



CITY OF TAMARAC
NOTICE OF WORKSHOP MEETING
CITY COMMISSION OF TAMARAC, FL
City Hall - Conference Room 105
April 25, 2016

CALL TO ORDER:

9:30 a.m.

ROLL CALL:

PLEDGE OF ALLEGIANCE:

Commissioner Debra Placko

1. Public Art Projects Update

Public Art Projects Update - ***Community Development Director Maxine Calloway, Public Art Administrators George Gadson and Beth Ravitz***

2. TO2339 - Amendment to the Charter of the City of Tamarac at Article XII, entitled "Miscellaneous Provisions," and in particular deleting Section 12.06 entitled "Residential Growth Control":

Item No. 8 (a) on Ordinance(s) - First Reading: (TO2339) An Ordinance of the City of Tamarac, Florida, submitting to Referendum an amendment to the Charter of the City of Tamarac at Article XII, entitled "Miscellaneous Provisions," and in particular deleting Section 12.06 entitled "Residential Growth Control"; deleting the Residential Growth Control Provisions from the City Charter since the concept of Residential Growth Control is contemplated by the City's Comprehensive Plan; providing for a notice of an advertisement of the Referendum Election to be published in accordance with the Code of Ordinances and the Charter of the City of Tamarac, Florida, as well as the State of Florida Election Code; providing that this Ordinance, when adopted, shall be submitted to the qualified electors of the City of Tamarac, on the November 2016 General Election Ballot and it shall become effective as provided by law; providing for the place and places where said Election is to be held; providing for conflicts; providing for severability; providing for inclusion in the code; and providing for an effective date. - ***Assistant City Attorney Jacob Horowitz and Community Development Director Maxine Calloway***

3. TO2340 - Amendment to the Charter of the City of Tamarac at Article VI, entitled "Qualifications and Elections," and in particular amending Section 6.03 entitled "Redistricting"

Item No. 8 (b) on Ordinance(s) - First Reading: (TO2340) An Ordinance of the City of Tamarac, Florida, submitting to Referendum an amendment to the Charter of the City of Tamarac at Article VI, entitled "Qualifications and Elections," and in particular amending Section 6.03 entitled "Redistricting"; providing for Redistricting for the City every ten (10) years following the census; providing for a Notice of an Advertisement of the Referendum Election to be published in accordance with the Code of Ordinances and the Charter of the City of Tamarac, Florida, as well as the State of Florida Election

Code; providing that this Ordinance, when adopted, shall be submitted to the qualified electors of the City of Tamarac, on the November 2016 General Election Ballot and it shall become effective as provided by law; providing for the place and places where said Election is to be held; providing for conflicts; providing for severability; providing for inclusion in the code; and providing for an effective date. - **Assistant City Attorney Jacob Horowitz and City Clerk Patricia Teufel**

4. **TO2341 - Amendment to the Charter of the City of Tamarac at Article X, entitled "City Clerk," and in particular amending Section 10.01 entitled "Appointment and Compensation"; amending Section 10.03, entitled "Suspension or Removal;" providing for consistency between the City Clerk position and the position of other City Department Heads**

Item No. 8 (c) on Ordinance(s) - First Reading: (TO2341) An Ordinance of the City of Tamarac, Florida, submitting to referendum an amendment to the Charter of the City of Tamarac at Article X, entitled "City Clerk," and in particular amending Section 10.01 entitled "Appointment and Compensation"; amending Section 10.03, entitled "Suspension or Removal;" providing for consistency between the City Clerk position and the position of other city department heads; providing for a Notice of an Advertisement of the Referendum Election to be published in accordance with the Code of Ordinances and the Charter of the City of Tamarac, Florida, as well as the State of Florida Election Code; providing that this Ordinance, when adopted, shall be submitted to the qualified electors of the City of Tamarac, on the November 2016 General Election Ballot and it shall become effective as provided by law; providing for the place and places where said Election is to be held; providing for conflicts; providing for severability; providing for inclusion in the code; and providing for an effective date. - **Assistant City Attorney Jacob Horowitz and Human Resources Director Maria Swanson**

5. **TO2342 - Amendment to the Charter of the City of Tamarac at Article V, entitled "City Manager," and in particular amending Section 5.04 entitled "Powers and Duties of the City Manager"; deleting the reference to the City's Building Official in the City Charter and providing for consistency with the Building Official position and the position of other City Department Heads**

Item No. 8 (d) on Ordinance(s) - First Reading: (TO2342) An Ordinance of the City of Tamarac, Florida, submitting to Referendum an amendment to the Charter of the City of Tamarac at Article V, entitled "City Manager," and in particular amending Section 5.04 entitled "Powers and Duties of the City Manager"; deleting the reference to the City's Building Official in the City Charter and providing for consistency with the Building Official position and the position of other city department heads; providing for a Notice of an Advertisement of the Referendum Election to be published in accordance with the Code of Ordinances and the Charter of the City of Tamarac, Florida, as well as the State of Florida Election Code; providing that this Ordinance, when adopted, shall be submitted to the qualified electors of the City of Tamarac, on the November 2016 General Election Ballot and it shall become effective as provided by law; providing for the place and places where said Election is to be held; providing for conflicts; providing for severability; providing for inclusion in the code; and providing for an effective date. - **Assistant City Attorney Jacob Horowitz and Human Resources Director Maria Swanson**

6. **TR12761 - Award Bid 16-05B for Construction of Buffer Wall Phase I**

Item No 6 (d) on the Consent Agenda. (TR12761) A Resolution of the City Commission of the City of Tamarac, Florida, awarding Bid No. 16-05B to and approving an Agreement With MBR Construction, Inc. for the construction of Citywide Buffer Wall Project Phase I, in accordance with Bid No. 16-05B for a contract amount of \$1,128,075.82; a contingency in an amount of \$112,807.58 will be added to the project account, for a total project budget of \$1,240,883.40; authorizing an expenditure from the appropriate accounts; providing for conflicts; providing for severability; and providing for an effective date. - **Public Services Director Jack Strain, Assistant Public Works Director John Doherty and Purchasing/Contracts Manager Keith Glatz**

7. **TR12766 - Maintenance Agreement for Atlantic Cypress Creek, LLC**

Item No. 6 (b) on the Consent Agenda. (TR12766) A Resolution of the City Commission of the City of Tamarac, Florida authorizing the appropriate City Officials to execute a Maintenance Agreement between the City of Tamarac and Atlantic Cypress Creek, LLC; providing for conflicts; providing for severability; and providing for an effective date. **Public Services Director Jack Strain**

8. TO2333 - Commercial Vehicle Ordinance

Item No. 8 (e) on Ordinance(s) - First Reading: (TO2333) An Ordinance of the City Commission of the City of Tamarac, Florida amending Chapter 14 of the City's Code of Ordinances, entitled "Motor Vehicles and Traffic" by specifically amending Article II, entitled "Stopping, Standing and Parking," Section 14-30 entitled "Parking or Storage of Commercial or Recreational Vehicles, Boats and Boat Trailers" to prohibit the parking and storage of certain commercial and recreational vehicles in residential areas except as provided herein; providing for codification; providing for conflicts; providing for severability; and providing for an effective date. - **Community Development Director Maxine Calloway and Code Enforcement Manager Scott Krajewski**

Commission District(s): Citywide

The City Commission may consider and act upon such other business as may come before it. In the event this agenda must be revised, such revised copies will be available to the public at the City Commission meeting.

Pursuant to Chapter 286.0105, Florida Statutes, if a person decides to appeal any decision made by the City Commission with respect to any matter considered at such meeting or hearing, he may need to ensure that a verbatim record of the proceedings is made which record includes the testimony and evidence upon which the appeal is based.

The City of Tamarac complies with the provisions of the Americans with Disabilities Act. If you are a disabled person requiring any accommodations or assistance, please notify the City Clerk's Office at (954) 597-3505 of such need at least 48 hours (2 days) in advance. Additionally, if you are hearing or speech impaired and need assistance, you may contact the Florida Relay Service at either of the following numbers: 1-800-955-8770 or 1-800-955-8771.



Patricia Teufel, CMC
City Clerk



Title - 9:30 a.m.

9:30 a.m.



Title - Commissioner Debra Placko

Commissioner Debra Placko



Title - Public Art Projects Update

Public Art Projects Update - ***Community Development Director Maxine Calloway, Public Art Administrators George Gadson and Beth Ravitz***



Title - TO2339 - Amendment to the Charter of the City of Tamarac at Article XII, entitled “Miscellaneous Provisions,” and in particular deleting Section 12.06 entitled “Residential Growth Control”:

Item No. 8 (a) on Ordinance(s) - First Reading: (TO2339) An Ordinance of the City of Tamarac, Florida, submitting to Referendum an amendment to the Charter of the City of Tamarac at Article XII, entitled “Miscellaneous Provisions,” and in particular deleting Section 12.06 entitled “Residential Growth Control”; deleting the Residential Growth Control Provisions from the City Charter since the concept of Residential Growth Control is contemplated by the City’s Comprehensive Plan; providing for a notice of an advertisement of the Referendum Election to be published in accordance with the Code of Ordinances and the Charter of the City of Tamarac, Florida, as well as the State of Florida Election Code; providing that this Ordinance, when adopted, shall be submitted to the qualified electors of the City of Tamarac, on the November 2016 General Election Ballot and it shall become effective as provided by law; providing for the place and places where said Election is to be held; providing for conflicts; providing for severability; providing for inclusion in the code; and providing for an effective date. - ***Assistant City Attorney Jacob Horowitz and Community Development Director Maxine Calloway***

ATTACHMENTS:

Description	Upload Date	Type
❑ TO2339 Memo	4/12/2016	Cover Memo
❑ TO2339 Ordinance	4/12/2016	Cover Memo

CITY OF TAMARAC

MEMORANDUM NO. 2016-022

TO: Mayor Harry Dressler
Members of the City Commission

CC: Michael C. Cernech, City Manager
Diane Phillips, Assistant City Manager
Pat Teufel, City Clerk

FROM: Samuel S. Goren, City Attorney *SSG*
Jacob G. Horowitz, Assistant City Attorney *JGH*

DATE: March 14, 2016

RE: City of Tamarac ("City") / Charter Review Board

The City's Charter Review Board (the "Board") has been meeting monthly since September 2015 in an effort to complete its review of the City Charter and fulfill its duties and responsibilities as set forth in Section 8.02 thereof. After carefully reviewing the Charter and considering input from the City's professional staff, the Board is recommending four (4) potential amendments to the City Charter.

On March 17, 2016, in accordance with Section 8.02 of the City Charter, the Board held a public hearing on the following four (4) Charter amendments, which are being recommended to the City Commission:

- 1) Sec. 5.04 (Powers and Duties of the City Manager) – At the recommendation of the City's Human Resources Director, the Board is recommending removing the reference in this section to the City's Building Official. This section currently permits the City Commission, in certain circumstances, to appoint, suspend, remove or demote the Building Official. The Board, at staff's recommendation, is proposing that the Building Official should be treated as all other department heads within the City.
- 2) Sec. 6.03 (Redistricting) – This section currently requires a redistricting analysis be conducted at the end of every election within the City and, in certain circumstances the creation of a citizen redistricting committee. The process currently set forth in the Charter is somewhat antiquated. The Board is proposing an amendment to require the City to redistrict every ten (10) years, starting in 2020, or sooner if the City Commission deems it necessary. An accredited four (4) year college or university shall be engaged for the purpose of identifying and designating election districts within the City.

- 3) Sec. 10.01 and Sec. 10.03 (City Clerk - Appointment and Compensation / Suspension or Removal) – These sections provide that the City Clerk’s compensation shall be approved by the City Commission and permit the City Clerk to request a public hearing before the City Commission prior to suspension or dismissal. The Board, at staff’s recommendation, is proposing that the City Clerk should be treated as all other department heads within the City.
- 4) Sec. 12.06 (Residential Growth Control) – At the recommendation of the City’s Community Development Director, the Board is recommending deleting Section 12.06 in its entirety. This section includes a concurrency statement that is more appropriately placed in the City’s Comprehensive Plan rather than the City Charter.

These proposals are being presented to the City Commission as ordinances for consideration. If the ordinances are adopted, the ballot language will be provided to the Supervisor of Elections and will appear on the General Election ballot in November 2016 for consideration by the electorate.

Please contact our office if there is any additional information that we can provide.

CITY OF TAMARAC

ORDINANCE NO.O-2016-

AN ORDINANCE OF THE CITY OF TAMARAC, FLORIDA, SUBMITTING TO REFERENDUM AN AMENDMENT TO THE CHARTER OF THE CITY OF TAMARAC AT ARTICLE XII, ENTITLED “MISCELLANEOUS PROVISIONS,” AND IN PARTICULAR DELETING SECTION 12.06 ENTITLED “RESIDENTIAL GROWTH CONTROL”; DELETING THE RESIDENTIAL GROWTH CONTROL PROVISIONS FROM THE CITY CHARTER SINCE THE CONCEPT OF RESIDENTIAL GROWTH CONTROL IS CONTEMPLATED BY THE CITY’S COMPREHENSIVE PLAN; PROVIDING FOR A NOTICE OF AN ADVERTISEMENT OF THE REFERENDUM ELECTION TO BE PUBLISHED IN ACCORDANCE WITH THE CODE OF ORDINANCES AND THE CHARTER OF THE CITY OF TAMARAC, FLORIDA, AS WELL AS THE STATE OF FLORIDA ELECTION CODE; PROVIDING THAT THIS ORDINANCE, WHEN ADOPTED, SHALL BE SUBMITTED TO THE QUALIFIED ELECTORS OF THE CITY OF TAMARAC, ON THE NOVEMBER 2016 GENERAL ELECTION BALLOT AND IT SHALL BECOME EFFECTIVE AS PROVIDED BY LAW; PROVIDING FOR THE PLACE AND PLACES WHERE SAID ELECTION IS TO BE HELD; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; PROVIDING FOR INCLUSION IN THE CODE; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Chapter 166, Florida Statutes, as amended, provides for a methodology of Charter amendments supplementary to and not in conflict with the Charter of the City of Tamarac, Florida; and

WHEREAS, Chapter 166, Florida Statutes, as amended, provides that such an amendment may be submitted to a referendum vote by the City Commission of the City of

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from existing law; words in underlined type are additions

Tamarac, Florida, in an ordinance format; and

WHEREAS, the City's Charter Review Commission has recommended modifications to Article XII, "Miscellaneous Provisions," and in particular has recommended the deletion of Section 12.06, "Residential Growth Control" to remove the residential growth control provisions from the City Charter since the concept is otherwise contemplated by the City's Comprehensive Plan; and

WHEREAS, the City Commission deems the proposed amendment to the City Charter, as detailed herein, to be in the best interests of the citizens and residents of the City.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF TAMARAC, FLORIDA, THAT:

Section 1. The foregoing "WHEREAS" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Ordinance upon adoption hereof.

Section 2. Article XII, entitled "Miscellaneous Provisions," shall be revised by deleting Section 12.06, entitled "Residential Growth Control" of the Charter of the City of Tamarac, as follows:

Section 3. The Ballot Title shall be as follows:

RESIDENTIAL GROWTH CONTROL REDUNDANCY

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from existing law; words in underlined type are additions

Section 4. At the General Municipal Election on November 8, 2016, the following question shall be placed on the ballot for consideration by the qualified electors of the City of Tamarac, Florida, and shall read as follows:

The City Charter currently provides for the City Commission's regulation of residential growth control. Shall this provision be removed from the City Charter to eliminate redundancy since the City's residential growth control regulation is otherwise contemplated by the City's Comprehensive Plan?

YES ☐ NO ☐

Section 5. **Advertisement.** The City Clerk of the City of Tamarac is hereby authorized and directed to advertise the referendum election contemplated herein all in accordance with the Code of Ordinances of the City of Tamarac, Florida, as well as the State of Florida Election Code.

Section 6. **Codification.** It is the intention of the City Commission of the City of Tamarac that the provisions of this Ordinance shall become and be made a part of the Code of Ordinances of the City of Tamarac, Florida, and that the Sections of this Ordinance may be renumbered, re-lettered and the word "Ordinance" may be changed to "Section," "Article," or such other word or phrase in order to accomplish such intention.

Section 7. **Severability.** If any clause, section, or other part of this Ordinance shall be held by any court of competent jurisdiction to be unconstitutional or invalid, such unconstitutional or invalid part shall be considered as eliminated and in no way affecting the

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from existing law; words in underlined type are additions

validity of the other provisions of this Ordinance.

Section 8. **Conflicts.** All Ordinances or parts of Ordinances, Resolutions, or parts of Resolutions in conflict herewith, be and the same are hereby repealed to the extent of such conflict.

Section 9. **Effective Date.** This Ordinance shall take effect immediately upon its adoption.

THE REST OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from
existing law; words in underlined type are additions

PASSED, FIRST READING this ____ day of _____, 2016.

PASSED, SECOND READING this ____ day of _____, 2016.

ATTEST: BY: _____
MAYOR HARRY DRESSLER

PATRICIA TEUFEL, CMC
CITY CLERK

RECORD OF COMMISSION VOTE: 1ST Reading

MAYOR DRESSLER	_____
DIST 1: COMM. BUSHNELL	_____
DIST 2: COMM GOMEZ	_____
DIST 3: V/M GLASSER	_____
DIST 4: COMM. PLACKO	_____

I HEREBY CERTIFY that
I have approved this
ORDINANCE as to form:

RECORD OF COMMISSION VOTE: 2ND Reading

MAYOR DRESSLER	_____
DIST 1: COMM. BUSHNELL	_____
DIST 2: COMM GOMEZ	_____
DIST 3: V/M GLASSER	_____
DIST 4: COMM. PLACKO	_____

SAMUEL S. GOREN
CITY ATTORNEY

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from
existing law; words in underlined type are additions



**Title - TO2340 - Amendment to the Charter of the City of Tamarac at Article VI, entitled
“Qualifications and Elections,” and in particular amending Section 6.03 entitled
“Redistricting”**

Item No. 8 (b) on Ordinance(s) - First Reading: (TO2340) An Ordinance of the City of Tamarac, Florida, submitting to Referendum an amendment to the Charter of the City of Tamarac at Article VI, entitled “Qualifications and Elections,” and in particular amending Section 6.03 entitled “Redistricting”; providing for Redistricting for the City every ten (10) years following the census; providing for a Notice of an Advertisement of the Referendum Election to be published in accordance with the Code of Ordinances and the Charter of the City of Tamarac, Florida, as well as the State of Florida Election Code; providing that this Ordinance, when adopted, shall be submitted to the qualified electors of the City of Tamarac, on the November 2016 General Election Ballot and it shall become effective as provided by law; providing for the place and places where said Election is to be held; providing for conflicts; providing for severability; providing for inclusion in the code; and providing for an effective date. - ***Assistant City Attorney Jacob Horowitz and City Clerk Patricia Teufel***

ATTACHMENTS:

Description	Upload Date	Type
❑ TO2340 Memo	4/12/2016	Cover Memo
❑ TO2340 Ordinance	4/20/2016	Ordinance

CITY OF TAMARAC

MEMORANDUM NO. 2016-022

TO: Mayor Harry Dressler
Members of the City Commission

CC: Michael C. Cernech, City Manager
Diane Phillips, Assistant City Manager
Pat Teufel, City Clerk

FROM: Samuel S. Goren, City Attorney *SSG*
Jacob G. Horowitz, Assistant City Attorney *JGH*

DATE: March 14, 2016

RE: City of Tamarac ("City") / Charter Review Board

The City's Charter Review Board (the "Board") has been meeting monthly since September 2015 in an effort to complete its review of the City Charter and fulfill its duties and responsibilities as set forth in Section 8.02 thereof. After carefully reviewing the Charter and considering input from the City's professional staff, the Board is recommending four (4) potential amendments to the City Charter.

On March 17, 2016, in accordance with Section 8.02 of the City Charter, the Board held a public hearing on the following four (4) Charter amendments, which are being recommended to the City Commission:

- 1) Sec. 5.04 (Powers and Duties of the City Manager) – At the recommendation of the City's Human Resources Director, the Board is recommending removing the reference in this section to the City's Building Official. This section currently permits the City Commission, in certain circumstances, to appoint, suspend, remove or demote the Building Official. The Board, at staff's recommendation, is proposing that the Building Official should be treated as all other department heads within the City.
- 2) Sec. 6.03 (Redistricting) – This section currently requires a redistricting analysis be conducted at the end of every election within the City and, in certain circumstances the creation of a citizen redistricting committee. The process currently set forth in the Charter is somewhat antiquated. The Board is proposing an amendment to require the City to redistrict every ten (10) years, starting in 2020, or sooner if the City Commission deems it necessary. An accredited four (4) year college or university shall be engaged for the purpose of identifying and designating election districts within the City.

- 3) Sec. 10.01 and Sec. 10.03 (City Clerk - Appointment and Compensation / Suspension or Removal) – These sections provide that the City Clerk’s compensation shall be approved by the City Commission and permit the City Clerk to request a public hearing before the City Commission prior to suspension or dismissal. The Board, at staff’s recommendation, is proposing that the City Clerk should be treated as all other department heads within the City.
- 4) Sec. 12.06 (Residential Growth Control) – At the recommendation of the City’s Community Development Director, the Board is recommending deleting Section 12.06 in its entirety. This section includes a concurrency statement that is more appropriately placed in the City’s Comprehensive Plan rather than the City Charter.

These proposals are being presented to the City Commission as ordinances for consideration. If the ordinances are adopted, the ballot language will be provided to the Supervisor of Elections and will appear on the General Election ballot in November 2016 for consideration by the electorate.

Please contact our office if there is any additional information that we can provide.

CITY OF TAMARAC

ORDINANCE NO. O-2016-

AN ORDINANCE OF THE CITY OF TAMARAC, FLORIDA, SUBMITTING TO REFERENDUM AN AMENDMENT TO THE CHARTER OF THE CITY OF TAMARAC AT ARTICLE VI, ENTITLED “QUALIFICATIONS AND ELECTIONS,” AND IN PARTICULAR AMENDING SECTION 6.03 ENTITLED “REDISTRICTING”; PROVIDING FOR REDISTRICTING FOR THE CITY EVERY TEN (10) YEARS FOLLOWING THE CENSUS; PROVIDING FOR A NOTICE OF AN ADVERTISEMENT OF THE REFERENDUM ELECTION TO BE PUBLISHED IN ACCORDANCE WITH THE CODE OF ORDINANCES AND THE CHARTER OF THE CITY OF TAMARAC, FLORIDA, AS WELL AS THE STATE OF FLORIDA ELECTION CODE; PROVIDING THAT THIS ORDINANCE, WHEN ADOPTED, SHALL BE SUBMITTED TO THE QUALIFIED ELECTORS OF THE CITY OF TAMARAC, ON THE NOVEMBER 2016 GENERAL ELECTION BALLOT AND IT SHALL BECOME EFFECTIVE AS PROVIDED BY LAW; PROVIDING FOR THE PLACE AND PLACES WHERE SAID ELECTION IS TO BE HELD; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; PROVIDING FOR INCLUSION IN THE CODE; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Chapter 166, Florida Statutes, as amended, provides for a methodology of Charter amendments supplementary to and not in conflict with the Charter of the City of Tamarac, Florida; and

WHEREAS, Chapter 166, Florida Statutes, as amended, provides that such an amendment may be submitted to a referendum vote by the City Commission of the City of Tamarac, Florida, in an ordinance format; and

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from existing law; words in underlined type are additions

WHEREAS, the City's Charter Review Commission has recommended modifications to Article VI, "Qualifications and Elections," and in particular has recommended the amendment of Section 6.03, "Redistricting" to provide for redistricting every ten (10) years in accordance with the decennial census; and

WHEREAS, the City Commission deems the proposed amendment to the City Charter, as detailed herein, to be in the best interests of the citizens and residents of the City.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF TAMARAC, FLORIDA, THAT:

Section 1. The foregoing "WHEREAS" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Ordinance upon adoption hereof.

Section 2. Article VI, entitled "Qualifications and Elections," shall be revised by amending Section 6.03 entitled "Redistricting" of the Charter of the City of Tamarac, as follows:

Section 6.03 Redistricting.

Following the decennial census in 2020, and every ten (10) years thereafter, or sooner if it is determined by the Commission that districts shall have become unbalanced due to population shifts, the City Commission shall contract with an accredited four (4) year college or university located within the State of Florida for the purpose of identifying and designating the four (4) election districts within the City of Tamarac. The City Commission shall adopt the redistricting plan as designated, provided that the plan incorporates the principles of nondiscrimination and fairness set forth above. In the event an elected commission member no longer resides in the district from which he or she is

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from
existing law; words in underlined type are additions

elected as a direct result of the revisions to district boundaries in accordance with this section, that Commission member shall complete his or her term. Nothing contained within this section shall be construed to alter residence requirements for any candidate including incumbents, during subsequent regular elections.

Section 3. The Ballot Title shall be as follows:

TIMEFRAME FOR REDISTRICTING THE CITY OF TAMARAC

Section 4. At the General Municipal Election on November 8, 2016, the following question shall be placed on the ballot for consideration by the qualified electors of the City of Tamarac, Florida, and shall read as follows:

The City Charter currently requires the City to perform a redistricting analysis, including the potential appointment of a redistricting committee, after each municipal election. In an effort to remain consistent with state and federal voting district boundaries, should the Charter be amended to require the engagement of a 4-year university to conduct a redistricting analysis and provide for redistricting every 10 years following the decennial census, or sooner, if mandated by law?

YES ☐ NO ☐

Section 5. **Advertisement.** The City Clerk of the City of Tamarac is hereby authorized and directed to advertise the referendum election contemplated herein all in accordance with the Code of Ordinances of the City of Tamarac, Florida, as well as the State of Florida Election Code.

Section 6. **Codification.** It is the intention of the City Commission of the City of Tamarac that the provisions of this Ordinance shall become and be made a part of the Code of

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from existing law; words in underlined type are additions

Ordinances of the City of Tamarac, Florida, and that the Sections of this Ordinance may be renumbered, re-lettered and the word "Ordinance" may be changed to "Section," "Article," or such other word or phrase in order to accomplish such intention.

Section 7. **Severability.** If any clause, section, or other part of this Ordinance shall be held by any court of competent jurisdiction to be unconstitutional or invalid, such unconstitutional or invalid part shall be considered as eliminated and in no way affecting the validity of the other provisions of this Ordinance.

Section 8. **Conflicts.** All Ordinances or parts of Ordinances, Resolutions, or parts of Resolutions in conflict herewith, be and the same are hereby repealed to the extent of such conflict.

Section 9. **Effective Date.** This Ordinance shall take effect immediately upon its adoption.

THE REST OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from
existing law; words in underlined type are additions

PASSED, FIRST READING this ____ day of _____, 2015.

PASSED, SECOND READING this ____ day of _____, 2015.

ATTEST: BY: _____
MAYOR HARRY DRESSLER

PATRICIA TEUFEL, CMC
CITY CLERK

RECORD OF COMMISSION VOTE: 1ST Reading

MAYOR DRESSLER _____
DIST 1: V/M BUSHNELL _____
DIST 2: COMM GOMEZ _____
DIST 3: COMM. GLASSER _____
DIST 4: COMM. PLACKO _____

I HEREBY CERTIFY that
I have approved this
ORDINANCE as to form:

RECORD OF COMMISSION VOTE: 2ND Reading

SAMUEL S. GOREN
CITY ATTORNEY

MAYOR DRESSLER _____
DIST 1: V/M BUSHNELL _____
DIST 2: COMM GOMEZ _____
DIST 3: COMM. GLASSER _____
DIST 4: COMM. PLACKO _____

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from
existing law; words in underlined type are additions



Title - TO2341 - Amendment to the Charter of the City of Tamarac at Article X, entitled “City Clerk,” and in particular amending Section 10.01 entitled “Appointment and Compensation”; amending Section 10.03, entitled “Suspension or Removal;” providing for consistency between the City Clerk position and the position of other City Department Heads

Item No. 8 (c) on Ordinance(s) - First Reading: (TO2341) An Ordinance of the City of Tamarac, Florida, submitting to referendum an amendment to the Charter of the City of Tamarac at Article X, entitled “City Clerk,” and in particular amending Section 10.01 entitled “Appointment and Compensation”; amending Section 10.03, entitled “Suspension or Removal;” providing for consistency between the City Clerk position and the position of other city department heads; providing for a Notice of an Advertisement of the Referendum Election to be published in accordance with the Code of Ordinances and the Charter of the City of Tamarac, Florida, as well as the State of Florida Election Code; providing that this Ordinance, when adopted, shall be submitted to the qualified electors of the City of Tamarac, on the November 2016 General Election Ballot and it shall become effective as provided by law; providing for the place and places where said Election is to be held; providing for conflicts; providing for severability; providing for inclusion in the code; and providing for an effective date. - ***Assistant City Attorney Jacob Horowitz and Human Resources Director Maria Swanson***

ATTACHMENTS:

Description	Upload Date	Type
☐ TO2341 Memo	4/12/2016	Cover Memo
☐ TO2341 Ordinance	4/12/2016	Ordinance

CITY OF TAMARAC

MEMORANDUM NO. 2016-022

TO: Mayor Harry Dressler
Members of the City Commission

CC: Michael C. Cernech, City Manager
Diane Phillips, Assistant City Manager
Pat Teufel, City Clerk

FROM: Samuel S. Goren, City Attorney *SSG*
Jacob G. Horowitz, Assistant City Attorney *JGH*

DATE: March 14, 2016

RE: City of Tamarac ("City") / Charter Review Board

The City's Charter Review Board (the "Board") has been meeting monthly since September 2015 in an effort to complete its review of the City Charter and fulfill its duties and responsibilities as set forth in Section 8.02 thereof. After carefully reviewing the Charter and considering input from the City's professional staff, the Board is recommending four (4) potential amendments to the City Charter.

On March 17, 2016, in accordance with Section 8.02 of the City Charter, the Board held a public hearing on the following four (4) Charter amendments, which are being recommended to the City Commission:

- 1) Sec. 5.04 (Powers and Duties of the City Manager) – At the recommendation of the City's Human Resources Director, the Board is recommending removing the reference in this section to the City's Building Official. This section currently permits the City Commission, in certain circumstances, to appoint, suspend, remove or demote the Building Official. The Board, at staff's recommendation, is proposing that the Building Official should be treated as all other department heads within the City.
- 2) Sec. 6.03 (Redistricting) – This section currently requires a redistricting analysis be conducted at the end of every election within the City and, in certain circumstances the creation of a citizen redistricting committee. The process currently set forth in the Charter is somewhat antiquated. The Board is proposing an amendment to require the City to redistrict every ten (10) years, starting in 2020, or sooner if the City Commission deems it necessary. An accredited four (4) year college or university shall be engaged for the purpose of identifying and designating election districts within the City.

- 3) Sec. 10.01 and Sec. 10.03 (City Clerk - Appointment and Compensation / Suspension or Removal) – These sections provide that the City Clerk’s compensation shall be approved by the City Commission and permit the City Clerk to request a public hearing before the City Commission prior to suspension or dismissal. The Board, at staff’s recommendation, is proposing that the City Clerk should be treated as all other department heads within the City.
- 4) Sec. 12.06 (Residential Growth Control) – At the recommendation of the City’s Community Development Director, the Board is recommending deleting Section 12.06 in its entirety. This section includes a concurrency statement that is more appropriately placed in the City’s Comprehensive Plan rather than the City Charter.

These proposals are being presented to the City Commission as ordinances for consideration. If the ordinances are adopted, the ballot language will be provided to the Supervisor of Elections and will appear on the General Election ballot in November 2016 for consideration by the electorate.

Please contact our office if there is any additional information that we can provide.

CITY OF TAMARAC

ORDINANCE NO. O-2016-

AN ORDINANCE OF THE CITY OF TAMARAC, FLORIDA, SUBMITTING TO REFERENDUM AN AMENDMENT TO THE CHARTER OF THE CITY OF TAMARAC AT ARTICLE X, ENTITLED "CITY CLERK," AND IN PARTICULAR AMENDING SECTION 10.01 ENTITLED "APPOINTMENT AND COMPENSATION"; AMENDING SECTION 10.03, ENTITLED "SUSPENSION OR REMOVAL;" PROVIDING FOR CONSISTENCY BETWEEN THE CITY CLERK POSITION AND THE POSITION OF OTHER CITY DEPARTMENT HEADS; PROVIDING FOR A NOTICE OF AN ADVERTISEMENT OF THE REFERENDUM ELECTION TO BE PUBLISHED IN ACCORDANCE WITH THE CODE OF ORDINANCES AND THE CHARTER OF THE CITY OF TAMARAC, FLORIDA, AS WELL AS THE STATE OF FLORIDA ELECTION CODE; PROVIDING THAT THIS ORDINANCE, WHEN ADOPTED, SHALL BE SUBMITTED TO THE QUALIFIED ELECTORS OF THE CITY OF TAMARAC, ON THE NOVEMBER 2016 GENERAL ELECTION BALLOT AND IT SHALL BECOME EFFECTIVE AS PROVIDED BY LAW; PROVIDING FOR THE PLACE AND PLACES WHERE SAID ELECTION IS TO BE HELD; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; PROVIDING FOR INCLUSION IN THE CODE; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Chapter 166, Florida Statutes, as amended, provides for a methodology of Charter amendments supplementary to and not in conflict with the Charter of the City of Tamarac, Florida; and

WHEREAS, Chapter 166, Florida Statutes, as amended, provides that such an amendment may be submitted to a referendum vote by the City Commission of the City of

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from existing law; words in underlined type are additions

Tamarac, Florida, in an ordinance format; and

WHEREAS, the City's Charter Review Commission has recommended modifications to Article X, "City Clerk," and in particular has recommended amending Section 10.01, "Appointment and Compensation" and Section 10.03, "Suspension or Removal," to provide for consistency between the City Clerk position and all other department head positions in the City; and

WHEREAS, the City Commission deems the proposed amendment to the City Charter, as detailed herein, to be in the best interests of the citizens and residents of the City.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF TAMARAC, FLORIDA, THAT:

Section 1. The foregoing "WHEREAS" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Ordinance upon adoption hereof.

Section 2. Article X, entitled "City Clerk," shall be revised by amending Section 10.01, entitled "Appointment and Compensation" of the Charter of the City of Tamarac, as follows:

Sec. 10.01. - Appointment and compensation.

The city clerk shall be appointed by the manager with the consent of the commission.

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from existing law; words in underlined type are additions

Section 3. Article X, entitled “City Clerk,” shall be revised by amending Section 10.03, entitled “Suspension and Removal” of the Charter of the City of Tamarac, as follows:

Sec. 10.03. - Suspension or removal.

The city clerk may be suspended or removed by the manager.

Section 4. The Ballot Title shall be as follows:

CITY CLERK POSITION CONSISTENT WITH OTHER CITY DEPARTMENT HEADS

Section 5. At the General Municipal Election on November 8, 2016, the following question shall be placed on the ballot for consideration by the qualified electors of the City of Tamarac, Florida, and shall read as follows:

The City Charter currently empowers the City Manager to hire and supervise all department heads, subject to approval of the City Commission, but separately recognizes the City Clerk and gives the City Commission separate authority to set the Clerk’s compensation, suspend or remove said official. Shall the City Charter be revised to treat the City Clerk the same as all other City department heads?

YES ☐ NO ☐

Section 6. **Advertisement.** The City Clerk of the City of Tamarac is hereby authorized and directed to advertise the referendum election contemplated herein all in accordance with the Code of Ordinances of the City of Tamarac, Florida, as well as the State of Florida Election Code.

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from existing law; words in underlined type are additions

Section 7. **Codification.** It is the intention of the City Commission of the City of Tamarac that the provisions of this Ordinance shall become and be made a part of the Code of Ordinances of the City of Tamarac, Florida, and that the Sections of this Ordinance may be renumbered, re-lettered and the word "Ordinance" may be changed to "Section," "Article," or such other word or phrase in order to accomplish such intention.

Section 8. **Severability.** If any clause, section, or other part of this Ordinance shall be held by any court of competent jurisdiction to be unconstitutional or invalid, such unconstitutional or invalid part shall be considered as eliminated and in no way affecting the validity of the other provisions of this Ordinance.

Section 9. **Conflicts.** All Ordinances or parts of Ordinances, Resolutions, or parts of Resolutions in conflict herewith, be and the same are hereby repealed to the extent of such conflict.

Section 10. **Effective Date.** This Ordinance shall take effect immediately upon its adoption.

THE REST OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from
existing law; words in underlined type are additions

PASSED, FIRST READING this ____ day of _____, 2016.

PASSED, SECOND READING this ____ day of _____, 2016.

ATTEST: BY: _____
MAYOR HARRY DRESSLER

PATRICIA TEUFEL, CMC
CITY CLERK

RECORD OF COMMISSION VOTE: 1ST Reading

MAYOR DRESSLER	_____
DIST 1: COMM. BUSHNELL	_____
DIST 2: COMM GOMEZ	_____
DIST 3: V/M GLASSER	_____
DIST 4: COMM. PLACKO	_____

I HEREBY CERTIFY that
I have approved this
ORDINANCE as to form:

RECORD OF COMMISSION VOTE: 2ND Reading

MAYOR DRESSLER	_____
DIST 1: COMM. BUSHNELL	_____
DIST 2: COMM GOMEZ	_____
DIST 3: V/M GLASSER	_____
DIST 4: COMM. PLACKO	_____

SAMUEL S. GOREN
CITY ATTORNEY

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from
existing law; words in underlined type are additions



Title - TO2342 - Amendment to the Charter of the City of Tamarac at Article V, entitled "City Manager," and in particular amending Section 5.04 entitled "Powers and Duties of the City Manager"; deleting the reference to the City's Building Official in the City Charter and providing for consistency with the Building Official position and the position of other City Department Heads

Item No. 8 (d) on Ordinance(s) - First Reading: (TO2342) An Ordinance of the City of Tamarac, Florida, submitting to Referendum an amendment to the Charter of the City of Tamarac at Article V, entitled "City Manager," and in particular amending Section 5.04 entitled "Powers and Duties of the City Manager"; deleting the reference to the City's Building Official in the City Charter and providing for consistency with the Building Official position and the position of other city department heads; providing for a Notice of an Advertisement of the Referendum Election to be published in accordance with the Code of Ordinances and the Charter of the City of Tamarac, Florida, as well as the State of Florida Election Code; providing that this Ordinance, when adopted, shall be submitted to the qualified electors of the City of Tamarac, on the November 2016 General Election Ballot and it shall become effective as provided by law; providing for the place and places where said Election is to be held; providing for conflicts; providing for severability; providing for inclusion in the code; and providing for an effective date. - ***Assistant City Attorney Jacob Horowitz and Human Resources Director Maria Swanson***

ATTACHMENTS:

Description	Upload Date	Type
☐ TO2342 Memo	4/12/2016	Cover Memo
☐ TO2342 Ordinance	4/12/2016	Cover Memo

CITY OF TAMARAC

MEMORANDUM NO. 2016-022

TO: Mayor Harry Dressler
Members of the City Commission

CC: Michael C. Cernech, City Manager
Diane Phillips, Assistant City Manager
Pat Teufel, City Clerk

FROM: Samuel S. Goren, City Attorney *SSG*
Jacob G. Horowitz, Assistant City Attorney *JGH*

DATE: March 14, 2016

RE: City of Tamarac ("City") / Charter Review Board

The City's Charter Review Board (the "Board") has been meeting monthly since September 2015 in an effort to complete its review of the City Charter and fulfill its duties and responsibilities as set forth in Section 8.02 thereof. After carefully reviewing the Charter and considering input from the City's professional staff, the Board is recommending four (4) potential amendments to the City Charter.

On March 17, 2016, in accordance with Section 8.02 of the City Charter, the Board held a public hearing on the following four (4) Charter amendments, which are being recommended to the City Commission:

- 1) Sec. 5.04 (Powers and Duties of the City Manager) – At the recommendation of the City's Human Resources Director, the Board is recommending removing the reference in this section to the City's Building Official. This section currently permits the City Commission, in certain circumstances, to appoint, suspend, remove or demote the Building Official. The Board, at staff's recommendation, is proposing that the Building Official should be treated as all other department heads within the City.
- 2) Sec. 6.03 (Redistricting) – This section currently requires a redistricting analysis be conducted at the end of every election within the City and, in certain circumstances the creation of a citizen redistricting committee. The process currently set forth in the Charter is somewhat antiquated. The Board is proposing an amendment to require the City to redistrict every ten (10) years, starting in 2020, or sooner if the City Commission deems it necessary. An accredited four (4) year college or university shall be engaged for the purpose of identifying and designating election districts within the City.

- 3) Sec. 10.01 and Sec. 10.03 (City Clerk - Appointment and Compensation / Suspension or Removal) – These sections provide that the City Clerk’s compensation shall be approved by the City Commission and permit the City Clerk to request a public hearing before the City Commission prior to suspension or dismissal. The Board, at staff’s recommendation, is proposing that the City Clerk should be treated as all other department heads within the City.
- 4) Sec. 12.06 (Residential Growth Control) – At the recommendation of the City’s Community Development Director, the Board is recommending deleting Section 12.06 in its entirety. This section includes a concurrency statement that is more appropriately placed in the City’s Comprehensive Plan rather than the City Charter.

These proposals are being presented to the City Commission as ordinances for consideration. If the ordinances are adopted, the ballot language will be provided to the Supervisor of Elections and will appear on the General Election ballot in November 2016 for consideration by the electorate.

Please contact our office if there is any additional information that we can provide.

CITY OF TAMARAC

ORDINANCE NO.O-2016-

AN ORDINANCE OF THE CITY OF TAMARAC, FLORIDA, SUBMITTING TO REFERENDUM AN AMENDMENT TO THE CHARTER OF THE CITY OF TAMARAC AT ARTICLE V, ENTITLED “CITY MANAGER,” AND IN PARTICULAR AMENDING SECTION 5.04 ENTITLED “POWERS AND DUTIES OF THE CITY MANAGER”; DELETING THE REFERENCE TO THE CITY’S BUILDING OFFICIAL IN THE CITY CHARTER AND PROVIDING FOR CONSISTENCY WITH THE BUILDING OFFICIAL POSITION AND THE POSITION OF OTHER CITY DEPARTMENT HEADS; PROVIDING FOR A NOTICE OF AN ADVERTISEMENT OF THE REFERENDUM ELECTION TO BE PUBLISHED IN ACCORDANCE WITH THE CODE OF ORDINANCES AND THE CHARTER OF THE CITY OF TAMARAC, FLORIDA, AS WELL AS THE STATE OF FLORIDA ELECTION CODE; PROVIDING THAT THIS ORDINANCE, WHEN ADOPTED, SHALL BE SUBMITTED TO THE QUALIFIED ELECTORS OF THE CITY OF TAMARAC, ON THE NOVEMBER 2016 GENERAL ELECTION BALLOT AND IT SHALL BECOME EFFECTIVE AS PROVIDED BY LAW; PROVIDING FOR THE PLACE AND PLACES WHERE SAID ELECTION IS TO BE HELD; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; PROVIDING FOR INCLUSION IN THE CODE; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Chapter 166, Florida Statutes, as amended, provides for a methodology of Charter amendments supplementary to and not in conflict with the Charter of the City of Tamarac, Florida; and

WHEREAS, Chapter 166, Florida Statutes, as amended, provides that such an amendment may be submitted to a referendum vote by the City Commission of the City of

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from existing law; words in underlined type are additions

Tamarac, Florida, in an ordinance format; and

WHEREAS, the City's Charter Review Commission has recommended modifications to Article V, "City Manager," and in particular has recommended amending Section 5.04, "Powers and Duties of the City Manager" to remove the reference to the Building Official since the Building Official position is consistent with all other department head positions in the City; and

WHEREAS, the City Commission deems the proposed amendment to the City Charter, as detailed herein, to be in the best interests of the citizens and residents of the City.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF TAMARAC, FLORIDA, THAT:

Section 1. The foregoing "WHEREAS" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Ordinance upon adoption hereof.

Section 2. Article V, entitled "City Manager," shall be revised by amending Section 5.04, entitled "Powers and Duties of the City Manager" of the Charter of the City of Tamarac, as follows:

Sec. 5.04. - Powers and duties of the city manager.

- (a) *Appointment of Department Heads and Assistant City Manager.* He shall appoint and supervise the heads of all departments and assistant city manager, if required, subject to the approval of the majority of the commission.

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from existing law; words in underlined type are additions

Section 3. The Ballot Title shall be as follows:

BUILDING OFFICIAL POSITION CONSISTENT WITH OTHER CITY
DEPARTMENT HEADS

Section 4. At the General Municipal Election on November 8, 2016, the following question shall be placed on the ballot for consideration by the qualified electors of the City of Tamarac, Florida, and shall read as follows:

The City Charter currently empowers the City Manager to hire and supervise all department heads, subject to approval of the City Commission, but separately recognizes the City's Building Official and gives the City Commission separate authority to suspend or remove said official. Shall the City Charter be revised to treat the Building Official the same as all other City department heads?

YES ☐ NO ☐

Section 5. **Advertisement.** The City Clerk of the City of Tamarac is hereby authorized and directed to advertise the referendum election contemplated herein all in accordance with the Code of Ordinances of the City of Tamarac, Florida, as well as the State of Florida Election Code.

Section 6. **Codification.** It is the intention of the City Commission of the City of Tamarac that the provisions of this Ordinance shall become and be made a part of the Code of Ordinances of the City of Tamarac, Florida, and that the Sections of this Ordinance may be renumbered, re-lettered and the word "Ordinance" may be changed to "Section," "Article," or such other word or phrase in order to accomplish such intention.

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from
existing law; words in underlined type are additions

Section 7. **Severability.** If any clause, section, or other part of this Ordinance shall be held by any court of competent jurisdiction to be unconstitutional or invalid, such unconstitutional or invalid part shall be considered as eliminated and in no way affecting the validity of the other provisions of this Ordinance.

Section 8. **Conflicts.** All Ordinances or parts of Ordinances, Resolutions, or parts of Resolutions in conflict herewith, be and the same are hereby repealed to the extent of such conflict.

Section 9. **Effective Date.** This Ordinance shall take effect immediately upon its adoption.

THE REST OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from
existing law; words in underlined type are additions

PASSED, FIRST READING this ____ day of _____, 2016.

PASSED, SECOND READING this ____ day of _____, 2016.

ATTEST: BY: _____
MAYOR HARRY DRESSLER

PATRICIA TEUFEL, CMC
CITY CLERK

RECORD OF COMMISSION VOTE: 1ST Reading

MAYOR DRESSLER	_____
DIST 1: COMM. BUSHNELL	_____
DIST 2: COMM GOMEZ	_____
DIST 3: V/M GLASSER	_____
DIST 4: COMM. PLACKO	_____

I HEREBY CERTIFY that
I have approved this
ORDINANCE as to form:

RECORD OF COMMISSION VOTE: 2ND Reading

SAMUEL S. GOREN
CITY ATTORNEY

MAYOR DRESSLER	_____
DIST 1: COMM. BUSHNELL	_____
DIST 2: COMM GOMEZ	_____
DIST 3: V/M GLASSER	_____
DIST 4: COMM. PLACKO	_____

{00009701.DOCX }

CODING: Words in ~~struck through~~ type are deletion from
existing law; words in underlined type are additions



Title - TR12761 - Award Bid 16-05B for Construction of Buffer Wall Phase I

Item No 6 (d) on the Consent Agenda. (TR12761) A Resolution of the City Commission of the City of Tamarac, Florida, awarding Bid No. 16-05B to and approving an Agreement With MBR Construction, Inc. for the construction of Citywide Buffer Wall Project Phase I, in accordance with Bid No. 16-05B for a contract amount of \$1,128,075.82; a contingency in an amount of \$112,807.58 will be added to the project account, for a total project budget of \$1,240,883.40; authorizing an expenditure from the appropriate accounts; providing for conflicts; providing for severability; and providing for an effective date. - **Public Services Director Jack Strain, Assistant Public Works Director John Doherty and Purchasing/Contracts Manager Keith Glatz**

ATTACHMENTS:

Description	Upload Date	Type
▣ TR 12761 MEMO	4/13/2016	Cover Memo
▣ TR 12761 RESO	4/13/2016	Resolution
▣ TR 12761 EXHIBIT 1	4/13/2016	Exhibit
▣ TR 12761 EXHIBIT 2	4/13/2016	Exhibit
▣ BACKUP - BID DOCUMENT	4/13/2016	Backup Material
▣ BACKUP BID DOC ADDENDUM 1	4/13/2016	Backup Material
▣ BACKUP BID DOC ADDENDUM 2	4/13/2016	Backup Material
▣ BACKUP BID DOC ADDENDUM 3	4/13/2016	Backup Material

**CITY OF TAMARAC
INTEROFFICE MEMORANDUM
PUBLIC SERVICES DEPARTMENT**

TO: Mike C. Cernech, City Manager

DATE: April 27, 2016

**THRU: Jack Strain, Public Services
Director**

FROM: Alan Lam, Project Engineer

**RE: Temp. Reso. #12761 – Award of
Bid No. 16-05B for the Citywide
Buffer Wall Project Phase I– City
Commission Meeting of April 27,
2016**

Recommendation:

I recommend the award of Bid No. 16-05B for the Citywide Buffer Wall Project Phase I in an amount not-to-exceed \$1,128,075.82. A contingency in the amount of \$112,807.58 (10% of the contract cost) will be added to the Project Account for a total project budget of \$1,240,883.40 and that this item be placed on the April 27, 2016 Commission Meeting Agenda.

Issue:

To award Bid No. 16-05B and execute an agreement with MBR Construction, Inc. for the Citywide Buffer Wall Project Phase I as identified in Bid No. 16-05B.

Background:

As part of the recently completed Major Arterial Corridor Study, it was determined that the City will move forward with the Buffer Wall component of the Study, which includes the design and construction of neighborhood buffer wall treatments for various parts of the City. The Tamarac Lakes South Buffer Wall Project is considered Phase I of this program.

This project consists of approximately 3,500 Linear Feet of a precast system buffer wall, together with associated landscaping and irrigation improvements. The design elements for this project includes, but is not limited to, concrete foundations, retaining walls, concrete columns and precast wall panels, together with associated landscaping, hardscape, irrigation and pavement marking improvements.

In addition, staff has successfully obtained easements from thirteen (13) properties within the project scope, to ensure the continuity of certain segments of the buffer wall.

The City published Bid Number 16-05B for the Citywide Buffer Wall Project Phase I on February 9, 2016. The City held a non-mandatory Pre-Bid Conference on February 24, 2016, and bid opening was held on March 8, 2016. The City received and opened two (2) proposals.

Both the Public Services Department and Financial Service Department examined the responses to this bid. A summary bid tabulation is included below.

Vendor	Amount (\$)
MBR Construction, Inc.	\$ 1,128,075.82
West Construction, Inc.	\$ 1,200,190.75

City staff determined that MBR Construction, Inc. is the lowest responsive and responsible bidder; and upon review of their proposal and background check, that MBR Construction, Inc. possesses the skills, experience, and capacity to meet the requirements for the construction of Citywide Buffer Wall Project Phase I.

Contract Summary:

Scope of Project: Citywide Buffer Wall Installation Phase I

Type of Project: Construction

Term/Completion: Substantial Completion within 240 calendar days from City's Notice to Proceed

Risk Mitigation: Performance and Payment Bonds @ 100% of value in effect for up to one year after completion and acceptance

Liquidated damages of \$500 per day for each day project is not completed after scheduled completion date

Fiscal Impact:

Funding for this project is included in Project Number GP14K City Wall Buffer Wall Program Phase I with an amount of \$1,939,677.00 available for construction in the Corridor Improvement Fund.

Per Bid 16-05B, the contract amount not to exceed \$1,128,075.82, a contingency in the amount of \$112,807.58 (10% of the contract cost) will be added to the project account, for a total project budget of \$1,240,883.40. Although no significant issues are anticipated, the contingency is reasonable considering the nature of the project. The construction may result in work beyond the original scope and the contingency would allow for the timely and safe conclusion of the project. Expenditure of the contingency would still require approval of the City Manager.

CITY OF TAMARAC, FLORIDA

RESOLUTION NO. R-2016_____

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF TAMARAC, FLORIDA, AWARDED BID NO. 16-05B TO AND APPROVING AN AGREEMENT WITH MBR CONSTRUCTION, INC. FOR THE CONSTRUCTION OF CITYWIDE BUFFER WALL PROJECT PHASE I, IN ACCORDANCE WITH BID NO. 16-05B FOR A CONTRACT AMOUNT OF \$1,128,075.82; A CONTINGENCY IN AN AMOUNT OF \$112,807.58 WILL BE ADDED TO THE PROJECT ACCOUNT, FOR A TOTAL PROJECT BUDGET OF \$1,240,883.40; AUTHORIZING AN EXPENDITURE FROM THE APPROPRIATE ACCOUNTS; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, as part of the recently completed Major Arterial Corridor Study, it was determined that the City will move forward with the Buffer Wall component of the Study, which includes the design and construction of neighborhood buffer wall treatments for various parts of the City; and

WHEREAS, the Tamarac Lakes South Buffer Wall Project is considered Phase I of this program; and

WHEREAS, the project location is generally located on the south side of Commercial Boulevard between NW 25th Terrace and NW 31st Avenue, and

WHEREAS, the Tamarac Lakes South Buffer Wall Project Phase I consists of approximately 3,500 Linear Feet of a precast system buffer wall, together with associated landscaping and irrigation improvements, and

WHEREAS, the construction element for Bid No. 16-05B includes, but is not limited to, concrete foundations, retaining walls, concrete columns and precast wall

panels, together with associated landscaping, hardscape, irrigation and pavement marking improvements.

WHEREAS, the City of Tamarac publicly advertised Bid No. 16-05B Citywide Buffer Wall Project Phase I on February 9, 2016, incorporated herein by reference and on file in the office of the City Clerk; and

WHEREAS, on March 8th, 2016, the City of Tamarac received two (2) proposals for the Citywide Buffer Wall Project Phase I, a bid tabulation is hereto attached as "Exhibit 1"; and

WHEREAS, staff determined the lowest responsive and responsible bidder to be MBR Construction, Inc.; and

WHEREAS, MBR Construction, Inc. possesses the required knowledge and experience to construct Citywide Buffer Wall Project Phase I and has agreed to the Terms and Conditions, Special Conditions, and Technical Specifications of Bid No. 16-05B; and

WHEREAS, available funds for the balance of said buffer wall installation exist in the Corridor Improvement Fund; and

WHEREAS, it is the recommendation of the Public Services Director and Purchasing and Contracts Manager that the appropriate City officials award Bid No. 16-05B and execute the Agreement with MBR Construction, Inc. for the Citywide Buffer Wall Project Phase I along south side of Commercial Boulevard, between NW 25th Terrace and NW 31st Avenue as "Exhibit #2"; incorporated herein and made a specific part of this resolution; and

WHEREAS, the City Commission of the City of Tamarac, Florida deems it to be

in the best interest of the citizens and residents of the City of Tamarac to award Bid No. 16-05B and execute the agreement for the Citywide Buffer Wall Project Phase I with MBR Construction, Inc. for a contract cost of \$1,128,075.82 and a contingency in the amount of \$112,807.58, for a total project budget of \$1,240,883.40.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF TAMARAC, FLORIDA THAT:

SECTION 1: The foregoing "WHEREAS" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof. All Exhibits attached hereto are incorporated herein and made a specific part of this Resolution.

SECTION 2: The City Commission HEREBY awards Bid No. 16-05B to MBR Construction, Inc. and approves an Agreement between the City of Tamarac and MBR Construction, Inc. ("The Agreement") and the appropriate City officials are hereby authorized to execute the Agreement, hereto attached as "Exhibit 2", to provide for the Citywide Buffer Wall Project Phase I.

SECTION 3: An expenditure for a contract cost of \$1,128,075.82 and a contingency in the amount of \$112,807.58, for a total project budget of \$1,240,883.40 for said purpose is hereby approved.

SECTION 4: Funding for the Citywide Buffer Wall Project Phase I for a contract cost of \$1,128,075.82 and a contingency in the amount of \$112,807.58, for a total project budget of \$1,240,883.40 is available in Project Number GP14K in the

Corridor Improvement Fund.

SECTION 5: The City Manager or his designee is hereby authorized to approve and initiate Change Orders in amounts not to exceed \$65,000.00 per Section 6-147 of the City Code, and close the contract award, which includes but is not limited to, making final payment and releasing bonds per Section 6-149 of the City Code, when the work has been successfully completed within the terms, conditions and pricing of the agreement.

SECTION 6: All Resolutions or parts of Resolutions in conflict herewith are hereby repealed to the extent of such conflict.

SECTION 7: If any clause, section, other part or application of this Resolution is held by any court of competent jurisdiction to be unconstitutional or invalid, in part or application, it shall not affect the validity of the remaining portions or applications of this Resolution.

SECTION 8: This Resolution shall become effective immediately upon its passage and adoption.

PASSED, ADOPTED AND APPROVED this _____ day of _____ 2016.

HARRY DRESSLER
MAYOR

ATTEST:

PATRICIA A. TEUFEL, CMC
CITY CLERK

I HEREBY CERTIFY that I have
approved this RESOLUTION as to form.

SAMUEL S. GOREN
CITY ATTORNEY

EVALUATION**Bid No. 16-05 B****Citywide Buffer Wall Installation - Phase I**

Bid Opening Date: March 8, 2016 @ 3:00 P.M.

BIDDER	Bidder's Qualification Statement Non-Collusive Affidavitt Bid Form	Bidder's Qualification Statement Non-Collusive Affidavitt Bid Form	Drug-Free Workplace Form References	Subcontractor List	Certified Resolution	Proof of Insurance Bid Bond	Trench Safety Form Licenses	Addendum No. 1, 2 and 3	Total Base Bid
MBR Construction, Inc.	X	X	X	X	X	X	X	X	\$ 1,128,075.82
*West Construction, Inc.	X	X	X	X	X	X	X	X	\$ 1,200,190.75

Notes:

X = Necessary documents were submitted

NR = Not Received

N/A - Not Applicable

Bid No. 16-05 B
CITYWIDE BUFFER WALLS - PHASE I AGREEMENT
BETWEEN THE CITY OF TAMARAC
AND
MBR Construction, Inc.

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between the City of Tamarac, a municipal corporation with principal offices located at 7525 N.W. 88th Ave., Tamarac, FL 33321 (the "CITY") and MBR Construction, Inc., a ____ corporation with principal offices located at 1020 NW 51 st Street Fort Lauderdale FL 33309 (the "Contractor") to provide for the construction and installation of the Citywide Buffer Walls – Phase I.

Now therefore, in consideration of the mutual covenants hereinafter set forth, the City and Contractor agree as follows:

1) The Contract Documents

The Contract Documents consist of this Agreement, Bid Document No. 16-05 – Citywide Buffer Wall Installation – Phase I, including all conditions therein, (General Terms and Conditions, Special Conditions and/or Special Provisions), drawings, Technical Specifications, all addenda, the Contractor's bid/proposal included herein, and all modifications issued after execution of this Agreement. These contract documents form the Agreement, and all are as fully a part of the Agreement as if attached to this Agreement or repeated therein. In the event that there is a conflict between Bid No. 16-05 B as issued by the City, and the Contractor's Proposal, Bid No. 16-05 B as issued by City shall take precedence over the Contractor's Proposal. Furthermore, in the event of a conflict between this document and any other Contract Documents, this Agreement shall prevail.

2) The Work

2.1. The Contractor shall perform all work for the City required by the contract documents as set forth below:

2.1.1 Contractor shall furnish all labor, materials, and equipment necessary to complete the scope of work, as outlined in the contract documents.

2.1.2 Contractor shall supervise the work force to ensure that all workers conduct themselves and perform their work in a safe and professional manner. Contractor shall comply with all OSHA safety rules and regulations in the operation of equipment and in the performance of the work. Contractor shall at all times have a competent field supervisor on the job site to enforce these policies and procedures at the Contractor's expense.

2.1.3 Contractor shall provide the City with seventy-two (72) hours written

notice prior to the beginning of work under this Agreement and prior to any schedule change with the exception of changes caused by inclement weather.

- 2.1.4** Contractor shall comply with any and all Federal, State, and local laws and regulations now in effect, or hereinafter enacted during the term of this Agreement, which are applicable to the Contractor, its employees, agents or subcontractors, if any, with respect to the work and services described herein.

3) Insurance

- 3.1.** Contractor shall obtain at Contractor's expense all necessary insurance in such form and amount as specified in the original bid document or as required by the City's Risk and Safety Manager before beginning work under this Agreement including, but not limited to, Workers' Compensation, Commercial General Liability, Builder's Risk and all other insurance as required by the City, including Professional Liability when appropriate. Contractor shall maintain such insurance in full force and effect during the life of this Agreement. Contractor shall provide to the City's Risk and Safety Manager certificates of all insurances required under this section prior to beginning any work under this Agreement. The Contractor will ensure that all subcontractors comply with the above guidelines and will retain all necessary insurance in force throughout the term of this agreement.
- 3.2.** Contractor shall indemnify and hold the City harmless for any damages resulting from failure of the Contractor to take out and maintain such insurance. Contractor's Liability Insurance policies shall be endorsed to add the City as an additional insured. Contractor shall be responsible for payment of all deductibles and self-insurance retentions on Contractor's Liability Insurance policies. Insurance limits are outlined below:

Insurance Requirements		
Line of Business/ Coverage	Occurrence	Aggregate
	Limits	
Commercial General Liability Including: Premises/Operations Contractual Liability Personal Injury Explosion, Collapse, Underground Hazard Products/Completed Operation Broad Form Property Damage Cross Liability and Severability of Interest Clause	\$1,000,000	\$1,000,000
Automobile Liability	\$1,000,000.00	\$1,000,000.00
Workers' Compensation & Employer's Liability	Statutory	

4) Time of Commencement and Substantial Completion

- 4.1 The work to be performed under this Agreement shall be commenced after City execution of the Agreement and not later than ten (10) days after the date that Contractor receives the City's Notice to Proceed. The work shall be completed within **Two-Hundred Forty (240) Days** from issuance of City's Notice to Proceed, subject to any permitted extensions of time under the Contract Documents. For the purposes of this Agreement, completion shall mean the issuance of final payment.
- 4.2 During the pre-construction portion of the work hereunder, the parties agree to work diligently and in good faith in performing their obligations hereunder, so that all required permits for the construction portion of the work may be obtained by the City in accordance with the Schedule included in the Contract Documents. In the event that any delays in the pre-construction or construction portion of the work occur, despite the diligent efforts of the parties hereto, and such delays are the result of force majeure or are otherwise outside of the control of either party hereto, then the parties shall agree on an equitable extension of the time for substantial completion hereunder and any resulting increase in general condition costs.

5) Contract Sum

The Contract Sum for the above work is **One Million One Hundred Twenty Eight Thousand Seventy Five Dollars and Eighty Two cents (\$1,128,075.82).**

6) Payments

Payment will be made monthly for work that has been completed, inspected and properly invoiced. A retainage of ten percent (10%) will be deducted from monthly payments until 50% of the project is complete. Retainage will be reduced to five percent (5%) thereafter. Retainage monies will be released upon satisfactory completion and final inspection of the work. Invoices must bear the project name, project number, bid number and purchase order number. City has up to thirty (30) days to review, approve and pay all invoices after receipt. The Contractor shall invoice the City and provide a written request to the City to commence the one (1) year warranty period. All necessary Releases of Liens and Affidavits and approval of Final Payments shall be processed before the warranty period begins. All payments shall be governed by the Florida Prompt Payment Act, F.S., Part VII, Chapter 218.

7) Remedies

7.1 Damages: The City reserves the right to recover any ascertainable actual damages incurred as a result of the failure of the Contractor to perform in accordance with the requirements of this Agreement, or for losses sustained by the City resultant from the Contractor's failure to perform in accordance with the requirements of this Agreement.

7.2 Correction of Work: If, in the judgment of the City, work provided by the Contractor does not conform to the requirements of this Agreement, or if the work exhibits poor workmanship, the City reserves the right to require that the Contractor correct all deficiencies in the work to bring the work into conformance without additional cost to the City, and / or replace any personnel who fail to perform in accordance with

the requirements of this Agreement. The City shall be the sole judge of non-conformance and the quality of workmanship.

8) Change Orders

8.1 Without invalidating the contract, without any monetary compensation, and without notice to any surety, the City reserves and shall have the right to make increases, decreases or other changes to the work as may be considered necessary or desirable to complete the proposed construction in a satisfactory manner. The Contractor shall not start work pursuant to a change order until the change order setting forth the adjustments is approved by the City, and executed by the City and Contractor. Once the change order is so approved, the Contractor shall promptly proceed with the work. All Change Orders shall include overhead and profit, not to exceed five percent (5%) and five percent (5%) respectively.

8.2 The Contract Price constitutes the total compensation (subject to authorized adjustments, if applicable) payable to the Contractor for performing the work. All duties, responsibilities and obligations assigned to or undertaken by the Contractor shall be at Contractor's expense without change in the Contract Price or Time except as approved in writing by the City.

8.3 The Contract Price and/or Time may only be changed by a Change Order. A fully executed change order for any extra work must exist before such extra work is begun. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party promptly (but in no event later than 15 days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. The amount of the claim with supporting data shall be delivered (unless the City allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts to which the claimant is entitled as a result of the occurrence of said event. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this Paragraph.

8.4 The Contract Time may only be changed by a Change Order. A fully executed change order must exist prior to extension of the contract time.

8.5 Any claim for an extension of the Contract Time shall be based on written notice delivered by the party making the claim to the other party no later than fifteen (15) days after the occurrence of the event giving rise to the claim. Notice of the extent of the claim shall be delivered with supporting data and stating the general nature of the claim. Contractor hereby agrees to waive rights to recover any lost time or incurred costs from delays unless Contractor has given the notice and the supporting data required by this Paragraph.

8.6 Extensions of time shall be considered and will be based solely upon the effect of delays to the work as a whole. Extensions of time shall not be granted for delays to the work, unless the Contractor can clearly demonstrate that such delays did or will, in fact, delay the progress of work as a whole. Time extensions shall not be allowed for delays to parts of the work that are not on the critical path of the project schedule. Time extensions shall not be granted until all float or contingency time, at the time of delay, available to absorb specific delays and associated impacts is used.

8.7 In the event satisfactory adjustment cannot be reached by the City and the Contractor for any item requiring a change in the contract, and a change order has not been issued, the City reserves the right at its sole option to terminate the contract as it applies to these items in question and make such arrangements as the City deems necessary to complete the work. The cost of any work covered by a change order for an increase or decrease in the contract price shall be determined by mutual acceptance of a Guaranteed Maximum Price by the City and Contractor. If notice of any change in the contract or contract time is required to be given to a surety by the provisions of the bond, the giving of such notice shall be the Contractor's responsibility, and the amount of each applicable bond shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the City. Failure of the Contractor to obtain such approval from the Surety may be a basis for termination of this Contract by the City.

9) No Damages for Delays

ALL TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THE AGREEMENT. EXCEPT AS PROVIDED HEREIN, NO CLAIM FOR DAMAGES OR ANY CLAIM OTHER THAN FOR AN EXTENSION OF TIME SHALL BE MADE OR ASSERTED AGAINST THE CITY BY REASON OF ANY DELAYS. Contractor shall not be entitled to an increase in the construction cost or payment or compensation of any kind from City for direct, indirect, consequential, impact or other costs, expenses or damages including but not limited to costs of acceleration or inefficiency, arising because of delay, disruption, interference or hindrance from any cause whatsoever, whether such delay, disruption, interference be reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable; provided, however, that this provision shall not preclude recovery of damages by Contractor for hindrances or delays due solely to fraud, bad faith or active interference on the part of City or its agents. In addition, if Contractor is delayed at any time in the progress of the Work by an act or neglect of the City's employees, or separate contractors employed by the City, or by changes ordered in the Work, or by delay authorized by the City pending arbitration, then the Contract Time shall be reasonably extended by Change Order, and the Guaranteed Maximum Price shall be reasonably increased by Change Order in order to equitably increase the general conditions component of the Guaranteed Maximum Price. Furthermore, if Contractor is delayed at any time in the progress of the Work by labor disputes, fire, unusual delay in deliveries, adverse weather conditions not reasonably anticipated, unavoidable casualties or other causes beyond the Contractor's control, or by other causes which the City and Contractor agree may justify delay, then the Contract Time shall be reasonably extended by Change Order. Otherwise, Contractor shall be entitled only to extensions of the Contract Time as the sole and exclusive remedy for such resulting delay, in accordance with and to that extent specifically provided above. No extension of time shall be granted for delays resulting from normal weather conditions prevailing in the area as defined by the average of the last ten (10) years of weather data as recorded by the United States Department of Commerce, National Oceanic and Atmospheric Administration at the Fort Lauderdale Weather Station.

10) Waiver of Liens

Prior to final payment of the Contract Sum, a final waiver of lien shall be submitted by all suppliers, subcontractors, and/or Contractors who worked on the project that is the subject of this Agreement. Payment of the invoice and acceptance of such payment

by the Contractor shall release City from all claims of liability by Contractor in connection with the agreement.

11) Warranty

Contractor warrants the work against defect for a period of one (1) year from the date of final payment. In the event that defect occurs during this time, Contractor shall perform such steps as required to remedy the defects. Contractor shall be responsible for any damages caused by defect to affected area or to interior structure. The one (1) year warranty period does not begin until approval of final payment for the entire project, and the subsequent release of any Performance or Payment Bonds, which may be required by the original bid document.

12) Indemnification

12.1 The Contractor shall indemnify and hold harmless the City, its elected and appointed officials, employees, and agents from any and all claims, suits, actions, damages, liability, and expenses (including attorneys' fees) in connection with loss of life, bodily or personal injury, or property damage, including loss of use thereof, directly or indirectly caused by, resulting from, arising out of or occurring in connection with the operations of the Contractor or its officers, employees, agents, subcontractors, or independent Contractors, excepting only such loss of life, bodily or personal injury, or property damage solely attributable to the gross negligence or willful misconduct of the City or its elected or appointed officials and employees. The above provisions shall survive the termination of this Agreement and shall pertain to any occurrence during the term of this Agreement, even though the claim may be made after the termination hereof.

12.2 The City and Consultant recognize that various provisions of this Agreement, including but not limited to this Section, provide for indemnification by the Consultant and requires a specific consideration be given there for. The Parties therefore agree that the sum of Ten Dollars and 00/100 (\$10.00), receipt of which is hereby acknowledged, is the specific consideration for such indemnities, and the providing of such indemnities is deemed to be part of the specifications with respect to the services to be provided by Consultant. Furthermore, the City and Consultant understand and agree that the covenants and representations relating to this indemnification provision shall serve the term of this Agreement and continue in full force and effect as to the City's and the Consultant's responsibility to indemnify.

12.3 Nothing contained herein is intended nor shall be construed to waive City's rights and immunities under the common law or Florida Statutes 768.28, as amended from time to time

13) Non-Discrimination & Equal Opportunity Employment

During the performance of the Contract, the Contractor and its subcontractors shall not discriminate against any employee or applicant for employment because of race, color, sex including pregnancy, religion, age, national origin, marital status,

political affiliation, familial status, sexual orientation, gender identity and expression, or disability if qualified. The Contractor will take affirmative action to ensure that employees and those of its subcontractors are treated during employment, without regard to their race, color, sex including pregnancy, religion, age, national origin, marital status, political affiliation, familial status, sexual orientation, gender identity or expression, or disability if qualified. Such actions must include, but not be limited to, the following: employment, promotion; demotion or transfer; recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor and its subcontractors shall agree to post in conspicuous places, available to its employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause. The Contractor further agrees that he/she will ensure that all subcontractors, if any, will be made aware of and will comply with this nondiscrimination clause.

14) Independent Contractor

This Agreement does not create an employee/employer relationship between the Parties. It is the intent of the Parties that the Contractor is an independent contractor under this Agreement and not the City's employee for any purposes, including but not limited to, the application of the Fair Labor Standards Act minimum wage and overtime payments, Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the State Worker's Compensation Act, and the State Unemployment Insurance law. The Contractor shall retain sole and absolute discretion in the judgment of the manner and means of carrying out Contractor's activities and responsibilities hereunder provided, further that administrative procedures applicable to services rendered under this Agreement shall be those of Contractor, which policies of Contractor shall not conflict with City, State, or United States policies, rules or regulations relating to the use of Contractor's funds provided for herein. The Contractor agrees that it is a separate and independent enterprise from the City, that it had full opportunity to find other business, that it has made its own investment in its business, and that it will utilize a high level of skill necessary to perform the work. This Agreement shall not be construed as creating any joint employment relationship between the Contractor and the City and the City will not be liable for any obligation incurred by Contractor, including but not limited to unpaid minimum wages and/or overtime premiums.

15) Assignment and Subcontracting

Contractor shall not transfer or assign the performance required by this Agreement without the prior consent of the City. This Agreement, or any portion thereof, shall not be subcontracted without the prior written consent of the city.

16) Notice

Whenever either party desires or is required under this Agreement to give notice to any other party, it must be given by written notice either delivered in person, sent by U.S. Certified Mail, U.S. Express Mail, air or ground courier services, or by messenger service, as follows:

CITY

City Manager
City of Tamarac
7525 N.W. 88th Avenue
Tamarac, FL 33321

With a copy to the City Attorney at the following address:

Goren, Cherof, Doody & Ezrol, P.A.
3099 East Commercial Blvd., Suite 200
Fort Lauderdale, FL 33308

CONTRACTOR

MBR Construction. Inc.
1020 NW 51 st Street
Fort Lauderdale FL 33309
954-486-84041 954-486-9579
mboss@mbrconstruction.com

17) Termination

17.1 Termination for Convenience: This Agreement may be terminated by the City for convenience, upon seven (7) days of written notice by City to the Contractor for such termination in which event the Contractor shall be paid its compensation for services performed to termination date, including services reasonably related to termination. In the event that the Contractor abandons this Agreement or causes it to be terminated, Contractor shall indemnify the city against loss pertaining to this termination.

17.2 Default by Contractor: In addition to all other remedies available to the City, this Agreement shall be subject to cancellation by the City for cause, should the Contractor neglect or fail to perform or observe any of the terms, provisions, conditions, or requirements herein contained, if such neglect or failure shall continue for a period of thirty (30) days after receipt by Contractor of written notice of such neglect or failure.

18) Public Records

18.1 The City of Tamarac is a public agency subject to Chapter 119, Florida Statutes. The Contractor shall comply with Florida's Public Records Law. Specifically, the Contractor shall:

- 18.1.1 Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service;
- 18.1.2 Provide the public with access to such public records on the same terms and conditions that the City would provide the records and at a cost that does not exceed that provided in chapter 119, Fla. Stat., or as otherwise provided by law;
- 18.1.3 Ensure that public records that are exempt or that are confidential and exempt from public record requirements are not disclosed except as authorized by law; and
- 18.1.4 Meet all requirements for retaining public records and transfer to the City, at no cost, all public records in possession of the contractor upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt. All records stored electronically must be provided to the City in a format that is compatible with the information technology systems of the agency.

- 18.2 The failure of Contractor to comply with the provisions set forth in this Article shall constitute a Default and Breach of this Agreement and the City shall enforce the Default in accordance with the provisions set forth in Article 17 "Termination" herein.

19) Agreement Subject to Funding

This agreement shall remain in full force and effect only as long as the expenditures provided for in the Agreement have been appropriated by the City Commission of the City of Tamarac in the annual budget for each fiscal year of this Agreement, and is subject to termination based on lack of funding.

20) Venue

This Agreement shall be governed by the laws of the State of Florida as now and hereafter in force. The venue for actions arising out of this agreement is fixed in Broward County, Florida.

21) Signatory Authority

The Contractor shall provide the City with copies of requisite documentation evidencing that the signatory for Contractor has the authority to enter into this Agreement.

22) Severability; Waiver of Provisions

Any provision in this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof or affecting the validity or enforceability of such provisions in any other jurisdiction. The non-enforcement of any provision by either party shall not constitute a waiver of that


IN WITNESS WHEREOF, the parties have made and executed this Agreement on the respective dates under each signature. CITY OF TAMARAC, signing by and through its Mayor and City Manager, and CONTRACTOR, signing by and through its duly authorized to execute same.

CITY OF TAMARAC

Harry Dressler, Mayor

Date

ATTEST:

_____
Michael C. Cernech, City Manager

Patricia A. Teufel, CMC
City Clerk

Date

Approved as to form and legal sufficiency:

Date


City Attorney

Date

ATTEST:

MBR Construction, Inc.

Company Name

_____
Signature of Corporate Secretary

_____
Signature of President/Owner

Wendy Cole
Type/Print Name of Corporate Secy.

Michael Boss
Type/Print Name of President/Owner

(CORPORATE SEAL)

3-25-16
Date



CERTIFICATE OF LIABILITY INSURANCE

MBRCO-2

OP ID: N8

DATE (MM/DD/YYYY)

02/22/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Brown & Brown of Florida, Inc. 1201 W Cypress Creek Rd # 130 P.O. Box 5727 Ft. Lauderdale, FL 33310-5727 Andrew Noye, CIC, CRIS	CONTACT NAME: Andrew Noye, CIC, CRIS PHONE (A/C, No, Ext): 954-776-2222 FAX (A/C, No): 954-776-4446 E-MAIL ADDRESS: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">INSURER(S) AFFORDING COVERAGE</th> <th style="text-align: left;">NAIC #</th> </tr> <tr> <td>INSURER A: Bridgefield Employers Ins. Co+</td> <td>10701</td> </tr> <tr> <td>INSURER B: Gemini Insurance Co.+</td> <td>10833</td> </tr> <tr> <td>INSURER C: North River Insurance Company+</td> <td>21105</td> </tr> <tr> <td>INSURER D: Houston Casualty Company+</td> <td>42374</td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> <tr> <td>INSURER F:</td> <td></td> </tr> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: Bridgefield Employers Ins. Co+	10701	INSURER B: Gemini Insurance Co.+	10833	INSURER C: North River Insurance Company+	21105	INSURER D: Houston Casualty Company+	42374	INSURER E:		INSURER F:	
INSURER(S) AFFORDING COVERAGE	NAIC #														
INSURER A: Bridgefield Employers Ins. Co+	10701														
INSURER B: Gemini Insurance Co.+	10833														
INSURER C: North River Insurance Company+	21105														
INSURER D: Houston Casualty Company+	42374														
INSURER E:															
INSURER F:															
INSURED MBR Construction, Inc. Attn: Ron / Mike Boss 1020 NW 51 Street Ft. Lauderdale, FL 33309															

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVO	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			VFGP0017302016	02/22/2016	02/22/2017	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 Emp Ben. \$ 1,000,000 COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
C	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 0			5821047297	02/22/2016	02/22/2017	EACH OCCURRENCE \$ 6,000,000 AGGREGATE \$ 12,000,000 \$ PER STATUTE <input type="checkbox"/> OTH-ER <input type="checkbox"/>
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N / A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			83051338	08/05/2015	08/05/2016	E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
D	Professional Liability			HCC14636072016	02/22/2016	02/22/2017	Each Claim \$ 1,000,000 Aggregate \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

TAMACTY City of Tamarac Building Department 6011 Nob Hill Road 1st Flr Tamarac, FL 33321-6200	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
--	---

© 1988-2014 ACORD CORPORATION. All rights reserved.



CERTIFICATE OF LIABILITY INSURANCE

 DATE (MM/DD/YYYY)
02/24/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Kim S. Nava Insurance Agency, Inc. 4720 N. Federal Hwy. Ft. Lauderdale, FL 33308		CONTACT PHONE: 954-776-5220 FAX: 954-776-4527 E-MAIL: ADDRESS: PRODUCER: CUSTOMER ID #:	
INSURED MBR CONSTRUCTION, INC. 1020 NW 51 ST. FT. LAUDERDALE, FL 33309-3134		INSURER(S) AFFORDING COVERAGE INSURER A: State Farm Mutual Automobile Insurance Company INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

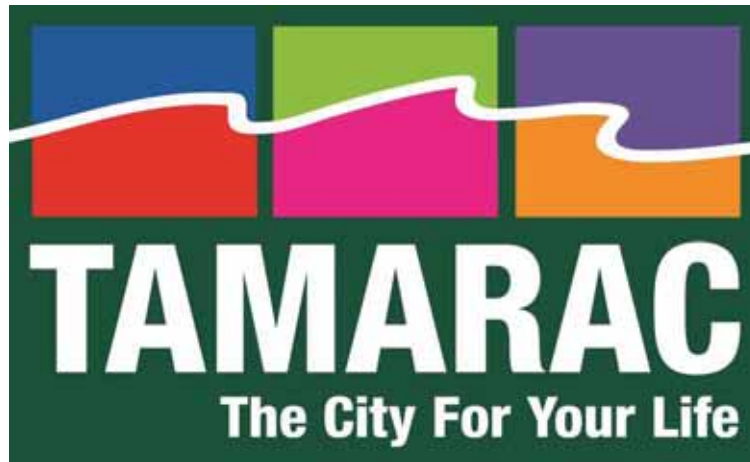
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL BORN (INSR) (W/O)	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC					EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	Y	1371923 0153151	03/04/2016 03/21/2016	08/04/2016 08/21/2016	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ \$
	UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DEDUCTIBLE \$ RETENTION \$					EACH OCCURRENCE \$ AGGREGATE \$ \$ \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y <input checked="" type="checkbox"/> N/A (Mandatory in NJ) If yes, describe under SPECIAL PROVISIONS below.					WC STATUT. TOBY UNITS <input type="checkbox"/> OTHER <input type="checkbox"/> E.L. EACH ACCIDENT \$ E.L. DISEASE - SA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER City of Tamarac Building Department 6011 Nob Hill Road 1st Flr Tamarac, FL 33321-6200	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
---	--

INVITATION TO BID



BID NO. 16-05 B

CITYWIDE BUFFER WALLS - PHASE I

Publish Date:

02/09/2016

Bid Due and Bid Opening Date:

03/08/2016 at 3:00 PM

Pre-Bid Conference:

02/24/2016 at 11:00 AM

Where to Deliver Bid

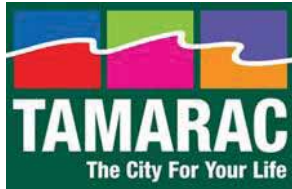
**City of Tamarac
Purchasing & Contracts Division
7525 NW 88th Avenue
Room 108
(954) 597-3570**

All Questions Due:

02/26/2016 by 5:00 PM

**City of Tamarac
Purchasing & Contracts Division
7525 NW 88th Avenue
Room 108
(954) 597-3570**

**For
Public Services Department**



SUBMIT BID TO:

CITY OF TAMARAC
PURCHASING AND CONTRACTS DIVISION
7525 NW 88TH AVENUE
TAMARAC, FL 33321
954-597-3570

INVITATION FOR BID

Bidder Acknowledgement

BID NO.: 16-05 B

BID TITLE: CITYWIDE BUFFER WALLS - PHASE I

BID OPENING DATE/TIME: 03/08/2016 AT 3:00 PM

BUYER NAME: ANDREW J. ROZWADOWSKI, SENIOR PROCUREMENT SPECIALIST

BUYER PHONE: 954-597-3570

BUYER EMAIL: ANDREW.ROZWADOWSKI@tamarac.org

PRE-BID CONFERENCE/SITE INSPECTION: 02/24/2016 AT 11 AM

BONDING: 5% Bid Bond, 100% Payment/Performance Bond Bid Pkg Cost: \$25.00

GENERAL CONDITIONS

These instructions are standard for all bids for commodities/services issued by the City of Tamarac. The City of Tamarac may delete, supersede or modify any of these standard instructions for a particular bid by indicating such change in the Instructions to Bidders or in the special conditions of the bid. Any and all special conditions that may vary from these general conditions shall prevail over any conflicting provision within any vendor's standard terms and conditions regardless of any language in vendor's documentation to the contrary.

SEALED BIDS

This form should be submitted with all Bid Forms in a sealed envelope. The face of the envelope shall contain the above address, the Bid number and the Bid title. Bids not submitted on the attached Bid Form may be deemed non-responsive. All Bids are subject to the terms and conditions specified herein. Those bids that do not comply with these conditions may be deemed non-responsive.

BIDDER COMPANY NAME: _____

COMPANY ADDRESS: _____

COMPANY PHONE: _____

NAME OF AUTHORIZED AGENT: _____

TITLE OF AUTHORIZED AGENT: _____

AUTHORIZED AGENT EMAIL ADDRESS: _____

BIDDER TAXPAYER ID OR SOCIAL SECURITY NUMBER: _____

I certify that this Bid Acknowledgement is made without prior understanding, agreement or connection with any corporation, firm or person submitting a Bid for the same commodities and/or services and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this Bid and certify that I am authorized to sign this Bid as an agent for the Bidder.



Our Vision and Mission

Our Vision: The City of Tamarac, our community of choice -- leading the nation in quality of life through safe neighborhoods, a vibrant economy, exceptional customer service and recognized excellence.

Our Mission: We Are "Committed to Excellence. . . Always" It is our job to foster and create an environment that

*Responds to the Customer
Creates and Innovates
Works as a Team
Achieves Results, and
Makes a Difference*

In the fulfillment of our vision and mission, as stewards of the public trust, we value vision, integrity, efficiency and quality service.

Our vendors are truly partners in meeting these commitments to the community, and in support of that vision and mission, we are committed to ensuring that qualified, competitive vendors who share our commitment to quality, efficiency, teamwork and customer service are employed to provide goods and services to the City. Our vendors are expected to deliver high quality products and efficient service that is provided on time and as ordered; in a manner that improves the overall value of the services that the City provides to its residents. In addition, we expect our vendors to work with the City as a team, and exhibit the highest level of integrity when dealing with any office or department of the City.

Diligence in the execution of the requirements of this proposal will ultimately contribute to the overall quality of services provided to the entire community. The City is searching for a firm who will exemplify these ideals in the execution of their work, and the successful firm will be measured against the performance standards outlined in this bid invitation.

INTRODUCTION

It is the intent of the City to award this bid to the lowest responsible and responsive Bidder. The City reserves the right to accept or reject any or all bids and to waive any informality concerning the bids when such rejection or waiver is deemed to be in the best interest of the City. The City reserves the right to award the bid on a split order basis, lump sum or individual item basis unless otherwise stated, whichever is in the best interest of the City.

This solicitation is issued pursuant to the City of Tamarac Code, Chapter 6, "Finance & Taxation", Article V, "Purchasing Procedures", Section 6-141 et seq.

GENERAL TERMS AND CONDITIONS

These general terms and conditions apply to all offers made to the City of Tamarac by all prospective Bidders including but not limited to Request for Quotes, Request for Bids and Request for Proposals. As such the words "bid" and "proposal" are used interchangeably in reference to all offers submitted by prospective Bidders. Any and all special conditions in this IFB or any sample agreement document that may be in variance or conflict with these General Terms and Conditions shall have precedence over these General Terms and Conditions. If no changes or deletions to General Conditions are made in the Special Conditions, then the General Terms and Conditions shall prevail in their entirety.

1. SUBMISSION OF THE BID

The Bidder is directed to deliver sealed bids to the City of Tamarac, Purchasing Division, 7525 N. W. 88th Avenue, Room 108, Tamarac, Florida 33321, no later than the date and time specified on the cover page of this solicitation document. At this time the bids will be opened, the names of all Bidders will be announced and all bids shall become a matter of public record. All Bidders and their representatives are invited to attend. The Bidder must show the bid number, bid name, time and date of the bid opening on the outside of the sealed bid package. Delivery of the sealed bids to the Purchasing Office on or before the above date is solely and strictly the responsibility of the Bidder. Late bids will be returned unopened to the Bidder.

It is the Bidder's responsibility to read and understand the requirements of this bid. Unless otherwise specified, the Bidder must use the bid form furnished in the bid document. The Bidder is requested to submit **one (1) original and two (2) copies** of the bid. **The original bid must be manually and duly signed in ink by a Corporate Officer, Principal, or Partner with the authority to bind the bidding company or firm by his/her signature.** All bid forms must be typewritten or completed in ink. The Bidder must initial any erasures or corrections in ink. All bids shall be submitted in the English language. All prices, terms and conditions quoted in the submitted bid shall be expressed in U.S. Dollars, and will be firm for acceptance for sixty (60) calendar days from the date of the bid opening unless otherwise stated by the City.

The Bidder preparing a bid in response to this solicitation shall bear all expenses associated with its preparation. The Bidder shall prepare a bid with the understanding that no claim for reimbursement shall be submitted to the City for expenses related to its preparation.

The City reserves the right to charge a non-refundable fee for the purchase of a solicitation document, and / or for project plans related to the solicitation. Such requirement will be specified on the cover page of this document. Payment of such fee to the City shall be required in order for a bidder to be considered for the award of an agreement as a result of this solicitation.

2. BID DEPOSIT

When required on the cover page, a bid deposit or bid surety bond in the amount specified shall accompany the bid. Bid deposits shall be in the form of cash, certified check or cashier's check, drawn on a responsible bank doing business in the United States, and shall be made payable to the City of Tamarac. In lieu of a bid deposit, a bid surety provided by a firm licensed to business in the State of Florida shall be provided to the City. Any bid deposits will be returned to the Bidders at the time of contract award. The bid deposit of the successful vendor shall be returned upon receipt of acceptable Performance and/or Payment bonds.

3. BONDING

When required by the specification herein, the successful Bidder shall furnish a Performance and Payment bond, and/or Warranty bond, as stated on the cover page of this solicitation, on the City's forms, within fifteen (15) calendar days after notification of contract award. Failure to furnish

the required bonds within the time specified may be cause for rejection of the bid and any bid deposit may be retained by the City as liquidated damages and not as a penalty. Said sum shall be a fair estimate of the amount of damages the City would sustain due to Bidder's failure to furnish said bonds.

Pursuant to the requirements of Chapter 255.05 (1) (b), Florida Statutes, the Contractor shall ensure that the Bond or Bonds referenced above shall be recorded in the Public records of Broward County. Proof of recording must be submitted to the City prior to issuance of a purchase order. One (1) set of originals is required.

4. WITHDRAWAL OF BID

Any Bidder may withdraw its bid prior to the indicated opening time. The request for withdrawal must be submitted in writing to the Purchasing Office.

5. PUBLIC ENTITY CRIMES STATEMENT

A person or affiliate who has been placed on the convicted vendor list following a conviction for public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for Category Two for a period of 36 months from the date of being placed on the convicted vendor list.

6. NON-COLLUSIVE AFFIDAVIT

Each Contractor shall complete the Non-Collusive Affidavit Form and shall submit this form with the bid/proposal. The City considers the failure of the Contractor to submit this document to be a major irregularity, and may be cause for rejection of the Proposal.

7. CONFLICT OF INTEREST

The award hereunder is subject to the provisions of Chapter 112 of the State of Florida Statutes. Bidders shall disclose the name of any officer, director, partner, proprietor, associate or agent who is also a public officer or employee of the City or any of its agencies.

8. QUANTITIES

Quantities shown are estimates only. No guarantee or warranty is given or implied by the City as to the total amount that may or may not be purchased from any resulting contract. The City reserves the right to decrease or increase quantities or add or delete any item from the contract if it is determined that it best serves the interests of the City.

9. PRICES, PAYMENTS, DISCOUNTS & ELECTRONIC PAYMENTS

Firm Pricing: Bid prices shall be fixed and firm to the extent required under Special Conditions. In the absence of a reference in the Special Conditions, bid prices shall be fixed and firm for a period of sixty (60) calendar days, or ninety (90) calendar days when the contract must be approved by another agency. Payment will be made only after receipt and acceptance of materials/services. Cash discounts may be offered for prompt payment; however, such discounts shall not be considered in determining the lowest net cost for bid evaluation.

Prompt Payment Discounts: Bidders are encouraged to provide prompt payment terms in the space provided on the Bid Form. If no payment discount is offered, the Bidder shall enter zero (0) for the percentage discount to indicate net 30 days. If the Bidder does not enter a percentage discount, it is understood and agreed that the payment terms shall be 2% 10 days, net 30 days effective on the date that the City receives an accurate invoice or accepts the product, whichever is the later date. Payment is deemed made on the date of the mailing of the check. All payments shall be governed by the *Local Government Prompt Payment Act*, F.S. Chapter 218.

***** **IMPORTANT NOTE*******

Payments by Electronic Funds Transfer: Effective October 1, 2013, ALL payments by the City will be made by Direct Deposit (ACH) via electronic funds transfer. No paper checks will be issued after that date. Vendors must register for direct deposit with the City prior to receiving any payments by providing a "City of Tamarac Consent for Direct Deposit" form (ACH Form) to the City's Financial Services Accounting Division. The form may be accessed on the City of Tamarac web-site at <http://www.tamarac.org/index.aspx?NID=622>. Please contact the Purchasing & Contracts Division at the number shown on this solicitation document herein as the first point of contact for more information.

10. DELIVERY

All items shall be delivered F.O.B. destination to a specific City address. All delivery costs and charges must be included in the bid price. The City reserves the right to cancel orders or any part thereof, without obligation if delivery is not made at the time specified in the bid.

11. MANUFACTURER'S NAME & APPROVED EQUIVALENTS

Manufacturer's name, trade name, brand name information and/or model/catalog numbers are used in these specifications for information and establishment of a quality level desired, and are not intended to restrict competition unless otherwise specified in the bid. The Bidder may offer any brand which meets or exceeds the specifications for any item(s). If bids are based on equivalent products, indicate on the bid form the manufacturer's name and model/catalog number. Bidder shall submit complete descriptive literature and/or specifications with the bid. The burden of proof for specification compliance is solely on the Bidder. The City reserves the right to be the sole judge of what is equal and acceptable. Failure to provide this information within three (3) business days of the City's request may be grounds for bid disqualification. If Bidder fails to name a substitute, it will be assumed that the Bidder has submitted a bid which conforms in all aspects to the requirements of the bid document, and that the Bidder intends to furnish goods identical to the bid standard.

12. SAMPLES AND DEMONSTRATIONS

When requested, samples are to be furnished free of charge to the City. If a sample is requested it must be delivered within seven days of the request unless otherwise stated in the bid. Each sample must be marked with the Bidder's name and manufacture's brand name. The City will not be responsible for returning samples. The City may

request a full demonstration of any product or service before the award of a contract. All demonstrations will be done at the expense of the Bidder.

13. BACKGROUND INVESTIGATION

As a part of the Bid evaluation process, the City may conduct a background investigation including a criminal record check of Bidder's officers and/or employees, by the Broward County Sheriff's Office. Bidder's submission of a bid constitutes acknowledgement of and consent to such investigation. City shall be the sole judge in determining Bidder's qualifications.

14. CONDITIONS OF MATERIALS

All materials and products supplied by the Bidder in conjunction with this bid shall be new, warranted for their merchantability, fit for a particular purpose, free from defects and consistent with industry standards. The products shall be delivered to the City in excellent condition. In the event that any of the products supplied to the City are found to be defective or do not conform to the specifications, the City reserves the right to return the product to the Bidder at no cost to the City.

Successful Bidder shall furnish all guarantees and warranties to the Purchasing Division prior to final acceptance and payment. The warranty period shall commence upon final acceptance of the product.

15. COPYRIGHTS OR PATENT RIGHTS

The Bidder warrants that there has been no violation of copyrights or patent rights in manufacturing, producing or selling the goods shipped or ordered as a result of this bid. The seller agrees to hold the City harmless from all liability, loss or expense occasioned by any such violation.

16. SAFETY STANDARDS

The Bidder warrants that the product(s) supplied to the City conform with all respects to the standards set forth in the Occupational Safety and Health Act of 1970 as amended, and shall be in compliance with Chapter 442, Florida Statutes as well as any industry standards, if applicable. Any toxic substance listed in Section 38F-41.03 of the Florida Administrative Code delivered as a result of this order must be accompanied by a completed Material Safety Data Sheet (MSDS).

17. PERFORMANCE & WARRANTY

Failure on the part of the Bidder to comply with the conditions, terms, specifications and requirements of the bid shall be just cause for cancellation of the bid award; notwithstanding any additional requirements enumerated in the Special conditions herein relating to performance based contracting. The City may, by written notice to the Bidder, terminate the contract for failure to perform. The date of termination shall be stated in the notice. The City shall be the sole judge of nonperformance.

Upon award of any contract resultant from this solicitation, Contractor warrants the work against defects. In the event that defect occurs during this time, within a reasonable time after work has been performed, Contractor shall perform such steps as required to remedy the defects.

18. INSPECTION

The City shall have the right to inspect any materials, components, equipment, supplies, services or completed work specified herein. Any of said items not complying with these specifications are subject to rejection at the option of the City. Any items rejected shall be removed from the premises of the

City and/or replaced at the entire expense of the successful vendor.

19. TERMINATION

a. DEFAULT: In addition to all other remedies available to the City, this Agreement shall be subject to cancellation by the City for cause, should the Contractor neglect or fail to perform or observe any of the terms, provisions, conditions, or requirements herein contained, if such neglect or failure shall continue for a period of thirty (30) days after receipt by Contractor of written notice of such neglect or failure.

b. TERMINATION FOR CONVENIENCE OF CITY:

Notwithstanding any additional requirements for performance based contracting contained in the special conditions herein, the final Agreement may be terminated by the City for convenience, upon seven (7) days of written notice by the City to the Contractor for such termination in which event the Contractor shall be paid its compensation for services performed to termination date, including services reasonably related to termination. In the event that the Contractor abandons this Agreement or causes it to be terminated, Contractor shall indemnify the city against loss pertaining to this termination.

c. AGREEMENT SUBJECT TO FUNDING: Any Agreement resulting from this solicitation shall remain in full force and effect only as long as the expenditures provided for in the Agreement have been appropriated by the City Commission of the City of Tamarac in the annual budget for each.

20. ASSIGNMENT

The Bidder shall not transfer or assign the performance required by this bid without the prior written consent of the City. Any award issued pursuant to this bid and monies that may become due hereunder are not assignable except with prior written approval of the City.

21. EMPLOYEES

Employees of the Bidder shall at all times be under its sole direction and not an employee or agent of the City. The Bidder shall supply competent and physically capable employees. The City may require the Bidder to remove an employee it deems careless, incompetent, insubordinate or otherwise objectionable. Bidder shall be responsible to the City for the acts and omissions of all employees working under its directions.

22. NON-DISCRIMINATION & EQUAL OPPORTUNITY EMPLOYMENT

During the performance of the Contract, the Contractor and its subcontractors shall not discriminate against any employee or applicant for employment because of race, color, sex including pregnancy, religion, age, national origin, marital status, political affiliation, familial status, sexual orientation, gender identity and expression, or disability if qualified. The Contractor will take affirmative action to ensure that employees and those of its subcontractors are treated during employment, without regard to their race, color, sex including pregnancy, religion, age, national origin, marital status, political affiliation, familial status, sexual orientation, gender identity or expression, or disability if qualified. Such actions must include, but not be limited to, the following: employment, promotion; demotion or transfer; recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and



selection for training, including apprenticeship. The Contractor and its subcontractors shall agree to post in conspicuous places, available to its employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause. The Contractor further agrees that he/she will ensure that all subcontractors, if any, will be made aware of and will comply with this nondiscrimination clause.

23. TAXES

The City of Tamarac is exempt from all Federal, State, and Local taxes. An exemption certificate will be provided where applicable upon request.

24. OMISSION OF DETAILS

Omission of any essential details from these specifications will not relieve the Bidder of supplying such product(s) as specified.

25. INSURANCE REQUIREMENTS

Bidder agrees to, in the performance of work and services under this Agreement, comply with all federal, state, and local laws and regulations now in effect, or hereinafter enacted during the term of this agreement that are applicable to Contractor, its employees, agents, or subcontractors, if any, with respect to the work and services described herein.

Bidder shall obtain at Bidder's expense all necessary insurance in such form and amount as required by the City's Risk & Safety Officer before beginning work under this Agreement. Bidder shall maintain such insurance in full force and effect during the life of this Agreement. Bidder shall provide to the City's Risk & Safety Officer certificates of all insurance required under this section prior to beginning any work under this Agreement. Bidder shall indemnify and save the City harmless from any damage resulting to it for failure of either Bidder or any subcontractor to obtain or maintain such insurance.

The following are required types and minimum limits of insurance coverage, which the Bidder agrees to maintain during the term of this contract:

Line of Business/ Coverage	Limits	
	Occurrence	Aggregate
Commercial General Liability	\$1,000,000	\$1,000,000
Including:		
Premises/Operations		
Contractual Liability		
Personal Injury		
Explosion, Collapse, Underground Hazard		
Products/Completed Operations		
Broad Form Property Damage		
Cross Liability and Severability of Interest Clause		
Automobile Liability	\$1,000,000	\$1,000,000
Workers' Compensation & Employer's Liability	Statutory	

The City reserves the right to require higher limits depending upon the scope of work under this Agreement. Neither Bidder nor any subcontractor shall commence work under this contract until they have obtained all insurance required under this section and have supplied the City with evidence of such coverage in the form of an insurance

certificate and endorsement. The Bidder will ensure that all subcontractors will comply with the above guidelines and will maintain the necessary coverage throughout the term of this Agreement.

All insurance carriers shall be rated at least A-VII per A.M. Best's Key Rating Guide and be licensed to do business in Florida. Policies shall be "Occurrence" form. Each carrier will give the City sixty (60) days notice prior to cancellation.

The Bidder's liability insurance policies shall be endorsed to add the City of Tamarac as an "additional insured". The Bidder's Worker's Compensation carrier will provide a Waiver of Subrogation to the City. The Bidder shall be responsible for the payment of all deductibles and self-insured retentions.

The City may require that the Bidder purchase a bond to cover the full amount of the deductible or self-insured retention. If the Bidder is to provide professional services under this Agreement, the Bidder must provide the City with evidence of Professional Liability insurance with, at a minimum, a limit of \$1,000,000 per occurrence and in the aggregate. "Claims-Made" forms are acceptable for Professional Liability insurance.

26. INDEMNIFICATION

The Bidder shall indemnify and hold harmless the City of Tamarac, its elected and appointed officials and employees from any and all claims, suits, actions, damages, liability, and expenses (including attorneys' fees) in connection with loss of life, bodily or personal injury, or property damage, including loss of use thereof, directly or indirectly caused by, resulting from, arising out of or occurring in connection with the operations of the Bidder or his Subcontractors, agents, officers, employees or independent contractors, excepting only such loss of life, bodily or personal injury, or property damage solely attributable to the gross negligence or willful misconduct of the City of Tamarac or its elected or appointed officials and employees. City reserves the right to select its own legal counsel to conduct any defense in any such proceeding and all costs and fees associated therewith shall be the responsibility of Contractor under the indemnification agreement.

27. INDEPENDENT CONTRACTOR

An Agreement resulting from this solicitation does not create an employee/employer relationship between the Parties. It is the intent of the Parties that the Contractor is an independent contractor under this Agreement and not the City's employee for any purposes, including but not limited to, the application of the Fair Labor Standards Act minimum wage and overtime payments, Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the State Worker's Compensation Act, and the State Unemployment Insurance law. The Contractor shall retain sole and absolute discretion in the judgment of the manner and means of carrying out Contractor's activities and responsibilities hereunder provided, further that administrative procedures applicable to services rendered under any potential Agreement shall be those of Contractor, which policies of Contractor shall not conflict with City, State, or United States policies, rules or regulations relating to the use of Contractor's funds provided for herein. The Contractor agrees that it is a separate and independent enterprise from the City, that it

had full opportunity to find other business, that it has made its own investment in its business, and that it will utilize a high level of skill necessary to perform the work. Any potential Agreement shall not be construed as creating any joint employment relationship between the Contractor and the City and the City will not be liable for any obligation incurred by Contractor, including but not limited to unpaid minimum wages and/or overtime premiums.

28. CLARIFICATION & ADDENDA

Where there appears to be variances or conflicts between the General Terms and Conditions and the Special Conditions and/or Detailed Specifications outlined in this bid, the Special Conditions and/or the Detailed Specifications shall prevail.

The Bidder shall examine all bid documents and shall judge all matters relating to the adequacy and accuracy of such documents. If, upon review, any material errors in specifications are found, the Bidder shall contact the Purchasing Office immediately. Any inquires, suggestions, requests concerning clarification, or requests for additional information shall be submitted in writing to the Purchasing and Contracts Manager.

The City of Tamarac reserves the right to amend this bid prior to the Bid opening date indicated by written addenda. Written addenda shall serve as the sole means of clarification. The City shall not be responsible for oral interpretations given by any City employee or its representative.

**** **SPECIAL NOTE -- Addendums will only be issued electronically through the City's web-site. Vendors will be notified of the availability of new solicitations and addendums via e-mail or text message (per the vendor's choice). It is essential that all vendors receiving a bid or proposal either download the document from the City's web-site, or register as a plan holder. All bidders / proposers must visit <http://www.tamarac.org/bids.aspx>, and select the "NOTIFY ME" icon. This action will take the bidder/proposer to the "Notify Me" page. Once on the "Notify Me" page, enter the appropriate e-mail address to which notifications of solicitations and addendums should be sent. Bidders and proposers may also request notification by text message at this time. Upon completion of this process, a confirming e-mail will be sent to the individual who registered. You must click on the link provided to confirm registration for solicitation documents and addendums. Regardless of the means of transmission of an Addendum it is the responsibility of the bidder or proposer to insure that they have received all addendums issued for a solicitation prior to submitting a response.** ****

29. BID TABULATION

Bidders may download the bid tabulation directly from the Internet at <http://www.tamarac.org/bids.aspx>. The City does not notify unsuccessful Bidders of contract awards.

Pursuant to Florida Statute Chapter 119, Section 071(1), sealed bids or proposals received by an agency pursuant to invitations to bid or requests for proposals are exempt from the provisions of subsection (1) and s. 24(a), Art. I of the State Constitution until such time as the agency provides notice of a decision or intended decision pursuant to F.S. §119.071(1) (b) (2), or within 30 days after bid/proposal opening, whichever is earlier.

30. RECORDS/AUDITS

The City of Tamarac is a public agency subject to Chapter 119, Florida Statutes. The Contractor shall comply with

Florida's Public Records Law. Specifically, the Contractor shall:

Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service;

Provide the public with access to such public records on the same terms and conditions that the City would provide the records and at a cost that does not exceed that provided in chapter 119, Fla. Stat., or as otherwise provided by law;

Ensure that public records that are exempt or that are confidential and exempt from public record requirements are not disclosed except as authorized by law; and

Meet all requirements for retaining public records and transfer to the City, at no cost, all public records in possession of the contractor upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt. All records stored electronically must be provided to the City in a format that is compatible with the information technology systems of the agency.

The failure of Contractor to comply with the provisions set forth in this Article shall constitute a Default and Breach of this Agreement and the City shall enforce any available contract remedies in force including termination of the Agreement.

During the term of the contract, the Contractor shall maintain all books, reports and records in accordance with generally accepted accounting practices and standards for records directly related to this contract. The form of all records and reports shall be subject to the approval of the City's Auditor. The Contractor agrees to make available to the City's Auditor, during normal business hours and in Broward, Dade or Palm Beach Counties, all books of account, reports and records relating to this contract.

31. UNBALANCED BIDS

When a unit price bid has variable or estimated quantities, and the bid shows evidence of unbalanced bid pricing, such bid may be rejected.

32. UNIT PRICES

Where a discrepancy between unit price and total price is indicated on a Bidder's submitted Schedule of Bid Prices or Price Proposal Form, the unit prices shall prevail.

33. VENUE

Any Agreement resulting from this solicitation shall be governed by the laws of the State of Florida as now and hereafter in force. The venue for actions arising out of this agreement is fixed in Broward County, Florida.

34. FORM AGREEMENT DOCUMENT

The City may attach as a part of this solicitation, a Form Agreement document. Bidders shall be responsible for complying with all of the terms and conditions of the Form Agreement document if included herein, except where variant or conflicting language may be included in any Special Conditions contained herein. Bidders shall note



any deviation or variance with the Form Agreement document at the time of bid submission.

35. OTHER GOVERNMENTAL ENTITIES

If a Bidder is awarded a contract as a result of this Invitation for Bid, Bidder will, if Bidder has sufficient capacity, capability or quantities available to provide to other governmental agencies, so requesting, the products or services awarded in accordance with the terms and conditions of the Invitation for Bid and resulting contract. Prices shall be F.O.B. Destination to the requesting agency.

**INVITATION TO BID
BID NO. 16-05 B
CITYWIDE BUFFER WALLS – PHASE I**

Sealed bids, addressed to the Senior Procurement Specialist of the City of Tamarac, Broward County, Florida, Andrew J. Rozwadowski will be received in the Purchasing Office, Room 108, 7525 NW 88th Avenue, Tamarac, Florida 33321-2401 until 3:00 p.m. local time on **March 8, 2016** at which time bids will be publicly opened and announced for the **CITYWIDE BUFFER WALLS – PHASE I**.

