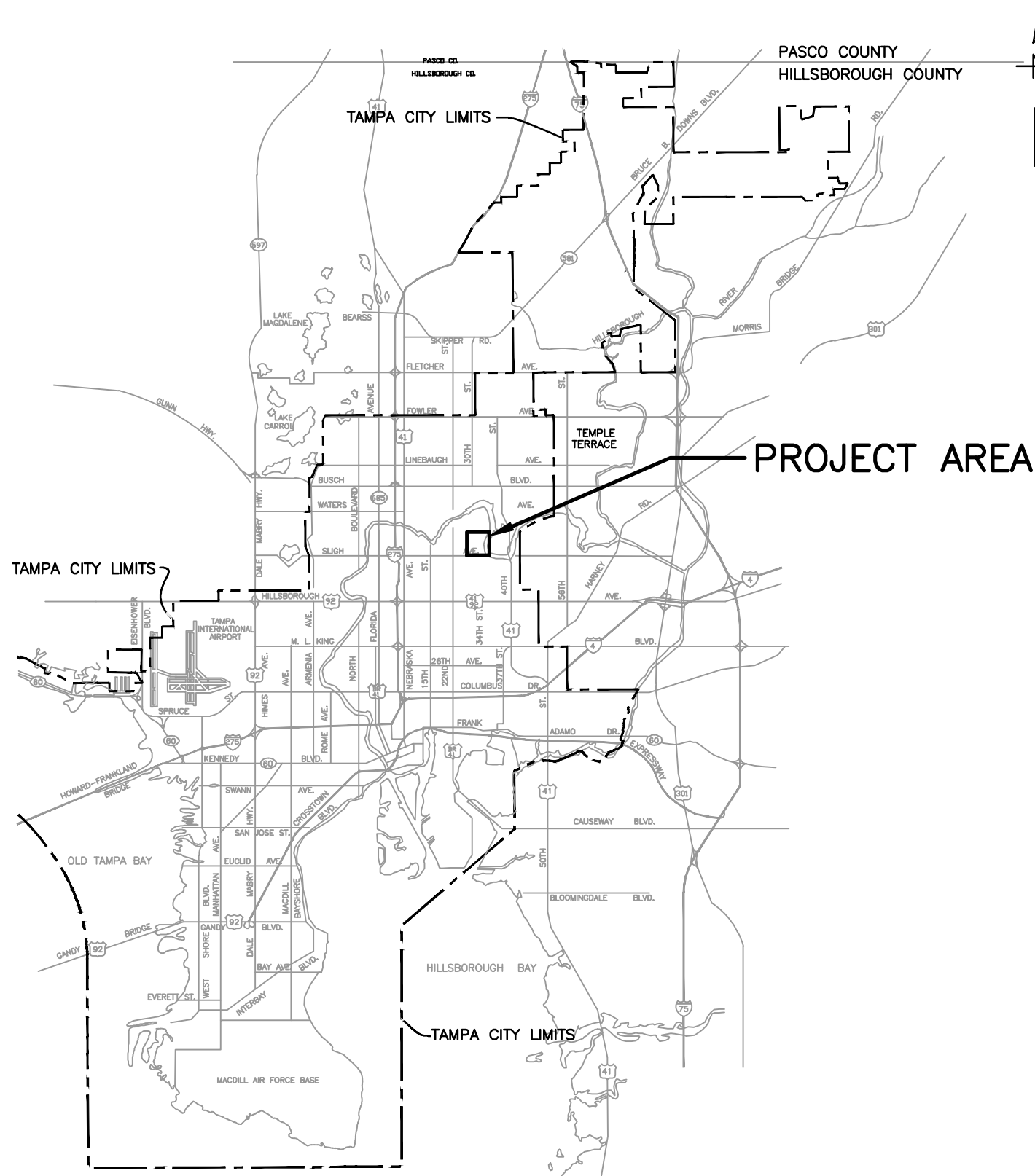


**The Enclosed Document Is Provided For Your Convenience.**

**Please Email ALL Questions:**  
**[MailTo:ContractAdministration@TampaGov.net](mailto:ContractAdministration@TampaGov.net)**

**Please Let Us Know If You Plan To Bid**

City of Tampa  
Contract Administration Department  
306 E. Jackson St. #280A4N  
Tampa, FL 33602  
(813)274-8456



# DAVID L. TIPPIN WATER TREATMENT FACILITY LIME SLAKER REPLACEMENT PROJECT WO#103

PREPARED FOR  
**CITY OF TAMPA FLORIDA**  
**WATER DEPARTMENT**

**APRIL 2017**



**GREELEY AND HANSEN**

1715 NORTH WESTSHORE BLVD., STE. 464  
TAMPA, FLORIDA 33607  
CERTIFICATE OF AUTHORIZATION NO. 37



*Electrical Design Associates*

3001 N. ROCKY POINT DRIVE, STE. #200  
TAMPA, FLORIDA 33607  
C.O.A. No. 8079

CHARLES M. PEKKALA, P.E. 37996

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## INSTRUMENTATION AND CONTROL

SHEET NO.	DRAWING NO.	TITLE
36	I1	NETWORK DIAGRAM

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**GREELEY AND HANSEN**  
 1715 N. WESTSHORE BLVD., STE. 464  
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P.E. NAME: CHARLES M. PEKKALA      P.E. NO. 37996  
 P.E. NAME: \_\_\_\_\_  
 DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103

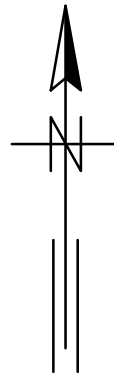
GENERAL

**INDEX**

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 FILE: 0202U.06-G2  
**DWG. G2**  
 NO. 2 OF 36  
 DATE APRIL 2017

## GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE ENGINEER AND THE CITY OF TAMPA WATER DAVID L. TIPPIN WATER TREATMENT FACILITY PERSONNEL PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
2. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE DRAWINGS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THE CONTRACTOR SHALL OBTAIN THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING HIS WORK PRIOR TO CONSTRUCTION, AND REPORT ANY DIFFERENCES TO THE ENGINEER.
3. EXISTING DIMENSIONS AND ELEVATIONS ARE BASED ON THE BEST INFORMATION AVAILABLE. IT IS THE INTENTION OF THESE CONTRACT DRAWINGS THAT ELEVATIONS AND DIMENSIONS MATCH WHERE NEW FACILITIES CONNECT TO EXISTING FACILITIES. TRUE DIMENSIONS AND ELEVATIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO LAYOUT AND SHOP DRAWING SUBMITTALS.
4. COMPLY WITH ALL STATE AND LOCAL CODES.
5. UTILITIES AND STRUCTURES NOT SHOWN ON THE DRAWINGS TO BE REMOVED AND REPLACED OR RELOCATED, SHALL BE PROTECTED IN PLACE AND UTILITY SERVICE SHALL BE MAINTAINED. WHERE TEMPORARY CONFLICTS OCCUR BETWEEN EXISTING UTILITIES AND THE NEW CONSTRUCTION, THE CONTRACTOR SHALL PROTECT IN PLACE OR RELOCATE THE UTILITIES AND MAINTAIN UTILITY SERVICE. UTILITIES AND STRUCTURES SHOWN ON THE DRAWINGS TO BE REMOVED AND REPLACED OR RELOCATED, SHALL CONFORM TO THE REQUIREMENTS OF THE APPLICABLE TECHNICAL SPECIFICATIONS.
6. THE CONTRACTOR SHALL PROVIDE ADEQUATE, TEMPORARY THRUST RESTRAINT AT BENDS AND TEES IN EXISTING WATER MAINS AND OTHER PRESSURIZED CONDUITS IN PROXIMITY TO HIS EXCAVATIONS AS REQUIRED TO PREVENT ANY DISLODGMET, SEPARATION OR LEAKAGE OF THESE FACILITIES.
7. ALL HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE TYPE 316 STAINLESS STEEL.
8. NEW LIME TRANSFER PIPING AND SLURRY DOSING PIPING SHALL BE HOSE AS SPECIFIED, WITH TYPE 316 STAINLESS STEEL QUICK-CONNECT COUPLINGS.
9. ALL CONCRETE, UNLESS OTHERWISE SPECIFIED, SHALL BE 4,000 PSI. NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 24 HOURS.
10. EXISTING WALLACE AND TIERNAN SLAKER IS REFERRED TO AS "OLD" SLAKER ON THE PLANS. DEMOLISH THE OLD SLAKER AND ASSOCIATED PIPING AS SHOWN ON THE DEMOLITION DRAWINGS. ALL THE DEMOLISHED MATERIALS SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE.



## LEGEND

- EXISTING PIPE OR FACILITY
- PROPOSED PIPE OR FACILITY
- ////// PROPOSED DEMOLITION (BLACK OR YELLOW COLOR)

### NOTES:

1. ALL PROPOSED WORK INCLUDED IN THIS CONTRACT IS SHOWN IN BOLD. LIGHT LINEWEIGHT INDICATES EXISTING FACILITIES, EXCEPT WHERE NOTED OTHERWISE IN THESE PLANS BY BOLD ANNOTATION.



**LOCATION MAP**

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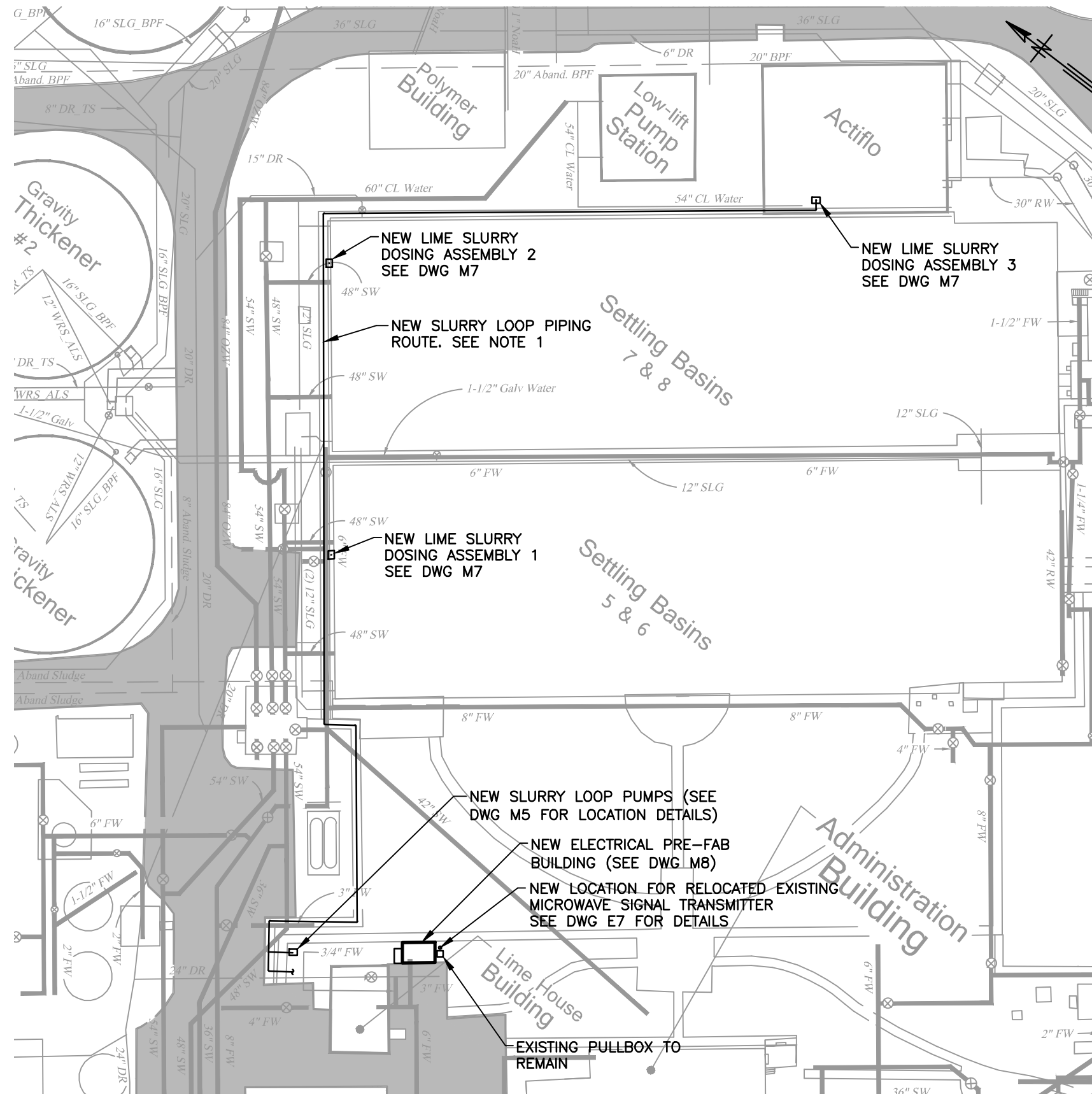
NO.	DATE	APPD	REVISION

P.E. NAME: CHARLES M. PEKKALA P.E. NO. 37996  
 P.E. NAME: \_\_\_\_\_  
 DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103

GENERAL  
**GENERAL NOTES, LEGEND AND  
 LOCATION MAP**

W.O. NO. 103  
 FILE: 0202U.06-G3  
**DWG. G3**  
 NO. 3 OF 36  
 DATE APRIL 2017



- NOTES:  
 1. SEE DWGS C2, C3 AND C4 FOR LIME SLURRY HOSE ROUTING AND DETAILS. LOCATION OF THE NEW SLURRY LOOP FEED AND RETURN PIPING AND ASSOCIATED ELECTRICAL SHALL BE ESTABLISHED IN THE FIELD SUBJECT TO THE APPROVAL OF DLTWTF STAFF.

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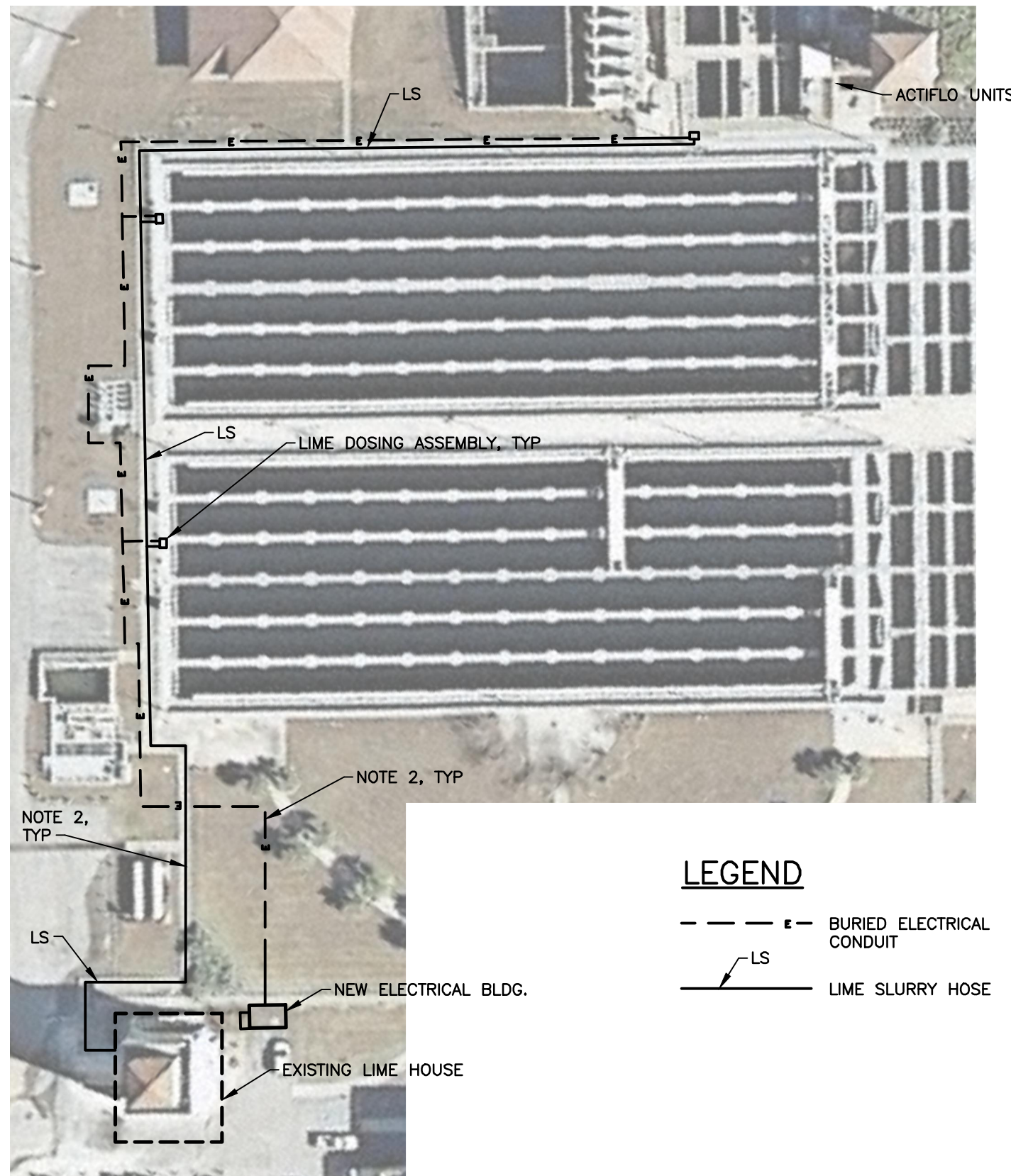
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P.E. NAME:			
DATE:			

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 CIVIL  
 SITE PLAN

W.O. NO. 103  
 FILE: 0202U.06-C1  
**DWG. C1**  
 NO. 4 OF 36  
 DATE APRIL 2017



- NOTE:
1. PLAN SHOWS GENERAL ROUTING OF LIME SLURRY HOSE IN EXISTING PIPING TRENCHES. SEE DRAWINGS C3 AND C4 FOR ADDITIONAL DETAILS.
  2. PLAN SHOWS GENERAL ROUTING OF BURIED ELECTRICAL CONDUIT FROM NEW ELECTRICAL BUILDING TO THE THREE NEW LIME DOSING ASSEMBLIES. SEE DRAWING C3, C4 AND ELECTRICAL DRAWINGS FOR ADDITIONAL DETAILS.

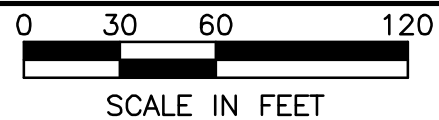
**LEGEND**

- BURIED ELECTRICAL CONDUIT
- LIME SLURRY HOSE

**PARTIAL SITE PLAN**

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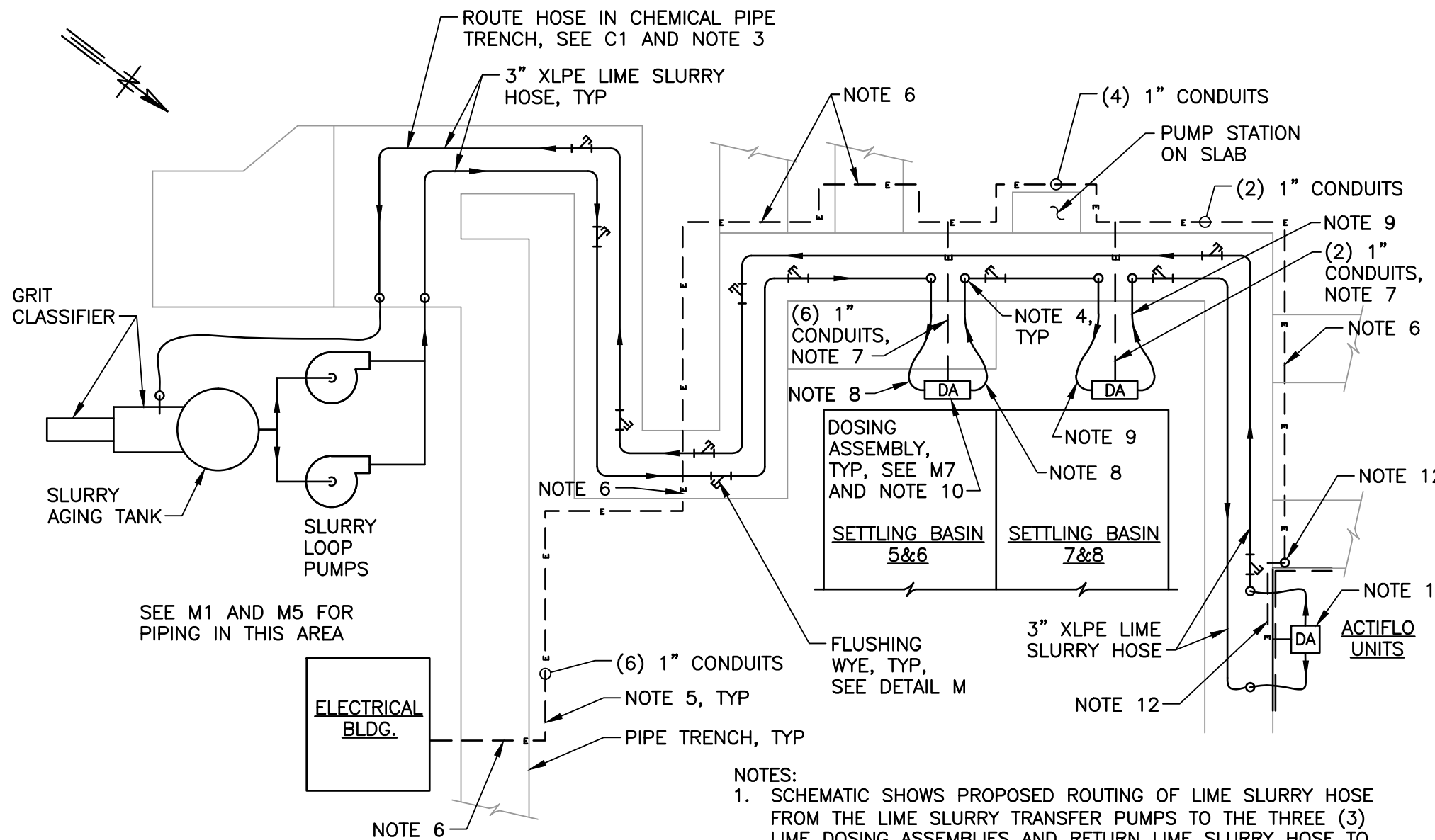


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 DRAWN JMW  
 CHECKED CMP

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P.E. NAME: _____		DATE: _____	

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 CIVIL  
**LIME SLURRY HOSE AND ELECTRICAL CONDUIT ROUTING**

W.O. NO. 103  
 FILE: 0202U.06-C2  
**DWG. C2**  
 NO. 5 OF 36  
 DATE APRIL 2017



- NOTES (CONT'D):
- FROM THE NEW ELECTRICAL BUILDING TO THE LIME DOSING ASSEMBLIES, PROVIDE ONE (1) 1-INCH CONDUIT FOR POWER SUPPLY TO EACH LIME DOSING ASSEMBLY AND ONE (1) 1-INCH CONDUIT FOR SIGNAL WIRING TO EACH LIME DOSING ASSEMBLY. THE WIRING, CONDUITS AND ELECTRICAL DETAILS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE ELECTRICAL PLANS AND SPECIFICATIONS. ROUTE THE BURIED CONDUITS PARALLEL TO THE PIPING TRENCHES, AS SHOWN ON THE SCHEMATIC. FULLY COORDINATE BURIED CONDUIT ROUTING WITH THE DAVID L TIPPIN WATER TREATMENT FACILITY STAFF. NOTE THAT THERE ARE UNKNOWN BURIED UTILITIES IN THE AREA. HAND DIG EXPLORATORY EXCAVATIONS PRIOR TO INSTALLATION OF CONDUIT TO VERIFY ROUTE. HAND DIG ALL CONDUIT EXCAVATIONS TO AVOID DAMAGE TO EXISTING UTILITIES.
  - INSTALL CONDUITS UNDER EXISTING PIPE TRENCHES USING WATER JETTING OR EQUIVALENT INSTALLATION METHOD.
  - INSTALL CONDUITS UNDER EXISTING PIPE TRENCHES USING WATER JETTING OR EQUIVALENT INSTALLATION METHOD, TO THE LIME DOSING ASSEMBLY.
  - AT THE LIME DOSING ASSEMBLIES FOR SETTLING BASINS 5 & 6 THE LIME SLURRY HOSE TO THE DOSING ASSEMBLY AND THE LIME SLURRY HOSE FROM THE LIME DOSING ASSEMBLY BACK TO THE TRENCH SHALL BE ROUTED FROM THE SOUTHWEST TRENCH OVER THE ADJACENT TRENCH AND OVER THE EXISTING CONCRETE TO THE DOSING ASSEMBLY. PROTECT EACH HOSE USING A RUBBER PIPE RAMP MADE OF EPDM RUBBER, MODEL RF-PR4S BY RUBBER FORM, OR APPROVED EQUAL. RAMPS SHALL EXTEND FROM THE TRENCH TO THE LIME DOSING ASSEMBLY. SEE PHOTO 1 ON C4.
  - AT THE LIME DOSING ASSEMBLIES FOR SETTLING BASINS 7 & 8, THE LIME SLURRY HOSE TO THE DOSING ASSEMBLY AND THE LIME SLURRY HOSE FROM THE LIME DOSING ASSEMBLY BACK TO THE TRENCH SHALL BE ROUTED FROM THE TRENCH OVER THE EXISTING CONCRETE TO THE DOSING ASSEMBLY. PROTECT EACH HOSE USING A RUBBER PIPE RAMP MADE OF EPDM RUBBER, MODEL RF-PR4S BY RUBBER FORM, OR APPROVED EQUAL. RAMPS SHALL EXTEND FROM THE TRENCH TO THE LIME DOSING ASSEMBLY. PROVIDE A 4" THICK CONCRETE MAINTENANCE PAD BETWEEN THE TRENCH AND THE SETTLING BASIN TO SUPPORT THE RUBBER PIPE RAMP. SEE PHOTO 2 ON C4.
  - MOUNT THE LIME DOSING ASSEMBLY TO THE CONCRETE DECK OF THE SETTLING BASIN PER DETAILS ON DRAWING M7. COORDINATE LOCATION OF ASSEMBLY WITH DAVID L. TIPPIN WATER TREATMENT FACILITY STAFF. ROUTE LIME SLURRY DISCHARGE HOSE FROM THE DOSING ASSEMBLY AS DIRECTED BY PLANT STAFF.
  - MOUNT THE LIME DOSING ASSEMBLY TO THE CONCRETE DECK OF THE ACTIFLO DISCHARGE CHANNEL PER DETAILS ON DRAWING M7. COORDINATE LOCATION OF ASSEMBLY WITH DAVID L. TIPPIN WATER TREATMENT FACILITY STAFF. CORE DRILL THE CONCRETE CHANNEL TOP SLAB 3" AND ROUTE LIME SLURRY DISCHARGE HOSE THROUGH THE CORE DRILLED HOLE AS DIRECTED BY PLANT STAFF. SEE PHOTO 3 ON C4.
  - SAW CUT SIDEWALK AND INSTALL (2) 1" CONDUITS TO ACTIFLO EFFLUENT CHANNEL. ROUTE CONDUITS ALONG SOUTHEAST AND NORTHWEST FACE OF SLAB TO LIME DOSING ASSEMBLY.

