



CITY OF CALLAWAY
BERTHE AVENUE BRIDGE REPLACEMENT &
ASSOCIATED INFRASTRUCTURE
BID NO.: PW2022-15

ADDENDUM #3

Date Issued: October 10, 2022

This addendum is being released to change the date and place of the bid opening and address the following:

1. During our site visit we observed power lines running down the East side of the project that are very close to the edge of the existing structure. We noticed that new poles are being set on the West side of the project. Are the power lines on the East side being relocated?

- A. Sheet C-101 (demo and erosion control plan) calls for relocation of an O/E power pole currently located at the NE corner of the proposed bridge structure. Sheet C-105 (roadway plan and profile) calls for power pole relocation as required for the pole located SE of the proposed bridge structure (to avoid conflict with proposed retaining wall). Plans have been revised to provide consistency between these two sheets.

A temporary service line can be installed during their relocation (to avoid east side O/E conflict with bridge construction) and permanent service connections can be re-established to the new poles post-construction. Other existing, east side O/E poles (south of the proposed bridge structure) should not conflict with roadway approach or sidewalk activities. We have also revised plans to reflect a relocation of the existing O/E line from the lift station across Berthe to the pole at Minneola Street.

Any relocation of poles or O/E lines (and installation of temporary O/E lines) shall be approved by Florida Power and Light (FPL) and coordinated between FPL and the awarded contractor.

2. There are several fiber optic utility markers running down the West side of the project that are very close to or will be in conflict with the bridge. Are any of these lines being relocated?
 - A. Fiber lines were not presented in the survey or identified by the city. It will be the contractor's responsibility to notify and coordinate required relocations with respective fiber optic owners within project limits.
3. Reference sheet C-106. The note pertaining to the retaining wall states "proposed retaining wall (by others)? Please clarify.
 - A. The note in question identifies that BDI was not responsible for design of the proposed retaining walls. BDI used Woolpert as the structural sub to perform bridge and retaining wall design and supporting calculations.

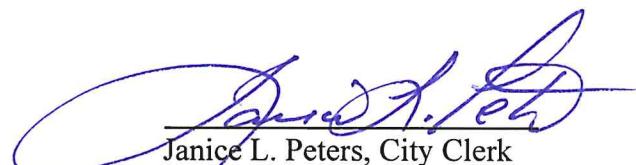
4. Reference sheet B1-2 on the notes under "Foundation Bearing Resistance". There is a lot of ambiguity in the note. Please provide more clarification in order to properly access the costs for this as there are no soil borings for this area and the undercut, if required, would be below the water table thus creating a substantial difference in how to address and price out this item.
 - A. The note provides the design assumptions, and the geotechnical report provides the available subsurface information. This information is however limited, and the note addresses this fact by requiring field inspection of the bearing surface. Up to 3 feet of undercut is considered in case of unsuitable material as part of the note, beyond 3-ft would require additional evaluation due to the presence of the water table. For bidding purposes, assume not more than 3 feet of undercut is required. If additional is found to be needed during construction this would be treated as an unknown subsurface or change condition.
5. Reference sheet B1-3. Who is responsible to carry the costs for the Geotechnical engineer that performs, analyzes, and prepares the report on the 2 dynamic pile tests?
 - A. The contractor shall retain the services of a third-party geotechnical engineer to prepare and submit the report.
6. Reference sheet B1-3. Are the 2 test piles to be instrumented internally or externally?
 - A. Internal or external instruments may be used. Refer to FDOT specifications section 455-5.13.
7. Reference sheet B1-3. This sheet specifies that the test piles are 55' long for a total of 110 LF of test pile but the bid item has a quantity of 80 LF. Which is correct?
 - A. 55 feet per pile/110 total feet is correct.
8. Page 1 of the Special instructions and conditions states that "all bidders shall be certified in the following major classes of work". Is the Bidder required to be certified in all the major classes listed? Please clarify.
 - A. The contractor and/or selected subcontractors must be qualified in the classes of work specified in the bid package.
9. Please reference bid item 1.26 General Provisions. This line item allows for 5% of the contract amount which is low when you take into account that bonds and insurance are in the range of 2% which does not leave much for the other items that this item is intended to provide for. Will you increase this percentage to more adequately cover what is intended?
 - A. General Provisions should be limited to 5% of the contract amount and remain separate from the 2% maximum allowance for bonds and insurance.
10. Who will provide the dynamic testing?
 - A. The contractor shall retain the services of a third-party geotechnical engineer qualified to oversee the dynamic testing.

11. How is the retaining wall to be bid based on the notes in bid and uncertain geotechnical data?
 - A. The notes provide for undercut up to 3 feet in depth to account for uncertainty in the subsurface field conditions. For bidding purposes, assume not more than 3 feet of undercut is required. If additional is found to be needed during construction this would be treated as an unknown subsurface or change condition.
12. Bid Item 1.16 is for 2,250 sy of erosion control blanket. Please clarify where location wise this is to be used.
 - A. Bid item 1.16 (erosion control blanket) has been removed from the pay item list. It was used for the adjacent ditch piping plans and not pertinent to this project scope.
13. Bid item 1.25 for signage and marking. Please clarify what signage is required and what pavement markings are required and what type of paint is to be used as no details are given on the plans.
 - A. The plans have been revised to specify roadway approach pavement markings and applicable signage within the project limits.
14. Bid item 2.11; 3.04; 3.09 for 6" underdrains. Please clarify the locations where these are to go as well as the type. The FDOT standards have different types.
 - A. 6-inch underdrains have been removed from the bid item list.
15. Pay Item 0515 2 213 is described as Pedestrian/Bicycle Railing, Steel, 42" Type 3. According to the FDOT standard drawing (drawing 515-052) included in the plans, the Type 3 rail is the Sunshine Infill Panel design. Wanted to confirm that this is type of rail desired. Also, confirm that the rail is to be constructed with steel and galvanized after fabrication. Would aluminum be an acceptable alternative?
 - A. The Sunshine Infill Panel design as shown in the plans is confirmed. The city has stated the railing is to be constructed from aluminum (rather than galvanized coated steel).
16. How is guardrail to be connected to the new bridge? There is nothing that calls out approach transitions to rigid barriers in the plans. Each corner should have a TL2 approach transition to rigid barrier.
 - A. The detail is in the Std Plans 536-001 sheet 15/24. Woolpert bridge plans have been detailed to accommodate the connection.

17. Plans state to use an approved end terminal and specify Soft Stop Mash or RSI Float, however an RSI Float is not a current approved end terminal. There is an RSI M-Float but it is only approved for maintenance on existing guardrail. The RSI MSKT is an approved terminal. Is this the terminal that should be referenced, as I believe it will be the only product that can be used on this job? This will be further addressed in comment 20.
- A. Yes, the MSKT is the appropriate item and has been referenced. Any of the three items listed under 536-007: Approach terminal 31" TL-2, MASH of the approved products list may be used for the approach sections.
18. On the corner of the bridge closest to Mineola St. The plan only calls for 24.1 LF of guardrail. The minimum that could be used and still comply with index 536-001 would be 49' 4 3/4". How do we address this and remain compliant with the index?
- A. The plans have been updated to show a curved CRT rail per FDOT Index 536-001 sheets 11 & 12. The lift station access will be relocated onto Minneola St.
19. The plan also calls for rub rail as indicated on sheet 21 of the index next to the sidewalk. Rub rail has nothing to do with proximity to sidewalks, so I believe what is being asked for is pipe rail which is page 22 of the index. Per the index pipe rail and/or rub rail cannot be used in TL2. This would mean changing the rail to TL3 increasing cost. Pipe rail also cannot be used in end treatments or transitions. The end treatments and approaches would need to be installed with wood posts. In comment (17) I referenced the end treatments; the only approved wood post end treatment is the RSI MSKT. Since this is the case and the guardrail runs are so short, I would suggest specifying wood posts and eliminating pipe rail which would further reduce costs.
- A. Rub rail has been removed from plans.
20. **PLEASE SEE UPDATED PLANS ATTACHED AND UPLOADED TO VENDOR REGISTRY.**
21. **THE BID OPENING LOCATION & DATE IS HEREBY CHANGED TO:**

**MONDAY, OCTOBER 24, 2022
10:00 A.M.**

**City of Callaway Recreational Complex
500 Callaway Park Way**



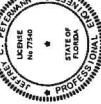
Janice L. Peters, City Clerk
(850) 215-6694

This Addendum must be acknowledged and included with the bid packet submission.

Signature

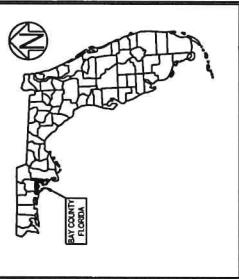
Company Name

Date



CONSTRUCTION PLANS FOR
**THE CITY OF CALLAWAY
BERTHE BRIDGE &
ASSOCIATED INFRASTRUCTURE**

Digitally signed by Jeffrey
C Petermann
Date: 2022.10.07
14:46:29-05'00'



THIS ITEM HAS BEEN DIGITALLY SIGNED AND
SEALED BY JEFFREY C. PETERMANN ON THE
DATE ADJACENT TO THE SEAL PRINTED ON THIS
DOCUMENT ARE NOT CONSIDERED
SIGNED AND SEALED AND THE SIGNATURE
MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

PREPARED FOR:
CITY OF CALLAWAY

OCTOBER 2022



CITY OF CALLAWAY
CITY COMMISSION

PANN HENDERSON
SCOTT DAVIS
DAVID GRIGGS
BOB PELLETIER
KENNETH L. AYERS, JR.
EDDIE COOK
BILL FRYE
MAYOR
WARD I COMMISSIONER
WARD II COMMISSIONER
WARD III COMMISSIONER
WARD IV COMMISSIONER
CITY MANAGER
PUBLIC WORKS DIRECTOR

PREPARED BY:



BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927

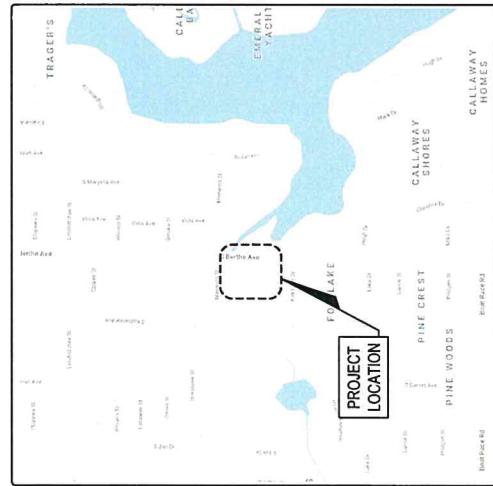
48 HOURS BEFORE YOU DIG
1-800-432-4770
A. STATE, SALVAGE A COMPANY
NO. OF 3 DAYS AND MAX. OF 5 DAYS
NOTICE BEFORE YOU EXCAVATE

1401 PANAMA CITY BEACH PARKWAY, SUITE 110
PANAMA CITY BEACH, FLORIDA 32413 (850) 240-1510
PENSACOLA - PANAMA CITY BEACH - TALLAHASSEE - MOBILE
ENGINEERING BUSINESS EB-0000040

100% PLANS - RELEASED FOR BID

SHEET INDEX

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| C-102 | OVERALL PLAN |
| C-103 | CONTROL PLAN |
| C-104 | ROADWAY PLAN AND PROFILE |
| C-105 | ROADWAY PLAN AND PROFILE |
| C-106 | GRADING PLAN |
| C-107 | TIPTICAL ROADWAY SECTION |
| C-108 | R/W TO R/W CROSS-SECTIONS |
| C-109 | R/W TO R/W CROSS-SECTIONS |
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GENERAL NOTES AND LEGEND

1. THE CONTRACTOR IS CAUTIONED TO VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE PROJECT PRIOR TO BIDDING.

2. B.M. DATUM IS 1988 NAVD.

3. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES INCLUDING, BUT NOT LIMITED TO, WATER LINES, BURIED ELECTRICAL LINES, BURIED TELEPHONE LINES, GAS PIPELINES, BURIED GUARD RAIL, CABLES, BURIED UTILITY CONDUITS, CONTRACTOR'S OWN TO CUSTOMER, WITHIN CONTRACT CONVEYANCES FOR REGULAR, PROPOSED OR RELOCATION OF EXISTING UTILITY POLES, AERIAL LINES, BURIED CABLE AND OTHER UTILITIES.

4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS BETWEEN CONTRACT DOCUMENTS AND EXISTING CONDITIONS. THESE DRAWINGS REPRESENT KNOWN STRUCTURES AND UTILITIES LOCATED IN THE PROJECT AREA. THE CONTRACTOR IS CAUTIOUS THAT OTHER STRUCTURES AND UTILITIES, ABOVE OR BELOW GROUND, MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. IN THE EVENT THE CONTRACTOR SHOULD NOTIFY THE OWNER, THE ENGINEER IMMEDIATELY AND NOTIFICATION OF ANY UNEXPECTED STRUCTURE, UTILITY LINE, OR OTHER UNUSUAL CONDITIONS.

5. CONTRACTOR SHALL SAFETY-BARRICADE ALL EXCAVATIONS AND OTHER HAZARDS.

6. CONTRACTOR SHALL PROVIDE ACCESS TO PROPERTIES ADJACENT TO THE OTHER TRAFFIC AREAS. ADEQUATE BARBODGES, CONSTRUCTION SCAFFAGE AND OTHER TRAFFIC CONTROL DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH DOT CONSTRUCTION STANDARDS.

7. THE CONTRACTOR SHALL EMPLOY THE USE OF SILT FENCES, HAY BALES, DITCHES OR WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SEDIMENTATION AT ALL TIMES. WATERS OF THE STATE, ADJACENT PROPERTIES, AND ANY NEW DRAINAGE CONSTRUCTION SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL REMAIN UNTIL THE COMPLETION OF CONSTRUCTION AND ACCEPTANCE BY THE OWNER.

8. ADEQUATE PROVISIONS SHALL BE MADE FOR THE FLOW OF SEWERS, DRAINS, WATER COURSES AND OTHER UTILITIES ENCOUNTERED DURING CONSTRUCTION.

9. ALL PAVEMENT CUTS SHALL BE SAW CUT.

10. ALL NEW CONCRETE FOR SITE WORK SHALL ACHIEVE A 28 DAY STRENGTH OF 5000 PSI (MPA), UNLESS OTHERWISE SPECIFIED.

11. ALL ON-SITE CARBON, DRUMS AND PAINTED WORK SHALL BE IN ACCORDANCE WITH DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

12. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DUST CONTROL.

13. THE CONTRACTOR SHALL RESTORE ALL DISTURBED RIGHTS-OF-WAY IN ACCORDANCE WITH THE EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

14. THE CONTRACTOR SHALL HIKE A SURVEYOR LICENSED IN THE STATE OF FLORIDA IN ACCORDANCE WITH SECTION 12.0 OF THE GENERAL CONDITIONS.