All bids received after the date and time stated above will be returned unopened to the Bidder. All Bidders are invited to attend the opening.

Submit one (1) original document, marked “Original” on its exterior and two (2) copies, prior to the bid opening deadline as well as a PDF copy on a USB Flash Drive or CD. Late bids will not be accepted. Bids shall be submitted on the official Bid Forms furnished with this bid package; and those submitted otherwise will not be considered responsive. The submittal should be plainly marked “City of Tamarac, Bid No. 16-05 B – “Citywide Buffer Wall Installation – Phase I” on the outside of the envelope.

Bid Security: Each bid shall be accompanied by a certified or cashier’s check or Bid Bond in the amount not less than 5% of the total bid price payable to the City of Tamarac as guarantee that the Bidder, if its Bid is accepted, will promptly execute the Agreement.

A Pre-Bid Conference will be held on February 24, 2016 at 11:00 AM, located at 7525 NW 88th Avenue, Tamarac, Florida 33321, Room 204 All parties interested in bidding on this project should attend this meeting. The work to be performed consists of furnishing all labor, materials, tools, and equipment necessary, as indicated in the, project design plans, Bid No. 16-05B Documents, and Technical Specifications herein, for City of Tamarac Buffer Walls – Phase I Project.

The City reserves the right to accept or reject any or all bids, or any part of any bid, to waive any informalities, and to award in the best interest of the City of Tamarac. Bid documents will be available for review and purchase for \$25.00 per set in the Purchasing Office, Room 108. This fee is payable by cash or check made out to the City of Tamarac. For inquiries regarding the bid, contact the Purchasing Office at (954) 597-3570. Any technical issues shall be submitted in writing, at fax number (954) 597-3565, or via email to Andrew.Rozwadowski@tamarac.org. Be sure to include the Project Name and Bid Number on all correspondence.

Andrew J. Rozwadowski, Senior Procurement Specialist

Publish Sun Sentinel: Tuesday, February 9, 2016

TABLE OF CONTENTS
Bid No. 16-05 B
CITYWIDE BUFFER WALLS – PHASE I

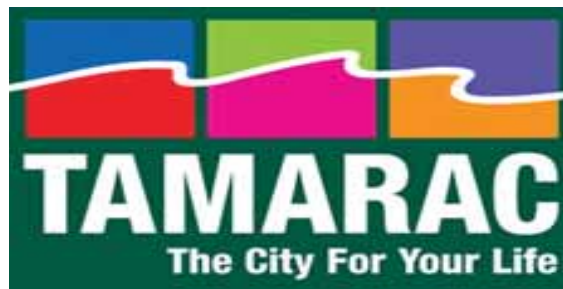
General Terms and Conditions.....	2
Technical Specifications	10
Drawings	233
Instructions to Bidders.....	281
Special Conditions.....	283
Special Provisions	290
Bid Coversheet Checklist	312
Bid Form and Schedule of Bid Prices.....	Pages SCH: 1-6 313
Non-Collusive Affidavit	319
Certification Form	321
Bidder's Qualification Statement	322
Reference Form	324
Vendor Drug-Free Workplace Form	325
List of Subcontractors Form	326
Certified Resolution Form.....	327
Trench Safety Form.....	328
Bid Bond Form	329
Form Payment Bond	331
Form Performance Bond	335
Application for Payment Form	340
Change Order Form	341
Final Release of Lien by Contractor Form.....	342
Sample Form of Agreement	344

CITY OF TAMARAC
TECHNICAL SPECIFICATIONS

FOR

Citywide Buffer Walls Project – Phase I
Between NW 31st Ave to NW 25th Terrace

Bid Set



February, 2016

Prepared by:



Stantec Consulting Services, Inc.
800 Fairway Drive, Suite 195
Deerfield Beach, FL 33441
Tel. (954)481-2812 / Fax (954)841-2818
Stantec Project No.: 215612421

TABLE OF CONTENTS

SECTION

01010	SUMMARY OF WORK
01015	GENERAL REQUIREMENTS
01025	MEASUREMENT & PAYMENT
01039	COORDINATION & MEETINGS
01045	CUTTING AND PATCHING
01050	FIELD ENGINEERING
01070	APPLICABLE STANDARD AND CODES
01310	CONSTRUCTION SCHEDULES
01340	SUBMITTALS AND SUBSTITUTIONS
01370	SCHEDULE OF VALUES
01505	CONTROL OF WORK
01510	TEMPORARY UTILITIES
01511	PROTECTION OF EXISTING FACILITIES
01520	CONSTRUCTION AIDS
01530	BARRIERS
01560	TEMPORARY CONTROLS
01570	TRAFFIC REGULATION
01580	PROJECT IDENTIFICATION SIGN
01600	MATERIALS AND EQUIPMENT
01700	PROJECT CLOSE OUT
01720	PROJECT RECORD DOCUMENTS
02010	SUBSURFACE INVESTIGATION
02050	DEMOLITION
02100	SITE PREPARATION
02220	STRUCTURAL EXCAVATION, BACKFILL & COMPACTION
02276	TEMPORARY EROSION AND SEDIMENTATION CONTROL
02300	EARTHWORK
02480	LANDSCAPE WORK
02485	LANDSCAPE SODDING
02510	WALKWAYS
02520	CONCRETE CURBS AND HEADERS

02810	IRRIGATION SYSTEM
02817	CLEARING & GRUBBING
03200	CONCRETE REINFORCEMENT
03300	CAST-IN PLACE CONCRETE
03315	GROUT
03350	CONCRETE FINISH
03400	REINFORCED CONCRETE WALL
03410	PRECAST CONCRETE WALL
03480	PRECAST CONCRETE SPECIALTIES
09900	PAINTING

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.01 LOCATION OF WORK

- A. Work is located in the City of Tamarac along the south side of Commercial Boulevard between NW 31st Ave and NW 25th Terrace

1.02 WORK TO BE PERFORMED

- A. The Work to be performed under this Contract shall consist of providing equipment, materials, supplies, and manufactured articles; and for furnishing transportation and services, including fuel, power, water, and essential communications; and for the performance of labor, work, or other operations in strict accordance with the Contract Documents.
- B. Wherever the Contract Documents address a third party, i.e., subcontractor, manufacturer, vendor, etc., it is to be considered as the Contractor through the third party.
- C. Wherever a reference to number of days is noted, it shall mean calendar days.

1.03 GENERAL DESCRIPTION OF CONTRACT

- A. Constructing Precast Concrete Buffer Wall along with all associated concrete foundations, retaining walls & columns
- B. Constructing d-curb & paver bricks
- C. Installation of proposed landscaping, along with all associated irrigation systems which includes electrical services.
- D. Installation of pavement marking & signage
- E. Removal and salvaging existing FDOT handrails
- F. Demolition and removal of existing private property fence, landscaping, storage sheds etc.
- G. Relocating Existing Water Main Valves

1.04 SEQUENCE OF CONSTRUCTION

- A. Following receipt of Notice to Proceed with the Work, the Contractor shall notify the Engineer and the City at least five days before he is ready to start actual construction to allow the City time to make arrangements for inspection of the Work.
- B. Work under the Contract shall be scheduled and performed in such a manner as to result in the least possible disruption to the community.

- C. Submit a sequence of construction schedule for the entire project.

1.05 ABANDONMENT AND SALVAGE OF EXISTING FACILITIES

- A. Contractor shall salvage all existing handrails within the project vicinity and coordinate with FDOT for return & Delivery.
- B. Contractor shall provide the city with delivery receipts for handrails. Receipts shall include delivered quantities and receipt signatures of FDOT staff.

1.06 REHABILITATION

- A. Areas of the walkways and the like will be affected by work necessary to complete this Contract. The Contractor shall be responsible to rehabilitate those areas affected by its construction activities.
- B. Disposal of Debris: All debris, materials, and miscellaneous waste products from the Work described in the section shall be removed from the project as soon as possible. They shall be disposed of in accordance with applicable federal, state, and local regulations. The Contractor is responsible for determining these regulations and shall bear all costs or retain any profit associated with disposal of these items.

1.07 CONTRACTOR USE OF PROJECT SITE

- A. The Contractor's use of the project site shall be limited to its construction operations, including on-site storage of materials, on-site fabrication facilities, and field offices, as noted on the Contract Drawings.

1.08 CITY USE OF THE PROJECT SITE

- A. The City may utilize part of the existing facilities during the entire period of construction for the conduct of the City's normal operations. The Contractor shall cooperate with the City to minimize interference with the Contractor's operations and to facilitate the City's operations.

1.09 COORDINATION WITH OTHER CONTRACTS

- A. Coordinate work with that of other Contractors on site.

1.10 PERMITS

- A. It shall be the Contractor's responsibility to secure all permits required to complete the work under this contract, except permits obtained by the City.
- B. No separate or direct payment will be made to the Contractor for permits and inspection requirements, but all such costs shall be included in the bid proposal. The City will furnish signed and sealed sets of Contract Documents for permit use as required.

1.11 FIELD ENGINEERING

- A. The Contractor shall employ a Land Surveyor registered in the State of Florida and acceptable to the Engineer. The Contractor shall locate and protect survey control and reference points.
- B. Provide Field Engineering Services: Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- C. Submit a copy of registered site drawing and certificate signed by the Land Surveyor that the elevations and locations of the Work are in conformance with the Contract Documents.

1.12 DIMENSIONS AND LOCATIONS OF PROPOSED WALL & COLUMNS

- A. Where the dimensions and locations of the proposed columns and length of the panels are critical importance in the installation or connection of new work, the Contractor shall verify such dimensions and locations in the field before the fabrication of any materials or equipment which is dependent on the correctness of such information.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01015

GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS

- A. General provisions of Contract, including General and Supplementary Conditions.
- B. Requirements for determining completed Work - Section 01025.

1.02 PROJECT DESCRIPTION

- A. Construction of a buffer wall along the south side of Commercial Boulevard between NW 31st Ave and NW 25th Terrace. The wall will generally run along the separator between Commercial Blvd and the frontage road with openings for the intersecting cross streets

1.03 CONTRACTOR USE OF PREMISES

- A. Contractor Shall Coordinate with the Florida Department of Transportation and obtain any permits needed for lane closure.
- B. Access to the work site shall be through the frontage road and Commercial Blvd.
- C. The Contractor shall be responsible for coordinating his daily activities in conjunction with any Contractors presently working within the vicinity of this project.
- D. Confine operations to areas within rights-of-way and easements.
- E. Keep existing driveways and entrances serving the premises clear and available to the public and city employees
 - 1. Do not use these areas for parking or storage of materials.
 - 2. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
- F. Do not dispose of organic and hazardous material on site, either by burial or by burning.

1.04 ENVIRONMENTAL PROTECTION

- A. Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result.

1.05 SUBMITTALS

- A. General: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
- B. Progress Schedule: Fully developed, horizontal bar chart type Contractor's construction schedule. Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue updated schedules monthly.
- C. Daily Construction Report: Record of construction activities, on-site work force and equipment including progress and events at the site; submit two (2) copies to the Engineer at weekly intervals.
- D. Shop Drawings: Newly prepared information, drawn to accurate scale. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not acceptable.
 - 1. Shop Drawings shall include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings.
 - 2. Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.
- E. Product Data: Collect into a single submittal for each element of construction or system. Includes printed information such as manufacture's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves.
- F. Samples: Full size, fully fabricated samples cured and finished as specified and physically identical with the material or product proposed.
- G. Submit shop drawings/product data for each item to be incorporated in the project.

1.06 QUALITY CONTROL

- A. The Contractor shall provide inspections, tests and similar quality control services, specified in individual Specification Sections and required by governing authorities, except where they are specifically indicated to be the Owner's responsibility, or are provided by another identified entity.
 - 1. Costs for these services shall be included in the Contract Sum.
- B. The Contractor is responsible for and shall pay costs of retesting when required by Engineer or Owner and of additional testing needed or required by the Contractor.
- C. The Contractor shall pay costs for additional trips to the project by the agency when scheduled times for tests and inspections are canceled and agency is not notified sufficiently in advance of cancellation to avoid the trip.

1.07 MATERIAL AND EQUIPMENT

- A. Substitutions: After Bidding period, up to 30 days after date of Notice to Proceed, the Engineer will consider written requests from Contractor for proposed substitutions of products. Subsequent requests will only be considered when proof is given to the Engineer of product unavailability or other condition beyond control of the Contractor. Submit a separate request for each proposed substitution; two (2) copies each on the Substitution Request (SR) available from the Engineer.

1. Do not order or install substitute products without written acceptance from the - Engineer.
 2. Do not imply or indicate substitutions on shop drawings or product data submittals without a separate formal request.
 3. Engineer will determine acceptability of substitution.
 4. Only one request for substitution for each product will be considered. If not accepted, Contractor shall provide specified product.
- B. Product selection is governed by the Contract Documents and governing regulations, not by previous project experience.
1. Where a single or multiple products or manufacturers are named, provide one of the products indicated or submit a request for substitution for any product or manufacturer not named.
 2. Where the Specifications only require compliance with performance requirements, an imposed code, standard or regulation, select a product that complies with the requirements, standards, codes or regulations specified.
 3. Manufacturers named in a Specification section are those manufacturers considered capable of manufacturing products conforming to the specified requirements. The naming of a particular manufacturer does not imply acceptance or approval of just any standard product of that manufacturer.
 4. The City reserves the right to remove or have removed any installation material which is not approved by the Engineer. The total cost for such replacement shall be borne by the Contractor.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Contractor shall receive and accept the compensation provided in the Proposal as full payment for furnishing all materials, labor, tools and equipment, for performing all operations necessary to complete the work under the Contract, and for full payment for loss or damages arising from the nature of the Work, or from the action of the elements or from any unforeseen difficulties which may be encountered during the prosecution of the Work until the final acceptance by the Owner.
- B. The prices stated in the Proposal include all costs and expenses for taxes, labor, equipment, materials, commissions, transportation charges and expenses, patent fees and royalties, labor for handling materials during inspection, together with any and all other costs and expenses for performing and completing the Work as shown on the Contract Drawings and specified herein. The basis of payment for an item in the amount shown in the Proposal shall be in accordance with the contract documents.
- C. The Contractor is reminded that quotations for items of work are intended to establish a total price for completing the Work in its entirety. Should the Contractor feel that the cost for any item of work has not been established by the Bid Form or Payment Items, the Contractor shall include the cost for that work in another applicable bid item, in order that the Proposal for the project reflects the total price to be paid by the Owner for completing the Work in its entirety.
- D. Changes in Contract Price and Time require prior authorization in writing from the Owner, in the form of a Change Order or Work Change Directive. The Contractor is responsible for verification of all bid quantities and to report to the Owner any discrepancies found prior to ordering materials and/or equipment for construction. Refer to General Conditions.

1.02 MEASUREMENT

- A. Measurement for Payment for this Project will be based upon completion of the Work in accordance with drawings and specifications. Field measurements will determine the percent complete of work components when listed on the approved Schedule of Values. Measurements will be made using linear, area, weight, or volumetric units, as listed on the Bid Proposal Form and at the Owner's/Engineer's sole discretion for lump sum items.
- B. Take measurements and compute quantities. The Owner will verify measurements and quantities.
- C. Assist by providing necessary equipment, workers, and survey personnel as required.

PAYMENT ITEMS

- A. Basis of Payment for Lump Sum Items:
Payment for lump sum pay items of this Project will be made at the lump sum price named in the Contract (Bid Schedule). The price shall constitute full compensation for each item, including all required labor, Products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit as required to complete the item as indicated in the Contract Drawings and specifications.
- B. Basis of Payment for Unit Price Items:
1. Quantities indicated in the Bid Proposal Form (Bid Schedule) are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the Owner/Engineer determine payment.
 2. If the actual Work requires more or fewer quantities than those quantities indicated, provide the actual quantities at the unit prices contracted.
 3. If the actual Work requires a fifty percent (50%) or greater change in quantity than those quantities indicated, the Owner or Contractor may claim for a Contract Price adjustment for that item.
- C. Schedule of Values:
1. Submit a printed schedule on EJCDC 1910-8-E or on Contractor's standard form in electronic media printout for review and approval by the Owner/Engineer per Section 01340, Submittals and Substitutions.
 2. A Schedule of Values shall be approved prior to the first Payment Application.
 3. Lump sum items shall have adequate breakdown of components to facilitate evaluating completeness for payment. Breakdown components shall appear directly under the payment item heading to which they apply.
 4. Revise schedule to list approved Change Orders, with each Application for Payment.
- D. Progress Payments:
1. Progress payments will be made for completed work components listed separately in the approved Schedule of Values. Payments for work in progress shall not constitute acceptance of the work component, the work item, or the Bid Item.
 2. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Owner/Engineer multiplied by the unit price for the item. Final payment for unit price Work will be accomplished by reconciliation Change Order to adjust quantities, to be prepared at the end of the Project.
 3. No payment, partial or complete, will be made for defective or rejected Work.
- E. No Separate Payment Allowed:
No separate payment will be made for additional labor and materials required for accomplishing the Project in its entirety. All labor, materials and incidental costs shall be included for payment as part of the Proposal and the Contract.

1.04 DEFECTIVE WORK

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Engineer or the Owner, it is not practical to remove and replace the Work, the Owner will direct one of the following remedies:
 - 1. The defective Work may remain, but the unit or lump sum price for the item will be adjusted to a new price. The adjustment will be performed at the sole discretion of the Owner. The determination for the adjustment will be decided by the Engineer.
 - 2. The defective Work will be partially repaired to the requirements of the Engineer, and the unit or lump sum price will be adjusted to a new price at the sole discretion of the Owner. The determination for the adjustment will be decided by the Owner.
- C. Individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction.
- D. Authority of the Owner to assess the defect and identify payment adjustment is final.
- E. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products damaged in transit, during handling, due to improper storage.
 - 4. Products not completely unloaded from the transporting vehicle.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Removing, demolishing and disposing of rejected Work.
 - 7. Loading, hauling, and disposing of rejected Products.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION

3.01 – MOBILIZATION – Bid Item No.1

- A. Payment for mobilization shall be a Lump Sum. Lump sum amount includes payment for mobilization and demobilization, full cost of providing and maintaining all performance, payment, maintenance and warranty bonds, insurance and all required construction permits. Lump sum shall also include full compensation for all materials, labor, equipment, tools, and all other incidentals necessary to complete this item.
- B. The work includes, but not limited to, movement of personnel, equipment, supplies and incidentals to the project site, Contractor's temporary office (when applicable), safety equipment, first aid supplies, sanitary and other facilities as required by State and local laws and regulations, project signs, and lay down storage areas .

Mobilization is lump sum amount paid per the following schedule:

0-50% Completion 50% Pay
50-100% Completion 100% Pay

3.02 – MAINTENANCE OF TRAFFIC – Bid Item No.2

- A. Payment for traffic regulation and pedestrian safety shall be a lump sum. Lump sum amount shall include compensation for all labor, materials and equipment necessary to keep roadways and property accesses in services during construction activities in accordance with the contract document and other governing agencies specification and regulations.

MOT is lump sum amount paid per the following schedule:

5% Completion	25% Pay
25% Completion	50% Pay
50% Completion	75% Pay
75% Completion	100% Pay

3.03 – RECORD DRAWING – Bid Item No. 3

- A. Payment for providing as-built drawings shall be a lump sum and made at the calculated percentage of the construction completion which will constitute full compensation for all such as-built records drawings complete, including but not limited to all work as specified herein Sections 01050 – Field Engineering and 01720 – Project Record Documents.

3.04 –EROSION CONTROL- Bid Item No. 4

- A. Payment for installation and maintenance of the temporary erosion control shall be a lump sum that includes all labor, equipment and materials necessary to install and maintain the SWPPP, NPDES and erosion control devices during all construction activities as shown on the plans and specifications herein and in accordance with all Federal, State, County, and City regulations. This item shall also include the preparation and submission of the Notice of Intent to FDEP.

3.05 - SITE PREPARATION & DEMOLITION– Bid Item No. 5

- A. Payment for Site Preparation shall be a lump sum that includes all labor, materials and equipment to remove and dispose of all bushes, trees, stumps, roots, debris and other protruding objects such as existing structures, drainage pipes, culvert, wood fence, storage sheds, concrete and asphalt pavements as shown on the plans. It also includes surface and subsurface investigation, shoring and bracing for excavation, de-mucking, surveys, miscellaneous repairs, clearing and grubbing, cutting and patching, demolition, in accordance with the construction plans and specification herein.

3.06 – PRE-CAST CONCRETE WALL – Bid Item No.6

- A. Payment for pre-cast concrete wall shall be by linear foot installed. It includes: all labor, material and equipment necessary to complete installation of the wall panels, foundations and columns as shown on the project design plans and specification herein. Work shall also include excavation and backfilling, dispose of excess materials, grout, compaction & testing, finishes, paint and accessories. The work also includes compaction of fill material, protection of adjacent properties and materials that are to remain and disposal of all unsuitable materials to be removed from site. This item shall include all design by specialty engineer and submission of signed and sealed drawings and calculations for approval.

3.07 – CONCRETE SIDEWALK – Bid Item No. 7

- A. Payment for installation and/or replacement of concrete sidewalk shall be paid per square yard for full area as shown on the plans. Installation includes all labor, material and equipment for the earthwork, clearing and grubbing, removal of existing sidewalks, preparation, compaction, testing, backfill, finish and placement of concrete in accordance with FDOT Standards.

3.08 – TYPE “D” CURB – Bid Item No. 8

- A. Payment for installation and/or replacement of concrete curb shall be paid per linear foot as shown on the plans. Installation includes all labor, material and equipment for the earthwork, clearing and grubbing, removal of existing curb, curb pad, preparation, compaction, testing, backfill, finish and placement of concrete in accordance with the details as shown on the plans and specifications herein.

3.09 – TYPE “F” CURB – Bid Item No. 9

- A. Payment for installation and/or replacement of concrete curb shall be paid per linear foot as shown on the plans. Installation includes all labor, material and equipment for the earthwork, clearing and grubbing, removal of existing curb, curb pad, preparation, compaction, testing, backfill, finish and placement of concrete in accordance with the details as shown on the plans and specifications herein.

3.10 – PAVER BRICKS – Bid Item No.10

- A. Payment for installation of paver bricks shall be paid per square yard as shown on the plans. Installation includes all labor, material and equipment for the earthwork, clearing and grubbing, removal of existing asphalt, preparation, compaction, testing, backfill, finish and placement in accordance with the details as shown on the plans and specifications herein. The work includes paver bricks, sand bedding and suitable subgrade material.

3.11 – SOD (St. Augustine) – Bid Item No.11

- A. Payment for sod shall be by square yard installed and completed in accordance with the projects design plans and City Standards. The work includes but not limited to provide all labor, material and equipment necessary to prepare, fine grading, placing, restoring, fertilizing, watering and maintaining the completion of the work as shown on the project design plans and specification herein. The maintenance period shall be a minimum of 90 days or as stipulated by the City in the warranty requirements.

3.12 – WHEEL STOPS – Bid Item No. 12

- A. Payment for installation and/or replacement of concrete wheel stops shall be paid per piece as shown on the plans. Installation includes all labor, material and equipment for the installation of new wheel stops and removal of existing wheel stops

3.13 – IRRIGATION SYSTEM– Bid Item No. 13

- A. Payment for furnishing & installation of irrigation system shall be paid as a lump sum as specified in the drawings and specifications. The work includes but not limited to providing all labor, material and equipment necessary to install the irrigation system, including all pumps, valves, controller, associated sprinklers heads conduit, water lines & service connection as shown on the project design plans. Work also includes the electrical service necessary for the irrigation system and coordination with Florida Power & Light. Work shall include all other incidentals necessary to complete this item, including but not limited to trenching, backfill and pavement restoration where necessary.

3.14 –LANDSCAPING– Bid Item No. 14

- A. Payment for landscaping shall be paid as a lump sum for all trees, ground cover and mulch installed and complete in accordance with the projects design plans and City Standards. The work includes but is not limited to provide all labor, material and equipment necessary for preparing, fine grading, placing, restoring, fertilizing, watering and maintaining the completion of the work as shown on the project design plans and specification herein. The maintenance period shall be a minimum of 90 days or as stipulated by the City

3.15 – PAVEMENT MARKINGS & SIGNAGE – Bid Item No.15

- A. Payment for striping and signage shall be paid as a lump sum for all pavement markings and signage installed and complete in accordance with the projects design plans and City Standards. The work includes but is not limited to provide all labor, material and equipment necessary to prepare and install as shown on the project design plans. This item shall include temporary painted striping during construction as well as final thermoplastic striping and removal of all existing pavement markings, RPM and signage as shown in the plans. This item shall include, but not be limited to, surface preparation and installation of temporary paint and final thermoplastic striping

3.16 – WATER MAIN VALVE RELOCATION/MODIFICATION – Bid Item No.16 & No.17

- A. Payment for relocating and modification of existing water valves shall be paid per each as shown on the plan for all work necessary to relocate, modify and install valves during construction in accordance with the projects design plans and City Standards. The work includes but not limited to provide all labor, material and equipment necessary to prepare, install, place and relocate as shown on the project design plans and specification herein.

3.17 – HANDRAIL REMOVAL – Bid Item No.18

- A. Payment for existing handrail removal shall be paid as a lump sum for all work necessary to remove and salvage existing handrails in accordance with the Florida Department of Transportation Standards. The work includes but is not limited to provide all labor, material and equipment necessary to remove the handrail and deliver the existing handrail to the FDOT designated storage facility.

3.18 – PAVEMENT RESTORATION – Bid Item No.19

- A. Provide all labor and materials necessary for the replacement of miscellaneous asphalt as shown in the contract documents. This item shall include the cost to sawcut and remove existing asphalt, prepare surface of existing subgrade and limerock including compacting

testing, tack and prime coat and apply asphalt in accordance with the plans and specifications. This item is to be bid as a unit price for square yard of pavement replaced.

3.19 – CONSIDERATION FOR INDEMNIFICATION – Bid Item No. 20

- A. In recognition of Contractor's indemnification obligations, the City will pay to the Contractor the specific consideration of ten dollars (\$10.00). Payment of said specific consideration shall be made at the time of the payment of the first progress payment and the Contractor shall acknowledge payment of this consideration by letter to the City after receipt of the progress payment.

END OF SECTION

SECTION 01039

COORDINATION AND MEETINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Coordination and Project Conditions
- B. Field Engineering
- C. Preconstruction Meeting
- D. Progress Meetings

1.02 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment. Coordinate work with Owner operations.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs. Obtain Owner acceptance of conduit runs and alignments prior to installation.
- D. In finished areas, except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.03 FIELD ENGINEERING

- A. Employ a Land Surveyor registered in the State of Florida and acceptable to Engineer.
- B. Contractor shall protect survey control and reference points.

- C. Control datum for survey is that established by Owner provided survey.
- D. Verify set-backs and easements; confirm drawing dimensions and elevations.
- E. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- F. Submit a copy of site drawing and certificate signed and sealed by the Land Surveyor that the elevations and locations of the Work are in conformance with the Contract Documents.

1.04 PRE-CONSTRUCTION MEETING

- A. Engineer will schedule a meeting after Notice of Award.
- B. Attendance Required: Owner, Engineer, Contractor, Contractor Superintendent, and major sub-contractors
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement
 - 2. Submission of Executed Bonds and Insurance Certificates
 - 3. Distribution of Contract Documents
 - 4. Submission of List of Subcontractors, List of Products, Schedule of Values, and Progress Schedule
 - 5. Designation of Personnel Representing the Parties in Contract, Utilities, and the Engineer
 - 6. Procedures and Processing Of Field Decisions, Submittals, Substitutions, Applications for Payments, Proposal Request, Change Orders, and Contract Closeout Procedures
 - 7. Scheduling, Sequence Of Work
 - 8. Use of Premises by Owner and Contractor
 - 9. Owner's Requirements and Partial Occupancy
 - 10. Construction Facilities and Controls Provided By Owner
 - 11. Temporary Utilities Provided By Owner
 - 12. Security and Housekeeping Procedures
 - 13. Application for Payment Procedures
 - 14. Procedures for Testing
 - 15. Requirements for Start-Up of Equipment
 - 16. Inspection and Acceptance of Equipment Put into Service During Construction Period
- D. Record minutes and distribute copies within 5-days after meeting to participants and those affected by decisions made, with two copies to Engineer.

1.05 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum bimonthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Engineer, as appropriate to agenda topics for each meeting.
- D. Agenda:
 - 1. Review Minutes of Previous Meetings
 - 2. Review of Work Progress
 - 3. Field Observations, Problems, and Decisions
 - 4. Identification Of Problems Which Impede Planned Progress
 - 5. Review of Submittals Schedule and Status of Submittals
 - 6. Review of Off-Site Fabrication and Delivery Schedules
 - 7. Maintenance of Progress Schedule
 - 8. Corrective Measures to Regain Projected Schedules
 - 9. Planned Progress During Succeeding Work Period
 - 10. Coordination of Projected Progress
 - 11. Maintenance of Quality and Work Standards
 - 12. Effect of Proposed Changes on Progress Schedule and Coordination
 - 13. Other Business Relating To Work
- E. Record minutes and distribute copies within 3-days after meeting to participants, and those affected by decisions made.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

END OF SECTION

SECTION 01045

CUTTING AND PATCHING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification sections, apply to the work specified in this Section.

1.02 REQUIREMENTS INCLUDED

- A. All necessary cutting, coring, drilling, grouting, and patching to fit together the several parts of the work will be done by the Contractor, except as may be specifically noted otherwise under any particular section of the specifications.
- B. Definition: Cutting and Patching includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition. Cutting and Patching is performed to uncover work for access or inspection, to obtain samples for testing, to permit alterations to be performed or for other similar purposes.

1.03 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural work in a way that would result in a reduction of load-carrying capacity or of a load-deflection ratio.
- B. Visual Requirements: Do not cut and patch work, in a way that would result in reducing the strength of structures. Do not cut and patch work in a manner that would result in substantial visual evidence. Remove and replace work judged by the Owner to be cut and patched in a visually unsatisfactory manner.

1.04 SUBMITTALS

- A. Procedure for Cutting and Patching: Where prior approval of cutting and patching is required, submit procedures for this work well in advance of the time work will be performed and request approval to proceed. Include the following information, as applicable, in the submittal:
 - 1. Describe nature of the work and how it is to be performed, indicating why cutting and patching cannot be avoided. Describe anticipated results of the work operation and visual changes as well as other significant elements.
 - 2. List products to be used and firms that will perform work.
 - 3. Give dates when work is expected to be performed.
- B. Approval by Owner to proceed with cutting and patching work does not waive the Owner's right to later require complete removal and replacement of work found to be cut and patched in an unsatisfactory manner.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Except as otherwise indicated, or as directed by the Owner, use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible. Use material for cutting and patching that will result in equal-or-better performance characteristics.

PART 3 EXECUTION

3.01 INSPECTION

- A. Before cutting, examine the surfaces to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.
- B. Before the start of cutting work, meet at the work site with all parties involved in cutting the patching. Review areas of potential interference and conflict between the various trades. Coordinate layout of the work and resolve potential conflicts before proceeding with the work.

3.02 PREPARATION

- A. Temporary Support: To prevent failure, provide temporary support of work to be cut.
- B. Protection: Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the project that may be exposed during cutting and patching operations.
 - 1. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.03 PERFORMANCE

- A. Employ skilled workman to perform cutting and patching work. Except as otherwise indicated or as approved by the Owner, proceed with cutting and patching at the earliest feasible time and complete work without delay.
- B. Cut the work using methods that are least likely to damage work to be retained or adjoining work.
 - 1. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.

- C. Patching: Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
 - 1. Where feasible, inspect and test patched areas to demonstrate integrity of work.
 - 2. Restore exposed finishes of patched areas and where adjoining work in a manner which will eliminate evidence of patching and refinishing.
- D. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection. For an assembly, refinish entire unit.
- E. Damaged Surfaces: Patch or replace any portion of an existing finished surface which is found to be damaged, lifted, discolored, or shows other imperfections, with matching material.

3.04 TRANSITION FROM EXISTING TO NEW WORK

- A. When new work abuts or finishes flush with existing work, make a smooth and workmanlike transition. Patched work shall match existing adjacent work in texture and appearance unless otherwise noted so that the patch or transition is invisible at a distance of five feet.
- B. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface.

3.05 CLEANING

- A. Thoroughly clean area and spaces where work is performed or used as access to work. Remove completely paint, mortar, oils, putting and items of similar nature.

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Provide and pay for field engineering services required for Project as follows:
 - 1. Land Surveying work required to lay out the work and for execution of the structures.
 - 2. Civil, structural or other professional engineering services specified, or required to execute the Contractor's construction methods.
- B. The Contractor shall retain the services of a registered land surveyor licensed in the State of Florida to identify existing control points and property line corner stakes indicated on the Drawings, as required. Verify all existing structure locations and all proposed building corner locations, tank locations and equipment locations.
- C.

1.02 RELATED WORK

- A. Section 01010: Summary of Work.
- B. Section 01720: Project Record Documents.

1.03 QUALIFICATIONS OF PROFESSIONAL

- A. Qualified Engineer or Registered Land Surveyor, acceptable to the Owner and the Engineer.
- B. Registered Professional Engineer of the specialty required for the specific service on the Project, currently licensed in the State of Florida.

1.04 SURVEY REFERENCE POINTS

- A. Horizontal and vertical control points for the Project are to be established by the Contractor.
- B. Locate and protect control points prior to starting work, and preserve all permanent reference points during construction.
 - 1. Make no changes or relocations without prior written notice to the Engineer.
 - 2. Report to the Engineer when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
 - 3. Require surveyor to replace project control points which may be lost or destroyed.
 - a. Establish replacements based on original survey control.

1.05 PROJECT SURVEY REQUIREMENTS

- A. Establish a minimum of five temporary bench marks on site, referenced to data by survey control points.
 - 1. Record locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Two bench marks shall be near the Pump Station.

- B. Establish lines and levels, locate and lay out, by instrumentation and similar appropriate means:
 - 1. Site Improvements
 - a. Stakes for grading, fill and topsoil placement.
 - b. Utility slopes and invert elevations.
 - 2. Batter boards for structures.
 - 3. Building foundation, column locations and floor levels.
 - 4. Controlling lines and levels required for mechanical and electrical trades.
- C. From time to time, verify layouts by same methods.

1.06 RECORDS

- A. Maintain a complete, accurate log for all control and survey work as it progresses.
- B. At the end of the project, submit certified as-built information at the same scale as the Engineer's line drawings indicating elevations and stations of the canal at 100 foot increments and at rapid changes in grade. Provide as-built drawings for all portions of the canal that have been completed and for which payment is requested.
- C. At the end of the project, submit a certified site survey at 1" = 50' scale on a reproducible tracing sheet 24" x 36", indicating the building corners and location of all structures.
- D. Contractor prior to commencement of work shall obtain cross sections at maximum 100 foot intervals for length of proposed improvements to canal and fifty (50) feet south of proposed improvements.

1.07 SUBMITTALS

- A. Submit name and address of registered land surveyor to the Engineer.
- B. On request of the Engineer, submit documentation to verify accuracy of field engineering work.
- C. Submit certificate signed by registered engineer or surveyor certifying that elevations and locations of improvements are in conformance or non-conformance, with Contract Documents.
- D. Submit drawings showing locations of all structures constructed. This drawing shall be included with the project record documents.

PART 2 – PRODUCTS

(NOT USED)

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01070

APPLICABLE STANDARDS AND CODES

PART 1 -- GENERAL

1.01 GENERAL

- A. Any reference made to published specifications or standards of any organization or association shall comply with the requirements of the specification or standard which is current on the date of Advertisement for Bids. In case of a conflict between the referenced specifications or standards, the one having the more stringent requirements shall govern. In case of conflict between the referenced specifications or standards, the one having the more stringent requirements shall govern.
- B. The following is a partial list of typical abbreviations which may be used in the Specifications and the organizations to which they refer:

AASHTO - American Association of State Highway and Transportation
Officials

AASHO - American Association of State Highway Officials

ACI - American Concrete Institute

ACIFS - American Cast Iron Flange Standards

AGA - American Gas Association

AGC - Associated General Contractors of America

AGMA - American Gear Manufacturers Association

AI - Asphalt Institute

AIA - American Institute of Architects

AISC - American Institute of Steel Construction

AISI - American Iron and Steel Institute

ANSI - American National Standard Institute

API - American Petroleum Institute

APWA - American Public Works Association

ASCE - American Society of Civil Engineers

ASHRAE - American Society of Heating, Refrigeration, and
Air Conditioning Engineers

ASME - American Society of Mechanical Engineers

ASTM - American Society of Testing and Materials

AWI - Architectural Woodwork Institute

AWPA - American Wood Preservers Association

AWS - American Welding Society

AWWA - American Water Works Association

BHMA - Builder's Hardware Manufacturers Association

CRSI - Concrete Reinforcing Steel Institute

CSA - Canadian Standards Association

DHI	- Door and Hardware Institute
DIPRA	- Ductile Iron Pipe Research Association
DOT	- Florida Department of Transportation
E/A	- Engineer and/or Architect
EDA	- Economic Development Association
EEI	- Edison Electric Institute
EPA	- Environmental Protection Agency
FDER	- Florida Department of Environmental Regulation
ICEA	- Insulated Cable Engineers Association
IEEE	- Institute of Electrical and Electronic Engineers
IPCEA	- Insulated Power Cable Engineers Association
ISO	- Insurance Service Offices
NAAMM	- National Association of Architectural Metal Manufacturers
NBS	- National Bureau of Standards
NCPI	- National Clay Pipe Institute
NCSPA	- National Corrugated Steel Pipe Association
NEC	- National Electric Code
NEMA	- National Electrical Manufacturers Association
NFPA	- National Fire Protection Association
NLMA	- National Lumber Manufacturers Association
NSC	- National Safety Council
OSHA	- Occupational Safety and Health Act
PCA	- Portland Cement Association
SAE	- Society of Automotive Engineers Standards
SFBC	- South Florida Building Code
SHBI	- Steel Heating Boiler Institute
SSPC	- Society of Protective Coatings
UL	- Underwriters' Laboratories, Inc.

- C. CONTRACTOR shall, when required, furnish evidence satisfactory to the OWNER & ENGINEER that materials and methods are in accordance with such standards where so specified.
- D. In the event any questions arise as to the application of these standards or codes, copies shall be supplied on site by the CONTRACTOR.

PART 2 -- PRODUCTS - (Not Used)

PART 3 -- EXECUTION - (Not Used)

- END OF SECTION -

SECTION 01310

CONSTRUCTION SCHEDULES

PART 1 – GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Promptly after Award of the Contract and within ten days after the effective date of the Agreement, prepare and submit to the Engineer estimated construction progress schedules for the work, with subschedules of related activities which are essential to its progress.
- B. Submit revised progress schedules on a monthly basis.
- C. No partial payments shall be approved by the Engineer until there is an approved construction progress schedule on hand.
- D. The Contractor shall designate an authorized representative of his firm who shall be responsible for development and maintenance of the schedule and of progress and payment reports. This representative of the Contractor shall have direct project control and complete authority to act on behalf of the Contractor's schedule.

1.02 RELATED REQUIREMENTS

- A. Document 00700: Conditions of the Contract
- B. Section 01010: Summary of Work
- C. Section 01200: Project Meetings
- D. Section 01340: Shop Drawings, Working Drawings and Samples

1.03 FORM OF SCHEDULES

- A. Prepare schedules in the form of a horizontal bar chart.
 - 1. Provide separate horizontal bar for each trade or operation within each structure or item.
 - 2. Horizontal time scale: In weeks from start of construction and identify the first work day of each month.
 - 3. Scale and spacing: To allow space for notations and future revisions.
 - 4. Minimum sheet size: 24-inches x 36-inches.
- B. Format of listings: The chronological order of the start of each item of work for each structure.
- C. Identification of listings: By major specification section numbers as applicable and structure.

1.04 CONTENT OF SCHEDULES

- A. Construction Progress Schedule:
 - 1. Show the complete sequence of construction by activity.
 - 2. Show the dates for the beginning of, and completion of, each major element of construction in no more that a two week increment scale. Specifically list, but not limited to:

- a. Site Clearing
 - b. Site Utilities
 - c. Foundation Work
 - d. Structural Framing
 - e. Subcontractor Work
 - f. Equipment Installations
 - g. Finishings
 - h. Instrumentation
 - i. Paintings
 - j. Schooling/O & M Manuals
 - k. Testing
 - l. Startup
 - m. Receipt of Spare Parts
 - n. Site Work
 - o. Record Drawings
 - p. Restoration
- 3. Show projected percentage of completion for each item, as of the first of each month.
- 4. Show projected dollar cash flow requirements for each month of construction.
- B. Submittals Schedule for Shop Drawings, and Samples in accordance with Section 01340. Show:
 - 1. The dates for Contractor's submittals.
 - 2. The dates submittals will be required for owner furnished products, if applicable.
 - 3. The dates approved submittals will be required from the Engineer.
- C. A list of all long lead items (equipment, materials, etc).

1.05 PROGRESS REVISIONS

- A. Indicate progress of each activity to date of submission.
- B. Show changes occurring since previous submission of schedule:
 - 1. Major changes in scope.
 - 2. Activities modified since previous submission.
 - 3. Revised projections of progress and completion.
 - 4. Other identifiable changes.
- C. Provide a narrative report as needed to define:
 - 1. Problem areas, anticipated delays, and the impact on the schedule.
 - 2. Corrective actions recommended, and its effect.
 - 3. The effect of changes on schedules of other prime contractors.

1.06 SUBMISSIONS

- A. Submit initial schedules to the Engineer within 10-days after the effective date of the Agreement.
 - 1. The Engineer will review schedules and return review copy within 21-days after receipt.
 - 2. If required, resubmit within 7-days after return of review copy.
- B. Submit 5-copies of revised monthly progress schedules with that month's application for payment.

1.07 DISTRIBUTION

- A. Distribute copies of reviewed schedules to:
 - 1. Engineer (Two Copies)
 - 2. Job Site File
 - 3. Subcontractors
 - 4. Other Concerned Parties
 - 5. Owner (Two Copies)
- B. Instruct recipients to report promptly to the Contractor, in writing, any problems anticipated by the projections shown in the schedule.

PART 2 – PRODUCTS

(NOT USED).

PART 3 – EXECUTION

(NOT USED)

END OF SECTION

SECTION 01340

SUBMITTALS AND SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Make submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.

1.02 RELATED SECTIONS

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- B. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.
- C. Work not included:
 - 1. Submittals which are not required will not be reviewed by the Engineer.
 - 2. The Contractor may require his subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Engineer.

1.03 SUBMITTALS FOR REVIEW

- A. Make submittals of Shop Drawings, Samples, substitution requests, and other items in accordance with the provisions of this Section.
- B. Contractor shall submit signed and sealed shop drawings along with wall layout and wind load calculations

1.04 QUALITY ASSURANCE

- A. Coordination of submittals:
 - 1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
 - 2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
 - 3. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.
- B. Substitutions:
 - 1. The Contract is based on the standards of quality established in the Contract Documents. Substitutions will be considered only when listed at time of bidding, on the Contractor's letterhead and when substantiated by the Contractor's submittal of required data within 10-calendar days after the bid opening.
 - 2. The following products do not require further approval except for interface within the Work:
 - a. Products specified by reference to standard specifications such as ASTM and similar standards.
 - b. Products specified by manufacturer's name and catalog model number.

3. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved in writing for this Work by the Engineer.
- C. "Or Equal":
1. Where the phrase "or equal," or "or equal as approved by the Engineer," appears in the Contract Documents, do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this Work by the Engineer.
 2. The decision of the Engineer shall be final.

PART 2 - PRODUCTS

2.01 SHOP DRAWINGS

- A. Scale and Measurements: Make Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.
- B. Review comments of the Engineer will be shown on the shop drawings when these are returned to the Contractor. The Contractor may make and distribute such copies as are required for his purposes. The Engineer will retain at least one copy of the reviewed shop drawings; therefore, submit the number of copies that are required to be returned, plus one additional copy.

2.02 MANUFACTURER'S LITERATURE

- A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly show which portions of the contents is being submitted for review.
- B. Submit the number of copies which are required to be returned, plus one copy which will be retained by the Engineer.

2.03 SAMPLES

- A. Provide Samples identical to the precise materials proposed to be utilized in the Work. Identify as described under "Identification of Submittals" below.
- B. Number of Samples required:
 1. Unless otherwise specified, submit Samples, in the quantity, which is required to be returned, plus one which will be retained by the Engineer.
 2. By prearrangement in specific cases, a single Sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by the Engineer.

PART 3 - EXECUTION

3.01 IDENTIFICATION OF SUBMITTALS

- A. Consecutively number all submittals.
 1. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
 2. On resubmittals, cite the original submittal number for reference.
- B. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.

- C. On at least the first page of each submittal, and elsewhere as required for positive identification, show the appropriate submittal number.
- D. Maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Engineer for his review upon request.

3.02 GROUPING OF SUBMITTALS

- A. Unless otherwise specified, make submittals in groups containing all items associated with the particular portion of the Work to assure that all necessary information is available for checking each item when it is received.
 - 1. Partial submittals may be rejected as not complying with the provisions of the Contract.
 - 2. The Contractor may be held liable for delays so occasioned.

3.03 TIMING OF SUBMITTALS

- A. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.
- B. In scheduling, allow at least ten working days for review by the Engineer following his receipt of the submittal.

3.04 ENGINEER'S REVIEW

- A. Review by the Engineer does not relieve the Contractor from responsibility for errors, which may exist in the submitted data.
- B. Revisions:
 - 1. Make revisions required by the Engineer.
 - 2. If the Contractor considers any required revision to be a change, he shall so notify the Engineer within ten calendar days in writing. **IF** after the review of the Engineer it is determined that the required revisions are in fact a legitimate change in work or time the procedures set forth in Articles 10, 11, & 12 of the General Conditions shall be followed.
 - 3. Make only those revisions directed or approved by the Engineer.
- C. Reimbursement of Engineer's costs:
 - 1. In the event substitutions are proposed to the Engineer after the Contract has been awarded, the Engineer will record all time used by him and by his consultants in evaluation of each such proposed substitution.
 - 2. Whether or not the Engineer approves a proposed substitution, the Contractor promptly upon receipt of the Engineer's billing shall reimburse the Engineer at the rate of three times the direct cost to Engineer and his consultants for all time spent by them in evaluating the proposed substitution.

END OF SECTION

SECTION 01370

SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Submit to the Engineer a Schedule of Values allocated to the various portions of the Work, within 21-days after the effective date of the Agreement.
- B. Upon request of the Engineer, support the values with data which will substantiate their correctness.
- C. The Schedule of Values, unless objected to by the Engineer, shall be used only as the basis for the Contractor's Applications for Payment.

1.02 RELATED REQUIREMENTS

- A. Document 00700: Conditions of the Contract
- B. Section 01152: Application for Payment

1.03 FORM AND CONTENT OF SCHEDULE OF VALUES

- A. Type schedule on an 8-1/2- inch x 11-inch or 8-1/2- inch x 14 –inch white paper furnished by the Contractor; Contractor's standard forms and automated printout will be considered for approval by the Engineer upon Contractor's request. Identify schedule with:
 - 1. Title of Project and location
 - 2. Engineer and Project number
 - 3. Name and Address of Contractor
 - 4. Contract designation
 - 5. Date of submission
- B. Schedule shall list the installed value of the component part of the Work in sufficient detail to serve as a basis for computing values for progress payment during construction.
- C. Identify each line item with the number and title of the respective major section of the specifications.
- D. For each major line item, list sub-values of major products or operations under the item.
- E. For the various portions of the Work:
 - 1. Each item shall include a directly proportional amount of the Contractor's overhead and profit.
 - 2. For items on which progress payments will be requested for stored materials, break down the value into:
 - a. The cost of the materials, delivered and unloaded, with taxes paid. Paid invoices are required for materials upon request by the Engineer.
 - b. The total installed value.
- F. The sum of all values listed in the schedule shall equal the total Contract Sum.

PART 2 – PRODUCTS (NOT USED).

PART 3 – PRODUCTS (NOT USED).

END OF SECTION

SECTION 01505

CONTROL OF WORK

PART 1 - GENERAL

1.01 QUALITY OF WORK

- A. The Contractor shall furnish personnel and equipment which will be efficient, appropriate and large enough to secure a satisfactory quality of work and a rate of progress which will insure the completion of the work within the time stipulated in the Proposal. If at any time such personnel appear to the Engineer to be inefficient, inappropriate or insufficient for securing the quality of work required or for producing the rate of progress aforesaid, he may order the Contractor to increase the efficiency, change the character or increase the personnel and equipment, and the Contractor shall conform to such order. Failure of the Engineer to give such order shall in no way relieve the Contractor of his obligations to secure the quality of the work and rate of progress required.

1.02 PRIVATE LAND

- A. The Contractor shall not enter or occupy private land outside of easements, except by written permission of the private property owner.

1.03 OPEN EXCAVATIONS

- A. All open excavations shall be adequately safeguard by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by pedestrians and workmen. Bridges provided for access to private property during construction shall be removed when no longer required. The length of open trench will be controlled by the particular surrounding conditions, but shall always be confined to the limits prescribed by the Engineer. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, the Engineer may require special construction procedures such as limiting the length of open trench, prohibiting stacking excavated material in the street, and requiring that the trench shall not remain open overnight.
- B. The Contractor shall take precautions to prevent injury to the public due to open trenches. All trenches, excavated material, equipment, or other obstacles which could be dangerous to the public shall be well lighted at night.

1.04 TEST PITS

- A. Test pits for the purpose of locating underground pipeline or structures in advance of the construction shall be excavated and backfilled by the Contractor at his cost at the direction of the Engineer. Test pits shall be backfilled immediately after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the Engineer.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 COOPERATION WITHIN THIS CONTRACT

- A. All firms or persons authorized to perform any work under this Contract shall cooperate with the General Contractor and his subcontractors or trades, and shall assist in incorporating the work of other trades where necessary or required.
- B. Cutting and patching, drilling and fitting shall be carried out where required by the trade or subcontractor having jurisdiction, unless otherwise indicated herein or directed by the Engineer.

3.02 PROTECTION OF CONSTRUCTION AND EQUIPMENT

- A. All newly constructed work shall be carefully protected from damage in any way. No wheeling or walking or placing of heavy loads on it shall be allowed and all portions damaged shall be reconstructed by the Contractor at his own expense.
- B. All structures shall be protected in a manner approved by the Engineer. Should any of the floor or other parts of the structures become heaved, cracked or otherwise damaged, all such damaged portions of the work shall be completely repaired and made good by the Contractor at his own expense and to the satisfaction of the Engineer. Special attention is directed to substructure bracing requirements described in Section 02220. If, in the final inspection of work, any defects, faults or omissions are found, the Contractor shall cause the same to be repaired or removed and replaced by proper materials and workmanship without extra compensation for the materials and labor required. Further, the Contractor shall be fully responsible for the satisfactory maintenance and repair of the construction and other work undertaken herein, for at least the guarantee period described in the contract.
- C. Further, the Contractor shall take all necessary precaution to prevent damage to any structure due to water pressure during and after construction and until such structure is accepted and taken over by the Owner.

END OF SECTION

SECTION 01510

TEMPORARY UTILITIES

PART 1 GENERAL

1.01 DESCRIPTION

- A. Temporary Utilities: The Contractor shall provide for electricity, ventilation, water, and sanitary facilities as noted below. The Contractor shall furnish, install and maintain all temporary utilities during the Contract period including removal upon completion of work.

1.02 TEMPORARY ELECTRICITY

- A. Cost: Contractor to make separate arrangements with Florida Power & Light and make provisions for all electrical power needs during construction. Contractor shall make, and pay for, any modifications to the existing power service.
- B. Exercise measures to conserve energy

1.03 TEMPORARY VENTILATION

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.04 TEMPORARY WATER SERVICE

- A. Provide, maintain and pay for suitable quality water service required for construction operations at time of project mobilization.
- B. Exercise measures to conserve water.
- C. Extend branch piping with outlets located so water is available by hoses with threaded connections.

1.05 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

PART 2 PRODUCTS

(Not Used)

PART 3 EXECUTION

(Not Used)

END OF SECTION

SECTION 01511

PROTECTION OF EXISTING FACILITIES

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation, all in accordance with requirements of the Contract Documents.
- B. The CONTRACTOR shall verify the exact locations and depths of all utilities shown and the CONTRACTOR shall make exploratory excavations of all utilities that may interfere with the Work. All such exploratory excavations shall be performed as soon as practicable after award of Contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR's Work. When such exploratory excavations show the utility location as shown to be in error, the CONTRACTOR shall so notify the OWNER.
- C. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.

1.02 RIGHTS-OF-WAY

- A. The CONTRACTOR shall not enter upon any rights-of-way involved until notified that the OWNER has secured authority therefore from the proper party. After authority has been obtained, the CONTRACTOR shall give said party due notice of its intention to begin Work, and shall give said party convenient access and opportunity for removing, shoring, supporting, or otherwise protecting utilities or structures within the right-of-way. When two or more contracts are being executed at one time on the same or adjacent land in such manner that Work on one contract may interfere with that on another, the OWNER shall determine the sequence and order of the Work.

1.03 PROTECTION OF STREET OR ROADWAY MARKERS

- A. The CONTRACTOR shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper authorization. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced for easy and accurate restoration. It shall be the CONTRACTOR's responsibility to notify the proper representatives of the OWNER of the time and location that Work will be done. Such notification shall be sufficiently in advance of construction so that there will be no delay due to waiting for survey points to be satisfactorily referenced for restoration. All survey markers or points disturbed by the CONTRACTOR without proper authorization by the OWNER, will be accurately restored by the OWNER at the CONTRACTOR's expense after all street or roadway resurfacing has been completed.

1.04 RESTORATION OF FACILITIES

- A. General: All paved areas cut or damaged during construction shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. All temporary and permanent pavement shall conform to the requirements of the affected pavement owner. All pavements that are subject to partial removal shall be neatly saw cut in straight lines.
- B. Temporary Restoration: Temporary restoration includes repair to all driveways, sidewalks and roadways. They shall be swept clean and be maintained free of dirt and dust. All areas disturbed by the construction activities shall be restored to proper grade, cleaned up, including the removal of debris, trash, and deleterious materials. All construction materials, supplies, or equipment, including piles of debris shall be removed from the area. All temporarily restored areas shall be maintained by the CONTRACTOR. These areas shall be kept clean and neat, free of dust and dirt, until final restoration operations are completed. The CONTRACTOR is responsible to utilize dust abatement operations in the temporarily restored areas as required, to the satisfaction of the ENGINEER.
- C. Temporary Resurfacing: Wherever required by the public authorities having jurisdiction, the CONTRACTOR shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration and improvements.
- D. Temporary Restoration of Sidewalks or Private Driveways: Wherever sidewalks or private driveways have been removed for purposes of construction, the CONTRACTOR shall place suitable temporary sidewalks or driveways at the end of each workday and shall maintain them in satisfactory condition for the period of time fixed by the authorities having jurisdiction over the affected portions before proceeding with the final restoration or, if no such period of times is so fixed, the CONTRACTOR shall maintain said temporary sidewalks or driveways until the final restoration thereof has been made.

1.05 EXISTING UTILITIES AND IMPROVEMENTS

- A. Known utilities and structures adjacent to or encountered in the work are shown in the Drawings. The locations shown are taken from existing records and the best information available from existing utility plans and/or utility agencies. Those shown are for the convenience of the CONTRACTOR only. No responsibility is assumed by either the CITY or the ENGINEER for their accuracy and completeness.
- B. Additional costs incurred for idle time of equipment or labor as a result of uncovering unknown utilities shall be for the CONTRACTOR's account.
- C. Notify the CITY of conflict between existing utilities and work to be performed.
- D. The CONTRACTOR is responsible for coordinating with all public utility agencies (FPL, Bell South, Comcast, etc) that may have utility facilities affecting or interrupting the proposed improvement project.

- E. Notify appropriate utility agencies affected by construction operation, at least forty eight (48) hours in advanced.
 - 1. Under no circumstance shall utilities be exposed without first obtaining permission from the appropriate agency.
 - 2. Once permission has been granted, the existing underground utilities may be located, exposed and temporary support of these utilities shall be provided.
- F. CONTRACTOR is responsible to the CITY and operators of these properties for damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of character brought because of injuries or damage which may result from the construction operations under this Contract.
- G. Neither the CITY nor its representatives or agents shall be responsible to the CONTRACTOR for damages as a result of the CONTRACTOR's failure to protect utilities encountered in the work.
- H. In the event of interruption to domestic water, sewer, storm drain or other utility services as a result of accidental breakage due to construction operation, promptly notify the CITY and cooperate with the CITY in restoration of service as promptly as possible and bear costs of repair. In no event shall interruption of utility service be allowed outside working hours unless granted by the CITY of the utility.
- I. Replace other existing utilities or structures removed or damaged during construction, at the CONTRACTOR's expense, unless otherwise provided for in the Contract Document.
- J. OWNER'S Right of Access: The right is reserved to the OWNER and to the owners of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the Work of this Contract.
- K. Underground Utilities Shown or Indicated: Existing utility lines that are shown or the locations of which are made known to the CONTRACTOR prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damaged, shall be immediately repaired by the CONTRACTOR.
- L. Underground Utilities Not Shown or Indicated: See Article 18 of the Special Conditions.
- M. Approval of Repairs: All repairs to a damaged improvement are subject to inspection and approval by an authorized representative of the improvement owner before being concealed by backfill or other Work.
- N. No fill, excavation material, construction generated debris or equipment shall obstruct water valves, gas meters or sewer manholes. Water, sewer and gas service shall be made accessible to repair or maintenance crews representing the OWNER or a privately-owned utility company.

1.06 TREES WITHIN STREET RIGHTS-OF-WAY AND PROJECT LIMITS

- A. General: The CONTRACTOR shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street rights-of-way and project limits, and shall not trim, relocate or remove any trees unless such trees have been approved for trimming, relocating or removal by the jurisdictional agency or OWNER. All existing trees and shrubs that are damaged during construction shall be trimmed or replaced by the CONTRACTOR. Tree trimming, relocating and replacement shall be in accordance with requirements of local jurisdictions.
- B. Replacement: The CONTRACTOR shall immediately notify the jurisdictional agency and / or the OWNER if any tree is damaged by the CONTRACTOR's operations. If, in the opinion of said agency or the OWNER, the damage is such that replacement is necessary, the CONTRACTOR shall replace the tree at its own expense. The tree shall be of a like size and variety as the tree damaged, or, if of a smaller size, the CONTRACTOR shall pay to the owner of said tree compensatory payment acceptable to the tree owner, subject to the approval of the jurisdictional agency or OWNER.

PART 2 -- PRODUCTS

(Not Used)

PART 3 -- EXECUTION

(Not Used)

- END OF SECTION -

SECTION 01520
CONSTRUCTION AIDS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Furnish, install and maintain required construction aids, remove on completion of Work

1.02 RELATED REQUIREMENTS

- A. Section 01010: Summary of Work

PART 2 – PRODUCTS

2.01 MATERIALS, GENERAL

- A. Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

2.02 CONSTRUCTION AIDS

- A. Provide construction aids and equipment required by personnel and to facilitate execution of the Work; Scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes and other facilities and equipment.
1. Refer to respective sections for particular requirements for each trade.
- B. Maintain facilities and equipment in first-class condition.

2.03 TEMPORARY ENCLOSURES

- A. Provide temporary weather-tight enclosure of exterior walls for storage of materials as work progresses, as necessary to, provide weather protection for materials, and to prevent entry of unauthorized persons.
1. Provide temporary exterior doors with self-closing hardware and padlocks.
 2. Other enclosures shall be removable as necessary for work and for handling of materials.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Consult with the Engineer, review site conditions and factors which affect construction procedures and construction aids, including adjacent properties and public facilities which may be affected by execution of the Work.

3.02 GENERAL

- A. Comply with applicable requirements specified in sections of Division 2 through 16.
- B. Relocate construction aids as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of Owner and other contractors employed at the site.

3.03 REMOVAL

- A. Completely remove temporary materials, equipment and services:
 - 1. When construction needs can be met by use of permanent construction.
 - 2. At completion of Work.
- B. Clean and repair damage caused by installations for construction aids.
 - 1. Remove foundations and underground installations for construction aids.
 - 2. Grade areas of site affected by temporary installations to required elevations and slopes, and clean the area.
- C. Restore permanent facilities used for temporary purposes to specified condition or in kind if not specified.

END OF SECTION

SECTION 01530

BARRIERS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

Furnish, install and maintain suitable barriers and/or fences as required to prevent public entry, prevent entry by children, protect the work, traffic control barriers, protect existing facilities, trees and plants from construction operations; remove when no longer needed, or at completion of work.

1.02 RELATED REQUIREMENTS

Section 01010:	Summary of Work
Section 01570:	Traffic Regulation

PART 2 - PRODUCTS

2.01 MATERIALS, GENERAL

Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

2.02 BARRIERS

Materials are Contractor's option, as appropriate to serve required purpose.

PART 3 - EXECUTION

3.01 GENERAL

- A. Install facilities of a neat and reasonably uniform appearance, structurally adequate for the required purposes.
- B. Maintain barriers during entire construction period.
- C. Relocate barriers as required by the progress of construction.

3.02 FENCES

- A. Provide and maintain fences necessary to assure security of the site during construction to keep unauthorized people and animals from the site when construction is not in progress.
- B. Provide additional security measures as deemed necessary and approved by the Engineer.

3.03 TREE AND PLANT PROTECTION

- A. Preserve and protect existing trees and plants at site which are designated to remain, and those adjacent to site.
- B. Consult with the Engineer, and remove agreed-on roots and branches which interfere with construction.
- C. Protect root zones of trees and plants:
 - 1. Do not allow vehicular traffic or parking.
 - 2. Do not store materials or products.
 - 3. Prevent dumping of refuse or chemically injurious materials or liquids.
 - 4. Prevent puddling or continuous running water.
- D. Carefully supervise excavating, grading and filling, and other construction operations, to prevent damage.
- E. Replace, or suitably repair, trees and plants designated to remain which are damaged or destroyed due to construction operations.

3.04 REMOVAL

- A. Completely remove barricades, including foundations, when construction has progressed to the point that they are no longer needed and when approved by Engineer.
- B. Repair damage caused by construction. Fill and grade areas of the site to the required elevations and clean the area.

PART 4 – MEASUREMENT AND PAYMENT

Payment shall be no special measurement for the work under this section; payment shall be included in the lump sum amount under section 1025, Measurement and Payment Bid Item #1 Mobilization.

END OF SECTION

SECTION 01560

TEMPORARY CONTROLS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Temporary Controls to protect the Work during construction and until final acceptance of the Work.

1.02 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas to allow for City's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide protection for plant life designated to remain. Replace damaged plant life.
- C. Protect vehicular traffic, stored materials, site, and structures from damage.

1.03 FENCING

- A. Provide commercial grade chain link fence or other similar type fencing as needed to protect work.
- B. Provide 4 foot high fence around construction site; equip with vehicular gates with locks.

1.04 DRAINAGE CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water.

1.05 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual Sections of these Specifications.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

1.06 SECURITY

- A. Provide security and facilities to protect Work, and existing facilities, and City's operations from unauthorized entry, vandalism, or theft.
- B. Coordinate with City's security program.

1.07 DUST CONTROL

- A. Execute Work by methods to minimize dust generation from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

1.08 EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Minimize amount of bare soil exposed at one time.
- C. Provide temporary measures as needed to prevent water flow into the Work.
- D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.09 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise from noise produced by construction operations.

1.10 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

PART 2 PRODUCTS

(Not Used)

PART 3 EXECUTION

(Not Used)

END OF SECTION

SECTION 01570

TRAFFIC REGULATION

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Provide, operate and maintain equipment, services and personnel, with traffic control and protective devices, as required to expedite vehicular traffic flow and access for pedestrians around the construction area.
- B. Remove temporary equipment and facilities when no longer required; restore grounds to original, or to specified conditions.
- C. Maintain safe passageway for pedestrian traffic. Conform to Broward County Maintenance of Traffic School/Pedestrian requirements.

1.02 RELATED REQUIREMENTS

- A. Section 01010: Summary of Work
- B. Section 01530: Barriers

1.03 TRAFFIC SIGNALS AND SIGNS

Not Used

1.04 FLAGMEN

- A. Provide qualified and suitably equipped flagmen when construction operations encroach on traffic lanes, as required for regulation of traffic.

1.05 FLARES AND LIGHTS

Not Used.

1.06 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to preclude interference with public traffic or parking, access by emergency vehicles, Owner's operations, or construction operations.
- B. Monitor parking of construction personnel's private vehicles.
 - 1. Maintain free vehicular access to and through parking areas.
 - 2. Prohibit parking on or adjacent to access roads, or in non-designated areas.

1.07 HAUL ROUTES

- A. Consult with governing authorities, establish public thoroughfares, which will be used as haul routes and site access.
- B. Confine construction traffic to designated haul routes.
- C. Provide traffic control at critical areas of haul routes to expedite traffic flow, to minimize interference with normal public traffic.

PART 2 - PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

SECTION 01580
PROJECT IDENTIFICATION AND SIGNS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope of Work:
 - 1. Furnish, install and maintain project signs.
 - 2. Remove signs on completion of construction.
 - 3. Allow no other signs to be displayed.
- B. Related Requirements Described Elsewhere:
 - 1. Summary of Work: Section 01100.

1.02 PROJECT SIGNS

- A. One (1) painted 8' x 6' signs with lettering, size, color and construction in accordance with the requirements of the Owner.
- B. Erect on the site at locations of high public visibility, as approved by the Engineer and the Owner.
- C. Information (subject to change):
 - 1. Owner's name.
 - 2. Project name.
 - 3. Total cost of project.
 - 4. City Project Number.
 - 5. Contractor's name.
 - 6. Granting Agency (if applicable).

1.03 INFORMATIONAL SIGNS

- A. Painted signs with painted lettering, or standard products.
 - 1. Size of signs and lettering: as required by regulatory agencies, or as appropriate to usage.
 - 2. Color: as required by regulatory agencies, otherwise of uniform colors throughout Project.

- B. Erect at appropriate locations to provide required information.
- C. Information:

- 1. Contractor's name and home office address.
- 2. List of subcontractors and type of subcontract work.

1.04 QUALITY ASSURANCE

- A. Sign Painter: Professional experience in type of work required.
- B. Finishes, Painting: Adequate to resist weathering and fading for scheduled construction period.

PART 2 - PRODUCTS

2.01 SIGN MATERIALS

- A. Structure and Framing: May be new or used, wood or metal, in sound condition, structurally adequate and suitable for specified finish.
- B. Sign Surfaces: Exterior softwood plywood with medium density overlay, standard large sizes to minimize joints.
 - 1. Thickness: As required by standards to span framing members, to provide even, smooth surface without waves or buckles.
- C. Rough Hardware: Galvanized.
- D. Paint: Exterior quality.

PART 3 - EXECUTION

3.01 PROJECT IDENTIFICATION SIGNS

- A. Paint exposed surface of supports, framing and surface material; one coat of primer and one coat of exterior paint.
- B. Paint graphics in styles, sizes, and colors selected.

3.02 MAINTENANCE

- A. Maintain signs and supports in a neat, clean condition; repair damages to structures, framing or signs.

3.03 REMOVAL

- A. Remove signs, framing, supports and foundations at completion of project.

- END OF SECTION -

SECTION 01600

MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the Project.

1.03 DEFINITIONS

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry.
 - 1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 2. "Named Products" are items identified by the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature, that is current as of the date of the Contract Documents.
 - 3. "Foreign Products," as distinguished from "domestic products," are items substantially manufactured (50 percent or more of value) outside the United States and its possessions. Products produced or supplied by entities substantially owned (more than 50 percent) by persons who are not citizens of, nor living within, the United States and its possessions are also considered to be foreign products.
 - 4. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
 - 5. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

1.04 SUBMITTALS

- A. Product List: Prepare a list showing products specified in tabular form acceptable to the Engineer. Include generic names of products required. Include the manufacturer's name and proprietary product names for each item listed.
 - 1. Coordinate product list with the Contractor's Construction Schedule and the Schedule of Submittals.
 - 2. Form: Prepare product list with information on each item tabulated under the following column headings:
 - a. Related Specification Section number.

- b. Generic name used in Contract Documents.
 - c. Proprietary name, model number, and similar designations.
 - d. Manufacturer's name and address.
 - e. Supplier's name and address.
 - f. Installer's name and address.
 - g. Projected delivery date or time span of delivery period.
- 3. Initial Submittal: Within 30 days after date of commencement of the Work, submit 3 copies of an initial product list. Provide a written explanation for omissions of data and for known variations from Contract requirements.
 - a. At the Contractor's option, the initial submittal may be limited to product selections and designations that must be established early in the Contract period.
- 4. Completed List: Within 60 days after date of commencement of the Work, submit 3 copies of the completed product list. Provide a written explanation for omissions of data and for known variations from Contract requirements.
- 5. Engineer's Action: The Engineer will respond in writing to Contractor within two weeks of receipt of the completed product list. No response within this period constitutes no objection to listed manufacturers or products but does not constitute a waiver of the requirement that products comply with Contract Documents. The Engineer's response will include a list of unacceptable product selections, containing a brief explanation of reasons for this action.

1.05 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source. When specified products are available only from sources that do not, or cannot, produce a quantity adequate to complete project requirements in a timely manner, consult with the Engineer to determine the most important product qualities before proceeding. Qualities may include attributes, such as visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources producing products that possess these qualities, to the fullest extent possible.
- B. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project; the product selected shall be compatible with products previously selected, even if previously selected products were also options.
 - 1. Each sub-contractor is responsible for providing products and construction methods that are compatible with products and construction methods of other sub-contractors.
 - 2. If a dispute arises between sub-contractors over concurrently selectable, but incompatible products, the Engineer will determine which products shall be retained and which are incompatible and must be replaced.
- C. Foreign Product Limitations: Except under one or more of the following conditions, provide domestic products, not foreign products, for inclusion in the Work:
 - 1. No available domestic product complies with the Contract Documents.
 - 2. Domestic products that comply with the Contract Documents are available only at prices or terms substantially higher than foreign products that comply with the Contract Documents.

- D. Locate Labels and Nameplates according to the following:
1. Labels: Locate required product labels and stamps on accessible surfaces that are not conspicuous.
 2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to the site in an undamaged condition in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
 6. Store heavy materials away from the immediate Project area in a manner that will not endanger the supporting construction.
 7. Store products subject to damage by the elements above ground, under cover in a weather-tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS

2.01 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.
1. Provide products complete with accessories, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
 2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures: The Contract Documents and Specifications govern product selection. Procedures governing product selection include the following:

1. Proprietary Specification Requirements: Where Specifications name only a single product or manufacturer, provide the product indicated. No substitutions will be permitted.
2. Semi-proprietary Specification Requirements: Where Specifications name two or more products or manufacturers, provide one of the products indicated. No substitutions will be permitted.
 - a. Where Specifications specify products or manufacturers by name, accompanied by the term "or equal" or "or approved equal," comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
3. Nonproprietary Specifications: When Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
4. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
5. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by the manufacturer for the application indicated.
 - a. Manufacturer's recommendations may be contained in published product literature or by the manufacturer's certification of performance.
6. Compliance with Standards, Codes, and Regulations: Where Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
7. Visual Matching: Where Specifications require matching an established Sample, the Engineer's decision will be final on whether a proposed product matches satisfactorily.
 - a. Where no product available within the specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category.
8. Visual Selection: Where specified product requirements include the phrase "... as selected from manufacturer's standard colors, patterns, textures ..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Engineer will select the color, pattern, and texture from the product line selected.

PART 3 - EXECUTION

3.01 INSTALLATION OF PRODUCTS

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
- B. Install all equipment as indicated in the Contract Documents, and according to the manufacturer's recommendation to assure proper alignment and operation.

END OF SECTION

SECTION 01700

PROJECT CLOSE OUT

PART 1 GENERAL

1.01 DESCRIPTION

- A. Comply with requirements stated in Conditions of the Contract and in Specifications for administrative procedures in closing out the work.
- B. The items listed in this Section shall not be considered as a complete listing and shall in no way limit requirements that may be stated in other parts of the Contract Documents, but rather should be considered as an aid in preparing for final inspection and project close out.

1.02 RELATED REQUIREMENTS

- A. All applicable sections of the Specifications.
- B. Conditions of the Contract.

1.03 SUBSTANTIAL COMPLETION

- A. When CONTRACTOR considers the work is substantially complete, CONTRACTOR shall submit to OWNER's Representative.
 - 1. A written notice that the work, or designated portion thereof, is substantially complete.
 - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, OWNER's Representative and ENGINEER will make an inspection to determine the status of completion.
- C. Should OWNER's Representative determine that the work is not substantially complete:
 - 1. OWNER's Representative will promptly notify the CONTRACTOR in writing, giving the reasons therefore.
 - 2. CONTRACTOR shall remedy the deficiencies in the work, and send a second written notice of substantial completion to the OWNER's Representative.
 - 3. OWNER's Representative and ENGINEER will reinspect the work.
- D. When OWNER's Representative and ENGINEER concur that the work is substantially complete, OWNER's Representative will:
 - 1. Prepare a Certificate of Substantial Completion form accompanied by CONTRACTOR's list of items to be completed or corrected, as verified and amended by the OWNER's Representative.
 - 2. Submit the Certificate to the OWNER and the CONTRACTOR for their written acceptance of the responsibilities assigned to them in the Certificate.

1.04 FINAL INSPECTION

- A. When CONTRACTOR considers the work is complete, CONTRACTOR shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in the presence of the OWNER's Representative and are operational.
 - 5. Work is completed and ready for final inspection.
- B. OWNER's Representative and ENGINEER will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should OWNER's Representative and ENGINEER consider that the work is incomplete and defective:
 - 1. OWNER's Representative will promptly notify the CONTRACTOR, in writing, listing the incomplete or defective work.
 - 2. CONTRACTOR shall take immediate steps to remedy the stated deficiencies, and send a second written certification to OWNER's Representative that the work is complete.
 - 3. OWNER's Representative and ENGINEER will reinspect the work.
- D. When the OWNER's Representative find that the work is acceptable under the Contract Documents, CONTRACTOR shall request the CONTRACTOR to make closeout submittals.

1.05 REINSPECTION FEES

- A. Should OWNER's Representative perform re-inspections due to failure of the work to comply with the claims of status of completion made by the CONTRACTOR:
 - 1. OWNER will compensate OWNER's Representative and ENGINEER for such additional services.
 - 2. OWNER will deduct the amount of such compensation from the final payment to the CONTRACTOR.

1.06 CONTRACTOR'S CLOSEOUT SUBMITTALS TO OWNER'S REPRESENTATIVE

- A. Evidence of compliance with requirements of governing authorities.
 - 1. Certificate of Occupancy.
 - 2. Certificates of Inspection.

- (a) Mechanical
- (b) Electrical
- (c) Other, as may be required.

- B. Project Record Documents: To requirements of Section 01720.
- C. Evidence of Payment and Release of Liens: To requirements of General and Supplementary General Conditions.
- D. Certificate of Insurance for Products and Completed Operations.

1.07 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to OWNER's Representative.
- B. Statement shall reflect all adjustments to the Contract Sum:
 - 1. The original Contract Sum.
 - 2. Additions and deductions resulting from:
 - (a) Previous Change Orders.
 - (b) Allowances.
 - (c) Unit Prices.
 - (d) Deductions for uncorrected work.
 - (e) Penalties and Bonuses.
 - (f) Deductions for liquidated damages.
 - (g) Deductions for re-inspection payments.
 - (h) Other adjustments.
 - 3. Total Contract Sum, as required.
 - 4. Previous payments.
 - 5. Sum remaining due.
- C. OWNER's Representative will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.08 FINAL APPLICATION FOR PAYMENT

- A. CONTRACTOR shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

DOCUMENT 01720

PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Maintain at the site for Owner review one record copy of:
 - 1. Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Change Orders and other Modifications to the Contract
 - 5. Engineer's Field Orders or Written Instructions
 - 6. Approved Shop Drawings, Working Drawings, and Samples
 - 7. Field Test Reports

1.02 RELATED REQUIREMENTS

- A. Section 01340: Submittals and Substitutions
- B. Section 01700: Contract Closeout

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store documents and samples in Contractor's field office apart from documents used for construction.
- B. File documents and samples in accordance with CSI format number system.
- C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- D. Make documents and samples available at all times for inspection by the Engineer.
- E. As a prerequisite for monthly progress payments, the Contractor is to exhibit the currently updated "record documents" for review by the Engineer and the Owner.

1.04 RECORDING

- A. Label each document "PROJECT RECORD" in neat large printed letters.
- B. Record information concurrently with construction progress.
- C. Drawings; Legibly mark record actual construction:
 - 1. Field changes of dimensions and details.
 - 2. Changes made by Field Order or by Change Order.
 - 3. Details not on original contract drawings.

- D. Specifications and Addenda; legibly mark each Section to record:
 - 1. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed.
 - 2. Changes made by field order or by Change Order.
- E. Shop Drawings (after final review and approval):
 - 1. One set of record shop drawings for each process equipment, piping, (including casings) electrical system and instrumentation system.
- F. Certified site survey and line elevations, and stationing at increments by registered surveyor.

1.05 SUBMITTAL

- A. At close-out, deliver Record Documents to the Engineer for the Owner.
- B. In addition to three (3) signed and sealed hard copies, Contractor shall provide one (1) copy of as-builts in digital format compatible with AutoCAD. Digital format shall meet the City requirements.
- C. Accompany submittal with transmittal letter in duplicate, containing:
 - 1. Date
 - 2. Project Title and Number
 - 3. Contractor's Name and Address
 - 4. Title and Number of each Record Document
 - 5. Signature of Contractor or his Authorized Representative

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION

SECTION 01740
WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Compile specified warranties and bonds, as in Article 5 and 13 of the General Conditions.
- B. Co-execute submittals when so specified.
- C. Review submittals to verify compliance with Contract Documents.
- D. Submit to the Engineer for review and transmittal to Owner.

1.02 RELATED REQUIREMENTS

- A. Instructions to Bidders: Bid or Proposal Bonds
- B. Conditions of the Contract: Performance Bond and Payment Bond
- C. Section 01000: Special Provisions
- D. Section 01700: Contract Closeout

1.03 SUBMITTAL REQUIREMENTS

- A. Assemble warranties, bond service and maintenance contracts, executed by each of the respective manufacturers, suppliers, and subcontractors.
- B. Number of original signed copies required: Three each.
- C. Table of Contents: neatly typed, in orderly sequence. Provide complete information for each item.
 - 1. Product or work item
 - 2. Firm, with name of principal, address and telephone number
 - 3. Scope
 - 4. Date of beginning of Warranty, bond or service and maintenance contract
 - 5. Duration of warranty, bond or service maintenance contract
 - 6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure
 - b. Instances which might affect the validity of warranty or bond
 - 7. Contractor, name of responsible principal, address and telephone number

1.04 WARRANTY SUBMITTAL REQUIREMENTS

- A. In the event that the manufacturer is unwilling to provide a warranty commencing at the time of Owner acceptance, the Contractor shall obtain from the manufacturer at two (2) year warranty commencing at the time of equipment delivery to the job site. This two-year warranty from the manufacturer shall not relieve the Contractor of the one-year warranty starting at the time of Owner acceptance of the equipment.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 02010

SUBSURFACE INVESTIGATION

PART 1 - GENERAL

1.01 RESPONSIBILITY

A. Subsurface investigation and underground utility location shall be exclusively the Contractor's responsibility. Utility companies were contacted during the design. The information shown on the plans is based on those contacts; however the contractor must do his own investigation. No responsibility is assumed by the Owner nor Engineer as to the location of underground utilities or underground features. No claim for additional compensation or time shall be allowed due to any circumstance related to subsurface conditions.

B. Copies of site soil identification borings performed for the City are available.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION OF WORK

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this section.

1.02 WORK INCLUDED

- A. Provide all labor, materials, necessary equipment and services to complete the site demolition work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS."

1.03 RELATED WORK

- A. Section 02300 - Earthwork.
- B. All applicable Sections under Divisions 1, 2, and 3.

1.04 QUALITY ASSURANCE

- A. Demolition contractor qualifications: Minimum of five (5) years experience in demolition of comparable nature.
- B. Requirements of All Applicable Regulatory Agencies:
 - 1. All applicable Building Codes and other Public Agencies having jurisdiction upon the work.

1.05 SUBMITTALS

- A. Certificates of severance of utility services.
- B. Permit for transport and disposal of debris.
- C. Demolition procedures and operational sequence for review and acceptance by ENGINEER.

1.06 JOB CONDITIONS

- A. Existing Conditions
 - 1. The demolition work shall be done as indicated on the construction plans.
 - 2. Remove all demolition debris from the site the same day the work is performed. Leave no deposits of demolished material on site over night.
 - 3. Structural demolition, excavation, backfill and compaction as indicated in drawings.

B. Protection:

1. Erect barriers, fences, guard rails, enclosures, and shoring to protect personnel, structures, and utilities remaining intact.
2. Protect designated trees and plants from damages.
3. Use all means necessary to protect existing objects and vegetation designated to remain, and, in the event of damage, immediately make all repairs, replacements and dressings to damaged plants necessary, to the approval of the ENGINEER at no additional cost to the OWNER.

C. Maintaining Traffic:

1. Ensure minimum interference with roads, streets, driveways, sidewalks, and adjacent facilities.
2. Do not close or obstruct streets and sidewalks without written approval from the ENGINEER.
3. If required by governing authorities, provide alternate routes around closed or obstructed traffic ways.

D. Dust Control:

1. Use all means necessary for preventing dust from demolition operations from being a nuisance to adjacent property owners. Methods used for dust control are subject to approval by the ENGINEER prior to use.

E. Burning:

1. Burning will not be permitted.

F. No explosives will be permitted.

1.07 GENERAL ITEMS

- A. Scope of work shall comprise the following: Provide all labor, materials, necessary equipment and services to complete the demolition and clearing work, as indicated on the contract plans, and as specified herein.
- B. The CONTRACTOR shall provide references to the OWNER to demonstrate a minimum of five years experience in demolition of a comparable nature. Current occupational licenses held by CONTRACTOR shall be submitted to OWNER.
- C. The CONTRACTOR shall be responsible for adherence to all applicable codes of all regulatory agencies having jurisdiction upon the works.

1.08 PRE-DEMOLITION MEETING

- A. A meeting shall be held with the OWNER or his representative at the jobsite to describe

intended demolition and cleaning procedures and schedules. This shall include identifying access routes for bringing necessary equipment in, removing debris from site, and designation of any trees, drives or other items to remain.

1.09 EXISTING CONDITIONS

- A. The CONTRACTOR shall become thoroughly familiar with the site, and of existing utilities and their connections, and note all conditions which may influence the work.
- B. By submitting a bid, the CONTRACTOR affirms that CONTRACTOR has carefully examined the site and all conditions affecting work. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions.
- C. The removal of A.C. pipe shall be done in strict compliance with local, state, and federal regulations. The OWNER shall be notified immediately by the CONTRACTOR should any hazardous materials be discovered during demolition.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that structures to be demolished are discontinued in use and ready for removal.
- B. Do not commence work until all conditions and requirements of all applicable public agencies are complied with.

3.02 PREPARATION

- A. Arrange for, and verify termination of utility services to include removing meters and capping lines.
- B. Notification:
 - 1. Notify the OWNER at least three (3) full working days prior to commencing the work of this Section.

3.03 CLARIFICATION

- A. The drawings do not purport to show all objects existing on the site.
- B. Before commencing the work of this Section, verify with the OWNER all objects to be removed and all objects to be preserved.

3.04 SCHEDULING

- A. Schedule all work in a careful manner with all necessary consideration for the public and the OWNER.

- B. Avoid interference with the use of, and passage to and from, adjacent facilities.

3.05 DISCONNECTION OF UTILITIES

- A. Before starting site operations, disconnect or arrange for the disconnection of all effected utility service.
 - 1. Arrange and pay for disconnecting, removing, capping, and plugging utility services. Disconnect and stub off. Notify affected utility company in advance and obtain approval before starting this work.
 - 2. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction.
 - 3. Place markers to indicate location of disconnected services.
 - 4. On-site drainage structures and drain fields shall be removed in their entirety by methods approved by the OWNER's representative.

3.06 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. Utility Services: Maintain existing off-site utilities, keep in service, and protect against damage during demolition operations.
- B. Prevent movement or settlement of adjacent structures. Provide and place bracing or shoring and be responsible for safety and support of structures. Assume liability for such movement, settlement, damage, or injury.
- C. Cease operations and notify OWNER immediately if safety of adjacent structures appears to be endangered. Take precautions to properly support structures. Do not resume operations until safety is restored.
- D. Prevent movement, settlement, damage, or collapse of adjacent services, sidewalks, driveways and trees. Assume liability for such movement, settlement, or collapse. Promptly repair damage at no cost to the OWNER.
- E. Ensure safe passage of persons around areas of demolition.

3.07 MAINTAINING TRAFFIC

- A. Do not interfere with use of adjacent buildings and facilities. Maintain free and safe passage to and from. Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed travel ways if required by governing authorities.

3.08 POLLUTION CONTROLS

- A. Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing

regulations pertaining to environmental protection.

- B. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations as directed by the OWNER or his representative or governing authorities. Return adjacent areas to condition existing prior to start of work.

3.09 INSPECTION AND PREPARATION

- A. Verify that structures to be demolished are discontinued in use and ready for removal.
- B. Do not commence work until all conditions and requirements of all applicable public agencies are complied with.
- C. Arrange for, and verify termination of utility services to include removing meters and capping lines.
- D. The drawings do not purport to show all objects existing on the site; at the pre-demolition meeting before commencement of the work, verify with the OWNER all objects to be removed and all objects to be preserved.

3.10 DEMOLITION

- A. Pull out any existing utility lines designated for abandonment, irrigation, electrical lines, pull boxes and splice boxes, manholes and catch basins to be removed and all other objects designated to be removed or interfering with the work. Contact the utility company or agency involved for their requirements for performing this work. No equipment and materials shall be allowed to remain in the work area after the day it was removed.
- B. Remove all debris from the site and leave the site in a neat, orderly condition to the full acceptance of the ENGINEER, or the OWNER. No debris shall be left on the site over night.
- C. Clear and Grub and dispose of all trees, shrubs and other organic matter not otherwise addressed on tree removal and relocation plans and specifications.

3.11 DEMOLITION OF SITE STRUCTURES

- A. Demolish all site structure items designated to be removed or which are required to be removed to perform the work. This item does not include buildings.

3.12 REMOVAL OF DEBRIS AND DISPOSAL OF MATERIAL

- A. Material resulting from demolition and not scheduled for salvaging shall become the property of the CONTRACTOR and shall be removed from site and legally disposed of off-site. Disposal shall be timely, performed as promptly as possible and not left until the final cleanup. Material shall not be left on the job site for more than 60 days.
- B. Remove from site contaminated, vermin infested, or dangerous materials encountered and dispose of by safe means so as not to endanger health of workers and public.

- C. Burning of removed materials from demolished structures will not be permitted.

3.13 COMPLETION OF WORK

- A. Leave the site in a neat, orderly condition to the full acceptance of the OWNER.
- B. Dirt remaining after demolition shall be graded level and compacted, in preparation for filling operations to follow demolition. Trenches shall be filled in layers of 12" maximum thickness and compacted in accordance with the technical specifications applicable to backfilling of trenches.

END OF SECTION

SECTION 02100

SITE PREPARATION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Section covers cleaning, grubbing, stripping and demucking of the construction site, complete as specified herein.
- B. Clear and demuck the areas within the limits of construction as required, including drainage easements. The width of the area to be cleared and demucked shall be established by the Engineer prior to the beginning of any work.

1.02 RELATED WORK

- A. Section 02220: Structural Excavation, Backfill & Compaction

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

3.01 CLEARING

- A. The surface of the ground, for the area to be cleared and grubbed shall be completely cleared of all timber, brush, stumps, roots, grass, weeds, rubbish and all other objectionable obstructions resting on or protruding through the surface of the ground. However, those trees which are designated by the Engineer shall be preserved as hereinafter specified. Clearing operations shall be conducted so as to prevent damage to existing structures and installations, and to those under construction, so as to provide for the safety of employees and others. Clearing for structures shall consist of topsoil and vegetation removal. Clearing for pipelines shall consist of vegetation removal.

3.02 GRUBBING

- A. Grubbing shall consist of the complete removal of all stumps, roots larger than 1 ½ inches in diameter, matted roots, brush, timber, logs and any other organic or metallic debris resting on, under or protruding through the surface of the ground to a depth of 18 inches below the subgrade. All depressions excavated below the original ground surface for or by the removal of such objects, shall be refilled with suitable materials and compacted to a density conforming to the surrounding ground surface.

3.03 STRIPPING

- A. In areas so designated, top soil, not muck shall be stockpiled. Topsoil so stockpiled shall be protected until it is placed as specified. Any topsoil remaining after all work is in place shall be disposed of by the Contractor.

3.04 DEMUCKING

- A. When encountered, organic material (muck) shall be excavated and removed. This material may be stockpiled temporarily, but must be disposed of as directed by the Engineer or the Owner.

3.05 DISPOSAL OF CLEARED AND GRUBBED MATERIAL

- A. The Contractor shall dispose of all material and debris from the clearing and grubbing operation by shipping such material and debris and disposing such material to a suitable location as required by the Engineer or the governmental agencies. Disposal by deep burial will not be permitted. The cost of disposal of material (including hauling) shall be considered a subsidiary obligation of the Contractor, the cost of which shall be included in the contract prices.

3.06 PRESERVATION OF TREES

- A. Those trees which are designated by the Engineer or as shown on the drawings for preservation shall be carefully protected from damage. The Contractor shall erect such barricades, guards, and enclosures as may be considered necessary by him for the protection of the trees during all construction operations.

3.07 PRESERVATION OF DEVELOPED PRIVATE PROPERTY

- A. The Contractor shall exercise extreme care to avoid necessary disturbance of developed private property as applicable. Trees, shrubbery, gardens, lawn and other landscaping, which in the opinion of the Engineer must be removed, shall be replaced and replanted to restore the construction easement to the condition existing prior to construction.
- B. All soil preparation procedures and replanting operations shall be under the supervision of nurseryman experienced in such operations.
- C. Improvements to the land such as fences, walls, outbuildings, etc., which of necessity must be removed shall be replaced with equal quality materials and workmanship.
- D. The Contractor shall clean up the construction site across developed private property directly after construction is complete upon approval of the Engineer.

3.08 PRESERVATION OF PUBLIC PROPERTY

- A. The appropriate paragraphs of Articles 3.06 and 3.07, of these specifications shall apply to the preservation and restoration of all damaged areas of public lands, rights-of-way, easements, etc.

END OF SECTION

SECTION 02220

STRUCTURAL EXCAVATION, BACKFILL & COMPACTION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Section includes, except as elsewhere provided, excavation, filling and grading under and around structures to the subgrades and grades indicated on the Drawings.
- B. Supplemental Foundation and Site Preparation Notes may be indicated on the Structural Drawings.

1.02 RELATED WORK

- A. Document 00700: General Conditions
- B. Section 02100: Site Preparation

1.03 QUALITY ASSURANCE

- A. Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.
- B. Testing and Inspection Service: The Owner will engage soil testing and inspection service for quality control testing during earthwork operations.

1.04 JOB CONDITIONS

- A. The Contractor shall examine the site and review the available test borings or undertake his own soil borings prior to submitting his bid, taking into consideration all conditions that may affect his work. The Owner and Engineer will not assume responsibility for variations of subsoil quality or conditions at locations other than places shown and at the time the investigation was made.
- B. Existing Utilities: Locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
 - 1. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult the Engineer and the Owner of such piping or utility immediately for directions.
 - 2. Cooperate with the Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
 - 3. Demolish and completely remove from site existing underground utilities indicated on the Drawings to be removed.
- C. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights. Operate warning lights as recommended by authorities having jurisdiction. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

1.05 PROTECTION

A. Sheeting and Bracing in Excavations:

1. In connection with the construction of below grade structures, the Contractor shall construct, brace, and maintain cofferdams consisting of sheeting and bracing as required to support the sides of excavations, to prevent any movement which could in any way diminish the width of the excavation below that necessary for proper construction, and to protect adjacent structures, existing piping and foundation material from disturbance, undermining, or other damage. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled and rammed.
2. All sheeting and bracing not left in place shall be carefully removed in such a manner as not to endanger the construction of other structures, utilities, existing piping, or property. Unless otherwise approved or indicated on the Drawings or in the Specifications, all sheeting and bracing shall be removed after completion of substructure, care being taken not to disturb or otherwise injure the finished structures. All voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools especially adapted to that purpose, by watering or otherwise as may be directed.
3. The right of the Engineer to order sheeting and bracing left in place shall not be construed as creating any obligation on his part to issue such orders, and his failure to exercise his right to do so shall not relieve the Contractor from liability for damages to persons or property occurring from or upon the work occasioned by negligence or otherwise, growing out of failure on the part of the Contractor to leave in place sufficient sheeting and bracing to prevent any caving or moving of the ground.
4. The Contractor shall construct the cofferdams and sheeting outside the neat lines of the foundations unless indicated otherwise to the extent, he deems it desirable for his method of operation. Sheeting shall be plumb and securely braced and tied in position. Sheeting, bracing and cofferdams shall be adequate to withstand all pressures to which the structure will be subjected. Pumping, bracing, and other work within the cofferdams shall be done in a manner to avoid disturbing any construction of the masonry enclosed. Any movement or bulging which may expense so as to provide the necessary clearances and dimensions.
5. Drawings of the cofferdams and design computations shall be submitted to the Engineer for approval, and construction shall not be started until such drawings are approved. However, approval of these drawings shall not relieve the Contractor of the responsibility for the cofferdam. The drawings and computations shall be prepared and stamped by a Registered Professional Engineer in the State of Florida and shall be in sufficient detail to disclose the method of operation for each of the various stages of construction, if required, for the completion of the substructures.

B. Dewatering, Drainage and Floatation:

1. The Contractor shall construct and place all concrete work, structural fill, bedding rock, and limerock base course, in-the-dry. In addition, the Contractor shall make the final 24-inches of excavation for this work in-the-dry and not until the water level is a minimum of 12-inches below proposed bottom of excavation.

2. The Contractor shall, at all times during construction, provide and maintain proper equipment and facilities to remove promptly and dispose of properly all water entering excavations and keep such excavations dry so as to obtain a satisfactory undisturbed subgrade foundation condition until the fill and structure to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural elevations.
3. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.
4. Wellpoints may be required for predrainage of the soils prior to final excavation for some of the deeper in-ground structures, and for maintaining the lowered groundwater level until construction has been completed to such an extent that the structure or fill will not be floated or otherwise damaged. Wellpoints shall be surrounded by suitable filter sand and no fines shall be removed by pumping. Pumping from wellpoints shall be continuous and standby pumps shall be provided.
5. The Contractor shall furnish all materials and equipment and perform all work required to install and maintain the drainage systems he proposes for handling groundwater and surface water encountered during construction of structures and compacted fills.
6. If requested by the Engineer, the Contractor's proposed method of dewatering shall include a groundwater observation well at each structure to be used to determine the water level during construction of the structure. Locations of the observation wells shall be at structures as approved by the Engineer prior to their installation. The observation wells shall be extended to 6-inches above finished grade, capped with screw-on caps protected by 24" x 24" wide concrete base, and left in place at the completion of this Project.
7. Prior to excavation, the Contractor shall submit his proposed method of dewatering and maintaining dry conditions to the Engineer for approval. However, such approval shall not relieve the Contractor of the responsibility for the satisfactory performance of the system. The contractor shall be responsible for correcting any disturbance or natural bearing soils or damage to structures caused by an inadequate dewatering system or by interruption of the continuous operation of the system as specified.
8. As part of his request for approval of a dewatering system, the Contractor may be requested to demonstrate the adequacy of the proposed system and wellpoint filter sand by means of a test installation. Discharge water shall be clear, with no visible soil particles in a one-quart sample.
9. During backfilling and construction, water levels shall be measured in observation wells located as directed by the Engineer.
10. Continuous pumping will be required as long as water levels are required to be below natural levels.

1.06 SUBMITTALS

- A. The Contractor shall furnish the Engineer, for approval, a representative sample of fill material obtained from on-site sources at least 10-calendar days prior to the date of anticipated use of such material.
- B. For each material obtained from other than on-site sources, the Contractor shall notify the Engineer of the source of the material and shall furnish the Engineer, for approval, a representative sample at least 10-calendar days prior to the date of anticipated use of such material.

PART 2 – PRODUCTS

2.01 MATERIALS

A. General:

1. Materials for use as base, fill and backfill shall be as described below.
 - a. Satisfactory soil materials are defined as those complying with American Association of State Highway and Transportation Officials (AASHTO) M-145, soil classification Groups A-1, A-2-4, A-2-5 and A-3.
 - b. Unsatisfactory soil materials are those defined in AASHTO M-145 soil classification Groups A-2-6, A-2-7, A-4, A-5, A-6 and A-7 along with peat and other highly organic soils.
2. Materials shall be furnished as required from off site sources and hauled to the site.

B. Structural Fill:

1. Structural fill material shall be satisfactory soil material consisting of a minimum of 60 percent clean medium to fine grain sized quartz sand, free of organic, deleterious and compressible material. Rock in excess of 2-1/2-inches in diameter shall not be used in the fill material. Structural fill shall not contain hardpan, stones, rocks, cobbles or other similar materials.

C. Crusher-Run Gravel:

1. The impervious aggregate base, crusher-on gravel, subbase or shoulder course material shall be uniform quality throughout. The material retained on the No. 10 sieve shall be composed of aggregate meeting the requirements for Class A or B coarse aggregate, except the percent of soft fragments allowed shall be as shown in the requirements below. To be used only if requested by Contractor and approved by Engineer.
2. The impervious aggregate may be produced from an approved quarry source, or bank or pit deposit, which will yield a satisfactory mixture conforming to all requirements of these specifications after it has been crushed or processed as a part of the mining operations, or the material may be furnished in two sizes of such gradation that when combined in the central mix plant the resultant mixture shall conform to the required specifications. Impervious aggregate base, subbase or shoulder material shall conform to the following requirements:
 - a. Gradation, Percent by Weight Passing Each Sieve.

12" Sieve	100
3/4" Sieve	60-100
No. 10 Sieve	30-
55	
No. 60 Sieve	8-
35	
No. 200 Sieve	5-
20	

Test on Material Passing No. 10 Sieve Volume Change, Percent
0-18.

Test on Material Retained on 3/8 Sieve Soft Fragments, Percent
0-30.

3. Method of tests shall be in accordance with the following:

Gradation
Volume Change
Soft Fragments

AASH O: T27
GHD: 6
AASHTO: T-189

D. Limerock Base Course:

1. Limerock shall not contain cherty or other extremely hard pieces, or lumps, or balls or pockets of sand material in sufficient quantity as to be detrimental to the proper bonding, finish or strength of the limerock base.
2. Gradation and Size Limits:
At least 97-percent (by weight of the material shall pass a 3-1/2-inch sieve and the material shall be graded uniformly down to dust. The fine material shall consist of dust of fracture. All crushing or breaking up which might be necessary in order to meet such size requirements shall be done before the material is in place.

E. Common Fill:

1. Common fill material shall be satisfactory soil material containing no more than 20-percent by weight finer than No. 200-mesh sieve. It shall be free from organic matter, muck, marl, and rock exceeding 2-1/2-inches in diameter. Common fill shall not contain broken concrete, masonry, rubble or other similar material.
2. Material falling within the above specification, encountered during the excavation, may be stored in segregated stockpiles for reuse. All material which, in the opinion of the Engineer, is not suitable for reuse shall be spoiled as specified herein for disposal of unsuitable materials.

F. Bedding Rock:

1. Bedding rock shall be 3/8" to 3/4-inch washed and graded limerock. This rock shall be graded so that 99-percent will pass a 3/4-inch screen and 80-percent will be retained on a No. 8 screen.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Examine the areas and conditions under which excavating, filling, and grading are to be performed. Do not proceed with the work until unsatisfactory conditions have been corrected.
- B. Examine and accept existing grade of walks, pavements and steps prior to commencement of work and report to Engineer if elevations of existing subgrade substantially vary from elevations shown on the Drawings.

3.02 EXCAVATION

- A. Excavation consists of removal and disposal of material encountered when establishing required grade elevations.

- B. Excavation Classifications: The following classifications of excavation will be made when unanticipated rock excavation or unclassified excavation is encountered in the work. Do not perform such work until material to be excavated has been cross-sectioned and classified by Engineer or specialized geotechnical consultant.
1. Authorized earth excavation includes removal and disposal of pavements and other obstructions visible on ground surface, underground structures and utilities indicated to be demolished and removed, material of any classification indicated in soil boring data on subsurface conditions, and other materials encountered that are not classified as rock excavation or unauthorized excavation.
 2. Unauthorized excavation consists of removal of material beyond the limits needed to establish required grade and subgrade elevations without specific direction of Engineer. Unauthorized excavation, as well as remedial work directed by the Engineer shall be at the Contractor's expense.
 - a. Under footings and foundation bases, fill unauthorized excavation by extending the indicated bottom elevation of the footing or base to the excavation bottom, without altering required top elevation. Lean (unreinforced) concrete fill may be used to bring bottom elevations to proper position, when acceptable to Engineer. Reinforcement shall be placed as needed or directed by the Engineer.
 - b. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of same classifications, unless otherwise directed by Engineer.
- C. Additional Excavation: When excavation has reached required subgrade elevations, notify the Engineer who will reserve the right to contact a specialized geotechnical consultant and make an inspection of conditions.
1. If unsuitable bearing materials are encountered at the required subgrade elevations, carry excavations deeper and replace the excavated material as directed by the Engineer.
 2. Removal of unsuitable material and its replacement as directed beyond the authorized limits will be paid on the basis of contract conditions relative to changes in work.
- D. Stability of Excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction or as shown on the Drawings. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.
1. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- E. Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.
1. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.
 2. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.

- F. Dewatering: Prevent surface water and subsurface or groundwater from flowing into excavations and from flooding project site and surrounding area. Maintain groundwater table level a minimum of one-foot below excavation level.
1. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, wellpoints, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.
 2. Convey water removed from excavations and rainwater to collecting or run-off areas. Establish and maintain temporary drainage ditches and other diversions outside excavation limits for each structure. Do not use trench excavations as temporary drainage ditches.
 3. While dewatering for new Construction in the vicinity of existing structures, depletion of the groundwater level underneath these existing structures may cause settlement. To avoid this settlement, the groundwater level under these structures shall be maintained by appropriate methods of construction as approved by the Engineer.
- G. Material Storage: Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade, and shape stockpiles for proper drainage.
1. Locate and retain soil materials away from edge of excavations.
 2. Dispose of excess soil material and waste materials as herein specified.
- H. Excavation for Structures: Conform to elevations and dimensions shown within a tolerance of plus or minus 0.10 feet, and extending a sufficient distance from footings and foundations to permit placing and removal of concrete formwork, installation of services, other construction, and for inspection, or as shown on the Drawings.
1. In excavating for footings and foundations, take care not to disturb bottom of excavation. Excavated by hand to final grade just before concrete reinforcement is placed. Trim bottoms to required lines and grades to leave solid base to receive concrete.
 2. Do not excavate to the bearing levels designated on the drawings until surface compaction is completed.

3.03 BACKFILL AND FILL

- A. General: Place material in layers to required subgrade elevations, for each area classification listed below.
1. Structural fill shall be used below spread footing foundations, slab-on grade floors, and other structures and as backfill within three feet of the below grade portion of structures.
 2. Crusher-run gravel shall be used under and around drainage sumps. It can be used at the request of the Contractor and if approved by the Engineer as base material for areas approved by the Engineer.
 3. Limerock base course shall be used under roadways, parking areas, and walks and for riprap. Limerock base course may be used by the Contractor at other similar locations if approved by the Engineer or indicated on the Drawings.
 4. Common fill shall be used at all other locations.
 5. Bedding rock shall be used for pipe bedding, under and around manhole base and at other locations indicated on the Drawings or approved by the Engineer.

- B. Backfill excavations as promptly as work permits, but not until completion of the following:
1. Acceptance by Engineer of construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
 2. Inspection, testing, approval, and recording locations of underground utilities.
 3. Removal of concrete formwork.
 4. Removal of shoring and bracing, and backfilling of voids with satisfactory materials.
 5. Removal of trash and debris.
 6. Permanent or temporary horizontal bracing is in place on horizontally supported walls. Layout and location of bracing shall consider loads of the structure as well as the effects of the soil and groundwater.
- C. Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow strip, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.
1. When existing ground surface has a density less than that specified under "Compaction" for the particular area classification, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.
- D. Fill Placement:
1. Material placed in fill areas under and around structures shall be deposited within the lines and to the grades shown on the Drawings or as directed by the Engineer, making due allowance for settlement of the material. Backfill shall be carried up evenly on all walls of an individual structure simultaneously with no more than a two-foot elevation variation allowed. Fill with no more than a two-foot elevation variation allowed. Fill shall be placed only on properly prepared surfaces which have been inspected and approved by the Engineer.
 2. Fill material can be obtained from cut areas within the construction project site. If sufficient satisfactory soil material is not available from excavation on site, the Contractor shall provide fill material as may be required from off-site sources at no additional cost to the Owner.
 3. Fill shall be brought up in substantially level lifts throughout the site, starting in the deepest portion of the fill. The entire surface of the work shall be maintained free from ruts, and in such condition that construction equipment can readily travel over any section. Fill shall not be placed on surfaces that are muddy or against concrete structures until they have attained sufficient strength.
 4. Fill shall be dumped and spread in layers by a bulldozer or other approved method. During the process of dumping and spreading, all roots, debris, and stones greater in size than specified under Materials, shall be removed from the fill areas, and the Contractor shall assign a sufficient number of men to this work to insure satisfactory compliance with these requirements.
 5. If the compacted surface of any layer of material is determined to be too smooth to bond properly with the succeeding layer, it shall be loosened by harrowing or by another approved method before the succeeding layer is placed.

6. All fill materials shall be placed and compacted "in-the-dry." The Contractor shall dewater excavated areas as required to perform the work and in such manner as to preserve the undisturbed state of the natural inorganic soils.

3.04 COMPACTION

- A. General: Control soil compaction during construction providing minimum percentage of density specified on the structural drawings for each area classification. It shall be the Contractor's responsibility to notify the Engineer in writing that penetration tests can be performed. Written notice from the Contractor shall precede completion of compaction operations by at least 2-working days.
- B. Percentage of Maximum Density Requirements:
 1. Compact soil to not less than the following percentages of maximum dry density in accordance with AASHTO T-180.
 - a. Underneath structures and 5-feet 0-inches around perimeter of foundation: Compact top 12-inches of subgrade and each layer of backfill or fill material at 98-percent maximum dry density.
 - b. Building Slabs and Footings: Compact top 12-inches of subgrade and each layer of backfill or fill material at 98-percent maximum dry density.
 - c. Lawn or Unpaved Areas: Compact top 6-inches of subgrade 95-percent maximum dry density.
 - d. Walkways: Compact to 6-inches of subgrade 95-percent maximum dry density.
 - e. Pavements and Steps: Compact top 6-inches of subgrade at 98-percent maximum dry density.
 2. Moisture content of soil shall be within 2-percent of the optimum.
- C. Moisture Control: Where subgrade or layer of soil material that is too wet to permit compaction to specified density.
 1. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
 2. Soil material that has been removed because it is too wet to permit compaction, but is otherwise satisfactory may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to satisfactory value.
- D. Structural fill shall be placed in layers not more than 9-inches loose depth for material compacted by heavy compaction equipment. Each layer shall be compacted by a minimum of six coverages with the equipment described below, to at least 98 percent of maximum dry density as determined by AASHTO-T-180. Incidental compaction due to traffic by construction equipment will not be credited toward the required minimum coverages.
- E. Common fill consisting of other than structural fill shall be placed and compacted in a manner similar to that described above for structural fill, with the following exception: layer thickness prior to compaction may be increased the 12-inches in open area; and common fill except dike fill, required below water level in peat excavation areas may be placed as one lift, in-the-wet, to an elevation one foot above the water level at the time of filling.

