

# TOWN OF BUCODA

## N. MAIN STREET LEVEE IMPROVEMENTS PROJECT

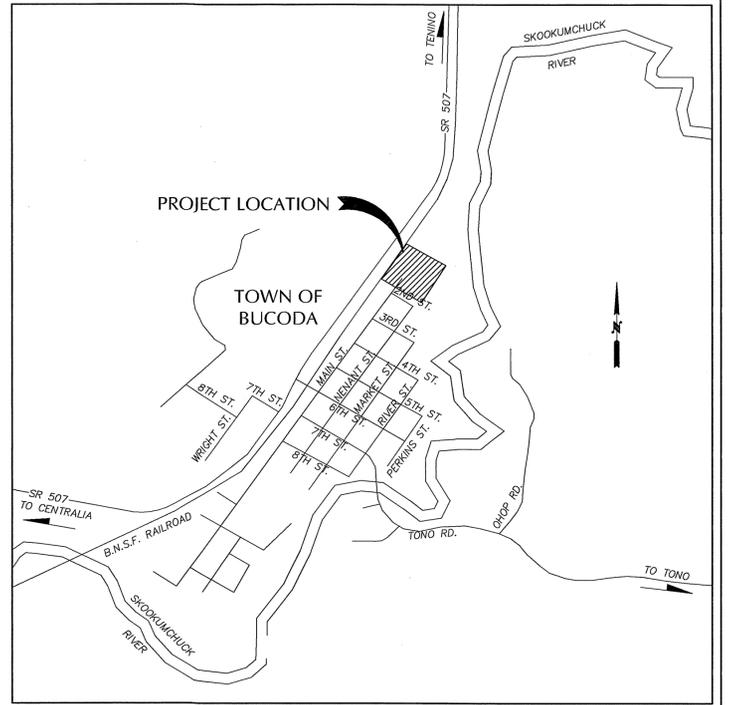
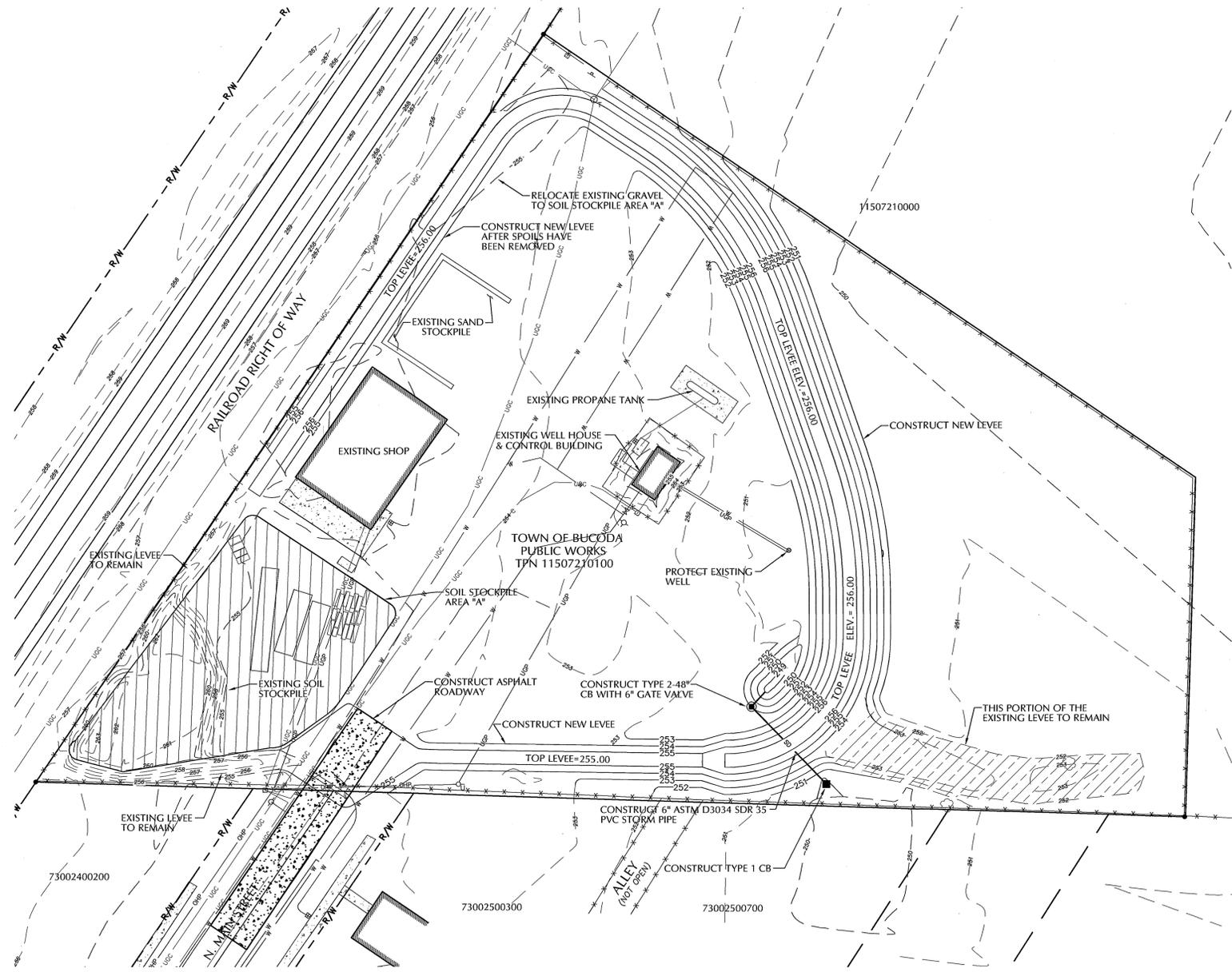
**MAYOR:**  
ALAN CARR

**COUNCIL MEMBERS:**  
CHARLIE BRINKMEYER  
STEVE PURCELL  
SANDY ROBERTSON  
SHERRY SHEPHERD  
ALAN VANELL

**CITY CLERK:**  
SHELLY SMITH

**PLANNING COMMISSION CHAIR:**  
LINDA VANELL

**PUBLIC WORKS DIRECTOR:**  
BOB BROWN



VICINITY MAP  
N.T.S.