15. THE CONTRACTOR SHALL INSURE THAT ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS.

16. CONTRACTOR SHALL COMPLY FULLY WITH ALL PERMIT REQUIREMENTS IMPOSED BY THE REGULATORY AUTHORITIES.

17. NOTIFY SUNSHINE UTILITIES TWO BUSINESS DAYS IN ADVANCE PRIOR TO DIGGING WITHIN THE RIGHT-OF-WAY; 1-800-432-4770. CONTRACTOR SHALL VERIFY DEPTH AND LOCATION AND IMMEDIATELY NOTIFY ENGINEER OF CONFLICTS.

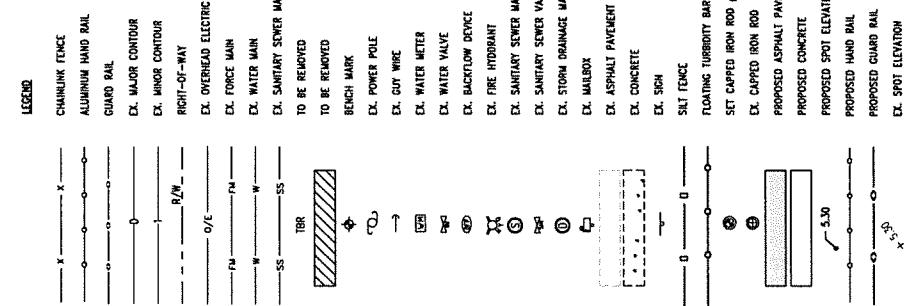
18. THE CONTRACTOR SHALL NOTIFY THE CITY OF CALLAWAY 48 HOURS PRIOR TO INITIATING ANY WORK IN THE CITY OF CALLAWAY RIGHTS-OF-WAY.

19. TYPE Q STABILIZATION IS INHERENT TO EARTHWORK.

20. ALL PIPE JOINTS, INCLUDING CONNECTIONS TO STRUCTURES, SHALL BE WRAPPED WITH FILTER FABRIC IN ACCORDANCE WITH DOT DESIGN STANDARDS AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

| UTILITY CONTACT INFORMATION | | CONTACT |
|-----------------------------|--|---------|
| WATER - CITY OF CALLAWAY | DAVID KUBA 850-711-1033 | |
| SEWER - CITY OF CALLAWAY | JOHN FRANKLIN 850-715-7232 | |
| COMCAST | JEFFREY SMITH 850-710-8656 | |
| GULF POWER | 4001 W. 23RD ST, SUITE A, PANAMA CITY, FL 32405 | |
| AT&T DISTRIBUTION | SANDRA PERRY 850-717-3115 | |
| TECO | 12325 HUTCHINSON Blvd, PANAMA CITY BEACH, FL 32407 | |
| | AL RUDOLPH 850-436-1468 | |
| | MICHAEL ROBERT REED 850-431-8150 | |
| | 3006 W. 23RD ST., PANAMA CITY, FL 32405 | |

GENERAL NOTES



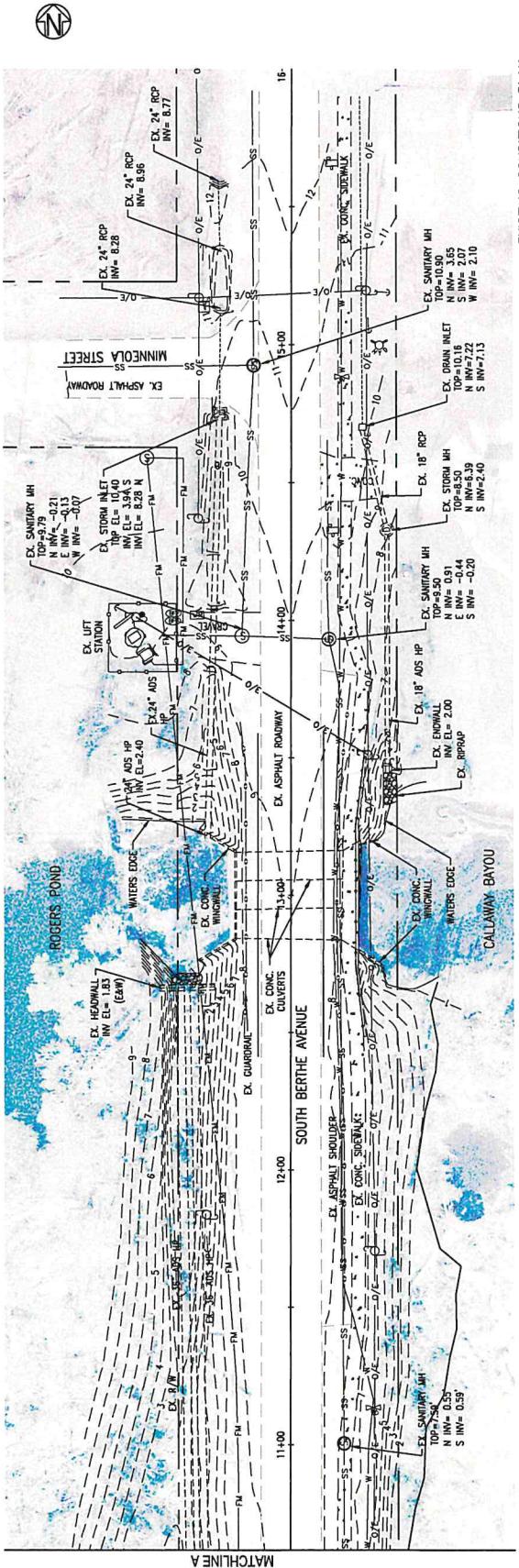
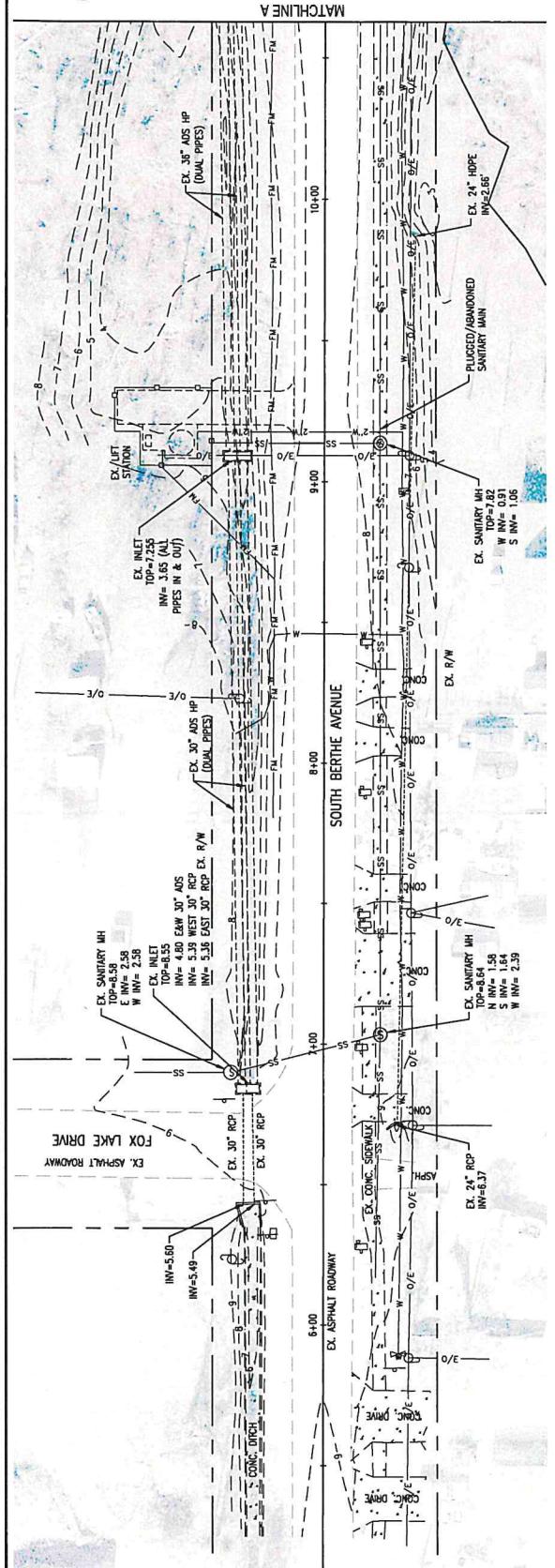
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| PROJECT NO. | DATE APPLIED | REV. 1 | REVISION/ACTION ITEM | NOTICE OF CONTRACT | NOTICE OF CONSTRUCTION BY DATE | NOTICE OF COMMENCEMENT BY DATE | NOTICE OF COMPLETION BY DATE |
|---|--------------|--------|----------------------|---------------------------------|--------------------------------|--------------------------------------|------------------------------------|
| Z753.01 | 10-7-22 | DP | REV. 1 RE ADDITIONAL | BERTHE BRIDGE & ASSOCIATES INC. | INFRASTRUCTURE | NOTIFICATION OF COMMENCEMENT BY DATE | NOTIFICATION OF COMPLETION BY DATE |
| <p>1. THE PROJECT NUMBER IS Z753.01. THE PROJECT NAME IS THE SOUTH SHORE ENGINEERING THE CALLAWAY GULF COAST BRIDGE. THE PROJECT ADDRESS IS 1101 PARKWAY DRIVE, SUITE 110, PANAMA CITY, FL 32401. THE PROJECT PHONE NUMBER IS (850) 260-0150.</p> <p>2. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES INCLUDING, BUT NOT LIMITED TO, WATER LINES, BURIED ELECTRICAL LINES, BURIED TELEPHONE LINES, GAS PIPELINES, BURIED GUARD RAIL, CABLES, BURIED UTILITY CONDUITS, CONTRACTOR'S OWN TO CUSTOMER, WITHIN CONTRACT CONVEYANCES FOR REGULAR, PROPOSED OR RELOCATION OF EXISTING UTILITY POLES, AERIAL LINES, BURIED CABLE AND OTHER UTILITIES.</p> <p>3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS BETWEEN CONTRACT DOCUMENTS AND EXISTING CONDITIONS. THESE DRAWINGS REPRESENT KNOWN STRUCTURES AND UTILITIES LOCATED IN THE PROJECT AREA. THE CONTRACTOR IS CAUTIOUS THAT OTHER STRUCTURES AND UTILITIES, ABOVE OR BELOW GROUND, MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. IN THE EVENT THE CONTRACTOR SHOULD NOTIFY THE OWNER, THE ENGINEER IMMEDIATELY AND NOTIFICATION OF ANY UNEXPECTED STRUCTURE, UTILITY LINE, OR OTHER UNUSUAL CONDITIONS.</p> <p>4. THE CONTRACTOR SHALL SAFETY-BARRICADE ALL EXCAVATIONS AND OTHER HAZARDS.</p> <p>5. CONTRACTOR SHALL PROVIDE ACCESS TO PROPERTIES ADJACENT TO THE OTHER TRAFFIC AREAS. ADEQUATE BARBODGES, CONSTRUCTION SCAFFAGE AND OTHER TRAFFIC CONTROL DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH DOT CONSTRUCTION STANDARDS.</p> <p>6. THE CONTRACTOR SHALL EMPLOY THE USE OF SILT FENCES, HAY BALES, DITCHES OR WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SEDIMENTATION AT ALL TIMES. WATERS OF THE STATE, ADJACENT PROPERTIES, AND ANY NEW DRAINAGE CONSTRUCTION SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL REMAIN UNTIL THE COMPLETION OF CONSTRUCTION AND ACCEPTANCE BY THE OWNER.</p> <p>7. ADEQUATE PROVISIONS SHALL BE MADE FOR THE FLOW OF SEWERS, DRAINS, WATER COURSES AND OTHER UTILITIES ENCOUNTERED DURING CONSTRUCTION.</p> <p>8. ALL PAVEMENT CUTS SHALL BE SAW CUT.</p> <p>9. ALL NEW CONCRETE FOR SITE WORK SHALL ACHIEVE A 28 DAY STRENGTH OF 5000 PSI (MPA), UNLESS OTHERWISE SPECIFIED.</p> <p>10. ALL ON-SITE CARBON, DRUMS AND PAINTED WORK SHALL BE IN ACCORDANCE WITH DOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.</p> <p>11. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DUST CONTROL.</p> <p>12. THE CONTRACTOR SHALL RESTORE ALL DISTURBED RIGHTS-OF-WAY IN ACCORDANCE WITH THE EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.</p> <p>13. THE CONTRACTOR SHALL HIKE A SURVEYOR LICENSED IN THE STATE OF FLORIDA IN ACCORDANCE WITH SECTION 12.0 OF THE GENERAL CONDITIONS.</p> <p>14. THE CONTRACTOR SHALL INSURE THAT ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS.</p> <p>15. CONTRACTOR SHALL COMPLY FULLY WITH ALL PERMIT REQUIREMENTS IMPOSED BY THE REGULATORY AUTHORITIES.</p> <p>16. NOTIFY SUNSHINE UTILITIES TWO BUSINESS DAYS IN ADVANCE PRIOR TO DIGGING WITHIN THE RIGHT-OF-WAY; 1-800-432-4770. CONTRACTOR SHALL VERIFY DEPTH AND LOCATION AND IMMEDIATELY NOTIFY ENGINEER OF CONFLICTS.</p> <p>17. THE CONTRACTOR SHALL NOTIFY THE CITY OF CALLAWAY 48 HOURS PRIOR TO INITIATING ANY WORK IN THE CITY OF CALLAWAY RIGHTS-OF-WAY.</p> <p>18. TYPE Q STABILIZATION IS INHERENT TO EARTHWORK.</p> <p>19. ALL PIPE JOINTS, INCLUDING CONNECTIONS TO STRUCTURES, SHALL BE WRAPPED WITH FILTER FABRIC IN ACCORDANCE WITH DOT DESIGN STANDARDS AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.</p> | | | | | | | |