- F. Compaction of the fill by such means shall be to the same degree of compaction as obtained by rubber-tired or vibratory roller equipment, and the Engineer may make the necessary tests to determine the amount compactive effort necessary to obtain equal compaction. Large compaction equipment shall not be used within-5 feet of structures. Compaction equipment is subject to approval by the Engineer.
- G. Place fill material in layers not more than 12-inches loose depth for material compacted by hand-operated tampers. Use manually operated sled-type vibratory compactors next to structures and confined areas not accessible to heavy mechanical compaction equipment.
- H. If the Engineer shall determine that added moisture is required, water shall be applied by sprinkler tanks or other sprinkler systems, which will insure uniform distribution of the water over the area to be treated, distribution of the water over the area to be treated, and give complete and accurate control of the amount of water to be used. If too much water is added, the area shall be permitted to dry before compaction is continued.
- I. The Contractor shall supply all hose, piping, valves, sprinklers, pumps, sprinkler tanks, hauling equipment, and all other materials and equipment necessary to place the water in the fill in the manner specified.

3.05 GRADING

- A. General: Uniformly grade-fill areas within limits of project including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such point and existing grades. No soft spots or uncompacted areas will be allowed in the work.
- B. Grading Outside Building Lines: Grade areas adjacent to Buildings as shown on the Drawings, to drain away from structures and to prevent ponding. Finish surfaces free from irregular surface changes, and as follows:
- C. Grading Surface of Fill Under Building Slabs: Grade smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within a tolerance of 1/2-inch when tested with a 10-foot straightedge.
- D. Stones or rock fragments larger than 2-1/2-inches in their greatest dimension will not be permitted in the top 6-inches of the subgrade line of all dike, fills or embankments.
- E. All cut and fill slopes shall be uniformly dressed to the slope, cross section and alignment shown on the Drawings, or as directed by the Engineer to prevent ponding water on driveways, walkways or against structures.
- F. During grading, protect all buried valved extensions and covers, sprinklers and any other mechanical or structural object protruding from below grade.

3.06 FIELD QUALITY CONTROL

- A. Quality Control Testing During Construction: Allow testing service to inspect and approve subgrades and fill layers before further construction work is performed.
- B. If in the opinion of the Engineer, based on testing service reports and inspection, subgrade or fills, which have been placed, are below specified density, provide additional compaction and testing at no additional expense.

3.07 MAINTENANCE

- A. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
 - 1. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.
- B. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.

3.08 DISPOSAL OF SURPLUS AND WASTE MATERIAL

- A. All surplus and unsuitable excavated material shall be disposed of by the Contractor in the following ways.
 - 1. Transport to an appropriate soil storage area and stockpile or spread as needed.
 - 2. Transport and legally dispose of. Any permit required for the hauling and disposing of this material shall be obtained prior to commencing hauling operations.
- B. Suitable excavated material may be used for fill if it meets that specifications for satisfactory material and is approved by the Engineer. Excavated material so approved may be neatly stockpiled at the site where designated by the Engineer provided there is an area available where it will not interfere with the operator of the facility nor inconvenience traffic or adjoining property owners.
- C. Excavated rock may be used in open fill areas only with the approval of the Engineer.

END OF SECTION

SECTION 02276

TEMPORARY EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Designing, providing, maintaining and removing temporary erosion and sedimentation controls as necessary.
- B. Temporary erosion controls may include, but are not limited to, mulching, netting, and watering, on site surfaces and spoil and borrow area surfaces and providing interceptor ditches at ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or maintained within acceptable limits as established by the Owner.
- C. Temporary sedimentation controls include, but are not limited to, silt dams, traps, barriers, and appurtenances at the foot of sloped surfaces which will ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits as established by the Owner.
- D. Contractor is responsible for providing effective temporary erosion and sediment control measures during construction or until final controls become effective.

1.02 SUBMITTALS

- A. Submit schedule for temporary erosion and sedimentation control.

PART 2 – PRODUCTS

2.01 TURBIDITY BARRIERS

- A. Floating turbidity barriers shall comply with the latest FDOT Standard Index #103 of the Florida Department of Transportation Roadway and Traffic Design Standards, latest edition.
- B. Temporary erosion control measures shall conform to the latest FDOT Standard Indexes #102 and #103 of the Florida Department of Transportation Roadway and Traffic Design Standards, latest edition.

2.02 EROSION CONTROL

- A. Mulch: FDOT type per Section 981-3.2, Green Mulch
- B. Netting: fabricated of material acceptable to the Owner.

2.03 SEDIMENTATION CONTROL

- A. Bales: clean, seed free cereal hay type
- B. Netting: fabricated of material acceptable to the Owner
- C. Filter stone: crushed stone conforming to Florida Department of Transportation specifications.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Contractor shall install floating turbidity barrier in the locations detailed in the plans to a depth not less than the canal bottom. The barrier shall be installed in accordance with FDOT Standard Index #103. Other temporary erosion control measures shall conform to FDOT Standard Index #102.

3.02 EROSION CONTROL

- A. Minimum procedures for mulching and netting are:
 - 1. Apply mulch loosely and to a thickness of between 3/4-inch and 1 1/2-inches.
 - 2. Apply netting over mulched areas on sloped surfaces.

3.03 SEDIMENTATION CONTROL

- A. Install and maintain silt dams, traps and barriers as shown on the approved schedule. Hay bales which deteriorate and filter stone which is dislodged shall be replaced as required.

3.04 PERFORMANCE

- A. Should any of the temporary erosion and sediment control measures employed by the Contractor fail to produce results which comply with the requirements of the Owner, Contractor shall immediately take whatever steps are necessary to correct the deficiency at his own expense.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Preparing subgrades for slabs-on-grade, walks, pavements, lawns, and plantings.
 - 2. Excavating and backfilling for buildings and structures.
 - 3. Drainage course for slabs-on-grade.
 - 4. Subbase course for concrete walks and pavements.
 - 5. Base course for asphalt paving.
 - 6. Subsurface drainage backfill for walls and trenches.
 - 7. Excavating and backfilling trenches within building lines.
 - 8. Excavating and backfilling trenches for buried mechanical and electrical utilities and pits for buried utility structures.
- B. Related Sections include the following:
 - 1. Division 2 Section "Site Clearing" for site stripping, grubbing, removing topsoil, and protecting trees to remain.
 - 2. Division 3 Section "Cast-in-Place Concrete" for granular course over vapor retarder.
 - 3. Division 15 and 16 Sections for excavating and backfilling buried mechanical and electrical utilities and buried utility structures.

1.3 DEFINITIONS

- A. Backfill: Soil materials used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Layer placed between the subbase course and asphalt paving.
- C. Bedding Course: Layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.

- E. Drainage Course: Layer supporting slab-on-grade used to minimize capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations.
 - 1. Additional Excavation: Excavation below subgrade elevations as directed by Engineer. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
 - 2. Bulk Excavation: Excavations more than 10 feet (3 m) in width and pits more than 30- feet (9 m) in either length or width.
 - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material exceeding 1 cu. yd. (0.76 cu. m) for bulk excavation or 3/4 cu. yd. (0.57 cu. m) for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted:
 - 1. Excavation of Footings, Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch- (1065-mm-) wide, short-tip-radius rock bucket; rated at not less than 120-hp (89-kW) flywheel power with bucket-curling force of not less than 25,000 lbf (111 kN) and stick-crowd force of not less than 18,700 lbf (83 kN); measured according to SAE J-1179.
 - 2. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 210-hp (157-kW) flywheel power and developing a minimum of 45,000-lbf (200-kN) breakout force; measured according to SAE J-732.
- I. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material 3/4 cu. yd. (0.57 cu. m) or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D 1586, exceeds a standard penetration resistance of 100 blows/2 inches (97 blows/50 mm).
- J. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- K. Subbase Course: Layer placed between the subgrade and base course for asphalt paving, or layer placed between the subgrade and a concrete pavement or walk.
- L. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- M. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 SUBMITTALS

- A. Product Data: For the following:
 - 1. Each type of plastic warning tape.
- B. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
 - 1. Classification according to ASTM D 2487 of each on-site or borrow soil material proposed for fill and backfill.
 - 2. Laboratory compaction curve according to ASTM D 1557 for each on-site or borrow soil material proposed for fill and backfill.

1.5 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548.
- B. Preexcavation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."

1.6 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Engineer and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Engineer not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Engineer's written permission.
 - 3. Contact utility-locator service for area where Project is located before excavating.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM, or a combination of these group symbols; free of rock or gravel larger than **3 inches (75 mm)** in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: ASTM D 2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT, or a combination of these group symbols.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Backfill and Fill: Satisfactory soil materials.

E. Subbase: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2- inch (38-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

F. Base: Naturally or artificially graded mixture of limerock material from the Miami Oolite formation. Material should have a minimum of 70 percent of carbonates (Calcium and Magnesium) With 97 percent passing a 3 1/2 inch screen, and 80 percent passing a 2 inch screen. Material shall be non-plastic and have a liquid limit not greater than 35. Material shall be free from sand, marl, roots, and shall not exceed 1/2 of 1 percent of organics.

G. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (38-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

H. Bedding: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch (25-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

I. Drainage Fill: Washed, narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2- inch (38-mm) sieve and 0 to 5 percent passing a No. 8 (2.36-mm) sieve.

2.2 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility; colored as follows:

B. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, minimum 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

- C. Drainage Fabric: Nonwoven geotextile, specifically manufactured as a drainage geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:
1. Grab Tensile Strength: 110 lbf (490 N); ASTM D 4632.
 2. Tear Strength: 40 lbf (178 N); ASTM D 4533.
 3. Puncture Resistance: 50 lbf (222 N); ASTM D 4833.
 4. Water Flow Rate: 150 gpm per sq. ft. (100 L/s per sq. m); ASTM D 4491.
 5. Apparent Opening Size: No. 50 (0.3 mm); ASTM D 4751.
- D. Separation Fabric: Woven geotextile, specifically manufactured for use as a separation geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods:
1. Grab Tensile Strength: 200 lbf (890 N); ASTM D 4632.
 2. Tear Strength: 75 lbf (333 N); ASTM D 4533.
 3. Puncture Resistance: 90 lbf (400 N); ASTM D 4833.
 4. Water Flow Rate: 4 gpm per sq. ft. (2.7 L/s per sq. m); ASTM D 4491.
 5. Apparent Opening Size: No. 30 (0.6 mm); ASTM D 4751.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Protect subgrades and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary.
- C. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
 2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

3.3 EXPLOSIVES

- A. Explosives: Do not use explosives.

3.4 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch (25 mm). Extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
 - 2. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch (25 mm). Do not disturb bottom of excavations intended for bearing surface.

3.5 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated cross sections, elevations, and grades.

3.6 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to uniform widths to provide a working clearance on each side of pipe conduit.
 - 1. Clearance: 12 inches (300 mm) on each side of pipe or conduit.
- B. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - 1. For pipes and conduit less than 6 inches (150 mm) in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 - 2. For pipes and conduit 6 inches (150 mm) or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.
 - 3. Excavate trenches 6 inches (150 mm) deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

3.7 APPROVAL OF SUBGRADE

- A. Notify Engineer when excavations have reached required subgrade.

- B. If Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
 - 1. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- C. Proof roll subgrade with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof roll wet or saturated subgrades.
- D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer.

3.8 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill may be used when approved by Engineer.
 - 1. Fill unauthorized excavations under other construction or utility pipe as directed by Engineer.

3.9 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow materials and satisfactory excavated soil materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.10 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
 - 2. Surveying locations of underground utilities for record documents.
 - 3. Inspecting and testing underground utilities.
 - 4. Removing concrete formwork.
 - 5. Removing trash and debris.
 - 6. Removing temporary shoring and bracing, and sheeting.
 - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

3.11 UTILITY TRENCH BACKFILL

Not Used

3.12 FILL

- A. Preparation: Remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface before placing fills.
- B. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- C. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and patios, use satisfactory soil material.
 - 3. Under steps and ramps, use engineered fill.
 - 4. Under building slabs, use engineered fill.
 - 5. Under footings and foundations, use engineered fill.
 - 6. Under pavement use base.

3.13 MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air-dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.14 COMPACTION OF BACKFILLS AND FILLS

- A. Place backfill and fill materials in layers not more than 8 inches (200 mm) in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches (100 mm) in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:
 - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches (300 mm) of existing subgrade and each layer of backfill or fill material at 95 percent.
 - 2. Under walkways, scarify and recompact top 6 inches (150 mm) below subgrade and compact each layer of backfill or fill material at 95 percent.
 - 3. Under lawn or unpaved areas, scarify and recompact top 6 inches (150 mm) below subgrade and compact each layer of backfill or fill material at 85 percent.

3.15 GRADING

- A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 - 1. Provide a smooth transition between adjacent existing grades and new grades.
 - 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 - 1. Lawn or Unpaved Areas: Plus or minus 1 inch (25 mm).
 - 2. Walks: Plus or minus 1/2 inch (25 mm).
 - 3. Pavements: Plus or minus 1/4 inch (13 mm).
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch (13 mm) when tested with a 10-foot (3-m) straightedge.

3.16 SUBSURFACE DRAINAGE

3.17 SUBBASE AND BASE COURSES

- A. Under pavements and walks, place subbase course on prepared subgrade and as follows:
 - 1. Place base course material over subbase.
 - 2. Compact subbase and base courses at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.
 - 3. Shape subbase and base to required crown elevations and cross-slope grades.
 - 4. When thickness of compacted subbase or base course is 6 inches (150 mm) or less, place materials in a single layer.
 - 5. When thickness of compacted subbase or base course exceeds 6 inches (150 mm), place materials in equal layers, with no layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick when compacted.

3.18 FIELD QUALITY CONTROL

- A. Testing Agency: The Contractor will engage and pay for a qualified independent geotechnical engineering testing agency to perform field quality-control testing. The Contractor will be responsible for coordinating all testing as needed with the Contractor, the Owner, the Engineer or Architect and the testing agency.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Engineer.

- D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. (186 sq. m) or less of paved area or building slab, but in no case fewer than three tests.
 2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for each 100 feet (30 m) or less of wall length, but no fewer than two tests.
 3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for each 150 feet (46 m) or less of trench length, but no fewer than two tests.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

3.20 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
1. Scarify or remove and replace soil material to depth as directed by Engineer; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

3.21 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Transport surplus satisfactory soil to designated storage areas on Owner's property. Stockpile or spread soil as directed by Engineer.
1. Remove waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION

**SECTION 02480
LANDSCAPE WORK**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and provisions of the Contract, including Contract Conditions, Division -1 Specification Sections, apply to work of this section.

1.02 SCOPE

- A. Provide all plants, materials, tools, equipment, labor, and services necessary to complete the landscape work and related work as indicated on the drawings and in these specifications.
- B. Grade Elevations: Excavation, filling and grading will be as specified on the related documents. Finished or fine grading is specified herein.

1.03 RELATED WORK

- A. Section 02817 - Clearing and Grubbing
- B. Section 02810 - Irrigation System
- C. Section 02485 - General Landscape Sodding

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Installer shall be a firm specializing in landscape work with not less than five (5) years of experience installing landscape work on projects similar in size and scope to this project.
- B. The CONTRACTOR, as part of their bid, will list not less than six (6) projects completed by their company of similar size and scope to the work specified herein. The six (6) or more projects will be listed by project, name, location, owner's name and phone number, and the total paid cost of work executed. The listed projects will be considered as representative of the CONTRACTOR's ability to execute the work specified herein. The OWNER, at their sole discretion, reserves the right to reject any CONTRACTOR's bid which either does not respond to this condition or does not represent satisfactory performance of prior work of similar size and scope as that specified herein.
- C. General: Ship landscape materials with certificates of inspection required by governing authorities. Comply with regulations applicable to landscape materials.
- D. Grades and Standards: All plant material furnished by the CONTRACTOR unless otherwise specified shall be Florida No. 1 or better in accordance with the most recent edition; "Grades and Standards for Nursery Plants", parts 1 and 2, published by Florida Department of Agriculture, Division of Plant Industry, Gainesville, Florida. Provide healthy, vigorous stock, grown in recognized nursery standards in accordance with good horticultural practice and free of disease, insects, eggs, larvae and defects such as knots, sun-scald, injuries, abrasions, or disfigurement. Specialty or accent plant material as noted on the drawings or in the plant list shall be Florida Fancy as defined by said standards.

- E. Analysis and Standards: Package standard products with manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.
- F. Verification: The CONTRACTOR shall provide photographic evidence or videocassette of a representative example of all plant material specified on this project. Other specialty plant material may require individual and specific photographs as noted on the drawings.
- G. Source: The CONTRACTOR will provide the name, address, and phone number of all nursery stock dealers or plant material sources providing material for the project. The CONTRACTOR shall submit certification or verification of source or purchase prior to delivery to the site. Approved equals will only be considered prior to bid opening and notified via addenda.
- H. The OWNER's Landscape Architect or designated individual, herein referred to as the OWNER's Representative or LANDSCAPE ARCHITECT shall have full authority to approve or reject work performed by the CONTRACTOR. The OWNER's Authorized Representative shall also have full authority to make field changes that are deemed necessary.

1.05 JOB CONDITIONS

- A. Examination of the Site:
 - 1. The bidder must acknowledge that they have examined the site, plans and specifications. The submission of a quotation will be considered evidence that examinations have been made.
 - 2. The bidder will verify availability of materials prior to submittal of bid. Submission of a bid will be considered confirmation of availability of specified material.
- B. Field Conditions: The CONTRACTOR will verify drawing dimensions with actual field conditions and inspect related work and adjacent surfaces. The CONTRACTOR will report to the LANDSCAPE ARCHITECT all conditions which prevent proper execution of this work.
- C. The CONTRACTOR shall be responsible for determining the exact size, type, and location of all utilities, services, irrigation, and other underground or overhead appurtenances prior to commencing work. The CONTRACTOR agrees to be fully responsible for any damages which may be occasioned by their failure to locate any or all said utilities, services, and appurtenances at the expense of the CONTRACTOR.
- D. The CONTRACTOR will verify the accuracy of all finish grades within the work area. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.
- E. Excavation: Should any objectionable material, such as concrete, limerock, bricks, roots or other debris, be encountered during landscape operations, they will be removed from the site and legally disposed of by the CONTRACTOR. All open excavations will be properly barricaded and lighted at night.

1.06 SUBMITTALS

- A. Certification: Submit certificates of inspection as required by governmental authorities. Submit manufacturer's or vendors certified analysis for soil amendments and fertilizer materials.

- B. Planting Schedule: Submit a planting schedule, indicating the dates of installation anticipated for this project. Once accepted, revise dates only as approved in writing by the LANDSCAPE ARCHITECT, after documentation of reasons for delay.
- C. The following submittals, defined more specifically in their relative paragraphs herein, are required to be approved by the LANDSCAPE ARCHITECT prior to the authorization or acceptance of any work. The submittals are, but not limited to:
 - 1. Manufacturer's or vendor's certified analysis for soil amendments and fertilizer.
 - 2. Plant material source.
 - 3. Mulch certification or sample.
 - 4. Itemized material cost breakdown.
 - 5. Topsoil and backfill analysis.
 - 6. Representative material photos or video.
 - 7. Certification of herbicides and pesticides.
- D. The following submittals, defined more specifically in their relative paragraphs herein, are required to be approved by the LANDSCAPE ARCHITECT prior to Final Acceptance. The submittals are, but not limited to:
 - 1. Maintenance Instructions: Provide typewritten instructions recommending procedures for maintenance over a one-year period. Submit prior to and in condition of Final Acceptance.
 - 2. Warranty.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.
- B. Protection During Transportation: All plant material will be protected from foliage and bark injury or breakage of branches. All plants transported by open trucks will be adequately covered to prevent windburn, drying or damage to plants. All palm trunks will be adequately supported so as not to damage their root balls or buds.
- C. Trees and Shrubs: Trees to be balled and burlapped shall be root pruned in advance, in accordance with good horticultural practice. Number and timing of root prunings may vary with species. Provide freshly dug trees and shrubs. Do not prune prior to delivery unless otherwise approved by Landscape Architect. Do not bend or bind-tie trees or shrubs in such manner as to damage bark, break branches or destroy natural shape. Provide protective covering during delivery. Do not drop balled and burlapped stock during delivery.
- D. Root Protection: Balled and burlapped plants (B&B) shall be dug with firm natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Balls shall be firmly wrapped with burlap or similar materials and bound with twine, cord or wire mesh. All collected plants shall be balled and burlapped. If balled plants are dropped or otherwise mishandled, or if the balling materials are broken prior to planting, the plant may be rejected by the Landscape Architect.

- E. Protection of Palms: Only a minimum of fronds shall be removed from the crown of the palm to facilitate moving and handling. Sabal palms shall have a minimum of eight fronds remaining and tied to protect the bud unless otherwise specified. Base sucker growth fronds shall be trimmed back to allow for easier handling, however, no stems should be cut off unless authorized by the LANDSCAPE ARCHITECT. Clear trunk (c.t.) measurement shall be as specified after the fronds have been removed. Sabal Palm boots and burns shall be removed except as otherwise directed. Cabbage palms shall be taken from moist soils. All single trunk palms shall be triple braced and staked with new, clean lumber at least six feet in length, to resist tree displacement. (See Planting Details.) All moving of palms shall be in accordance with the provisions for Heavy Trunk Palms, as described in "Florida Grades and Standards for Nursery Plants", Part II. All palms shall be tied and/or braced to protect the bud(s).
- F. Container Grown Plants: Plants grown in containers will be accepted as "B&B" providing that all other specified requirements are met. Container grown plants shall meet plant sizes as specified on the plant list and on the plans, and shall not be governed by container sizes. Minimum root balls of container grown material shall be no more than 25% less proportionately in size than that stated in "Grades & Standards" for nursery plants. Plants shall exhibit a fully developed root system when removed from the container.
- G. Use of Anti-desiccant: At any time between the delivery and installation of plant material exposed to wind, sun, or drying conditions, plant material will be treated with the anti-desiccant specified, in accordance with the manufacturer's directions. Wilting, drying or sunscald will be considered reason for plant rejection.
- H. Care will be taken to protect and properly handle balled and burlapped stock during delivery and installation. If balled plants are dropped or otherwise mishandled, or if the root balls are broken prior to planting, the plant may be rejected by LANDSCAPE ARCHITECT.
- I. Deliver field grown trees, palms, and shrubs after preparations for planting have been completed and plant immediately. If planting is delayed more than four hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist by covering with mulch, burlap or other acceptable means of protection from drying wind and sun. All plants will be watered as necessary until planted. Storage period will not exceed 72 hours. The CONTRACTOR will assume responsibilities for unplanted materials on site at all times and under any circumstances.
- J. Do not prune trees or shrubs prior to delivery unless otherwise approved by LANDSCAPE ARCHITECT. Do not bend or bind-tie trees or shrubs in such manner as to damage bark, break branches or destroy natural shape. Provide protective covering during delivery. Do not drop balled and burlapped stock during delivery or installation.
- K. Cleanup: The CONTRACTOR will keep the premises free from accumulation of waste material, soil, and/or rubbish caused by their employees or work. CONTRACTOR will arrange their material storage so as to not interfere with the operation of the project. CONTRACTOR will clean behind their work immediately and will take necessary precautions to keep concrete, brick and other paving material clean of soil. This will include the use of drop-cloths, etc. Damage to grades or lawns will be repaired immediately and all debris and excess soil removed from the site. Should the CONTRACTOR fail to keep the premises in a clean satisfactory condition, the OWNER reserves the right to hire appropriate personnel to perform clean-up work and back charge the CONTRACTOR for all costs incurred.
- L. Do not remove container-grown stock from containers until time of installation.

1.08 MAINTENANCE

- A. Begin maintenance of plants upon delivery to the site. All plants will be maintained by the CONTRACTOR until final acceptance or by special maintenance agreement as specified or indicated in the Contract Documents. Maintenance by the CONTRACTOR through Final Acceptance shall include all measures necessary to assure a clean appearance and survivability of the plant material.
- B. Maintain trees, palms, shrubs and other plants by watering, pruning, cultivating and weeding as required for healthy growth. CONTRACTOR will be responsible for all landscape maintenance activities during this period including, weeding, fertilizing, mowing and watering. CONTRACTOR will be responsible for all costs associated with maintenance activities (including watering) during the maintenance period. CONTRACTOR will be responsible for the maintenance of "weed free" planting areas, beds and planters through final acceptance. All planting areas must be weed-free at the time of final acceptance. Restore planting saucers. Tighten and repair stake and guy supports and reset trees and shrubs to proper grades or vertical position as required. Spray as required to keep trees and shrubs free of insects and disease.
- C. At no time shall required maintenance applications by the CONTRACTOR exceed a period of 15 days. Maintenance by the CONTRACTOR shall be required through Final Acceptance.
- D. Cleanup: The CONTRACTOR shall at all times keep the premises free from accumulation of waste material, soil, and/or rubbish caused by their employees or work. CONTRACTOR shall clean behind their work immediately and shall take necessary precautions to keep concrete, brick and other paving material clean of soil. This shall include the use of drop-cloths, etc. Damage to grades or lawns shall be repaired immediately and all debris and excess soil removed. Should the CONTRACTOR fail to keep the premises in a clean satisfactory condition, the OWNER reserves the right to hire appropriate personnel to perform clean-up work and back charge the CONTRACTOR for all costs incurred.

1.09 COMPLETION AND ACCEPTANCE

- A. Completion of the work shall be in compliance and conformity with the provisions expressed or implied in the drawings and specifications, associated change orders and field orders.
- B. The acceptability of all material, workmanship, labor and compliance with the specifications, grades and standards will be solely determined by the LANDSCAPE ARCHITECT.
- C. Right to Reject: The LANDSCAPE ARCHITECT will have the right, at any stage of the work, to reject any and all work and materials which, in their opinion, does not meet the requirements of the plans and specifications. Rejected material will be immediately removed from the site and acceptable material substituted in its place.
- D. Substantial Completion site observation will be performed by the LANDSCAPE ARCHITECT, at the request of the CONTRACTOR to observe if the CONTRACTOR has completed the work in substantial compliance with the plans and specifications. All requirements of the specifications will apply until Final Acceptance of the work by the LANDSCAPE ARCHITECT. The request by the CONTRACTOR must be made at least three working days before the anticipated substantial completion site observation.

- E. Final Acceptance: Upon notification by the CONTRACTOR that all defects have been corrected, the LANDSCAPE ARCHITECT will perform a final site observation. Final acceptance will be given upon satisfactory completion of all work, including "punch list" items. The LANDSCAPE ARCHITECT will conduct one final inspection. Any additional inspections as a result of the CONTRACTOR's failure to comply with the punch list, will be done at the CONTRACTOR's expense, based on the LANDSCAPE ARCHITECT's standard hourly rates and expenses. The notification by the CONTRACTOR must be made at least three working days before the anticipated final site observation.

1.10 SEQUENCING AND SCHEDULING

- A. Plant Installation: Proceed with, and complete, landscape work as rapidly as portions of site become available as specified by the Contract Documents and the approved schedule submitted by the CONTRACTOR.
- B. Coordination with Turf Installation: Plant trees and shrubs after final grades are established and prior to planting of turf, unless otherwise acceptable to LANDSCAPE ARCHITECT. If planting of trees and shrubs occurs after turf work, protect turf areas and promptly repair damage to turf resulting from planting operations.
- C. CONTRACTOR will be responsible for coordinating with other Contractors on the job and in the proper sequencing of work.

1.11 WARRANTY

- A. All plant materials (trees, palms, shrubs, ground covers, etc.), landscape accessories (i.e., edging, etc.), and workmanship will be warranted for a period of not less than one year from the date of Final Acceptance of the landscape installation. Turf (sodding, seeding, sprigging) will be warranted for a period of not less than 90 days, unless otherwise specified.
- B. Landscape which was installed in accordance with the drawings and specifications and is damaged or destroyed through vandalism, theft, traffic or by phenomena considered an Act of God, will be replaced by the CONTRACTOR at the CONTRACTOR's expense through the construction period and until Final Acceptance.
- C. After Final Acceptance by the LANDSCAPE ARCHITECT and OWNER, the OWNER will be responsible for the maintenance of the landscape. It will be understood that in accordance with the terms of the warranty that the CONTRACTOR must promptly inform the OWNER if proper maintenance is not being given to the installation. Such notice will be in writing outlining corrective measures to be taken with a copy to the LANDSCAPE ARCHITECT.
- D. Inspections by the CONTRACTOR of the job will be made during the warranty period to determine and assure proper maintenance. No claim shall be made by the CONTRACTOR that invalidates the warranty based on the OWNER's lack of or improper maintenance of the landscape without written documentation by the CONTRACTOR to the OWNER, with a copy to the LANDSCAPE ARCHITECT, that identifies said maintenance concerns.
- E. At the end of the warranty period, inspections will be made jointly by the OWNER, LANDSCAPE ARCHITECT, and CONTRACTOR. All plants not in a healthy growing condition will be removed and replaced with plants of a like kind and size, except for defects resulting from neglect by OWNER, abuse or damage by others, or unusual phenomena or incidents which are beyond CONTRACTOR's control.
- F. All replacement plants will be guaranteed for an additional period of one year. Replacement turf will be guaranteed for an additional period of 90 days unless otherwise specified.

PART 2 PRODUCTS

2.01 QUANTITIES

- A. All quantities indicated on the plans are intended as a guide for the bidders and does not relieve the bidder of their responsibility to do a comprehensive estimation of plant and material quantities. The CONTRACTOR will be responsible for the quantities shown and illustrated on the drawings.
- B. Should a discrepancy occur between the bidder's bid quantity and the plant list quantity, the LANDSCAPE ARCHITECT is to be notified for clarification prior to the submission of bids.
- C. After receipt of bids any quantities added to or deleted from the bid schedule by the LANDSCAPE ARCHITECT will be at the agreed upon unit cost as reflected in the itemized breakdown submitted, and will not effect any other unit price within the contract whether the contract is based on unit costs or lump sum.

2.02 TOPSOIL

- A. For all landscape areas, the CONTRACTOR will provide and install topsoil as defined on the drawings or within the contract bid form.
- B. Topsoil will be fertile, natural topsoil, typical of the locality, obtained from a well-drained site where topsoil occurs not less than four inches deep. Do not obtain from bogs or marshes. It will be without admixture of subsoil or clay and will be free of stones, lumps, sticks, plants or their roots, toxic substances or other extraneous matter that maybe harmful to plant growth or would interfere with future maintenance.
 - 1. Obtain topsoil from local sources or from areas having similar soil characteristics to that found at the project site.
- C. Topsoil will contain at least two percent of organic matter and will have a pH range of 6.0 - 7.0, unless otherwise recommended by the soil analysis.

2.03 BACKFILL SOIL MIXTURE

- A. CONTRACTOR will provide backfill soil mixture for all trees, shrubs and ground covers.
- B. Backfill mixture:

50% Topsoil (existing soil, if determined acceptable by the soil analysis, or topsoil provided by the CONTRACTOR).
50% Soil Amendments (60% peat, 40% composted manure, unless soil analysis recommends otherwise).

2.04 SOIL AMENDMENTS (AS QUALIFIED BY THE SOIL ANALYSIS)

- A. Lime: Natural dolomitic limestone containing not less than 85% percent of total carbonates with a minimum of 30% magnesium carbonates, ground so that not less than 90% passes a 10-mesh sieve and not less than 50% passes a 100-mesh sieve.
- B. Aluminum Sulfate: Commercial grade.
- C. Peat Humus: Finely divided peat, so completely decomposed and free of fibers that biological identity is lost. Provide in granular form, free of hard lumps, and with a pH range suitable for intended use.

- D. Bonemeal: Commercial, raw, finely ground, 4% nitrogen and 20% phosphoric acid.
- E. Supersulfate: Soluble mixture of treated minerals; 20% available phosphoric acid.
- F. Sand: Clean washed sand, free of toxic materials.
- G. Perlite: Conforming to National Bureau of Standards PS 23.
- H. Vermiculite: Horticultural grade, free of toxic substances.
- I. Sawdust: Rotted sawdust, free of chips, stones, sticks, soil, or toxic substances and with 7.5 pounds of nitrogen uniformly mixed into each cubic yard of sawdust.
- J. Manure: Well rotted, unleached stable cattle manure containing not more than 20% by volume of straw, sawdust, or other bedding or materials and containing no chemical or ingredients harmful to plants.

2.05 FERTILIZER

- A. For trees, palms, shrubs, and ground covers, the CONTRACTOR will provide and install fertilizer. Submit fertilizer analysis to LANDSCAPE ARCHITECT for approval.
- B. All fertilizers will be uniform in composition, free flowing and suitable for application by mechanical spreader equipment. Fertilizers will be delivered to the site fully labeled according to applicable State Fertilizer Laws. The following information will be shown on the fertilizer bag or package or on a tag:
 - 1. Name and address of manufacturer
 - 2. Name, brand or trademark
 - 3. Number of net pounds of ready mixed material in the package
 - 4. Chemical composition or analysis
 - 5. Guarantee of analysis
 - 6. If a brand or grade of fertilizer is delivered in the bulk, a written statement having the above listed information must accompany each load
- C. All fertilizers shall have a written statement containing the following information with each load:
 - 1. Weight of each commercial fertilizer used in the custom mixing
 - 2. The guaranteed analysis of each commercial fertilizer used in the custom mixing
 - 3. Total weight of fertilizer delivered in each load
 - 4. The manufacturer of each of the commercial fertilizers used in the custom mix
 - 5. Guaranteed analysis of each load to be stated as follows:
 - a. Percent of Nitrogen
 - b. Percent of total available Phosphoric Acid
 - c. Percent of total Soluble Potash
 - 6. Name and address of the person providing the fertilizer

D. Fertilizer Formulation

1. Trees, shrubs, and ground covers will have an 8-10-10 analysis fertilizer containing a minimum of 2% magnesium, 2% water soluble magnesium, 2% manganese, 2% iron, and quantities of other secondaries or a fertilizer analysis as recommended by soil testing lab. A minimum of 1.75 units will be slow release nitrogen.
2. Palms will have a 13-3-13 analysis fertilizer containing a minimum of 5% magnesium, 5% water-soluble magnesium, 1.5% manganese, 1.5% iron, and other secondaries or a fertilizer analysis as recommended by soil testing lab. A minimum of 4.85 units will be slow release nitrogen and 2.45 units slow release potash.
3. Turf areas will have a 16-4-8-analysis fertilizer containing a minimum of 2% magnesium, 2% water-soluble magnesium, 2% manganese, 2% iron, and quantities of other secondaries or a fertilizer analysis recommended by soil testing lab unless otherwise specified. Season of application may warrant a differing analysis than indicated above.
4. No substitutions will be made without notification to and acceptance by the LANDSCAPE ARCHITECT. The CONTRACTOR will submit, fertilizer labels to the LANDSCAPE ARCHITECT, defining the guaranteed analysis of the proposed substitution.

2.06 MULCH

- A. Mulch material will be the type and grade as indicated on the drawings. Mulch will be of a relative uniform particle size, and will be free of sticks, stones, leaves, weed seeds, and any other debris.
- B. Submit certification of mulch or a one-quart sample to the LANDSCAPE ARCHITECT for approval.

2.07 PLANT MATERIALS

- A. Summary of Materials Lists: An itemized list of plants is shown on the drawings and complete requirements for these plants are part of these specifications.
- B. Description: Species and variety as specified on the drawings and delivered to the site will be certified true to their genus, species, and variety and as defined within the current edition of International Code of Nomenclature for Cultivated Plants, issued by the International Union of Biological Sciences.
- C. Quality: Provide trees, shrubs, and other plants of size, genus, species, and variety shown and scheduled for landscape work and complying with recommendations and requirements of ANSI 260.1 "American Standard or Nursery Stock" and Florida #1 or better "Grades and Standards for Nursery Plants", Parts I and II, State Plant Board of Florida (most recent edition) unless directed by the LANDSCAPE ARCHITECT. All accent and specialty plants will be Florida Fancy as defined by the above referenced standards.
- D. Plants will be nursery grown unless otherwise approved by LANDSCAPE ARCHITECT and will be of varieties specified on the plant list bearing botanical names.
- E. Planting stock will be well branched and well formed, sound, vigorous, healthy, free from disease, sun-scale, windburn, abrasion, weeds, and harmful insects or insects eggs; and will have healthy, normal unbroken root systems. Trees will be symmetrically developed, of uniform habit of growth, with straight trunks or stems, and free from objectionable disfigurements or scars.

- F. Container-grown trees, shrubs, and ground covers will have sufficient root growth to hold earth intact when removed from the container and will not be root-bound.
- G. Balled and burlapped plants (B&B) will be dug with firm natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Balls will be firmly wrapped with burlap or similar materials and bound with twine, cord or wire mesh. All collected plants will be balled and burlapped.
- H. Palms: Only a minimum of fronds will be removed from the crown of the palm to facilitate moving and handling. Sabal palms will have a minimum of eight fronds remaining and tied to protect the bud, unless otherwise noted on the drawings. Base sucker growth fronds will be trimmed back to allow for easier handling, however, no stems should be cut off unless authorized by the LANDSCAPE ARCHITECT. Clear trunk (c.t.) measurement will be as specified after the fronds have been removed. Sabal Palm boots and burns will be removed except as otherwise directed. Sabal palms will be taken from moist soils. All moving of palms will be in accordance with the provisions for Heavy Trunk Palms, as described in "Florida Grades and Standards for Nursery Plants", Part II (most recent edition). All palms will be tied and/or braced to protect the bud(s).
- I. Plants will have been grown under climatic conditions similar to those in the locality of the project. Plants budding into leaf or having soft growth will be sprayed with an anti-desiccant at the nursery before digging.
- J. Quality and Size
 - 1. Habit and growth will be normal for the species and will meet or exceed the measurements specified in the plant list, which are the minimum acceptable sizes.
 - 2. Measurement will be performed before pruning with branches in normal position and to the average extents of growth. Any necessary pruning will be done at the time of planting with the approval of the LANDSCAPE ARCHITECT.
 - 3. Where measurements are called out as a range in the plant list (e.g., 10-12'), the average height of the total of all such specified trees will fall at the middle of the range (e.g., 11'). The number of plants that are smaller than the average will not exceed the number that are larger than the average.
 - 4. Plants larger than specified may be used if approved by the LANDSCAPE ARCHITECT, but the use of such plants will not increase the Contract price. The size of container or root ball for large plants will be increased in proportion to the size of the plant specified.
- K. Substitutions
 - 1. Plant substitution requests by the CONTRACTOR will be considered by the LANDSCAPE ARCHITECT only upon submission of proof that any plant is not obtainable in the type or size specified. Under no circumstances will unauthorized substitutions be included in the Bid Proposal and breakdown.
 - 2. The LANDSCAPE ARCHITECT will determine the nearest equivalent replacement in an obtainable size and variety.
 - 3. If contract is based on unit costs, the unit price of the substitute item will not exceed the bid item replaced, unless authorized by LANDSCAPE ARCHITECT.

- L. Inspection: The LANDSCAPE ARCHITECT may inspect trees and shrubs either at place of growth or at site before planting, for compliance with requirements for genus, species, variety, size and quality. LANDSCAPE ARCHITECT retains right to further inspect trees and shrubs for size and condition of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected plant material immediately from the project site. If additional inspections are warranted, field verifications of specified plant material will be performed by the LANDSCAPE ARCHITECT at the CONTRACTOR's expense utilizing WilsonMiller, Inc. standard hourly rates, including expenses.

2.08 GUYING AND STAKING MATERIALS

- A. Guying and staking materials will be as indicated on the planting details.

2.09 ANTI-DESICCANT

- A. Anti-desiccant will be "Wilt-Pruf" or approved equal, delivered in manufacturer's unopened containers and used in accordance with manufacturer's instructions.
- B. Anti-desiccant will be an emulsion that will provide a film over plant surfaces permeable enough to permit transpiration, and not damage the plant.

2.10 HERBICIDES

- A. Herbicides used must comply with all applicable State and Federal Laws and be registered with the U.S. Environmental Protection Agency. Submit certification of type to the LANDSCAPE ARCHITECT for approval.
- B. Herbicide control will be:
 - 1. Pre-emergence application of "Treflan 5% Granules" or equivalent, applied according to manufacturer's recommendations and incorporated into soil as specified.
 - 2. Post-emergence application of "Roundup" or equivalent, applied as specified by manufacturer. Spray with extreme care to avoid contact with landscape plantings and adjoining turf areas.

2.11 PESTICIDES

- A. Pesticides used must comply with all applicable Federal, State and local laws and be registered with the U.S. Environmental Protection Agency.
- B. Pesticide Control shall utilize lindane or an approved equal. Submit certification of pesticide analysis to the LANDSCAPE ARCHITECT for approval.

2.12 EDGING

- A. Edging, where and when specified, will be as specified on the plans and will be one of the following:
 - 1. Ryerson 4" x 1/8" steel edging by Ryerson, Chicago, Illinois (312) 762-2121.
 - 2. Curv-Rite Aluminum Edging, Grand Rapids, Michigan (616) 878-3845.
 - 3. 1" x 4" Bender Board of sound new Southern Pine.
- B. If no specific edging is indicated or specified on the drawings, the CONTRACTOR will install five-inch-deep mulch trenches at all plant bed transitions.

2.13 SUPERABSORBENT POLYMER

- A. Material will be as specified on the plans and will be one of the following:
 - 1. Aqua Mend
 - 2. Terra Sorb
- B. Material to be installed at the amount and rates specified or in accordance to manufacturer's recommendations.

PART 3 EXECUTION

3.01 COORDINATION OF WORK

- A. The CONTRACTOR will be responsible for complete coordination of planting operations with the other Contractors on the job. Repair of damage to plants, grades, lawns, etc., during installation will not be considered as an extra, and not be charged to the "OWNER".

3.02 GENERAL PREPARATION

- A. Site Preparation and Soil Amendments
 - 1. Prior to beginning the work of this section, verify that rough grading and site preparation have been properly completed.
 - 2. CONTRACTOR will remove residual debris from the site and provide a finished grade that is in conformance with the plans.
 - 3. Eradicate any weak growth in all landscape planting areas prior to planting operations.
 - 4. Spray existing grass and weeds with Round-up. Use as many applications as necessary to completely kill all grass and weeds.
 - 5. All shrub, palm and tree planting areas to be 100% weed free. Kill existing weeds, water to encourage dormant weed seed germination and then spray the area until it is free of all noxious weed species.
 - 6. When grass and weeds are completely dead, add soil amendments in the planting and sod areas as specified. Soil amendments shall be thoroughly tilled in with existing soil, to a minimum depth of 12".
 - 7. CONTRACTOR shall keep all areas prepared for planting weed-free until planting takes place.
 - 8. Care and deposition of Existing Vegetation: All unpaved areas within the landscape contract limits as denoted on the drawings, shall be cleared of noxious weeds, dead material, together with any material noted for removal on the plans or within the Contract Documents.

3.03 FINISHED GRADING

- A. CONTRACTOR will be responsible for finished (fine) grading of all landscape bed and turf areas prior to commencement of any installation of plant material.

- B. General: As a final grading operation, the surface of the earthwork will be shaped to conform to the lines, grades, and contours shown on the plans. For cuts or fills where plant growth will be established, slopes will be left in a roughened condition as approved by the LANDSCAPE ARCHITECT. Hand dressing will be required in confined areas where equipment operation is restricted.

CONTRACTOR will take necessary precautions to prevent erosion of slopes before and after finish grading. Any erosion damage will be repaired at the expense of the CONTRACTOR until Final Acceptance of the project.

- C. Tolerances: In final shaping of the surface of earthwork, a tolerance of 0.1 foot above or below the plan elevations and contours will be allowed with the following exceptions:
1. In areas where sod, ground cover or other finish landscape surface will be used, an allowance shall be made for the thickness of sod, etc. that will result in the finish landscape elevation to be congruent with the adjoining surface.
 2. Earthwork shall be shaped to match adjacent pavement, curb, sidewalk, structures, etc. with applicable allowance for sod, etc.
 3. Ditch bottoms may have higher tolerances approved by the LANDSCAPE ARCHITECT or ENGINEER provided that no water will be impounded or that no stormwater flows will be imported.
 4. Absolutely no back of curb, or any other vertical or horizontal gaps in construction will be acceptable.
- D. CONTRACTOR will take the appropriate measures necessary to maintain the positive flow of surface water runoff away from buildings, structures, and walkways, etc. to stormwater conveyance systems. The CONTRACTOR will notify the LANDSCAPE ARCHITECT of any conflicts in general grading and the positive flow of surface water to stormwater conveyance systems. CONTRACTOR will not knowingly commence plant installation where drainage conditions will adversely affect newly installed plant materials and any reinstallation of plant materials will be at the CONTRACTOR's expense.

3.04 SOIL PREPARATION

- A. Soil Testing:

1. CONTRACTOR will be responsible for having samples of the existing soil tested. Samples will be taken from several representative areas, and are to be tested for acidity, fertility and general composition by a recognized commercial or governmental agency. The CONTRACTOR will furnish three copies of the soil analysis and recommended amendments (to meet the desired pH, nutritional and organic levels determined to be adequate for the area) prepared by the testing agency.
2. Existing soil must meet the requirements for topsoil as specified in Section 2.02, B and C. If existing soil does not meet the specified requirements, CONTRACTOR will provide soil amendments as recommended by the approved testing agency to bring soil analysis up to the proper levels. If the existing soil cannot be amended to the proper levels, the CONTRACTOR will excavate the unacceptable soil and replace with clean topsoil.

- B. CONTRACTOR will excavate all limerock, compacted subgrade or any other deleterious material from all landscape areas, and replace excavated material with acceptable topsoil. Any compacted fill or subgrade must be pierced through completely to allow for percolation and drainage from the entire bed area in question.

- C. Additional soil amendments will be added as recommended by the soil analysis to the areas as indicated on the plans. Additional soil amendment will be added to all landscape bed areas and to all trees, palms, shrubs, ground covers as indicated herein. Soil amendments will be thoroughly tilled in with the existing soil to a minimum depth of 12 inches from existing grade.

3.05 EXISTING VEGETATION

- A. Relocated Existing Plants: Existing plants shown on the drawings to be relocated will be root-pruned sufficiently in advance of planting time to assure safe moving and will be protected and treated as new material in all respects. Pruning of the canopy or foliage will be conducted by the CONTRACTOR under the direction of the LANDSCAPE ARCHITECT. Plant installation will be in accordance with these specifications.
- B. Existing plant material shown on the plans to remain will not be disturbed. New plant material to be installed will be field adjusted to accommodate existing plant material such as overhead canopy trees, understory trees and shrubs or ground cover. Therefore, no existing plant material will be altered by removing cutting, trimming or destroying in order to install new plant material unless directed to do so by the LANDSCAPE ARCHITECT.
- C. If lawns have been established prior to planting operations, CONTRACTOR will make all efforts to protect turf areas during planting operations. If lawn is damaged by the CONTRACTOR, it will be restored to its original condition by the CONTRACTOR and at their time and expense.

3.06 TREE, SHRUB AND GROUND COVER PLANTING

- A. All planting will be performed by personnel familiar with accepted horticultural procedures of planting and under the constant supervision of a qualified Foreman. The LANDSCAPE ARCHITECT reserves the right to have the Foreman removed from the job if, in the opinion of the LANDSCAPE ARCHITECT, the Foreman is not demonstrating an acceptable knowledge of horticultural standards or construction procedures. Any time delays or expenses incurred by the Foreman's dismissal will be at the CONTRACTOR's expense.
- B. All planting is to be conducted as shown on drawings and as specified herein and in strict accordance with standard horticultural practices.
- C. Coordination with Lawns: Plant trees and shrubs after final grades are established and prior to planting of lawns, unless otherwise acceptable to LANDSCAPE ARCHITECT. If planting of trees and shrubs occurs after lawn work, protect lawn areas and promptly repair damage to lawns resulting from planting operations. Any damage to lawns caused by these procedures will be corrected by the CONTRACTOR.
- D. Layout:
 - 1. Plant material locations and bed outlines will be staked out on site according to the plans by CONTRACTOR and approved by LANDSCAPE ARCHITECT prior to the commencement of material installations.
 - 2. Layout: Location for plants and outlines of areas to be planted are indicated on the drawings. All plants will be located in the field by the CONTRACTOR, to the satisfaction of the LANDSCAPE ARCHITECT. Where construction or utilities below ground or overhead are encountered, or where changes have been made in the construction, necessary adjustments will be approved by the LANDSCAPE ARCHITECT. The CONTRACTOR must receive approval of LANDSCAPE ARCHITECT prior to installation of plant material. Failure to do so may result in the CONTRACTOR re-executing work at the request of the LANDSCAPE ARCHITECT and at the CONTRACTOR's expense.

E. Installation of Trees, Palms, Shrubs, and Ground Covers:

1. Plant pits will be circular in outline with sides approximately vertical with bottom excavation slightly raised at center to provide proper drainage and will extend to the required sub-grades as determined by the plant's root ball or growing container size. Loosen hard subsoil in bottom of excavation. The minimum depth of plant pits specified below will be measured from the finish grade.
2. For balled and burlapped (B&B trees and shrubs) make excavations at least half again as wide as the ball diameter and equal to the ball depth, plus following allowance for setting of ball on a layer of compacted backfill. The top of the root ball shall be even with the surrounding finished grade. Allow for three-inch-thick setting layer of planting soil mixture. Refer to planting details for minimum pit sizes.
3. Balled and Burlapped Plants: After final setting loosen burlap wrappings exposing the top of the root ball, leaving the ball unbroken. Remove excessive amounts of burlap and string wrapping materials to eliminate voids which may be caused upon decomposition (See planting details).
4. Container Grown Plants: Plant pits for container materials will be formed flat on the bottom. Containers will be removed carefully to prevent damage to plant or root system. Excavate as specified for balled and burlapped stock, adjusted to size of container width and depth. Refer to planting details for minimum pit sizes.
5. All excavated soils from plant pits or beds will be used on site, if needed, or removed from the site at no additional cost to the OWNER. Excavated soils, if acceptable topsoil quality, may be mixed with soil amendments to compose the backfill soil mixture.
6. Mass annual planting beds as specified on the drawings will be excavated, to a minimum depth of six inches. Only planting mixture as specified on the planting details will be used to backfill annual beds areas.
7. Setting Trees, Palms, and Shrubs: Unless otherwise specified, all trees and shrubs will be planted in pits, centered, and set on compacted soils to such depths that the finished level of the plant after settlement will be the same as that at which the plant was grown. They will be planted upright and faced to give the best appearance or relationship to viewing stations, approaches, or adjacent structures. Remove burlap from upper 1/2 of balls. When set, place additional backfill around base and sides of ball and work each layer to settle backfill and eliminate voids and air pockets. No burlap will be pulled out from under the balls. Platforms, wire and surface binding from top and sides of the balls will be removed. All broken or frayed roots will be cut off cleanly. After placing approximately 2/3 of planting backfill, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill. No filling around trunks will be permitted. Additional soils will be filled in to the level of the finished grade, allowing for minimum three inches of mulch or as otherwise specified. Form a shallow saucer around each tree to a size needed for adequate water retention (See planting details).
8. Set container grown stock, as specified for balled burlapped stock, except cut cans on two sides with an approved can cutter; remove bottoms or wooden boxes after partial backfilling so as not to damage root system.
9. Back Fill Soils: Plant pits will be backfilled with backfill soil mixture as specified on the plans. All backfill soils will be free of all clods, sticks, roots, stones or other extraneous matter.
10. Fertilizer will be placed during backfilling, at the ratio recommended by the soil analysis.

11. Dish top of backfill to allow for mulching in tree/palm pits.

12. Protection During Planting: Trees and palms moved by winch or crane will be thoroughly protected from chain marks, girdling or bark slippage by means of burlap, wooden battens or other approved methods. No nails or spikes will be driven into palm or tree trunks. Any damage to tree/palm trunks, limbs, structure, etc. will be grounds for rejection.

F. Pruning

1. Prune, thin out and shape trees, palms, and shrubs in accordance with standard horticultural practices. Dead and broken limbs will be removed. Balled and burlapped trees and shrubs will be pruned to reduce total amount of anticipated foliage by 1/5. Typical growth habit of individual plant will be retained with as much height and spread as is practicable. Cuts will be made with sharp instruments, and will be flush with trunk or adjacent branch to insure elimination of stubs. "Headback" cuts at right angles to line of growth will not be permitted. Tree will not be poled or the leader removed, nor will the leader be pruned or "topped off". Trimming will be removed from the site. Cuts one inch in diameter and larger will be painted with black asphalt antiseptic paint or an approved equal.

2. Remove and replace excessively pruned or misformed stock resulting from improper pruning.

G. Anti-desiccant: If deciduous trees or shrubs are moved in full-leaf, out of season, spray with anti-desiccant at nursery before moving and again two weeks after planting, using power spray to provide an adequate film over trunks, branches, stems, twigs, and foliage.

H. Staking and Guying

1. Stakes and Guys: Provide stakes and deadmen of sound new southern pine, unless otherwise specified. Provide wire ties and guys of 2-strand, twisted pliable galvanized iron wire not lighter than 12 gauge with one-coated turnbuckles. Provide not less than 1/2 inch diameter protective hose of uniform color, material, and size to protect trunks and branches from the wire, unless otherwise specified.

2. Plants will be staked and guyed as indicated on plans within 24 hours of planting.

3. Stakes will be driven vertically into the ground to a depth specified in details and in such a manner as not to damage the ball or roots.

4. Ground stakes for tree guying will be driven into the firm ground outside of the plant pit, and the top of the stake will be flush with the ground.

5. Flags will be securely fastened on each guy wire approximately 2/3 of the distance up from ground level.

I. Mulch:

1. All trees, shrubs and planting beds will be mulched immediately after planting. The CONTRACTOR shall place mulch to a three-inch depth or as specified on the drawings or as approved by the LANDSCAPE ARCHITECT. Mulch will be thoroughly watered-in to prevent wind displacement. All landscape beds will have a five-inch mulch trench installed at all edges except adjacent to sidewalks, curbs, buildings, and structures.

2. Prior to the installation of either bark or stone mulch and weed barrier (if required) all areas to be covered will be weed free and will be treated with a pre-emergent herbicide. Submittal as required.

3. Mulch will be kept out of the crowns of shrubs and off buildings, sidewalks, light standards, and other structures.
4. Mulch type and grade are as specified on the drawings.

3.07 RECONDITIONING EXISTING LAWNS

- A. Existing lawn areas which have been damaged during construction will be repaired by the CONTRACTOR at their expense.
- B. Recondition existing lawn areas damaged by CONTRACTOR's operations including storage of materials and equipment and movement of vehicles. Also, recondition existing lawn areas where minor regrading is required.
- C. Provide new topsoil, as required, to fill low spots and meet new finish grades.
- D. Cultivate bare and compacted areas thoroughly to provide a satisfactory planting bed.
- E. Remove diseased and unsatisfactory lawn areas; do not bury into soil. Remove topsoil containing foreign materials resulting from CONTRACTOR operations, including oil drippings, stone, gravel, and other loose building materials.
- F. The CONTRACTOR shall repair existing lawns under the direction of LANDSCAPE ARCHITECT where existing conditions warrant. CONTRACTOR shall be responsible for all damage and wear to existing lawns caused by construction activities. Remove weeds before seeding or, if extensive, apply selective chemical weed killers as required. Apply a seed bed mulch to maintain moist condition.
- G. Water newly planted lawn areas and keep moist until new grass is established.

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS FOR PAYMENT

- A. CONTRACTOR shall submit a lump sum bid and will receive full compensation for conforming to the provisions of this section and related drawings. Lump sum paid for the complete installation as shown and specified will be categorized as follows:
 1. Trees/Palms
 2. Accents (Specialties)
 3. Shrubs/Ground Covers/Vines
 4. Sod/Mulch
- B. No additional compensation will be allowed excluding relative change orders. A complete unit cost breakdown, based on the included Plant Lists (pay items), will be included as a separate item and submitted with the CONTRACTOR's bid or submitted prior to executing any work on the project. The OWNER reserves the right to reject any bid that does not include said unit cost breakdown.

END OF SECTION 02480

**SECTION 02485
LANDSCAPE SODDING**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and provisions of the Contract including Contract Conditions, Division-1 Specifications, apply to work of this section.

1.02 SCOPE

- A. The work specified in this section consists of the establishing of a consistent, dense, healthy stand of grass within the areas specified on the drawings. The work consists of grading, preparing the soil, fumigating (if specified on drawings), and furnishing and placing of grass sod, fertilizing, watering, and maintaining the sodded areas through construction and until final acceptance by the OWNER and LANDSCAPE ARCHITECT.
- B. Grade Elevations: Excavation, filling, rough and finish grading shall be as specified on the drawings and other related documents.

1.03 RELATED WORK

- A. Section 02480 - Landscape Work
- B. Section 02810 - Irrigation System

1.04 QUALITY ASSURANCE

- A. Subcontract sodding work to a single firm specializing in sod work, if service is not provided by the CONTRACTOR.
- B. Perform tests in accordance with standards hereinafter specified.
- C. Package standard products with manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.
- D. The following publications of the issues listed below form a part of this specification to the extent indicated by the reference thereto:
 - 1. Florida State Plant Board Standards for Nursery Plants (1973).
 - 2. Florida Nurserymen and Growers Association, Approved Planting Practice.
 - 3. Bailey's Hortus Second.
 - 4. State Department of Agriculture Regulations.
- E. Provide the name, address, and phone number of the sod supplier. Submit supplier information to the LANDSCAPE ARCHITECT prior to delivery to the project site.

- F. CONTRACTOR shall be a firm with not less than five-years experience in the type of work specified in this section, or provide satisfactory substitute evidence with the OWNER, at its sole discretion, may accept.
- G. The CONTRACTOR, as part of their bid, shall list not less than six projects completed by their company of similar size and scope to the work specified herein. The six or more projects shall be listed by project name, location, owner's name and phone number, and the total paid cost of work executed. The listed projects shall be considered as representative of the CONTRACTOR's ability to execute the work specified herein. The OWNER, at their sole discretion, reserves the right to reject any bids which either do not respond to this condition or do not represent satisfactory performance of prior work of similar size and scope as that specified herein.
- H. The OWNER's Landscape Architect or designated individual, herein referred to as the OWNER's Representative or LANDSCAPE ARCHITECT shall have full authority to approve or reject work performed by the CONTRACTOR. The OWNER's Authorized Representative shall also have full authority to make field changes that are deemed necessary.

1.05 SUBMITTALS

- A. All submittals shall be submitted to the LANDSCAPE ARCHITECT in the quantity specified in the Contract Documents.
- B. Submit certificates of inspection as required by governmental authorities.
- C. Submit manufacturer's or vendors certified analysis for soil amendments and fertilizer materials.
- D. Submit other data substantiating that materials comply with specified requirements, when applicable.
- E. Submit soil analysis results.
- F. Sodding Schedule: The CONTRACTOR shall coordinate sodding work with the approved landscape work schedule. The CONTRACTOR may revise dates only as approved in writing by the LANDSCAPE ARCHITECT after documentation of reasons for delay.
- G. A letter of certification from the sodding contractor as to when the sod was cut, and what type shall be provided to the LANDSCAPE ARCHITECT, at their request, upon delivery of sod to the job site.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.
- B. No sod which has been cut for more than 48 hours may be used unless specifically authorized by the LANDSCAPE ARCHITECT after their careful inspection thereof.

- C. Transportation: Sod shall be in a moist condition at the time of cutting and shall be kept in a moist condition until it is placed. Sod shall be transported in either a closed van or in open truck properly covered to prevent windburn, drying, or damage to sod.
- D. Disposal of Surplus Material: Surplus and waste materials resulting from sodding operations shall be legally disposed of by the CONTRACTOR off-site.

1.07 JOB CONDITIONS

- A. Examination of site: The bidder must acknowledge that he has examined the site, plans and specifications and the submission of a quotation shall be considered evidence that examinations have been made.
- B. The CONTRACTOR shall be fully responsible to acquaint himself with the exact location of all utilities and to avoid conflict with all existing facilities. Hand excavate, as required. Maintain stakes set by others until removal is mutually agreed upon by parties concerned.
- C. If the quantity of the existing or excavated topsoil is inadequate to establish finish grades as specified on the drawings, it shall be the CONTRACTOR's responsibility to provide topsoil in accordance with these specifications.
- D. The CONTRACTOR shall be responsible for complete coordination of sodding operations with the other CONTRACTORS on the job. Repair of damage to plants, grades, lawns, etc., during installation shall not be considered as an extra, and not be charged to the OWNER. Damage caused by other CONTRACTORS will be the responsibility of said CONTRACTOR.

1.08 COMPLETION AND ACCEPTANCE

- A. Completion of the work shall mean the full and exact compliance and conformity with the provisions expressed or implied in the drawings and specifications, and associated change orders.
- B. The acceptability of all material, workmanship, labor and compliance with the specifications, grades and standards shall be solely determined by the LANDSCAPE ARCHITECT.
- C. Right to Reject: The LANDSCAPE ARCHITECT shall have the right, at any stage of the work, to reject any and all work and materials which, in their opinion, does not meet the requirements of the drawings and specifications. Rejected material shall be immediately removed from the site and acceptable material substituted in its place.
- D. Substantial Completion: Upon notification by the CONTRACTOR that the installation is complete, the LANDSCAPE ARCHITECT, will perform a substantial completion site observation to determine if the CONTRACTOR has completed the work in accordance with the plans and specifications. If final acceptance is not given, the LANDSCAPE ARCHITECT will prepare a "punch list". The notification by the CONTRACTOR must be made at least three working days before the anticipated substantial completion site observation.

- E. Final Acceptance: Upon notification by the CONTRACTOR that all defects have been corrected, the LANDSCAPE ARCHITECT will perform one final site observation. Any additional final site observations due to the CONTRACTOR's inability to meet the items listed on the initial or subsequent "punch lists", will be at the expense of the CONTRACTOR according to the LANDSCAPE ARCHITECT's standard hourly rate. Final acceptance will be given upon satisfactory completion of all work, including "punch list" items. The notification by CONTRACTOR must be made at least three working days before the anticipated final site observation.

PART 2 PRODUCTS

2.01 TOPSOIL

- A. For all landscape areas, the CONTRACTOR shall provide and install topsoil as defined on the drawings or within the contract bid forms.
- B. Topsoil shall be fertile, natural topsoil, typical of the locality, obtained from a well-drained site. It shall be without admixture of subsoil or clay and shall be free of stones, lumps, sticks, plants or their roots, toxic substances or other extraneous matter that may be harmful to plant growth or would interfere with future maintenance.
- C. Topsoil shall contain at least two percent of organic matter and shall have a pH range of 6.0-7.0.
- D. Topsoil shall be free from Johnson grass (*Sorghum Halpense*), nut grass (*Cyperus Rotundus*) and all other objectionable herbaceous weeds, grasses and toxic substances. Said topsoil shall be sifted to remove sticks, stones, and debris larger than one-half inch in size.
- E. Soil Testing: The CONTRACTOR shall be responsible for having topsoil tested. Representative samples are to be tested for acidity, fertility and general composition by a recognized commercial or government agency. The CONTRACTOR shall furnish one copy of the soil analysis and recommended amendments prepared by the testing agency (to meet the desired pH, nutritional and organic levels) determined to be appropriate for the plant material listed and shown on the drawings, to the LANDSCAPE ARCHITECT prior to application of any amendments or fertilizer.

2.02 FERTILIZER

- A. All fertilizers shall be uniform in composition, free flowing and suitable for application by mechanical spreader equipment. Fertilizers shall be delivered to the site fully labeled according to applicable State Fertilizer Laws. Show the following information on the fertilizer bag or package or on a tag:
 - 1. Name and address of manufacturer.
 - 2. Name, brand or trademark.
 - 3. Number of net pounds of ready mixed material in the package.
 - 4. Chemical composition or analysis.

5. Guarantee of analysis.
 6. If a brand or grade of fertilizer is delivered in the bulk, a written statement having the above listed information must accompany each load.
- B. Sod shall have a 16-4-8 analysis fertilizer containing a minimum 2% magnesium, 2% water soluble magnesium, 2% manganese, 1.5% iron, 3% sulfur and other trace secondaries or a fertilizer analysis as recommended by soil testing laboratory. A minimum of 6.0 units shall be slow release nitrogen. At least 50 percent of the phosphoric acid shall be from normal super phosphate or an equivalent source which will provide a minimum of two units of sulfur. Unless otherwise approved by the LANDSCAPE ARCHITECT, Type I fertilizer shall be used.

The aforementioned fertilizer shall have a 27-3-10 analysis containing a similar microcomponent analysis as sod installed in the months of October through January. This fertilizer shall be thoroughly washed in by the CONTRACTOR.

2.03 SOD

- A. Sod shall be as specified on the Landscape Drawings.
- B. Pad Size: Individual pieces of sod to be cut to the supplier's standard width and length. Maximum allowable deviation from standard widths and lengths shall be five percent. Extensively broken pads and torn or uneven ends will not be acceptable.
- C. Strength of Sod Sections: Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section.
- D. Moisture Content: Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
- E. Time Limitations: Harvest, deliver and install sod within a period of 72 hours.
- F. Class of Sod and Composition: The sod used shall be as specified on the plans. Nursery grown and well rooted. Each shipment shall be accompanied by a certification verifying the sod as specified. Sod shall be subject to review by the LANDSCAPE ARCHITECT prior to being cut and again before it is laid. The consistency of adherent soil shall be such that it will not break, crumble, or tear during handling and placing of the sod.
- G. Each piece of sod shall be well covered with turf grass, free from noxious weeds and other objectionable plants and shall not contain thatch quantities and substances injurious to growth. The grass shall be mown to a length of no less than 1½ inch nor more than four inches before the sod is cut.
- H. Comply with state and federal laws with respect to inspection for plant diseases and insect infestation. An inspection certificate to this effect is required by law and shall accompany each shipment and on arrival shall be filed with the LANDSCAPE ARCHITECT.

- I. Thickness of Cut: Machine cut sod at a uniform soil thickness of three-fourths inch, plus or minus one-fourth inch, at the time of cutting. Measurement for thickness shall exclude top growth and thatch.

PART 3 EXECUTION

3.01 SITE PREPARATION

- A. The general site contractor shall be responsible for removing construction material and debris from the site and establishing the required rough grades. The CONTRACTOR shall be responsible for removing minor residual debris from the site and shaping a finished grade that provides positive drainage, away from buildings and towards stormwater conveyances, and is in conformance with the drawings. CONTRACTOR shall notify the LANDSCAPE ARCHITECT immediately of any area of the site which does not demonstrate positive drainage away from buildings or other structures, or which may cause damage to adjacent landscaped or natural areas.
- B. Verify grades established during final site preparation as being true to finish contours shown, and maintain such areas until the effective date to begin sodding operations. In such instances where a split responsibility exists between grading and sodding contractors, it shall be the responsibility of the CONTRACTOR to maintain a suitable grade for sodding once they have accepted the grade provided to him.
- C. Remove all debris, brush, large roots, weeds and any other deleterious materials from the top six inches of soil.
- D. No sod shall be placed on soil which has been treated with soil sterilants until sufficient time has elapsed to permit dissipation of toxic materials. The CONTRACTOR shall assume full responsibility for any loss or damage to sod or seed arising from improper use of sterilants or due to their failure to allow sufficient time to permit dissipation of toxic materials, whether or not such sterilants are specified herein.

3.02 SOIL PREPARATION

- A. Soil samples shall be taken and an analysis shall be performed by an agricultural laboratory or government agency as approved by the LANDSCAPE ARCHITECT. The CONTRACTOR shall obtain a representative soil sample of each area by collecting a minimum of five (5) random samples or on a five hundred (500' foot grid, whichever is greater, of soil from the top six inches (6") of soil. Soil samples shall be submitted by the sodding CONTRACTOR for determination of pH, calcium oxide (Cao), magnesium oxide (Mgo), phosphoric acid (P205), and potassium oxide (K20). The testing laboratory shall submit certified soil analysis and recommendations for amending the soil to obtain a soil PH of 6.0-7.0 and to obtain Cao, Mgo, P20 and K20 at 2500, 200, 50, and 150 pounds per acre respectively.
- B. Sulfur in a water degradable form shall be used for decreasing soil pH and Dolomite used to increase soil pH. Applications shall be based on soil analysis recommendations.
- C. CONTRACTOR shall provide six inches of topsoil consistently tilled in with existing soil to a depth of 12 inches removing all objectionable materials to the minimum sizes specified.

3.03 FERTILIZATION

- A. Apply fertilizer at a minimum rate of 10 pounds per 1,000 square feet and required additional soil amendments in accordance with the soil sample results.
- B. Incorporate fertilizer and soil amendments into the top two to three inches of soil and rake to provide a final smooth even grade.

3.04 SODDING

- A. Sod Installation: Sod shall be placed when the ground is in a workable condition and temperatures are less than 90 degrees Fahrenheit (when possible). Sod shall not be placed during extended drought, unless irrigation is available or if CONTRACTOR is prepared to water not less than once every other day.
- B. Sod cut for more than 48 hours shall not be used without the approval of the LANDSCAPE ARCHITECT. All sod shall be kept moist and protected from exposure to sun, wind and freezing prior to placing.
- C. Moistening the Soil: During periods of high temperature and after all unevenness in the soil surface has been corrected, the soil shall be lightly irrigated immediately prior to laying the sod.
- D. Starter Strip: Lay the first row of sod in a straight line with subsequent rows placed parallel to and tightly against each other. Stagger lateral joints to promote more uniform growth and strength. Exercise care to insure that the sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air-drying of the roots.
- E. Sloping Surfaces: In ditches, place sod with the longer dimension perpendicular to the flow of water in the ditch. On slopes, starting at the bottom of the slope, place sod with the longer dimension paralleled to the contours of the ground. Bury the exposed edge of the sod flush with the adjacent sod. On slopes where the sod may be displaced during sodding operations, the workmen shall work from ladders or treaded planks.
- F. Staking Sod: Stake sod on all slopes of 2:1 or steeper. Sod shall be staked with not less than 4 stakes per square yard with at least one stake for each piece of sod. Stakes shall be of lath or similar material, pointed, and driven with the flat side against the slope, six inches into the ground, leaving approximately one-half inch of the top above the ground.
- G. Water sod immediately after installation to prevent excessive drying during progress of the work. CONTRACTOR will be responsible for watering sod through final acceptance.
- H. Finished Transitions: At no time will backs of curbs or gaps in transitions (i.e., walks, beds, structures, etc.) be accepted. All transitions will be horizontally and vertically smooth and congruent with adjacent transitions. Cut all beds with a machete or similar tool to provide a neat, uniform, and consistent bedline. Bedlines shall reflect the shape and form indicated on the drawings and laid to the satisfaction of the LANDSCAPE ARCHITECT.

3.05 WATER AND ROLLING

- A. Roll sod with a mechanical roller of no less than two tons as sodding is completed in any one section. All sod areas must be rolled to provide an even sodded appearance with no high and low points.
- B. Immediately following rolling operation, irrigate the sod to a depth sufficient that the underside of the new sod pad and soil immediately below the sod are thoroughly wet.
- C. No equipment or vehicles shall be allowed to travel over the sodded areas after sodding by CONTRACTORS on the job site.
- D. CONTRACTOR will be responsible for watering in all sodded areas and assure that sodded areas receive two to 2½ inches of water per week through final acceptance. CONTRACTOR shall make no claim for the loss of sod due to the failure of the irrigation system (if applicable).

3.06 MAINTENANCE

- A. Begin maintenance immediately following completion of sodding until Final Acceptance.
- B. Routine maintenance includes watering, mowing, replanting, and the application of fertilizers, herbicides, pesticides and all necessary measures to maintain the sodded areas through Final Acceptance. At no time shall maintenance applications exceed 15-day intervals.
- C. The OWNER reserves the right to provide independent maintenance applications, if in the opinion of the LANDSCAPE ARCHITECT, the CONTRACTOR is not performing maintenance as specified herein. Any independent maintenance expenses incurred by the OWNER for applications to the work of this section will subject the CONTRACTOR to a change order deducting said expenses.

3.07 WARRANTY

- A. The CONTRACTOR as part of their contract, shall furnish three written guarantees warranting all materials, workmanship, and products for a period of not less than 90 days from the time of Final Acceptance.
- B. The CONTRACTOR will repair all washouts that occur within the warranty period at no additional cost to the OWNER. Repairs that are considered excessive by the LANDSCAPE ARCHITECT and the OWNER (i.e., damage associated with or caused by other contractors) shall be subject to review and negotiation between the OWNER and CONTRACTOR.

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS OF PAYMENT

- A. CONTRACTOR will submit a lump sum bid and shall receive full compensation for conforming to the provisions of this section and related drawings. Lump sum paid will be for the complete installation as shown and specified, including any relative change orders.

- B. No additional compensation will be allowed. A complete unit cost breakdown shall be included as a separate item and submitted with the CONTRACTOR's bid. Unit cost breakdown shall be on a per square foot basis. Said unit cost breakdown may be submitted after award of Contract and prior to the execution of work. However, the OWNER reserves the right to reject any bid that does not include said unit cost breakdown.

END OF SECTION 02485

SECTION 02510

WALKWAYS

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials and equipment necessary to complete all walkways and related items shown on the drawings and specified herein.

1.02 REFERENCED SPECIFICATIONS

- A. All materials and methods of construction shall conform to the requirements of the "Florida Department of Transportation, Standard Specifications for Road and Bridge Construction."

1.03 SUBMITTALS

- A. Submit to the Engineer, as provided in the General Conditions, shop drawings showing dimensions and layouts of curbing and sidewalks and reinforcement for concrete work.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Concrete Materials:

1. Concrete for work under this section shall be same as specified in Division 3, but in no case less than 3000 psi at 28 days.
2. Reinforcing bars shall be deformed type bars conforming to AASHTO M31 Grade 40. All reinforcing steel shall be shop fabricated, of size, cross-section and arrangement as described on approved shop drawings.
3. Welded wire fabric shall be as shown on the drawings and shall conform to all requirements of AASHTO M55.
4. Expansion joint material shall be 1/2 -inch or 3/4-inch thickness where shown, bituminous type meeting AASHTO Spec. M-213-65.
5. Joint sealant shall be hot poured rubber conforming to Fed. Spec. SS-S-164.

B. Base Course Material:

1. Base course material shall be graded aggregate conforming to the Referenced Standard.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Sub-grade shall be thoroughly compacted as specified in Earthwork Section.
- B. Forms shall conform to the shapes, lines and dimensions of the members as called for on the plans and shall be substantial and sufficiently tight to prevent leakage of mortar. They shall be properly braced or tied together so as to maintain position and shape.
- C. Finishing:
 - 1. Float concrete until $\frac{1}{4}$ -inch cement gell is brought to surface; steel trowel until dense surface is obtained.
 - 2. Finish with broom at right angles to alignment of walk, then round all exterior edges with $\frac{3}{4}$ -inch radius after brooming.
- D. Curing:
 - 1. Cover walks with sand, sawdust or shavings and keep wet for three (3) days.
 - 2. Cover walks until final clean-up to prevent damage.
 - 3. Other methods of curing may be used subject to approval of the Engineer prior to implementation.
- E. Concrete walks shall be constructed to lines, widths, grades and thickness as shown on the Drawings, but sloped not less than $\frac{1}{8}$ -inch per foot in direction of water flow. Concrete shall be placed on thoroughly compacted subgrade, having smooth surface and kept moist until time concrete is placed.
 - 1. Expansion joints shall be installed at all intersections with other walks, at head and bottom of steps, curbs and maximum 12-foot thick O.C. in runs. Expansion material shall be $\frac{1}{2}$ -inch thick but not less than $\frac{1}{4}$ -inch, by depth of concrete; $\frac{3}{4}$ -inch thick where abutting curbs and gutters, and at parking bays. Expansion material shall extend from bottom of walk slab to within $\frac{1}{2}$ -inch of top, to be filled with poured joint filler.
 - 2. Dummy grooves shall be $\frac{1}{2}$ -inch x $\frac{1}{2}$ inch having $\frac{1}{2}$ inch radius, spaced 4 feet O.C. installed same as expansion joints immediately following brooming.
- F. Local conditions, codes and practices shall govern all drive cuts, aprons and related curbs and gutters. Contractor shall obtain permission for, coordinate with City or County officials, and secure and pay for all permits, fees and licenses necessary for proper execution of the work.

3.02 CLEANUP

- A. At the completion of the work, Contractor shall clean up all scraps, rubbish and surplus materials caused by this work and haul them away from the site and leave job in a neat, clean and orderly condition.

END OF SECTION

SECTION 02520
CONCRETE CURBS AND HEADERS

PART 1 - GENERAL

1.01 SCOPE

The work covered by this section of the specifications consists of furnishing all plant, labor, equipment, appliances and materials and performing all operations in connection with the construction of concrete curbs and headers, complete and in place, in strict accordance with these specifications and the applicable drawings and subject to the terms and conditions of this contract.

1.02 REFERENCES

Florida Department of Transportation Standard Specifications for Road and Bridge Construction, (latest edition)

PART 2 - PRODUCTS

2.01 MATERIALS

- A. The concrete mix shall produce standard weight concrete with the following properties to be verified by the use of the appropriate listed test methods.
- *Compressive strength:* 3,000 psi at 28 days - tested according to ASTM designation C31 (AASHTO T23)
 - *Slump Range:* 2-4 inches - tested according to ASTM designation C143 (AASHTO T119)
- B. Joint materials shall be in accordance with FDOT Specification Section 932

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

Concrete curbs and headers shall be constructed of the type and in the locations as shown on the plans.

- A. **FORMS:** Forms for this work shall be made of either wood or metal. They shall be straight, free from warp or bends, and of sufficient strength, when staked, to resist the pressure of the concrete without springing. If made of wood, they shall be of two (2) inch surfaced plank; if made of metal, they shall be of approved section and shall have a flat surface on top.
- B. **CONSTRUCTION:** Excavation shall be made to the required depth; and the sub-grade or base upon which the curb or header is placed shall be compacted to 98% AASHTO T-180.

The concrete shall be placed in the forms to the depth specified, and tamped and spaded to prevent honeycomb and until the top of the structure can be floated smooth and the edges rounded to the radius shown on the plans.

Contraction joints shall be placed at intervals of ten feet except where a lesser interval is required for closure, but no section shall be less than four feet in length.

Contraction joints shall be created while the concrete is still plastic by using a grooving tool or by inserting a premolded filler strip, or a groove may be saw cut into the concrete soon after it has hardened. Curb with irregular cracks due to late contraction joint construction will not be accepted.

Expansion joints shall be constructed at all radius points and at other locations indicated on the plans. They shall be located at intervals of 500 feet between other expansion joints, or ends of a run. The joint shall be 1/2 inch in width.

The forms shall be removed within twenty-four (24) hours after the concrete has been placed, and minor defects then filled with mortar composed of one (1) part Portland Cement and two (2) parts fine aggregate. Plastering shall not be permitted on the face of the curb; and all rejected curb, or header shall be removed and replaced without additional compensation. The curb top, face and/or header top shall be given a surface finish while the concrete is still green. A brush finish will be required unless noted otherwise; however, additional finishing may be required in areas considered too rough or with minor defects.

After the concrete has been rubbed smooth, it shall be rubbed again until a uniform color is produced, using a thin grout composed of one (1) part Portland Cement and one (1) part fine aggregate.

After concrete has set sufficiently, the spaces in front and back of the curb shall be refilled to the required elevation with suitable material, which shall be placed and thoroughly compacted in layers of not more than six (6) inches in thickness.

END OF SECTION

**SECTION 02810
IRRIGATION SYSTEMS**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and provisions of the Contract, including Contract Conditions and Division-1 and Division-2 Specification Sections, apply to work of this section.

1.02 SCOPE

- A. The work covered by this specification shall include the furnishing of all labor, materials, tools and equipment necessary to perform and complete the installation of an automatic irrigation system as specified herein and as shown on the drawings and any incidental work not shown or specified which can reasonably be determined to be part of the work and necessary to provide a complete and functional system.
- B. The work covered by this specification also includes all permits, federal, state and local fees and all other costs and tests, both foreseeable and unforeseeable at the time of construction.
- C. No deviation from these specifications, the accompanying drawings, or agreement is authorized or shall be made without prior written authorization signed by the OWNER or their duly appointed representative.

1.03 RELATED WORK

- A. Section 02485 - Landscape Sodding
- B. Section 02480 - Landscape Work

1.04 MANUFACTURER

- A. The manufacturer(s) for the components of the irrigation system will be as specified on the drawings. Approved equals must be submitted to the LANDSCAPE ARCHITECT, in writing, no less than 10 days prior to bid deadline. LANDSCAPE ARCHITECT shall determine acceptance of approved equals.

1.05 QUALITY ASSURANCE

- A. Contractor Qualifications: A firm specializing in irrigation work with not less than five years of experience in installing irrigation systems similar to those required for this project.
- B. The CONTRACTOR, as part of their bid, shall list not less than six projects completed by their company of similar size and scope to the work specified herein. The six or more projects shall be listed by project, name, location, owner's name and phone number, and the total paid cost of work executed. The listed project shall be considered as representative of the CONTRACTOR's ability to execute the work specified herein. The OWNER, at their sole discretion, reserves the right

to reject any bids which either do not respond to this condition or do not represent satisfactory performance of prior work of similar size and scope as that specified herein.

- C. Coordination: Coordinate and cooperate with other CONTRACTORS to enable the work to proceed as rapidly and efficiently as possible.
- D. Codes and Inspections: The entire installation shall comply fully with all local and state laws and ordinances and with all established codes applicable thereto. The CONTRACTOR shall obtain all required permits, arrange for all necessary inspections and shall pay all fees and expenses in connection with same, as part of the work under this contract. Upon completion of the work, they shall furnish to the OWNER all inspection certificates customarily issued in connection with the class of work involved.
- E. The CONTRACTOR shall keep on their work, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the OWNER, or OWNER's representative.
- F. The superintendent shall represent the CONTRACTOR in their absence and all directions given to him shall be as bindings if given to the CONTRACTOR.
- G. The OWNER's Landscape Architect or designated individual, herein referred to as the OWNER's Representative or LANDSCAPE ARCHITECT shall have full authority to approve or reject work performed by the CONTRACTOR. The OWNER's Authorized Representative shall also have full authority to make field changes that are deemed necessary.
- H. In all cases where observation of the irrigation system work is required and/or where portions of the work specified to be performed under the direction of the OWNER's Representative, the CONTRACTOR shall notify same, at least 48 hours prior to the time such observation or direction is required.
- I. Any necessary re-excavation or changes to the system needed because of failure of the CONTRACTOR to have the required observations, shall be performed at the CONTRACTOR's expense.

1.06 SUBMITTALS

- A. Refer to Division 1-General Requirements, Section 01730 Operation and Maintenance Data, Section 01350 - Submittals, and Section 01003 - Supplementary Technical Specifications (when applicable to this contract).
- B. All materials shall be those specified and or approved by the LANDSCAPE ARCHITECT.
- C. Product Data: After the award of the contract and prior to beginning work, the CONTRACTOR shall submit for approval by the OWNER and LANDSCAPE ARCHITECT, six copies of the complete list of materials, manufacturer's technical data, shop drawings, and installation instructions which they propose to install. The CONTRACTOR shall forward all required submittals to the LANDSCAPE ARCHITECT within 14 days of award of contract.

- D. Installation Schedule: Submit a construction schedule, indicating the dates of installation anticipated for this project. Once accepted, revise dates only as approved in writing by the LANDSCAPE ARCHITECT, after documentation of reasons for delay.
- E. Commence no work before approval of material list and descriptive material by the LANDSCAPE ARCHITECT.
- F. Record Drawings: The OWNER shall furnish the CONTRACTOR with one set of reproducible reverse mylar sepias showing all work required under this contract for the purpose of having the CONTRACTOR record on these reproductions all changes that may be made during actual installation of the system. "Record" locations shall be provided for all water source connection appurtenance, backflow preventer, controllers, valves, mainline fittings, wire splices, etc. Location shall include dimensions from two permanent points of reference (building corner, street corner, fence line, etc.).
 - 1. Immediately upon installation of any piping, valves, wiring, sprinklers, etc., in locations other than shown on the original drawings or of sizes other than indicated, the CONTRACTOR shall clearly indicate such changes on a set of blue-line prints. Records shall be made on a daily basis. All records shall be neat and subject to the approval of the OWNER and LANDSCAPE ARCHITECT.
 - 2. The CONTRACTOR shall also indicate on the record prints the location of all wire splices, original or due to repair, that are installed underground in a location other than the controller pedestal, remote control valve box, power source or connection to a valve-in-head sprinkler.
 - 3. Identify field changes of dimension and detail of changes made by Change Order or Field Order.
 - 4. These drawings shall also serve as work progress sheets. The CONTRACTOR shall make neat and legible notations thereon daily as the work proceeds, showing the work as actually installed. These drawings shall be available at all times for review and shall be kept in a location designated by the OWNER's Representative.
 - 5. Each month when CONTRACTOR submits their progress payment request to the OWNER it shall include the up to date record drawing information for all material installed to that date.
 - 6. Progress payment request and record drawing information must be approved by the LANDSCAPE ARCHITECT before payment is made.
 - 7. If in the opinion of the OWNER or LANDSCAPE ARCHITECT, the record drawing information is not being properly or promptly recorded, construction payment may be stopped until the proper information has been recorded and submitted.
 - 8. Upon completion, all information noted on the prints shall be transferred to a reproducible reverse mylar by the CONTRACTOR. Drawings shall be to scale and all information shall be recorded in a neat, orderly way.

9. Record Drawings: Before the date of the final site observation and approval, the CONTRACTOR shall deliver two sets (of blue-line prints) of the record drawing plans and notes to the LANDSCAPE ARCHITECT. Upon approval of the record drawings, the CONTRACTOR will forward the original marked reproducible to the LANDSCAPE ARCHITECT. Upon approval of the record drawings, the LANDSCAPE ARCHITECT will forward the documents to the OWNER. Record drawing information shall be approved by the LANDSCAPE ARCHITECT and OWNER prior to final payments, including retentions. The delivery of the prints shall not relieve the CONTRACTOR of the responsibility of furnishing required information that may have been omitted. Incorrect or unacceptable record drawings will be returned to the CONTRACTOR for corrections and resubmittal.
- G. CONTRACTOR shall furnish one Manufacturer's service manual each to, the OWNER, or Tenant. Manuals may be loose-leaf and shall contain complete exploded drawings of all equipment installed showing components and catalog numbers together with the manufacturer's name and address.
- H. Loose equipment to furnish: Loose irrigation equipment, operating keys and spare parts will be furnished by the Irrigation Contractor in quantities as shown on the plans.
 1. Three quick coupler keys and matching swivel hose ends (if required).
 2. Two valve keys for gate valves (if required).
 3. Two keys for each controller.

1.07 JOB CONDITIONS

- A. Examination of the Site: The bidder acknowledges that they have examined the site, with the plans and specifications. The submission of a quotation shall be considered evidence that examinations have been made.
- B. Field Conditions: The CONTRACTOR shall acquaint himself with all site conditions, including underground utilities before construction is to begin. CONTRACTOR shall coordinate placement of underground materials with CONTRACTORS previously working underground in the vicinity or those scheduled to do underground work in the vicinity. CONTRACTOR is responsible for adjustments in the layout of the work to accommodate existing facilities.
- C. The CONTRACTOR shall verify the correctness of all finish grades within the work area to insure the proper soil coverage of the irrigation system pipes.
- D. Protection of Existing Plants and Site Conditions: The CONTRACTOR shall take necessary precautions to protect all existing vegetation. Contact LANDSCAPE ARCHITECT if minor adjustments are not sufficient to protect existing site conditions. All existing grades shall be maintained and restored to their previously existing condition immediately following installation and testing.
- E. Protection of Work and Property: The CONTRACTOR shall be liable for and shall take the following actions as required with regard to damage to any of the OWNER's property.

1. Any existing building, equipment, piping, pipe coverings, electrical systems, sewers, sidewalks, roads, grounds, landscaping or structure of any kind (including without limitation, damage from leaks in the piping system being installed or having been installed by CONTRACTOR) damaged by the CONTRACTOR, or by their agents, employees, or subcontractors, during the course of their work, whether through negligence or otherwise, shall be replaced or repaired by CONTRACTOR at their own expense in a manner satisfactory to OWNER, which repair or replacement shall be a condition precedent to OWNER's obligation to make final payment under the contract.
2. CONTRACTOR shall also be responsible for damage to any work covered by these specifications before final acceptance of the work. They shall securely cover all openings into the systems and over all apparatus, equipment and appliances, both before and after being set in place to prevent obstructions on the pipes and the breakage, misuse or disfigurement of the apparatus, equipment or appliance.

1.08 MATERIALS STORAGE AND CLEANUP

- A. The CONTRACTOR shall keep the premises free from rubbish and all debris at all times and shall arrange their material storage so as to not interfere with the operation of the project. All unused materials, rubbish and debris shall be removed from the site.
- B. Storage and Handling: Use care in handling, loading, storing and assembling components to avoid damage. Store plastic pipe and fittings under cover and protect from sunlight before using. Discolored plastic pipe and fittings shall be rejected.
- C. All metallic pipe and fittings shall be handled, stored, loaded and assembled with the same care used for plastic components. Metallic components shall be stored in an enclosure to prevent rusting and general deterioration.

1.09 COMPLETION AND ACCEPTANCE

- A. The completion of the contract will be accepted and Notice of Completion recorded only when the entire contract is completed to the satisfaction of the LANDSCAPE ARCHITECT.
- B. The acceptability of material, components, workmanship, labor, compliance with the specifications and required coverages shall be solely determined by the LANDSCAPE ARCHITECT.
- C. Right to Reject: The LANDSCAPE ARCHITECT will have the right, at any stage of the work, to reject any and all work, materials, and components which, in their opinion, does not meet the requirements of the drawings and specifications. Rejected material and components shall be immediately removed from the site and acceptable material substituted in its place.

- D. Substantial Completion: Upon notification by the CONTRACTOR that the installation is substantially complete, the LANDSCAPE ARCHITECT will perform a substantial completion site observation to determine if the CONTRACTOR has completed the work in accordance with the plans and specifications. If final acceptance is not given, the LANDSCAPE ARCHITECT will prepare a "punch list". The notification by CONTRACTOR must be at least three days before the anticipated substantial completion site observation.
- E. Final Completion: Upon notification by the CONTRACTOR that all defects have been repaired or replaced following substantial completion site observation, the LANDSCAPE ARCHITECT will perform one final site observation. The request by the CONTRACTOR must be made at least three working days before the anticipated final completion site observation. Any additional inspections as a result of the CONTRACTOR's failure to comply with punch list, will be done at the CONTRACTOR's expense, based on the LANDSCAPE ARCHITECT's standard hourly rates and expenses. The work will be accepted by the LANDSCAPE ARCHITECT upon satisfactory completion of all work including "punch list" items.
- F. "Record" Irrigation Drawings: Record drawings shall be delivered to the LANDSCAPE ARCHITECT, for approval. Upon approval the LANDSCAPE ARCHITECT will forward record drawings to the OWNER before final acceptance of work.

1.10 WARRANTY

- A. Warranty: The CONTRACTOR shall furnish three written warranties, stating that all work included under this contract shall be warranted against all defect and malfunction of workmanship and materials for a period of one year from the date of Final Acceptance of this project.
- B. The CONTRACTOR further agrees that they will at their own expense repair and/or replace all such defective work and materials and all other work damaged thereby and which becomes defective during the term of the guaranty-warranty in an expedient manner.
- C. The OWNER retains the right to make emergency repairs without relieving the CONTRACTOR's guaranty obligation. In the event the CONTRACTOR does not respond to the OWNER's request for repair work under their guaranty-warranty within a period of 48 hours, the OWNER may make such repairs as they deem necessary, at the full expense of the CONTRACTOR.
- D. Any settling of backfilled trenches which may occur during the guaranty-warranty period shall be repaired by the CONTRACTOR at no additional expense to the OWNER, including the complete restoration of all damaged planting, sod, paving or other improvement of any kind.

1.11 OPERATION AND MAINTENANCE

- A. Instructions: After completion and testing of the system, the CONTRACTOR will instruct the OWNER's personnel in the proper operation and maintenance of the system. The CONTRACTOR will submit proof to the LANDSCAPE ARCHITECT that said instructions were conducted. Submittal will include the name of attendees, attendees phone number, date, time, place, and content of instruction.
- B. CONTRACTOR will at the above on-site instruction with the OWNER's representative, supply complete manuals to the OWNER and/or the Tenant (three total) containing component description, operating instructions, and maintenance recommendations.

PART 2 PRODUCTS

2.01 GENERAL

- A. All products shall be as specified on the plans and in these specifications. The materials chosen for the design of the irrigation system have been specifically referred to by the manufacturer so as to enable the LANDSCAPE ARCHITECT to establish the level of quality and performance required by the system design. Equipment by other manufacturers may be used only if submittal of manufacturer's technical data and installation instructions are reviewed and approved by the LANDSCAPE ARCHITECT. Approval may be granted only if substitution is equal to the specified equipment as determined by the LANDSCAPE ARCHITECT.
- B. All materials to be incorporated in this system shall be new (latest model) and without flaws or defect and of quality and performance as specified and meeting the requirements of this system.

2.02 MATERIALS

- A. Water Meters: Shall be provided and installed per local requirements, if applicable.
- B. Well and Pump: Shall be as indicated on the drawings, if applicable.
- C. Centrifugal or Vertical Turbine Pump: Shall be as indicated on the drawings, if applicable.
- D. Backflow Preventor: The backflow prevention device shall be as specified on the drawings. Installation shall conform to the manufacturer's specifications and all applicable codes. If backflow prevention device is required by local or state laws or ordinances, it shall be considered part of this contract whether or not it is specified on the accompanying Contract Documents.
- E. Polyvinyl Chloride Pipe (PVC):
 - 1. All PVC pipe shall be homogeneous throughout, free from visible cracks, holes and foreign materials. The pipe shall be free from blisters, dents, ripples, extrusion die and heat marks.

2. All PVC pipe shall be continuously and permanently marked with the manufacturer's name or trademark, kind and size (IPS) of pipe, material, and manufacturer's lot number, schedule, class or type and the National Sanitation Foundation (NSF) seal of approval.
3. Piping under constant pressure, upstream of irrigation control valves:
 - a. Shall be PVC 1120/1220, Class 200, unless otherwise specified.
 - b. Pipe size three inches and larger shall be Bell End Gasket Type.
 - c. Pipe size 2½ inches and smaller shall be Solvent Weld Type.
 - d. Materials shall be in accordance with the latest revision of the following specifications:

American Society for Testing Materials
ASTM-D 1784, ASTM-D 2241
Department of Commerce, PS 22-70
National Sanitation Foundation Testing Laboratories
4. Piping on non-constant pressure side of irrigation control valves:
 - a. Shall be PVC 1120/1220, Class 160, unless otherwise specified.
 - b. Pipe size three inches and large shall be as specified on drawings.
 - c. Pipe size 2½ inches and smaller shall be Solvent Weld Type.
 - d. Materials shall be in accordance with the latest revision of the following specifications:

American Society for Testing and Materials
ASTM-D 1784, ASTM-D 2241
Department of Commerce, PS 22-70
National Sanitation Foundation Testing Laboratories
5. Schedule 40, High impact type, PVC 2110 pipe:
 - a. All solvent weld or bell end gasket Schedule 40 PVC pipe shall be in accordance with the latest revisions of the following specification:

ASTM-D 1785
Department of Commerce, PS 22-70
National Sanitation Foundation Testing Laboratories
6. Provide written certification from manufacturer that all PVC pipe has successfully passed all tests per ASTM D 1785.
7. Piping for Sleeving: High impact type pipe, PVC 2110, minimum Schedule 40.
8. PVC Pipe Fittings:
 - a. Molded solvent weld socket fittings shall be PVC Schedule 40, Type I/II in accordance with ASTM-D 2466. Sockets shall be tapered conforming to the outside diameter of the pipe, as

recommended by the pipe manufacturer. All fittings must conform to the 20-minute acetone test as for pipe and shall be approved.

- b. Molded threaded fittings shall be PVC Schedule 40 in accordance with ASTM-2464. All fittings shall withstand the 20-minute acetone test and be approved.
 - c. All molded fittings shall be marked with manufacturer's name and/or trademark, type PVC, schedule, size and NSF seal of approval. Extruded couplings shall be from NSF rated raw materials and meet ASTM standards. Supplier shall provide certification on extruded couplings when requested.
 - d. Schedule 40 threaded male/female adapters shall be used in connecting to threaded joints.
 - e. All changes in depth of mainline pipe shall be made using 45° fittings.
 - f. All threaded PVC to metallic connections shall be made in accordance with the PVC fitting manufacturers recommendations. Any sealant used shall be of the non-hardening, non-petroleum base type, and shall not adversely effect PVC pipe or fittings.
- F. PVC Solvent Cement: PVC solvent cement and primer/cleaner shall be compatible with the specific size and type of PVC pipe and fittings, of proper consistency in accordance with the pipe manufacturer's recommendations and will conform to ASTM D-2855, D-2564, F-656.
- G. Rubber Rings and Gasket Joint Lubricant: Rubber rings shall conform to ASTM F 477. CONTRACTOR shall only use pipe joint lubricant supplied by or recommended by the pipe manufacturer. Lubricant shall be water soluble, non-toxic, an inhibitor to bacterial growth, and shall be non-detrimental to the elastomeric seal and pipe. Mineral oil, petroleum jelly, hydrogenated vegetable fat (i.e. Crisco, petroleum products, cooking oil, grease, etc.) shall not be used.
- H. Automatic Field Controller: The irrigation controller shall be as specified on the plans. All field controllers shall be equipped with all available electrical surge/lightning protection devices for all circuits. Protection shall be factory supplied and installed whenever possible. Protection devices not supplied by the Manufacturer shall be as recommended by Manufacturer to provide a maximum degree of protection.
- I. Low Voltage Valve Control Wire (24 Volt): All 24 volt control wire shall be #14 AWG UL listed single conductor solid copper, type UF, 600 volt test for direct burial installation.
- 1. Provide one individual 24-volt valve control wire between the field controller terminal strip station lug and each control valve/sprinkler solenoid lead. Provide one consistently colored 24-volt common wire from the terminal strip common wire lug to all control valves/ sprinklers.

2. Valve common wire shall be white in color. Individual valve control wires shall be color-coded or identified by an approved tagging method.
 3. All wire shall be furnished in minimum 2,500-foot rolls and spliced only at the valve and the controller.
- J. Control Valves: The remote control valves shall be as specified on the plans, and shall perform to the manufacturer's specifications.
- K. Gate Valves: Gate valves one inch through four inch shall be Series 206 bronze threaded end gate valves manufactured by "Red-White" unless otherwise specified.
- L. Quick Coupling Valve: All quick coupling valves shall be solid bronze as specified on the plans, and shall perform to the manufacturer's specifications.
- M. Control Valve Boxes: All control valve, gate valve and quick coupling valve boxes shall be Ametek Box (unless otherwise specified) with Cover marked "Control Valve". Box shall be of sufficient size to allow easy operation and maintenance of valve. Where possible, gate valves shall be installed with control valves and occur in the same box. Ametek Jumbo Box Model 190101 w/cover 192101 shall be used for the pair.
1. Locking lids shall be green in color, boxes and extensions shall be black or green and constructed of high strength, light weight thermoplastic.
- N. Pop-Up Spray Head to PVC Pipe Fittings: All pop-up spray sprinkler heads are to be connected to PVC pipe with barbed x threaded adapters and an 18" minimum length of polyethylene tubing (i.e., funny pipe). All tubing ends shall be cut square to the outside diameter of the pipe. Pop-Up Spray Heads: All pop-up spray heads are to be of the type specified on the plans, and shall perform to the manufacturer's specifications. Spacing shall not exceed that which is graphically depicted on the plans or by the manufacturer's maximum recommendation.
- O. Rotor Sprinkler to PVC Pipe Fittings:
1. All rotor sprinklers are to be connected to PVC lateral lines using swing joints. Swing joints shall be the same size (IPS) as the inlet size of the sprinklers, unless otherwise indicated on the installation details. All swing joints shall be capable of 360 degrees of freedom.
- P. Rotor Sprinklers: All rotor sprinklers are to be of the type specified on the plans. The sprinklers shall perform to manufacturer's specifications concerning the diameter of throw and gallonage at given pressures. Sprinkler spacing shall not exceed the manufacturer's maximum recommendation.
1. Matched precipitation between full and part circle sprinklers will be required on all sprinklers operating on the same zone.
- Q. Swing Joints: Prefabricated swing joints (triple swing) shall be used as specified. Swing joints from individual nipples and fittings shall be assembled from PVC Schedule 40 or better.

- R. Teflon Tape: Any threaded connection using Teflon tapes as an anti seize device shall avoid excessive use of Teflon tape. Apply Teflon tape only in accordance with fittings and/or component manufacturer's recommendations.
- S. Rain shut-off devices shall be of the type on the plans, and shall perform to the manufacturer's specifications.
- T. Splicing Materials: 3M Direct Bury (DBY) splice kits by 3M Corporation, Austin TX (512) 984-5657 or "Snip-Snap" connector by Imperial, Lenexa, KS (913) 469-5700, unless otherwise noted.
- U. Metalized tape: CONTRACTOR shall provide metalized identification tape on all mainline piping (non-pressurized and pressurized).

PART 3 **EXECUTION**

3.01 GENERAL

- A. The CONTRACTOR shall carefully schedule their work with the General Contractor and all other trades on site.
- B. Sleeves are required wherever piping or electrical wires are placed under paved surfaces. CONTRACTOR will install sleeves prior to commencement of paving and will be responsible for coordinating with other trades. No additional compensation shall be made for the CONTRACTOR's failure to coordinate with other trades.
- C. CONTRACTOR will install the irrigation system as shown on the Contract Documents. Should any changes be deemed necessary after award of contract, for proper installation and operation of the system, such changes must be approved by the LANDSCAPE ARCHITECT. In the event that notification of the OWNER or LANDSCAPE ARCHITECT is not given, the CONTRACTOR shall assume full responsibility of all revisions.
- D. The plans and drawings are diagrammatic of the work to be performed. All piping, wires, field controllers, etc. shall be installed within the project boundaries. The CONTRACTOR shall not willfully install the irrigation system as shown on the plans when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been known in the design of the system.
- E. Layout: The CONTRACTOR shall carefully review all relative drawings for this project and will be responsible for coordinating the irrigation system installation with all known improvements. If at any time the irrigation system conflicts with other improvements (i.e., structures, landscape, etc.), the CONTRACTOR will be responsible for relocating irrigation components at their time and expense.
- F. Design Pressures: Main line pressure at the source location shall be as required to operate the irrigation heads at the design pressures as specified on the plans. Pressure shall not exceed the manufacturer's specifications. Pressure at the last irrigation head on the circuit shall not be less than 35 psi, unless otherwise noted on plans.

- G. Minimum Water Coverage: In turf planting areas, 100 percent coverage shall be provided. Layout may be modified if necessary and approved by the LANDSCAPE ARCHITECT, to obtain coverage. Do not decrease number of heads specified unless otherwise approved by the LANDSCAPE ARCHITECT.
- H. Locate all irrigation system components within planting areas where possible. Do not install irrigation lines directly over another unrelated line in same trench.
- I. Final location of piping and wiring shall be done following CONTRACTOR ascertaining location of existing underground utilities. All work shall be installed in a manner to avoid conflicts with utilities and other construction elements.
- J. CONTRACTOR shall coordinate with other trades executing work on the project to avoid conflicts with locations of plant material, utilities and other site improvements.
- K. Sprinkler spacings are maximums. Do not exceed spacings shown or noted on the plans. Sprinkler spacings may be adjusted to accommodate changes in terrain, proposed planting locations, and existing site conditions, only if approved prior to installation by the LANDSCAPE ARCHITECT.
- L. Pipe sizes shall conform to those shown on the drawings. No substitutions of smaller pipe sizes will be permitted. However, substitutions of larger sizes may be approved.

3.02 EXCAVATION AND TRENCHING

- A. Perform all excavations as required for the installation of the work as defined and described on the irrigations plans, in accordance with the contract documents and under this section of specifications. Work may include shoring of earth banks, if necessary. Restore all surfaces, existing underground installation, etc., damaged or cut as a result of the excavations, to their original condition.
- B. All construction shall be done in a neat and workman like manner in strict accordance with manufacturer's recommendations. No sand or foreign material shall be allowed to enter the pipe. Ends shall be suitably plugged when pipe laying is not in progress.
- C. Main and Lateral Line Trenching - irrigation lines shall be installed in accordance with the installation details and by cutting and removing sod if necessary, trenching, laying pipe, backfilling, compacting soil, restoring grades, and replacing sod, if required.
- D. Should utilities not shown on the plans be found during excavation, CONTRACTOR shall promptly notify the OWNER or LANDSCAPE ARCHITECT for instructing as to further action. Failure to do so will make CONTRACTOR liable for any and all damage thereto arising from their operations subsequent to discovery of such utilities. Indicate such utility crossings on the record drawings promptly.
- E. Trenches shall be open, vertical sided construction wide enough to provide free working space around work installed and to provide ample space for backfilling and compacting. ABSOLUTELY NO PULLING OF PIPE SHALL BE PERMITTED.

Trench width shall not be greater than is necessary to permit satisfactory jointing and other installation procedures.

- F. Trench Bottom: Construct a continuous, firm, smooth trench bottom, free of rocks or other hard objects. Where ledge rock, hardpan, debris or boulders are encountered, undercut and fill the trench bottom with bedding material, using sand or compacted fine-grained soils to provide a minimum depth of bed between the pipe and rock of six inches. Where unstable trench bottom conditions are encountered, use stabilizing methods and materials to provide continuous and permanent support.
- G. When two pipes are to be placed in the same trench, a six-inch space is to be maintained between pipes. The CONTRACTOR shall not install two pipes with one directly above the other.
- H. The CONTRACTOR shall cut trenches for pipe to required grade lines and compact trench bottom provide accurate grade and uniform bearing and support for each section of pipe at every point along its entire length. Trench bottoms shall be free of rocks, gravel and all extraneous debris.
- I. Trenches located under paving shall be backfilled as specified in paragraph 3.16. Depth of trenches shall be sufficient to provide a minimum cover above the top of the pipe as follows:
 - 12 inches over non-pressure lateral lines, unless otherwise noted on the drawings
 - 18 inches over non-pressure lateral lines under paving, unless otherwise noted on the drawings
 - 18 inches over control wires, unless otherwise noted on the drawings
 - 24 inches over irrigation main line, unless otherwise noted on the drawings
 - 24 inches over an irrigation line under rigged paving, unless otherwise noted on the drawings
- J. Safety: Maintain all warning signs, shoring, barricades, flares and red lanterns as required by the Safety Orders of the Division of Industrial Safety and any applicable federal, state, and local ordinances.

3.03 EXCAVATION AND TRENCHING INSPECTION

- A. The following inspections are required. Notify the LANDSCAPE ARCHITECT in advance that each item is ready for inspection as indicated below in accordance with the contract documents.
 - 1. Inspection of all flagged pipeline locations at one single inspection prior to beginning construction - notify one week in advance.
 - 2. Inspection of all pipeline placed in trench must be done before any backfill is put in. All mainlines and laterals will be inspected in one single inspection - notify one week in advance.
 - 3. Pipeline hydrostatic pressure test - notify one week in advance.

4. Pipeline flushing - notify one week in advance.
5. Sprinkler coverage test - notify one week in advance.
6. Final inspection - notify one week in advance.

3.04 WATER METER AND BACKFLOW PREVENTION DEVICE (when applicable)

- A. Water Meter: Shall be installed according to all federal, state, and local codes and requirements.
 1. Installation of the backflow prevention device shall conform to the details on the drawings, local codes, and/or manufacturers specifications. All backflow prevention and piping shall be sized to allow no more than a 20 percent decrease in pressure from that which is available from the main source.

3.05 PIPE LINE ASSEMBLY

- A. General
 1. Install pipes and fittings in accordance with manufacturers latest printed instructions.
 2. Clean all pipes and fittings of dirt, scales and moisture before assembly.
 3. All pipe, fittings, and valves, etc. shall be carefully placed in the trenches. Interior of pipes shall be kept free from dirt and debris and when pipe laying is not in progress, open ends of pipe shall be closed by approved means.
 4. All lateral connections to the mainline as well as all other connections shall be made to the side of the mainline pipe. No connections to the top of the line shall be allowed.
 5. Plastic pipe shall be cut with PVC pipe cutters or hacksaw, or in a manner so as to ensure a square cut. Burrs at cut ends shall be removed prior to installation so that a smooth unobstructed flow will be obtained.
- B. Above Ground Piping: All pipe and fittings permanently installed above ground shall be galvanized steel Schedule 40 pipe. Piping shall be painted or wrapped to prevent rusting. Paint color shall be approved by the OWNER.
 1. All pipe fittings intended for temporary use and installed above ground shall be UV resistant PVC Schedule 40.
- C. Solvent-Weld Joints for PVC Pipes
 1. Use only a color tinted cleaner/primer to prepare the outside diameter of the pipe and the inside diameter of the fitting socket. Cleaner/ primer and solvent cement shall be compatible with the specific sizes and types of PVC pipe and fittings being used.

