FILENAME 11-C-8_POND_GRADING.DWG	
BC PROJECT NUMBER 148928	
CLIENT PROJECT NUMBER G-19	

CIVIL
POND GRADING
PLAN

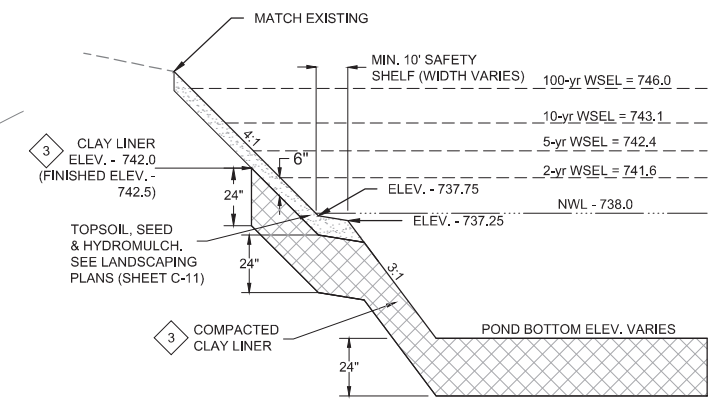
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C-8	
SHEET NUMBER	
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- GRADING LEGEND**
- RIP-RAP
 - PERMANENT GRAVEL ACCESS ROAD
 - TEMPORARY GRAVEL ACCESS ROAD

- NOTES:**
- FORE-BAY SPILLWAY. 12-INCH THICK RIPRAP WITH GEOTEXTILE FABRIC, TYPE HR.
 - SEE SHEETS C-1 AND C-3 FOR SAFETY FENCE TO BE INSTALLED ALONG CITY SIDE OF PROPERTY LINE. SAFETY FENCE TO REMAIN IN PLACE FOLLOWING COMPLETION OF CONSTRUCTION. CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION DURING DURATION, AND AT END, OF PROJECT.
 - SEE SHEET C-10 FOR ADDITIONAL CLAY LINER INSTALLATION NOTES & REQUIREMENTS.
- *SEE SHEET SP-1 AND SPECIFICATIONS FOR ADDITIONAL SOIL EXCAVATION AND STOCKPILING REQUIREMENTS.



TYPICAL POND SECTION
NTS











Richard St

Leona St

LEONA POND PRE-CONSTRUCTION PHOTO - AERIAL VIEW

LEONA POND PROOF OF OWNERSHIP – PROPERTY TAX RECORD

Parcel Info for 31-1-5244-00

Parcel Information

ADDRESS: 0 E WISCONSIN AVE
CLASS: EXEMPT
FLOOD PLAIN: No

Owner

NAME: APPLETON, CITY OF
ADDRESS: 100 N APPLETON ST
CITY/STATE: APPLETON WI
ZIP CODE: 54911

Legal Description

CSM 7537 OUTLOT 1 (DOC 2133499) BEING PRT LOT
S 9,10 & 11 ROWE'S SUB D AND PRT LOT 1 CSM 61
01; LOC FRAC SW1/4 SEC 19 T21N R18E (PT #10-2
-0099-00) **LEONA POND **

Land Size

FRONTAGE/SQ. 11.34
FT./ACRES:
EFFECTIVE DEPTH: 0

Misc Information

ZONING: PI
SCHOOL: Appleton
COUNTY: Outagamie
SANITARY: Appleton
WATER: Appleton
ASSESSOR DISTRICT:

Data file name:

C:\Jaren\WORKING_TEMP\Appleton_Temp\Sept2017-Comparison\LeonaSt_Pond_wSweeping_Feb2020_recdraw-80cfsdi
version.mdb

WinSLAMM Version 10.4.1

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Green Bay Five Year Rainfall.ran

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GE003.ppd

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

Seed for random number generator: -42

Study period starting date: 01/01/68

Study period ending date: 12/30/72

Start of Winter Season: 11/25

End of Winter Season: 03/29

Date: 02-10-2020

Time: 09:28:58

Site information:

LU# 1 - Residential: HDRNA-1/Mo Total area (ac): 20.580

3 - Roofs 3: 2.120 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

8 - Roofs 8: 2.284 ac. Pitched Disconnected Normal Clayey Medium/High Density No
Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 2.902 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.412 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

