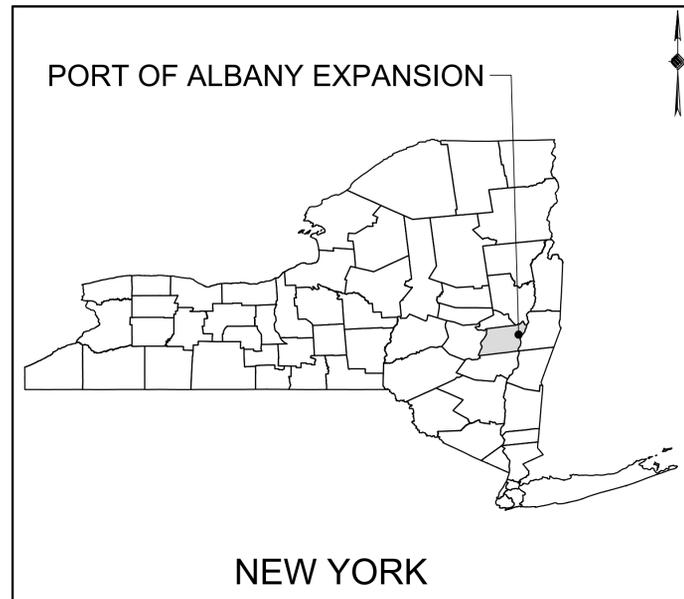
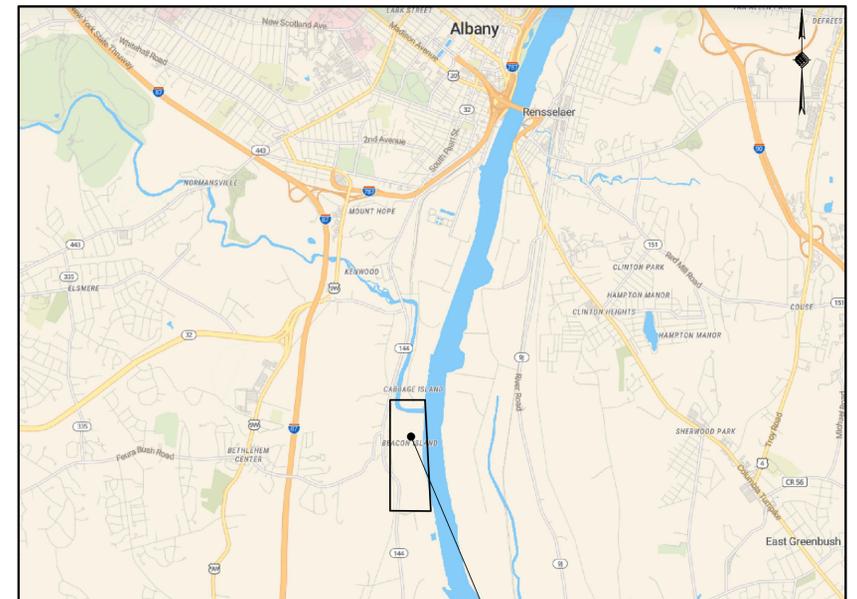


ALBANY PORT DISTRICT COMMISSION OFF-SITE INFRASTRUCTURE IMPROVEMENTS



LOCATION MAP

FINAL DESIGN PLANS
MAY 10, 2022
(REVISED 06-17-2022)
TOWN OF BETHLEHEM
ALBANY COUNTY
NEW YORK



VICINITY MAP

Sheet List Table	
SHEET NUMBER	SHEET TITLE
COVR	COVER SHEET
GN-01	GENERAL NOTES
TP-01	TYPICAL SECTIONS
RW-01	ROADWAY PLAN
GR-01	GRADING & DRAINAGE PLAN
WZ-01	WORK ZONE TRAFFIC CONTROL PLAN - PHASE 1
WZ-02	WORK ZONE TRAFFIC CONTROL PLAN - PHASE 2
DT-01	MISCELLANEOUS DETAILS
DT-02	TOWN OF BETHLEHEM WATER DETAILS
603-02	METAL END SECTION
606-01	CABLE GUIDE RAILING
609-01	CONCRETE AND STONE CURB AND GUTTER CURB
619-10	WORK ZONE TRAFFIC CONTROL GENERAL NOTES
619-11	WORK ZONE TRAFFIC CONTROL LEGEND AND NOTES
619-12	SIGN TABLE (SHEETS 1 & 2)
619-31	SHOULDER CLOSURE, 2-LANE, 2-WAY ROADWAY
685-01	PAVEMENT MARKING DETAILS (SHEET 1)

PREPARED FOR:



ALBANY PORT DISTRICT COMMISSION
106 SMITH BOULEVARD
ALBANY, NEW YORK
(518) 463-8763
WWW.ALBANY.GOV

PREPARED BY:



60 RAILROAD PLACE, SUITE 402
SARATOGA SPRINGS, NEW YORK 12866

MCFARLAND JOHNSON PROJECT # 18641.00

PLANNING BOARD HTE# 21-00100006

SEALED	ADAM J. FROSINO
PE_NO	088870
PE_DATE	MAY 10, 2022 (REVISED 06-17-2022)