2. Use only those applicator devices approved or recommended by the pipe and fitting manufacturer to apply the cleaner/primer and the solvent cement. Applications shall also be approved by the manufacturer of the cleaner/primer and solvent cement.
3. Priming the joints: Prime the socket side of the joint first, using an applicator. Prime the male pipe end to the length of the joint, making sure that all surfaces are entirely softened. Re-prime the sock and proceed immediately with cement.
4. Make all joints immediately after applying the solvent cement. Check all fittings for correct position. Hold joint steady so that pipe does not push out from fitting. Use a clean rag to remove any excess solvent from completed joint area.
5. Cure all joints a minimum of one hour before applying any external stress on the piping and at least 24 hours before placing the joint under water pressure, unless otherwise specified by manufacturer.

D. Threaded Joints for PVC Pipes

1. Use Teflon tape on all threaded PVC fittings. All threads shall be thoroughly cleaned of dirt, dust, and moisture before wrapping with teflon tape.
2. Use strap-type friction wrench only. Do not use metal-jawed wrench.
3. When connection is plastic to metal, male adapters shall be used. The male adaptor shall be hand tightened, plus one turn with a strap wrench.

E. Laying of Pipe

1. Pipes shall be bedded in at least two inches of finely divided material with no rocks or clods over one inch diameter to provide a uniform bearing.
2. Pipe shall be snaked from side to side of trench bottom to allow for expansion and contraction. One additional foot per 100 feet of pipe is the minimum allowance for snaking.
3. Do not lay PVC pipe when there is water in the trench.
4. Mainline trench depths will be as noted on the drawings and herein. Use 45° fittings for all changes in depth or direction of mainline pipe.

F. PVC Sleeves and Electrical Conduit

1. PVC sleeves shall be of Schedule 40 PVC, and sized as indicated on the drawings. All sleeves shall extend at least 24 inches beyond the edge of paving when passing under roadways, parking lots, sidewalks, or other paved surfaces.

2. All PVC control wire conduit shall be sufficient size to hold the required quantity of control and common wires. Electrical wires are not to be placed in the same sleeve with water pipes. However, in no case shall more than 50 percent of the control wire sleeve be filled with wire.

G. Thrust Blocks

1. Concrete thrust blocks must be provided on the thrust side of the mainline pipe wherever the pipe line:
 - a. Changes direction, as at tees or bends.
 - b. Dead ends.
 - c. Any other spot where thrust is to be expected.
2. All irrigation mainline and lateral pipes three inches and larger will be thrust blocked. See irrigation drawings for Thrust Block Details.

3.06 SHUT-OFF VALVES

- A. If indicated in plans, shut-off valves shall be located in the following locations:
1. After backflow preventor and prior to main supply loop.
 2. Between mainline and each remote control valve.
- B. To be located within planting and lawn areas.
- C. All shut-off valves shall be housed in valve boxes. Shut-off (ball) valves shall be housed in the same box as Irrigation Control Valves, where applicable.

3.07 IRRIGATION CONTROL VALVES

- A. Install control valves in valve boxes, grouping together where practical. Place no closer than 12 inches to walk edges, buildings, and walls.
- B. Pressure regulating remote control valves shall be adjusted so that the most remote sprinkler heads operate at the pressure specified.
- C. Valves shall be installed as shown in details and in accordance with manufacturer's instructions and the specifications.

3.08 QUICK COUPLING VALVES

- A. Shall be set a minimum of 12 inches from walks, curbs or paved areas where applicable or as otherwise noted. Quick coupling valves shall be housed in valve boxes.
- B. Valves shall be installed on three elbow PVC Schedule 40 swing joint assembly as detailed on the drawings. Quick coupler shall be anchored with rebar as shown on the details.

- C. Where possible, quick coupling valves may be installed with control valves and occur in the same box.

3.09 VALVE BOXES

- A. Valve boxes shall be set flush with finish grade in lawn areas and one-half-inch above finish grade in ground cover and shrub bed areas.
- B. Install all valve boxes to avoid direct contact with PVC irrigation piping. Following valve box installation place gravel or sand as indicated in the detail.
- C. CONTRACTOR shall label/number all zone valve covers/boxes with the corresponding controller zone number and isolation valve box covers with record drawing numbers. Numbers shall be applied using a weather resistant tape or paint.

3.10 SPRINKLER HEADS

- A. Sprinkler Head Installation: Locate all sprinkler heads a minimum distance of six inches from walks, pavement, and back of curbs.
- B. Pop-Up Spray Heads in sodded areas shall be installed flush (+ one-half-inch tolerance) with finished sod elevations. In mulched and planted areas all heads are to be flush with finish mulch elevations or as otherwise indicated on the plans.
- C. Rotor Heads shall be installed to be flush (+ one-fourth-inch tolerance) with finish sod elevations except those rotor heads specifically designed to be mounted below grade.
- D. All sprinkler nozzles shall be adjusted for the proper radius and direction of spray pattern. Make adjustments where possible to prevent over spraying onto walks, pavement or buildings.
- E. Sprinkler heads and quick coupling valves shall be set perpendicular to finished grade unless otherwise designated on the plans.

3.11 DRAIN VALVES

- A. All laterals shall be provided with manual drain valves to be installed as shown in details.
- B. The mainline shall be drained with manual drain valves to be installed as shown in details.
- C. Drain valves are to be provided at sufficient intervals to provide complete drainage of all piping.

3.12 AUTOMATIC CONTROLLER

- A. The automatic controller shall be installed at the approximate location shown on the drawings. The actual location shall be approved by the LANDSCAPE ARCHITECT following stake-out in the field by the CONTRACTOR. CONTRACTOR shall be responsible for monitoring the integrity of the flag markings.
- B. Controllers shall be installed in accordance with the drawings, details, manufacturer's instruction and local codes.
- C. CONTRACTOR shall provide controller grounding in accordance with the manufacturer's requirements and/or recommendations. If specified ground resistance cannot be obtained consult manufacturer for prescribed methods. Use conduit for connection of power source to controller.
- D. Connect remote control valve to controller in the sequence shown on the plans. If plan is not labeled then connect remote control valves to controller in a clockwise sequence to correspond with station setting beginning with Stations 1, 2, 3, etc. CONTRACTOR shall verify that each station number corresponds with the same numbered control valve.
- E. Affix controller name (i.e. "Controller A") on inside of controller cabinet door with letters minimum of one inch high. Affix a non-fading copy of irrigation diagram to cabinet door below controller name. Irrigation diagram to be sealed between two sheets of 20 mil (minimum) plastic. Irrigation diagram shall be a reduced copy of the as-built drawing and shall show clearly all valves operated by the controller, showing station number, valve size and type of planting irrigated.
- F. The CONTRACTOR shall be responsible for stationing the Controller as shown in the Irrigation Station Schedule on the drawings, where applicable.

3.13 CONTROL WIRING AND ELECTRICAL

- A. CONTRACTOR shall be responsible for the placement of the 110 volt AC service necessary for the operation of electric controller as specified on the plans and in accordance with the manufacturer's specifications.
- B. All electrical equipment and wiring shall be installed in accordance with the latest provisions of the National Electrical Code, state and local code and be installed by those skilled and licensed in the trade.
- C. Electric control lines (24 volt) from controller to automatic valves shall be direct burial wire of a different color than the 110 volt service to controllers. The 24 volt common ground shall be of one continual color and a different color than the other 24 volt lines and the 110 volt service. All 110 volt AC wiring shall be installed in accordance with Federal, State, and local electric requirements.
- D. All 24 volt wire shall be encased in two-inch Schedule 40 PVC sleeves when extending under roadways, parking lots, sidewalks, or other rigged surfaces shown or not shown on the drawings.

- E. All wire passing under existing or future paving, or construction, shall be encased in plastic conduit extending at least 24 inches beyond edges of paving or construction as indicated on the irrigation drawings or elsewhere in these specifications.
- F. All above ground low voltage wiring shall be installed in UL listed plastic conduit and connectors in accordance with prevailing local codes.
- G. Install all 24-volt valve control wires and common wire to one side of mainline trench. Placement over pipes is not permitted. Installation depth shall conform to the depth of the mainline as indicated elsewhere in these specifications. Install all 24-volt wires in mainline trench except for distance between controller and mainline pipe location.
- H. All field repair splices shall be made using Scotch-Lok No 3500 or DBY connector sealing packs, or approved equivalent. Each individual wire splice requires one connector sealing pack.
- I. All in the field low voltage wire splices shall be made in a valve box as described within these specifications or in the pedestal of the field controller. Direct bury splices shall be prohibited.
- J. When more than one wire is placed in the same open trench, wires shall be bundled and taped together at intervals of ten feet, using black electrical tape.
- K. Provide an expansion curl within three feet of each wire connection and at each change of direction, and at least every 100 feet of wire length on runs of more than 100 feet in length. Each expansion curl shall be formed by wrapping at least six turns of wire around a two-inch diameter pipe, then removing the pipe.
- L. Provide an expansion coil of eight to 10 feet of wire or cable at each change in direction along the wire routing, where wire is direct buried in a trench. Provide an expansion coil of four to six feet of wire every 1,000 feet of straight wire run. Coil diameter to be 24 to 30 inches. Do not tape restrain the wire coil. Lay the wire coil flat in the trench.
- M. Provide an expansion coil of eight to 10 feet of wire or cable at each side of a road crossing. Coil diameters to be 24 to 30 inch. Do not tape restrain the wire coil. Lay the wire coil flat in the trench.
- N. The 24 VAC low voltage wiring system between field controller and remote control valves shall be properly grounded per manufacturer's instructions.
- O. The main line shall have two spare wires installed its entire length and to the automatic controller. Label each end "spare wire".

3.14 CLOSING OF PIPE AND FLUSHING OF LINES

- A. Cap or plug all openings as soon as lines have been installed to prevent the entrance of materials that would obstruct the pipe. Leave in place until removal is necessary for completion of installation.

1. Thoroughly flush out all water lines under a full head of water before installing heads, valves, quick coupler assemblies, etc. Maintain flushing for a minimum of three minutes at the valve located furthest from water supply.
2. Test as specified below.
3. Upon completion of testing, complete assembly and adjust sprinkler heads for proper grade and distribution.

3.15 TESTING

- A. Request the presence of the LANDSCAPE ARCHITECT or ENGINEER in writing or by phone at least 48 hours in advance of testing. Final testing is to be accomplished in the presence of the LANDSCAPE ARCHITECT or ENGINEER. Any additional tests required due to the failure of the initial test shall be accomplished at the expense of the CONTRACTOR.
- B. Hydrostatic Testing: Center load piping with small amount of backfill to prevent arching or slipping under pressure. A continuous and static water pressure of 120 psi will be applied for a period of not less than two hours. Repair all leaks resulting from pressure test. Expel air from system after testing, flush all lines.
- C. Tests shall be made between valves and as far as practicable in section of approximately 1,000 feet long or as approved by the LANDSCAPE ARCHITECT or ENGINEER. Potable water from an existing water distribution system shall be used if available. The test pressure for the water lines shall be 120 psi and this pressure shall be maintained for a period of not less than two hours. Pressure shall not vary more than two pounds from the above during the two-hour test period. Allowable leakage shall be computed on the basis of Table 3, Section 13.7. AWWA Standard C600-64, or the applicable formula for other than 18 foot lengths.

All leaks evident at the surface shall be uncovered and repaired regardless of the total leakage as indicated by the test, and all pipes, valves and fittings and other materials found defective under the test shall be removed and replaced at the CONTRACTOR's expense. Tests shall be repeated until leakage has been reduced below the allowable amount.

- D. Operational Testing: Perform operational testing after hydrostatic testing is completed, backfill is in place, and sprinkler heads adjusted to final position.
- E. Demonstration: The CONTRACTOR shall demonstrate to the LANDSCAPE ARCHITECT that the system meets coverage requirements and that automatic controls function properly. Coverage requirements are based on operation of one circuit at a time.
- F. Clearly list dates of all pressure tests on the record drawings.

3.16 INSPECTION

- A. The CONTRACTOR shall maintain proper facilities and provide safe access for inspection to all parts of the work.

- B. Irrigation inspection shall consist of a minimum of:
 - 1. Mainline pressure test.
 - 2. Trench excavation and pipe coverage.
 - 3. Coverage/hydrological test.
 - 4. Final irrigation inspection.
- C. If the specifications, the LANDSCAPE ARCHITECT's instructions, laws, ordinances or any public authority require any work to be specifically tested or approved, the CONTRACTOR shall give three days notice of its readiness for inspection.
- D. The CONTRACTOR shall be solely responsible for notifying the LANDSCAPE ARCHITECT where and when such work is in readiness for testing.
- E. If any work should be covered up without approval, it must be uncovered, if required, for examination at CONTRACTOR's expense.
- F. No inspection shall commence without "Record" drawings and without completing previously noted corrections, or without preparing the system for inspection.

3.17 BACKFILL AND COMPACTING

- A. CONTRACTOR shall not backfill over fittings, valves, couplings, etc., until pressure tests have been executed and approved.
- B. After testing of system has occurred and inspections have been made, backfill excavations and trenches with clean soil, free of stones, sticks, construction debris and rubbish. Unsuitable material, including clods and rocks over two inches in size shall be removed from the site.
- C. Metallic identification tape shall be buried approximately three inches above PVC pipe. Metallic tape shall be buried approximately three inches above ductile iron pipe. Tape width shall be three inch minimum tape colors and imprints shall be as follows:

<u>Imprint</u>	<u>Color</u>
Caution - Non-Potable Irrigation Water Line Buried	Purple

- D. Water Packing: When water packing is used, the pipeline must first be filled with water, all air removed, and the pipe kept full during the backfill operation. The backfill, before wetting, shall be 12 to 18 inches deep over the top of the pipe. Water packing is accomplished by adding water in such quantity as to thoroughly saturate the initial backfill. While saturated, rods, shovels, concrete vibrators or other means may be used to help consolidate the backfill around the pipe, taking care not to float or damage the pipe. After saturation, the pipeline shall remain full until after final backfill is made. Allow the wetted fill to dry until firm enough to walk on before final backfill is begun.

- E. Hand or Mechanical Backfilling: Tamp the backfill in layers not to exceed six inches lift and compact firmly around the pipe and up to a least six inches above the top of the pipe. The backfill must be sufficiently damp to permit thorough compaction under and on each side of the pipe to provide support free from voids. Take care to avoid deforming, displacing, or damaging the pipe.
- F. Backfill for all trenches, regardless of the type of pipe covered, shall be compacted to minimum 98 percent modified (T-180) density under pavement, 85 percent under planted areas. Compact trenches in areas to be planted by thoroughly flooding the backfill. Jetting process shall be used when necessary in those areas.
- G. A fine granular material shall be placed initially on all lines with a minimum of three inches cover. No foreign matter large than one-half inch in size shall be permitted in the initial backfill.

Trenches located under paving shall be backfilled with sand (a layer six inches below the pipe and three inches above the pipe) and compacted in layers of 98 percent modified (T-180) compaction.
- H. Dress off all areas to finish grades and restore to condition previous to irrigation installation.
- I. Clean-Up: Remove from the site all debris and surplus earth resulting from work of this section. Clean-up shall be conducted continuously throughout the installation process to keep extraneous materials off the work site.

PART 4 **MEASUREMENT AND PAYMENT**

4.01 BASIS OF PAYMENT

- A. CONTRACTOR will submit a lump sum bid and shall receive full compensation for conforming to the provisions of this section and related drawings. Lump sum paid for the complete installation as shown and specified will be categorized as follows:
 - 1. Sleeving (Mains and Laterals)
 - 2. Primary Components (Mains/Controllers/Solenoid Valves)
 - 3. Secondary Components (Heads/Valves/Laterals/Wiring/Couplers)
- B. No additional compensation will be allowed excluding relative change orders. The CONTRACTOR shall provide a complete unit cost breakdown for all irrigation components shown on the drawings or noted in the legend and shall be included as part of the CONTRACTOR's bid. Said breakdown may be submitted after award of contract and prior to the execution of work. However, the OWNER reserves the right to reject any bid that does not include said unit cost breakdown.

END OF SECTION 02810

**SECTION 02817
CLEARING AND GRUBBING**

PART 1 GENERAL

1.01 SCOPE

- A. Work specified in this section consists of clearing and grubbing within areas specified in the Contract Documents or as directed by the OWNER's representative. Work under this section includes removal and disposal of all trees, brush, stumps, grass, roots, and other such protruding objects. Also included is the removal and disposal of buildings, structures, existing pavement, other existing facilities, and debris not required to remain or to be salvaged that is necessary to prepare the area for the proposed construction. CONTRACTOR shall notify all utility companies or utility owners (both public or private) of their intent to perform such work and shall coordinate field location of utility lines prior to commencement of construction.
- B. Other miscellaneous work considered necessary for the complete preparation of the overall project site is also included under this section. Work includes, but is not limited to, the following:
 - 1. Plugging of wells encountered within the project limits which are to be abandoned.
 - 2. Leveling and restoration of terrain outside the limits of construction for purposes of facilitating maintenance and other post-construction operations.
 - 3. Trimming of certain trees and shrubs within project limits for utilization in subsequent landscaping of the project.
 - 4. Plugging or sealing of culvert pipes or other structures to prevent erosion or collapse of adjacent soils.

1.02 SPECIFICATION AND STANDARDS REFERENCE

- A. Where supplementary specifications or standards such as ASTM, AWWA, AASHTO, etc. are referenced, such references shall be latest edition.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 CLEARING AND GRUBBING

- A. Clearing and Grubbing shall consist of complete removal and disposal of all items stated in Article 1.01 which are not specified for removal under other items of the

contract. The CONTRACTOR shall obtain all permits/approvals necessary for disposal at their own expense. The CONTRACTOR shall obtain tree removal permits.

B. Unless otherwise shown in the plans or Contract Documents, Standard Clearing and Grubbing shall be done within the following areas:

1. All areas where any type of excavation is to be done.
2. All areas where any type of embankment will be constructed.
3. All areas where any type of structure, including pipe culverts or pipe lines, will be installed or constructed.
4. All areas where any type of pavement will be constructed.
5. Other areas designated in the plans or by the specifications.

C. Depths of Removal

1. In areas listed below, all roots and other debris shall be removed to a depth of at least one foot below ground surface. The surface shall then be plowed to a depth of at least six inches and all roots exposed shall be removed to a depth of at least one foot. All stumps including subsurface roots shall be completely removed to the satisfaction of the ENGINEER. Trees shall be removed so roots are pulled out rather than broken or sawed off. Areas requiring the removal methods stated in this paragraph are as follows:
 - a. Excavation areas where the excavated material is to be used in embankment construction under permanent structures such as but not limited to pavement and buildings.
 - b. Embankment areas under permanent structures such as but not limited to pavement, buildings, sewage treatment facilities, bridges, etc.
 - c. Excavation areas where roots or similar vegetation in the top one foot would interfere with disking, harrowing, or finish grading operations prior to seeding or landscaping.
 - d. Lots and building areas.
2. In all other excavation areas not listed above where clearing and grubbing is to be done, all roots, stumps, and debris protruding through or appearing on the surface of the completed excavation shall be removed or cut off below the excavated surface.
3. In all other embankment areas not listed above where clearing and grubbing is to be done, all roots, stumps, and debris protruding through or appearing on the surface shall be removed to a depth of at least one foot

below the surface but no plowing or harrowing will be required in these areas.

- D. Trees to Remain: As an exception to the above provisions, where so directed by the OWNER's representative, desirable trees within the clearing limits shall be protected, left standing, and trimmed to prevent damage to limbs during construction. No equipment shall stand, stop, or travel across or inside the drip line of any trees or vegetation designated to be saved or protected.
- E. Boulders: Any boulders laying on the top of the existing surface or otherwise encountered during the clearing and grubbing shall be removed and disposed of by the CONTRACTOR in areas provided by the CONTRACTOR. As an alternate to off-site disposal and at the CONTRACTOR's expense, he may elect to utilize these boulders in embankments provided the conditions of Article 3.04 in Section 02820 are satisfied. Any breaking or splitting of boulders that may be necessary to comply with size requirements for embankment shall be incidental to the cost of clearing and grubbing. No boulders or rock shall be left or placed in building pads, lots, or building embankment areas.

3.02 SELECTIVE CLEARING AND GRUBBING

- A. Selective clearing and grubbing shall consist of removing and disposing of all vegetation, obstructions, etc, as provided above except that in non-structural areas where the CONTRACTOR so elects, roots may be cut off flush with the ground surface. Stumps shall be completely removed. Undergrowth shall be completely removed except in areas designated by the OWNER's representative for aesthetic purposes.
- B. Desirable trees, that are designated by the OWNER's representative to remain, shall be protected and trimmed in such a way to avoid damage to limbs during construction.

3.03 SPECIAL CLEARING AND GRUBBING

- A. In certain areas that are inaccessible by machines or are considered environmentally sensitive, ENGINEER may specify Special Clearing and Grubbing. Where listed as a separate pay item, Special Clearing and Grubbing shall consist of removal and disposal of all trees, brush stumps, roots, debris or other objects protruding through the surface by cutting off flush with the ground surface. The use of any machinery that would disturb the original ground surface condition will not be permitted.

3.04 ERADICATION OF EXOTIC VEGETATION

- A. Where listed as a separate pay item, Eradication of Exotic Vegetation shall consist of removal and disposal of Australian Pine, Melaleuca, Brazilian Pepper, and other species specifically stated on the plans or specified herein. Also included shall be the removal of the subsurface root system for each exotics.

- B. In areas where removal is modified to permit cutting off flush with in the ground surface, stump and root system shall be treated with an agency approved chemical herbicide that will ensure the eradication of the root system.
- C. Within the limits established for the Eradication of Exotic Vegetation, all other trees, brush, etc. not classified as exotic shall be removed, unless designated in the field by the OWNER's representative to remain. The removal and disposal of non-exotic vegetation shall conform to the provisions of Article 3.01.

3.05 REMOVAL OF EXISTING PAVEMENT

- A. Work specified in this article consists of the removing and disposing of existing pavement surfaces such as, but not limited to, pavement, sidewalk, curb, and gutter where shown in the plans, or required to be removed during construction operations, or as required by the ENGINEER.

3.06 REMOVAL OF EXISTING STRUCTURES

- A. Work specified in this article shall include removal and disposal of existing buildings, bridges, pipes, and structures of whatever type as specifically shown in the plans to be removed or as otherwise specified for removal in the Contract Documents. Also included are structures of whatever type or portions thereof which are encountered during construction operations. Where partial removal of a structure is approved by the ENGINEER, the portion of the existing structure shall be backfilled, plugged, or filled in such a way that will prevent the settlement, movement, erosion or collapse of the adjacent soils.

3.07 BURNING ON-SITE

- A. Unless otherwise stated in the Contract Documents, burning may be permitted within the project limits provided the burning operation complies with all applicable laws, ordinances, and other regulatory agencies. All permits required shall be obtained by the CONTRACTOR prior to the start of burning and all permit regulations shall be strictly adhered to. All burning shall be done at locations where trees and shrubs adjacent to the cleared area will not be harmed.

3.08 DISPOSAL OF MATERIALS

- A. Timber, stumps, roots, brush, boulders, rubbish, and other objectionable material resulting from work specified in this section shall be disposed of off-site in locations provided by the CONTRACTOR.

3.09 OWNERSHIP OF MATERIALS

- A. Except as may be otherwise stated in the Contract Documents, all buildings, structures, appurtenances and other materials removed by the CONTRACTOR shall become the property of the CONTRACTOR, to be disposed of in areas provided by him.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. General: For the various items of work specified in this section when listed as a separate pay item, payment shall be made by the unit price or the lump sum amount as established in the Contract Documents. Where no separate pay item is established, the cost of all such work shall be included in the various scheduled items of work specified in the Contract Documents, except as provided below.
- B. Clearing and Grubbing: Measurement of Clearing and Grubbing shall include only the areas specified in the Contract Documents that are required to be cleared to permit the construction of the various items of work. Areas that are cleared for convenience, access, or other purposes that are not a requirement of construction will not be measured for payment.
- C. Selective Clearing and Grubbing: Measurement of Selective Clearing and Grubbing shall include all areas shown in the plans or designated in the field by the OWNER's representative. This measurement shall include the total area within the limits of Selective Clearing and Grubbing and no deduction shall be made for areas in which desirable trees and brush are designated to remain. Where the limits of Selective Clearing and Grubbing are shown on the plans or otherwise established in the Contract Documents but no separate pay item established, the measurement of such work shall be included in the quantity or lump sum amount of "Clearing and Grubbing".
- D. Special Clearing and Grubbing: Measurement of Special Clearing and Grubbing shall include all areas shown in the plans or designated in the field by the OWNER's representative. This measurement shall include only actual areas cleared by the hand method and shall not include areas cleared by other methods or areas that remain in their original condition. Where the limits of Special Clearing and Grubbing are shown on the plans or otherwise established in the Contract Documents but no separate pay item established, the measurement of such work shall be included in the quantity or lump sum amount of "Clearing and Grubbing".
- E. Eradication of Exotic Vegetation: Measurement of Eradication of Exotic Vegetation shall include areas shown on the plans or designated in the field by the OWNER's representative. This measurement shall include the total area within the limits established for Eradication of Exotic Vegetation and include the areas within these limits where non-exotic vegetation is removed. Where the OWNER's representative has designated desirable vegetation to remain within these limits, no deduction of area shall be made for the "saved" areas.

Where limits of Eradication of Exotic Vegetation are shown on the plans or otherwise established in the Contract Documents but no separate pay item established, the measurement of such work shall be included in the quantity or lump sum amount of "Clearing and Grubbing."

- F. Removal of Existing Pavement: When a separate pay item is established for the Removal of Existing Pavement, the quantity to be paid shall be by the square yard

for the actual quantity removed and disposed of off-site. For curb and gutter, slope pavement, and other irregular areas, the measurement shall be generally taken as an approximate horizontal surface. Where lump sum payment is provided, such payment shall be compensation for the removal of areas shown on the plans or otherwise specified in the Contract Documents.

Where a separate pay item is established for curb, gutter, or curb and gutter removal, the measurement shall be measured by the lineal foot at the flow line of the gutter or at the top of curb where there is no gutter. Where separate pay has not been provided for curb or curb and gutter removal, the measurement shall be included in the area for pavement removal as stated above.

When no separate payment is provided for the Removal of Existing Pavement and no applicable item of excavation or embankment covering such work is listed, the costs of this work shall be included in the contract price for the item of Clearing and Grubbing or for the pipe or other structure of which the pavement removal is required.

- G. Removal of Existing Structures: When separate payment for Removal of Existing Structures or Removal of Existing Buildings is provided, the work shall be paid for at the contract lump sum price. When direct payment is not provided, the cost of such removal and disposal shall be included in the contract price for Clearing and Grubbing or if no clearing and grubbing is included, in the compensation for the other items covering the new structure to be constructed.
- H. Burning: Unless otherwise specified in the Contract Documents, and where permitted, burning shall be considered as being part of the process of disposing of materials and the cost of such work shall be included in the item which requires the disposal of materials.

4.02 BASIS FOR PAYMENT

- A. General: Prices and payments for the various work items included in this section shall constitute full compensation for all work described herein and shall include all removal, disposal, protecting, trimming, breaking, plugging, eradication, or any other items specified in this section.
- B. Pay Items: For all work specified in this section, payment shall be made in accordance with the list of pay items established or as otherwise defined in the Contract Documents. The description of a pay item in the proposal section may vary from the descriptions stated in this section.

END OF SECTION 02817

SECTION 03200
CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Provide concrete reinforcement where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.02 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- B. Related Sections:
 - 1. Section 03300 - "Cast-in-Place Concrete"
 - 2. Section 03400 - Reinforced Precast Concrete
 - 3. Section 03410 - Structural Precast Concrete Wall

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Comply with pertinent provisions of the following, except as may be modified herein.
 - 1. ACI 318-89: Building Code Requirements for Reinforced Concrete
 - 2. ACI 315-80 (Revised 88): Manual of Standard Practice for Detailing Reinforced Concrete Structures
 - 3. ASTM A615-87: Standard Specifications for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - 4. ASTM A82-85: Standard Specifications for Steel Wire fabric for concrete reinforcement.
 - 5. ASTM A185-85: Standard Specifications for Welded Steel wire fabric for concrete reinforcement
 - 6. CRSI "Manual of Standard Practice", 1990 edition.

1.04 SUBMITTALS

- A. Product data: Within 30-calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Itemized list of materials proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
 - 3. Shop Drawings showing details of bars, anchors, and other items, if any, provided under this Section.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Comply with pertinent provisions of Section 01640.
- B. Delivery and Storage:
 - 1. Use necessary precautions to maintain identification after bundles are broken.
 - 2. Store in a manner to prevent excessive rusting and fouling with dirt, grease, and other bond-breaking coatings.

PART 2 - PRODUCTS

2.01 REINFORCEMENT MATERIALS AND ACCESSORIES

- A. Bars:
 - 1. Provide deformed billet steel bars complying with ASTM A615, using grades shown on the Drawings.
 - 2. Where steel grades are not shown on the Drawings, use grade 60.
- B. Steel Wire:
 - 1. Comply with ASTM A82.
 - 2. For tie wire, comply with Fed Spec QQ-W-461, annealed steel, black, 16 gauge minimum.
- C. Welded Wire Fabric:
 - 1. Provide welded steel, complying with ASTM A185.
- D. Welding Electrodes:
 - 1. Comply with AWS A5.1, low hydrogen, E70 series.
- E. Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement in place:
 - 1. Use wire bar type supports complying with CRSI recommendations, unless otherwise shown on the Drawings.
 - 2. Do not use wood, brick, or other non-complying material.
 - 3. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
 - 4. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with either hot-dip galvanized or plastic-protected legs.

2.02 FABRICATION

- A. General:
 - 1. Fabricate reinforcing bars to conform to the required shapes and dimensions, with fabrication tolerances complying with the CRSI Manual.
 - 2. In case of fabricating errors, do not straighten or rebend reinforcement in a manner that will weaken or injure the material.
 - 3. Reinforcement with any of the following defects will not be acceptable.
 - a. Bar lengths, depths, and/or bends exceeding the specified fabrication tolerances.
 - b. Bends or kinks not shown on the Drawings.
 - c. Bars with reduced cross-section due to excessive rusting or other cause.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.02 INSTALLATION

- A. General:
 - 1. Comply with the specified standards for detail and method of placing reinforcement and supports, except as may be modified herein.
 - 2. Clean reinforcement to remove loose rust and mill scale, earth, and other materials which reduce or destroy bond with concrete.
 - 3. Position, support, and secure reinforcement against displacement by formwork, construction, and concrete placing operations.
 - 4. Locate and support reinforcement by metal chairs, runners, bolsters, spacers and hangers, as required.
 - 5. Place reinforcement to obtain minimum coverage for concrete protection.
 - 6. Arrange, space, and securely tie bars and bar supports together with the specified tie wire.
 - 7. Set wire ties so twisted ends are directed away from exposed concrete surfaces.
- B. Install welded wire fabric in as long lengths as practicable, lapping adjoining pieces at least one full mesh, plus two inches, 12 inches, or as noted on the Drawings.
- C. Provide sufficient numbers of supports, and of strength sufficient to carry the reinforcement specified.
- D. Do not place reinforcing bars more than 2 inches beyond last leg of any continuous bar support.
- E. The minimum clear distance between parallel bars, except in columns, shall be equal to the nominal diameter of the bars. In no case shall the clear distance between bars be less than one inch, nor less than one and one-third times the maximum size of the coarse aggregate.
- F. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.
- G. Interior and exterior horizontal lapped corner bars shall be provided at all corners to match the size, type, and spacing of horizontal footing, or wall reinforcement.
- H. Concrete Protection for Reinforcement: The following minimum concrete cover shall be provided for reinforcement:
 - 1. Concrete cast against and permanently exposed to earth 3 inches
 - 2. Concrete exposed to earth or weather:
 - #6 through #11 bars 2 inches
 - #5 bar, W31 or D31 wire, and smaller 1-1/2 inches

3. Concrete not exposed to weather or in contact with ground:
 Slabs, walls, joists:
 #11 and smaller..... 1 inch
4. The above protective coverings are minimum standards, however protective coverings shall not be less than required for fire-resistive ratings.
5. The Contractor shall provide the necessary bolsters, chairs, concrete blocks, and miscellaneous reinforcement for the support of reinforcing. Steel wire bar supports used in slabs, beams, and columns shall be Class B, plastic-protected.

3.03 SPLICES

- A. Lap Splices:
 1. Tie securely with the specified wire to prevent displacement of splices during placement of concrete.
- B. Splice Devices:
 1. Obtain the Engineer's approval prior to using splice devices.
 2. Install in accordance with manufacturer's written instructions.
 3. Splice in a manner developing at least 125% of the yielding strength of the bar.
- C. Welding:
 1. Perform in accordance with AWS D1.4-79.
- D. Do not splice bars except at locations shown on the Drawings, except as otherwise specifically approved by the Engineer.
- E. In slabs, beams, and girders, splices in reinforcement at points of maximum stress shall be avoided wherever possible. Such splices where used shall be welded, lapped, or otherwise fully developed, but, in any case shall transfer the entire stress from bar to bar without exceeding the allowable bond and shear stresses. The minimum overlap for a lapped splice shall be 24 bar diameters, but not less than 12 inches. The clear distance between bars shall also apply to the clear distance from a contact splice and adjacent splices or bars.
- F. Splices in slabs or walls not shown in the plans shall be Class B contact lap splices.

END OF SECTION

SECTION 03300
CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mix design, placement procedures and finishes.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume.

1.4 SUBMITTALS

- A. Product Data: For each type of manufactured material and product indicated.
- B. Design Mixes: For each concrete mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Indicate amounts of mix water to be withheld for later addition at Project site.
- C. Steel Reinforcement Shop Drawings: Details of fabrication, bending, and placement, prepared according to ACI 315, "Details and Detailing of Concrete Reinforcement." Include material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports of concrete reinforcement. Include special reinforcement required for openings through concrete structures.
- D. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork. Design and engineering of formwork are Contractor's responsibility.
 - 1. Shoring and Re-shoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and installing and removing re-shoring.
- E. Welding Certificates: Copies of certificates for welding procedures and personnel.
- F. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated, based on comprehensive testing of current materials:

- G. Material Certificates: Signed by manufacturers certifying that each of the following items complies with requirements:
1. Cementitious materials and aggregates.
 2. Form materials and form-release agents.
 3. Steel reinforcement and reinforcement accessories.
 4. Fiber reinforcement.
 5. Admixtures.
 6. Waterstops.
 7. Curing materials.
 8. Floor and slab treatments.
 9. Bonding agents.
 10. Adhesives.
 11. Vapor retarders.
 12. Epoxy joint filler.
 13. Joint-filler strips.
 14. Repair materials.
- H. Minutes of pre-installation conference.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed concrete Work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for formwork and shoring and re-shoring installations that are similar to those indicated for this Project in material, design, and extent.
- C. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
1. Manufacturer must be certified according to the National Ready Mixed Concrete Association's Certification of Ready Mixed Concrete Production Facilities.
- D. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548.
1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
- E. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer.
- F. Welding: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code--Reinforcing Steel."
- G. ACI Publications: Comply with the following, unless more stringent provisions are indicated:
1. ACI 301, "Specification for Structural Concrete."
 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
 - 1. Plywood, metal, or other approved panel materials.
 - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
 - a. High-density overlay, Class 1, or better.
 - b. Medium-density overlay, Class 1, or better, mill-release agent treated and edge sealed.
 - c. Structural 1, B-B, or better, mill oiled and edge sealed.
 - d. B-B (Concrete Form), Class 1, or better, mill oiled and edge sealed.

2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- B. Plain-Steel Wire: ASTM A 82, as drawn.

2.3 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete, and as follows:
 - 1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected or CRSI Class 2 stainless-steel bar supports.
- B. Joint Dowel Bars: Plain-steel bars, ASTM A 615/A 615M, Grade-60 (Grade-420). Cut bars true to length with ends square and free of burrs.

2.4 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type II.
 - 1. Fly Ash: ASTM C 618, Class C or F.
 - 2. Fly Ash: ASTM C 618, Class F.
 - 3. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- B. Silica Fume: ASTM C 1240, amorphous silica.
- C. Normal-Weight Aggregate: ASTM C 33, uniformly graded, and as follows:
 - 1. Class: Moderate weathering region, but not less than 3M.
 - 2. Nominal Maximum Aggregate Size: 1-inch (25 mm).
 - 3. Combined Aggregate Gradation: Well graded from coarsest to finest with not more than 18-percent and not less than 8-percent retained on an individual sieve, except that less than 8-percent may be retained on coarsest sieve and on No. 50 (0.3-mm) sieve, and less than 8-percent may be retained on sieves finer than No. 50 (0.3 mm).

- D. Water: Potable and complying with ASTM C 94.

2.5 ADMIXTURES

- A. General: Admixtures certified by manufacturer to contain not more than 0.1-percent water-soluble chloride ions by mass of cementitious material and to be compatible with other admixtures and cementitious materials. Do not use admixtures containing calcium chloride.
- B. Air-Entraining Admixture: ASTM C 260.
- C. Water-Reducing Admixture: ASTM C 494, Type A.
- D. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
- E. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
- F. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
- G. Corrosion-Inhibiting Admixture: Commercially formulated, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Products: Subject to compliance with requirements, provide one of the following:
 - a. Catexol 1000CL; Axim Concrete Technologies.
 - b. MCI 2000 or MCI 2005; Cortec Corporation.
 - c. DCI or DCI-S; W. R. Grace & Co., Construction Products Div.
 - d. Rheocrete 222+; Master Builders, Inc.
 - e. FerroGard-901; Sika Corporation

2.6 WATERSTOPS

- A. Flexible Rubber Waterstops: CE CRD-C 513, for embedding in concrete to prevent passage of fluids through joints. Factory fabricated corners, intersections, and directional changes.
 - 1. Profile: Flat, dumbbell with center bulb.
 - 2. Profile: Flat, dumbbell without center bulb.
 - 3. Profile: Ribbed with center bulb.
 - 4. Profile: Ribbed without center bulb.
 - 5. Profile: As indicated.
- B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- C. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Rubber Waterstops:
 - a. Greenstreak.
 - b. Progress Unlimited Inc.
 - c. Westec Barrier Technologies; Div. of Western Textile Products, Inc.
 - d. Williams Products, Inc.

- D. Self-Expanding Strip Waterstops: Manufactured rectangular or trapezoidal strip, sodium bentonite or other hydrophylic material for adhesive bonding to concrete.
1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 2. Products: Subject to compliance with requirements, provide one of the following:
 - a. Volclay Waterstop-RX; Colloid Environmental Technologies Co.
 - b. Conseal CS-231; Concrete Sealants Inc.
 - c. Swellseal Joint; De Neef Construction Chemicals (U.S.) Inc.
 - d. Hydrotite; Greenstreak.
 - e. Mirastop; Mirafi Moisture Protection, Div. of Royal Ten Cate (USA), Inc.
 - f. Adeka Ultra Seal; Mitsubishi International Corporation.
 - g. Superstop; Progress Unlimited Inc.

2.7 FLOOR AND SLAB TREATMENTS

- A. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, non-glazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery with emery aggregate containing not less than 50-percent aluminum oxide and not less than 25-percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.
- B. Non-pigmented Mineral Dry-Shake Floor Hardener: Factory-packaged dry combination of Portland cement, graded quartz aggregate and plasticizing admixture.
- C. Pigmented Mineral Dry-Shake Floor Hardener: Factory-packaged dry combination of Portland cement, graded quartz aggregate, coloring pigments, and plasticizing admixture. Use coloring pigments that are finely ground, non-fading mineral oxides interground with cement.
1. Colors: Match Architect's samples.
 2. Colors: As indicated by referencing manufacturer's designations.
 3. Colors: As selected by Architect from manufacturer's full range for these characteristics.
- D. Penetrating Liquid Floor Treatment: Chemically reactive, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; colorless; that penetrates, hardens, and densifies concrete surfaces.
- E. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- F. Products: Subject to compliance with requirements, provide one of the following:
1. Unpigmented Mineral Dry-Shake Floor Hardener:
 - a. Non-Metallic Floor Hardener; Burke Group, LLC (The).
 - b. Concolor; ChemMasters.
 - c. Conshake 500; Conspec Marketing & Manufacturing Co., Inc.
 - d. Quartz Tuff; Dayton Superior Corporation.
 - e. Surflex; Euclid Chemical Co.
 - f. Tycron; Kaufman Products, Inc.
 - g. Colorhard; Lambert Corporation.
 - h. Quartzplate; L&M Construction Chemicals, Inc.
 - i. Maximent; Master Builders, Inc.
 - j. Floor Quartz; Metalcrete Industries.
 - k. Hard Top; Richmond Screw Anchor Co.
 - l. Lithochrome Color Hardener; L. M. Scofield Co.
 - m. Harcol; Sonneborn, Div. of ChemRex, Inc.

- n. Durag Premium; Sternson Group.
- o. Hard Top; Symons Corporation.
- 2. Pigmented Mineral Dry-Shake Floor Hardener:
 - a. Non-Metallic Floor Hardener; Burke Group, LLC (The).
 - b. Concolor; ChemMasters.
 - c. Conshake 600; Conspec Marketing & Manufacturing Co., Inc.
 - d. Quartz Tuff; Dayton Superior Corporation.
 - e. Surflex; Euclid Chemical Co.
 - f. Tycron; Kaufman Products, Inc.
 - g. Colorhard; Lambert Corporation.
 - h. Quartzplate; L&M Construction Chemicals, Inc.
 - i. Maximent; Master Builders, Inc.
 - j. Floor Quartz; Metalcrete Industries.
 - k. Lithochrome Color Hardener; L. M. Scofield Co.
 - l. Harcol; Sonneborn, Div. of ChemRex, Inc.
 - m. Colorplete; Sternson Group.
- 3. Penetrating Liquid Floor Treatment:
 - a. Titan Hard; Burke Group, LLC (The).
 - b. Chemisil Plus; ChemMasters.
 - c. Intraseal; Conspec Marketing & Manufacturing Co., Inc.
 - d. Ashford Formula; Curecrete Chemical Co., Inc.
 - e. Day-Chem Sure Hard; Dayton Superior Corporation.
 - f. Euco Diamond Hard; Euclid Chemical Co.
 - g. Seal Hard; L&M Construction Chemicals, Inc.
 - h. Vexcon Starseal PS; Vexcon Chemicals, Inc.

2.8 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Solvent-Borne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- F. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- G. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, 18 to 22-percent solids.
- H. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.
- I. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

- J. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
- K. Products: Subject to compliance with requirements, provide one of the following:
1. Evaporation Retarder:
 - a. Cimfilm; Axim Concrete Technologies.
 - b. Finishing Aid Concentrate; Burke Group, LLC (The).
 - c. Spray-Film; ChemMasters.
 - d. Aquafilm; Conspec Marketing & Manufacturing Co., Inc.
 - e. Sure Film; Dayton Superior Corporation.
 - f. Eucobar; Euclid Chemical Co.
 - g. Vapor Aid; Kaufman Products, Inc.
 - h. Lambco Skin; Lambert Corporation.
 - i. E-Con; L&M Construction Chemicals, Inc.
 - j. Confilm; Master Builders, Inc.
 - k. Waterhold; Metalcrete Industries.
 - l. Rich Film; Richmond Screw Anchor Co.
 - m. SikaFilm; Sika Corporation.
 - n. Finishing Aid; Symons Corporation.
 - o. Certi-Vex EnvioAssist; Vexcon Chemicals, Inc.
 2. Clear, Solvent-Borne, Membrane-Forming Curing Compound:
 - a. AH Clear Cure; Anti-Hydro International, Inc.
 - b. Spartan-Cote; Burke Group, LLC (The).
 - c. Spray-Cure & Seal 15; ChemMasters.
 - d. Conspec #1-15-percent solids; Conspec Marketing & Manufacturing Co., Inc.
 - e. Day-Chem Cure and Seal; Dayton Superior Corporation.
 - f. Diamond Clear; Euclid Chemical Co.
 - g. Nitocure S; Fosroc.
 - h. Cure & Seal 309; Kaufman Products Inc.
 - i. Lambco 120; Lambert Corporation.
 - j. L&M Dress & Seal 18; L&M Construction Chemicals, Inc.
 - k. CS-309; W. R. Meadows, Inc.
 - l. Seal N Kure; Metalcrete Industries.
 - m. Rich Seal 14-percent UV; Richmond Screw Anchor Co.
 - n. Kure-N-Seal; Sonneborn, Div. of ChemRex, Inc.
 - o. Flortec 14; Sternson Group.
 - p. Cure & Seal 14-percent; Symons Corporation.
 - q. Clear Seal 150; Tamms Industries Co., Div. of LaPorte Construction Chemicals of North America, Inc.
 - r. Acrylic Cure; Unitex.
 - s. Certi-Vex AC 309; Vexcon Chemicals, Inc.
 3. Clear, Waterborne, Membrane-Forming Curing Compound:
 - a. AH Clear Cure WB; Anti-Hydro International, Inc.
 - b. Klear Kote WB II Regular; Burke Chemicals.
 - c. Safe-Cure & Seal 20; ChemMasters.
 - d. High Seal; Conspec Marketing & Manufacturing Co., Inc.
 - e. Safe Cure and Seal; Dayton Superior Corporation.
 - f. Aqua Cure VOX; Euclid Chemical Co.
 - g. Cure & Seal 309 Emulsion; Kaufman Products Inc.
 - h. Glazecote Sealer-20; Lambert Corporation.
 - i. Dress & Seal WB; L&M Construction Chemicals, Inc.
 - j. Vocomp-20; W. R. Meadows, Inc.
 - k. Metcure; Metalcrete Industries.

- l. Cure & Seal 150E; Nox-Crete Products Group, Kinsman Corporation.
- m. Rich Seal 14-percent E; Richmond Screw Anchor Co.
- n. Kure-N-Seal WB; Sonneborn, Div. of ChemRex, Inc.
- o. Florseal W.B.; Sternson Group.
- p. Cure & Seal 14-percent E; Symons Corporation.
- q. Seal Cure WB 150; Tamms Industries Co., Div. of LaPorte Construction Chemicals of North America, Inc.
- r. Hydro Seal; Unitex.
- s. Starseal 309; Vexcon Chemicals, Inc.
- 4. Clear, Waterborne, Membrane-Forming Curing Compound, 18 to 22-percent Solids:
 - a. Klear Kote WB II 20-percent; Burke Chemicals.
 - b. Safe-Cure & Seal 20; ChemMasters.
 - c. Conspec 21; Conspec Marketing & Manufacturing Co., Inc.
 - d. Diamond Clear VOX; Euclid Chemical Co.
 - e. SureCure Emulsion; Kaufman Products Inc.
 - f. Glazecote Sealer-20; Lambert Corporation.
 - g. Dress & Seal WB; L&M Construction Chemicals, Inc.
 - h. Vocomp-20; W. R. Meadows, Inc.
 - i. Metcure 0800; Metalcrete Industries.
 - j. Cure & Seal 200E; Nox-Crete Products Group, Kinsman Corporation.
 - k. Rich Seal 18-percent E; Richmond Screw Anchor Co.
 - l. Kure-N-Seal W; Sonneborn, Div. of ChemRex, Inc.
 - m. Florseal W.B.; Sternson Group.
 - n. Cure & Seal 18-percent E; Symons Corporation.
 - o. Seal Cure WB STD; Tamms Industries Co., Div. of LaPorte Construction Chemicals of North America, Inc.
 - p. Hydro Seal 800; Unitex.
 - q. Starseal 0800; Vexcon Chemicals, Inc.
- 5. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound:
 - a. Spray-Cure & Seal Plus; ChemMasters.
 - b. UV Super Seal; Lambert Corporation.
 - c. Lumiseal Plus; L&M Construction Chemicals, Inc.
 - d. CS-309/30; W. R. Meadows, Inc.
 - e. Seal N Kure 30; Metalcrete Industries.
 - f. Rich Seal 31-percent UV; Richmond Screw Anchor Co.
 - g. Cure & Seal 31-percent UV; Symons Corporation.
 - h. Certi-Vex AC 1315; Vexcon Chemicals, Inc.
- 6. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound:
 - a. Klear-Kote Cure-Sealer-Hardener, 30-percent solids; Burke Group, LLC (The).
 - b. Polyseal WB; ChemMasters.
 - c. UV Safe Seal; Lambert Corporation.
 - d. Lumiseal WB Plus; L&M Construction Chemicals, Inc.
 - e. Vocomp-30; W. R. Meadows, Inc.
 - f. Metcure 30; Metalcrete Industries.
 - g. Vexcon Starseal 1315; Vexcon Chemicals, Inc.

2.9 RELATED MATERIALS

- A. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.
- B. Joint-Filler Strips: ASTM D 1752, cork or self-expanding cork.

- C. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.
- D. Epoxy Joint Filler: Two-component, semi-rigid, 100-percent solids, epoxy resin with a Shore A hardness of 80 per ASTM D 2240.
- E. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- F. Epoxy-Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class and grade to suit requirements, and as follows:
 - 1. Type II, non-load bearing, for bonding freshly mixed concrete to hardened concrete.
 - 2. Types I and II, non-load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
 - 3. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- G. Reglets: Fabricate reglets of not less than **0.0217-inch- (0.55-mm-)** thick galvanized steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.
- H. Dovetail Anchor Slots: Hot-dip galvanized steel sheet, not less than **0.0336-inch (0.85 mm)** thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

2.10 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from **1/8-inch (3.2 mm)** and that can be feathered at edges to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C 150, Portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, **1/8- to 1/4- inch (3 to 6 mm)** or coarse sand as recommended by underlayment manufacturer.
 - 4. Compressive Strength: Not less than **4100 psi (29 MPa)** at 28-days when tested according to ASTM C 109/C 109M.
- B. Repair Topping: Traffic-bearing, cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from **1/4- inch (6 mm)**.
 - 1. Cement Binder: ASTM C 150, Portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, **1/8- to 1/4 -inch (3 to 6 mm)** or coarse sand as recommended by topping manufacturer.
 - 4. Compressive Strength: Not less than **5700 psi (39 MPa)** at 28-days when tested according to ASTM C 109/C 109M.

2.11 CONCRETE MIXES

- A. Prepare design mixes for each type and strength of concrete determined by either laboratory trial mix or field test data bases, as follows:
 - 1. Proportion normal-weight concrete according to ACI 211.1 and ACI 301.
- B. Use a qualified independent testing agency for preparing and reporting proposed mix designs for the laboratory trial mix basis.
- C. Slab-on-Grade: Proportion normal-weight concrete mix as follows:
 - 1. Compressive Strength (28 Days): 3000 psi (20.7 MPa).
 - 2. Minimum Cementitious Materials Content: 520- lb/cu. yd. (309 kg/cu. m).
 - 3. Maximum Slump: 5-inches (125 mm).
- D. Suspended Slabs: Proportion normal-weight concrete mix as follows:
 - 1. Compressive Strength (28-Days): 4000 psi (27.6 MPa).
 - 2. Maximum Slump: 5-inches (125 mm).
 - 3. Inches (125 mm).
- E. Building Frame Members: Proportion normal-weight concrete mix as follows:
 - 1. Compressive Strength (28-Days): 4000 psi (27.6 MPa).
 - 2. Maximum Slump: 5-inches (125 mm).
 - 3. Maximum Slump for Concrete Containing High-Range Water-Reducing Admixture: 8-inches (200 mm) after admixture is added to concrete with 2- to 4-inch (50- to 100-mm) slump.
- F. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than Portland cement in concrete as follows:
 - 1. Fly Ash: 25-percent.
 - 2. Combined Fly Ash and Pozzolan: 25-percent.
 - 3. Ground Granulated Blast-Furnace Slag: 50-percent.
 - 4. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 50-percent Portland cement minimum, with fly ash or pozzolan not exceeding 25-percent.
 - 5. Silica Fume: 10-percent.
 - 6. Combined Fly Ash, Pozzolans, and Silica Fume: 35-percent with fly ash or pozzolans not exceeding 25-percent and silica fume not exceeding 10-percent.
 - 7. Combined Fly Ash or Pozzolans, Ground Granulated Blast-Furnace Slag, and Silica Fume: 50-percent Portland cement minimum, with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10-percent.
- G. Maximum Water-Cementitious Materials Ratio: 0.40 for corrosion protection of steel reinforcement in concrete exposed to chlorides from deicing chemicals, salt, saltwater, brackish water, seawater, or spray from these sources.
- H. Air Content: Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content as follows within a tolerance of plus 1 or minus 1.5-percent, unless otherwise indicated:
 - 1. Air Content: 5.5-percent for 1-1/2-inch- (38-mm-) nominal maximum aggregate size.
 - 2. Air Content: 6-percent for 1-inch- (25-mm-) nominal maximum aggregate size.
 - 3. Air Content: 6-percent for 3/4-inch- (19-mm-) nominal maximum aggregate size.

- I. Limit water-soluble, chloride-ion content in hardened concrete to 0.15-percent by weight of cement.
- J. Admixtures: Use admixtures according to manufacturer's written instructions.
 - 1. Use water-reducing admixture or high-range water-reducing admixture (superplasticizer) in concrete, as required, for placement and workability.
 - 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 - 3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.
 - 4. Use corrosion-inhibiting admixture in concrete mixes where indicated.

2.12 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.13 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94 and ASTM C 1116, and furnish batch ticket information.
 - 1. When air temperature is between 85 and 90-deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2-hours to 75-minutes; when air temperature is above 90-deg F (32 deg C), reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Mix concrete materials in appropriate drum-type batch machine mixer.
 - 1. For mixer capacity of 1- cu. yd. (0.76 cu. m) or smaller, continue mixing at least one and one-half minutes, but not more than five minutes after ingredients are in mixer, before any part of batch is released.
 - 2. For mixer capacity larger than 1- cu. yd. (0.76 cu. m), increase mixing time by 15 seconds for each additional 1- cu. yd. (0.76 cu. m).
 - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until concrete structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
 - 1. Class A, 1/8-inch (3 mm).

- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical. Kerf wood inserts for forming keyways, reglets, recesses, and the like, for easy removal.
 - 1. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use Setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 1. Install anchor bolts, accurately located, to elevations required.
 - 2. Install reglets to receive top edge of foundation sheet waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
 - 3. Install dovetail anchor slots in concrete structures as indicated.

3.3 REMOVING AND REUSING FORMS

- A. General: Formwork, for sides of beams, walls, columns, and similar parts of the Work, that does not support weight of concrete may be removed after cumulatively curing at not less than 50-deg F (10 deg C) for 24-hours after placing concrete provided concrete is hard enough to not be damaged by form-removal operations and provided curing and protection operations are maintained.

- B. Leave formwork, for beam soffits, joists, slabs, and other structural elements, that supports weight of concrete in place until concrete has achieved the following:
 - 1. 28-day design compressive strength.
 - 2. At least 70-percent of 28-day design compressive strength.
 - 3. Determine compressive strength of in-place concrete by testing representative field- or laboratory-cured test specimens according to ACI 301.
 - 4. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- C. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
- D. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 SHORES AND RESHORES

- A. Comply with **ACI 318 (ACI 318M)**, ACI 301, and recommendations in ACI 347R for design, installation, and removal of shoring and re-shoring.
- B. Plan sequence of removal of shores and re-shore to avoid damage to concrete. Locate and provide adequate re-shoring to support construction without excessive stress or deflection.

3.5 VAPOR RETARDERS

- A. Vapor Retarder: Place, protect, and repair vapor-retarder sheets according to ASTM E 1643 and manufacturer's written instructions.
- B. Fine-Graded Granular Material: Cover vapor retarder with fine-graded granular material, moisten, and compact with mechanical equipment to elevation tolerances of plus **0- inch (0 mm)** or minus **3/4- inch (19 mm)**.
- C. Granular Fill: Cover vapor retarder with granular fill, moisten, and compact with mechanical equipment to elevation tolerances of plus **0- inch (0 mm)** or minus **3/4-inch (19 mm)**.
 - 1. Place and compact a **1/2-inch- (13-mm-)** thick layer of fine-graded granular material over granular fill.

3.6 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
 - 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials.

- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
 - 1. Shop- or field-weld reinforcement according to AWS D1.4, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire fabric in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.7 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
 - 2. Form from preformed galvanized steel, plastic keyway-section forms, or bulkhead forms with keys, unless otherwise indicated. Embed keys at least **1-1/2- inches (38 mm)** into concrete.
 - 3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 - 4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 - 5. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
 - 6. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
 - 7. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:
 - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of **1/8- inch (3 mm)**. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
 - 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut **1/8-inch- (3-mm-)** wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Dowel Joints: Install dowel sleeves and dowels or dowel bar and support assemblies at joints where indicated.
 - 1. Use dowel sleeves or lubricate or asphalt-coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.8 WATERSTOPS

- A. Flexible Waterstops: Install in construction joints as indicated to form a continuous diaphragm. Install in longest lengths practicable. Support and protect exposed waterstops during progress of Work. Field-fabricate joints in waterstops according to manufacturer's written instructions.
- B. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, bonding or mechanically fastening and firmly pressing into place. Install in longest lengths practicable.

3.9 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement, unless approved by Architect.
- C. Before placing concrete, water may be added at Project site, subject to limitations of ACI 301.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mix.
- D. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation.
- E. Deposit concrete in forms in horizontal layers no deeper than 24-inches (600 mm) and in a manner to avoid inclined construction joints. Place each layer while preceding layer is still plastic, to avoid cold joints.
 - 1. Consolidate placed concrete with mechanical vibrating equipment. Use equipment and procedures for consolidating concrete recommended by ACI 309R.
 - 2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the vibrator. Place vibrators to rapidly penetrate placed layer and at least 6-inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mix constituents to segregate.
- F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 2. Maintain reinforcement in position on chairs during concrete placement.
 - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 4. Slope surfaces uniformly to drains where required.
 - 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, free of humps or hollows, before excess moisture or bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

- G. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows, when hot-weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature below 90-deg F (32-deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.10 FINISHING FORMED SURFACES

- A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8- inch (3 mm) in height.
1. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, or painting.
 2. Do not apply rubbed finish to smooth-formed finish.
- B. Rubbed Finish: Apply the following to smooth-formed finished concrete:
1. Smooth-Rubbed Finish: Not later than 1-day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
 2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part Portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white Portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36-hours.
 3. Cork-Floated Finish: Wet concrete surfaces and apply a stiff grout. Mix one part Portland cement and one part fine sand with a 1:1 mixture of bonding agent and water. Add white Portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Compress grout into voids by grinding surface. In a swirling motion, finish surface with a cork float.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.11 FINISHING FLOORS AND SLABS

- A. General: Comply with recommendations in ACI 302.1R for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes.
1. Apply scratch finish to surfaces indicated and to surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, Portland cement terrazzo, and other bonded cementitious floor finishes.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Re-straighten, cut down high spots, and fill low spots. Repeat float passes and re-straightening until surface is left with a uniform, smooth, granular texture.
1. Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.
- D. Trowel Finish: After applying float finish, apply first trowel finish and consolidate concrete by hand or power-driven trowel. Continue troweling passes and re-straighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
1. Apply a trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system
 2. Finish surfaces to the following tolerances, measured within 24-hours according to ASTM E 1155/E 1155M for a randomly trafficked floor surface:
 - a. Specified overall values of flatness, F(F) 25; and levelness, F(L) 20; with minimum local values of flatness, F(F) 17; and levelness, F(L) 15.
 - b. Specified overall values of flatness, F (F) 35; and levelness, F (L) 25; with minimum local values of flatness, F (F) 24; and levelness, F (L) 17; for slabs-on-grade.
 - c. Specified overall values of flatness, F (F) 30; and levelness, F (L) 20; with minimum local values of flatness, F (F) 24; and levelness, F (L) 15; for suspended slabs.
 - d. Specified overall values of flatness, F (F) 45; and levelness, F (L) 35; with minimum local values of flatness, F (F) 30; and levelness, F (L) 24.
 3. Finish and measure surface so gap at any point between concrete surface and an unlevelled freestanding 10-foot- (3.05-m-) long straightedge, resting on two high spots and placed anywhere on the surface, does not exceed the following:
 - a. 1/4- inch (6.4 mm).
 - b. 3/16- inch (4.8 mm).
 - c. 1/8- inch (3.2 mm).
- E. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.
- F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.
1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

- G. Slip-Resistive Aggregate Finish: Before final floating, apply slip-resistive aggregate finish where indicated and to concrete stair treads, platforms, and ramps. Apply according to manufacturer's written instructions and as follows:
1. Uniformly spread 25- lb/100 sq. ft. (12 kg/10 sq. m) of dampened slip-resistive aggregate over surface in one or two applications. Tamp aggregate flush with surface, but do not force below surface.
 2. After broadcasting and tamping, apply float finish.
 3. After curing, lightly work surface with a steel wire brush or an abrasive stone, and water to expose slip-resistive aggregate.
- H. Mineral Dry-Shake Floor Hardener Finish: After initial floating, apply mineral dry-shake materials to surfaces according to manufacturer's written instructions and as follows:
1. Uniformly apply mineral dry-shake materials at a rate of 100 lb/100- sq. ft. (49 kg/10 sq. m), unless greater amount is recommended by manufacturer.
 2. Uniformly distribute approximately two-thirds of mineral dry-shake materials over surface by hand or with mechanical spreader, and embed by power floating. Follow power floating with a second mineral dry-shake application, uniformly distributing remainder of material, and embed by power floating.
 3. After final floating, apply a trowel finish. Cure concrete with curing compound recommended by dry-shake material manufacturer and apply immediately after final finishing.

3.12 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates of manufacturer furnishing machines and equipment.
- D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in inserts and accessories as shown on Drawings. Screed, tamp, and trowel-finish concrete surfaces.

3.13 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with recommendations in ACI 305R for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing by one or a combination of the following methods:
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces, by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than 7-days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12- inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than 7-days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
 - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
 - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer recommends for use with floor coverings.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within 3-hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - 4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within 3-hours after initial application. Repeat process 24-hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.14 LIQUID FLOOR TREATMENTS

- A. Penetrating Liquid Floor Treatment: Prepare, apply, and finish penetrating liquid floor treatment according to manufacturer's written instructions.
 - 1. Remove curing compounds, sealers, oil, dirt, laitance, and other contaminants and complete surface repairs.
 - 2. Do not apply to concrete that is less than 7-days old.
 - 3. Apply liquid until surface is saturated, scrubbing into surface until a gel forms; rewet; and repeat brooming or scrubbing. Rinse with water; remove excess material until surface is dry. Apply a second coat in a similar manner if surface is rough or porous.
- B. Sealing Coat: Uniformly apply a continuous sealing coat of curing and sealing compound to hardened concrete by power spray or roller according to manufacturer's written instructions.

3.15 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
 - 1. Defer joint filling until concrete has aged at least six months. Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semi-rigid epoxy joint filler full depth in saw-cut joints and at least **2- inches (50 mm)** deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.16 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part Portland cement to two and one-half parts fine aggregate passing a **No. 16 (1.2-mm)** sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
 - 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than **1/2- inch (13 mm)** in any dimension in solid concrete but not less than **1- inch (25 mm)** in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 - 2. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 - 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
 - 1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of **0.01- inch (0.25 mm)** wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 - 2. After concrete has cured at least 14-days, correct high areas by grinding.
 - 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.

4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4- inch (6 mm) to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 6. Repair defective areas, except random cracks and single holes 1- inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least 3/4- inch (19 mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mix as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 7. Repair random cracks and single holes 1- inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72-hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.17 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement according to requirements specified in this Article.
- B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mix exceeding 5- cu. yd. (4 cu. m), but less than 25- cu. yd. (19 cu. m), plus one set for each additional 50 -cu. yd. (38 cu. m) or fraction thereof.
 2. Testing Frequency: Obtain at least one composite sample for each 100- cu. yd. (76- cu. m) or fraction thereof of each concrete mix placed each day.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mix, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 3. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change.
 4. Air Content: ASTM C 231, pressure method, for normal-weight concrete; ASTM C 173, volumetric method, for structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.

5. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40-deg F (4.4 deg C) and below and when 80-deg F (27 deg C) and above, and one test for each composite sample.
 6. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
 7. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of four standard cylinder specimens for each composite sample.
 - a. Cast and field cure one set of four standard cylinder specimens for each composite sample.
 8. Compressive-Strength Tests: ASTM C 39; test two laboratory-cured specimens at 7-days and two at 28-days.
 - a. Test two field-cured specimens at 7-days and two at 28-days.
 - b. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at age indicated.
- C. When strength of field-cured cylinders is less than 85-percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
- D. Strength of each concrete mix will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
- E. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48-hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28-days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-and 28-day tests.
- F. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
- G. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by Architect.

END OF SECTION 03300

SECTION 03315

GROUT

PART 1 GENERAL

1.01 WORK INCLUDED

- A. The Contractor shall furnish all materials for grout in accordance with the provisions of this Section and shall form, mix, place, cure, repair, finish, and do all other work as required to produce finished grout, all in accordance with the requirements of the Contract Documents.

1.02 RELATED WORK

- A. Related Sections:
 - 1. Section 01340 – “Submittals and Substitutions”.
 - 2. Section 03300 – “Cast-in-Place Concrete”.

1.03 REFERENCES

- A. Specifications, codes, and standards shall be as specified in Section 03300 “Cast-in-Place Concrete,” and as referred to herein.
- B. Additional Commercial Standards: CRD-C 621 Corps of Engineers Specification for Non-Shrink Grout

1.04 SUBMITTALS

- A. The Contractor shall submit certified test results verifying the compressive strength, shrinkage, and expansion requirements specified herein; and manufacturer’s literature containing instructions and recommendations on the mixing, handling, placement and appropriate uses for each type of grout used in the work.

PART 2 PRODUCTS

2.01 NON-SHRINK GROUT

- A. Non-shrink grout shall be a pre-packaged, inorganic, non-gas liberating, non-metallic, cement-based grout requiring only the addition of water. Manufacturer’s instructions shall be printed on each bag or other container in which the materials are packaged. The specific formulation for each class of non-shrink grout specified herein shall be that recommended by the manufacturer for each particular application.
- B. Non-shrink grouts shall have a minimum 28-day compressive strength of 5000 psi, shall have no shrinkage (0.0 percent) and a maximum 4.0-percent expansion in the plastic state when tested in accordance with ASTM C 827, and shall have no shrinkage (0.0- percent) and a maximum of 0.2-percent expansion in the hardened state when tested in accordance with CRD C 621.

2.02 EPOXY GROUT

- A. Epoxy mortar (grout) shall be used to set items as specified. Epoxy mortar (grout) shall be a pre-packaged mix containing aggregate and epoxy mortar adhesive; utilize "Permatop" as manufactured by Permagile Corp. of America, or approved equal.

2.03 CURING MATERIALS

- A. Curing materials shall be as recommended by the manufacturer.

2.04 CONSISTENCY

- A. The consistency of grouts shall be that necessary to completely fill the space to be grouted for the particular application. Dry pack consistency is such that the grout is plastic and moldable but will not flow. Where "dry pack" is called for in the Contract Documents, it shall mean a grout of the above described consistency.

2.05 MEASUREMENT OF INGREDIENTS

- A. Pre-packaged grouts shall have ingredients measured by means recommended by the manufacturer.

PART 3 EXECUTION

3.01 GENERAL

- A. All surface preparation, curing, and protection of cement grout shall be as specified in Section 03300 - "Cast-in-Place Concrete". The finish of the grout surface shall match that of the adjacent concrete.
- B. All mixing, surface preparation, handling, placing, consolidation, and other means of execution for pre-packaged grouts shall be done according to the instructions and recommendations of the manufacturer.

3.02 CONSOLIDATION

- A. Grout shall be placed in such a manner, for the consistency necessary for each application, so as to assure that the space to be grouted is completely filled.

END OF SECTION

SECTION 03350
CONCRETE FINISHING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Work included: Provide finishes on Cast-in-Place Concrete as called for on the Drawings, specified herein, and needed for a complete and proper installation.

1.02 RELATED DOCUMENTS

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.03 RELATED WORK

- A. Related Sections:
 - 1. Section 03300 - "Cast-in-Place Concrete".
 - 2. Section 03480 - "Precast Concrete Specialties".

1.04 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Except as may be modified herein or otherwise directed by the Engineer, comply with ACI 301 - "Specifications for Structural Concrete for Buildings."

1.05 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340 - "Submittals and Substitutions".
- B. Product Data: Within 35-calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
 - 3. Manufacturer's recommended installation procedures which, when approved by the Engineer, will become the basis for accepting or rejecting actual installation procedures used for this work.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Comply with pertinent provisions of Section 01640 - "Product Handling".

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General:
 - 1. Carefully study the Drawings and these Specifications, and determine the location, extent, and type of required concrete finishes.
 - 2. As required for this work, provide the materials specified herein, or equals approved in advance by the Engineer.
- B. Concrete Materials: Comply with pertinent provisions of Section 03300, except as may be modified herein.
- C. Liquid Bonding Agent: "Weld-Crete", manufactured by the Larsen Products Corporation.
- D. Curing and Protection Paper:
 - 1. Approved products:
 - a. "Sisalkraft, Orange Label", or;
 - b. Equal products complying with ASTM C171.
 - 2. Where concrete will be exposed and will be subjected to abrasion, such as floor slabs, use non-staining paper such as "Sisalkraft, Seekure 896," or equal paper faced with polyethylene film.
- E. Liquid Curing Agents:
 - 1. Where application of specified finish materials will be inhibited by use of curing agents, cure the surface by water only; do not use chemical cure.
 - 2. For chemical curing, use "Hunt TLF" manufactured by Hunt Process Company, Inc.
- F. Floor Sealer: Acceptable products:
 - 1. "Superkote Special Clear Sealer" manufactured by Ven-Chem Company, Inc., P. O. Box 3186, Santa Barbara, California, 93105, (213)342-1195.
 - 2. "Supershield" manufactured by James Darcey Company, Inc., 19712 Merridy Street, Chatsworth, California, 91311, (213)349-3705.
- G. Slip-Resistant Abrasive Aggregate:
 - 1. Provide aluminum oxide, 14/36 grading.
 - 2. Acceptable manufacturers:
 - a. Carborundum Company.
 - b. Norton Company.
 - c. L. M. Scofield Company.

2.02 OTHER MATERIALS

- A. Contractor shall provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject for the approval of the Engineer.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 FINISHING OF FORMED SURFACES

- A. General:
 - 1. After removal of forms, give the concrete surfaces one or more of the finishes specified below where so indicated on the Drawings.
 - 2. Revise the finishes as needed to secure the approval of the Engineer.
- B. As-cast finish:
 - 1. Rough form finish:
 - a. Leave surfaces with the texture imparted by forms, except patch tie holes and defects.
 - b. Remove fins exceeding ¼-inch in height.
 - 2. Smooth form finish:
 - a. Coordinate as necessary to secure form construction using smooth, hard, uniform surfaces, with number of seams kept to a practical minimum and in a uniform and orderly pattern.
 - b. Patch tie holes and defects.
 - c. Remove fins completely.
- C. Rubbed Finished:
 - 1. Provide these finishes only where specifically called for, and then only on a "smooth form finish" base as described above.
 - 2. Smooth rubbed finish:
 - a. Produce on newly hardened concrete no later than the day following form removal.
 - b. Wet the surfaces, and rub with carborundum brick or other abrasive until uniform color and texture are produced.
 - c. Do not use a cement grout other than the cement paste drawn from the concrete itself by the rubbing process.
 - 3. Grout cleaned finish:
 - a. Do not start cleaning operations until all contiguous surfaces to be cleaned are completed and accessible.
 - b. Do not permit cleaning while the work progresses.
 - c. Mix one part Portland cement and 1-1/2 parts fine sand with sufficient water to produce a grout having the consistency of thick paint.
 - d. Substitute white Portland cement for part of the gray Portland cement as required to produce a color matching the color of surrounding concrete, as determined by a trial patch.
 - e. Wet the surface of the concrete sufficiently to prevent absorption of water from the grout, and apply the grout uniformly with brushes or spray gun.
 - f. Immediately after applying the grout, scrub the surface vigorously with a cork float or stone to coat the surface and fill all air bubbles and holes.
 - g. While the grout is still plastic, remove all excess grout by working the surface with a rubber float, sack, or other means.
 - h. After the surface whites from drying (about 30-minutes at normal temperatures), rub vigorously with clean burlap.
 - i. Keep the surface damp for at least 36-hours after final rubbing.
- D. Unspecified Finish: If the finish of formed surfaces is not specifically called out elsewhere in the Contract Documents, provide the following finishes as applicable.
 - 1. Rough form finish:
 - a. For all concrete surfaces not exposed to public view.
 - 2. Smooth form finish:
 - a. For all concrete surfaces exposed to public view.

3.03 FINISHING SLABS

- A. Definition of Finishing Tolerances:
1. "Class A": True plane within 1/8-inch in ten feet as determined by a 10-foot straightedge placed anywhere on the slab and in any direction.
 2. "Class B": True plane within 1/4-inch in ten feet as determined by a 10-foot straightedge placed anywhere on the slab and in any direction.
 3. "Class C": True plane within 1/4-inch in 2-feet as determined by a 2-foot straightedge placed anywhere on the slab and in any direction.
- B. Scratched Finish: After the concrete has been placed, consolidated, struck off, and leveled to a Class C tolerance, roughen the surface with stiff brushes or rakes before the final set.
- C. Floated Finish:
1. After the concrete has been placed, consolidated, struck off, and leveled, do not work the concrete further until ready for floating.
 2. Begin floating when the water sheen has disappeared and when the surface has stiffened sufficiently to permit the operation.
 3. During or after the first floating, check the planeness of the surface with a ten foot straightedge applied at not less than two different angles.
 4. Cut down high spots and fill low spots to produce a surface with a Class B tolerance throughout.
 5. Re-float the slab immediately to a uniform sandy texture.
- D. Troweled Finish:
1. Provide a floated finish as described above, followed by a power troweling and then a hand troweling.
 - a. Produce an initial surface which is relatively free from defects, but which still may show some trowel marks.
 - b. Provide hand troweling when a ringing sound is produced as the trowel is moved over the surface.
 - c. Thoroughly consolidate the surface by hand troweling.
 2. Provide a finished surface essentially free from trowel marks, uniform in texture and appearance, and in a plane of Class A tolerance.
 - a. For concrete on metal deck, Class B plane tolerance is acceptable.
 - b. On surfaces intended to support floor coverings, use grinding or other means as necessary and remove all defects of such magnitude as would show through the floor covering.
- E. Broom Finish:
1. Provide a floated finish as described above.
 2. While the surface is still plastic, provide a textured finish by drawing a fiber bristle broom uniformly over the surface.
 3. Unless otherwise directed by the Engineer, provide the texturing in one direction only.
 4. Provide "light", "medium" or "coarse" texturing as directed by the Engineer or otherwise called for on the Drawings.
- F. Unspecified Finish: If the finish of slab surfaces is not specifically called for elsewhere in the Contract Documents, provide the following finishes as applicable:
1. Scratched finish:
 - a. For surfaces scheduled to receive bond-applied cementitious applications.
 2. Floated finish:
 - a. For surfaces intended to receive roofing.
 3. Troweled finish:
 - a. For floors intended as walking surfaces.
 - b. Floors scheduled to receive floor coverings or waterproof membrane.

4. Broom finish:
 - a. Exterior pedestrian ramps.
5. Non-slip finish:
 - a. Platforms, steps, and landings.
 - b. Exterior pedestrian ramps.

3.04 CURING AND PROTECTION

- A. Beginning immediately after placement, protect concrete from premature drying, excessively hot and cold temperatures, and mechanical injury.
- B. Preservation of Moisture:
 1. Unless otherwise directed by the Engineer, apply one of the following procedures to concrete not in contact with forms immediately after completion of placement and finishing:
 - a. Ponding or continuous sprinkling.
 - b. Application of absorptive mats or fabric kept continuously wet.
 - c. Application of sand kept continuously wet.
 - d. Continuous application of steam (not exceeding 150-degrees Fahrenheit) or mist spray.
 - e. Application of waterproof sheet materials specified in Part 2 of this Section.
 - f. Application of other moisture-retaining covering as approved by the Engineer.
 - g. Application of the curing agent specified in Part 2 of this Section or elsewhere in the Contract Documents.
 2. Where forms are exposed to the sun, minimize moisture loss by keeping the forms wet until they can be removed safely.
 3. Cure concrete by preserving moisture as specified above for at least 7-days.
- C. Temperature, Wind, and Humidity:
 1. Cold weather:
 - a. When the mean daily temperature outdoors is less than 40-degrees Fahrenheit, maintain the temperature of the concrete between 50- degrees Fahrenheit and 70-degrees Fahrenheit for the required curing period.
 - b. When necessary, provide proper and adequate heating system capable of maintaining the required heat without injury due to concentration of heat.
 - c. Do not use combustion heaters during the first 24-hours unless precautions are taken to prevent exposure of the concrete to exhaust gases which contain carbon dioxide.
 2. Hot weather: When necessary, provide wind breaks, fog spraying, shading, sprinkling, ponding, or wet covering with a light colored material, applying as quickly as concrete hardening and finishing operations will allow.
 3. Rate of temperature change: Keep the temperature of the air immediately adjacent to the concrete during and immediately following the curing period as uniform as possible and not exceeding a change of 5-degrees Fahrenheit in any one hour period, or 50-degrees Fahrenheit in any 24-hour period.
- D. Protection from Mechanical Injury:
 1. During the curing period, protect the concrete from damaging mechanical disturbances such as heavy shock, load stresses, and excessive vibration.
 2. Protect finished concrete surfaces from damage from construction equipment, materials, and methods, from the application of curing procedures, and from rain and running water.
 3. Do not load self-supporting structures in such a way as to overstress the concrete.

END OF SECTION

SECTION 03400

REINFORCED PRECAST CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES:

This section includes all material, labor, equipment, tools and superintendents necessary to furnish and install precast concrete structures, complete in place.

1.02 RELATED SECTION

Section 03200 – Concrete Reinforcement

1.03 REFERENCE

1. South Florida Building Code – Chapter 25 Reinforced Concrete
2. Florida Department of Transportation, Standard Specifications for Road and Bridge Construction. Section 345 - Concrete
3. Florida Department of Transportation, Standard Specifications for Road and Bridge Construction. Section 400 - Concrete Structures. 400-18 Precast Planks, Slabs and Girders.

1.04 SUBMITTAL

Submit shop drawings for precast structural elements. Design criteria shall meet South Florida Building Code – Chapter 25 Reinforced Concrete.

PART 2 PRODUCTS

2.01 MATERIALS

Manufacture of precast/Prestressed concrete structural units shall be in accordance with Florida Department of Transportation, Standard Specifications for Road and Bridge Construction.

1. Section 345 – Concrete, using Type II Cement
2. Section 400 – Concrete Structures, 400-18 Precast Planks, Slabs and Girders.

PART 3 EXECUTION

3.01 INSTALLATION

Placement of precast/Prestressed concrete structural units shall be in accordance with Florida Department of Transportation, Standard Specifications for Road and Bridge Construction. Section 400 - Concrete Structures. 400-18 Precast Planks, Slabs and Girders.

END OF SECTION

SECTION 03410

STRUCTURAL PRECAST CONCRETE WALL

PART 1 – GENERAL

1.1 SUMMARY

- A. This section includes manufacturing specifications, engineering requirements, and design criteria for the construction of a precast concrete site wall.
- B. Related sections include the following:
 - 1. Division 3 Section "Precast Concrete"
 - 2. Division 9 Section "Painting"
- C. Related documents include the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications Section, apply to this Section.

1.2 DEFINITIONS

- A. General:
 - a. FDOT - Florida Department of Transportation
 - b. CMEC - Construction Materials Engineering Council
 - c. FBC - Florida Building Code
 - d. QC – Quality Control
 - e. NPCA – National Precast Concrete Association

1.3 SUBMITTALS

- A. Site Specific Engineering: Each precast concrete site wall design shall have a structural design based on the most current Florida Building Code(s) that is "site specific".
 - a. Engineering design shall conform to the following:
 - 1. Wind Speed: 160
 - 2. Exposure: C
 - 3. Risk Category: "II"
 - 4. F.S (Overturning): 1.5
 - 5. Construction Type: I or II (noncombustible materials)

- B. Concrete Mix Design: All design(s) submittal(s) shall derive from an FDOT certified batching plant that employs FDOT certified personnel.
- C. Design Criteria:
 - 1. Design shall utilize a high performance self consolidating concrete mix.
 - 2. Design shall utilize a mix that achieves a 28 day compressive strength of 5000 PSI.
- D. QC Plan: Manufacturer's technical information regarding quality control procedures relative to precast concrete manufacturing.
- E. Warranty: Manufacturer's warranty information.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Engage an experienced precast concrete manufacturer with 10 or more years of experience in permitting, manufacturing, and installing precast concrete walls similar in material and extent to those indicated for Project and whose work has a record of successful in-service performance.
- B. Manufacturing Specifications: Precast concrete product(s) shall be poured in a covered area to protect precast concrete components from the elements and shall be cast on a vertical axis, except when indicated by engineer or Product Does Not Allow.
 - a. Precast Concrete Manufacturer shall meet the requirements of NPCA Qualification and Hold Current Certificates / Approvals.
- C. Source Limitations: Precast Concrete Manufacturer must have an on-site FDOT approved concrete batching plant that employs CMEC and/or FDOT certified quality control technician(s) and/or batch plant operator.
 - a. Precast Concrete Manufacturer must also encompass an "on-site" FDOT approved concrete testing laboratory.
- D. Pre-Installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.5 PRODUCT SPECIFICATION

- A. Profile Design: All aspects of precast concrete product shall consist of concrete components. Applied foam finish is "not" acceptable; except where approved by engineer.
 - a. Architectural decorative coping shall conform to the following design criteria:
 - i. Match Designs Provided in Details / Drawings.

- b. Precast Concrete Post & Panel design criteria:
 - i. Match Designs Provided in Details / Drawings
- c. All Architectural Details and Form-liner Finishes (Rock, Reveals, etc) Depicted on Plans / Renderings to be integrally cast into the precast components.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver material(s) to Project site in the vertical or near-vertical position during transport.
- B. Storage of material(s) on-site shall at all times be in the vertical to near-vertical position and placed on dunnage and/or racks.
- C. Erection shall be accomplished in such a way that precast concrete components are in the vertical to near-vertical position at all times

1.7 WARRANTY

- A. Warranty Period: (1) year(s) from date of Substantial Completion.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. All precast concrete product(s) shall be manufactured, transported, and erected by Oldcastle Precast, Inc or Approved Equal.

PART 3 – EXECUTION

3.1 PREPERATION

- A. Site shall have a minimum of 15' of clear and stable access along layout for crew and heavy equipment.
- B. Survey of layout shall be offset from wall line and be staked at approximately 50' intervals along with all stop, start, and transition locations.
- C. All underground obstruction(s) shall be located through state agency(s), prior to mobilization.

3.2 ERECTION

- A. Drilled post foundations shall be 36" in Diameter and conform to engineering depth(s).
- B. Post foundation(s) shall be verified for depth by local municipality. (If Applicable)

- C. Precast Post(s) shall be set in the foundations and checked for plumb, prior to setting concrete.
 - a. Foundation(s) shall be poured with a minimum of 3000 PSI Concrete Mix Design.
 - b. Precast Post(s) shall be re-checked for plumb after concrete has set.
- D. Precast Panel(s) shall be set between post(s) from overhead to assure proper tolerance(s) and to protect Precast Post(s).
 - a. Precast Panel(s) shall be set on shim(s) to level off panel and to assure that precast product has enough clearance to allow for proper drainage.

3.3 REPAIRS

- A. Repairs will be permitted provided structural adequacy of unit(s) and appearance(s) are not impaired.
- B. Mix patching materials and repair unit(s) so cured patches blend with color, texture, and uniformity of adjacent exposed surface(s).

3.4 CLEANING

- A. Clean all surfaces of precast concrete to be exposed to view, as necessary, prior to shipping.
- B. Clean mortar, mud, and any other deleterious material from concrete surfaces and adjacent materials immediately.

END OF SECTION

SECTION 03480

PRECAST CONCRETE SPECIALTIES

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. General: The Contractor shall furnish all materials, labor and equipment and construct manholes, wet-wells, meter pits or/and other utility structure as shown on the Drawings and as specified herein.

1.02 RELATED DOCUMENTS

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- B.
 - 1. Section 03200 – “Concrete Reinforcement”.

1.03 REQUIREMENTS, GENERAL

- A. Manholes shall have an invert channel shaped to correspond with the lower half of the pipe. The top of the shelf shall be at the elevation indicated and shall be sloped to drain toward the flowing-through channel. Every effort shall be made by the Contractor to construct watertight structures.
- B. The forms, dimensions, concrete, and construction methods shall be approved by the Engineer in advance of construction.

1.04 QUALITY ASSURANCE

- A. Quality Assurance: Use a pre-casting plant which has been certified by the precast concrete institute and has been engaged for more than 5-years in the manufacturing of precast utility structures.

1.05 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340 – “Submittals and Substitutions”.
- B. Product Data: Within 21-calendar days after award of the Contract, submit the following:
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications, catalog cuts, and other data needed to prove compliance with the specified requirements.
 - 3. Manufacturer's recommend installation procedures which, when approved by the Engineer, will become the basis for accepting or rejecting actual installation procedure used on the work.
 - 4. Shop Drawings showing complete details and reinforcement schedules for fabrication, assembly and installation.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Comply with pertinent provisions of Section 01640 – “Product Handling”.
- B. The quality of all materials, the process of manufacture, and the finished sections shall be subject to inspection and approval by the Engineer, or other representatives of the Owner. Such inspection may be made at the places, and the sections shall be subject to rejection at any time on account of failure to meet any of the Specification requirements; even though sample sections may have been accepted as satisfactory at the place of manufacture. Sections rejected after delivery to the job shall be marked for identification and shall be removed from the job at once. All sections which have been damaged after delivery will be rejected, and if already installed, shall be acceptably repaired, if permitted, or removed and replaced, entirely at the Contractor's expense.
- C. At the time of inspection, the section will be carefully examined for compliance with the ASTM designation specified below and these Specifications, and with the approved manufacturer's drawings. All sections shall be inspected for general appearance, dimensions, "scratch-strength", blisters, cracks, roughness, soundness, etc. The surface shall be dense and close-textured.
- D. Imperfections may be repaired, subject to the approval of the Engineer, after demonstration by the manufacturer that strong and permanent repairs result. Repairs shall be carefully inspected before final approval. Cement mortar used for repairs shall have a minimum compressive strength of 4,000 psi at the end of 7 days and 5,000 psi at the end of 28 days, when tested in 3-inch by 6-inch cylinder stored in the standard manner. Epoxy mortar may be utilized for repairs subject to the approval of the Engineer.
- E. Each section of the utility structure must be inspected and stamped at the casting yard by an accredited testing laboratory.

PART 2 - PRODUCTS

2.01 PRECAST CONCRETE MANHOLE SECTIONS

- A. Precast concrete manhole barrel sections and eccentric top sections shall conform to Specifications for Precast Reinforced Concrete Manhole Sections, ASTM C478, except as otherwise specified below. The method of constructions shall conform to the detailed Drawings appended to these specifications and the following additional requirements:
 - 1. The minimum wall thickness for the various size barrel sections shall be 6 inches, unless otherwise specified herein and approved by the Engineer.
 - 2. Barrel sections shall have tongue and groove joints. Joints shall have round rubber gaskets performed and set in specially provided indentations. The round rubber gasket shall conform to ASTM C443 standard specifications, or Federal Specification SS-S-00210 (GSA-FSS), "Ram-Nek" as manufactured by the K.T. Snyder Co., Houston, Texas, or approved equal.
 - 3. Concrete shall conform to ASTM C94, Type II cement, with a minimum compressive strength of 4,000 psi, unless otherwise specified herein. Mortar shall be composed of one part cement to two parts sand.
 - 4. The date of manufacture and the name or trademark of the manufacturer shall be clearly marked on the inside of each precast section. Each precast section of the structure must be inspected and stamped by an accredited testing laboratory.
 - 5. Sections shall be cured by an approved method for at least 28-days prior to painting,

- and shall not be shipped until at least 2-days after having been painted.
6. Top sections shall be eccentric cone type unless otherwise specified.
 7. Precast concrete slab tops, where required, shall be capable of supporting the overburden plus a live load equivalent to AASHTO H-20 loading.
 8. The tops of base sections shall be suitable shaped to mate with the precast barrel sections.
 9. For sanitary sewer wet wells: Reinforcement bars and steel shall be as a minimum what is shown on the Drawings for precast pump wet well sections.
 10. For sanitary sewer structures: The exterior of the structure shall be coated with heavy duty coal tar epoxy coating containing not less than 72.9-percent by volume non-volatile solids, equal to Koppers 300-N.
- B. Precast electrical handholes and covers shall be as specified and as shown on the Drawings.
- C. Precast leveling rings for setting cast iron frames over manholes shall be 2-inch thick and have one No. 2 continuous reinforcing steel bar.
- D. Where pipes enter or exit sanitary sewer structures, a "Kor-N-Seal" molded neoprene boot with stainless steel internal and external bonds as manufactured by the National Pollution Control Systems, Inc., Nashua, New Hampshire, or an approved equal shall be provided, unless otherwise specified.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Manholes and other precast structures shall be constructed to the dimensions as shown on the Drawings and as specified in these Specifications.
- B. The base section shall be cast-in-place concrete, as specified in Section 03300, placed on a thoroughly compacted gravel sub-base. The tops of the cast-in-place base section shall be shaped to mate with the precast barrel section, and shall be adjusted in grade so that the top of the section is at the approximately correct elevation. Precast concrete structure sections shall be set so as to be vertical and with section in true alignment, with a maximum allowed tolerance of 1/2-inch, unless otherwise specified. The Contractor shall install the precast sections in a manner that will result in a watertight joint.
- C. Precast base sections, conforming to all requirements of ASTM C478 and above listed requirements for precast sections may be used.
- D. The outside and inside joint shall be filled with mortar and finished flush with the adjoining surfaces. Allow joints to set for 24-hours before painting. While setting concrete for manholes or while plastering manholes, great care shall be taken not to allow mortar or other materials to get into the sewer lines. The Contractor shall provide two plumbers test plugs of each size sewer pipe on the job to plug the lines during the work of this section.
- E. After the manholes are completed, the inside and outside surfaces of the walls shall be located with two coats of a heavy duty coal tar epoxy coating. The masonry surface may be damp but not wet. If necessary, the contractor shall utilize blowers to achieve the necessary drying. The first coat shall be thinned approximately 15-percent with a thinner and furnished by the manufacturer. The total dry film thickness of the finished coating shall not be less

than 10 mils. The Contractor shall take all necessary precautions to protect the workmen against toxic or harmful fumes during the painting operations.

- F. Backfilling shall be done in a careful manner, bringing the fill up evenly on all sides. If leaks appear in the structures, the inside joints shall be caulked to the satisfaction of the Engineer.
- G. Where holes must be cut in the precast sections to accommodate pipes, cutting shall be done prior to setting them in place to prevent any subsequent jarring which may loosen the mortar joints. All cutting is to be performed only by power driven abrasive wheels or saws.
- H. Cast iron frames specified shall be placed over precast concrete leveling rings, shimmed and set in Portland cement mortar to the required grade. No more than three courses of leveling rings shall be used.
- I. Brick may be used for leveling only upon the approval of the Engineer.
- J. New pipe connections to new and existing manholes are to be caulked watertight with non-shrinking grout in accordance with the details shown on the Drawings.

END OF SECTION

SECTION 09900

PAINTING

PART 1 – GENERAL

1.01 WORK INCLUDED

- A. Furnishing materials, labor, equipment and incidentals required to perform the painting necessary to complete this Contract in its entirety.
- B. It is the intent of these Specifications to paint all concrete and all other work required to be painted unless otherwise specified. Minor items omitted in the schedule of work shall be included in the work of this Section where they come within the general intent of the specifications as stated herein.

1.02 WARRANTY

- A. Warranty Period: (8) year(s) from date of Substantial Completion.

1.03 SUBMITTALS

- A. Submit product data sheets, manufacturer's specifications, and data on the proposed paint systems that include detailed surface preparation, application procedures and dry/wet film thickness etc.
- B. Schedule of Painting Operations: The Contractor shall submit for approval a complete Schedule of Painting Operations. The Schedule shall include each surface to be painted, the brand name, the volume solids, the coverage and the number of coats the Contractor proposes to use in order to achieve the specified dry film thickness, and color charts. When the Schedule has been approved, the Contractor shall apply all material in strict accordance with the approved Schedule and the manufacturer's instructions. Wet and dry paint film gages may be utilized by the Owner to verify the proper application while work is in progress.

1.04 PERMITS AND CERTIFICATIONS

- A. The Contractor shall be responsible for all applicable permits and certifications required by local, state and federal regulatory authorities including, but not limited to OSHA, EPA, NIOSH, NPDES, ASTM, FDEP, and Health Department.

1.05 QUALIFICATIONS

- A. The Contractors shall be included on a list of the manufacturer's acceptable applicator's. They shall have a least 5 years experience with the paint manufacturer's products, surface preparation requirements, applicators techniques, testing and cleanup.

1.06 OPERATING ENVIRONMENT

- A. The Contractor shall maintain an orderly workplace on and around the site. Residue of paint removal, spent paints and thinners, equipment, etc. shall be monitored on a daily basis. The Contractor shall mitigate, at his expense, any damage caused by fall-out of cleaning, surface preparation and painting operations. The Contractor shall take all

necessary precautions to protect all surrounding areas from dust, paint overspray and other contaminants.

- B. The Contractor is responsible for his own security.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. All painting materials shall be those manufactured by the selected paint manufacturer. The painting schedule has been prepared on the basis of products recommended for application indicated. No brand other than those listed will be considered for approval.
- B. All painting materials shall be delivered to the job site in unbroken containers, bearing the manufacturer's brand and name. They shall be mixed, thinned, and applied in strict accordance with manufacturer's directions for the applicable materials and surface and with the Engineer's approval before using.
- C. Shop priming shall be done with primers that are guaranteed by the manufacturer to be compatible with the finish paints to be used.
- D. No paint containing lead will be allowed. Oil shall be pure boiled linseed oil.
- E. Work areas will be designated by the Owner for storage and mixing of painting materials. Materials shall be in full compliance with the requirements of pertinent codes and fire regulations. Proper containers shall be provided and used for painting wastes, and no plumbing fixture shall be used for this purpose.
- F. All recommendations of the paint manufacturer in regards to the health and safety of workmen shall be followed.
- G. The paint shall be manufactured by Sherwin Williams, or approved equal

2.02 PAINTING SYSTEMS

- A. All colors will be selected by the Owner from color charts submitted by the Contractor.
- B. Surfaces shall have the types of paint as scheduled and applied at the dry film thickness (DFT) in mils per coat noted.
- C. Any surfaces not specifically named in the Schedule and not specifically accepted shall be prepared, primed and painted in the manner and with materials consistent with these Specifications. The Engineer shall select which of the manufacturer's products, whether the type is indicated herein or not, shall be used for such unnamed surfaces. No extra payment shall be made for this painting.

2.03 EXTRA PAINT

- A. Furnish one unopened container of each type and each color of paint used.

PART 3 – EXECUTION

3.01 PREPARATION OF SURFACES

- A. All surfaces to be painted shall be prepared as specified herein, and shall be dry and clean before painting.
- B. Prior to this project, walls shall be power washed to (1500 psi) to remove paint.
- C. Surfaces shall be free of dust, oil, loose or peeling materials, dirt, grease etc. in accordance with manufacturer's recommendations for surface preparation.
- D. All imperfections shall be corrected. Pits, dents, voids to be filled, patched, grinding and scraping provided as necessary to provide a CSP5 and ICRI surface preparation standard

3.02 WORKMANSHIP

- A. General
 - 1. Primer and two additional scheduled coats with slightly different colors used for a particular surface shall be as scheduled for each type of new surface.
 - 2. Protection of moveable objects, equipment, fittings and accessories shall be provided throughout the painting operations. Fixtures shall be loosened and removed from contact with surface, covered and protected and reset upon completion. Remove all name plates, surface hardware, etc., before painting, protect and replace when completed. Mask all machinery name plates and all machined parts not receiving a paint finish. Dripped or spattered paint shall be promptly removed. Lay drop cloths in all areas where painting is being performed to adequately protect flooring and other work from all damage during the operation and until the finished job is accepted.
 - 3. On metal surfaces, apply each coat of paint at the rate specified by the manufacturer to achieve the minimum dry mil thickness required. If material has thickened or must be diluted for application by spray gun, the coating shall be built up to the same film thickness achieved with undiluted material. One gallon of paint originally furnished by the manufacturer shall not cover a greater area when applied by spray gun than when applied unthinned by brush. Deficiencies in film thickness shall be corrected by the application of an additional coat(s). On concrete, application rates will vary according to surface texture, however, in no case shall the manufacturer's stated coverage rate be exceeded. On porous surfaces, it shall be the painter's responsibility to achieve a protective and decorative finish either by decreasing the coverage rate or by applying additional coats of paint, as necessary.
 - 4. Paints shall be mixed in proper containers of adequate capacity. All paints shall be thoroughly stirred before use and shall be kept stirred while using. No unauthorized thinners or other materials shall be added to any paint.
 - 5. Only skilled painters shall be used on the work as specialists that shall be employed where required.
- B. Painting:
 - 1. All paint shall be at ambient temperature before applying, and no painting shall be performed when the temperature is below 50-degrees F., in dust-laden air,

when rain is falling, or until all traces of moisture have completely disappeared from the surface to be painted.

2. Successive coats of paint shall be tinted so as to make each coat easily distinguishable from each other with the final coat tinted to the shade of the finished coat.
3. Painting shall be continuous and shall be accomplished in an orderly manner so as to facilitate inspection. Concrete painting shall be performed at one continuous manner.
4. Defective areas shall be repainted in accordance with the manufacturer's instructions.
5. Before final acceptance of the work, all damaged surfaces of paint shall be cleaned and repainted as directed by the Engineer.

3.03 CLEANUP

- A. The premises shall at all times be kept free from accumulation of waste material and rubbish caused by employees or work. At the completion of the painting remove all tools, scaffolding, surplus materials, and all rubbish from and about the buildings and leave work "broom clean" unless more exactly specified.
- B. Upon completion, remove all paint where it has been spilled, splashed, or splattered on all surfaces, including floors, fixtures, equipment, furniture, etc., leaving the work ready for inspection.

END OF SECTION

SECTION 16010

GENERAL REQUIREMENTS FOR ELECTRICAL WORK

PART 1 GENERAL

The requirements set out in the contract documents, apply to all work specified hereinafter in sections of this subdivision.

1.01 DRAWINGS

- A. If any departures from the drawings are deemed necessary by the contractor, details of such departures and the reasons therefor shall be submitted to the owner's representative for review. No departures shall be made without prior written acceptance of the owner's representative.
- B. Figured dimensions shall be followed without reference to scale. Where dimensions are not indicated, measurements shall be scaled.
- C. The contractor shall maintain a set of electrical drawings at the job site neatly marked with all changes from the original contract drawings. This set of drawings shall not be used for construction purposes and shall be available to the owner's representative at all times. It shall be kept up to date as the job progresses and be delivered to the owner's representative at the completion of the contract.
- D. A fresh, clean set of plans on which variations to the original construction documents are legibly recorded and designated "as-built" shall be furnished to the owner upon completion and acceptance of work and before final payment is made.

1.02 CODES AND STANDARDS

- A. All work shall be in compliance with applicable portions of the latest approved edition of the national electrical code (NEC), the national electrical safety code (NESC), city and county codes and ordinances, and other codes which may or may not be specifically referenced in these contract documents. None of the terms or provisions of these contract documents shall be construed as waiving any of the rules, regulations or requirements of these codes and ordinances.
- B. Where the contract documents call for construction materials of a better quality or larger size than required by the codes, the contract documents shall govern. The codes shall govern in case violations are indicated in the construction documents.

1.03 TEMPORARY POWER

- A. The electrical contractor shall coordinate with the general contractor and local utility company and provide the necessary wiring, connections, service switches, poles, wiring protective devices, lighting fixtures, lamps, outlet devices, disconnect switches, etc., as required for temporary lighting and power of voltage levels, phasing and adequate ampacity as required to facilitate the construction of the project. These services shall be installed in

accordance with requirements of the utility company, NEC and OSHA at no additional cost to the owner.

1.04 UTILITIES

- A. The contract documents reflect the general location, voltage, capacity, size and manner of routing all utilities known to be required on this project. It shall be the responsibility of the contractor to visit the site and to meet with the local utility company to coordinate all facilities required to provide complete and operative electrical power. The bid submitted by the contractor shall include costs for all such coordinative work as well as any and all utility company charges and/or fees.

1.05 GUARANTEE

- A. The contractor shall guarantee all labor and materials furnished by him in accordance with state law or the general conditions of the contract, but in no case for a period of less than one year. Certain work and materials shall be guaranteed for a longer period when so specified. Guarantee period shall extend from the time of final acceptance of the installation. The guarantee shall cover the repair or replacement, without additional cost to the owner, of any defective material or faulty workmanship. This shall not include repair of damage due to fire (unless the fire results from faulty material or workmanship on the part of the contractor), storm, vandalism or other factors entirely beyond the control of the contractor, nor shall it include such routine service as oiling motor, replacing blown fuses (unless caused by defective performance of the equipment), replacing lamps, nor any other work not requiring special skill. After final acceptance of the project the above items pertaining to routine servicing of the equipment and motors, replacing fuses or replacing lamps are the responsibility of the owner unless a service agreement is made between the contractor and the owner.

PART 2 PRODUCTS

2.01 IDENTIFICATION AND LABELING

- A. All equipment shall have manufacturer's nameplate permanently affixed in an obvious location. Panels shall contain a typed index card identifying all circuits.
- B. Major pieces of equipment shall be labeled, as required by the nec and directed by owner's representative, with engraved nameplates constructed of laminated phenolic. Letters shall be condensed gothic, 1/4 inch high. Nameplates shall be at least 1/16 inch thick, 3 ply, white surfaces, black core. Nameplates shall be fastened to equipment with pop rivets. Label shall include equipment name, voltage and phasing. Example: panel "a" 120/208v, 3 ph.

PART 3 EXECUTION

3.01 CUTTING AND PATCHING

- A. Where it becomes necessary to drill or cut through any floors, walls or ceilings to permit the installation of any work under this contract, or to repair any defects that may appear prior to the expiration of the warranty, such cutting shall be done under the supervision of the owner's representative by the contractor. After the necessary work has been completed, the damage shall be repaired by the contractor, who shall pay all costs of such cutting and repairing.

- B. All drilling for expansion bolts, hangers and other supports shall be done by the contractor, subject to the approval of the owner's representative. Labor and materials required to replace or rebuild parts cut or injured shall be furnished at the contractor's expense, subject to the satisfaction of the owner's representative.

3.03 SUBMITTALS

- A. The contractor shall furnish at least 6 copies of the manufacturer's literature and drawings describing all proposed equipment and materials indicated in the specifications. The proposed use of the exact equipment and materials specified shall not change this requirement of including literature describing the proposed equipment. The front sheet of brochure shall have job name, architect, engineer, contractor and suppliers identified.
- B. Submittals shall include detailed specifications and construction data. Manufacturer's regular catalog sheets will not be acceptable unless they indicate completely all of the specification requirements including but not limited to:
 - 1. UI labeling
 - 2. Amperage, voltage, phase, etc.
 - 3. Physical size
 - 4. Light fixture photometric data
 - 5. Schematics/shop drawings - major equipment only

3.04 MATERIALS AND WORKMANSHIP

- A. All materials shall be new and of quality grade, standard manufacturer. All materials of a type for which the underwriters' laboratories, inc., has established a standard shall be listed by them and shall bear their label.
- B. All work shall be performed by competent mechanics, skilled in their trade, and shall be executed in a thorough and substantial manner.
- C. The contractor shall be held responsible for transportation of his materials to and on the job, and for their storage and protection until final acceptance of the job.
- D. The contractor shall be held responsible for timely placing of all conduit outlet boxes, cabinets and other wiring devices in the walls, ceilings, slabs, beams, etc., as construction progresses.
- E. Contractor shall furnish all necessary scaffolding, tackle, tools and appurtenances of all kinds, and all labor required for the safe and expeditious execution of his contract.
- F. Reference in the specifications or drawings to any article, device, product, material, fixture, form or type of construction by naming more than one acceptable manufacturer shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; however, the contractor, in such cases, must get written prior approval for substitution of unnamed manufacturers. Requests for substitution must be received in writing, in accordance with the contract documents, at least 7 working days before bid date. The request shall include a detailed listing of all products and/or devices for which acceptance is being requested. Engineering specification sheets and/or construction details

shall be included for comparative purposes. If the product is acceptable to the satisfaction of the owner's representative and the engineer, an addendum item will be issued stating acceptability. If doubt exists about the acceptability or equality of any unnamed product, device, fixture or article, the contractor shall request written authority for substitution from the engineer as stated in preceding paragraph. No verbal acceptance will be issued.

- G. All equipment shall be installed in a manner to permit access to parts requiring service. All electrical equipment shall be installed in such a manner as to allow removal for service without disassembly of other equipment, and shall have working clearances as required by the national electrical code. Any piece of apparatus which is too large to fit through finished openings, shall be placed before enclosing structure is completed. Following placement, such apparatus shall be completely protected from damage.

3.05 OPERATION AND MAINTENANCE INSTRUCTIONS

- A. The contractor shall furnish 6 sets of operating and maintenance instructions to the owner prior to final acceptance of the installation. These instructions shall include all items designated in the specifications, shall be assembled in an indexed three-ring binder as described in the paragraph titled "submittals" and shall include all warranties. Separate equipment brochures will not be acceptable. A pictorial parts list, operation and maintenance instructions, system description, schematic wiring diagrams and equipment cut sheets shall be included for each item with source information.

3.06 FINAL ACCEPTANCE OF THE INSTALLATION SHALL NOT OCCUR UNTIL THE OWNER'S PERSONNEL HAVE BEEN TRAINED IN THE MAINTENANCE AND OPERATION OF ALL EQUIPMENT FOR A MINIMUM OF 4 HOURS.

END OF SECTION

SECTION 16050

Basic Materials

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. CONDUIT
- B. JUNCTION, PULL AND DEVICE BOXES
- C. CONDUCTORS
- D. DISCONNECT SWITCHES
- E. OVERCURRENT DEVICES
- F. WIRING DEVICES
- G. LIGHTING AND BRANCH CIRCUIT PANELBOARDS
- H. GROUNDING
- I. TESTING

1.02 SUBMITTALS

- A. Submit under provisions of section 16010.

1.03 PRODUCT DATA

- A. Provide manufacturer's literature and product data on all equipment listed in paragraph A.

PART 2 PRODUCTS

2.01 CONDUIT

- A. Conduits shall be galvanized rigid steel. RGS conduit shall be hot-dipped, galvanized steel with zinc coating or corrosion-resistant lacquer on the inside, and shall comply with UL standard UL 6 and ANSI c80-1. Fittings shall be threaded, water and concrete tight. All conduits subject to mechanical injury or exposed in wet location shall be rigid galvanized steel.
- B. Flexible conduit shall be of hot-dipped galvanized, interlocked, spirally wound steel strip. Flexible metallic conduit (FMC) may be used at any height to extend conduit connections to motors and other permanently connected equipment. In no case shall the length of flexible conduit exceed 24 inches for connections to any one piece of equipment, except lengths of 72 inches maximum will be allowed for connections to lighting fixtures.

- C. Liquid tight flexible metal conduit (LTFMC) with a PVC jacket and grounding conductor, equal to American Brass "Sealtite." Connectors shall be galvanized and shall be suitable for connection to the associated boxes and conduits.
- D. Plastic conduit shall be rigid, heavywall, schedule 40, polyvinyl chloride (PVC). All schedule 40 PVC conduit shall meet the requirements of UL and shall be manufactured by Carlon or approved equal. All offsets and ells shall be rigid galvanized steel having a 0.030-inch minimum thickness.
- E. Plastic conduit for installation in concrete duct banks shall be thinwall conforming to NEMA standard tc6 and shall be UL listed.

2.02 JUNCTION, PULL AND DEVICE BOXES

- A. Junction and pull boxes shall be of code galvanized steel. Boxes mounted vertically on a wall shall be provided with hinged covers and catchlocks. All such boxes shall conform to NEC for size and gauge of material. Boxes shall be provided as required even if not indicated on drawings.
- B. General purpose junction boxes and device boxes shall be one-piece galvanized pressed steel knockout type with similar cover, and not less than 4 inches square. No sectional boxes will be permitted, except at single-pole switch locations with only two conductors. Contractor is responsible to verify all room finishes and supply proper throats and extension rings to ensure that box is within 1/4 inch of finished wall surface.

