2020 BND ROAD IMPROVEMENTS

PORT OF BROWNSVILLE
BOARD OF COMMISSIONERS

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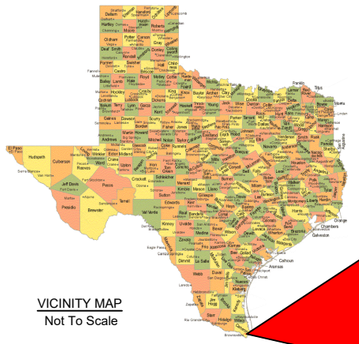
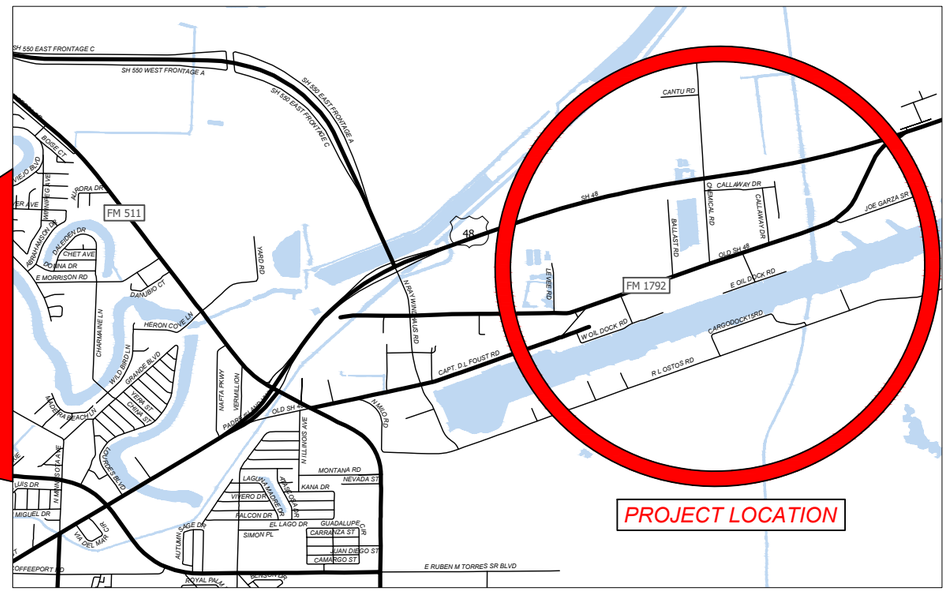
JOHN WOOD	COMMISSIONER
ESTEBAN GUERRA	COMMISSIONER

PORT OF BROWNSVILLE
the port that *works*

INDEX OF SHEETS



VICINITY MAP
Not To Scale



MARCH 2020

2020 BND ROAD IMPROVEMENTS

- WEST OIL DOCK ROAD: 2,232 Linear Feet of a 24 ft. wide road from Capt. D.L. Foust Road Ext. to Oil Dock 2
- OIL DOCK ROAD CONNECTION: 671 Linear Feet of 25 ft. wide road from Oil Dock 5 to Oil Dock 6.
- CHEMICAL ROAD: 1,967 Linear Feet of a 28 ft. wide road from State Highway 48 to Loma Alta Electrical Substation
- ANCHOR ROAD: 1,410 Linear Feet of a 30 ft. wide road from Old State Highway 48 to the end of East Oil Dock Road
- DOCK 15 ROAD: 910 Linear Feet of a 30 ft. wide road from the west to east end of Cargo Dock No. 15
- LIQUID CARGO DOCK ROAD: 594 Linear Feet of a 24 ft. wide road from R.L. Ostos Road to Liquid Cargo Dock

Net Length = 7,784 L.F. = 1.47 Mi.

Rail Crossings

ROAD NAME — Road Improvement Sections

CHEMICAL RD

STATE HIGHWAY 48

S.H. 550

BILL REED RD

OLD STATE HIGHWAY 48

CAPT. D.L. FOUST ROAD

WEST OIL DOCK RD

OIL DOCK RD CONNECTION

ANCHOR RD

OIL DOCK No. 1

OIL DOCK No. 2

OIL DOCK No. 5

FUTURE OIL DOCK No. 6

OIL DOCK No. 3

89 + 000

85 + 000

80 + 000

BROWNSVILLE SHIP CHANNEL
(RELOCATED)

(CARGO DOCKS)
No. 11
No. 12
No. 13

No. 15 CARGO DOCKS
No. 16

DOCK 15 RD

LIQUID CARGO DOCK RD

TURNING BASIN

No. 10

RAY WINDHAUS ROAD

R. L. OSTOS ROAD

GRAPHIC SCALE
800 0 800 1,600
IN FEET

PORT OF BROWNSVILLE
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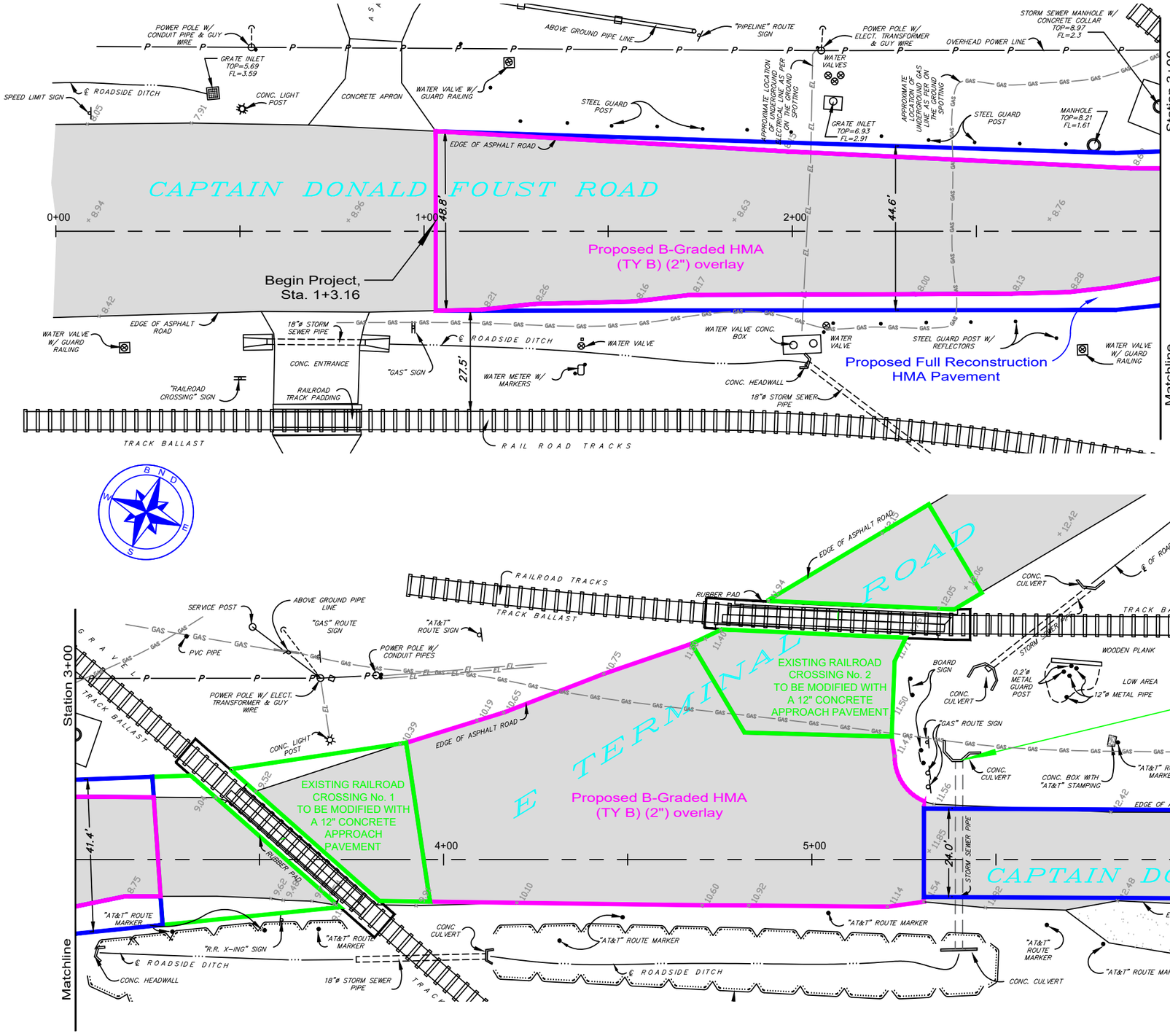
PROJECT LAYOUT

2020 BND ROAD IMPROVEMENTS

DRAWN BY: P.E.
DATE DRAWN: 8/20/2019
CHECKED BY: A. CHAVEZ II
SCALE: AS SHOWN
APPROVED BY:
REVISION DATE:
DWG. NO.
FILE NAME: C:\MY DRAWINGS\06roads\2020BNDROADIMPROVEMENTS Model.dgn

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com



NOTES:

1. THE EXISTING LEFT AND RIGHT EDGE OF PAVEMENT FROM STA. 1+3.16 TO 5+30.43 SHALL BE THE LIMITS OF THE PROPOSED B-GRADED 2" HMA (TY B) OVERLAY.
2. EXISTING HMA SURFACE SHALL BE REPAIRED (SAWCUT SPOT REPAIR), LEVELED (BY MILLING, LEVELING, OR BOTH), CLEANED AND THEN COATED WITH A BINDER. PAVEMENT SURFACE RECEIVING THE TACK COAT SHALL BE CLEAN AND DRY TO PROMOTE MAXIMUM BONDING. TACK COAT SHALL BE APPLIED UNIFORMLY ACROSS THE ENTIRE PAVEMENT SURFACE. APPLY TACK COAT TO SURFACE AREA UNLESS OTHERWISE DIRECTED.
3. SEE SHEET 7 OF 38 FOR STRUCTURE REPAIR DETAIL.
4. ADDITIONAL STRUCTURE REPAIR AREAS FOUND THAT ARE NOT SHOWN ON THE DRAWINGS ARE TO BE REPAIRED BY CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER OF THESE AREAS SO THAT PROPER EVALUATION AND MEASUREMENTS CAN BE MADE. OWNER SHALL ALSO BE MADE AWARE OF AREAS THAT DIFFER FROM WHAT IS SHOWN ON THE DRAWINGS.
5. BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.
6. CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
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PORT OF BROWNSVILLE
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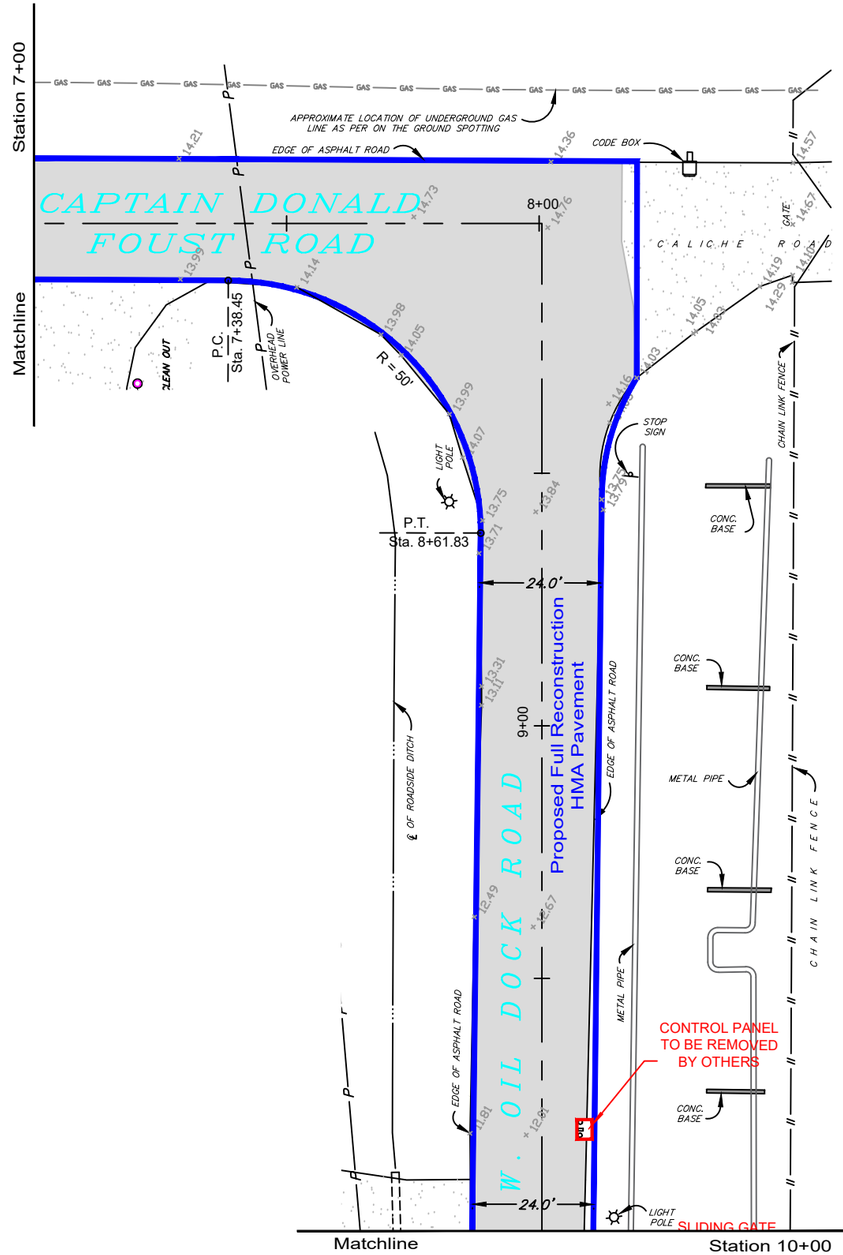
WEST OIL DOCK ROAD
PLAN
STA. 0+00 - 7+00

2020 BND ROAD IMPROVEMENTS

DRAWN BY: P.E.	APPROVED BY:		
DATE DRAWN: 8/20/2019	REVISION DATE:	DWG. NO.	
CHECKED BY: A. CHAVEZ II			
SCALE: AS SHOWN	FILE NAME: C:\MY DRAWINGS\Broadcast\2020\BNDROADIMPROVEMENTS WOD SHEET.dwg		

SHEET 3 OF 38



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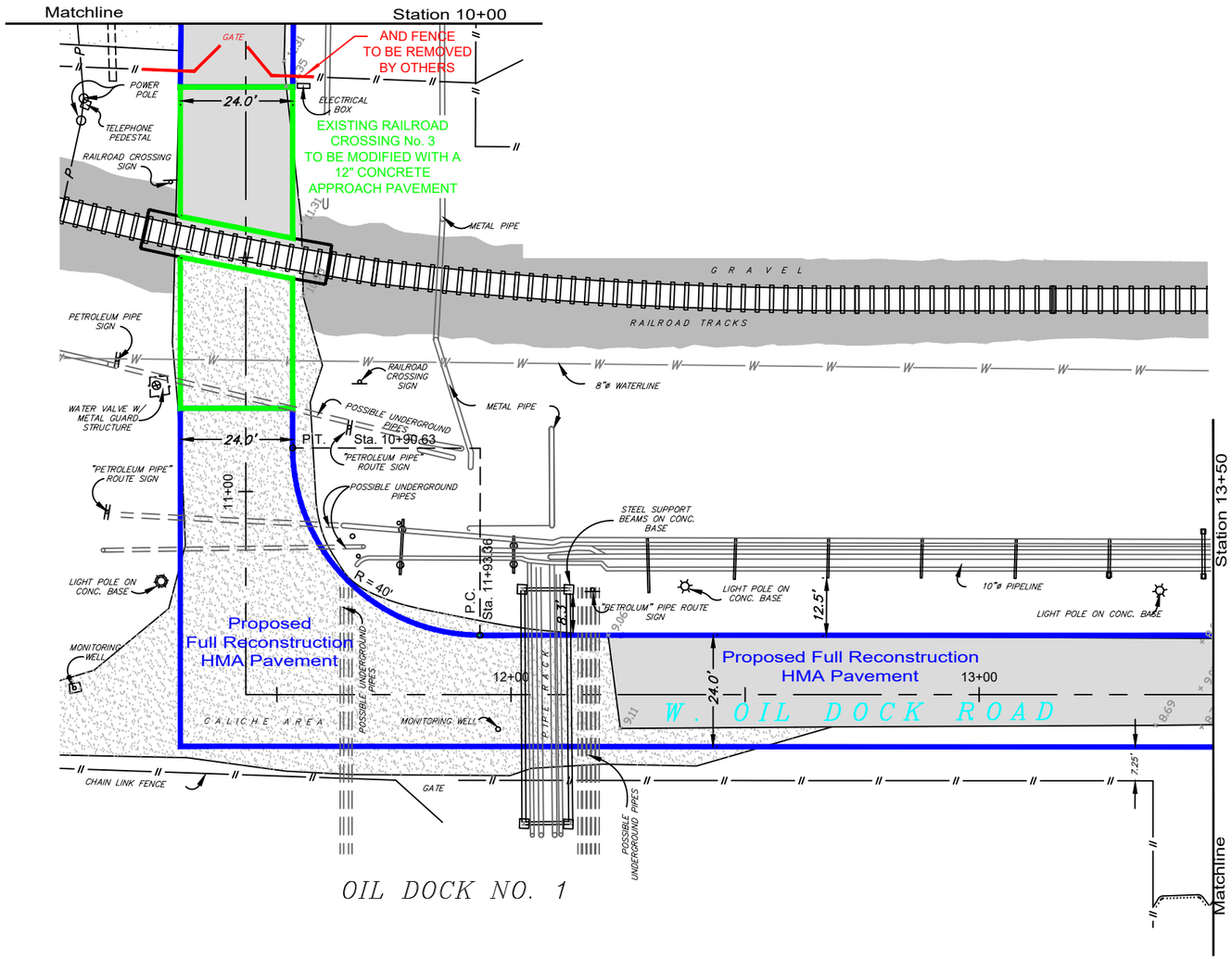

OIL DOCK NO. 1

GRAPHIC SCALE
30 0 30 60
IN FEET

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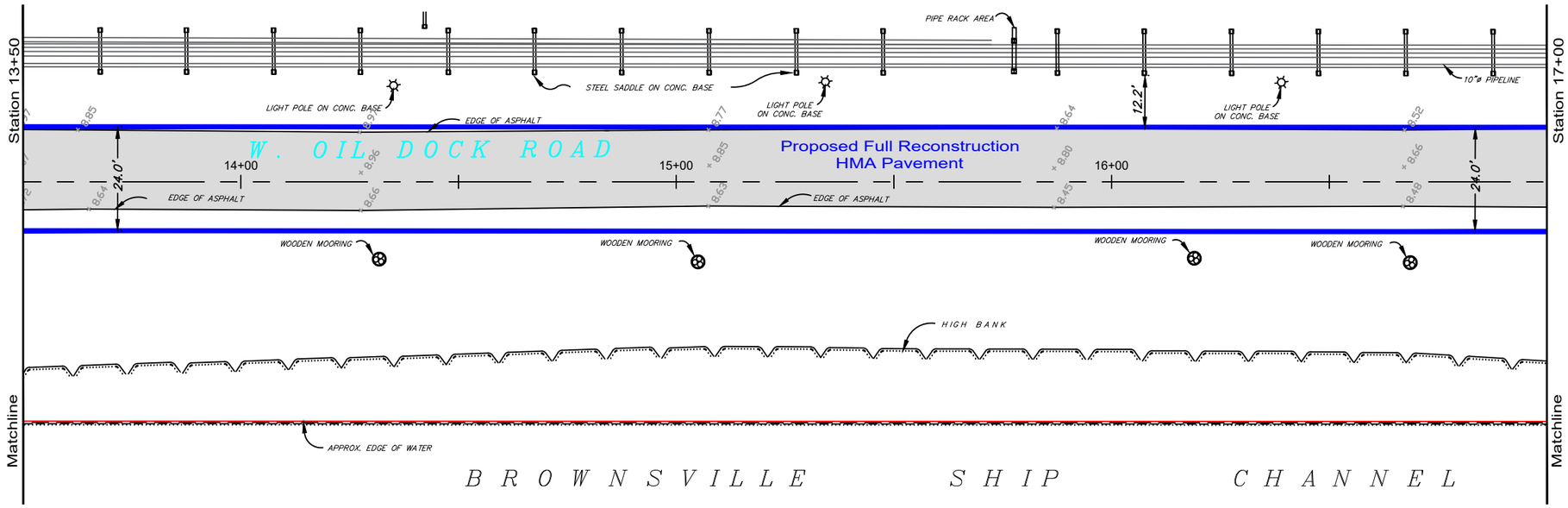
WEST OIL DOCK ROAD
PLAN
STA. 7+00 - 13+50

2020 BND ROAD IMPROVEMENTS

DRAWN BY: P.E.	APPROVED BY:		
DATE DRAWN: 8/20/2019	REVISION DATE:	DWG. NO.	
CHECKED BY: A. CHAVEZ II			
SCALE: AS SHOWN	FILE NAME: C:\MY DRAWINGS\56\roads\2020BNDROADIMPROVEMENTS DWG (Saved by Mary)		

SHEET 4 OF 38



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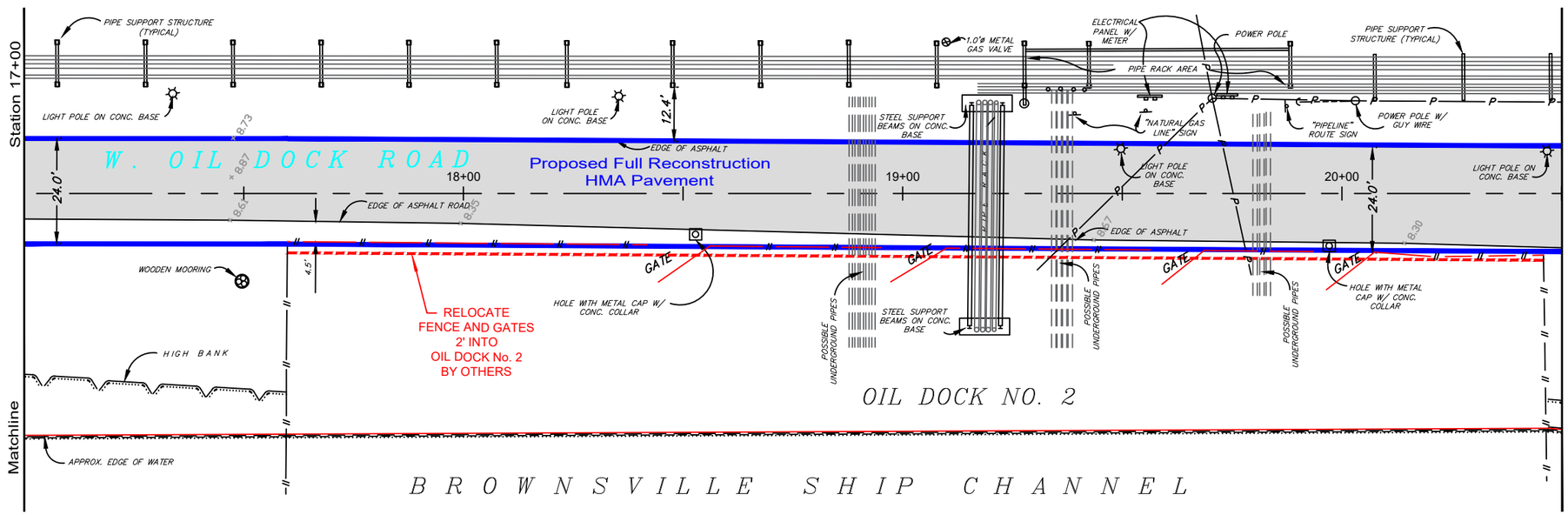

GRAPHIC SCALE

30 0 30 60

IN FEET

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WEST OIL DOCK ROAD
PLAN
STA. 13+50 - 20+50

2020 BND ROAD IMPROVEMENTS

DRAWN BY: P.E.	APPROVED BY:	
DATE DRAWN: 8/20/2019	REVISION DATE:	
CHECKED BY: A. CHAVEZ II	DWG. NO.	
SCALE: AS SHOWN	FILE NAME: C:\MY DRAWINGS\Roads\2020\BNDROAD\IMPROVEMENTS WEST DOCK.dwg	

SHEET
5
OF 38

NOTES:

1. **BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.**
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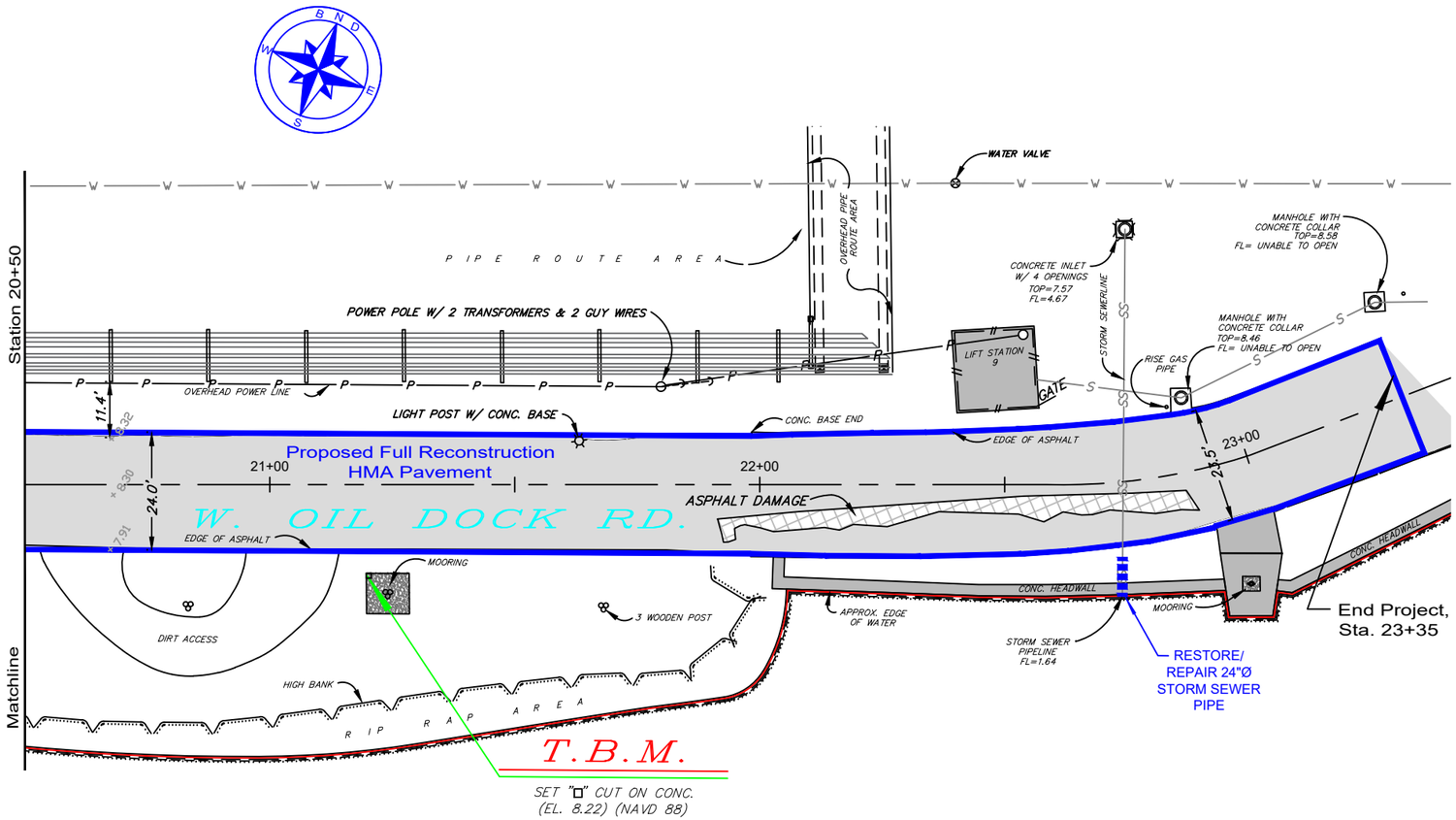