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

LEGEND

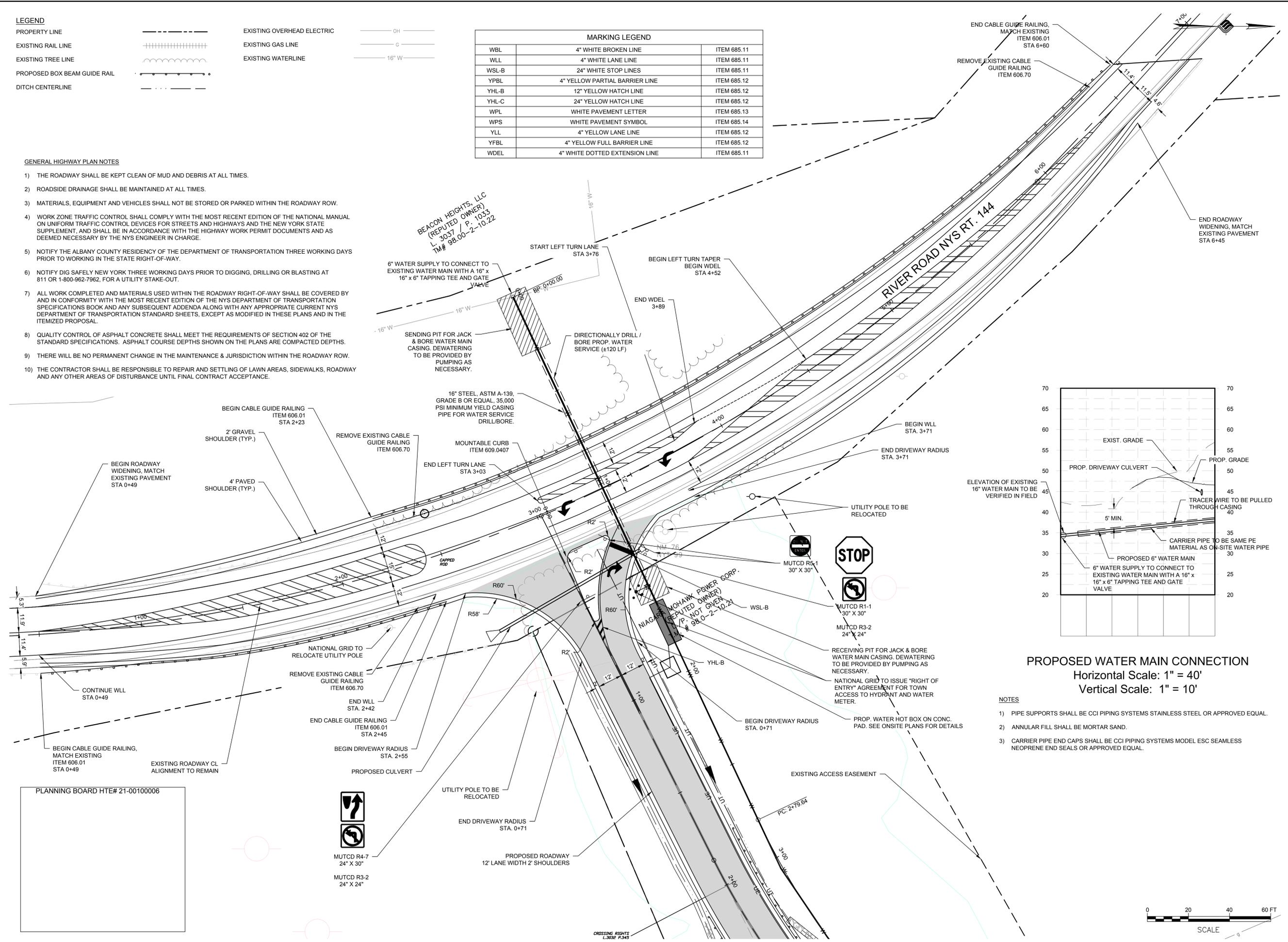
PROPERTY LINE	---	EXISTING OVERHEAD ELECTRIC	OH
EXISTING RAIL LINE		EXISTING GAS LINE	G
EXISTING TREE LINE	~~~~~	EXISTING WATERLINE	16" W
PROPOSED BOX BEAM GUIDE RAIL	—●—●—●—		
DITCH CENTERLINE	- - - - -		

MARKING LEGEND

WBL	4" WHITE BROKEN LINE	ITEM 685.11
WLL	4" WHITE LANE LINE	ITEM 685.11
WSL-B	24" WHITE STOP LINES	ITEM 685.11
YPBL	4" YELLOW PARTIAL BARRIER LINE	ITEM 685.12
YHL-B	12" YELLOW HATCH LINE	ITEM 685.12
YHL-C	24" YELLOW HATCH LINE	ITEM 685.12
WPL	WHITE PAVEMENT LETTER	ITEM 685.13
WPS	WHITE PAVEMENT SYMBOL	ITEM 685.14
YLL	4" YELLOW LANE LINE	ITEM 685.12
YFBL	4" YELLOW FULL BARRIER LINE	ITEM 685.12
WDEL	4" WHITE DOTTED EXTENSION LINE	ITEM 685.11

GENERAL HIGHWAY PLAN NOTES

- 1) THE ROADWAY SHALL BE KEPT CLEAN OF MUD AND DEBRIS AT ALL TIMES.
- 2) ROADSIDE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES.
- 3) MATERIALS, EQUIPMENT AND VEHICLES SHALL NOT BE STORED OR PARKED WITHIN THE ROADWAY ROW.
- 4) WORK ZONE TRAFFIC CONTROL SHALL COMPLY WITH THE MOST RECENT EDITION OF THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND THE NEW YORK STATE SUPPLEMENT, AND SHALL BE IN ACCORDANCE WITH THE HIGHWAY WORK PERMIT DOCUMENTS AND AS DEEMED NECESSARY BY THE NYS ENGINEER IN CHARGE.
- 5) NOTIFY THE ALBANY COUNTY RESIDENCY OF THE DEPARTMENT OF TRANSPORTATION THREE WORKING DAYS PRIOR TO WORKING IN THE STATE RIGHT-OF-WAY.
- 6) NOTIFY DIG SAFELY NEW YORK THREE WORKING DAYS PRIOR TO DIGGING, DRILLING OR BLASTING AT 811 OR 1-800-962-7962, FOR A UTILITY STAKE-OUT.
- 7) ALL WORK COMPLETED AND MATERIALS USED WITHIN THE ROADWAY RIGHT-OF-WAY SHALL BE COVERED BY AND IN CONFORMITY WITH THE MOST RECENT EDITION OF THE NYS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS BOOK AND ANY SUBSEQUENT ADDENDA ALONG WITH ANY APPROPRIATE CURRENT NYS DEPARTMENT OF TRANSPORTATION STANDARD SHEETS, EXCEPT AS MODIFIED IN THESE PLANS AND IN THE ITEMIZED PROPOSAL.
- 8) QUALITY CONTROL OF ASPHALT CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 402 OF THE STANDARD SPECIFICATIONS. ASPHALT COURSE DEPTHS SHOWN ON THE PLANS ARE COMPACTED DEPTHS.
- 9) THERE WILL BE NO PERMANENT CHANGE IN THE MAINTENANCE & JURISDICTION WITHIN THE ROADWAY ROW.
- 10) THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR AND SETTLE OF LAWN AREAS, SIDEWALKS, ROADWAY AND ANY OTHER AREAS OF DISTURBANCE UNTIL FINAL CONTRACT ACCEPTANCE.