- NOTES:
- SCHEMATIC SHOWS PROPOSED ROUTING OF LIME SLURRY HOSE FROM THE LIME SLURRY TRANSFER PUMPS TO THE THREE (3) LIME DOSING ASSEMBLIES AND RETURN LIME SLURRY HOSE TO THE GRIT CLASSIFIER. REFER TO M1 FOR ADDITIONAL DETAILS OF THE OVERALL LIME SLAKING AND SLURRY SYSTEM.
  - CONSTRUCT LIME SLURRY PIPING OF 3-INCH XLPE HOSE. PROVIDE WYE FLUSHING ASSEMBLIES, HOSE CONNECTIONS, AND IN-LINE VALVES OF TYPE 316 STAINLESS STEEL FITTINGS, PIPE NIPPLES AND QUICK-CONNECT CAM-LOCK COUPLINGS, PER DETAILS ON THE PLANS.
  - ROUTE HOSE IN THE EXISTING PIPING TRENCHES. LAY PIPE ON THE BOTTOM OF THE TRENCHES, GENERALLY IN AREAS THAT ARE CURRENTLY OPEN TO AVOID INTERFERENCE WITH OTHER EXISTING PIPING. FULLY COORDINATE PIPE ROUTING WITH THE DAVID L TIPPIN WATER TREATMENT FACILITY STAFF.
  - WHERE PIPING ENTERS OR EXITS THE PIPING TRENCH, CAREFULLY CUT THE EXISTING FIBERGLASS REINFORCED PLASTIC (FRP) GRATING FOR THE HOSE. LOCATE NEW OPENINGS IN THE GRATING TO MAINTAIN STRUCTURAL INTEGRITY OF THE GRATING AND TO ALLOW EASY REMOVAL AND REPLACEMENT OF THE GRATING.

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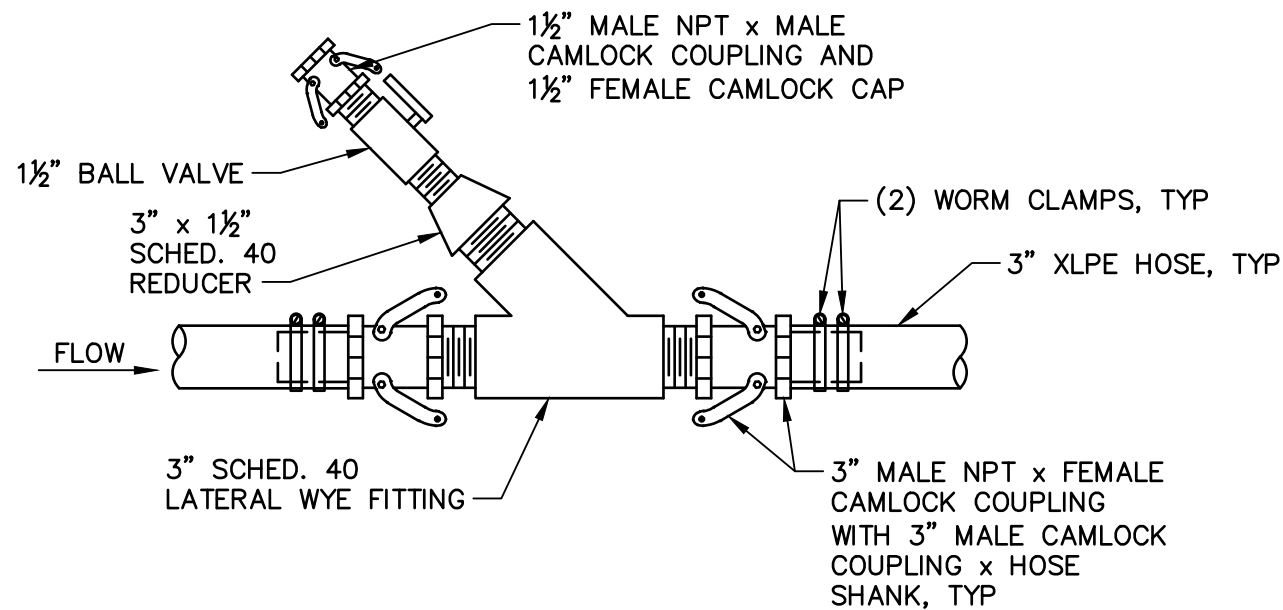
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P.E. NAME: CHARLES M. PEKKALA P.E. NO. 37996  
 P.E. NAME: \_\_\_\_\_  
 DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 CIVIL  
**LIME SLURRY HOSE SCHEMATIC**

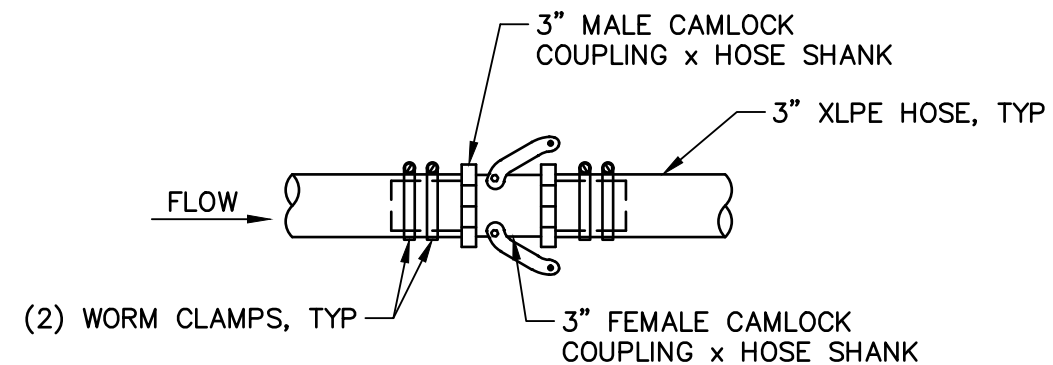
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 FILE: 0202U.06-C3  
**DWG. C3**  
 NO. 6 OF 36  
 DATE APRIL 2017



ALL COUPLINGS, FITTINGS AND CLAMPS AND VALVE TYPE 316 SST.

### FLUSHING WYE

NO SCALE



ALL COUPLINGS, FITTINGS AND CLAMPS AND VALVE TYPE 316 SST.

### HOSE CONNECTION

NO SCALE

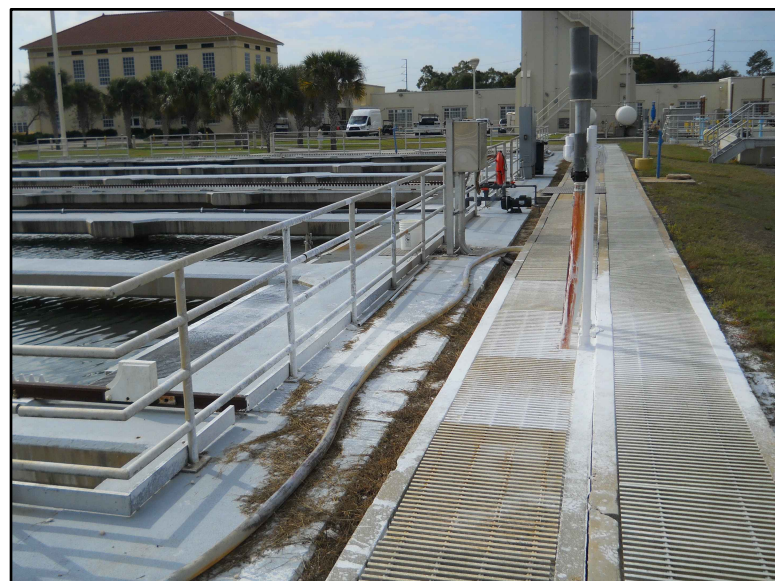


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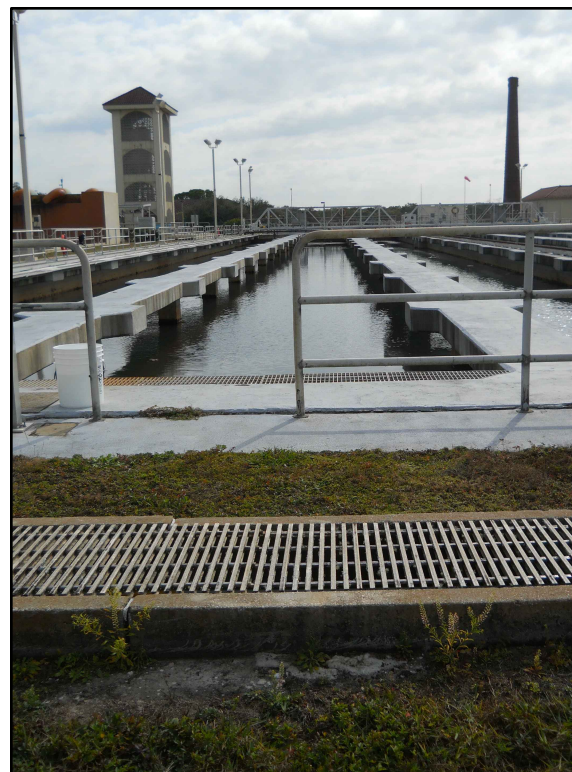


PHOTO 2

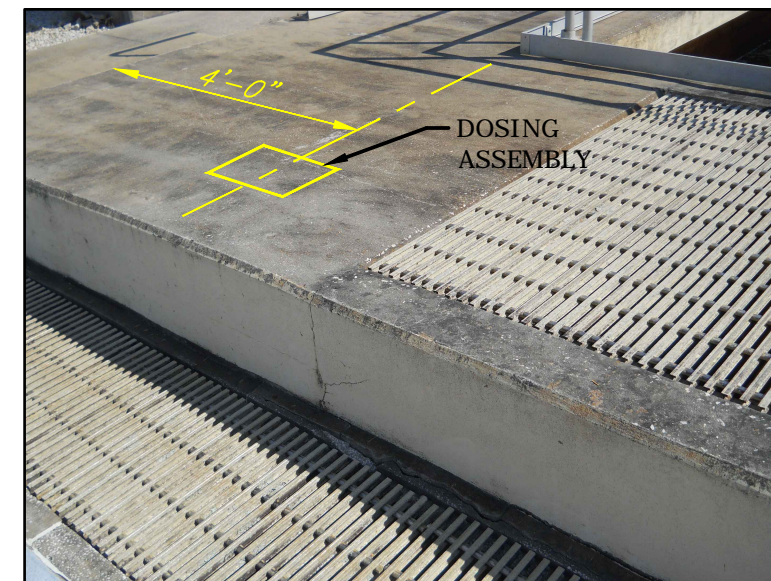


PHOTO 3

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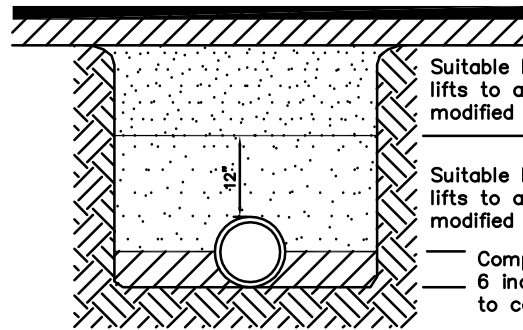
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 LIME SLAKER REPLACEMENT PROJECT WO#103

CIVIL

DETAILS

W.O. NO. 103  
 FILE: 0202U.06-C4  
**DWG. C4**  
 NO. 7 OF 36  
 DATE APRIL 2017





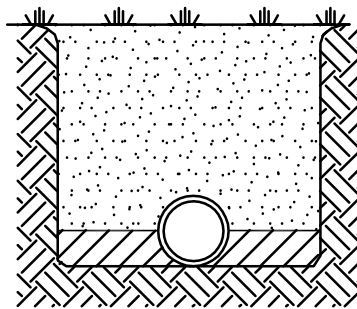
Suitable backfill compacted in 12-inch lifts to a minimum 98% of the maximum modified proctor density

Suitable backfill compacted in 6-inch lifts to a minimum 98% of the maximum modified proctor density

Compaction by hand in layers of 6 inches, lightly consolidated to centerline

**NOTES:**

1. Type 2 trench is defined as a flat-bottom trench. Lightly consolidate backfill to centerline of pipe.
2. This standard shall be utilized in the absence of specific standards. The standard of the agency controlling the Right-of-Way shall govern unless otherwise directed by the Engineer.
3. Suitable backfill shall be defined as material free from cinders, ashes, refuse, clay, organic matter, boulders, rocks or stones, or other material that in the opinion of the Engineer is unsuitable.

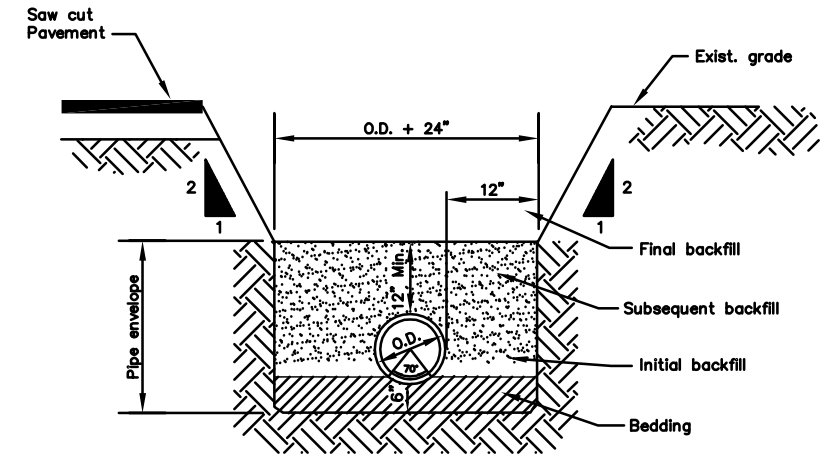


Suitable backfill compacted in 12-inch lifts to a minimum 98% of the maximum modified proctor density

Compaction by hand in layers of 6 inches, lightly consolidated to centerline

**NOTES:**

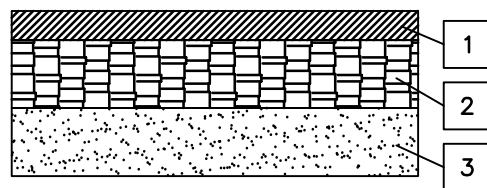
1. Type 2 trench is defined as a flat-bottom trench. Lightly consolidate backfill to centerline of pipe.
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3. Suitable backfill shall be defined as material free from cinders, ashes, refuse, clay, organic matter, boulders, rocks or stones, or other material that in the opinion of the Engineer is unsuitable.



**NOTES:**

1. Pipe envelope bedding and backfill shall be compacted in 6" loose lifts.
2. Backfill above pipe envelope shall be compacted in 12" loose lifts maximum.
3. Backfill must be compacted to 95% modified proctor out of paved areas and 98% modified proctor in paved areas.

	TAMPA WATER DEPARTMENT	APPROVED	REVISED	TRENCHING, BEDDING AND BACKFILL DETAIL FOR PAVED AREAS	2.01		TAMPA WATER DEPARTMENT	APPROVED	REVISED	TRENCHING, BEDDING AND BACKFILL DETAIL FOR NON-PAVED AREAS	2.02		TAMPA WATER DEPARTMENT	APPROVED	REVISED	PIPE BEDDING AND TRENCH FOR PVC PIPE	7.01
		Jan. 2007	_____						Jan. 2007	_____						Jan. 2007	_____



1. TYPE S-1 ASPHALTIC CONCRETE SURFACE COURSE 2½" MIN. THICKNESS.
2. CRUSHED CONCRETE 12" MINIMUM THICKNESS.
3. 12" STABILIZED SUB-BASE (MINIMUM LAB-40) COMPACTED TO AT LEAST 98 PERCENT MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557).

NO MILLING AND OVERLAY REQUIRED ON THIS PROJECT.

**TYPICAL PAVING SECTION**

NOT TO SCALE

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**GREELEY AND HANSEN**

1715 N. WESTSHORE BLVD., STE. 464  
TAMPA, FLORIDA 33607  
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P.E. NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
LIME SLAKER REPLACEMENT PROJECT WO#103

CIVIL

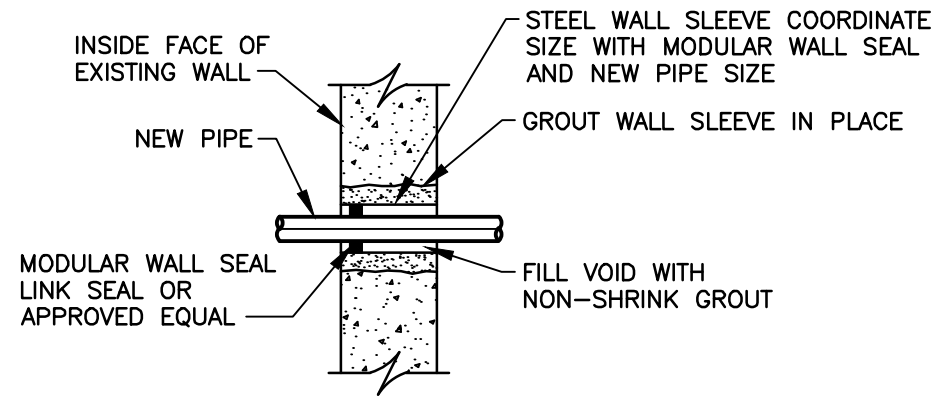
STANDARD DETAILS

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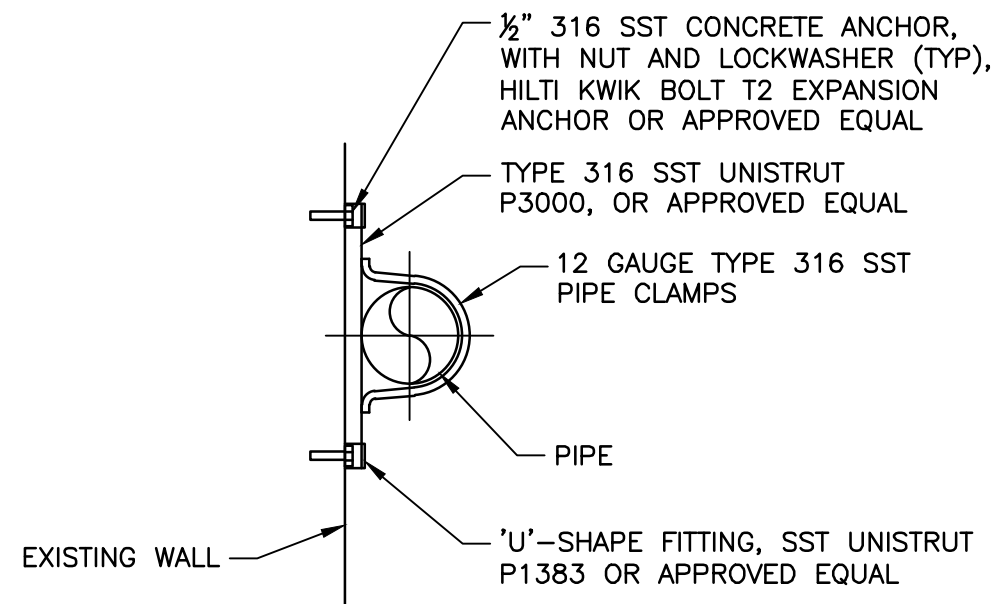
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**DWG. C5**  
NO. 8 OF 36

DATE APRIL 2017



**WALL PENETRATION DETAIL  
EXISTING WALL**



NOTE:

1. PROVIDE PIPE HANGERS AT 5' SPACING

**PIPE HANGER DETAIL**

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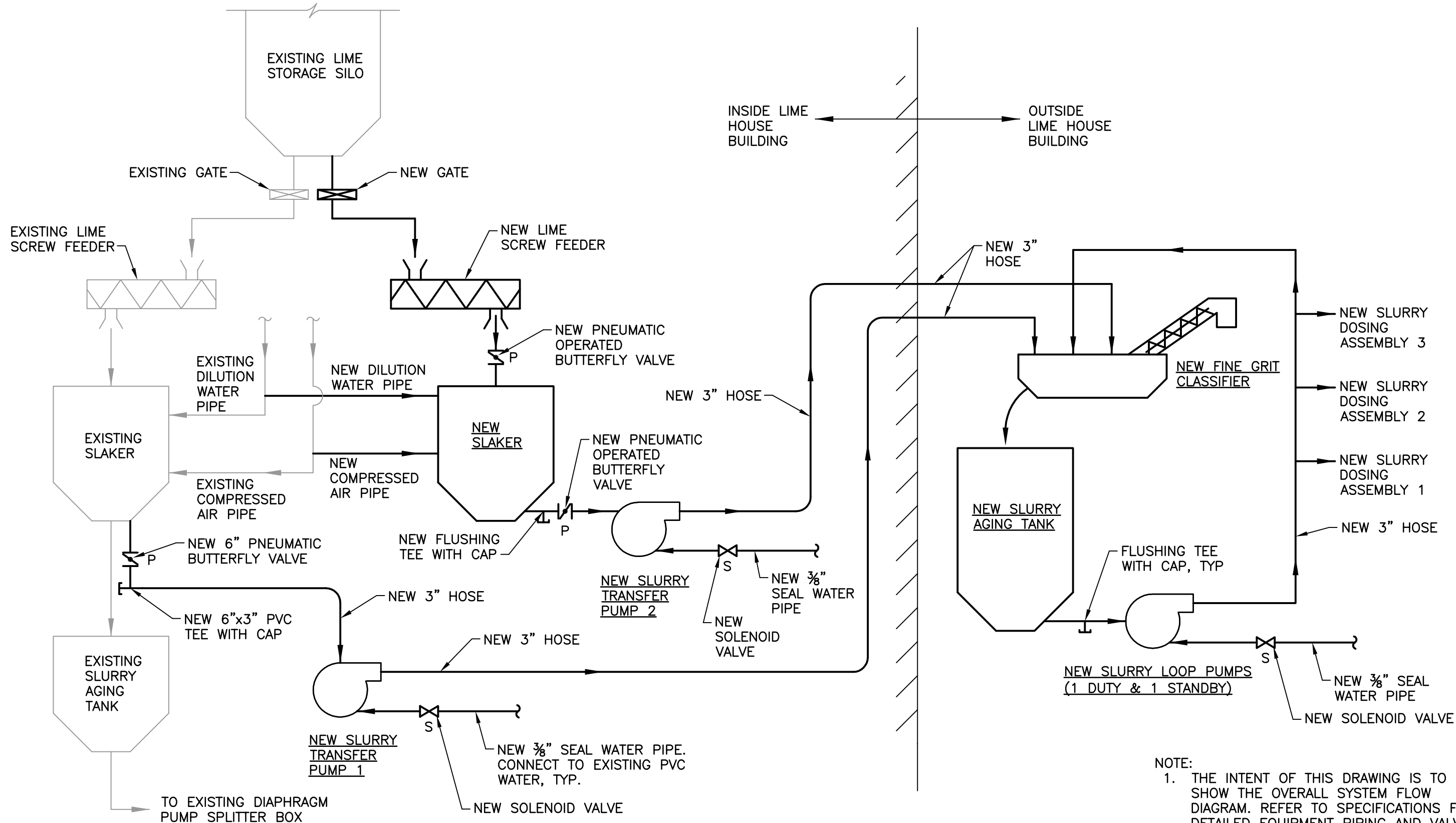
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DAVID L. TIPPIN WATER TREATMENT FACILITY  
LIME SLAKER REPLACEMENT PROJECT WO#103  
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MISCELLANEOUS DETAILS

W.O. NO. 103  
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**DWG. C6**  
NO. 9 OF 36  
DATE APRIL 2017



NOTE:  
 1. THE INTENT OF THIS DRAWING IS TO SHOW THE OVERALL SYSTEM FLOW DIAGRAM. REFER TO SPECIFICATIONS FOR DETAILED EQUIPMENT PIPING AND VALVE REQUIREMENTS.

M1\_4/7/2017 2:51:25 PM

**GREELEY AND HANSEN**  
 1715 N. WESTSHORE BLVD., STE. 464  
 TAMPA, FLORIDA 33607  
 CERTIFICATE OF AUTHORIZATION NO. 37

NOT TO SCALE

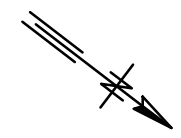
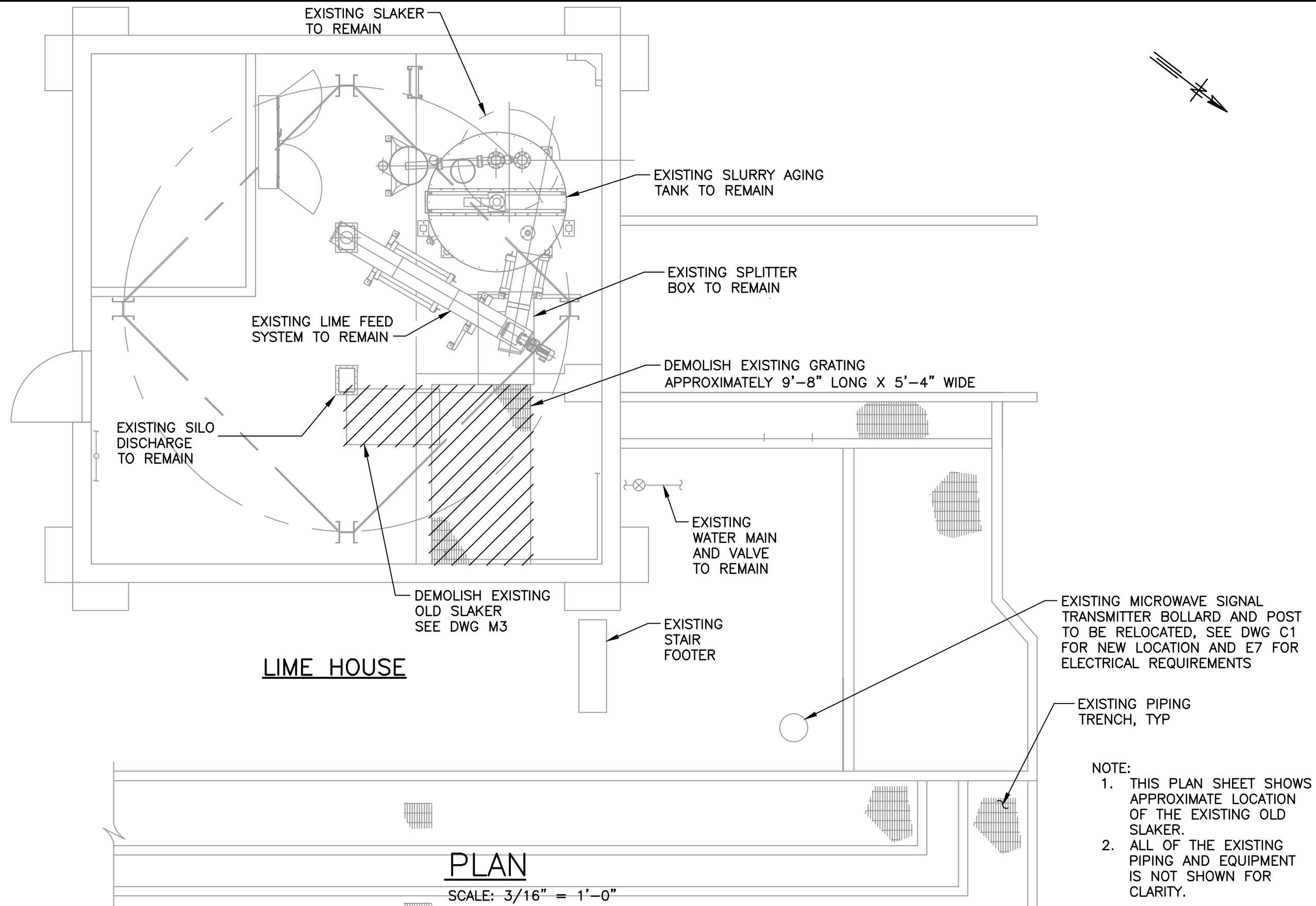
DESIGNED	NMN
DRAWN	JMW
CHECKED	CMP

NO.	DATE	APPD	REVISION

P.E. NAME: CHARLES M. PEKKALA P.E. NO. 37996  
 P.E. NAME: \_\_\_\_\_  
 DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 MECHANICAL  
**LIME SLAKING SYSTEM SCHEMATIC DIAGRAM**

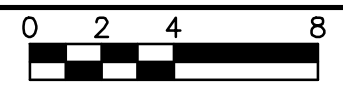
W.O. NO.	103
FILE:	0202U.06-M1
<b>DWG. M1</b>	
NO. 10	OF 36
DATE	APRIL 2017



**LIME HOUSE**

**PLAN**

SCALE: 3/16" = 1'-0"



SCALE IN FEET

EXISTING MICROWAVE SIGNAL TRANSMITTER BOLLARD AND POST TO BE RELOCATED, SEE DWG C1 FOR NEW LOCATION AND E7 FOR ELECTRICAL REQUIREMENTS

EXISTING PIPING TRENCH, TYP

- NOTE:
1. THIS PLAN SHEET SHOWS APPROXIMATE LOCATION OF THE EXISTING OLD SLAKER.
  2. ALL OF THE EXISTING PIPING AND EQUIPMENT IS NOT SHOWN FOR CLARITY.