Basis of Bearing  
HELD SOUTH BOUNDARY LINE OF SUBJECT PARCEL  
CALCULATED: S88.1521E, 508.82'  
MEASURED: S88.1521E, 508.51'

SCALE: 1" = 30 FEET

VERTICAL DATUM  
WSDOT MONUMENT GP34507-31  
3" BRASS DISK, SET IN CONCRETE  
420' NORTH OF THE INTERSECTION OF  
SR-507 AND 6TH ST.  
36' EAST OF CENTERLINE OF SR-507  
AND 3.5' WEST OF WITNESS POST  
NAVD 88  
ELEV.=260.626

- SHEET INDEX**
1. COVER SHEET
  2. SITE PLAN
  3. EXISTING CONDITION & DEMOLITION PLAN
  4. EROSION CONTROL PLAN
  5. EROSION CONTROL NOTES & DETAILS
  6. LAYOUT PLAN
  7. LEVEE SECTIONS & DETAILS
  8. STORM & SURFACE RESTORATION DETAILS

100% PLANS



CALL BEFORE YOU DIG:  
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NO	DATE	BY	APPR	REVISIONS

**JWM&A** Civil • Municipal • Geotechnical • Land Surveying  
**Jerome W. Morrisette & Associates Inc., P.S.**  
 1700 Cooper Pt. Road S.W. #B-2, Olympia, Wa. 98502-1110 Ph 360.352.9456 Fx 360.352.9990

Approved By \_\_\_\_\_

S.S. 05-16-13  
 DESIGNED BY DATE  
 J.N. R.W. 05-16-13  
 C.A.D.D. BY DATE  
 T.J.L. 05-16-13  
 CHECKED BY DATE

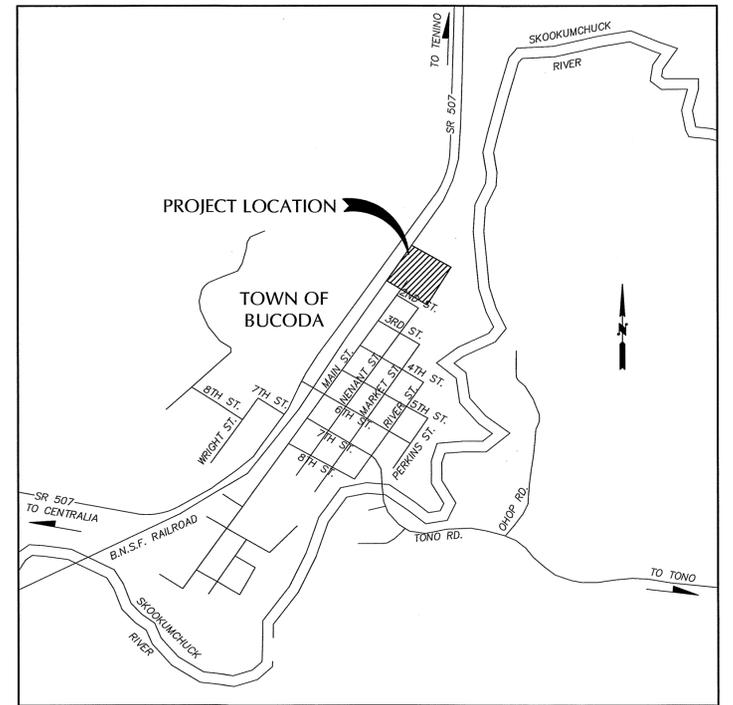
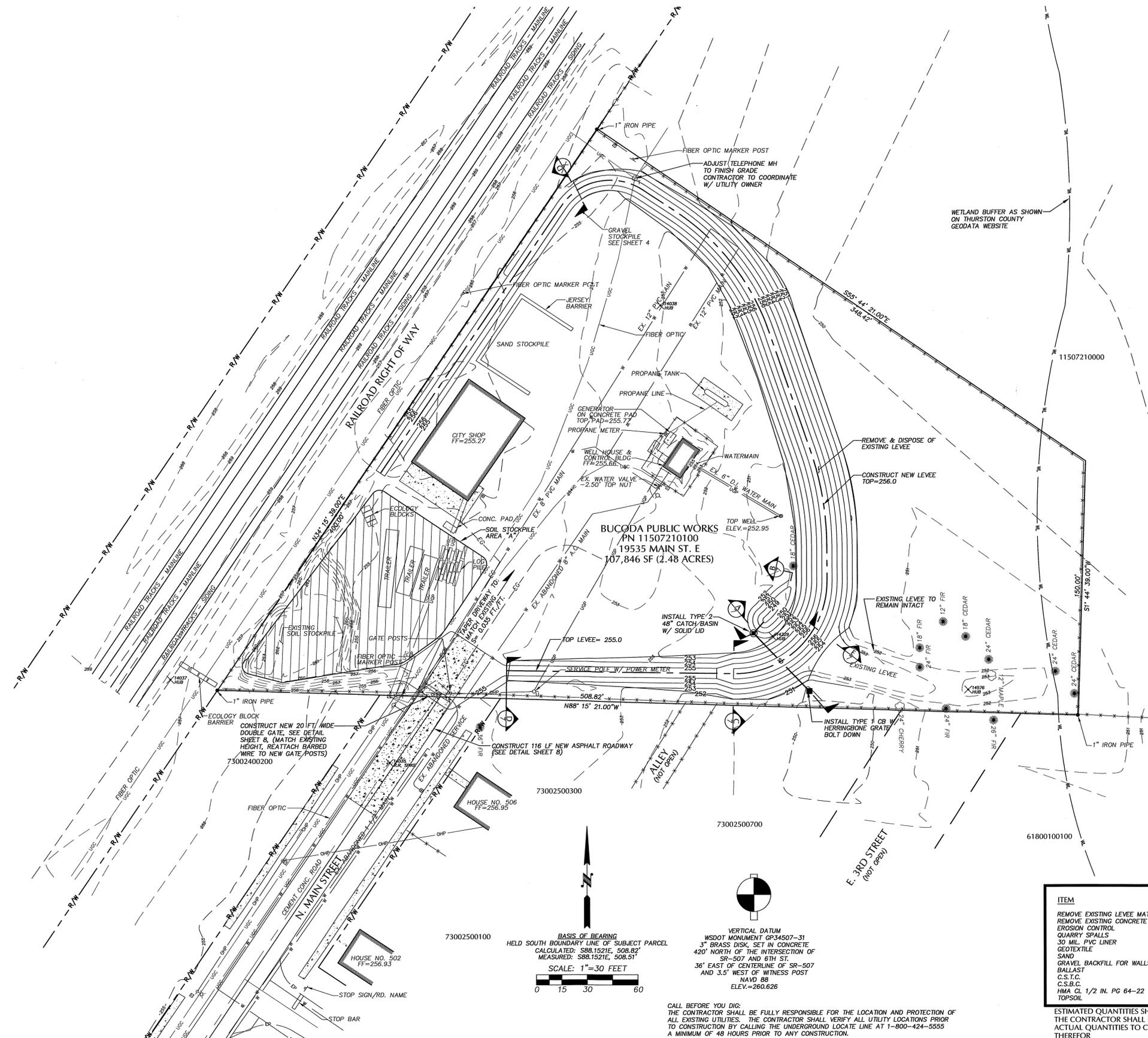
Town of  
Bucoda

**TOWN OF BUCODA LEVEE PROJECT  
COVER SHEET**

12121-Bucoda Cover Sheet.dwg SHEET 1 OF 8

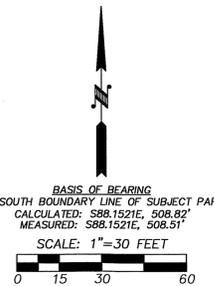
Z:\2012 Projects\12121 Town of Bucoda - N. Main St. Levee, TCOI Drawings\JWMA Drawings\100% Plans\12121 Bucoda Cover Sheet.dwg, 10/26/14 10:28:24 AM, 1:1

SECTION 07, TOWNSHIP 15, RANGE 1 WEST



VICINITY MAP  
N.T.S.