B R O W N S V I L L E S H I P C H A N N E L

GRAPHIC SCALE

30 0 30 60

IN FEET

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PORT OF BROWNSVILLE
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WEST OIL DOCK ROAD
PLAN
STA. 20+50 - 23+35

2020 BND ROAD IMPROVEMENTS

DRAWN BY: P.E.	APPROVED BY:		
DATE DRAWN: 8/20/2019	REVISION DATE:		
CHECKED BY: A. CHAVEZ II	DWG. NO.		
SCALE: AS SHOWN	FILE NAME: C:\MY DRAWINGS\Broadst\2020\BNDROADIMPROVEMENTS WOD Station.dwg		

SHEET
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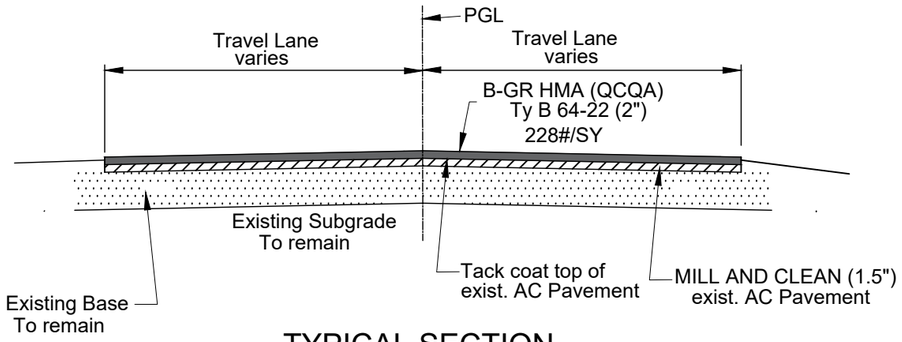
OF 38

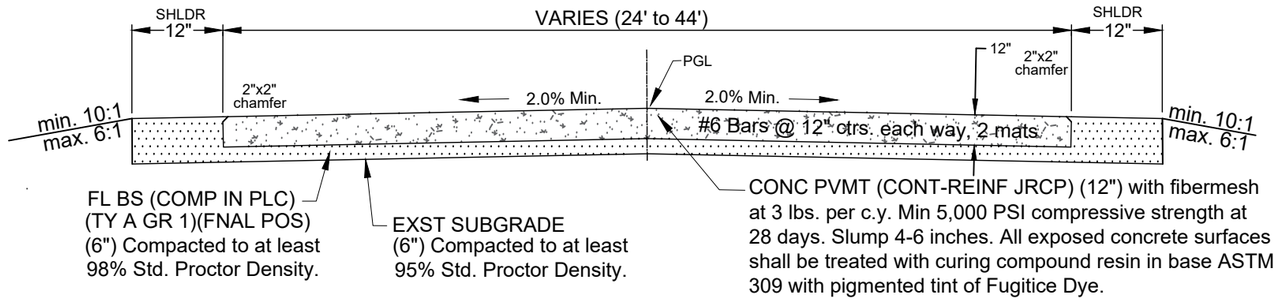


TYPICAL SECTION
PROPOSED 2" HMA PAVEMENT OVERLAY

N.T.S

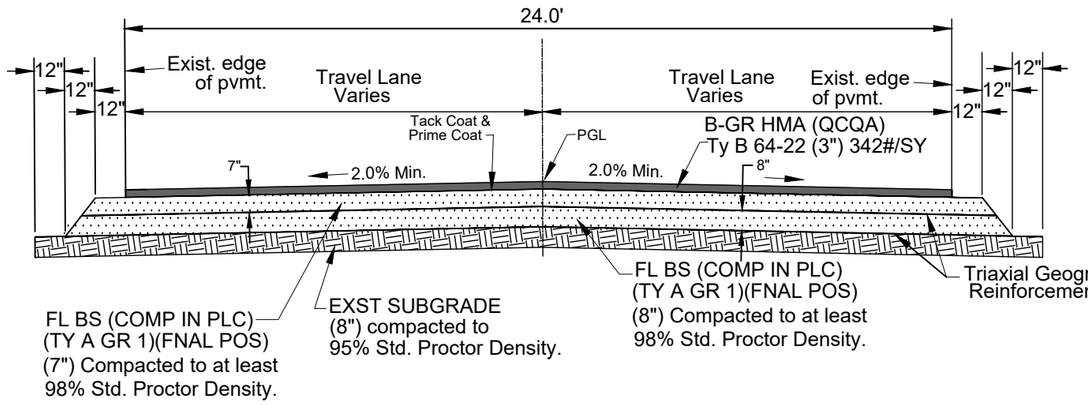
NOTES:

1. Stockpile all material generated from this project at the BND Shop Yard (5100 R.L. Ostos Road).
2. The subgrade shall be shaped and bladed a minimum distance of one foot beyond the edge of the proposed base course. The complete base shall be rolled before the earth shoulder is shaped and final compaction shall be done over base and edge of shoulder. All grading shall be within the limits shown.
3. 114#/SY of ACP is equivalent to 1" in depth of ACP
4. Where required by fixed features or unusual conditions, the governing slopes may be varied when directed by the Engineer.
5. Prime Coat: MC-30 at a rate of 0.20 Gal./S.Y. Tack Coat: RC-2 at a rate of 0.05 Gal./S.Y. Both items subsidiary to HMA.



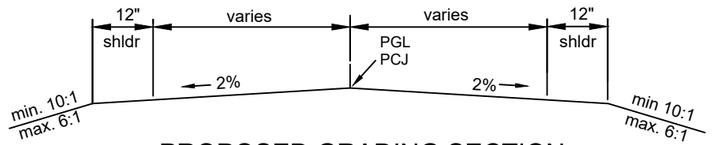
TYPICAL SECTION
PROPOSED CONCRETE PAVEMENT

N.T.S.



TYPICAL SECTION
PROPOSED HMA PAVEMENT RECONSTRUCTION

N.T.S.



PROPOSED GRADING SECTION

N.T.S.

GRAPHIC SCALE
30 0 30 60
IN FEET

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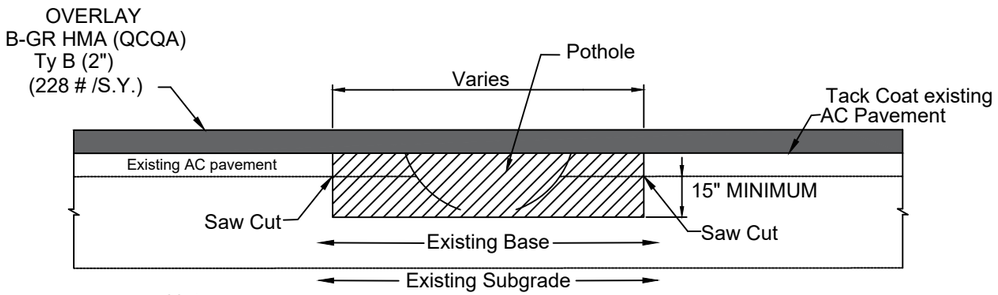
WEST OIL DOCK ROAD
TYPICAL SECTIONS -
PAVEMENT DETAILS

2020 BND ROAD
IMPROVEMENTS

APPROVED BY:
REVISION DATE:
DWG. NO.
DRAWN BY: P.E.
DATE DRAWN: 8/20/2019
CHECKED BY: A. CHAVEZ III
SCALE: AS SHOWN
FILE NAME: C:\MY DRAWINGS\Streets\roads\2020BND\ROADIM\PROVEMENTS
W-DAY 8:56:56 am

SHEET
7
OF 38

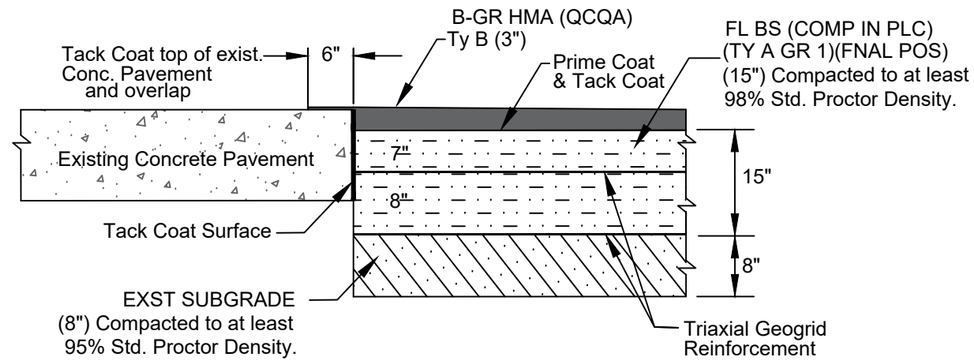


Note:

Remove all unstable material to neat lines. Replace with approved hot mix asphaltic concrete mechanically compacted to match existing asphalt pavement surface. Apply tack coat to surfaces of the repair area unless otherwise directed. Must meet the requirement of TXDOT Pothole Repair.

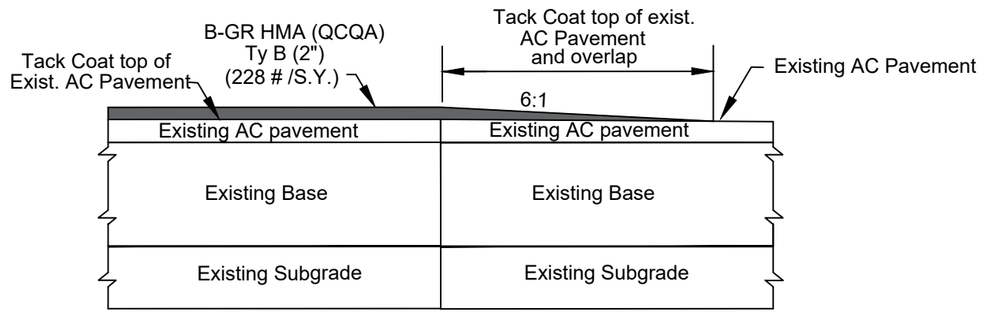
TYPICAL DETAIL
(STRUCTURE REPAIR (SAW-CUT))

N.T.S.



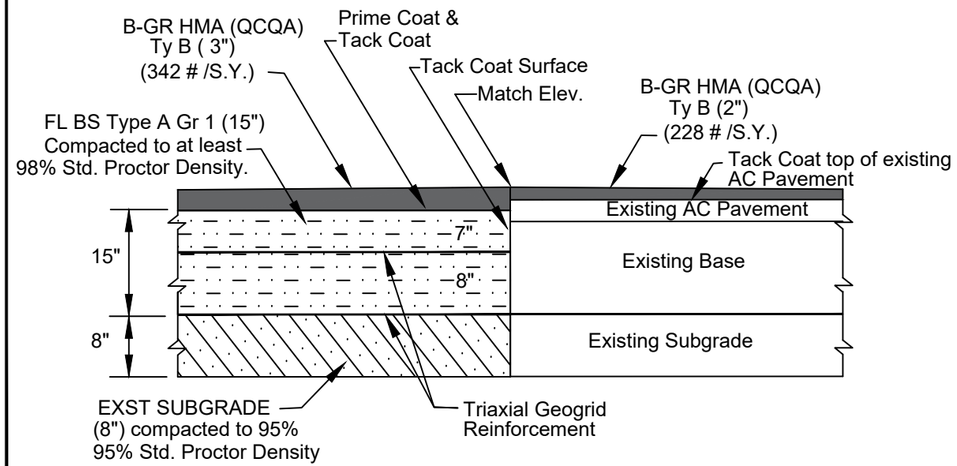
EXISTING CONCRETE PAVEMENT / PROPOSED HMA PAVEMENT RECONSTRUCTION INTERFACE DETAIL

N.T.S.



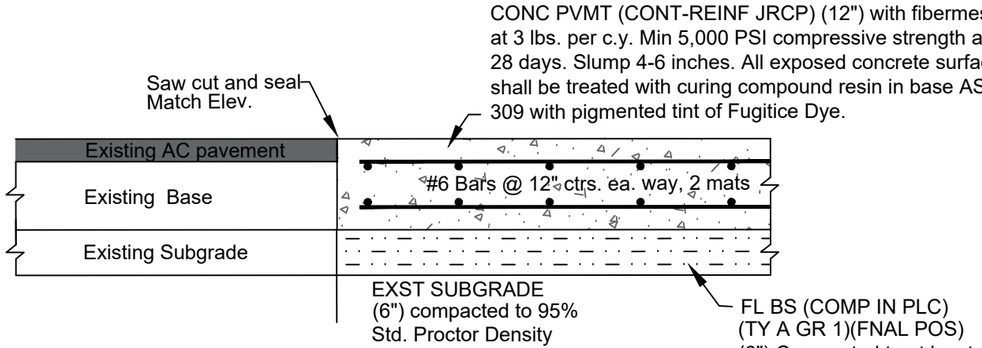
PROPOSED 2" HMA PAVEMENT OVERLAY / EXISTING AC PAVEMENT INTERFACE DETAIL

N.T.S.



PROPOSED HMA PAVEMENT RECONSTRUCTION / PROPOSED 2" HMA PAVEMENT OVERLAY INTERFACE DETAIL

N.T.S.



EXISTING AC PAVEMENT / PROPOSED CONCRETE PAVEMENT INTERFACE DETAIL

N.T.S.

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
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PORT OF BROWNSVILLE
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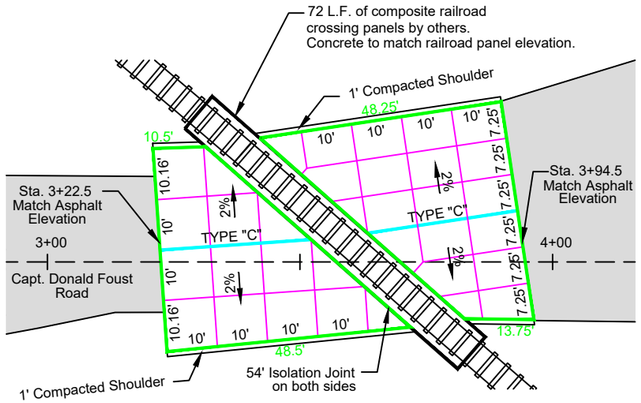
WEST OIL DOCK ROAD
TYPICAL SECTIONS-
INTERFACE DETAILS

2020 BND ROAD
IMPROVEMENTS

DRAWN BY: P.E.
DATE DRAWN: 8/20/2019
CHECKED BY: A. CHAVEZ II
SCALE: AS SHOWN
APPROVED BY:
REVISION DATE:
DWG. NO.
FILE NAME: C:\MY DRAWINGS\Sheets\2020BNDROADIMPROVEMENTS WEST DOCK.dwg

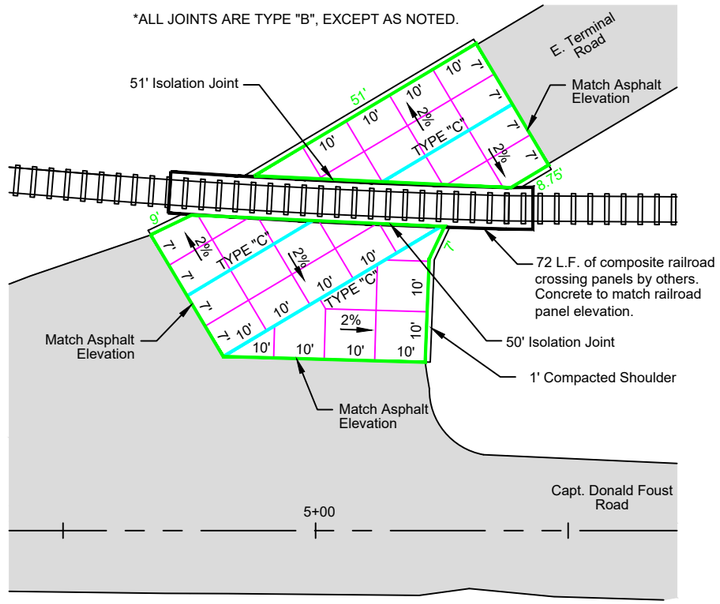
SHEET
8
OF 38



*ALL JOINTS ARE TYPE "B", EXCEPT AS NOTED.

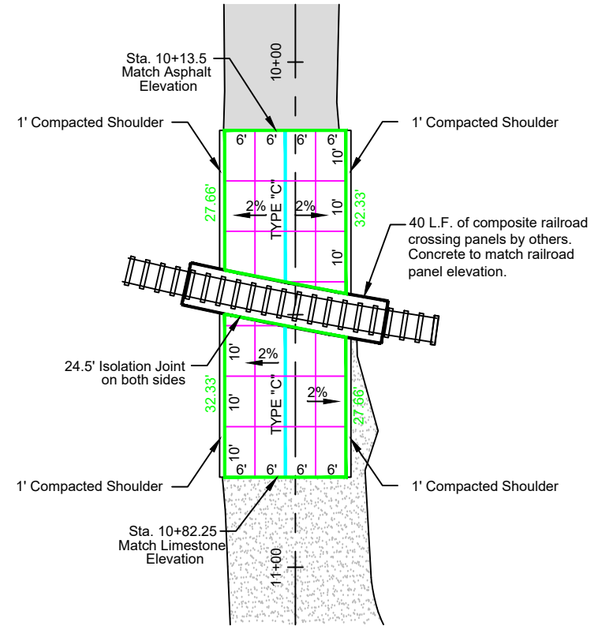
RAILROAD CROSSING No. 1
CONCRETE PLAN

SCALE: 1" = 30'



RAILROAD CROSSING No. 2
CONCRETE PLAN

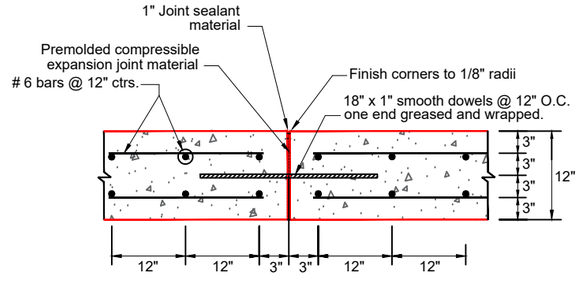
SCALE: 1" = 30'



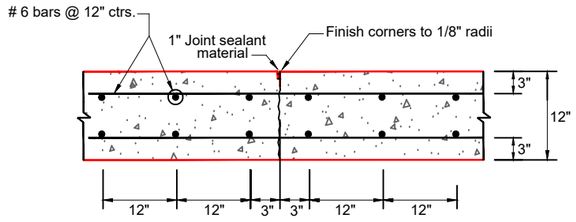
*ALL JOINTS ARE TYPE "B", EXCEPT AS NOTED.

RAILROAD CROSSING No. 3
CONCRETE PLAN

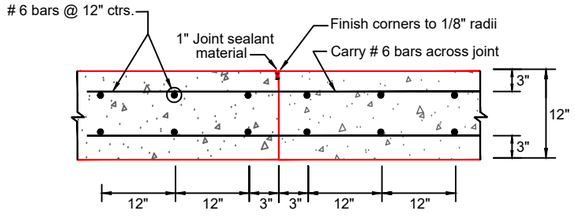
SCALE: 1" = 30'



EXPANSION - JOINT TYPE "A"
Not to Scale



DUMMY JOINT - JOINT TYPE "B"
Not to Scale



LONGITUDINAL TIED CONSTRUCTION JOINT - JOINT TYPE "C"
Not to scale

GRAPHIC SCALE
30 0 30 60
IN FEET

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PORT OF BROWNSVILLE
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WEST OIL DOCK ROAD
RAILROAD CONCRETE
APPROACH DETAILS

2020 BND ROAD
IMPROVEMENTS

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SHEET 9 OF 38

NOTES:

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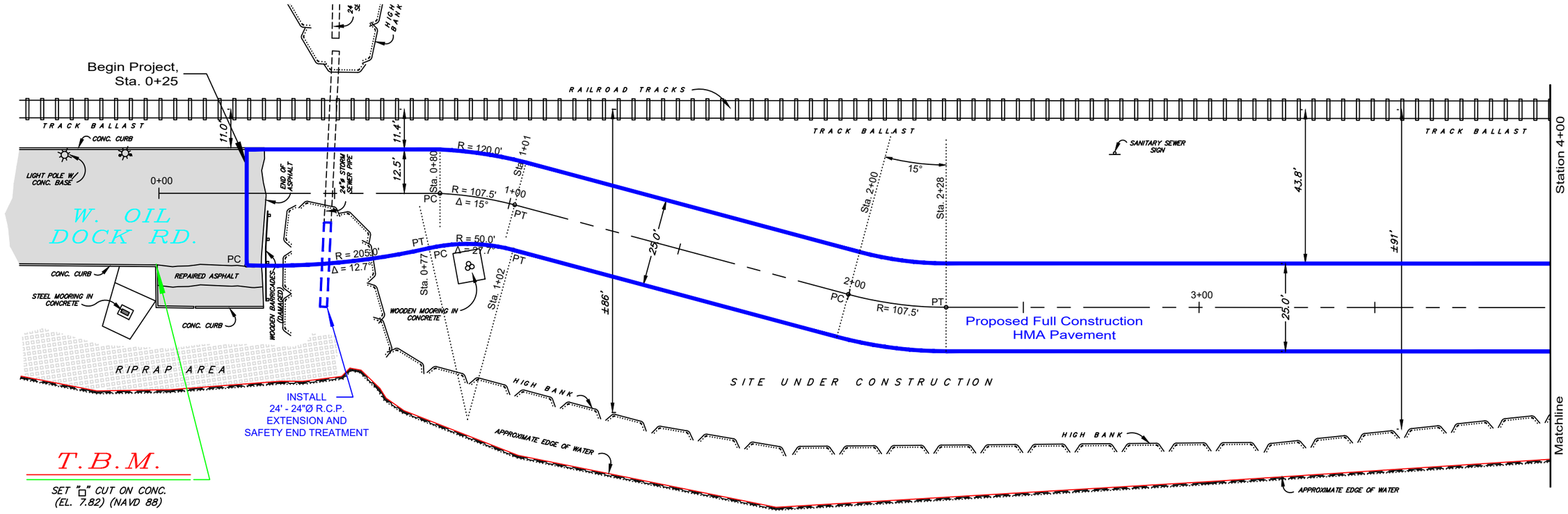

GRAPHIC SCALE

30 0 30 60

IN FEET

PORT OF BROWNSVILLE
the port that *works*

OIL DOCK ROAD
CONNECTION PLAN
STA. 0+00 - 4+00

2020 BND ROAD
IMPROVEMENTS

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CHECKED BY : A. CHAVEZ II
SCALE : AS SHOWN
APPROVED BY :
REVISION DATE :
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FILE NAME: C:\MY DRAWINGS\Bisnaid\2020\BNDROADIMPROVEMENTS CAD FILES\Construction.dwg

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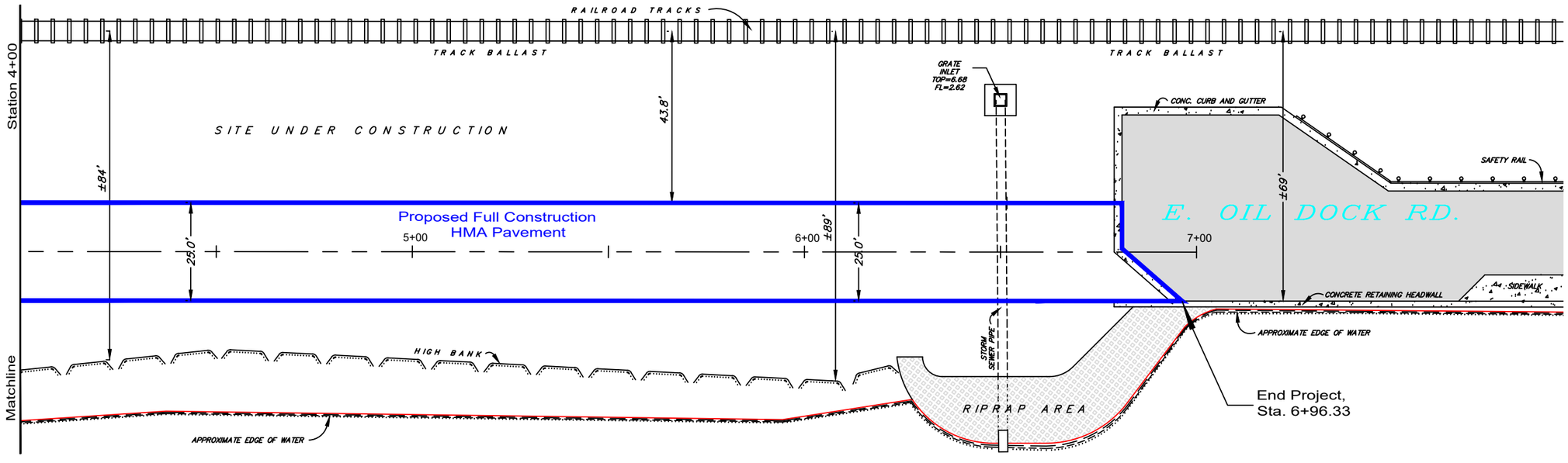

GRAPHIC SCALE

30 0 30 60

IN FEET

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OIL DOCK ROAD CONNECTION PLAN STA. 4+00 - 7+00

2020 BND ROAD IMPROVEMENTS

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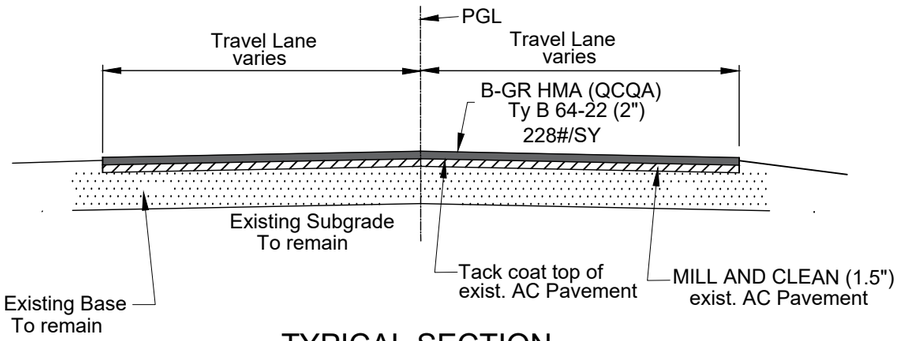
SCALE : AS SHOWN	FILE NAME : C:\MY DRAWINGS\Sheets\2020\BND\ROAD\IMPROVEMENTS CIVIL SHEETS\Oil Dock Road.dwg

SHEET 11 OF 38

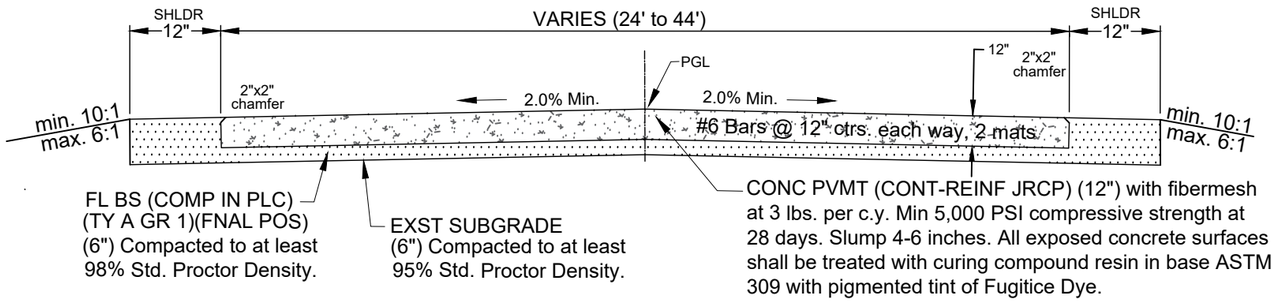


TYPICAL SECTION
PROPOSED 2" HMA PAVEMENT OVERLAY

N.T.S

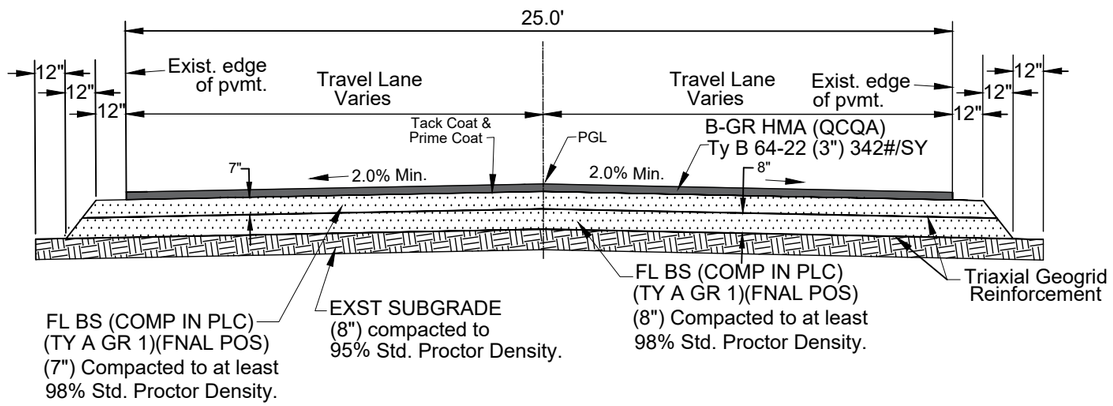
NOTES:

1. Stockpile all material generated from this project at the BND Shop Yard (5100 R.L. Ostos Road).
2. The subgrade shall be shaped and bladed a minimum distance of one foot beyond the edge of the proposed base course. The complete base shall be rolled before the earth shoulder is shaped and final compaction shall be done over base and edge of shoulder. All grading shall be within the limits shown.
3. 114#/SY of ACP is equivalent to 1" in depth of ACP
4. Where required by fixed features or unusual conditions, the governing slopes may be varied when directed by the Engineer.
5. Prime Coat: MC-30 at a rate of 0.20 Gal./S.Y. Tack Coat: RC-2 at a rate of 0.05 Gal./S.Y. Both items subsidiary to HMA.