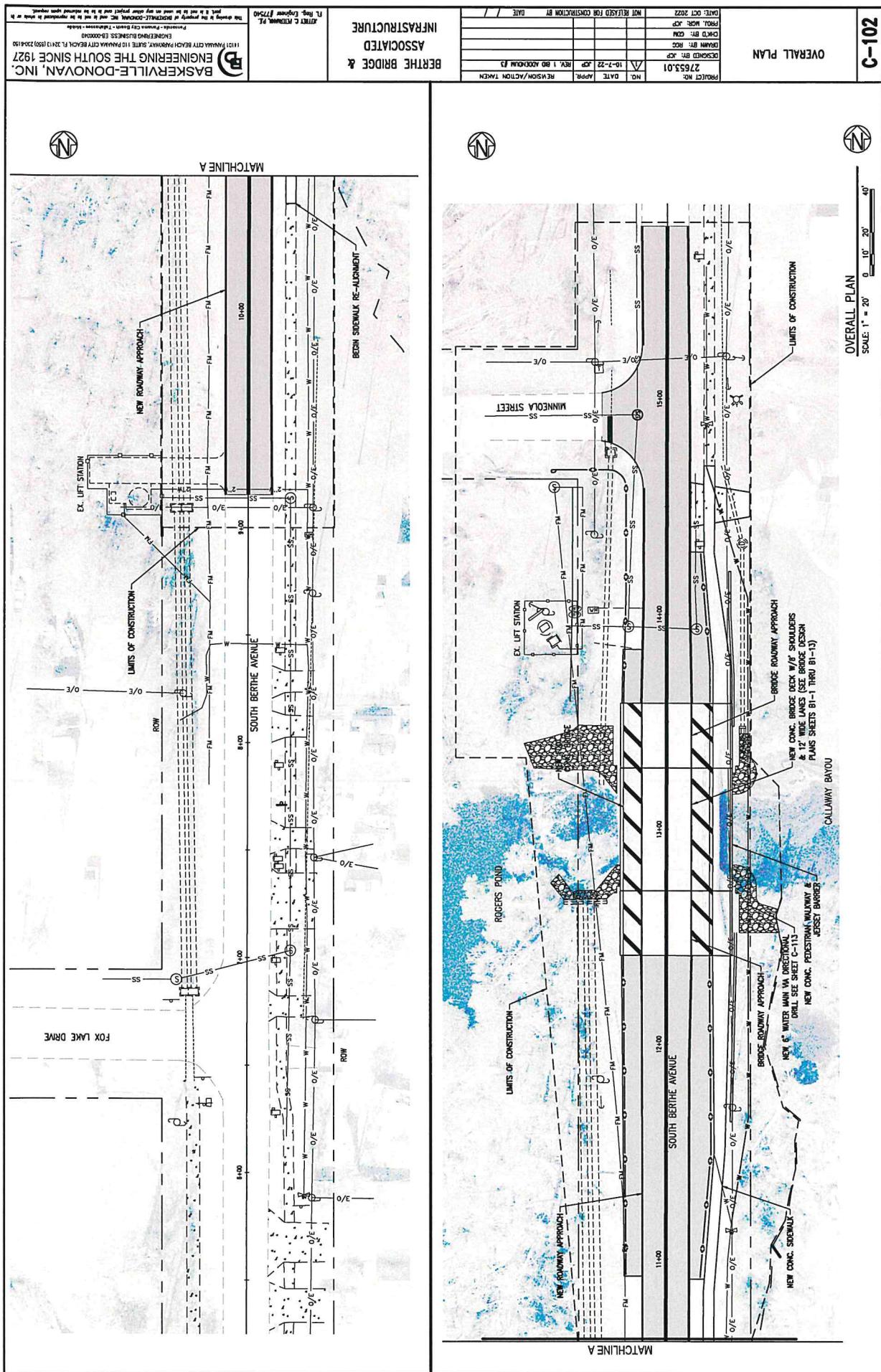
C-100

EXISTING CONDITIONS PLAN

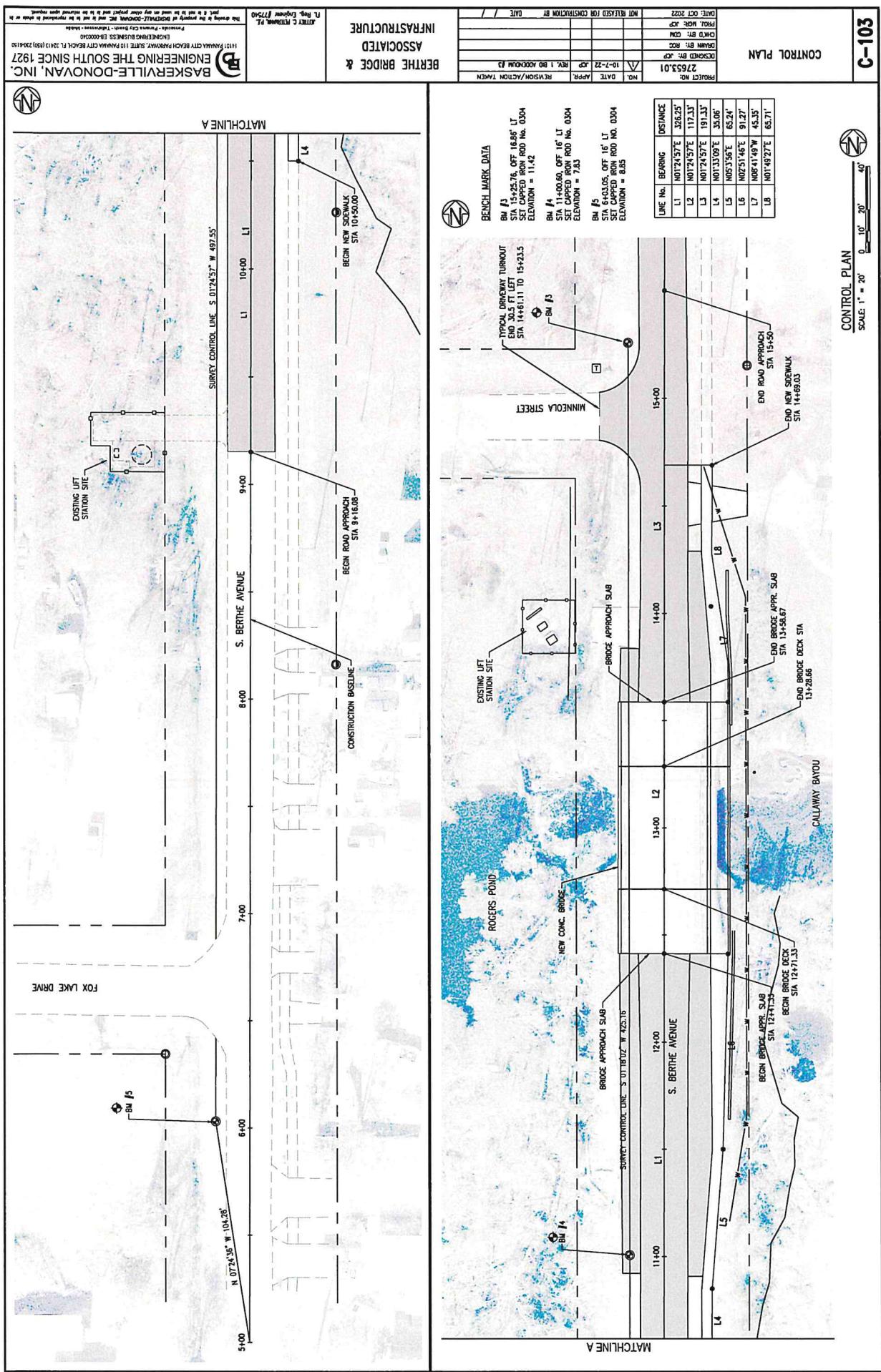
SCALE: 1" = 20'



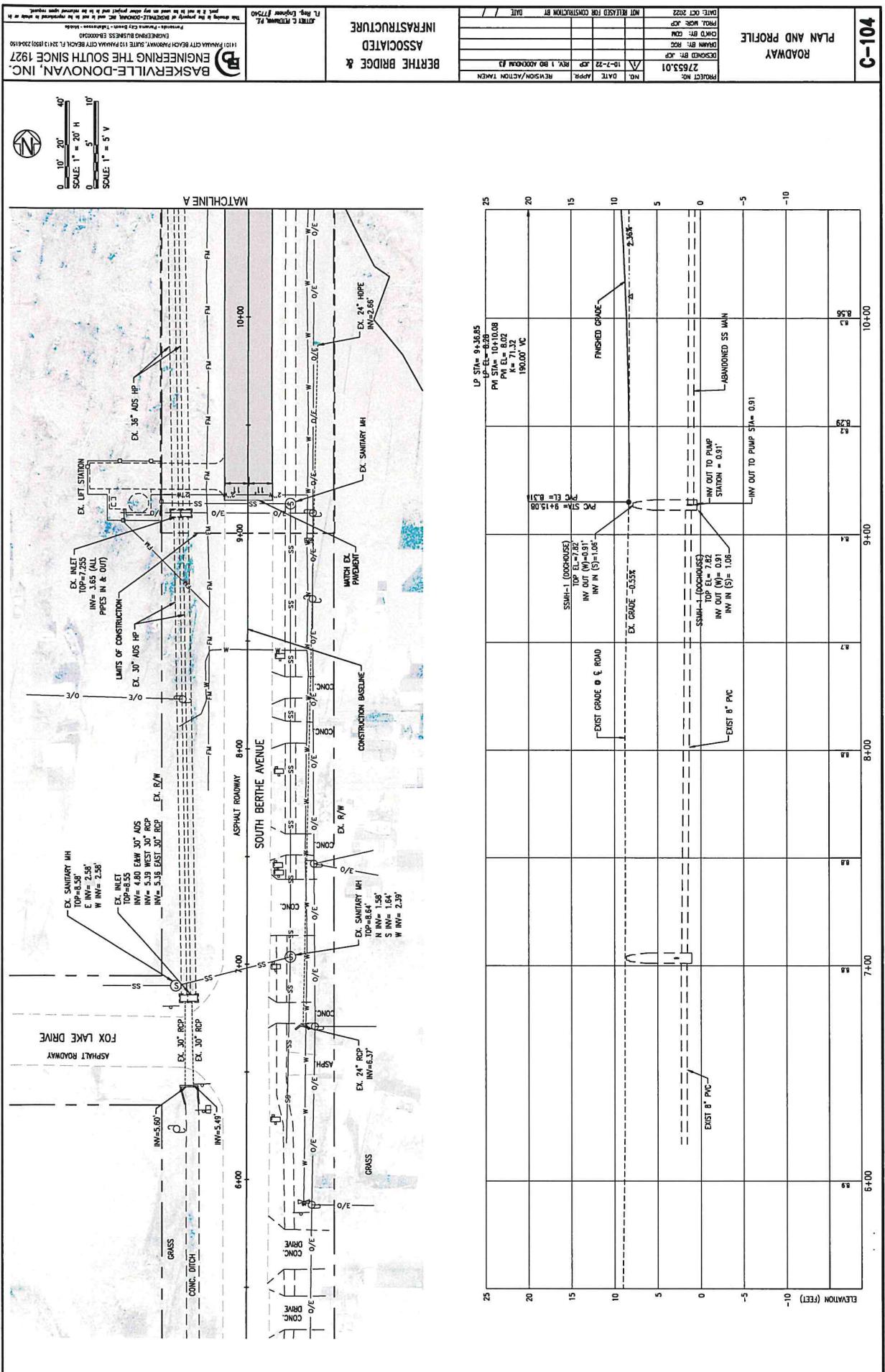
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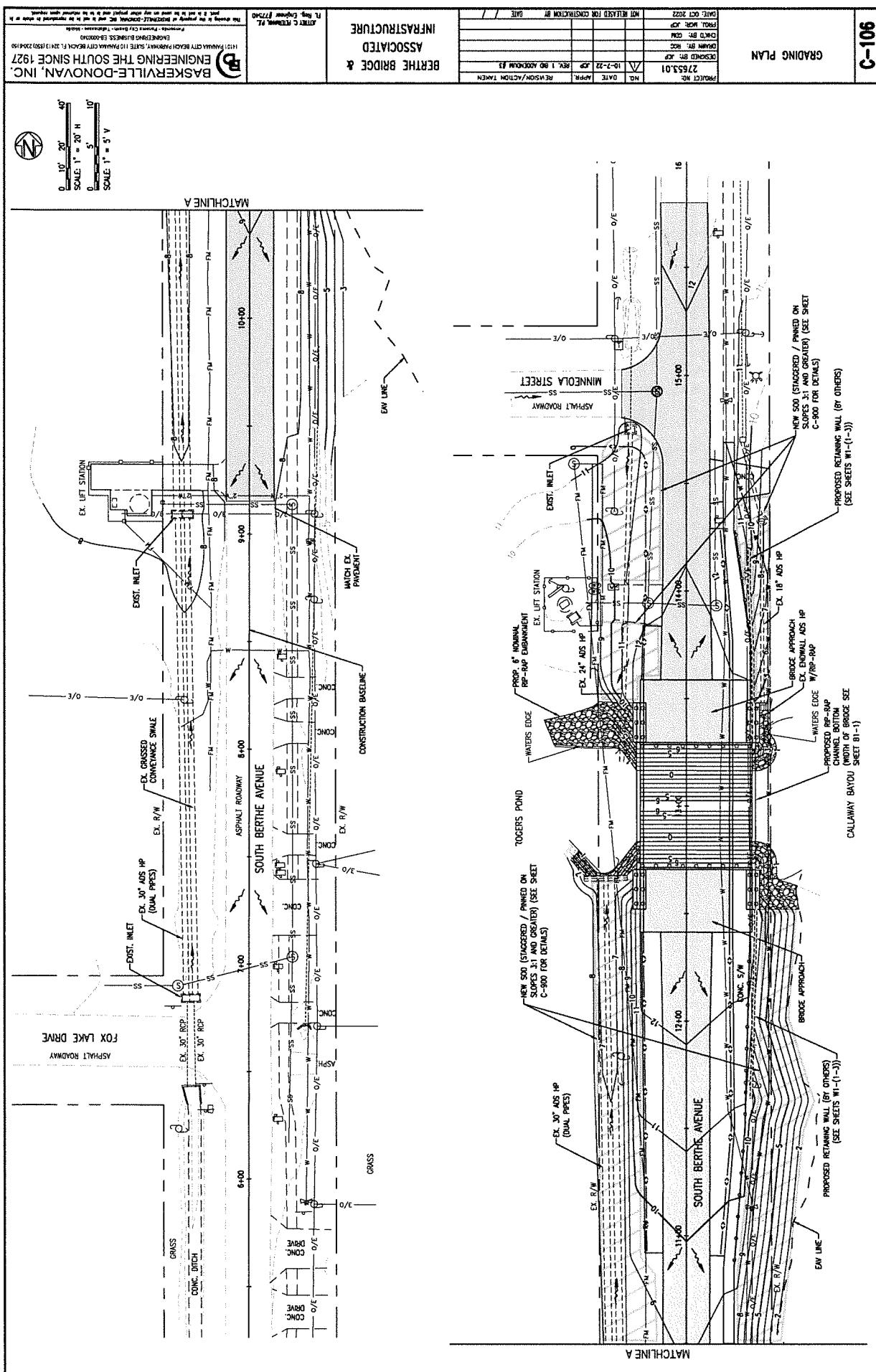