- LEGEND**
- ⊕ FIRE HYDRANT
  - ⊕ WATER VALVE
  - ⊕ WATER METER
  - ⊕ WELL HEAD
  - ⊕ DECIDUOUS TREE
  - ⊕ CONIFER TREE
  - ⊕ POWER POLE
  - ⊕ POWER POLE WITH LUMINAIRE
  - ⊕ GUY ANCHOR
  - ⊕ TELEPHONE PEDESTAL
  - ⊕ TELEPHONE MANHOLE
  - ⊕ STREET SIGN
  - PROPERTY MARKER (AS NOTED)
  - ⊕ MONUMENT
  - ⊕ RAILROAD SPIKE OR HUB (LOCAL PROJECT CONTROL)
  - W — WATER LINE
  - F — FENCE
  - OHP — OVERHEAD POWER
  - UGP — UNDERGROUND POWER
  - E — EDGE OF GRAVEL
  - UGC — UNDERGROUND COMMUNICATION
  - F — FLOWLINE
- PROPOSED**
- ⊕ CATCH BASIN (TYPE 2)
  - ⊕ CATCH BASIN (TYPE 1)
  - SD — STORM DRAIN
  - L — LEVEE CENTERLINE
  - ⊕ DETAIL / SECTION REFERENCE
  - PLAN OR DETAIL PAGE REFERENCE
  - WL — WETLAND BUFFER



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ITEM	ESTIMATED QUANTITY	UNITS
REMOVE EXISTING LEVEE MATERIAL	1,097	C.Y.
REMOVE EXISTING CONCRETE ROADWAY	185	S.Y.
EROSION CONTROL	174	L.S.
QUARRY SPALLS	174	C.Y.
30 MIL. PVC LINER	8,080	S.F.
SAND	8,080	S.F.
GRAVEL BACKFILL FOR WALLS (LEVEE MATERIAL)	58	C.Y.
BALLAST	1,675	C.Y.
C.S.T.C.	60	C.Y.
C.S.B.C.	25	C.Y.
HMA CL 1/2 IN. PG 64-22	110	C.Y.
TOPSOIL	60	TON
	212	C.Y.

ESTIMATED QUANTITIES SHOWN ARE FOR PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING & FURNISHING ACTUAL QUANTITIES TO COMPLETE THE PROJECT AT NO ADDITIONAL COST THEREFOR.

100% PLANS



NO	DATE	BY	APPR	REVISIONS

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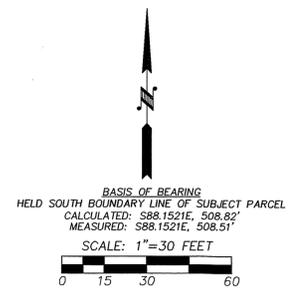
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S.S. DESIGNED BY	05-16-13	DATE
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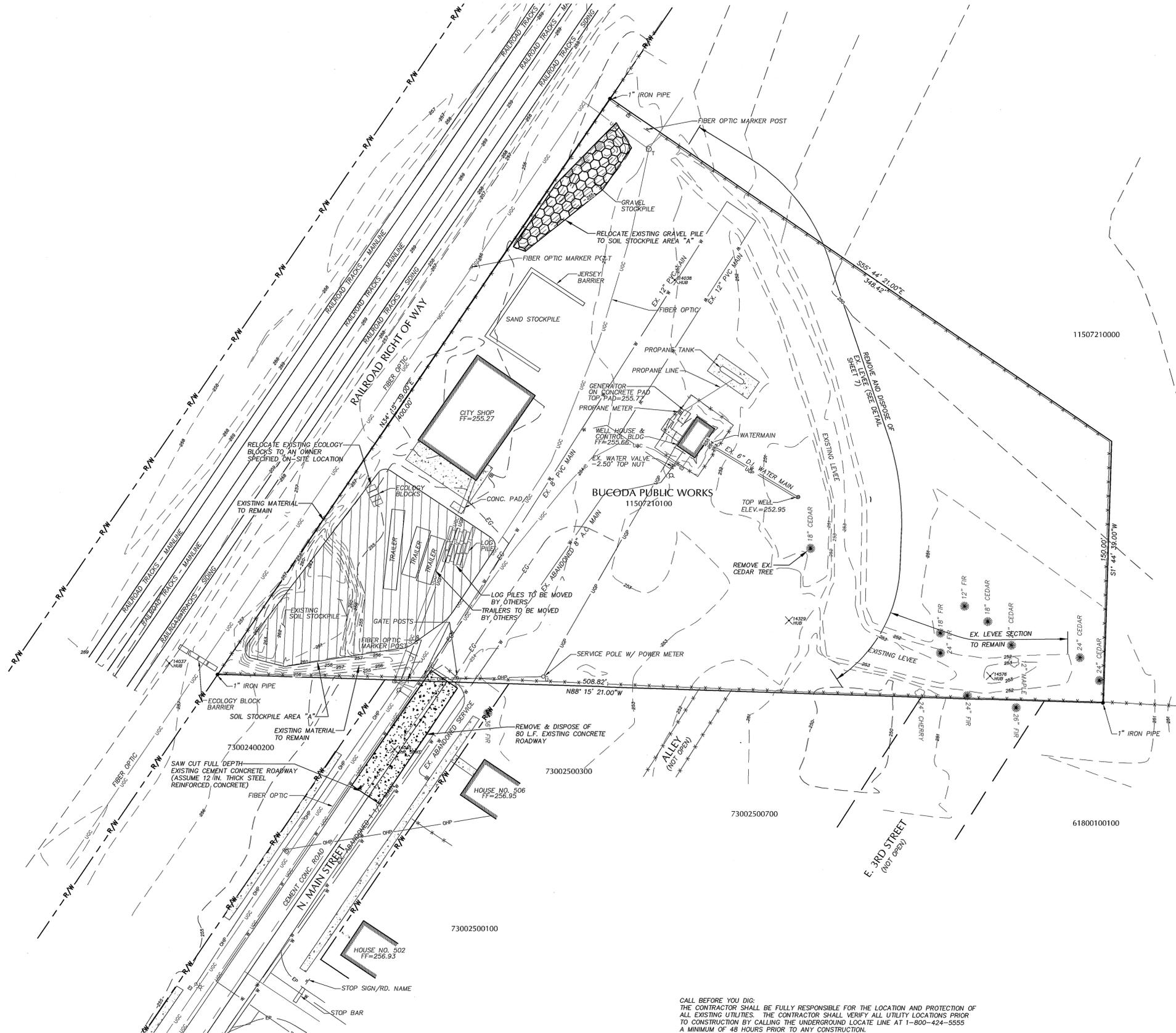
Town of Bucoda

**TOWN OF BUCODA LEVEE PROJECT**  
**SITE PLAN**  
 12121-Bucoda Site Plan.dwg SHEET 2 OF 8

202012 Project 15121 Town of Bucoda - 14 Main St Levee, T101 Drawing/JWM Morrissette/006, Plan 12121 Bucoda Site Plan.dwg, 1/20/2014 10:20:35 AM, 1/20/14



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**LEGEND**

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- ⊕ WATER VALVE
- ⊕ WATER METER
- ⊕ WELL HEAD
- DECIDUOUS TREE
- CONIFER TREE
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- ⊕ POWER POLE WITH LUMINAIRE
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- WATER LINE
- FENCE
- OHP OVERHEAD POWER
- UGP UNDERGROUND POWER
- EDGE OF GRAVEL
- UGC UNDERGROUND COMMUNICATION
- FLOWLINE
- ▭ SOIL STOCKPILE AREA "A"
- ▭ GRAVEL STOCKPILE