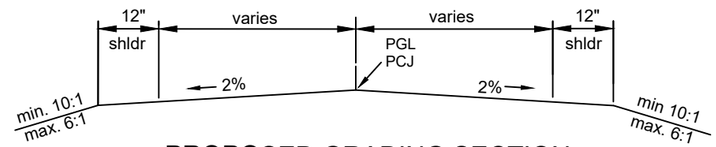
TYPICAL SECTION
PROPOSED CONCRETE PAVEMENT

N.T.S.



TYPICAL SECTION
PROPOSED HMA PAVEMENT RECONSTRUCTION

N.T.S.



PROPOSED GRADING SECTION

N.T.S.

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com

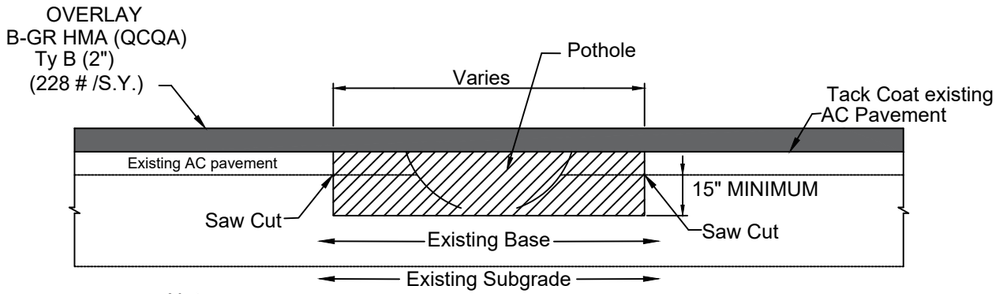
PORT OF BROWNSVILLE
the port that *works*

OIL DOCK ROAD
CONNECTION
TYPICAL SECTION -
PAVEMENT DETAILS

2020 BND ROAD
IMPROVEMENTS

APPROVED BY :
REVISION DATE:
DWG. NO.
DRAWN BY : P.E.
DATE DRAWN : 8/20/2019
CHECKED BY : A. CHAVEZ II
SCALE: AS SHOWN
FILE NAME : C:\MY DRAWINGS\Sheets\2020BNDROADIMPROVEMENTS OLD DOCK CONNECTION.dwg

SHEET
12
OF 38

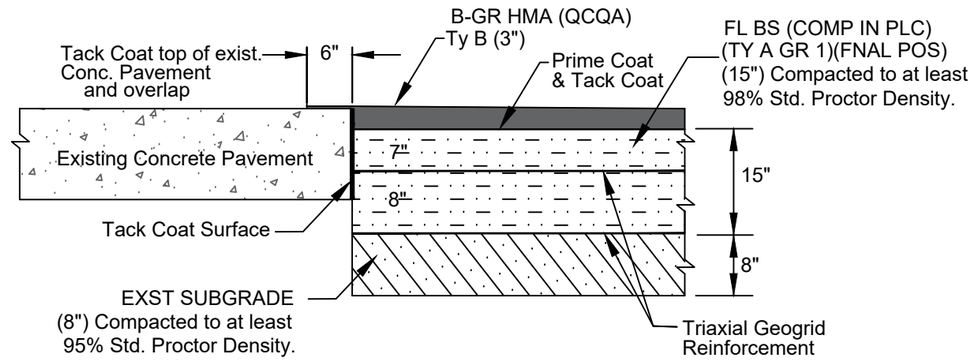


Note:

Remove all unstable material to neat lines. Replace with approved hot mix asphaltic concrete mechanically compacted to match existing asphalt pavement surface. Apply tack coat to surfaces of the repair area unless otherwise directed. Must meet the requirement of TXDOT Pothole Repair.

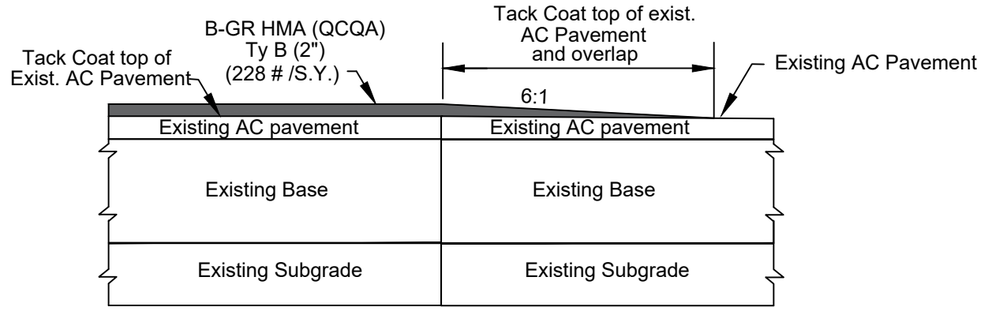
TYPICAL DETAIL (STRUCTURE REPAIR (SAW-CUT))

N.T.S.



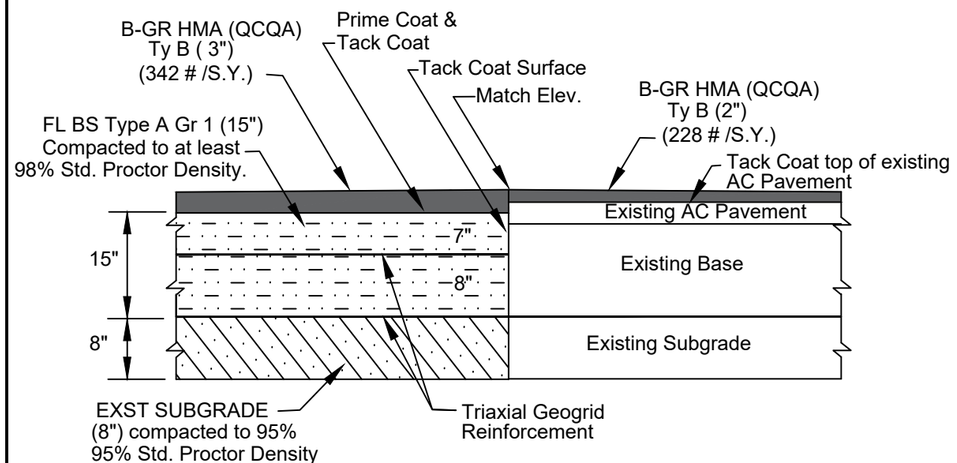
EXISTING CONCRETE PAVEMENT / PROPOSED HMA PAVEMENT RECONSTRUCTION INTERFACE DETAIL

N.T.S.



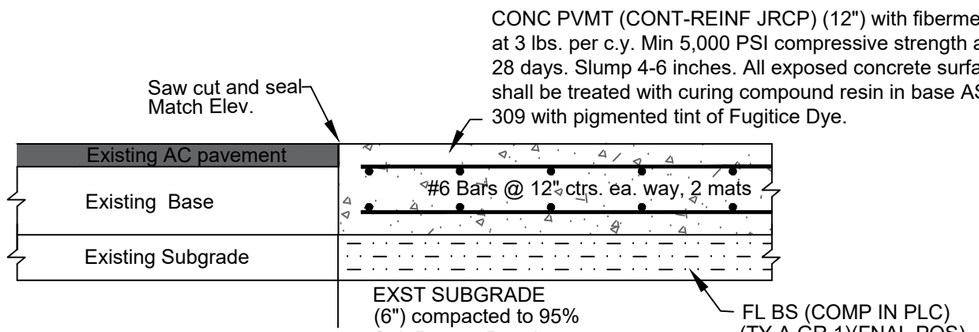
PROPOSED 2" HMA PAVEMENT OVERLAY / EXISTING AC PAVEMENT INTERFACE DETAIL

N.T.S.



PROPOSED HMA PAVEMENT RECONSTRUCTION / PROPOSED 2" HMA PAVEMENT OVERLAY INTERFACE DETAIL

N.T.S.



EXISTING AC PAVEMENT / PROPOSED CONCRETE PAVEMENT INTERFACE DETAIL

N.T.S.

GRAPHIC SCALE

30 0 30 60

IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
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EMAIL achavez@portofbrownsville.com

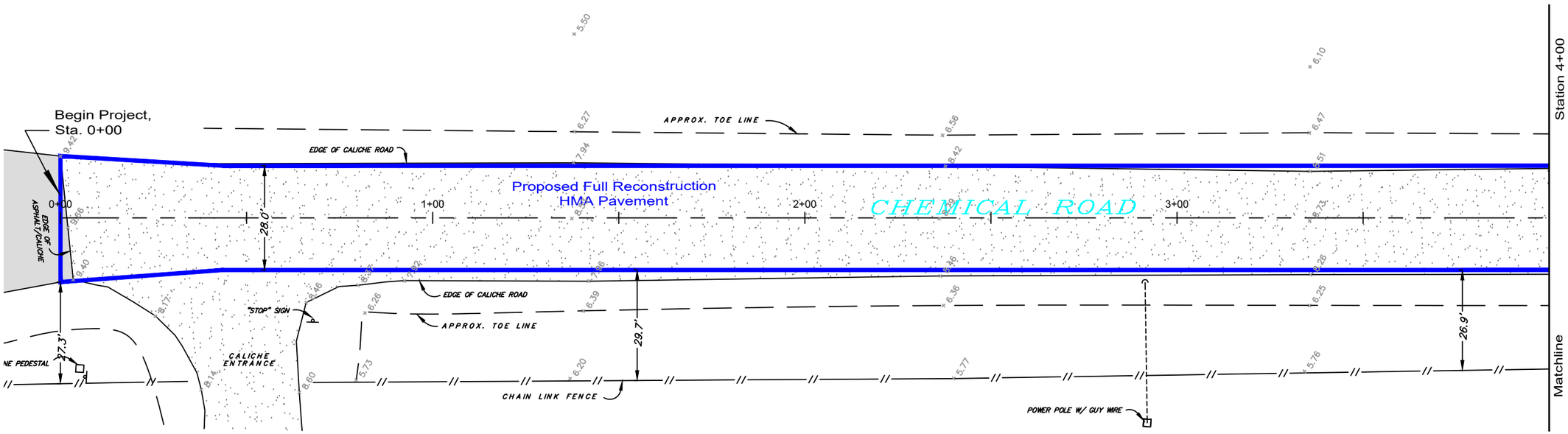
PORT OF BROWNSVILLE
the port that works

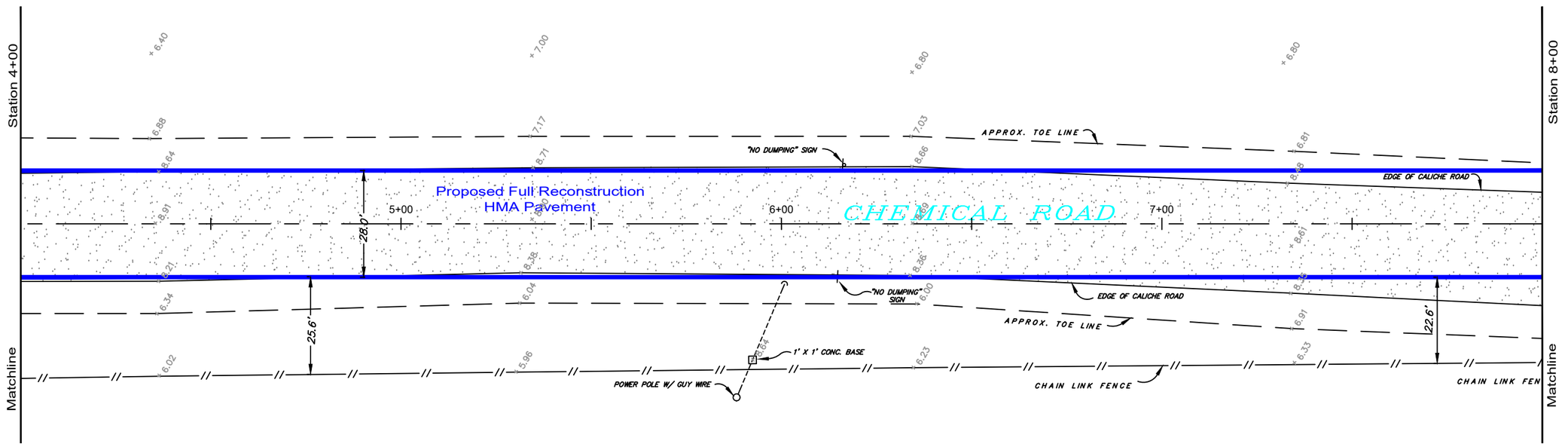
OIL DOCK ROAD CONNECTION
TYPICAL SECTION - INTERFACE DETAILS

2020 BND ROAD IMPROVEMENTS

APPROVED BY :
REVISION DATE :
DWG. NO.
DRAWN BY : P.E.
DATE DRAWN : 8/20/2019
CHECKED BY : A. CHAVEZ II
SCALE : AS SHOWN
FILE NAME : C:\MY DRAWINGS\Bmaps\2020\BNDROAD\IMPROVEMENTS OF DOCK CONNECTION.dwg

SHEET 13 OF 38





NOTES:

1. BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.
2. CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com

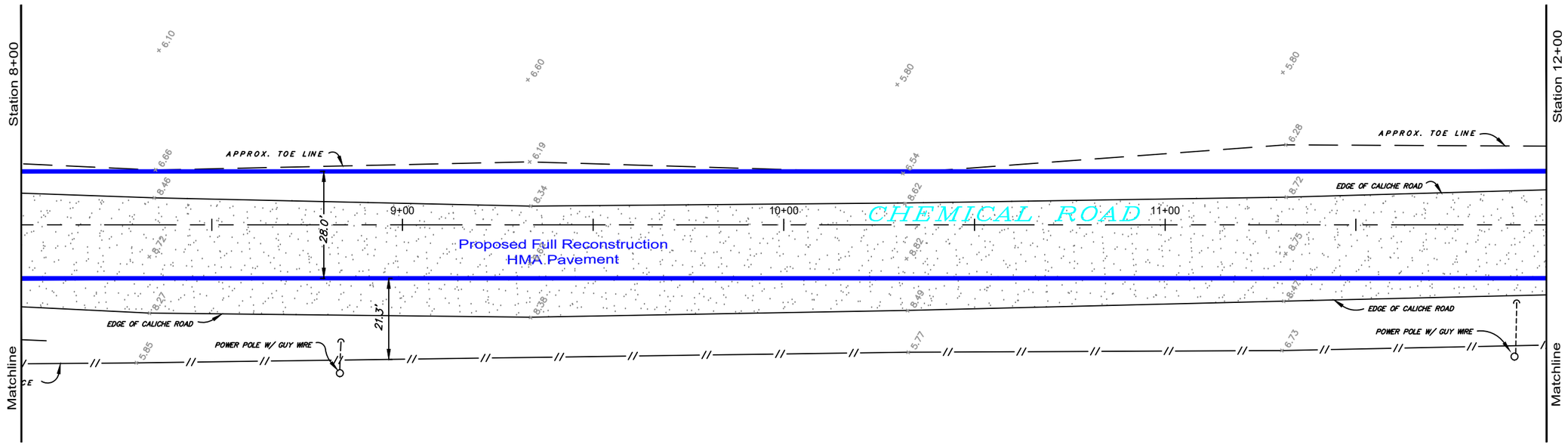
PORT OF BROWNSVILLE
the port that *works*

CHEMICAL ROAD
PLAN
STA. 0+00 - 8+00

2020 BND ROAD IMPROVEMENTS

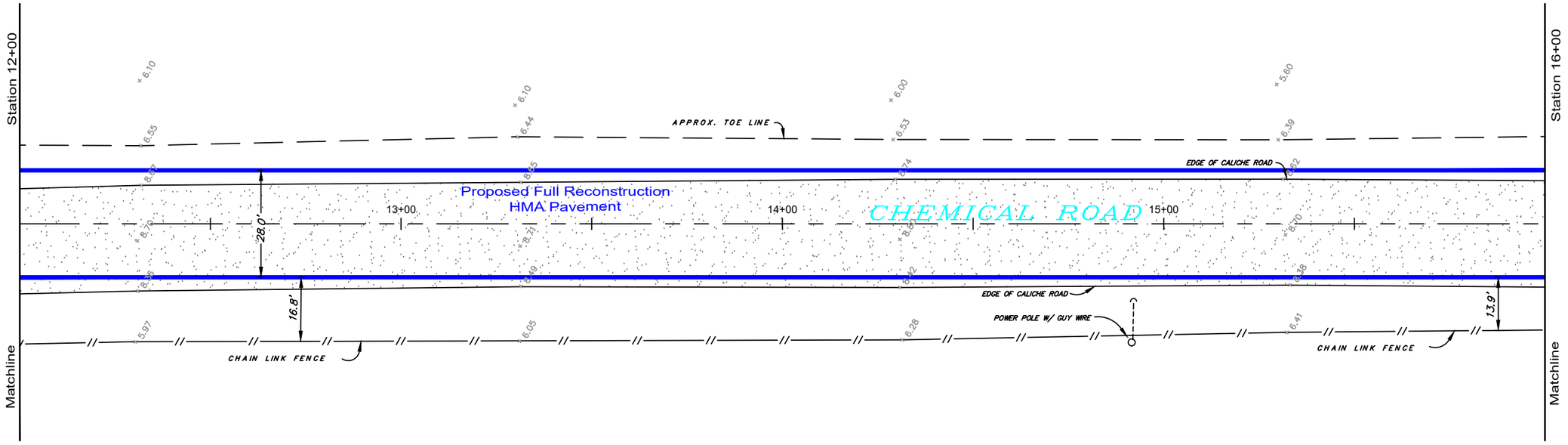
DRAWN BY: P.E.	APPROVED BY:		
DATE DRAWN: 8/20/2019	REVISION DATE:	DWG. NO.	FILE NAME: C:\MY DRAWINGS\56\eaab\2020BNDROADIMPROVEMENTS Copy of Sheet.dwg
CHECKED BY: A. CHAVEZ II			
SCALE: AS SHOWN			

SHEET
14
OF 38



NOTES:

1. BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.
2. CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.



GRAPHIC SCALE

30 0 30 60

IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
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PORT OF BROWNSVILLE
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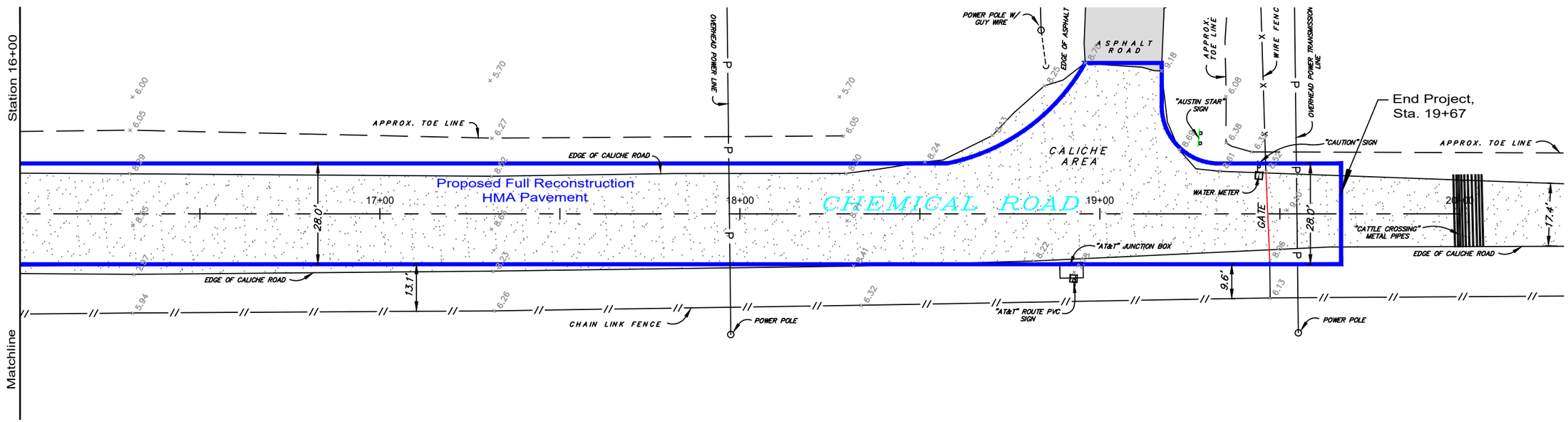
CHEMICAL ROAD
PLAN
STA. 8+00 - 16+00

2020 BND ROAD IMPROVEMENTS

DRAWN BY: P.E.	APPROVED BY:		
DATE DRAWN: 8/20/2019	REVISION DATE:	CHECKED BY: A. CHAVEZ II	DWG. NO.
SCALE: AS SHOWN	FILE NAME: C:\MY DRAWINGS\56eaab\2020BNDROADIMPROVEMENTS Copy of Sheet.dwg		

SHEET
15
OF 38



NOTES:

1. **BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.**
2. **CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.**

GRAPHIC SCALE

30 0 30 60

IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
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FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com

PORT OF BROWNSVILLE
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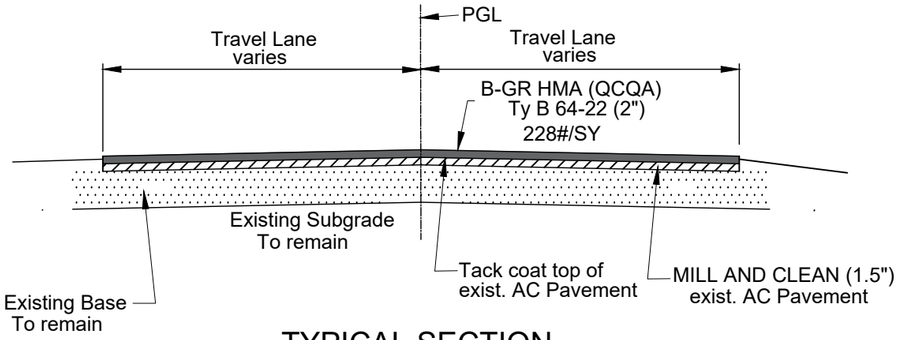
CHEMICAL ROAD
PLAN
STA. 16+00 - 19+67

2020 BND ROAD IMPROVEMENTS

DRAWN BY : P.E.
DATE DRAWN : 8/20/2019
CHECKED BY : A. CHAVEZ II
SCALE : AS SHOWN
APPROVED BY :
REVISION DATE :
DWG. NO.
FILE NAME : C:\MY DRAWINGS\56roads\2020BNDROADIMPROVEMENTS Chemical Road.dwg

SHEET 16 OF 38

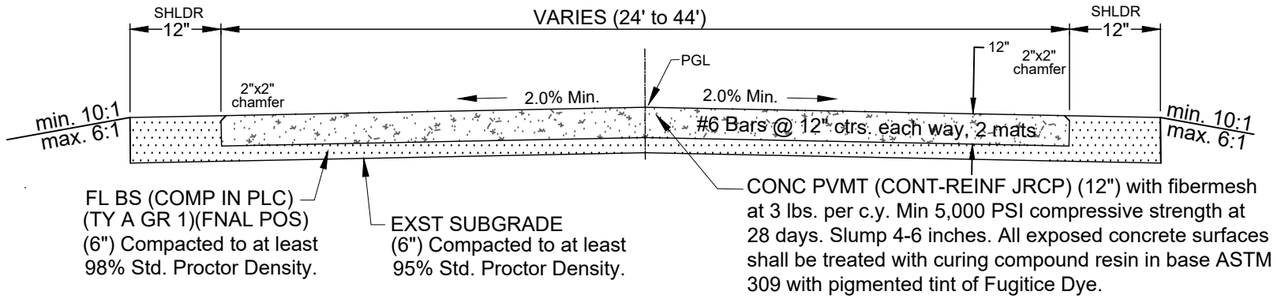


TYPICAL SECTION
PROPOSED 2" HMA PAVEMENT OVERLAY

N.T.S

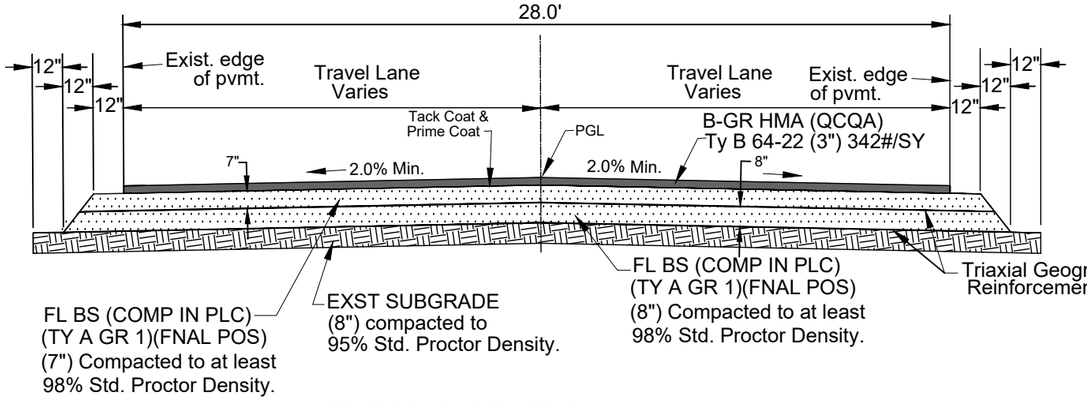
NOTES:

1. Stockpile all material generated from this project at the BND Shop Yard (5100 R.L. Ostos Road).
2. The subgrade shall be shaped and bladed a minimum distance of one foot beyond the edge of the proposed base course. The complete base shall be rolled before the earth shoulder is shaped and final compaction shall be done over base and edge of shoulder. All grading shall be within the limits shown.
3. 114#/SY of ACP is equivalent to 1" in depth of ACP
4. Where required by fixed features or unusual conditions, the governing slopes may be varied when directed by the Engineer.
5. Prime Coat: MC-30 at a rate of 0.20 Gal./S.Y. Tack Coat: RC-2 at a rate of 0.05 Gal./S.Y. Both items subsidiary to HMA.