2.03 CONDUCTORS

- A. Conductors shall be soft-drawn annealed copper. It shall conform to federal specifications for building wire applicable to the type of wire designated, and shall have a conductivity of not less than 98 percent of pure copper.
- B. All wire #10 AWG and smaller shall be solid. No wire smaller than #12 AWG may be used except for signal or control circuits which shall be a minimum of #14 AWG. All branch circuits shall be #12 AWG unless scheduled or noted otherwise.
- C. Branch circuit conductors shall be color coded as follows:
 - 277/480V, 3 PH., 4W - - - BROWN, ORANGE, YELLOW, AND GREY
 - 120/208V, 3 PH., 4W - - - BLACK, RED, BLUE AND WHITE

For phase conductors larger than #4 AWG, or neutral conductors #4 AWG or larger, colored plastic tape may be used in lieu of continuously colored conductor insulation. Each conductor shall have at least three 1-inch bands (4-inch separation) at every termination and splice.

2.04 GROUNDING

- A. Conductor size shall be as required by the national electrical code, stranded, soft drawn or soft annealed, unless otherwise shown on plans or specified.
- B. Ground clamps for connecting conductors to copper, brass or lead pipes shall be made of copper. If pipes are steel or iron, ground clamps shall be galvanized iron. These clamps

shall be designed to provide permanent and positive pressure and avoid mechanical injury to the pipes. Grounding conductors and jumpers shall be connected to each other and to items to be grounded by means of approved pressure connectors, clamps and/or other suitable methods approved by the engineer. Wherever conduit, cabinets, etc., are connected to the grounding system, the point and/or surface contacts shall be clean metal to metal.

- C. All grounding conductor connections made below grade shall be made using an exothermic welded connection, "Cadweld," "Thermoweld" or approved equal.
- D. Ground rods shall be 3/4-inch diameter x 10 feet long, copper-clad steel-core.
- E. All concrete-encased or direct-buried underground electrode conductors shall be stranded copper.

2.05 DISCONNECT SWITCHES

- A. Switches shall be provided in NEMA 3R enclosures or as noted on the drawings.
- B. Shall be quick-make and quick-break.
- C. Have switch blades which are fully visible in the off position when the door is open.
- D. Be of deadfront construction with attached arc suppressors.
- E. Shall have lugs UL listed for copper and/or aluminum cables.
- F. All current-carrying parts shall be plated by electrolytic processes.
- G. Enclosures shall be of code gauge galvanized steel. They shall be treated with a rust-inhibiting phosphate and finished in gray baked enamel.
- H. Be rated for 240 volt A.C. to D.C. or 600 volt A.C. as indicated on the drawings.
- I. Shall have provisions for class r fuses as required.

2.06 FUSES

- A. All fuses, 600 volts and less, shall be bussmann "low-peak" or equal, and shall meet the following:
 - 1. Be of the same manufacturer.
 - 2. Shall not be shipped in fused switches.
 - 3. Shall be stored in a moisture-free area until needed.
 - 4. Fuses rated 1/10 to 600 amperes shall be UL class R dual element current limiting. All dual-element fuses shall have separate overload and short-circuit elements.

2.07 PANELBOARDS

- A. Panelboards shall conform to the requirements of UL 67, UL 50, NEMA no. Pb1 and the NEC. Each panelboard shall be mounted in a galvanized sheet-metal cabinet with a removable front panel complete with latch and lock. All locks shall be keyed the same and two keys shall be provided for each lock. Cabinets shall have means for securing, supporting panelboard front. There shall be no sharp points or edges inside cabinets.
- B. Bus bars shall be copper. Bus bar taps shall be arranged for sequence phasing of the branch circuit devices. Neutral bars shall be full size, insulated from the cabinet and mounted at the opposite end of the panel from the mains. A bare, uninsulated grounding bar, brazed to the cabinet, shall be provided. No double lugging will be permitted.
- C. Branch circuit breakers shall be bolt-on, thermal magnetic molded case, quick-make, quick-break type designed for automatic or manual tripping, and shall be factory assembled to bus. Where spaces are indicated, bus shall have all applicable accessories provided to enable a breaker to be readily installed. Interrupting ratings shall be as indicated. Multipole breakers shall have common trip handle.
- D. A directory frame and neatly typed card having a transparent cover shall be furnished on each door indicating loads.
- E. Panelboards shall be square D, Westinghouse or General Electric.

2.08 CIRCUIT BREAKERS

- A. All circuit breakers shall be UL listed, quick-make, quick-break, bolt-on type and be fully rated for the available fault current as scheduled on the drawings. Series rated breakers are unacceptable. Each breaker shall clearly indicate their ampacity and frame size and visually indicate "on", "off", or "tripped" condition.
- B. When used for switching light circuits, shall be marked "SWD," indicating "switch duty rated."

2.09 RECEPTACLES

- A. Receptacles shall be, 20 amperes, 125 volts, specification grade three wire, self or automatic grounding, ivory duplex, and shall be Hubbell #5362-i or approved equal.
- B. Other approved wiring device manufacturers are Byrant, P & S and Leviton.

2.10 WALL SWITCHES

- A. Switches shall be 20-ampere, 120/277-volt specification grade ivory quiet type.
 - 1. Single-pole switches shall be Hubbell #1221-i or approved equal.
 - 2. Three-way switches shall be Hubbell #1223-i or approved equal.
- B. Device plates shall be white in color and smooth thermoplastic unless otherwise indicated.
- C. Other approved device plate manufacturers are Bryant, p & s and Leviton.

- 2.11 Special purpose outlets special purpose outlets and switches not covered by the specifications but noted on the drawings shall be of the amperage and voltage rating indicated.

PART 3 EXECUTION

3.01 GENERAL

The contractor shall study all construction documents and carefully lay out all work in advance of fabrication and erection. Where conflicts occur, the contractor shall meet with all involved trades and the construction inspector and resolve the conflict prior to erection of any work.

3.02 CONDUITS

- A. Minimum size conduit shall be 3/4 inch indoors, and 1 inch schedule 80 outdoors.
- B. All exposed conduit shall be run in the neatest, most inconspicuous manner, and parallel or perpendicular to structural lines. No exposed diagonal runs will be permitted. The contractor shall run all conduit in a manner satisfactory to the owner's representative.
- C. Maintaining clearance: where limited space is available above the ceilings and below concrete beams or other deep projections, pipe and conduit shall be sleeved through the projection where it crosses, rather than hung below them, in a manner to provide maximum above-floor clearance, in accordance with section 16010.
- D. Unless otherwise indicated on the drawings, conduit runs in which a major portion of the conduit is installed underground or in ground-bearing floor slabs shall be schedule 40, UL labeled, PVC conduit (RNMC) with an insulated grounding conductor. All bends and risers in PVC runs below grade shall be rigid galvanized steel as specified above. Metal conduits buried underground shall be carefully wrapped with half-lapped 3m no. 51 "Scotchrap" vinyl tape, with wrapping extending at least 3 inches beyond the edge of any exposed metal. Care shall be exercised to avoid damaging the protective coating on this type of raceway, and damage shall be taped as described above. All underground conduits shall be a minimum of 24 inches below ground unless indicated otherwise.
- E. Where conduits are installed in slabs, they shall be set in position as soon as the forms are in place and in such manner as not to impair the strength of the slab. For exact locations, see architectural sections and locate as directed by owner's representative with respect to the reinforcing steel.
- F. The electrical contractor shall exercise all necessary precautions to prevent the accumulation of water, dirt or concrete in conduit during work. Conduit ends shall be sealed by use of metallic "pennies" or resilient plastic sealing caps during construction until wire is pulled. Properly cap spare and empty conduit systems, stubbed up from below grade or from below floor level, with permanent caps.
- G. Insofar as possible, horizontal runs of conduit shall be installed to provide a natural drain for condensation without pockets or traps where moisture may collect. All conduits shall be blown out and swabbed out before pulling in wire.

- H. In no case shall a raceway be run within 6 inches of steam or hot water pipes, breechings, flues or other high-temperature surfaces. If such routing should become necessary, mineral-insulated cable with approved fittings shall be used throughout the area of high-temperature exposure.
- I. Conduits shall be securely supported to building structure at intervals of not more than 8 feet. They shall be fastened in place with galvanized steel clamps or pipe straps, hangers, 3/8-inch diameter minimum rods or trapeze. No perforated steel tape is permitted. Supports of structural steel or manufactured framing members shall be provided with all necessary rods, anchors, clamps, spacers and bolts. Conduits above removable ceiling panels shall allow sufficient clearance for panel removal or insertion. Conduits of any size shall not be supported from ceiling hangers or light fixture hangers. Conduit shall not be supported from piping or mechanical equipment unless specifically shown on plans. Allow 7 feet of headroom clearance.
- J. Rigid galvanized steel conduit shall be made up to boxes and equipment with double locknuts and shall have insulating bushings installed. Grounding continuity shall be maintained.
- K. All roof penetrations shall be properly sleeved, sealed and flashed for complete waterproofing. In lieu of the above, approved factory-fabricated watertight entrance glands shall be used. Conduits running through walls shall be sealed and/or installed with plates or escutcheons as directed by the owner's representative.
- L. Furnish and install a polypropylene pull cord in every empty raceway installed hereunder to facilitate future installation of wires. Identify each end of pull wire with linen tags with complete information as to location of the other end of the wire.
- M. Conduit which runs to or from all boxes, cabinets or enclosures having concentric or eccentric knockouts which partially perforate the metal around the conduit, and hence impair the continuity of system ground circuits, shall be provided with bonding jumpers sized in accordance with NEC table 250-95 connected between a grounding type bushing/locknut on the conduit and a groundbus or stud inside the enclosure.
- N. Provide a green insulated ground conductor in all raceways sized according to NEC, or as noted on the drawings.
- P. Provide expansion couplings where conduits cross expansion joints, and where required by the NEC.
- Q. Fasteners shall be self-drilling self-tapping screws in metal; wood screws in wood; or threaded expansion shields (hilti drop-in anchors or approved equal) or inserts in masonry or concrete. Wooden, plastic or lead inserts will not be acceptable. Perforated strap iron shall not be used as a trap, support or hanger in any case.

3.03 WIRE

- A. No wire shall be drawn into conduit until all work of a nature which may cause injury is complete. An underwriter's-approved cable pulling compound shall be used as a lubricant where necessary. No material which may be injurious to the wire covering or insulation shall

be used. Conductors pulled into wrong raceway or cut too short for termination shall be replaced. Conductors shall not be reinstalled after removal from a raceway.

- B. Mains and feeders shall run their entire length in continuous pieces without joints or splices unless otherwise indicated.
- C. Joints in branch circuits shall occur only where such circuits divide as shown on the plans. No splices shall be made in submersible locations.
- D. All joints or splices shall be made as follows:
 - 1. #8 AWG and smaller (dry locations) may be made by means of self-insulated spiral spring screw-on connector with resilient or unbreakable plastic insulating cap. No ceramic or brittle plastic shell connectors will be approved.
 - 2. #8 AWG and smaller (damp or dry locations) shall be made with crimped copper sleeve type connectors wrapped with plastic electrical tape #133 (dry locations) or self-fusing (non-adhesive) electrical combination sheath and insulating tape no. 130 for damp locations.
 - 3. #6 AWG and larger wires shall be connected by means of compression sleeves wrapped with plastic electrical tape (dry location) or okoweld, or equal, self-fusing tape in damp locations.
- E. Each and every electrical conductor termination shall be torque wrench or torque screwdriver tightened per UL and NEMA standards. This shall include all branch circuit, control circuit, feeder and service conductors for the entire project.
- F. Splices and taps shall not be made in any conductor except at outlet boxes, pull boxes or junction boxes.

3.04 GROUNDING

- A. The ground terminal on all convenience receptacles shall be bonded to the box and to the branch circuit grounding conductor with a bonding jumper to provide good continuity back to the source.
- B. The service entrance ground bus shall be bonded to the ground rods with conductors sized per NEC table 250-94.
- C. The electrical system shall be grounded in accordance with article 250 of the NEC. All conduit systems, cabinets, junction boxes, motor frames, electrically operated and/or controlled cooling/heating units, miscellaneous equipment, etc., shall be grounded by being connected to a common neutral grounding system.
- D. Resistance between any point on the grounding electrode system and any object in the vicinity, including earth and floors, shall not exceed 25 ohms. Ground resistance measurements of all ground rods shall be made in normally dry weather, not less than 24 hours after rainfall. The contractor shall submit measured ground resistance to engineer.

3.05 DISCONNECT INSTALLATION/APPLICATION

- A. For all single-phase motors 1 horsepower or less not requiring a starter, a manual motor starter switch with overloads shall suffice as the disconnect means. Where motor is furnished with integral overload protection, horsepower rated toggle switch may be used.
- B. Where separate control voltages are used for control circuits within the motor controllers, the disconnect device shall disconnect simultaneously the control circuits together with the power circuits (see 430-74 nec). The contractor shall be responsible for accomplishing this requirement.
- C. Where a "twist-lock" disconnect is used for a motor or other load, the contractor shall be responsible for verifying that the equipment to be served has thermal (running) protection.
- D. The contractor shall provide running protection in accordance with NEC when such protection is not supplied inherent with the equipment.
- E. The contractor shall be responsible for mounting disconnect switches in locations providing clearance in front of switch in accordance with the NEC.

3.06 CIRCUIT BREAKER INSTALLATION/APPLICATION

- A. Provide overcurrent protection for all wiring and equipment in accordance with required NEC, federal, state and local codes.
- B. Should nameplate data disagree with the size or application of an overcurrent protective device shown on the drawings, bring it to the attention of the architect/engineer.
- C. A label shall be placed inside each fused switch door. The label shall indicate the fuse type, ampere rating and interrupting rating. Manufacturer's labels are acceptable.
- D. All breakers must clearly indicate their size, must clear panel doors and be mounted on frame allowing outward and inward adjustment. Depth of the panel shall also permit adjustment.
- E. Each breaker shall be provided with a numerical designation strip.
- F. All multipole breakers shall have common trip. Wires, pins, etc., between single-pole breakers to form common trip will not be acceptable.
- G. In general, all 120-volt lighting and receptacle circuits shall be fed from 20-ampere single-pole breakers. Unless specifically called for, or NEC required, no breakers less than 20 amperes shall be allowed.
- H. Where spaces are called for they shall be complete with bus links.
- I. The use of "multi," "push-o-matic" or "quicklag" breakers shall not be permitted.
- J. All breakers shall have the AIC ratings equal to or in excess of AIC rating of the panel or switchboard in which they are installed as shown in schedule on the drawings.

3.08 TESTING

- A. All tests shall be satisfactorily completed and accepted before final inspection or acceptance. Tests shall be bound with o & m manuals.
- B. Insulation of feeder conductors shall be tested with a 1,000-volt megger at an ambient temperature of 60 degrees to 80 degrees f. Test each feeder conductor for a minimum acceptable reading of 100 mega ohms. Replace feeder conductors which do not meet the minimum reading or which differ appreciably from others.
- C. The resistance to the grounding electrode shall be measured and recorded, and additional ground connections shall be made to bring resistance below 25 ohms.

END OF SECTION

BUFFER WALLS - PHASE 1

COMMERCIAL BLVD. - 31ST AVE TO 25TH TERR.

CITY OF TAMARAC
6011 Nob Hill Rd, Tamarac, FL 33321



Stantec
21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com

215612421
2/4/2016

REVISIONS

[illegible]

APPROVED BY

MUSTAFA O. ALBASSAM, P.E.
LICENSED ENGINEER NO. 76998
STATE OF FLORIDA



One Call of Florida, Inc.
1-800-432-4770

 **IT'S THE LAW!**
CALL 48 HOURS BEFORE YOU DIG
1-800-432-4770
SUNSHINE STATE ONE CALL OF FLORIDA, INC.
NORFOLK, VA

CITY OFFICIALS

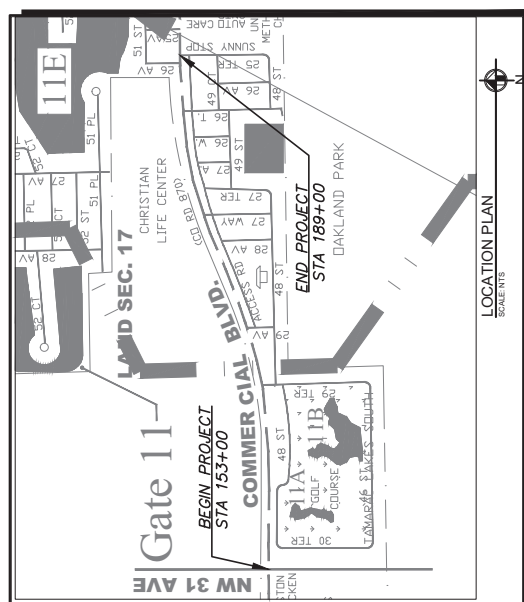
NAME	TITLE
HARRY DRESSLER	MAYOR
DIANE GLASSER	VICE MAYOR/COMMISSIONER DISTRICT 3
PAMELA BUSHNELL	COMMISSIONER DISTRICT 1
MICHELLE GOMEZ	COMMISSIONER DISTRICT 2
DEBRA PLACKO	COMMISSIONER DISTRICT 4
MICHAEL C. CERNECH	CITY MANAGER
JACK STRAIN	PUBLIC SERVICES DIRECTOR
JOHN DOHERTY	CITY ENGINEER

Sheet Number	Sheet Title
E-1	GENERAL NOTES
E-2	OVER SHEET
E-3	REINFORCEMENT NOTES
E-4	DEMOLITION PLAN
E-5	DEMOLITION PLAN
E-6	DEMOLITION PLAN
E-7	DEMOLITION PLAN
E-8	DEMOLITION PLAN
E-9	SITE PLAN
E-10	SITE PLAN
E-11	SITE PLAN
E-12	SITE PLAN
E-13	SITE PLAN
E-14	SITE PLAN
E-15	SITE PLAN
E-16	CUT SECTION
E-17	CUT SECTION
E-18	CUT SECTION
E-19	CUT SECTION

Sheet Number	Sheet Title
L-1	LANDSCAPE COVER
L-2	LANDSCAPE PLAN
L-3	PLANTING PLAN
L-4	PLANTING PLAN
L-5	PLANTING PLAN
L-6	PLANTING PLAN
L-7	PLANTING PLAN
L-8	PLANTING DETAIL
L-9	PLANTING PLAN
L-10	PLANTING PLAN
L-11	PLANTING PLAN
L-12	IRRIGATION PLAN
L-13	IRRIGATION PLAN
L-14	IRRIGATION PLAN
L-15	IRRIGATION PLAN
L-16	IRRIGATION PLAN
L-17	IRRIGATION PLAN
L-18	IRRIGATION DETAILS

Sheet Number	Sheet Title
1	GENERAL NOTES
2	DEMOLITION PLAN
3	DEMOLITION PLAN
4	DEMOLITION PLAN
5	DEMOLITION PLAN
6	DEMOLITION PLAN
7	DEMOLITION PLAN
8	DEMOLITION PLAN
9	DEMOLITION PLAN
10	DEMOLITION PLAN
11	DEMOLITION PLAN
12	DEMOLITION PLAN
13	DEMOLITION PLAN
14	DEMOLITION PLAN
15	DEMOLITION PLAN
16	DEMOLITION PLAN
17	DEMOLITION PLAN
18	DEMOLITION PLAN
19	DEMOLITION PLAN
20	DEMOLITION PLAN
21	DEMOLITION PLAN
22	DEMOLITION PLAN
23	DEMOLITION PLAN
24	DEMOLITION PLAN
25	DEMOLITION PLAN
26	DEMOLITION PLAN
27	DEMOLITION PLAN
28	DEMOLITION PLAN
29	DEMOLITION PLAN
30	DEMOLITION PLAN
31	DEMOLITION PLAN
32	DEMOLITION PLAN
33	DEMOLITION PLAN
34	DEMOLITION PLAN
35	DEMOLITION PLAN
36	DEMOLITION PLAN
37	DEMOLITION PLAN
38	DEMOLITION PLAN
39	DEMOLITION PLAN
40	DEMOLITION PLAN
41	DEMOLITION PLAN
42	DEMOLITION PLAN
43	DEMOLITION PLAN
44	DEMOLITION PLAN
45	DEMOLITION PLAN
46	DEMOLITION PLAN
47	DEMOLITION PLAN
48	DEMOLITION PLAN
49	DEMOLITION PLAN
50	DEMOLITION PLAN
51	DEMOLITION PLAN
52	DEMOLITION PLAN
53	DEMOLITION PLAN
54	DEMOLITION PLAN
55	DEMOLITION PLAN
56	DEMOLITION PLAN
57	DEMOLITION PLAN
58	DEMOLITION PLAN
59	DEMOLITION PLAN
60	DEMOLITION PLAN
61	DEMOLITION PLAN
62	DEMOLITION PLAN
63	DEMOLITION PLAN
64	DEMOLITION PLAN
65	DEMOLITION PLAN
66	DEMOLITION PLAN
67	DEMOLITION PLAN
68	DEMOLITION PLAN
69	DEMOLITION PLAN
70	DEMOLITION PLAN
71	DEMOLITION PLAN
72	DEMOLITION PLAN
73	DEMOLITION PLAN
74	DEMOLITION PLAN
75	DEMOLITION PLAN
76	DEMOLITION PLAN
77	DEMOLITION PLAN
78	DEMOLITION PLAN
79	DEMOLITION PLAN
80	DEMOLITION PLAN
81	DEMOLITION PLAN
82	DEMOLITION PLAN
83	DEMOLITION PLAN
84	DEMOLITION PLAN
85	DEMOLITION PLAN
86	DEMOLITION PLAN
87	DEMOLITION PLAN
88	DEMOLITION PLAN
89	DEMOLITION PLAN
90	DEMOLITION PLAN
91	DEMOLITION PLAN
92	DEMOLITION PLAN
93	DEMOLITION PLAN
94	DEMOLITION PLAN
95	DEMOLITION PLAN
96	DEMOLITION PLAN
97	DEMOLITION PLAN
98	DEMOLITION PLAN
99	DEMOLITION PLAN
100	DEMOLITION PLAN

BID SET



Broward County Disclaimer

2. The Review and Acceptance Of The Project's Design, Including Access To And Control Of The Construction Site, Shall Be Solely Responsible Of The Engineer-Of-Record And The City Engineer. BCTED's Review Is Limited To Payment-Monitoring And Signing Only.
3. The City Of Tumwater Shall Be Solely Responsible For The Continued State Of Good Repair, Maintenance And Replacement Of All Post-Mounted Detainers Installed As Part Of This Project. Broward County Will Not Assume Any Post-Mounted Detainers.
4. The City Of Tumwater Shall Be Solely Responsible For Providing A Safe And Adequate Access Design, And Shall Be Solely Responsible For Any Modifications To Existing Conditions, Including But Not Limited To, Runway Modifications And The Buffer Wall Installation.
5. Broward County's Review Is Limited To The Signs And Pavement Markings On The Airport Roadway, And Shall Not Assume Responsibility For Maintaining Community's Parking Lot, EODT ROW And Any Post-mounted Detainers.



MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

JOB NUMBER
215612421
FILE NO. :
DRAWN : C.L.M.
REVIEWED : M.O.A.
CHECKED : M.O.A.
DATE : 2/2/2018
ISSUE / REVISIONS
SHEET TITLE
KEY SHEET
SHEET NUMBER
G-2



Benchmark 1
STA: 165+49.67
OFF: 53.89%
FND: PK Nail In Disk "LB6071"
Elevation: 9.38

Benchmark 2
STA: 182+86.56
OFF: 53.28%
Set Nail In Disk "LB6935"
Elevation: 9.15

BID SET

1) Forward County specific notes for safe routes to schools.

- * MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIAN

The following areas within the project limits are designated as Safe Routes to School by the Broward County School Board (Areas to be provided by BCTI)

Within these areas the contractor's attention is directed to the following requirements:

- [illegible]

4. Thirty (30) days prior to the beginning of construction the Contractor SHALL notify the Special Projects Coordinator at Broward County Traffic Engineering Division, (954) 847-2671, to arrange pre-construction - school safety meeting.

5. If **SMALL** be the Contractors responsibility to notify the Blount County School Board Public Transportation Department to arrange a pre construction school bus route meeting at the following:
- | | | | |
|---------------|---------|----------------|------------|
| * Adult Males | Meeting | (706) 321-4400 | Ext # 2100 |
|---------------|---------|----------------|------------|

- * **Key Publications:** *Student Transportation & Fuel Security*
(2011), <http://www.transportationtrust.org/publications>

"Communications Notes"

[illegible]

If there are Copper Interconnect Cabinets within your project limits or within 100 feet of your project limits, contact the Communications Supervisor at 16communications@broward.org or 954-867-2761.

If there are Fiber Optic Cables within your project limits or within 1500 feet of your project limits contact the Communications Manager at the communications@forward.org or 954-847-2745.

If there are cellular communications within your project limits, contact the Communications Manager for communications@bward.com or 954.887.7745.

ALL BCTED communications cables/conduit shall be located a minimum of 48 hours in advance.

**Breward County Traffic Engineering Division
Procedure for Notification of Communication Disruption**

Consider Interconnect Cable Installation: Contact Person

When communications to an intersection must be disrupted by a Contractor to perform work, the Contractor shall provide two day advance notice in writing to the Broward County Traffic Engineering Division. This notification shall be conveyed via electronic mail (tm1111@broward.net) to the Traffic Signal Technician III at tm1111@broward.net. Notification shall include contact person, telephone number, purpose, location and duration. The disruption shall be for no more than 3 consecutive business days. When possible, the disruption shall be during off peak hours occurring at 5:00am and ending at 3:00pm.

Effect Size: Cohen's k Culture Modification Combat Veterans

When communications to an intersection must be disrupted by a Contractor to perform work, the Contractor shall provide two day advance notice in writing to the Broward County Traffic Engineering Division. This notification shall be conveyed via electronic mail (e-mail) to the Communications Manager at communications@broward.net. Notification shall include contact person, telephone number, purpose, location and duration. The disruption shall last for no more than 2 consecutive business days. Where possible, the disruption shall be during off peak hours occurring at 11:00am and ending at 3:00pm.

Copper Interconnect Cable - (Tim Miller) Broward County Traffic Engineering Division (BCTED) 954-347-2781
Fiber Optic Cable & Cellular - (Robert Blount) Broward County Traffic Engineering Division (BCTED) 954-347-2745



MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No.: _____
DRAWN : C.L.M.
REVIEWED : M.O.A.
CHECKED : M.O.A.
DATE : 23/7/2016
ISSUE/REVISONS
SHEET TITLE
COMMUNICATION
NOTES
SHEET NUMBER
G-4

BID SET

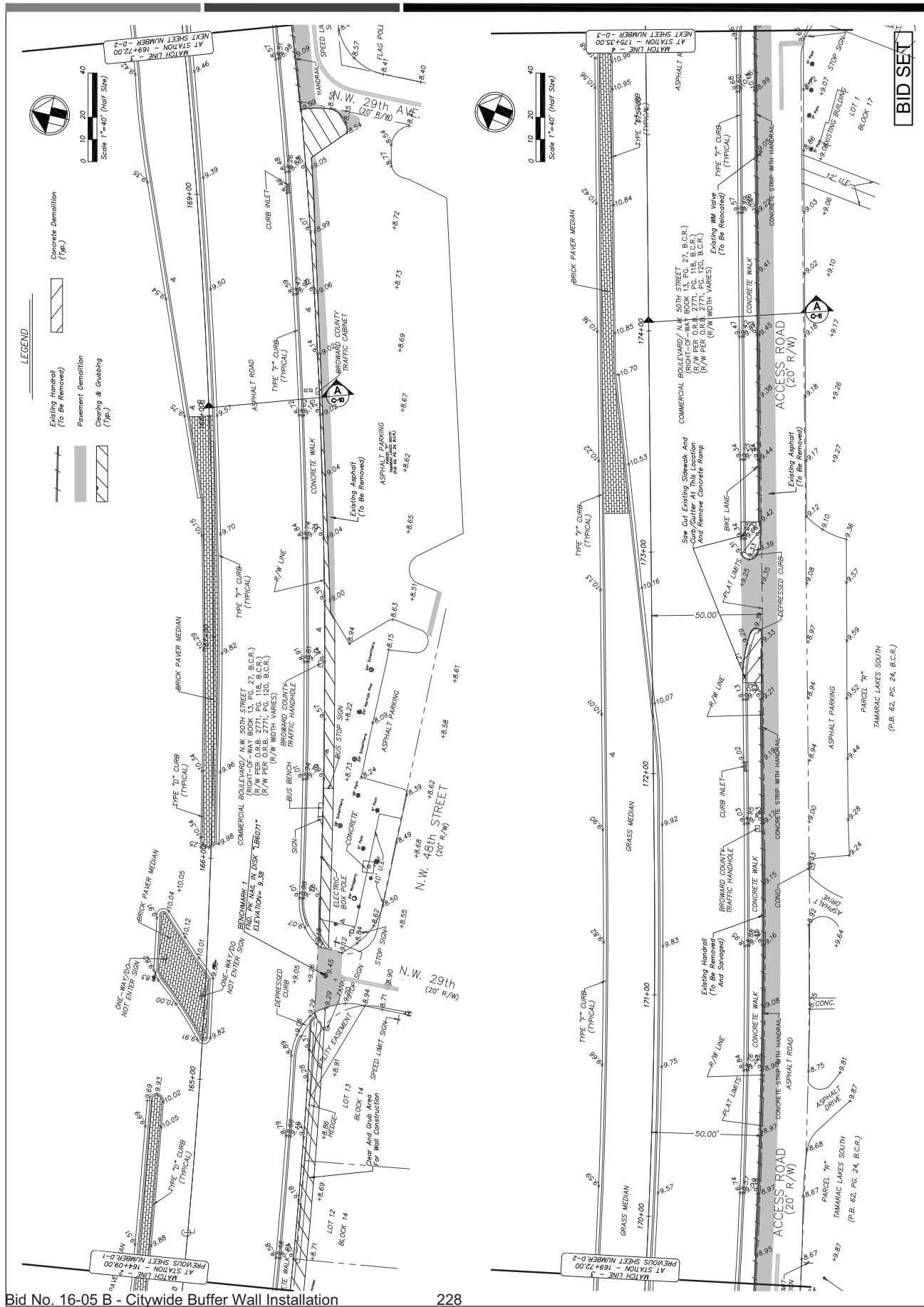


Startec
21301 Ponderosa Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.startec.com
The contractor shall verify and be responsible for the accuracy of all data and information provided by the City of Tamarac. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The contractor shall be responsible for obtaining all necessary insurance and bonding. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The contractor shall be responsible for obtaining all necessary insurance and bonding. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The contractor shall be responsible for obtaining all necessary insurance and bonding.

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

CITY OF TAMARAC COMMERCIAL BLVD BUFFER WALLS 31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE NO. :	
DRAWN : C.L.M.	
CHECKED : M.O.A.	
DATE : 2/3/2016	
ISSUE/REVISIONS	
SHEET TITLE	DEMOLITION PLAN
SHEET NUMBER	D-2



**Stantec**

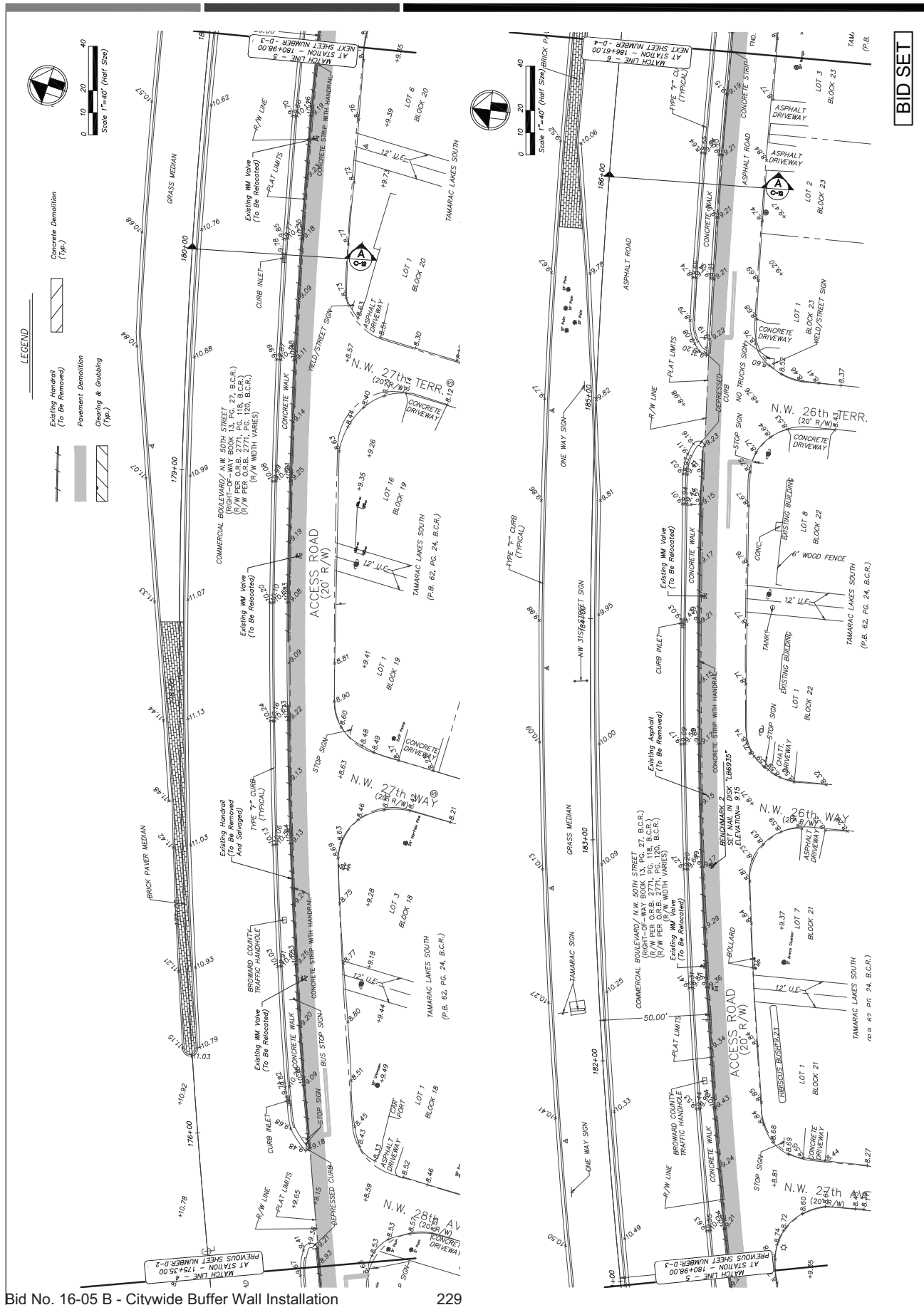
21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3486
www.stantec.com
Certificate of Authorization # 27013

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawings or any other information. The Contractor is responsible to Stantec for all dimensions. The Contractor shall verify all dimensions without delay. The Contractor shall verify all dimensions and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No. :
DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED: M.O.A
DATE : 2/3/2016
ISSUE/REVISIONS
SHEET TITLE
DEMOLITION
PLAN
SHEET NUMBER
D-3



**Stamtec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

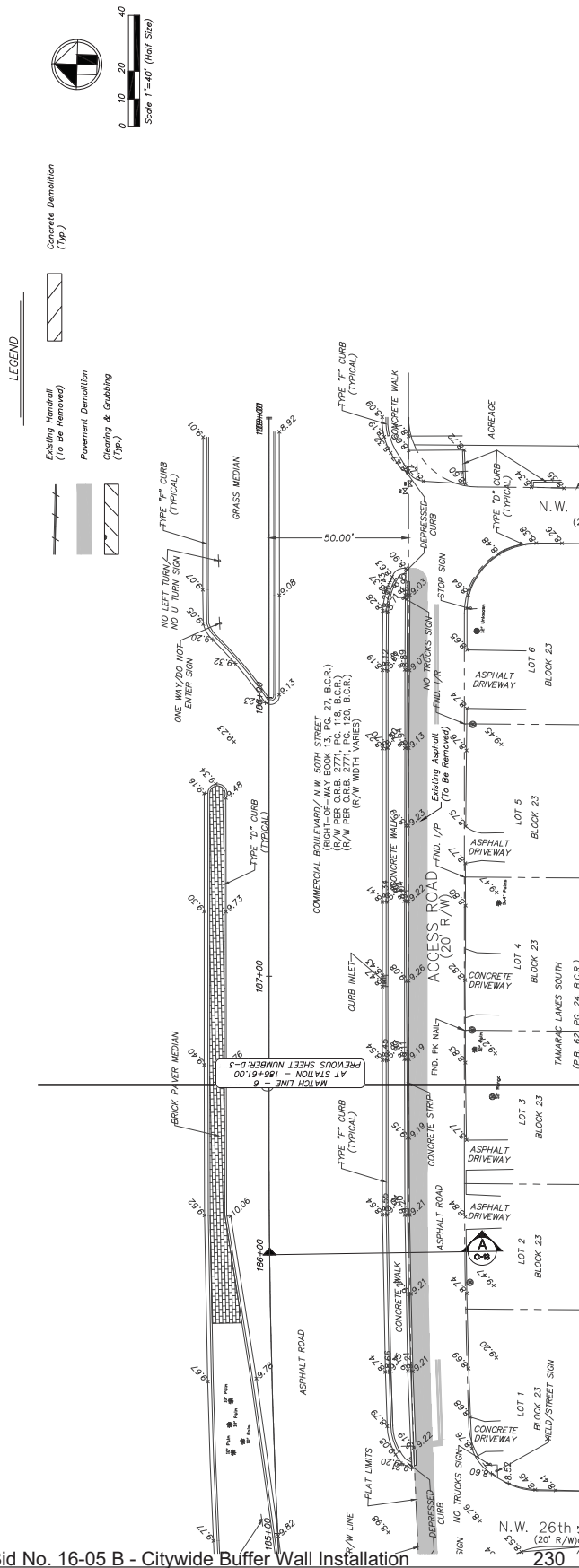
JOB NUMBER	215612421
FILE No. :	
DRAWN : C.L.M	
REVIEWED: M.O.A	
CHECKED : M.O.A	
DATE : 2/3/2016	

A blank grid consisting of 10 vertical lines and 3 horizontal lines, creating a series of columns and rows for drawing.

SHEET TITLE
DEMOLITION
PLAN
SHEET NUMBER

D-4

BID SET





21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice 561.487.3379 Fax 561.487.3466
www.stantec.com
Certificate of Authorization # 27013

F.A.O. ALBASSAM, P.E.
P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No. :

DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A

DATE : 2/3/2016

[illegible][illegible]

[illegible][illegible]

SHEET TITLE

SITE PLAN

WILLIAMS

SHEET NUMBER

SHEET NUMBER

5

1

231

NOTES

1. Existing Haulroad Within FDOT R/W Shall Be Removed and Salvaged. Contractor Shall Deliver Existing Haulroad To FDOT Storage Facility.
2. Contractor Shall Find Verify All Existing Utility Locations and Sizes Prior To Construction And Notify The Engineer Of Record If Conflicts Are Found.
3. New Traffic Pattern With New Striping And Signage (See Sheet C-14).
4. Transition Proposed D-Curb To Existing Curb

Contractor Shall Locate Existing BCTEDFO
Prior To Construction And Verify No Conflict Exists.

①

CONFLICTS

BID SET



Stantec

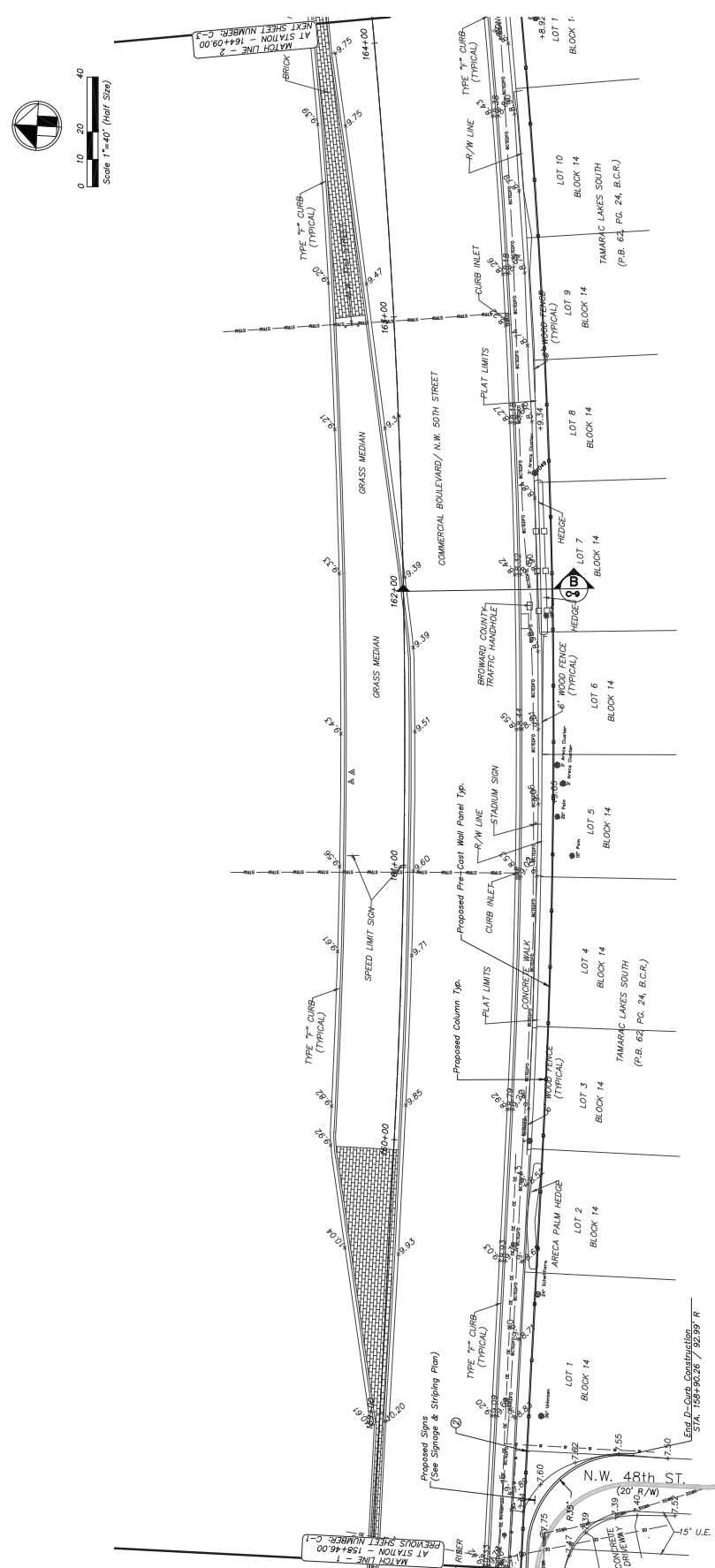
21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.467.3319 Fax: 561.487.3466
E-Mail: info@stantec.com
Certification: LEED Accredited #27013


The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing — any errors or omissions shall be reported to Stantec immediately. When the property owner or architect's drawings are the property of Stantec, reproduction or use for any purpose other than that authorized by Stantec is prohibited.

P.E. No. 76996

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE No. :	
DRAWN : C.L.M.	
REVIEWED : M.Q.A.	
CHECKED : M.Q.A.	
DATE : 2/3/2016	
ISSUE/REVISIONS	
SHEET TITLE	
SITE PLAN	
SHEET NUMBER	
C-2	



- LEGEND**
- | | | | |
|-------|--------|-------|-----------------------------------|
| _____ | ROTARY | _____ | Buried Fiber Optic (BCTED & FDOT) |
| BT— | BT— | BT— | Buried Television |
| OE— | OE— | OE— | Buried Electric |
| W— | W— | W— | Water Main |
| SW— | SW— | SW— | Sanitary Sewer |
| SSW— | SSW— | SSW— | Pre-Cast Wall Column |
-  Pre-Cast Wall Column

CONFLICTS

② Water Main Crossing - STA. 158+89.08 / 54.36R

BID SET

NOTES

1. Existing Handrail White FDOT R/W Shall Be Removed and Salvaged. Contractor Shall Deliver Existing Handrail To FDOT Storage Facility.
2. Contractor Shall Field Verify All Existing Utility Locations And Sizes Prior To Construction And Notify The Engineer Of Record If Conflicts Are Found.
3. New Traffic Pattern With New Striping And Signage (See Sheet C-14).
4. Transition Proposed D-Curb To Existing Curb

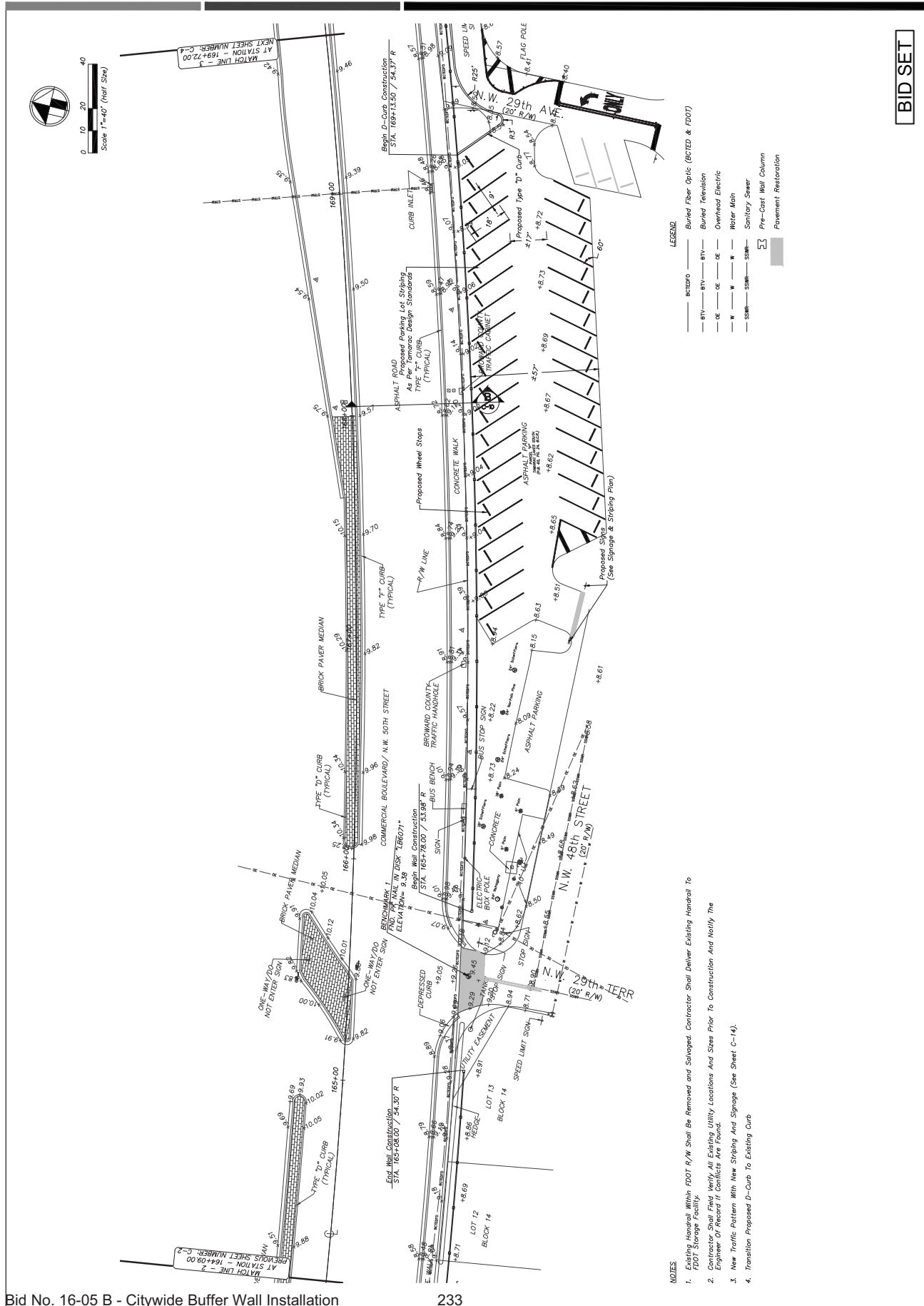


StanTec
21301 Powderline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
The contractor shall verify and be responsible for the accuracy of all data and information provided by the City of Tamarac. The contractor shall be responsible for the accuracy of all data and information provided by the City of Tamarac. The contractor shall be responsible for the accuracy of all data and information provided by the City of Tamarac.

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76988

CITY OF TAMARAC
COMMERCIAL BLVD BUFFER WALLS
31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE NO.	
DRAWN: C.L.M.	
CHECKED: M.O.A.	
DATE: 2/3/2016	
ISSUE/REVISIONS	
SHEET TITLE	
SITE PLAN	
SHEET NUMBER	C-3



Bid No. 16-05 B - Citywide Buffer Wall Installation

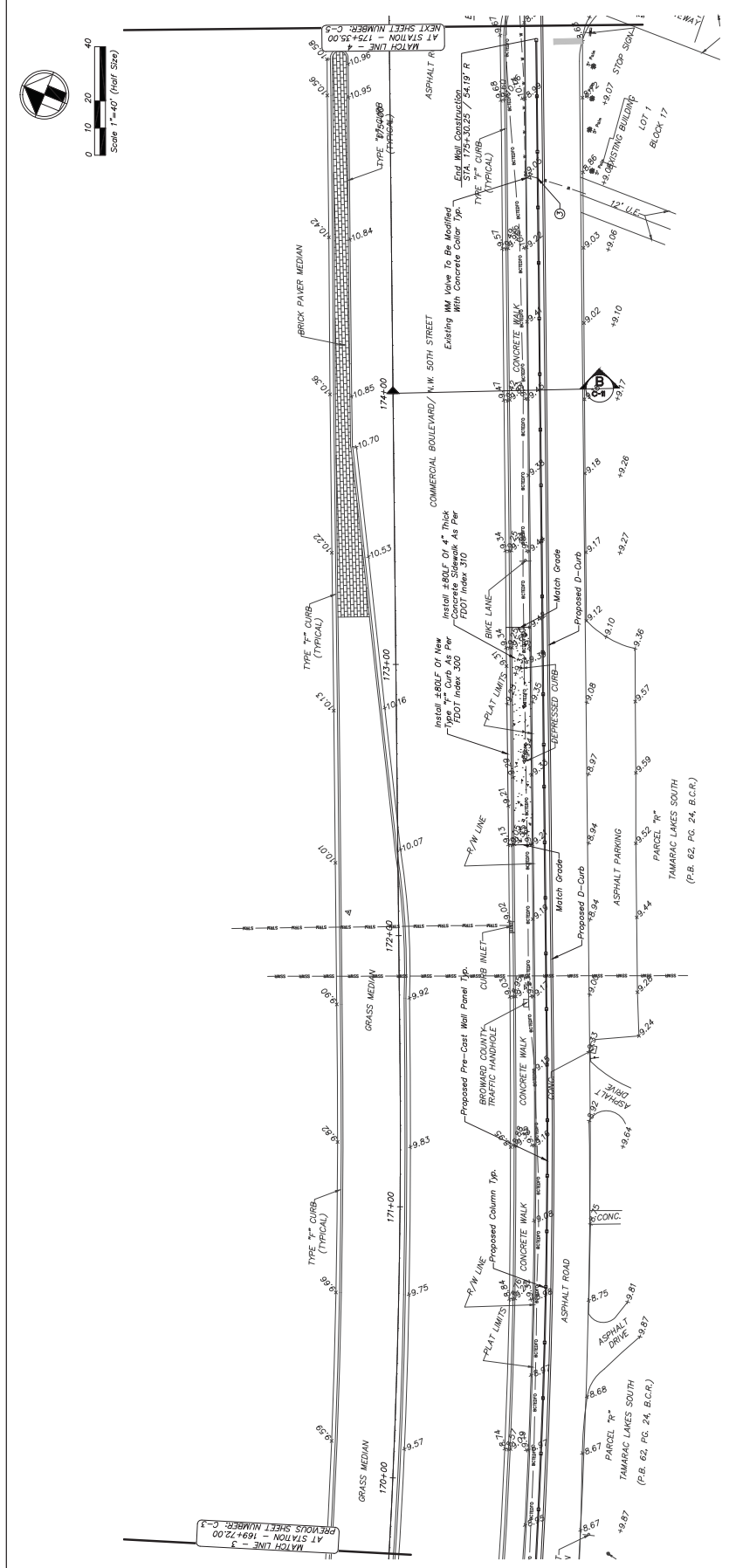


Stanitec
21301 Ponderosa Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stanitec.com
Certificate of Authorization # 270113
The contractor shall verify and be responsible for the accuracy of all data and information provided by the City of Tamarac. The contractor shall be responsible for the accuracy of all data and information provided by the City of Tamarac. The contractor shall be responsible for the accuracy of all data and information provided by the City of Tamarac.

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

CITY OF TAMARAC
COMMERCIAL BLVD BUFFER WALLS
31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE NO. :	
DRAWN : C.L.M.	
CHECKED : M.O.A.	
DATE : 2/3/2016	
ISSUE/REVISIONS	
SHEET TITLE	
SITE PLAN	
SHEET NUMBER	
C-4	



- LEGEND**
- MICROPIER
 - BURIED FIBER OPTIC (BICED & FDOT)
 - BURIED TELEVISION
 - BURIED ELECTRIC
 - WATER MAIN
 - SANITARY SEWER
 - PRE-CAST WALL COLUMN

CONFLICTS

③ Water Main Crossing - STA. 174+76.62 / 54.00R

- NOTES**
- Existing Handrail Within FDOT R/W Shall Be Removed and Salvaged. Contractor Shall Deliver Existing Handrail To FDOT Storage Facility.
 - Contractor Shall Field Verify All Existing Utility Locations And Sizes Prior To Construction And Notify The Engineer Of Record If Conflicts Are Found.
 - New Traffic Pattern With New Striping And Signs (See Sheet C-14).
 - Transition Proposed D-Curb To Existing Curb

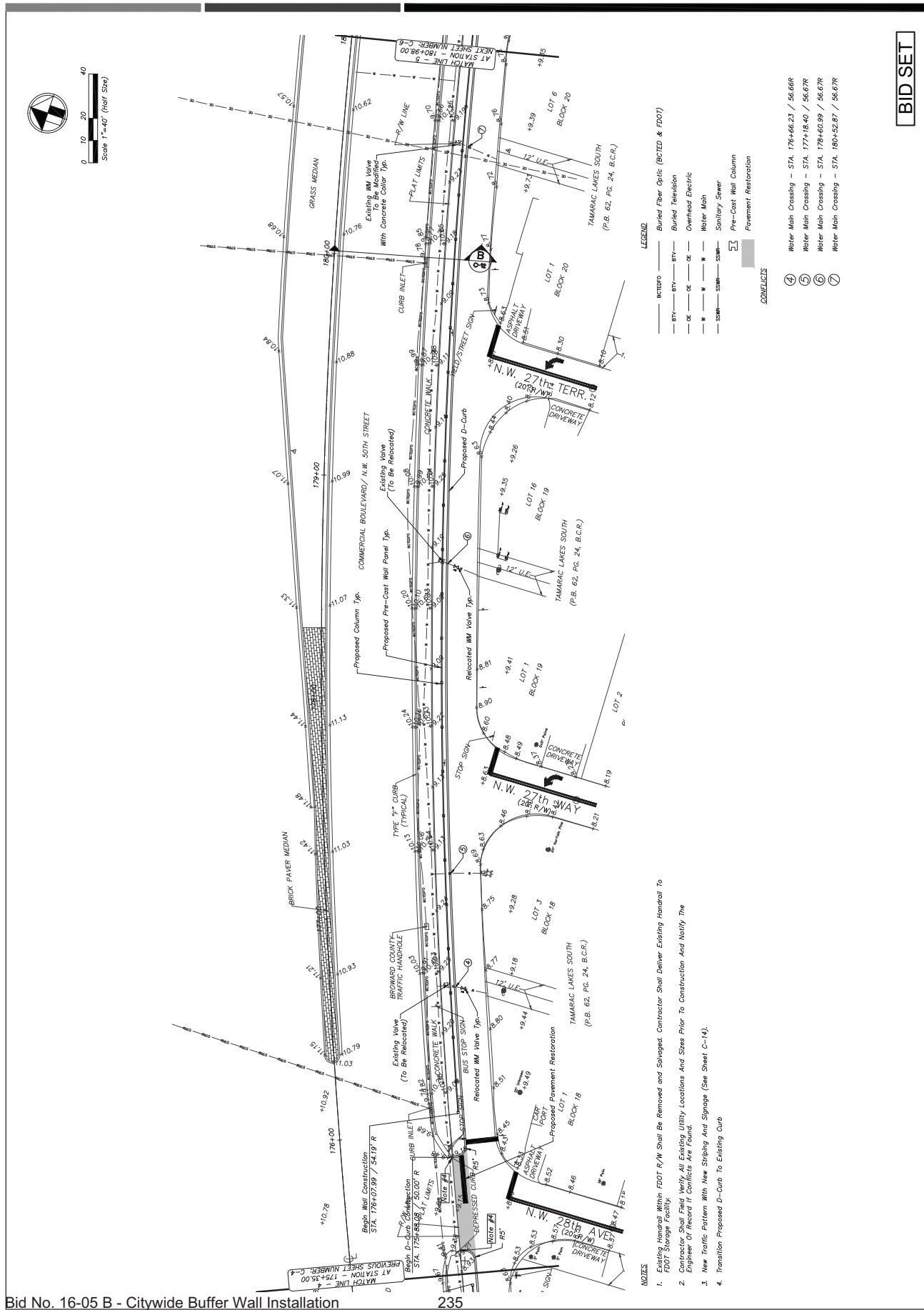


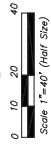
StanTec
21301 Pausline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
The contractor shall verify and be responsible for the accuracy of all data and information provided by the City of Tamarac. The City of Tamarac is not responsible for the accuracy of the information provided by the contractor. The contractor shall be responsible for the accuracy of the information provided by the contractor. The contractor shall be responsible for the accuracy of the information provided by the contractor.

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

CITY OF TAMARAC COMMERCIAL BLVD BUFFER WALLS 31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE NO.	
DRAWN BY	C.L.M.
CHECKED BY	M.O.A.
DATE	2/3/2016
ISSUE/REVISIONS	
SHEET TITLE	SITE PLAN
SHEET NUMBER	C-5





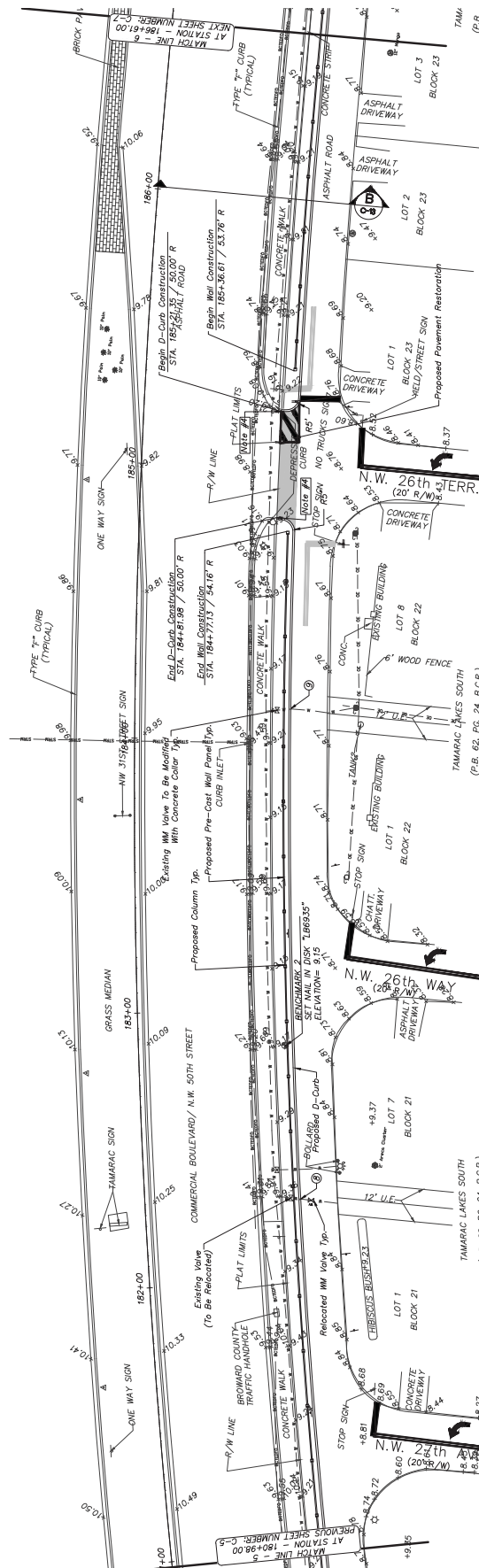
21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3486
www.stantec.com
Certificate of Authorization # 27013

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No.
DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED: M.O.A
DATE : 2/3/2016
ISSUE/REVISONS
SHEET TITLE
SITE PLAN
SHEET NUMBER
C-6



1. Existing Handrail Within FDOT R/W Shall Be Removed And Salvaged. Contractor Shall Deliver Existing Handrail To FDOT Storage Facility.
2. Contractor Shall Field Verify All Existing Utility Locations And Sizes Prior To Construction And Notify The Engineer Of Record If Conflicts Are Found.
3. New Traffic Pattern With New Striping And Signage (See Sheet C-14).

_____	BURIED FIBER OPTIC (BCTED & FDOT)
_____	BURIED TELEVISION
_____	OVERHEAD ELECTRIC
_____	WATER MAIN
_____	SANITARY SEWER
_____	Pre-Cast Wall Column
_____	Pavement Restoration

CONFLICTS

⑧ Water Main Crossing - STA. 182+29.36 / 56.67R

⑨ Water Main Crossing - STA. 184+11.18 / 56.67R

BID SET

9-

**Starline**

121301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # 27013

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76996

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

RAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A

DATE : 2/3/2016
SIE/REVISIONS

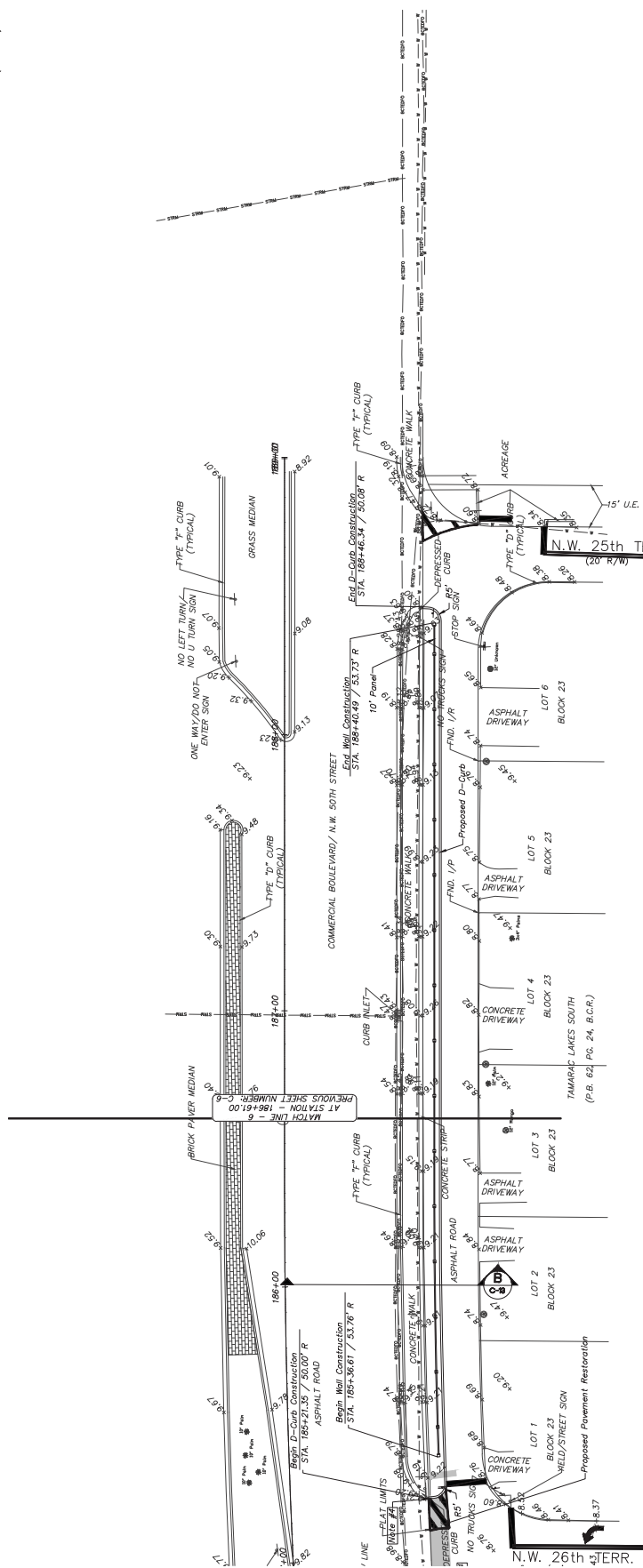
--	--

SHEET TITLE

SITE PLAN

SHEET NUMBER

C-7



NOTES

1. Existing Horizontal White FDOT R/W Shl Be Removed And Salvaged. Contractor Shall Deliver Existing Handrail To FDOT Storage Facility.
2. Contractor Shall Field Verify All Existing Utility Locations And Sizes Prior To Construction And Notify The Engineer Of Record If Conflicts Are Found.
3. New Traffic Pattern With New Striping And Signage (See Sheet C-14).
4. Transition Proposed D-Curb To Existing Curb

LEGEND

- | | |
|-------|-----------------------------------|
| _____ | BURIED FIBER OPTIC (BCTED & FDOT) |
| _____ | Buried Television |
| _____ | Overhead Electric |
| _____ | Water Main |
| _____ | Sanitary Sewer |
| _____ | Pre-Cast Wall Column |
| _____ | Pavement Restoration |

Bid No. 16-05 B - Citywide Buffer Wall Installation



Stantec

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice 561.467.3379 Fax 561.467.3466
www.stantec.com
Certificate of Authorization #27013

The Contractor shall verify and be responsible for the accuracy of the information contained herein. No errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are reserved by Stantec. No part of this document may be reproduced or used for any purpose other than that authorized by Stantec, Inc. or its affiliates.

MUSTAFA O. ALBASSAM, P.E.

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

FILE No. :

DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A

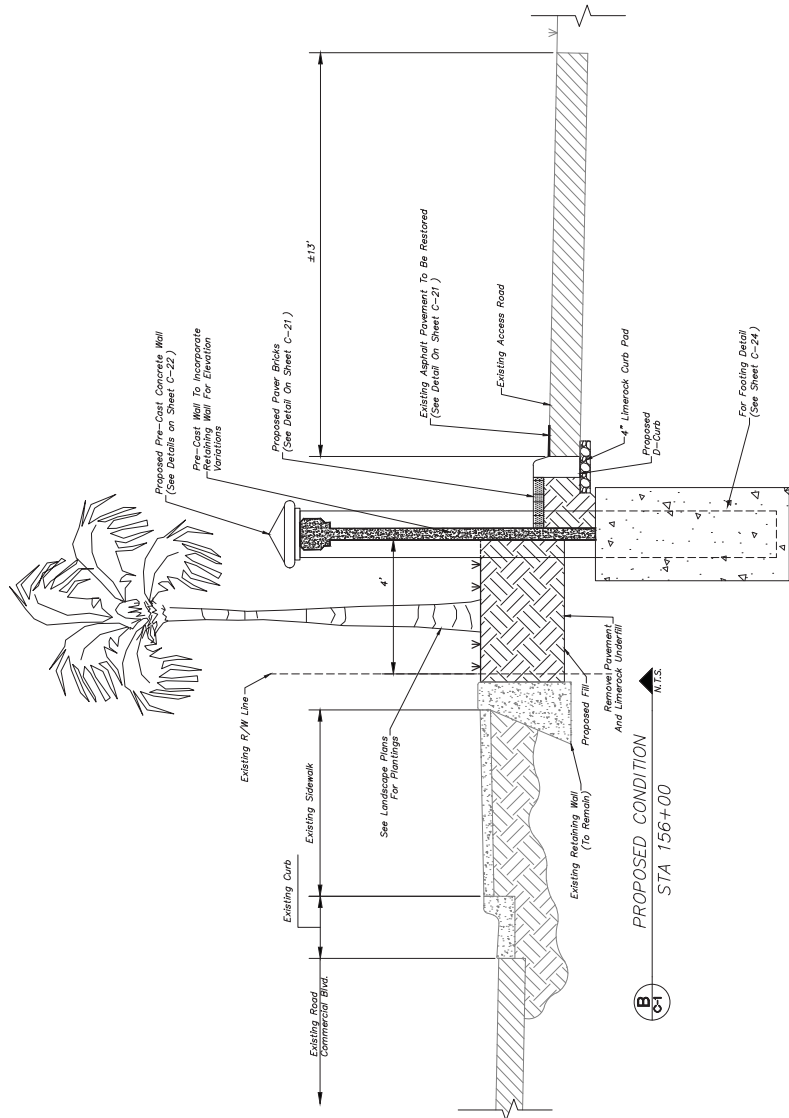
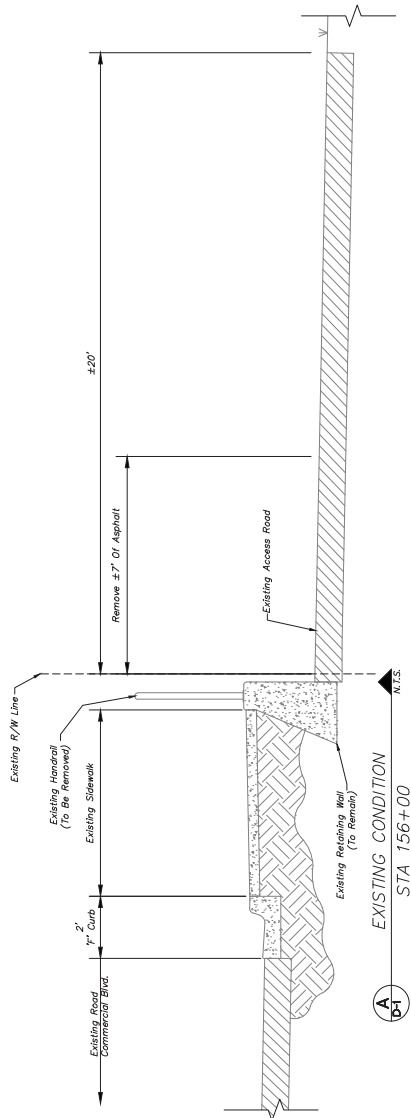
DATE : 2/3/2016

ISSUE/REVISIONS

A blank coordinate grid consisting of 8 vertical lines and 3 horizontal lines. The vertical lines are evenly spaced and extend across the top and bottom of the grid. The horizontal lines are also evenly spaced and extend across the width of the grid. The grid is used for plotting points and drawing graphs.

SHEET TITLE
CUT-SECTION
SHEET NUMBER

8-



BID SET

**Stantec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - only dimensions shall be used. All errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

3.

P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

FILE No. :

DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A

DATE : 2/3/2016

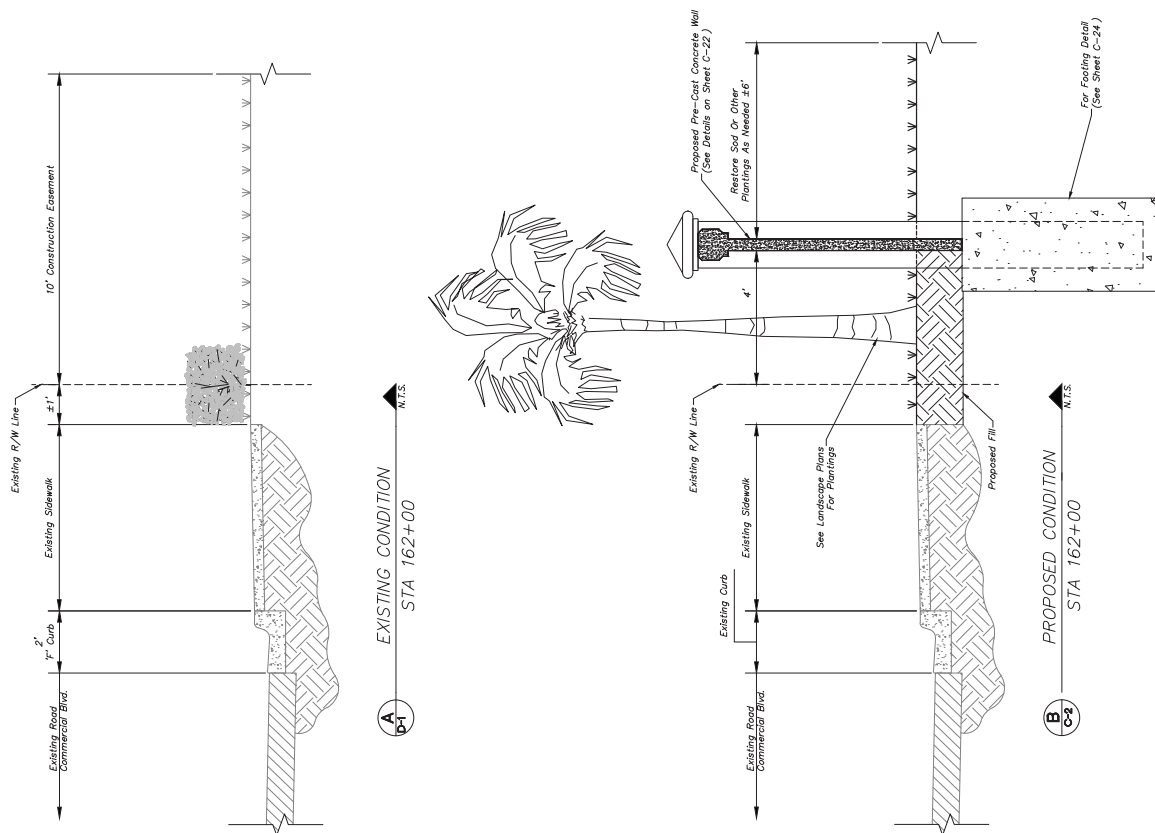
ISSUE/REVISIONS

SHEET TITLE

CUT-SECTION

SHEET NUMBER

9-



BID SET

**Stantec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466

The Contractor shall verify and be responsible for any dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

FA O. ALBASSAM, P.E.
P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

FILE No. : _____

DRAWN : C.L.M
REVIEWED: M.O.A

CHECKED: M.O.A
DATE : 2/3/2016

ISSUE/REVISIONS

[illegible]

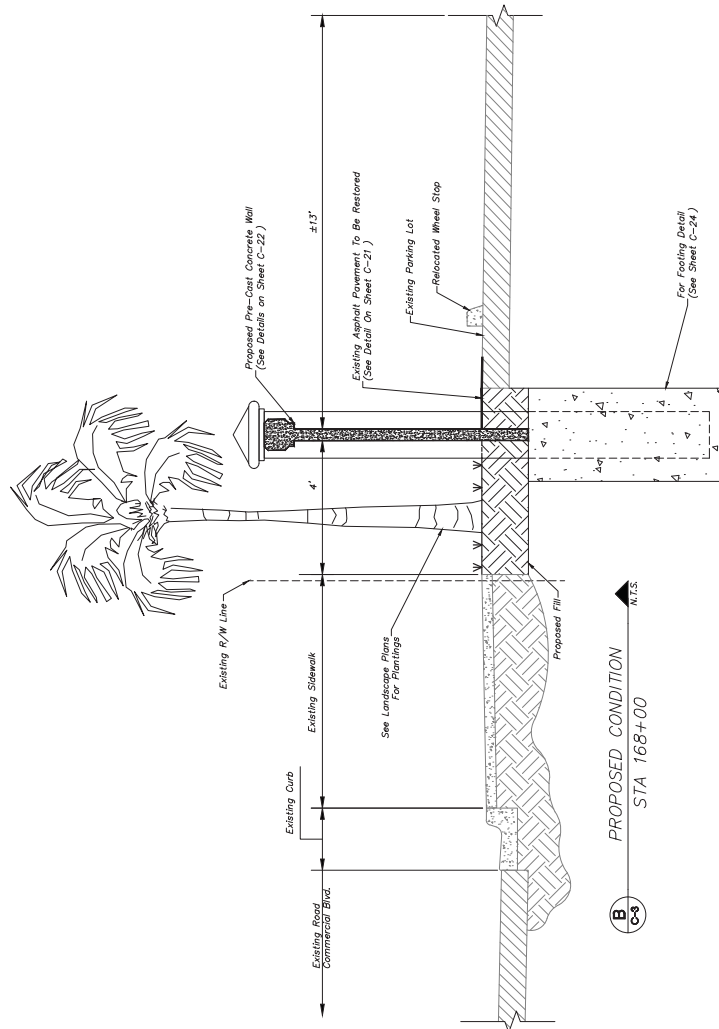
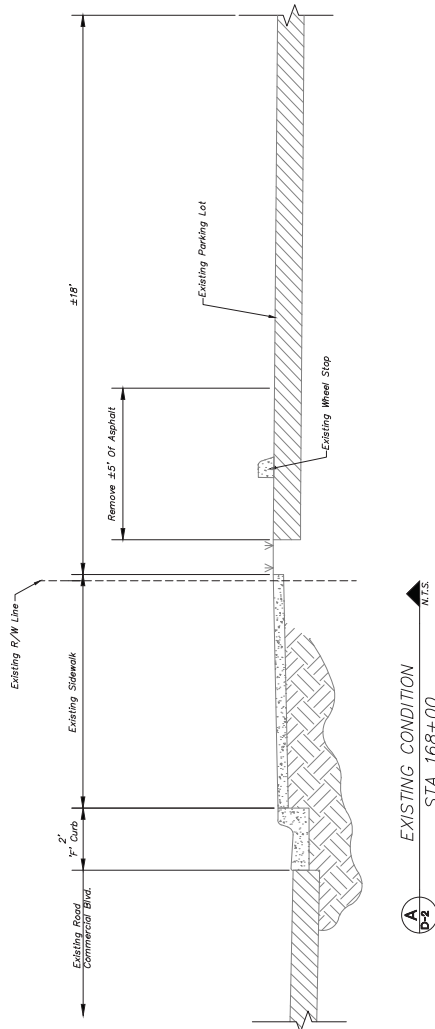
[illegible]

SHEET TITLE

CUT-SECTION

SHEET NUMBER

C-10



BID SET

**Starline**

11301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice 561.487.3379 Fax 561.487.3486
www.stantec.com
Certificate of Authorization # 27013

P.E. No. 76996

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

FILE No. :

DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A

DATE : 2/3/2016

ISSUE/REVISIONS

DATE : 2/3/2016
ISSUE/REVISIONS

[illegible][illegible][illegible][illegible][illegible]

SHEET TITLE

CUT-SECTION

NO11070-100

SHEET NUMBER

A
A
C

三〇

**Starline**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

FILE No. : _____

DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A

DATE : 2/3/2016

ISSUE/REVISIONS

[illegible][illegible]

|

SHEET TITLE

CUT-SECTION

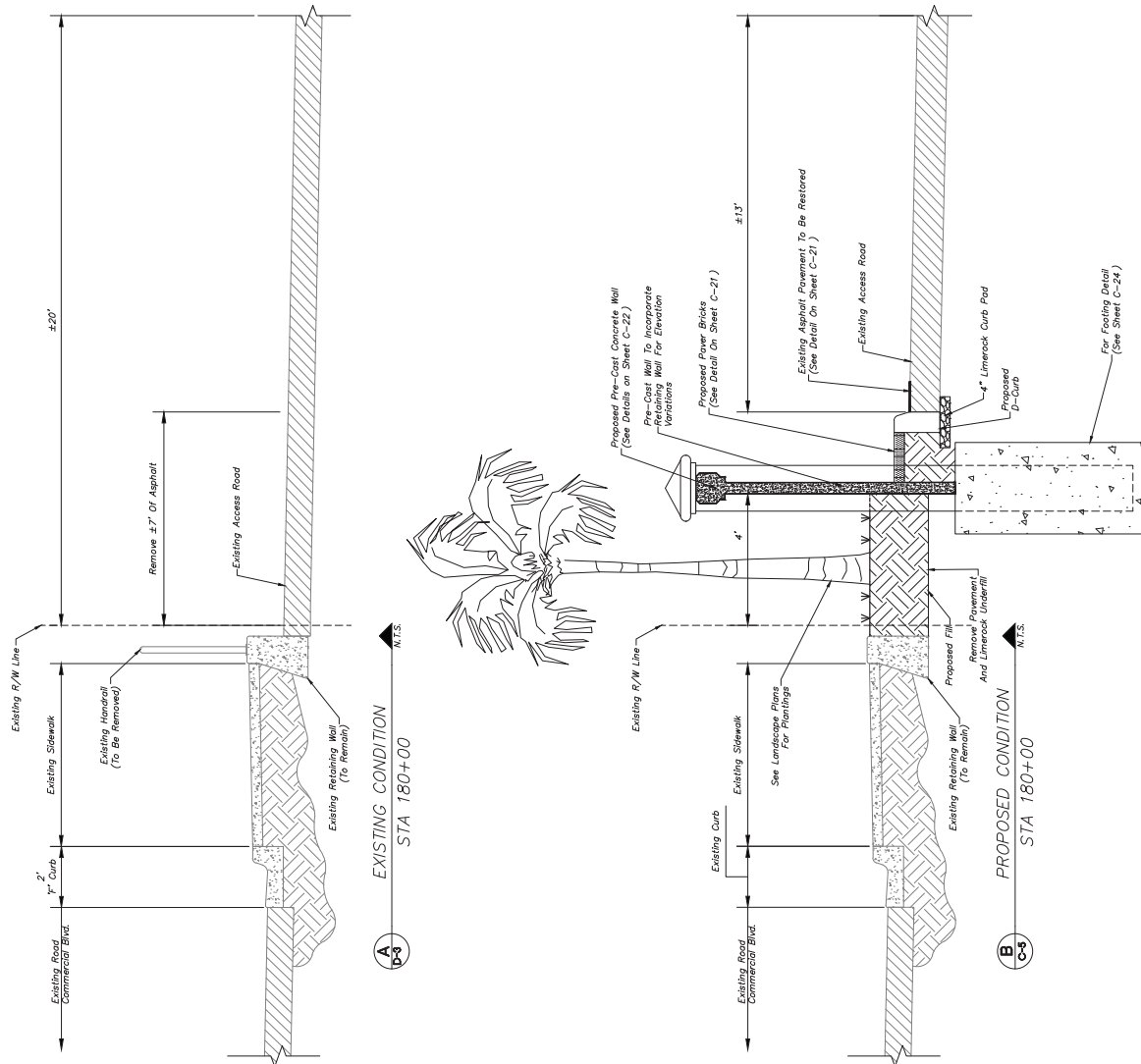
NI011070-100

SHEET NUMBER

SHEET NUMBER

C-12

BID SET



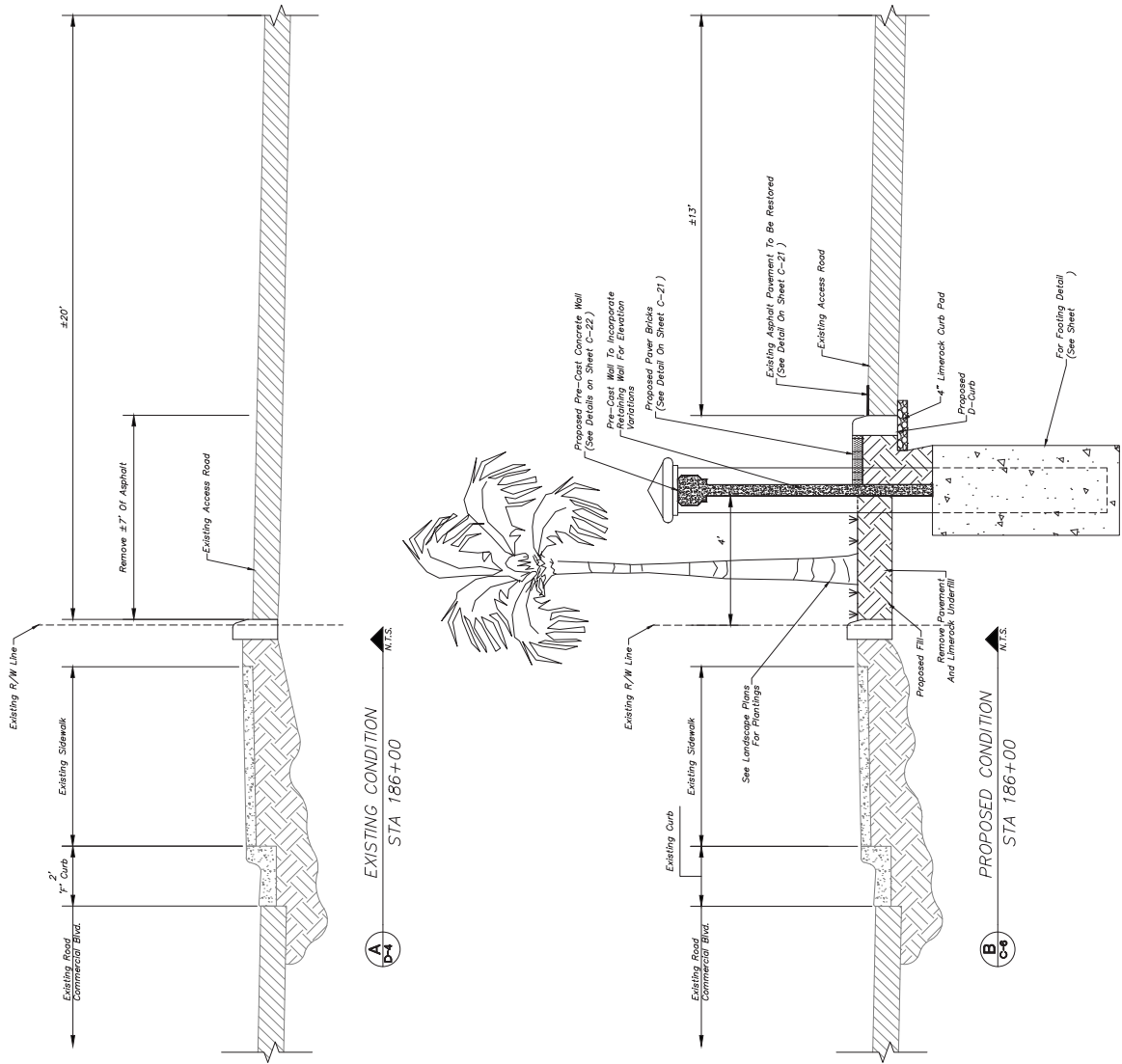


Stanitec
21301 Pausline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.1379 Fax: 561.487.1466
www.stanitec.com
Certificate of Authorization # 27113
The contractor shall verify and be responsible for the accuracy of all data and information provided by the City of Tamarac. The contractor shall be responsible for the accuracy of all data and information provided by the City of Tamarac. The contractor shall be responsible for the accuracy of all data and information provided by the City of Tamarac.

P.E. No. 76998

CITY OF TAMARAC
COMMERCIAL BLVD BUFFER WALLS
31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE NO. :	
DRAWN : C.L.M.	
REVIEWED: M.O.A.	
CHECKED: M.O.A.	
DATE : 2/3/2016	
ISSUE/REVISIONS	
SHEET TITLE	
CUT-SECTION	
SHEET NUMBER	C-13



BID SET

**Stanlec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466

Certificate of Authorization # 27013

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

MUSTAFA O. ALBASSAM, P.E.

P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No. :

FILE NO. :

DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A

DATE : 2/3/2016

ISSUE/REVISIONS

[illegible][illegible][illegible]

[illegible][illegible][illegible][illegible]

SHEET TITLE

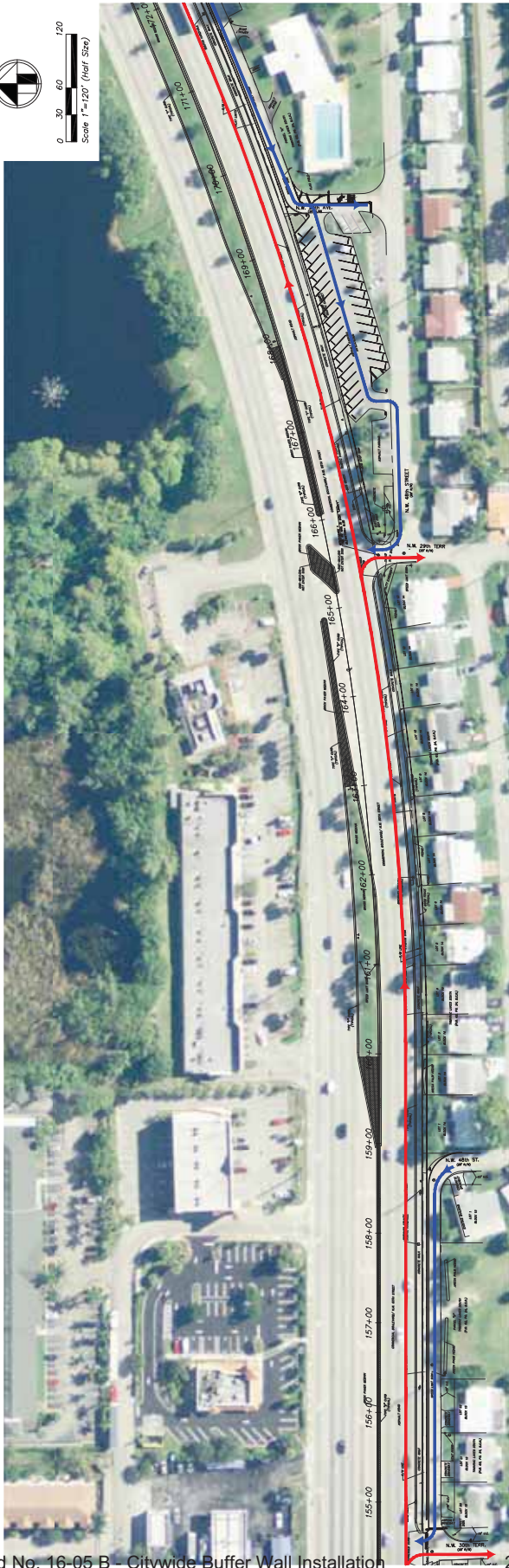
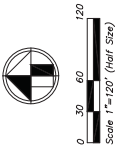
OVERALL TRAFFIC

PATTERN

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

SHEET NUMBER

C-14



BID SET

**Stamtec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # 27013

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

FILE No. :

DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A

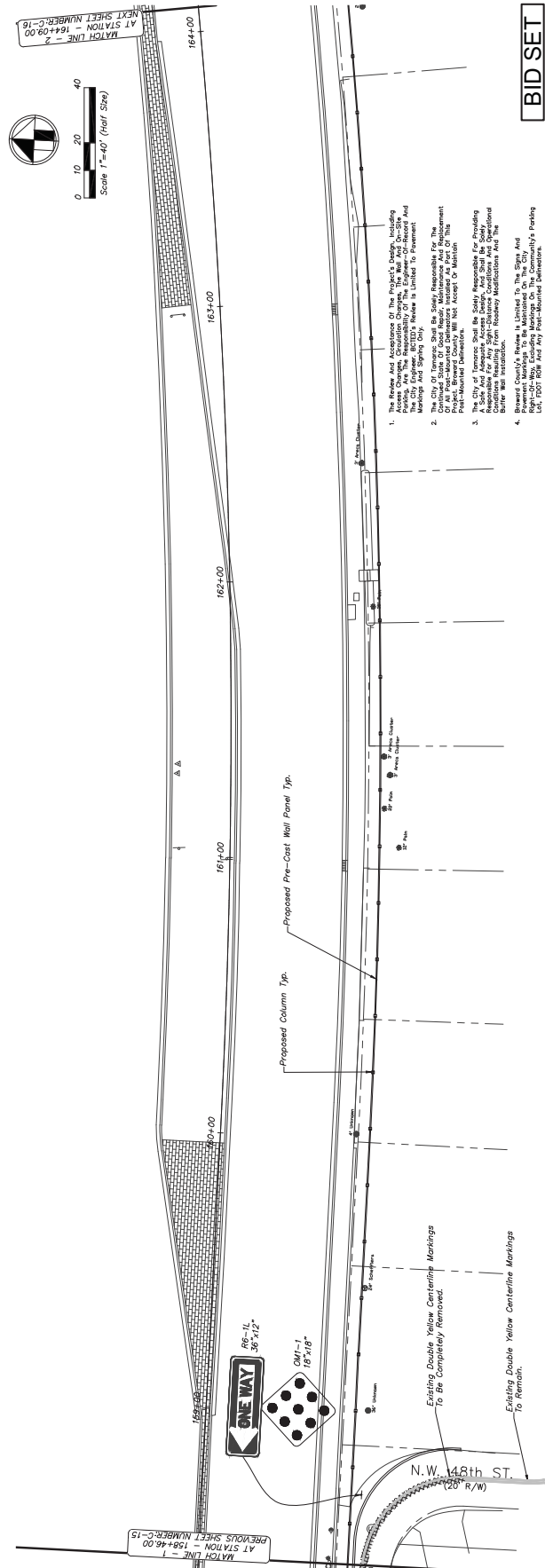
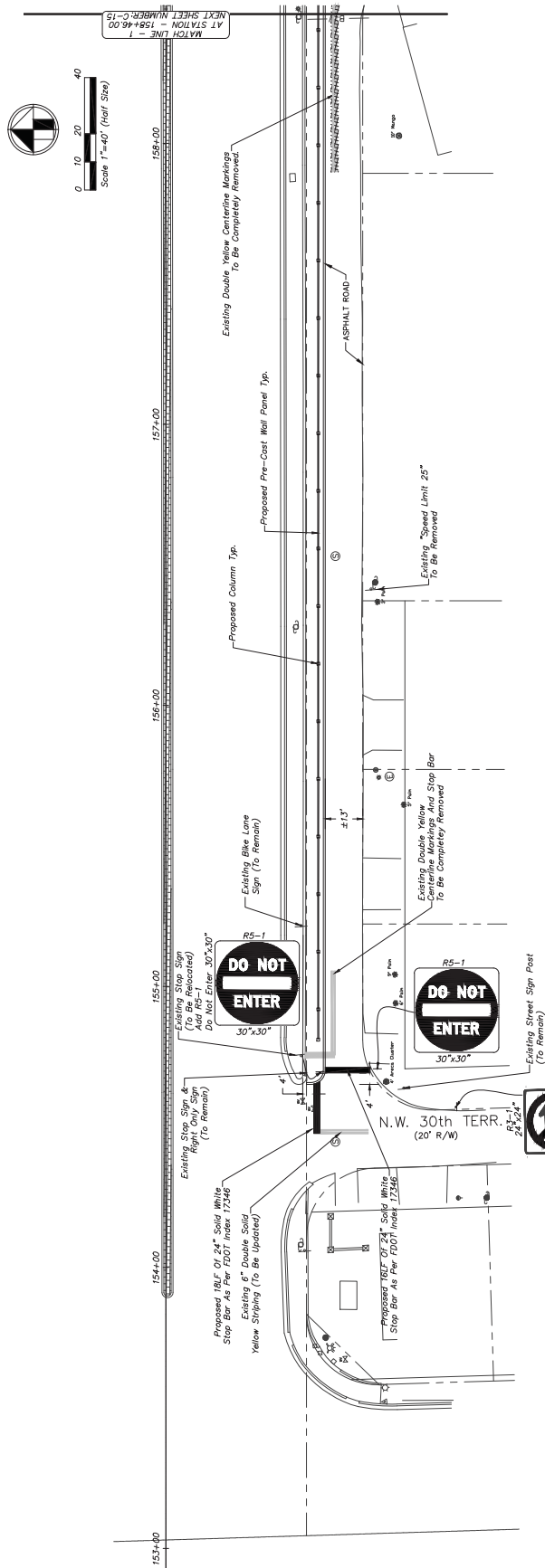
DATE : 2/3/2016

ISSUE/REVISIONS

A blank grid consisting of 8 vertical lines and 3 horizontal lines, creating a series of columns and rows for drawing.

SHEET TITLE
**STRIPING &
SIGNAGE PLAN**
SHEET NUMBER

C-15



1. The Review and Acceptance Of The Project's design, including Parking, Ave The Responsibility Of The Engineer, Of Payment The City Engineer. BCTD's Review Is Limited To Payment Markings And Signing Only.
2. The City Of Toronto Shall Be Solely Responsible For The Payment Of All Post-Mounted Demolition Costs As Part Of This Project. Broward County Will Not Accept Or Maintain Post-Mounted Demolition.
3. The City Of Toronto Shall Be Solely Responsible For Providing Conditions For Any Sight-Obscured Conditions And Operational Conditions Resulting From Roadway Modifications And The Barrier Wall Installation.
4. Broward County's Review Is Limited To The Signs And Right-Of-Way, Including Markings On The Community's Parking Lot, TPO ROW And Any Post-Mounted Demolition.

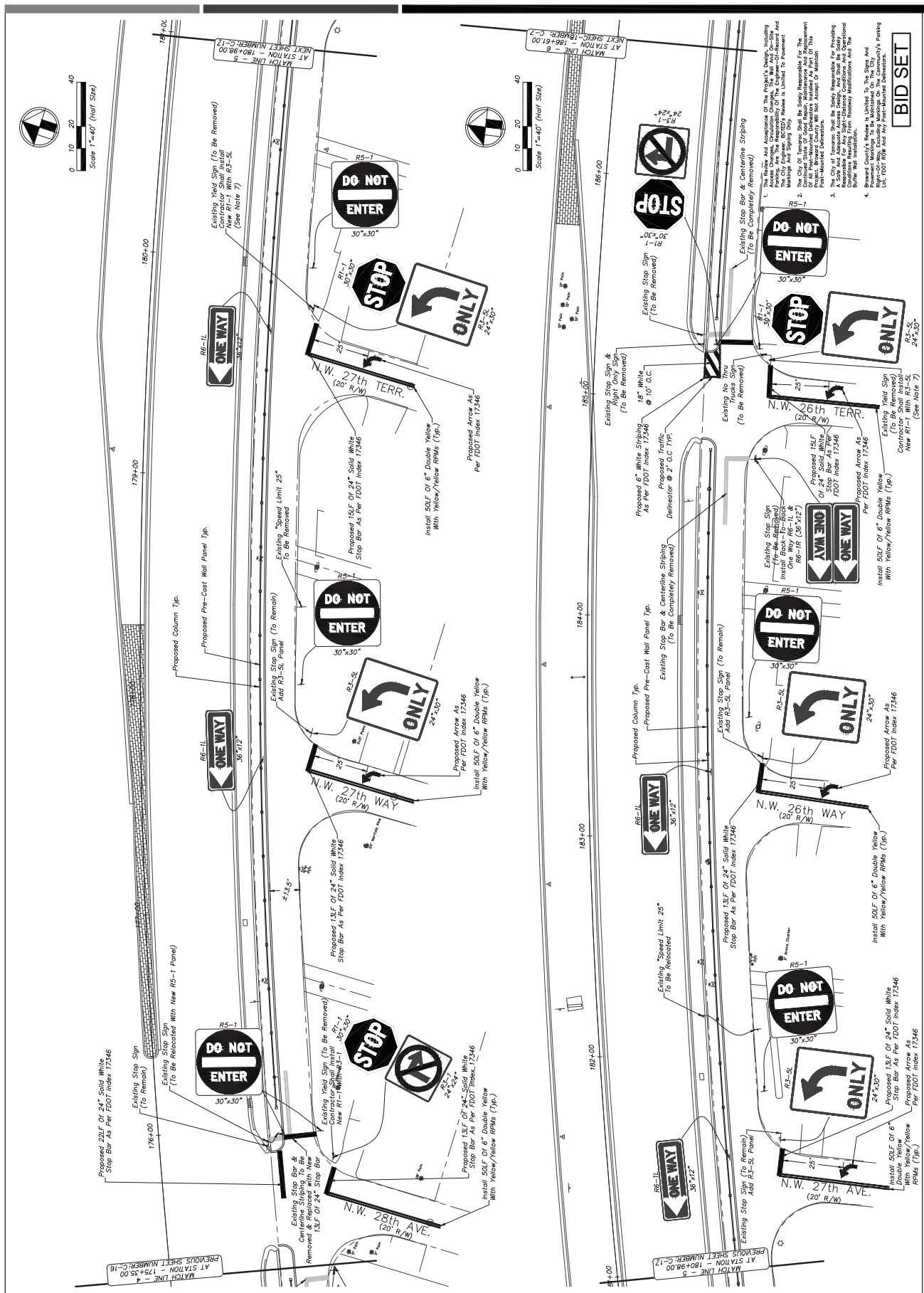


Startec
21301 Pousline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.startec.com
The contractor shall verify and be responsible for the accuracy of all data and information provided by the City of Tamarac. The City of Tamarac shall not be responsible for any errors or omissions in the data and information provided by the City of Tamarac. The contractor shall be responsible for obtaining all necessary permits and approvals from the City of Tamarac and the State of Florida. The contractor shall be responsible for obtaining all necessary permits and approvals from the City of Tamarac and the State of Florida. The contractor shall be responsible for obtaining all necessary permits and approvals from the City of Tamarac and the State of Florida.

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76988

CITY OF TAMARAC
COMMERCIAL BLVD BUFFER WALLS
31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE NO.	
DRAWN BY	C.L.M.
CHECKED BY	M.O.A.
DATE	2/3/2016
ISSUE/REVISIONS	
SHEET TITLE	STRIPING & SIGNAGE PLAN
SHEET NUMBER	C-17



Bid No. 16-05 B - Citywide Buffer Wall Installation

BID SET

**Stantec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466

Certificate of Authorization # 27013

MUSTAFA O. ALBASSAM, P.E.

P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

FILE NO. : 19C17

DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED: M.O.A

DATE : 2/3/2016

ISSUE/REVISIONS

A blank grid for drawing a picture. The grid consists of 10 vertical lines and 3 horizontal lines, creating a series of columns and rows. The first column on the left is slightly wider than the others. The grid is intended for a student to draw a picture related to their writing.

SHEET TITLE

PARKING LOT STRIPING

SHEET NUMBER

C-19



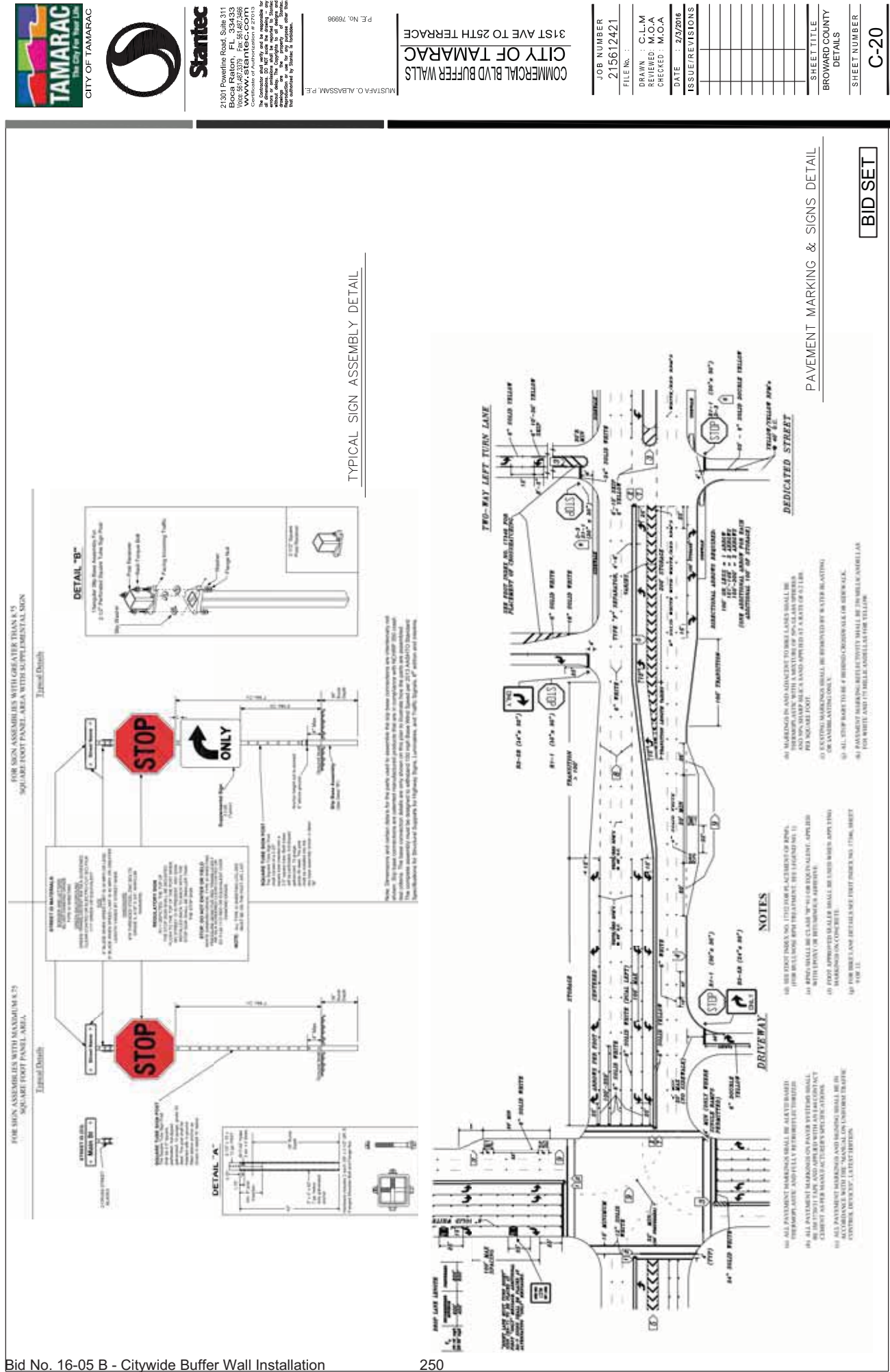
NOTES

1. Existing Handrail Within FDOT R/W Shall Be Removed And Salvaged. Contractor Shall Deliver Existing Handrail To FDOT Storage Facility.
2. Contractor Shall Field Verify All Existing Utility Locations And Sizes Prior To Construction And Notify The Engineer Of Record If Conflicts Are Found.

LEGEND.

- | Buried Fiber Optic (BCTED & FDOT) | |
|-----------------------------------|-----------------------------------|
| —BFO— | BFO— |
| —BTU— | BTU— |
| —OE— | OE— |
| —W— | W— |
| SSWS— | SSWS— |
| Sanitary Sewer | Water Main |
| Sanitary Sewer | Buried Television |
| Sanitary Sewer | Buried Fiber Optic (BCTED & FDOT) |

6' Pre-Cast Wall Column





ADDITIONAL CURRENT PRACTICES

1. SCOUR TESTS SHALL BE REQUIRED AT A MINIMUM ON THE 200, 100, AND 50 MESH SIZES AND PERFORMED IN AN APPROVED AQUIPACT LABORATORY AT THE CONTRACTOR'S EXPENSE.
2. EXISTING 100 AND 200 MESH SANDS SHALL BE REFINED TO CONFORM TO THE SPECIFICATIONS.
3. EXISTING 100 AND 200 MESH SANDS SHALL BE TOOLED OR CUT EVERY 100 TO 150 FEET.
4. ALL AREAS OF EXPOSED SAND SHALL BE BACKFILLED WITH 75 WEIGHTS OF PLASTICS.