PROPOSED WATER MAIN CONNECTION
 Horizontal Scale: 1" = 40'
 Vertical Scale: 1" = 10'

NOTES

- 1) PIPE SUPPORTS SHALL BE CCI PIPING SYSTEMS STAINLESS STEEL OR APPROVED EQUAL.
- 2) ANNULAR FILL SHALL BE MORTAR SAND.
- 3) CARRIER PIPE END CAPS SHALL BE CCI PIPING SYSTEMS MODEL ESC SEAMLESS NEOPRENE END SEALS OR APPROVED EQUAL.

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PROJECT MILESTONE

FINAL DESIGN PLANS

NO.	DATE	DESCRIPTION
1	05/20/22	TOWN COMMENTS
2	06/06/22	TOWN COMMENTS
3	06/17/22	NAT. GRID COMMENTS

CLIENT:
 ALBANY PORT DISTRICT COMMISSION
 ALBANY, NEW YORK

PROJECT:
 PORT OF ALBANY OFF-SITE
 INFRASTRUCTURE IMPROVEMENTS

DRAWN	TCH
DESIGNED	TCH
CHECKED	AJF
SCALE	1"=20'
DATE	MAY-10-2022
PROJECT	18641.00

STATE OF NEW YORK
 SEAM J. FROSTING
 LICENSED PROFESSIONAL ENGINEER
 088870

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DRAWING TITLE
 ROADWAY PLAN

DRAWING NUMBER
 RW-01

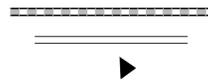
4 OF 8

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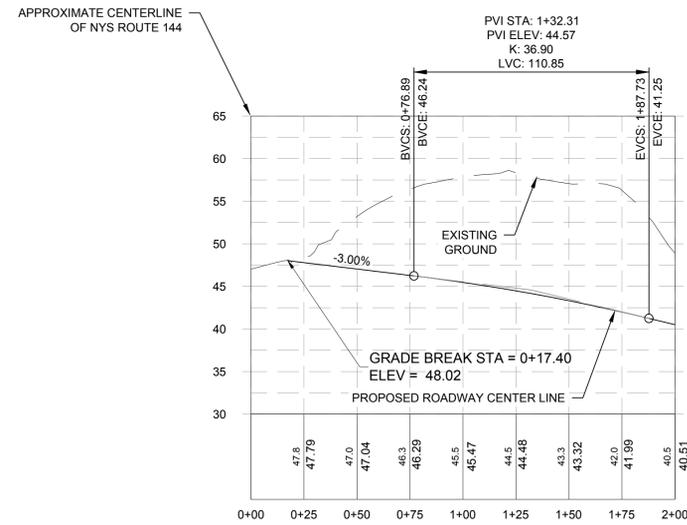
LEGEND

PROPERTY LINE	---
BUILDING SETBACK	----
EXISTING RAIL LINE	
EXISTING TREE LINE	~~~~~
EXISTING CONTOUR	- - - -
PROPOSED CONTOUR	— — — —
DITCH CENTERLINE	- · - · -

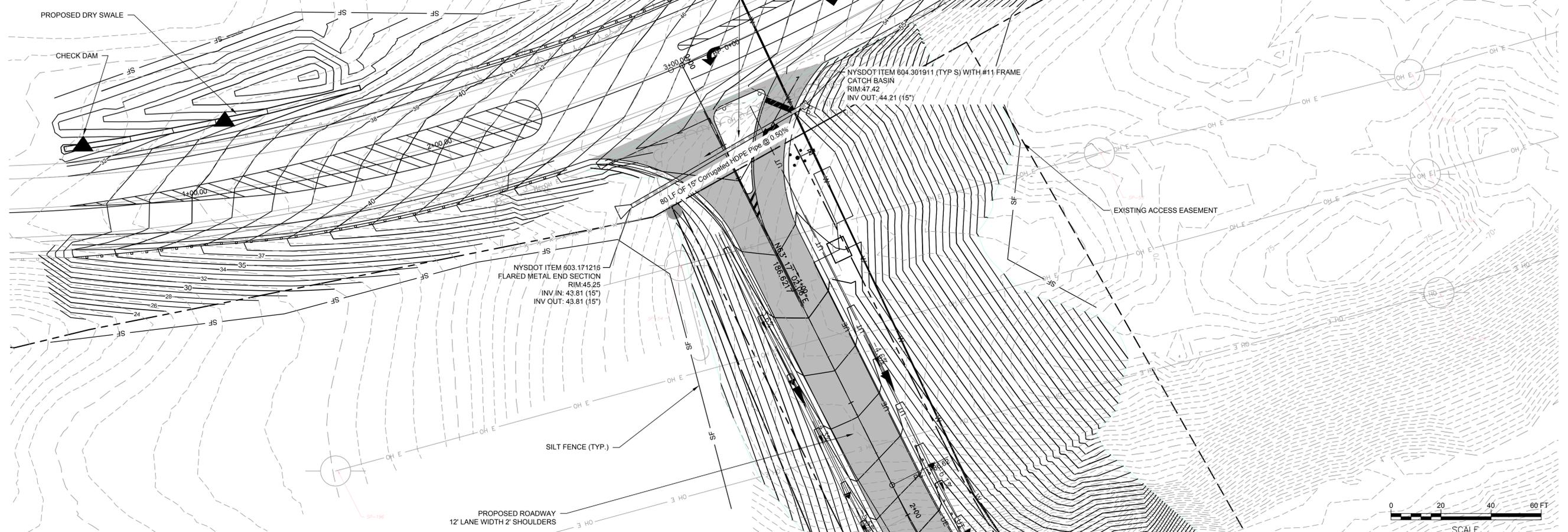
PROPOSED DRAINAGE PIPE
 PROPOSED UNDERDRAIN
 PROPOSED CHECK DAM



PLANNING BOARD HTE# 21-00100006



PROPOSED SITE DRIVEWAY
 Horizontal Scale: 1" = 40'
 Vertical Scale: 1" = 10'



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PROJECT MILESTONE
FINAL DESIGN PLANS