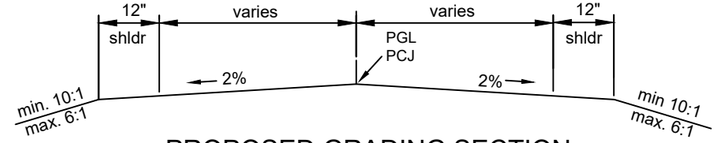
TYPICAL SECTION
PROPOSED CONCRETE PAVEMENT

N.T.S.



TYPICAL SECTION
PROPOSED HMA PAVEMENT RECONSTRUCTION

N.T.S.



PROPOSED GRADING SECTION

N.T.S.

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com

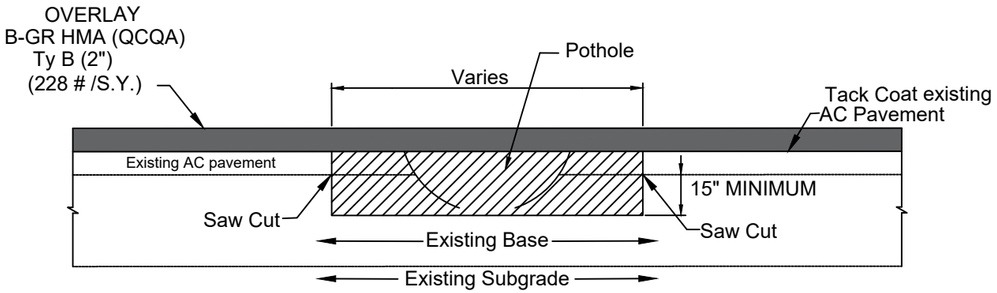
PORT OF BROWNSVILLE
the port that works

CHEMICAL ROAD
TYPICAL SECTION -
PAVEMENT DETAILS

2020 BND ROAD
IMPROVEMENTS

APPROVED BY:
REVISION DATE:
DWG. NO.
DRAWN BY: P.E.
DATE DRAWN: 8/20/2019
CHECKED BY: A. CHAVEZ II
SCALE: AS SHOWN
FILE NAME: C:\MY DRAWINGS\56roads\2020BNDROADIMPROVEMENTS Chemical Road.dwg

SHEET
17
OF 38

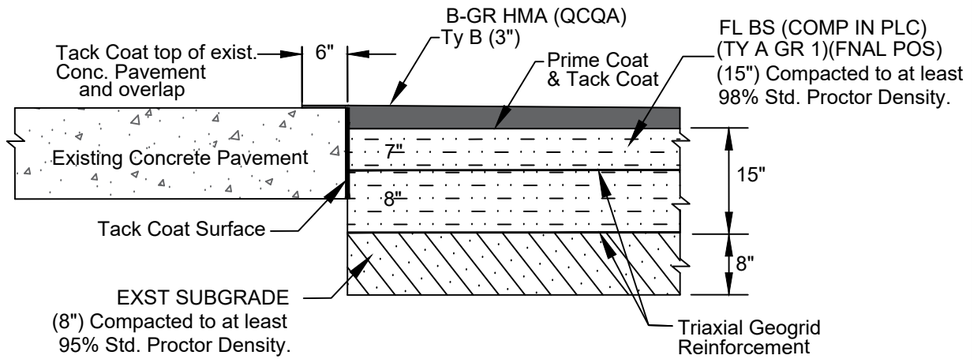


Note:

Remove all unstable material to neat lines. Replace with approved hot mix asphaltic concrete mechanically compacted to match existing asphalt pavement surface. Apply tack coat to surfaces of the repair area unless otherwise directed. Must meet the requirement of TXDOT Pothole Repair.

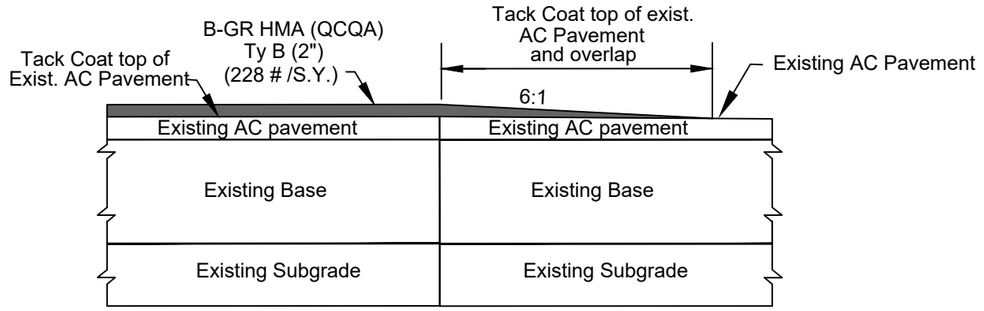
TYPICAL DETAIL
(STRUCTURE REPAIR (SAW-CUT))

N.T.S.



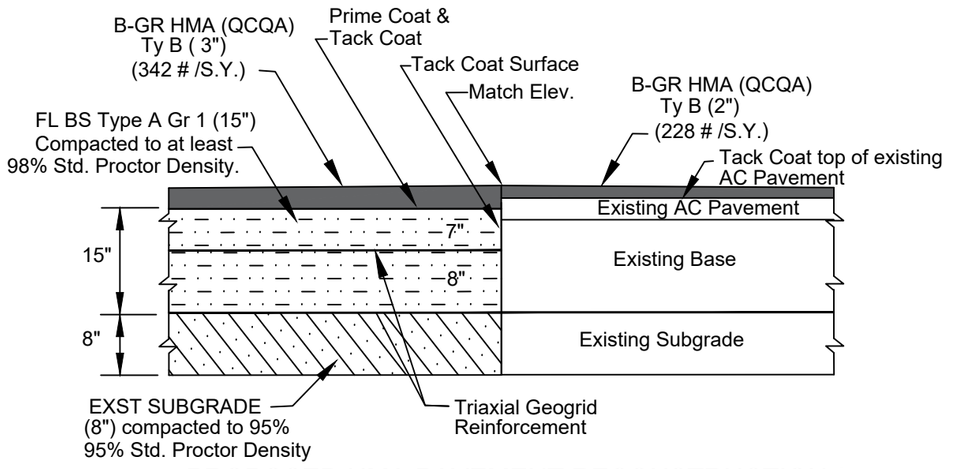
EXISTING CONCRETE PAVEMENT / PROPOSED HMA PAVEMENT RECONSTRUCTION INTERFACE DETAIL

N.T.S.



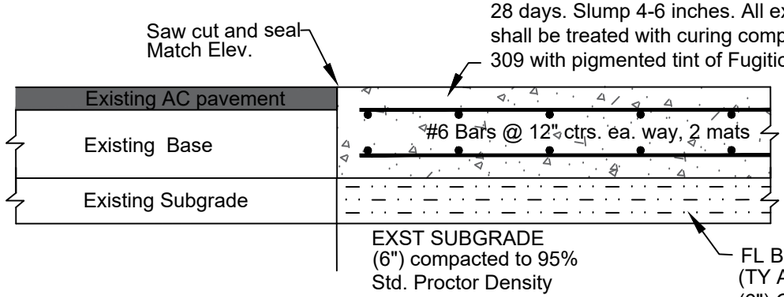
PROPOSED 2" HMA PAVEMENT OVERLAY / EXISTING AC PAVEMENT INTERFACE DETAIL

N.T.S.



PROPOSED HMA PAVEMENT RECONSTRUCTION / PROPOSED 2" HMA PAVEMENT OVERLAY INTERFACE DETAIL

N.T.S.



EXISTING AC PAVEMENT / PROPOSED CONCRETE PAVEMENT INTERFACE DETAIL

N.T.S.

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com

PORT OF BROWNSVILLE
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CHEMICAL ROAD
TYPICAL SECTION - INTERFACE DETAILS

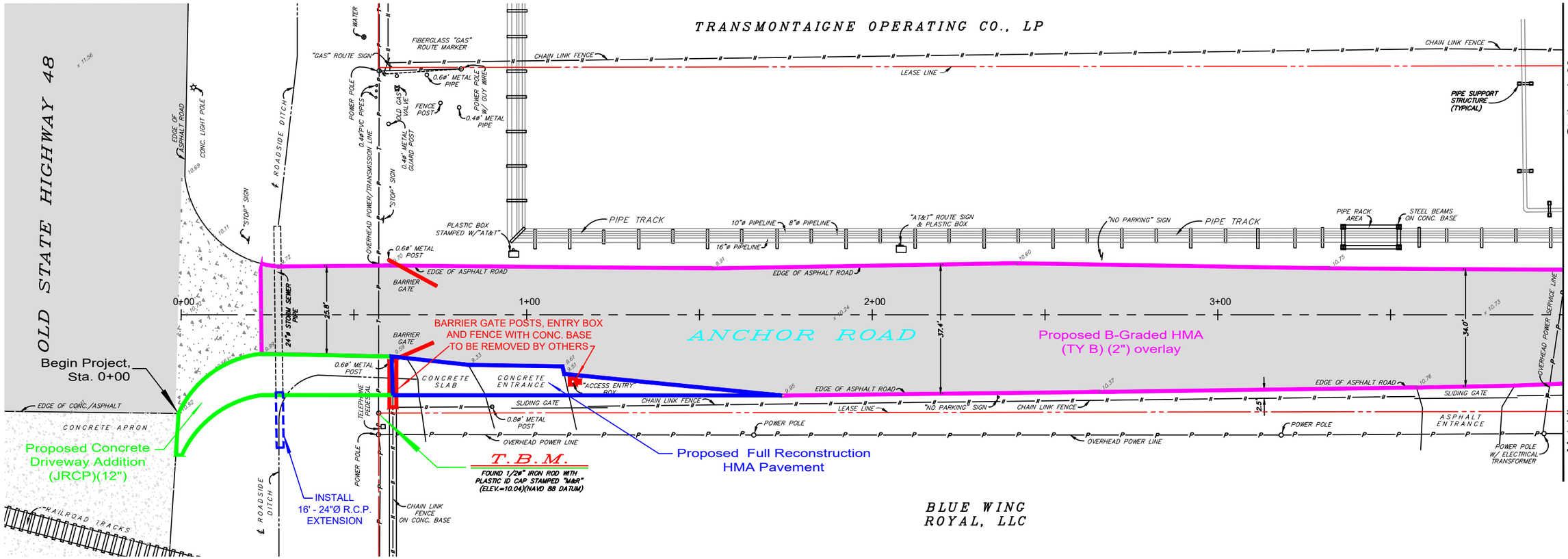
2020 BND ROAD IMPROVEMENTS

APPROVED BY:
REVISION DATE:
DWG. NO.
DRAWN BY: P.E.
DATE DRAWN: 8/20/2019
CHECKED BY: A. CHAVEZ II
SCALE: AS SHOWN
FILE NAME: C:\MY DRAWINGS\56roads\2020BNDROADIMPROVEMENTS Created 8/5/2019

SHEET
18
OF 38

NOTES:

1. THE EXISTING LEFT AND RIGHT EDGE OF PAVEMENT FROM STA. 0+23 TO 4+00 SHALL BE THE LIMITS OF THE PROPOSED B-GRADED 2" HMA (TY B) OVERLAY.
2. EXISTING HMA SURFACE SHALL BE REPAIRED (SAWCUT SPOT REPAIR), LEVELED (BY MILLING, LEVELING, OR BOTH), CLEANED AND THEN COATED WITH A BINDER. PAVEMENT SURFACE RECEIVING THE TACK COAT SHALL BE CLEAN AND DRY TO PROMOTE MAXIMUM BONDING. TACK COAT SHALL BE APPLIED UNIFORMLY ACROSS THE ENTIRE PAVEMENT SURFACE. APPLY TACK COAT TO SURFACE AREA UNLESS OTHERWISE DIRECTED.
3. SEE SHEET 23 OF 38 FOR STRUCTURE REPAIR DETAIL.
4. ADDITIONAL STRUCTURE REPAIR AREAS FOUND THAT ARE NOT SHOWN ON THE DRAWINGS ARE TO BE REPAIRED BY CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER OF THESE AREAS SO THAT PROPER EVALUATION AND MEASUREMENTS CAN BE MADE. OWNER SHALL ALSO BE MADE AWARE OF AREAS THAT DIFFER FROM WHAT IS SHOWN ON THE DRAWINGS.
5. BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.
6. CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.



GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com

PORT OF BROWNSVILLE
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ANCHOR ROAD
PLAN
STA. 00+00 - 4+00

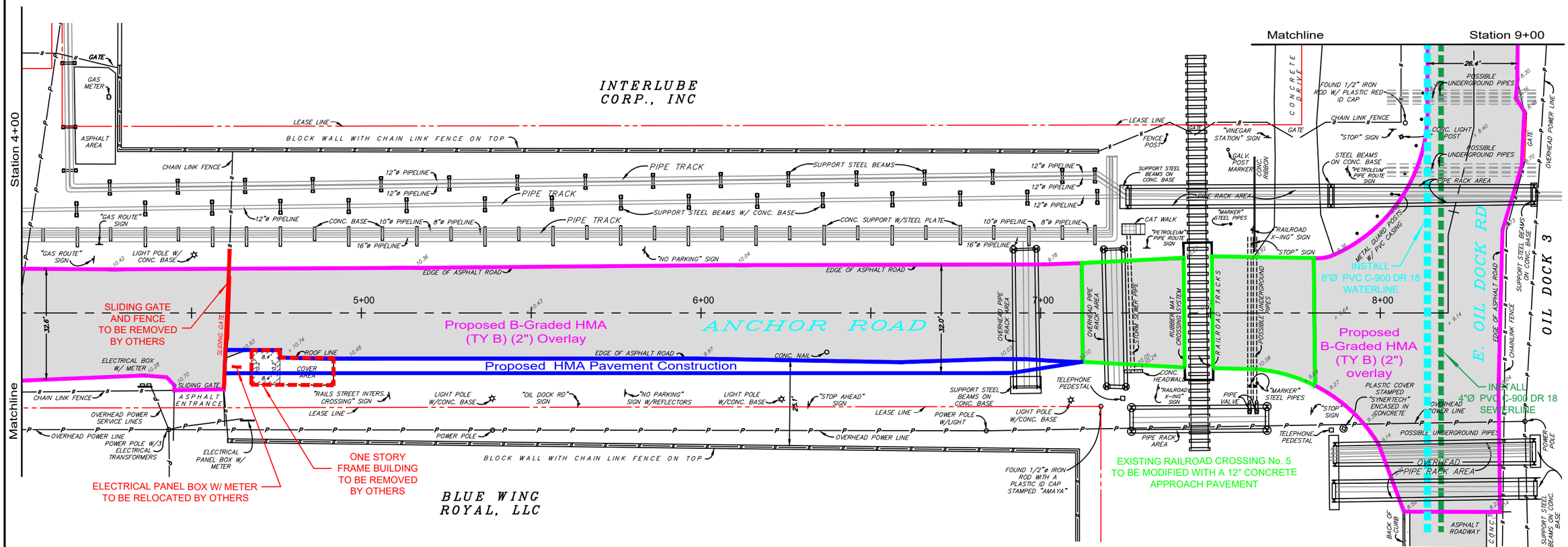
2020 BND ROAD IMPROVEMENTS

APPROVED BY:	
REVISION DATE:	
DWG. NO.	
DRAWN BY: P.E.	
DATE DRAWN: 8/20/2019	
CHECKED BY: A. CHAVEZ II	
SCALE: AS SHOWN	
FILE NAME: C:\Users\achavez\DWGS\56roads\2020BNDROADIMPROVEMENTS Anchor Road.dwg	

SHEET 19 OF 38

NOTES:

1. THE EXISTING LEFT AND RIGHT EDGE OF PAVEMENT FROM STA. 4+00 TO 7+12 AND FROM STA. 7+81 TO 9+00 SHALL BE THE LIMITS OF THE PROPOSED B-GRADED 2" HMA (TY B) OVERLAY.
2. EXISTING HMA SURFACE SHALL BE REPAIRED (SAWCUT SPOT REPAIR), LEVELED (BY MILLING, LEVELING, OR BOTH), CLEANED AND THEN COATED WITH A BINDER. PAVEMENT SURFACE RECEIVING THE TACK COAT SHALL BE CLEAN AND DRY TO PROMOTE MAXIMUM BONDING. TACK COAT SHALL BE APPLIED UNIFORMLY ACROSS THE ENTIRE PAVEMENT SURFACE. APPLY TACK COAT TO SURFACE AREA UNLESS OTHERWISE DIRECTED.
3. SEE SHEET 23 OF 38 FOR STRUCTURE REPAIR DETAIL.
4. ADDITIONAL STRUCTURE REPAIR AREAS FOUND THAT ARE NOT SHOWN ON THE DRAWINGS ARE TO BE REPAIRED BY CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER OF THESE AREAS SO THAT PROPER EVALUATION AND MEASUREMENTS CAN BE MADE. OWNER SHALL ALSO BE MADE AWARE OF AREAS THAT DIFFER FROM WHAT IS SHOWN ON THE DRAWINGS.
5. BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.
6. CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.



GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com

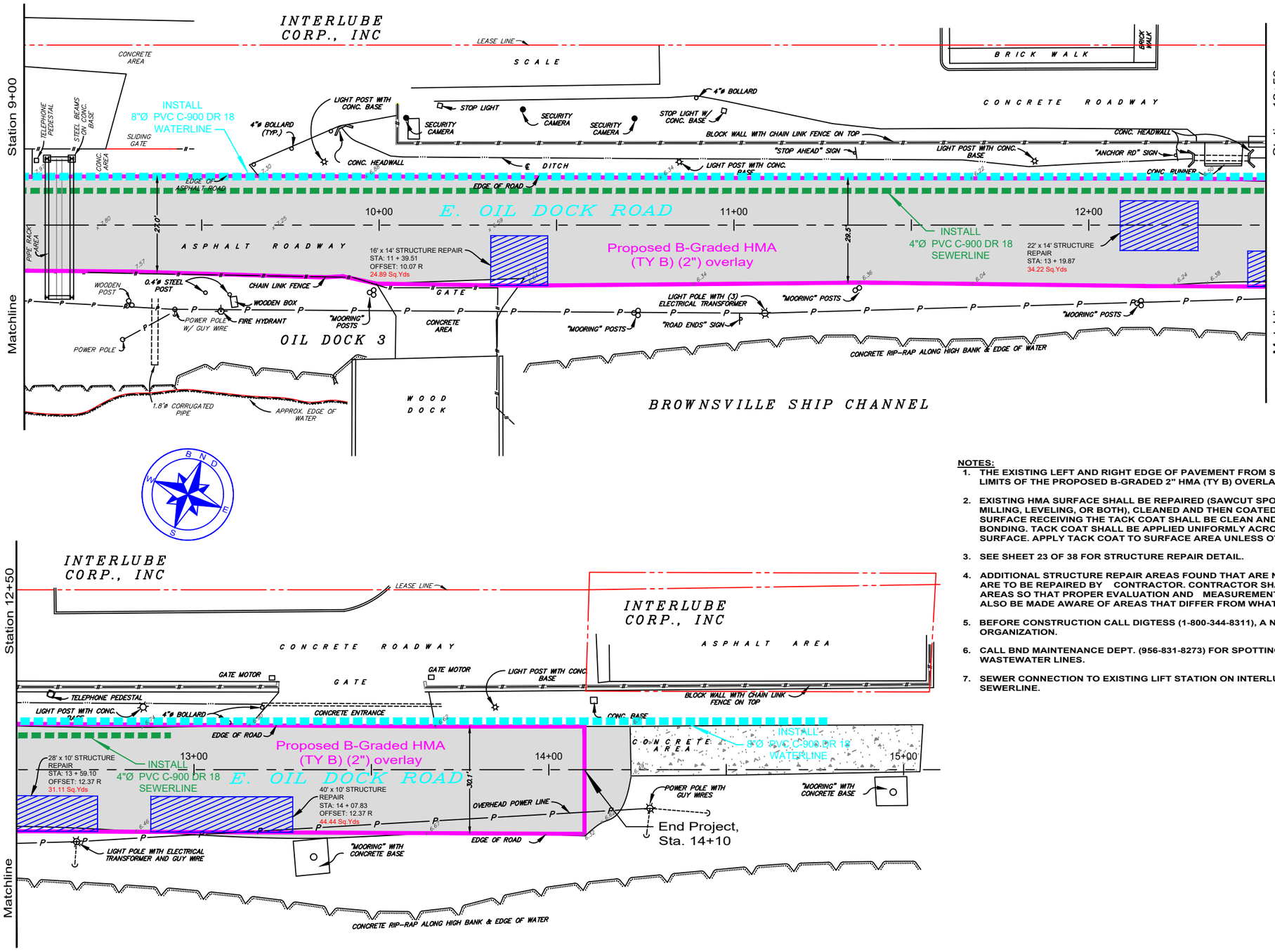
PORT OF BROWNSVILLE
the port that works

ANCHOR ROAD
PLAN
STA. 4+00 - 9+00

2020 BND ROAD IMPROVEMENTS

DRAWN BY :	P.E.
DATE DRAWN :	8/20/2019
CHECKED BY :	A. CHAVEZ II
SCALE :	AS SHOWN
APPROVED BY :	
REVISION DATE :	
DWG. NO.	
FILE NAME :	C:\Users\achavez\Desktop\DRAWINGS\Boards\2020BNDROADIMPROVEMENTS\Anchor Road.dwg

SHEET
20
OF 38



NOTES:

1. THE EXISTING LEFT AND RIGHT EDGE OF PAVEMENT FROM STA. 9+00 TO 14+10 SHALL BE THE LIMITS OF THE PROPOSED B-GRADED 2" HMA (TY B) OVERLAY.
2. EXISTING HMA SURFACE SHALL BE REPAIRED (SAWCUT SPOT REPAIR), LEVELED (BY MILLING, LEVELING, OR BOTH), CLEANED AND THEN COATED WITH A BINDER. PAVEMENT SURFACE RECEIVING THE TACK COAT SHALL BE CLEAN AND DRY TO PROMOTE MAXIMUM BONDING. TACK COAT SHALL BE APPLIED UNIFORMLY ACROSS THE ENTIRE PAVEMENT SURFACE. APPLY TACK COAT TO SURFACE AREA UNLESS OTHERWISE DIRECTED.
3. SEE SHEET 23 OF 38 FOR STRUCTURE REPAIR DETAIL.
4. ADDITIONAL STRUCTURE REPAIR AREAS FOUND THAT ARE NOT SHOWN ON THE DRAWINGS ARE TO BE REPAIRED BY CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER OF THESE AREAS SO THAT PROPER EVALUATION AND MEASUREMENTS CAN BE MADE. OWNER SHALL ALSO BE MADE AWARE OF AREAS THAT DIFFER FROM WHAT IS SHOWN ON THE DRAWINGS.
5. BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.
6. CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.
7. SEWER CONNECTION TO EXISTING LIFT STATION ON INTERLUBE SITE. SUBSIDIARY TO SEWERLINE.

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com

PORT OF BROWNSVILLE
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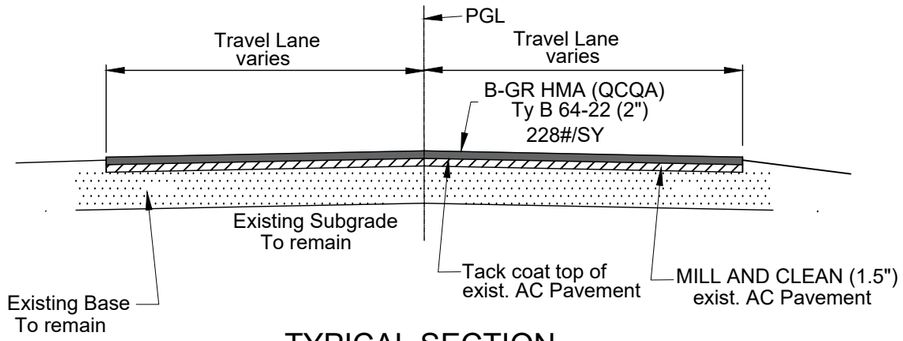
ANCHOR ROAD
PLAN
STA. 9+00 - End

2020 BND ROAD IMPROVEMENTS

DRAWN BY: P.E.	APPROVED BY:	DWG. NO.	FILE NAME: C:\DWG\DWGS\56\roads\2020BNDROADIMPROVEMENTS Anchor Road.dwg
DATE DRAWN: 8/20/2019	REVISION DATE:		
CHECKED BY: A. CHAVEZ II			SCALE: AS SHOWN

SHEET 21 OF 38

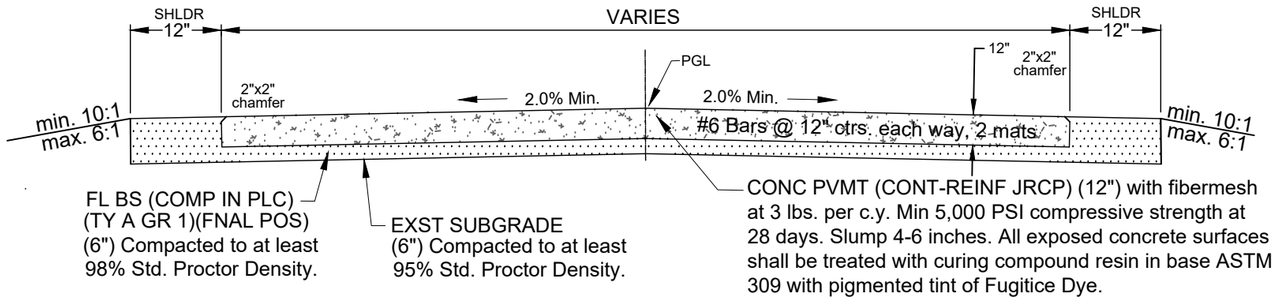


TYPICAL SECTION
PROPOSED 2" HMA PAVEMENT OVERLAY

N.T.S

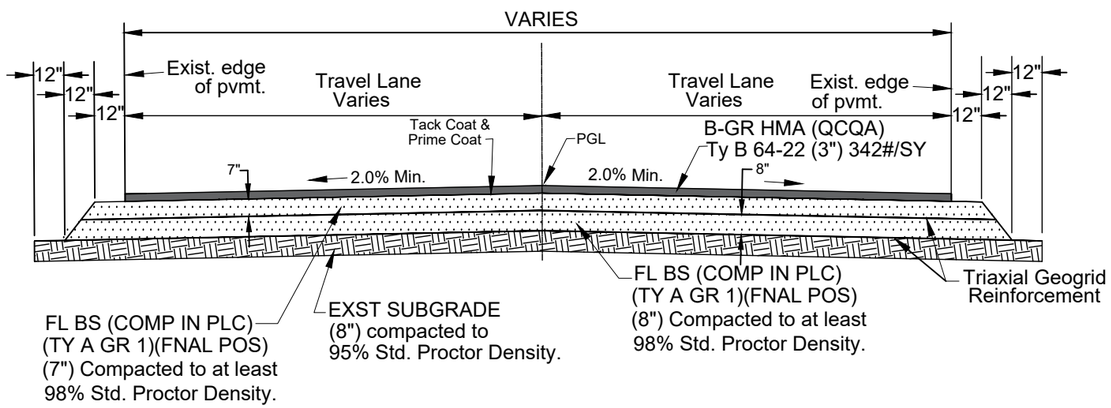
NOTES:

1. Stockpile all material generated from this project at the BND Shop Yard (5100 R.L. Ostos Road).
2. The subgrade shall be shaped and bladed a minimum distance of one foot beyond the edge of the proposed base course. The complete base shall be rolled before the earth shoulder is shaped and final compaction shall be done over base and edge of shoulder. All grading shall be within the limits shown.
3. 114#/SY of ACP is equivalent to 1" in depth of ACP
4. Where required by fixed features or unusual conditions, the governing slopes may be varied when directed by the Engineer.
5. Prime Coat: MC-30 at a rate of 0.20 Gal./S.Y.
   Tack Coat: RC-2 at a rate of 0.05 Gal./S.Y.
   Both items subsidiary to HMA.