**Stanlec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # Z70-13

P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

21012421

DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A

DATE : 07/00/00

NOI 31 VER 3113

ISSUE/REVISION

[illegible]

[illegible]

[illegible]

	U
	-
	H
	-
	H
	-
	U
	-
	C

11/11/11
SHEET 11 OF 11

WALL
DETAILS

DETAILS

SHEET NUMBER

C-22

770

**Stanlec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice 561.487.3379 Fax 561.487.3466
www.stantec.com
Certificate of Authorization #27013

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

FILE No. :

DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A

DATE : 2/3/2016

ISSUE/REVISIONS

ISSUE/REVISIONS

[illegible]

|

[illegible][illegible]

SHEET TITLE

WALI SHEET 11

WALL

DETAILS

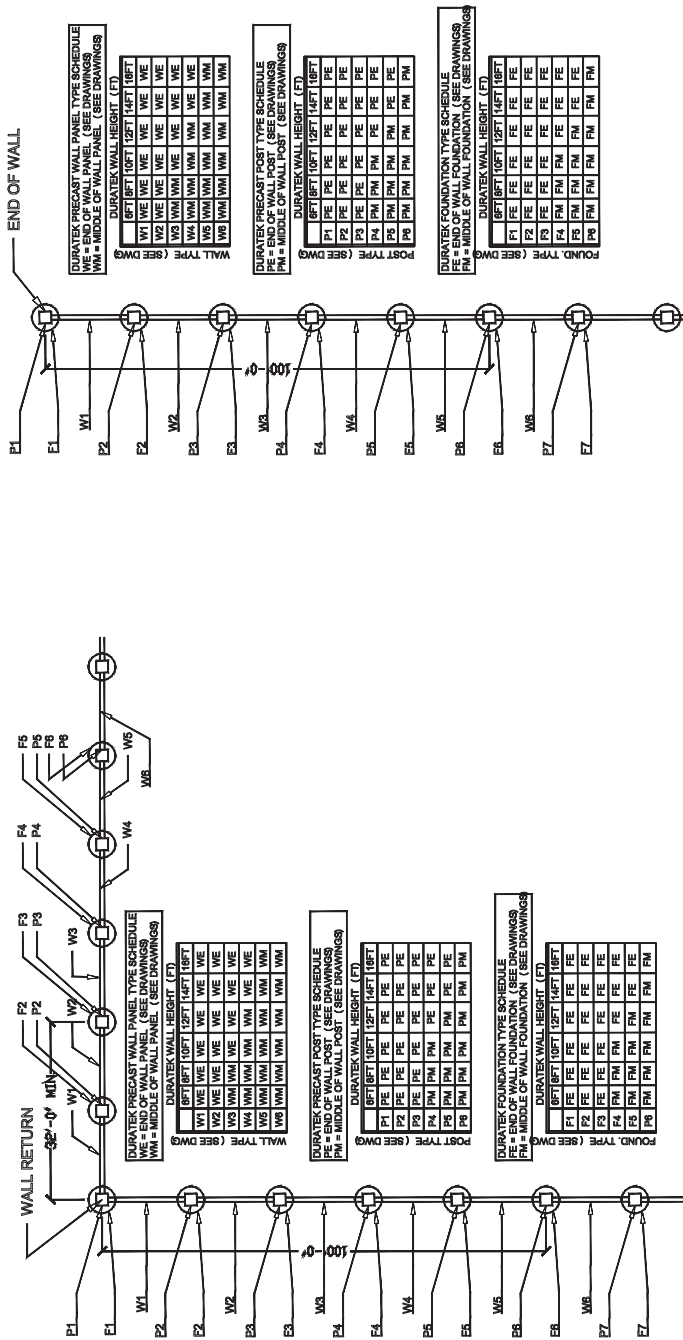
SHEET NUMBER

300

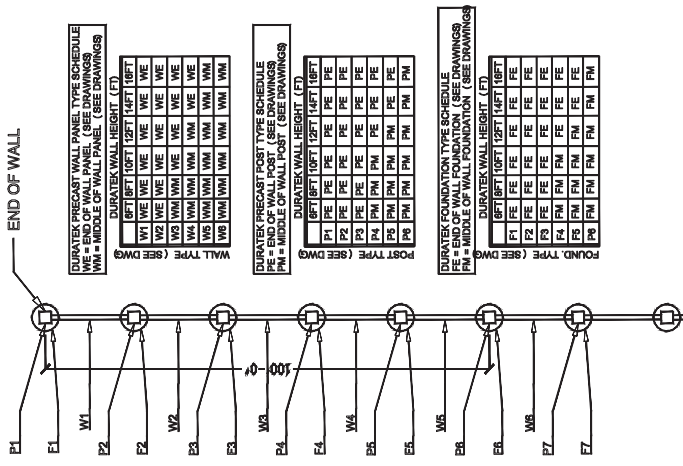
C-24

50

BID SET



WALL PANELS, POST AND FOUNDATION TYPE SCHEDULE
SCALE: N.T.S



WALL PANELS, POST AND FOUNDATION TYPE SCHEDULE
SCALE: N.T.S



Stantec

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com

Certificate of Authorization # 27013

The Contractor will verify and be responsible for the accuracy of the information provided herein. No errors or omissions shall be reported to Stantec without 48hrs. The Copyrights to all designs and drawings shall remain the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is prohibited.

MUSTAFA O. ALBASSAM, P.E.
P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE No. :	
DRAWN : C.L.M.	
REVIEWED : M.O.A	
CHECKED : M.O.A	
DATE : 2/3/2016	
ISSUE/REVISIONS	
SHEET TITLE	WALL DETAILS
SHEET NUMBER	C-26

1. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS, THE CURRENT EDITION OF THE FLORIDA DOT DESIGN STANDARDS (600 SERIES), THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES DATED DECEMBER 2009 AS A MINIMUM CRITERIA.

2. CONTRACTOR SHALL FOLLOW THE FLORIDA DOT INDEX 613 FOR LANE CLOSURE AND SUBMIT MOT PLANS FOR APPROVAL PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL IMMEDIATELY REPAIR ALL POTHOLES THAT DEVELOP WITHIN THE PROJECT LIMITS AND SHALL MAINTAIN A SUPPLY OF COLD MIX ON THE PROJECT SITE TO EXPEDITE THOSE REPAIRS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORM WATER FROM ROADWAYS UTILIZED FOR MAINTAINING TRAFFIC IN A MANNER APPROVED BY THE ENGINEER.
4. NOTIFICATION OF LANE CLOSURES, TEMPORARY DETOURS, AND TRAFFIC DISRUPTION WHICH ARE NOT SHOWN ON THE TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE DISTRICT TRAFFIC OPERATIONS OFFICE.
5. THROUGH THE TRAFFIC ENGINEER TO THE DISTRICT TRAFFIC OPERATIONS OFFICE.
6. THE CONTRACTOR SHALL CONTACT THE CITY OF TAMPA AT LEAST TEN WORKING DAYS PRIOR TO A LANE CLOSURE/CONTACT WITH LOCAL POLICE, FIRE RESCUE AND AMBULANCE SERVICES 48 HOURS PRIOR TO ANY AND ALL LANE SHIFTS AND OR CLOSURES. AT THE DISCRETION OF THE ENGINEER, IF A LANE CLOSURE CAUSES EXCEEDING CONGESTION OR DELAYS, THE CONTRACTOR SHALL BE DIRECTED TO REOPEN THE CLOSED LANES UNTIL SUCH TIME THAT THE TRAFFIC FLOW HAS RETURNED TO AN ACCEPTABLE LEVEL.
7. ALL LANES MUST REMAIN OPEN FOR TRAFFIC DURING AN EVACUATION NOTICE OF A HURRICANE OR OTHER CATASTROPHIC EVENT AND SHALL REMAIN OPEN FOR THE DURATION OF THE EMERGENCY AS DIRECTED BY THE ENGINEER.
8. THE TRAFFIC AND TRAVEL WAY SHALL NOT BE ALTERED BY THE CONTRACTOR TO CREATE A WORK ZONE UNTIL ALL LABOR AND MATERIAL ARE AVAILABLE FOR THE CONSTRUCTION IN THAT AREA.
9. LANE CLOSURE MODIFICATIONS INCLUDING CLOSURES BEYOND APPROVED TIMES OR ADDITIONAL LANES, WILL NEED TO REQUEST PERMISSION FROM THE ENGINEER.
10. REGULATORY SPEED ESTABLISHED WITHIN WORK ZONE TRAVEL WILL BE MAINTAINED AS THE EXISTING REDUCED SPEED AND REGULATORY SPEED SIGNS SHALL BE INSTALLED ON SEPARATE POSTS IN ACCORDANCE WITH THE STANDARD INDEXES.
11. UNCONVEYING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
12. THE CONTRACTOR SHALL COVER WORK ZONE SIGNS WHEN CONDITIONS NO LONGER WARRANT THEIR USE. COST OF COVERING AN UNCONVEYING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
13. CONTRACTOR SHALL RELOCATE OR COVER ANY EXISTING OR PROPOSED SIGNS THAT COME INTO THE TRAFFIC COVERING TEMPORARILY. THE CONTRACTOR SHALL RESTORE THE SIGNS TO THEIR ORIGINAL POSITION. COST OF RELOCATING OR COVERING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
14. ANY EXISTING STREET NAME AND STOP SIGN AFFECTED BY CONSTRUCTION SHALL BE RELOCATED AND MAINTAINED IN AN APPROPRIATE LOCATION FOR THE DURATION OF THE PROJECT. WHEN NO LONGER AFFECTED BY CONSTRUCTION, THESE SIGNS SHALL BE RESTORED TO THEIR ORIGINAL POSITION. COST OF TEMPORARILY RELOCATING AND RESTORING THE SIGNS SHALL BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.
15. THE CONTRACTOR SHALL MAINTAIN SAFE VEHICULAR ACCESS TO ALL ADJACENT PROPERTY AT ALL TIMES AND SHALL MAINTAIN ACCESS TO BUSINESSES AND RESIDENCES SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY ALL CONCERNED UTILITIES COMPANIES PRIOR TO WORKING NEAR THEIR EXISTING FACILITIES.

1. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING REFLECTORIZED RAISED PAVEMENT MARKERS (RPM'S) USING TEMPORARY RPM'S. RPM SPACING SHALL BE PLACED ACCORDING TO EITHER AS EXISTING STANDARD INDEX 600 SERIES OR STANDARD INDEX 17346. THE CONTRACTOR SHALL PROVIDE TEMPORARY PAVEMENT MARKINGS INDICATING LANE LINES AND STORAGE AREAS FOR TURNING MOVEMENTS. PAVEMENT MARKINGS SHALL COMPLETELY DEFINE TRAFFIC DURING AND AT THE END OF THE WORK PERIOD.

1. TEMPORARY LANE SHIFTING AND CROSSOVERS SHALL HAVE SOLID LANE AND EDGE LINES FOR THE LENGTH OF THE TRANSITION. TRANSITION SHIFTS AND CROSSOVERS SHALL BE THROUGH INTERSECTIONS WHERE 2-4 FT. SWP LINES WILL BE TEMPORARY.
2. TEMPORARY RAISED PAVEMENT MARKERS (RPM'S) SHALL BE INSTALLED ON THE EDGE, CENTER AND LANE LINES OF ALL CROSSOVERS, TRANSITIONS, AND TANGENT SECTIONS WITHIN THE WORK ZONE WHERE THE VEHICLE PATHS ARE ALTERED. THE SPACING FOR THESE RPM'S SHALL BE 100 FT. ON THE TANGENT SECTION BEYOND EACH END OF THESE CROSSOVERS OR TRANSITION AREAS. THE RPM'S SHALL EXTEND 100 FT. ON THE TANGENT SECTION BEYOND EACH END OF THESE CROSSOVERS OR TRANSITION AREAS.
3. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING A BLUE/BLUE RPM IN FRONT OF ALL FIVE HYDRANTS WITHIN PROJECT LIMITS.
4. THE USE OF BLACK PAINT TO COVER EXISTING PAVEMENT MARKINGS IS PROHIBITED. ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THE PROPOSED STOPPING & SLOWING PLANS SHALL BE REMOVED BY SAW BLASTING OR WATER BLASTING.
5. INSTALL CONSTRUCTION SLOWING PRIOR TO COMMENCEMENT OF CONSTRUCTION AND MAINTAIN SLOWING DURING ALL PHASES OF CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING A CLEAN/CLEAR RPM IN FRONT OF ALL RECALLED WATER VALVES.

1. THE CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION AT ALL TIMES BY USING EXISTING DRAINAGE SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STANDING WATER FROM THE ROADWAY, ADDITIONAL DRAINAGE ITEMS MAY BE USED AT THE DIRECTION OF THE ENGINEER. COST TO BE INCLUDED IN MAINTENANCE OF TRAFFIC PAY ITEM.

ALL NOT PLANS MUST BE APPROVED BY THE CITY OF TAMARAC ENGINEERING DEPARTMENT AND APPROPRIATE GOVERNMENT AGENCIES.



11301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Slantec without delay. The Copyrights to all designs and drawings are the property of Slantec. Reproduction or use for any purpose other than that authorized by Slantec is forbidden.

MUSTAFA O. ALBASSAM, P.E.

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

FILE No. :

AWN : C.L.M
VIEWED: M.O.A
ECKED : M.O.A

DATE : 2/3/2016

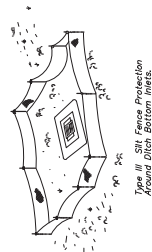
[illegible]

SHEET TITLE

NOT GENERAL
NOTES

C-27

1. The Contractor is Required to Adhere To the Requirement Of The National Pollution Discharge Elimination System (NPDES). The Contractor Shall Institute Best Management Practices (BMPs) To Ensure Compliance with the NPDES. A Notice Of Intent (NOI) Shall Be Filed Prior To Beginning Construction Activities.
2. Prior To Construction, A Silt Fence As Described With FDOT Item 102 (latest Version) Type III Silt Fence Will Be Erected Along The Perimeter Of The Construction Site As Determined By The City Engineer.
3. All Existing and Proposed Catch Basins Will Have Their Inlets Protected By The Installation Of Filter Fabric Into The Frame And Grate.
4. This Silt Fence And Filter Fabric Will Remain In Place During The Entire Duration Of Construction.
5. Contractor Will Brace All Existing Landscaping To Remain Prior To Beginning Any Work And Will Ensure their Stabilization Throughout The Entire Construction Period. Proposed Grading Will Be Restored To Its Original State Upon Completion Of Construction. Sloped Steep Slopes Steeper Than 4 Horizontal To 1 Vertical Will Be Flagged.
6. All Material Generated From The Construction Shall Be Shipped In Compliance With Applicable Codes And Regulations. The Contractor Shall Be Required To Obtain All Applicable Codes And Become Familiar With State, Local And Federal Regulations Pertaining To Environmental Remediation Management And Department Of Environmental Protection.
7. To Ensure That Off-site Water Tracking Of Sediments And The Generation Of Dust Is Minimized, Contractor Is To Put Into Practice The Methods Detailed In Appendix A (Index 106 (Latest Version) Or Unless Approved By The City Engineer Of Record).
8. Dust Generated From Construction Will Be Minimized.
9. At Any Time During Construction That The Silt Fencing Is Disturbed, The Silt Fencing During Construction Shall Not Be Performed Without The Integrity Of The Silt Fencing Secured.
10. A Surface Inspector, Provided By The City, Shall Inspect All Points Of Discharge Into Sanitary Winer. The Inspection Will Occur At Least Once Every Seven Calendar Days. The Inspection Will Include The Visual Recording Of The Condition Of All Discharge Points, Integrity Of Silt Fencing, Daily Dust Control Measures, Vehicular Traffic And The Inspection Of The City During Construction.
11. The Inspection Report Will Include, But Is Not Limited To, The Following Information: Name And Qualification Of Personnel Making The Inspection, Date Of Inspection, Location, Description Of Noncompliance With Permit, Where Action Is Required, And Signature Of Inspector. The Inspection Report Will Be Taken By The Contractor And Retained For A Minimum Of 90 Days After Completion Of Construction. The Contractor Shall Not Identify Any Incident Of Noncompliance. The Report Shall Be Signed And Certified That The Facility Is In Compliance With The Silt Fence And The Permit.
12. The Permit Shall Require A Copy Of The Signage And All Reports, Reports And Documentation Relating To The Permit At The Construction Site, or in the Appropriate Alternative Location as Specified in the Notice of Intent. From The Relinquishing Copy Of Signage And All Reports Required By This Permit, and Records Of All Data Used To Complete The Notice Of Intent To Be Covered By The Permit, The Contractor Shall Retain A Minimum Of One (1) Year From The Date That The Permit Is Stabilized.



Type III Silt Fence Protection
Around Ditch Bottom Inlets.



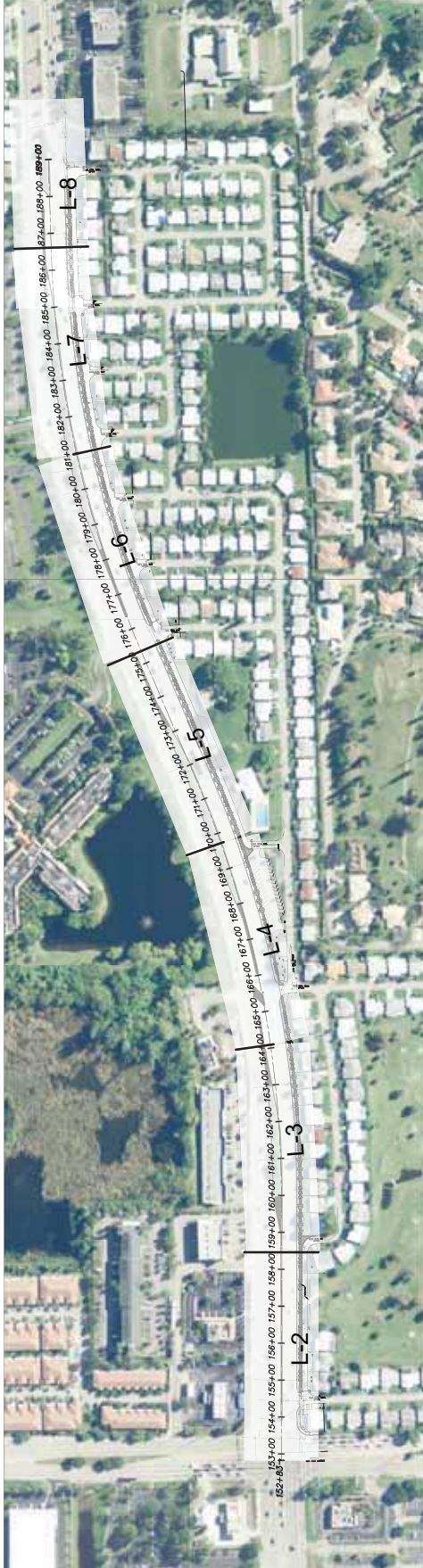
Note: Spacing for Type III Fence to be in accordance with Index 102, Sheet 3 of 3

Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

SILT FENCE APPLICATIONS

JOB NUMBER
215612421
FILE No. :
DRAWN : C.L.M.
REVIEWED : M.O.A
CHECKED : M.O.A
DATE : 2/3/2016
ISSUE/REVISONS
SHEET TITLE
SWPPP
SHEET NUMBER
C-28







LANDSCAPE SHEET KEY



LANDSCAPE SHEET TABLE

[illegible]

LANDSCAPE PLANTING SCHEDULE

TREES	CODE	BOTANICAL NAME	COMMON NAME	CAL.	SIZE	INFO	QTY	REMARKS	
	AMX	Acacia drepanolobium	Chickweed Palm	-	10'-12' OA HL	Single Straight Trunk	57		
	SPX	Sabal palmetto	Caribbean Palm	-	15' CT	Single Straight Trunk, Slick, HC	64		
	WBX	Wodyetia bifurcata	Fox tail Palm	-	12' GW	Single Straight Trunk	51		
SOB AND MULCH	CODE	BOTANICAL NAME	COMMON NAME	CONT	SIZE	INFO	SPACING	QTY	REMARKS
	PAS	Persea nana	Banua Grass	sod		Sod Sod, Sand Green, Lat. Ribbed; F fine of Weeds and Pests		572 sf	Contractor to Verify Quantity (SF)
	MUL	Shaded Red Mulch			3' Depth	Uniform		3,686 sf	Contractor to Verify Quantity (CY)
	STE	Stenotaphrum secundatum "Fortran"	Fortran St. Augustine Sod	sod		Sod Sod, Sand Green, Lat. Ribbed; F fine of Weeds and Pests		9,889 sf	Contractor to Verify Quantity (SF)

NOTES:

1. CONTRACTOR TO PROVIDE 90 ESTABLISHMENT PERIOD FROM TIME OF FINAL ACCEPTANCE [TO BE APPROVED BY OWNER OR OWNER'S REP.]
2. CONTRACTOR TO PROVIDE ONE YEAR WARRANTY FOR ALL LANDSCAPE MATERIAL.

BID SET



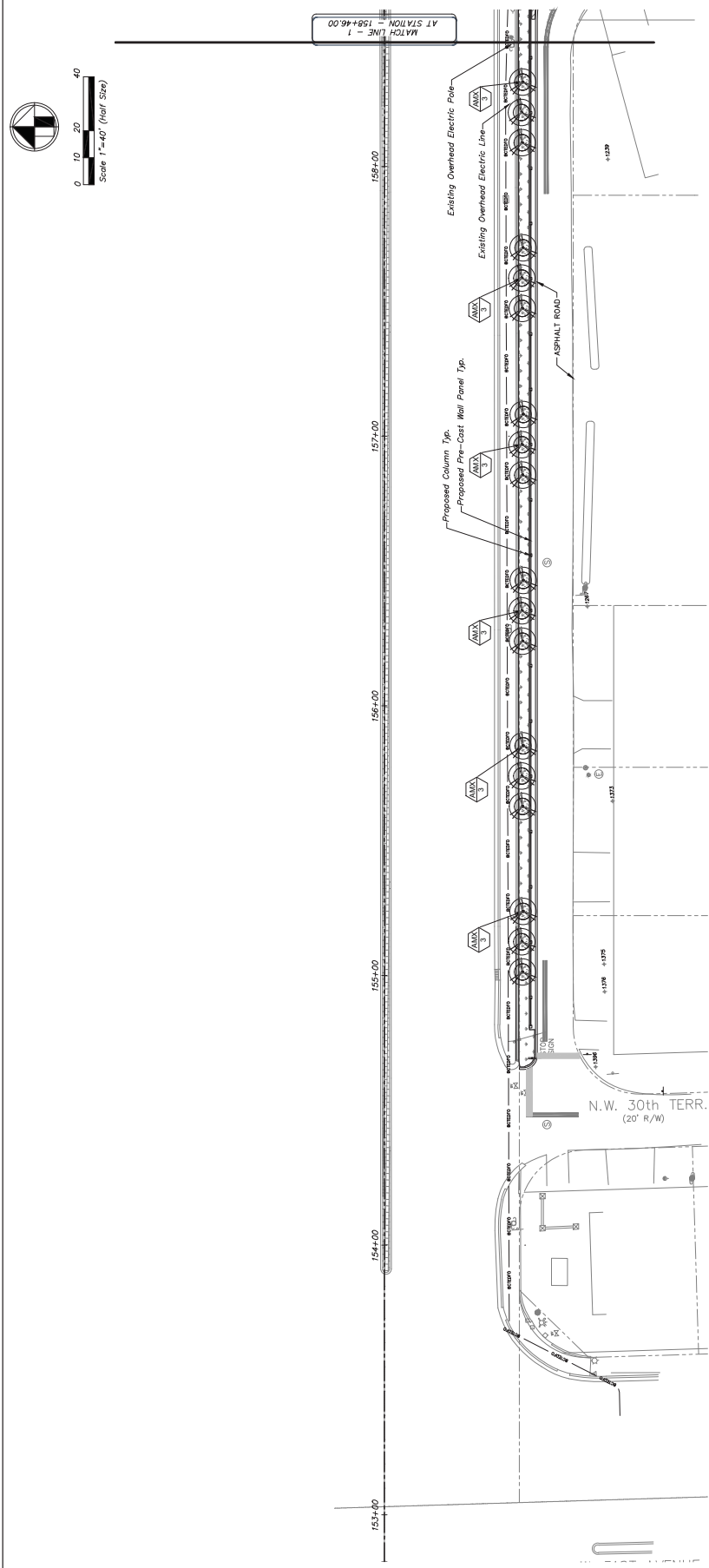
Stantec
21301 Powerline Road, Suite 311
Boca Raton, FL 33433
www.stantec.com
www.stantec.com

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
www.stantec.com
www.stantec.com

ADAM S. MARKLE, L.A.
FLORIDA L.P.C. NO. 6667096

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE No.	
DRAWN	TK
REVIEWED	AM
CHECKED	AM
DATE	11/18/2015
ISSUE/REVISIONS	
SHEET TITLE	PLANTING PLAN
SHEET NUMBER	L-2



PLANT SCHEDULE	
TREES	CODE BOTANICAL NAME
	AMX Adiantum species Christmas Palm
	SPX Salix palmis Cabbage Palm
	WBX Wodyetia bifurcata Foxtail Palm
SOD AND MULCH	
CODE BOTANICAL NAME	
PAS	Paspalum notatum Bahia Grass
MUL	Shredded Red Mulch
SITE	
	Bambusa nana Bambusa nana
	Portulaca oleraceae Portulaca
	Portulaca oleraceae Portulaca

LEGEND	
— BFO —	BFO Buried Fiber Optic (BCTD & FDOT)
— BTM —	BTM Buried Television
— OE —	OE Overhead Electric
— W —	W Water Main
— SWM —	SWM Sanitary Sewer
— 6' —	6' Pre-Cast Wall Column



Startlec

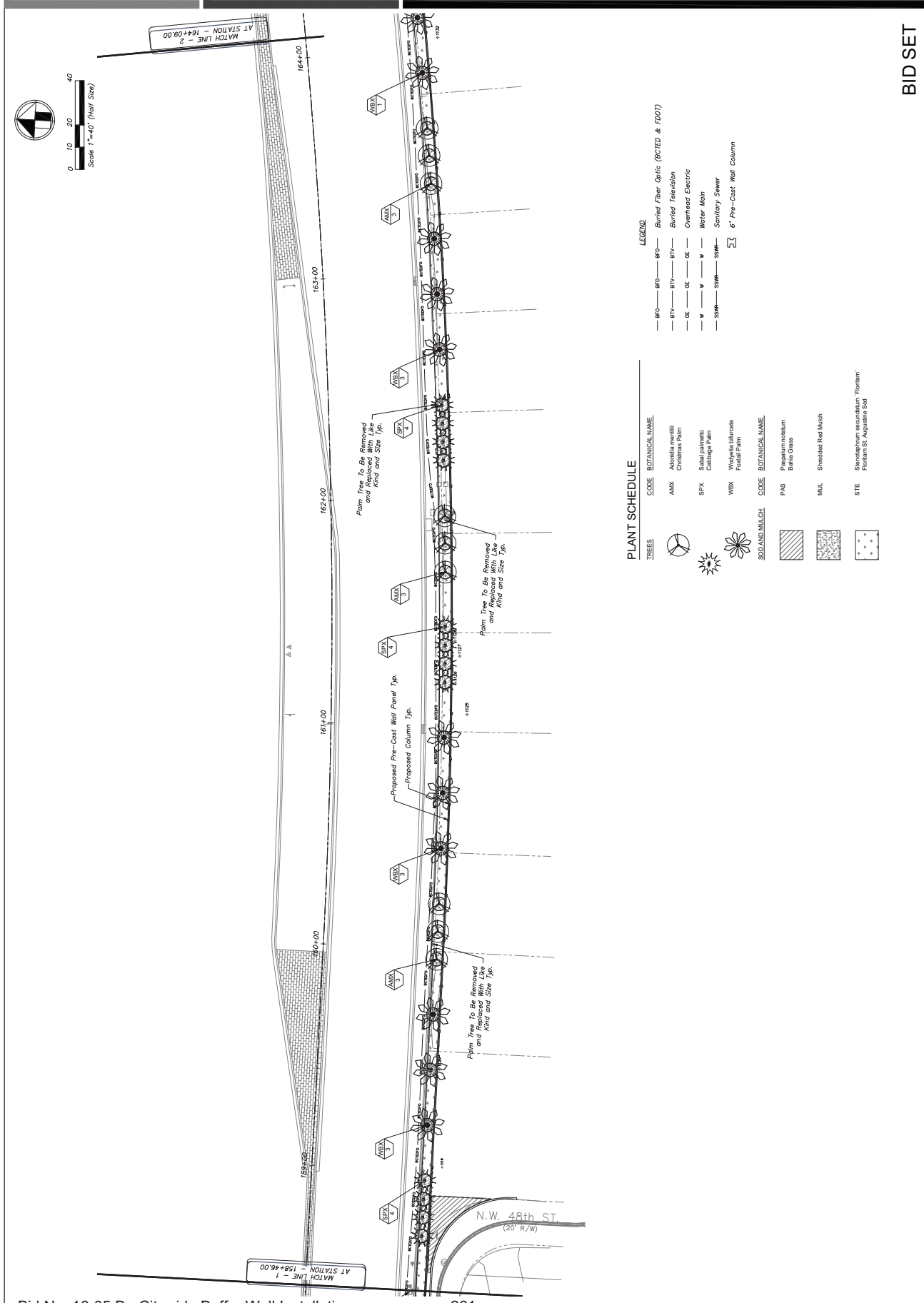
21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com

Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
 Certificate of Authorization # 27013

ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
FILE No. :
DRAWN : TK
REVIEWED : AM
CHECKED : AM
DATE : 11/10/2018
ISSUE/REVISIONS
SHEET TITLE
PLANTING PLAN
SHEET NUMBER
L-3



**Startec**

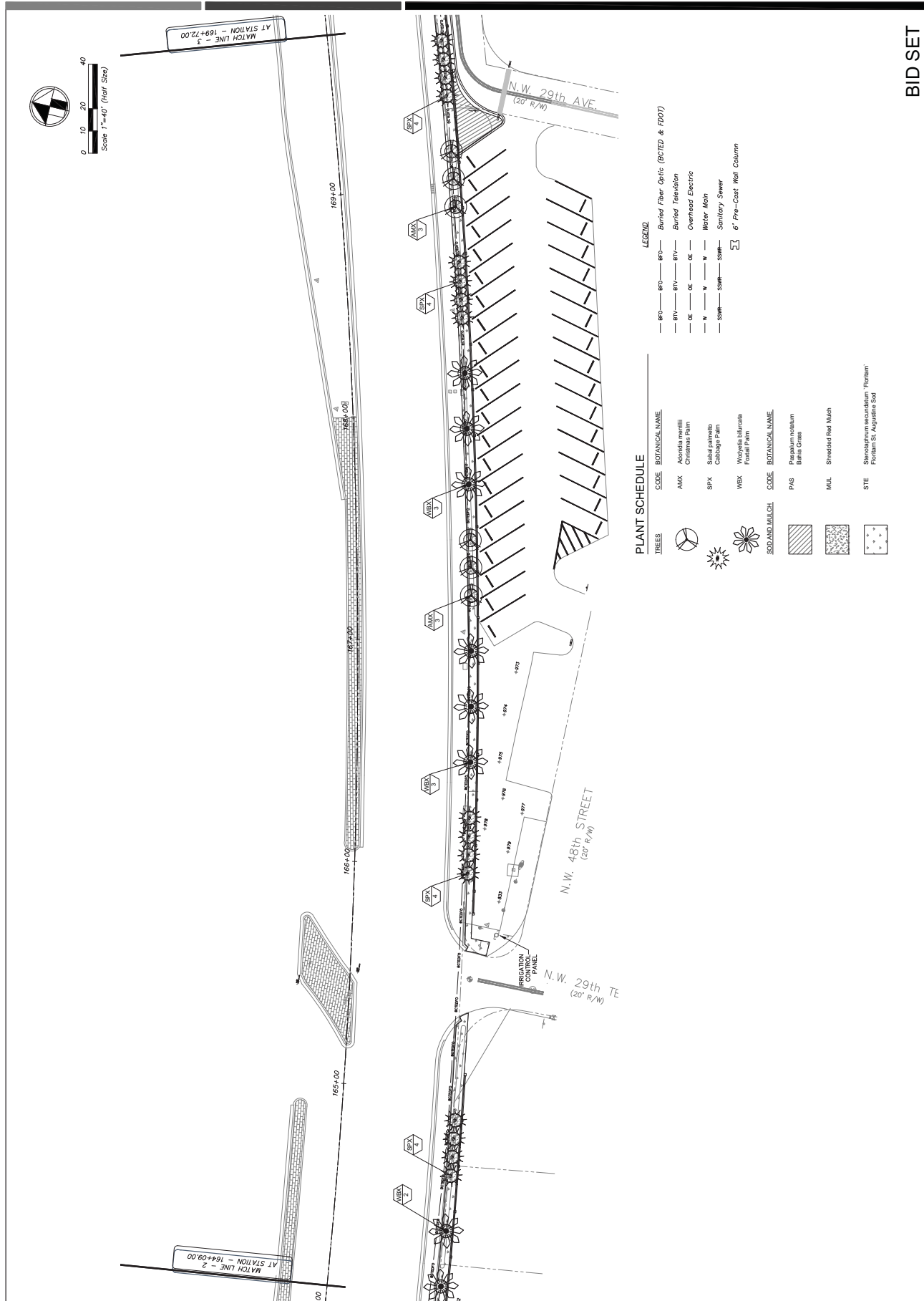
1301 Powerline Road, Suite 311
Boca Raton, FL 33433
Phone: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certification Authorization # 370313

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec immediately without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
FILE No.
DRAWN BY
CHECKED BY
DATE
ISSUE/REVISIONS
SHEET TITLE
P L A N T I N G P L A N
SHEET NUMBER
L-4





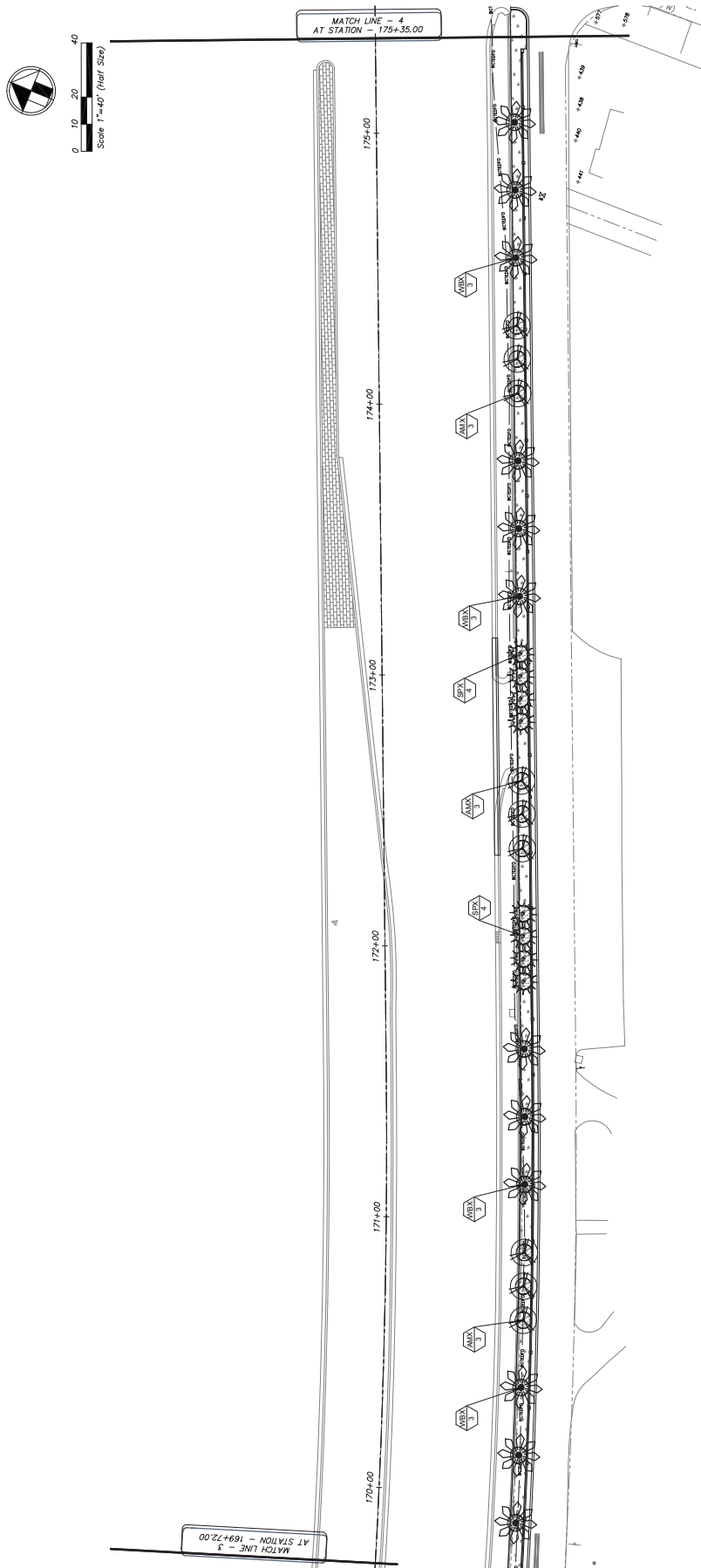
Stamtec







21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # 27013

ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No. :
DRAWN : TIK
REVIEWED : AM
CHECKED : AM
DATE : 11/18/2015
ISSUE/REVISIONS
SHEET TITLE
PLANTING PLAN
SHEET NUMBER
L-5



PLANT SCHEDULE		
TREES	CODE	BOTANICAL NAME
	AMX	Ardisia merriami
		Christmas Palm
	SPX	Sabal palmetto
		Cabbage Palm
	WBX	Wodyetia bifurcata
		Foxtail Palm
SED AND MULCH	CODE	BOTANICAL NAME
	PAS	Phragmites australis
		Bahia Grass
	MAL	Shredded Red Mulch
	STE	Synedrastrum secundatum 'Fortan'
		Fortan ST Argentea

LEGEND

—BFO—	BFO—	Buried Fiber Optic (BCTD & FDOT)
—BTY—	BTY—	Buried Television
—OE—	OE—	Overhead Electric
—W—	W—	Water Main
—SSM—	SSM—	Sanitary Sewer
		6' Pre-Cast Wall Column

BID SET

**Startec**

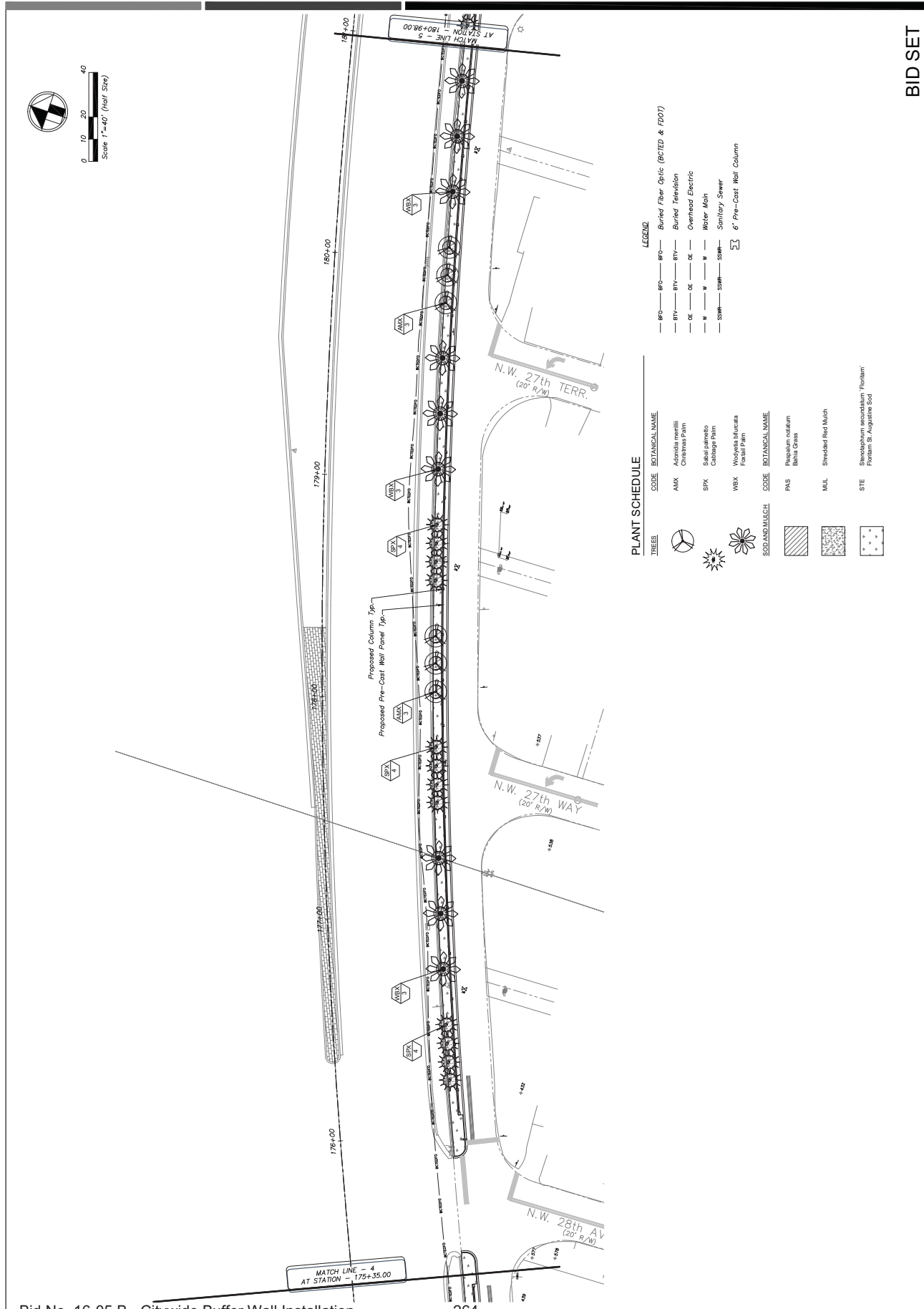
1301 Powerline Road, Suite 311
Boca Raton, FL 33433
Phone: 561.487.3379 Fax: 561.487.3466
www.stantec.com

Circle 561:487:3379 Fax: 561:487:3466
www.stantec.com
Certificate of Authorizations # 27013

ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
FILE No.
DRAWN BY
CHECKED BY
DATE
ISSUE/REVISIONS
SHEET TITLE
PLAN
SHEET NUMBER
L-6



**Stamtec**

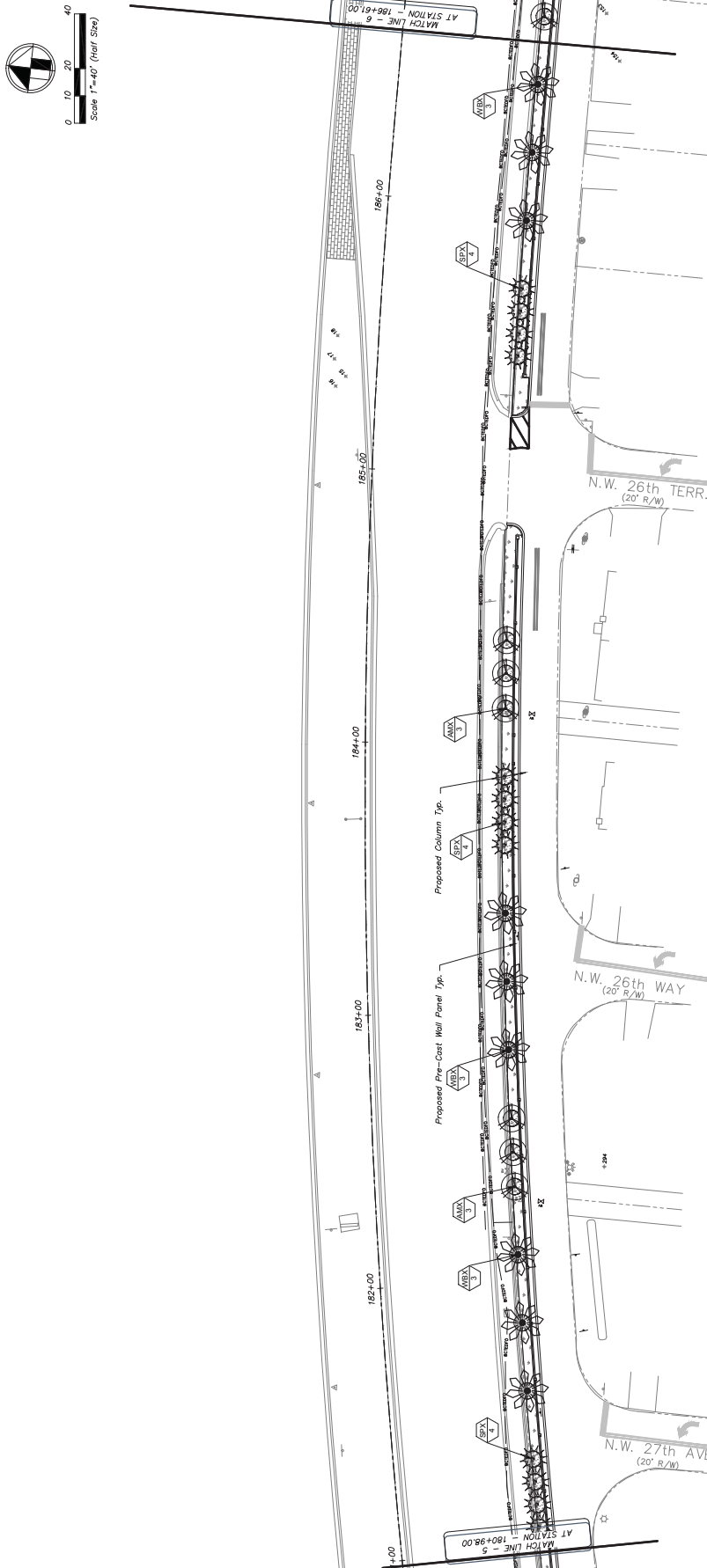
21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com

Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
 Certificate of Authorization # 27013







ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No. :
DRAWN : TTK
REVIEWED : AM
CHECKED : AM
DATE : 11/18/2015
ISSUE/REVISIONS
SHEET TITLE
PLANTING PLAN
SHEET NUMBER
L-7



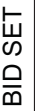
PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME
	AMX	Adonidia merillii California Palm
	SPX	Sisal palm Cabbage Palm
	WBX	Wax palm Foxtail Palm
SOD AND MULCH	CODE	BOTANICAL NAME
	PAS	Paspalum notatum Bahia Grass
	MUL	Shredded Red Mulch
	STE	Stenodaphnum secundatum Pomara Grass

LEGEND

—	BFO	—	BFO	—	Buried Fiber Optic (BCTED & FDOT)
—	BTV	—	BTV	—	Buried Television
—	OE	—	OE	—	Overhead Electric
—	W	—	W	—	Water Main
—	SMB	—	SMB	—	Sanitary Sewer
—	SMB	—	SMB	—	6" Pre-Cast Wall Column

BID SET



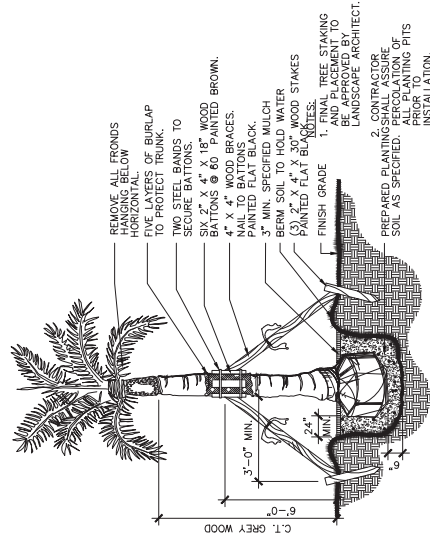
**Stamtec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # 27013

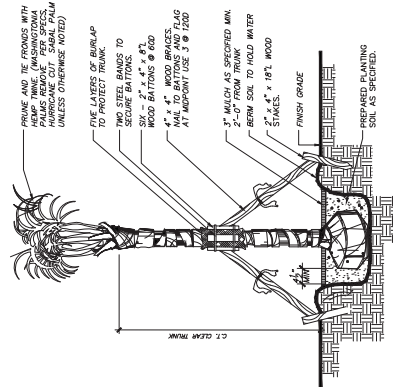
ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No. :
DRAWN : T K
REVIEWED : A M
CHECKED : A M
DATE : 11/18/2015
ISSUE/REVISONS
SHEET TITLE
PLANTING
DETAILS
SHEET NUMBER
L-9



D2 PALM PLANTING



D1 PALM PLANTING



11301 Powerline Road, Suite 311
Boca Raton, FL 33433
Phone: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # 27013

ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No.
DRAWN : TKM REVIEWED : AM CHECKED : AM
DATE : 11/18/2015
ISSUE/REVISIONS
SHEET TITLE
PLANTING NOTES
SHEETNUMBER
L-10

BID SET

1. CONTRACTOR SHALL VERIFY ALL INFORMATION PRIOR TO INITIATING PLANTING INSTALLATION.
2. CONTRACTOR SHALL NOTIFY ALL PERMITTING AGENCIES AND ANY OTHER AGENCIES PRIOR TO BEGINNING CONSTRUCTION OF ALL UNDERGROUND UTILITIES. PLANS ARE PREPARED ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARING THESE DOCUMENTS.
3. THE CONTRACTOR SHALL RESOLVE ALL CONFLICTS WITH EXISTING OR CONCEALED UTILITIES PRIOR TO BEGINNING ANY WORK, ALL EXISTING SITE IMPROVEMENTS, PAVING, LANDSCAPE, LIGHTING, AND OTHER SITE ELEMENTS TO REMAIN SHALL BE PROTECTED FROM DAMAGE UNLESS OTHERWISE NOTED.
4. UNLESS OTHERWISE NOTED, THE LIMITS OF CONSTRUCTION ARE THE CLEARING LIMITS NOTED ON THE PLANS.
5. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND WITH THE GENERAL CONSTRUCTION OF THE PROJECT IN ORDER TO NOT WASTE IMMEDIATELY.
6. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH RELATED CONTRACTORS AND WITH THE GENERAL CONSTRUCTION OF THE PROJECT IN ORDER TO NOT WASTE THE PROGRESS OF WORK OF OTHERS OR THE CONTRACTORS OWN WORK.
7. CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ALL EXISTING GROUND COVERS FOR ALL NEW PLANTING BEDS BY APPROVED MEANS PRIOR TO PLANTING INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ALL EXISTING PLANTING OR LAWN AREAS INDICATED TO REMAIN WHILE COMPLETING NEW PLANTING INSTALLATION WORK WITH SAME KIND OF PLANTS OR GRASSES TO THE SATISFACTION OF THE OWNER AND AN ADDITIONAL COST.
8. ALL PLANT CONTAINER SIZES NOTED ON THE PLANT LIST/MATERIAL SCHEDULE ARE MINIMUM. INCREASE SIZE OF CONTAINERS IF NECESSARY TO CONFORM TO THE PLANT SIZE AND SPECIFICATIONS.
9. EROSION CONTROL FABRIC SHALL BE INSTALLED IN ALL SHRUB AND GROUND COVER PLANTING AREAS AS PER THE DETAILS AND/OR SPECIFICATIONS FOR ALL SLOPES THAT ARE GREATER THAN 3:1 (SLOPES 1 VERTICAL FOR EVERY 3 HORIZONTAL). SEE CIVIL ENGINEERING PLANS FOR LOCATIONS WHERE SLOPES ARE GREATER THAN 3:1.
10. SHRUB AND GROUND COVER PLANTINGS ARE TYPICALLY SHOWN ON THE PLANS IN MASS PLANTING BEDS. PLANTS SHALL BE SET IN A TRIANGULAR SPACING PATTERN (STAGGERED SPACING). PLANT CENTER TO CENTER DIMENSIONS (O.C.) ARE INDICATED IN THE PLANT LIST.
11. LANDSCAPE CONTRACTOR SHALL FIELD ADJUST THE LOCATION OF PLANT MATERIAL AS NECESSARY TO AVOID DAMAGE TO EXISTING TREES AND UNDERSTORY VEGETATION TO REMAIN, UNDERGROUND AND ABOVE GROUND UTILITIES AND ALL OTHER ABOVE GROUND ELEMENTS. ALL CHANGES REQUIRED SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT PRIOR TO INITIATING ANY CHANGES.
12. WHEN NECESSARY, PLANTING WITHIN THE DRYLAND/CANOPY OF EXISTING TREES SHOULD BE DONE IN THE MOST SENSITIVE MANNER POSSIBLE IN ORDER TO AVOID ROOT DAMAGE. ALL NEW PLANTINGS WITHIN THE DRYLAND/CANOPY SHOULD BE HAND-DUG AND FIELD ADJUSTED TO AVOID ROOTS AS NECESSARY.
13. ANY SUBSTITUTIONS TO PLANT MATERIALS OR TYPE MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. LANDSCAPE CONTRACTOR SHALL NOT MAKE ANY SUBSTITUTIONS OR ALTERATIONS TO THE LANDSCAPE PLANTING PLAN OR PLANT LIST & MATERIALS WITHOUT THE PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT. ANY SUBSTITUTIONS TO PLANT MATERIALS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT WITH THE PLANT LIST AND SPECIFICATIONS SHALL BE REPLACED IMMEDIATELY TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AS REQUIRED TO MAINTAIN AND ESTABLISH ALL PLANTING (NEW, EXISTING) TO BE RELOCATED, AND EXISTING PLANTINGS TO REMAIN WHILE IRRIGATION SYSTEM IS BEING INSTALLED OR REPAIRED TO IMPROVE IRRIGATION. THE IRRIGATION SYSTEM IS DESIGNED TO MAINTAIN THE LANDSCAPE PLANTINGS AND NOT ESTABLISH THEM. THE CONTRACTOR IS RESPONSIBLE FOR WATERING ALL PLANTING AREAS, REGARDLESS OF THE STATUS OF EXISTING OR PROPOSED IRRIGATION SYSTEMS.
15. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING IN FULL ALL PLANTING AREAS (INCLUDING WATERING, SPRAYING, MULCHING, FERTILIZING, AND WEEDING, ETC.) UNTIL THE JOB IS ACCEPTED.
16. CONTRACTOR SHALL CLEAN THE WORK AREAS AT THE END OF EACH WORKING DAY. LANDSCAPE RUBBISH AND DEBRIS SHALL BE COLLECTED AND DEPOSITED OR RECYCLED OFF-SITE DAILY. ALL MATERIALS, PRODUCTS, AND EQUIPMENT STORED ON SITE SHALL BE IN AN ORGANIZED MANNER DAILY.
17. CONTRACTOR SHALL GRADE ALL AREAS DISTURBED BY PLANT REMOVAL, RELOCATION, AND PLANTING FROM INSTALLATION WORK. THE CONTRACTOR SHALL REPLACE BY EQUIVALENT SIZE AND QUALITY AND ALL EXISTING PLANT MATERIAL DESTROYED OR DAMAGED BY PLANTING, REMOVAL, RELOCATION, AND/OR INSTALLATION.
18. EXISTING TREES OR OTHER PLANT MATERIAL INDICATED ON THE PLANS TO BE RELOCATED SHALL BE HANDLED, CURED FOR, AND MAINTAINED AS NEW PLANTINGS. THE CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED ROOT PRUNING, WRAPPING, TREE SPACING OR BALD BARK RAPPING, ADDITIONAL SUPERFICIAL HAND RELOCATED PLANT MATERIAL.
19. THE CONTRACTOR SHALL REPAIR ANY DAMAGE INSTALLED IN THE TREE CANOPY OR ANY OTHER SOUND HORTICULTURAL PRACTICE REQUIRED TO ENSURE THE SURVIVAL OF ALL RELOCATED PLANT MATERIAL.
20. THE CONTRACTOR SHALL REPAIR TO THE LANDSCAPE PLANTING DETAILS SPECIFICATIONS. PLANT LIST AND PLANTS FOR FURTHER AND COMPLETE PLANTING INSTALLATION ARE NOTED.
21. LANDSCAPE CONTRACTOR SHALL FULLY FAMILIARIZE HIMSELF / HERSELF WITH THE PROJECT PRIOR TO BEGINNING THE WORK.
22. SITE GRADING AND CONTOUR INFORMATION, EXISTING VEGETATION TO REMAIN, BUILDINGS AND OTHER SITE FEATURE LOCATIONS AND THE LOCATION OF ALL ABOVE AND BELOW GROUND UTILITIES SET THE MOST CURRENT AND UP TO DATE ARCHITECTURAL, CIVIL, ELECTRICAL, STRUCTURAL AND MECHANICAL ENGINEERING INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL INFORMATION FROM THE ARCHITECT PRIOR TO BEGINNING ANY WORK. THE CONTRACTOR SHALL OBTAIN ALL OTHER OBSTRUCTIONS AND COORDINATE WITH OWNERS REPRESENTATIVE PRIOR TO INITIATING ANY LANDSCAPE PLANTING OR IRRIGATION. INSTALLATION WORK.
23. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY DAMAGE COMMITTED TO EXISTING OR PROPOSED ELEMENTS ABOVE OR BELOW GROUND TO ITS ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER AND OWNER'S REPRESENTATIVE.
24. LANDSCAPE CONTRACTOR SHALL FIELD STATE THE LOCATION OF ALL PLANT MATERIAL AND BODIES OF PLANTING BEDS FOR THE REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INITIATING ANY INSTALLATION OF THE LANDSCAPE PLANTINGS.
25. LANDSCAPE CONTRACTOR SHALL COORDINATE WORK WITH THE IRRIGATION CONTRACTOR AND ALL OTHER TRADES AS REQUIRED.
26. THE CONTRACTOR SHALL REQUEST INSPECTION OF THE PROJECT IN WRITING. ALL WORK IS SATISFACTORY AND COMPLETE IN ACCORDANCE WITH CONDITIONS OF CONTRACT DOCUMENTS, THEN THE OWNER AND LANDSCAPE ARCHITECT SHALL SIGN THE WORK SUBSTANTIALITY. THE CONTRACTOR IS TO REPLACE REJECTED PLANT MATERIAL WITHIN ONE (1) WEEK OF NOTICE.
27. GUYING/TIEING PRACTICES SHALL NOT FIBRE NAILS, SCREWS, WIRES, ETC., TO PENETRATE OTHER SURFACE OF THE TREE OR PALM. PLANT MATERIAL REJECTED DUE TO THIS PRACTICE SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. REMOVAL OF ALL STAMING AND GUYING OF TREES AND PALMS AFTER FINAL ACCEPTANCE SHALL BE THE RESPONSIBILITY OF THE OWNER.
28. ALL PLANT MATERIAL SHALL BE FLORED ONE (1) OR BETTER AT TIME OF INSTALLATION AND SHALL BE MAINTAINED IN THIS SAME CONDITION UNTIL FINAL ACCEPTANCE. THE CONTRACTOR GUARANTEES THE PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR FOLLOWING DATE OF SUBSTANTIAL COMPLETION.
29. ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL. FREE OF PESTS AND DISEASE. ALL PLANT MATERIAL SHALL BE IN FULL AND STRICT ACCORDANCE TO FLORIDA NO. 1 GRADE. ACCORDING TO THE GRADES AND STANDARDS FOR NURSERY PLANTS, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. PLANT MATERIAL IN SOME INSTANCES EXCEEDED.1. GARDEN TO MEET THE MINIMUM REQUIREMENTS OF THIS PROJECT.
30. PREPARED PLANTINGS TO BE LOOSELY EXISTING SOIL. REMOVE ROCKS, STICKS, AND/OR OTHER DEERLEAKS MATERIAL GREATER THAN 1" IN ANY DIRECTION PRIOR TO BACKFILLING.
31. CONTRACTOR SHALL ASSURE DRAINAGE AND PERCOLATION OF ALL PLANTINGS PRIOR TO INSTALLATION OF PLANT MATERIAL. CORRECT AS REQUIRED TO ASSURE PERCOLATION. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ALL PLANTS LOST DUE TO INADEQUATE DRAINAGE CONDITIONS CAUSED BY SOIL CONDITIONS.
32. THE CONTRACTOR SHALL BEAR ALL COST ASSOCIATED WITH SOIL TESTING AND SOIL AMENDMENTS AS REQUIRED AS A RESULT OF THE SOIL TESTING LABORATORY'S RECOMMENDATIONS. PRIOR TO INITIATING INSTALLATION THE CONTRACTOR SHALL PROVIDE SOIL TESTS FOR AT LEAST TWO ON-SITE LOCATIONS.
33. FERTILIZER FOR INITIAL INSTALLATION OF TREES, PALMS, SHRUBS, AND GROUNDCOVER SHALL BE GAVOCAPPO 15-15-15 NUTRIENT STOCK NO. 30333. SOIL RELEASE FERTILIZER IS MANUFACTURED BY FERTISOL COMPANY. APPROVED FERTILIZER FORMULATION, FERTILIZER PRODUCT INFORMATION HAS BEEN SUBMITTED TO THE OWNER.

**Stantec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # 27013

ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

FILE No. :

DRAWN : TK
REVIEWED : AM
CHECKED : AM

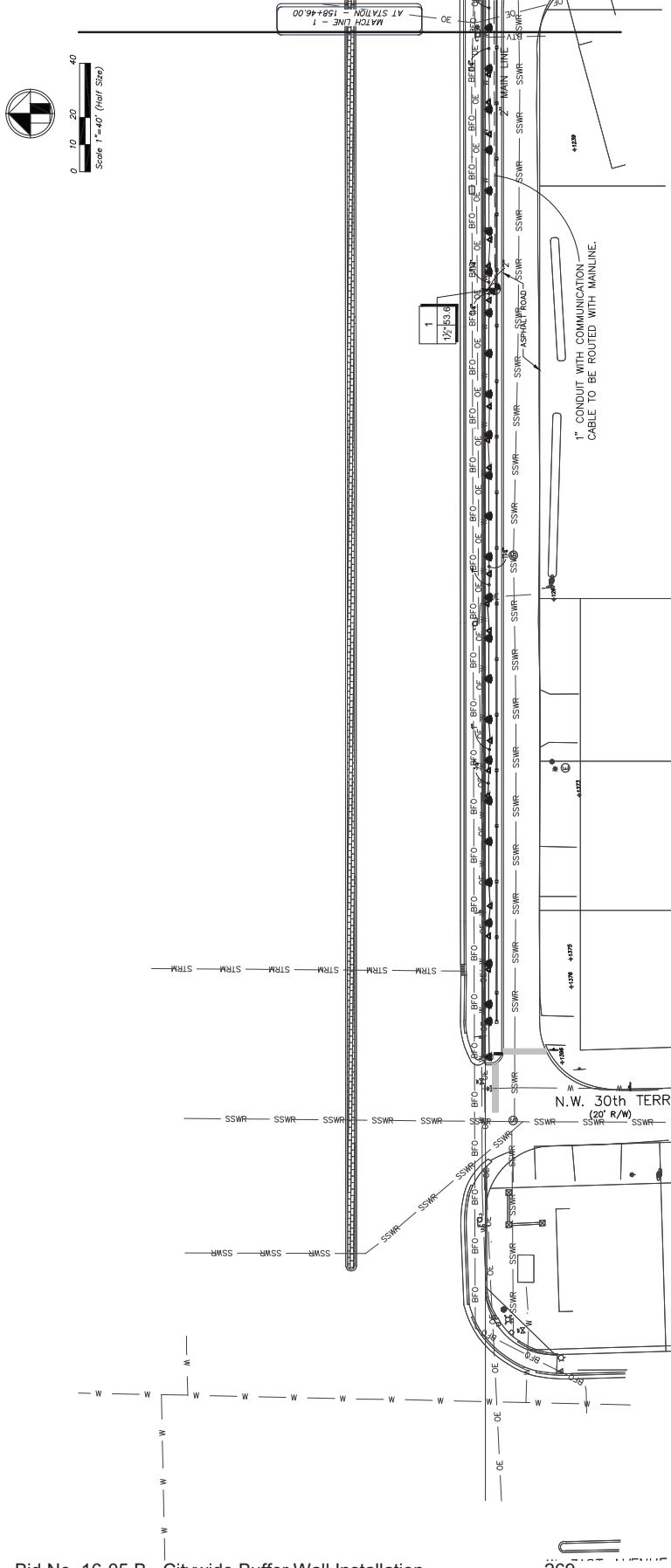
DATE : 11/16/2015

ISSUE/REVISIONS

SHEET TITLE
IRRIGATION PLAN

SHEET NUMBER
L-11

BID SET



VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	PSI	PSI @ POC	QPM	PRECIP
1	Hunter FCV-G-85P-OC	1-1/2	Turt Spray	38.91		53.59	2.23 in/h
2	Hunter FCV-G-85P-OC	1-1/2	Turt Spray	37.86		53.59	2.22 in/h
3	Hunter FCV-G-85P-OC	1-1/2	Turt Spray	38.51		51.88	2.16 in/h
4	Hunter FCV-G-85P-OC	1-1/2	Turt Spray	36.89		42.66	2.15 in/h
5	Hunter FCV-G-85P-OC	1-1/2	Turt Spray	36.89		42.66	2.15 in/h
6	Hunter FCV-G-85P-OC	1-1/2	Turt Spray	36.95		43.87	2.16 in/h
7	Hunter FCV-G-85P-OC	1-1/2	Turt Spray	34.95		30.16	2.18 in/h

IRRIGATION SCHEDULE

[illegible]

The diagram shows a rectangular valve cabinet with four labels and leader lines pointing to specific features:

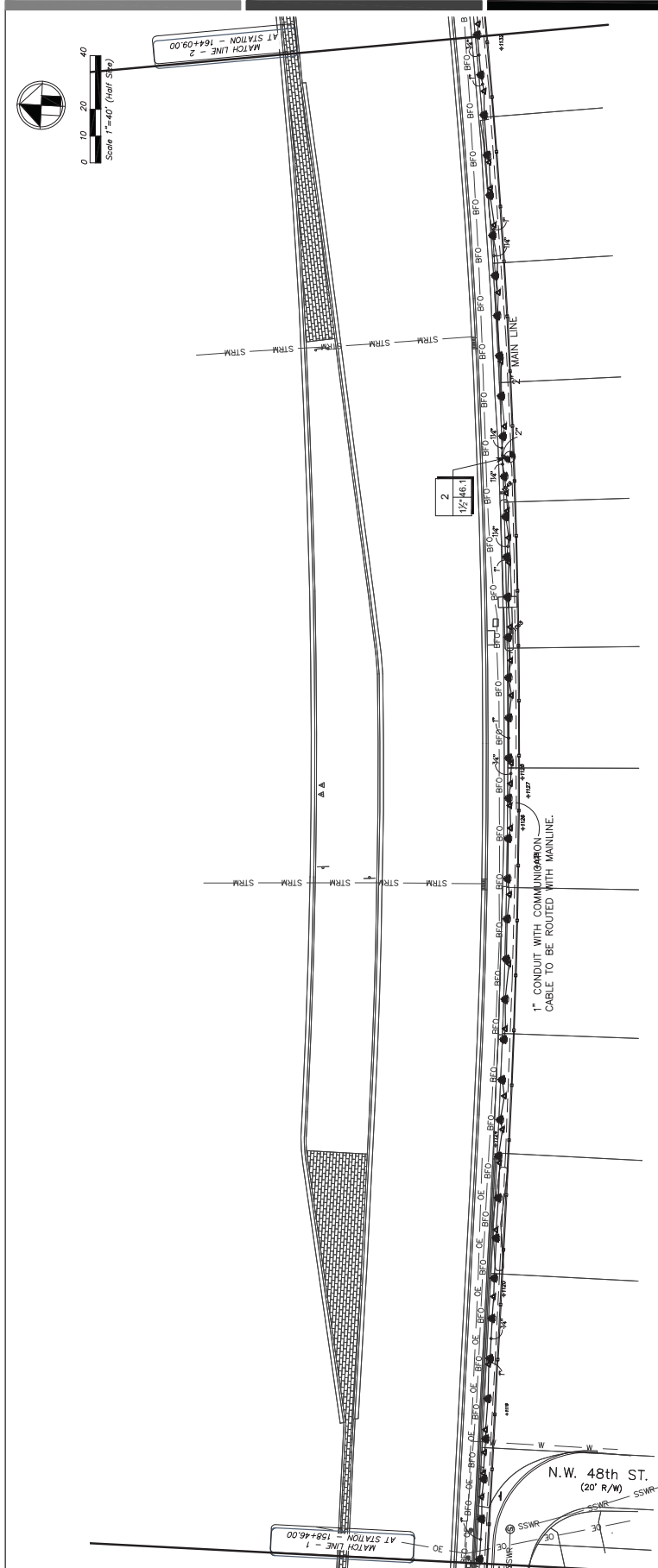
- Valve Number:** Points to a circular feature on the top left of the cabinet.
- Valve Flow:** Points to a circular feature on the top right of the cabinet.
- Valve Size:** Points to a circular feature on the bottom right of the cabinet.
- Valve Cabinet:** Points to the main body of the cabinet.



ADAM S. MARKLE, EA
FLORIDA LIC. NO. 6667098

31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE No. :	
DRAWN BY	TJK
CHECKED BY	AM
DATE	11/18/2015
ISSUE/REVISIONS	
SHEET TITLE	IRRIGATION PLAN
SHEET NUMBER	L-12

[illegible]

NUMBER	MODEL	SIZE	TYPE	PSI	LR	POC	GMI	PRECIP
1	Hunter CV4-BSP-OC	1-1/2"	Tuf Spny	33.91			53.59	2.23 in/h
2	Hunter CV4-BSP-OC	1-1/2"	Tuf Spny	31.86			46.08	2.23 in/h
3	Hunter CV4-BSP-OC	1-1/2"	Tuf Spny	35.58			51.58	2.19 in/h
4	Hunter CV4-BSP-OC	1-1/2"	Tuf Spny	36.49			51.58	2.19 in/h
5	Hunter CV4-BSP-OC	1-1/2"	Tuf Spny	35.95			39.28	2.19 in/h
6	Hunter CV4-BSP-OC	1-1/2"	Tuf Spny	36.95			43.87	2.19 in/h
7	Hunter CV4-BSP-OC	1-1/2"	Tuf Spny	34.85			30.16	2.19 in/h

BID SET

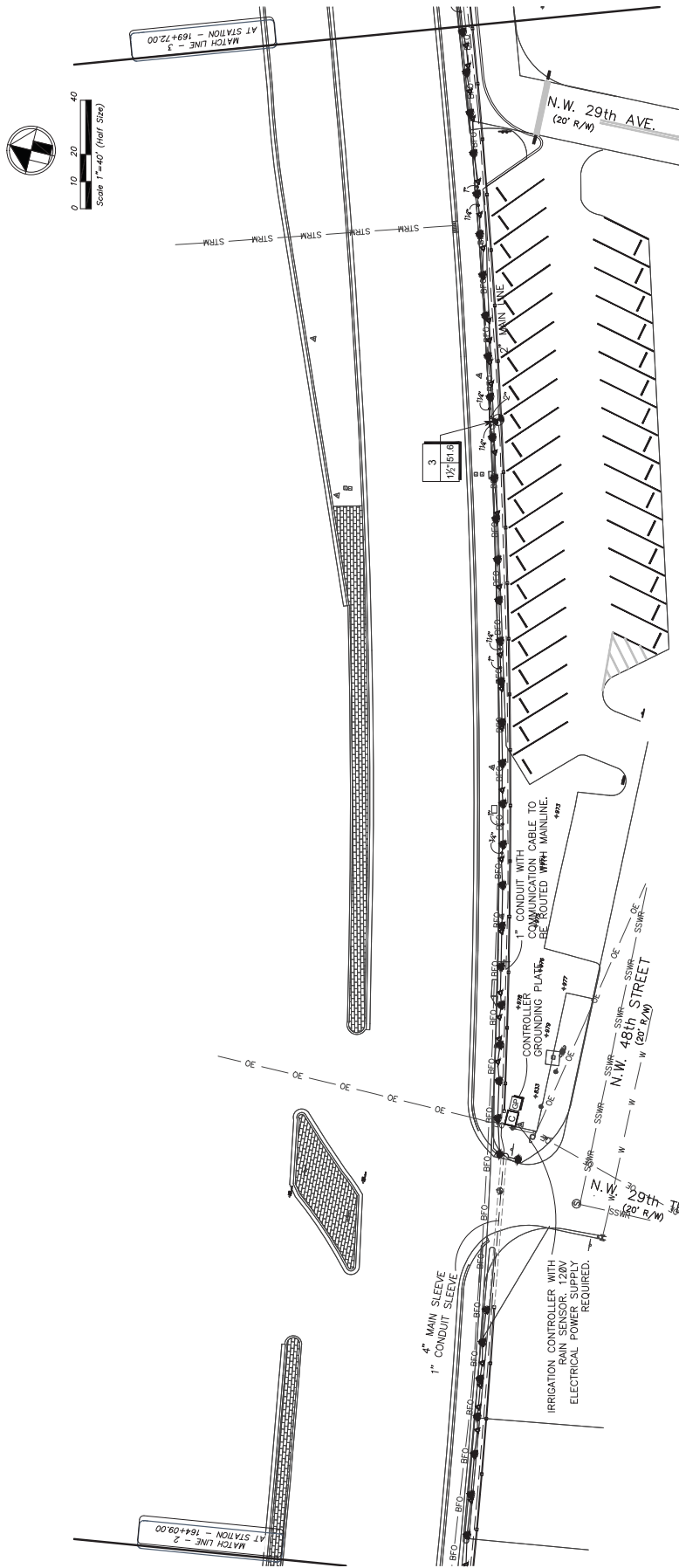
**Stamtec**

21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # 27013






































































































ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE









JOB NUMBER	215612421
FILE No. :	
DRAWN :	TWK
REVIEWED :	AM
CHECKED :	AM
DATE :	11/16/2015
ISSUE/REVISIONS	
SHEET TITLE	IRRIGATION PLAN
SHEET NUMBER	L-13



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
                                           	Rain Bird 190L-PRS 1/2 Sprinkler with Co-Molded Wiper Seal. Turf Spray 4.0 Top-Up Sprinkler with Co-Molded Wiper Seal. 1/2" NPT Female Threaded Inlet. Pressure Regulating.
                                           	Rain Bird 190L-PRS 1/2 Swiss MPS Turf Spray 4.0 Top-Up Sprinkler with Co-Molded Wiper Seal. 1/2" NPT Female Threaded Inlet. Pressure Regulating.
            	Rain Bird 1900-1450 DPH 1/2" NPT Female Threaded Inlet. Pressure Regulating.

MANUFACTURER MODEL DESCRIPTION

 Huller V-CG-BSP-CD 11, 11-12, 7, and 9 Plate End-to-Ends Control Valve, Commercial/Industrial Use, With Dual Solenoid Feeder Installed Option	 Huller ACD-360 360° Rotating Control Valve with 90 rotation capacity, mild diesel	 Huller MWS-CLK Rain Sensor, mount as needed	 Preston Water Valve Point of Connection Water Detection Water Detection Marine	 Grounding Assembly Grounding Assembly to Controller	 Ingition Level Line Ingition Level Line PVC Coo 200 SDR 21 Ingition Level Line PVC Coo 200 SDR 21 Only lateral transition pipe sizes are available. All valves are installed on the main, with all valves being 1/2 in. dia.	 Ingition Marine Ingition Marine PVC Coo 200 SDR 21 PVC Coo 200 rigation pipe	 Pipe Slover Pipe Slover PVC Schedule 40
---	--	---	--	---	--	---	---

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	PSI	PSI @ POC	GPM	PREOP
1	Hunter CV-G-BSP-DC	1-1/2"	Tuf Scry	33.91		43.59	2.23 mH
2	Hunter CV-G-BSP-DC	1-1/2"	Tuf Scry	37.86		46.08	2.22 mH
3	Hunter CV-G-BSP-DC	1-1/2"	Tuf Scry	38.51		51.58	2.16 mH
4	Hunter CV-G-BSP-DC	1-1/2"	Tuf Scry	36.43		42.66	2.17 mH
5	Hunter CV-G-BSP-DC	1-1/2"	Tuf Scry	36.93		42.66	2.17 mH
6	Hunter CV-G-BSP-DC	1-1/2"	Tuf Scry	36.95		43.87	2.16 mH
7	Hunter CV-G-BSP-DC	1-1/2"	Tuf Scry	34.85		40.16	2.18 mH

BID SET

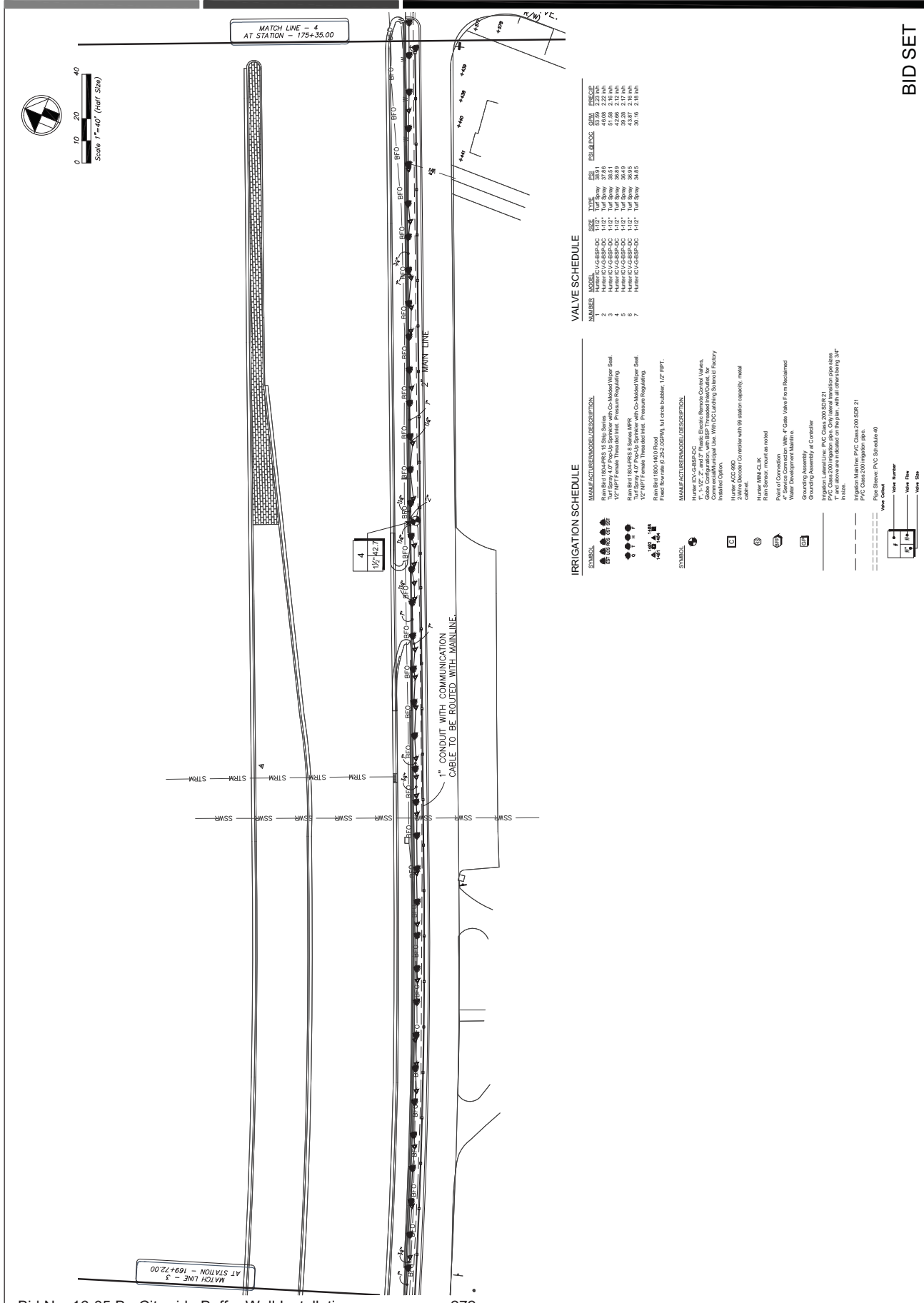


The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667096

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

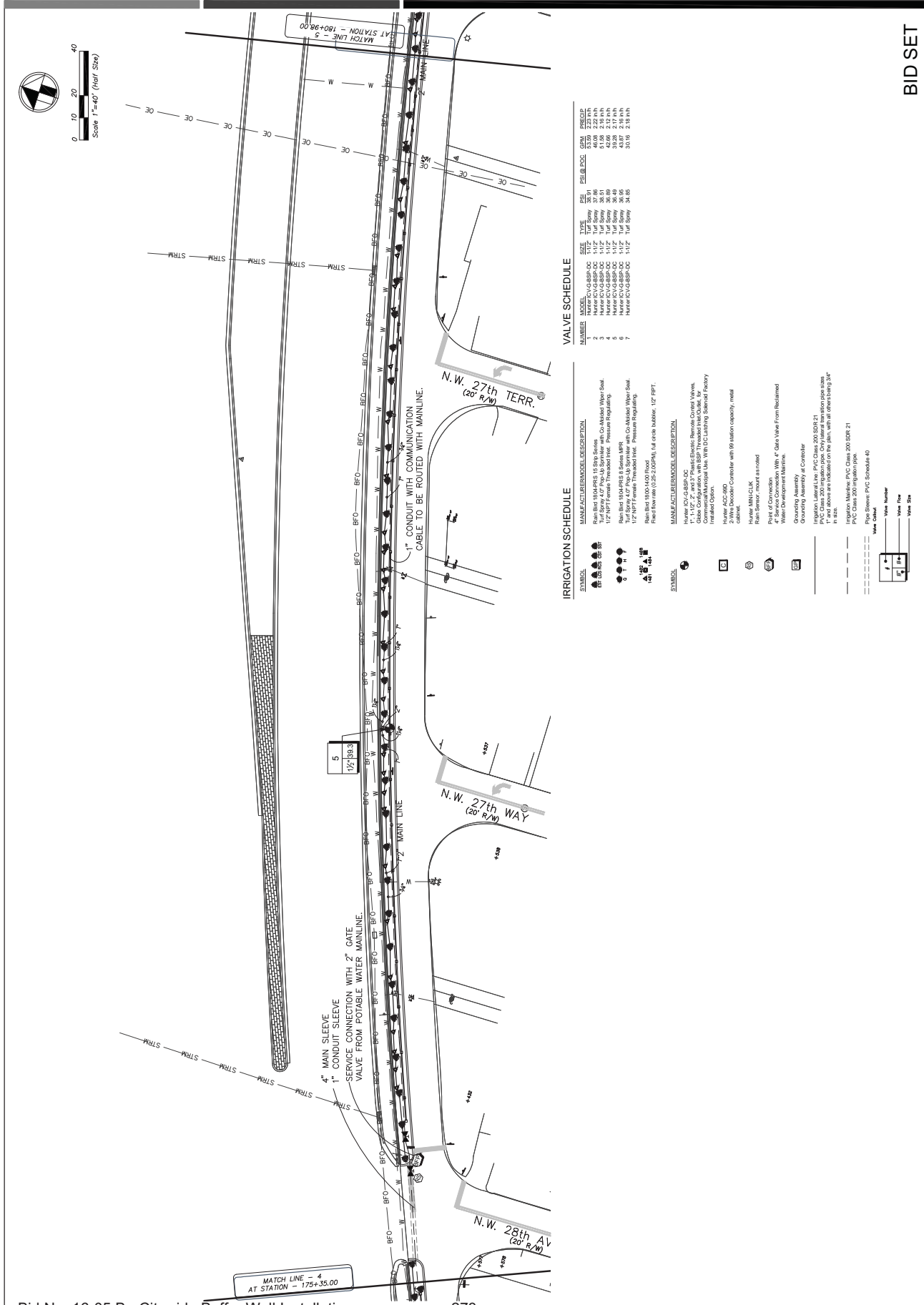
JOB NUMBER
215612421
FILE NO.
DRAWN : TK
REVIEWED: AM
CHECKED: MM
DATE : 11/18/2015
ISSUE/REVISONS
SHEET TITLE
IRRIGATION
PLAN
SHEET NUMBER
L-14





ADAM S. MARKLE, EA
FLORIDA LIC. NO. 6667098

JOB NUMBER
215612421
FILE No.
DRAWN : TK
REVIEWED : AM
CHECKED : AM
DATE : 11/18/2015
SHEET TITLE
IRRIGATION PLAN
SHEET NUMBER
L15

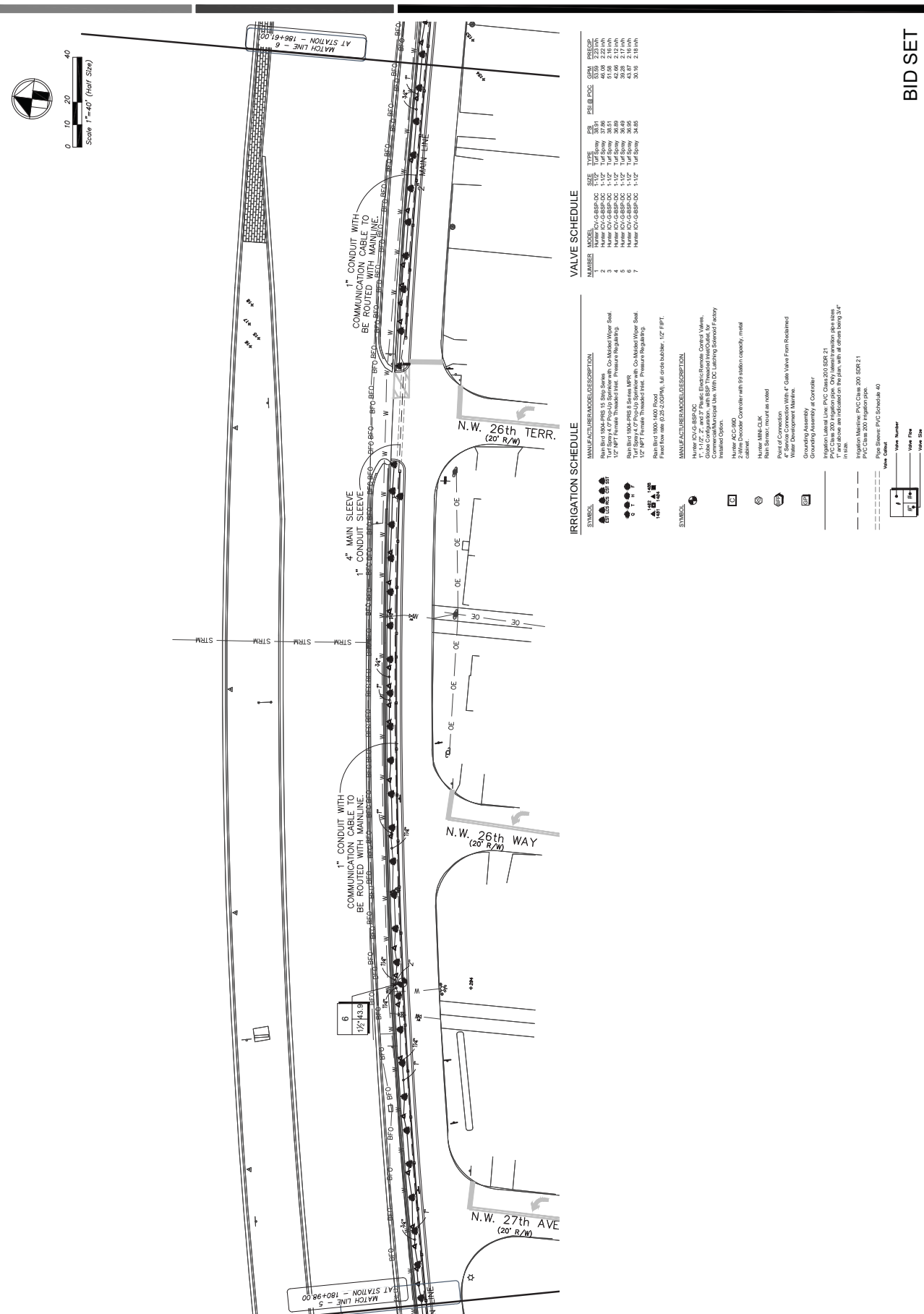




ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667096

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER	215612421
FILE No. :	
DRAWN	TAK
CHECKED	AM
DATE	11/18/2015
ISSUE/REVISIONS	
SHEET TITLE	IRRIGATION PLAN
SHEET NUMBER	L-16





Stantec

2121301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com

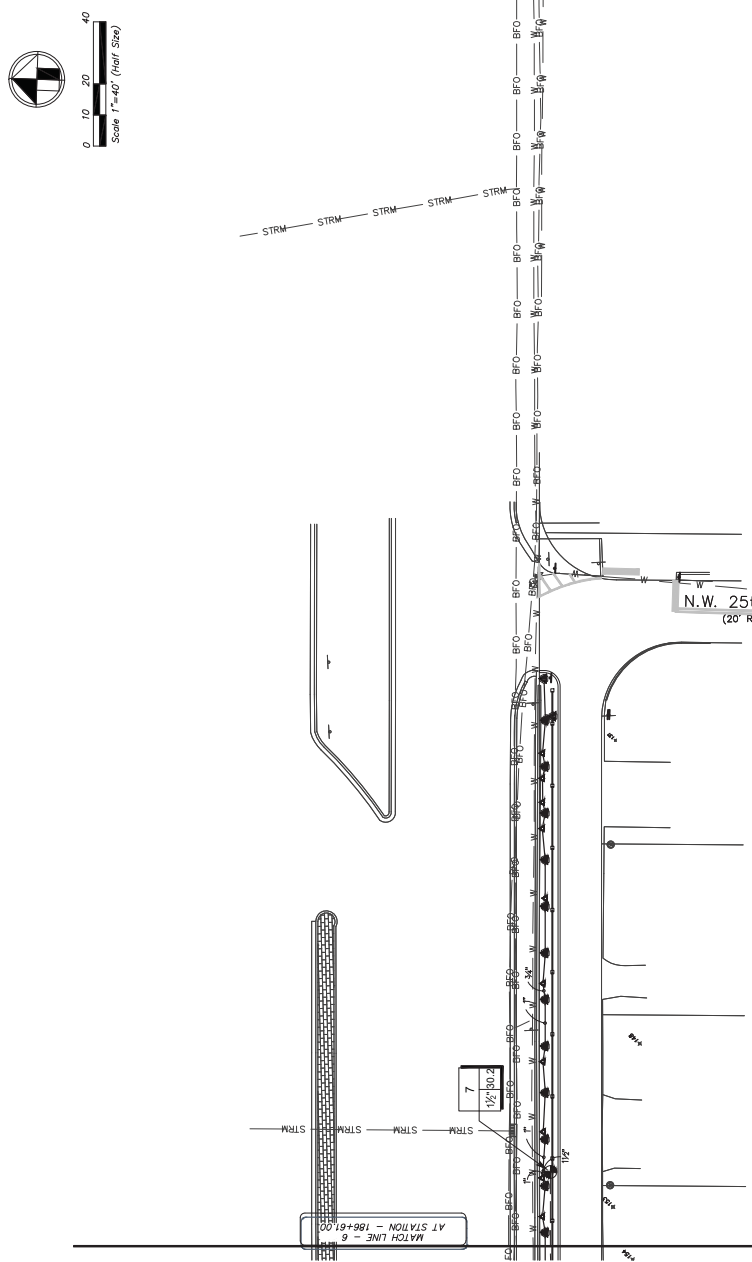
Certificate of Authorization # 27013

The Contractor shall verify and be responsible for the accuracy of the information contained herein. Any errors or omissions shall be reported to Stantec immediately upon discovery. The Contractor shall not rely on the property of Stantec for the determination of the validity of the information that authorized by Stantec is furnished.

ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6667098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE




JOB NUMBER
215612421
FILE No.
DRAWN : TK
REVIEWED : AM
CHECKED : AM
DATE : 11/18/2019
ISSUE / REVISIONS
SHEET TITLE
IRRIGATION PLAN
SHEET NUMBER
L-17



VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	PSI	PSI	POC	GRAI	PROP
1	Hansen-CV-G-BSP-DC	1-1/2"	Turf Spray	38.91	43.99	2.23 mm	51.98	2.16 mm
2	Hansen-CV-G-BSP-DC	1-1/2"	Turf Spray	39.51	44.59	2.23 mm	51.98	2.16 mm
3	Hansen-CV-G-BSP-DC	1-1/2"	Turf Spray	36.89	42.96	2.12 mm	49.26	2.12 mm
4	Hansen-CV-G-BSP-DC	1-1/2"	Turf Spray	36.49	39.28	2.17 mm	39.28	2.17 mm
5	Hansen-CV-G-BSP-DC	1-1/2"	Turf Spray	36.95	43.87	2.16 mm	43.87	2.16 mm
6	Hansen-CV-G-BSP-DC	1-1/2"	Turf Spray	34.85	30.16	2.16 mm	30.16	2.16 mm

IRRIGATION SCHEDULE

	<p>MANUFACTURER MODEL DESCRIPTION</p> <p>Mini Rotor 194-PS 15 Step Drive 1-1/2" x 3" 4-Post-Up Support with On-Molded Motor Seal 1/2" PTFE Thimble Threaded Inlet Pressure Regulating 1/2" PTFE Female Thimble Threaded Outlet Pressure Regulating 1/2" PTFE 4-Post-Up Support with On-Molded Motor Seal 1/2" PTFE Female Thimble Threaded Inlet Pressure Regulating 1/2" PTFE Male Thimble Threaded Outlet Pressure Regulating Rotor Head 1000 1400 Round Piston Seal with O-Ring 50-PSI Air Drive Valve, 1/2" BPT</p>
	<p>MANUFACTURER MODEL DESCRIPTION</p> <p>Harvard ICG-6-BSP-OC 1", 1-1/2", 2", and 3" PTFE Electro-Sensitive Control Valves, Commercial/Industrial Use, With DC Latching Solenoid Feeding Insulated Options 2-Wire Decoder Controller with 99 station capacity, metal cabinet.</p>
	<p>Harvard MK6-CLK Piston Seal, mounted on stand 4" Service Connection With 4" Gas Valve From Reclaimed Water Development Machine Grounding Assembly 1/2" PTFE Thimble Threaded Inlet Pressure Regulating 1/2" PTFE Thimble Threaded Outlet Pressure Regulating 1/2" PTFE 4-Post-Up Support with On-Molded Motor Seal 1/2" PTFE Female Thimble Threaded Inlet Pressure Regulating 1/2" PTFE Male Thimble Threaded Outlet Pressure Regulating Ingotron Machine PVT Class 200 SPSK 21 Piston Seal with O-Ring 50-PSI Air Drive Valve, 1/2" BPT Piston Seal PVT Schedule 40</p>

Valve Callout

Valve Number

Valve Flow

Valve Size




11301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # 27013

ADAM S. MARKLE, LA
FLORIDA LIC. NO. 6687098

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No. :

DRAWN : 
REVIEWED:
CHECKED :

DATE : 11/18/2015

[illegible]

--	--	--	--	--	--

[illegible]

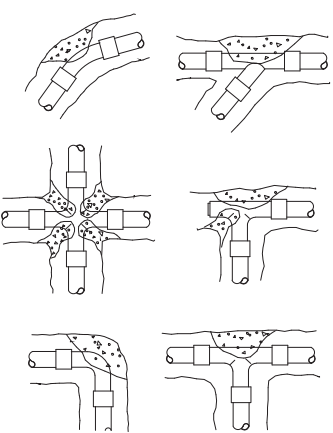
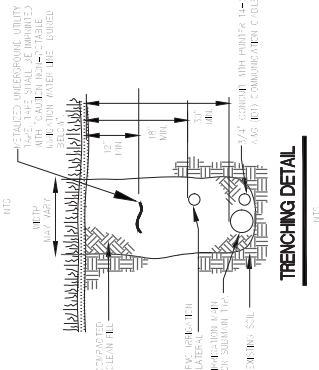
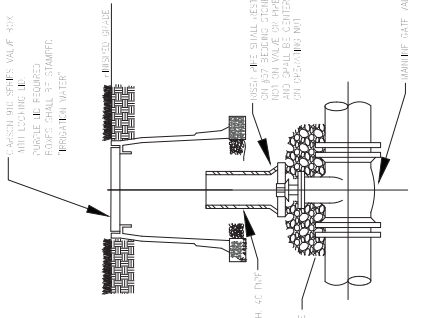
[illegible]

SHEET TITLE

IRRIGATION

DETAILS

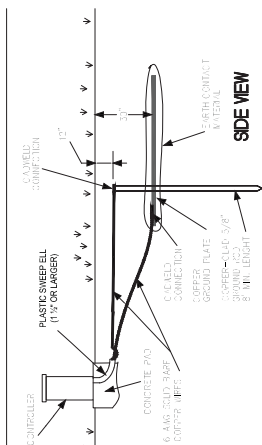
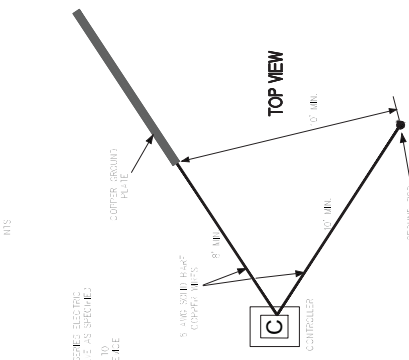
SHEET NUMBER

 1.18 

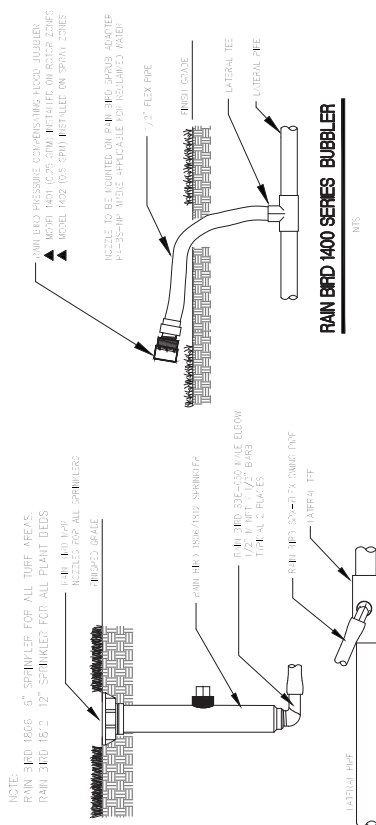
INSTALLATION NOTES

1. 3000 PSI CONCRETE OR BETTER IS TO BE USED FOR THRUST BLOCKS.
2. FOR 50' TUNNELS, MINIMUM OF 2 CURB FEET OF CONCRETE TO BE USED.
3. FOR 22' TUNNELS, MINIMUM OF 2.5 CURB FEET OF CONCRETE TO BE USED.
4. FOR 10' TUNNELS, MINIMUM OF 2 CURB FEET OF CONCRETE TO BE USED.
THRUST BLOCKS REQUIRED FOR PIGGON MINUM 3" AND LARGER.

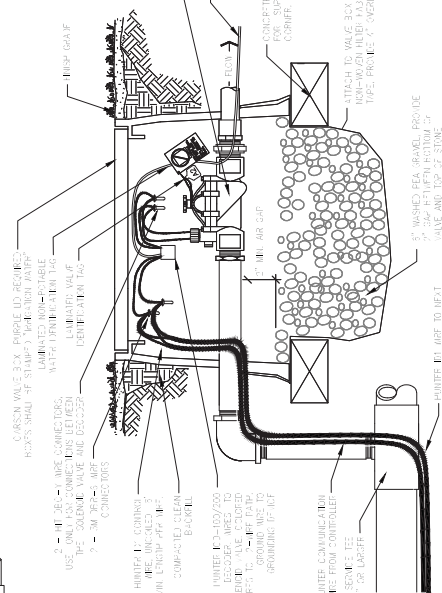
THRUST BLOCK REINFORCEMENT



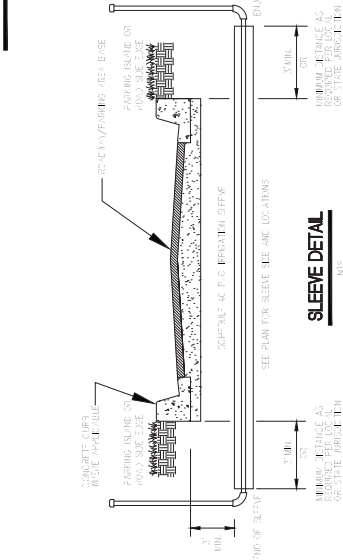
GROUNDING PLATE DETAIL



RAIN BIRD 1400 SERIES BUBBLER



HUNTER ICV CONTROL VALVE ASSEMBLY



SLEEVE DETAIL

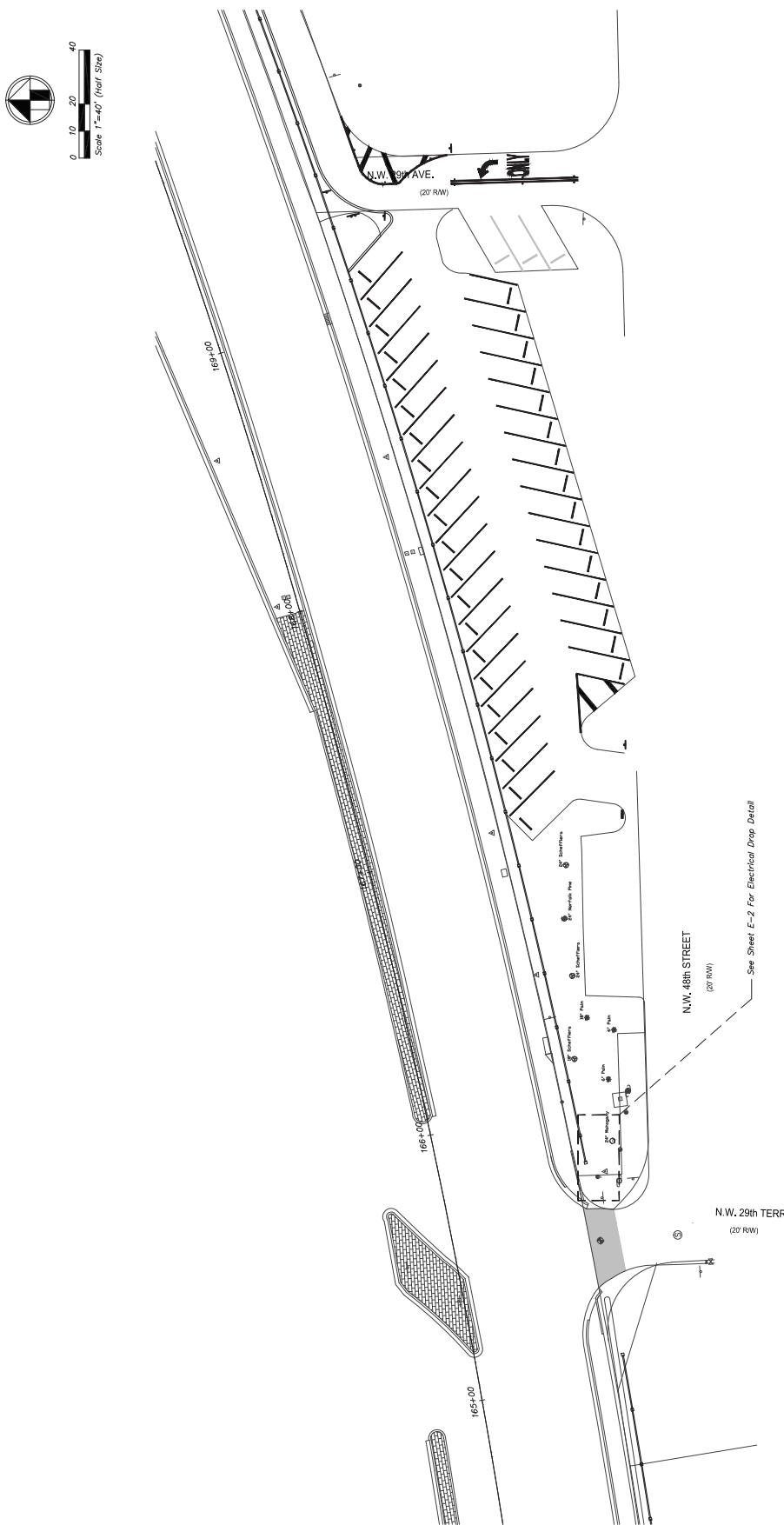
Save: 2/3/2016 12:03:17 PM AMARLO | Page: 2/3/2016 12:04:44 PM AMARLO | \\US1227-701\prv\ed\proj\cts\215642\ad\escop\des\la\w\w\w\met\215642\21-7-15\ang-19



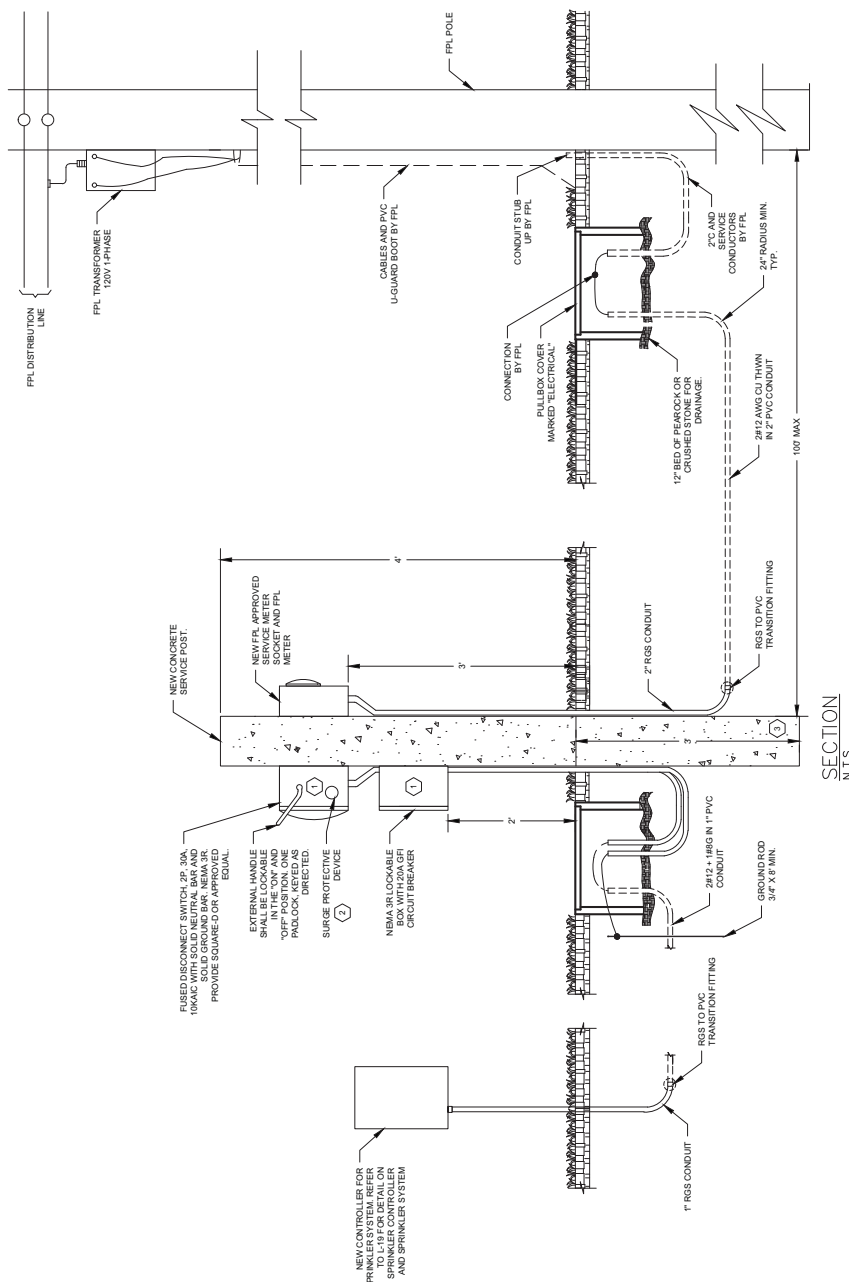
Stantec
21301 Powerline Road, Suite 311
Boca Raton, FL 33433
www.stantec.com
www.stantec.com
Certificate of Authorization # 27513
The Engineer shall be responsible for the design and construction of the project. The Engineer shall not be responsible for the design and construction of any other project. The Engineer shall not be responsible for the design and construction of any other project. The Engineer shall not be responsible for the design and construction of any other project.