C-103

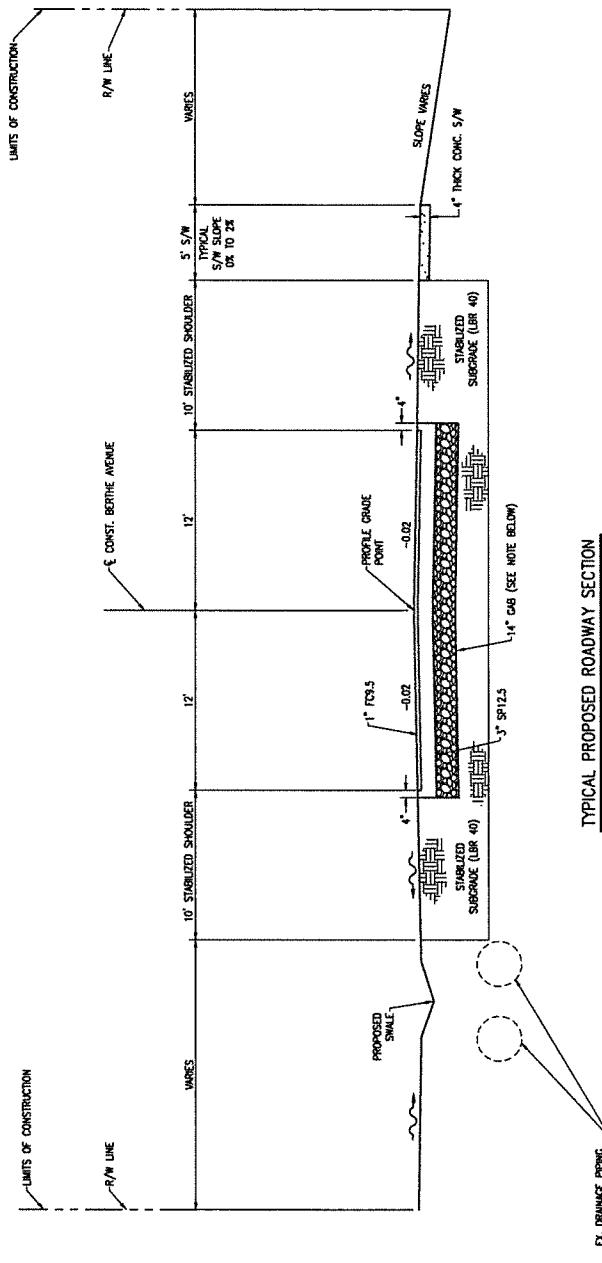


C-104





| | |
|---|---|
| TYPICAL ROADWAY SECTION | |
| <p>PROJECT NO. 27533.01 NO. DATE APPROVED 07/22/2022 REVISION/ACTION ITEM NO. 1</p> <p>DESIGNER: BERTHE BRIDGE & ASSOCIATES INC. PRESIDENT - ROBERT BERTHE BRIDGE, P.E., TIT. HAWAII STATE BOARD OF ENGINEERS REGISTRATION NO. 2013-169 DESIGNER'S SIGNATURE: ROBERT BERTHE BRIDGE, P.E.</p> <p>OWNER: THE CITY AND COUNTY OF BOULDER, COLORADO PROJECT NUMBER: 27533.01</p> <p>DATE OCT 2022 NOT RELEASED FOR CONSTRUCTION AS OF 1/1/2023 NOTICE OF RELEASE BY ENGINEER OR DESIGNER: 677340 NOTICE OF CONSTRUCTION BY CONTRACTOR: / /</p> | <p>BERTHE BRIDGE & ASSOCIATES INC. INFRASTRUCTURE</p> <p>TYPICAL ROADWAY SECTION</p> <p>TRAFFIC DATA</p> <p>RECONSTRUCTION</p> <p>TYPE: SP12.5 STRUCTURAL COURSE (TRAFFIC C) (1) TYPE FC-9.5 FRCTION COURSE (TRAFFIC C) (1) OPTIONAL BASE: GROUP 9 (1" GAB OR EQUAL) LSF 100 K = 9% D = 51.9% T = 14.5% (24 HOUR) DESIGN HOUR = 15.5% DESIGN SPEED = 45 MPH</p> |



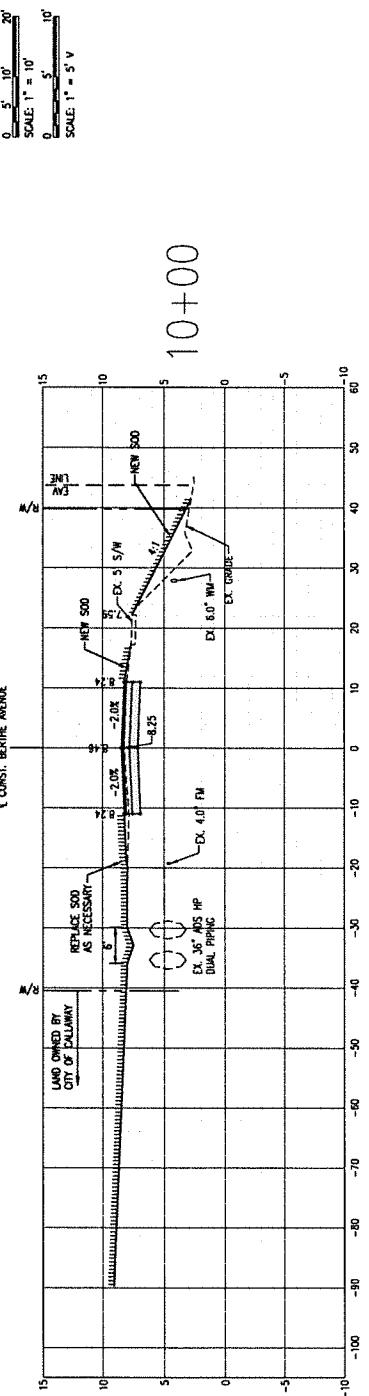
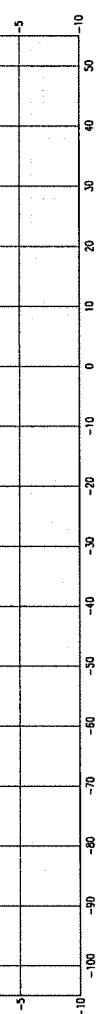
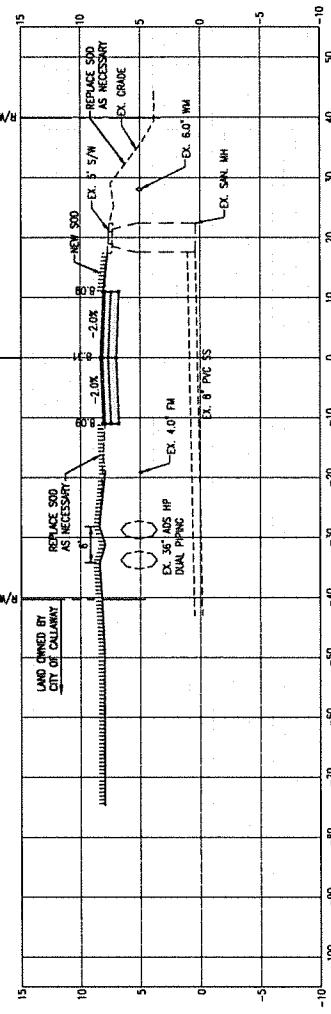
TYPICAL PROPOSED ROADWAY SECTION

NOT TO SCALE

STA. 9+15.08 TO STA. 12+41.13
STA. 13+58.67 TO STA. 13+50.00

DRAINAGE POND
SIZE AND LOCATION VARY

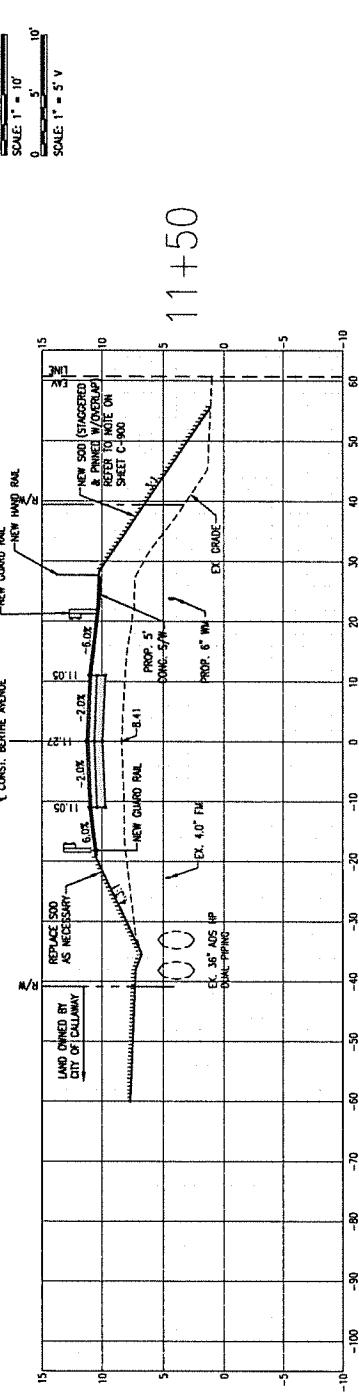
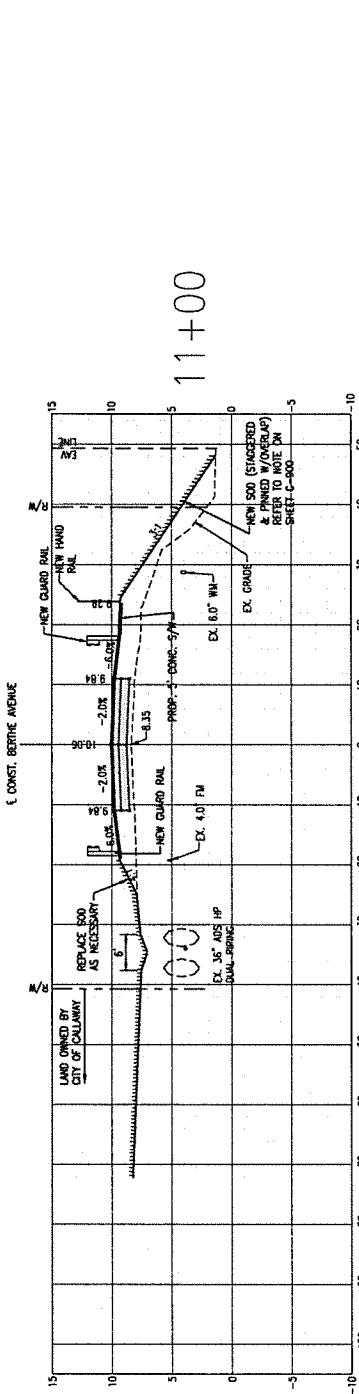
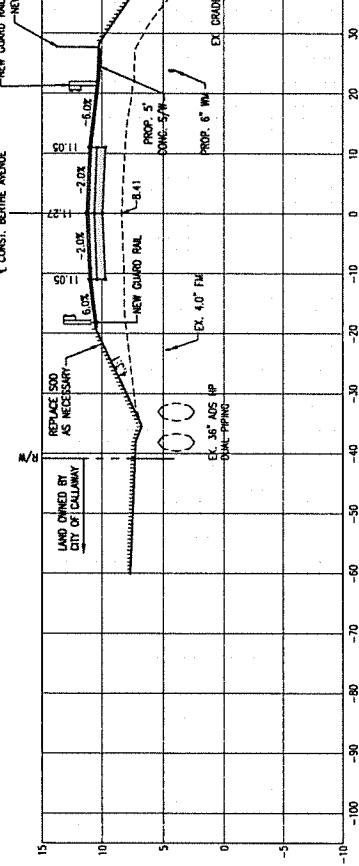
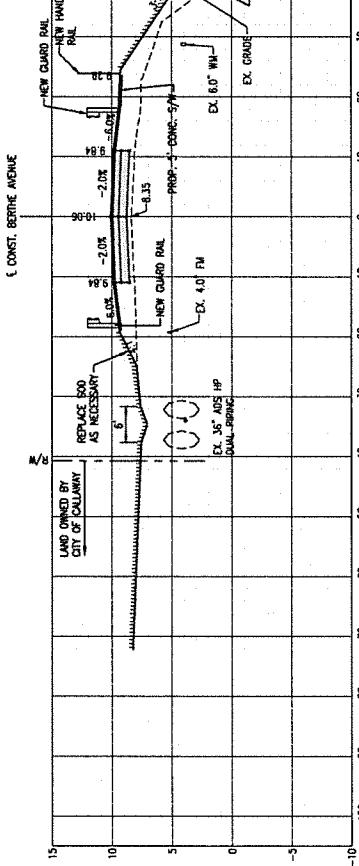
C-108