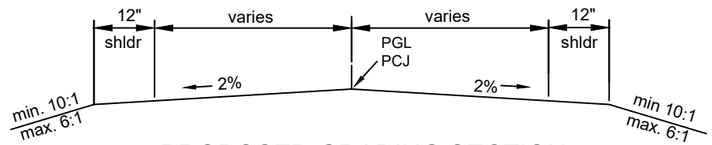
TYPICAL SECTION
PROPOSED CONCRETE PAVEMENT

N.T.S.



TYPICAL SECTION
PROPOSED HMA PAVEMENT RECONSTRUCTION

N.T.S.



PROPOSED GRADING SECTION

N.T.S.

GRAPHIC SCALE
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IN FEET

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ANCHOR ROAD
TYPICAL SECTIONS -
PAVEMENT DETAILS

2020 BND ROAD
IMPROVEMENTS

APPROVED BY :
P.E.
DRAWN BY :
DATE DRAWN : 8/20/2019
REVISION DATE :
CHECKED BY : A. CHAVEZ II
DWG. NO.
SCALE : AS SHOWN
FILE NAME : C:\Users\achavez\WDS\56\roads\2020BNDROADIMPROVEMENTS Anchor Road.dwg

SHEET
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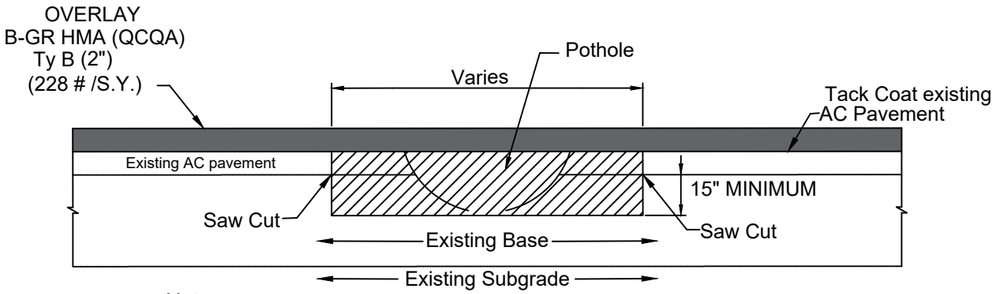
OF 38

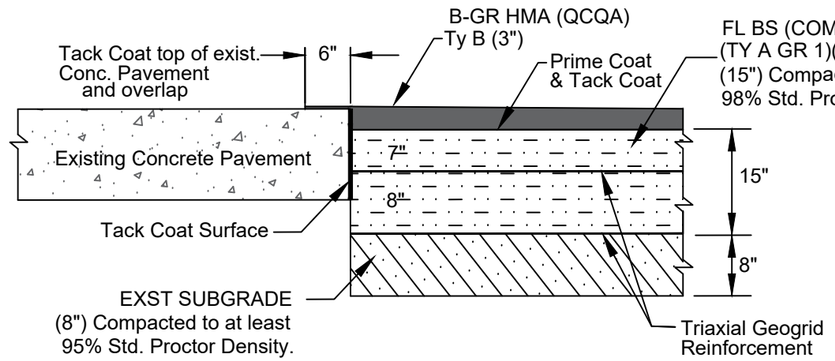


Note:

Remove all unstable material to neat lines. Replace with approved hot mix asphaltic concrete mechanically compacted to match existing asphalt pavement surface. Apply tack coat to surfaces of the repair area unless otherwise directed. Must meet the requirement of TXDOT Pothole Repair.

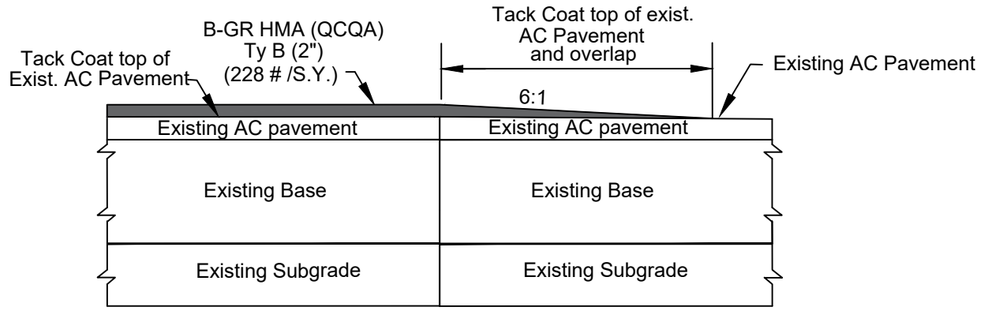
TYPICAL DETAIL
(STRUCTURE REPAIR (SAW-CUT))

N.T.S.



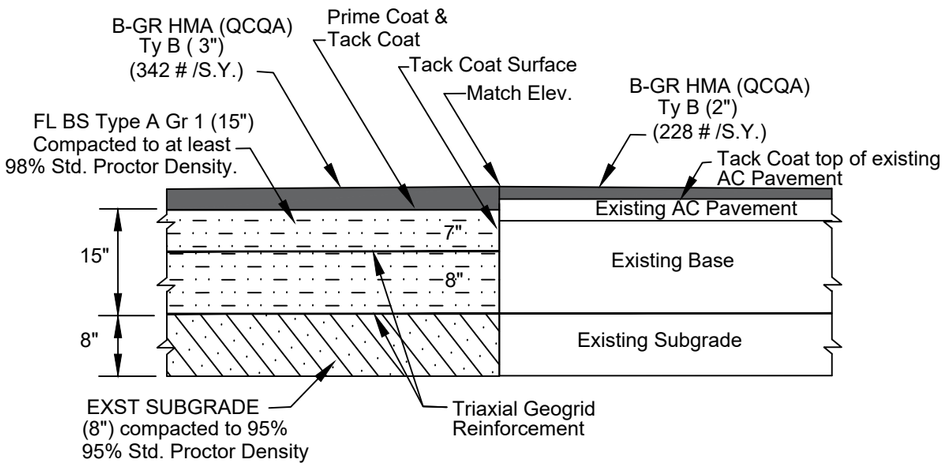
EXISTING CONCRETE PAVEMENT / PROPOSED HMA PAVEMENT RECONSTRUCTION INTERFACE DETAIL

N.T.S.



PROPOSED 2" HMA PAVEMENT OVERLAY / EXISTING AC PAVEMENT INTERFACE DETAIL

N.T.S.



PROPOSED HMA PAVEMENT RECONSTRUCTION / PROPOSED 2" HMA PAVEMENT OVERLAY INTERFACE DETAIL

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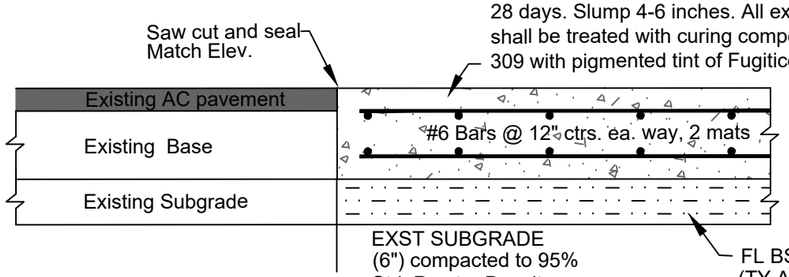

EXISTING AC PAVEMENT / PROPOSED CONCRETE PAVEMENT INTERFACE DETAIL

N.T.S.

GRAPHIC SCALE
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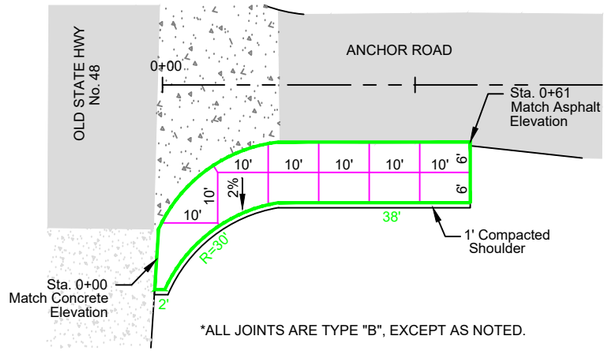
ANCHOR ROAD
TYPICAL SECTIONS - INTERFACE DETAILS

2020 BND ROAD IMPROVEMENTS

DRAWN BY : P.E.	APPROVED BY :
DATE DRAWN : 8/20/2019	REVISION DATE :
CHECKED BY : A. CHAVEZ II	DWG. NO.
SCALE : AS SHOWN	FILE NAME : C:\Users\VNGIS\Documents\2020BNDROADIMPROVEMENTS Victor Road.dwg

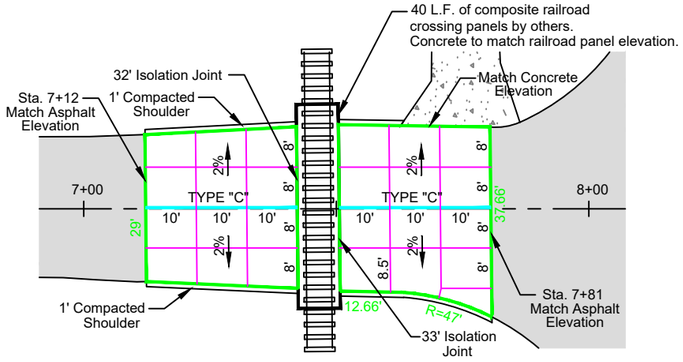
SHEET
23
OF 38



*ALL JOINTS ARE TYPE "B", EXCEPT AS NOTED.

DRIVEWAY CONCRETE PLAN

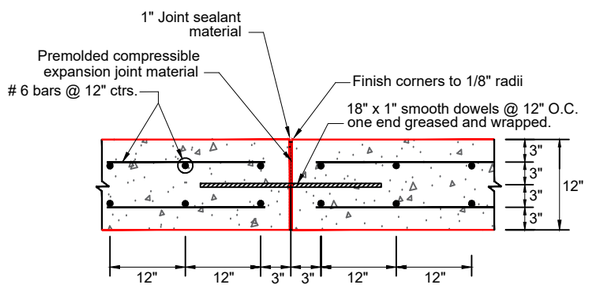
SCALE: 1" = 30'



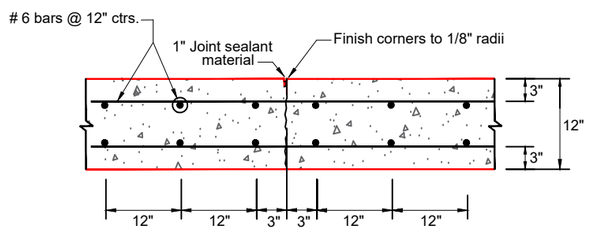
*ALL JOINTS ARE TYPE "B", EXCEPT AS NOTED.

RAILROAD CROSSING No. 5 CONCRETE PLAN

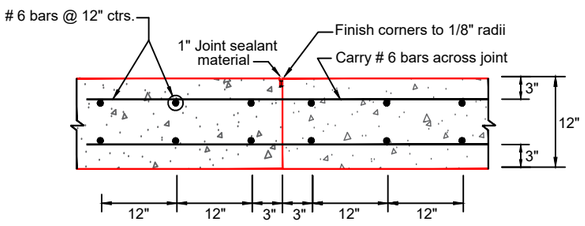
SCALE: 1" = 30'



EXPANSION - JOINT TYPE "A"
Not to Scale



DUMMY JOINT - JOINT TYPE "B"
Not to Scale



LONGITUDINAL TIED CONSTRUCTION JOINT - JOINT TYPE "C"
Not to scale

GRAPHIC SCALE
30 0 30 60
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ANCHOR ROAD CONCRETE DETAILS

2020 BND ROAD IMPROVEMENTS

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DATE DRAWN : 8/20/2019
CHECKED BY : A. CHAVEZ II
SCALE : AS SHOWN
APPROVED BY :
REVISION DATE :
DWG. NO.
FILE NAME : C:\ENGINEERING\Solidworks\2020\BNDROADIMPROVEMENTS\Anchor Road.dwg

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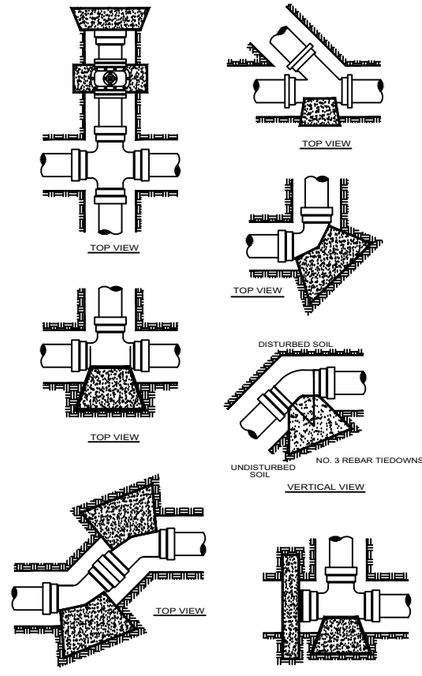


THRUST BLOCK DETAILS

NOT TO SCALE

ALL MJ FITTINGS WILL REQUIRE RESTRAINERS (MEGA LUGS) WITH THRUST BLOCKS

NOTES ON THRUST BLOCKING

1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED HAND DUG SOIL AND SHALL BE CONCRETE HAVING A MINIMUM 28 DAY STRENGTH OF 2000 LBS. PER SQUARE INCH

2. THRUST CALCULATIONS TO BE BASED ON THRUST DUE TO WATER PRESSURE AT 100% OF TEST PRESSURE. THRUST = 2 AP SIN 1/2 ØWHERE A = AREA OF PIPE, P = WATER PRESSURE, Ø = DEFLECTION ANGLE.

3. VERTICAL UPLIFT BLOCKS SHALL BE DESIGNED ON THE BASIS OF 150 LBS. PER CU. FT. FOR CONCRETE AND SOIL AT 120 LBS. PER CU. FT. OVER THE AREAOF BLOCK.

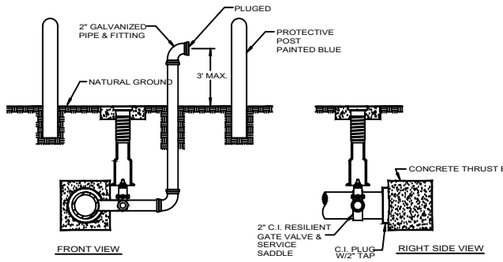
4. VERTICAL DOWN THRUST BLOCKS SHALL BE DESIGNED ON THE BASIS OF 2000 LBS. PER SQ. FT. ALLOWABLE SOIL BEARING PRESSURE. DIMENSION MAY BE DECREASED WITH APPROVAL OF THE ENGINEER IF MEASURED SOIL CONDITIONS PERMIT. IN POOR SOIL CONDITIONS, BLOCK DIMEMSIONS SHALL BE INCREASED IN PROPORTION TO ALLOWABLE BEARING VALUE.

5. THRUST BLOCKS ON HORIZONTAL BENDS, TEES, CROSSES, AND REDUCERS SHALL BE SIZED BASED ON 24000 LBS. PER SQ. FT. OF BLOCKING SURFACE AREA IN CONTACT WITH UNDISTURBED SOIL, BLOCK DIMENSIONS MAY BE DECREASED WITH APPROVAL OF THE ENGINEER IF MEASURED SOIL CONDITIONS PERMIT. IN POOR SOIL CONDITIONS, BLOCK DIMENSIONS SHALL BE INCREASED IN PROPOERTION TO THE ALLOWABLE BEARING VALUE.

6. ALL BLOCKING SHALL HAVE A MINUMUM SOIL COVER OF 1 FT.

7. ADDITIONAL REINFORCING MAY BE REQUIRED FOR HORIZONTAL BLOCKING TO HANDLE UNUSUAL SHEAR LOADING CONDITIONS.

GENERAL DATA FOR BLOCKING STANDARD FITTING						
PIPE SIZE	THRUST IN TONS EXERTED AT PLUGS, TEES AND BENDS FOR EACH 100 LBS. PER SQ. IN. OF TEST PRESSURE					
	PLUG	TEE	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
4"	0.63	0.63	0.89	0.48	0.25	0.12
6"	1.40	1.40	2.00	1.08	0.55	0.28
8"	2.50	2.50	3.55	1.92	0.98	0.49
10"	3.93	3.93	5.55	3.00	1.53	0.77
12"	5.65	5.65	8.00	4.33	2.21	1.11
14"	7.70	7.70	10.88	5.89	3.00	1.51
16"	10.05	10.05	14.21	7.69	3.85	1.97
18"	12.70	12.70	17.99	9.74	4.96	2.49
20"	15.71	15.71	22.22	12.02	6.13	3.08
24"	22.67	22.67	32.00	17.31	8.83	4.43
27"	28.63	28.63	40.48	21.91	11.17	5.61
30"	35.35	35.35	50.00	27.08	13.79	6.93
36"	50.90	50.90	72.98	38.95	19.89	9.98
42"	69.27	69.27	97.97	53.02	27.03	13.58
48"	90.48	90.48	127.96	69.25	35.30	17.74
54"	114.51	114.51	161.94	87.64	44.68	22.45



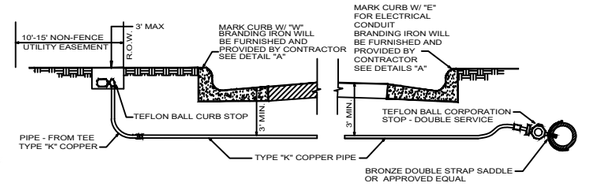
TEMP: DEAD END BLOWOFF

NOT TO SCALE

NOTE

1. A BLOWOFF TAP, AS SHOWN ON THE DETAIL HEREON SHALL BE PROVIDED AT ALL DEAD ENDS FOR RELEASING TRAPPED AIR TO AID IN FLUSHING, AND FOR SAMPLING FOR TESTING.

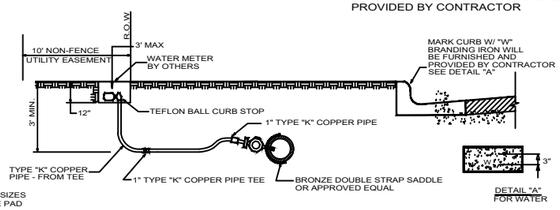
2. CONCRETE THRUST BLOCKS SHALL BE REQUIRED AT PLUGS, AS WELL AS AT ALL OTHER LOCATIONS AS NOTED HEREON.



TYPICAL LONG SERVICE

NOT TO SCALE

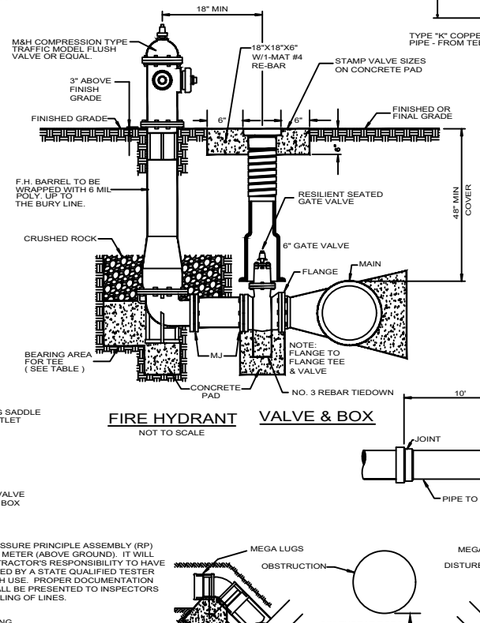
NOTE:
1. USE 3/4" TYPE "K" COPPER PIPE FOR SINGLE SERVICE CONNECTION
2. 36" MIN. COVER FOR 3/4" THRU 2" SERVICES
3. MARK CURB W/"V" AT WATER VALVE LOCATIONS, BRANDING IRON WILL BE FURNISHED AND PROVIDED BY CONTRACTOR



TYPICAL SHORT SERVICE

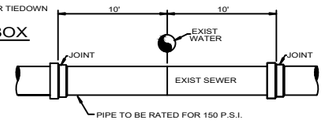
NOT TO SCALE

NOTE:
1. USE 3/4" TYPE "K" COPPER PIPE FOR SINGLE SERVICE CONNECTION

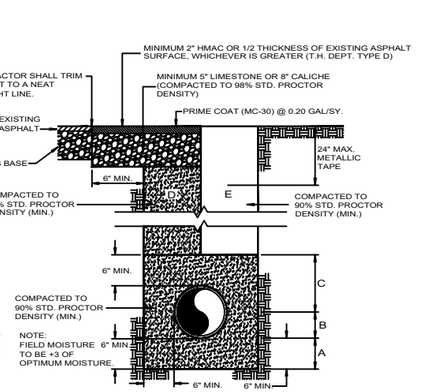


FIRE HYDRANT

NOT TO SCALE



VALVE & BOX



TYPICAL PIPE BEDDING AND TRENCH BACKFILL DETAIL

NOT TO SCALE

A SAND BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE (MIN. THICKNESS = 6").

B SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE (4" LIFTS, HAND TAMPED).

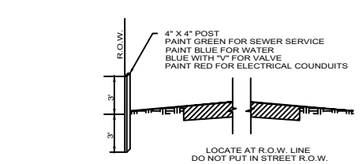
C SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 6" ABOVE TOP OF PIPE (6" LIFTS, HAND TAMPED).

D SAND BACKFILL, CLASS "A" (6" LIFTS, MECHANICAL COMPACTION).

E EARTH BACKFILL, CLASS "B" (12" LIFTS, MECHANICAL COMPACTION).

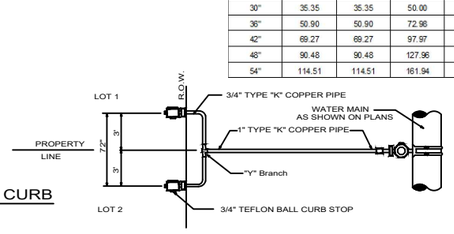
FOUNDATION PREPARATION (WELLPOINTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE.

BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO 95% STD. PROCTOR DENSITY. THE THICKNESS OF EACH LOOSE LAYER SHALL NOT EXCEED 6". STRUCTURE BACKFILL MATERIAL SHALL BE SAND, APPROVED SITE SOIL, OR OTHER APPROVED SUBSTITUTE.



SERVICE MARKING FOR NO CURB

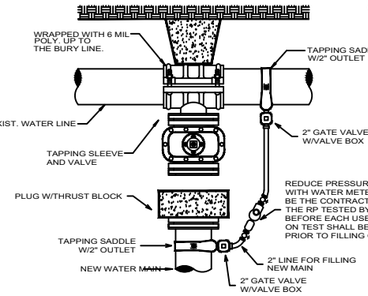
NOT TO SCALE



TYPICAL DOUBLE SERVICE CONNECTION

NOT TO SCALE

NOTE:
1. USE 3/4" TYPE "K" COPPER PIPE FOR SINGLE SERVICE CONNECTION.
2. USE SERVICE CLAMP OR FACTORY THREADED COUPLING FOR 1" SERVICE CONNECTIONS.
3. SERVICES SHALL BE INSTALLED ACCORDING TO STANDARD PIPE BEDDING DETAIL.



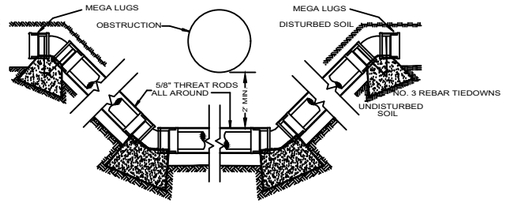
METHOD FOR FILLING AND FLUSHING NEW WATER LINES

NOT TO SCALE

NOTE:

WATER USAGE FOR ALL INITIAL TESTING WILL NOT BE BILLED TO THE CONTRACTOR. ANY RE-TESTING NEEDED WILL BE THE RESPONSIBILITY OF THE CONTRACTOR INCLUDING PAYMENT OF ADDITIONAL WATER NEEDED. CONTRACTOR WILL BE ALLOWED TO FLUSH THE WATERLINE INITIALLY FOR A MAXIMUM OF 12-24 HRS. OR AS DETERMINED BY THE ENGINEER. IF FLUSHING IS DETERMINED TO BE LONGER, THE ENGINEER WILL BE REQUIRED TO SUPPLY THE PROPER DOCUMENTATION AND CALCULATIONS TO SUPPORT SUCH FINDINGS.

AMOUNT OF FLOW TO BE USED FOR FLUSHING WILL BE MONITORED AND REGULATED BY THE BPUB INSPECTORS. CONTRACTOR WILL NOT BE ALLOWED TO TIE-IN TO EXISTING WATER LINE UNTIL ALL TEST ON NEW LINES HAVE BEEN COMPLETED AND APPROVED.

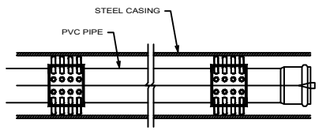


ADJUSTMENTS

NOT TO SCALE

SPECIAL CONDITION LINE ADJUSTMENTS
5/8" GALV. ALL THREAT RODS WITH EYELET BOLTS FOR ASSEMBLY WITH THRUST BLOCKS

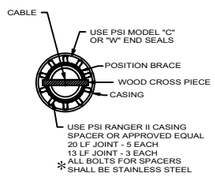
STEEL CASING WALL THICKNESS CHART	
MINIMUM THICKNESS	DIAMETER OF CASING PIPE
1/4"	12" OR LESS
5/16"	OVER 12"-18"
3/8"	OVER 18"-22"
7/16"	OVER 22"-28"
1/2"	OVER 28"-34"
9/16"	OVER 34"-42"
5/8"	OVER 42"-48"
OVER 48" MUST BE APPROVED BY B.P.U.B. NOTE: THIS CHART IS ONLY FOR SMOOTH STEEL CASING PIPES WITH MINIMUM YIELD STRENGTH OF 35,000 PSI	



PVC PIPE CASING & SKIDS

NOT TO SCALE

NOMINAL PIPE SIZE	CASING SIZE	NO. OF SKIDS
6"	12"	4
8"	16"	4
12"	20"	4
16"	24"	5



PORT OF BROWNSVILLE
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ANCHOR ROAD WATERLINE INSTALLATION DETAILS

2020 BND ROAD IMPROVEMENTS

DRAWN BY: P.E.
APPROVED BY:
DATE DRAWN: 8/20/2019
REVISION DATE:
CHECKED BY: A. CHAVEZ II
DWG. NO.
SCALE: AS SHOWN
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BROWNSVILLE NAVIGATION DISTRICT
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BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
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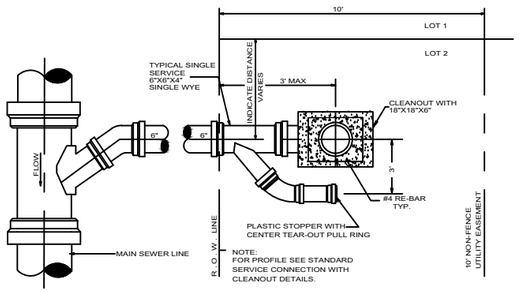
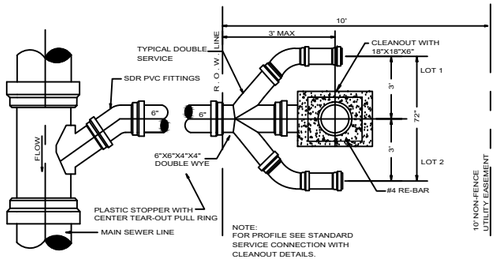


PLAN - SINGLE SERVICE

NOT TO SCALE

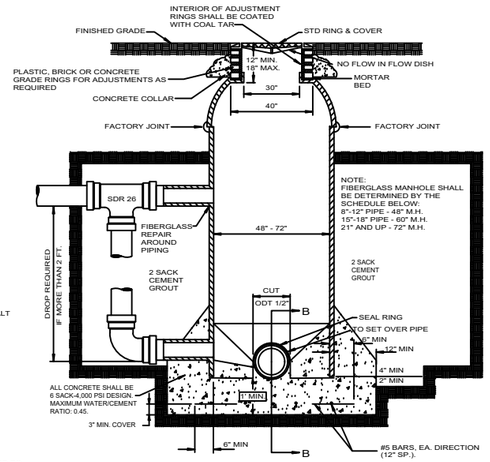
*NOTE: CONTRACTOR SHALL COORDINATE WITH INSPECTOR ON THE LOCATION OF ALL SERVICE LATERALS.