M2, 4/7/2017 3:08:24 PM

**GREELEY AND HANSEN**  
 1715 N. WESTSHORE BLVD., STE. 464  
 TAMPA, FLORIDA 33607  
 CERTIFICATE OF AUTHORIZATION NO. 37

DESIGNED	NMN
DRAWN	JMW
CHECKED	CMP

NO.	DATE	APPD	REVISION

P.E. NAME: CHARLES M. PEKKALA P.E. NO. 37996  
 P.E. NAME: \_\_\_\_\_  
 DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 MECHANICAL  
**LIME SLAKING SYSTEM  
 DEMOLITION - PLAN**

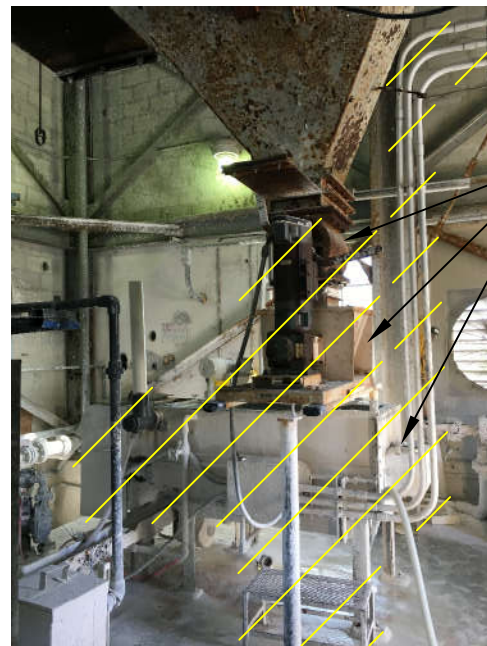
W.O. NO. 103  
 FILE: 0202U.06-M2  
**DWG. M2**  
 NO. 11 OF 36  
 DATE APRIL 2017



DEMOLITION OF EXISTING  
OLD SLAKER – VIEW 1



DEMOLITION OF EXISTING  
OLD SLAKER – VIEW 2



DEMOLISH OLD SLAKER,  
ROTARY INLET VALVE,  
SUPPORTS AND  
ELECTRICAL CONDUITS


DEMOLITION OF EXISTING  
OLD SLAKER – VIEW 3



DEMOLISH GRATING  
TO THE LIMITS  
SHOWN ON DWG M2

DEMOLITION OF GRATING

M3\_3/30/2017 4:38:11 PM

 <b>GREELEY AND HANSEN</b> 1715 N. WESTSHORE BLVD., STE. 464 TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION NO. 37	NO SCALE				DAVID L. TIPPIN WATER TREATMENT FACILITY LIME SLAKER REPLACEMENT PROJECT WO#103		W.O. NO. 103
	DESIGNED NMN		NO.	DATE	APPD	REVISION	FILE: 0202U.06-M3
DRAWN JMW		P.E. NAME: CHARLES M. PEKKALA		P.E. NO. 37996		<b>DWG. M3</b>	
CHECKED CMP		P.E. NAME: _____		DATE: _____		NO. 12 OF 36	
		MECHANICAL				DATE APRIL 2017	
		<b>LIME SLAKING SYSTEM DEMOLITION – INTERIOR</b>					



RELOCATION OF MICROWAVE  
SIGNAL TRANSMITTER – VIEW 1



RELOCATION OF MICROWAVE  
SIGNAL TRANSMITTER – VIEW 2


RELOCATE MICROWAVE  
SIGNAL TRANSMITTER  
BOLLARD AND POST  
TO LOCATION SHOWN  
ON DRAWING C1

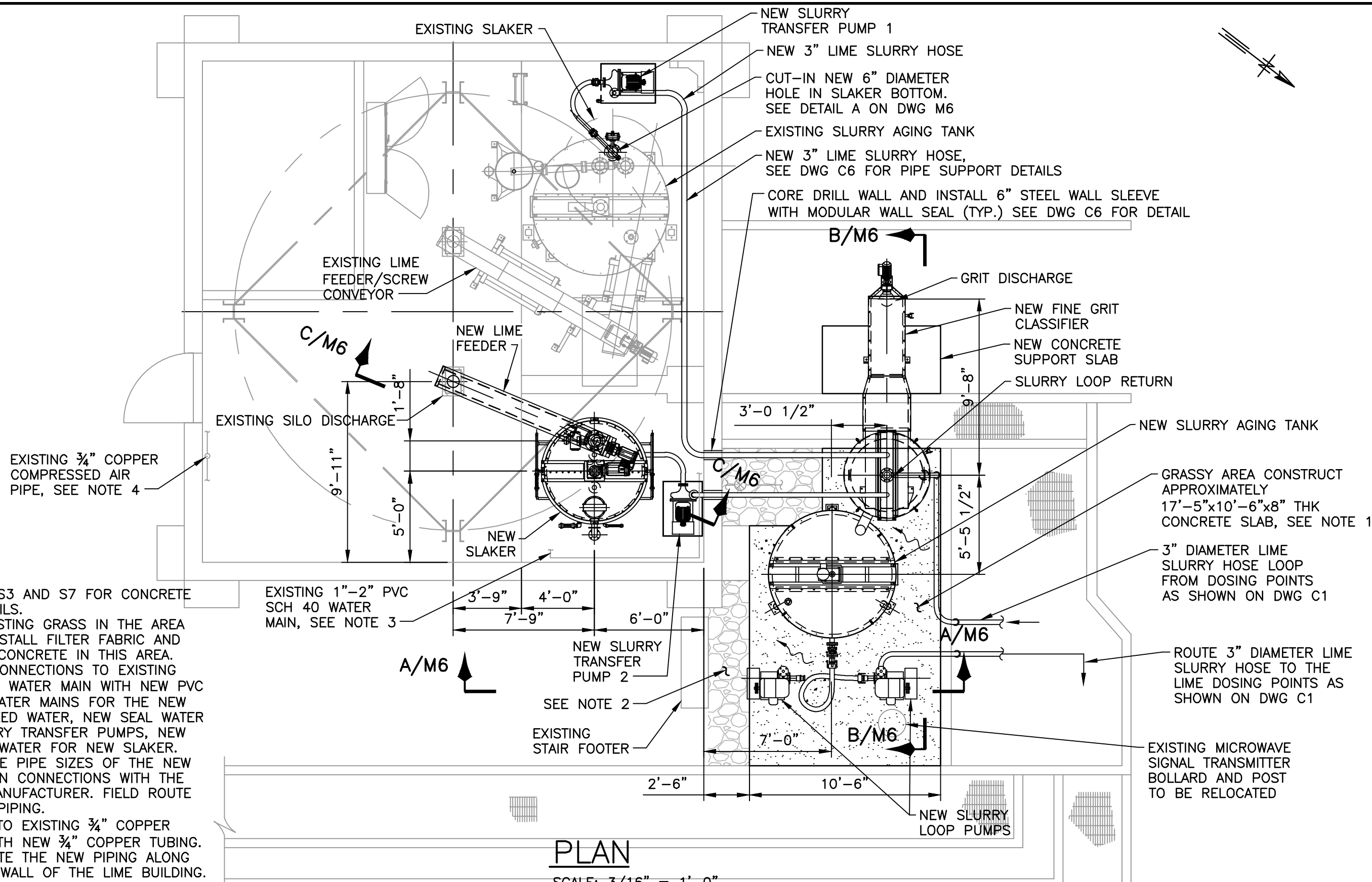


DEMOLITION OF EXISTING  
LIME DOSING ASSEMBLY

DEMOLISH EXISTING  
LIME SLURRY DOSING  
ASSEMBLIES AT  
SETTLING BASINS 5/6  
AND BASINS 7/8  
AFTER NEW SYSTEM IS  
IN OPERATION

M4\_3/30/2017 4:28:48 PM

 <b>GREELEY AND HANSEN</b> 1715 N. WESTSHORE BLVD., STE. 464 TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION NO. 37	NOT TO SCALE					DAVID L. TIPPIN WATER TREATMENT FACILITY LIME SLAKER REPLACEMENT PROJECT WO#103	W.O. NO. 103					
	DESIGNED NMN DRAWN JMW CHECKED CMP	<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>APPD</th> <th>REVISION</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	NO.	DATE	APPD	REVISION					P.E. NAME: CHARLES M. PEKKALA P.E. NO. 37996 P.E. NAME: _____ DATE: _____	MECHANICAL <b>LIME SLAKING SYSTEM DEMOLITION – EXTERIOR</b>
NO.	DATE	APPD	REVISION									



- NOTE:
- SEE DWG S3 AND S7 FOR CONCRETE SLAB DETAILS.
  - CLEAR EXISTING GRASS IN THE AREA SHOWN. INSTALL FILTER FABRIC AND CRUSHED CONCRETE IN THIS AREA.
  - PROVIDE CONNECTIONS TO EXISTING 1"-2" PVC WATER MAINS FOR THE NEW SLAKER FEED WATER, NEW SEAL WATER FOR SLURRY TRANSFER PUMPS, NEW FLUSHING WATER FOR NEW SLAKER. COORDINATE PIPE SIZES OF THE NEW WATER MAIN CONNECTIONS WITH THE SLAKER MANUFACTURER. FIELD ROUTE THE NEW PIPING.
  - CONNECT TO EXISTING 3/4" COPPER TUBING WITH NEW 3/4" COPPER TUBING. FIELD ROUTE THE NEW PIPING ALONG THE EAST WALL OF THE LIME BUILDING.

**PLAN**  
SCALE: 3/16" = 1'-0"

M5\_4/10/2017 1:46:25 PM

**GREELEY AND HANSEN**  
1715 N. WESTSHORE BLVD., STE. 464  
TAMPA, FLORIDA 33607  
CERTIFICATE OF AUTHORIZATION NO. 37

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SCALE IN FEET

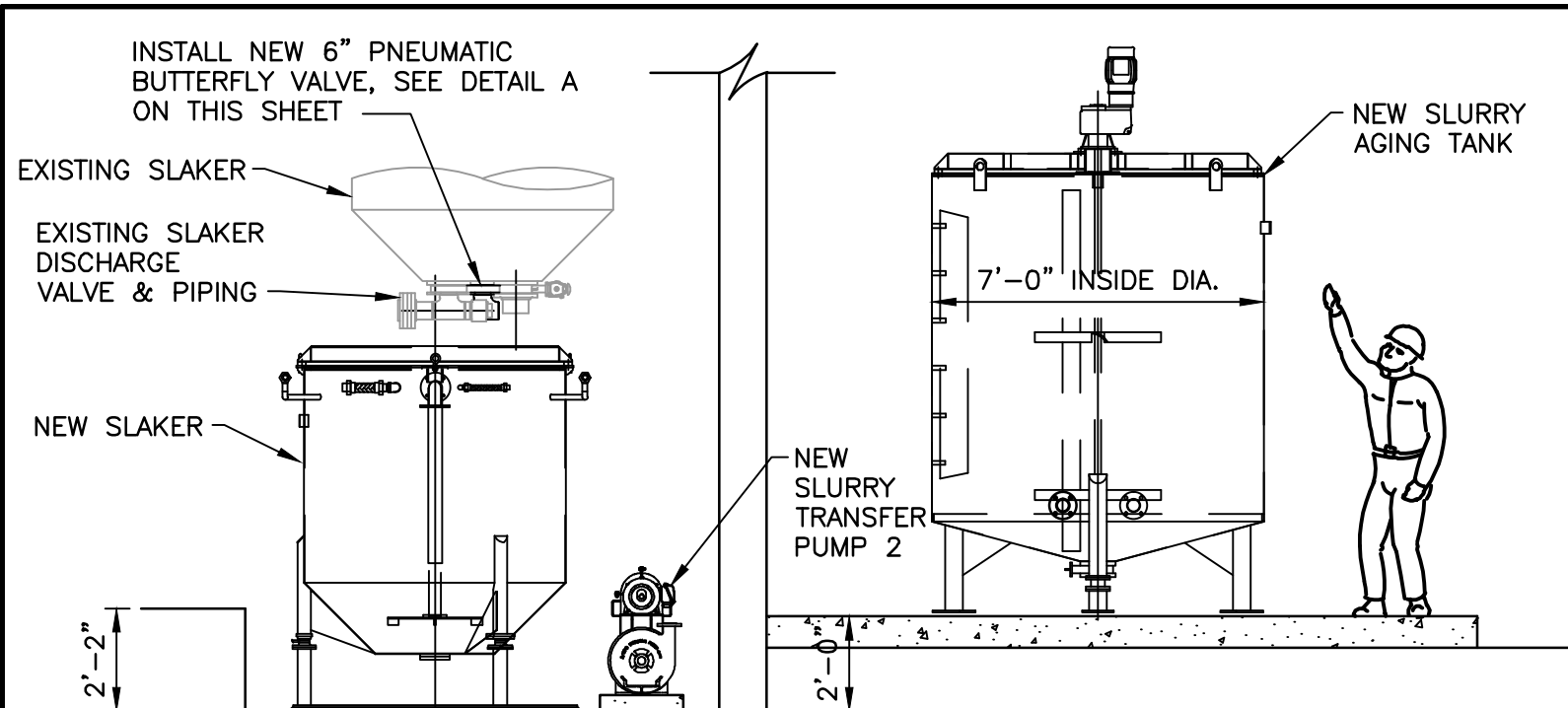
DESIGNED	NMN
DRAWN	JMW
CHECKED	CMP

NO.	DATE	APPD	REVISION

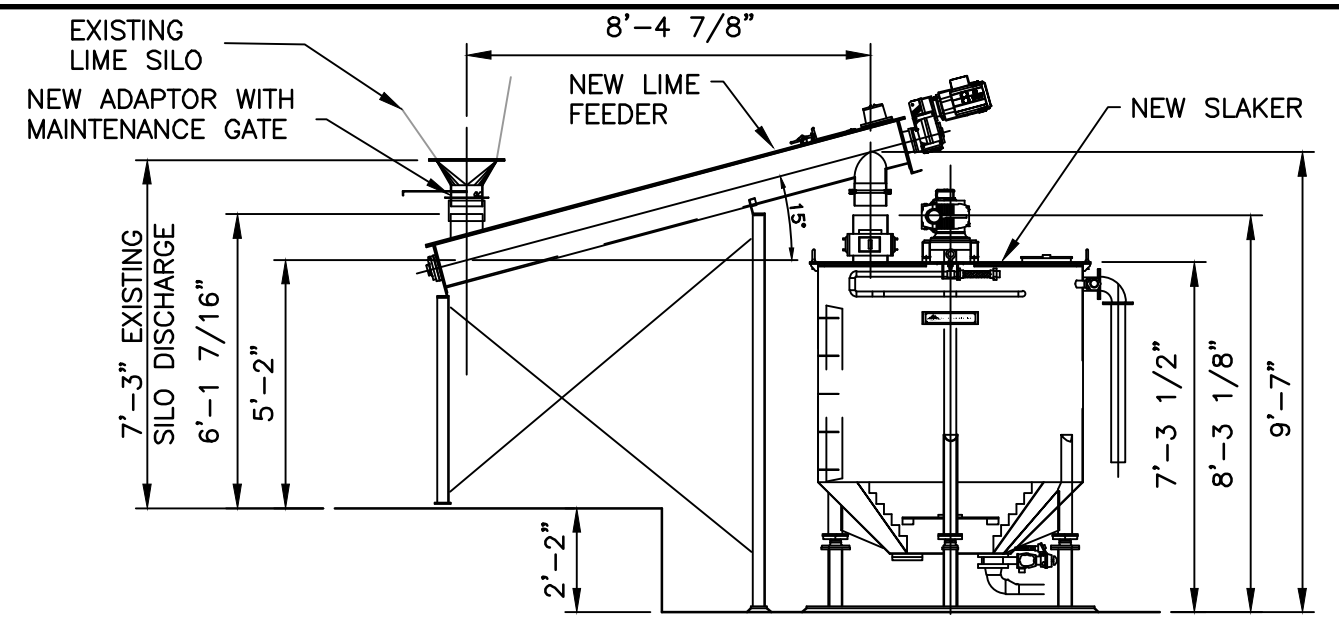
P.E. NAME: CHARLES M. PEKKALA P.E. NO. 37996  
P.E. NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
LIME SLAKER REPLACEMENT PROJECT WO#103  
MECHANICAL  
**LIME SLAKING SYSTEM  
CONSTRUCTION - PLAN**

W.O. NO. 103  
FILE: 0202U.06-M5  
**DWG. M5**  
NO. 14 OF 36  
DATE APRIL 2017

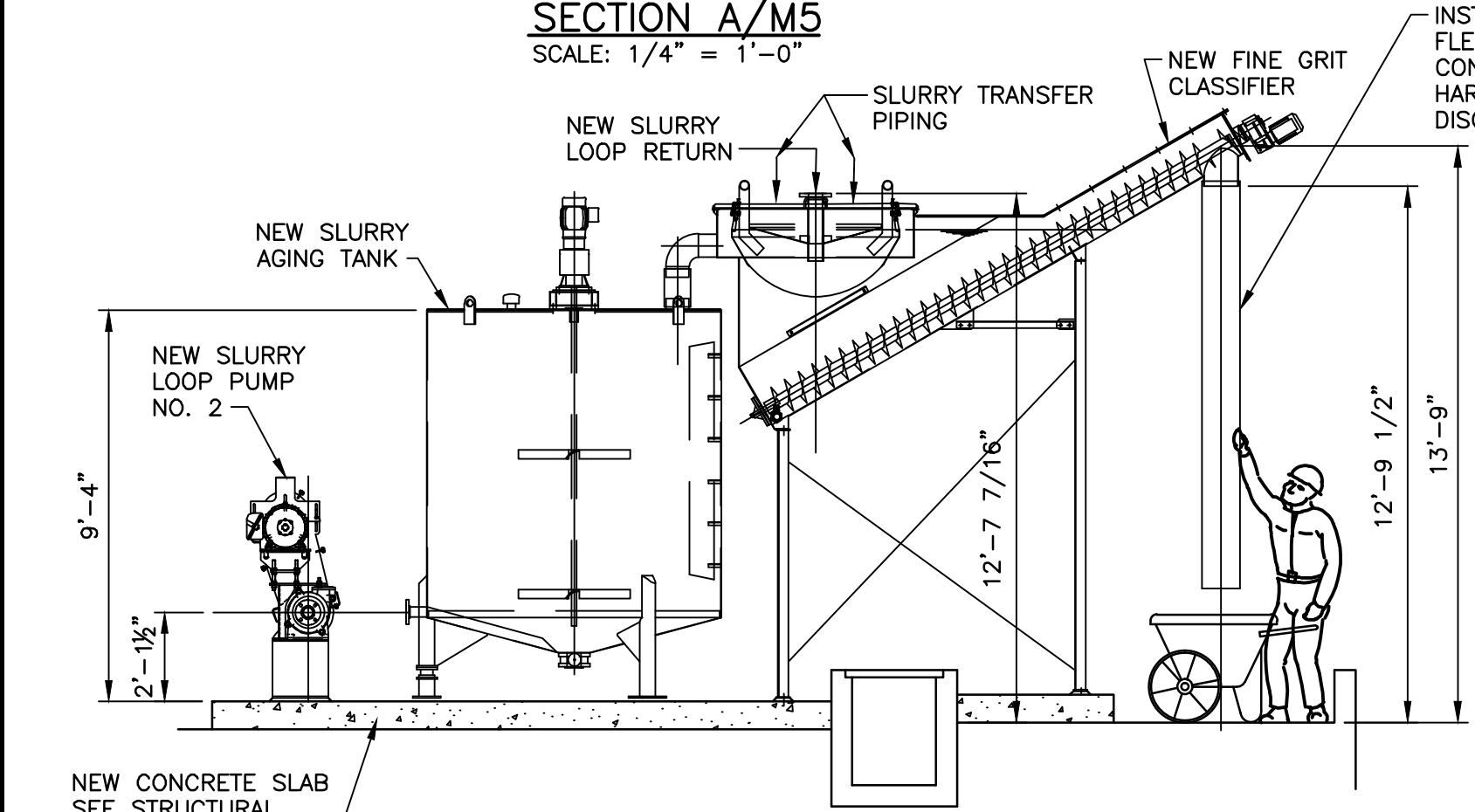


**SECTION A/M5**  
SCALE: 1/4" = 1'-0"

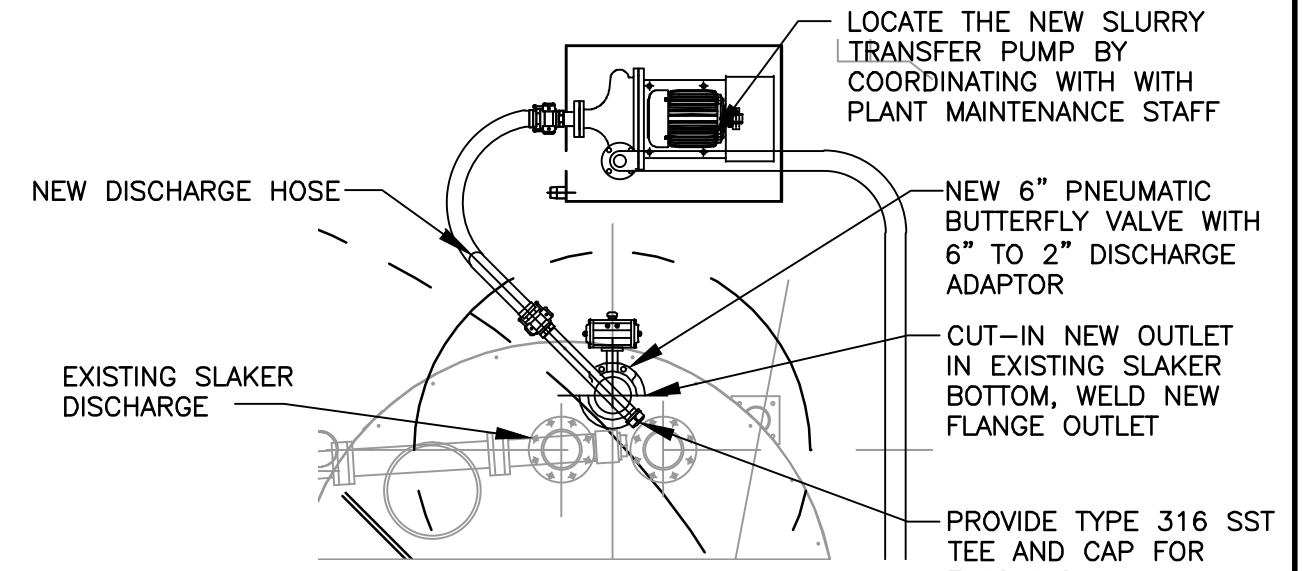


**SECTION C/M5**  
SCALE: 1/4" = 1'-0"

NOTE:  
1. ALL OF THE PROPOSED PIPING IS NOT SHOWN FOR CLARITY. SEE M1 FOR PIPING SCHEMATIC.