NO.	DATE	DESCRIPTION
1	05/20/22	TOWN COMMENTS

CLIENT:
ALBANY PORT DISTRICT COMMISSION
 ALBANY, NEW YORK

PROJECT:
**PORT OF ALBANY OFF-SITE
 INFRASTRUCTURE IMPROVEMENTS**

DRAWN	JES
DESIGNED	NSO
CHECKED	AJF
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DRAWING TITLE
GRADING & DRAINAGE PLAN

DRAWING NUMBER
GR-01



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 ALBANY, NEW YORK
 PROJECT: **PORT OF ALBANY OFF-SITE INFRASTRUCTURE IMPROVEMENTS**

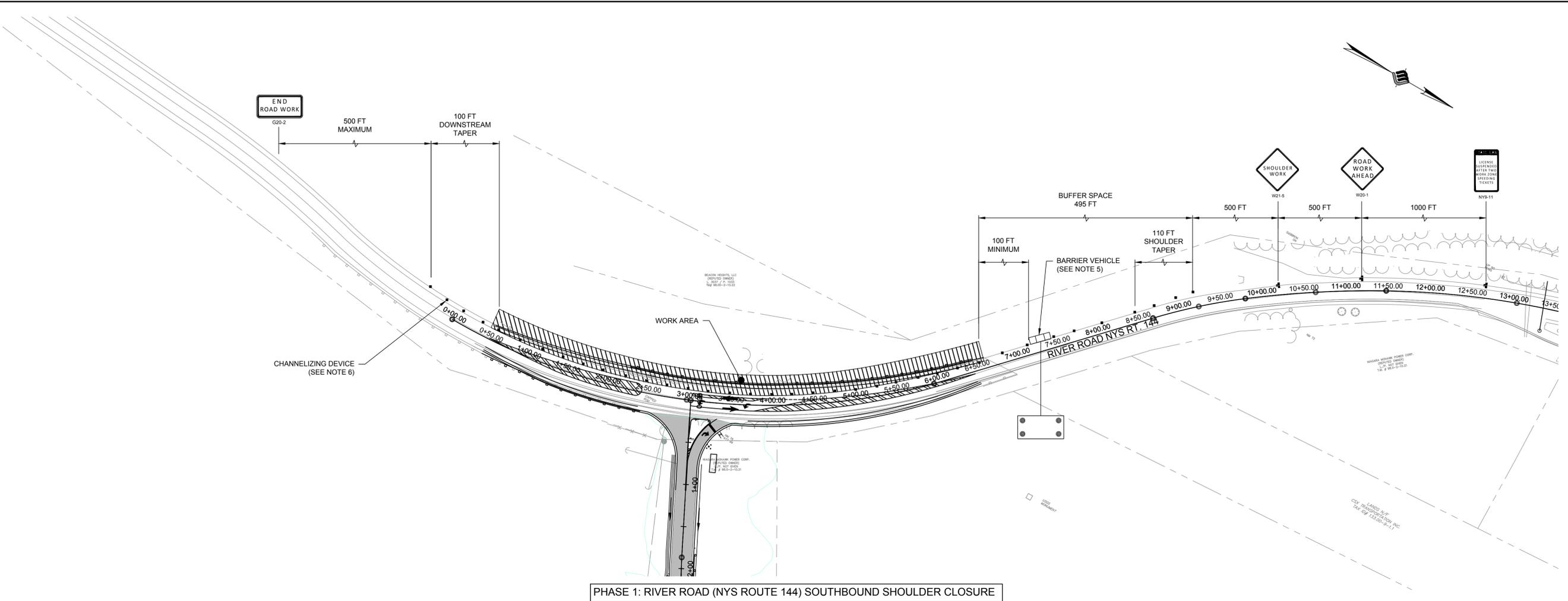
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DRAWING TITLE
WORK ZONE TRAFFIC CONTROL PLAN - PHASE 1

DRAWING NUMBER
WZ-01



PHASE 1: RIVER ROAD (NYS ROUTE 144) SOUTHBOUND SHOULDER CLOSURE

WORK ZONE TRAFFIC CONTROL

GENERAL

- THE TYPICAL DETAILS DEPICTED ON THE STANDARD SHEETS AND IN THE MUTCD, REFLECT THE MINIMUM REQUIREMENTS.
- THE CONTRACTOR MUST SUBMIT TO THE ENGINEER, IN WRITING, PROPOSED REVISIONS TO THE TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE FIVE (5) WORK DAYS PRIOR TO THE PLANNED IMPLEMENTATION OF SUCH PROPOSED REVISIONS, EXCEPT FOR CHANGES THAT ALTER THE SCOPE OF THE TRAFFIC CONTROL PLAN. SUCH CHANGES IN SCOPE MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE THIRTY (30) WORKING DAYS PRIOR TO IMPLEMENTATION OF SUCH REVISIONS.
- THE CONTRACTOR SHALL PROVIDE THE ENGINEER, IN WRITING, WITH THE NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF STAFF WHO ARE AUTHORIZED TO SECURE LABOR, MATERIALS, AND EQUIPMENT FOR EMERGENCY REPAIRS OUTSIDE NORMAL WORKING HOURS. THE ENGINEER WILL PROVIDE THE SUBMITTED INFORMATION TO REGIONAL MANAGEMENT, THE NEW YORK STATE POLICE, THE REGIONAL ENGINEER, AND THE LOCAL POLICE.

ACTIVITY AREA

- THE CONTRACTOR SHALL MAINTAIN A MINIMUM 500' LONGITUDINAL DISTANCE BETWEEN CONSTRUCTION OPERATIONS ON ALTERNATE SIDES OF THE ROADWAY, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- WHEN TWO OR MORE AREAS ARE ADJACENT, OVERLAP, OR ARE IN CLOSE PROXIMITY, THE CONTRACTOR SHALL ENSURE THERE ARE NO CONFLICTING SIGNS AND THAT LANE CONTINUITY IS MAINTAINED THROUGHOUT ALL WORK AREAS.

LANE WIDTHS

- UNLESS AUTHORIZED BY THE ENGINEER, THE MINIMUM LANE WIDTHS FOR WORK ZONE TRAVEL LANES SHALL BE AS FOLLOWS: FREEWAYS AND/OR EXPRESSWAYS IS 11'. THE MINIMUM LANE WIDTH FOR ALL OTHER TYPES OF ROADWAYS IS 10'.
- THE CONTRACTOR SHALL PROVIDE A WRITTEN NOTICE TO THE ENGINEER, A MINIMUM OF 21 CALENDAR DAYS IN ADVANCE OF PERFORMING ANY WORK THAT RESULTS IN THE REDUCED WIDTH OF AN EXISTING ROADWAY, SO THAT THE ENGINEER MAY NOTIFY THE REGIONAL PERMIT ENGINEER IN A TIMELY MANNER.