DETECTION NOTE:
A SOUND DETECTION REFLECTOR "STU-DEC-TA-CAL" BY FRIFFOLYN, INC. OR AN APPROVED SUBSTITUTE , WILL BE FASTENED TO THE END OF EACH SERVICE CONNECTION AND EXTENDED TO BE VISIBLE ABOVE FINAL GRADE TO FACILITATE LOCATING SERVICE STUBS.



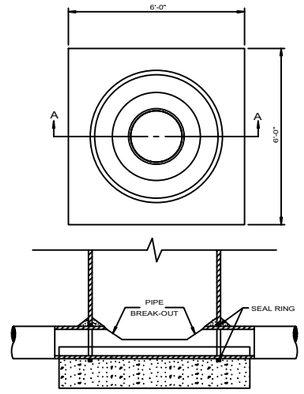
PLAN - DOUBLE SERVICE NEW DEVELOPMENT

NOT TO SCALE



TYPICAL FIBERGLASS MANHOLE WITH DROP STRUCTURE SECTION A-A

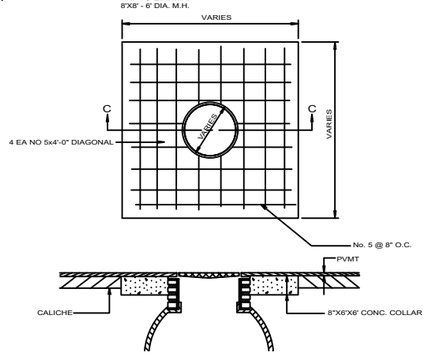
NOT TO SCALE



SECTION B-B

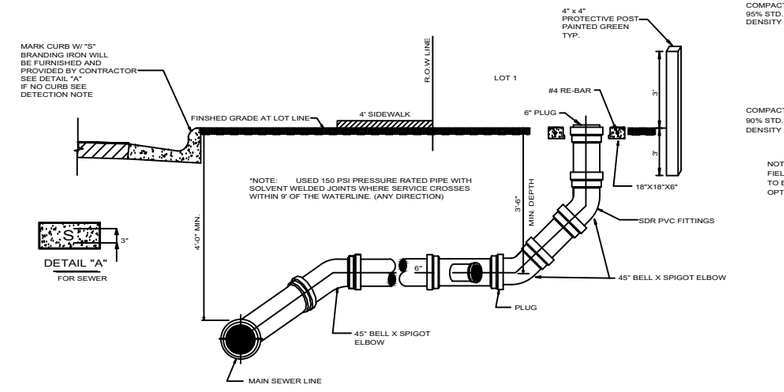
NOT TO SCALE

NOTES:
6'X6' - 4' DIA. M.H.
7'X7' - 5' DIA. M.H.
8'X8' - 6' DIA. M.H.



TYPICAL FIBERGLASS MANHOLE IN PAVEMENT SECTION C-C

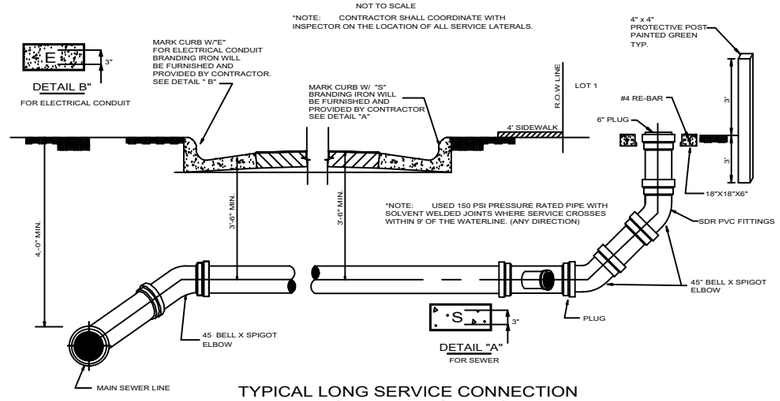
NOT TO SCALE



TYPICAL SHORT SERVICE CONNECTION WITH STANDARD CLEANOUT

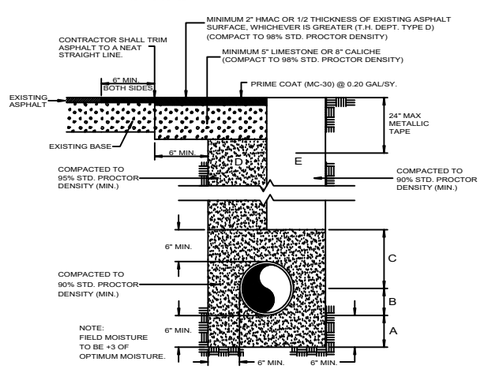
NOT TO SCALE

*NOTE: CONTRACTOR SHALL COORDINATE WITH INSPECTOR ON THE LOCATION OF ALL SERVICE LATERALS.



TYPICAL LONG SERVICE CONNECTION WITH STANDARD CLEANOUT

NOT TO SCALE



TYPICAL PIPE BEDDING AND TRENCH BACKFILL DETAIL

NOT TO SCALE

A SAND BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE (MIN. THICKNESS = 6").

B SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE (4" LIFTS, HAND TAMPED).

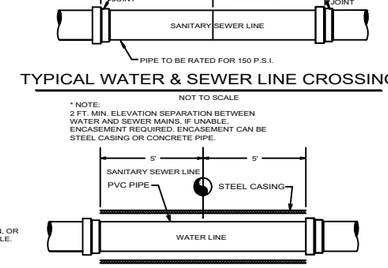
C SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 6" ABOVE TOP OF PIPE (6" LIFTS, HAND TAMPED).

D SAND BACKFILL, CLASS "A" (6" LIFTS, MECHANICAL COMPACTION).

E EARTH BACKFILL, CLASS "B" (12" LIFTS, MECHANICAL COMPACTION).

FOUNDATION PREPERATION (WELLPOINTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS STABLE.

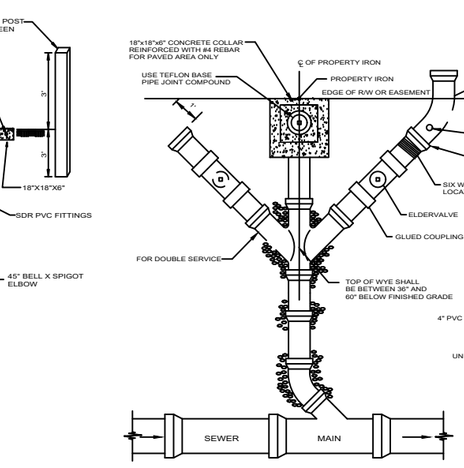
BACKFILL AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENT, AND COMPACTED TO 95% STD. PROCTOR DENSITY. THE THICKNESS OF EACH LOOSE LAYER SHALL NOT EXCEED 6". STRUCTURE BACKFILL MATERIAL SHALL BE SAND, APPROVED SITE SOIL, OR OTHER APPROVED.



TYPICAL WATER & SEWER LINE CROSSING

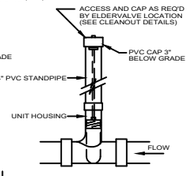
NOT TO SCALE

* NOTE:
2 FT. MIN. ELEVATION SEPARATION BETWEEN WATER AND SEWER MAINS. IF UNABLE, ENCASEMENT REQUIRED. ENCASEMENT CAN BE STEEL CASING OR CONCRETE PIPE.

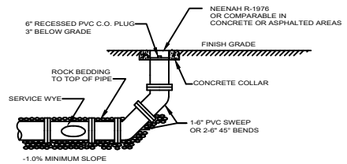


SEWER SERVICE WITH ELDERVALVE

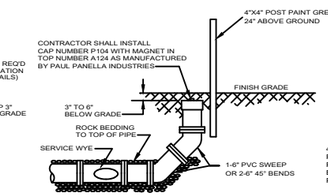
(USE ONLY FOR SEWER SERVICE THAT CPW DOES NOT PROVIDE THE WATER SERVICE)



ELDERVALVE



CLEANOUT IN PAVEMENT



CLEANOUT IN LANDSCAPED AREA

SERVICE MARKING FOR EXISTING CURB OR NO CURB

NOT TO SCALE

NOTE:
THE ENGINEER/CONTRACTOR SHALL PROVIDE BPUB WITH "CUT-SHEETS" PRIOR TO APPROVAL FOR BEGINNING CONSTRUCTION PROJECTS. THE "CUT-SHEETS" WILL BE USED TO VERIFY PIPE ELEVATIONS.

PORT OF BROWNSVILLE
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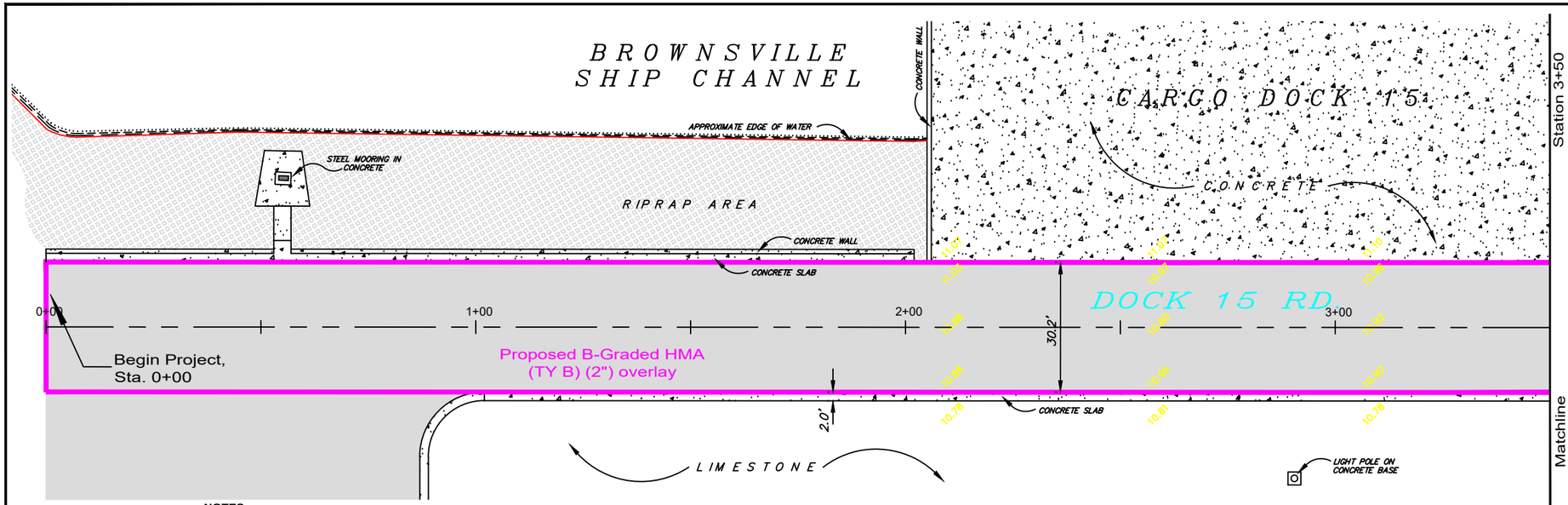
ANCHOR ROAD SEWERLINE INSTALLATION DETAILS

2020 BND ROAD IMPROVEMENTS

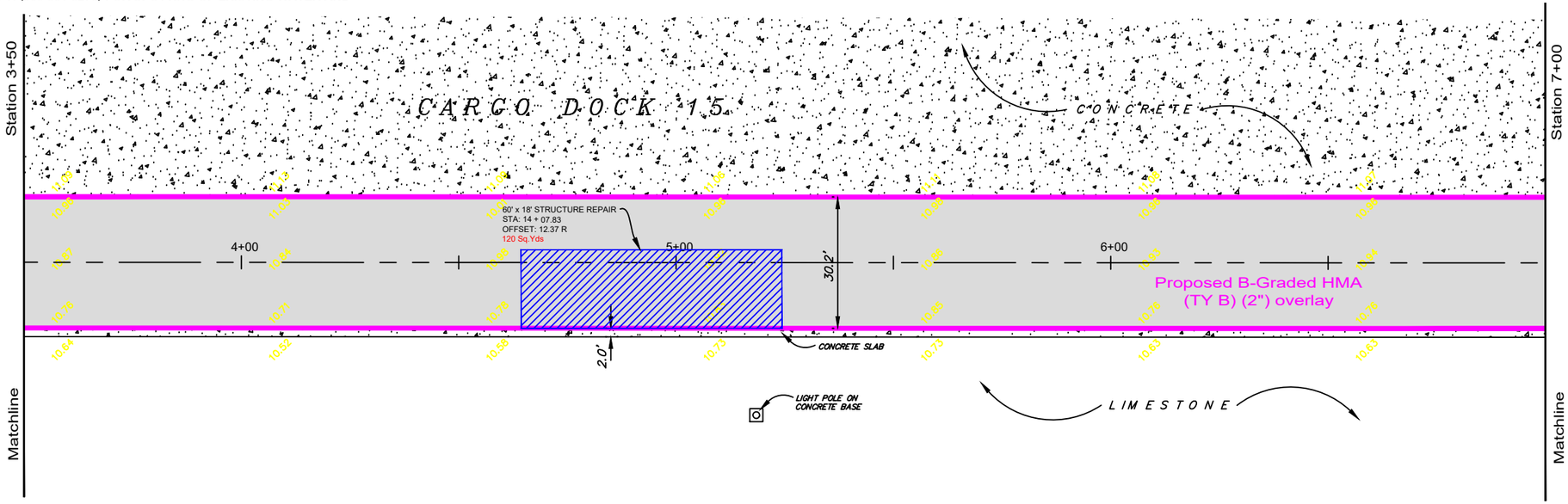
DRAWN BY : P.E.
APPROVED BY :
DATE DRAWN : 8/20/2019
REVISION DATE :
CHECKED BY : A. CHAVEZ II
DWG. NO.
SCALE : AS SHOWN
FILE NAME : C:\MY DRAWINGS\Broadcast\2020\BND\ROAD\IMPROVEMENTS Standard Details.dwg

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com



NOTES:

1. THE EXISTING LEFT AND RIGHT EDGE OF PAVEMENT FROM STA. 0+00 TO 4+50 SHALL BE THE LIMITS OF THE PROPOSED B-GRADED 2" HMA (TY B) OVERLAY.
2. EXISTING HMA SURFACE SHALL BE REPAIRED (SAWCUT SPOT REPAIR), LEVELED (BY MILLING, LEVELING, OR BOTH), CLEANED AND THEN COATED WITH A BINDER. PAVEMENT SURFACE RECEIVING THE TACK COAT SHALL BE CLEAN AND DRY TO PROMOTE MAXIMUM BONDING. TACK COAT SHALL BE APPLIED UNIFORMLY ACROSS THE ENTIRE PAVEMENT SURFACE. APPLY TACK COAT TO SURFACE AREA UNLESS OTHERWISE DIRECTED.
3. SEE SHEET 30 OF 38 FOR STRUCTURE REPAIR DETAIL.
4. ADDITIONAL STRUCTURE REPAIR AREAS FOUND THAT ARE NOT SHOWN ON THE DRAWINGS ARE TO BE REPAIRED BY CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER OF THESE AREAS SO THAT PROPER EVALUATION AND MEASUREMENTS CAN BE MADE. OWNER SHALL ALSO BE MADE AWARE OF AREAS THAT DIFFER FROM WHAT IS SHOWN ON THE DRAWINGS.
5. BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.
6. CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.



GRAPHIC SCALE
30 0 30 60
IN FEET

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PORT OF BROWNSVILLE
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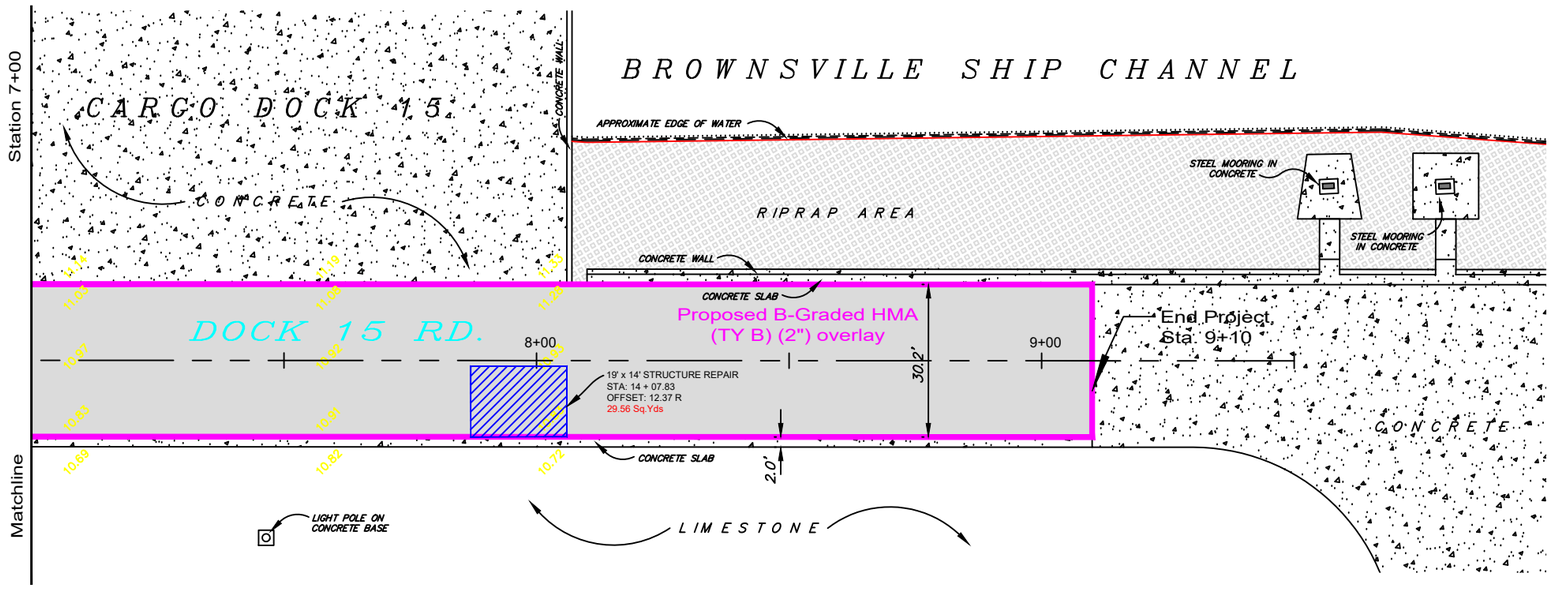
DOCK 15 ROAD
PLAN
STA. 0+00 - 7+00

2020 BND ROAD IMPROVEMENTS

DRAWN BY : P.E.
DATE DRAWN : 8/20/2019
CHECKED BY : A. CHAVEZ II
APPROVED BY :
REVISION DATE :
DWG. NO.
SCALE: AS SHOWN
FILE NAME : C:\M Y DRAWINGS\56rosado\2020\BNDROADIMPROVEMENTS Dock 15 Road.dwg

SHEET
27
OF 38



NOTES:

1. **THE EXISTING LEFT AND RIGHT EDGE OF PAVEMENT FROM STA. 4+50 TO 9+10 SHALL BE THE LIMITS OF THE PROPOSED B-GRADED 2" HMA (TY B) OVERLAY.**
2. **EXISTING HMA SURFACE SHALL BE REPAIRED (SAWCUT SPOT REPAIR), LEVELED (BY MILLING, LEVELING, OR BOTH), CLEANED AND THEN COATED WITH A BINDER. PAVEMENT SURFACE RECEIVING THE TACK COAT SHALL BE CLEAN AND DRY TO PROMOTE MAXIMUM BONDING. TACK COAT SHALL BE APPLIED UNIFORMLY ACROSS THE ENTIRE PAVEMENT SURFACE. APPLY TACK COAT TO SURFACE AREA UNLESS OTHERWISE DIRECTED.**
3. **SEE SHEET 30 OF 38 FOR STRUCTURE REPAIR DETAIL.**
4. **ADDITIONAL STRUCTURE REPAIR AREAS FOUND THAT ARE NOT SHOWN ON THE DRAWINGS ARE TO BE REPAIRED BY CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER OF THESE AREAS SO THAT PROPER EVALUATION AND MEASUREMENTS CAN BE MADE. OWNER SHALL ALSO BE MADE AWARE OF AREAS THAT DIFFER FROM WHAT IS SHOWN ON THE DRAWINGS.**
5. **BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.**
6. **CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.**

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
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PORT OF BROWNSVILLE
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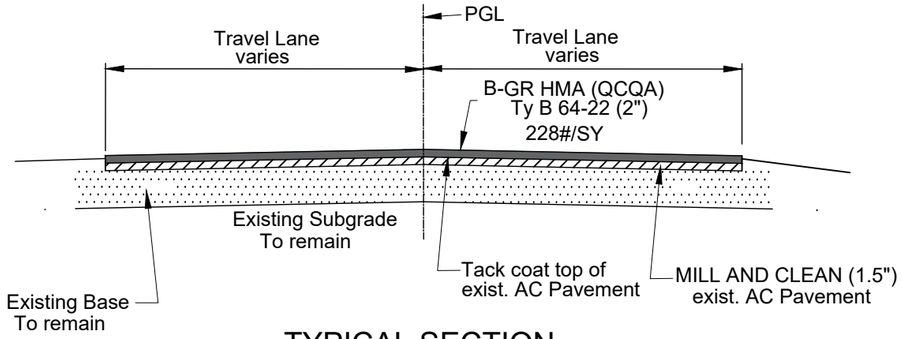
DOCK 15 ROAD
PLAN
STA. 7+00 - 9+10

2020 BND ROAD IMPROVEMENTS

DRAWN BY : P.E.	APPROVED BY :
DATE DRAWN : 8/20/2019	REVISION DATE :
CHECKED BY : A. CHAVEZ II	DWG. NO.
SCALE : AS SHOWN	FILE NAME : C:\MY DRAWINGS\Sfiles\roads\2020\BND\ROAD\IMPROVEMENTS Dock 15 Road.dwg

SHEET
28
OF 38

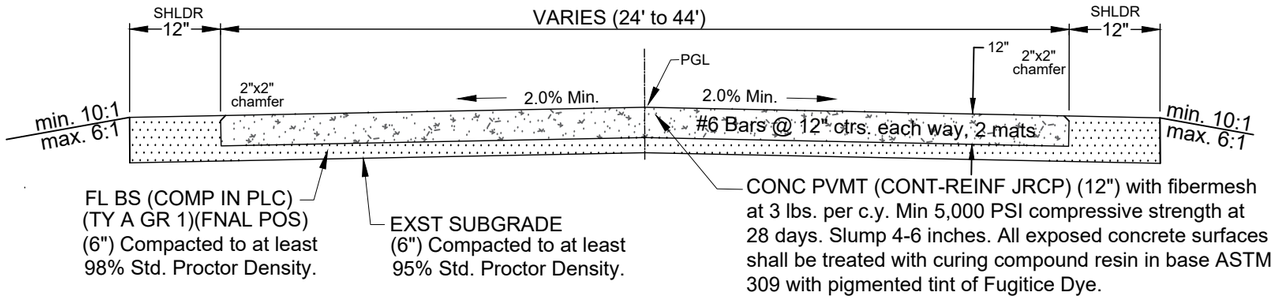


TYPICAL SECTION
PROPOSED 2" HMA PAVEMENT OVERLAY

N.T.S

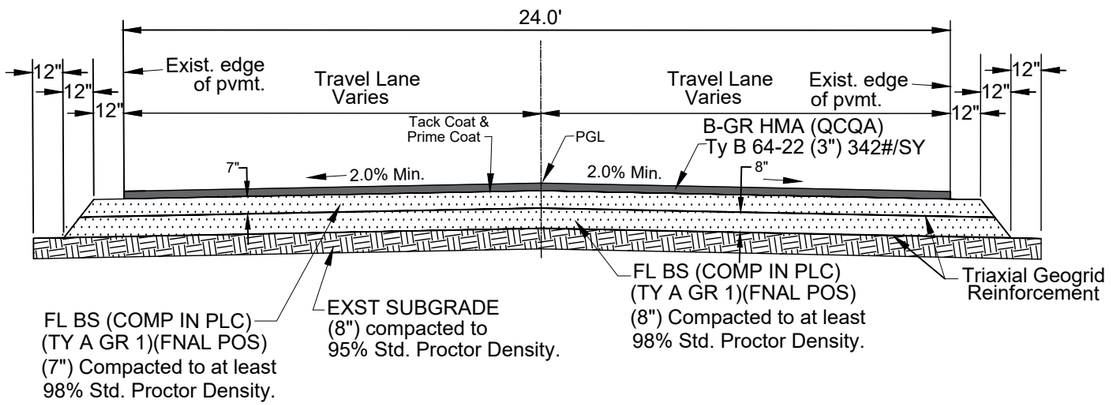
NOTES:

1. Stockpile all material generated from this project at the BND Shop Yard (5100 R.L. Ostos Road).
2. The subgrade shall be shaped and bladed a minimum distance of one foot beyond the edge of the proposed base course. The complete base shall be rolled before the earth shoulder is shaped and final compaction shall be done over base and edge of shoulder. All grading shall be within the limits shown.
3. 114#/SY of ACP is equivalent to 1" in depth of ACP
4. Where required by fixed features or unusual conditions, the governing slopes may be varied when directed by the Engineer.
5. Prime Coat: MC-30 at a rate of 0.20 Gal./S.Y. Tack Coat: RC-2 at a rate of 0.05 Gal./S.Y. Both items subsidiary to HMA.



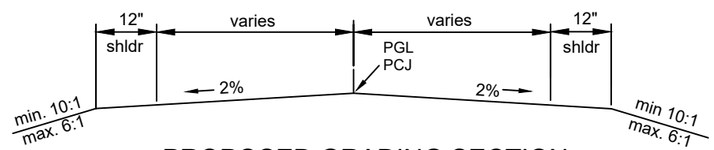
TYPICAL SECTION
PROPOSED CONCRETE PAVEMENT

N.T.S.



TYPICAL SECTION
PROPOSED HMA PAVEMENT RECONSTRUCTION

N.T.S.



PROPOSED GRADING SECTION

N.T.S.