**SECTION B/M5**  
SCALE: 1/4" = 1'-0"



**DETAIL A**  
SCALE: 3/8" = 1'-0"

M6\_4/10/2017 1:49:38 PM

**GREELEY AND HANSEN**  
1715 N. WESTSHORE BLVD., STE. 464  
TAMPA, FLORIDA 33607  
CERTIFICATE OF AUTHORIZATION NO. 37

0 2 4 8  
SCALE IN FEET

DESIGNED	NMN
DRAWN	JMW
CHECKED	CMP

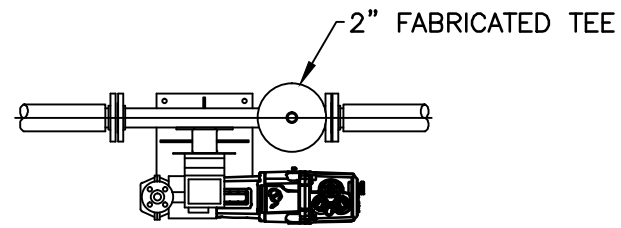
NO.	DATE	APPD	REVISION

P.E. NAME: CHARLES M. PEKKALA P.E. NO. 37996  
P.E. NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

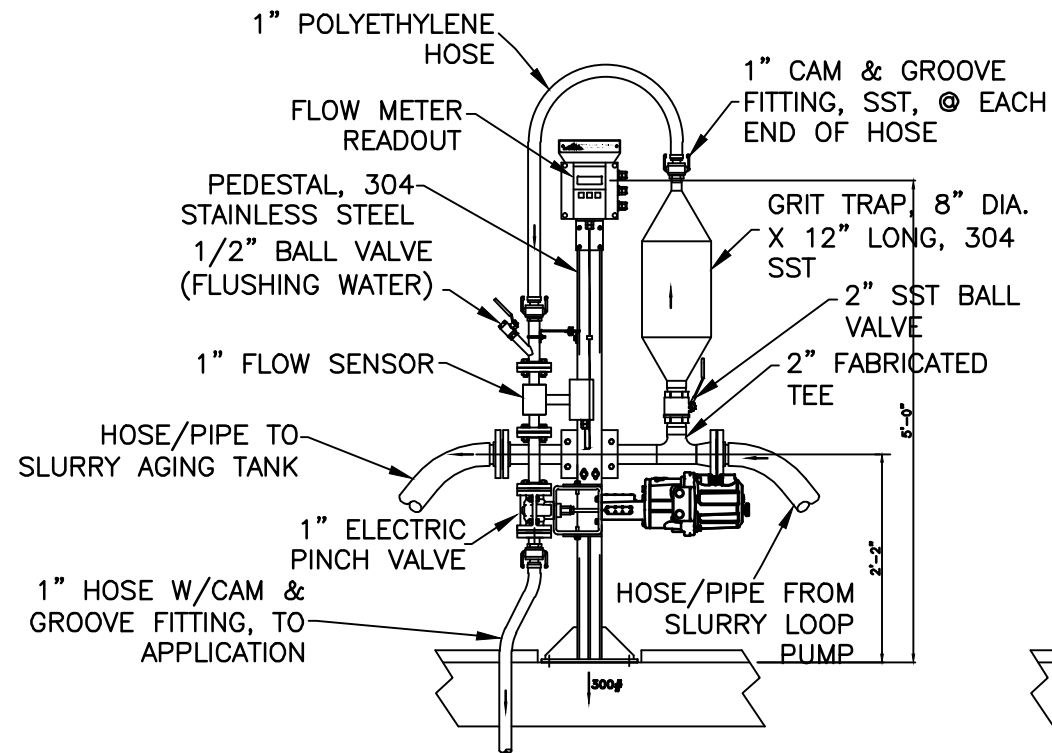
DAVID L. TIPPIN WATER TREATMENT FACILITY  
LIME SLAKER REPLACEMENT PROJECT WO#103  
MECHANICAL  
**LIME SLAKING SYSTEM**  
CONSTRUCTION - SECTIONS

W.O. NO. 103  
FILE: 0202U.06-M6  
**DWG. M6**  
NO. 15 OF 36  
DATE APRIL 2017

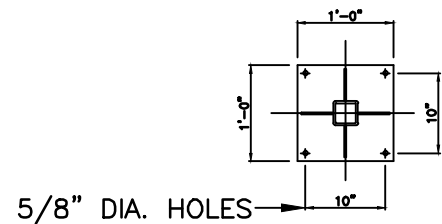




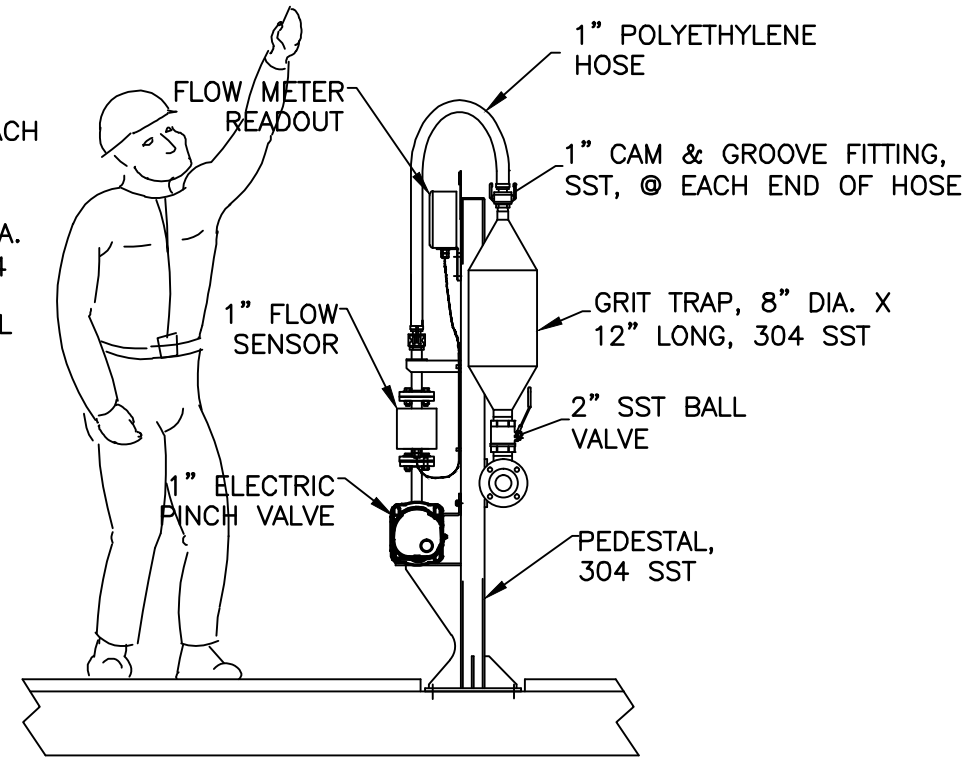
**PLAN**



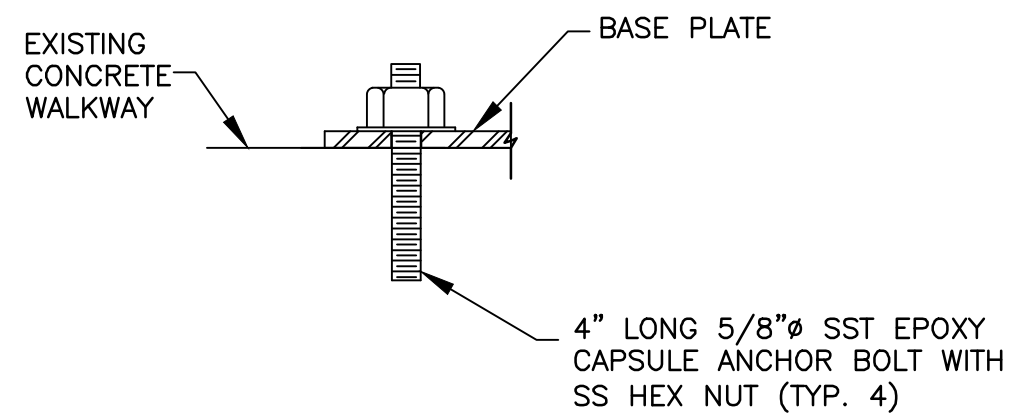
**ELEVATION**



**BASE PLATE**



**SIDE ELEVATION**



**BASE PLATE MOUNTING DETAIL**

M7, 4/7/2017 11:51:21 AM

**GREELEY AND HANSEN**  
 1715 N. WESTSHORE BLVD., STE. 464  
 TAMPA, FLORIDA 33607  
 CERTIFICATE OF AUTHORIZATION NO. 37

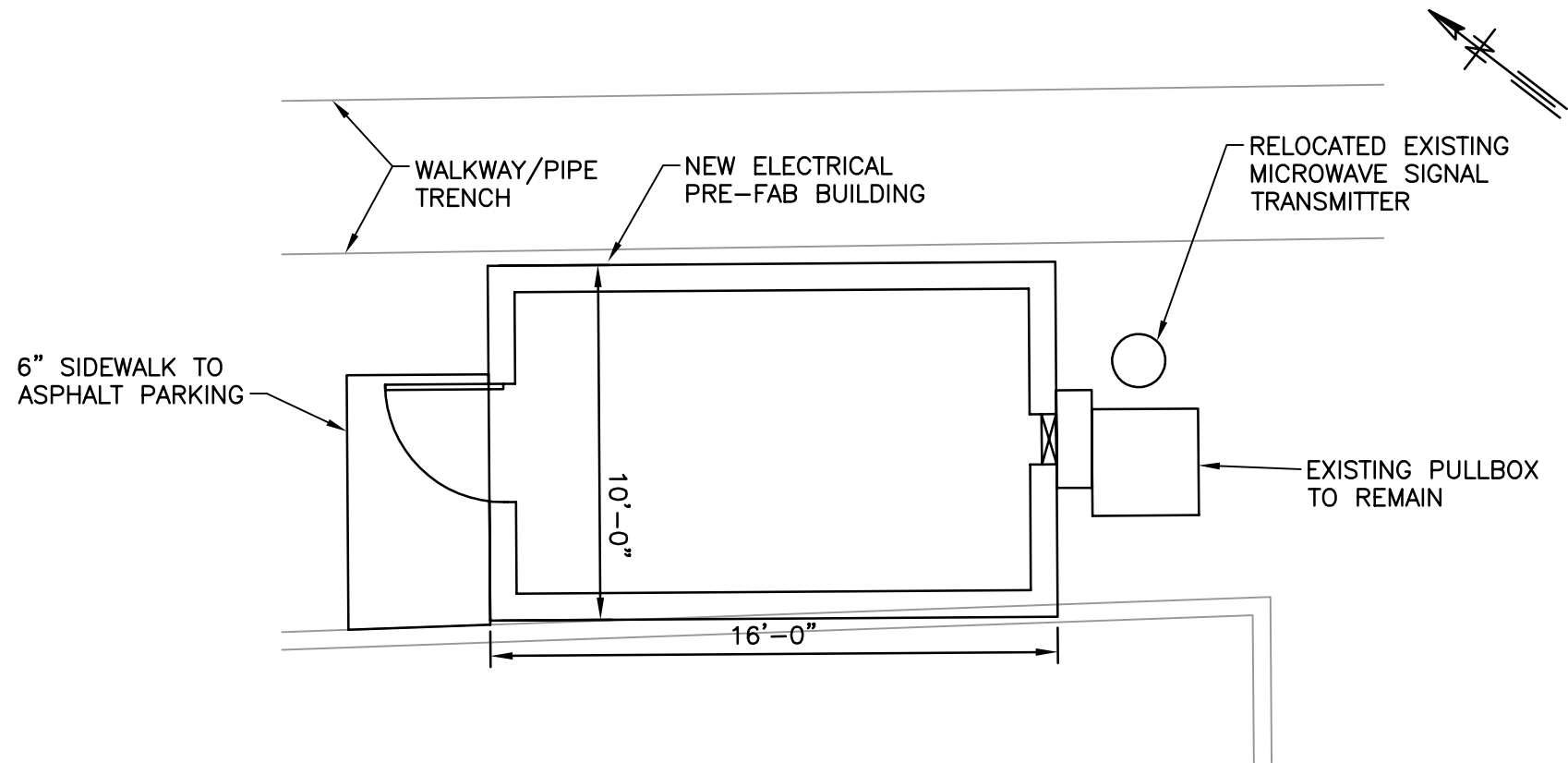
NOT TO SCALE

DESIGNED	NMN
DRAWN	JMW
CHECKED	CMP

NO.	DATE	APPD	REVISION
P.E. NAME: CHARLES M. PEKKALA		P.E. NO. 37996	
P.E. NAME: _____		DATE: _____	

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 MECHANICAL  
**LIME SLURRY DOSING ASSEMBLY AND DETAILS**

W.O. NO. 103  
 FILE: 0202U.06-M7  
**DWG. M7**  
 NO. 16 OF 36  
 DATE APRIL 2017



**NEW ELECTRICAL PREFABRICATED  
MODULAR BUILDING**

NOTES:

1. REFER TO THE SPECIFICATIONS FOR PREFABRICATED PRECAST BUILDING CONSTRUCTION AND ACCESSORY REQUIREMENTS.
2. SEE STRUCTURAL DRAWINGS FOR CONCRETE SLAB ON GRADE.
3. PROVIDE PACKAGED AIR CONDITIONING UNIT FOR THE BUILDING AS SPECIFIED.
4. SEE ELECTRICAL PLANS FOR POWER, LIGHTING AND LIGHTNING PROTECTION PLANS.

M8, 3/30/2017 3:02:02 PM



**GREELEY AND HANSEN**

1715 N. WESTSHORE BLVD., STE. 464  
TAMPA, FLORIDA 33607  
CERTIFICATE OF AUTHORIZATION NO. 37

NOT TO SCALE

DESIGNED	NMN
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NO.	DATE	APPD	REVISION

P.E. NAME: CHARLES M. PEKKALA P.E. NO. 37996  
P.E. NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
LIME SLAKER REPLACEMENT PROJECT WO#103

MECHANICAL

**PREFABRICATED MODULAR BUILDING**

W.O. NO. 103

FILE: 0202U.06-M8

**DWG. M8**  
NO. 17 OF 36

DATE APRIL 2017

## GENERAL STRUCTURAL NOTES

### SCOPE OF WORK

1. WORK DETAILED ON THE DRAWINGS AND APPLICABLE ITEMS DESCRIBED IN THE GENERAL STRUCTURAL NOTES.

### DRAWINGS AND SPECIFICATIONS

1. DO NOT SCALE DRAWINGS FOR DIMENSIONS NOT GIVEN.
2. ADVISE ENGINEER OF DIMENSIONAL DISCREPANCIES.
3. VERIFY ALL EXISTING FIELD CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
4. THE CONTRACTOR SHALL PERFORM NO PORTION OF THE WORK AT ANY TIME WITHOUT CONTRACT DOCUMENTS OR, WHERE REQUIRED, APPROVED SHOP DRAWINGS, PRODUCT DATA OR SAMPLES FOR SUCH PORTION OF THE WORK.

### CONSTRUCTION SAFETY

1. THESE DRAWINGS DO NOT INCLUDE PROVISIONS TO SATISFY SAFETY REQUIREMENTS. CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING SAFETY DURING CONSTRUCTION AND FOR CONFORMANCE TO ALL APPLICABLE OSHA STANDARDS. JOBSITE VISITS BY ENGINEER SHALL NOT CONSTITUTE APPROVAL, AWARENESS OR LIABILITY FOR ANY HAZARDOUS CONDITIONS.

### SHORING AND SUPPORT

1. WHEN REMOVAL OF STRUCTURAL ELEMENTS FOR MODIFICATIONS MAY CAUSE TEMPORARY WEAKNESS, EXCESSIVE DEFLECTIONS OR STRUCTURAL INSTABILITY, SHORING OR OTHER SUITABLE SUPPORTS SHALL BE PROVIDED UNTIL COMPLETION AND ADEQUATE CURING OF MODIFICATIONS.
2. THE CONTRACTOR SHALL SUBMIT CUT SHEETS WITH CERTIFIED CAPACITIES FOR SHORING TO BE USED. SHORING PLANS SHALL BE PREPARED, SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.

### BUILDING CODES AND SPECIFICATIONS

1. FLORIDA BUILDING CODE 5TH EDITION (2015).
2. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES ASCE 7-10.
3. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES ACI 530-11 / ASCE 5-11 / TMS 402-11.
4. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE ACI 318-11.
5. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES ACI 315.
6. CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES ACI 350-06.

## FOUNDATIONS

1. SHALLOW FOUNDATION DESIGN BASED ON 2000 PSF ALLOWABLE SOIL BEARING PRESSURE.
2. NOTIFY ENGINEER IF FOOTING EXCAVATION REVEALS UNSUITABLE OR UNSTABLE SOILS OR MATERIALS OR CONDITIONS NOT PREVIOUSLY ANTICIPATED.
3. CONTRACTOR SHALL CONSIDER THE POSSIBLE IMPACT OF GROUNDWATER ON CONSTRUCTION TECHNIQUES, SEASONAL VARIATIONS, ANY OTHER SITE INDICATORS AND HIS OWN JUDGMENT.
4. SOIL DIRECTLY BELOW FOUNDATIONS AND SLAB ON GRADE SHALL BE COMPACTED TO 98% OF THE ASTM D 1557 (MODIFIED PROCTOR) MAXIMUM DRY DENSITY.


## PORTLAND CEMENT CONCRETE

1. CONCRETE PROPERTIES
  - A. FOUNDATIONS 4000 PSI, 3" TO 5" SLUMP
  - B. BEAMS, COLUMNS, WALLS AND ELEVATED SLABS 4000 PSI, 3" TO 5" SLUMP
  - C. FILLED CELLS IN CMU 3000 PSI, 8" TO 11" SLUMP, 3/8" PEA GRAVEL
  - D. SLABS ON GRADE 4000 PSI, 3" TO 5" SLUMP (PEDESTRIAN AND LIGHT VEHICULAR TRAFFIC)
2. FLY ASH SHALL NOT EXCEED 20 PERCENT BY WEIGHT OF TOTAL CEMENT, IF USED.
3. CONTRACTOR SHALL STRICTLY ADHERE TO SLUMP LIMITS. SUPERPLASTICIZER MAY BE USED AT THE CONTRACTOR'S OPTION TO INCREASE WORKABILITY.
4. MAXIMUM MIXING TIME (FROM BATCHING TO PLACEMENT)
  - A. AIR TEMPERATURE LESS THAN 85° F: 90 MINUTES
  - B. AIR TEMPERATURE 85° F TO 90° F: 75 MINUTES
  - C. AIR TEMPERATURE OVER 90° F: 60 MINUTES
5. MINIMUM COVER FOR REINFORCEMENT
  - A. FOOTINGS, 3 INCHES TO BOTTOM AND UNFORMED SIDES, 2 INCHES TO FORMED SIDES
  - B. CONCRETE EXPOSED TO EARTH, LIQUID, WEATHER OR CAST AGAINST A CONCRETE WORK MAT:
    - 1.) SLABS, 2 INCHES
    - 2.) BEAMS AND COLUMNS: 2 INCHES FOR STIRRUPS, SPIRALS AND TIES; 2 1/2" INCHES FOR PRIMARY REINFORCEMENT
    - 3.) WALLS, 2 INCHES
    - 4.) FOOTINGS AND BASE SLABS: 2 INCHES FOR FORMED SURFACES; 2 INCHES FOR TOP OF FOOTINGS AND BASE SLABS
  - C. OTHER, 2 INCHES TO MAIN REINFORCING, 1 1/2" INCHES TO TIES AND STIRRUPS.
6. ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE BY STANDARD ACCESSORIES DURING CONCRETE PLACEMENT.
7. REINFORCEMENT SHALL BE GRADE 60 CONFORMING TO ASTM A615.
8. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
9. DETAIL AND FABRICATE REINFORCEMENT IN ACCORDANCE WITH "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315.
10. PROVIDE MINIMUM LAP SPLICES PER ACI 318-05 FOR ALL REINFORCING BARS, UNLESS OTHERWISE NOTED. STAGGER SPLICES IN ADJACENT BARS AT LEAST 24 INCHES, EXCEPT IN BEAMS AND COLUMNS.
11. IN WALL FOOTINGS, GRADE BEAMS AND BOND BEAMS, PROVIDE BENT BARS AT CORNERS AND INTERSECTIONS OF THE SAME NUMBER AND SIZE AS STRAIGHT BARS.
12. APPLY CURING COMPOUND TO SLAB WITHIN TWO HOURS OF COMPLETION OF FINISHING OPERATIONS. USE LIQUID MEMBRANE FORMING COMPOUND COMPLYING WITH ASTM C309 TYPE 1 CLASS A. APPLY IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

## CONCRETE SLAB ON GRADE

1. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 4000 PSI
2. MAXIMUM SLUMP AT POINT OF DELIVERY: 5 INCHES
3. MAXIMUM AGGREGATE SIZE: 1 INCH
4. ENTRAINED AIR CONTENT: 4.5%
5. WELDED WIRE FABRIC SHALL BE WWF 6X6-W1.4XW1.4, UNLESS OTHERWISE NOTED, CONFORMING TO ASTM A185.
6. THE WELDED WIRE FABRIC SHALL BE PLACED IN THE CENTER OF THE DEPTH OF SLAB ON GRADE UNLESS OTHERWISE NOTED. ALL MESH JOINTS SHALL BE LAPPED TWO FULL MESHES.
7. INTERRUPT TYPICAL SLAB REINFORCEMENT AT ALL CONSTRUCTION AND EXPANSION JOINTS.
8. CUT ALTERNATE WIRES ALONG THE LINE OF SAW CUT CONTROL JOINTS PRIOR TO PLACING CONCRETE. MAKE SAW CUTS WITHIN 12 HOURS OF CONCRETE PLACEMENT, OR AS SOON AS CUTTING CAN BE DONE SUCH THAT THE SAW BLADE DOES NOT DISLodge AGGREGATE AND THE EDGES OF THE CUT DO NOT RAVEL.
9. PROVIDE 1/2" PREFORMED EXPANSION JOINT MATERIAL WHERE SLAB ABUTS VERTICAL SURFACES SUCH AS WALLS AND COLUMNS.
10. PROVIDE TERMITE PROTECTION TO SOIL PER FLORIDA BUILDING CODE 5TH EDITION (2015) BEFORE SLAB PLACEMENT UNDER BUILDINGS AND ENCLOSED SPACES.
11. PROVIDE VAPOR RETARDER UNDER ALL SLABS ON GRADE IN ENCLOSED SPACE.
12. APPLY CURING COMPOUND TO SLAB WITHIN TWO HOURS OF COMPLETION OF FINISHING OPERATIONS. USE LIQUID MEMBRANE FORMING COMPOUND COMPLYING WITH ASTM C 309 TYPE 1 CLASS A. THE COMPOUND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
13. THE CONTRACTOR SHALL CONFIRM THAT THE CURING COMPOUND WILL NOT INTERFERE WITH THE BONDING OF ANY APPLIED FLOOR SURFACE. IF THE CURING COMPOUND IS FOUND TO INTERFERE WITH BONDING, THE USE OF WET BURLAP AND TRICKLE HOSES IS ACCEPTABLE.
14. FOR LARGE SLABS, IT IS RECOMMENDED THAT THE SLAB BE CAST IN ALTERNATING LONG STRIPS AND SAW CUT TRANSVERSELY TO MINIMIZE SHRINKAGE CRACKING.

  
**ENGINEERING GROUP INC.**  
 3434 colwell avenue suite 100, tampa, florida 33614  
 telephone : 813.908.7203 fax : 813.931.5200  
 email : info@billerreinhardt.com **BREG JOB # 17-081**  
**State of Florida Certificate of Authorization No. 9149**

  
**GREELEY AND HANSEN**  
 1715 N. WESTSHORE BLVD., STE. 464  
 TAMPA, FLORIDA 33607  
 CERTIFICATE OF AUTHORIZATION NO. 37

SCALE AS NOTED		NO.	DATE	APPD	REVISION
		DESIGNED	R.R.	P.E. NAME: ROBERT J. REINHART	P.E. NO. 50076
DRAWN		P.E. NAME: _____			
CHECKED		DATE: _____			

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103

STRUCTURAL  
**GENERAL NOTES**

W.O. NO. 103  
 FILE: S1\_S2  
**DWG. S1**  
 NO. 18 OF 36  
 DATE APRIL 2017

TO THE BEST OF THE ENGINEER'S KNOWLEDGE  
 THE PLANS AND SPECIFICATIONS COMPLY WITH  
 THE APPLICABLE MINIMUM BUILDING CODES

# GENERAL STRUCTURAL NOTES

## DESIGN LOADS

1. DEAD LOADS
  - A. TABLE C3-1: MINIMUM DESIGN LOADS, ASCE 7-10
  - B. PRECAST BUILDING..... 70 K (APPROX.)
2. LIVE LOADS
  - A. ROOF..... 20 PSF
  - B. FLOOR OF PRECAST BUILDING..... 125 PSF
3. EQUIPMENT LOADS
  - A. SLURRY AGING TANK.....3 LEGS @ 7,500 LBS EACH = 22,500 LBS
  - B. FINE GRIT CLASSIFIER.....2 REAR LEGS @ 2,500 LBS EACH  
.....2 FRONT LEGS @ 1,700 LBS EACH
  - C. SLURRY PUMP..... 625 LBS
4. WIND LOAD
  - A. DESIGN WIND SPEED,  $V_{ult}$ ..... 149 MPH (3 SECOND GUST)
  - B. DESIGN WIND SPEED,  $V_{asd}$ ..... 115 MPH (3 SECOND GUST)
  - C. EXPOSURE CATEGORY..... C
  - D. ASCE 7-10 RISK CATEGORY..... III - IV
  - E. INTERNAL PRESSURE COEFFICIENT..... +0.18/-0.18
5. SNOW LOAD
  - A. GROUND SNOW LOAD,  $P_g$ ..... 0 <  $P_g$  < 10 PSF
6. COMPONENT AND CLADDING
  - A. SPECIALTY ENGINEER DESIGNING THE COMPONENTS AND CLADDING SHOULD DETERMINE THE TRIBUTARY AREA FOR SUCH COMPONENTS AND CLADDING AND USE THE TABLE FOR THE AREA EQUAL TO OR SMALLER THAN THE ACTUAL TRIBUTARY AREA.
  - B. COMPONENTS AND CLADDING SUB-CONTRACTOR SHALL PROVIDE SIGNED AND SEALED DRAWINGS AND CALCULATIONS PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. DOCUMENTATION SHALL INCLUDED THE DESIGN OF THE COMPONENTS AND CLADDING, AND CONNECTIONS TO THE MAIN STRUCTURE.
  - C. CORNER ZONE WIDTH = 3'-0" AND END ZONE WIDTH = 3'-0".