SIGNS

- THE LOCATIONS OF THE SIGNS SHOWN ON THE WORK ZONE TRAFFIC CONTROL PLANS AND DETAILS MAY BE ADJUSTED BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS. THE FINAL LOCATIONS OF SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.
- ANY EXISTING SIGNS, INCLUDING OVERHEAD SIGNS, WHICH CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL SIGN LAYOUT SHALL BE COVERED, REMOVED, STORED OR RESET, AS APPROVED BY THE ENGINEER. ALL APPROPRIATE EXISTING SIGNS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND/OR LOCATION UNLESS OTHERWISE REPLACED IN THIS CONTRACT.
- SIGNS AT OR NEAR INTERSECTIONS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT A MOTORIST'S LINE OF SIGHT.
- ALL WARNING AND REGULATORY SIGNS SHALL BE POSTED ON BOTH SIDES OF MULTI-LANE RAMPS, AND ONE-WAY STREETS. IN CASES WHERE LANE RESTRICTIONS REDUCE THE TRAVEL LANE TO ONE LANE, SIGNS SHALL BE POSTED ON THE RIGHT SIDE OF THE ACTIVE TRAVEL LANE, UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
- THE DIMENSIONS OF WORK ZONE TRAFFIC CONTROL SIGNS ARE DESCRIBED IN THE MUTCD. ANY CHANGES TO THE DIMENSIONS SHALL BE APPROVED BY THE REGIONAL DIRECTOR OR BY HIS/HER DESIGNEE.
- NYR9-12 MAY BE USED IN PLACE OF NYR9-11.
- W3-3 AND FLASHING BEACON SHALL BE PLACED AT THE LOCATIONS SHOWN AFTER SIGNAL IS OPERATIONAL. FLASHING BEACON WILL BE LEFT IN PLACE FOR 30 (THIRTY) DAYS AFTER SIGNAL BECOMES OPERATIONAL.

BARRIER/SHADOW VEHICLES

- BARRIER AND SHADOW VEHICLES SHALL BE REQUIRED AS PER STANDARD SHEET TITLED "WORK ZONE TRAFFIC CONTROL LEGENDS AND NOTES".
- NO WORK ACTIVITY, EQUIPMENT, VEHICLES AND/OR MATERIALS SHALL BE LOCATED BETWEEN THE BARRIER OR SHADOW VEHICLE AND THE ACTIVE WORK AREA (ROLL AHEAD DISTANCE).
- THE CONTRACTOR MAY BE REQUIRED TO PROVIDE A BARRIER VEHICLE IN CONJUNCTION WITH POLICE PRESENCE IN THE WORK ZONE. TO BE INCLUDED IN THE UNIT BID PRICE FOR BASIC WORK ZONE TRAFFIC CONTROL.

CHANNELIZING DEVICES

- WHERE POSSIBLE ALL CHANNELIZING AND GUIDING DEVICES ARE TO BE PLACED SO AS TO PROVIDE A MINIMUM 2' LATERAL CLEARANCE TO THE TRAVELED WAY.

LANE CLOSURES

- THE DEPARTMENT RETAINS THE RIGHT TO CANCEL ANY WORK OPERATIONS INCLUDING LANE CLOSURE AND/OR TOTAL ROAD CLOSURES THAT WOULD BE AFFECTED BY UNFORESEEN MAJOR EVENTS THAT MAY CREATE TRAFFIC DELAYS SEVEN (7) CALENDAR DAYS PRIOR TO THE PROPOSED WORK. SPECIFIC DATES ARE YET TO BE DETERMINED.
- PEDESTRIAN ACCOMMODATIONS MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

DAILY CLOSURE RESTRICTIONS

THERE SHALL BE NO TEMPORARY LANE CLOSURES ON STATE HIGHWAYS DURING THE FOLLOWING DAYS AND TIMES:
 MONDAY - FRIDAY: 6:00 A.M. THROUGH 9:00 A.M.
 3:00 P.M. THROUGH 6:00 P.M.

HOLIDAY CLOSURE RESTRICTIONS

THERE SHALL NOT BE TEMPORARY LANE CLOSURES ON (RTE 144) DURING THE FOLLOWING DATES:

- 2022
- 6:00 AM, FRIDAY, DECEMBER 31, 2022 THRU 6:00 AM, MONDAY JANUARY 3, 2022 - (NEW YEAR'S DAY)
 - 6:00 AM, FRIDAY, MAY 27, 2022 THRU 6:00 AM TUESDAY, MAY 31, 2022 - (MEMORIAL DAY HOLIDAY)
 - 6:00 AM, FRIDAY, JULY 1, 2022 THRU 6:00 AM, TUESDAY, JULY 5, 2022 - (INDEPENDENCE DAY HOLIDAY)
 - 6:00 AM, FRIDAY, SEPTEMBER 2, 2022 THRU 6:00 AM, TUESDAY, SEPTEMBER 6, 2022 - (LABOR DAY HOLIDAY)
 - 6:00 AM WEDNESDAY, NOVEMBER 23, 2022 THRU 6:00 AM MONDAY, NOVEMBER 28, 2022 - (THANKSGIVING DAY HOLIDAY)
 - 6:00 AM THURSDAY, DECEMBER 22, 2022 THRU 6:00 AM MONDAY, DECEMBER 26, 2022 - (CHRISTMAS DAY HOLIDAY)

LEGEND

- WORK ZONE
- CHANNELIZING DEVICE
- WORK ZONE SIGN
- DIRECTIONAL ARROWS
- RIGHT OF WAY
- ARROW PANEL, CAUTION MODE

PLANNING BOARD HTE# 21-00100006





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PROJECT MILESTONE
FINAL DESIGN PLANS

NO.	DATE	DESCRIPTION
1	05/20/22	TOWN COMMENTS

CLIENT:
ALBANY PORT DISTRICT COMMISSION
 ALBANY, NEW YORK

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 INFRASTRUCTURE IMPROVEMENTS**