MARTIN S. ARMENTA, P.E.
P.E. No. 75333
COMMERCIAL BLVD BUFFER WALLS
31ST AVE TO 25TH TERRACE
CITY OF TAMARAC

JOB NUMBER	215612421
FILE No. :	
DRAWN : C.L.M	
REVIEWED : M.O.A	
CHECKED : M.O.A	
DATE : 2/2/2016	
ISSUE/REVISIONS	
SHEET TITLE	ELECTRICAL
CONDUIT	
SHEET NUMBER	E-1



BID SET



SECTION

PIPING | 150

-----Z----- PVC SCHEDULE 40 CONDUIT REFER TO PLANS FOR SIZING

FOR COMBUSTION OF CHLORINE AND CHLORINE

SERVICE POINT DETAILS

BID SET

E-2

- NOTES
1. AFTER INSTALLATION, CONNECTIONS AND ALL WORK RELATED TO ELECTRICAL POWER SHALL BE SUBJECT TO INSPECTION BY THE CITY OF SAN FRANCISCO, DIVISION OF ELECTRICAL PERMITS, PHONE: (415) 771-4131, TO CORROBORATE EXACT LOCATION, EQUIPMENT DIMENSIONS, AND SERVICE INSTALLATION.
 2. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ELECTRICAL INSTALLATIONS WITH ALL OTHER TRADES TO AVOID ANY CONFLICTS WITH PILING, STRUCTURAL, ETC.
 3. ALL CONDUCTOR SIZES SPECIFIED FOR POWER CIRCUITS ARE BASED ON A SINGLE CONDUCTOR. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF CONDUCTORS IN THE CONDUIT. IF THE CONTRACTOR CONSIGULATES TWO OR MORE CIRCUITS INTO A CONDUIT THEN THE CONTRACTOR SHALL INCREASE THE CONDUCTOR SIZE TO ACCOMMODATE THE INCREASED CURRENT CARRYING CAPACITY AS REQUIRED BY THE NEC WHEN THERE ARE MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A CONDUIT. THE CONTRACTOR SHALL ALSO INCREASE THE CONDUIT IS NOT FILLED OVER 40% CAPACITY.
 4. ALL NEW WIRING SHALL BE INSTALLED WITHOUT EXCEPTION. MINIMUM SIZE CONDUIT SHALL BE 3/4" INCH.
 5. ALL NEW CONDUCTORS SHALL BE TYPE THHN/THWN-2 900 COPPER FOR #10 AND SMALLER AND XHHW-2 FOR #8 AND LARGER.
 6. THE USE OF NO. 14 AWG COPPER CONDUCTORS SHALL BE RESTRICTED TO CONTROL AND INSTRUMENT WIRING.
 7. ALL ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE N.E.C.
 8. CUTTING AND PATCHING REQUIRED FOR THE INSTALLATION OF NEW BACKWAYS OR EQUIPMENT SHALL BE PERFORMED BY A TRADESMAN EXPERIENCED IN THE WORK REQUIRED. ALL FINISHES SHALL MATCH EXISTING ADJACENT SURFACES.
 9. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY LOSS OR DAMAGE TO EXISTING UTILITIES OR EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIRS OR REPLACING SUCH LOSS OR DAMAGE AT NO ADDITIONAL COST TO THE OWNER.
 10. THE ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE CITY, COUNTY, STATE AND FEDERAL REQUIREMENTS. THE ENTIRE ELECTRICAL INSTALLATION SHALL COMPLY WITH OR SURPASS THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
 11. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL MATERIALS, TOOLS, LABOR, PLAN CHECK FEES, ETC. FOR A COMPLETE ELECTRICAL INSTALLATION UNLESS OTHERWISE NOTED ON PLANS.
 12. ALL MATERIALS FURNISHED BY THE ELECTRICAL CONTRACTOR SHALL BE NEW AND CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. ALL MATERIALS UNLESS OTHERWISE NOTED ON PLANS.
 13. ALL EQUIPMENTS SHALL BE LISTED FOR USE IN WET LOCATIONS - WET AREA, H.P., ETC. ALL DISCONNECTS AND SWITCHES SHALL BE LONG BREAK RATED.
 14. DISCONNECTS AND SWITCHES REQUIRED FOR ELECTRICAL INSTALLATIONS ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR AND SHALL BE CONSIDERED TO BE PART OF HIS CONTRACT FEE.
 15. THE ELECTRICAL CONTRACTOR SHALL FULLY GUARANTEE HIS INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER AGAINST DEFECTS IN WORKMANSHIP AND MALFUNCTION OF EQUIPMENT. ANY WORK REQUIRED TO CORRECT SUCH DEFECTS SHALL BE REPAIRED OR REWORKED AT NO ADDITIONAL COST TO THE OWNER.
 16. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND CANNOT SHOW EXACT CONNECTION, JUNCTION BOX, WIRE, CONDUIT, ETC. THE EXACT LOCATION AND ARRANGEMENT OF ALL PARTS SHALL BE DETERMINED AS THE WORK PROGRESSES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEM.
 17. 120V MINIMUM RATING BOLT IN TYPE BREAKERS SHALL BE USED.
 18. ALL SERVICE EQUIPMENT SHALL BE U.L. APPROVED.
 19. ELECTRICAL CONTRACTOR TO VERIFY AND PROVIDE EQUIPMENT GROUNDING CONDUCTOR AS PER NEC 250. ALL EXPOSED METAL PARTS ARE TO BE BONDED TO THE GROUND ROD.
- EXCLUDED NOTES
1. THE ENCLOSURE SHALL BE MADE BY THE MANUFACTURER. PROBABLY ATTACHED TO THE PILE CAP. THE ENCLOSURE DOOR SHALL BE LOCKABLE BY PADLOCK AND FOUR KEYS PROVIDED. THE DOOR SHALL HAVE A MINIMUM OF THREE INCHES AND BE LATCHABLE. NO SCREWS TO BE USED TO ATTACH DOOR.
 2. A MOVY LIGHTNING PROTECTOR SHALL BE WIRED INSIDE THE ENCLOSURE.

KEYED NOTES

1 THE ENCLOSURE SHALL BE NEMA 3R POLE MOUNTED, RIGIDLY ATTACHED TO THE POLE FACE. THE ENCLOSURE DOOR SHALL BE LOCKABLE BY PADLOCK AND FOUR KEYS PROVIDED. THE DOOR SHALL HAVE A MINIMUM OF THREE HINGES AND BE LATCHABLE. NO SCREWS TO BE USED TO ATTACH DOOR

EXTRA: NO SCALING TO BE USED TO ATTACH DOOR.

2 A 600V LIGHTNING PROTECTOR SHALL BE WIRED INSIDE THE ENCLOSURE.

3 MODIFY EMBEDMENT DEPTH AS REQUIRED BY FIELD CONDITIONS.



Stantec

2121301 Powerline Road, Suite 311
 Boca Raton, FL 33433
 Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com

Certificate of Authorization # 27013

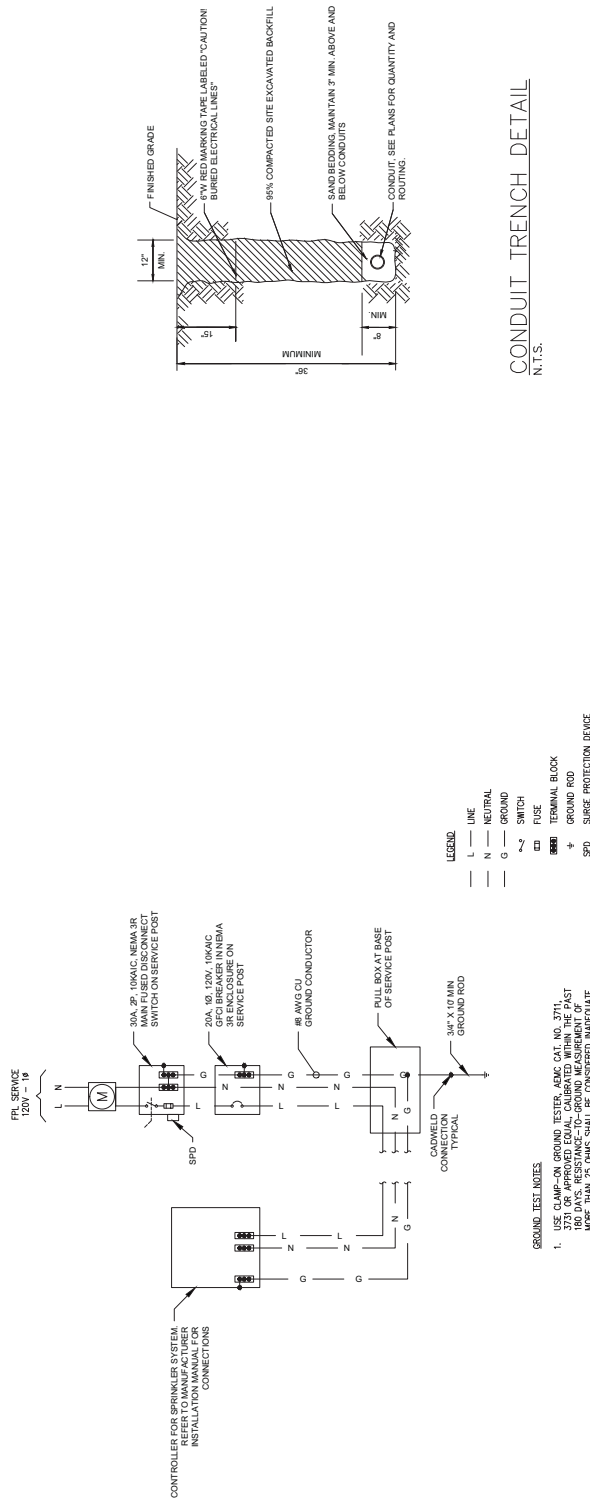
The Contractor shall verify and be responsible for the accuracy of the information contained herein. Any errors or omissions shall be reported to Stantec immediately without delay. The Copyright to all designs and drawings is the property of Stantec. No reproduction or use for any other project shall be authorized by Stantec. A disclaimer is hereby made that authorized by Stantec. A disclaimer is hereby made that authorized by Stantec. A disclaimer is hereby made that authorized by Stantec.

MARTIN S. ARMENTA, P.E.
P.E. No. 75333

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421
FILE No.
DRAWN : C.L.M
REVIEWED: M.O.A
CHECKED : M.O.A
DATE : 2/3/2016
ISSUE/REVISIONS
SHEET TITLE
ELECTRICAL
DETAILS
SHEET NUMBER
E-3

BID SET



GROUNDING SYSTEM SCHEMATIC
N.T.S.

CONDUIT TRENCH DETAIL
N.T.S.

N.T.S.

INSTRUCTIONS TO BIDDERS**BID NO. 16-05 B****CITYWIDE BUFFER WALLS – PHASE I**

It is the intent of the City to award this bid to the lowest responsible and responsive bidder. The City reserves the right to accept or reject any or all bids and to waive any informality concerning the bids when such rejection or waiver is deemed to be in the best interest of the City.

DESCRIPTION OF WORK

Bids are hereby requested from qualified Contractors for construction of the Citywide Buffer Walls – Phase I Project, Bid No. 16-05B. The project is generally located on the West side of Commercial Boulevard, between NW 31st Avenue and NW 25th Terrace, Tamarac, Florida. The work shall include, but not limited to, site preparation, construction of a new pre-cast concrete buffer wall and associated work, concrete sidewalk improvements, curbing, brick pavers, pavement restoration, pavement markings and signage, handrail removal, landscaping and irrigation. The Contractor shall furnish all labor, materials, tools, and equipment necessary to complete this project, as indicated in the, Special Conditions, Special Provisions, Project Design Plans, Technical Specifications, and Bid No. 16-05B Documents herein.

A. LICENSES

To be eligible for award of this project, the Contractor must possess at time of bid opening, one of the following State Certified and/or County Competency licenses or any license that can meet, exceed, or legally perform the scope of work will be acceptable, as determined by state or county licensing agency.

State: Certified General Contractor License, defined by F.S. 489.105 3a, plus three (3) years as a full time contractor, having successfully performed a minimum of three (3) verifiable projects of similar size and scope within the last three (3) years, under the same Bidder's Contractor company name.

or

County: Category 2d – Specialty Engineered Structural License plus three (3) years as a full time contractor, having successfully performed a minimum of three (3) verifiable projects of similar size and scope within the last three (3) years, under the same Bidder's Contractor company name.

Occupational license must be in effect as required by Florida Statute §205.065.

B. LIQUIDATED DAMAGES

Upon failure of the Contractor to complete each individual requirement within the specified and mutually agreed upon time frame (plus approved extensions, if any) the Contractor shall pay to the City the sum of **Five-Hundred Dollars (\$500.00)** for each calendar day after the time specified for completion and readiness for final payment. This amount is not a penalty but liquidated damages to the City. Liquidated damages are hereby fixed and agreed upon between the parties, recognizing the impossibility of precisely ascertaining the amount of damages that will be sustained by the City as a consequence of such delay,

and both parties desiring to obviate any question of dispute concerning the amount of said damages and the cost and effect of the failure of the Contractor to complete the Contract on time. City shall have the right to deduct from and retain out moneys which may be due or which may become due and payable to Contractor. The amount of such liquidated damages and if the amount retained by City is insufficient to pay in full such liquidated damages, Contractor shall pay in full such liquidated damages. Contractor shall also be responsible for reimbursing City the total of all monies paid by the City to the engineer for additional engineering, inspection and administrative services until the work is complete.

C. CONTACT INFORMATION

For inquiries regarding the bid, contact the Andrew J. Rozwadowski, Senior Procurement Specialist, Purchasing and Contracts Division, at **(954) 597-3570**. Any technical issues shall be submitted in writing via email to Andrew.Rozwadowski@tamarac.org. Be sure to include the Project Name and Bid Number on all correspondence.

BALANCE OF PAGE INTENTIONALLY LEFT BLANK

SPECIAL CONDITIONS**BID NO. 16-05 B
CITYWIDE BUFFER WALLS – PHASE I**

1. BID GUARANTY

An acceptable Bid Bond, Cashier's Check, money order, irrevocable letter of credit or Certified Check payable to the City of Tamarac in an amount not less than 5% (five percent) of the bid price, must accompany the bid. Additional bonding may be required in the Special Terms and Conditions of this bid. The Bond must be executed by a surety company authorized to do business in the State of Florida or secured in a manner satisfactory to the City of Tamarac. Upon award of the Contract, Payment and Performance Guaranty in the bid award amount will be required within 15 calendar days of award and shall continue in effect until the contract expiration. Pursuant to the requirements of Chapter 255.05 (1) (b), Florida Statutes, the Contractor shall ensure that the Bond or Bonds referenced above shall be recorded in the Public records of Broward County. Proof of recording must be submitted to the City prior to issuance of a purchase order. One (1) set of originals is required.

2. ASSIGNMENT OF CONTRACT

Neither this contract, nor any portion thereof, shall be assigned, except by formal approval of the City Commission. No such approval will be construed as making the City a part of or to such assignment, or subjecting the City to liability of any kind to any assignee. No subcontract or assignment shall, under any circumstances, relieve the Contractor of his liability and obligation under this contract, and despite any such assignment, the City shall deal through the Contractor only. However, if the company is sold during the life of the contract, the buying agent must provide the City with a letter signed by an officer of the new owner that can legally bind the company, stating that they will continue to perform the requirements of the contract under all the terms, conditions, and specifications so stated in the contract.

3. CONTRACTOR'S RESPONSIBILITY

Contractor shall provide sufficient manpower so as to perform work safely and expeditiously with all equipment plainly marked with the company name. All equipment provided pursuant to this agreement shall be in good and proper working order.

No work shall be performed before 8:00 AM. Exceptions to this schedule can only be made with the prior approval of the City in writing. The Contractor shall provide a qualified superintendent present on the site at all times, as a fully authorized agent of the Contractor, and capable of making on-site decisions. It shall be the responsibility of the Contractor to remove from the job site and properly dispose of all residues at the end of each and every workday. Any materials or equipment left on site shall be secured by the Contractor, who is fully and totally responsible for security.

Loss of materials or equipment due to theft, vandalism, etc. shall be the responsibility of the Contractor. Any material left on site overnight shall be properly marked and identified in order to ensure public safety.

4. DAMAGE TO PUBLIC AND/OR PRIVATE PROPERTY

Extreme care shall be taken to safeguard all existing facilities, site amenities, utilities, irrigation systems, windows, and vehicles on or around the job site. Damage to public and/or private property shall be the responsibility of the Contractor and shall be repaired and/or replaced in equal or better condition at no additional cost to the City. The Contractor shall use all means to protect existing objects, structures and vegetation designated to remain. In the event of damage, immediately make all repairs, replacements and dressings to damaged materials, to the approval of the City, at no additional cost to the City. In the event of damage to public and/or private property, the Contractor shall immediately contact the City's Public Services Department by telephone at (954) 597-3700 and inform the appropriate staff member about the location and extent of the damages.

5. PERMITS AND LICENSES

The Contractor shall be responsible for securing all City permits. However, all City permit fees will be reimbursed, except for the City Public Art Fund Fee, which is equal to 1% of construction cost that requires a building permit. Please include the cost of the Art Fund Fee as a part of your bid pricing. The successful Contractor shall submit copies of all permits required for this work. The Contractor shall be responsible to secure the necessary construction permits from other agencies as may be required by those agencies. Cost of any required permits, will be reimbursed by City without markup (i.e. direct pass-through), for properly submitted invoices.

6. SITE INSPECTION – CITY

All work will be conducted under the general direction of the Public Services Department, and Building Department of the City of Tamarac, and is subject to inspection by the appointed inspectors to ensure compliance with the terms of the contract. No inspector is authorized to change any provision of the specifications without written authorization from the aforementioned agencies nor shall the presence or absence of an inspector relieve the Contractor from any requirements of the contract.

Any work performed past City of Tamarac's normal working hours (M-F, 8:00 AM – 4:00 PM) must be inspected. If any work is done outside of normal working hours, the City inspector is to be compensated by the Contractor at a rate of \$55.00/hour. However, if a City contract/consultant inspector is used, the Contractor will compensate that inspector at the same cost as the City's cost. In addition, the City inspector must be onsite at least one (1) hour prior to closing site for each day. If site closure has taken place after 4:30 PM, the City inspector will be compensated at the above provision.

7. SUBMITTALS

Contractor shall submit all required forms and documents as required by this contract including but not limited to bonds, insurance certificates and any required drawings within 15 days from the Award. Additionally, Contractor shall apply for all applicable licenses or permits within 15 days of the Notice to Proceed.

8. WAIVER OF LIENS

Prior to Final Payment of the Contract Sum, a final waiver of lien shall be submitted by all suppliers, subcontractors, and/or Contractors who worked on the project that is subject of

the Agreement. Payment of the invoice and acceptance of such payment by the Contractor shall release the CITY from all claims of liability to the Contractor in connection with the Agreement.

9. DELIVERY

All items shall be delivered F.O.B. destination to a specific City of Tamarac address. All delivery costs and charges must be included in the bid price. Project substantial completion shall be within **Two-Hundred Forty Days (240)** calendar days from Contractor's receipt of City's Notice to Proceed. Final completion shall be **thirty (30)** calendar days from date of substantial completion. For the purposes of this Project, substantial completion shall mean the project is sufficiently complete in accordance with the Contract Documents, void of any safety concerns. For the purposes of this Project, final completion shall mean the issuance of final payment.

10. PAYMENT

Payment will be made monthly for work that has been completed, inspected and properly invoiced. A retainage of **ten (10%)** will be deducted from monthly payment up to **fifty (50%)** of project completion followed by **five (5%)** thereafter. Retainage monies will be released upon satisfactory completion and final inspection of the specific work order. Invoices must bear the project name, project number, bid number and purchase order number. The City has up to **thirty (30)** days to review, approve and pay all invoices after receipt. The Contractor shall invoice the City and provide a written request to the City to commence the one-year warranty period. All necessary Release of Liens and Affidavits shall be processed before the warranty period.

11. CONTRACT DOCUMENTS

The contract documents shall consist of the Standard Form of Agreement, Bid Proposal executed and submitted by the Contractor, plans and specifications (where applicable), any addenda or change orders, bond(s), insurance certificate(s), and the City's Resolution awarding the bid.

12. CHANGE ORDERS

Without invalidating the contract, without any monetary compensation, and without notice to any surety, the City reserves and shall have the right to make increases, decreases or other changes to the work as may be considered necessary or desirable to complete the proposed construction in a satisfactory manner. The Contractor shall not start work pursuant to the change order until a change order setting forth the adjustments is approved by the City, and executed by the City and Contractor. Once the change order is so approved, the Contractor shall promptly proceed with the work.

13. CHANGES IN THE WORK/CONTRACT PRICE

13.1 CONTRACT PRICE

The Contract Price constitutes the total compensation (subject to authorized adjustments, if applicable) payable to the Contractor for performing the work. All duties, responsibilities and obligations assigned to or undertaken by the Contractor shall be at his expense without change in the Contract Price or Time except as approved in writing by the City Engineer/Project Manager.

13.2 CHANGE ORDER

The Contract Price and/or Time may only be changed by a Change Order. **A fully executed change order for any extra work must exist before such extra work is begun.** Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party promptly (but in no event later than 15 days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. The amount of the claim with supporting data shall be delivered (unless the Owner allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts to which the claimant is entitled as a result of the occurrence of said event. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this Paragraph.

14. CHANGES IN CONTRACT TIME

14.1 CHANGE ORDER

The Contract Time may only be changed by a Change Order. A fully executed change order must exist prior to extension of the contract time.

14.2 Notice

Any claim for an increase or decrease in the Contract Time shall be based on written notice delivered by the party making the claim to the other party promptly (but in no event later than 15 days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Contractor hereby agrees to waive rights to recover any lost time or incurred costs from delays unless Contractor has given the notice and the supporting data required by this Paragraph.

14.3 Basis for Extension

Extensions of time shall be considered and will be based solely upon the effect of delays to the work as a whole. Extensions of time shall not be granted for delays to the work, unless the Contractor can clearly demonstrate that such delays did or will, in fact, delay the progress of work as a whole. Time extensions shall not be allowed for delays to parts of the work that are not on the critical path of the project schedule. Time extensions shall not be granted until all float or contingency time, at the time of delay, available to absorb specific delays and associated impacts is used.

15. CITY'S OPTION

In the event satisfactory adjustment cannot be reached by the City and the Contractor for any item requiring a change in the contract, and a change order has not been issued, the City reserves the right at its sole option to terminate the contract as it applies to these items in question and make such arrangements as the City deems necessary to complete the work. The cost of any work covered by a change order for an increase or decrease in the contract price shall be determined by mutual acceptance of a lump sum by the City and Contractor. If notice of any change in the contract or contract time is required to be given to a surety by the provisions of the bond, the giving of such notice shall be the Contractor's responsibility, and the amount of each applicable bond shall be adjusted accordingly. The Contractor shall

furnish proof of such adjustment to the CITY. Failure of the Contractor to obtain such approval from the Surety may be a basis for termination of this Contract by the CITY.

16. BONDS

The Contractor shall furnish separate Performance and Payment Bonds in the amount of **One Hundred Percent (100%)** of the total bid award amount as security for the faithful project performance and payment of all of the Contractor's obligations under the contract documents, per City Code Section 10-156. At the completion and formal approval and acceptance of all work associated with the project, a one year warranty period will begin. If the surety on any bond furnished by the Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in Florida, the Contractor shall, within seven (7) days thereafter, substitute another bond meeting the requirements outlined above, which must also be acceptable to the City.

Pursuant to the requirements of Chapter 255.05 (1) (b), Florida Statutes, the Contractor shall ensure that the Bond or Bonds referenced above **shall be recorded in the Public records of Broward County**. Proof of recording must be submitted to the City prior to issuance of a purchase order. One (1) set of originals is required.

17. PERFORMANCE, PAYMENT AND WARRANTY BONDS

Within **fifteen (15)** calendar days after contract award, but in any event prior to commencing work, the Successful Bidder shall execute and furnish the CITY a Performance Bond and Payment Bond, each written by a corporate surety, having a resident agent in the State of Florida and having been in business with a record of successful continuous operation for at least five (5) years. The surety shall hold a current certificate of authority from the Secretary of Treasury of the United States as an acceptable surety on federal bonds in accordance with United States Department of Treasury Circular No. 570. The Contractor shall be required to provide acceptable, separate Performance and Payment Bonds in the amount of **One-Hundred Percent (100%)** of the bid award. The Performance Bond shall be conditioned that the Successful Bidder performs the contract in the time and manner prescribed in the contract. The Payment Bond shall be conditioned that the Successful Bidder promptly make payments to all persons who supply the Successful Bidder in the prosecution of the work provided for in the contract and shall provide that the surety shall pay the same in the amount not exceeding the sum provided in such bonds, together with interest at the maximum rate allowed by law and that they shall indemnify and save harmless the CITY to the extent of any and all payments in connection with the carrying out of said contract which the CITY may be required to make under the law. **Payment and Performance Bonds must be submitted on City forms, included herein.**

Such bonds shall continue in effect for one (1) year after final payment becomes due except as otherwise provided by law or regulation or by the Contract Documents with the final sum of said bonds reduced after final payment to an amount equal to **twenty five percent (25%)** of the Contract price, or an additional bond shall be conditioned that the Successful Bidder correct any defective or faulty work or material which appear within one (1) year after final completion of the Contract, upon notification by CITY. The Warranty Bond shall cover the cost of labor as well as materials.

Pursuant to the requirements of Chapter 255.05 (1) (b), Florida Statutes, the Contractor shall ensure that the Bond or Bonds referenced above shall be recorded in the Public records of Broward County. Proof of recording must be submitted to the City prior to issuance of a purchase order. One (1) set of originals is required.

18. LOCATION OF EXISTING UTILITIES

Existing utilities may be shown on the drawings. Such information is shown for design purposes and the existing and detail given is information that is obtained during the design period and is not necessarily complete, correct or current. Prior to commencement of construction, the Contractor is responsible for locating existing city utilities affected by the construction in the field. Such utilities include but are not limited to water mains, force mains, gravity sewers, pump stations, storm sewers and drain systems. The City will provide to the Contractor available construction drawings for locating existing city utilities. However, the City cannot guarantee the accuracy of drawings or any information related to existing utilities and the City will not assume responsibility or liability for damage resulting from the Contractor incorrectly locating existing utilities.

Damage to any of the City's utilities incorrectly located by the Contractor or his agents shall be the responsibility of the Contractor and shall be repaired and or replaced to equal or better condition at the Contractor's expense. The Contractor shall also be liable for all damages and claims against or by the City arising in any way from damage or interference with such utilities.

No additional compensation shall be allowed to the Contractor for any delays, inconvenience or damage sustained by him due to interference and/or incorrectly locating such utilities or appurtenances.

Numerous utilities not owned by the City exist within the project area that may or may not have been depicted on the drawings. The Contractor shall exercise care in digging and other work so as to not damage existing utilities including overhead utilities and underground cables and pipes. The Contractor is also responsible for contacting the Sunshine State One Call Center of Florida (Sunshine) at 1-800-432-4770 to determine location of underground utilities. Calls to Sunshine must be made at least 48 hours before digging but not more than five (5) days prior. Contractor is responsible for renewing locates if job extends beyond marking period established by Sunshine. Any utility in the vicinity that is not a member of the Sunshine Service must be notified directly.

Should any underground obstructions be encountered which interfere with the work, the City shall be notified at once. The Contractor shall be responsible for the immediate repair of any damage caused by the work, and shall be responsible for any disruption of service caused by this damage.

19. CONFLICT WITH EXISTING UTILITIES

Upon completion of locating existing utilities affected by the proposed construction by the Contractor, and prior to commencement of construction, the Contractor shall examine the alignment of proposed work to be constructed and identify any conflicts with existing utilities. If such conflicts exist, the Contractor shall undertake accurate surveys to determine elevations of utilities and shall notify the Engineer/Project Manager in writing seven (7) working days prior to the scheduled construction. The Engineer/Project Manager may revise the proposed design or recommend ways and means to avoid such conflicts. The Contractor

may re-schedule his work so that the construction can be completed on time. No claim for down times by the Contractor shall be allowed.

BALANCE OF PAGE INTENTIONALLY LEFT BLANK

SPECIAL PROVISIONS

BID NO. 16-05 B **CITYWIDE BUFFER WALLS – PHASE I**

1. PURPOSE OF BID

The City of Tamarac is hereby requesting Bids, from qualified Contractors for the construction of the Citywide Buffer Walls – Phase I Project, Bid No. 16-05 B. The project is generally located on the West side of Commercial Boulevard, between NW 31st Avenue and NW 25th Terrace, Tamarac, Florida. The work shall include, but not limited to, site preparation, construction of a new pre-cast concrete buffer wall and associated work, concrete sidewalk improvements, curbing, brick pavers, pavement restoration, pavement markings and signage, handrail removal, landscaping and irrigation. The Contractor shall furnish all labor, materials, tools, and equipment necessary to complete this project, as indicated in the, Special Conditions, Special Provisions, Project Design Plans, Technical Specifications, and Bid No. 16-05 B Documents herein.

2. BASIC DEFINITIONS

Wherever used in the Agreement or in other Contract Documents, the following terms have the meanings indicated, which are applicable to both the singular and plural of each:

- 2.1 Addenda** – Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the bidding requirements or the contract document.
- 2.2 Agreement** – The written agreement between the City and the Contractor covering the Work to be performed including other Contract Documents that are attached to the Agreement and made a part thereof.
- 2.3 Application for Payment** – the form acceptable to the Engineer/Project Manager which is used by the Contractor during the course of the work in requesting progress or final payments and which is accompanied by such supporting documentation as is required by the Contract Documents.
- 2.4 Change Order** – A document that is signed by the Contractor and the City and authorizes an addition, deletion or revision in the Work within the general scope of this Agreement, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.
- 2.5 City** – The City of Tamarac, Florida. Also referred to as Owner.
- 2.6 Contract Documents** – The contract documents consist of this Agreement, conditions of the contract (General, Supplementary and other Conditions), drawings, specifications of Bid No. 06-13B, all addenda issued prior to, all modifications issued after execution of this Agreement, Notice of Award, Notice to Proceed, Certificate(s) of Insurance, Bonds and any additional modifications and supplements, Change Orders and Work directive changes issued on or after the effective date of the Contract. These contract documents form the Agreement, and all are as fully a part of the Agreement if attached to this Agreement or repeated therein.

- 2.7 Contract Times** – the number of consecutive calendar days stated in the Contract Documents to achieve substantial completion and/or complete the Work so that it is ready for final payment as evidenced by the Capital Projects Manager's/Project Manager's written recommendation of final payment.
- 2.8 Defective** – An adjective which when modifying the Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to final payment.
- 2.9 Drawings** – The drawings that show the character and scope of the Work to be performed and which are referred to in the Contract Documents.
- 2.10 Effective Date of the Agreement** – The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
- 2.11 Engineer/Project Manager** – The City's authorized project representative. The words "Engineer" and "Engineer/Project Manager" are used interchangeably.
- 2.12 Capital Projects Manager** – An authorized representative of the City.
- 2.13 Field Order** – A written order issued by the Engineer/Project Manager that requires minor changes in the Work but does not involve a change in Contract Price or Contract Time.
- 2.14 FDOT** – the State of Florida Department of Transportation
- 2.15 Milestone** – A principal event specified in the Contract Documents relating to an intermediate complete date or time prior to Substantial Completion of all the Work.
- 2.16 Notice to Proceed** – A written notice given by the City to the Contractor fixing the date on which the Contract Time will commence to run and on which the Contractor shall start to perform the Contractor's obligations under the Contract Documents.
- 2.17 Project** – the total construction for which the Contractor is responsible under this agreement, including all labor, materials, equipment and transportation used or incorporated in such construction.
- 2.18 Specifications** – Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and Workmanship as applied to the Work and certain administrative details applicable thereto.
- 2.19 Subcontractor** – An individual, firm or corporation having a direct Contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the site.
- 2.20 Substantial Completion** – "Substantial Completion" means the finishing or accomplishing of substantial performance of the Work as proscribed in the Contract Documents. "Substantial Performance" means that there has been no willful departure from the terms of the Contract Documents and the Work

has been honestly and faithfully performed in its material and substantial particulars. The term "Final Completion" means the City's acceptance of the job.

- 2.21 Final Completion** - "Final Completion" means the City's acceptance of the job and issuance of final payment.
- 2.22 Supplier** – A manufacturer, fabricator, supplier, distributor, materialman or vendor.
- 2.23 Unit Price Work** – Work to be paid for on the basis of unit prices.
- 2.24 Work** – The entire completed construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work is the result of performing services, specifically, including but not limited to construction, furnishing labor, testing, documentation, equipment and materials used or incorporated in the construction of the entire Contract Documents. The words "Project" and "Work" are used interchangeably.
- 2.25 Work Change Directive** – A written directive to the Contractor issued on or after the effective date of the Agreement and signed by the City and recommended by the Engineer/Project Manager ordering an addition, deletion or revision in the Work. A Work Change Directive shall not change the Contract price or time, but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time.
- 2.26 Written Amendment** – A written amendment of the Contract Documents, signed by the CITY and the Contractor on or after the Effective Date of the Agreement and normally dealing with the non-Engineering, or non-technical aspects rather than strictly Work related aspects of the Contract Documents.

3. ENUMERATION OF CONTRACT DOCUMENTS

If any portion of the Contract Documents appears to be in conflict with any other portion, the various documents comprising the Contract Documents shall govern in the following order of precedence:

1. The Technical Specifications
2. The Contract Drawings
3. The Special Provisions
4. Special Conditions
5. The Instructions to Bidders and General Terms and Conditions
6. The Sample Agreement

As between schedules and information given on Drawings, the schedules shall govern; as between figures given on Drawings and the scale measurements, the figures shall govern; as between large-scale drawings and small-scale drawings, the larger scale drawings shall govern.

4. INTENT

It is the intent of the Contract Documents to describe a functionally complete Project in accordance with the Plans and Specifications. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for. When words that have a well-known technical or trade meaning are used to describe Work, materials or equipment such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implications, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of contract award, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of the City, the Contractor, or any of their consultants, agents or employees from those set forth in the Contract Documents.

5. SUPPLEMENTS, MINOR VARIATIONS OR DEVIATIONS

In addition, the requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized in one or more of the following ways:

5.1 The Engineer/Project Manager's approval of a shop drawing or sample; or

5.2 The Engineer/Project Manager's written interpretation or clarification.

6. CONTRACTOR'S ADDITIONAL RESPONSIBILITY

6.1 The Contractor shall provide sufficient manpower so as to perform work safely and expeditiously with all equipment plainly marked with the company name. All equipment provided pursuant to this agreement shall be in good and proper working order.

6.2 The Contractor shall provide a qualified, English speaking, superintendent present on the site at all times. The superintendent shall be a fully authorized agent of the Contractor, and have full authority to make on-site decisions and commitments regarding the Contractors Work.

6.3 The superintendent shall be satisfactory to the City and shall not be changed except with consent of the Capital Projects Manager/Project Manager.

6.4 The Contractor shall assign to the work site at least one (1) supervisor at all time capable of making field decisions, interpreting plans, etc. The Contractor shall also provide suitable personnel who shall be available after work hour emergencies and capable of making appropriate decisions. The Contractor shall supply competent and physically capable employees having the requisite skill and experience to perform the work in a workmanlike manner. The City may require the Contractor to remove any employee working for or under the Contractor that the City deems careless, incompetent, insubordinate or otherwise objectionable. The Contractor shall be

- responsible to the City for the acts and omissions of all subcontractors and personnel working under the Contractor.
- 6.5** The Contractor shall be aware that the job may be subject to vehicular and pedestrian traffic at all times of the day and night.
 - 6.6** Loss of materials or equipment due to theft, vandalism, etc. shall be the responsibility of the Contractor. Any material left on site overnight shall be properly marked and identified in order to ensure public safety.
 - 6.7** The Contractor is responsible for familiarizing itself with the nature and extent of the Contract Documents, the Work, the locality, and with all local conditions, verifying all pertinent figures and applicable field measurements, and federal, state, and local laws, ordinances, rules and regulations that in any manner may affect cost, progress, or performance of the Work. The Contractor is responsible for making or causing to be made any examinations, investigations, tests and studies as it deems necessary for the performance of the Work at the Contract Price, within the Contract Time, and in accordance with other terms and conditions of the Contract Document.
 - 6.8** Before beginning the Work or undertaking each component part of the Work, The Contractor shall carefully study the Contract Documents, Special Conditions, Technical Specification, all pertinent figures and site conditions. The Contractor shall promptly report in writing to the Engineer/Project Manager and the City any conflict, error or discrepancy which the Contractor may discover and shall obtain a written interpretation or clarification from the Project Manager before proceeding with any Work affected thereby.
 - 6.9** Unless otherwise provided in the Contract Documents, the Contractor shall provide or cause to be provided and shall pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation and other facilities and services necessary for proper execution and completion of the work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.
 - 6.10** The Contractor shall be responsible for and shall coordinate all construction means, methods, techniques, sequences and procedures.
 - 6.11** The Contractor shall keep the City and the Project Manager informed of the progress and quality of the Work.
 - 6.12** If requested in writing by the Contractor, the City, with reasonable promptness and in accordance with time limits agreed upon, shall interpret the requirements of the Contract Documents and shall decide (subject to other provisions in the Contract Documents governing claims, disputes and other matters in question) matters relating to performance. Such interpretations and decisions shall be in writing.
 - 6.13** The Contractor shall correct all Work, which does not conform to the Contract Documents.
 - 6.14** The Contractor warrants to the City that materials and equipment incorporated in the work will be new unless otherwise specified, and that the Work will be of good quality, free from faults and defects, and in conformance with the Contract Documents.

- 6.15 The Contractor shall pay all applicable sales, consumer, use and similar taxes, and shall secure and pay for permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the Work. The Contractor shall identify all governmental authorities and agencies having jurisdiction to approve the construction, and obtain all permits and approvals with such governmental authorities as have jurisdiction, and assist the City in consultations with appropriate governmental authorities and agencies in obtaining all permits and approvals.
- 6.16 Without limiting the foregoing, the Contractor shall pay all fees, costs, and expenses in connection with the applications, processing, and securing of approvals or permits, **not previously obtained by the owner or its agent**, from all governmental authorities which have jurisdiction over all aspects of this Work except City permits and fees which shall be waived except for so much of said fees as the City is required to remit to other governmental agencies.
- 6.17 The Contractor shall give notices and comply with laws, ordinances, rules, regulations and lawful orders of public authorities relating to the Project.
- 6.18 The Contractor shall be responsible to the City for acts and omissions of the Contractor's employees and parties in privacy of contract with the Contractor to perform any portion of the Work, including their agents and employees.
- 6.19 The Project Manager shall prepare Change Orders for the City's approval and execution in accordance with the Contract Documents. Any work, which is commenced without a Change Order or Work Directive being approved, shall constitute a waiver of any claim of compensation for such work. All Change Orders must be approved by the City Manager or designee identified as such in writing.
- 6.20 The Contractor shall maintain in good order when present at the site one record copy of the drawings, specifications, product data, samples, shop drawings, Change Orders and other Modifications marked currently to record changes made during construction. These shall be delivered to the City upon completion of the construction and prior to final payment.
- 6.21 Contractor must repair any pavement, concrete, brick pavers, etc., disturbed as a result of any work within the scope of this contract to all applicable codes and City standards.

7. FAMILIARITY WITH THE TOTAL SCOPE OF THE PROJECT

- 7.1 The Contractor shall be familiar with the total scope of the project prior to commencement of any work. In case of any questions or conflict, they must be brought to the attention of the Project Manager prior to any work. If further assistance is needed, the Contractor may contact the Director of Public Works. The City shall not be responsible for the Contractor's failure to comply with this requirement.
- 7.2 The Contractor shall be responsible for repair and restoration of all utilities or any other items damaged during the Work.

- 7.3 By execution of the Agreement, The Contractor acknowledges that all requirements and conditions necessary to fulfill this Contract have been met. No contract adjustments shall be allowed for concealed site conditions.

8. SHOP DRAWINGS AND SAMPLES

- 8.1 The Contractor shall submit to The Project Manager for review and approval **four (4)** copies of all Shop Drawings for all equipment, apparatus, machinery, fixtures, piping, wiring, fabricated structures and manufactured articles. The purpose of the Shop Drawing is to show the suitability, efficiency, technique-of-manufacture, installation requirements and detail of the item and evidence of compliance with the Contract Documents. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable the Engineer/Project Manager to review the information as required.
- 8.2 The Contractor shall also submit to the Project Manager for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents and each sample shall be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.
- 8.3 Before submission of each Shop Drawing or sample, the Contractor shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.
- 8.4 At the time of each submission, the Contractor shall give the Engineer/Project Manager specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to the Engineer/Project Manager for review and approval of each such variation. Failure to point out such departures shall not relieve the Contractor from his responsibility to comply with the Contract Documents.
- 8.5 Approval of the Shop Drawings by the Engineer/Project Manager shall be general and shall not relieve the Contractor of responsibility for the accuracy of such drawings nor for the proper fittings and construction of the Work, nor for the furnishing of material or Work required by the Contract Documents and not indicated on the drawings. No Work called for by any Shop Drawing shall be done until the Engineer/Project Manager has approved the drawings. The costs incurred for the Engineer/Project Manager's review of shop drawings, substitutes, "or equal" items, or change orders shall be paid by the Contractor.

9. SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 9.1** The Contractor shall furnish, in writing on the form included, the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Contractor shall not change a Subcontractor, person or entity previously selected if the City makes reasonable objection to such change.
- 9.2** The Contractor shall be fully responsible to the City for all acts and omissions of the Contractor's employees, subcontractors, suppliers and other persons directly or indirectly employed by his subcontractors, suppliers and of persons whose acts any of them may be liable and any other persons and organizations performing or furnishing of the Work under a direct or indirect contract with the Contractor. Nothing in the Contract Documents shall create any Contractual relationship between the City and any such subcontractor, supplier, or other person or organization, nor shall it create any obligation on the part of the City to pay or to see to the payment of any moneys due any such subcontractor, supplier, or other person or organization except as may otherwise be required by laws and regulations.

10. CITY'S RESPONSIBILITIES

- 10.1** The City shall designate a representative authorized to act on the City's behalf with respect to the Project. The City or such authorized representative shall examine documents submitted by the Contractor and shall promptly render decisions pertaining thereto to avoid delay in the orderly progress of the Work.
- 10.2** The City may appoint an on-site Project representative to observe the Work and to have such other responsibilities as the City and the Contractor agree in writing prior to execution of this Agreement.
- 10.3** The City shall cooperate with the Contractor in securing building and other permits, licenses and inspections.
- 10.4** If the City observes or otherwise becomes aware of a fault or defect in the Work or nonconformity with the Contract Documents, the City shall give prompt written notice thereof to the Contractor.
- 10.5** The City shall furnish required information and services and shall promptly render decisions pertaining thereto to avoid delay in the orderly progress of the design and construction.
- 10.6** The City shall communicate with subcontractors only through the Contractor.
- 10.7** The City shall furnish data required of the City under the Contract Documents promptly.

- 10.8** If the Work is defective, or the Contractor fails to supply sufficient skilled Workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the City may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to stop the Work shall not give rise to any duty on the part of the City to exercise this right for the benefit of the Contractor or any other party.

11. ENGINEER/PROJECT MANAGER'S RESPONSIBILITIES

- 11.1** The Engineer/Project Manager or his designee will be the City's representative during the construction period and until final payment is made.
- 11.2** The Engineer/Project Manager will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. The Engineer/Project Manager's efforts will be directed toward providing for the City a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site inspections, the Engineer/Project Manager shall keep the City informed of the progress of the Work and shall endeavor to guard the City against defects and deficiencies in the Work.
- 11.3** The Engineer/Project Manager will issue technical clarifications and interpretations, with reasonable promptness. Should the Contractor fail to request interpretation of items the Contractor determines to be questionable in the Contract Documents neither the City nor the Engineer/Project Manager would thereafter entertain any excuse for failure to execute the Work in a satisfactory manner based upon such a reason or claim.
- 11.4** The Engineer/Project Manager may authorize minor variations in the Work from the technical requirements of the Contract Documents, which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These shall be accomplished by a Field Order and will be binding on the City, and also on the Contractor who shall perform the Work involved promptly.
- 11.5** The Engineer/Project Manager will have the authority to disapprove or reject Work that the Engineer/Project Manager believes to be defective, and will also have authority to require special inspections or testing of the Work whether or not the Work is fabricated, installed or completed.

12. AVAILABILITY OF AREA TO STORE EQUIPMENT AND MATERIAL

City will make every effort to provide suitable areas within or near the project site. Restoration of all storage areas shall be Contractor's responsibility.

13. CLEANUP AND RESTORATION

- 13.1** During and after completion of all work, the Contractor shall be responsible for all cleanup including but not limited to sweeping, cleaning and removal of loose material. Leftover or excessive material, debris, etc. must be completely removed from the work area and other affected areas at no expense to the City at the end of work. It shall be the Contractor's responsibility to protect any debris from obstructing or getting into any wastewater, water or stormwater conveyance system. If any grassed area is disturbed, it shall be promptly restored at the Contractor's expense.
- 13.2** Cleanup shall be performed on a routine basis in order to facilitate the maintenance of all work areas. Any damage to public or private property resulting from improper or incomplete cleanup shall be the sole responsibility of the Contractor as per Section 14, Damage To Public And/Or Private Property.
- 13.3** The Contractor shall be responsible for the proper and legal removal and disposal of all construction debris.
- 13.4** The project site shall be maintained in a neat and clean manner, and upon final cleanup, the project site shall be left clear of all surplus material and debris. Paved areas shall be swept clean.
- 13.5** If the Contractor fails to properly maintain the site or perform required clean-ups and debris removal the City shall place the Contractor on written notice to perform required clean up. Contractor shall perform required clean up within twenty-four (24) hours of receipt of the City's written notice.
- 13.6** In the event that the Contractor does not comply, the City may correct such deficiencies. In such case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor costs of correcting such deficiencies. If the payments then or thereafter due the Contractor are not sufficient to cover the amount of the deduction, the Contractor shall pay the difference to the City.

14. DAMAGE TO PUBLIC AND/OR PRIVATE PROPERTY

- 14.1** Extreme care shall be taken to safeguard all existing facilities, site amenities, utilities, irrigation systems, windows, and vehicles on or around the job site. Damage to public and/or private property shall be the responsibility of the Contractor and shall be repaired and/or replaced in equal or better condition at no additional cost to the City.
- 14.2** The Contractor shall use all means to protect existing objects, structures and vegetation designated to remain.

- 14.3** In the event of damage, Contractor shall immediately make all repairs, replacements and dressings to damaged materials, to the approval of the City, at not additional cost to the City.
- 14.4** In the event of damage to public and/or private property, the Contractor shall immediately contact the City's Public Works Department by telephone at (954) 597-3700 and inform the appropriate staff member about the location and extent of the damages.
- 14.5** In the event that the Contractor does not immediately repair to the satisfaction of the City damage to public and/or private property, the City may correct such damage. In such case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor costs of correcting such damage. If the payments then or thereafter due the Contractor are not sufficient to cover the amount of the deduction, the Contractor shall pay the difference to the City.

15. CONNECTION TO CITY WATER

The Contractor must also comply with all City of Tamarac Utility Department and Building Department requirements, and contact these departments at least 48 hours prior to start of work.

16. BASIS OF PAYMENT, UNIT PRICES AND RIGHT TO CHANGE QUANTITIES

Payment at the contract unit price shall be inclusive of all labor, materials, and equipment along with incidental items.

17. ACCEPTANCE OF WORK

Acceptance shall be based upon satisfactory completion, material test results, performance and appearance of the Work after the materials have established, been placed or found to be in good operating order. Prior to final acceptance, the Contractor shall remove and replace, satisfactory to the City, all defective areas. Any adjusted area that is found to be of an unsatisfactory condition shall be rejected and shall be removed and restored by the Contractor at no expense to the City.

18. TESTS AND INSPECTIONS

- 18.1** The Contractor shall give the City timely notice of readiness of the Work for all required inspections, tests or approvals. The Contractor shall assume full responsibility, pay all costs in connection therewith and furnish the City the required certificates of inspection, testing or approval for all materials, equipment for the Work and any part thereof unless otherwise specified herein.
- 18.2** The City inspectors shall have no authority to permit deviations from or to relax any of the provisions of the Contract Documents, or to delay the

Agreement by failure to inspect the materials and Work with reasonable promptness.

- 18.3** The payment of any compensation in any form, or the giving of any gratuity or the granting of any favor by the Contractor to any inspectors, directly or indirectly is strictly prohibited and any such action on the part of the Contractor will constitute a breach of this Agreement.

19. CORRECTION OR REMOVAL OF DEFECTIVE WORK

- 19.1** The Contractor shall correct Work rejected by the City or known by the Contractor to be defective or failing to conform to the Construction Documents, whether observed before or after Final Completion and whether or not fabricated, installed or completed, and all work found to be defective in the one-year period from the date of Substantial Completion (the Warranty Period) shall be the responsibility of the Contractor, or within such longer period provided by any applicable special warranty in the Contract Documents.
- 19.2** The City shall provide the Contractor with written notice regarding defective or rejected work. Within seven days after receipt of such written notice from the City the Contractor shall commence with corrective action to remove and replace it with Work that is not defective or rejected.
- 19.3** If the Contractor fails to correct defective Work as required or persistently fails to carry out the Work in accordance with the Contract Documents, the City, by written order may stop the Work, or any portion thereof, until the cause for such order has been eliminated; however the City's right to stop the Work shall not give rise to a duty on the part of the City to exercise the right for benefit of the Contractor or other persons or entities.
- 19.4** If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents within seven days after receipt of written notice from the City to commence and continue correction of such default or neglect, the City may give a second written notice to the Contractor. If within seven days following receipt of the second notice, the Contractor fails to correct such default or neglect with diligence and promptness, the City may correct such deficiencies. In such case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor costs of correcting such deficiencies. If the payments then or thereafter due the Contractor are not sufficient to cover the amount of the deduction, the Contractor shall pay the difference to the City.

20. PROGRESS PAYMENTS

- 20.1** The Contractor shall deliver to the City itemized Applications for Payment for Payment. The Contractor may requisition payments for Work completed during the Project at intervals of not more than once a month. The Contractor's requisition shall show a complete breakdown of the Project

components, the quantities completed and the amount due, together with a certification by the Contractor that the Contractor has disbursed to all Subcontractors and Suppliers their pro-rata shares of the payment out of previous progress payments received by the Contractor for all Work completed and materials furnished in the previous period and that properly executed releases of liens by all Subcontractors, Suppliers and materialmen were provided and included in the Contractor's previous applications for payment, and any other supporting documentation as may be required by the Engineer/Project Manager or Contract Documents. Each requisition shall be submitted in triplicate to the Engineer/Project Manager for approval. The City shall make payment to the Contractor within thirty (30) calendar days after approval by the Engineer/Project Manager of the Contractor's requisition for payment.

- 20.2** Within **thirty (30)** days of the City's receipt of a properly submitted and correct Application for Payment, the City shall make payment to the Contractor.
- 20.3** The City shall retain **Ten percent (10%)** of all monies earned thru 50% of project completion by the Contractor, and **Five percent (5%)** thereafter, until the Work is totally completed as specified, and accepted by the City. The parties hereto agree that 255.052, Florida Statutes, do not apply to this Agreement, or to any underlying agreements and obligations to which this Agreement pertains.
- 20.4** The Application for Payment shall constitute a representation by the Contractor to the City that, to the best of the Contractor's knowledge, information and belief, the design and construction have progressed to the point indicated, the quality of the Work covered by the application is in accordance with the Contract Documents and the Contractor is entitled to payment in the amount requested.
- 20.5** The Contractor shall pay each Subcontractor, upon receipt of payment from the City, out of the amount paid to the Contractor on account of such Subcontractor's Work, the amount to which said Subcontractor is entitled in accordance with the terms of the Contractor's contract with such Subcontractor. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to sub-Subcontractors in similar manner.
- 20.6** The City shall have no obligation to pay or to be responsible in any way for payment to a Subcontractor of the Contractor except as may otherwise be required by law.
- 20.7** No progress payment or partial or entire use or occupancy of the Project by the City shall constitute an acceptance of Work not in accordance with the Contract Documents.
- 20.8** The Contractor warrants that:

- Title to Work, materials and equipment covered by an Application for Payment will pass to the City either by incorporation in construction or upon receipt of payment by the Contractor, whichever occurs first;
- Work, materials and equipment covered by previous Applications for Payment are free and clear of liens, claims, security interests or encumbrances, hereinafter referred to as "liens"; and (3) no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or any other person performing Work at the site or furnishing materials or equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

20.9 The Contractor may apply for the return of the retainage held pursuant to Section 20.3, if the Contractor has satisfied the requirements of the Contract relating to retainage. The City shall pay the Contractor the amount retained for the Work, less the reasonable value of incorrect or incomplete Work, liquidated damages or both. Final payment of such withheld sum shall be made upon correction or completion of such Work and resolution of all issues regarding liquidated damage. The release of retainage shall not become due until all Work is **One-Hundred Percent (100%)** completed as identified on the final punch list. The requirements of retainage include the following:

- 20.9.1** Repair and/or replacement of faulty or defective Work.
- 20.9.2** As-built drawings are submitted to and accepted by the City.
- 20.9.3** All Code requirements, inspections, testing and certificates of approval are conformed with, submitted and accepted by the City.
- 20.9.4** The City is satisfied all payrolls, bills for materials and equipment and other indebtedness connected with the Work for which the City might in any way be responsible have been paid or otherwise satisfied to the extent and in such form as may be designated by the City.
- 20.9.5** Release of Lien is submitted and accepted by the City.
- 20.9.6** The Contractor's completion of Punch List.
- 20.9.7** Warranties are submitted to and accepted by the City.

20.10 The City of Tamarac desires to have the ability to use a city credit card for payment. Contractors are encouraged to allow for the use of city credit cards as payment by the City.

21. CHANGE QUANTITIES/CHANGE ORDERS

21.1 The City, without invalidating this Agreement, may order additions, deletions or revisions to the Work. A written Amendment, Change Order or Work Change Directive shall authorize such additions, deletions or revisions.

- 21.2** All Change Orders which, individually or when cumulatively added to amounts authorized pursuant to prior Change Orders for this Project, increase the cost of the Work to the City or which extend the time for completion, must be formally authorized and approved by the appropriate City authority prior to their issuance and before Work may begin.
- 21.3** **No claim against the City for extra Work in furtherance of a Change Order shall be allowed unless prior written City approval pursuant to this section has been obtained.**
- 21.4** The Contract Price and Contract Time shall be changed only by Change Order or written Amendment.
- 21.5** The Engineer/Project Manager shall prepare Proposed Change Orders on forms provided by the City. When submitted for approval, they shall carry the signature of the Public Works Director, the City Manager, and the Contractor.
- 21.6** If the City and the Contractor are unable to agree as to the extent, if any, of an adjustment in the Contract Price or an adjustment of the Contract times that should be allowed as a result of a Work Change Directive, a claim may be made therefore.
- 21.7** The Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract times with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented.
- 21.8** If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents is required by the provisions of any bond to be given to a surety, the giving of any such notice will be the Contractor's responsibility and the amount of each applicable bond shall be adjusted accordingly.
- 21.9** Any claim for adjustment in the Contract Price or time shall be based upon written notice delivered by the party making the claim to the other parties and to the Engineer/Project Manager not later than fifteen (15) calendar days after the occurrence or event giving rise to the claims and stating the general nature of the claim. No claim for an adjustment in the Contract Price or an extension of the contract time will be valid if not submitted in accordance with this Paragraph.
- 21.10** The cost or credit to the City from a change in the Work shall be determined by one or more of the following ways:
- 21.10.1** By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation where unit prices do not exist in the contract documents;
 - 21.10.2** By unit prices stated in the Contract Documents or subsequently agreed upon; or

- 21.10.3** By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee.

22. REGULATORY CHANGES

The Contractor shall be compensated for changes in the Work necessitated by the enactment or revision of codes, laws, or regulations subsequent to the submission of the Contractor's proposal.

23. SUBSTANTIAL COMPLETION

The specified warranty period for a specific Project does not begin until final completion of that project under that project's individual Notice to Proceed.

24. FINAL INSPECTION

Upon written notice from the Contractor that the Work is or an agreed portion thereof is complete, the City and the Engineer/Project Manager will make a final inspection and will notify the Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. The Contractor shall address such deficiencies in accordance with Section 19 "Correction or Removal of Defective Work" of this document.

25. FINAL APPLICATION FOR PAYMENT

- 25.1** After the Contractor has completed all such corrections to the satisfaction of the City and the Engineer/Project Manager and delivered all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, marked up record documents and other documents required by the Contract Documents, and after the Engineer/Project Manager has indicated that the Work is acceptable, the Contractor may make application for final payment. The final application for payment shall be accompanied by (1) complete and legally effective releases or waivers of all liens arising out of or filed in connection with the Work and a final affidavit; or (2) the Contractor's receipts in full covering all labor, materials and equipment for which a lien could be filed; or (3) a final affidavit stating that all laborers, materialmen, Suppliers and Subcontractors who Worked for the Contractor under this Contract have been paid in full or if the fact be otherwise, identifying the name of each lienor who has not been paid in full and the amount due or to become due each for labor, services or materials furnished and the reason(s) why the same remains unpaid. If any Subcontractor or Supplier fails to furnish a release or receipt in full, the Contractor may furnish a bond satisfactory to the City to indemnify the City against any such lien.
- 25.2** The Contractor shall also submit with the final application for payment, the completed set of "As-Built" drawings for review and approval. The "As-Built" drawings shall be prepared, sealed and certified by a professional registered land surveyor licensed by the State of Florida. The Contractor shall deliver mylar sepias of the as-built project, signed, sealed and dated by the responsible professional. In addition, "As-Built" plans are to be submitted in

a digital format in AutoCAD latest version. The Digital File is to be compatible with the City's GIS system. Final payment to the Contractor shall not be made until said drawings have been reviewed and approved by the Engineer/Project Manager. Prior to approval, if necessary, the drawings may be returned to the Contractor for changes or modifications if in the opinion of the Engineer/Project Manager they do not represent correct or accurate "As-built" drawings.

26. FINAL PAYMENT AND ACCEPTANCE

26.1 If, on the basis of the Engineer/Project Manager's observation of the Work during construction and final inspection, and the Engineer/Project Manager's review of the final Application for Payment and accompanying documentation, the Project Manager is satisfied that the Work has been completed and the Contractor's other obligations under the Contract Documents have been fulfilled, the Engineer/Project Manager will, within **thirty (30)** days after receipt of the final Application for Payment, indicate in writing the Project Manager's recommendation of payment and present the Application to the City for payment. Thereupon the Project Manager will give written notice to the City and the Contractor that the Work is acceptable. Otherwise, the Project Manager will return the Application to the Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case the Contractor shall make the necessary corrections and resubmit the Application. After presentation to the City of the Application and accompanying documentation, in appropriate form and substance, and with the Project Manager's recommendation and notice of acceptability, the amount recommended by the Project Manager will become due and will be paid by the City to the Contractor within the required time frame under Florida statute regarding such payments.

26.2 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be paid by the City to the Contractor when the Work has been completed, the Contract fully performed, and a final certificate for payment has been approved by the Project Manager. The making of final payment shall constitute a waiver of claims by the City except those arising from:

- 26.2.1** Liens, claims, security interests or encumbrances arising out of this Agreement and unsettled.
- 26.2.2** Faulty or defective Work and latent defects discovered after acceptance.
- 26.2.3** Failure of the Work to comply with the requirements of the contract documents.
- 26.2.4** Terms of special warranties required by the contract documents.
- 26.2.5** Any of the Contractor's continuing obligations under this Agreement.

26.3 The acceptance of final payment by the Contractor shall constitute a waiver of claims by that payee except those previously made in writing and identified as unsettled at the time of final application for payment.

27. CITY'S RIGHT TO WITHHOLD PAYMENT

- 27.1** The City may withhold in part, final payment or any progress payment to such extent as allowed under Florida statute, necessary to protect itself from loss on account of:
- 27.2** Defective Work not remedied.
- 27.3** Claims filed or reasonable evidence indicating the probable filing of claims by other parties against the Contractor.
- 27.4** Failure of the Contractor to make payments to Subcontractors or Suppliers for materials or labor.
- 27.5** Damage to another Contractor not remedied.
- 27.6** The Contractor has incurred liability for liquidated damages.
- 27.7** Reasonable evidence that the Work cannot be completed for the unpaid balance of the contract sum.
- 27.8** Reasonable evidences that the Work will not be completed within the Contract time.
- 27.9** Failure to carry out the Work in accordance with the Contract Documents.
- 27.10** When the above grounds are removed or resolved or the Contractor provides a Surety Bond or Consent of Surety satisfactory to the City, which will protect the City in the amount withheld, payment may be made in whole or in part.

28. WARRANTIES

- 28.1** The Contractor warrants that all equipment, materials and Workmanship furnished, whether furnished by the Contractor or its subcontractors and Suppliers, will comply with the Technical Specifications, drawings and other descriptions supplied or adopted and that all services will be performed in a Workmanlike manner.
- 28.2** The Contractor warrants to the City that it will comply with all applicable federal, state and local laws, regulations and orders in carrying out its obligations under the Contract.
- 28.3** The Contractor warrants to the City that it is not insolvent, it is not in bankruptcy proceedings or receivership, nor is it engaged in or threatened with any litigation, arbitration or other legal or administrative proceedings or investigations of any kind which would have an adverse effect on its ability to perform its obligations under the Contract.

29. CORRECTION PERIOD

- 29.1** The Contractor warrants all material and Workmanship as noted in the Technical Specifications from date of final acceptance by the City. If within the period of warranty from the date of final completion or such longer period of time as may be prescribed by laws or regulations or by the terms of any applicable special guarantee required by the Contract Documents, any Work

is found to be defective, whether observed before or after acceptance by the City, the Contractor shall commence with corrective action within seven (7) days after written notice of the such defect, without cost to the City and in accordance with the City's written instructions, either correct such defective Work, or, if it has been rejected by the City, remove it from the site and replace it with Work that is not defective and satisfactorily correct and remove and replace any damage to other Work or the Work of others resulting therefrom. If the Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, the City may have the defective Workmanship corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of the Engineer/Project Manager, attorneys and other professionals) will be paid by the Contractor.

29.2 Where defective Work (and damage to other Work resulting therefrom) has been corrected, removed or replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period as noted in the Technical Specifications after such correction or removal and replacement has been satisfactorily completed.

29.3 Nothing contained in this Article shall be construed to establish a period of limitation with respect to other obligations that the Contractor might have under the Contract Documents. Establishment of the time period as described in Article 29, relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligation other than specifically to correct the Work.

30. CONSTRUCTION SCHEDULE

30.1 The construction schedule shall be in the form of a tabulation, chart or graph (MS Project latest edition) and shall be in sufficient detail to show the critical path and the chronological relationship of all activities contained in the project. These include, but are not limited to: estimated starting and completion dates of various activities, submittals required to the Engineer/Project Manager for approval, procurement of material and scheduling of equipment.

30.2 The Construction Schedule shall allow for a maximum turnaround time by the Engineer/Project Manager of fourteen calendar days on all submittals, shop drawings and all requests for information.

30.3 The construction schedule shall reflect the completion of all Work to be performed within the specified time and in accordance with the Contract Documents.

- 30.4** The construction schedule shall be thoroughly reviewed and updated on a monthly basis. The revised schedule shall be submitted to the City at least every 30 days during the term of this Agreement and shall reflect a current schedule of activities, percent complete and remaining durations for all tasks.
- 30.5** Float, slack or contingency time derived from the early completion of tasks on the critical path is not for the exclusive use or benefit of the Contractor. The Contractor shall not utilize such time without the prior written consent of the City.
- 30.6** If the Contractor desires to make changes in the method of operation after the construction approval of the construction schedule, or if the Engineer/Project Manager determines that the schedule fails to reflect the actual progress, the Contractor shall submit to the Engineer/Project Manager a revised construction schedule for approval.

31. PROTECTION OF PERSONS AND PROPERTY

- 31.1** The Contractor shall be solely responsible for initiating, maintaining and providing supervision for compliance with Occupational Safety and Health Act (OSHA) standards for safety precautions and programs in connection with the Work.
- 31.2** The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to (1) employees on the Work and other persons who may be affected thereby; (2) the Work and materials and equipment to be incorporated therein; and (3) other property at or adjacent to the site.
- 31.3** The Contractor shall comply with applicable laws, ordinances, rules, regulations and orders of public authorities bearing on the safety of persons and property and their protection from damage, injury or loss.
- 31.4** The Contractor shall be liable for damage or loss (other than damage or loss to property insured under the property insurance provided or required by the Contract Documents to be provided by the City) to property at the site caused in whole or in part by the Contractor, a Sub-Contractor of the Contractor or anyone directly or indirectly employed by either of them, or by anyone for whose acts they may be liable.
- 31.5** All unit prices provided by the Contractor as a part of this Bid shall include the cost of all safety equipment necessary for the performance of the Work.
- 31.6** The Contractor shall comply with the requirements of the Florida Trench Safety Act and all applicable OSHA Regulations pertaining to excavation.
- 31.7** The Contractor shall comply with Florida Statutes, Chapter 556, Underground Facility Damage Prevention and Safety Act and secure the underground locations and obtain a Sunshine State One Call Certification number prior to beginning any excavation.

32. HURRICANE AND SEVERE WEATHER PRECAUTIONS

- 32.1** The Contractor shall immediately take all protective actions necessary to secure the construction site, materials, debris and equipment to the satisfaction of Engineer/Project Manager. Engineer/Project Manager shall not be held liable for the construction site, materials, debris, and equipment.
- 32.2** All construction materials or equipment will be secured against displacement by wind forces.

33. WORK BY THE CITY OR CITY'S CONTRACTORS

- 33.1** The City reserves the right to perform Work related to, but not part of, the Project and to award separate contracts in connection with other Work at the site.
- 33.2** The Contractor shall afford the City's separate Contractors reasonable opportunity for introduction and storage of their materials and equipment for execution of their work. The Contractor shall incorporate and coordinate the Contractor's work with the work of the City's separate contractors as required by the Contract Documents.
- 33.3** Costs caused by defective or ill-timed Work shall be borne by the party responsible.

34. BID PREPARATION EXPENSE

The Bidder preparing a bid in response to this bid shall bear all expenses associated with its preparation. The Bidder shall prepare a bid with the understanding that no claim for reimbursement shall be submitted to the City for the expense of bid preparation and/or presentation.

35. TRAFFIC CONTROL AND WORKING HOURS

- 35.1** The Contractor shall be responsible for maintaining all traffic controls during the entire period of the project. All traffic controls shall conform to the Manual of Uniform Traffic Control Device (MUTCD) and Florida Department of Transportation Roadway and Traffic Design Standards, latest edition and must be approved by the City in advance. At all times, at least one lane shall be kept open with adequate and legal traffic controls. Work shall be avoided during peak traffic hours. Working hours are set between 8 AM to 4 PM. Any deviation shall be approved in advance by City.
- 35.2** The Contractor shall be responsible for obtaining any and all required Maintenance of Traffic Permits from the appropriate regulatory authorities.
- 35.3** Road closure will not be permitted without written approval of the Engineer/Project Manager.



- 35.4** All unit prices provided by Contractor as a part of this Bid, shall include all costs relating to the Maintenance of Traffic including any and all safety equipment necessary, including but not limited to barricades, signage, traffic markings, arrow boards, etc.

Balance of Page intentionally left blank

COMPANY NAME: (Please Print): _____**Phone:** _____ **Fax:** _____**BEFORE SUBMITTING YOUR BID, MAKE SURE YOU...**

1. ☐ Carefully read the General Terms & Conditions, Special Conditions and Special Provisions.
2. ☐ Properly fill out the **Bid Forms and the Schedule of Bid Prices**.
3. ☐ Fill out and sign the **Non-Collusive Affidavit** and have it properly notarized.
4. ☐ Sign the **Certification** page. **Failure to do so may result in your Bid being deemed non-responsive.**
5. ☐ Fill out the **Bidder's Qualification Statement**.
6. ☐ Fill out the **References** page.
7. ☐ Sign the **Vendor Drug Free Workplace Form**.
8. ☐ Fill out the **List of Subcontractors**.
9. ☐ **Include a 5% Bid Guaranty. Failure to provide the stipulated bond or guaranty will result in automatic rejection of your bid.** Payment and Performance Bonds will be required and **must** be submitted on the City's forms, included herein.
10. ☐ **Include proof of insurance.**
11. ☐ **Include copy of State Certified or County Competency License(s)**
12. ☐ **Trench Safety Form**, if applicable.

Submit ONE (1) Original AND TWO (2) Photocopies of your bid, clearly marked with the BID NUMBER AND BID NAME on the outside of the package.

Make sure your Bid is submitted PRIOR to the deadline.

Late Bids will not be accepted.

Failure to provide the requested attachments may result in your bid being deemed non-responsive.

THIS SHOULD BE THE FIRST PAGE OF YOUR BID.

BID FORM**BID NO. 16-05 B**
CITYWIDE BUFFER WALLS – PHASE I

The City of Tamarac is hereby requesting Bids, from qualified Contractors for the construction of the Citywide Buffer Walls – Phase I Project, Bid No. 16-05B. The project is generally located on the West side of Commercial Boulevard, between NW 31st Avenue and NW 25th Terrace, Tamarac, Florida. The work shall include, but not limited to, site preparation, construction of a new pre-cast concrete buffer wall and associated work, concrete sidewalk improvements, curbing, brick pavers, pavement restoration, pavement markings and signage, handrail removal, landscaping and irrigation. The Contractor shall furnish all labor, materials, tools, and equipment necessary to complete this project, as indicated in the, Special Conditions, Special Provisions, Project Design Plans, Technical Specifications, and Bid No. 16-05B Documents herein

In order to be considered for this project, the Bidder shall possess, at time of bid opening, one of the following State Certified or County Competency licenses or any license that meet, exceed, or legally perform the scope of work will be acceptable, as determined by state or county licensing agency.

State: Certified General Contractor License, defined by F.S. 489.105 3a, plus three (3) years as a full time contractor, having successfully performed a minimum of three (3) verifiable projects of similar size and scope within the last three (3) years, under the same Bidder's Contractor company name.

or

County: Category 2d – Specialty Engineered Structural License plus three (3) years as a full time contractor, having successfully performed a minimum of three (3) verifiable projects of similar size and scope within the last three (3) years, under the same Bidder's Contractor company name

We propose to furnish the following items in conformity with the specifications and at the indicated bid prices. The bid prices quoted have been checked and certified to be correct. Said prices are fixed and firm and shall be paid to Bidder for the successful completion of its obligation as specified in the contract documents.

In the event of obvious mathematical errors, the Bidder recognizes that these are clerical in nature and may be corrected by City.

For each bid item, Bidder agrees to furnish all labor, materials, tools and equipment necessary to properly perform the work described herein and on the project drawings. A more detailed description of Pay Items are located throughout the Technical Specifications. It is the intent of the City to award this bid based on the Total Base Bid for all bid items. In the event of latent multiplication or addition errors, the Bidder recognizes that these are clerical errors and may be corrected by the Owner.

BID SCHEDULE
BID NO. 16-05 B
CITYWIDE BUFFER WALLS – PHASE I

Bidder agrees that any unit price listed is to be multiplied by the estimated quantity requirements listed below in order to arrive at the total price.

For each item, Bidder agrees to furnish all labor, material, tools and equipment necessary to properly perform the work described herein and on project drawings. It is the intent of the City to award this contract based on the Grand Total Base bid for all bid items. In the event of latent multiplication or addition errors, the Bidder recognizes that these are clerical errors and may be corrected by the Owner.

BID FORM
CITY OF TAMARAC
Commercial Blvd Buffer Wall (31st Ave to 25th Terrace)

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT COST	TOTAL COST
1.	Mobilization /Demobilization	1	LS		
2.	Maintenance Of Traffic	1	LS		
3.	Record Drawings	1	LS		
4.	Erosion Control	1	LS		
5.	Site Preparation & Demolition	1	LS		
6.	Pre-Cast Concrete Wall	3500	LF		
7.	4" Thick New Concrete Sidewalk	58	SY		
8.	Type "D" Concrete Curb	2690	LF		
9.	Type "F" Concrete Curb	95	LF		
10.	Paver Bricks	440	SY		
11.	Sod (St. Augustine)	10775	SF		
12.	Wheel Stops (Install & Remove)	45	EA		
13.	Irrigation System	1	LS		
14.	Landscaping	1	LS		
15.	Pavement Markings & Signage	1	LS		



16.	WM Valve Relocation	4	EA		
17.	WM Valve Modification	4	EA		
18.	Handrail Removal	1	LS		
19.	Pavement Restoration	295	SY		
20.	Consideration for Indemnification	1	LS	\$10.00	\$10.00
Total					

BID FORM

(continued)

BID NO. 16-05 B
CITYWIDE BUFFER WALLS – PHASE I

Submitted by: _____ Date _____

THIS BID IS SUBMITTED TO:

City of Tamarac
Purchasing and Contracts Manager
7525 Northwest 88th Avenue
Tamarac, Florida 33321

1. The undersigned Bidder proposes and agrees, if this bid is accepted, to enter into a contract with the City to perform and furnish all Work as specified herein for the Contract Price and within the Contract Period indicated in this bid.
2. This bid will remain subject to acceptance for ninety (90) days after the day of bid opening. Bidder will sign and submit the necessary documents required by the City within fifteen (15) days prior to the date of the City's Award.
 - a. Bidder has familiarized itself with the nature and extent of the contract documents, locality, and all local conditions and laws and regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
 - b. Bidder has given the City written notice of all conflicts, errors or discrepancies that it has discovered in the contract documents and the written resolution thereof by the City is acceptable to Bidder.
 - c. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over



any other Bidder or over the City.

3. Bidder will complete the Work for the prices shown in the "Bid Form".
4. Bidder agrees that the Work will be substantially performed and complete in accordance with the schedules established herein.

**BID FORM**
(continued)**BID NO. 16-05 B**
CITYWIDE BUFFER WALLS – PHASE I

The City reserves the right to reject any bid, if it deems that a vendor has deliberately provided erroneous information. The undersigned declare to have specific and legal authorization to obligate their firm to the terms of this bid, and further, that they have examined the Invitation to Bid, the instructions to Bidders, the Specifications, and other documents included in this bid request, and hereby promises and agrees that, if this bid is accepted, they will faithfully fulfill the terms of this bid together with all guarantees and warranties thereto. The undersigned bidding firm further certifies the product and/or equipment meets or exceeds the specification as stated in the bid package; and also agrees that products and/or equipment to be delivered which fail to meet bid specifications will be rejected by the City within thirty (30) days of delivery. Return of rejection will be at the expense of the bidder.

Authorized Signature_____
Company Name_____
Typed/Printed Name_____
Address_____
Telephone_____
City, State, ZIP_____
Fax_____
Federal Tax ID Number_____
Email address for above signer (if any)_____
Contractor's License Number

**BID FORM**
(continued)**BID NO. 16-05 B**
CITYWIDE BUFFER WALLS – PHASE I

Bidder's Name: _____

TERMS: _____ % (percent discount, if any, if payment made within _____ DAYS;
otherwise, terms are **NET 30 days**.

The City of Tamarac desires to have the ability to use a city credit card for payment. Will your firm accept a Visa credit card as payment from the City of Tamarac?

☐ Yes ☐ No

Delivery/completion: _____ calendar days after receipt of Notice to Proceed or Purchase Order, whichever is applicable for this project.

To be considered eligible for award, **one (1) original and two (2) copies of this bid form should** be submitted with the Bid. One original bid **must** be submitted at time of bid opening. Copies **must** be provided within 3 business days of City's request.

NOTE: Bid submittals without the manual signature of an authorized agent of the Bidder, as evidenced by completion of the Certified Resolution form contained herein (or acceptable Corporate Resolution) may be deemed non-responsive and ineligible for award.

NOTE: Bid submittals without the manual signature of an authorized agent of the Bidder shall be deemed non-responsive and ineligible for award.

IF "NO BID" IS OFFERED, PLEASE PROVIDE THE FOLLOWING INFORMATION:

Please indicate reason(s) why a Bid Proposal is not being submitted at this time. Return the Bid Form to avoid removal of Bidder from the City of Tamarac's vendor listing.



NON-COLLUSIVE AFFIDAVIT

State of _____)
County of _____)ss.

_____ being first duly sworn, deposes
and says that:

He/she is the _____, (Owner, Partner, Officer, Representative
or Agent) of _____, the Offeror that has submitted the
attached Proposal;

5. He/she is fully informed respecting the preparation and contents of the attached Proposal and of all pertinent circumstances respecting such Proposal;
6. Such Proposal is genuine and is not a collusive or sham Proposal;
7. Neither the said Offeror nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Offeror, firm, or person to submit a collusive or sham Proposal in connection with the Work for which the attached Proposal has been submitted; or to refrain from bidding in connection with such Work; or have in any manner, directly or indirectly, sought by agreement or collusion, or communication, or conference with any Offeror, firm, or person to fix the price or prices in the attached Proposal or of any other Offeror, or to fix any overhead, profit, or cost elements of the Proposal price or the Proposal price of any other Offeror, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposed Work;
8. The price or prices quoted in the attached Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Offeror or any other of its agents, representatives, owners, employees or parties in interest, including this affiant.

Signed, sealed and delivered in the presence of:

Witness

Witness

By _____

Printed Name

Title



**ACKNOWLEDGMENT
NON-COLLUSIVE AFFIDAVIT**

State of Florida

County of _____

On this the ____ day of _____, 20____, before me, the undersigned Notary Public of the State of Florida, personally appeared

_____ and
(Name(s) of individual(s) who appeared before notary)

whose name(s) is/are Subscribed to within the instrument, and he/she/they acknowledge that he/she/they executed it.

WITNESS my hand
and official seal.

NOTARY PUBLIC
SEAL OF OFFICE:

NOTARY PUBLIC, STATE OF FLORIDA

(Name of Notary Public: Print,
Stamp, or Type as Commissioned)

☐ Personally known to me, or
☐ Produced identification:

(Type of Identification Produced)

☐ DID take an oath, or ☐ DID NOT take an oath

**CERTIFICATION****THIS DOCUMENT MUST BE SUBMITTED WITH THE BID**

We (I), the undersigned, hereby agree to furnish the item(s)/service(s) described in the Invitation to Bid. We (I) certify that we (I) have read the entire document, including the Specifications, Additional Requirements, Supplemental Attachments, Instructions to Bidders, Terms and Conditions, and any addenda issued. We agree to comply with all of the requirements of the entire Invitation To Bid.

Indicate which type of organization below:

INDIVIDUAL ☐PARTNERSHIP ☐CORPORATION ☐OTHER ☐

If "Other", Explain: _____

Authorized Signature_____
Company Name_____
Typed/Printed Name_____
Address_____
Telephone_____
City, State, ZIP_____
Fax_____
Federal Tax ID Number_____
Email address for above signer (if any)_____
Contractor's License Number



BIDDER'S QUALIFICATION STATEMENT
BID NO. 16-05 B
CITYWIDE BUFFER WALLS – PHASE I

The undersigned certifies under oath the truth and correctness of all statements and all answers to questions made hereinafter:

Name of Company _____
 Address _____
 City State Zip _____
 Telephone _____
 Fax Number _____

1. How many years has your organization been in business under its present name?
 _____ Years
2. If Vendor is operating under Fictitious Name, submit evidence of compliance with Florida Fictitious Name Statute: _____
3. Under what former name(s) has your business operated?

List former address(es) of that business (if any).

4. Are you Certified? Yes ☐ No ☐ If Yes, attach copy of Certification
5. Are you Licensed? Yes ☐ No ☐ If Yes, attach copy of License
6. Has your company ever declared bankruptcy? Yes ☐ No ☐

If Yes, explain: _____

7. Are you a Sales Representative ☐ Distributor ☐ Broker ☐ or Manufacturer ☐ of the commodities/services bid upon?
8. Have you ever received a contract or a purchase order from the City of Tamarac or other governmental entity? Yes ☐ No ☐ If yes, explain (date, service/project, bid title etc.)



9. Have you ever received a complaint on a contract or bid awarded to you by any governmental entity? Yes ☐ No ☐ If yes, explain: _____

10. Have you ever been debarred or suspended from doing business with any governmental entity? Yes ☐ No ☐ If yes, explain: _____



BID NO. 16-05 B
CITYWIDE BUFFER WALLS – PHASE I
REFERENCES

Please list government agencies and/or private firms with whom you have done business during the last five years:

Your Company Name

Address

City State Zip

Phone/Fax

Agency/Firm Name:

Address

City State Zip

Phone/Fax

Contact Name

Agency/Firm Name:

Address

City State Zip

Phone/Fax

Contact Name

Agency/Firm Name:

Address

City State Zip

Phone/Fax

Contact Name

Agency/Firm Name:

Address

City State Zip

Phone/Fax

Contact Name

Agency/Firm Name:

Address

City State Zip

Phone/Fax

Contact Name

**BID NO. 16-05 B
CITYWIDE BUFFER WALLS – PHASE I**

VENDOR DRUG-FREE WORKPLACE

Preference may be given to vendors submitting a certification with their bid/proposal certifying they have a drug-free workplace in accordance with Section 287.087, Florida Statutes. This requirement affects all public entities of the State and becomes effective January 1, 1991. The special condition is as follows:

IDENTICAL TIE BIDS - Preference may be given to businesses with drug-free workplace programs. Whenever two or more bids that are equal with respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

9. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
10. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
11. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after each conviction.
12. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
13. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section. As the person authorized to sign the statement, I certify that this form complies fully with the above requirements.

 Authorized Signature

 Company Name

BID NO. 16-05 B
CITYWIDE BUFFER WALLS – PHASE I

LIST OF SUBCONTRACTORS

The Bidder shall list below the names and business address of each subcontractor who will perform Work under this Bid in excess of one-half of one percent of the Contractor's Total Bid Price, and shall also list the portion of the Work that will be done by such subcontractor. After the opening of bids, no changes or substitutions will be allowed except as otherwise provided by law. The listing of more than one subcontractor for each item of Work to be performed with the words "and/or" will not be permitted. Failure to comply with this requirement will render the Bid as non-responsive and may cause its rejection.

[illegible]



CERTIFIED RESOLUTION

I, _____ (Name), the duly elected Secretary of _____ (Corporate Title), a corporation organized and existing under the laws of the State of _____, do hereby certify that the following Resolution was unanimously adopted and passed by a quorum of the Board of Directors of the said corporation at a meeting held in accordance with law and the by-laws of the said corporation.

"IT IS HEREBY RESOLVED THAT _____ (Name)", the duly elected _____ (Title of Officer) of _____ (Corporate Title) be and is hereby authorized to execute and submit a Bid and/or Bid Bond, if such bond is required, to the City of Tamarac and **such other instruments in writing as may be necessary on behalf of the said corporation**; and that the Bid, Bid Bond, and other such instruments signed by him/her shall be binding upon the said corporation as its own acts and deeds. The secretary shall certify the names and signatures of those authorized to act by the foregoing resolution.

The City of Tamarac shall be fully protected in relying upon such certification of the secretary and shall be indemnified and saved harmless from any and all claims, demands, expenses, loss or damage resulting from or growing out of honoring, the signature of any person so certified or for refusing to honor any signature not so certified.

I further certify that the above resolution is in force and effect and has not been revised, revoked or rescinded.

I further certify that the following are the name, titles and official signatures of those persons authorized to act by the foregoing resolution.

NAME	TITLE	SIGNATURE
_____	_____	_____
_____	_____	_____
_____	_____	_____

Given under my hand and the Seal of the said corporation this ____ day of _____, 20__.

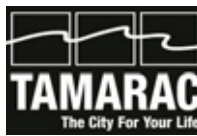
(SEAL)

By: _____
Secretary

Corporate Title

NOTE:

The above is a suggested form of the type of Corporate Resolution desired. Such form need not be followed explicitly, but the Certified Resolution submitted must clearly show to the satisfaction of the City of Tamarac that the person signing the Bid and Bid Bond for the corporation has been properly empowered by the corporation to do so in its behalf.

**TRENCH SAFETY FORM**

Bidder acknowledges that included in the appropriate bid items of the proposal and in the Total Bid Price are costs for complying with the Florida Trench Safety Act (90-96, Laws of Florida) effective October 1, 1990. The bidder further identifies the costs of such compliance to be summarized below:

TRENCH SAFETY MEASURE (Description)	UNITS OF MEASURE (LF/SF)	UNIT (Qty)	UNIT COST	EXTENDED COST
A.			\$	\$
B.			\$	\$
C.			\$	\$
D.			\$	\$
TOTAL	\$			

If applicable, the Contractor certifies that all trench excavation done within his control in excess of five feet (5') in depth shall be in accordance with the Florida Department of Transportation's Special Provisions Article 125-1 and Subarticle 125-4.1 (TRENCH EXCAVATION SAFETY SYSTEM AND SHORING, SPECIAL-TRENCH EXCAVATION).

Failure to complete the above may result in the bid being declared non-responsive.

DATE: _____

(Signature)

ACKNOWLEDGEMENT

STATE OF: _____

COUNTY OF: _____

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

_____, who, after first being duly sworn by me,
(Name of individual Signing)

affixed his/her signature in the space provided above on this ____ day of _____, 20__.

NOTARY PUBLIC

My Commission Expires: _____



BID BOND

STATE OF FLORIDA)

)SS:

COUNTY OF BROWARD)

KNOW ALL MEN BY THESE PRESENTS, that we, _____
as Principal, and _____
as Surety, are held and firmly bound unto the City of Tamarac, a municipal corporation of
the State of Florida in the penal sum of:

_____ Dollars (\$_____) lawful money on the
United States, for the payment of which sum well and truly to be made, we bind ourselves,
our heirs, executors, administrators and successors jointly and severally, firmly by these
presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has
submitted the accompanying Bid, dated _____, 20____,

for:

Bid No. _____

NOW, THEREFORE,

- (a) If said Bid shall be rejected, or in the alternate.
- (b) If said Bid shall be accepted and the Principal shall properly execute and deliver to
said City the appropriate Contract Documents, and shall in all respects fulfill all
terms and conditions attributable to the acceptance of said Bid, then this obligation
shall be void; otherwise, it shall remain in force and effect, it being expressly
understood and agreed that the liability of the Surety for any and all claims
hereunder shall in no event exceed the amount of this obligation as herein stated.

The Surety, for value received, hereby agrees that the obligations of the said Surety and
its bond shall be in no way impaired or affected by any extension of time within which said
CITY may accept such Bid; and said Surety does hereby waive notice of any extension.



**ACKNOWLEDGEMENT
BID BOND**

Signed and sealed this _____ day of _____, 20__

IN PRESENCE OF:

Principal

Business Address

(AFFIX SEAL)

City/State/Zip

ATTEST:

Business Phone

Secretary

Surety*

ATTEST:

By

Secretary

Title

Attorney-In-Fact*

By

*Impress Corporate Seal

**FORM PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS:

That, pursuant to the requirements of Florida Statute 255.05, we, _____, as Principal, hereinafter called CONTRACTOR, and, _____ as Surety, are bound to the City of Tamarac, Florida, as Obligee, hereinafter called OWNER, in the amount of _____ Dollars (\$_____) for the payment whereof CONTRACTOR and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, CONTRACTOR has entered into a Contract, Bid No. 16-05 B – Citywide Buffer Wall Installation – Phase I awarded the ____ day of _____, 20__, with OWNER for _____ which contract is by reference made a part hereof, and is hereafter referred to as the Contract;

THE CONDITION OF THIS BOND is that if the CONTRACTOR:

1. Indemnifies and pays OWNER all losses, damages (specifically including, but not limited to, damages for delay and other consequential damages caused by or arising out of the acts, omissions or negligence of CONTRACTOR), expenses, costs and attorney's fees including attorney's fees incurred in appellate proceedings, that OWNER sustains because of default by CONTRACTOR under the Contract; and
2. Promptly makes payments to all claimants as defined by Florida Statute 713.01 supplying CONTRACTOR with all labor, materials and supplies used directly or indirectly by CONTRACTOR in the prosecution of the Work provided for in the Contract, then his obligation shall be void; otherwise, it shall remain in full force and effect subject, however, to the following conditions:
 - 2.1 A claimant, except a laborer, who is not in privity with the CONTRACTOR and who has not received payment for his labor, materials, or supplies shall, within forty five (45) days after beginning to furnish labor, materials, or supplies for the prosecution of the work, furnish to the CONTRACTOR a notice that he intends to look to the Bond for protection.
 - 2.2 A claimant who is not in privity with the CONTRACTOR and who has not received payment for his labor, materials, or supplies shall, within ninety (90) days after performance of the labor or after complete delivery of the materials or supplies, deliver to the CONTRACTOR and to the Surety, written notice of the performance of the labor or delivery of the materials or supplies and of the non-payment.



- 2.3 Any action under this Bond must be instituted in accordance with the Notice and Time Limitations provisions prescribed in Section 255.05(2), Florida Statutes.

The Surety hereby waives notice of and agrees that any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes do not affect the Surety's obligation under this Bond.

Signed and sealed this ____ day of _____, 20____.

WITNESSES

Secretary

(AFFIX SEAL)

WITNESSES

Secretary

(AFFIX SEAL)

IN THE PRESENCE OF:

Principal

By

Signature and Title

Type Name and Title signed above

Surety

By

Signature and Title

Type Name and Title signed above

INSURANCE COMPANY:

By Agent and Attorney-in-Fact

Address

City/State/Zip Code

Telephone



**ACKNOWLEDGMENT
FORM PAYMENT BOND**

State of _____

County of _____

On this the _____ day of _____, 20__, before me, the undersigned
Notary Public of the State of Florida, the foregoing instrument was acknowledged by:

_____, of
(Name of Corporate Officer) (Title)

_____, a _____
(Name of Corporation) (State of Corporation)

corporation, on behalf of the corporation.

WITNESS my hand and official seal.

NOTARY PUBLIC
SEAL OF OFFICE:

NOTARY PUBLIC, STATE OF _____

(Name of Notary Public: Print,
Stamp, or Type as Commissioned)

☐ Personally known to me, or
☐ Produced identification:

(Type of Identification Produced)

☐ DID take an oath, or ☐ DID NOT take an oath

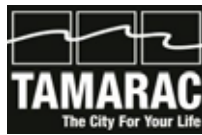


CERTIFICATE AS TO PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as Principal in the foregoing Payment Bond; that _____, who signed the Bond on behalf of the Principal, was then _____ of said Corporation; that I know his/her signature; and his/her signature thereto is genuine; and that said Bond was duly signed, sealed and attested to on behalf of said Corporation by authority of its governing body.

(AFFIX SEAL)

(Name of Corporation)

**FORM PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS:

That, pursuant to the requirement of Florida Statute 255.05, we, _____, as Principal, hereinafter called CONTRACTOR, and, _____ as Surety, are bound to the City of Tamarac, Florida, as Obligee, hereinafter called OWNER, in the amount of _____ Dollars, (\$_____) for the payment whereof CONTRACTOR and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, CONTRACTOR has entered into a Contract, Bid No. – Citywide Buffer Wall Installation – Phase I awarded the ____ day of _____, 20__, with OWNER for _____ which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

THE CONDITION OF THIS BOND is that if the CONTRACTOR:

1. Fully performs the Contract between the CONTRACTOR and the OWNER dated _____, 20__, for the _____, within __ calendar days after the date of contract commencement as specified in the Notice to Proceed and in the manner prescribed in the Contract; and
2. Indemnifies and pays OWNER all losses, damages (specifically including, but not limited to, damages for delay and other consequential damages caused by or arising out of the acts, omissions or negligence of CONTRACTOR), expenses, costs and attorney's fees and costs, including attorney's fees incurred in appellate proceedings, that OWNER sustains because of default by CONTRACTOR under the Contract; and
3. Upon notification by the OWNER, corrects any and all defective or faulty work or materials, which appear within one (1) year after final acceptance of the work.
4. Performs the guarantee of all work and materials furnished under the Contract for the time specified in the Contract, then this Bond is void, otherwise it remains in full force.
 - 4.1 Whenever CONTRACTOR shall be, and declared by OWNER to be, in default under the Contract, the OWNER having performed OWNER'S obligations thereunder, the Surety may promptly remedy the default, or shall promptly:
 - 4.2 Complete the Contract in accordance with its terms and conditions; or



- 4.3 Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the best, lowest, qualified, responsible and responsive Bidder, or, if the OWNER elects, upon determination by the OWNER and Surety jointly of the best, lowest, qualified, responsible and responsive Bidder, arrange for a contract between such Bidder and OWNER, and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract price," as used in this paragraph, shall mean the total amount payable by OWNER to CONTRACTOR under the Contract and any amendments thereto, less the amount properly paid by OWNER to CONTRACTOR.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the OWNER named herein and those persons or corporations provided for in Section 255.05, Florida Statutes, or their heirs, executors, administrators or successors.

Any action under this Bond must be instituted in accordance with the Notice and Time Limitations provisions prescribed in Section 255.05(2), Florida Statutes.

The Surety hereby waives notice of and agrees that any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes do not affect Surety's obligation under this Bond.

Signed and sealed this ____ day of _____, 20__.

WITNESSES

Secretary

(AFFIX SEAL)

Principal

By

Signature and Title

Type Name and Title signed above

WITNESSES

Secretary

(AFFIX SEAL)

Surety

By

Signature and Title

Type Name and Title signed above



IN THE PRESENCE OF:

INSURANCE COMPANY:

By Agent and Attorney-in-Fact

Address

City/State/Zip Code

Telephone



ACKNOWLEDGMENT

FORM PERFORMANCE BOND

State of _____

County of _____

On this the ____ day of _____, 20____, before me, the undersigned Notary Public of the State of Florida, the foregoing instrument was acknowledged by:

_____, of
(Name of Corporate Officer) (Title)

_____, a
(Name of Corporation) (State of Corporation)

corporation, on behalf of the corporation.

WITNESS my hand and official seal.

NOTARY PUBLIC
SEAL OF OFFICE:

NOTARY PUBLIC, STATE OF _____

(Name of Notary Public: Print,
Stamp, or Type as Commissioned)

☐ Personally known to me, or
☐ Produced identification:

(Type of Identification Produced)

☐ DID take an oath, or ☐ DID NOT take an oath



CERTIFICATE AS TO PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as Principal in the foregoing Performance Bond; that _____, who signed the Bond on behalf of the Principal, was then _____ of said Corporation; that I know his/her signature; and his/her signature thereto is genuine; and that said Bond was duly signed, sealed and attested to on behalf of said Corporation by authority of its governing body.

(AFFIX SEAL)

(Name of Corporation)

APPLICATION FOR PAYMENT

Contract Title: _____

Contract/Purchase Order No.: _____ Original Contract Value: _____

Contract Change Order Value: _____ Current Contract Value: _____

Cumulative No. Change Orders: _____

Application for Payment is made, as shown below:

- | | |
|---|----------|
| 1. Original Contract Sum | \$ _____ |
| 2. Net Change by Change Orders | \$ _____ |
| 3. Contract Sum to Date
(line 1 (+) or (-) line 2) | \$ _____ |
| 4. Total Completed and Stored to Date | \$ _____ |
| 5. Retainage | |
| a. ____ % of Completed Work | \$ _____ |
| b. ____ % of Stored Material | \$ _____ |
| c. Total Retainage (line 5a + line 5b) | \$ _____ |
| 6. Total Earned less Retainage
(line 4 – line 5c) | \$ _____ |
| 7. Less Previous Application For Payment
(subtract line 6 from prior A.F.P.) | \$ _____ |
| 8. Current Payment Due | \$ _____ |
| 9. Balance to Finish, plus Retainage
(line 3 – line 6) | \$ _____ |

Submitted by: _____
Contractor

Date: _____

Approved for Payment _____
Project Manager

Date _____

**CHANGE ORDER**

DATE OF ISSUANCE: _____ CHANGE ORDER NO. _____

OWNER:
CITY OF TAMARAC
7525 NW 88th Avenue
Tamarac, FL 33321-2401

PROJECT NAME: _____

BID NO. _____ PROJECT NO. _____

CONTRACTOR _____ P.O. NUMBER _____

IN COMPLIANCE WITH SPECIFICATIONS IN THE ABOVE REFERENCED CONTRACT, THE CONTRACTOR AND THE CITY DO BOTH HEREBY AGREE THAT THE CONTRACTOR SHALL MAKE THE FOLLOWING CHANGES, ADDITIONS OR DELETIONS TO THE WORK SPECIFIED IN THE PLANS AND SPECIFICATIONS:

DESCRIPTION: _____

PURPOSE OF CHANGE ORDER: _____

CHANGE IN CONTRACT PRICE

Original Contract Price

\$

Previous Change Order No. _____ to No. _____

\$

Contract Price prior to this Change Order

\$

Net (Increase) of this Change Order

\$

Contract Price with all approved Change Orders

\$

CHANGE IN CONTRACT TIME

Original Contract Time

Net change from previous change orders

Contract Time prior to this Change Order

Net (Increase) of this Change Order

Contract Time with all approved Change Orders

RECOMMENDED		APPROVED		APPROVED	
BY	_____	BY	_____	BY	_____
	Director		City Manager		Contractor
Date	_____	Date	_____	Date	_____

FINAL RELEASE OF LIEN BY CONTRACTOR

STATE OF _____:

COUNTY OF _____:

The undersigned contractor, under a certain contract with the City of Tamarac, dated _____, 20__, in connection with the following public work:

PROJECT: _____ **CONTRACT NO.** _____

does hereby acknowledge receipt of the full contract price of \$ _____, as modified by change order, addenda, etc., and hereby releases and discharges all liens, lien rights, claims or demands of any kind whatsoever which the undersigned contractor now has or might have against the City of Tamarac arising out of said contract or in connection with the aforesaid public improvement.

That all claims, liens or other entitlements for labor, services, materials or supplies furnished, in connection with the aforesaid improvement have been fully paid. That an affidavit on behalf of the contractor, signed by _____, has been furnished to the City of Tamarac, as well as final releases of lien executed by all materialmen and subcontractor regardless of their tier.

IN WITNESS WHEREOF, the contractor has caused this release to be executed in its name and under its seal by its proper officers, this ____ day of _____, 20__.

Signed, Sealed and Delivered
in the Presence of:

Contractor

Corporate Secretary Signature

President Signature

Type Name

Type Name



ACKNOWLEDGMENT

FINAL RELEASE OF LIEN

State of Florida
County of Broward

On this the ____ day of _____, 20 ____, before me, the undersigned Notary Public of the State of Florida, personally appeared

_____ and
(Name(s) of individual(s) who appeared before notary)

whose name(s) is/are Subscribed to within the instrument, and he/she/they acknowledge that he/she/they executed it.

WITNESS my hand
and official seal.

NOTARY PUBLIC
SEAL OF OFFICE:

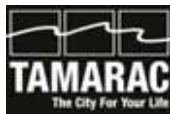
NOTARY PUBLIC, STATE OF _____

(Name of Notary Public: Print,
Stamp, or Type as Commissioned)

☐ Personally known to me, or
☐ Produced identification:

(Type of Identification Produced)

☐ DID take an oath, or ☐ DID NOT take an oath



**SAMPLE FORM AGREEMENT
BETWEEN THE CITY OF TAMARAC
AND**

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between the City of Tamarac, a municipal corporation with principal offices located at 7525 N.W. 88th Ave., Tamarac, FL 33321 (the "CITY") and _____, a ____ corporation with principal offices located at _____ (the "Contractor") to provide for _____.

Now therefore, in consideration of the mutual covenants hereinafter set forth, the City and Contractor agree as follows:

1) The Contract Documents

The Contract Documents consist of this Agreement, Bid Document No. 16-05 – Citywide Buffer Wall Installation – Phase I, including all conditions therein, (General Terms and Conditions, Special Conditions and/or Special Provisions), drawings, Technical Specifications, all addenda, the Contractor's bid/proposal included herein, and all modifications issued after execution of this Agreement. These contract documents form the Agreement, and all are as fully a part of the Agreement as if attached to this Agreement or repeated therein. In the event that there is a conflict between Bid No. 16-05 B as issued by the City, and the Contractor's Proposal, Bid No. 16-05 B as issued by City shall take precedence over the Contractor's Proposal. Furthermore, in the event of a conflict between this document and any other Contract Documents, this Agreement shall prevail.

2) The Work

2.1. The Contractor shall perform all work for the City required by the contract documents as set forth below:

2.1.1 Contractor shall furnish all labor, materials, and equipment necessary to complete the scope of work, as outlined in the contract documents.

2.1.2 Contractor shall supervise the work force to ensure that all workers conduct themselves and perform their work in a safe and professional manner. Contractor shall comply with all OSHA safety rules and regulations in the operation of equipment and in the performance of the work. Contractor shall at all times have a competent field supervisor on the job site to enforce these policies and procedures at the Contractor's expense.

2.1.3 Contractor shall provide the City with seventy-two (72) hours written notice prior to the beginning of work under this Agreement and prior

to any schedule change with the exception of changes caused by inclement weather.

- 2.1.4** Contractor shall comply with any and all Federal, State, and local laws and regulations now in effect, or hereinafter enacted during the term of this Agreement, which are applicable to the Contractor, its employees, agents or subcontractors, if any, with respect to the work and services described herein.

3) Insurance

- 3.1.** Contractor shall obtain at Contractor's expense all necessary insurance in such form and amount as specified in the original bid document or as required by the City's Risk and Safety Manager before beginning work under this Agreement including, but not limited to, Workers' Compensation, Commercial General Liability, Builder's Risk and all other insurance as required by the City, including Professional Liability when appropriate. Contractor shall maintain such insurance in full force and effect during the life of this Agreement. Contractor shall provide to the City's Risk and Safety Manager certificates of all insurances required under this section prior to beginning any work under this Agreement. The Contractor will ensure that all subcontractors comply with the above guidelines and will retain all necessary insurance in force throughout the term of this agreement.
- 3.2.** Contractor shall indemnify and hold the City harmless for any damages resulting from failure of the Contractor to take out and maintain such insurance. Contractor's Liability Insurance policies shall be endorsed to add the City as an additional insured. Contractor shall be responsible for payment of all deductibles and self-insurance retentions on Contractor's Liability Insurance policies.

4) Time of Commencement and Substantial Completion

- 4.1** The work to be performed under this Agreement shall be commenced after City execution of the Agreement and not later than ten (10) days after the date that Contractor receives the City's Notice to Proceed. The work shall be completed within _____ days from issuance of City's Notice to Proceed, subject to any permitted extensions of time under the Contract Documents. For the purposes of this Agreement, completion shall mean the issuance of final payment.
- 4.2** During the pre-construction portion of the work hereunder, the parties agree to work diligently and in good faith in performing their obligations hereunder, so that all required permits for the construction portion of the work may be obtained by the City in accordance with the Schedule included in the Contract Documents. In the event that any delays in the pre-construction or construction portion of the work occur, despite the diligent efforts of the parties hereto, and such delays are the result of force

majeure or are otherwise outside of the control of either party hereto, then the parties shall agree on an equitable extension of the time for substantial completion hereunder and any resulting increase in general condition costs.

5) Contract Sum

The Contract Sum for the above work is Dollars and cents (\$).

6) Payments

Payment will be made monthly for work that has been completed, inspected and properly invoiced. A retainage of ten percent (10%) will be deducted from monthly payments until 50% of the project is complete. Retainage will be reduced to five percent (5%) thereafter. Retainage monies will be released upon satisfactory completion and final inspection of the work. Invoices must bear the project name, project number, bid number and purchase order number. City has up to thirty (30) days to review, approve and pay all invoices after receipt. The Contractor shall invoice the City and provide a written request to the City to commence the one (1) year warranty period. All necessary Releases of Liens and Affidavits and approval of Final Payments shall be processed before the warranty period begins. All payments shall be governed by the Florida Prompt Payment Act, F.S., Part VII, Chapter 218.

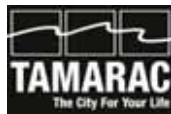
7) Remedies

7.1 Damages: The City reserves the right to recover any ascertainable actual damages incurred as a result of the failure of the Contractor to perform in accordance with the requirements of this Agreement, or for losses sustained by the City resultant from the Contractor's failure to perform in accordance with the requirements of this Agreement.

7.2 Correction of Work: If, in the judgment of the City, work provided by the Contractor does not conform to the requirements of this Agreement, or if the work exhibits poor workmanship, the City reserves the right to require that the Contractor correct all deficiencies in the work to bring the work into conformance without additional cost to the City, and / or replace any personnel who fail to perform in accordance with the requirements of this Agreement. The City shall be the sole judge of non-conformance and the quality of workmanship.

8) Change Orders

8.1 Without invalidating the contract, without any monetary compensation, and without notice to any surety, the City reserves and shall have the right to make increases, decreases or other changes to the work as may be considered necessary or desirable to complete the proposed construction in a satisfactory manner. The Contractor shall not start work pursuant to a change order until the change order setting forth the adjustments is approved by the City, and executed by the City and Contractor. Once the change order is so approved, the Contractor shall promptly proceed with the work. All Change Orders shall include overhead and profit, not to exceed five percent (5%) and five percent (5%) respectively.



8.2 The Contract Price constitutes the total compensation (subject to authorized adjustments, if applicable) payable to the Contractor for performing the work. All duties, responsibilities and obligations assigned to or undertaken by the Contractor shall be at Contractor's expense without change in the Contract Price or Time except as approved in writing by the City.

8.3 The Contract Price and/or Time may only be changed by a Change Order. A fully executed change order for any extra work must exist before such extra work is begun. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party promptly (but in no event later than 15 days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. The amount of the claim with supporting data shall be delivered (unless the City allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts to which the claimant is entitled as a result of the occurrence of said event. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this Paragraph.

8.4 The Contract Time may only be changed by a Change Order. A fully executed change order must exist prior to extension of the contract time.

8.5 Any claim for an extension of the Contract Time shall be based on written notice delivered by the party making the claim to the other party no later than fifteen (15) days after the occurrence of the event giving rise to the claim. Notice of the extent of the claim shall be delivered with supporting data and stating the general nature of the claim. Contractor hereby agrees to waive rights to recover any lost time or incurred costs from delays unless Contractor has given the notice and the supporting data required by this Paragraph.

8.6 Extensions of time shall be considered and will be based solely upon the effect of delays to the work as a whole. Extensions of time shall not be granted for delays to the work, unless the Contractor can clearly demonstrate that such delays did or will, in fact, delay the progress of work as a whole. Time extensions shall not be allowed for delays to parts of the work that are not on the critical path of the project schedule. Time extensions shall not be granted until all float or contingency time, at the time of delay, available to absorb specific delays and associated impacts is used.

8.7 In the event satisfactory adjustment cannot be reached by the City and the Contractor for any item requiring a change in the contract, and a change order has not been issued, the City reserves the right at its sole option to terminate the contract as it applies to these items in question and make such arrangements as the City deems necessary to complete the work. The cost of any work covered by a change order for an increase or decrease in the contract price shall be determined by mutual acceptance of a Guaranteed Maximum Price by the City and Contractor. If notice of any change in the contract or contract time is required to be given to a surety by the provisions of the bond, the giving of such notice shall be the Contractor's responsibility, and the amount of each applicable bond shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the City Failure of the Contractor to obtain such approval from the Surety may be a basis for termination of this Contract by the City.

9) No Damages for Delays

ALL TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THE AGREEMENT. EXCEPT AS PROVIDED HEREIN, NO CLAIM FOR DAMAGES OR ANY CLAIM OTHER THAN FOR AN EXTENSION OF TIME SHALL BE MADE OR ASSERTED AGAINST THE CITY BY REASON OF ANY DELAYS. Contractor shall not be entitled to an increase in the construction cost or payment or compensation of any kind from City for direct, indirect, consequential, impact or other costs, expenses or damages including but not limited to costs of acceleration or inefficiency, arising because of delay, disruption, interference or hindrance from any cause whatsoever, whether such delay, disruption, interference be reasonable or unreasonable, foreseeable or unforeseeable, or avoidable or unavoidable; provided, however, that this provision shall not preclude recovery of damages by Contractor for hindrances or delays due solely to fraud, bad faith or active interference on the part of City or its agents. In addition, if Contractor is delayed at any time in the progress of the Work by an act or neglect of the City's employees, or separate contractors employed by the City, or by changes ordered in the Work, or by delay authorized by the City pending arbitration, then the Contract Time shall be reasonably extended by Change Order, and the Guaranteed Maximum Price shall be reasonably increased by Change Order in order to equitably increase the general conditions component of the Guaranteed Maximum Price. Furthermore, if Contractor is delayed at any time in the progress of the Work by labor disputes, fire, unusual delay in deliveries, adverse weather conditions not reasonably anticipated, unavoidable casualties or other causes beyond the Contractor's control, or by other causes which the City and Contractor agree may justify delay, then the Contract Time shall be reasonably extended by Change Order. Otherwise, Contractor shall be entitled only to extensions of the Contract Time as the sole and exclusive remedy for such resulting delay, in accordance with and to that extent specifically provided above. No extension of time shall be granted for delays resulting from normal weather conditions prevailing in the area as defined by the average of the last ten (10) years of weather data as recorded by the United States Department of Commerce, National Oceanic and Atmospheric Administration at the Fort Lauderdale Weather Station.

10) Waiver of Liens

Prior to final payment of the Contract Sum, a final waiver of lien shall be submitted by all suppliers, subcontractors, and/or Contractors who worked on the project that is the subject of this Agreement. Payment of the invoice and acceptance of such payment by the Contractor shall release City from all claims of liability by Contractor in connection with the agreement.