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 CHECKED BY \_\_\_\_\_ DATE

Town of  
 Bucoda

**TOWN OF BUCODA LEVEE PROJECT**  
**EXISTING CONDITIONS & DEMOLITION PLAN**

BASIS OF BEARING  
 HELD SOUTH BOUNDARY LINE OF SUBJECT PARCEL  
 CALCULATED: S88.1521E, 508.82'  
 MEASURED: S88.1521E, 508.51'

SCALE: 1"=30 FEET

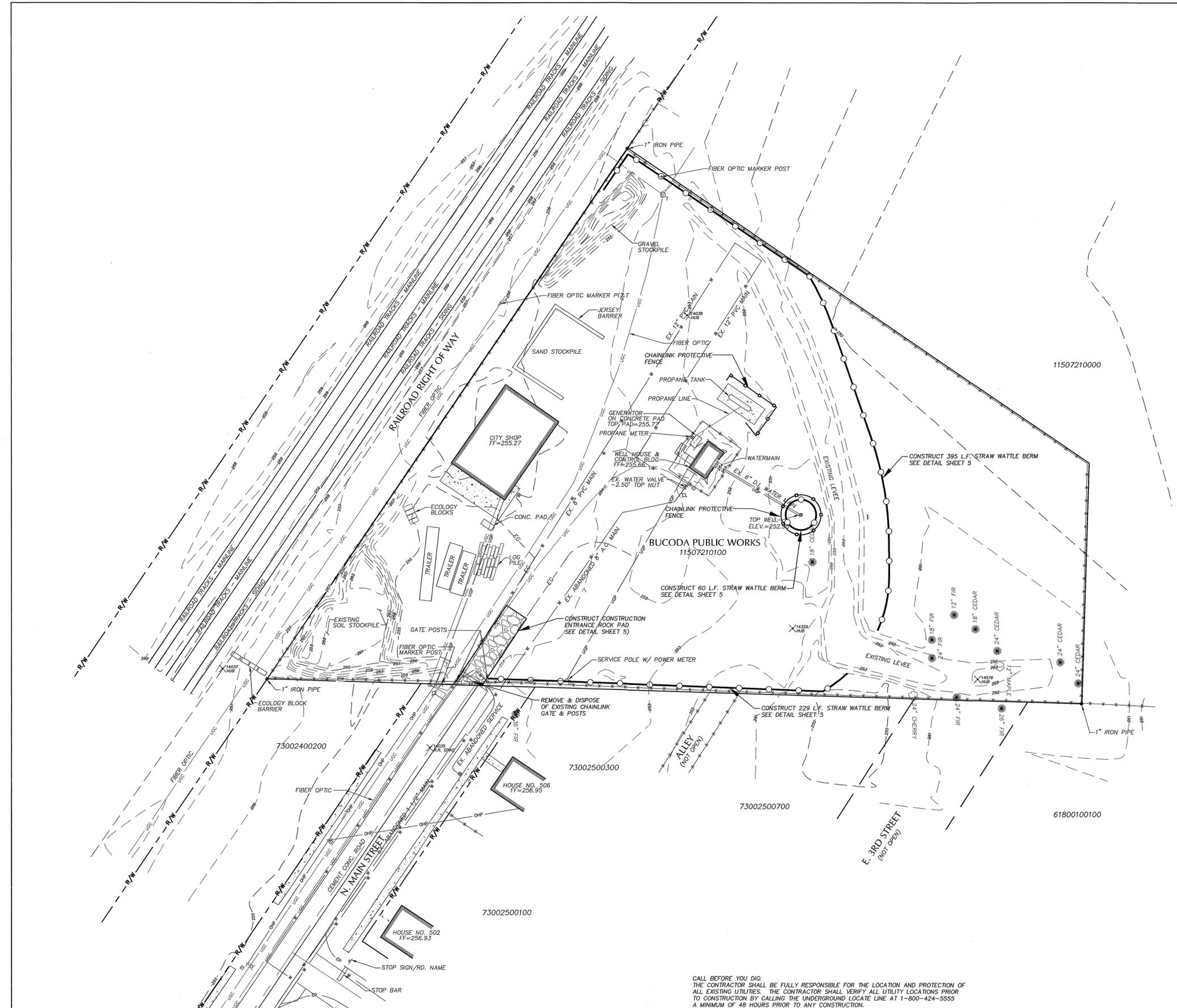
0 15 30 60



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  - UNDERGROUND POWER
  - EDGE OF GRAVEL
  - UGC UNDERGROUND COMMUNICATION
  - FLOWLINE
- PROPOSED**
- STRAW WATTLE
  - CHAINLINK PROTECTIVE FENCE



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Town of  
 Bucoda

**TOWN OF BUCODA LEVEE PROJECT**  
 Erosion Control Plan

12121-Bucoda Erosion Control Plan.dwg SHEET 4 OF 8

100% PLANS



2:2012 Project(12121) Town of Bucoda - N. Main St Levee, TDO1 Drawing(JWMA) Drawing(100% Plans) 12121 Bucoda Erosion Control Plans.dwg 10/20/14 8:20:03 AM, 11

**SEEDING:**

- SEED MIXTURE SHALL BE PER TABLE 9.4 AND SHALL BE APPLIED AT THE RATE OF 120 LBS PER ACRE.
- SEED BEDS PLANTED BETWEEN MAY 1 AND OCTOBER 31 WILL REQUIRE IRRIGATION AND OTHER MAINTENANCE AS NECESSARY TO FOSTER AND PROTECT THE ROOT STRUCTURE.
- FOR SEED BEDS PLANTED BETWEEN OCTOBER 31 AND APRIL, ARMORING OF THE SEED BED WILL BE NECESSARY. (E.G., GEOTEXTILES, JUTE MAT, CLEAR PLASTIC COVERING).
- BEFORE SEEDING, INSTALL NEEDED SURFACE RUNOFF CONTROL MEASURES SUCH AS GRADIENT TERRACES, INTERCEPTOR DIKES, SWALES, LEVEL SPREADERS AND SEDIMENT BASINS.
- THE SEEDBED SHALL BE FIRM WITH A FAIRLY FINE SURFACE, FOLLOWING SURFACE ROUGHENING. PERFORM ALL CULTURAL OPERATIONS ACROSS OR AT RIGHT ANGLES TO THE SLOPE.
- FERTILIZERS ARE TO BE USED ACCORDING TO SUPPLIERS RECOMMENDATIONS. AMOUNTS USED SHOULD BE MINIMIZED, ESPECIALLY ADJACENT TO WATER BODIES AND WETLANDS.