GRAPHIC SCALE
30 0 30 60
IN FEET

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PORT OF BROWNSVILLE
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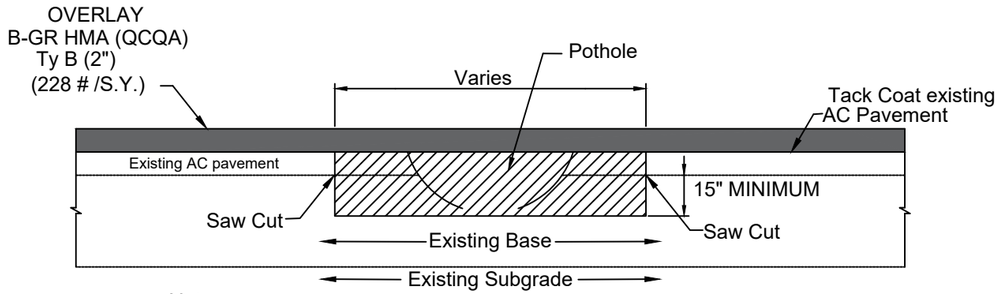
DOCK 15 ROAD
TYPICAL SECTION -
PAVEMENT DETAILS

2020 BND ROAD
IMPROVEMENTS

APPROVED BY:
REVISION DATE:
DWG. NO.
DRAWN BY: P.E.
DATE DRAWN: 8/20/2019
CHECKED BY: A. CHAVEZ II
SCALE: AS SHOWN
FILE NAME: C:\MY DRAWINGS\56\roads\2020BNDROAD\IMPROVEMENTS DOCK 15 ROAD.dwg

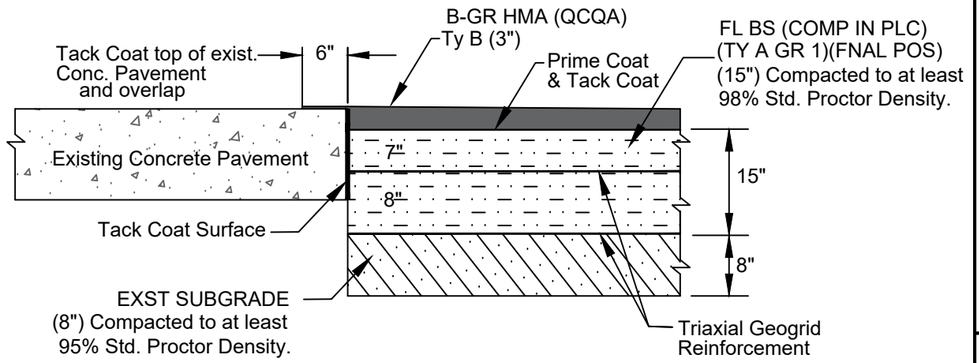
SHEET
29
OF 38



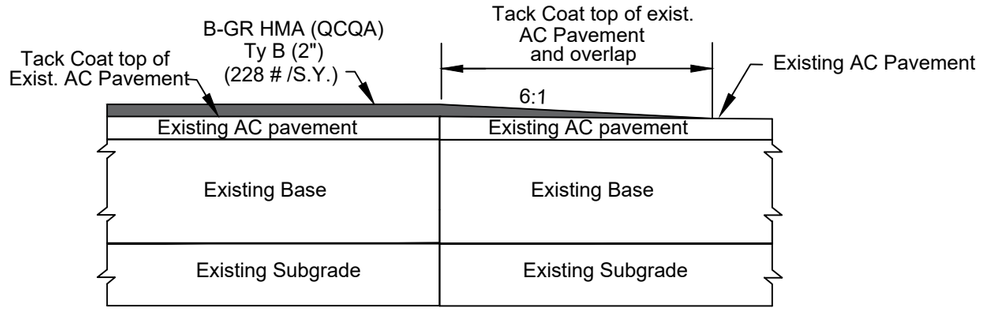
Note:

Remove all unstable material to neat lines. Replace with approved hot mix asphaltic concrete mechanically compacted to match existing asphalt pavement surface. Apply tack coat to surfaces of the repair area unless otherwise directed. Must meet the requirement of TXDOT Pothole Repair.

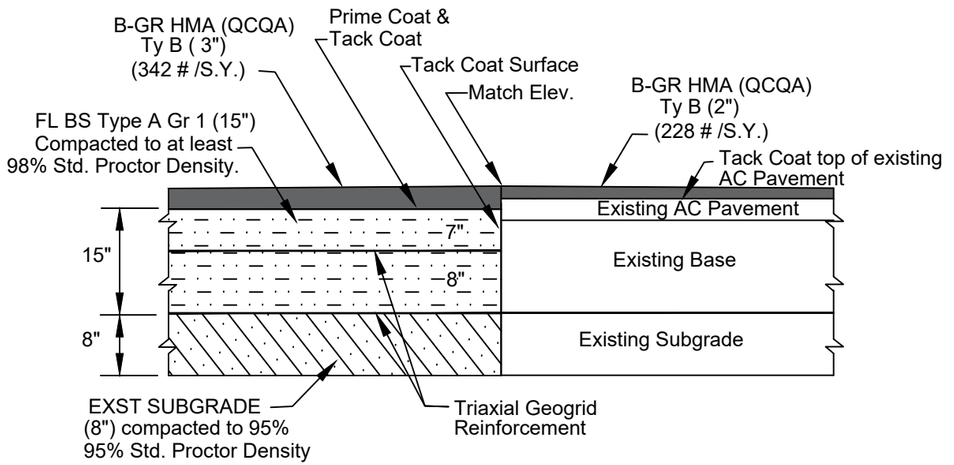
TYPICAL DETAIL
(STRUCTURE REPAIR (SAW-CUT))
N.T.S.



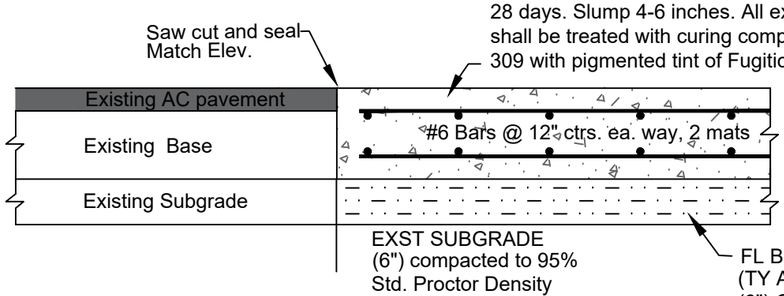
EXISTING CONCRETE PAVEMENT / PROPOSED HMA PAVEMENT RECONSTRUCTION INTERFACE DETAIL
N.T.S.



PROPOSED 2" HMA PAVEMENT OVERLAY / EXISTING AC PAVEMENT INTERFACE DETAIL
N.T.S.



PROPOSED HMA PAVEMENT RECONSTRUCTION / PROPOSED 2" HMA PAVEMENT OVERLAY INTERFACE DETAIL
N.T.S.



EXISTING AC PAVEMENT / PROPOSED CONCRETE PAVEMENT INTERFACE DETAIL
N.T.S.

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
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PORT OF BROWNSVILLE
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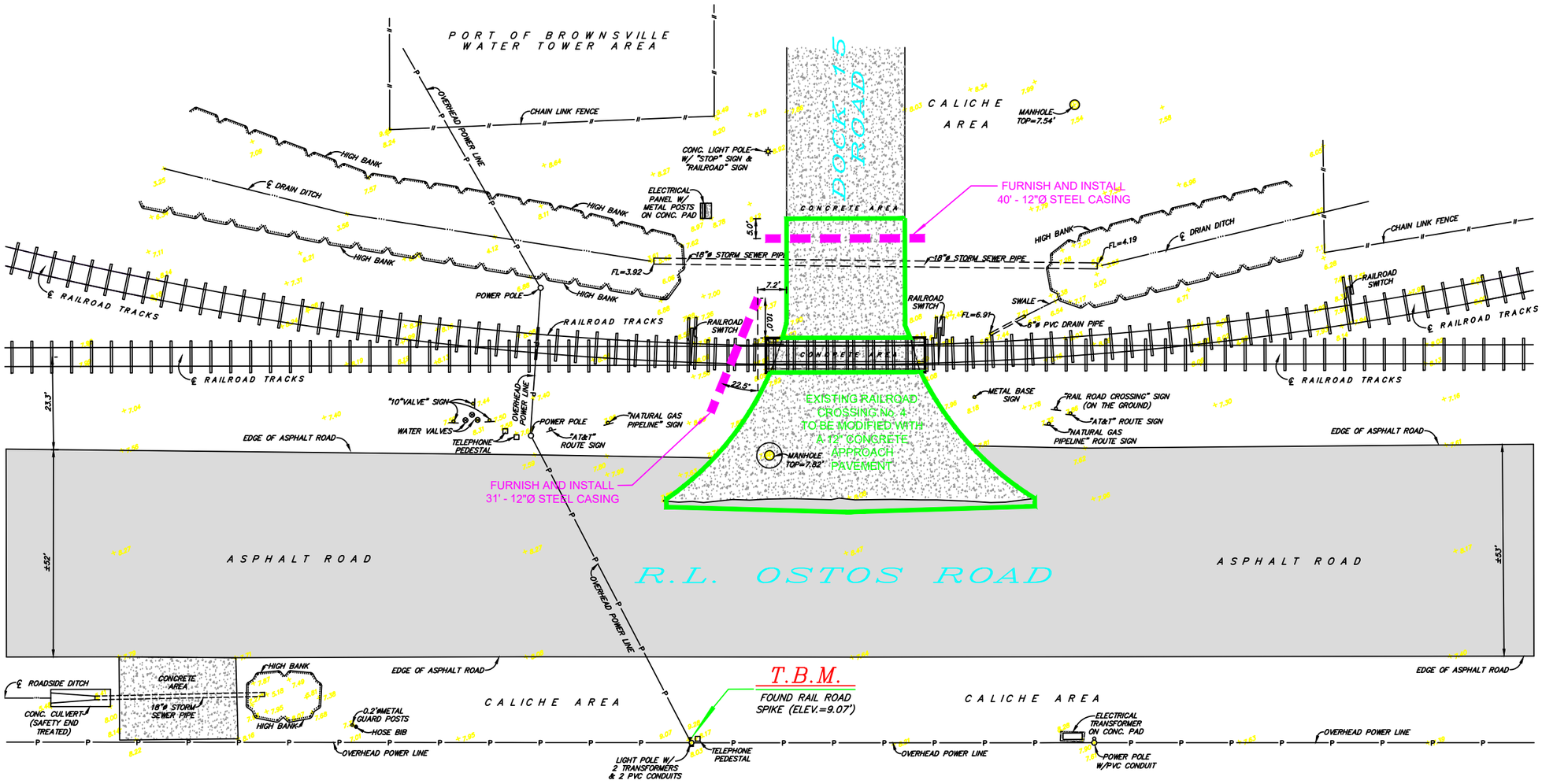
DOCK 15 ROAD
TYPICAL SECTION -
INTERFACE DETAILS

2020 BND ROAD
IMPROVEMENTS

DRAWN BY : P.E.
DATE DRAWN : 8/20/2019
CHECKED BY : A. CHAVEZ II
SCALE : AS SHOWN
APPROVED BY :
REVISION DATE :
DWG. NO.
FILE NAME : C:\MY DRAWINGS\Sheets\2020\BNDROADIMPROVEMENTS Dock 15 Road.dwg

SHEET
30
OF 38



NOTES:

1. **BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.**
2. **CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.**

GRAPHIC SCALE

30 0 30 60

IN FEET

BROWNSVILLE NAVIGATION DISTRICT
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PORT OF BROWNSVILLE
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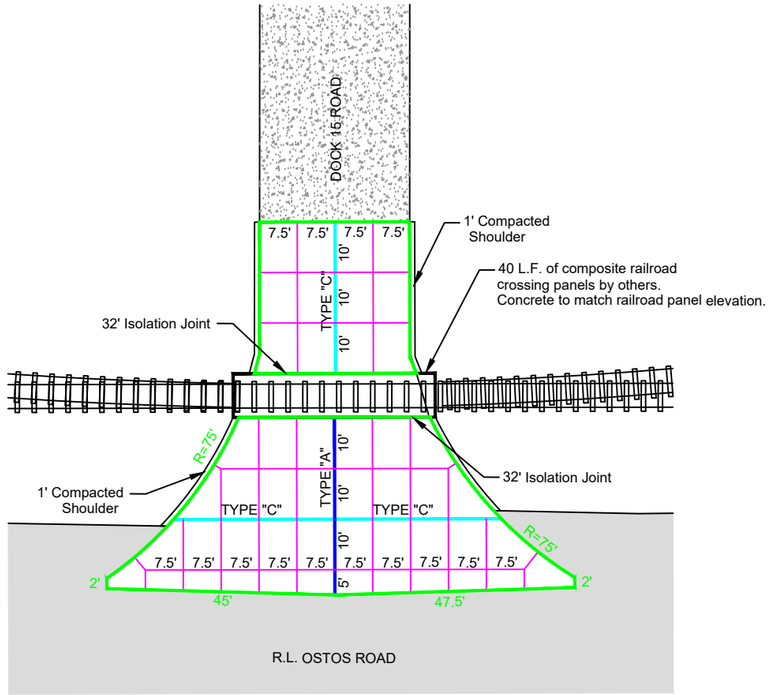
DOCK 15 ROAD
RAILROAD CROSSING
PLAN

2020 BND ROAD
IMPROVEMENTS

DRAWN BY : P.E.
DATE DRAWN : 8/20/2019
APPROVED BY :
REVISION DATE :
CHECKED BY : A. CHAVEZ II
DWG. NO.
SCALE : AS SHOWN
FILE NAME : C:\MY DRAWINGS\Sheets\8\2020BNDROADIMPROVEMENTS MSE Closeup 1.dwg

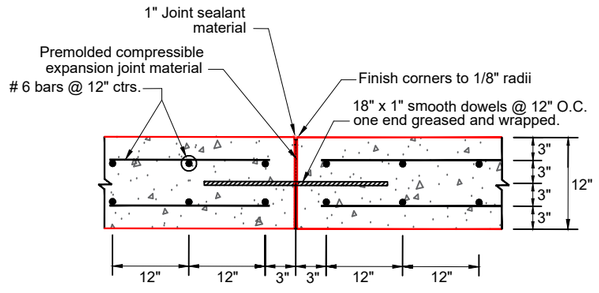
SHEET 31 OF 38



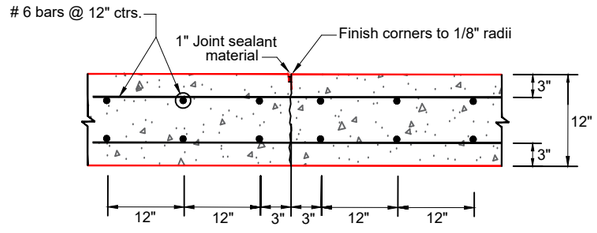
*ALL JOINTS ARE TYPE "B", EXCEPT AS NOTED.

RAILROAD CROSSING No. 4
CONCRETE PLAN

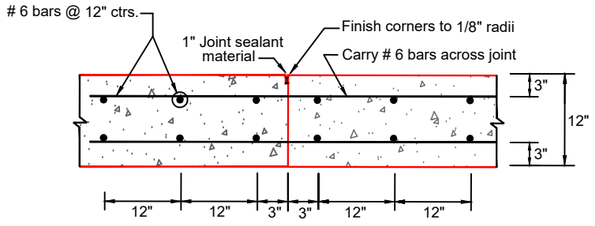
SCALE: 1" = 30'



EXPANSION - JOINT TYPE "A"
Not to Scale



DUMMY JOINT - JOINT TYPE "B"
Not to Scale



LONGITUDINAL TIED CONSTRUCTION JOINT - JOINT TYPE "C"
Not to scale

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
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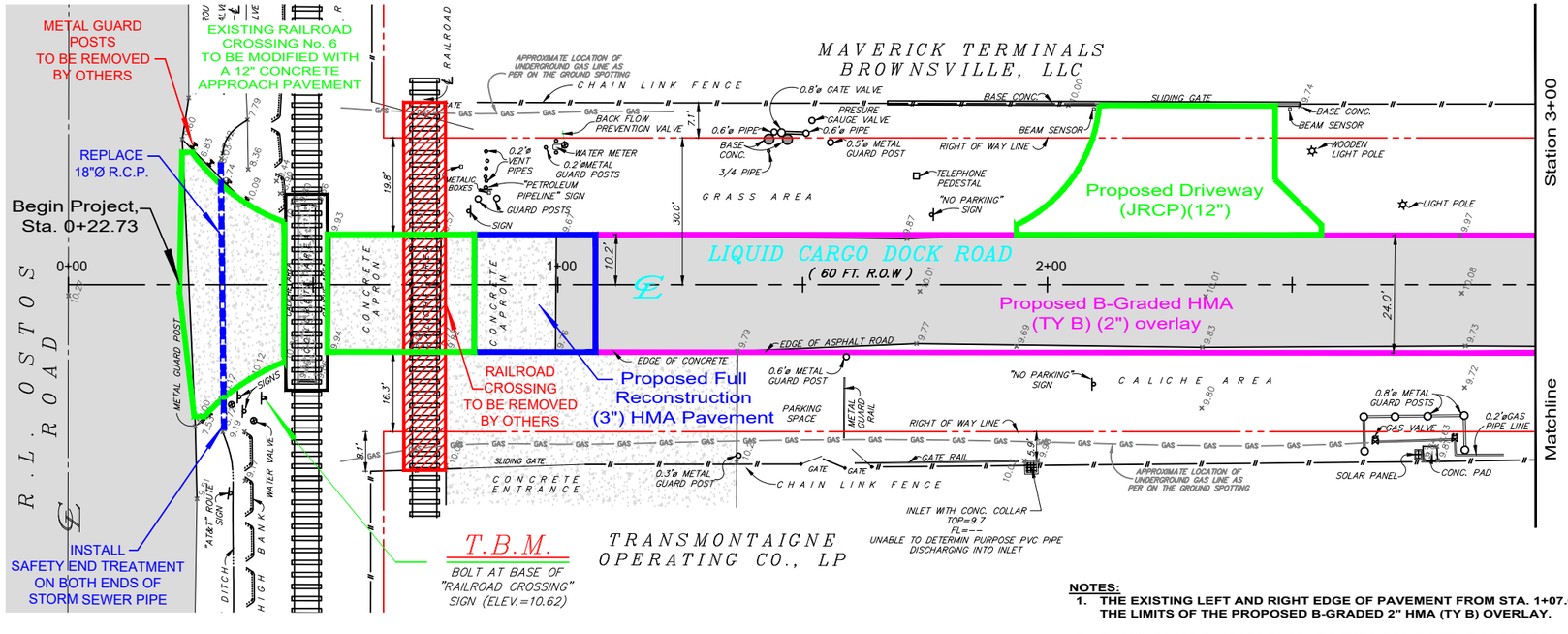
PORT OF BROWNSVILLE
the port that works

DOCK 15 ROAD
RAILROAD CROSSING
CONCRETE DETAILS

2020 BND ROAD IMPROVEMENTS

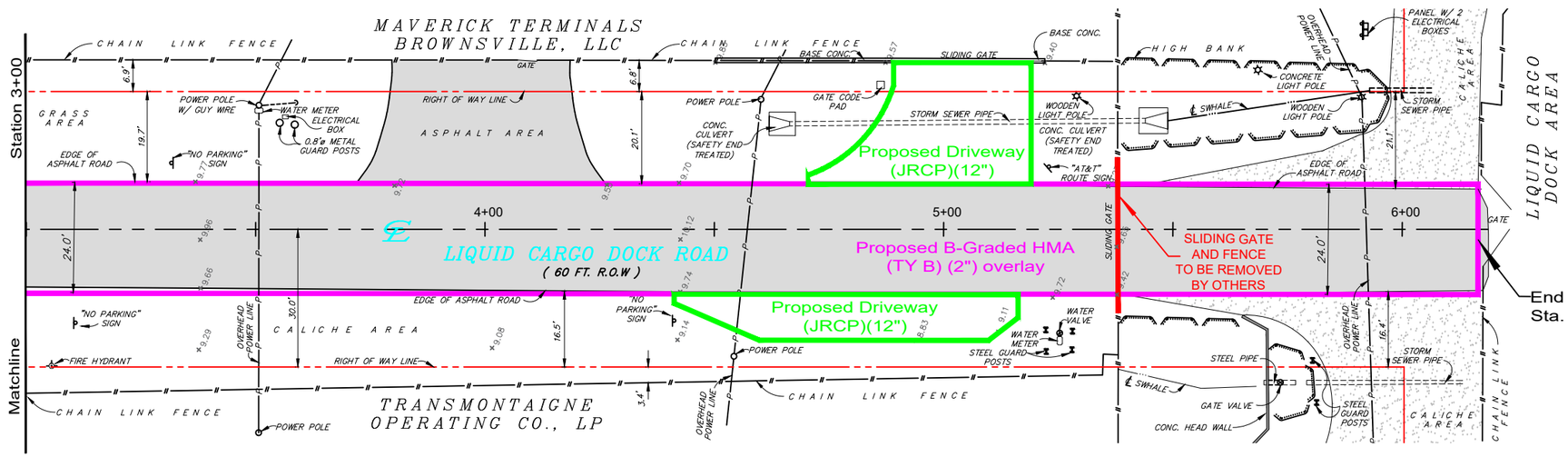
DRAWN BY: P.E.
DATE DRAWN: 8/20/2019
CHECKED BY: A. CHAVEZ II
SCALE: AS SHOWN
APPROVED BY:
REVISION DATE:
DWG. NO.
FILE NAME: C:\MY DRAWINGS\Sheet\2020\BND\ROAD\IMPROVEMENTS Rail Crossing 1.dwg

SHEET
32
OF 38



NOTES:

1. **THE EXISTING LEFT AND RIGHT EDGE OF PAVEMENT FROM STA. 1+07.66 TO 6+16.5 SHALL BE THE LIMITS OF THE PROPOSED B-GRADED 2" HMA (TY B) OVERLAY.**
2. **EXISTING HMA SURFACE SHALL BE REPAIRED (SAWCUT SPOT REPAIR), LEVELED (BY MILLING, LEVELING, OR BOTH), CLEANED AND THEN COATED WITH A BINDER. PAVEMENT SURFACE RECEIVING THE TACK COAT SHALL BE CLEAN AND DRY TO PROMOTE MAXIMUM BONDING. TACK COAT SHALL BE APPLIED UNIFORMLY ACROSS THE ENTIRE PAVEMENT SURFACE. APPLY TACK COAT TO SURFACE AREA UNLESS OTHERWISE DIRECTED.**
3. **SEE SHEET 35 OF 38 FOR STRUCTURE REPAIR DETAIL.**
4. **ADDITIONAL STRUCTURE REPAIR AREAS FOUND THAT ARE NOT SHOWN ON THE DRAWINGS ARE TO BE REPAIRED BY CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER OF THESE AREAS SO THAT PROPER EVALUATION AND MEASUREMENTS CAN BE MADE. OWNER SHALL ALSO BE MADE AWARE OF AREAS THAT DIFFER FROM WHAT IS SHOWN ON THE DRAWINGS.**
5. **BEFORE CONSTRUCTION CALL DIGTESS (1-800-344-8311), A NON-PROFIT UTILITY SPOTTING ORGANIZATION.**
6. **CALL BND MAINTENANCE DEPT. (956-831-8273) FOR SPOTTING OF EXISTING WATER AND WASTEWATER LINES.**



GRAPHIC SCALE

30 0 30 60

IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
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FAX (956) 831-6153
EMAIL achavez@portofbrownsville.com

PORT OF BROWNSVILLE
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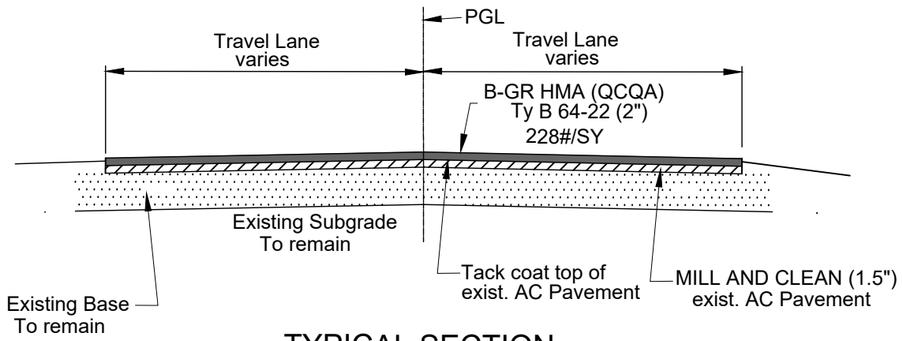
LIQUID CARGO DOCK ROAD PLAN
STA. 00+00 - 6+16.5

2020 BND ROAD IMPROVEMENTS

DRAWN BY: P.E.	APPROVED BY:	REVISION DATE:	DWG. NO.
DATE DRAWN: 8/20/2019			
CHECKED BY: A. CHAVEZ II			
SCALE: AS SHOWN			

FILE NAME: C:\Users\achavez\OneDrive - Port of Brownsville\Documents\GIS\56roads\2020BNDROADIMPROVEMENTS\Liquid Cargo Dock Rd.dwg

SHEET 33 OF 38

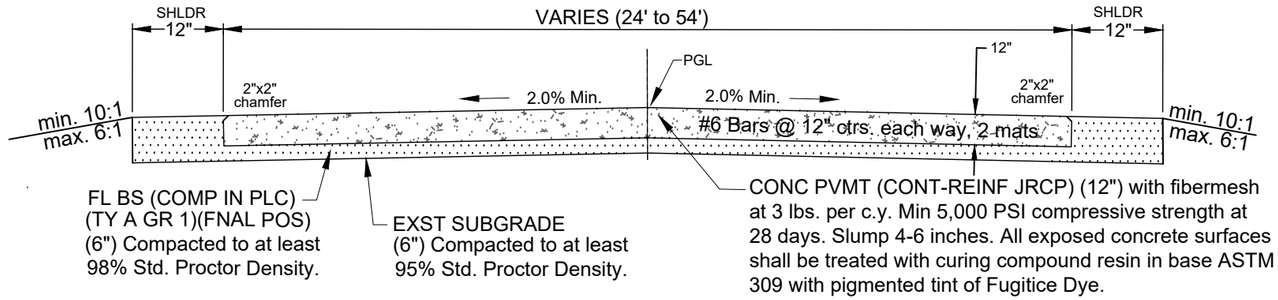


TYPICAL SECTION
PROPOSED 2" HMA PAVEMENT OVERLAY

N.T.S

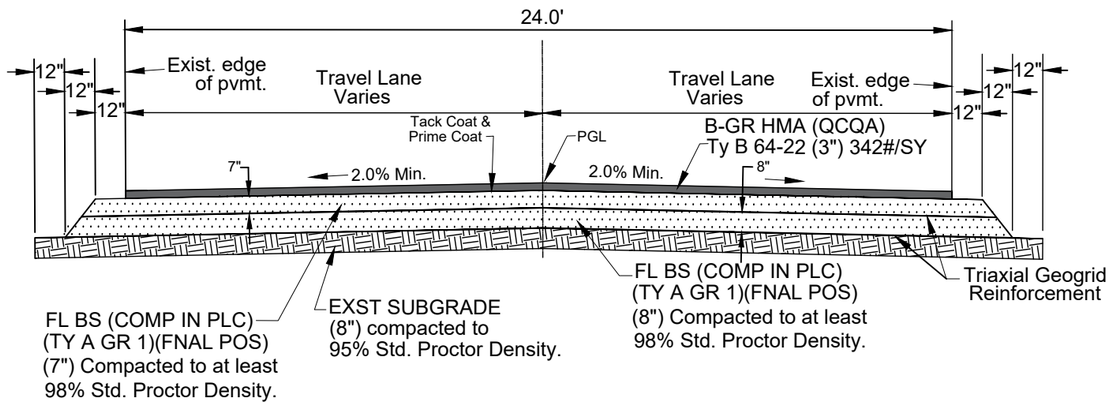
NOTES:

1. Stockpile all material generated from this project at the BND Shop Yard (5100 R.L. Ostos Road).
2. The subgrade shall be shaped and bladed a minimum distance of one foot beyond the edge of the proposed base course. The complete base shall be rolled before the earth shoulder is shaped and final compaction shall be done over base and edge of shoulder. All grading shall be within the limits shown.
3. 114#/SY of ACP is equivalent to 1" in depth of ACP
4. Where required by fixed features or unusual conditions, the governing slopes may be varied when directed by the Engineer.
5. Prime Coat: MC-30 at a rate of 0.20 Gal./S.Y.
   Tack Coat: RC-2 at a rate of 0.05 Gal./S.Y.
   Both items subsidiary to HMA.