WALL COMPONENTS AND CLADDING						
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT $G_{cp}$		INTERNAL PRESSURE COEFFICIENT $G_{Cpi}$	P (psf)		
	ZONE 4	ZONE 5		ZONE 4	ZONE 5	
	< 10	1.00		1.00	0.18	58.61
20	0.95	0.95	0.18	56.12	56.12	
50	0.90	0.90	0.18	53.64	53.64	
100	0.81	0.81	0.18	49.17	49.17	
200	0.78	0.78	0.18	47.68	47.68	
500 <	0.70	0.70	0.18	43.71	43.71	

WALL COMPONENTS AND CLADDING						
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT $G_{cp}$		INTERNAL PRESSURE COEFFICIENT $G_{Cpi}$	P (psf)		
	ZONE 4	ZONE 5		ZONE 4	ZONE 5	
	< 10	-1.10		-1.40	-0.18	-63.57
20	-1.05	-1.30	-0.18	-61.09	-73.51	
50	-0.98	-1.15	-0.18	-57.61	-66.06	
100	-0.92	-1.02	-0.18	-54.63	-59.60	
200	-0.85	-0.95	-0.18	-51.16	-56.12	
500 <	-0.80	-0.80	-0.18	-48.67	-48.67	

\*WIND LOADS BASED ON LRFD VALUES

WALL COMPONENTS AND CLADDING						
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT $G_{cp}$		INTERNAL PRESSURE COEFFICIENT $G_{Cpi}$	P (psf)		
	ZONE 4	ZONE 5		ZONE 4	ZONE 5	
	< 10	1.00		1.00	0.18	35.16
20	0.95	0.95	0.18	33.67	33.67	
50	0.90	0.90	0.18	32.18	32.18	
100	0.81	0.81	0.18	29.50	29.50	
200	0.78	0.78	0.18	28.61	28.61	
500 <	0.70	0.70	0.18	26.22	26.22	

WALL COMPONENTS AND CLADDING						
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT $G_{cp}$		INTERNAL PRESSURE COEFFICIENT $G_{Cpi}$	P (psf)		
	ZONE 4	ZONE 5		ZONE 4	ZONE 5	
	< 10	-1.10		-1.40	-0.18	-38.14
20	-1.05	-1.30	-0.18	-36.65	-44.10	
50	-0.98	-1.15	-0.18	-34.57	-39.63	
100	-0.92	-1.02	-0.18	-32.78	-35.76	
200	-0.85	-0.95	-0.18	-30.69	-33.67	
500 <	-0.80	-0.80	-0.18	-29.20	-29.20	

\*WIND LOADS BASED ON ASD VALUES

ROOF COMPONENTS AND CLADDING							
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT $G_{cp}$			INTERNAL PRESSURE COEFFICIENT $G_{Cpi}$	P (psf)		
	ZONE 1	ZONE 2	ZONE 3		ZONE 1	ZONE 2	ZONE 3
	< 10	0.30	0.30		0.30	0.18	23.84
20	0.25	0.25	0.25	0.18	21.36	21.36	21.36
50	0.22	0.22	0.22	0.18	19.87	19.87	19.87
100 <	0.20	0.20	0.20	0.18	18.87	18.87	18.87

ROOF COMPONENTS AND CLADDING							
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT $G_{cp}$			INTERNAL PRESSURE COEFFICIENT $G_{Cpi}$	P (psf)		
	ZONE 1	ZONE 2	ZONE 3		ZONE 1	ZONE 2	ZONE 3
	< 10	-1.00	-1.80		-2.80	-0.18	-58.61
20	-0.98	-1.60	-2.30	-0.18	-57.61	-88.41	-123.18
50	-0.95	-1.30	-1.60	-0.18	-56.12	-73.51	-88.41
100 <	-0.90	-1.10	-1.10	-0.18	-53.64	-63.57	-63.57

OVERHANG COMPONENTS OF CLADDING							
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT $G_{cp}$			INTERNAL PRESSURE COEFFICIENT $G_{Cpi}$	P (psf)		
	ZONE 1	ZONE 2	ZONE 3		ZONE 1	ZONE 2	ZONE 3
	< 10	-1.70	-1.70		-2.80	-0.18	-93.37
20	-1.65	-1.65	-2.20	-0.18	-90.89	-90.89	-118.21
50	-1.62	-1.62	-1.40	-0.18	-89.40	-89.40	-78.47
100 <	-1.60	-1.60	-0.80	-0.18	-88.41	-88.41	-48.67

\*WIND LOADS BASED ON LRFD VALUES

ROOF COMPONENTS AND CLADDING							
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT $G_{cp}$			INTERNAL PRESSURE COEFFICIENT $G_{Cpi}$	P (psf)		
	ZONE 1	ZONE 2	ZONE 3		ZONE 1	ZONE 2	ZONE 3
	< 10	0.30	0.30		0.30	0.18	14.30
20	0.25	0.25	0.25	0.18	12.81	12.81	12.81
50	0.22	0.22	0.22	0.18	11.92	11.92	11.92
100 <	0.20	0.20	0.20	0.18	11.32	11.32	11.32

ROOF COMPONENTS AND CLADDING							
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT $G_{cp}$			INTERNAL PRESSURE COEFFICIENT $G_{Cpi}$	P (psf)		
	ZONE 1	ZONE 2	ZONE 3		ZONE 1	ZONE 2	ZONE 3
	< 10	-1.00	-1.80		-2.80	-0.18	-35.16
20	-0.98	-1.60	-2.30	-0.18	-34.57	-53.04	-73.91
50	-0.95	-1.30	-1.60	-0.18	-33.67	-44.10	-53.04
100 <	-0.90	-1.10	-1.10	-0.18	-32.18	-38.14	-38.14

OVERHANG COMPONENTS OF CLADDING							
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT $G_{cp}$			INTERNAL PRESSURE COEFFICIENT $G_{Cpi}$	P (psf)		
	ZONE 1	ZONE 2	ZONE 3		ZONE 1	ZONE 2	ZONE 3
	< 10	-1.70	-1.70		-2.80	-0.18	-56.02
20	-1.65	-1.65	-2.20	-0.18	-54.53	-54.53	-70.92
50	-1.62	-1.62	-1.40	-0.18	-53.64	-53.64	-47.08
100 <	-1.60	-1.60	-0.80	-0.18	-53.04	-53.04	-29.20

\*WIND LOADS BASED ON ASD VALUES

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State of Florida Certificate of Authorization No. 9149

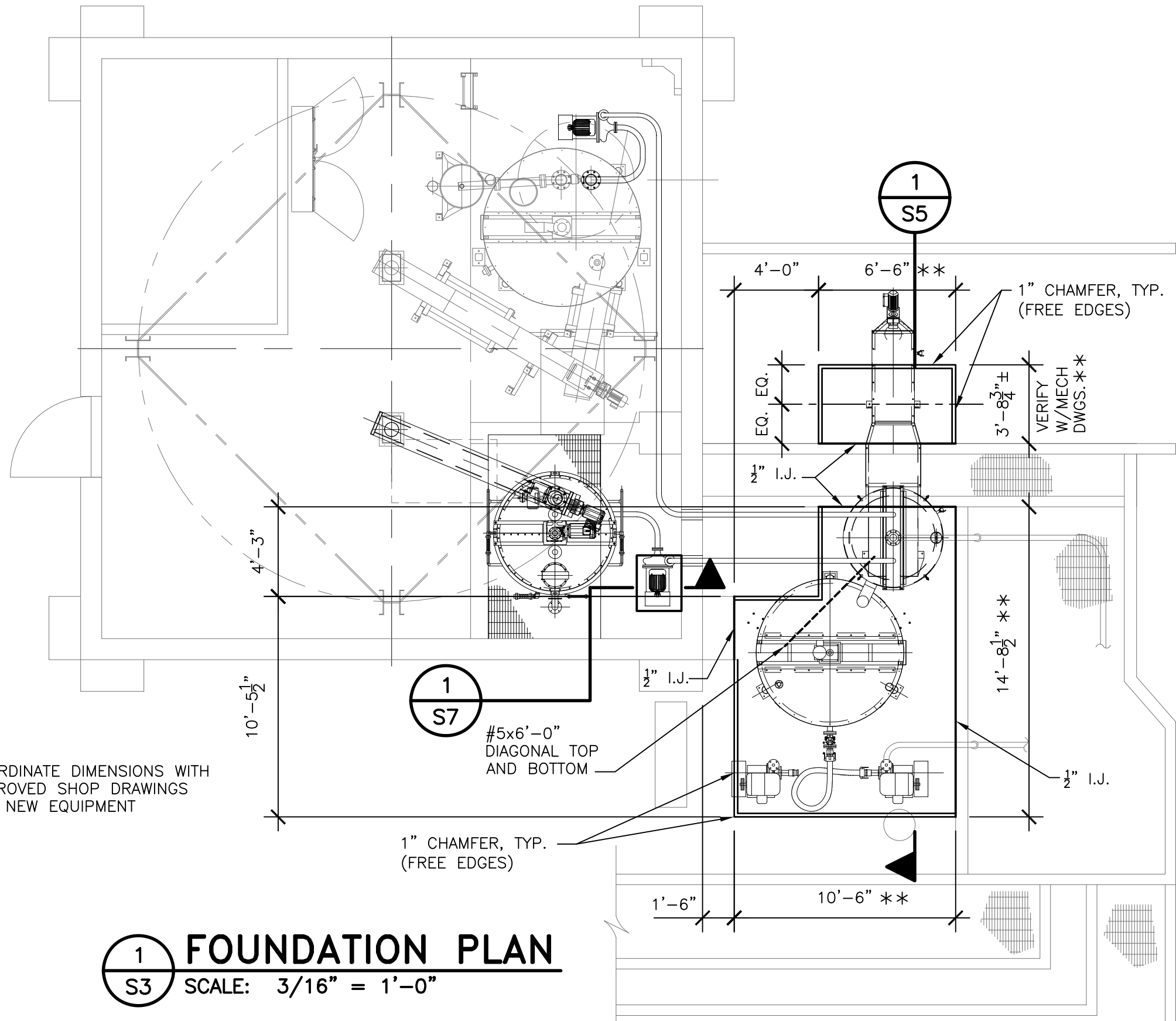
**GREELEY AND HANSEN**  
1715 N. WESTSHORE BLVD., STE. 464  
TAMPA, FLORIDA 33607  
CERTIFICATE OF AUTHORIZATION NO. 37

SCALE AS NOTED		NO.	DATE	APPD	REVISION
DESIGNED	R.R.				
DRAWN	R.C./R.M.				
CHECKED	R.R.				
		P.E. NAME: ROBERT J. REINHART		P.E. NO. 50076	
		P.E. NAME:		DATE:	

DAVID L. TIPPIN WATER TREATMENT FACILITY  
LIME SLAKER REPLACEMENT PROJECT WO#103  
STRUCTURAL  
**GENERAL NOTES**

W.O. NO. 103  
FILE: S1\_S2  
**DWG. S2**  
NO. 19 OF 36  
DATE APRIL 2017

TO THE BEST OF THE ENGINEER'S KNOWLEDGE  
THE PLANS AND SPECIFICATIONS COMPLY WITH  
THE APPLICABLE MINIMUM BUILDING CODES



**1 FOUNDATION PLAN**  
**S3 SCALE: 3/16" = 1'-0"**

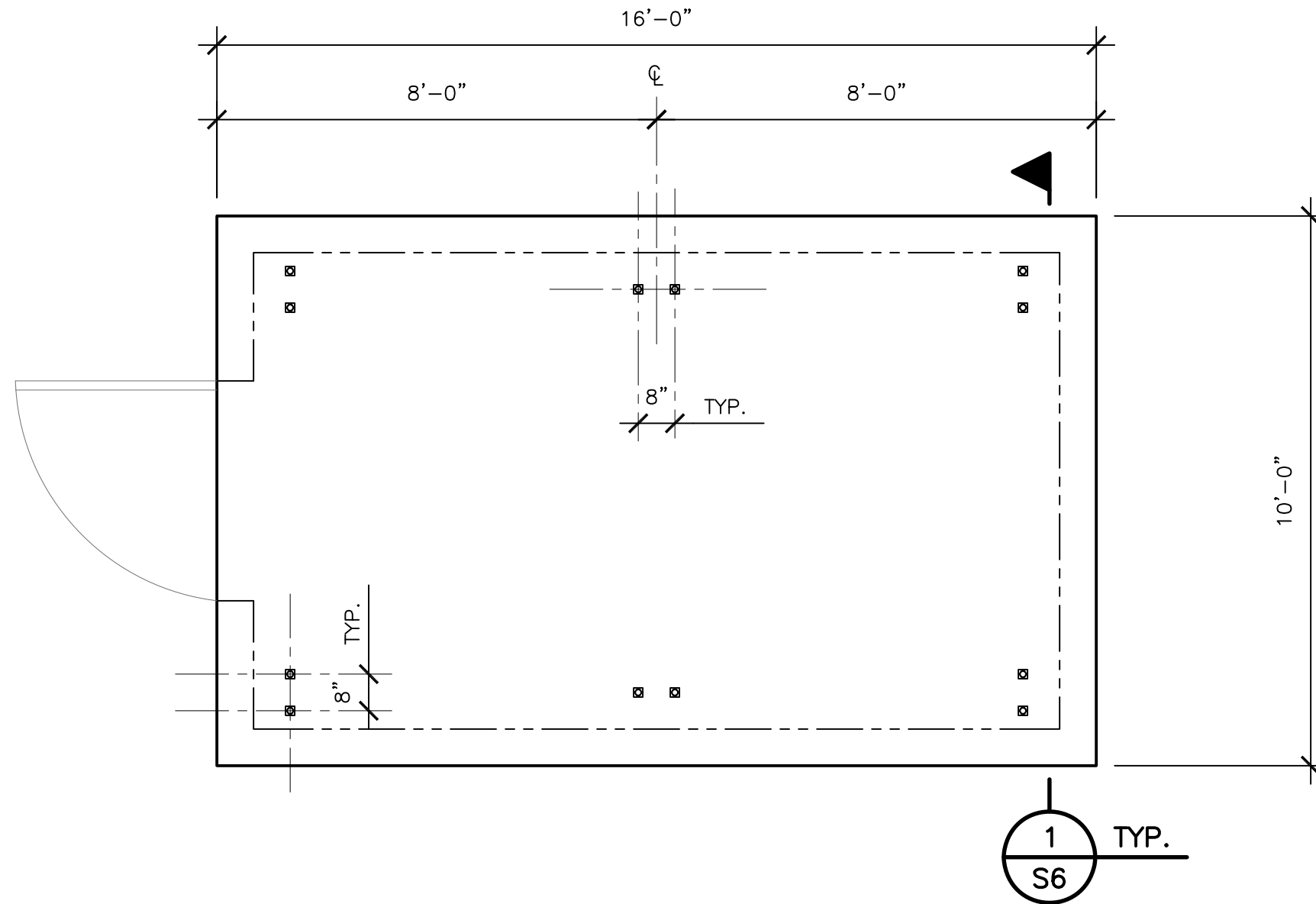
**billerreinhardt**  
 ENGINEERING GROUP INC.  
 3434 colwell avenue suite 100, tampa, florida 33614  
 telephone : 813.908.7203 fax : 813.931.5200  
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**GREELEY AND HANSEN**  
 1715 N. WESTSHORE BLVD., STE. 464  
 TAMPA, FLORIDA 33607  
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DESIGNED	R.R.	P.E. NAME: ROBERT J. REINHART		P.E. NO. 50076	
DRAWN	R.C./R.M.	P.E. NAME:		DATE:	
CHECKED	R.R.	<small>TO THE BEST OF THE ENGINEER'S KNOWLEDGE          THE PLANS AND SPECIFICATIONS COMPLY WITH          THE APPLICABLE MINIMUM BUILDING CODES</small>			

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 STRUCTURAL  
**LIME SLAKING SYSTEM  
 CONSTRUCTION - FOUNDATION PLAN**

W.O. NO. 103  
 FILE: S3  
**DWG. S3**  
 NO. 20 OF 36  
 DATE APRIL 2017



# ELECTRICAL PREFABRICATED MODULAR BUILDING FOUNDATION PLAN

1  
S4

SCALE: 3/4" = 1'-0"

**billerreinhardt**  
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**GREELEY AND HANSEN**  
1715 N. WESTSHORE BLVD., STE. 464  
TAMPA, FLORIDA 33607  
CERTIFICATE OF AUTHORIZATION NO. 37

SCALE AS NOTED		NO.	DATE	APPD	REVISION
DESIGNED	R.R.	P.E. NAME: ROBERT J. REINHART		P.E. NO. 50076	
DRAWN	R.C./R.M.	P.E. NAME:			
CHECKED	R.R.	DATE:			

DAVID L. TIPPIN WATER TREATMENT FACILITY  
LIME SLAKER REPLACEMENT PROJECT WO#103

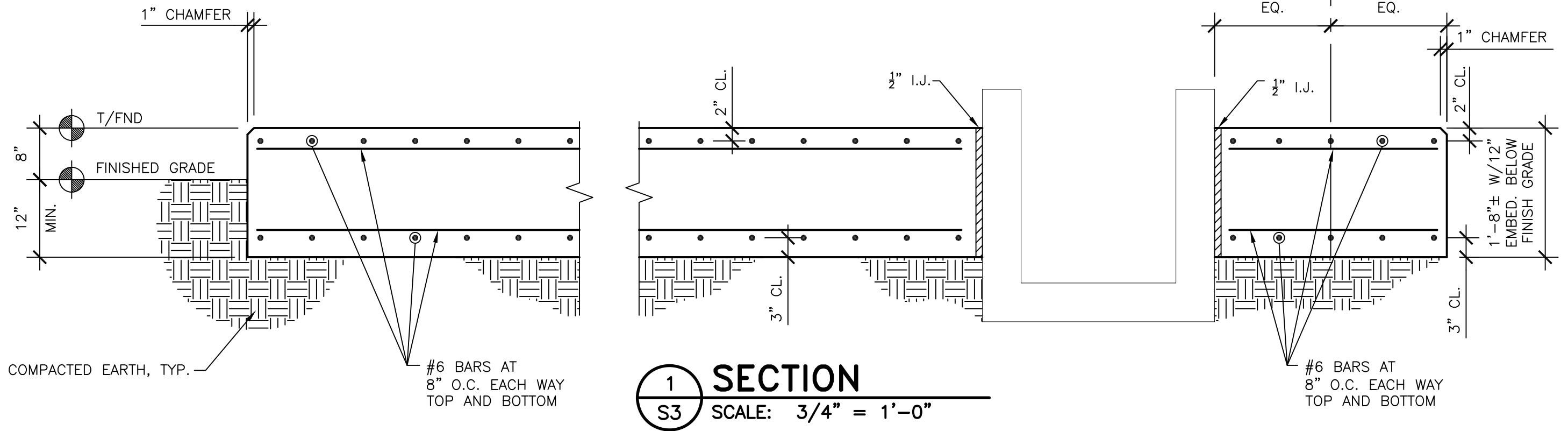
STRUCTURAL

**PREFABRICATED MODULAR BUILDING  
FOUNDATION PLAN**

W.O. NO. 103  
FILE: S4  
**DWG. S4**  
NO. 21 OF 36  
DATE APRIL 2017

**NOTES:**

1. EQUIPMENT ANCHORS
  - A. ADHESIVE ANCHORS SHALL BE HILTI HIT-RE 500 EPOXY ANCHORING SYSTEM (OR APPROVED EQUAL) INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
  - B. ANCHOR BOLT/THREADED ROD DIAMETERS, CONFIGURATION AND EMBEDMENT DEPENDENT ON FINAL EQUIPMENT SHOP/VENDOR DRAWINGS.



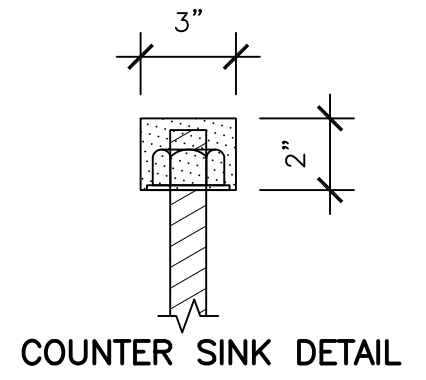
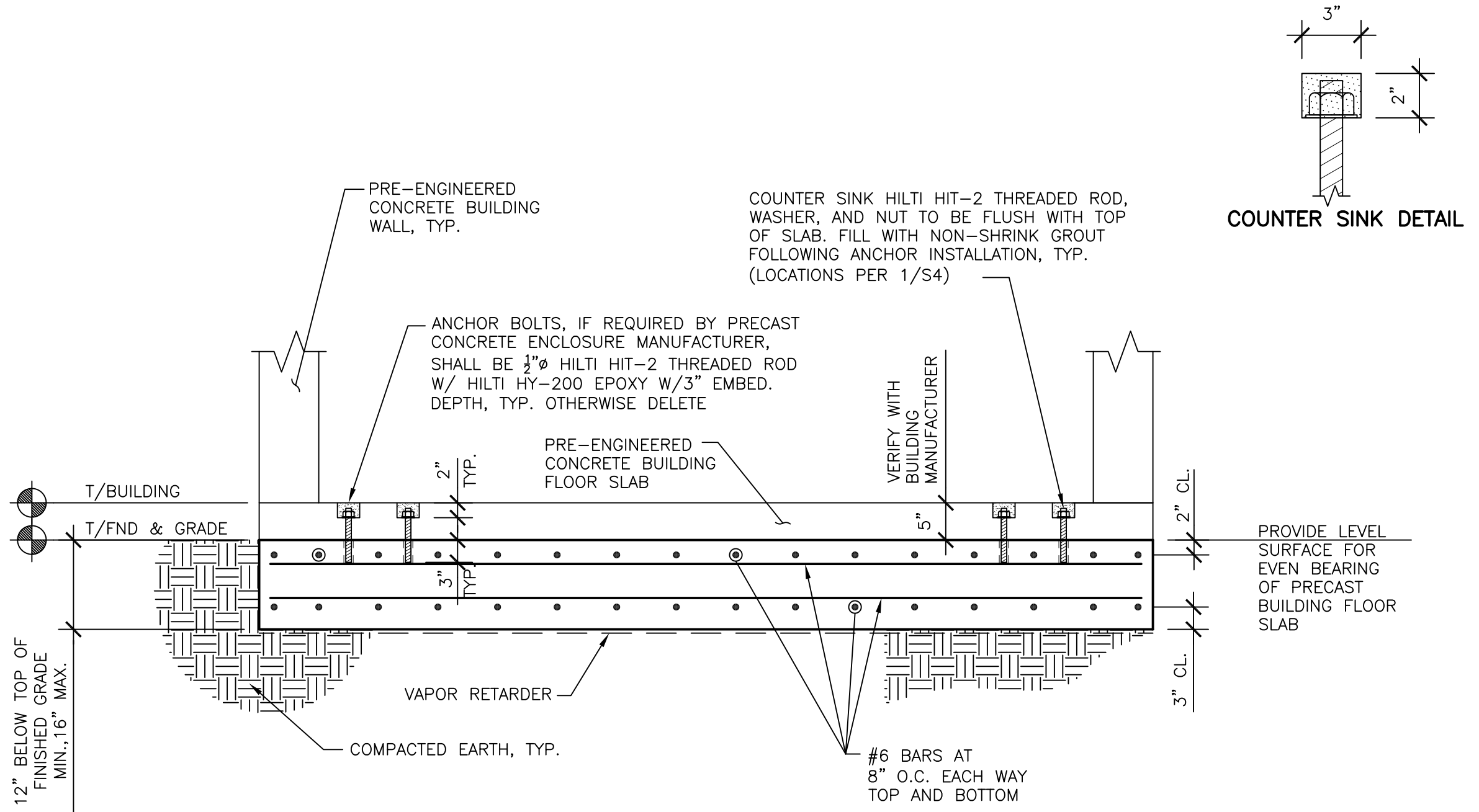
**billerreinhardt**  
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 TAMPA, FLORIDA 33607  
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SCALE AS NOTED		NO.	DATE	APPD	REVISION
DESIGNED	R.R.				
DRAWN	R.C./R.M.				
CHECKED	R.R.				
		P.E. NAME: ROBERT J. REINHART		P.E. NO. 50076	
		P.E. NAME: _____		DATE: _____	
<small>TO THE BEST OF THE ENGINEER'S KNOWLEDGE THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES</small>					

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 STRUCTURAL  
**LIME SLAKING SYSTEM  
 CONSTRUCTION - SECTION**

W.O. NO. 103  
 FILE: S5\_S6\_S7  
**DWG. S5**  
 NO. 22 OF 36  
 DATE APRIL 2017



1 SECTION  
S4 SCALE: 3/4" = 1'-0"

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**GREELEY AND HANSEN**  
 1715 N. WESTSHORE BLVD., STE. 464  
 TAMPA, FLORIDA 33607  
 CERTIFICATE OF AUTHORIZATION NO. 37

SCALE AS NOTED		NO.	DATE	APPD	REVISION
DESIGNED	R.R.	P.E. NAME: ROBERT J. REINHART P.E. NO. 50076			
DRAWN	R.C./R.M.	P.E. NAME: _____			
CHECKED	R.R.	DATE: _____			

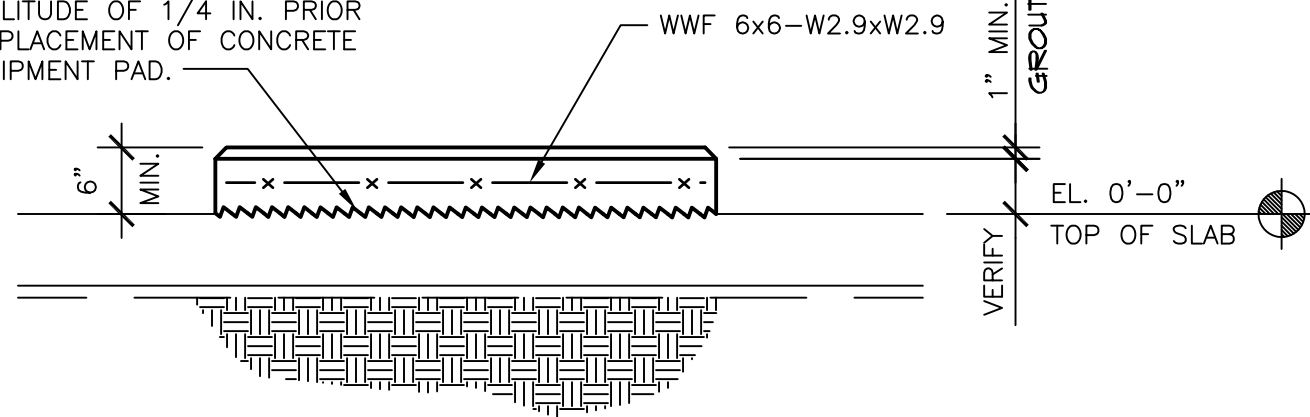
DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 STRUCTURAL  
**PREFABRICATED MODULAR BUILDING SECTION**

W.O. NO. 103  
 FILE: S5\_S6\_S7  
**DWG. S6**  
 NO. 23 OF 36  
 DATE APRIL 2017

TO THE BEST OF THE ENGINEER'S KNOWLEDGE  
 THE PLANS AND SPECIFICATIONS COMPLY WITH  
 THE APPLICABLE MINIMUM BUILDING CODES



ROUGHEN SURFACE TO A FULL AMPLITUDE OF 1/4 IN. PRIOR TO PLACEMENT OF CONCRETE EQUIPMENT PAD.



**NOTES:**

1. PAD SIZE IN PLAN SHALL BE AS REQUIRED BY MECHANICAL SPECIFICATIONS OR AS REQUIRED TO FULLY SUPPORT EQUIPMENT.
2. CONTRACTOR SHALL VERIFY EQUIPMENT PAD LOCATIONS WITH APPROVED SHOP DRAWINGS AND SPECIFICATIONS PRIOR TO CONSTRUCTION. EQUIPMENT SHALL BE INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS.
3. SIZE OF PAD DEPENDENT ON EQUIPMENT. EDGES OF PAD TO BE A MINIMUM OF 6 INCHES BEYOND EQUIPMENT FOOTPRINT.
4. EQUIPMENT ANCHORS
  - A. ADHESIVE ANCHORS SHALL BE HILTI HIT-RE 500 EPOXY ANCHORING SYSTEM (OR APPROVED EQUAL) INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
  - B. ANCHOR BOLT/THREADED ROD DIAMETERS, CONFIGURATION AND EMBEDMENT DEPENDENT ON FINAL EQUIPMENT SHOP/VENDOR DRAWINGS.