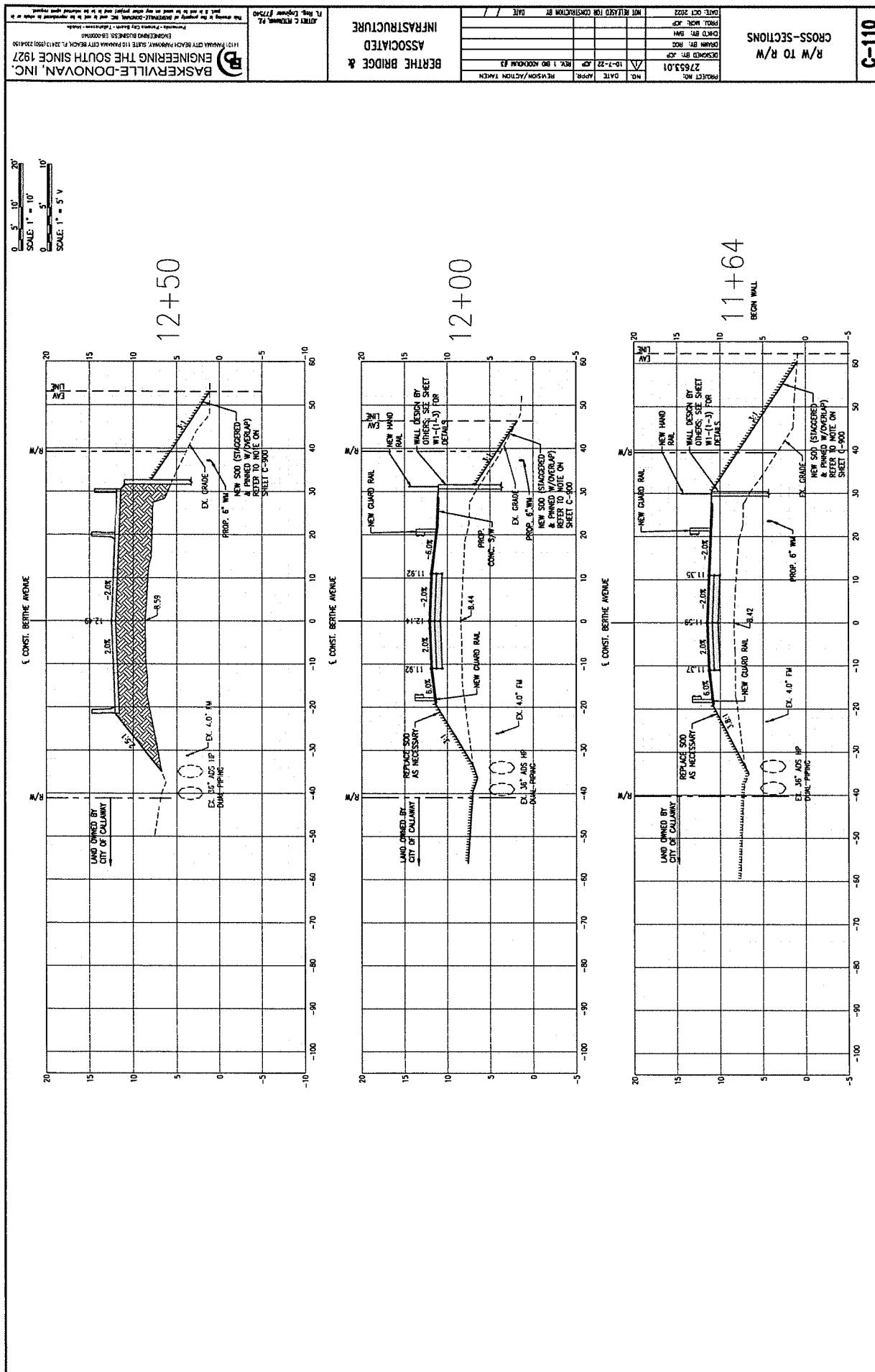
R/W TO R/W
CROSS-SECTIONS

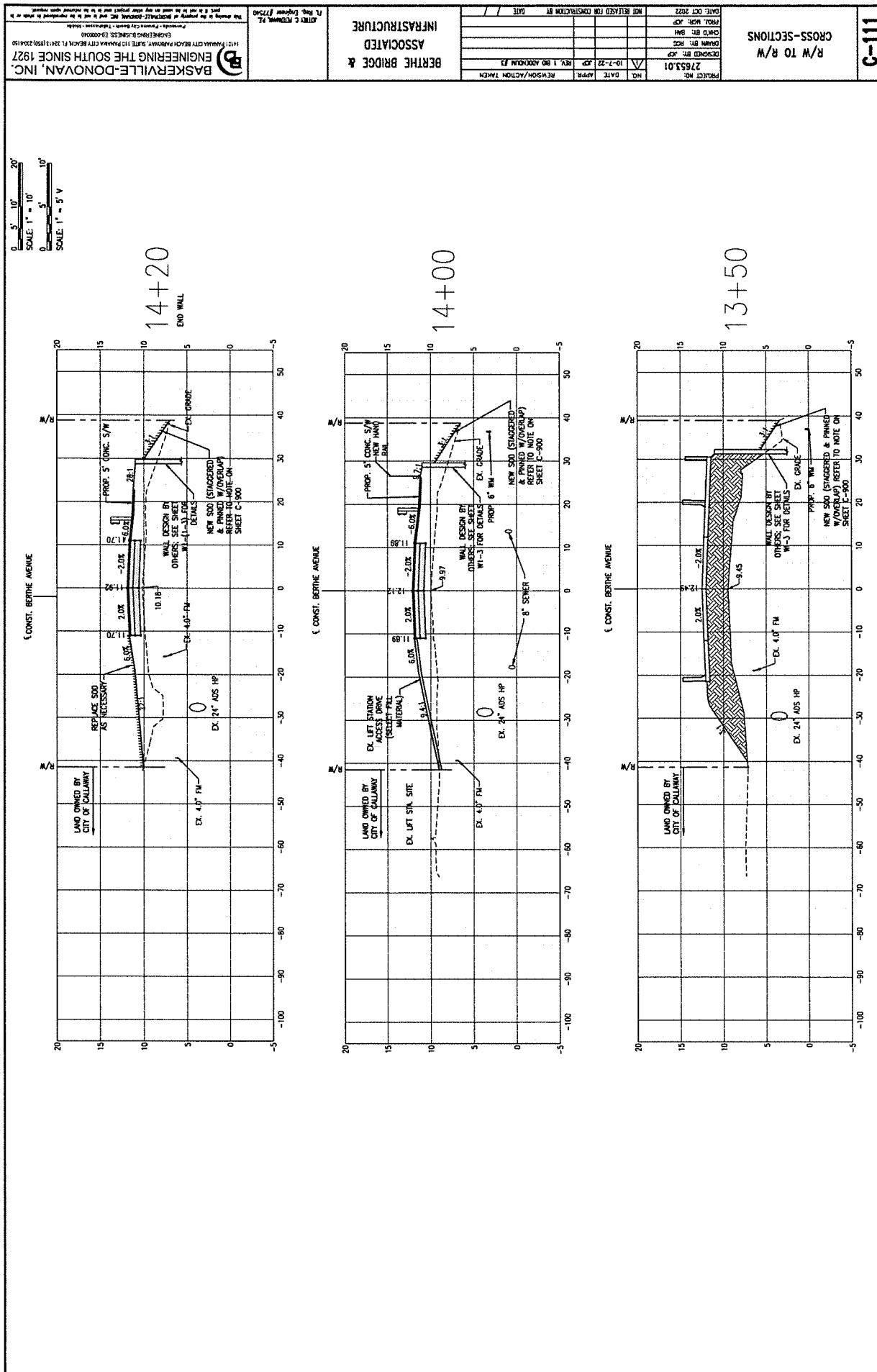
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|---|---------|---------------------|--------------|----------------------|-----------------|---------------------|
| PROJECT NO. | 7253.01 | ND. | DATE APPROV. | REV. 1 08 ADDITIONAL | REVISION NUMBER | REVISION DATE |
| DESIGNER IN CHARGE | | PROJ. NO. IN CHARGE | | PROJ. NO. IN CHARGE | | PROJ. NO. IN CHARGE |
| OWNER OR CO. NAME | | OWNER OR CO. NAME | | OWNER OR CO. NAME | | OWNER OR CO. NAME |
| THIS DRAWING IS THE PROPERTY OF THE CALUMET CITY ENGINEERING BUSINESS SECTION. IT IS TO BE RETURNED TO THE ENGINEER ON REQUEST. | | | | | | |
| DATE OCT 2022 | | | | | | |
| NOT RELEASED FOR CONSTRUCTION BY DATE / / | | | | | | |
| NOT RELEASED FOR CONSTRUCTION BY DATE / / | | | | | | |
| NOT RELEASED FOR CONSTRUCTION BY DATE / / | | | | | | |
| NOT RELEASED FOR CONSTRUCTION BY DATE / / | | | | | | |
| NOT RELEASED FOR CONSTRUCTION BY DATE / / | | | | | | |

BASKEVILLE ENGINEERING THE SOUTH SINCE 1977
BASKEVILLE ENGINEERING THE SOUTH SINCE 1977
ASSOCIATED ENGINEERS & CONTRACTORS
ASSOCIATED ENGINEERS & CONTRACTORS
ASSOCIATED ENGINEERS & CONTRACTORS
ASSOCIATED ENGINEERS & CONTRACTORS

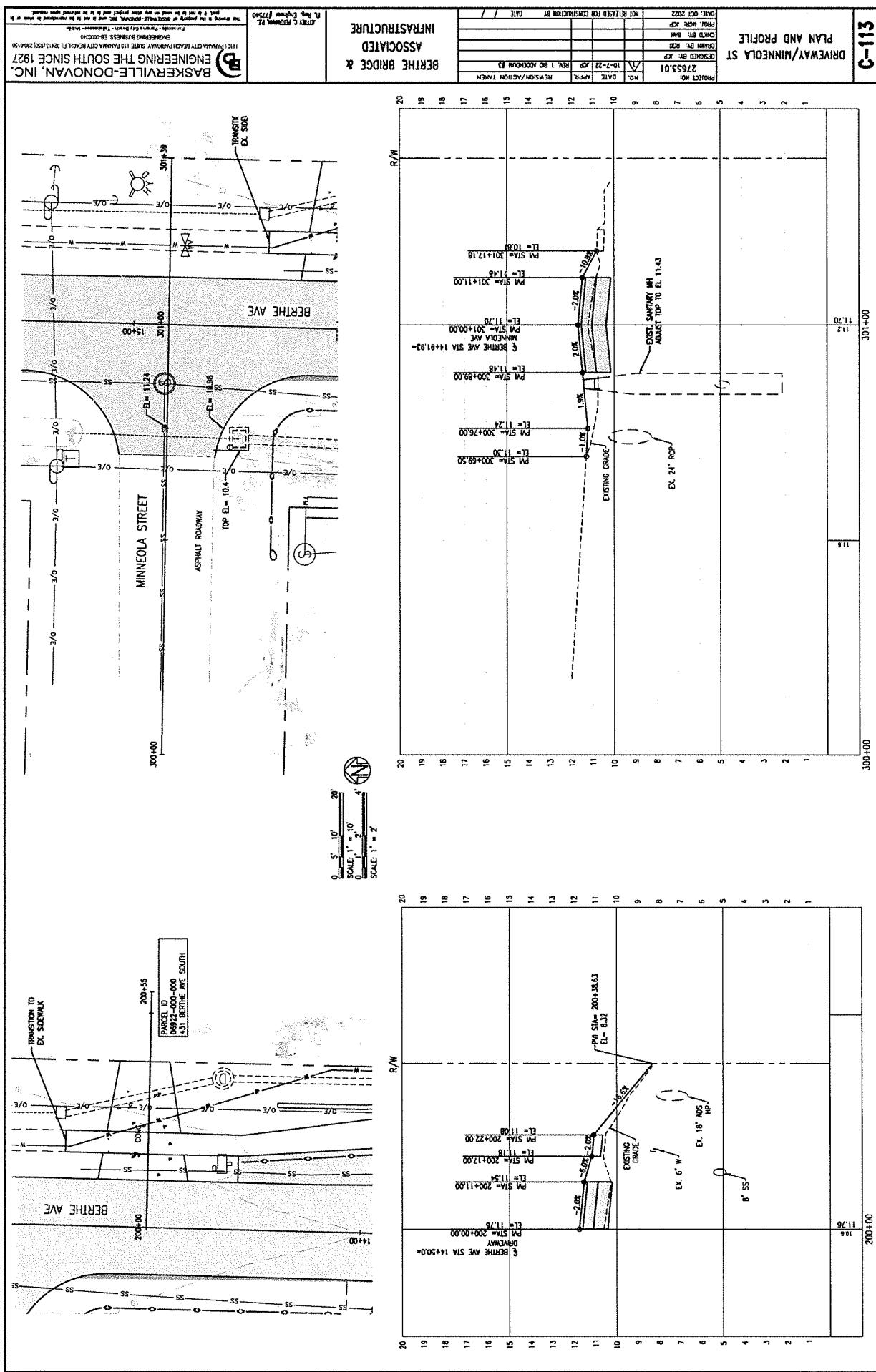
C-109

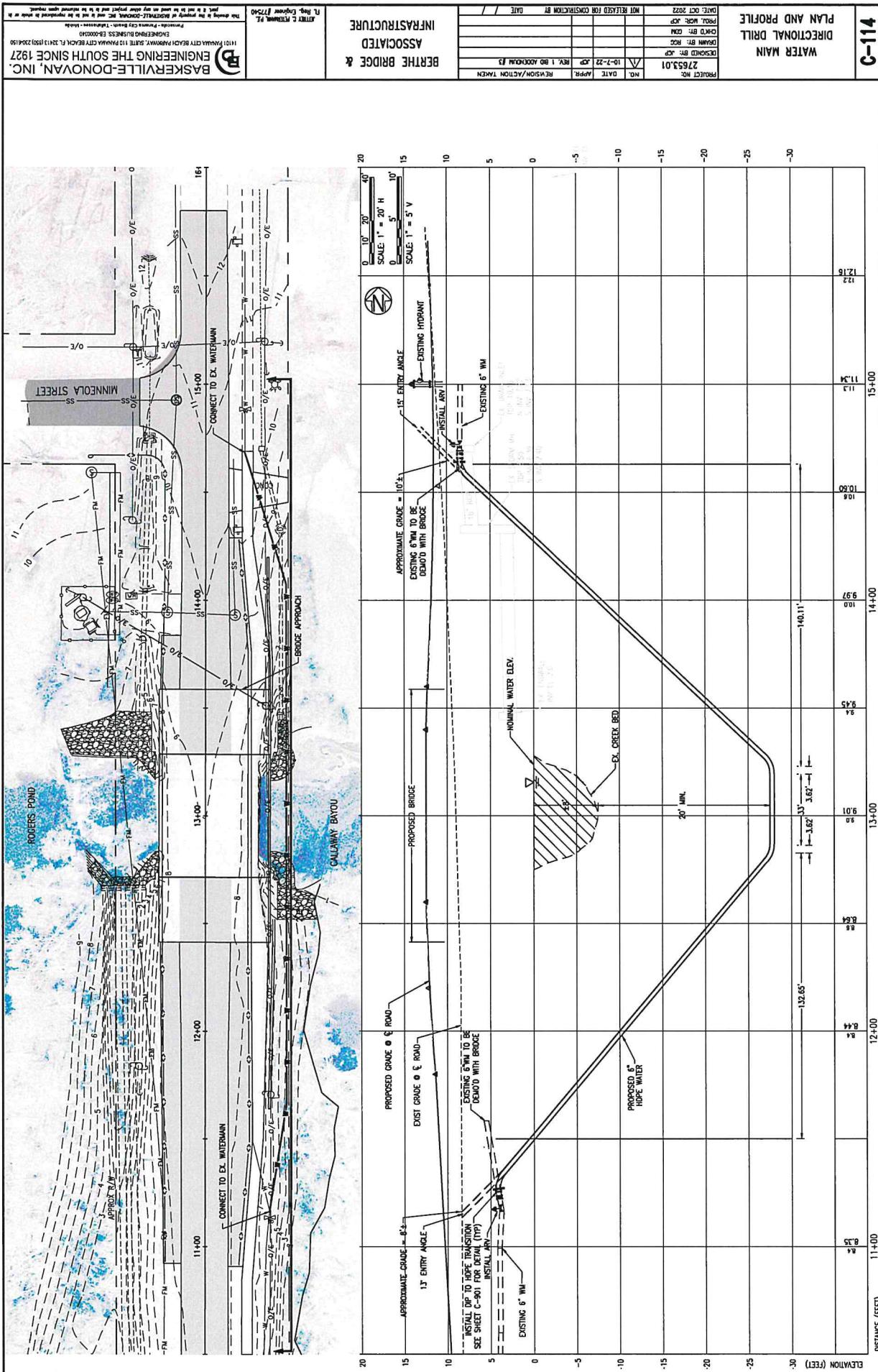
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|--|--|---|--|
| PROJECT NO. 275301 □ NO. DATE APPROVED: 08/10/2022 NEW 1.00 APPROVAL IS DESCRIPTION OF WORK: REPLACE SOIL & NEW GUARD RAIL ON 100' OF BERTIE AVENUE FROM EXISTING 15' TO NEW 40' WIDENED SOIL. REFER TO SHEET C-300. | | PROJECT NO. 275301 □ NO. DATE APPROVED: 08/10/2022 NEW 1.00 APPROVAL IS DESCRIPTION OF WORK: REPLACE SOIL & NEW GUARD RAIL ON 100' OF BERTIE AVENUE FROM EXISTING 15' TO NEW 40' WIDENED SOIL. REFER TO SHEET C-300. | |
| R/W TO R/W CROSSECTIONS | | | |
| SECTION NO. 1 | | SECTION NO. 2 | |
| BERTE AVENUE | | BERTE AVENUE | |
| 10 + 00 | | 11 + 50 | |
|  | |  | |
| SECTION NO. 3 | | SECTION NO. 4 | |
| BERTE AVENUE | | BERTE AVENUE | |
| 11 + 00 | | 10 + 50 | |
|  | |  | |
| DESIGNER: ENGINEERS GIBSONS INC. DRAFTER: 20200116212230723072156 DATE DRAWN: 08/10/2022 OWNER: CITY OF CHAMPAIGN PROJECT NO.: 275301 NAME OF DRAWING: 08/10/2022 | | | |
| PROJECT NO. 275301 □ NO. DATE APPROVED: 08/10/2022 NEW 1.00 APPROVAL IS DESCRIPTION OF WORK: REPLACE SOIL & NEW GUARD RAIL ON 100' OF BERTIE AVENUE FROM EXISTING 15' TO NEW 40' WIDENED SOIL. REFER TO SHEET C-300. | | | |
| INFRASTRUCTURE ASSOCIATED WITH GUARD RAIL | | | |
| 1. NEW GUARD RAIL 2. NEW SOIL (STAGGERED & PINNED W/OVERLAP) 3. PROP. 5 CONCRETE 5' X 8' 4. EX. 40' FM 5. CL. 35° ADS SP. 6. DUAL SPRINGS 7. EX. 15' ADS SP. 8. DUAL SPRINGS 9. EX. 15' WH 10. EX. 60' WH 11. PROP. 5 CONCRETE 5' X 8' | | | |
| 1. NEW GUARD RAIL 2. NEW SOIL (STAGGERED & PINNED W/OVERLAP) 3. PROP. 5 CONCRETE 5' X 8' 4. EX. 40' FM 5. CL. 35° ADS SP. 6. DUAL SPRINGS 7. EX. 15' ADS SP. 8. DUAL SPRINGS 9. EX. 15' WH 10. EX. 60' WH 11. PROP. 5 CONCRETE 5' X 8' | | | |
| 1. NEW GUARD RAIL 2. NEW SOIL (STAGGERED & PINNED W/OVERLAP) 3. PROP. 5 CONCRETE 5' X 8' 4. EX. 40' FM 5. CL. 35° ADS SP. 6. DUAL SPRINGS 7. EX. 15' ADS SP. 8. DUAL SPRINGS 9. EX. 15' WH 10. EX. 60' WH 11. PROP. 5 CONCRETE 5' X 8' | | | |