34 - : 0.412 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source
Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - : 0.926 ac. Smooth Street Length = 0.494 curb-mi Street Width (assuming two
curb-mi per street mile) = 30.93277 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz SC-CP#2

38 - Streets 2: 1.852 ac. Intermediate Street Length = 1.008429 curb-mi Street Width
(assuming two curb-mi per street mile) = 30.30612 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz SC-CP#3

53 - Small Landscaped Areas 3: 8.438 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

69 - : 0.021 ac. Source Area PSD File: C:\WinSLAMM Files\Residential Land Use

73 - : 1.214 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Residential: HDRNA-1/wk Total area (ac): 0.334

3 - : 0.034 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

8 - : 0.037 ac. Pitched Disconnected Normal Clayey Medium/High Density No Alleys
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - : 0.047 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - : 0.007 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

34 - : 0.007 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source
Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - : 0.015 ac. Smooth Street Length = 8.015424E-03 curb-mi Street Width (assuming two
curb-mi per street mile) = 30.9375 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz SC-CP#4

38 - : 0.030 ac. Intermediate Street Length = 1.636482E-02 curb-mi Street Width
(assuming two curb-mi per street mile) = 30.30612 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz SC-CP#5

53 - : 0.137 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

69 - : 0.000 ac. Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

73 - : 0.020 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Institutional: HOSP-1/Mo Total area (ac): 0.259

1 - : 0.082 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

3 - : 0.010 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - : 0.054 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

22 - : 0.002 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source

Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - : 0.016 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - : 0.007 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - : 0.011 ac. Smooth Street Length = 5.308536E-03 curb-mi Street Width (assuming two curb-mi per street mile) = 34.12683 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#6

38 - : 0.017 ac. Intermediate Street Length = 8.312392E-03 curb-mi Street Width (assuming two curb-mi per street mile) = 34.13084 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#7

47 - : 0.014 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

53 - : 0.036 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

59 - : 0.000 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

69 - : 0.003 ac. Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

73 - : 0.006 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Institutional: HOSP-1/wk Total area (ac): 5.484

1 - : 1.744 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

3 - : 0.215 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - : 1.140 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

22 - : 0.032 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source

Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - : 0.336 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - : 0.154 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - : 0.233 ac. Smooth Street Length = 0.1124245 curb-mi Street Width (assuming two curb-mi per street mile) = 34.12683 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#8

38 - : 0.364 ac. Intermediate Street Length = 0.1760402 curb-mi Street Width (assuming two curb-mi per street mile) = 34.13084 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#9

47 - : 0.292 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

53 - : 0.771 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

59 - : 0.010 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

69 - : 0.058 ac. Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

73 - : 0.137 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 5 - Institutional: INST-1/Mo Total area (ac): 0.919

1 - : 0.050 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

3 - : 0.078 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

8 - : 0.005 ac. Pitched Disconnected Normal Clayey Medium/High Density No Alleys

Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - : 0.250 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

25 - : 0.028 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - : 0.020 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - : 0.037 ac. Smooth Street Length = 1.746451E-02 curb-mi Street Width (assuming two

curb-mi per street mile) = 34.73684 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#10
 38 - : 0.062 ac. Intermediate Street Length = 2.968968E-02 curb-mi Street Width
 (assuming two curb-mi per street mile) = 34.53251 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#11
 39 - : 0.012 ac. Rough Street Length = 5.790866E-03 curb-mi Street Width (assuming two
 curb-mi per street mile) = 34.57143 ft
 Default St. Dirt Accum. Annual Winter Load = 2750 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#12
 47 - : 0.049 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 53 - : 0.244 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 59 - : 0.017 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 63 - : 0.016 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 66 - : 0.016 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz
 73 - : 0.024 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 80 - : 0.012 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz

LU# 6 - Institutional: INST-1/wk Total area (ac): 8.378
 1 - : 0.452 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 3 - : 0.707 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 8 - : 0.049 ac. Pitched Disconnected Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 13 - : 2.280 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - : 0.251 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - : 0.184 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - : 0.335 ac. Smooth Street Length = 0.159176 curb-mi Street Width (assuming two
 curb-mi per street mile) = 34.73684 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#13
 38 - : 0.566 ac. Intermediate Street Length = 0.2705992 curb-mi Street Width (assuming
 two curb-mi per street mile) = 34.53251 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#14
 39 - : 0.111 ac. Rough Street Length = 5.277941E-02 curb-mi Street Width (assuming two
 curb-mi per street mile) = 34.57143 ft
 Default St. Dirt Accum. Annual Winter Load = 2750 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#15
 47 - : 0.447 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 53 - : 2.224 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 59 - : 0.153 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 63 - : 0.142 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 66 - : 0.142 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz
 73 - : 0.222 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 80 - : 0.111 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz

LU# 7 - Residential: LDR-1/Mo Total area (ac): 2.431
 3 - : 0.046 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 8 - : 0.148 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD

File: C:\WinSLAMM Files\NURP.cpz

13 - :	0.002 ac.	Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - :	0.078 ac.	Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
28 - :	0.032 ac.	Disconnected	Normal Clayey Low Density Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

31 - :	0.009 ac.	Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
34 - :	0.009 ac.	Disconnected	Normal Clayey Low Density Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

37 - :	0.053 ac.	Smooth	Street Length = 3.403907E-02 curb-mi Street Width (assuming two curb-mi per street mile) = 25.92857 ft
		Default St. Dirt Accum.	Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#16

38 - :	0.102 ac.	Intermediate	Street Length = 6.564678E-02 curb-mi Street Width (assuming two curb-mi per street mile) = 25.66666 ft
		Default St. Dirt Accum.	Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#17

39 - :	0.015 ac.	Rough	Street Length = 9.725448E-03 curb-mi Street Width (assuming two curb-mi per street mile) = 24.75 ft
		Default St. Dirt Accum.	Annual Winter Load = 2750 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#18

53 - :	1.819 ac.	Normal Clayey	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
59 - :	0.107 ac.	Normal Clayey	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
69 - :	0.005 ac.		Source Area PSD File: C:\WinSLAMM Files\\Residential Land Use
73 - :	0.005 ac.	Normal Clayey	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
80 - :	0.002 ac.	Disconnected	Normal Clayey Low Density Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz

LU# 8 - Industrial: LI-1/Mo-Silt Total area (ac): 2.245

1 - :	0.460 ac.	Flat Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
3 - :	0.058 ac.	Pitched Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
5 - :	0.051 ac.	Flat Disconnected	Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Files\NURP.cpz

13 - :	0.739 ac.	Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
21 - :	0.142 ac.	Disconnected	Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Files\NURP.cpz

25 - :	0.057 ac.	Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - :	0.029 ac.	Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - :	0.041 ac.	Smooth	Street Length = 1.908038E-02 curb-mi Street Width (assuming two curb-mi per street mile) = 35.71765 ft
		Default St. Dirt Accum.	Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#19

38 - :	0.195 ac.	Intermediate	Street Length = 9.203479E-02 curb-mi Street Width (assuming two curb-mi per street mile) = 34.93171 ft
		Default St. Dirt Accum.	Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#20

39 - :	0.007 ac.	Rough	Street Length = 3.367127E-03 curb-mi Street Width (assuming two curb-mi per street mile) = 35.2 ft
		Default St. Dirt Accum.	Annual Winter Load = 2750 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#21

46 - :	0.079 ac.	Normal Silty	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
52 - :	0.221 ac.	Normal Silty	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
58 - :	0.097 ac.	Normal Silty	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
72 - :	0.062 ac.	Normal Silty	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
79 - :	0.005 ac.	Disconnected	Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Files\NURP.cpz

LU# 9 - Industrial: LI-1/wk Total area (ac): 0.041

1 - :	0.008 ac.	Flat Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
3 - :	0.001 ac.	Pitched Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
7 - Roofs 7:	0.001 ac.	Flat Disconnected	Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - :	0.013 ac.	Connected	Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

22 - : 0.003 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

25 - : 0.001 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - : 0.001 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - : 0.001 ac. Smooth Street Length = 0.001 curb-mi Street Width (assuming two
curb-mi per street mile) = 12.34802 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#22

38 - : 0.004 ac. Intermediate Street Length = 1.667552E-03 curb-mi Street Width
(assuming two curb-mi per street mile) = 34.93171 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#23

39 - : 0.000 ac. Rough Street Length = 6.1008E-05 curb-mi Street Width (assuming two
curb-mi per street mile) = 35.2 ft

Default St. Dirt Accum. Annual Winter Load = 2750 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#24

47 - : 0.001 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

53 - : 0.004 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

59 - : 0.002 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

73 - : 0.001 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

LU# 10 - Industrial: LI-1/Mo Total area (ac): 2.080

1 - : 0.427 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

3 - : 0.053 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

7 - : 0.047 ac. Flat Disconnected Normal Clayey Low Density Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