TABLE 9.3 GUIDE TO MULCH MATERIALS, RATES, AND USES

MULCH MATERIAL	QUALITY STANDARDS	APPLICATION RATES		DEPTH OF APPLICATION	REMARKS
		PER 1000 SQ FT	PER ACRE		
GRAVEL, CRUSHED STONE, OR SLAG	WASHED 3/4 TO 1 1/2" INCH	9 C.Y.		3 IN.	GOOD FOR SHORT SLOPE AND AROUND WOODY PLANTS, AND ORNAMENTS. USE WHERE SUBJECT TO FOOT TRAFFIC
HAY OR STRAW	AIR DRY, FREE FROM WEED SEED AND COARSE MATERIAL	75 TO 100 POUNDS (APPROX. 2 IN THICK)	1.5 TO 2.5 TONS 90 TO 120 BALES	MIN 2 IN	USE WHERE NEEDED FOR MORE THAN 3 MOS. SUBJECT TO BLOWING—KEEP MOIST OR TIED DOWN
WOOD FIBER CELLULOSE (PARTLY DIGESTED WOOD FIBERS)	NO GROWTH ORGANISM INHIBITING FACTORS	20 TO 30 POUNDS	1000 TO 1500 POUNDS		WHEN USED ON CRITICAL AREAS, DOUBLE APPLICATION RATE. HYDROMULCHER, NO TIE-DOWN REQUIRED.

TABLE 9.4 SEED MIXTURE FOR EROSION CONTROL

SEED MIXTURE FOR EROSION CONTROL				
NAME	PROPORTIONS BY WEIGHT	PERCENT PURITY	PERCENT GERMINATION	
REDTOP (ARROSTIS ALBA)	10 PERCENT	92	90	
ANNUAL RYE (LOLIUM MULTIFLORUM)	40 PERCENT	98	90	
CHEWINGS FESCUE (FESTUCA RUBA COMMUTATA) (JAMESTOWN, BANNER, SHADOW, OR KOKET)	40 PERCENT	97	80	

**APPENDIX T**

**STANDARD EROSION CONTROL NOTES**

**SILT FENCES:**

- FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY FASTENED AT BOTH ENDS TO POST.
- POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 30 INCHES).
- A TRENCH SHALL BE EXCAVATED APPROXIMATELY 8 INCHES WIDE AND 12 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
- WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 36" ABOVE THE ORIGINAL GROUND SURFACE.
- THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. THE FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- WHEN EXTRA-STRENGTH FILTER FABRIC AND CLOSER POST SPACING IS USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ABOVE NOTES APPLYING.
- FILTER FABRIC FENCES SHALL NOT BE REMOVED BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

**EROSION CONTROL BLANKETS:**

- WHERE SOIL IS HIGHLY ERODIBLE, NET SHALL ONLY BE USED IN CONJUNCTION WITH AN ORGANIC MULCH SUCH AS STRAW AND WOOD FIBER.
- JUTE NET SHALL BE HEAVY, UNIFORM CLOTH WOVEN OF SINGLE JUTE YARN, WHICH IF 36 TO 48 INCHES WIDE SHALL WEIGH AN AVERAGE OF 1.2 LBS/LINEAR YARD. IT MUST BE SO APPLIED THAT IT IS IN COMPLETE CONTACT WITH THE SOIL.
- NETTING SHALL BE SECURELY ANCHORED TO THE SOIL WITH NO. 11 GAUGE WIRE STAPLES AT LEAST 6 INCHES LONG.

**CONSTRUCTION ENTRANCES:**

- MATERIAL SHALL BE 4" TO 6" QUARRY SPALLS AND MAY BE TOP-DRESSED WITH 1" TO 3" ROCK (STANDARD SPECIFICATIONS)
- THE ROCK PAD SHALL BE AT LEAST 12 INCHES THICK AND 100 FEET LONG. WIDTH SHALL BE FULL WIDTH OF THE VEHICLE INGRESS AND EGRESS AREA. SMALLER PADS MAY BE APPROVED FOR SINGLE-FAMILY RESIDENTIAL AND SMALL COMMERCIAL SITES.
- ADDITIONAL ROCK SHALL BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD.
- IF THE PAD DOES NOT ADEQUATELY REMOVE THE MUD FROM THE VEHICLE WHEELS, THE WHEEL SHALL BE HOSED OFF BEFORE THE VEHICLE ENTERS A PAVED STREET. THE WASHING SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK AND WASH WATER SHALL DRAIN TO A SEDIMENT RETENTION FACILITY OR THROUGH SILT FENCE.

**STOCKPILED TOPSOIL:**

- STOCKPILES SHALL BE STABILIZED (WITH PLASTIC COVERING OR OTHER APPROVED DEVICE) DAILY BETWEEN NOVEMBER 1 AND MARCH 31.
- IN ANY SEASON, SEDIMENT LEACHING FROM STOCK PILES MUST BE POSITIVELY PREVENTED.
- TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR WHEN CONDITIONS EXIST THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING.
- PREVIOUSLY ESTABLISHED GRADES ON THE AREAS TO BE TOPSOILED SHALL BE MAINTAINED ACCORDING TO THE APPROVAL PLAN.

**SOD:**

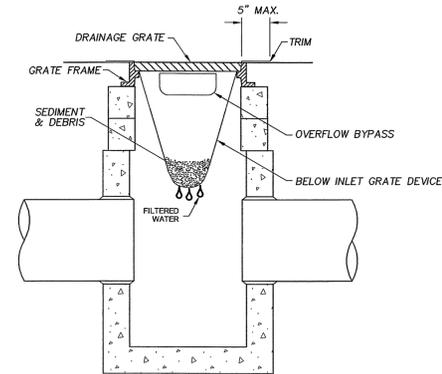
- SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4-INCH AT THE TIME OF CURING. MEASUREMENTS FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH.
- STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED BY THE END OF A 3 FOOT SECTION.
- SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
- SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

**MULCHING:**

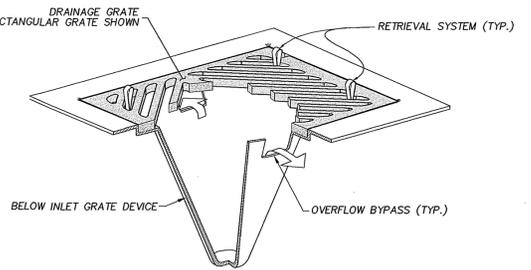
- MULCH MATERIALS USED SHALL BE AS SHOWN IN TABLE 9.3, AND SHALL BE APPLIED AT THE RATE SHOWN IN TABLE 9.3.
- MULCHES SHALL BE APPLIED IN ALL AREAS WITH SLOPES GREATER THAN 2:1.
- MULCHING SHALL BE USED IMMEDIATELY AFTER SEEDING OR IN AREAS WHICH CANNOT BE SEEDING BECAUSE OF THE SEASON.
- ALL AREAS NEEDING MULCHING SHALL BE COVERED BY NOVEMBER 1.

**PLASTIC COVERING:**

- PLASTIC SHEETING SHALL HAVE A MINIMUM THICKNESS OF 6 MILLS AND SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATIONS SECTION 9-14.5.
- COVERING SHALL BE INSTALLED AND MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10-FOOT GRID SPACING IN ALL DIRECTIONS. ALL SEAMS SHALL BE TAPED OR WEIGHTED DOWN FULL LENGTH AND THERE SHALL BE AT LEAST A 12 INCH OVERLAP OF ALL SEAMS.
- CLEAR PLASTIC COVERING SHALL BE INSTALLED IMMEDIATELY ON AREAS SEEDING BETWEEN NOVEMBER 1 AND MARCH 31 AND REMAIN UNTIL VEGETATION IS FIRMLY ESTABLISHED.
- WHEN THE COVERING IS USED ON UN-SEEDING SLOPES, IT SHALL BE KEPT IN PLACE UNTIL THE NEXT SEEDING PERIOD.
- PLASTIC COVERING SHEETS SHALL BE BURIED TWO FEET AT THE TOP OF SLOPES IN ORDER TO PREVENT SURFACE WATER FLOW BENEATH SHEETS.
- PROPER MAINTENANCE INCLUDES REGULAR CHECKS FOR RIPS AND DISLODGED ENDS.