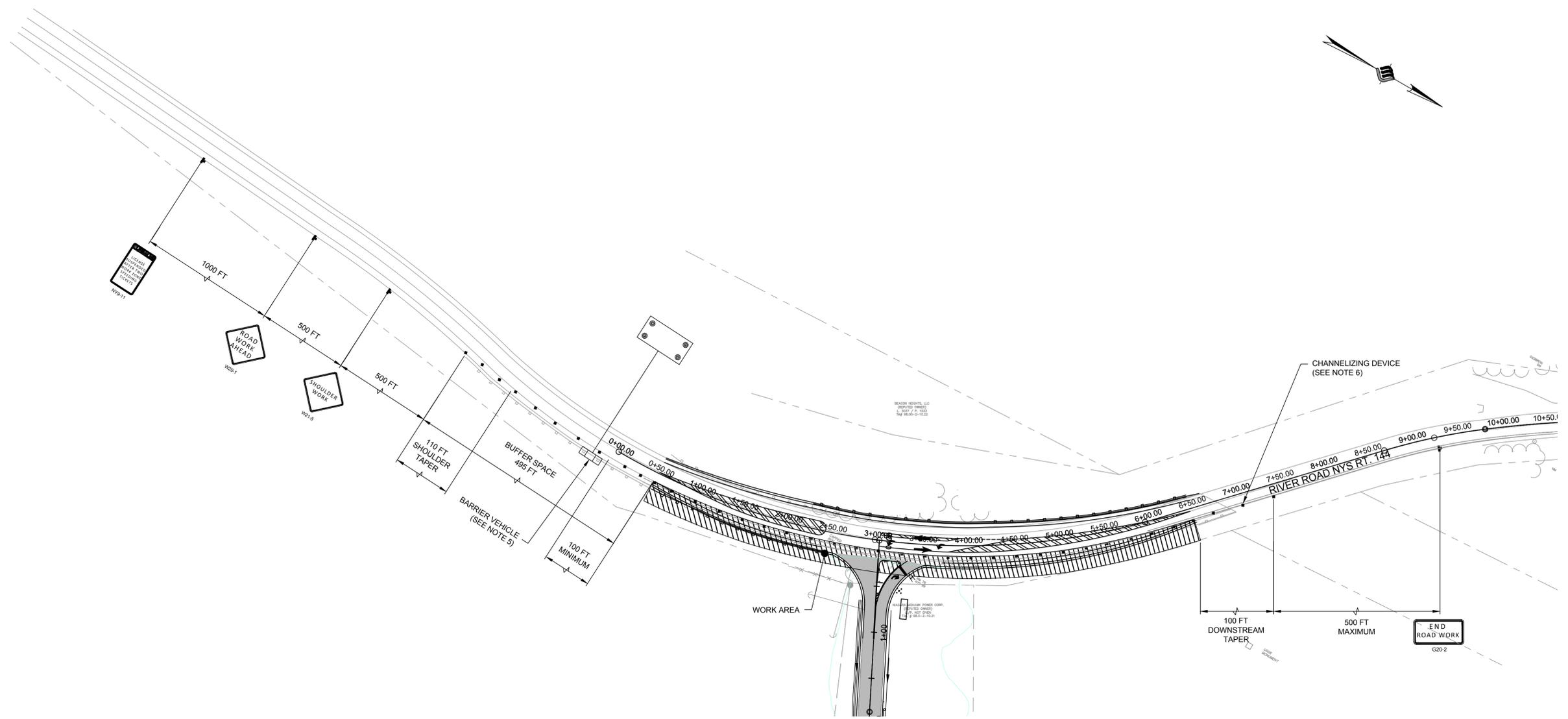
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DRAWING TITLE
WORK ZONE TRAFFIC CONTROL PLAN - PHASE 2

DRAWING NUMBER
WZ-02



PHASE 2: RIVER ROAD (NYS ROUTE 144) NORTHBOUND SHOULDER CLOSURE

- LEGEND**
- WORK ZONE
 - CHANNELIZING DEVICE
 - WORK ZONE SIGN
 - DIRECTIONAL ARROWS
 - RIGHT OF WAY
 - ARROW PANEL, CAUTION MODE

PLANNING BOARD HTE# 21-00100006



N:\18641_00\ALBANY PORT EXPANSION\DRAWINGS\SHEET FILES\PHASE 2\WZ-02\WZ-02-PHASE 2.DWG

TABLE 1
SAFE BEARING LOADS OF SOILS & MULTIPLICATION FACTORS FOR MODIFICATION OF THRUST BLOCK AREAS

SOIL	SAFE BEARING LOAD (LBS./SQ. FT.)	FACTOR
MUCK	0	0
SOFT CLAY	1000	2.0
SAND	2000	1.0
SAND AND GRAVEL	3000	0.67
SAND AND GRAVEL CEMENTED WITH CLAY	4000	0.50
SHALES	10000	0.20

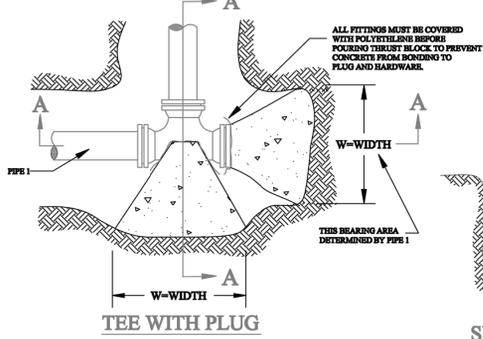
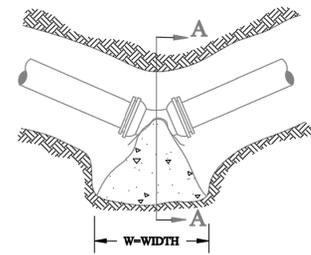
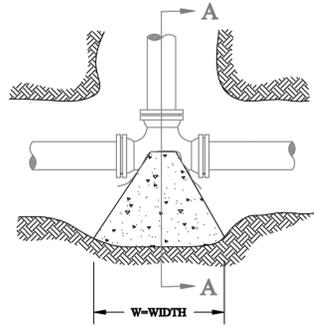
TABLE 2
REQUIRED BEARING AREAS & DIMENSIONS FOR CONCRETE THRUST BLOCKS