13 - : 0.685 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

22 - : 0.132 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

25 - : 0.053 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - : 0.027 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - : 0.038 ac. Smooth Street Length = 1.767694E-02 curb-mi Street Width (assuming two
curb-mi per street mile) = 35.71765 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#25

38 - : 0.181 ac. Intermediate Street Length = 8.526523E-02 curb-mi Street Width
(assuming two curb-mi per street mile) = 34.93171 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#26

39 - : 0.007 ac. Rough Street Length = 3.11946E-03 curb-mi Street Width (assuming two
curb-mi per street mile) = 35.2 ft

Default St. Dirt Accum. Annual Winter Load = 2750 lbs Source Area PSD File:

C:\WinSLAMM Files\NURP.cpz SC-CP#27

47 - : 0.073 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

53 - : 0.205 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

59 - : 0.090 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

73 - : 0.058 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz

80 - : 0.004 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

LU# 11 - Residential: MDRNA-1/Mo Total area (ac): 109.327

3 - : 4.920 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

8 - : 11.479 ac. Pitched Disconnected Normal Clayey Medium/High Density No Alleys
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

13 - : 0.219 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - : 6.122 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 28 - : 2.077 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source
 Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - : 1.203 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 34 - : 1.203 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source
 Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - : 4.045 ac. Smooth Street Length = 2.186548 curb-mi Street Width (assuming two
 curb-mi per street mile) = 30.525 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#28
 38 - : 8.309 ac. Intermediate Street Length = 4.373096 curb-mi Street Width (assuming
 two curb-mi per street mile) = 31.35 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#29
 39 - : 1.640 ac. Rough Street Length = 0.8746192 curb-mi Street Width (assuming two
 curb-mi per street mile) = 30.9375 ft
 Default St. Dirt Accum. Annual Winter Load = 2750 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#30
 47 - : 0.219 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 53 - : 62.863 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 59 - : 0.437 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 69 - : 0.219 ac. Source Area PSD File: C:\WinSLAMM Files\\Residential Land Use
 73 - : 4.373 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 12 - Residential: MDRNA-1/wk Total area (ac): 14.406
 3 - : 0.648 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 8 - : 1.513 ac. Pitched Disconnected Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 13 - : 0.029 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - : 0.807 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 28 - : 0.274 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source
 Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - : 0.158 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 34 - : 0.158 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source
 Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - : 0.533 ac. Smooth Street Length = 0.2881124 curb-mi Street Width (assuming two
 curb-mi per street mile) = 30.525 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#31
 38 - : 1.095 ac. Intermediate Street Length = 0.5762249 curb-mi Street Width (assuming
 two curb-mi per street mile) = 31.35 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#32
 39 - : 0.216 ac. Rough Street Length = 0.115245 curb-mi Street Width (assuming two
 curb-mi per street mile) = 30.9375 ft
 Default St. Dirt Accum. Annual Winter Load = 2750 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#33
 47 - : 0.029 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 53 - : 8.283 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 59 - : 0.058 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 69 - : 0.029 ac. Source Area PSD File: C:\WinSLAMM Files\\Residential Land Use
 73 - : 0.576 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 13 - Residential: MFRNA-1/Mo Total area (ac): 0.931
 3 - : 0.042 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 8 - : 0.098 ac. Pitched Disconnected Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 13 - : 0.002 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - : 0.052 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 28 - : 0.018 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source
 Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - : 0.010 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 34 - : 0.010 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source
 Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - : 0.034 ac. Smooth Street Length = 1.862028E-02 curb-mi Street Width (assuming two
 curb-mi per street mile) = 30.525 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#34
 38 - : 0.071 ac. Intermediate Street Length = 3.724056E-02 curb-mi Street Width
 (assuming two curb-mi per street mile) = 31.35 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#35
 39 - : 0.014 ac. Rough Street Length = 7.448112E-03 curb-mi Street Width (assuming two
 curb-mi per street mile) = 30.9375 ft
 Default St. Dirt Accum. Annual Winter Load = 2750 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#36
 47 - : 0.002 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 53 - : 0.535 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 59 - : 0.004 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 69 - : 0.002 ac. Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 73 - : 0.037 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 14 - Other Urban: OSUD-1/Mo Total area (ac): 0.418
 3 - : 0.019 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 8 - : 0.044 ac. Pitched Disconnected Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 13 - : 0.001 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - : 0.023 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 28 - : 0.008 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source
 Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - : 0.005 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 34 - : 0.005 ac. Disconnected Normal Clayey Medium/High Density No Alleys Source
 Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - : 0.015 ac. Smooth Street Length = 8.36388E-03 curb-mi Street Width (assuming two
 curb-mi per street mile) = 30.525 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#37
 38 - : 0.032 ac. Intermediate Street Length = 1.672776E-02 curb-mi Street Width
 (assuming two curb-mi per street mile) = 31.35 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#38
 39 - : 0.006 ac. Rough Street Length = 3.345552E-03 curb-mi Street Width (assuming two
 curb-mi per street mile) = 30.9375 ft
 Default St. Dirt Accum. Annual Winter Load = 2750 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#39
 47 - : 0.001 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 53 - : 0.240 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 59 - : 0.002 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 69 - : 0.001 ac. Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 73 - : 0.017 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 15 - Other Urban: RAIL-1/Mo Total area (ac): 3.842
 1 - : 0.004 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 3 - : 0.004 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 8 - : 0.010 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD
 File: C:\WinSLAMM Files\NURP.cpz
 13 - : 0.161 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 22 - : 0.008 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz
 25 - : 0.046 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - : 0.019 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - : 0.038 ac. Smooth Street Length = 2.382098E-02 curb-mi Street Width (assuming two
 curb-mi per street mile) = 26.6129 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#40
 38 - : 0.087 ac. Intermediate Street Length = 5.302089E-02 curb-mi Street Width
 (assuming two curb-mi per street mile) = 27.1413 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#41
 47 - : 2.995 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 53 - : 0.033 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 63 - : 0.035 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 66 - : 0.035 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz
 69 - : 0.272 ac. Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 80 - : 0.095 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz

LU# 16 - Commercial: SCOM-1/Mo Total area (ac): 0.316
 8 - : 0.001 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD
 File: C:\WinSLAMM Files\NURP.cpz
 13 - : 0.013 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 22 - : 0.001 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz
 25 - : 0.004 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - : 0.002 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - : 0.003 ac. Smooth Street Length = 1.96411E-03 curb-mi Street Width (assuming two
 curb-mi per street mile) = 26.6129 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#42
 38 - : 0.007 ac. Intermediate Street Length = 4.37173E-03 curb-mi Street Width
 (assuming two curb-mi per street mile) = 27.1413 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#43
 47 - : 0.247 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 53 - : 0.003 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM
 Files\NURP.cpz
 63 - : 0.003 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 66 - : 0.003 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz
 69 - : 0.022 ac. Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 80 - : 0.008 ac. Disconnected Normal Clayey Low Density Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz

LU# 17 - Residential: Duplex Total area (ac): 0.376
 3 - : 0.017 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 8 - : 0.045 ac. Pitched Disconnected Normal Clayey Medium/High Density No Alleys
 Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - : 0.020 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - : 0.015 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 38 - : 0.050 ac. Intermediate Street Length = 0.02632 curb-mi Street Width (assuming
 two curb-mi per street mile) = 31.37357 ft
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz SC-CP#44
 53 - : 0.229 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - DS Wet Pond # 1
 Particle Size Distribution file name: Not needed - calculated by program
 Initial stage elevation (ft): 5
 Peak to Average Flow Ratio: 3.8
 Maximum flow allowed into pond (cfs): 80
 Outlet Characteristics:

- Outlet type: Orifice 1
 - 1. Orifice diameter (ft): 1
 - 2. Number of orifices: 1
 - 3. Invert elevation above datum (ft): 5.03
- Outlet type: Broad Crested Weir
 - 1. Weir crest length (ft): 20
 - 2. Weir crest width (ft): 20
 - 3. Height from datum to bottom of weir opening: 14.2
- Outlet type: Vertical Stand Pipe
 - 1. Stand pipe diameter (ft): 4.25
 - 2. Stand pipe height above datum (ft): 9.7