| | |
|--|---|
| <p style="text-align: center;">15 + 50</p> | <p style="text-align: center;">14 + 50</p> |
| R/W TO R/W CROSS-SECTIONS | |
| PROJECT NO. 2753.01 NO. 10-7-22 APP. 30-ACTION TYPICAL DESCRIPTION BERTHE BRIDGE ASSOCIATED INFRASTRUCTURE B BASKERVILLE THE SOUTH SINCE 1927 <small>GENERAL CONTRACTOR: BASKERVILLE ENGINEERS LTD. DUNOAN, INC. PRINCIPAL OFFICES: 1101 BROADWAY, SUITE 110, TORONTO, ON N1K 2G9 TEL: (416) 226-1510 FAX: (416) 226-1515</small> | |
| <p style="text-align: center;">DATE ISSUED: OCT 07, 2022</p> <p style="text-align: center;">DATE APPROVED: OCT 07, 2022</p> <p style="text-align: center;">REVISION/ACTION TYPICAL</p> <p style="text-align: center;">PROJECT NUMBER: 2753.01</p> <p style="text-align: center;">BARTON DR. 2022</p> <p style="text-align: center;">GENERAL CONTRACTOR: BASKERVILLE ENGINEERS LTD. DUNOAN, INC. PRINCIPAL OFFICES: 1101 BROADWAY, SUITE 110, TORONTO, ON N1K 2G9 TEL: (416) 226-1510 FAX: (416) 226-1515</p> | <p style="text-align: center;">DATE ISSUED FOR INSPECTION BY: / /</p> <p style="text-align: center;">DATE APPROVED FOR INSPECTION BY: / /</p> <p style="text-align: center;">REVISION/CATEGORY: 100</p> <p style="text-align: center;">R/W: 10'-0"</p> <p style="text-align: center;">ELEVATION: 10'</p> <p style="text-align: center;">GRADE: 10'</p> <p style="text-align: center;">DRAINAGE: 5'</p> <p style="text-align: center;">SEWER: 5'</p> <p style="text-align: center;">SCALE: 1" = 5'</p> <p style="text-align: center;">SCALE: 1" = 10'</p> <p style="text-align: center;">SCALE: 1" = 20'</p> |





C-115



OVERALL PLAN
SCALE: 1' = 20' 0" 10' 20' 40'

SIGNAGE AND

STRIPPING PLAN

DRAFT

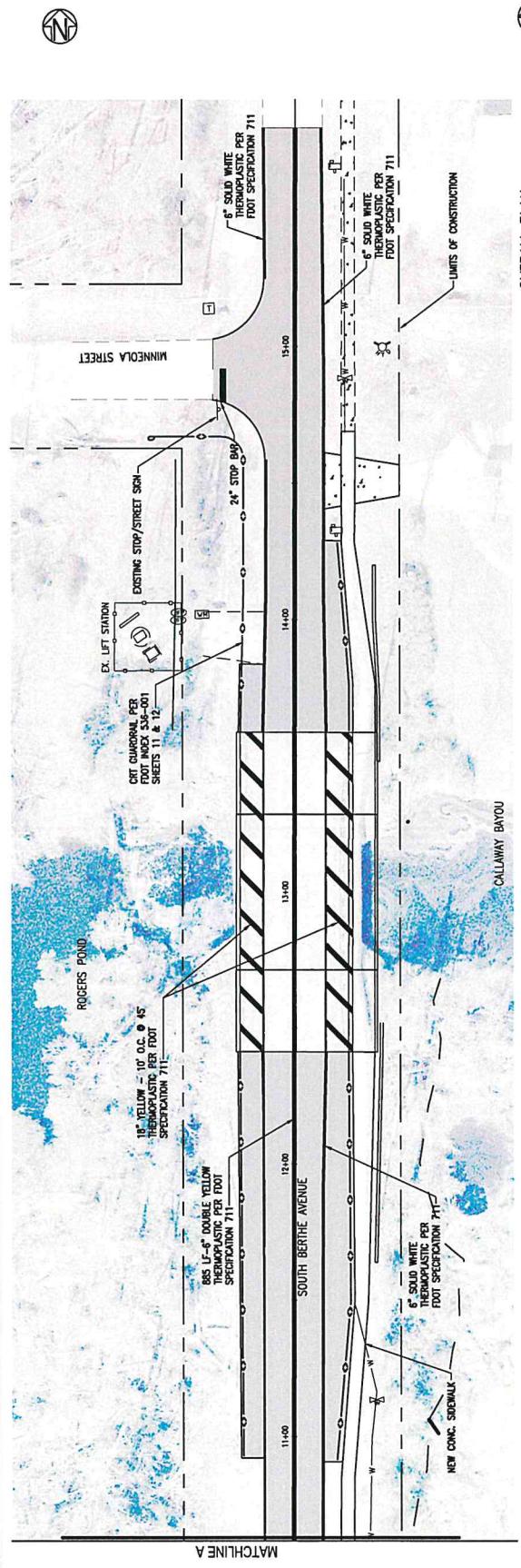
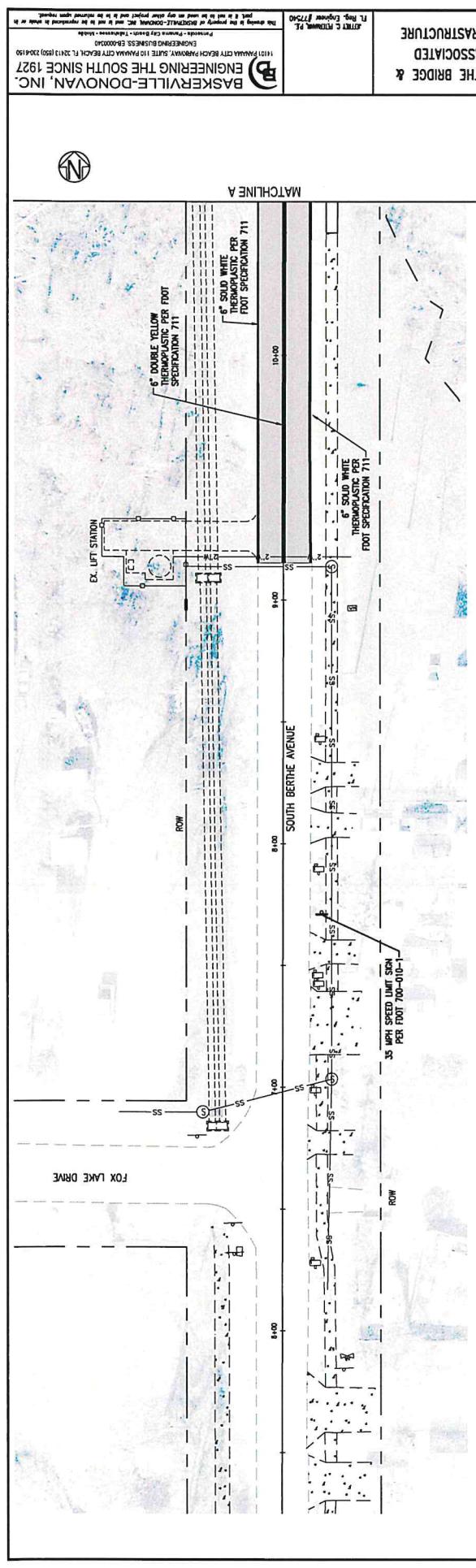
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|---|---------------------|--|--|
| PROJECT NO.: Z7533.01 | NO. OF PAGES: 1 | REV. 1 DE ADDITION TO | NOT RELEASING FOR CONSTRUCTION OR DATE: // / / |
| DESIGNER: MR. ROB | PROJ. MGR.: MR. ROB | NOT RELEASING FOR CONSTRUCTION OR DATE: // / / | |
| NOTIFICATION: DRAFT ENGINEERING DRAWINGS DO NOT EXIST IN THE PUBLIC DOMAIN. THIS DRAWING IS THE PROPERTY OF THE PROJECT TEAM. | | | |