**1** **MECHANICAL PAD**  
 S3 SCALE: 3/4" = 1'-0"

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 State of Florida Certificate of Authorization No. 9149

**GREELEY AND HANSEN**  
 1715 N. WESTSHORE BLVD., STE. 464  
 TAMPA, FLORIDA 33607  
 CERTIFICATE OF AUTHORIZATION NO. 37

SCALE AS NOTED		NO.	DATE	APPD	REVISION
DESIGNED	R.R.				
DRAWN	R.C./R.M.				
CHECKED	R.R.				
		P.E. NAME: ROBERT J. REINHART		P.E. NO. 50076	
		P.E. NAME: _____			
		DATE: _____			

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103

STRUCTURAL

**LIME SLAKING SYSTEM**  
**CONSTRUCTION – MECHANICAL PAD**

W.O. NO. 103  
 FILE: S5\_S6\_S7  
**DWG. S7**  
 NO. 24 OF 36  
 DATE APRIL 2017

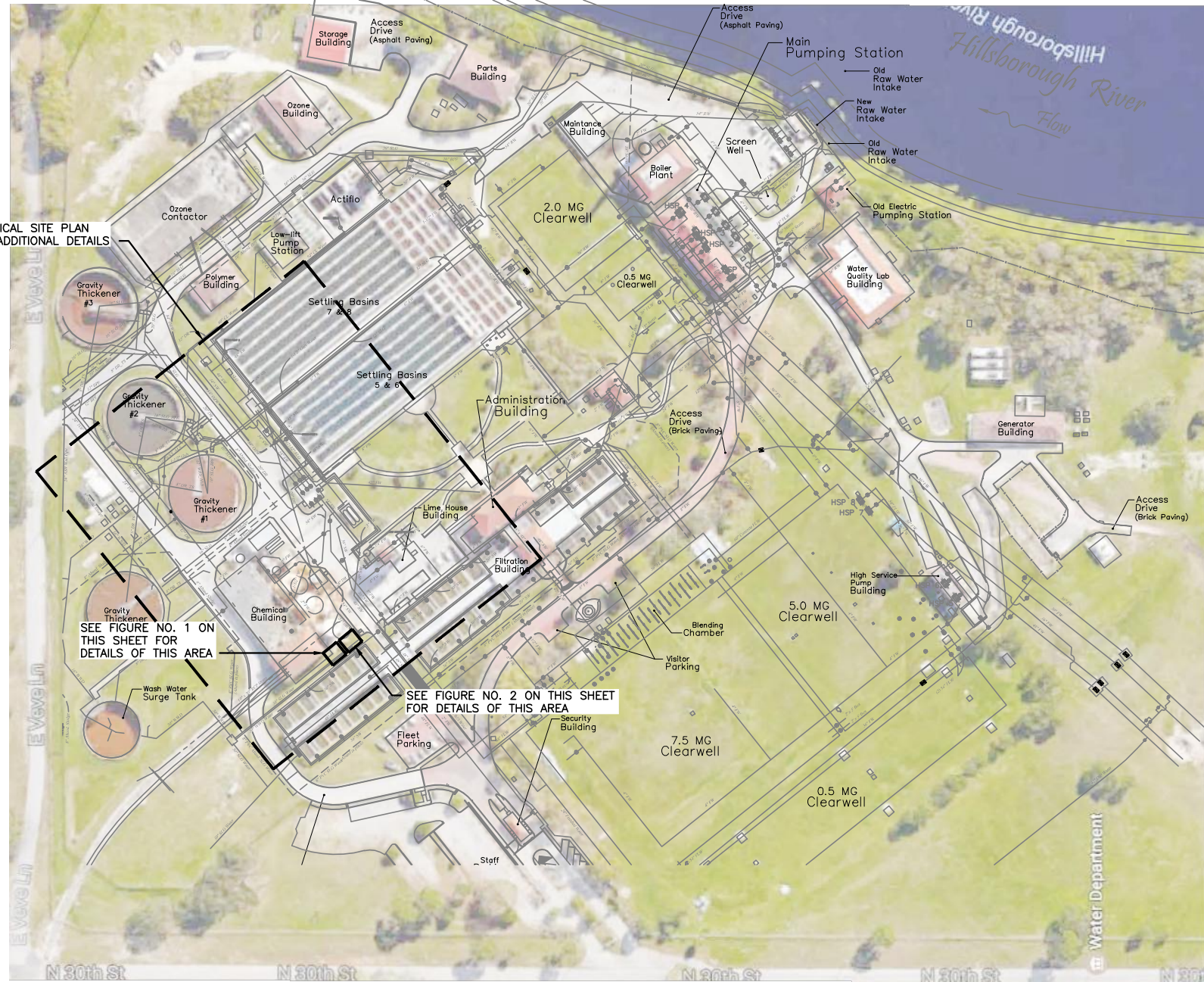
TO THE BEST OF THE ENGINEER'S KNOWLEDGE  
 THE PLANS AND SPECIFICATIONS COMPLY WITH  
 THE APPLICABLE MINIMUM BUILDING CODES

Y:\Greeley Hansen\David Tippin WTP Lime Slaker Replacement\3\_100% Submittal\Dwg\E1 NOTE.dwg, 2/28/2017 2:18:17 PM, SVickers

GENERAL SYMBOLS (Tags)		GENERAL SYMBOLS (CONTINUED)		SINGLE LINE DIAGRAM SYMBOLS		ABBREVIATIONS		ABBREVIATIONS (CONTINUED)	
ALARM INDICATING LIGHT AMMETER ANALYZING INDICATING TRANSMITTER ALARM RELAY (LOW OIL) THREE PHASE AMP SWITCH ALARM TIMER CONTROL RELAY ELAPSED TIME METER FUSED DISCONNECT SWITCH (30/20: 30=SWITCH RATING, 20=FUSE RATING) FLOW ELEMENT FLOW INDICATING TRANSMITTER FLOW SWITCH GROUND FAULT RELAY JUNCTION BOX N.E.C. SURFACE MTD UNLESS INDICATED OTHERWISE. JUNCTION BOX PER N.E.C., FLUSH MTD UNLESS INDICATED OTHERWISE. KIRK KEY INTERLOCK LEVEL INDICATING TRANSMITTER LIQUID LEVEL SWITCH LIMIT SWITCH HIGH LEVEL FLOAT SWITCH MOTOR STARTER MOTORIZED VALVE OFF REMOTE PHOTOCELL PUMP FAIL TIMER PRESSURE INDICATING TRANSMITTER PRESSURE SWITCH RUN INDICATING LIGHT CEILING MOUNTED SPEAKER SEAL FAIL SWITCH SPACE HEATER SOLENOID VALVE THERMOSTAT TERMINATION CABINET TIMING RELAY TEMPERATURE SWITCH VOLTMETER VARIABLE FREQUENCY DRIVE VIBRATION SWITCH THREE PHASE VOLT SWITCH TORQUE SWITCH ZERO SPEED SWITCH POSITION SWITCH  <p><i>EXISTING</i></p> <p>SLANTED, SHADED, SOLID LINES &amp; TEXT DENOTE EXISTING EQUIPMENT, STRUCTURES AND WORK.</p> <p><i>FUTURE</i></p> <p>SLANTED, NON-SHADED, DASHED LINES &amp; TEXT DENOTE FUTURE EQUIPMENT, STRUCTURES AND WORK.</p>	<p><b>PROPOSED</b></p> ELECTRIC A.C. MOTOR, NO. INDICATES HORSEPOWER. ELECTRIC D.C. MOTOR, NO. INDICATES HORSEPOWER. COMBINATION MOTOR STARTER ELECTRIC HEATER CROUSE HINDS EYSR FITTING AND CORRESPONDING "CHICO" CEMENT. COMBINATION SHALL BE RATED TO SEPARATE A CLASS 1, DIVISION 2 INSTALLATION. FLUSH OR SURFACE MOUNTED LIGHTING PANELBOARD. FLUSH OR SURFACE MOUNTED POWER PANELBOARD. DRY TYPE TRANSFORMER. NO. INDICATES KVA RATING. FUSE	CAPACITOR DRAW-OUT CIRCUIT BREAKER MOLDED CASE CIRCUIT BREAKER TYPICAL SELECTOR SWITCH AND CONTROL. SEE ELEMENTARY DIAGRAMS FOR EXACT TYPE. SERVICE OR EQUIPMENT GROUND. NON-FUSIBLE DISCONNECT SWITCH, 30A, 3P UNLESS OTHERWISE INDICATED. NON-FUSIBLE DISCONNECT SWITCH, 30A, 3P UNLESS OTHERWISE INDICATED, WITH REMOTE CONTROL STATION AS REQUIRED BY ELEMENTARY DIAGRAMS OR SPECS CURRENT TRANSFORMERS POTENTIAL TRANSFORMERS GENERATOR BREAKER STATION TIE	<p><b>ABBREVIATIONS</b></p> <p>A AMPERES  ACCU AIR COOLED CONDENSING UNIT  AE ANALYZER ELEMENT  AER AERATOR  AFF ABOVE FINISHED FLOOR  AHU AIR HANDLING UNIT  AIC AMPS INTERRUPTING CURRENT  AIT ANALYZER INDICATING TRANSMITTER  ATS AUTOMATIC TRANSFER SWITCH  AUX AUXILIARY  BKR BREAKER  BLDG BUILDING  CAB CABINET  CB CIRCUIT BREAKER  CU COPPER  DH DATA HIGHWAY  DISC DISCONNECT  DO DIGITAL OUTPUT  DPDT DOUBLE POLE DOUBLE THROW  DPIT DIFFERENTIAL PRESSURE INDICATING TRANSMITTER  DPST DOUBLE POLE SINGLE THROW  DWG DRAWING  EA EACH  EFF EFFLUENT  ELEC ELECTRICAL  ELR EMERGENCY LOCK-OUT RELAY  EM EMERGENCY  ENCL ENCLOSURE  ESB ENERGY SAVING BALLAST  ETM ELAPSED TIME METER  EUH ELECTRIC UNIT HEATER  EVA ELECTRIC VALVE ACTUATOR  EXH EXHAUST  EXST EXISTING  F&amp;I FURNISH AND INSTALL  FE FLOW ELEMENT  FIT FLOW INDICATING TRANSMITTER  FSL FLOW SWITCH LOW  FVC FULL VOLTAGE CONTACTOR  FVNR FULL VOLTAGE NON-REVERSING  GEN GENERATOR  GFI GROUND FAULT INTERRUPTER  GND GROUND  GRS GALVANIZED RIGID STEEL  HOA HAND-OFF-AUTOMATIC  HOLR HAND-OFF-LOCAL-REMOTE  HOR HAND-OFF-REMOTE  HP HORSEPOWER  HPS HIGH PRESSURE SODIUM  HWY HIGHWAY  INSTR INSTRUMENTATION  KVA KILOVOLT-AMPERES  KW KILOWATT  LA LIGHTNING ARRESTOR  LDR LOAD DUMP RELAY  LTG LIGHTING  MB MAIN BREAKER  MAX MAXIMUM  MCC MOTOR CONTROL CENTER  MFR MANUFACTURER  MH METAL HALIDE  MIN MINIMUM  MLO MAIN LUGS ONLY  MR MOTOR RUNNING  MSC MANUFACTURER SUPPLIED CABLE  MTD MOUNTED  MTS MANUAL TRANSFER SWITCH  MV MERCURY VAPOR  NEC NATIONAL ELECTRICAL CODE  NEUT NEUTRAL  NO. NUMBER  NTS NOT TO SCALE  OC ON CENTER  OH OVERHEAD  P POLE  PB PULL BOX  PC PHOTO CELL  PCP PROCESS CONTROL PANEL  PFCC POWER FACTOR CORRECTION CAPACITOR</p>	<p><b>ABBREVIATIONS (CONTINUED)</b></p> <p>PIT PRESSURE INDICATING TRANSMITTER  PM PHASE MONITOR  PNL PANEL  PS PUMP STATION  PVC POLYVINYL CHLORIDE  RA RIGID ALUMINUM  RECPT RECEPTACLE  RS RAPID START  RTU RADIO TELEMETRY UNIT  RVAT REDUCED VOLTAGE AUTO TRANSFORMER  RVNR REDUCED VOLTAGE NON-REVERSING  SH SHIELDED  SS STAINLESS STEEL  SSC SOLID STATE CONTACTOR  SSM SOLID STATE MODE  SSS SOLID STATE STARTER  STR STARTER  SUPP SUPPRESSOR  SW SWITCH  SWGR SWITCHGEAR  TBR TO BE REMOVED  TC TERMINATION CABINET  TR TRANSFORMER  TYP TYPICAL  UG UNDERGROUND  UON UNLESS OTHERWISE NOTED  UPS UNINTERRUPTIBLE POWER SUPPLY  UV ULTRAVIOLET  V VOLT  VFD VARIABLE FREQUENCY DRIVE  W WATT  W/ WITH  WP WEATHERPROOF  Ø PHASE</p>					
		<b>PLAN SYMBOLS</b>		<b>CONTROL DIAGRAM SYMBOLS</b>				<b>GENERAL NOTES</b>	
		HOME RUN TO PANELBOARD. NO. OF ARROWS INDICATE NO. OF CIRCUITS, HASH MARKS INDICATE NO. OF #12 AWG. CONDUCTORS. NO HASH MARKS INDICATE 2 #12 CONDUCTORS. CONDUIT CONCEALED IN WALL, IN SLAB ABOVE, OR ABOVE CEILING. CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND. CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL. FLEXIBLE CONDUIT WITH EQUIPMENT CONNECTION. CONCRETE ENCASED DUCTBANK. 90A, 208V, 1Ø WELDING OUTLET 20A, 125V, 3W DUPLEX RECEPTACLE IN FLUSH OUTLET BOX, 18" ABOVE FINISHED FLOOR. 20A, 125V, 3W DUPLEX RECEPTACLE IN FLUSH OUTLET BOX, 48" ABOVE FINISHED FLOOR OR 2" ABOVE COUNTER AS REQUIRED. 20A, 125V, 3W DUPLEX RECEPTACLE, SURFACE MOUNTED. 20A, 125V, 3W DUPLEX RECEPTACLE IN NEMA 4 SERVICE OUTLET BOX. RECEPTACLES SHALL BE GFI TYPE, EXCEPT FOR RECEPTACLES DEDICATED TO HEAT TRACING, WHICH SHALL BE POWERED FROM A GFI BREAKER. 30A, 250V 1Ø, 3W SINGLE RECEPTACLE IN FLUSH OUTLET BOX, 18" ABOVE FINISHED FLOOR. SINGLE POLE SWITCH IN FLUSH OUTLET BOX, 48" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED (TYPICAL). SINGLE POLE SWITCH, SURFACE-MOUNTED NEMA 4X BOX. SINGLE POLE SWITCH, SURFACE MOUNTED. MOMENTARY CONTACT SWITCH IN FLUSH OUTLET BOX. THREE-WAY SWITCH IN FLUSH OUTLET BOX. FOUR-WAY SWITCH IN FLUSH OUTLET BOX. FLUSH OUTLET BOX AND TELEPHONE COVER PLATE 48" ABOVE FINISHED FLOOR. NON-FUSIBLE DISCONNECT SWITCH, 30A, 3P UNLESS OTHERWISE INDICATED. NON-FUSIBLE DISCONNECT SWITCH, 30A, 3P UNLESS OTHERWISE INDICATED, WITH REMOTE CONTROL STATION AS REQUIRED BY ELEMENTARY DIAGRAMS OR SPECS MOTOR DUTY, SINGLE PHASE DISCONNECT, NEMA 4X STAINLESS STEEL CONTROL PULLBOX. SEE "PULL BOX DETAIL" POWER MANHOLE. SEE "MANHOLE DETAIL" DISCONNECT RACK MOUNTED REMOTE CONTROL DEVICE AND DISCONNECT RACK MOUNTED		FLOW SWITCH, NORMALLY OPEN FLOW SWITCH, NORMALLY CLOSED TEMPERATURE SWITCH, NORMALLY OPEN TEMPERATURE SWITCH, NORMALLY CLOSED NORMALLY OPEN, TIMED TO CLOSE CONTACT NORMALLY CLOSED, TIMED TO OPEN CONTACT NORMALLY CLOSED, TIMED TO CLOSE CONTACT NORMALLY OPEN, TIMED TO OPEN CONTACT DUPLEX RECEPTACLE NORMALLY OPEN CONTACT NORMALLY CLOSED CONTACT LIMIT SWITCH, NORMALLY OPEN LIMIT SWITCH, NORMALLY CLOSED PRESSURE SWITCH, NORMALLY OPEN PRESSURE SWITCH, NORMALLY CLOSED FLOAT SWITCH, NORMALLY OPEN MOMENTARY CONTACT PUSHBUTTON MOMENTARY BREAK PUSHBUTTON OR RESET KEYED SWITCH MAINTAINED CONTACT ON-OFF SWITCH START/STOP (S/S) CONTROL SWITCH MAINTAINED CONTACT THREE POSITION MAINTAINED CONTACT SELECTOR SWITCH MOLDED CASE CIRCUIT BREAKER CONTROL POWER TRANSFORMER MCC OR VFD TERMINAL FOR REMOTE FIELD WIRING		<p>① ALL WORK SHALL COMPLY WITH N.E.C. AND LOCAL CODES.</p> <p>② CONDUCTORS SHALL NOT BE SPLICED EXCEPT AS NOTED IN SPECS.</p> <p>③ ALL CONDUITS SHALL HAVE A BOND WIRE SIZED PER TABLE 250-122 OF THE N.E.C. (UNLESS OTHERWISE NOTED).</p> <p>④ PROVIDE 4 INCH CONCRETE EQUIPMENT PADS FOR ALL FREE-STANDING PANELS, MCC'S ETC.</p> <p>⑤ ALL CONTROL PANELS SHALL BE UL LISTED, AND SHALL COMPLY WITH ARTICLE 409 OF N.E.C.</p>			



<p><b>GREELEY and HANSEN</b>  1715 N. WESTSHORE BLVD., STE. 464  TAMPA, FLORIDA 33607  CERTIFICATE OF AUTHORIZATION NO. 37</p>	SCALE: AS NOTED				DAVID L. TIPPIN WATER TREATMENT FACILITY LIME SLAKER REPLACEMENT PROJECT WO#103 ELECTRICAL		W.O. NO. 103	
	DESIGNED WCN DRAWN SDV CHECKED WCN	NO. DATE APPD REVISION P.E. NAME: WILLIAM C. NELSON P.E. NO. 42017 P.E. NAME: _____ DATE: _____		FILE: E1 NOTE <b>DWG. E1</b> NO. 25 OF 36 DATE APRIL 2017				



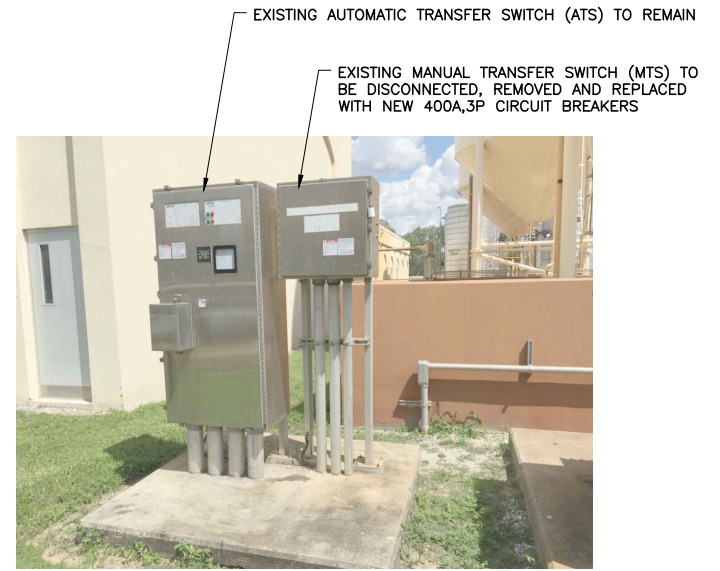
SEE PARTIAL ELECTRICAL SITE PLAN ON SHEET E3 FOR ADDITIONAL DETAILS

SEE FIGURE NO. 1 ON THIS SHEET FOR DETAILS OF THIS AREA

SEE FIGURE NO. 2 ON THIS SHEET FOR DETAILS OF THIS AREA

**ELECTRICAL SITE PLAN**

SCALE: 1"=200'-0"  
 100 50 0 100'



**FIGURE NO. 1**

SCALE: N.T.S.



**FIGURE NO. 2**

SCALE: N.T.S.

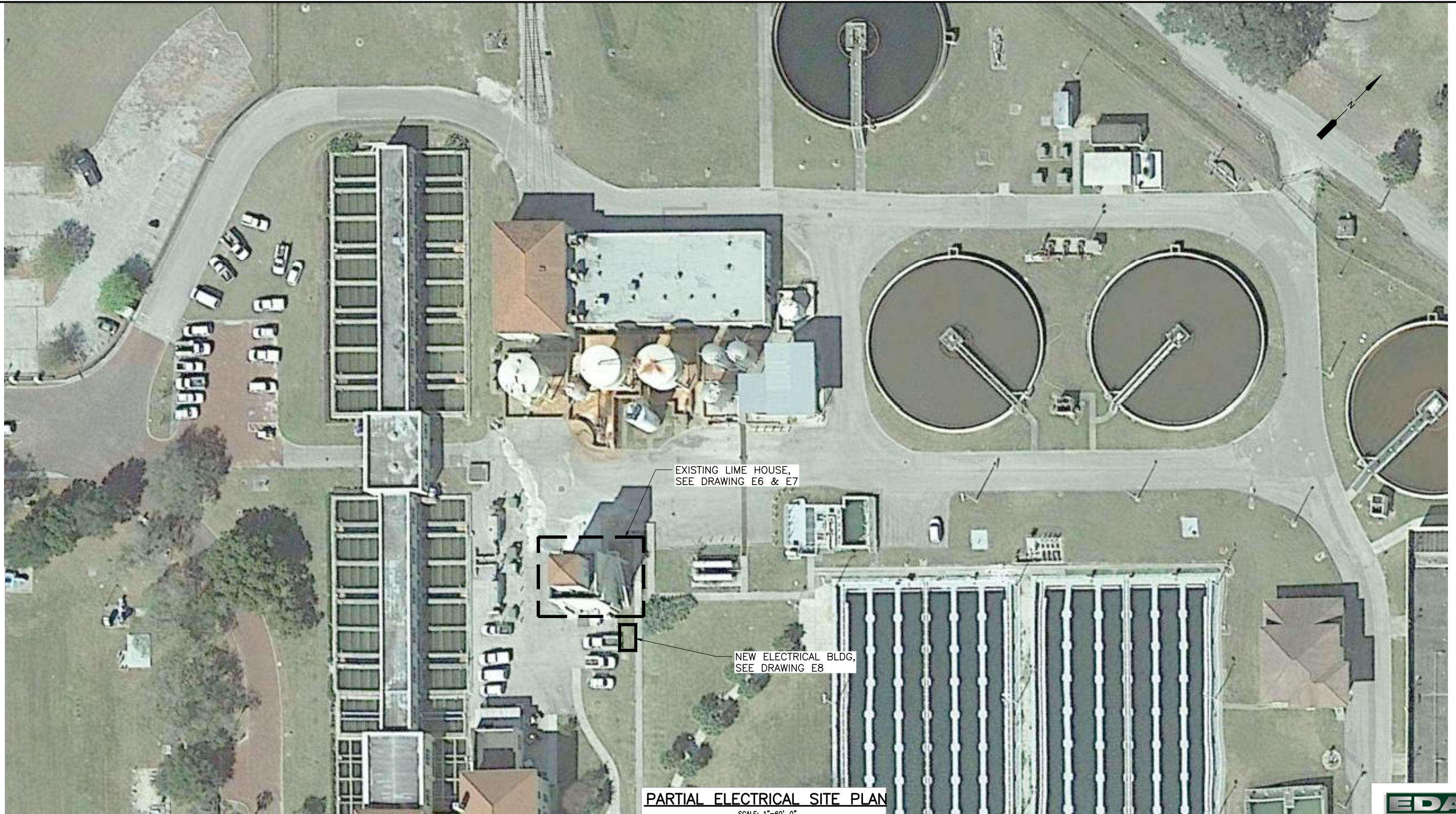


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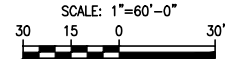
<p><b>GREELEY AND HANSEN</b>          1715 N. WESTSHORE BLVD., STE. 464          TAMPA, FLORIDA 33607          CERTIFICATE OF AUTHORIZATION NO. 37</p>	SCALE: AS NOTED				DAVID L. TIPPIN WATER TREATMENT FACILITY LIME SLAKER REPLACEMENT PROJECT WO#103 ELECTRICAL SITE PLAN	W.O. NO. 103		
	DESIGNED WCN		NO.	DATE		APPD	REVISION	FILE: E2 SITE
	DRAWN SDV		P.E. NAME: WILLIAM C. NELSON			P.E. NO. 42017		<b>DWG. E2</b> NO. 26 OF 36 DATE APRIL 2017
CHECKED WCN		P.E. NAME: _____		DATE: _____				

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Y:\Greeley Hansen\David Tippin WTP Lime Slaker Replacement\3\_100% Submittal\Dwg\E3 PAR SITE.dwg, 11X17, 3/28/2017 2:18:34 PM, SVickers



**PARTIAL ELECTRICAL SITE PLAN**



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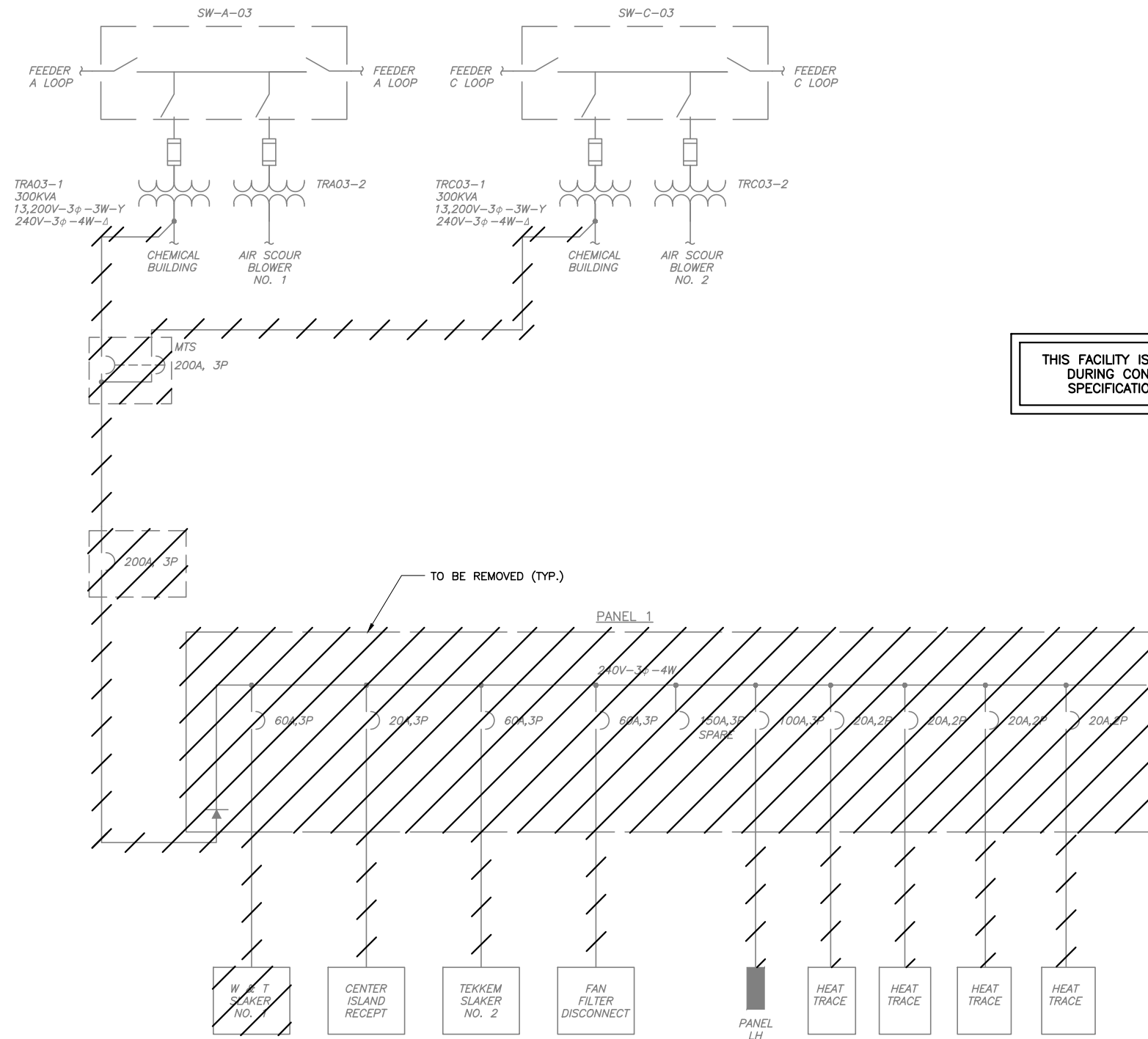
**GREELEY AND HANSEN**  
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 CERTIFICATE OF AUTHORIZATION NO. 37