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	1.2900	0.00	0.00
2	4.00	1.9000	0.00	0.00
3	5.00	2.0670	0.00	0.00
4	6.00	2.2500	0.00	0.00
5	7.00	2.4100	0.00	0.00
6	8.00	2.5710	0.00	0.00
7	9.00	2.7320	0.00	0.00
8	10.00	2.8930	0.00	0.00
9	11.00	3.0530	0.00	0.00
10	12.00	3.2140	0.00	0.00
11	13.00	3.3100	0.00	0.00
12	14.00	3.4800	0.00	0.00
13	15.00	3.6500	0.00	0.00

Control Practice 2: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37

- 1. Street cleaning frequency: One Pass Every Four Weeks
- 2. Street Cleaner Type: Mechanical Broom Sweeper
- 3. Street cleaner productivity: Default
- 4. Parking density: Light
- 5. Parking controls imposed? Yes
- 6. Equation coefficient M (slope): 0.35
- 7. Equation coefficient B (intercept): 245
- 8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 3: Street Cleaning CP# 2 (SA) - SA Device, LU# 1 ,SA# 38

- 1. Street cleaning frequency: One Pass Every Four Weeks
- 2. Street Cleaner Type: Mechanical Broom Sweeper
- 3. Street cleaner productivity: Default
- 4. Parking density: Light
- 5. Parking controls imposed? Yes
- 6. Equation coefficient M (slope): 0.45
- 7. Equation coefficient B (intercept): 310
- 8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 4: Street Cleaning CP# 3 (SA) - SA Device, LU# 2 ,SA# 37

- 1. Street cleaning frequency: One Pass per Week
- 2. Street Cleaner Type: Mechanical Broom Sweeper
- 3. Street cleaner productivity: Default
- 4. Parking density: Light
- 5. Parking controls imposed? Yes

6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: Not needed - calculated by program

Control Practice 5: Street Cleaning CP# 4 (SA) - SA Device, LU# 2 ,SA# 38

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: Not needed - calculated by program

Control Practice 6: Street Cleaning CP# 5 (SA) - SA Device, LU# 3 ,SA# 37

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 7: Street Cleaning CP# 6 (SA) - SA Device, LU# 3 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 8: Street Cleaning CP# 7 (SA) - SA Device, LU# 4 ,SA# 37

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: Not needed - calculated by program

Control Practice 9: Street Cleaning CP# 8 (SA) - SA Device, LU# 4 ,SA# 38

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: Not needed - calculated by program

Control Practice 10: Street Cleaning CP# 9 (SA) - SA Device, LU# 5 ,SA# 37

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default

4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 11: Street Cleaning CP# 10 (SA) - SA Device, LU# 5 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 12: Street Cleaning CP# 11 (SA) - SA Device, LU# 5 ,SA# 39

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.56
7. Equation coefficient B (intercept): 400
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 13: Street Cleaning CP# 12 (SA) - SA Device, LU# 6 ,SA# 37

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: Not needed - calculated by program

Control Practice 14: Street Cleaning CP# 13 (SA) - SA Device, LU# 6 ,SA# 38

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: Not needed - calculated by program

Control Practice 15: Street Cleaning CP# 14 (SA) - SA Device, LU# 6 ,SA# 39

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.56
7. Equation coefficient B (intercept): 400
8. Particle size distribution file: Not needed - calculated by program

Control Practice 16: Street Cleaning CP# 15 (SA) - SA Device, LU# 7 ,SA# 37

1. Street cleaning frequency: One Pass Every Four Weeks

2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 17: Street Cleaning CP# 16 (SA) - SA Device, LU# 7 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 18: Street Cleaning CP# 17 (SA) - SA Device, LU# 7 ,SA# 39

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.56
7. Equation coefficient B (intercept): 400
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 19: Street Cleaning CP# 18 (SA) - SA Device, LU# 8 ,SA# 37

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 20: Street Cleaning CP# 19 (SA) - SA Device, LU# 8 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 21: Street Cleaning CP# 20 (SA) - SA Device, LU# 8 ,SA# 39

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.56
7. Equation coefficient B (intercept): 400
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 22: Street Cleaning CP# 21 (SA) - SA Device, LU# 9 ,SA# 37

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: Not needed - calculated by program

Control Practice 23: Street Cleaning CP# 22 (SA) - SA Device, LU# 9 ,SA# 38

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: Not needed - calculated by program

Control Practice 24: Street Cleaning CP# 23 (SA) - SA Device, LU# 9 ,SA# 39

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.56
7. Equation coefficient B (intercept): 400
8. Particle size distribution file: Not needed - calculated by program