PIPE SIZE (INCHES)	THE AREA (Dimensions sq. ft. D _o W)	90° (1/4) BEND		45° (1/8) BEND		22 1/2° (1/16) BEND		11-1/4° (1/32) BEND		
		AREA (Dimensions sq. ft. D _o W)								
2	0.4	0.5x1.0	0.5	1.5x1.0	2.5	0.5x1.0	0.1	0.5x1.0	0.1	0.5x1.0
3	0.8	1.0x1.0	1.1	1.0x1.5	0.6	0.5x1.5	0.3	0.5x1.0	0.2	0.5x1.0
4	1.4	1.0x1.5	2.0	1.0x2.0	1.1	1.0x1.5	0.6	0.5x1.5	0.3	0.5x1.0
6	3.2	1.5x2.5	4.5	2.0x2.5	2.4	1.5x2.0	1.2	1.0x1.5	0.6	0.5x1.0
8	5.7	2.0x3.0	8.0	2.0x4.0	4.3	2.0x2.5	2.2	1.5x1.5	1.1	1.0x1.5
10	8.8	2.5x3.5	12.5	3.0x4.5	6.8	2.0x3.5	3.4	1.5x2.5	1.7	1.0x2.0
12	12.7	3.5x3.5	18.0	4.0x4.5	9.7	2.5x4.0	5.0	2.0x2.5	2.5	1.5x2.0
14	17.3	3.5x5.0	24.5	4.5x5.5	13.3	3.5x4.0	6.4	2.5x3.5	3.4	1.5x2.5
16	22.6	4.5x5.0	32.0	5.0x5.5	17.3	3.5x4.5	8.8	2.5x3.5	4.4	2.0x2.5
18	28.6	5.0x6.0	40.5	5.5x7.0	21.9	4.0x5.5	11.2	3.0x4.0	5.6	2.0x3.0
20	35.3	5.5x6.5	50.0	6.5x8.0	27.0	4.5x6.0	13.8	3.5x4.0	6.9	2.0x3.5

NOTES

- FOR REQUIRED BEARING AREA AND DIMENSION D_oW SEE TABLE 2. VALUES OF D_oW OTHER THAN THOSE SHOWN IN THE TABLE MAY BE USED PROVIDED THEY YIELD A BEARING AREA EQUAL TO OR LARGER THAN THAT REQUIRED.
- ALL THRUST BLOCKS SHALL BE 3000 P.S.I. POURED CONCRETE.
- CONCRETE NOT TO OVERLAP ANY JOINT.
- CONCRETE TO BE PLACED SO AS NOT TO INTERFERE WITH REMOVING OR INSTALLING ANY OF THE HARDWARE.
- VALUES FOR TEE, ALSO APPLY TO END PLUGS, CAPS AND TAPPING ELBOWS.
- REQUIRED BEARING AREA ARE DUE TO THRUSTS CAUSED BY 150 P.S.I. WORKING PRESSURE PLUS 50% (75 P.S.I.) SURGE ALLOWANCE RESULTING IN 225 P.S.I. TOTAL INTERNAL PRESSURE, NOMINAL PIPE DIAMETER USED.
- REQUIRED BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING CAPACITY OF 2000 LBS. PER SQ. FT. FOR SAND. DUE TO OTHER SOIL CONDITIONS ENCOUNTERED, BEARING AREAS MAY BE MODIFIED BY THE ENGINEER BY MULTIPLYING THE AREA GIVEN IN TABLE 1 FOR THE APPROPRIATE PIPE SIZE AND FITTING BY THE LISTED CORRECTION FACTORS.
- IN MUCK, PRAT OR RECENTLY PLACED FILL, ALL THRUSTS SHALL BE RESISTED BY PILES OR THE SOLES TO BOLD FOUNDATIONS, OR BY REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS, ALL A.O.B.E.

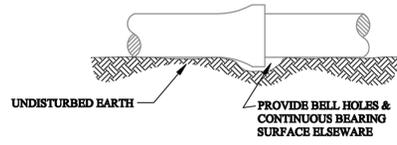
FOR REQUIRED BEARING AREA AND DIMENSION D_oW SEE TABLE 2. VALUES OF D_oW OTHER THAN THOSE SHOWN IN THE TABLE MAY BE USED PROVIDED THEY YIELD A BEARING AREA EQUAL TO OR LARGER THAN THAT REQUIRED.



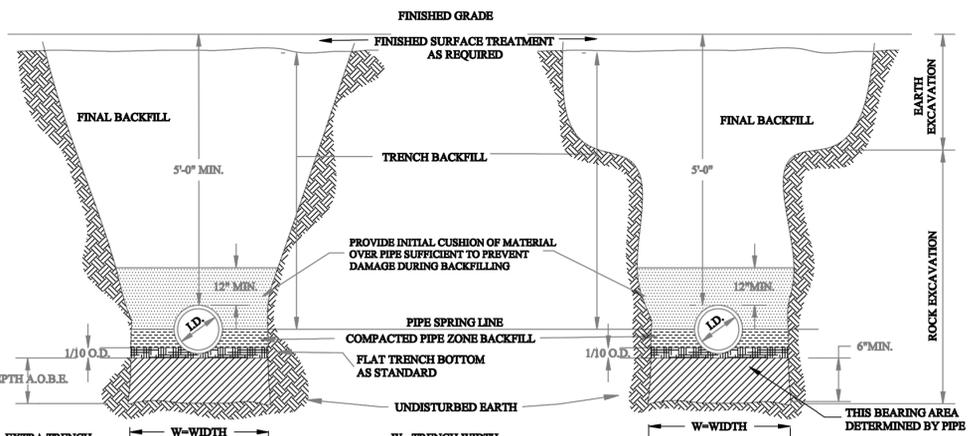
SECTION A-A



TYPICAL POURED IN PLACE CONCRETE THRUST BLOCK DETAILS



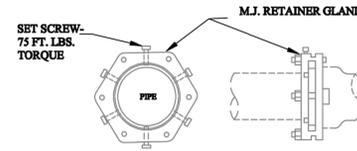
ELEVATIONS



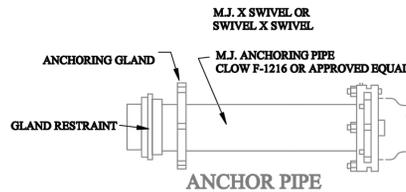
TYPICAL TRENCH DETAILS

TRENCH WIDTH

PIPE SIZE I.D. (INCHES)	MIN. SUGGESTED TRENCH WIDTH (O.D. BELL PLUS 1")	MAX. TRENCH WIDTH ALLOWED = 1.0 PLUS 24" AT TOP OF PIPE
2	18	26
3	18	27
4	18	28
6	21	30
8	24	32
10	26	34
12	28	36
14	30	38
16	32	40
18	35	42
20	37	44