ASSOCIATED
STRUCTURE

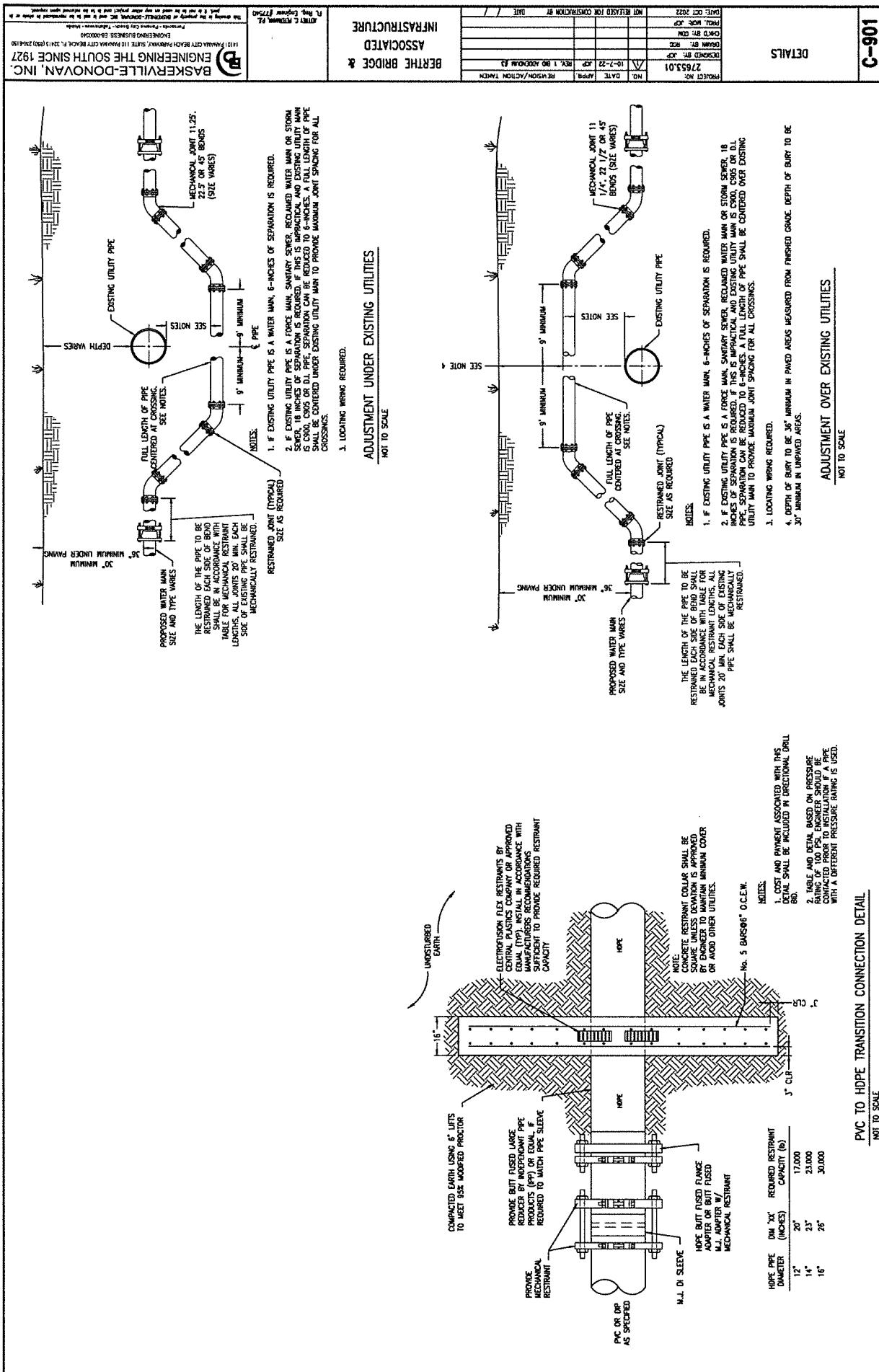
BERTHE BRIDGE &
ASSOCIATED
STRUCTURE

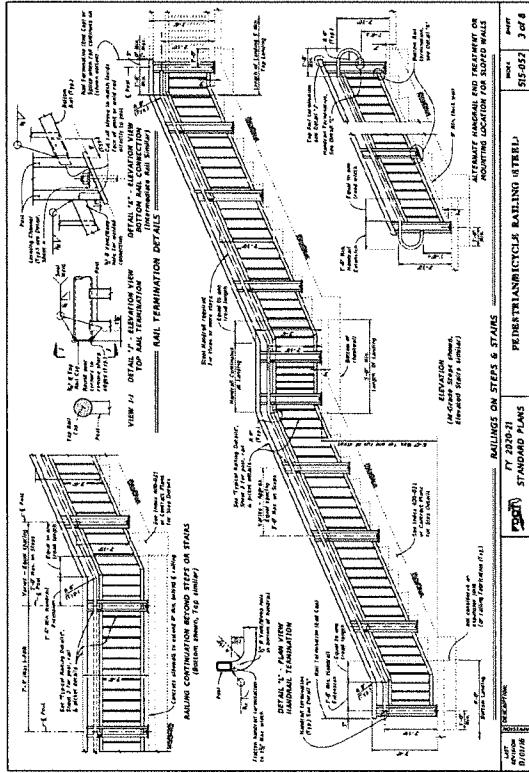
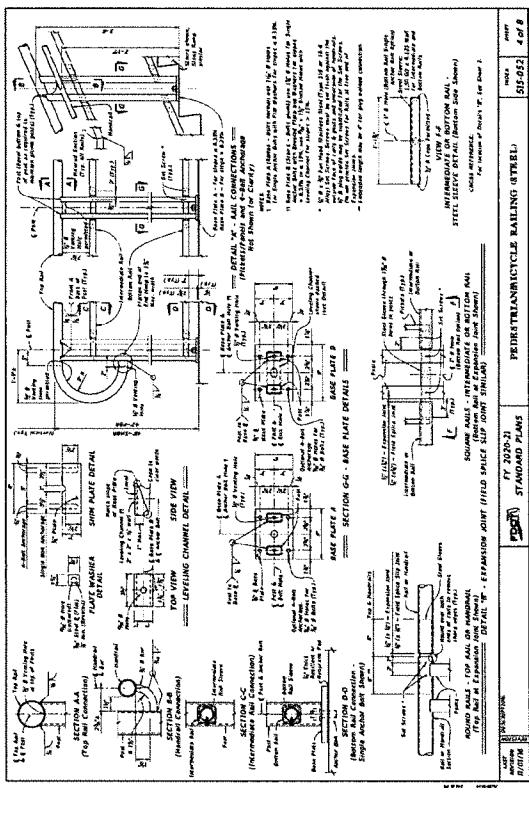
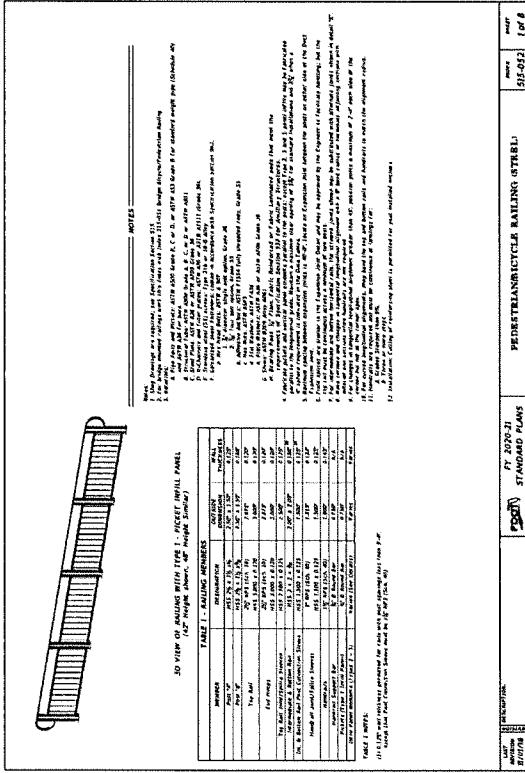
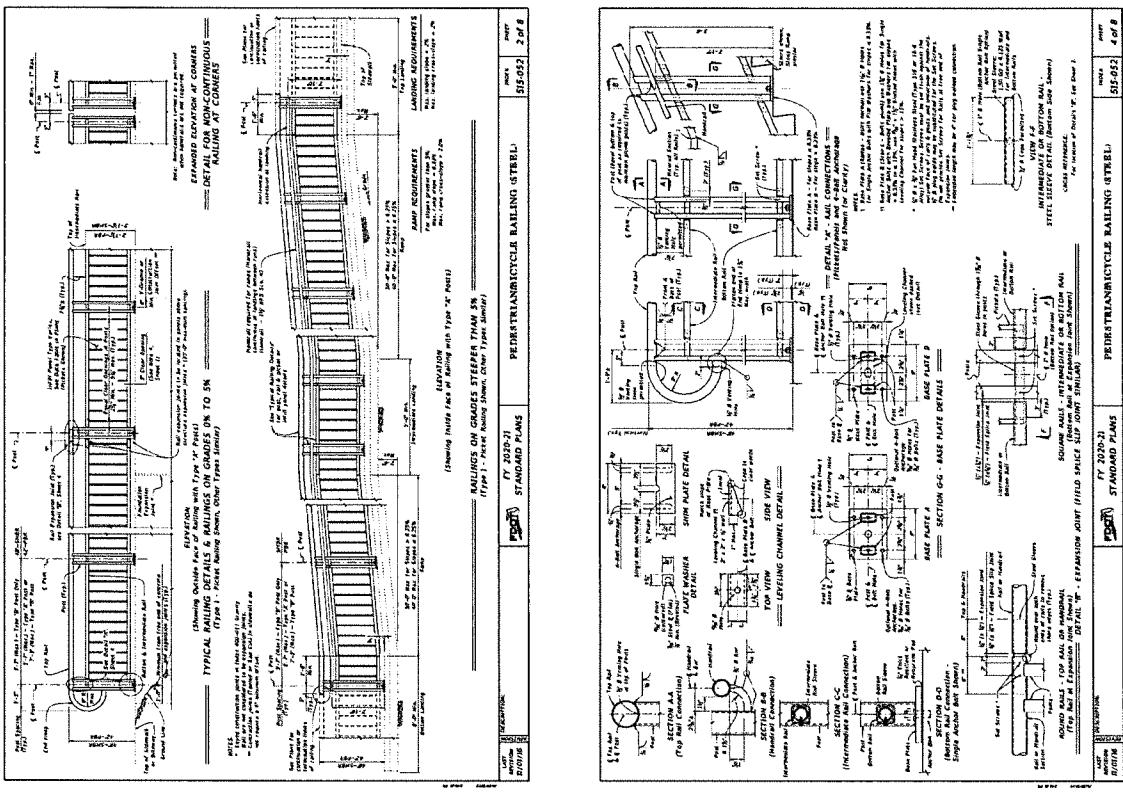
BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927

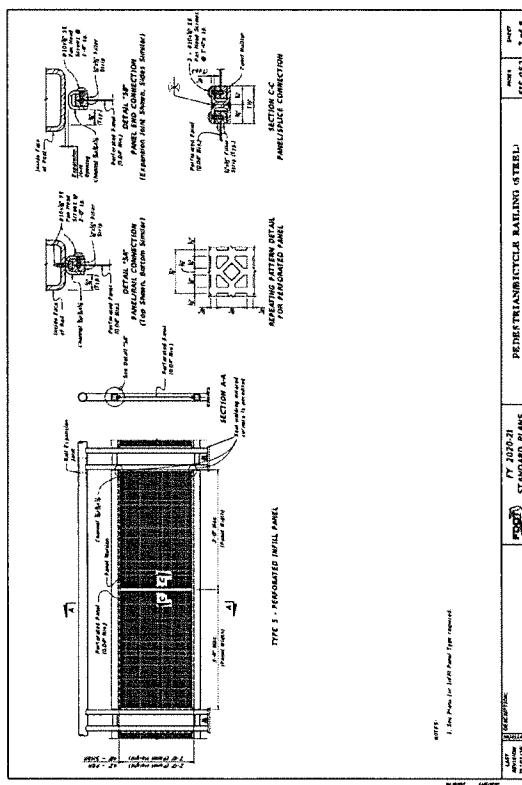
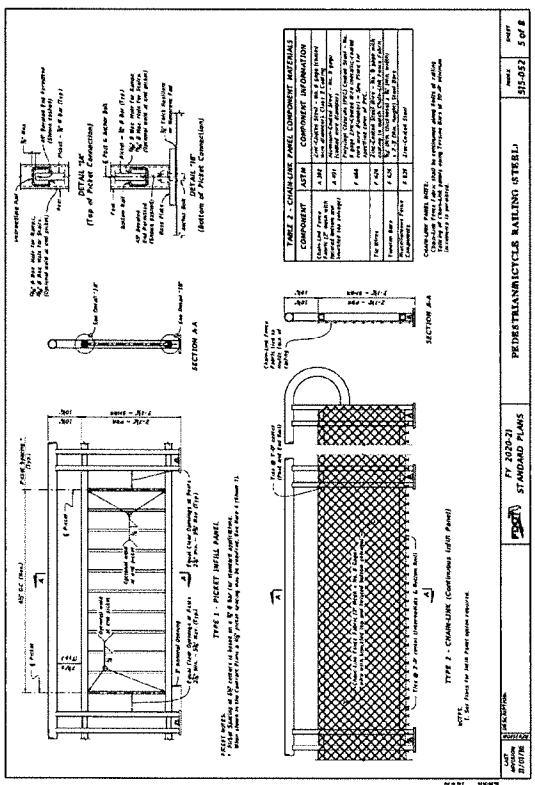
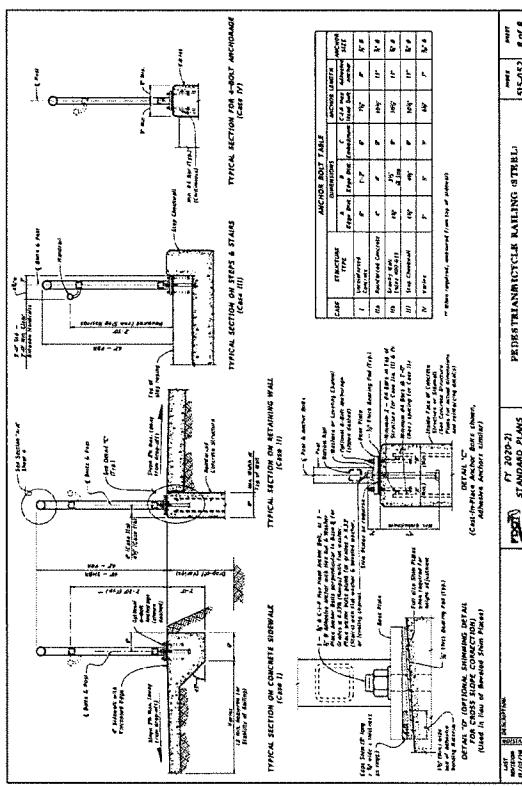
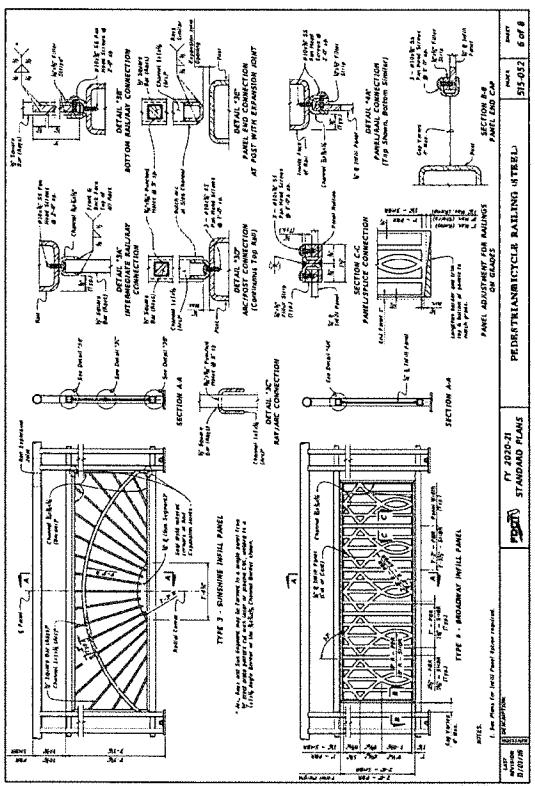
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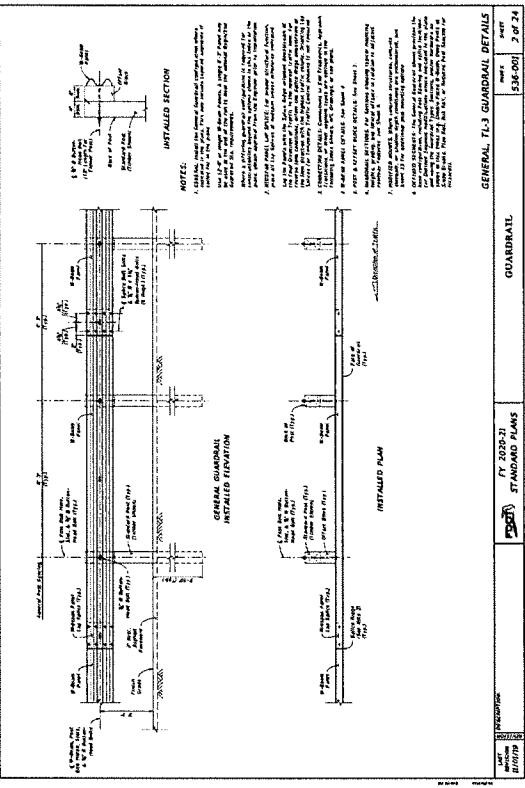