Control Practice 25: Street Cleaning CP# 24 (SA) - SA Device, LU# 10 ,SA# 37

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 26: Street Cleaning CP# 25 (SA) - SA Device, LU# 10 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 27: Street Cleaning CP# 26 (SA) - SA Device, LU# 10 ,SA# 39

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.56
7. Equation coefficient B (intercept): 400
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 28: Street Cleaning CP# 27 (SA) - SA Device, LU# 11 ,SA# 37

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 29: Street Cleaning CP# 28 (SA) - SA Device, LU# 11 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 30: Street Cleaning CP# 29 (SA) - SA Device, LU# 11 ,SA# 39

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.56
7. Equation coefficient B (intercept): 400
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 31: Street Cleaning CP# 30 (SA) - SA Device, LU# 12 ,SA# 37

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: Not needed - calculated by program

Control Practice 32: Street Cleaning CP# 31 (SA) - SA Device, LU# 12 ,SA# 38

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: Not needed - calculated by program

Control Practice 33: Street Cleaning CP# 32 (SA) - SA Device, LU# 12 ,SA# 39

1. Street cleaning frequency: One Pass per Week
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.56

7. Equation coefficient B (intercept): 400
8. Particle size distribution file: Not needed - calculated by program

Control Practice 34: Street Cleaning CP# 33 (SA) - SA Device, LU# 13 ,SA# 37

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 35: Street Cleaning CP# 34 (SA) - SA Device, LU# 13 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 36: Street Cleaning CP# 35 (SA) - SA Device, LU# 13 ,SA# 39

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.56
7. Equation coefficient B (intercept): 400
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 37: Street Cleaning CP# 36 (SA) - SA Device, LU# 14 ,SA# 37

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 38: Street Cleaning CP# 37 (SA) - SA Device, LU# 14 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 39: Street Cleaning CP# 38 (SA) - SA Device, LU# 14 ,SA# 39

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light

5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.56
7. Equation coefficient B (intercept): 400
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 40: Street Cleaning CP# 39 (SA) - SA Device, LU# 15 ,SA# 37

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 41: Street Cleaning CP# 40 (SA) - SA Device, LU# 15 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 42: Street Cleaning CP# 41 (SA) - SA Device, LU# 16 ,SA# 37

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.35
7. Equation coefficient B (intercept): 245
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 43: Street Cleaning CP# 42 (SA) - SA Device, LU# 16 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: C:\WinSLAMM Files\NURP.CPZ

Control Practice 44: Street Cleaning CP# 43 (SA) - SA Device, LU# 17 ,SA# 38

1. Street cleaning frequency: One Pass Every Four Weeks
2. Street Cleaner Type: Mechanical Broom Sweeper
3. Street cleaner productivity: Default
4. Parking density: Light
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.45
7. Equation coefficient B (intercept): 310
8. Particle size distribution file: Not needed - calculated by program

SLAMM for Windows Version 10.4.1

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Data file name: C:\Jaren\WORKING_TEMP\Appleton_Temp\Sept2017-Comparison\LeonaSt_Pond_wSweeping_Feb2020_recdraw-80cfsdiversion.mdb

Data file description:

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Green Bay Five Year Rainfall.ran

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdX

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

Seed for random number generator: -42

Start of Winter Season: 11/25 End of Winter Season: 03/29

Model Run Start Date: 01/01/68 Model Run End Date: 12/30/72

Date of run: 02-07-2020 Time of run: 15:22:33

Total Area Modeled (acres): 172.367

Years in Model Run: 5.00

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	2.044E+07	-	163.4	208528	-
Outfall Total with Controls:	2.047E+07	-0.15%	34.56	44162	78.82%
Annualized Total After Outfall Controls:	4.096E+06			8837	

Pollutant Percent Reduction	Concentration - No Controls	Concentration - With Controls	Conc. Units	Pollutant Yield No Controls	Pollutant Yield With Controls	Pol. Yield Units
Particulate Solids	163.4	34.56	mg/L	208528	44162	lbs 78.82 %
Particulate Phosphorus	0.4248	0.09373	mg/L	542.0	119.8	lbs 77.90 %
Filterable Phosphorus	0.1455	0.1426	mg/L	185.6	182.2	lbs 1.81 %
Total Phosphorus	0.5703	0.2363	mg/L	727.6	302.0	lbs 58.49 %