SCALE: AS NOTED	
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DRAWN	SDV
CHECKED	WCN

NO.	DATE	APPD	REVISION
P.E. NAME: WILLIAM C. NELSON		P.E. NO. 42017	
P.E. NAME: _____		_____	
DATE: _____		_____	

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 ELECTRICAL  
 PARTIAL SITE PLAN

W.O. NO. 103  
 FILE: E3 PAR SITE  
**DWG. E3**  
 NO. 27 OF 36  
 DATE APRIL 2017



THIS FACILITY IS TO REMAIN OPERATIONAL DURING CONSTRUCTION. REFER TO SPECIFICATION SECTION 26 05 00

EXISTING SINGLE LINE DIAGRAM



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**GREELEY AND HANSEN**

1715 N. WESTSHORE BLVD., STE. 464  
 TAMPA, FLORIDA 33607  
 CERTIFICATE OF AUTHORIZATION NO. 37

SCALE: AS NOTED

DESIGNED WCN  
 DRAWN SDV  
 CHECKED WCN

NO.	DATE	APPD	REVISION

P.E. NAME: WILLIAM C. NELSON P.E. NO. 42017  
 P.E. NAME: \_\_\_\_\_  
 DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103

ELECTRICAL

EXISTING SINGLE LINE DIAGRAM

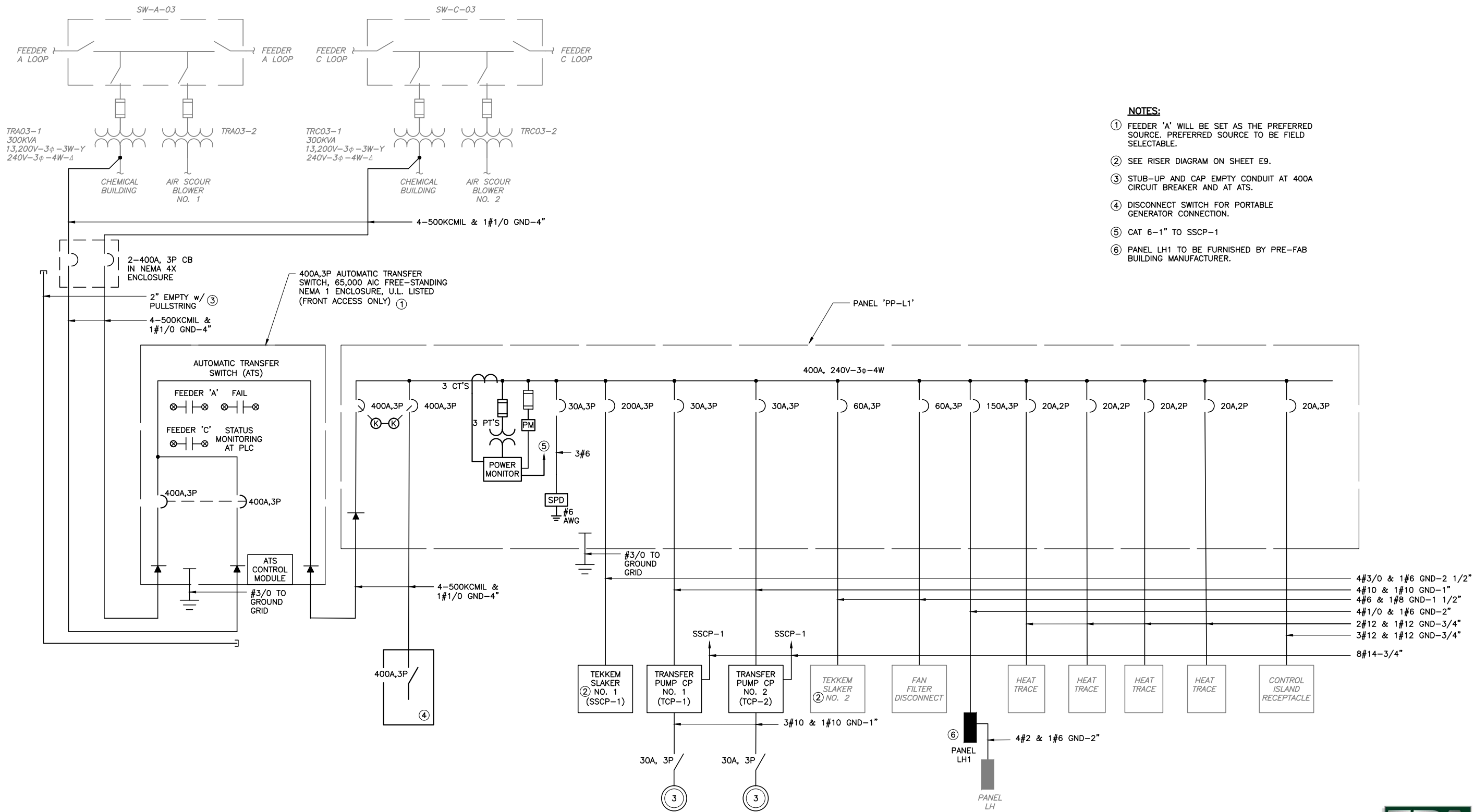
W.O. NO. 103

FILE: E4 EXIST SLPD

DWG. E4  
 NO. 28 OF 36

DATE APRIL 2017

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- NOTES:**
- FEEDER 'A' WILL BE SET AS THE PREFERRED SOURCE. PREFERRED SOURCE TO BE FIELD SELECTABLE.
  - SEE RISER DIAGRAM ON SHEET E9.
  - STUB-UP AND CAP EMPTY CONDUIT AT 400A CIRCUIT BREAKER AND AT ATS.
  - DISCONNECT SWITCH FOR PORTABLE GENERATOR CONNECTION.
  - CAT 6-1" TO SSCP-1
  - PANEL LH1 TO BE FURNISHED BY PRE-FAB BUILDING MANUFACTURER.

**PROPOSED SINGLE LINE DIAGRAM**

**EDA**  
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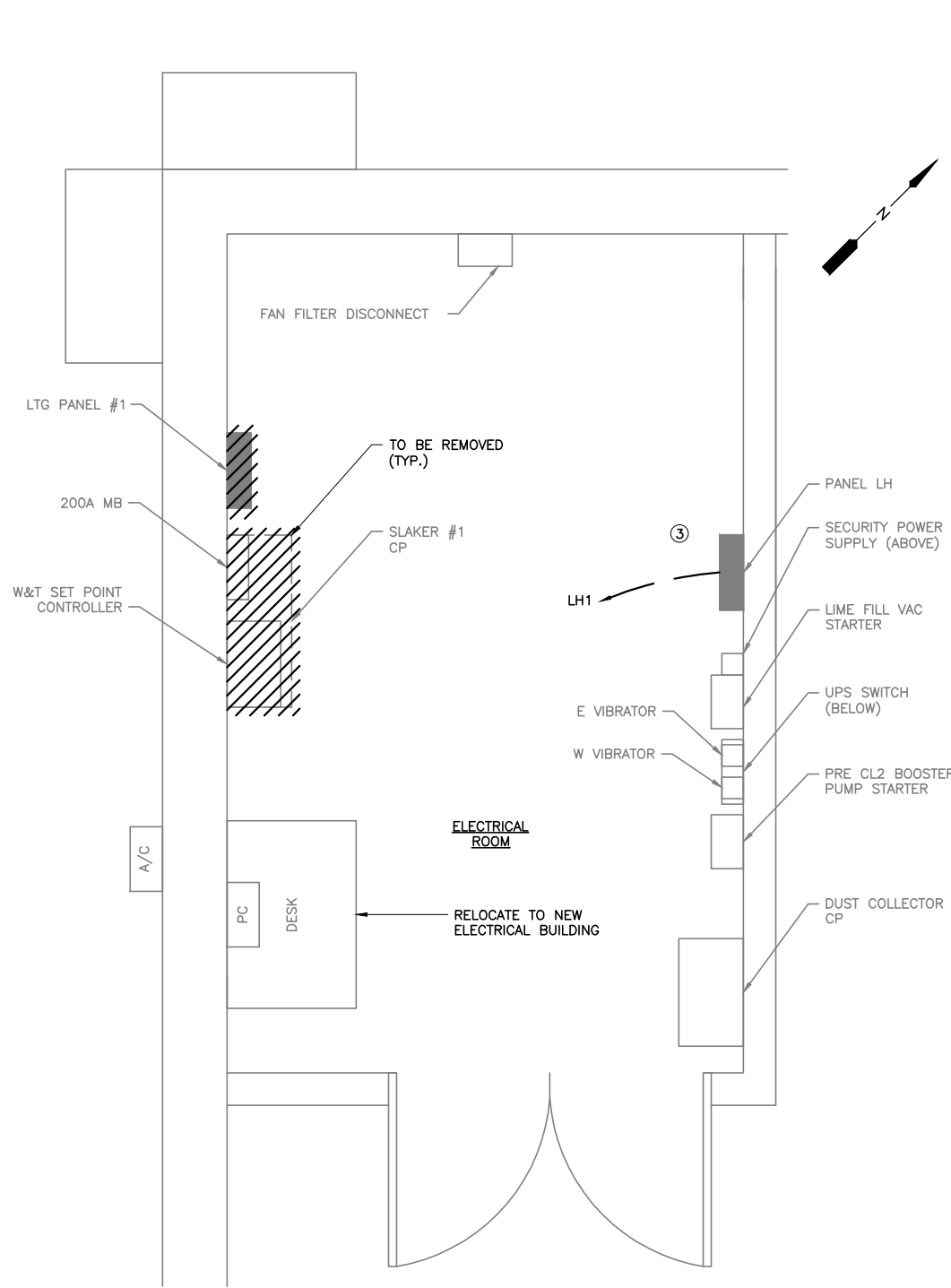
SCALE: AS NOTED  
 DESIGNED WCN  
 DRAWN SDV  
 CHECKED WCN

NO.	DATE	APPD	REVISION
P.E. NAME: WILLIAM C. NELSON		P.E. NO. 42017	
P.E. NAME: _____		DATE: _____	

DAVID L. TIPPIN WATER TREATMENT FACILITY  
 LIME SLAKER REPLACEMENT PROJECT WO#103  
 ELECTRICAL  
**PROPOSED SINGLE LINE DIAGRAM**

W.O. NO. 103  
 FILE: E5 PROP SLPD  
**DWG. E5**  
 NO. 29 OF 36  
 DATE APRIL 2017

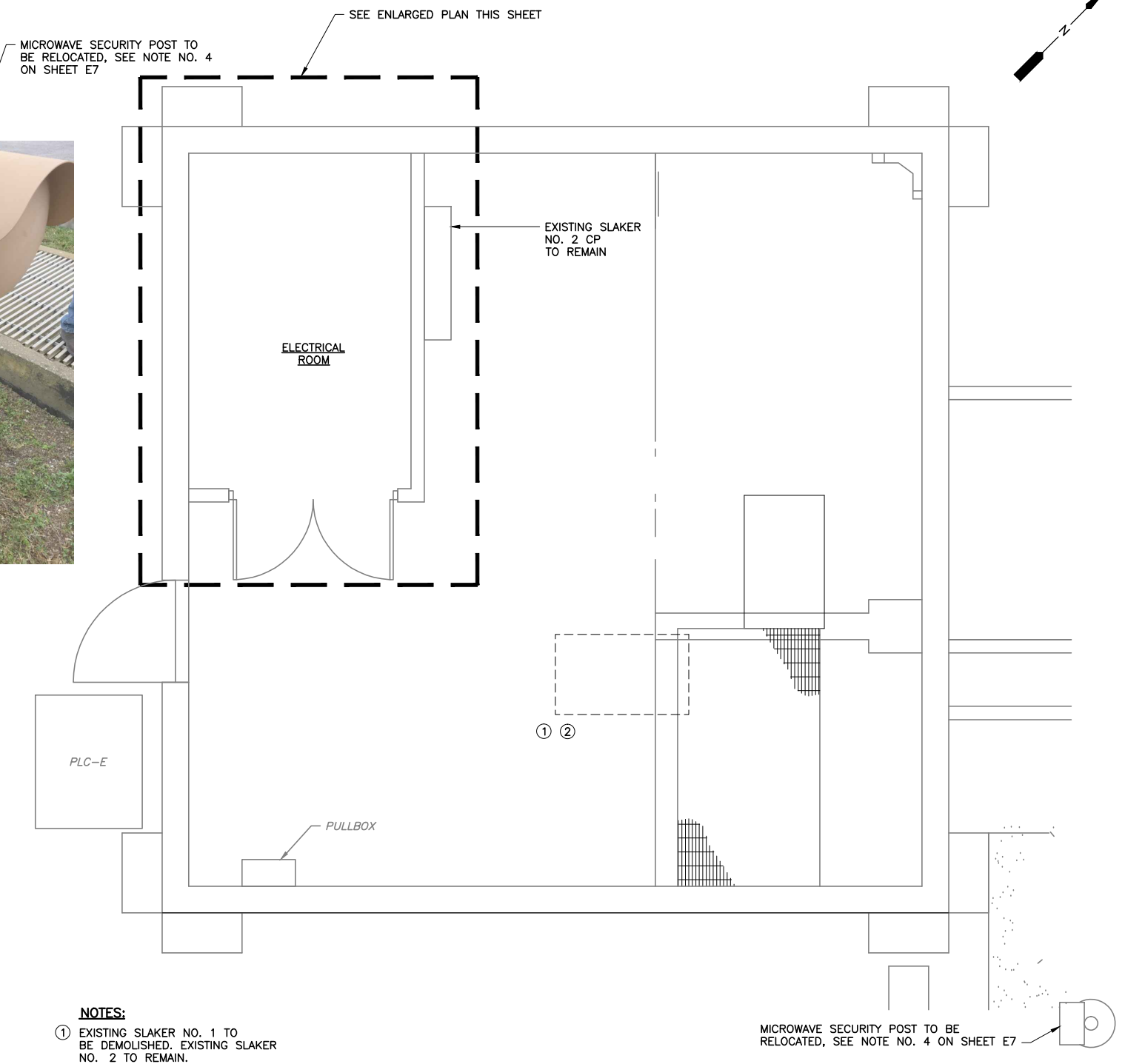
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**ENLARGED PLAN**  
SCALE: 3/8"=1'-0"  
6" 0 1 2'



**FIGURE NO. 3**  
SCALE: N.T.S.



- NOTES:**
- ① EXISTING SLAKER NO. 1 TO BE DEMOLISHED. EXISTING SLAKER NO. 2 TO REMAIN.
  - ② ALL ASSOCIATED ELECTRICAL EQUIPMENT INCLUDING CONDUIT, WIRE, BOXES, ETC. TO BE REMOVED, FOR EXISTING SLAKER NO. 1. REFER TO M-DRAWINGS FOR ADDITIONAL INFORMATION.
  - ③ PROVIDE 20A,1P CB IN EXISTING SPACE FOR WASHDOWN PUMP RECEPTACLES.

**LIME HOUSE DEMOLITION PLAN**  
SCALE: 3/16"=1'-0"  
12" 0 1 2 4'

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SCALE: AS NOTED

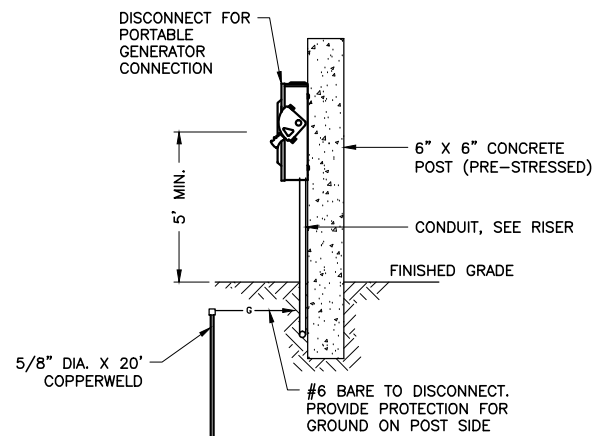
DESIGNED	WCN
DRAWN	SDV
CHECKED	WCN

NO.	DATE	APPD	REVISION

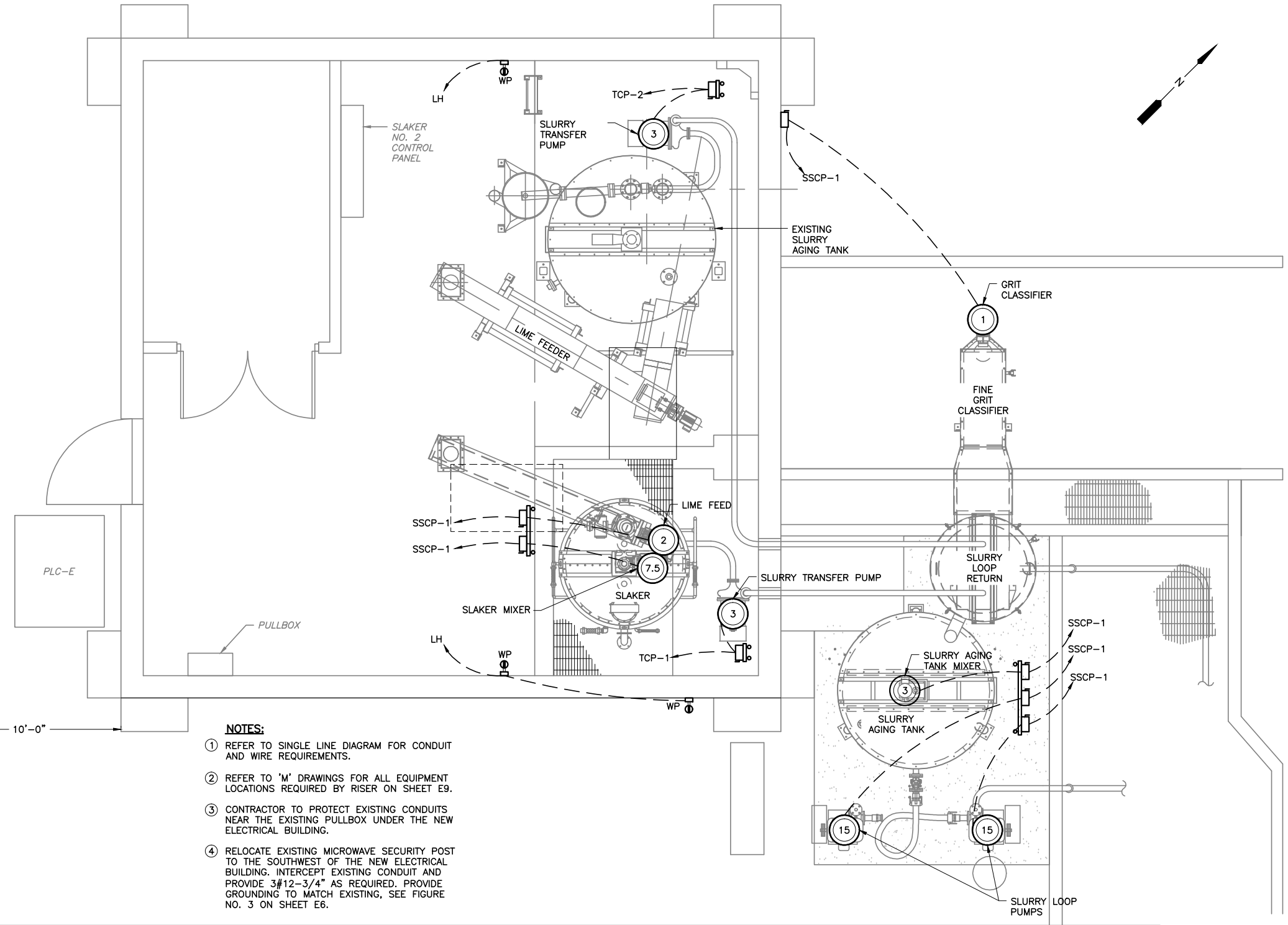
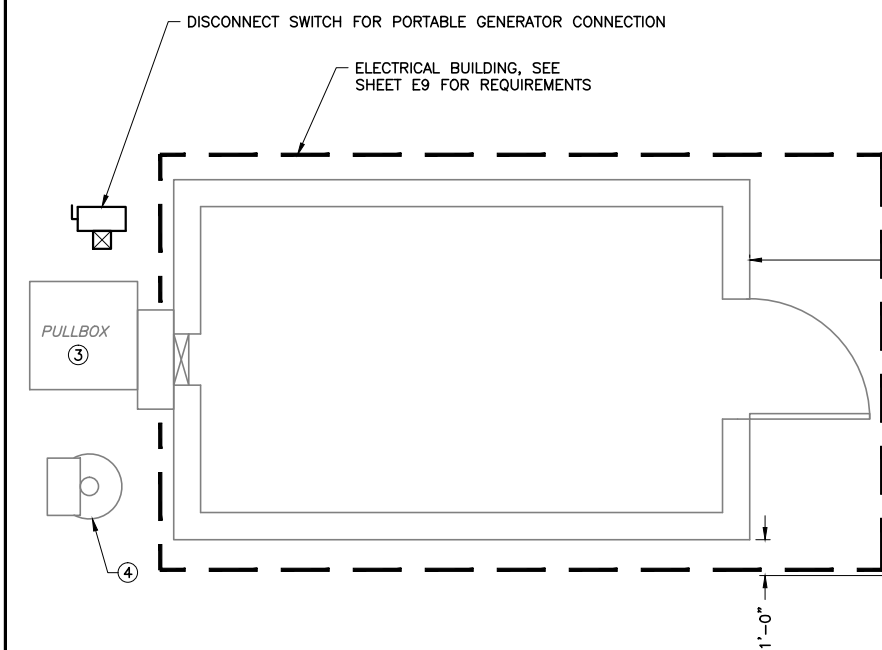
P.E. NAME: WILLIAM C. NELSON P.E. NO. 42017  
P.E. NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
LIME SLAKER REPLACEMENT PROJECT WO#103  
ELECTRICAL  
**LIME HOUSE PLAN**

W.O. NO. 103  
FILE: E6 LH PLAN  
**DWG. E6**  
NO. 30 OF 36  
DATE APRIL 2017



**1 DISCONNECT DETAIL**  
TYP. SCALE: NOT TO SCALE



- NOTES:**
- REFER TO SINGLE LINE DIAGRAM FOR CONDUIT AND WIRE REQUIREMENTS.
  - REFER TO 'M' DRAWINGS FOR ALL EQUIPMENT LOCATIONS REQUIRED BY RISER ON SHEET E9.
  - CONTRACTOR TO PROTECT EXISTING CONDUITS NEAR THE EXISTING PULLBOX UNDER THE NEW ELECTRICAL BUILDING.
  - RELOCATE EXISTING MICROWAVE SECURITY POST TO THE SOUTHWEST OF THE NEW ELECTRICAL BUILDING. INTERCEPT EXISTING CONDUIT AND PROVIDE 3#12-3/4" AS REQUIRED. PROVIDE GROUNDING TO MATCH EXISTING, SEE FIGURE NO. 3 ON SHEET E6.