| <p>PROJECT NO.: Z7533.01 NO. 10-7-22, JRP APPN. 10/10/2022 BY: L. BROWN / DATE APPROVED: 10/10/2022 BY: C. RICHARDSON / DATE ISSUED: 10/10/2022 DATE OF EXPIRATION: 10/10/2023</p> <p>DETAILS</p> <p>NOT TO SCALE</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--------------------|---------------------|--------|-------------------------------|-----------------------|-------------------------------|-------|--|-------|-----|-----|-----|--------|-----------|-----------------------|---|----------------|----|---|---|---|----|----|---|---|----------------|----|---|---|---|----|---|---|---|----------------|----|----|---|---|----|---|---|---|----------------|----|----|---|---|----|---|---|---|-----------------|----|----|---|---|----|---|---|---|-----------------|----|----|----|---|-----|---|---|---|-----------------|----|----|----|---|-----|---|---|---|-----------------|----|----|----|---|-----|---|---|---|-----------------|----|----|----|---|-----|---|---|---|---------------|----|----|---|---|----|---|---|---|---------------|----|----|---|---|----|---|---|---|---------------|----|----|----|---|-----|---|---|---|----------------|----|----|----|---|-----|---|---|---|----------------|----|----|----|---|-----|---|---|---|----------------|----|----|----|---|-----|---|---|---|----------------|-----|----|----|----|-----|---|---|---|----------------|-----|----|----|----|-----|---|---|
| <p>BASKERVILLE-DONOVAN, INC. ENGINEERING THE SOUTH SINCE 1927 1400 PARKWOOD DRIVE, SUITE 111, HAYWARD, CALIFORNIA 94541-3800</p> <p>INFRASTRUCTURE ASSOCIATED WITH THE BRIDGE</p> <p>PROJECT NO.: Z7533.01 NO. 10-7-22, JRP APPN. 10/10/2022 BY: L. BROWN / DATE APPROVED: 10/10/2022 BY: C. RICHARDSON / DATE ISSUED: 10/10/2022 DATE OF EXPIRATION: 10/10/2023</p> <p>NOT TO SCALE</p> <p>C-900</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>NOTE: SLOPE OF NEW SIDEWALK SHALL NOT EXCEED 2% IN ANY DIRECTION</p> <p>SEE PLANS</p> <p>POLYCARBONATE SHEET (NO TOP RAIL RECD)</p> <p>4" THICK CONCRETE</p> <p>4" STABILIZED SUBGRADE LBR 40 (NM)</p> <p>WAVES</p> <p>FINISHED GRADE</p> <p>6' LIGHT BROOM STROK FINISH</p> <p>6'</p> <p>4 X 6 MI. TRL W/W (CENTER IN SIDEWALK)</p> <p>WALK SECTION</p> <p>1/2" EXP. JOINT 1/4" R 1/4"</p> <p>1/4" EXP. JOINT 1/4" R 1/4"</p> <p>EXPANSION JOINTS (W/ 0 OC MAX)</p> <p>5'-0" AMST MAX (EXCEPT WHERE EXPANSION JOINTS ARE REQUIRED)</p> <p>CONTRACTION JOINT</p> <p>SIDEWALK DETAIL</p> <p>NOT TO SCALE</p> | <p>ANCHOR BALES WITH 2 - 2' X 2' X 4' STACKS PER BALE</p> <p>COMPLETED INLET</p> <p>DITCH BOTTOM</p> <p>DITCH INLET</p> <p>ANCHOR BALES WITH 2 - 2' X 2' X 4' STACKS PER BALE</p> <p>PROTECTION AROUND INLETS OR SIMILAR STRUCTURES</p> <p>NOT TO SCALE</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p>PIPE JOINT RESTRAINT TABULATION</p> <p>SHOWING DISTANCES IN FEET FROM THE FITTING TO BE RESTRAINED TO THE LAST RESTRAINING GLAND REQUIRED</p> <table border="1"> <thead> <tr> <th rowspan="2">PIPE SIZE AND TYPE</th> <th colspan="4">HORIZONTAL SPACINGS</th> <th colspan="3">EQUAL TEES TRANSITION TO HOSE</th> <th rowspan="2">NOTES</th> </tr> <tr> <th>30°</th> <th>45°</th> <th>90°</th> <th>112.5°</th> <th>160° ENDS</th> <th>EQNL. TEES SEE NOTE 3</th> <th>1</th> </tr> </thead> <tbody> <tr> <td>4" DIA. SDR 30</td> <td>18</td> <td>6</td> <td>4</td> <td>2</td> <td>33</td> <td>33</td> <td>1</td> <td>1</td> </tr> <tr> <td>5" DIA. SDR 30</td> <td>22</td> <td>9</td> <td>4</td> <td>2</td> <td>39</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>6" DIA. SDR 30</td> <td>31</td> <td>13</td> <td>6</td> <td>3</td> <td>55</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>8" DIA. SDR 30</td> <td>40</td> <td>17</td> <td>6</td> <td>4</td> <td>72</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>10" DIA. SDR 30</td> <td>48</td> <td>20</td> <td>9</td> <td>5</td> <td>86</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>12" DIA. SDR 30</td> <td>56</td> <td>23</td> <td>11</td> <td>5</td> <td>101</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>15" DIA. SDR 30</td> <td>70</td> <td>29</td> <td>14</td> <td>7</td> <td>129</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>20" DIA. SDR 30</td> <td>84</td> <td>35</td> <td>17</td> <td>8</td> <td>156</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>24" DIA. SDR 30</td> <td>96</td> <td>40</td> <td>19</td> <td>9</td> <td>181</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>4" PVC SDR 30</td> <td>26</td> <td>12</td> <td>6</td> <td>3</td> <td>62</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>6" PVC SDR 30</td> <td>39</td> <td>16</td> <td>6</td> <td>4</td> <td>87</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>8" PVC SDR 30</td> <td>50</td> <td>21</td> <td>10</td> <td>5</td> <td>114</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>10" PVC SDR 30</td> <td>60</td> <td>25</td> <td>12</td> <td>6</td> <td>136</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>12" PVC SDR 30</td> <td>70</td> <td>29</td> <td>14</td> <td>7</td> <td>160</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>16" PVC SDR 30</td> <td>86</td> <td>36</td> <td>17</td> <td>9</td> <td>205</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>20" PVC SDR 30</td> <td>105</td> <td>43</td> <td>21</td> <td>10</td> <td>247</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>24" PVC SDR 30</td> <td>120</td> <td>50</td> <td>24</td> <td>12</td> <td>267</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table> <p>NOTES:</p> <ol style="list-style-type: none"> 1. ONE LAYER OF #15 FELT TO BE USED TO PROTECT ADHESION TO CONCRETE TO STIRRING. 2. ALL THRUST BLOCKS TO BE BURIED AGAINST UNDISTURBED SOIL. 3. ONE FLOOR WALKOVER MUST BE PROVIDED ON 24" TRENCHES. 4. FLOOR RESTRAINTS ARE TO BE USED ON ALL FITTINGS, THRUST BLOCKS REQUIRED. 5. BOND RESTRAINTS ARE TO BE USED ON ALL FITTINGS, TIES, TAPPING SEVES, AND DEAD ENDS. | PIPE SIZE AND TYPE | HORIZONTAL SPACINGS | | | | EQUAL TEES TRANSITION TO HOSE | | | NOTES | 30° | 45° | 90° | 112.5° | 160° ENDS | EQNL. TEES SEE NOTE 3 | 1 | 4" DIA. SDR 30 | 18 | 6 | 4 | 2 | 33 | 33 | 1 | 1 | 5" DIA. SDR 30 | 22 | 9 | 4 | 2 | 39 | 1 | 1 | 1 | 6" DIA. SDR 30 | 31 | 13 | 6 | 3 | 55 | 1 | 1 | 1 | 8" DIA. SDR 30 | 40 | 17 | 6 | 4 | 72 | 1 | 1 | 1 | 10" DIA. SDR 30 | 48 | 20 | 9 | 5 | 86 | 1 | 1 | 1 | 12" DIA. SDR 30 | 56 | 23 | 11 | 5 | 101 | 1 | 1 | 1 | 15" DIA. SDR 30 | 70 | 29 | 14 | 7 | 129 | 1 | 1 | 1 | 20" DIA. SDR 30 | 84 | 35 | 17 | 8 | 156 | 1 | 1 | 1 | 24" DIA. SDR 30 | 96 | 40 | 19 | 9 | 181 | 1 | 1 | 1 | 4" PVC SDR 30 | 26 | 12 | 6 | 3 | 62 | 1 | 1 | 1 | 6" PVC SDR 30 | 39 | 16 | 6 | 4 | 87 | 1 | 1 | 1 | 8" PVC SDR 30 | 50 | 21 | 10 | 5 | 114 | 1 | 1 | 1 | 10" PVC SDR 30 | 60 | 25 | 12 | 6 | 136 | 1 | 1 | 1 | 12" PVC SDR 30 | 70 | 29 | 14 | 7 | 160 | 1 | 1 | 1 | 16" PVC SDR 30 | 86 | 36 | 17 | 9 | 205 | 1 | 1 | 1 | 20" PVC SDR 30 | 105 | 43 | 21 | 10 | 247 | 1 | 1 | 1 | 24" PVC SDR 30 | 120 | 50 | 24 | 12 | 267 | 1 | 1 |
| PIPE SIZE AND TYPE | HORIZONTAL SPACINGS | | | | EQUAL TEES TRANSITION TO HOSE | | | NOTES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30° | 45° | 90° | 112.5° | 160° ENDS | EQNL. TEES SEE NOTE 3 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4" DIA. SDR 30 | 18 | 6 | 4 | 2 | 33 | 33 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5" DIA. SDR 30 | 22 | 9 | 4 | 2 | 39 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6" DIA. SDR 30 | 31 | 13 | 6 | 3 | 55 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8" DIA. SDR 30 | 40 | 17 | 6 | 4 | 72 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10" DIA. SDR 30 | 48 | 20 | 9 | 5 | 86 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12" DIA. SDR 30 | 56 | 23 | 11 | 5 | 101 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15" DIA. SDR 30 | 70 | 29 | 14 | 7 | 129 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20" DIA. SDR 30 | 84 | 35 | 17 | 8 | 156 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24" DIA. SDR 30 | 96 | 40 | 19 | 9 | 181 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4" PVC SDR 30 | 26 | 12 | 6 | 3 | 62 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6" PVC SDR 30 | 39 | 16 | 6 | 4 | 87 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8" PVC SDR 30 | 50 | 21 | 10 | 5 | 114 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10" PVC SDR 30 | 60 | 25 | 12 | 6 | 136 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12" PVC SDR 30 | 70 | 29 | 14 | 7 | 160 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16" PVC SDR 30 | 86 | 36 | 17 | 9 | 205 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20" PVC SDR 30 | 105 | 43 | 21 | 10 | 247 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24" PVC SDR 30 | 120 | 50 | 24 | 12 | 267 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>TYPICAL PIPE BEDDING</p> <p>NOT TO SCALE</p> <p>TYPICAL PIPE BEDDING</p> <p>NOT TO SCALE</p> <p>COMPACT BACKFILL</p> <p>WARNING TAPE</p> <p>DETECTING TAPE</p> <p>DRAINAGE PIPE</p> <p>SPRING LINE OF PIPE</p> <p>COMPACT FILL IN TWO LAYERS, AS SHOWN</p> <p>NOT TO SCALE</p> | <p>TYPICAL THRUST BLOCK INSTALLATIONS</p> <p>NOT TO SCALE</p> <p>TYPICAL THRUST BLOCK INSTALLATIONS</p> <p>NOT TO SCALE</p> <p>NOT TO SCALE</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



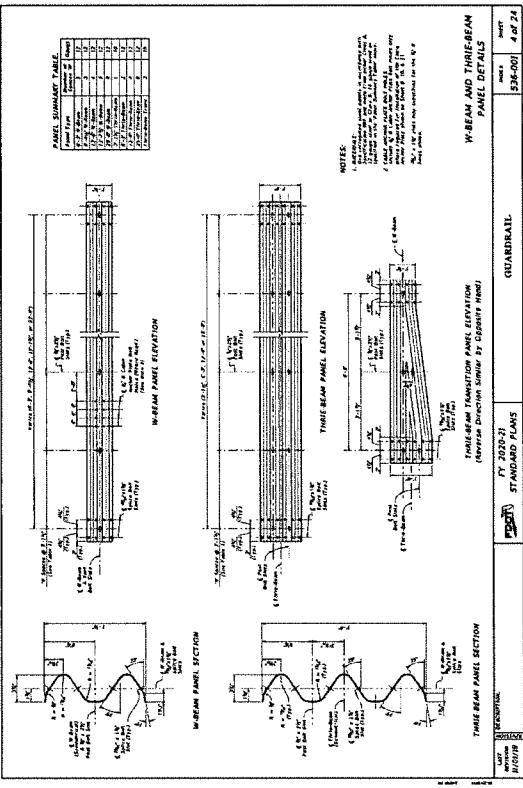
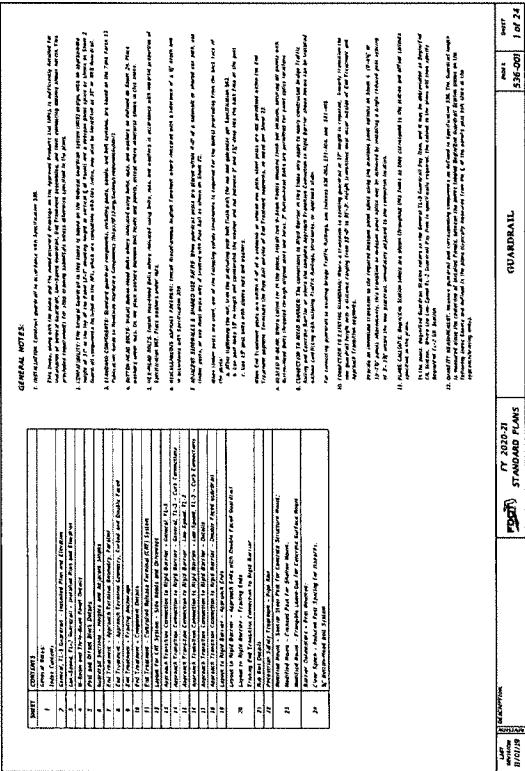






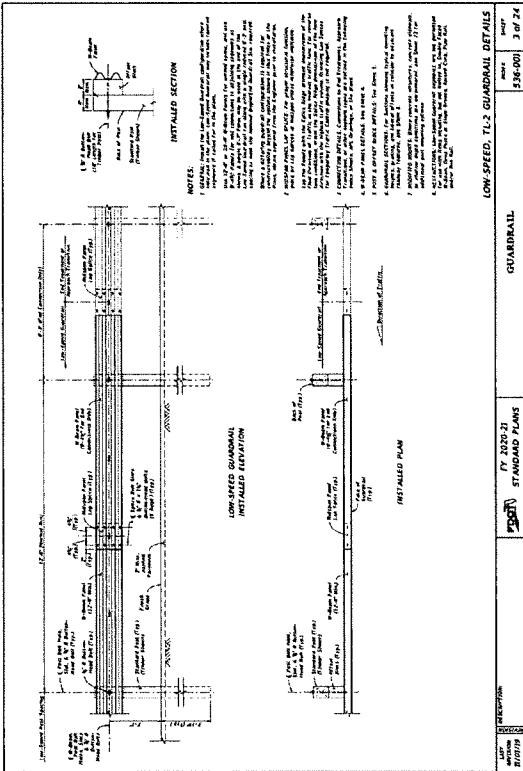
GENERAL, TL-3 GUARDRAIL, DETAILS
REF ID: 536-001

REV 2020-11



GENERAL, TL-3 GUARDRAIL, DETAILS
REF ID: 536-001

REV 2020-11



LOW-SPEED, TL-3 GUARDRAIL
REF ID: 536-001

REV 2020-11

W-BEAM AND THREE-BEAM
PANEL DETAILS
REF ID: 536-001

REV 2020-11



REV 2020-11