11) Warranty

Contractor warrants the work against defect for a period of one (1) year from the date of final payment. In the event that defect occurs during this time, Contractor shall perform such steps as required to remedy the defects. Contractor shall be responsible for any damages caused by defect to affected area or to interior structure. The one (1) year warranty period does not begin until approval of final payment for the entire project,

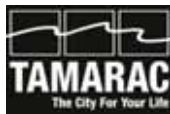
and the subsequent release of any Performance or Payment Bonds, which may be required by the original bid document.

12) Indemnification

- 12.1** The Contractor shall indemnify and hold harmless the City, its elected and appointed officials, employees, and agents from any and all claims, suits, actions, damages, liability, and expenses (including attorneys' fees) in connection with loss of life, bodily or personal injury, or property damage, including loss of use thereof, directly or indirectly caused by, resulting from, arising out of or occurring in connection with the operations of the Contractor or its officers, employees, agents, subcontractors, or independent Contractors, excepting only such loss of life, bodily or personal injury, or property damage solely attributable to the gross negligence or willful misconduct of the City or its elected or appointed officials and employees. The above provisions shall survive the termination of this Agreement and shall pertain to any occurrence during the term of this Agreement, even though the claim may be made after the termination hereof.
- 12.2** The City and Consultant recognize that various provisions of this Agreement, including but not limited to this Section, provide for indemnification by the Consultant and requires a specific consideration be given there for. The Parties therefore agree that the sum of Ten Dollars and 00/100 (\$10.00), receipt of which is hereby acknowledged, is the specific consideration for such indemnities, and the providing of such indemnities is deemed to be part of the specifications with respect to the services to be provided by Consultant. Furthermore, the City and Consultant understand and agree that the covenants and representations relating to this indemnification provision shall serve the term of this Agreement and continue in full force and effect as to the City's and the Consultant's responsibility to indemnify.
- 12.3** Nothing contained herein is intended nor shall be construed to waive City's rights and immunities under the common law or Florida Statutes 768.28, as amended from time to time

13) Non-Discrimination & Equal Opportunity Employment

During the performance of the Contract, the Contractor and its subcontractors shall not discriminate against any employee or applicant for employment because of race, color, sex including pregnancy, religion, age, national origin, marital status, political affiliation, familial status, sexual orientation, gender identity and expression, or disability if qualified. The Contractor will take affirmative action to ensure that employees and those of its subcontractors are treated during employment, without regard to their race, color, sex including pregnancy, religion, age, national origin, marital status, political affiliation, familial status, sexual orientation, gender identity or expression, or disability if qualified. Such actions must include, but not be limited to, the following: employment, promotion; demotion or transfer; recruitment or recruitment



advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor and its subcontractors shall agree to post in conspicuous places, available to its employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause. The Contractor further agrees that he/she will ensure that all subcontractors, if any, will be made aware of and will comply with this nondiscrimination clause.

14) Independent Contractor

This Agreement does not create an employee/employer relationship between the Parties. It is the intent of the Parties that the Contractor is an independent contractor under this Agreement and not the City's employee for any purposes, including but not limited to, the application of the Fair Labor Standards Act minimum wage and overtime payments, Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the State Worker's Compensation Act, and the State Unemployment Insurance law. The Contractor shall retain sole and absolute discretion in the judgment of the manner and means of carrying out Contractor's activities and responsibilities hereunder provided, further that administrative procedures applicable to services rendered under this Agreement shall be those of Contractor, which policies of Contractor shall not conflict with City, State, or United States policies, rules or regulations relating to the use of Contractor's funds provided for herein. The Contractor agrees that it is a separate and independent enterprise from the City, that it had full opportunity to find other business, that it has made its own investment in its business, and that it will utilize a high level of skill necessary to perform the work. This Agreement shall not be construed as creating any joint employment relationship between the Contractor and the City and the City will not be liable for any obligation incurred by Contractor, including but not limited to unpaid minimum wages and/or overtime premiums.

15) Assignment and Subcontracting

Contractor shall not transfer or assign the performance required by this Agreement without the prior consent of the City. This Agreement, or any portion thereof, shall not be subcontracted without the prior written consent of the city.

16) Notice

Whenever either party desires or is required under this Agreement to give notice to any other party, it must be given by written notice either delivered in person, sent by U.S. Certified Mail, U.S. Express Mail, air or ground courier services, or by messenger service, as follows:

CITY

City Manager
City of Tamarac
7525 N.W. 88th Avenue
Tamarac, FL 33321

With a copy to the City Attorney at the following address:

Goren, Cherof, Doody & Ezrol, P.A.
3099 East Commercial Blvd., Suite 200
Fort Lauderdale, FL 33308

CONTRACTOR

17) Termination

17.1 Termination for Convenience: This Agreement may be terminated by the City for convenience, upon seven (7) days of written notice by City to the Contractor for such termination in which event the Contractor shall be paid its compensation for services performed to termination date, including services reasonably related to termination. In the event that the Contractor abandons this Agreement or causes it to be terminated, Contractor shall indemnify the city against loss pertaining to this termination.

17.2 Default by Contractor: In addition to all other remedies available to the City, this Agreement shall be subject to cancellation by the City for cause, should the Contractor neglect or fail to perform or observe any of the terms, provisions, conditions, or requirements herein contained, if such neglect or failure shall continue for a period of thirty (30) days after receipt by Contractor of written notice of such neglect or failure.

18) Public Records

18.1 The City of Tamarac is a public agency subject to Chapter 119, Florida Statutes. The Contractor shall comply with Florida's Public Records Law. Specifically, the Contractor shall:

18.1.1 Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service;

18.1.2 Provide the public with access to such public records on the same terms and conditions that the City would provide the records and at a cost that does not exceed that provided in chapter 119, Fla. Stat., or as otherwise provided by law;

18.1.3 Ensure that public records that are exempt or that are confidential and exempt from public record requirements are not disclosed except as authorized by law; and

18.1.4 Meet all requirements for retaining public records and transfer to the City, at no cost, all public records in possession of the contractor upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt. All records stored electronically must be provided to the City in a format that is compatible with the information technology systems of the agency.

18.2 The failure of Contractor to comply with the provisions set forth in this Article shall constitute a Default and Breach of this Agreement and the City shall enforce the Default in accordance with the provisions set forth in Article 17 "Termination" herein.

19) Agreement Subject to Funding

This agreement shall remain in full force and effect only as long as the expenditures provided for in the Agreement have been appropriated by the City Commission of the City of Tamarac in the annual budget for each fiscal year of this Agreement, and is subject to termination based on lack of funding.

20) Venue

This Agreement shall be governed by the laws of the State of Florida as now and hereafter in force. The venue for actions arising out of this agreement is fixed in Broward County, Florida.

21) Signatory Authority

The Contractor shall provide the City with copies of requisite documentation evidencing that the signatory for Contractor has the authority to enter into this Agreement.

22) Severability; Waiver of Provisions

Any provision in this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof or affecting the validity or enforceability of such provisions in any other jurisdiction. The non-enforcement of any provision by either party shall not constitute a waiver of that provision nor shall it affect the enforceability of that provision or of the remainder of this Agreement.

23) Uncontrollable Circumstances

23.1 Neither the City nor Contractor shall be considered to be in default of this Agreement if delays in or failure of performance shall be due to Uncontrollable Forces, the effect of which, by the exercise of reasonable diligence, the non-performing party could not avoid. The term "Uncontrollable Forces" shall mean any event which results in the prevention or delay of performance by a party of its obligations under this Agreement and which is beyond the reasonable control of the

nonperforming party. It includes, but is not limited to fire, flood, earthquakes, storms, lightning, epidemic, war, riot, civil disturbance, sabotage, and governmental actions.

- 23.2** Neither party shall, however, be excused from performance if nonperformance is due to forces, which are preventable, removable, or remediable, and which the nonperforming party could have, with the exercise of reasonable diligence, prevented, removed, or remedied with reasonable dispatch. The nonperforming party shall, within a reasonable time of being prevented or delayed from performance by an uncontrollable force, give written notice to the other party describing the circumstances and uncontrollable forces preventing continued performance of the obligations of this Agreement.

24) Merger; Amendment

This Agreement constitutes the entire Agreement between the Contractor and the City, and negotiations and oral understandings between the parties are merged herein. This Agreement can be supplemented and/or amended only by a written document executed by both the Contractor and the City.

25) No Construction Against Drafting Party

Each party to this Agreement expressly recognizes that this Agreement results from the negotiation process in which each party was represented by counsel and contributed to the drafting of this Agreement. Given this fact, no legal or other presumptions against the party drafting this Agreement concerning its construction, interpretation or otherwise accrue to the benefit of any party to the Agreement, and each party expressly waives the right to assert such a presumption in any proceedings or disputes connected with, arising out of, or involving this Agreement.

Remainder of Page Intentionally Blank



IN WITNESS WHEREOF, the parties have made and executed this Agreement on the respective dates under each signature. CITY OF TAMARAC, signing by and through its Mayor and City Manager, and CONTRACTOR, signing by and through its duly authorized to execute same.

CITY OF TAMARAC

Harry Dressler, Mayor

Date

ATTEST:

Michael C. Cernech, City Manager

Patricia A. Teufel, CMC
City Clerk

Date

Date

Approved as to form and legal sufficiency:

City Attorney

Date

ATTEST:

Company Name

Signature of Corporate Secretary

Signature of President/Owner

Type/Print Name of Corporate Secy.

Type/Print Name of President/Owner

(CORPORATE SEAL)

Date



CORPORATE ACKNOWLEDGEMENT

STATE OF _____ :

:SS

COUNTY OF _____ :

I HEREBY CERTIFY that on this day, before me, an Officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared

_____, of _____,

a _____ Corporation, to me known to be the person(s) described in and who executed the foregoing instrument and acknowledged before me that he/she executed the same.

WITNESS my hand and official seal this ___ day of _____, 20__.

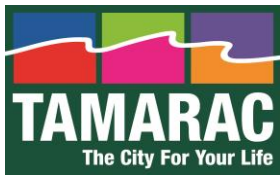
Signature of Notary Public
State of Florida at Large

Print, Type or Stamp
Name of Notary Public

☐ Personally known to me or
☐ Produced Identification

Type of I.D. Produced

☐ DID take an oath, or
☐ DID NOT take an oath.



CITY OF TAMARAC
PURCHASING AND CONTRACTS DIVISION
7525 NW 88TH AVENUE
TAMARAC, FL 33321
"Committed to Excellence...Always"

DATE: February 17, 2015

ADDENDUM NO. 1

16-05 B - Citywide Buffer Wall Installation

This addendum shall modify and become a part of the original Bid Document. The following clarifications, changes, additions and/or deletions are hereby made part of the Contract Documents for Bid No. 16-05 B - Citywide Buffer Wall Installation.

TO ALL PROSPECTIVE BIDDERS:

Please note responses to the following questions. Responses are shown in italic type.

- What is the estimated value for this project?

Budget is \$1,250,000

- Does this have a bid bond? If so, how much?

5% Bid Bond

- Plan Holders List?

See Attachment A

Please return and/or acknowledge this Addendum No.1 with your bid submittal due 03/08/2016 at 3:00 PM local time to Tamarac City Hall, RM 108, 7525 NW 88th Ave., Tamarac, FL 33321.

Sincerely,

Andrew J. Rozwadowski
Senior Procurement Specialist

Please Acknowledge Receipt and Review of this Addendum:

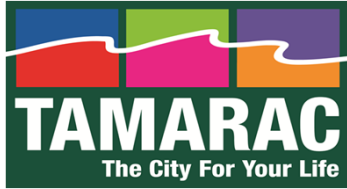
Company Name: _____

Authorized Signature: _____

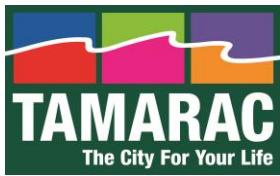
Date: _____

Printed Name: _____

Attachment A



Organization:	Contact Name:	Phone Number	Fax Number	Email Address	Address Line 1	City	State	Zip
Oldcastle/Duratek	Paul Davisson	2398349593		paul.davisson@oldcastle.com	2140 Pondella Road	Cap Coral	Florida	33909
Engenuity Group, Inc.	Bradley	5616551151	5618329390	bjackson@engenuitygroup.com	1280 N. Congress Ave., Ste. 101	West Palm Beach	FL	33409
The Blue Book	Erin McVeigh	8004312584		emcveigh@thebluebook.com	800 E. Main St.	Jefferson Valley	NY	10535
Sun Up	Karen Figueroa	9543841675		sunupinc@aol.com	16641 Waters Edge Dr	Weston	fl	33326
ONEL Construction LLC	Emmanuel Okwor	9546553877		build@onelconstruction.com	2880 W Oakland Park blvd #206	Fort. Lauderdale	Florida	33311



CITY OF TAMARAC
PURCHASING AND CONTRACTS DIVISION
7525 NW 88TH AVENUE
TAMARAC, FL 33321
"Committed to Excellence...Always"

DATE: February 25, 2015

ADDENDUM NO. 2

16-05 B - Citywide Buffer Wall Installation

This addendum shall modify and become a part of the original Bid Document. The following clarifications, changes, additions and/or deletions are hereby made part of the Contract Documents for Bid No. 16-05 B - Citywide Buffer Wall Installation.

TO ALL PROSPECTIVE BIDDERS:

Please note responses to the following changes.

- Disregard Cover Page
- Replace Revised Cover Page

- Disregard Page # 23
- Replace with Revised Page # 23

- Disregard Page # 312
- Replace with Revised Page # 312

Please return and/or acknowledge this Addendum No.2 with your bid submittal due 03/08/2016 at 3:00 PM local time to Tamarac City Hall, RM 108, 7525 NW 88th Ave., Tamarac, FL 33321.

Sincerely,

Andrew J. Rozwadowski
Senior Procurement Specialist

Please Acknowledge Receipt and Review of this Addendum:

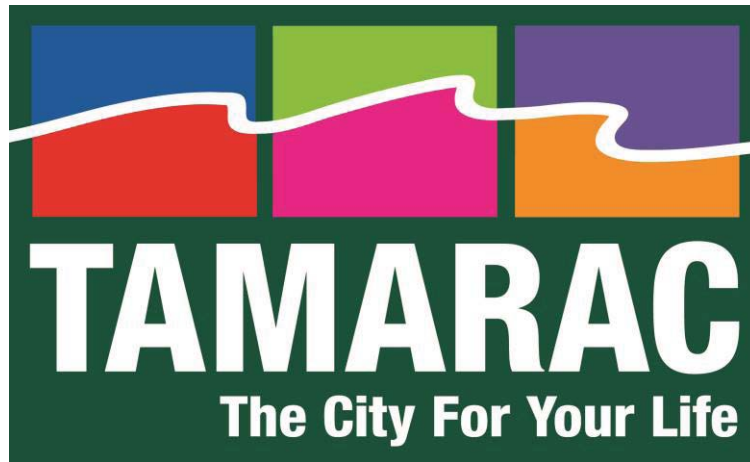
Company Name: _____

Authorized Signature: _____

Date: _____

Printed Name: _____

INVITATION TO BID



BID NO. 16-05 B

CITYWIDE BUFFER WALLS - PHASE I

Publish Date:

02/09/2016

Bid Due and Bid Opening Date:

03/08/2016 at 3:00 PM

Pre-Bid Conference:

02/24/2016 at 11:00 AM

Where to Deliver Bid

**City of Tamarac
Purchasing & Contracts Division
7525 NW 88th Avenue
Room 108
(954) 597-3570**

All Questions Due:

02/26/2016 by 5:00 PM

03/02/2016 by 5:00 PM

**City of Tamarac
Purchasing & Contracts Division
7525 NW 88th Avenue
Room 108
(954) 597-3570**

**For
Public Services Department**

Revised

3.07 – CONCRETE SIDEWALK – Bid Item No. 7

- A. Payment for installation and/or replacement of concrete sidewalk shall be paid per square yard for full area as shown on the plans. Installation includes all labor, material and equipment for the earthwork, clearing and grubbing, removal of existing sidewalks, preparation, compaction, testing, backfill, finish and placement of concrete in accordance with FDOT Standards.

3.08 – TYPE “D” CURB – Bid Item No. 8

- A. Payment for installation and/or replacement of concrete curb shall be paid per linear foot as shown on the plans. Installation includes all labor, material and equipment for the earthwork, clearing and grubbing, removal of existing curb, curb pad, preparation, compaction, testing, backfill, finish and placement of concrete in accordance with the details as shown on the plans and specifications herein.

3.09 – TYPE “F” CURB – Bid Item No. 9

- A. Payment for installation and/or replacement of concrete curb shall be paid per linear foot as shown on the plans. Installation includes all labor, material and equipment for the earthwork, clearing and grubbing, removal of existing curb, curb pad, preparation, compaction, testing, backfill, finish and placement of concrete in accordance with the details as shown on the plans and specifications herein.

3.10 – PAVER BRICKS – Bid Item No.10

- A. Payment for installation of paver bricks shall be paid per square yard as shown on the plans. Installation includes all labor, material and equipment for the earthwork, clearing and grubbing, removal of existing asphalt, preparation, compaction, testing, backfill, finish and placement in accordance with the details as shown on the plans and specifications herein. The work includes paver bricks, sand bedding and suitable subgrade material.

3.11 – SOD (St. Augustine) – Bid Item No.11

- A. Payment for sod shall be by square ^{Foot}yard installed and completed in accordance with the projects design plans and City Standards. The work includes but not limited to provide all labor, material and equipment necessary to prepare, fine grading, placing, restoring, fertilizing, watering and maintaining the completion of the work as shown on the project design plans and specification herein. The maintenance period shall be a minimum of 90 days or as stipulated by the City in the warranty requirements.

3.12 – WHEEL STOPS – Bid Item No. 12

- A. Payment for installation and/or replacement of concrete wheel stops shall be paid per piece as shown on the plans. Installation includes all labor, material and equipment for the installation of new wheel stops and removal of existing wheel stops

COMPANY NAME: (Please Print): _____

Phone: _____ **Fax:** _____

BEFORE SUBMITTING YOUR BID, MAKE SURE YOU...

1. ☐ Carefully read the General Terms & Conditions, Special Conditions and Special Provisions.
2. ☐ Properly fill out the **Bid Forms and the Schedule of Bid Prices**.
3. ☐ Fill out and sign the **Non-Collusive Affidavit** and have it properly notarized.
4. ☐ Sign the **Certification** page. **Failure to do so may result in your Bid being deemed non-responsive.**
5. ☐ Fill out the **Bidder's Qualification Statement**.
6. ☐ Fill out the **References** page.
7. ☐ Sign the **Vendor Drug Free Workplace Form**.
8. ☐ Fill out the **List of Subcontractors**.
9. ☐ **Include a 5% Bid Guaranty. Failure to provide the stipulated bond or guaranty will result in automatic rejection of your bid.** Payment and Performance Bonds will be required and **must** be submitted on the City's forms, included herein.
10. ☐ **Include proof of insurance.**
11. ☐ **Include copy of State Certified or County Competency License(s)**
12. ☐ **Trench Safety Form**, if applicable.

Submit one (1) original document, marked "Original" on its exterior and two (2) copies, prior to the bid opening deadline as well as a PDF copy on a USB Flash Drive or CD

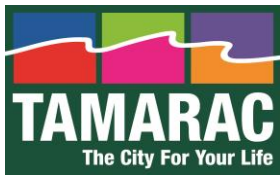
~~Submit ONE (1) Original AND TWO (2) Photocopies of your bid,~~ clearly marked with the BID NUMBER AND BID NAME on the outside of the package.

Make sure your Bid is submitted PRIOR to the deadline.

Late Bids will not be accepted.

Failure to provide the requested attachments may result in your bid being deemed non-responsive.

THIS SHOULD BE THE FIRST PAGE OF YOUR BID.



CITY OF TAMARAC
PURCHASING AND CONTRACTS DIVISION
7525 NW 88TH AVENUE
TAMARAC, FL 33321
"Committed to Excellence...Always"

DATE: March 4, 2016

ADDENDUM NO. 3

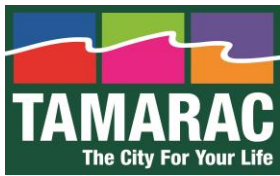
16-05 B - Citywide Buffer Wall Installation

This addendum shall modify and become a part of the original Bid Document. The following clarifications, changes, additions and/or deletions are hereby made part of the Contract Documents for **Bid No. 16-05 B - Citywide Buffer Wall Installation**.

TO ALL PROSPECTIVE BIDDERS:

Please see the following questions and answers below:

1. Regarding the bid referenced above, is there a required manufacturer for the precast walls?
Contractor is free to use any wall manufacture as long as they meet the project specifications. See Spec Section 03410 and all other associated sections
2. Wheel Stops, C-10 says relocated, C-16 says new, please clarify.
Disregard the wheel stop annotation on sheet C-10. Contractor shall remove the existing concrete wheel stops and install new wheel stops as indicated on Sheet C-16 (See revised Sheet C-10).
3. Please provide paver brick spec.
Attached is the new paver brick spec section
4. Please provide detail for WM valve modification.
Attached is the new detail showing the valve modification work
5. After ext'g handrails are removed, are the remaining studs to be cut off flush?
Yes, the studs must be cut flush
6. Sheet D-3 indicates WM valve on Sidewalk/Retaining wall across from the fire hydrant to be relocated. Sheet C-6 indicates that the 2" WM valve is to be relocated and does not address the adjacent valve on the sidewalk/retaining wall. please clarify the treatment of these two valves.
Sheet D-3 has been revised. Please see attached sheet. Only one valve must be relocated (the valve that's in conflict with the wall). The existing valve in the sidewalk shall remain in place.
7. Sheet D-1, please clarify whose responsibility it is to remove/relocate the two sheds that appear to encroach into the 5' pathway at lot 3 and lot 5.
Spec section 01025 Part 3.05 (Bid No. 5) states that the contractor is responsible to remove/relocate storage shed.
8. Please clarify that the big tree at the NW corner of lot 1 will remain.
It's anticipated that the existing tree will not be in conflict with the proposed work. If it is found otherwise, then contractor shall trip or remove tree as necessary at his own expense.



CITY OF TAMARAC
PURCHASING AND CONTRACTS DIVISION
7525 NW 88TH AVENUE
TAMARAC, FL 33321
"Committed to Excellence...Always"

9. Where on the bid sheet should the items pertaining to sheets E-1 thru E-3 be placed?

All of the proposed Electrical work is part of the new irrigation system (See Section 01025 Part 3.13 Bid Item No. 13).

10. Please confirm that all costs associated with FPL work will be paid by the City.

The cost for coordination and electrical work will be paid by the contractor as stated on Spec 01025 Section 3.13 Bid Item No. 13. Any fees paid direct to FP&L will be paid by the City.

11. The Contractor shall be responsible for securing all City permits. However, all City permit fees will be reimbursed, except for the City Public Art Fund Fee, which is equal to 1% of construction cost that requires a building permit. Please include the cost of the Art Fund Fee as a part of your bid pricing. The successful Contractor shall submit copies of all permits required for this work. The Contractor shall be responsible to secure the necessary construction permits from other agencies as may be required by those agencies. Cost of any required permits, will be reimbursed by City without markup (i.e. direct pass-through), for properly submitted invoices.

Tech spec section 01010 - 1.10 - B says "No separate or direct payments will be made to the contractor for permitscosts shall be included in the proposal" Please clarify whether the City will reimburse the contractor for permit fees or if the contractor should include permit fees in the bid.

All City Permit Fees, except for the City Public Art Fund Fee, which is equal to 1% of construction cost that requires a building permit shall be reimbursed by the City. In addition, Cost of any other agencies permit fees are also reimbursed by City without markup under Special Conditions Section 3 of page 284. Also attached is the revised Tech Section 01010 for your information.

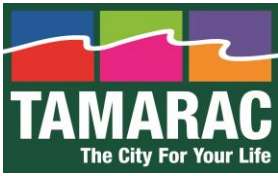
Add the following Attachments to the above referenced bid:

01010 - Summary of Work
03100 Pavers
C-10 CUT-SECTION
D-3 DEMOLITION PLAN
Valve extension-detail

Please return and/or acknowledge this Addendum No.3 with your bid submittal due **03/08/2016 at 3:00 PM local time to Tamarac City Hall, RM 108, 7525 NW 88th Ave. Tamarac, FL 33321.**

Sincerely,

Andrew J. Rozwadowski
Senior Procurement Specialist



CITY OF TAMARAC
PURCHASING AND CONTRACTS DIVISION
7525 NW 88TH AVENUE
TAMARAC, FL 33321
"Committed to Excellence...Always"

Please Acknowledge Receipt and Review of this Addendum:

Company Name: _____

Authorized Signature: _____ Date: _____

Printed Name: _____

02/24/2016 @ 11:00 AM

SIGN-IN SHEET - PRE-BID CONFERENCE
Bid No. 16-05 B - Citywide Buffer Wall Installation
RM 204 - City Hall

Bid No. 16-05 B

NAME: COMPANY: PHONE: FAX: E-MAIL

Andrew J. Rozwadowski City of Tamarac 954-597-3569 954-597-3565 Andrew.Rozwadowski@tamarac.org

David LaRocca Orocasne Precast 572-397-5906 — David.Larocca@oldcastle.com

Joel Selbin Selbin Court 954-802-6800 joel@selbinconstruction.com

Bono Marc Oldcastle Precast 724-804-4678 Bono.Marc@oldcastle.com

Demaris Freeman West Construction, Inc 561-588-2027 rbarrett@westconstructioninc.net

Paul Davison Orocasne Precast 889-834-9593 Paul.Davison@oroasne.com

Lance Jones Cause Construction, LLC 365-974-2991 l.jones@causeconstruction.com

Musafa Albasam Stantec 954-388-0184 musafa.albasam@stantec.com

Alan Lam City of Tamarac 954-597-3707 Alan.Lam@tamarac.org

Sophia Bryan Bofam Construction 754-245-0102 austing@bofamine.com

Isabella Nicolta ENCO, LLC 954-993-1357 imicolta@enco11c.com

Daniella D'More MBR Construction 954-486-8404 dpesta@mbconstruction.com

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.01 LOCATION OF WORK

- A. Work is located in the City of Tamarac along the south side of Commercial Boulevard between NW 31st Ave and NW 25th Terrace

1.02 WORK TO BE PERFORMED

- A. The Work to be performed under this Contract shall consist of providing equipment, materials, supplies, and manufactured articles; and for furnishing transportation and services, including fuel, power, water, and essential communications; and for the performance of labor, work, or other operations in strict accordance with the Contract Documents.
- B. Wherever the Contract Documents address a third party, i.e., subcontractor, manufacturer, vendor, etc., it is to be considered as the Contractor through the third party.
- C. Wherever a reference to number of days is noted, it shall mean calendar days.

1.03 GENERAL DESCRIPTION OF CONTRACT

- A. Constructing Precast Concrete Buffer Wall along with all associated concrete foundations, retaining walls & columns
- B. Constructing d-curb & paver bricks
- C. Installation of proposed landscaping, along with all associated irrigation systems which includes electrical services.
- D. Installation of pavement marking & signage
- E. Removal and salvaging existing FDOT handrails
- F. Demolition and removal of existing private property fence, landscaping, storage sheds etc.
- G. Relocating Existing Water Main Valves

1.04 SEQUENCE OF CONSTRUCTION

- A. Following receipt of Notice to Proceed with the Work, the Contractor shall notify the Engineer and the City at least five days before he is ready to start actual construction to allow the City time to make arrangements for inspection of the Work.
- B. Work under the Contract shall be scheduled and performed in such a manner as to result in the least possible disruption to the community.

- C. Submit a sequence of construction schedule for the entire project.

1.05 ABANDONMENT AND SALVAGE OF EXISTING FACILITIES

- A. Contractor shall salvage all existing handrails within the project vicinity and coordinate with FDOT for return & Delivery.
- B. Contractor shall provide the city with delivery receipts for handrails. Receipts shall include delivered quantities and receipt signatures of FDOT staff.

1.06 REHABILITATION

- A. Areas of the walkways and the like will be affected by work necessary to complete this Contract. The Contractor shall be responsible to rehabilitate those areas affected by its construction activities.
- B. Disposal of Debris: All debris, materials, and miscellaneous waste products from the Work described in the section shall be removed from the project as soon as possible. They shall be disposed of in accordance with applicable federal, state, and local regulations. The Contractor is responsible for determining these regulations and shall bear all costs or retain any profit associated with disposal of these items.

1.07 CONTRACTOR USE OF PROJECT SITE

- A. The Contractor's use of the project site shall be limited to its construction operations, including on-site storage of materials, on-site fabrication facilities, and field offices, as noted on the Contract Drawings.

1.08 CITY USE OF THE PROJECT SITE

- A. The City may utilize part of the existing facilities during the entire period of construction for the conduct of the City's normal operations. The Contractor shall cooperate with the City to minimize interference with the Contractor's operations and to facilitate the City's operations.

1.09 COORDINATION WITH OTHER CONTRACTS

- A. Coordinate work with that of other Contractors on site.

1.10 PERMITS

- A. It shall be the Contractor's responsibility to secure all permits required to complete the work under this contract, except permits obtained by the City.
- B. All City permit fees, except for the City Public Art Fund Fee, which is equal to 1% of construction cost that requires a building permit shall be reimbursed by the City. In addition, Cost of any other agencies permit fees are also reimbursed by City without markup. In addition, no separate or direct payment will be made to the Contractor for inspection requirements, but all such costs shall be included in the bid proposal. The

City will furnish signed and sealed sets of Contract Documents for permit use as required.

1.11 FIELD ENGINEERING

- A. The Contractor shall employ a Land Surveyor registered in the State of Florida and acceptable to the Engineer. The Contractor shall locate and protect survey control and reference points.
- B. Provide Field Engineering Services: Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- C. Submit a copy of registered site drawing and certificate signed by the Land Surveyor that the elevations and locations of the Work are in conformance with the Contract Documents.

1.12 DIMENSIONS AND LOCATIONS OF PROPOSED WALL & COLUMNS

- A. Where the dimensions and locations of the proposed columns and length of the panels are critical importance in the installation or connection of new work, the Contractor shall verify such dimensions and locations in the field before the fabrication of any materials or equipment which is dependent on the correctness of such information.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 03100

PAVERS

PART 1 - GENERAL

- 1.1 CONFORMITY: Conform to the requirements of the general conditions of the contract.
- 1.2 Related work in Other Sections of These Specifications
- a.) Preparation of sub-base.
 - b.) Supply and place limerock base material.
 - c.) Application of Soil Sterilant.
 - d.) Curbing and or edge restraints.
 - e.) Cleaning and sealing of Pavers, where required.
- 1.3 Work Included:
- a.) Supply and place limerock base and leveling sand.
 - b.) Supply and Install concrete paver bricks in quality, shape, thickness and color as specified.
 - c.) Supply and place all accessory items as required by the Contract.
- 1.4 Product Handling: Paver bricks shall be delivered and unloaded at job site with or without pallets and bound in such manner that no damage occurs to the product during handling, shipping and unloading.

PART 2 - PRODUCTS

- 2.1 Solid Concrete Paver Bricks: ASTM Designation C936-82
- A.) Paver Bricks to be solid concrete brick paver modules fabricated by manufacturer designated by the City as follows:
- | <u>Shape</u> | <u>Thickness</u> |
|-------------------|------------------|
| 4"x8" Rectangular | 2-3/8" |
- B.) Colors shall be various Earth Tone Colors, as directed by Owner.
- C.) Cementitious Materials: Portland Cements shall conform to ASTM Specification C-150.
- D.) Aggregates: Shall conform to ASTM Specification C-33 for Normal Weight Concrete Aggregate (no expanded shale or lightweight aggregates) except that grading requirements shall not necessarily apply.

- E.) Other Constituents: Coloring pigments, air intraining agents, integral water Repellents, finely ground silica, etc., shall conform to ASTM standards where applicable, or shall be previously established as suitable for use in concrete.
- F.) Physical Requirements:
1. Size of Units shall be 4"x8" x 2-3/8" Rectangular Unit.
 2. Compressive Strength: At the time of delivery to the work site, the average comprehensive strength shall not be less than 8,000 I with No individual unit strength loss than 7,200 PSI with testing procedures in accordance with ASTM – Standard C-140.
 3. Absorption: The average absorption shall not be greater that 5 percent (5%) with no individual unit absorption greater than seven percent (7%).
 4. Abrasion Resistance: When tested in accordance with method C418, specimens shall not have a greater volume loss that 0.915 in. 3 per 7.75 in.2. The average thickness loss shall not exceed 0.118 in (3mm).
- I.) Visual Inspection: All units shall be sound and free of defects that would interfere with the proper placing of the unit or impair the strength or performance of the construction. Minor Cracks incidental to the usual methods of manufacture, or minor chipping resulting from customary methods of handling in shipment and delivery shall not be deemed grounds for rejections.
- J.) Sampling and testing:
1. The Engineer shall be accorded facilities to inspect and sample the units at the place of manufacture from lots ready for delivery.
- K.) Rejection: In case the shipment fails to conform to the specified requirements, the manufacturer may sort it, and now test units should/shall be selected at random by the Purchaser from the retained lot and tested at the expenses of the manufacturer. In case the Second set of test units fails to conform to the specified requirements; the entire lot shall be rejected.
- L.) Expense of Tests: The expense of Inspection and testing shall be borne by the purchaser unless otherwise agreed.

2.2 Edge Restraint:

- A.) All edges: Of the installed paving stones shall be restrained by existing curbing or by installation of a concrete header curb, Type D style. The type of edge restraint shall be approved at locations as noted on plans.
- B.) The Edge Restraint can be:
1. Existing Curbing

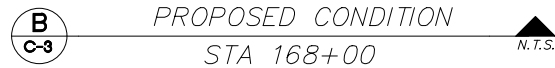
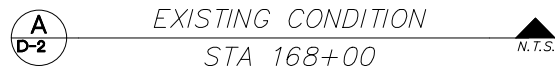
2. Newly Installed Header Curb

PART 3 - EXECUTION:

- 3.1 The Contractor: Must have a minimum of 2 years experience in the Installation of Interlocking concrete paving stones.
- 3.2 Preparation of Sub base: Material as specified should be compacted to at least 100% of the modified Proctor Dry Density, which is determined in accordance with ASTM T-99.
- 3.3 Preparation of the Base Course:
 - A.) A suitable Base: Must be prepared as detailed in other sections of the project specifications.
 - B.) The Base Course: The final elevation should be within +1/2 in. (13mm) or -1/2 in. (13mm) of the specified elevations. Deviations in the base elevation should not exceed 1/2 in. (13mm) when tested with a 10-foot (3m) straight edge.
 - C. Base Course and Bedding Sand:
 - 1 4" Limerock Base as specified should be compacted to at least 98% of the modified Proctor Dry Density, which is determined in accordance with ASTM T-180.
 - 2. Bedding Sand: shall be a minimum of 1-1/2" thick compacted firmly by tamping with no deviations in excess of 1/8" vertically in all lateral directions.
- 3.4 Laying of Concrete Paving Stones:
 - A.) The Paving Stones: Shall be laid in the approved pattern as noted or shown on drawings.
 - B.) The Paving Stones: Shall be laid in such a manner that the desired pattern is maintained and the joints between the adjacent units are approximately 1 1/6 in. (1.5mm) to 1/8 in. (3mm wide).
 - C.) String Lines: Should be used to hold pattern lines true.
 - D.) The Gaps: At the edge of the paver surface shall be filled with standard edge stone or with stones cut to fit. Cutting shall be accomplished to leave a clean edge to the traffic surface using a double-headed breaker or a masonry saw is recommended. Whenever possible, no cuts should result with a paver less than 1/3 of original dimension. Gaps less than 3/8 in. (10mm) should be filled with sand.
 - E.) Paving Stones: Shall be vibrated into the sand laying course using a vibrator capable of 3,000 to 5,000 pounds compaction force with the surface clean and joints open.

- F.) After Vibration: Clean masonry type sand containing at least 30% of 1/8" (3mm) particles shall be spread over the paving stone surface. Allowed to dry and vibrated into joints with additional vibrator passes and brushing so as to completely fill joints.
- G.) Final Elevation: Unless otherwise specified, the final surface elevations should not deviate more than 1/4-in. (6mm) under a 10-foot (3m) straight edge. The surface elevation of pavers should be 1/8 in. (3mm) to 1/4 in. (6mm) above adjacent drainage inlets, concrete collars or channels.
- H.) Surplus Material: Shall then be swept from the surface or left on surface during construction time to insure complete filling of joints during initial use. This sand also may provide surface protection from construction debris.
- I.) Upon completion: Of work in the Section, the Contractor shall clean up all work areas by removing all debris, surplus material and equipment from the site.

END OF SECTION



21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # 27013

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing – a error or omissions shall be reported to Stantec immediately. The Copyrights to all design drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

P.E. No. 76998

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

C-10

BID SET



21301 Powerline Road, Suite 311
Boca Raton, FL 33433
Voice: 561.487.3379 Fax: 561.487.3466
www.stantec.com
Certificate of Authorization # 27013

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing – any errors or omissions shall be reported to Stantec without delay. The Copyrights to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
84

COMMERCIAL BLVD BUFFER WALLS
CITY OF TAMARAC
31ST AVE TO 25TH TERRACE

JOB NUMBER
215612421

E No. :

AWN : C.L.M
VIEWED: M.O.A
ECKED : M.O.A

TE : 3/4/2016

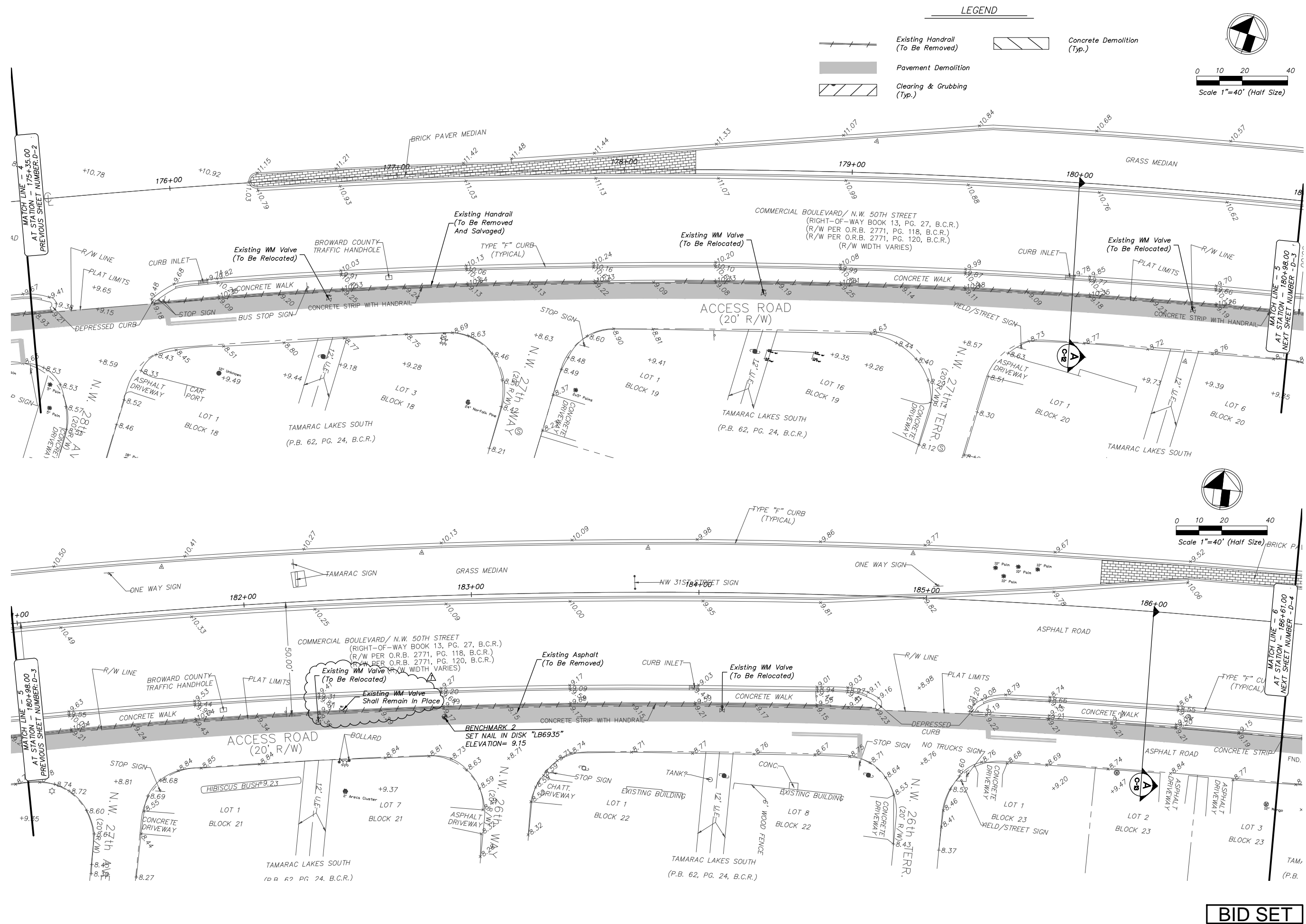
VALUE/REVISIONS

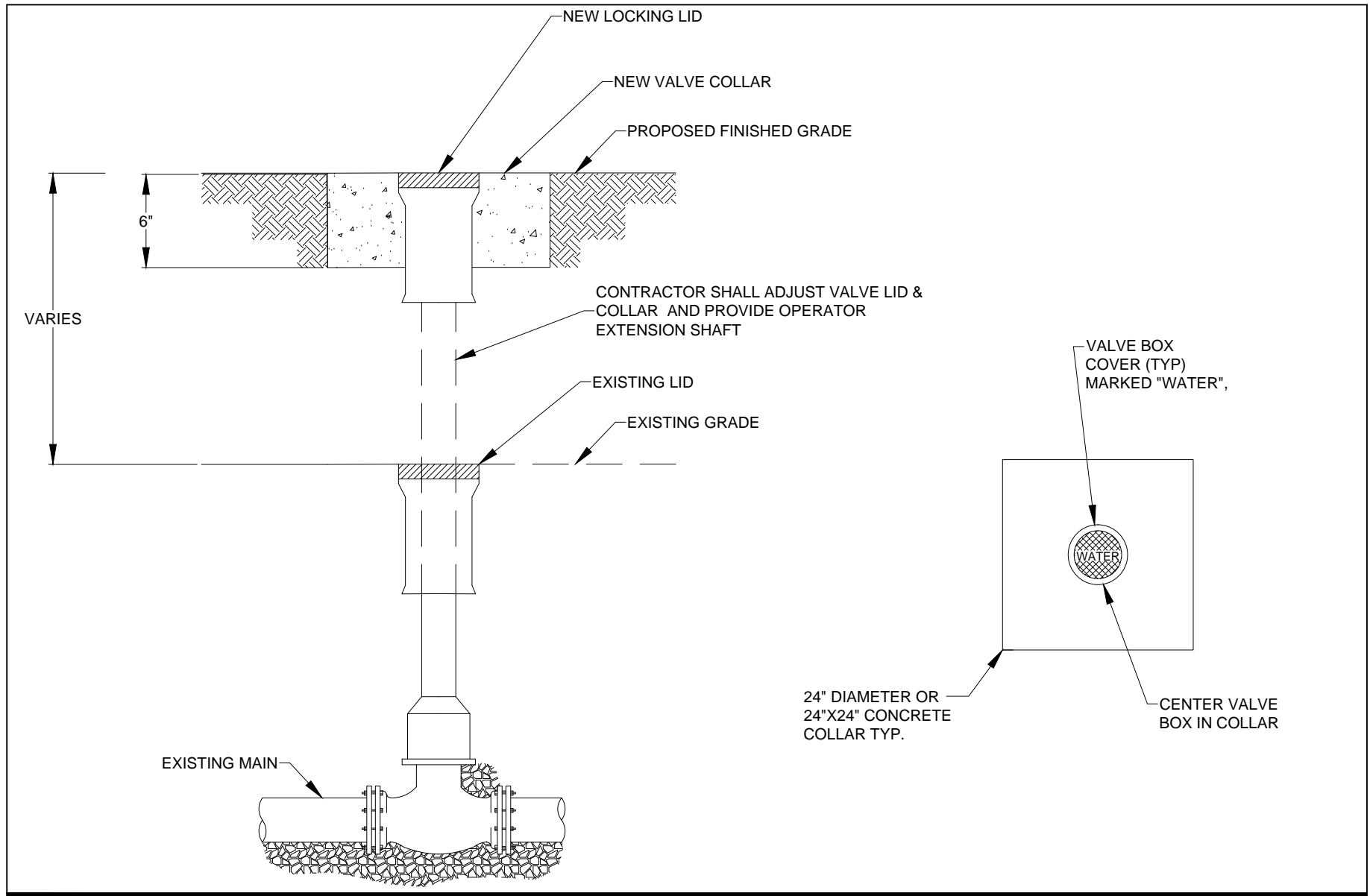
3/4/16 | Bid Set

--	--

SHEET TITLE
DEMOLITION
PLAN
SHEET NUMBER

D-3





21301 Powerline Road, Suite 311
Boca Raton FL
www.stantec.com

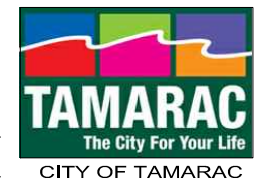
Client/Project

Commercial Blvd. Buffer Walls Phase I
City Of Tamarac
31ST Ave to 25TH Terr.
Project No. 215612421

Figure No. 101

Title

Water Valve Extension





Title - TR12766 - Maintenance Agreement for Atlantic Cypress Creek, LLC

Item No. 6 (b) on the Consent Agenda. (TR12766) A Resolution of the City Commission of the City of Tamarac, Florida authorizing the appropriate City Officials to execute a Maintenance Agreement between the City of Tamarac and Atlantic Cypress Creek, LLC; providing for conflicts; providing for severability; and providing for an effective date. ***Public Services Director Jack Strain***

ATTACHMENTS:

Description	Upload Date	Type
▣ TR 12766 MEMO	4/13/2016	Cover Memo
▣ TR 12766 RESOLUTION	4/13/2016	Resolution
▣ TR 12766 EXHIBIT 1	4/13/2016	Exhibit

**CITY OF TAMARAC
INTEROFFICE MEMORANDUM
PUBLIC SERVICES DEPARTMENT**

TO: Michael C. Cernech, City Manager DATE: April 12, 2016

**THRU: Jack Strain, Public Services
Director**

JD for J.S.

**FROM: Troy Gies, Budget and Contracts
Manager**

**RE: Temp. Reso. #12766 – Approve
and Authorize Maintenance
Agreement between the City of
Tamarac and Atlantic Cypress
Creek, LLC – City Commission
Meeting of April 27, 2016**

Recommendation:

I recommend that the City Commission approve a Resolution authorizing the appropriate City Officials to execute a Maintenance Agreement between the City of Tamarac and Atlantic Cypress Creek, LLC; and that this item be placed on the April 27, 2016 Commission Agenda.

Issue:

Authorization of the appropriate City Officials to execute a Maintenance Agreement between the City of Tamarac and Atlantic Cypress Creek, LLC.

Background:

Atlantic Cypress Creek, LLC ("Developer") is developing a rental apartment project, which, while not wholly situated within the geographical boundaries of the City of Tamarac, must access the property to be developed from within Tamarac. Therefore, the Developer has requested access to cross the City's property in order to effectuate access to the Developer's property and its development.

City Staff recommend permitting the Developer to access its development by granting a perpetual easement to cross and access the property in exchange for the Developer's agreement that upon constructing the improvements to access their property, the Developer will maintain the improvements upon the City Property and the adjacent 40' drainage ditch of which the City Property is a portion thereof. A description of the property is attached to this memo, for a more detailed description of the City Property, see Exhibit 1 to Temporary Resolution Number 12766.

Upon authorization and approval of the Maintenance Agreement, the City of Tamarac will have the right and authority to enter and cross over the Developer's Property as reasonably required to inspect the City Property and the improvements to that Property. In the event the City determines the maintenance of said improvements do not meet the standards of the City,

notice will be given to the Developer and the Developer will have fifteen (15) days from such notice to remedy the defect. In the event the City is required to perform such maintenance on the Property, the City will have a lien against the Developer's Property for the reasonable costs incurred by the City.

Fiscal Impact:

There is no fiscal impact to the City; the Developer will be responsible for maintenance of improvements. The inspection of the improvements shall be completed during the course of routine inspections of the development and the City's Stormwater System.

CITY OF TAMARAC, FLORIDA

RESOLUTION NO. R- 2016_____

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF TAMARAC, FLORIDA AUTHORIZING THE APPROPRIATE CITY OFFICIALS TO EXECUTE A MAINTENANCE AGREEMENT BETWEEN THE CITY OF TAMARAC AND ATLANTIC CYPRESS CREEK, LLC; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City of Tamarac is charged with the responsibility of providing and maintaining drainage, flowage, and storage of Stormwater within its geographical boundaries; and

WHEREAS, the City owns property as more particularly described in "Exhibit A" to the Maintenance Agreement ("Agreement") which is attached hereto as "Exhibit 1", and is incorporated herein by this reference; and

WHEREAS, the Atlantic Cypress Creek, LLC ("Developer") wishes to make improvements to property which, while not wholly situated within the geographical boundaries of the City, must be accessed from within the City and has requested to cross the City's Property and develop an access road across the City's Property in order to access the Developer's Property and its Development; and

WHEREAS, the City agrees to permit the Developer to access its development by granting a perpetual easement to cross and access the Developer's Property in exchange for the Developer's Agreement that upon constructing the improvements,

the Developer will maintain the improvements upon the City's Property and maintain the 40' drainage ditch of which the City Property is a portion thereof, a copy of said Maintenance Agreement is attached hereto as "Exhibit 1", and is incorporated herein by this reference; and

WHEREAS, the Director of Public Services and the Director of Financial Services recommend approving the Maintenance Agreement between the City of Tamarac and Atlantic Cypress Creek, LLC and authorizing the appropriate City Officials to execute said Agreement; and

WHEREAS, the City Commission of the City of Tamarac deems it to be in the best interest of the citizens and residents of the City of Tamarac to approve and execute the Maintenance Agreement between the City of Tamarac and Atlantic Cypress Creek, LLC.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF TAMARAC, FLORIDA:

Section 1: The foregoing "WHEREAS" clauses are HEREBY ratified and confirmed as being true and correct and are HEREBY made a specific part of this Resolution. All exhibits attached hereto and referenced herein are expressly incorporated and made a specific part of this Resolution.

Section 2: The appropriate City Officials are HEREBY authorized to execute a Maintenance Agreement between the City of Tamarac and Atlantic Cypress Creek, LLC, and is hereto attached as Exhibit 1, which is incorporated herein by this reference.

Section 3: All Resolutions in conflict herewith are HEREBY repealed to the extent of such conflict.

Section 4: If any clause, section, other part or application of this Resolution is held by any court of competent jurisdiction to be unconstitutional or invalid, in part or in application, it shall not affect the validity of the remaining portion or applications of this Resolution.

Section 5: This Resolution shall become effective immediately upon its adoption.

PASSED, ADOPTED AND APPROVED this ____ day of _____, 2016.

HARRY DRESSLER
MAYOR

ATTEST:

PATRICIA A. TEUFEL, CMC
CITY CLERK

I HEREBY CERTIFY that I have
approved this Resolution as
to form.

SAMUEL S. GOREN
CITY ATTORNEY

MAINTENANCE AGREEMENT

THIS MAINTENANCE AGREEMENT made and entered into this ____ day of _____, 20____, by and between the **CITY OF TAMARAC, FLORIDA**, a municipal corporation of the State of Florida, with a business address of 7525 N. W. 88th Avenue, Tamarac, FL 33321, hereinafter referred to as the "City," and **ATLANTIC CYPRESS CREEK, LLC**, a Delaware limited liability company with a business address of 1025 Kane Concourse, Suite 215, Bay Harbor Islands, Florida 33154, authorized to do business in the State of Florida, hereinafter referred to as the "Developer."

RECITALS

WHEREAS, the City is charged with the responsibility of providing and maintaining drainage, flowage and storage of stormwater within its geographical boundaries; and

WHEREAS, the City owns property as more particularly described in **EXHIBIT "A,"** ("City Property"); and

WHEREAS, the Developer is developing that rental apartment project ("Development") on the property, more particularly described in **EXHIBIT "B,"** ("Developer Property") which, while not wholly situated within the geographical boundaries of the City, must access its Developer Property from within the City and has requested access to cross the City's Property and develop an access road across City's Property in order to effectuate access to the Developer Property and its Development; and

WHEREAS, the Developer desires to construct, maintain and operate the improvements described on **EXHIBIT "C"** ("Improvements") upon the City Property and the adjacent portion of the forty foot (40') ditch of which the City Property is a portion thereof; and

WHEREAS, the City agrees to permit Developer to access its Development by granting a perpetual easement to cross and access the Developer Property with the Development in exchange for Developer's agreement that upon constructing the Improvements the Developer will maintain the Improvements upon the City Property and the "County Property" (as hereinafter defined) which is the portion of the 40' drainage ditch adjacent to the City Property; and

NOW, THEREFORE, in consideration of the mutual covenants and undertakings and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties do mutually covenant and agree as follows:

1. The City hereby grants and conveys unto Developer a perpetual non-exclusive easement over the City Property ("ACC Easements") which is appurtenant to the Developer Property, which ACC Easement(s) shall be (i) an easement for the installation, operation, perpetual maintenance and repair of the Improvements (including drainage facilities) to be constructed by Developer on the City Property and County Property; and (ii) an easement providing the Developer Property ingress, egress and access over the City Property and any Improvements thereon. Additionally, the City grants unto the Florida Department of Transportation ("FDOT") and to Broward County, Florida a perpetual non-exclusive easement

for ingress, egress and access over the City Property and any Improvements thereon which easement is appurtenant to the property described on Exhibit A-1 ("County Property") and FDOT's interest therein..

2. Developer hereby grants and conveys onto the City a perpetual non-exclusive easement ("City Easement"), for ingress and egress over the portion of the Developer Property described on **EXHIBIT "D"** ("ACC Easement Property").

3. Upon obtaining all appropriate governmental approvals for construction of the Improvements, the Developer hereby agrees that it shall be responsible for and shall bear the cost of constructing and maintaining in perpetuity the Improvements located on the City Property and the adjacent County Property in good condition.

4. "Good condition" shall be that standard of care and maintenance as may be established from time to time by the City and shall be deemed to include, but not limited to, the control of weeds and other nuisance and invasive vegetation, control of erosion, and the maintenance of slopes, depth, flowage and storage of water, aquatic vegetation, sodded slopes, and percolation capacity of seepage areas affected by the Improvements.

5. The City will have the right and authority to enter upon and cross over the Developer Property as reasonably required for the purpose of inspecting the City Property and the Improvements thereon. In the event that the City determines that the maintenance of said Improvements do not meet the standards established by the City, notice will be given by the City to the Developer and the Developer will be given a period of fifteen (15) days from and after the mailing of such notice within which to remedy such defect or obtain from the City, in writing, an extension, for good cause shown, of the time within which to remedy such defect, failing either of the foregoing, the City may, at its option, correct such defect for and on behalf of the Developer.

6. In the event that the City is required to perform such maintenance on behalf of the Developer, the City shall be deemed to have a lien against the Developer Property, which lien will be inferior only to any existing first mortgage then encumbering said Developer Property, ad valorem taxes, and such other liens, impositions and assessments as may be given priority by applicable statutes, and said liens shall be for all reasonable costs incurred by the City together with interest thereon computed at 18 percent (18%) per annum. Any lien pursuant to this paragraph shall be effective upon recording in the Broward County Public Records. In the further event that the City is required to undertake further collection efforts or to otherwise foreclose its lien, the City will be entitled additionally to receive its reasonable attorney's fees and costs expended in connection with such foreclosure or collection procedure.

7. The Developer shall acquire any and all required permits (including renewal of any such permits) as required by the appropriate governmental entities to construct, repair and maintain such Improvements.

8. Should the Developer subdivide the Developer Property described in **EXHIBIT "B"** hereto, the Developer's obligation to maintain shall devolve upon the individual purchasers or the subdivided parcels, their heirs, successors, and assigns, and shall be a covenant to run with the land. Regardless of whether or not the Developer subdivides such Developer Property, their

obligation to maintain shall be binding upon its heirs, successors, and assigns, and shall be covenant running with the land.

9. Whenever either party desires to give notice unto the other, it must be given by written notice, sent by registered United States mail, with return receipt requested, addressed to the party for whom it is intended, at the place last specified, and the place for giving notice shall remain such until it shall have been changed by written notice in compliance with the provisions of this Article. For the present, the parties designate the following as the respective places for giving of notice, to-wit:

For the Developer:	Atlantic Cypress Creek, LLC 1025 Kane Concourse, Suite 215 Bay Harbor Islands, Florida 33154 Attn: Howard Cohen, President
With copy to:	Greenspoon Marder P.A. 200 East Broward Boulevard, Suite 1800 Fort Lauderdale, Florida 33301 Attn: Barry E. Somerstein, Esq.
For the City:	Michael C. Cernech, City Manager City of Tamarac 7525 NW 88 th Avenue Tamarac, FL 33321 (954) 597-3510
With Copies to:	Jack Strain, Director, Public Services City of Tamarac 9901 NW 77 Street Tamarac, FL 33321 (954) 597-3700 Samuel S. Goren, City Attorney Goren, Cherof, Doody & Ezrol, P.A. 3099 East Commercial Blvd, Suite 200 Fort Lauderdale, FL 33308 (954) 771-4500

10. **Amendment.** No modification, amendment, or alteration of the terms and conditions contained herein shall be effective unless contained in a written document executed with the same formality and of equal dignity herewith.

11. **Compliance with Laws.** The Developer shall, without additional expense to the City, be responsible for obtaining any necessary licenses and for complying with any and all applicable federal, state, county and municipal laws, codes and regulations in connection with the performance of the activities described herein.

12. **Third Party Beneficiaries.** Neither the Developer nor the City intend to directly or substantially benefit a third party by this Agreement. Therefore, the parties agree that there are no third party beneficiaries to this Agreement and that no third party shall be entitled to assert a claim against either of them based upon this Agreement. The parties expressly acknowledge that it is not their intent to create any rights or obligations in any third person or entity under this Agreement.

13. **Waiver of Breach.** Failure by either party to enforce any provision of this Agreement shall not be deemed a waiver of such provision or modification of this Agreement. A waiver of any breach of a provision of this Agreement shall not be deemed a waiver of any subsequent breach and shall not be construed to be a modification of the terms of this Agreement.

14. **Indemnification.** Developer agrees to indemnify and hold City harmless, to extent provided by law, from any and all liability incurred now or in the future as a result of any injury, death or property damages because of the failure to maintain the Improvements as provided in this Agreement.

15. **Severance.** In the event this Agreement or a portion of this Agreement is found by a court of competent jurisdiction to be invalid, the remaining provisions shall continue to be effective.

16. **Joint Preparation.** The parties hereto acknowledge that they have sought and received whatever competent advice and counsel as was necessary for them to form a full and complete understanding of all rights and obligations herein and that the preparation of this Agreement has been a joint effort of the parties, the language has been agreed to by parties to express their mutual intent and the resulting document shall not, solely as a matter of judicial construction, be construed more severely against one of the parties than the other.

17. **Prior Agreements.** This document incorporates and includes all prior negotiations, correspondence, conversations, agreements, and understandings applicable to the matters contained herein and the parties agree that there are no commitments, agreements or understandings concerning the subject matter of this Agreement that are not contained in this document. Accordingly, the parties agree that no deviation from the terms hereof shall be predicated upon any prior representations or agreements, whether oral or written.

18. **Applicable Law and Venue.** This Agreement shall be interpreted and construed in accordance with and governed by the laws of the State of Florida. Any controversies or legal problems arising out of this Agreement and any action involving the enforcement or interpretation of any rights hereunder shall be submitted to the jurisdiction of the State courts of the Seventeenth judicial Circuit of Broward County, Florida. By entering into this Agreement, the parties hereby expressly waive any rights either party may have to a trial by jury of any civil litigation related to, or arising out of this Agreement. In any action to enforce the terms of this Agreement, whether suit be brought or not, the prevailing party shall be entitled to reasonable attorney's fees and costs.

This agreement shall be placed of record among the Public Records of Broward County, Florida, the Developer to bear the cost to record this Agreement.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the day and year first above written.

CITY OF TAMARAC



ATTEST:

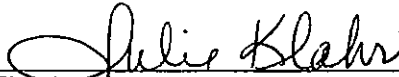
Michael C. Cernech, City Manager

Patricia A. Teufel, CMC
City Clerk

Date

Approved as to form and legal sufficiency:

Date


City Attorney

Date

3/30/2016

ATTEST:

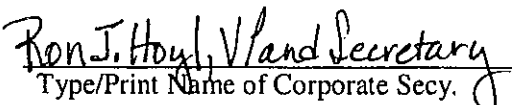
ATLANTIC CYPRESS CREEK, LLC



Signature of Corporate Secretary



Signature of Authorized Individual


Type/Print Name of Corporate Secy.

(CORPORATE SEAL)

Printed Name

Howard D. Cohen

Title

3-22-2016

Date

STATE OF FLORIDA)
) ss:
COUNTY OF Miami-Dade)

The foregoing instrument was acknowledge before me this 22 day of March, 2016, by Howard Cohen, as Authorized Individual of ATLANTIC CYPRESS CREEK, LLC, a Delaware limited liability company.

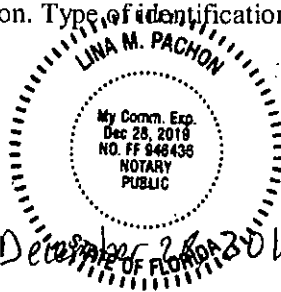
He or she is:

☒ personally known to me, or

☐ produced identification. Type of identification produced _____

(Seal)

My commission expires:



NOTARY PUBLIC

YINA H. PACHON
Print name: Yina H. Pachon

EXHIBIT "A"

REFERENCED IN THAT CERTAIN MAINTENANCE AGREEMENT BY AND
BETWEEN CITY OF TAMARAC, FLORIDA AND ATLANTIC CYPRESS CREEK,
LLC, DATED _____, 20____.

LEGAL DESCRIPTION OF CITY'S PROPERTY

The north 20' of the following described property:

FOR: ATLANTIC / PACIFIC DEVELOPMENT

SKETCH AND DESCRIPTION
ADJACENT CANAL

LEGAL DESCRIPTION:

THE WEST 200.00 FEET, OF THE EAST 1061.35 FEET, OF THE SOUTH 40.00 FEET, OF THE NORTH 1,031.0 FEET OF THE SOUTHWEST ONE-QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 49 SOUTH, RANGE 42 EAST, BROWARD COUNTY, FLORIDA, LYING SOUTH OF THE SOUTH RIGHT OF WAY LINE OF WEST COMMERCIAL BOULEVARD (NW 50th STREET).

SAID LANDS SITUATE IN THE CITY OF TAMARAC, BROWARD COUNTY, FLORIDA. CONTAINING 8,003 SQUARE FEET OR 0.184 ACRES MORE OR LESS.

NOTES:

BEARINGS SHOWN HEREON ARE BASED ON AN ASSUMED MERIDIAN, THE CENTERLINE OF COMMERCIAL BOULEVARD (N.W. 50th STREET) IS ASSUMED TO BEAR NORTH 89° 56' 41" EAST.

THIS SKETCH AND DESCRIPTION CONSISTS OF 2 SHEETS AND EACH SHEET SHALL NOT BE CONSIDERED FULL, VALID AND COMPLETE UNLESS ATTACHED TO THE OTHER.

TITLE NOTES:

TITLE EXCEPTIONS LISTED BELOW ARE REFERENCED TO THE COMMITMENT FOR TITLE PREPARED BY OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY, FILE NO.: 15061376 SHR; AGENT FILE # FL DOT; EFFECTIVE DATE: MAY 18, 2015 AT 8:00 AM.

7. THE HEREON DESCRIBED PROPERTY IS AFFECTED BY: DRAINAGE RESERVATIONS CONTAINED IN DEED FROM TRUSTEES OF THE INTERNAL IMPROVEMENT FUND RECORDED IN DEED BOOK 222, PAGE 121. (NOT PLOTTABLE).

8. THE HEREON DESCRIBED PROPERTY IS NOT AFFECTED BY: DRAINAGE RESERVATION CONTAINED IN DEED FROM TRUSTEES OF THE INTERNAL IMPROVEMENT FUND RECORDED IN DEED BOOK 226, PAGE 230.

9. THE HEREON DESCRIBED PROPERTY IS NOT AFFECTED BY: EASEMENT IN FAVOR OF AMERICAN TELEPHONE & TELEGRAPH COMPANY IN DEED BOOK 361, PAGE 369.

10. THE HEREON DESCRIBED PROPERTY IS AFFECTED BY: COVENANTS, RESTRICTIONS AND EASEMENTS CONTAINED IN SPECIAL WARRANTY DEED RECORDED IN OFFICIAL RECORDS BOOK 8608, PAGE 543. (AFFECTS N. 20 FEET OF CANAL, RESERVES ACCESS TO LAKE TO THE SOUTH, (NOT PLOTTABLE).

11. THE HEREON DESCRIBED PROPERTY IS NOT AFFECTED BY: ORDINANCE NO. 83-12 REGARDING HEADWAY OFFICE PARK DEVELOPMENT OF REGIONAL IMPACT RECORDED IN OFFICIAL RECORDS BOOK 10774, PAGE 594, AS AFFECTED BY ORDINANCE NO. 94-17 RECORDED IN OFFICIAL RECORDS BOOK 23062, PAGE 176; AND NOTICE OF ADOPTION OF AN AMENDMENT TO THE HEADWAY OFFICE PARK DEVELOPMENT OF REGIONAL IMPACT ORDINANCE 97-16 RECORDED IN OFFICIAL RECORDS BOOK 27482, PAGE 801.

13. THE HEREON DESCRIBED PROPERTY IS NOT AFFECTED BY: TERMS AND CONDITIONS OF THE MASTER DEVELOPMENT AGREEMENT, TOGETHER WITH EASEMENTS AND PROVISIONS FOR ASSESSMENTS CONTAINED IN OFFICIAL RECORDS BOOK 11899, PAGE 556; AS AFFECTED BY ORDINANCE NO 94-17 RECORDED IN OFFICIAL RECORDS BOOK 23062, PAGE 176.

14. THE HEREON DESCRIBED PROPERTY IS AFFECTED BY: DRAINAGE EASEMENT IN FAVOR OF BROWARD COUNTY AND STATE ROAD DEPARTMENT OF THE STATE OF FLORIDA BY FINAL JUDGMENT IN CASE NO. L-84-902 RECORDED IN CIRCUIT COURT MINUTE BOOK 98, PAGE 220 AND FINAL JUDGMENT IN CASE NO. L-84-902 RECORDED IN CIRCUIT COURT MINUTE BOOK 107, PAGE 250. (NOT PLOTTABLE)

CERTIFICATE:

WE HEREBY CERTIFY THAT THIS SKETCH AND DESCRIPTION AND OTHER PERTINENT DATA SHOWN HEREON, OF THE ABOVE DESCRIBED PROPERTY WAS MADE ON THE GROUND, CONFORMS TO THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN THE STATE OF FLORIDA, AS OUTLINED IN CHAPTER 5-17, (FLORIDA ADMINISTRATIVE CODE) AS ADOPTED BY DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, PURSUANT TO CHAPTER 472.027, FLORIDA STATUTES AND THAT SAID SURVEY IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

CRAVEN THOMPSON & ASSOCIATES, INC.

LICENSED BUSINESS NUMBER #271

RAYMOND YOUNG

PROFESSIONAL SURVEYOR AND MAPPER NO 3799

STATE OF FLORIDA

Q 1001313-0054-LAUDERDALE LAKES STE/DRAWINGS/130054_SD_CANAL

THIS IS BUT A SKETCH OF SURVEY, but only a graphic depiction of the description shown hereon. There has been no field work, viewing of the subject property, or monuments set in connection with the preparation of the information shown hereon.

The undersigned and CRAVEN-THOMPSON & ASSOCIATES, INC. make no representations or warranties as to the information furnished hereon pertaining to contracts, rights-of-way, easements, taxes, mortgages, agreements and other similar matters, and further, this instrument is not intended to reflect or sell forth all such matters. Such information should be obtained and confirmed by others through appropriate title verification. Land shown hereon were set abstracted for right-of-way and/or easements of record.

UPDATES and/or REVISIONS	DATE	BY	CHK'D

JOHN NO. 13-0054

SHEET 1 OF 2 SHEETS

DRAWN BY: RY

F.B.N/A P.O.N/A

CHECKED BY: TCS

DATED: 08-24-15

CRAVEN • THOMPSON & ASSOCIATES, INC.

ENGINEERS PLANNERS SURVEYORS

3045 N.W. 32ND STREET, FORT LAUDERDALE, FLORIDA 33309 FAX: (954) 736-5100 TEL: (954) 736-8400

FLORIDA LICENSED ENGINEERS, PLANNERS & MAPPED BUSINESS NO. 871

NATIONAL SHOW HEREON IS THE PROPERTY OF CRAVEN-THOMPSON & ASSOCIATES, INC. AND SHALL NOT BE REPRODUCED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION. COPYRIGHT 101 0016

25470623.6
41483.0001

EXHIBIT "B"

REFERENCED IN THAT CERTAIN MAINTENANCE AGREEMENT BY AND BETWEEN CITY OF TAMARAC, FLORIDA AND ATLANTIC CYPRESS CREEK, LLC, DATED _____, 20____.

LEGAL DESCRIPTION OF DEVELOPER'S PROPERTY

The West 200.00 feet of the East 1061.35 feet of the North 991.0 feet of the Southwest One-Quarter (SW 1/4) of Section 18, Township 49 South, Range 42 East, Broward County, Florida, lying South of the South Right of Way line of West Commercial Boulevard (NW 50th Street).

LESS AND EXCEPT that portion thereof conveyed to State of Florida Department of Transportation for Right of Way by Warranty Deed recorded in Official Records Book 31386, Page 1070, of the Public Records of Broward County, Florida, being more particularly described as follows:

A portion of the West 200.00 feet of the East 1061.35 feet of the North 991.00 feet of the Southwest One-Quarter (SW 1/4) of Section 18, Township 49 South, Range 42 East, Broward County, Florida, lying South of the South Right of Way line of West Commercial Boulevard (NW 50th Street), more particularly described as follows:

Beginning at the point where the South Right-of-Way line of West Commercial Boulevard (NW 50th Street) intersects the West line of said West 200 feet of the East 1061.35 feet of the North 991.0 feet of the Southwest One-Quarter (SW 1/4) of Section 18, Township 49 South, Range 42 East; thence North 89°56'41" East along the South Right-of-Way line of West Commercial Boulevard, a distance of 189.43 feet to a point on the arc of a non-tangent curve concave to the Southeast having a radial bearing of North 25°27'44" West; thence Southwesterly along the arc of said curve, having a radius of 17.00 feet and a central angle of 66°14'42", an arc distance of 19.65 feet to a point of tangency; thence South 01°42'25" East, a distance of 1.89 feet; thence South 88°17'34" West, a distance of 49.93 feet to a point on an arc of a non-tangent curve concave to the Southwest having a radial bearing of North 60°44'36" East; thence Northwesterly along the arc of said curve having a radius of 17.00 feet and a central angle of 60°52'08", an arc distance of 18.06 feet to a point of tangency; thence South 89°52'28" West, a distance of 73.46 feet; thence North 75°48'06" West a distance of 42.88 feet to the POINT OF BEGINNING.

Said lands situate in the City of Tamarac, Broward County, Florida.

TOGETHER WITH:

All of Parcel "A", together with a portion of Parcels "B" and "C", HEADWAY OFFICE PARK, according to the plat thereof, as recorded in Plat Book 125, Page 49, of the Public Records of Broward County, Florida, described as follows:

Begin at the Northwest corner of said Parcel "A"; thence North 89°56'41" East along the North boundary of said Parcel "A" and the North boundary of said Parcel "B", a distance of 1860.34 feet to the Northeast corner of said Parcel "B"; thence South 01°43'21" East along the East boundary of said Parcel "B", a distance of 540.64 feet; thence South 89°56'41" West along a line 540.42 feet South of and parallel with, when measured at right angles to, said North boundary, a distance of 1862.41 feet; thence North 01°30'11" West along the West boundaries of said Parcels "B" and "A", a distance of 540.58 feet to the POINT OF BEGINNING.

Said lands situate in the City of Lauderdale Lakes, Broward County, Florida.

EXHIBIT "C"

**REFERENCED IN THAT CERTAIN MAINTENANCE AGREEMENT BY AND
BETWEEN CITY OF TAMARAC, FLORIDA AND ATLANTIC CYPRESS CREEK,
LLC, DATED _____, 20____.**

IMPROVEMENTS

Vehicular and pedestrian crossing including the following improvements: Twin 48" reinforced concrete pipes, concrete endwall, 18" reinforced concrete pipe, concrete paver roadway, curb, sidewalk, utility facilities, and landscaping, as more particularly shall be set forth in plans approved by the Licensor ("Plans").

A full-size set of the Plans are on file with the Broward County Highway and Construction Division under Project Reference No. 160107001.

EXHIBIT "D"

REFERENCED IN THAT CERTAIN MAINTENANCE AGREEMENT BY AND BETWEEN CITY OF TAMARAC, FLORIDA AND ATLANTIC CYPRESS CREEK, LLC, DATED _____, 20____.

ACC IMPROVEMENTS

FOR: ATLANTIC / PACIFIC DEVELOPMENT		SKETCH AND DESCRIPTION ACCESS EASEMENT																										
LEGAL DESCRIPTION:																												
A PORTION OF THE WEST 200.00 FEET OF THE EAST 1081.35 FEET OF THE NORTH 981.0 FEET OF THE SOUTHWEST ONE-QUARTER (SW1/4) OF SECTION 18, TOWNSHIP 49 SOUTH, RANGE 42 EAST, BROWARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:																												
<p>COMMENCE AT THE POINT WHERE THE SOUTH RIGHT-OF-WAY LINE OF WEST COMMERCIAL BOULEVARD (NW 50th STREET) INTERSECTS THE WEST LINE OF SAID WEST 200 FEET OF THE EAST 1081.35 FEET OF THE NORTH 981.0 FEET OF THE SOUTHWEST ONE-QUARTER (SW1/4) OF SAID SECTION 18; THENCE SOUTH 78°48'06" EAST A DISTANCE OF 42.88 FEET; THENCE NORTH 89°52'28" EAST, A DISTANCE OF 73.48 FEET TO A POINT OF CURVATURE OF A CIRCULAR CURVE TO THE RIGHT; THENCE EASTERLY AND SOUTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 17.00 FEET, THROUGH A CENTRAL ANGLE OF 80°52'08", FOR AN ARC DISTANCE OF 18.08 FEET; THENCE NORTH 88°17'34" EAST, A DISTANCE OF 13.93 FEET TO THE POINT OF BEGINNING, THE LAST FOUR (4) DESCRIBED COURSES LYING ALONG THE SOUTH BOUNDARY OF THAT CERTAIN RIGHT OF WAY DEDICATION FOR COMMERCIAL BOULEVARD (NW 50th STREET) AS DESCRIBED IN OFFICIAL RECORDS BOOK 31386, PAGE 1070 OF SAID PUBLIC RECORDS; THENCE CONTINUE NORTH 88°17'34" EAST ALONG THE LAST DESCRIBED COURSE, A DISTANCE OF 24.00 FEET; THENCE SOUTH 01°43'21" EAST, A DISTANCE OF 103.07 FEET TO A POINT OF CURVATURE OF A CIRCULAR CURVE TO THE LEFT; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 20.00 FEET, THROUGH A CENTRAL ANGLE OF 90°00'00", FOR AN ARC DISTANCE OF 31.42 FEET TO A POINT OF TANGENCY; THENCE NORTH 88°18'39" EAST, A DISTANCE OF 12.81 FEET, THE LAST THREE (3) DESCRIBED COURSES LYING ALONG THE EDGE OF A PROPOSED BRICK DRIVE; THENCE SOUTH 01°43'21" EAST ALONG THE WEST BOUNDARY OF PARCEL "A", "CONTINENTAL PLAZA", ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 96, PAGE 14, OF SAID PUBLIC RECORDS, A DISTANCE OF 14.00 FEET; THENCE SOUTH 88°18'39" WEST, A DISTANCE OF 12.81 FEET TO A POINT OF CURVATURE OF A CIRCULAR CURVE TO THE RIGHT; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 34.00 FEET, THROUGH A CENTRAL ANGLE OF 30°00'00", FOR AN ARC DISTANCE OF 17.80 FEET TO A POINT OF REVERSE CURVATURE OF A CIRCULAR CURVE TO THE LEFT; THENCE NORTHWESTERLY, WESTERLY AND SOUTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 2.00 FEET, THROUGH A CENTRAL ANGLE OF 120°00'11", FOR AN ARC DISTANCE OF 4.19 FEET TO A POINT OF TANGENCY; THENCE SOUTH 01°43'21" EAST, A DISTANCE OF 20.00 FEET TO A POINT OF CURVATURE OF A CIRCULAR CURVE TO THE RIGHT; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 83.50 FEET, THROUGH A CENTRAL ANGLE OF 27°09'11", FOR AN ARC DISTANCE OF 44.20 FEET TO A POINT OF REVERSE CURVATURE OF A CIRCULAR CURVE TO THE LEFT; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 174.50 FEET, THROUGH A CENTRAL ANGLE OF 26°12'24", FOR AN ARC DISTANCE OF 78.82 FEET; THENCE SOUTH 00°02'52" EAST ALONG A LINE NOT TANGENT TO THE LAST DESCRIBED CURVE, A DISTANCE OF 133.69 FEET; THE LAST SEVEN (7) DESCRIBED COURSES LYING ALONG THE EDGE OF SAID BRICK DRIVE; THENCE SOUTH 89°58'41" WEST ALONG THE NORTH BOUNDARY OF THAT CERTAIN 40 FOOT DRAINAGE CANAL PER MINUTES OF CIRCUIT COURT BOOK 107, PAGE 230 OF SAID PUBLIC RECORDS, A DISTANCE OF 18.50 FEET; THENCE NORTH 00°02'52" WEST, A DISTANCE OF 125.85 FEET TO A POINT OF CURVATURE OF A CIRCULAR CURVE TO THE RIGHT; THENCE NORTHERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 318.25 FEET, THROUGH A CENTRAL ANGLE OF 08°54'43", FOR AN ARC DISTANCE OF 38.38 FEET TO A POINT OF REVERSE CURVATURE OF A CIRCULAR CURVE TO THE LEFT; THENCE NORTHEASTERLY, NORTHERLY, NORTHWESTERLY, WESTERLY AND SOUTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 6.75 FEET, THROUGH A CENTRAL ANGLE OF 180°57'08", FOR AN ARC DISTANCE OF 17.78 FEET TO A POINT OF COMPOUND CURVATURE OF A CIRCULAR CURVE TO THE LEFT; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 68.75 FEET, THROUGH A CENTRAL ANGLE OF 35°57'38", FOR AN ARC DISTANCE OF 43.18 FEET TO A POINT OF TANGENCY; THENCE SOUTH 00°02'52" EAST, A DISTANCE OF 128.88 FEET, THE LAST FIVE (5) DESCRIBED COURSES LYING ALONG THE EDGE OF SAID BRICK DRIVE; THENCE SOUTH 89°58'41" WEST ALONG SAID NORTH BOUNDARY, A DISTANCE OF 18.50 FEET; THENCE NORTH 00°02'52" WEST, A DISTANCE OF 128.88 FEET TO A POINT ON THE ARC OF A CIRCULAR CURVE TO THE RIGHT FROM WHICH THE RADIUS POINT BEARS SOUTH 89°58'34" WEST; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A RADIUS OF 88.00 FEET, THROUGH A CENTRAL ANGLE OF 53°28'35", FOR AN ARC DISTANCE OF 82.13 FEET TO A POINT ON THE ARC OF A NON TANGENT CIRCULAR CURVE TO THE LEFT FROM WHICH THE RADIUS POINT BEARS NORTH 38°05'58" WEST; THENCE NORTHEASTERLY ALONG THE ARC OF SAID NON TANGENT CURVE HAVING A RADIUS OF 65.00 FEET, THROUGH A CENTRAL ANGLE OF 82°39'35", FOR AN ARC DISTANCE OF 66.74 FEET TO A POINT OF TANGENCY; THENCE NORTH 01°43'21" WEST, A DISTANCE OF 158.80 FEET TO THE POINT OF BEGINNING, THE LAST FOUR (4) DESCRIBED COURSES LYING ALONG THE EDGE OF SAID BRICK DRIVE.</p>																												
SAID LANDS LYING IN THE CITY OF TAMARAC, BROWARD COUNTY, FLORIDA, AND CONTAINING 13,337 SQUARE FEET OR (0.308 ACRES) MORE OR LESS.																												
PRINTED ON		DEC 11 2015																										
<p>16</p> <p>2547062 41483.04</p> <p>CRAVEN • THOMPSON & ASSOCIATES, INC. ENGINEERS PLANNERS SURVEYORS 2001 N.W. 11th STREET FORT LAUDERDALE, FLORIDA 33309-2001 (954) 336-1000 FAX (954) 336-1001 NATIONAL BROWN PAPER OF THE PROPERTY OF CRAVEN-THOMPSON & ASSOCIATES, INC. AND SHALL NOT BE REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF CRV</p>																												
<p>THIS IS NOT A DRAFT OF A SURVEY, but only a graphic depiction of the description shown herein. There has been no field work, staking or the actual project or monuments set in connection with this preparation of the information shown herein.</p> <p>The undersigned and CRAVEN-THOMPSON & ASSOCIATES, INC. make no representation or guarantee as to the information indicated herein pertaining to easements, rights-of-way, and both those easements, agreements and other similar matters, and further, this instrument is not intended to reflect or set forth all such matters. Such information should be obtained and confirmed by others through appropriate title investigation. Lends shown herein were not obstructed for right-of-way or easements of record.</p>		<table border="1"> <thead> <tr> <th colspan="2">UPDATES and/or REVISIONS</th> <th>DATE</th> <th>BY</th> <th>CHK'D</th> </tr> </thead> <tbody> <tr> <td>1. ADD NOTE TO SKETCH</td> <td></td> <td>12-11-15</td> <td>RY</td> <td>RY</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		UPDATES and/or REVISIONS		DATE	BY	CHK'D	1. ADD NOTE TO SKETCH		12-11-15	RY	RY															
UPDATES and/or REVISIONS		DATE	BY	CHK'D																								
1. ADD NOTE TO SKETCH		12-11-15	RY	RY																								
<p>JOB NO.: 13-0054</p> <p>DRAWN BY: RY</p> <p>CHECKED BY: TCS</p>		<p>SHEET 1 OF 3 SHEETS</p> <p>F.B.N/A : PG.N/A</p> <p>DATED: 08-17-15</p>																										

ACCESS EASEMENT

LEGEND

B.C.R. BROWARD COUNTY RECORDS
 L ARC LENGTH
 O.R.B. OFFICIAL RECORD BOOK
 P.B. PLAT BOOK
 P.G. PAGE
 P.O.B. POINT OF BEGINNING
 R RADIUS
 R.P. REFERENCE POINT
 R/W RIGHT OF WAY
 Δ CENTRAL ANGLE
 E CENTERLINE

NOTES:

BEARINGS SHOWN HEREON ARE BASED ON AN ASSUMED MERIDIAN, THE CENTERLINE OF COMMERCIAL BOULEVARD (N.W. 50th STREET) IS ASSUMED TO BEAR NORTH 89° 56' 41" EAST.

THIS SKETCH AND DESCRIPTION CONSISTS OF 3 SHEETS AND EACH SHEET SHALL NOT BE CONSIDERED FULL, VALID AND COMPLETE UNLESS ATTACHED TO THE OTHERS.

CERTIFICATE:

WE HEREBY CERTIFY THAT THIS SKETCH AND DESCRIPTION AND OTHER PERTINENT DATA SHOWN HEREON, OF THE ABOVE DESCRIBED PROPERTY WAS MADE ON THE GROUND, CONFORMS TO THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN THE STATE OF FLORIDA, AS OUTLINED IN CHAPTER 5J-17, (FLORIDA ADMINISTRATIVE CODE) AS ADOPTED BY DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS, PURSUANT TO CHAPTER 472.027, FLORIDA STATUTES AND THAT SAID SURVEY IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

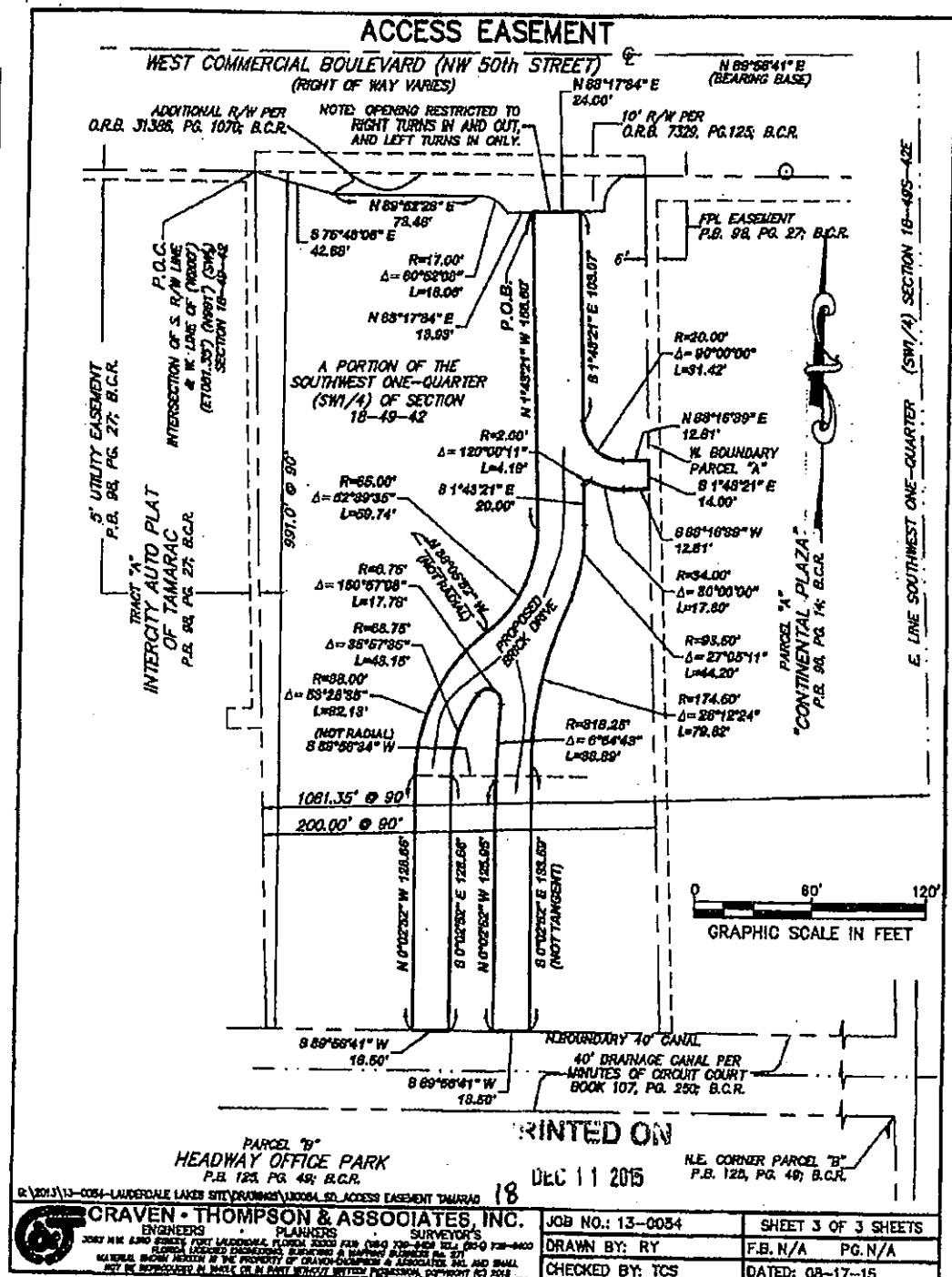
CRAVEN THOMPSON & ASSOCIATES, INC.
 LICENSED SURVEYORS
 PRINTED ON

PROFESSIONAL SURVEYOR, LICENSE NO. 5789

17 THE SKETCH OF SURVEY AND REPORT BY THE SURVEYOR ARE NOT VALID WITHOUT THE SIGNATURE AND RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

Q:\2015\13-0034-LAUDERDALE LAKES STRE\CRANDW05\130064_00_ACCESS EASEMENT TAMRAC

CRAVEN • THOMPSON & ASSOCIATES, INC. ENGINEERS PLANNERS SURVEYORS <small>2003 A.W. ARD STREET, FORT LAUDERDALE, FLORIDA 33304 FAX: (954) 790-0400 TEL: (954) 790-4400 FLORIDA LICENSED ENGINEERING SURVEYING & MAPPING BUSINESS NO. 201 MATERIAL HEREON IS THE PROPERTY OF CRAVEN-THOMPSON & ASSOCIATES, INC. AND SHALL NOT BE REPRODUCED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION. COPYRIGHT © 2015</small>		JOB NO.: 13-0034 SHEET 2 OF 3 SHEETS DRAWN BY: RY F.B. N/A P.G. N/A CHECKED BY: TCS DATED: 08-17-15
--	--	--





Title - TO2333 - Commercial Vehicle Ordinance

Item No. 8 (e) on Ordinance(s) - First Reading: (TO2333) An Ordinance of the City Commission of the City of Tamarac, Florida amending Chapter 14 of the City's Code of Ordinances, entitled "Motor Vehicles and Traffic" by specifically amending Article II, entitled "Stopping, Standing and Parking," Section 14-30 entitled "Parking or Storage of Commercial or Recreational Vehicles, Boats and Boat Trailers" to prohibit the parking and storage of certain commercial and recreational vehicles in residential areas except as provided herein; providing for codification; providing for conflicts; providing for severability; and providing for an effective date. - ***Community Development Director Maxine Calloway and Code Enforcement Manager Scott Krajewski***

Commission District(s):

Citywide

ATTACHMENTS:

Description	Upload Date	Type
<input type="checkbox"/> Memo	4/18/2016	Cover Memo
<input type="checkbox"/> Ordinance	4/18/2016	Ordinance

CITY OF TAMARAC
INTEROFFICE MEMORANDUM
COMMUNITY DEVELOPMENT

TO: Michael C. Cernech,
City Manager

DATE: April 18, 2016

FROM: Maxine Calloway,
Director of Community Development

RE: Temp. Ordinance No.2333
Amending Chapter 14, Article II,
Sec. 14-30 - Parking or storage
of commercial or recreational
vehicles, boats and boat trailers

Recommendation: The Director of Community Development recommends that the Mayor and City Commission adopt on First Reading, Temporary Ordinance No. 2333, Amending Chapter 14, Article II, Sec. 14-30. - Parking or storage of commercial or recreational vehicles, boats and boat trailers at their April 27, 2016 meeting.

Issue: Improvement to the current Code is necessary to provide legislation consistent with the established enforcement practice while bringing clarity to certain provisions to aid in consistent enforcement of the commercial and recreational vehicles section of the Code.

Background: On June 22, 1988, the City Commission of the City of Tamarac adopted Ordinance 88-15, amending certain provisions established in Section 14-30 of the Code, which was originally adopted in 1975 .There have been subsequent revisions beginning with June 24, 1992 Ordinance 92-37, with the last amendment occurring on February 28, 2007 with Ordinance #2007-06. All these amendments have culminated into our current Section 14-30 of our Motor Vehicle and Traffic Chapter of the Code (Chapter 14), which has proven to be inadequate in certain areas and not consistent in some respects with the current practice of enforcement of storage and parking of both commercial and recreational vehicles.

Currently both commercial vehicles and recreational vehicles, boats and trailers all fall under the same restrictions. This has allowed over the years the parking of large commercial vehicles in residentially zoned districts. This has further allowed the unbridled parking of semi-truck cabs, wreckers and Taxi's parked at residents' homes. In addition, the current Code does not provide a limitation on the number of recreational vehicles or boats that can be stored on an individual residential parcel, thus, allowing for multiple boats or recreational vehicles to be parked on private residential property. As such, the enforcement on the parking of commercial and recreational vehicles have been hindered by the fact the City Code does currently allow the parking of such behind a fenced in area that meets certain requirements.

Additionally, while there are width and length restrictions contained in the Code for certain vehicles, there is no height limitation primarily on the recreational vehicle, thus allowing vehicles with excessive heights parked on residentially zoned properties. These vehicles are overly high and stand out in the surrounding community. There are also residences that have multiple numbers of either trailers or boats on the property. The enforcement of these issues has been substantially hindered by the fact there is no clear section in the Code to address these seeming acts of community disturbance.

The amendment to Section 14-30 of the Code will allow the Code Division unit to effectively address the concerns of residents. It is expected that proper enforcement with a restriction in height and number of commercial or recreational vehicles parked on residentially zoned properties will add to the overall image improvement and aesthetics in the City of Tamarac.

Analysis: While the Section 14-30 of the Code provides that no owner or person having the use of a commercial vehicle, or recreational vehicle or a boat or boat trailer shall park such vehicle or boat or boat trailer for any period of time on either a public right-of-way or privately owned property in a residentially zoned district as now defined or as may be defined in the future or in a clubhouse district as now defined or as may be defined in the future between 9:00 p.m. and 6:00 a.m., it also provides for the following exceptions, which are being amended as summarized below:

Section 14-30(a) (2): Definitions: Commercial Vehicles

This portion of the proposed Ordinance is being amended to add additional types of vehicles that are considered “commercial” for purposes of the Ordinance. Specifically, items l,m,n and o were added to describe types of vehicles that would be considered commercial in nature. In response to the April 11th Commission Workshop, item “o” was added to describe vehicles with visible ladder, bucket, aerial device, refrigerated box, or having any equipment for the purpose of performing any work of a commercial nature or carrying goods other than for personal effects of passengers, as a commercial vehicle.

Section 14-30(b)(1): Commercial Vehicles

This portion of the proposed Ordinance is being amended to provide for the requirements on ONLY commercial vehicles. It allows the parking of such vehicle on residentially zoned properties ONLY if they are parked in a garage or carport and effectively screened from view from the abutting/adjacent neighbor. This new provision essentially eliminates the property owner’s ability to park most types of commercial vehicles, since the vehicle must fit in a garage or a carport which would allow only vehicles such as a taxi cab or small bus. The newly amended provision also provides for the specifics relative to the parking of commercial vehicles. It provides the criteria and process that must be satisfied in order for the vehicle to meet the requirements in order to park in a residentially zoned district.

Section 14-30(b)(2): Recreational vehicle, boat or boat trailer

This Section is new and provides for the parking of a maximum of ONE recreational vehicle, boat and boat trailer on a residentially zoned property. This effectively means that a property owner could store one small RV (meeting the width, length and height requirement) one boat and one boat trailer on a residentially zoned property, provided the vehicle, boat and boat trailer are properly screened from view. The newly created section further requires the recreational vehicle, boat and boat trailer to be no greater than 10 feet in height and provides for screening of said vehicle and equipment behind the 25 foot front yard setback and sufficiently concealed and screened from view.

Section 14-30(d)(3): Parking on vacant land.

This portion of the proposed Ordinance was amended to add “City owned properties” as well as a “Violations” provision which ratifies the City’s ability to tow vehicles from City owned properties.

Sections 14-30 (e) and (f): Living and Residing in Recreational Vehicles and Obstruction of Sidewalks.

These Sections are new and were added to assist officers in responding to individuals living and entertaining in recreational vehicles as well as to be aid enforcement of vehicles obstructing sidewalks Specifically, Section (f) was recently added in response to the April 11th, 2016 City Commission Workshop.

CONCLUSION: Staff recommends that the City Commission adopt Temporary Ordinance No. 2333, Amending Chapter 14, Article II, Sec. 14-30. - Parking or storage of commercial or recreational vehicles, boats and boat trailers to allow for the effective enforcement of the Ordinance. This amendment supports Goal #5, “A Vibrant Community” of the City’s Strategic Plan in that, it allows for the overall enhancement of residential properties, thereby improving community image and aesthetics.

FISCAL IMPACT: This is a city initiated amendment with no direct fiscal impact. .



Maxine Calloway,
Community Development Director

Attachments: Temporary Ordinance No. 2333

CITY OF TAMARAC, FLORIDA

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF TAMARAC, FLORIDA AMENDING CHAPTER 14 OF THE CITY'S CODE OF ORDINANCES, ENTITLED "MOTOR VEHICLES AND TRAFFIC" BY SPECIFICALLY AMENDING ARTICLE II, ENTITLED "STOPPING, STANDING AND PARKING," SECTION 14-30 ENTITLED "PARKING OR STORAGE OF COMMERCIAL OR RECREATIONAL VEHICLES, BOATS AND BOAT TRAILERS" TO PROHIBIT THE PARKING AND STORAGE OF CERTAIN COMMERCIAL AND RECREATIONAL VEHICLES IN RESIDENTIAL AREAS EXCEPT AS PROVIDED HEREIN; PROVIDING FOR CODIFICATION; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, City Administration has conducted a review of the regulations concerning the parking of recreational vehicles, boats, boat trailers, and commercial vehicles within the City; and

WHEREAS, upon its review, City Administration has recommended that the parking and storage of commercial vehicles, such as semi-cabs, trailers, tow trucks and heavy construction equipment, and recreational vehicles, boats, and boat trailers in residential zoned districts be limited, in order to protect the peace and tranquility expected by residents in those districts; and

WHEREAS, the City Commission finds that limiting the parking and storage of boats, boat trailers, commercial and recreational vehicles in residential zoning districts is in the best interests of the citizens and residents of the City.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF TAMARAC, FLORIDA, AS FOLLOWS:

SECTION 1. The foregoing recitals are hereby ratified and confirmed as being

{00063624.6 2704-0501640 }

CODING: Words in ~~strike-through~~ type are deletions from existing law; Words in underlined type are additions.

true and correct and are hereby made a specific part of this Ordinance upon adoption hereof.

SECTION 2. Chapter 14, entitled “Motor Vehicles and Traffic,” Article II, entitled “Stopping, Standing and Parking,” Section 14-30 entitled “Parking or Storage of Commercial or Recreational Vehicles, Boats and Boat Trailers” of the City of Tamarac Code of Ordinances is hereby amended as follows:

14-30 Parking or Storage of Commercial or Recreational Vehicles, Boats and Boat Trailers.

(a) *Definitions.* The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them in this subsection, except where the context clearly indicates a different meaning. Other definitions provided in F.S. section 320.01 are incorporated by reference.

(1) *Boat or boat trailer* means any boat, yacht or vessel, regardless of size or motor capacity, and any transportation device which may be utilized to transport a boat, yacht or vessel along a public right-of-way.

(2) *Commercial vehicle* means any vehicle which is not used solely for personal nonbusiness activities. ~~Outside lettering of any such vehicle designating a business of any kind shall be one, but not the only, method of establishing its commercial status.~~ The following types of vehicles shall be considered commercial for purposes of this section:

- a. Truck cab;
- b. Trailer;
- c. Semitrailer;
- d. Tractor crane;
- e. *Power shovel*;
- f. Well driller;
- g. Bus;
- h. Taxi, limousine and other vehicles for hire;
- i. Ambulance;
- j. Wrecker (tow truck);
- k. Hearse;
- l. Vehicles with more than two axles;
- m. Vehicles which exceed 19 feet in length and 8 feet in height;
- n. Vehicles with visible outside lettering, licensure information, decals, logos, vehicle wraps, or other commercial information.
- o. Vehicles with visible ladder, bucket, aerial device, refrigerated box, or having any equipment for the purpose of performing any

{00063624.6 2704-0501640 }

CODING: Words in ~~strike-through~~ type are deletions from existing law; Words in underlined type are additions.

work of a commercial nature or carrying goods other than for personal effects of passengers.

(3) *Mobile home* means a structure which is transportable in one (1) or more sections, which is eight (8) body feet or more in width and is thirty-two (32) body feet or more in length, which is built on a permanent chassis, and which is designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities. ~~(F.S. section 513.01)~~

(4) *Recreational vehicle* means a vehicular, portable structure which is built on a chassis; which is designed as a temporary dwelling for travel, camping, recreation or vacation; and which has a transportable body which either has its own motive power or is mounted on or drawn by another vehicle. ~~width not exceeding eight (8) body feet and a length not exceeding thirty-five (35) feet. (F.S. section 513.01)~~

(b) *Restrictions in residentially zoned districts.* Except as hereinafter provided, no owner or person having the use of a commercial vehicle, or recreational vehicle or a boat or boat trailer shall park such vehicle or boat or boat trailer for any period of time on either a public right-of-way or privately owned property in a residentially zoned district as now defined or as may be defined in the future or in a clubhouse district as now defined or as may be defined in the future between 9:00 p.m. and 6:00 a.m. This section shall not apply, however, to the following:

(1) Commercial ~~V~~ehicles, boats or boat trailers parked in a covered garage or carport or other area which is enclosed on any side of the property adjacent to residential property and is concealed or completely screened from view from any side street abutting the parcel where the vehicle is located. This section is not a waiver of setback requirements or any other applicable ordinance, code, or regulation.

~~, or fenced area. Such fenced area shall be not less than twenty-five (25) feet from any public right of way and must be separated from the right of way and from all adjacent property by a six foot opaque fence. The area around the fence is to be landscaped in a manner that will help screen the vehicle, boat or boat trailer from view from the public right-of-way. This section is not a waiver of setback requirements of any other ordinances or regulations, each of which must be complied with by any party seeking to be included under this section.~~

(2) A maximum of one Recreational vehicle, one boat and one boat trailer, under ten (10) feet in height, may be parked or stored as follows:

a. within a covered garage or carport, or other area which is enclosed on any side of the property adjacent to residential property and is concealed or

completely screened from view from any side street abutting the parcel where the vehicle is located; or, in a fenced area not less than twenty five (25) feet from any public right of way provided that the area shall be concealed or completely screened from view from any street abutting the parcel where the vehicle is located and from any contiguous residential property by landscaping and fencing or opaque fencing.

- b. This section is not a waiver of setback requirements of any other ordinances or regulations, each of which must be complied with by any party seeking to be included under this section.

~~(2)-(3)~~ Motor vehicles made necessary by actual physical impairment.

~~(3)~~ (4) Motor vehicles, boats or boat trailers parked in districts zoned ~~R-3U and R-4A~~ multifamily for which special areas for these commercial or recreational vehicles have been designated by the property owner. These areas must be not less than twenty-five (25) feet from any public right-of-way and must be separated from the right-of-way by a fence or vegetation of a minimum height of four (4) feet and a maximum height of six (6) feet. A property owner seeking to provide a special parking area for commercial or recreational vehicles must notify the city's community development department ~~building official and chief of police~~, in writing, of the creation of the area.

~~(4)-(5)~~ Any prohibited vehicle may be parked or stored in a prohibited area for purposes of loading or unloading on a temporary basis; provided, however, any vehicle remaining on the premises for a continuous twenty-four-hour period shall be considered as conclusive evidence that the vehicle is not being loaded or unloaded, and any of the foregoing vehicles parked or stored in a prohibited area for more than two (2) evenings between the hours of 9:00 p.m. and 6:00 a.m. in any twenty-day period shall be considered as being in violation of the prohibited parking section of this section.

~~(5)~~ (6) Recreational vehicles and mobile homes shall be permitted to park or be stored in a prohibited area for a period of up to forty-eight (48) hours, in addition to that twenty-four-hour period permitted by paragraph ~~(4)-(5)~~, provided that the owner of the recreational vehicle or mobile home complies with the following:

a. The owner of a recreational vehicle or mobile home desiring to park or store the recreational vehicle or mobile home in a prohibited area for up to seventy-two (72) hours must contact the city police department and request permission to park for such additional period.

b. Where required by the police department, it may be necessary for the owner to submit any or all manner of reasonable proof, including written

documents and an application, in order to show that the additional forty-eight-hour period being sought will be utilized for the purposes of loading or unloading a recreational vehicle or mobile home.

(c) *Restrictions in commercially zoned districts.*

(1) Except as hereinafter provided, no owner or person having the use of a commercial vehicle, recreational vehicle, boat or boat trailer shall park, store or keep the vehicle, boat or boat trailer for any period of time within the property lines of any commercially zoned district.

(2) This section shall not apply to the following:

- a. Vehicles parked in city storage facilities;
- b. Vehicles parked in duly authorized and properly licensed commercial establishments that engage in the sale or lease of motor vehicles;
- c. Vehicles which have an active commercial or business purpose for which the owner or person having the use of said vehicle(s) holds a current and valid local business license for a business location within the commercially zoned district; provided, however, that such vehicle shall be parked, stored or kept within ten (10) feet of the business location or at the rear of the commercial facility or structure. If parked at the rear of the structure in cases where the structure abuts a public street, or any residential or recreation/open space zoning district, the vehicle shall be provided with an opaque screen, which screen when seen from the abutting residential property, recreation property, public street or from the second floor or higher of a residential structure, totally obstructs the view of the vehicle.

(d) *Parking on or adjacent to vacant land.*

(1) Parking on or adjacent to vacant land or on City owned property is prohibited, other than for disabled vehicles, which are required to be removed within six (6) hours of such disability. No commercial or recreational vehicle, trailer, semitrailer, semi-truck, cart, buggy, truck, bus or tractor shall be permitted to park on vacant properties or on roadways adjacent to vacant property.

(2) For the purposes of this section, "vacant property" shall be defined as any property within city limits which is unimproved, not occupied and/or not used. "Vacant property" includes lands platted and not platted.

(3) Violations: Any vehicle found to be in violation of this section shall be impounded at the direction of the City of Tamarac. Said vehicle shall remain impounded until any and all towing and/or storage fees are paid directly to the towing company together with a two hundred dollar (\$200.00) impounding fee, which fee shall be paid directly to the City of Tamarac to reimburse the

{00063624.6 2704-0501640 }

CODING: Words in ~~strike-through~~ type are deletions from existing law; Words in underlined type are additions.

city for the administrative expenses incurred in the impounding process.

(e) *Living or residing in a recreational vehicle:* No recreational vehicle shall be occupied or used for human habitation, including, but not limited to sleeping, eating, or entertaining.

(f) *Obstruction of Sidewalks:* No Commercial or Recreational vehicle, boat, or boat trailer shall obstruct a sidewalk.

(eg) Citation. The Broward Sheriff's Office District Commander or his designate is directed to review and recommend to the city the disposition of a citation issued for improper parking of a commercial or recreational vehicle upon the showing of registration or other proof for the vehicle that was issued the citation that demonstrates that the cited vehicle is not within any category set forth in subsections (a)(2), or (a)(4), or falls within the exceptions set forth in subsection (c)(2) above.

SECTION 3. Codification. It is the intention of the City Commission of the City of Tamarac that the provisions of this Ordinance shall become and be made a part of the Code of Ordinances of the City of Tamarac, Florida, and that the Sections of this ordinance may be renumbered, re lettered and the word "Ordinance" may be changed to "Section", "Article" or such other word or phrase in order to accomplish such intention

SECTION 4. Conflicts. That all Ordinances or parts of Ordinances, Resolutions or parts thereof in conflict herewith, be and the same are hereby repealed to the extent of such conflict.

SECTION 5. Severability. Should any section, provision, paragraph, sentence, clause or word of this Ordinance or portion hereof be held or declared by any court of competent jurisdiction to be unconstitutional or invalid, in part or application, it shall be considered as eliminated and shall not affect the validity of the remaining portions or applications of this Ordinance.

SECTION 6. Effective Date. This Ordinance shall become effective upon adoption.

{00063624.6 2704-0501640 }

CODING: Words in ~~strike-through~~ type are deletions from existing law; Words in underlined type are additions.

PASSED, FIRST READING this ____ day of _____, 2016.

PASSED, SECOND READING this ____ day of _____, 2016.

ATTEST:

BY: _____
MAYOR HARRY DRESSLER

PATRICIA TEUFEL, CMC

CITY CLERK

RECORD OF COMMISSION VOTE: 1ST Reading

MAYOR DRESSLER	_____
DIST 1: COMM BUSHNELL	_____
DIST 2: COMM GOMEZ	_____
DIST 3: V/M GLASSER	_____
DIST 4: COMM PLACKO	_____

I HEREBY CERTIFY that
I have approved this
ORDINANCE as to form:

RECORD OF COMMISSION VOTE: 2ND Reading

MAYOR DRESSLER	_____
DIST 1: BUSHNELL	_____
DIST 2: COMM GOMEZ	_____
DIST 3: V/M GLASSER	_____
DIST 4: COMM PLACKO	_____

SAMUEL S. GOREN
CITY ATTORNEY