SECTION VIEW  
N.T.S.



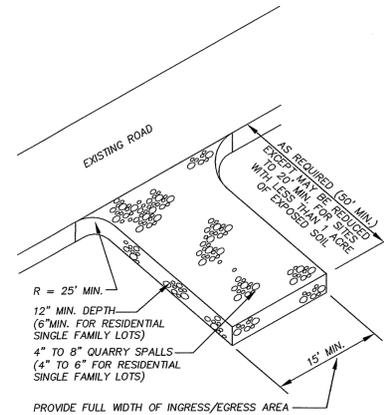
ISOMETRIC VIEW

**NOTES**

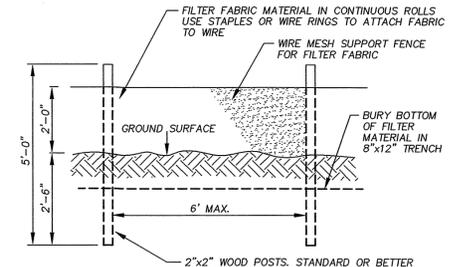
- SIZE THE BELOW INLET GRATE DEVICE (BIGD) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
- THE BIGD SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
- THE RETRIEVAL SYSTEM MUST ALLOW REMOVAL OF THE BIGD WITHOUT SPILLING THE COLLECTED MATERIAL.
- PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD SPECIFICATION 8-01.3(15).

**STORM DRAIN INLET PROTECTION**

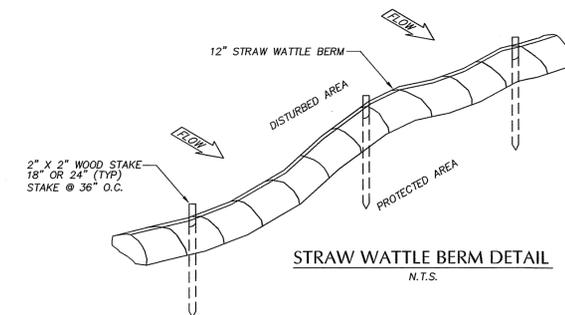
N.T.S.



CONSTRUCTION ENTRANCE ROCK PAD  
N.T.S.



FILTER FABRIC FENCE DETAIL  
N.T.S.



STRAW WATTLE BERM DETAIL  
N.T.S.

100% PLANS



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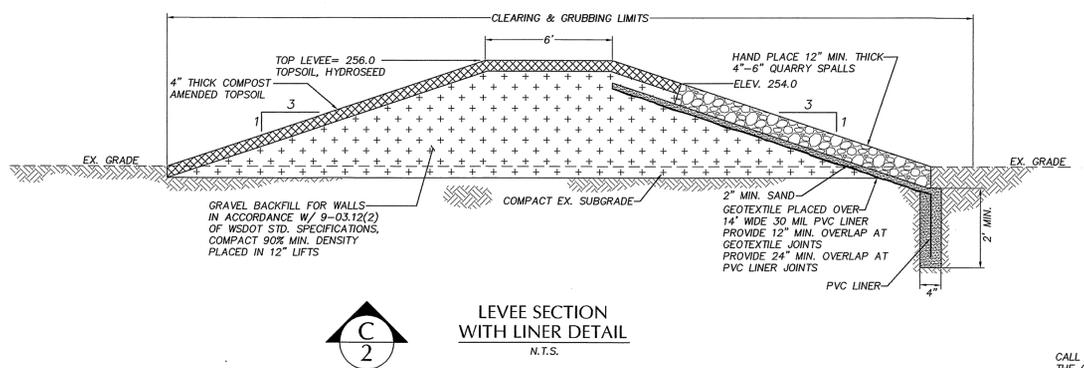
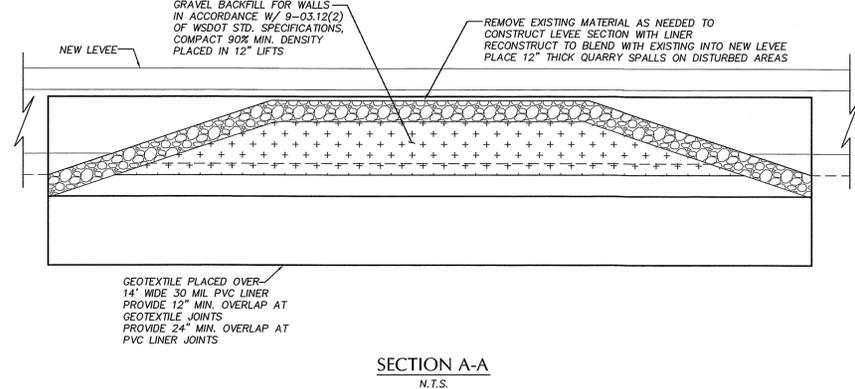
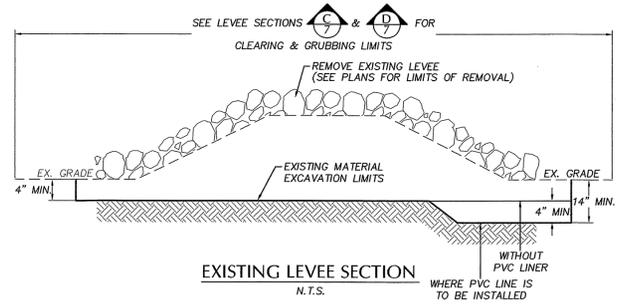
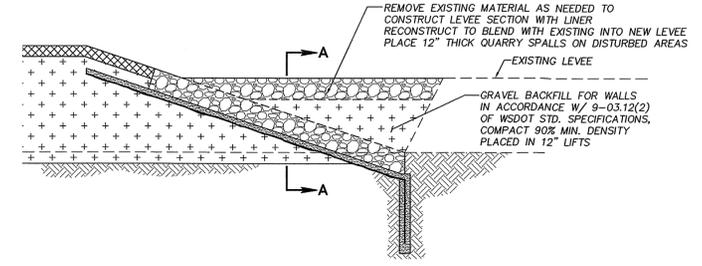
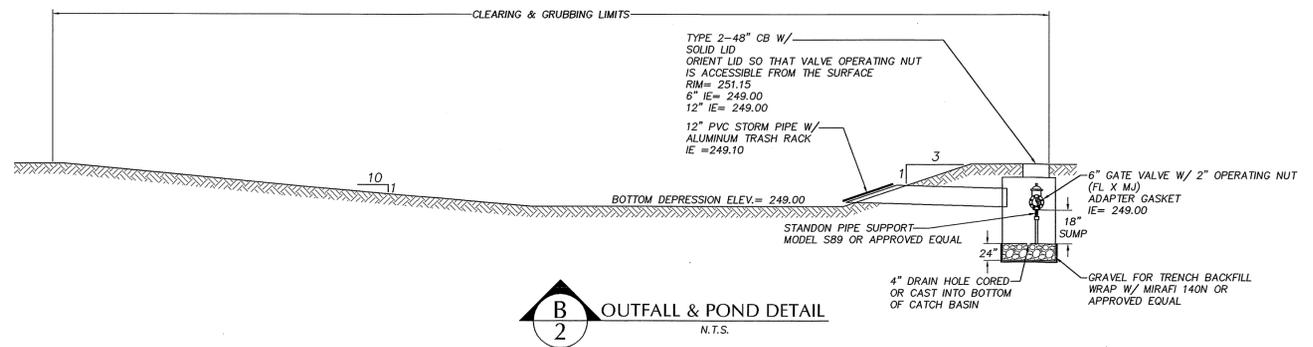
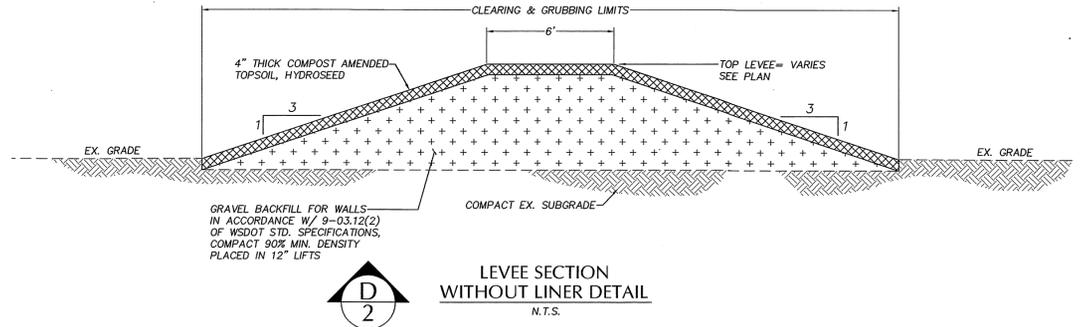
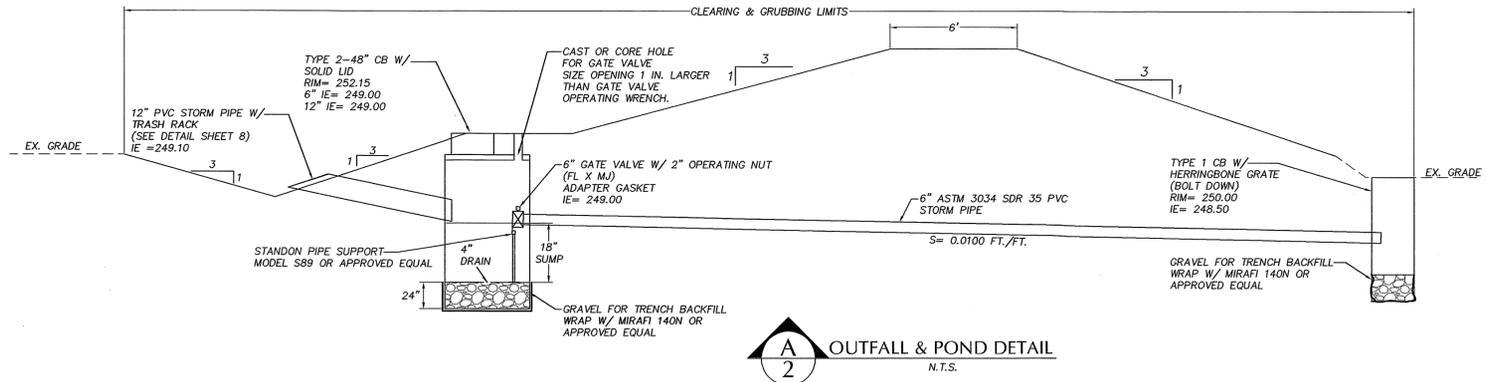
Town of  
Bucoda