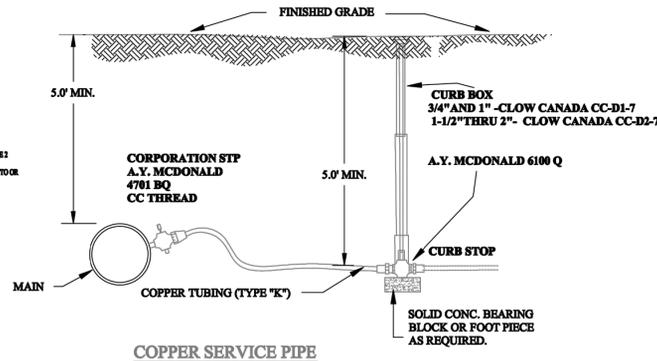
RETAINER GLAND



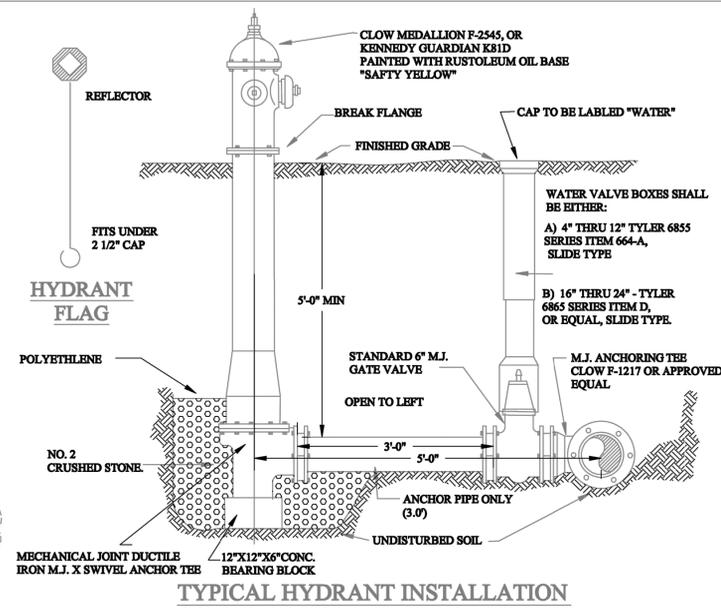
THRUST RESTRAINT OPTIONS

CURB BOXES SHALL BE EITHER :

- FOR 3/4" AND 1" - CLOW CANADA CC-D1-7 CLOW CANADA CC-D2-7 5'-6" ADJUSTABLE WITH 35" X 5/8" DIAMETER GRADE 304 STAINLESS STEEL ROD AND BRASS COTTER PIN.
- FOR 1 1/2" THRU 2", OR EQUAL, 5'-6" ADJUSTABLE WITH 35" X 5/8" DIAMETER GRADE 304 STAINLESS STEEL ROD AND BRASS COTTER PIN.

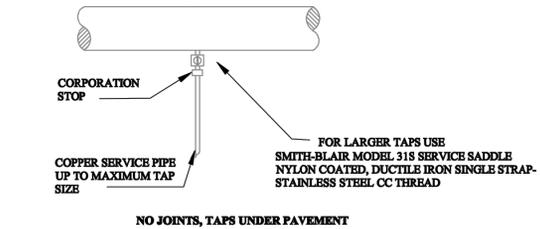


TYPICAL SERVICE CONNECTIONS

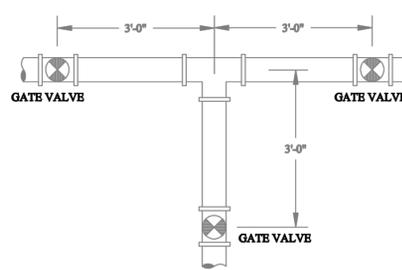


TYPICAL HYDRANT INSTALLATION

MAXIMUM TAP SIZE	4	6	8	10	12
MAIN SIZE - (INCHES)	4	6	8	10	12
MAX. TAP SIZE (INCHES)	3/4	1	1-1/4	1-1/2	2



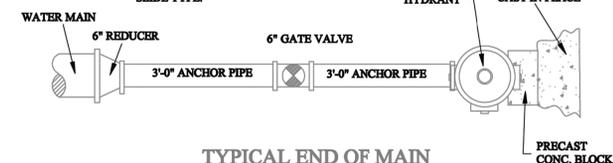
SINGLE AND MULTIPLE TAPS



TYPICAL SPACING

WATER VALVES SHALL HAVE THEIR EXTERIOR AND INTERIOR SURFACES FUSION EPOXY COATED CONFORMING TO AWWA C590-81. ALL SHALL BE MECHANICAL JOINT AND OPEN TO THE LEFT. FIELD -LOCK GASKETS REQUIRED ON LAST THREE JOINTS.

WATER VALVES SHALL BE EITHER:
A) 4" THRU 12" - CLOW F-5065, OR EQUAL, DOUBLE GATE VALVE.
B) 4" THRU 12" - CLOW F-6100, OR KENNEDY 4571, RESILIENT WEDGE VALVE.
WATER VALVE BOXES SHALL BE EITHER:
A) 4" THRU 12" - TYLER 6855 SERIES ITEM 664-A, OR CLOW F-2452 TYPE 664-A, OR EQUAL, SLIDE TYPE.
B) 16" THRU 24" - TYLER 6865 SERIES ITEM D, OR EQUAL, SLIDE TYPE.



TYPICAL END OF MAIN HYDRANT

REVISIONS

DATE	BY	DESCRIPTION
2/15/06		

WATER DISTRIBUTION DETAILS

TOWN OF BETHLEHEM
DEPARTMENT OF PUBLIC WORKS
445 DELAWARE AVE. DELMAR, NY 12054