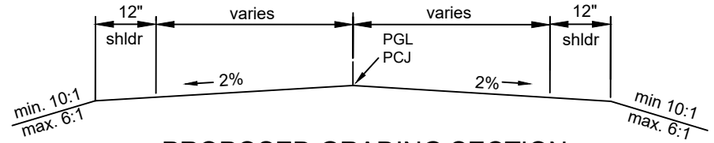
TYPICAL SECTION
PROPOSED CONCRETE PAVEMENT

N.T.S.



TYPICAL SECTION
PROPOSED HMA PAVEMENT RECONSTRUCTION

N.T.S.



PROPOSED GRADING SECTION

N.T.S.

GRAPHIC SCALE

30 0 30 60

IN FEET

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BROWNSVILLE, TEXAS 78521
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PORT OF BROWNSVILLE
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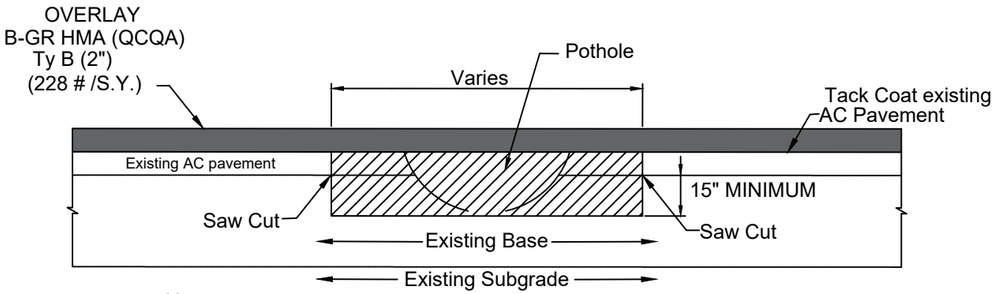
LIQUID CARGO DOCK ROAD
TYPICALSECTIONS - PAVEMENT DETAILS

2020 BND ROAD IMPROVEMENTS

APPROVED BY :
REVISION DATE :
DWG. NO.
DRAWN BY : P.E.
DATE DRAWN : 8/20/2019
CHECKED BY : A. CHAVEZ II
SCALE : AS SHOWN
FILE NAME : C:\Users\achavez\DWGS\Roads\2020\BNDROAD\IMPROVEMENTS \Liquid Cargo Dock Rd.dwg

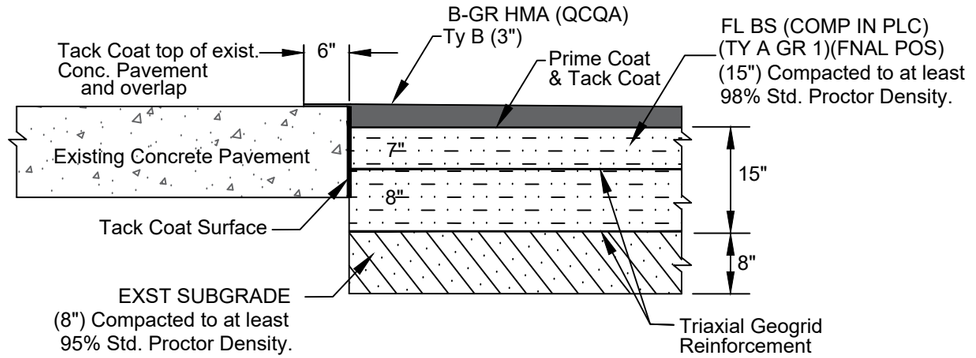
SHEET
34
OF 38



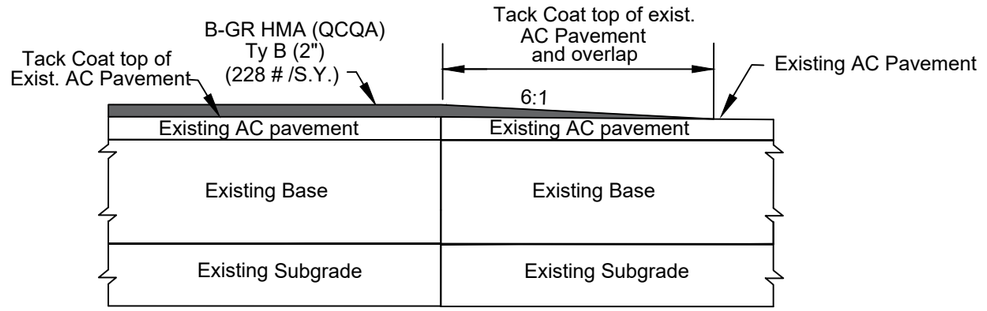
Note:

Remove all unstable material to neat lines. Replace with approved hot mix asphaltic concrete mechanically compacted to match existing asphalt pavement surface. Apply tack coat to surfaces of the repair area unless otherwise directed. Must meet the requirement of TXDOT Pothole Repair.

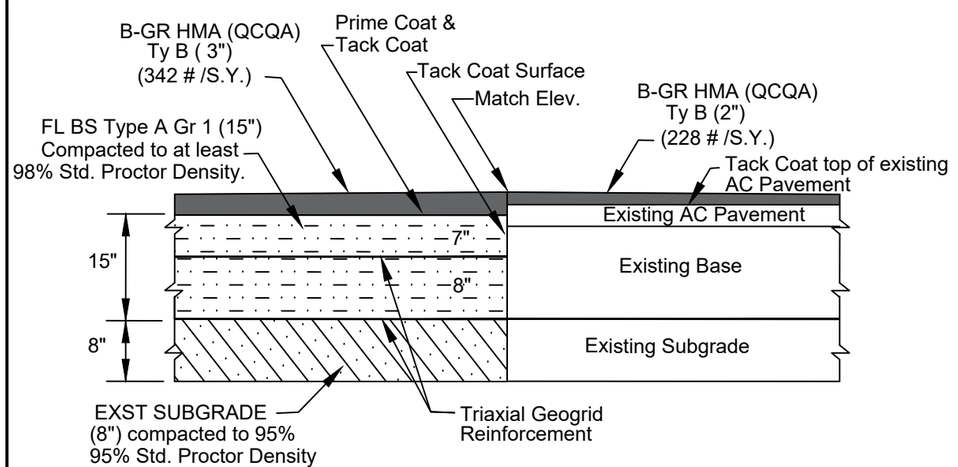
TYPICAL DETAIL
(STRUCTURE REPAIR (SAW-CUT))
N.T.S.



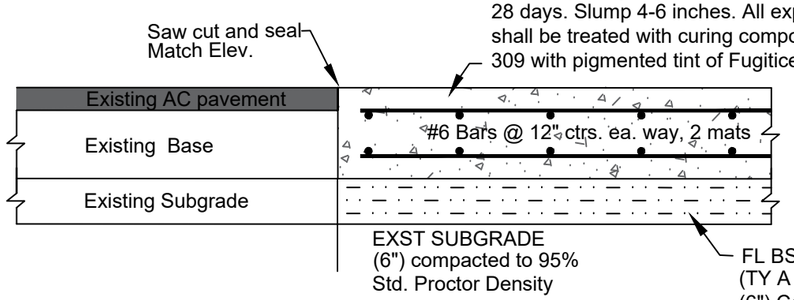
EXISTING CONCRETE PAVEMENT / PROPOSED HMA PAVEMENT RECONSTRUCTION INTERFACE DETAIL
N.T.S.



PROPOSED 2" HMA PAVEMENT OVERLAY / EXISTING AC PAVEMENT INTERFACE DETAIL
N.T.S.



PROPOSED HMA PAVEMENT RECONSTRUCTION / PROPOSED 2" HMA PAVEMENT OVERLAY INTERFACE DETAIL
N.T.S.



EXISTING AC PAVEMENT / PROPOSED CONCRETE PAVEMENT INTERFACE DETAIL
N.T.S.

GRAPHIC SCALE
30 0 30 60
IN FEET

BROWNSVILLE NAVIGATION DISTRICT
ENGINEERING DEPARTMENT
BROWNSVILLE, TEXAS 78521
PHONE (956) 831-4592 1-800-378-5395
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PORT OF BROWNSVILLE
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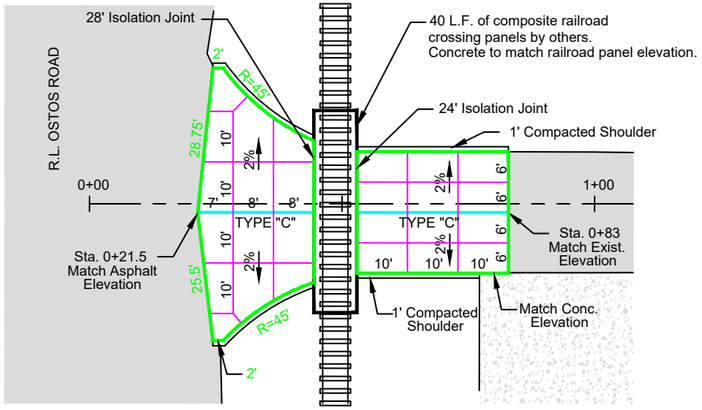
LIQUID CARGO DOCK ROAD
TYPICAL SECTIONS - INTERFACE DETAILS

2020 BND ROAD IMPROVEMENTS

APPROVED BY :
REVISION DATE:
DWG. NO.
DRAWN BY : P.E.
DATE DRAWN : 8/20/2019
CHECKED BY : A. CHAVEZ II
SCALE : AS SHOWN
FILE NAME: C:\Users\achavez\ENGS56\roads\2020BNDROAD\IMPROVEMENTS\Liquid Cargo Dock Rd.dwg

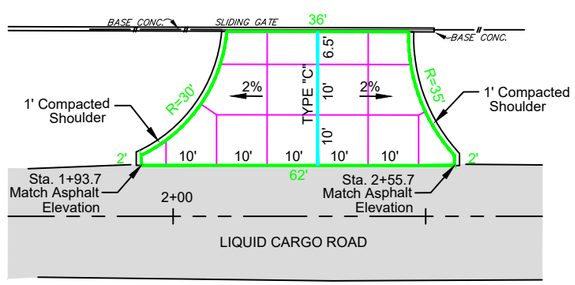
SHEET
35
OF 38



*ALL JOINTS ARE TYPE "B", EXCEPT AS NOTED.

RAILROAD CROSSING No. 6 CONCRETE PLAN

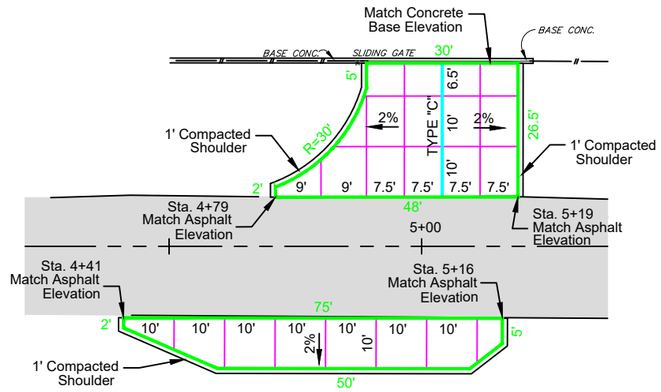
SCALE: 1" = 30'



*ALL JOINTS ARE TYPE "B", EXCEPT AS NOTED.

DRIVEWAY CONCRETE PLAN

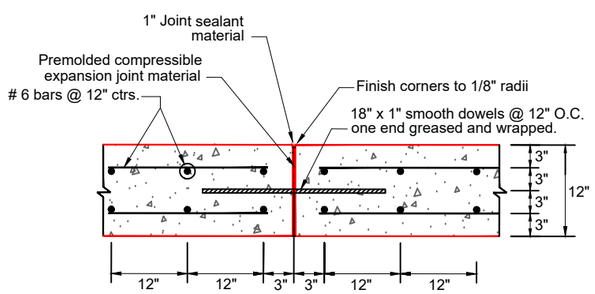
SCALE: 1" = 30'



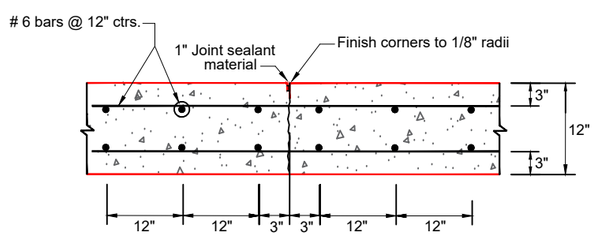
*ALL JOINTS ARE TYPE "B", EXCEPT AS NOTED.

DRIVEWAY CONCRETE PLAN

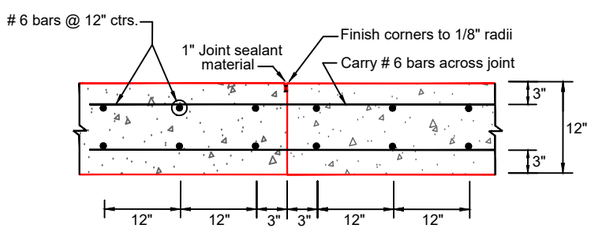
SCALE: 1" = 30'



EXPANSION - JOINT TYPE "A"
Not to Scale



DUMMY JOINT - JOINT TYPE "B"
Not to Scale



LONGITUDINAL TIED CONSTRUCTION JOINT - JOINT TYPE "C"
Not to scale

GRAPHIC SCALE
30 0 30 60
IN FEET

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LIQUID CARGO DOCK ROAD CONCRETE DETAILS

2020 BND ROAD IMPROVEMENTS

DRAWN BY : P.E.
APPROVED BY :
DATE DRAWN : 8/20/2019
REVISION DATE :
CHECKED BY : A. CHAVEZ II
DWG. NO.
SCALE : AS SHOWN
FILE NAME : C:\My Documents\NGS\Esri\s2020\BNDROAD\IMPROVEMENTS \Liquid Cargo Dock Rd.dwg

SHEET 36 OF 38

R.L. OSTOS ROAD
(90' R.O.W.)

B.N.D.
MAINTENANCE SHOP
4.44 ACRES
5100 R.L. OSTOS ROAD

edge of pavement
90'
2'
131'
PP w/ light
R = 30'
Exist. Conc.
29.5' gate
gate
81.9'
4' wide concrete walk
16.3'
SD
4' X 4' box grate inlet 10' depth
PP w/ light
gate
43.2'
204'
overhead power line
garage (13 bays)
19'
PP
concrete
grass area
tank
tank
17.4'
31.5'
gasoline storage tanks
50'
25'
123 SQ. YDS.
R = 25'
25'
25'
PROPOSED 12" CONCRETE ENTRANCE
663 SQ. YDS.
2" Ø underground fuel line
50'
40'
28'
5'
40'
fuel pumps & metal roof
28'
caliche surface
40'
metal building
Elev. 13.31 MLT
100'
116.7'
PROPOSED 3" ASPHALT PAVEMENT
1,816 SQ. YDS.
92'
93.8'
136.7'
120'
catch basin
33'
8'
49'
44'
30.2'
Lounge & Conference building
26.5'
30'
40'
60'
Wood Ramp
24'
Offices building
Exist. F.F.=14.5
44'
25.8'
7'
5'
10'
16.5'
3'
10'
5.5'
A/C
wm
PP
wm
W
2" PVC water line
S
30" corrugated sewer line
199.30'
asphalt driveway
metal carport
70'
mechanic shop metal building
70'
open hut
137'
PROPOSED 2" ASPHALT PAVEMENT
1,485 SQ. YDS.
182.8'
chain link fence
S 20° 46' E
30'
39.5'
45.5'
existing garage - 2 bays (future remodels)
20.5'
chain link fence
80.2'
26'
metal carport
65.5'
caliche surface
generator storage
22'
boat storage
40'
4" PVC sewer line
mh
10.0 Ft. Utility Easement
375.56'
welding shop metal building
20'

GRAPHIC SCALE
30 0 30 60
IN FEET

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B.N.D. MAINTENANCE SHOP AND PARKING LOT PAVEMENT PLAN

2020 BND ROAD IMPROVEMENTS

DRAWN BY: P.E.
DATE DRAWN: 8/20/2019
CHECKED BY: A. CHAVEZ III
SCALE: AS SHOWN
APPROVED BY:
REVISION DATE:
DWG. NO.
FILE NAME: C:\MY DRAWINGS\Brownsville\2020\BND ROAD\IMPROVEMENTS\BND ROAD IMPROVEMENTS.dwg

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PHONE (956) 831-4592 1-800-378-5395
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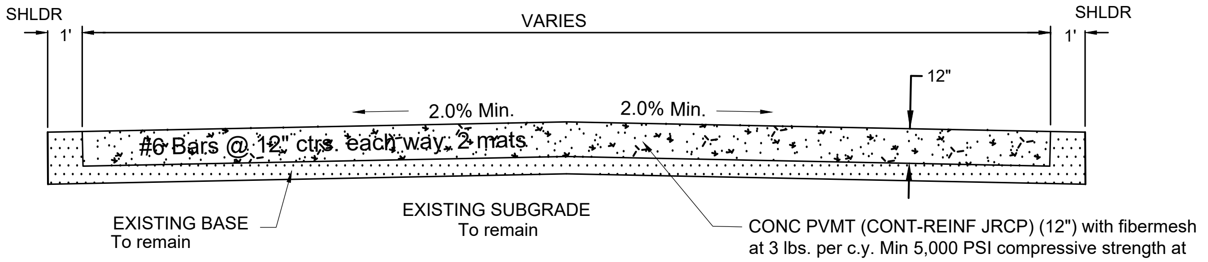
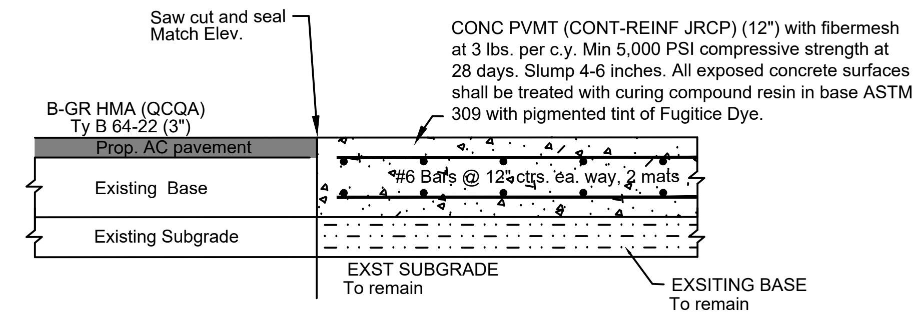
EMAIL achavez@portofbrownsville.com



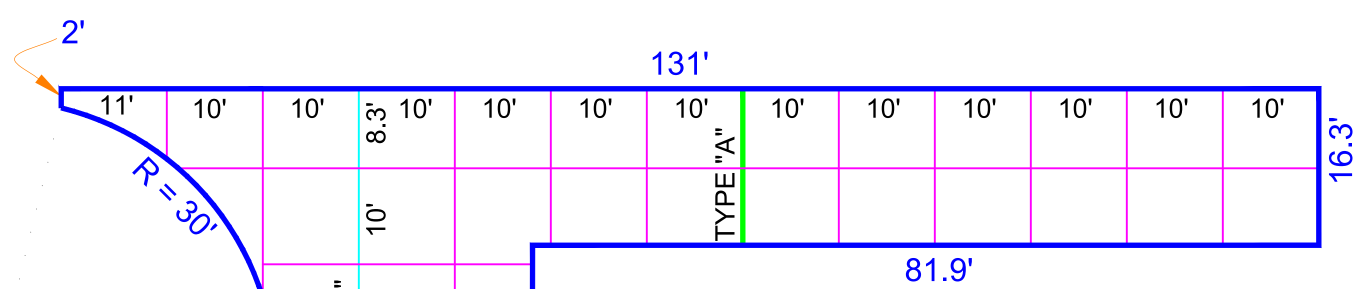
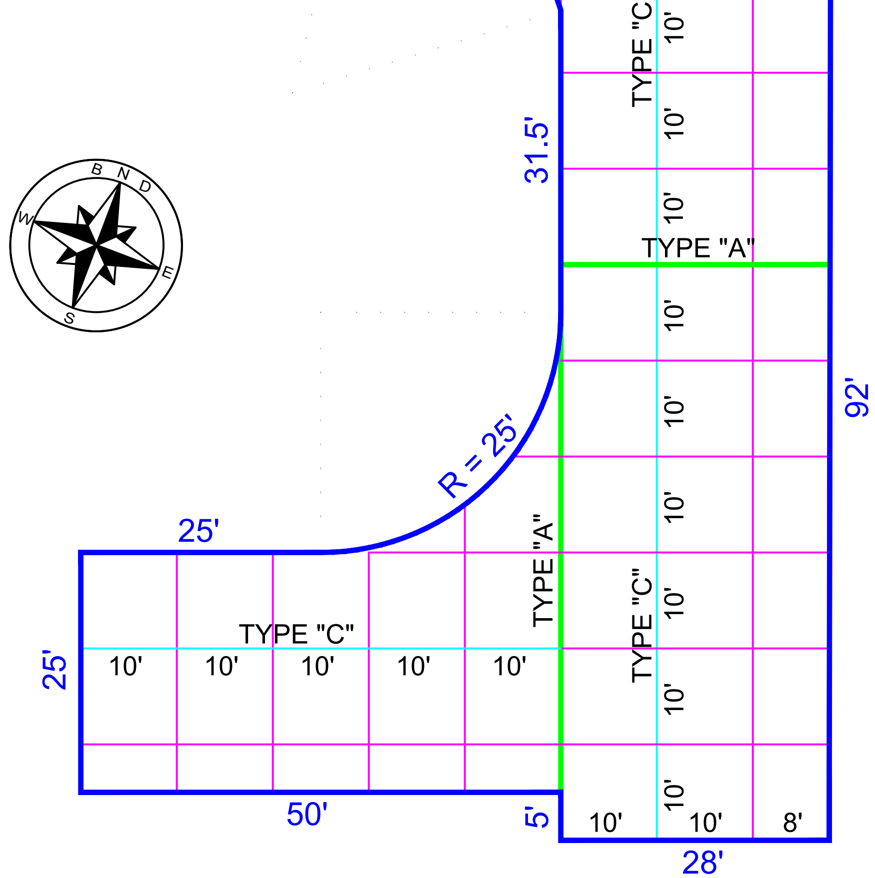
TYPICAL SECTION
PROPOSED CONCRETE PAVEMENT
N.T.S

NOTES:

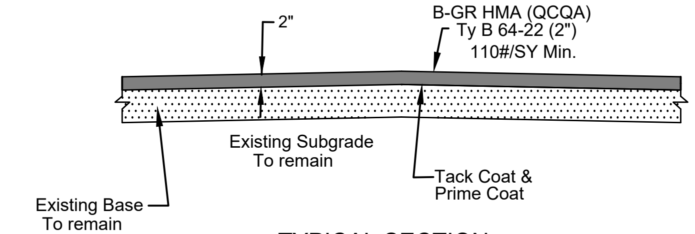
1. 114#/SY of ACP is equivalent to 1" in depth of ACP
2. Where required by fixed features or unusual conditions, the governing slopes may be varied when directed by the Engineer.
3. Prime Coat: MC-30 at a rate of 0.20 Gal./S.Y.
   Tack Coat: RC-2 at a rate of 0.05 Gal./S.Y.
   Both items subsidiary to HMA.



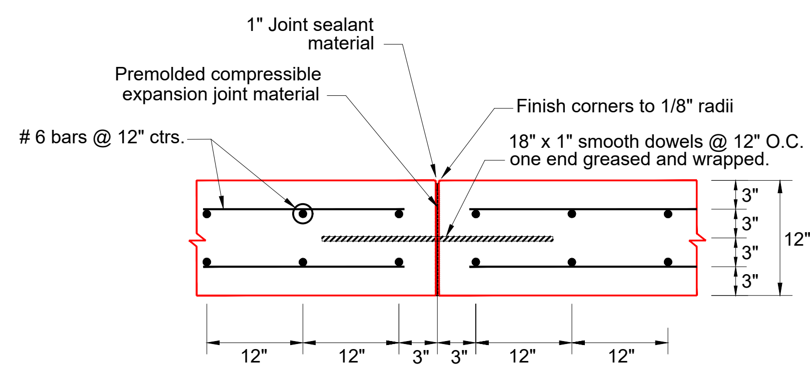
PROP. AC PAVEMENT / PROP. CONCRETE
PAVEMENT INTERFACE DETAIL
N.T.S.

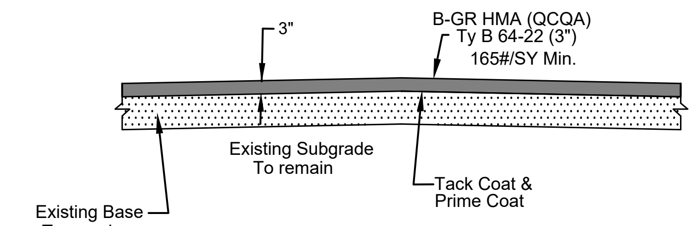
**All others joints, not labeled, represent a joint type "B".



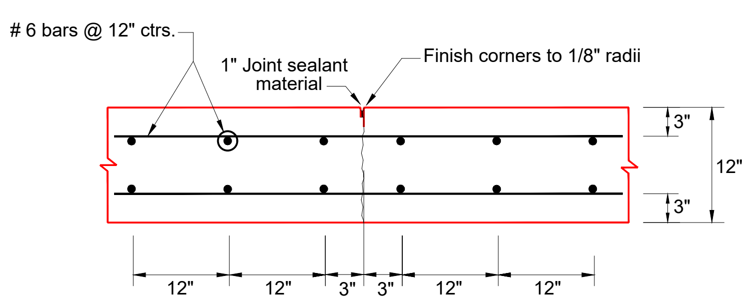
TYPICAL SECTION
PROPOSED 2" HMA PAVEMENT OVERLAY
N.T.S.
PARKING LOT



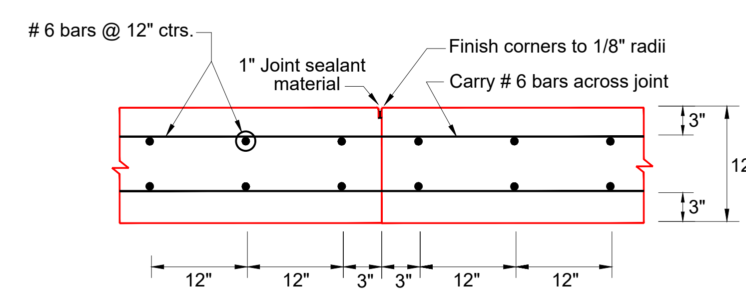
EXPANSION JOINT - TYPE "A"
Not to Scale



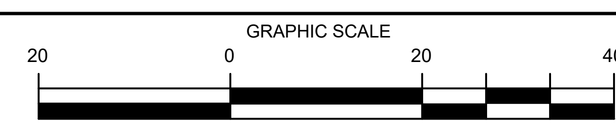
TYPICAL SECTION
PROPOSED 3" HMA PAVEMENT OVERLAY
N.T.S.
BND MAINTENANCE SHOP



DUMMY JOINT - TYPE "B"
Not to Scale



LONGITUDINAL CONSTRUCTION JOINT - TYPE "C"
Not to scale



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B.N.D. MAINTENANCE SHOP AND PARKING LOT PAVEMENT DETAILS

2020 BND ROAD IMPROVEMENTS

APPROVED BY :
REVISION DATE :
DWG. NO.
DRAWN BY : P.E.
DATE DRAWN : 8/20/2019
CHECKED BY : A. CHAVEZ II
SCALE : AS SHOWN
FILE NAME : C:\MY DRAWINGS\56roads\2020BNDROADIMPROVEMENTS\MaintenanceShopPavement.dwg

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