**TOWN OF BUCODA LEVEE PROJECT**  
Erosion Control Notes & Details

12121-Bucoda Levee Details.dwg

SHEET 5 OF 8





CALL BEFORE YOU DIG:  
THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 1-800-424-5555 A MINIMUM OF 48 HOURS PRIOR TO ANY CONSTRUCTION.

100% PLANS



NO	DATE	BY	APPR	REVISIONS

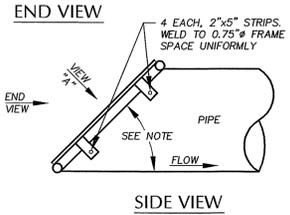
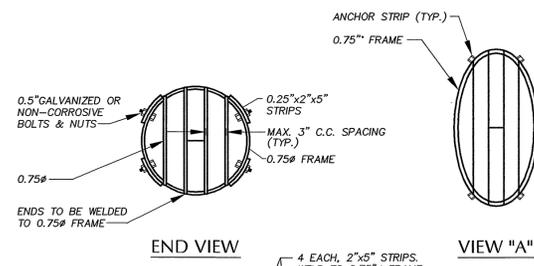
**JWM&A** Civil • Municipal • Geotechnical • Land Surveying  
**Jerome W. Morrissette & Associates Inc., P.S.**  
 1700 Cooper Pt. Road S.W. #B-2, Olympia, Wa. 98502-1110 Ph 360.352.9456 Fx 360.352.9990

Approved By  
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S.S. 05-16-13  
 DESIGNED BY DATE  
 J.N., R.W. 05-16-13  
 C.A.D.D. BY DATE  
 T.J.L. 05-16-13  
 CHECKED BY DATE

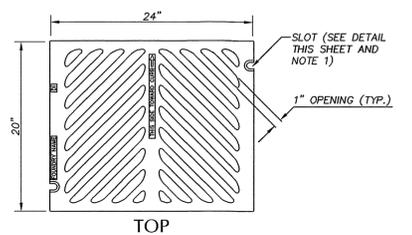
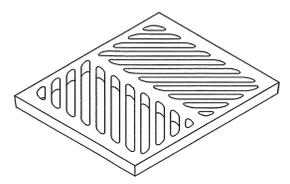
Town of  
 Bucoda

**TOWN OF BUCODA LEVEE PROJECT**  
 Levee Details  
 12121-Bucoda Levee Details.dwg SHEET 7 OF 8



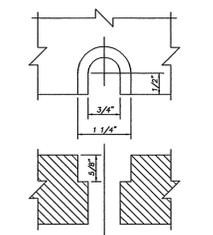
**TRASH RACK DETAIL**  
N.T.S.