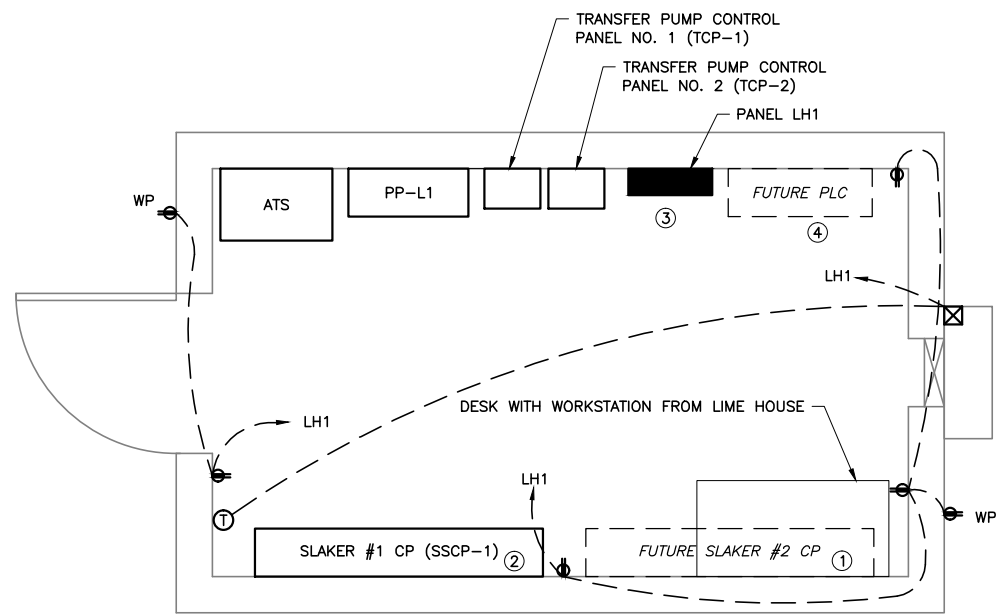
**LIME HOUSE/SLAKER PLAN**  
SCALE: 3/16"=1'-0"  
12" 0 1 2 4'

**EDA**  
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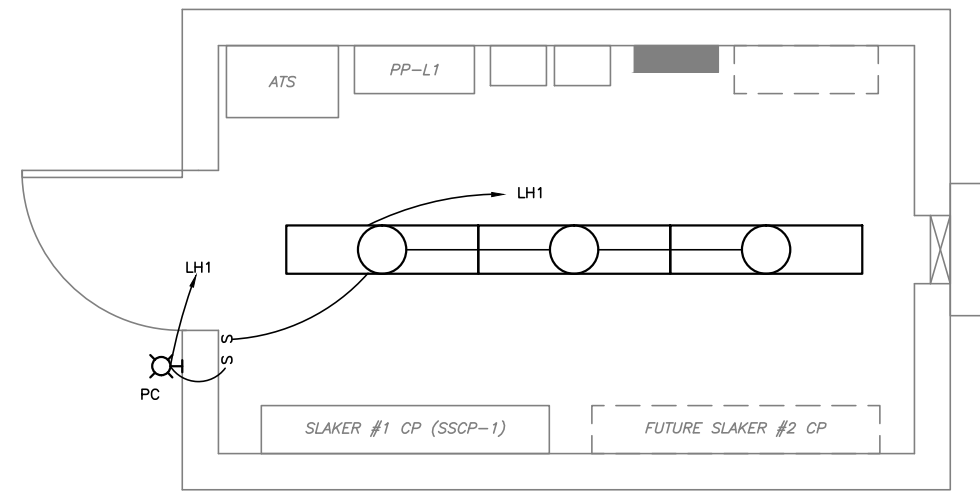
<p><b>GREELEY and HANSEN</b> 1715 N. WESTSHORE BLVD., STE. 464 TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION NO. 37</p>	<p>SCALE: AS NOTED</p> <p>DESIGNED WCN DRAWN SDV CHECKED WCN</p>	<table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>APPD</th> <th>REVISION</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	NO.	DATE	APPD	REVISION					<p>DAVID L. TIPPIN WATER TREATMENT FACILITY LIME SLAKER REPLACEMENT PROJECT WO#103</p>	<p>W.O. NO. 103 FILE: E7 SLAKER</p>
			NO.	DATE	APPD	REVISION						
		<p>P.E. NAME: WILLIAM C. NELSON P.E. NO. 42017</p> <p>P.E. NAME: _____</p> <p>DATE: _____</p>	<p>ELECTRICAL</p> <p><b>LIME HOUSE/SLAKER PLAN</b></p>	<p><b>DWG. E7</b> NO. 31 OF 36 DATE APRIL 2017</p>								

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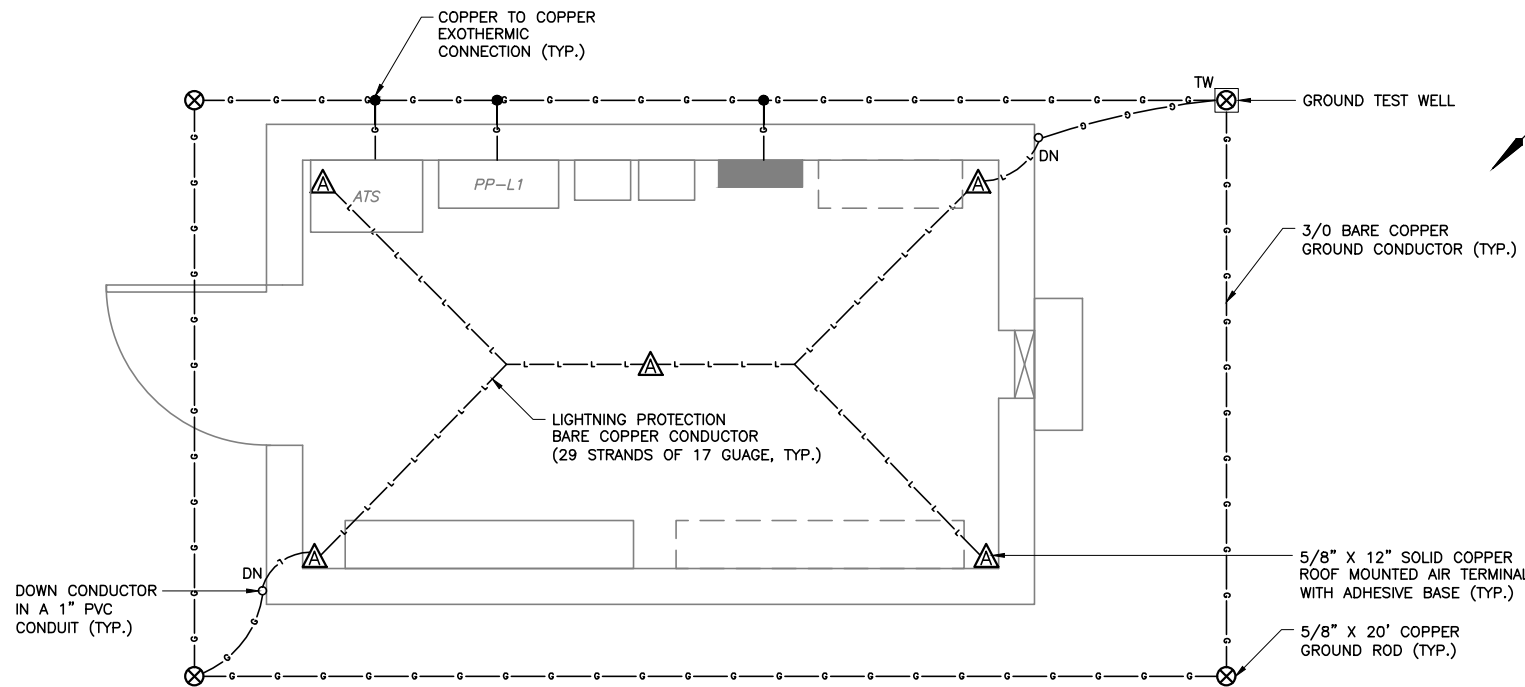
**POWER PLAN** ⑤  
SCALE: 1/4"=1'-0"  
2' 1' 0' 2'



**LIGHTING PLAN**  
SCALE: 1/4"=1'-0"  
2' 1' 0' 2'

**NOTES:**

- ① SPACE FOR FUTURE RELOCATION OF EXISTING SLAKER NO. 2 CONTROL PANEL. PROVIDE 3-3" EMPTY CONDUITS TO LIME HOUSE NEAR SSCP-2.
- ② NEW SLAKER NO. 1 CONTROL PANEL.
- ③ PANEL LH1 TO BE FURNISHED BY PRE-FAB BUILDING MANUFACTURER.
- ④ PROVIDE 2-3" EMPTY CONDUITS TO LIME HOUSE NEAR SSCP-2.
- ⑤ CONDUITS TO BE INSTALLED THRU SLAB AND LOCATIONS COORDINATED WITH PRE-FAB BUILDING MANUFACTURER FOR BUILDING FLOOR OPENINGS. SEE DETAIL 4 ON SHEET E11 TO FILL FLOOR OPENINGS.



**LIGHTNING PROTECTION & GROUNDING PLAN**

SCALE: 1/4"=1'-0"  
2' 1' 0' 2'



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**GREELEY and HANSEN**

1715 N. WESTSHORE BLVD., STE. 464  
TAMPA, FLORIDA 33607  
CERTIFICATE OF AUTHORIZATION NO. 37

SCALE: AS NOTED

DESIGNED WCN  
DRAWN SDV  
CHECKED WCN

NO.	DATE	APPD	REVISION

P.E. NAME: WILLIAM C. NELSON P.E. NO. 42017  
P.E. NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
LIME SLAKER REPLACEMENT PROJECT WO#103

ELECTRICAL

ELECTRICAL BUILDING PLANS

W.O. NO. 103

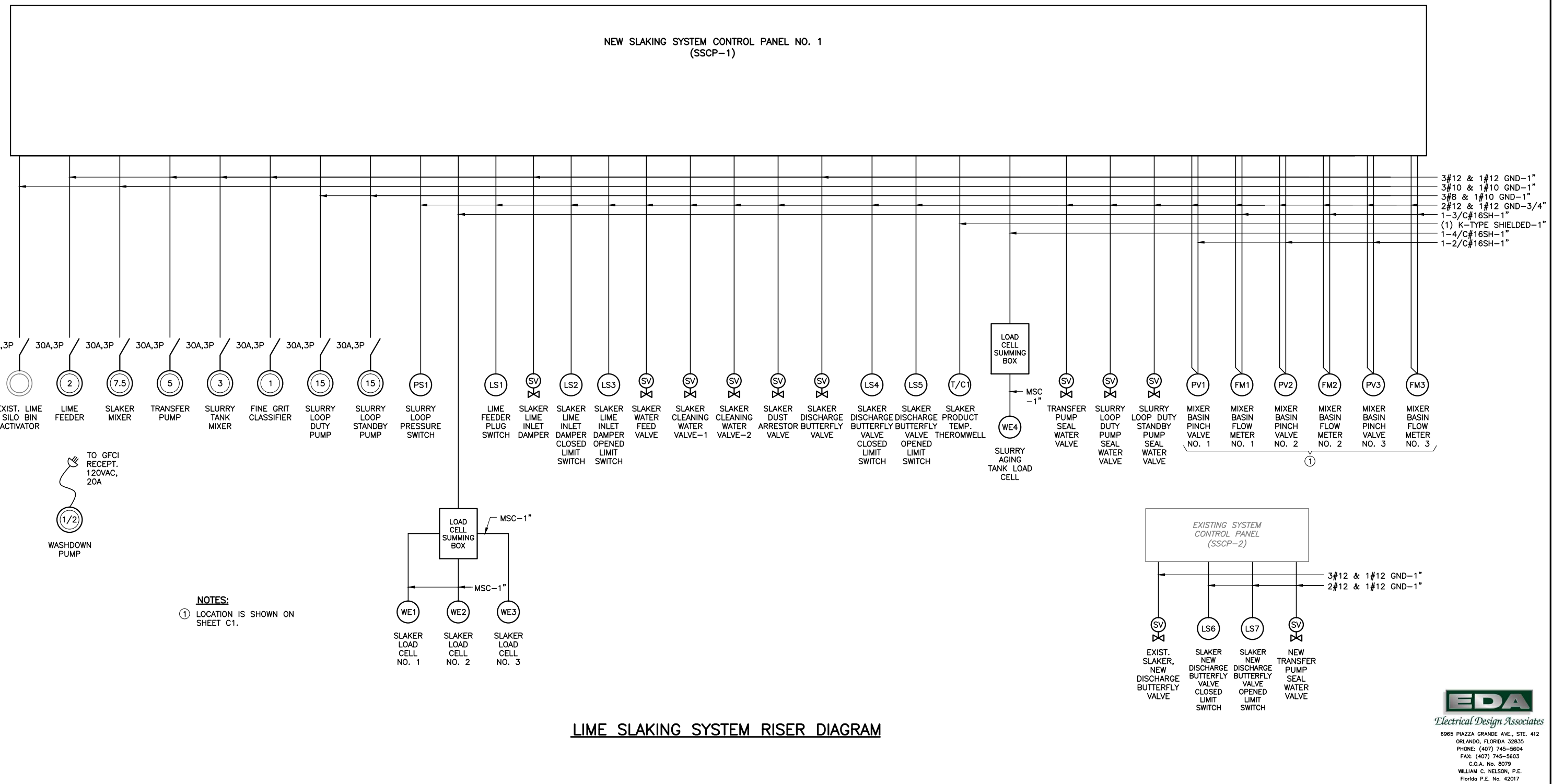
FILE: E8 ELEC BLDG

**DWG. E8**  
NO. 32 OF 36

DATE APRIL 2017

Y:\Greeley Hansen\David Tippin WTP Lime Slaker Replacement\3\_100% Submittal\Dwg\E8 Elec Bldg.dwg, 2/28/2017 2:19:15 PM, SVickers

Y:\Greeley Hansen\David Tippin WTP Lime Slaker Replacement\3\_100% Submittal\dwgs\E9 CNTRL.dwg, 22X34, 3/28/2017 2:19:23 PM, Svickers



<b>GREELEY and HANSEN</b> 1715 N. WESTSHORE BLVD., STE. 464 TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION NO. 37	SCALE: AS NOTED				DAVID L. TIPPIN WATER TREATMENT FACILITY LIME SLAKER REPLACEMENT PROJECT WO#103 ELECTRICAL RISER DIAGRAMS	W.O. NO. 103 FILE: E9 CNTRL
	DESIGNED WCN DRAWN SDV CHECKED WCN	NO.    DATE    APPD    REVISION P.E. NAME: WILLIAM C. NELSON    P.E. NO. 42017 P.E. NAME: _____ DATE: _____				DWG. E9 NO. 33 OF 36 DATE APRIL 2017

PANEL: PANEL LH					BUS: 100 AMP					VOLT: 240/120V-3φ-4W									
LOCATION: ELECTRICAL ROOM: LIME HOUSE					MAINS: MLO					REMARKS: -									
MOUNTING: SURFACE					POLES: 42					A.I.C. SYMM: 10,000									
AMPS	POLE	WIRE	GND.	COND.	LOAD SERVED	BUS KVA			BUS KVA			LOAD SERVED	WIRE	GND.	COND.	POLE	AMPS		
						A	B	C	A	B	C								
20	1	-	-	-	20A FAN-WALL	-	-	-	1	●	2	-	-	-	20A SLURRY MIXER MTR/CHLORINE PNL	-	-	-	-
-	-	-	-	-	BLANK	-	-	-	3	●	4	-	-	-	BLANK	-	-	-	-
-	-	-	-	-	20A UPSTAIRS LTS/REPT/FAN	-	-	-	5	●	6	-	-	-	20A COMPUTER REC.	-	-	-	-
-	-	-	-	-	20A LTS/A/C RECEPTACLE	-	-	-	7	●	8	-	-	-	20A RECEPTACLE/RADIO	-	-	-	-
-	-	-	-	-	BLANK	-	-	-	9	●	10	-	-	-	BLANK	-	-	-	-
-	-	-	-	-	20A DUST COLLECTOR PNL	-	-	-	11	●	12	-	-	-	20A LTS	-	-	-	-
-	-	-	-	-	20A REPT-1ST FLOOR FAN	-	-	-	13	●	14	-	-	-	20A REPT SECURITY	-	-	-	-
-	-	-	-	-	BLANK	-	-	-	15	●	16	-	-	-	BLANK	-	-	-	-
-	-	-	-	-	20A 1ST FLOOR	-	-	-	17	●	18	-	-	-	20A SPARE	-	-	-	-
-	-	-	-	-	20A 1ST FLOOR LTS	-	-	-	19	●	20	-	-	-	20A SPARE	-	-	-	-
-	-	-	-	-	30A SPARE	-	-	-	21	●	22	-	-	-		-	-	-	-
-	-	-	-	-		-	-	-	23	●	24	-	-	-	20A LIME FILL VALVE	-	-	-	-
-	-	-	-	-		-	-	-	25	●	26	-	-	-		-	-	-	-
-	-	-	-	-		-	-	-	27	●	28	-	-	-	BLANK	-	-	-	-
-	-	-	-	-	20A PRE CL2 BOOSTER PUMP	-	-	-	29	●	30	-	-	-	20A HOPPER VIBRATORS	-	-	-	-
-	-	-	-	-		-	-	-	31	●	32	-	-	-	20A SPARE	-	-	-	-
-	-	-	-	-		-	-	-	33	●	34	-	-	-	45A PRESSURE WASHER	-	-	-	-
-	-	-	-	-	15A SPARE	-	-	-	35	●	36	-	-	-	45A PRESSURE WASHER	-	-	-	-
-	-	-	-	-		-	-	-	37	●	38	-	-	-	BLANK	-	-	-	-
-	-	-	-	-	BLANK	-	-	-	39	●	40	-	-	-	BLANK	-	-	-	-
-	-	-	-	-	20A UPS FEED	-	-	-	41	●	42	-	-	-	WASHDOWN PUMP RECEP	12	12	3/4"	1 20
TOTAL (PHASE):					-	-	-	-	-	-	-	NOTES:							
TOTAL KVA:					-	-	-	-	-	-	-	-							
TOTAL AMPS:					-	-	-	-	-	-	-	-							
TOTAL DEMAND AMPS:					-	-	-	-	-	-	-	-							

PANEL: 'LH1'					BUS: 100 AMP					VOLT: 240/120V-3φ-4W										
LOCATION: LH ELECTRICAL BUILDING					MAINS: 100 AMP MB					REMARKS: -										
MOUNTING: SURFACE					POLES: 42					A.I.C. SYMM: 42,000										
AMPS	POLE	WIRE	GND.	COND.	LOAD SERVED	BUS KVA			BUS KVA			LOAD SERVED	WIRE	GND.	COND.	POLE	AMPS			
						A	B	C	A	B	C									
100	3	-	-	-	PANEL 'LH'	5.2	-	-	1	●	2	0.5	-	-	LIGHTING	12	12	3/4"	1 20	
-	-	-	-	-	PANEL 'LH'	-	5.2	-	3	●	4	-	-	-	BLANK	-	-	-	-	
-	-	-	-	-	PANEL 'LH'	-	-	5.2	5	●	6	1.0	-	-	A/C	10	10	1"	2 30	
20	1	-	-	-	SPARE	-	-	-	7	●	8	1.0	-	-	A/C	-	-	-	-	
-	-	-	-	-	BLANK	-	-	-	9	●	10	-	-	-	BLANK	-	-	-	-	
20	1	-	-	-	SPARE	-	-	-	11	●	12	-	-	-	BLANK	-	-	-	-	
20	1	-	-	-	SPARE	-	-	-	13	●	14	-	-	-	SPARE	12	12	3/4"	1 20	
-	-	-	-	-	BLANK	-	-	-	15	●	16	-	-	-	BLANK	-	-	-	-	
30	2	-	-	-	SPARE	-	-	-	17	●	18	-	-	-	SPARE	-	-	-	2 20	
-	-	-	-	-	SPARE	-	-	-	19	●	20	-	-	-	SPARE	-	-	-	-	
-	-	-	-	-	BLANK	-	-	-	21	●	22	-	-	-	BLANK	-	-	-	-	
-	-	-	-	-		-	-	-	23	●	24	-	-	-		-	-	-	-	
-	-	-	-	-		-	-	-	25	●	26	-	-	-		-	-	-	-	
-	-	-	-	-		-	-	-	27	●	28	-	-	-		-	-	-	-	
-	-	-	-	-		-	-	-	29	●	30	-	-	-		-	-	-	-	
-	-	-	-	-		-	-	-	31	●	32	-	-	-		-	-	-	-	
-	-	-	-	-		-	-	-	33	●	34	-	-	-		-	-	-	-	
-	-	-	-	-		-	-	-	35	●	36	-	-	-		-	-	-	-	
-	-	-	-	-		-	-	-	37	●	38	-	-	-		-	-	-	-	
-	-	-	-	-		-	-	-	39	●	40	-	-	-		-	-	-	-	
-	-	-	-	-		-	-	-	41	●	42	-	-	-		-	-	-	-	
TOTAL (PHASE):					5.2	5.2	5.2	-	-	-	1.5	-	2.1	NOTES:						
TOTAL KVA:					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL AMPS:					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL DEMAND AMPS:					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

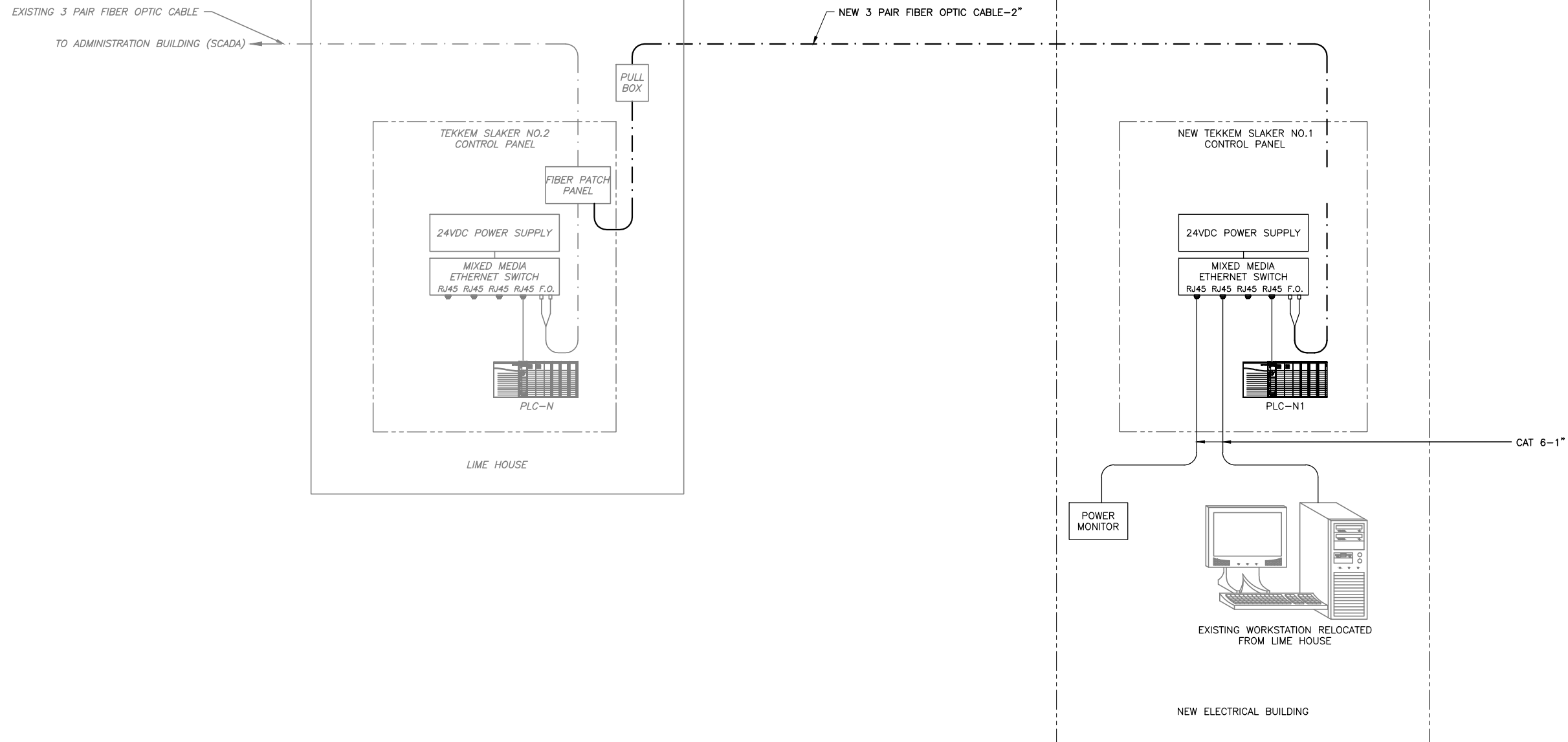
PANEL: PANEL 1					BUS: 225 AMP					VOLT: 240/120V 3φ-4W									
LOCATION: ELECTRICAL ROOM: LIME HOUSE					MAINS: MLO					REMARKS: -									
MOUNTING: SURFACE					POLES: 30					A.I.C. SYMM: 10,000									
AMPS	POLE	WIRE	GND.	COND.	LOAD SERVED	BUS KVA			BUS KVA			LOAD SERVED	WIRE	GND.	COND.	POLE	AMPS		
						A	B	C	A	B	C								
20	1	-	-	-	20A HEAT TRACE	-	-	-	1	●	2	-	-	-		-	-	-	-
-	-	-	-	-	20A HEAT TRACE	-	-	-	3	●	4	-	-	-	60A FAN FILTER GALLERY	-	-	-	-
-	-	-	-	-	BLANK	-	-	-	5	●	6	-	-	-		-	-	-	-
-	-	-	-	-		-	-	-	7	●	8	-	-	-	150A	-	-	-	-
-	-	-	-	-	100A PANEL LH	-	-	-	9	●	10	-	-	-		-	-	-	-
-	-	-	-	-		-	-	-	11	●	12	-	-	-	150A	-	-	-	-
-	-	-	-	-	20A HEAT TRACE	-	-	-	13	●	14	-	-	-		-	-	-	-
-	-	-	-	-	20A HEAT TRACE	-	-	-	15	●	16	-	-	-	150A	-	-	-	-
-	-	-	-	-	20A HEAT TRACE	-	-	-	17	●	18	-	-	-		-	-	-	-
-	-	-	-	-	20A HEAT TRACE	-	-	-	19	●	20	-	-	-	CLC205B-CENTER ISLAND REPT	-	-	-	-
-	-	-	-	-	20A HEAT TRACE	-	-	-	21	●	22	-	-	-	CLC205B-ISLAND REPT	-	-	-	-
-	-	-	-	-	20A HEAT TRACE	-	-	-	23	●	24	-	-	-	CLC205B-ISLAND REPT	-	-	-	-
-	-	-	-	-		-	-	-	25	●	26	-	-	-		-	-	-	-
-	-	-	-	-	60A SLAKER #2	-	-	-	27	●	28	-	-	-	60A SLAKER #1	-	-	-	-
-	-	-	-	-		-	-	-	29	●	30	-	-	-		-	-	-	-
TOTAL (PHASE):					-	-	-	-	-	-	-	NOTES:							
TOTAL KVA:					-	-	-	-	-	-	-	1. EXISTING PANEL '1' TO BE DISCONNECTED AND REMOVED. EXISTING LOADS TO BE RE-FED FROM PANEL 'PP-L1', SEE SHEET E5.							
TOTAL AMPS:					-	-	-	-	-	-	-								
TOTAL DEMAND AMPS:					-	-	-	-	-	-	-								



<p><b>GREELEY and HANSEN</b> 1715 N. WESTSHORE BLVD., STE. 464 TAMPA, FLORIDA 33607 CERTIFICATE OF AUTHORIZATION NO. 37</p>	<p>SCALE: AS NOTED</p> <p>DESIGNED WCN DRAWN SDV CHECKED WCN</p>	NO.	DATE	APPD	REVISION	<p>DAVID L. TIPPIN WATER TREATMENT FACILITY LIME SLAKER REPLACEMENT PROJECT WO#103</p> <p>ELECTRICAL</p> <p>PANEL SCHEDULES</p>	W.O. NO. 103
		P.E. NAME: WILLIAM C. NELSON P.E. NO. 42017					FILE: E10 SCH
		P.E. NAME: _____ DATE: _____					DWG. E10 NO. 34 OF 36 DATE APRIL 2017

Y:\Greeley Hansen\David Tippin WTP Lime Slaker Replacement\3\_100% Submittal\Drawings\E10 SCH.dwg, 22X34, 3/28/2017 2:19:30 PM, SVickers





**NETWORK DIAGRAM**  
N.T.S.

**EDA**  
*Electrical Design Associates*  
6965 PIAZZA GRANDE AVE., STE. 412  
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PHONE: (407) 745-5604  
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C.O.A. No. 8079  
WILLIAM C. NELSON, P.E.  
Florida P.E. No. 42017



**GREELEY AND HANSEN**

1715 N. WESTSHORE BLVD., STE. 464  
TAMPA, FLORIDA 33607  
CERTIFICATE OF AUTHORIZATION NO. 37

SCALE: AS NOTED

DESIGNED WCN  
DRAWN SDV  
CHECKED WCN

NO.	DATE	APPD	REVISION

P.E. NAME: WILLIAM C. NELSON P.E. NO. 42017  
P.E. NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

DAVID L. TIPPIN WATER TREATMENT FACILITY  
LIME SLAKER REPLACEMENT PROJECT WO#103

ELECTRICAL

**NETWORK DIAGRAM**

W.O. NO. 103

FILE: 11 PLC

**DWG. I1**  
NO. 36 OF 36

DATE APRIL 2017