NOTES:  
CONTRACTOR MAY ELECT TO INSTALL ALUMINUM PRE-MANUFACTURED TRASH RACK AS APPROVED BY THE ENGINEER  
CONTRACTOR TO CHAMFER END OF PIPE TO MATCH SURROUNDING SLOPE

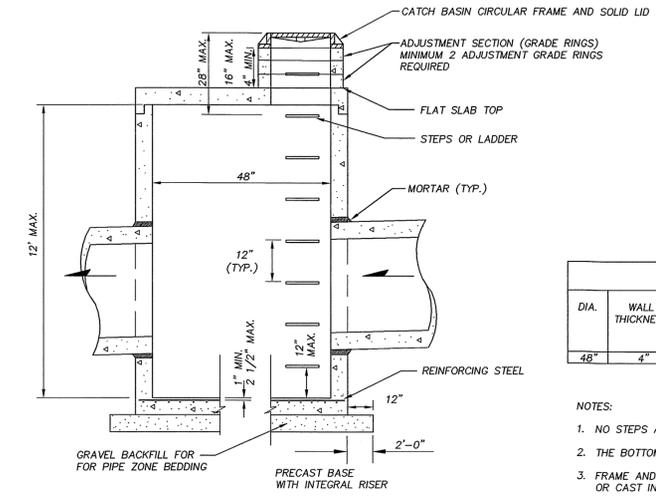


**RECTANGULAR HERRINGBONE GRATE DETAIL**  
STANDARD PLAN B-30.50-00  
N.T.S.

NOTES:  
1. WHEN BOLT-DOWN GRATES ARE SPECIFIED IN THE CONTRACT, PROVIDE TWO (2) SLOTS IN THE GRATE THAT ARE VERTICALLY ALIGNED WITH THE HOLES IN THE FRAME. LOCATION OF BOLT-DOWN SLOTS VARIES AMONG DIFFERENT MANUFACTURERS.  
2. REFER TO STANDARD SPECIFICATION 9-05.15(2) FOR ADDITION INFORMATION.  
3. FOR FRAME DETAILS, SEE STANDARD PLAN B-30.10.  
4. THE THICKNESS OF THE GRATE SHALL NOT EXCEED 1 5/8".



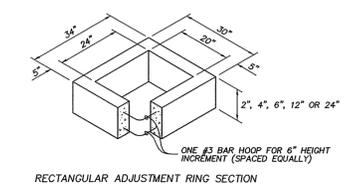
**BOLT-DOWN SLOT DETAIL**  
SEE NOTE 1



DIA.	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL	
					IN <sup>2</sup> /FT IN EACH DIRECTION	INTEGRAL BASE SEPARATE BASE
48"	4"	6"	36"	8"	0.15	0.25

NOTES:  
1. NO STEPS ARE REQUIRED WHEN HEIGHT IS 4' OR LESS  
2. THE BOTTOM OF THE PRESENT CATCH BASIN MAY BE ROUNDED  
3. FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO ADJUSTMENT SECTION  
4. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2 1/2" MAXIMUM

**CATCH BASIN TYPE 2 DETAIL**  
N.T.S.

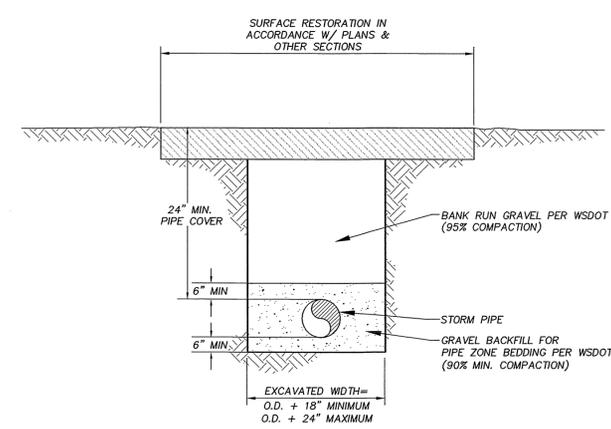


**RECTANGULAR ADJUSTMENT RING SECTION**

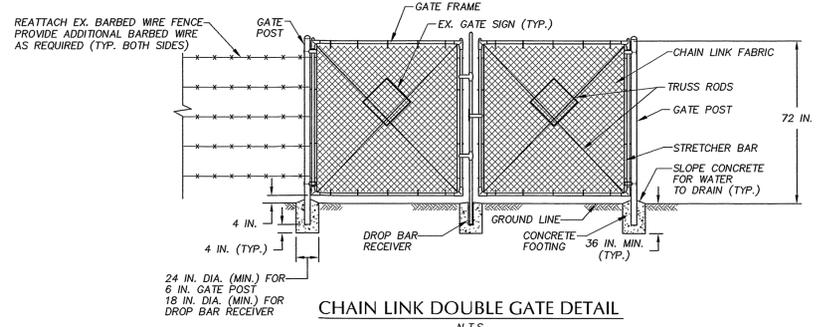
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	15"

NOTES:  
1. AS AN ACCEPTABLE ALTERNATE TO REBAR, WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT MAY BE USED. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.  
2. THE KNOCKOUT DIAMETER SHALL NOT BE GREATER THAN 20" KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINTS MORTAR IN ACCORDANCE WITH STD. SPEC. 9.04.3.  
3. THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".  
4. FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO ADJUSTMENT SECTION.  
5. THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLANGE FLOOR AND THE WALLS MAY BE SLOPED AT A RATE OF 1:24 OR STEEPER.  
6. OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE UNIT.  
7. PROVIDE A MINIMUM OF (2) ADJUSTMENT RINGS.

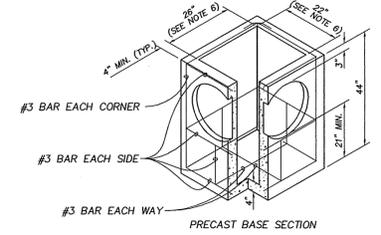
**PIPE ALLOWANCES**  
N.T.S.



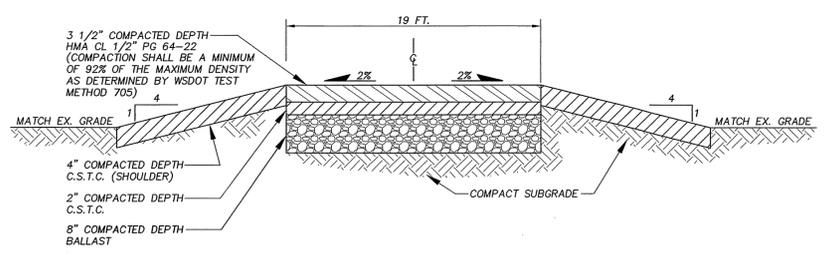
**STORM PIPE SURFACE RESTORATION DETAIL**  
N.T.S.



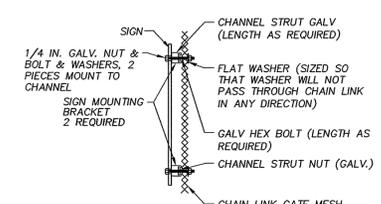
**CHAIN LINK DOUBLE GATE DETAIL**  
N.T.S.



**TYPE 1 CATCH BASIN DETAIL**  
N.T.S.



**ASPHALT ROADWAY SECTION DETAIL**  
N.T.S.  
NOTE: TACK & SEAL ALL JOINTS

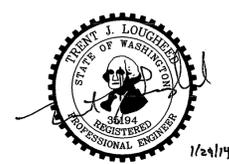


**EXISTING SIGN MOUNTED ON GATE DETAIL**  
N.T.S.

NOTE:  
CONTRACTOR TO INSTALL EX. SIGNS IN THEIR ORIGINAL LOCATION

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Town of  
Bucoda

**TOWN OF BUCODA LEVEE PROJECT**  
Storm & Surface Restoration Details  
12121-Bucoda Storm & Surface Restoration Details.dwg SHEET 8 OF 8